

# **Polychlorinated Biphenyls (PCBs) Data**

**Case Narrative/Conformance Summary**

**Polychlorinated Biphenyls (PCBs)**

## Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.  
SDG: TID09

### Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
9866461	OU1-1-SE005		X	1	
9866462	REF-1-SE001		X	5	
9866463	OU2-1-SS007		X	10	
9866464	OU2-1-SS003		X	1	
9866465	OU2-1-SS001		X	1	
9866466	OU2-1-SS005		X	1	
9866467	OU2-1-SS005-DUP		X	1	Field Duplicate Sample

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.  
See QC Reference List for Associated Batch QC Samples

#### SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

#### HOLDING TIME:

All holding times were met.

#### PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

#### CALIBRATION/STANDARDIZATION:

(Sample number(s): 9866461-9866467: Analysis: 10885)

For dual column analyses in which the calibration (initial and/or continuing) response is outside the acceptance criteria on one column and within criteria on the second column affected analytes are reported from the compliant column. The sample raw data identifies the column used to report each analyte.

#### QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

##### MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

## Case Narrative/Conformance Summary

**CLIENT: Tidewater, Inc.**  
**SDG: TID09**

### Pesticide Residue Analysis

Fraction: Polychlorinated Biphenyls (PCBs)

#### Surrogate

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.

Batch#: 183030017A (Sample number(s): 9866461-9866467)

The recovery(ies) for the following surrogate(s) exceeded the acceptance window: Decachlorobiphenyl-D1 (9866463, 9866466, 9866467), Decachlorobiphenyl-D2 (9866463, 9866466, 9866467)

(Sample number(s): 9866467: Analysis: 10885)

The surrogate data is outside the QC limits due to unresolvable matrix problems evident in the sample chromatogram.

#### SAMPLE ANALYSIS:

(Sample number(s): 9866462-9866463: Analysis: 10885)

Reporting limits were raised due to interference from the sample matrix.

No other problems were encountered with the analysis of the samples.

#### Abbreviation Key

UNSPK = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
+MS = Matrix Spike	MDL = Method Detection Limit
MSD = Matrix Spike Duplicate	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	E= out of calibration range
LCS = Lab Control Sample	RE = Repreparation/Reanalysis
LCSD = Lab Control Sample Duplicate	* = Out of Specification

# **Quality Control and Calibration Summary Forms**

## **Polychlorinated Biphenyls (PCBs)**

**Quality Control Reference List  
Pesticide Residue Analysis**

**CLIENT: Tidewater, Inc.  
SDG: TID09**

**Fraction: Polychlorinated Biphenyls (PCBs)**

<b>Analysis</b>	<b>Batch Number</b>	<b>Sample Number</b>	<b>Analysis Date</b>
PCBs 8082A/3546	183030017A	PBLK17303	11/01/2018 14:39
		LCS17303	11/01/2018 14:50
		9866461	11/01/2018 16:45
		9866462	11/01/2018 17:27
		9866463	11/01/2018 17:48
		9866464	11/01/2018 17:59
		9866465	11/01/2018 18:09
		9866466	11/01/2018 18:20
		9866467	11/01/2018 18:30

Fraction: Polychlorinated Biphenyls (PCBs)

<b>183030017A / PBLK17303</b>						
<b>Analyte</b>	<b>Analysis Date</b>	<b>Blank Results</b>	<b>Units</b>	<b>DL</b>	<b>LOD</b>	<b>LOQ</b>
PCB-1016	11/01/18	N.D.	mg/kg	0.0036	0.010	0.017
PCB-1221	11/01/18	N.D.	mg/kg	0.0046	0.010	0.017
PCB-1232	11/01/18	N.D.	mg/kg	0.0080	0.016	0.017
PCB-1242	11/01/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1248	11/01/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1254	11/01/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1262	11/01/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1268	11/01/18	N.D.	mg/kg	0.0033	0.010	0.017
PCB-1260	11/01/18	N.D.	mg/kg	0.0049	0.010	0.017

Fraction: Polychlorinated Biphenyls (PCBs)

183030017A Sample	Decachlorobiphenyl-D1		Decachlorobiphenyl-D2		Tetrachloro-m-xylene-D1		Tetrachloro-m-xylene-D2	
	Spike Added	0.00992 mg/kg	Spike Added	0.00992 mg/kg	Spike Added	0.01003499 mg/kg	Spike Added	0.01003499 mg/kg
	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits	% Recovery	Limits
PBLK17303	101	45 - 143	110	45 - 143	106	44 - 130	112	44 - 130
LCS17303	103	45 - 143	109	45 - 143	102	44 - 130	110	44 - 130
9866461	100	45 - 143	114	45 - 143	102	44 - 130	109	44 - 130
9866462	91	45 - 143	111	45 - 143	97	44 - 130	92	44 - 130
9866463	175 *	45 - 143	190 *	45 - 143	106	44 - 130	102	44 - 130
9866464	108	45 - 143	121	45 - 143	102	44 - 130	107	44 - 130
9866465	104	45 - 143	118	45 - 143	109	44 - 130	111	44 - 130
9866466	340 *	45 - 143	433 *	45 - 143	86	44 - 130	90	44 - 130
9866467	382 *	45 - 143	479 *	45 - 143	100	44 - 130	105	44 - 130

Surrogate recoveries that are noncompliant are confirmed unless attributed to a dilution or otherwise noted.



SDG: TID09  
Matrix: SOLID

**Pesticide Residue Analysis**  
Fraction: Polychlorinated Biphenyls (PCBs)

LCS: LCS17303	Batch: 183030017A (Sample number(s): 9866461-9866467 )								
	Analyte	Spike Added mg/kg	LCS Conc mg/kg	LCSD Conc mg/kg	LCS %Rec	LCSD %Rec	%Rec Limits	%RPD	%RPD Limits
	PCB-1016	0.167	0.169	NA	101	NA	47-134	NA	NA
	PCB-1260	0.167	0.183	NA	110	NA	53-140	NA	NA

Fraction: Polychlorinated Biphenyls (PCBs)

10885: PCBs 8082A/3546 Analyte Name	Default DL	Default LOD	Default LOQ	Units
PCB-1016	0.0036	0.010	0.017	mg/kg
PCB-1221	0.0046	0.010	0.017	mg/kg
PCB-1232	0.0080	0.016	0.017	mg/kg
PCB-1242	0.0033	0.010	0.017	mg/kg
PCB-1248	0.0033	0.010	0.017	mg/kg
PCB-1254	0.0033	0.010	0.017	mg/kg
PCB-1262	0.0033	0.010	0.017	mg/kg
PCB-1268	0.0033	0.010	0.017	mg/kg
PCB-1260	0.0049	0.010	0.017	mg/kg

Multiple Component Initial Calibration Report: **20PCBS1830301**

Area Files Used For Calibration

Sequence \_\_\_\_\_ Injections \_\_\_\_\_

Component: **Aroclor-1016**

**AR16**

Calibration Levels: 6  
 Min # of Peaks Required: 4  
 Slope:  
 Max %RSD: 40  
 Y-Intercept:

Avg Concentration (ng/ml): 100.200000  
 Report Base:  
 E-Flag Basis: Aroclor-1016

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>	
Retention Time:	2.466	2.830	2.952	3.008	3.111	3.266		
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000		
Average Height:	1006995	764623	3472164	1886134	1519987	1745812	10395715	
RF (Height/Conc):	3585	2743	11845	6615	5379	6128		
%RSD For RF	<b>11.856</b>	<b>13.119</b>	<b>7.077</b>	<b>10.538</b>	<b>11.783</b>	<b>10.973</b>		
Slope								
Y-Intercept								
Level 1	Height	101688	80103	318183	188516	155603	177171	1021264
	Conc	25.050	25.050	25.050	25.050	25.050	25.050	
Level 2	Height	199274	154898	627110	356204	292955	327937	1958378
	Conc	50.100	50.100	50.100	50.100	50.100	50.100	
Level 3	Height	375996	277360	1225348	684684	559785	635057	3758230
	Conc	100.200	100.200	100.200	100.200	100.200	100.200	
Level 4	Height	710507	542929	2406411	1323405	1063328	1213787	7260367
	Conc	200.400	200.400	200.400	200.400	200.400	200.400	
Level 5	Height	1534456	1167022	5402414	2877225	2291560	2652525	15925202
	Conc	501.000	501.000	501.000	501.000	501.000	501.000	
Level 6	Height	3120048	2365428	10853520	5886768	4756688	5468395	32450847
	Conc	1002.000	1002.000	1002.000	1002.000	1002.000	1002.000	

Component: **Aroclor-1221**

**AR21**

Calibration Levels: 1  
 Min # of Peaks Required: 3  
 Slope:  
 Max %RSD: 5  
 Y-Intercept:

Concentration (ng/ml): 201.680000  
 Report Base:  
 E-Flag Basis: Aroclor-1221

	<u>1</u>	<u>2</u>	<u>3</u>	<u>SUM</u>
Retention Time:	2.349	2.418	2.466	
RT Window (Mins):	0.02000	0.02000	0.02000	
Height:	473180	316674	995082	1784936
RF (Height/Conc):	2346	1570	4934	
%RSD For RF	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	
Slope				
Y-Intercept				

Component: **Aroclor-1232**

**AR32**

Calibration Levels: 1  
 Min # of Peaks Required: 4  
 Slope:  
 Max %RSD: 40  
 Y-Intercept:

Concentration (ng/ml): 201.600000  
 Report Base:  
 E-Flag Basis: Aroclor-1232

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	2.466	2.829	2.952	3.008	3.111	3.266	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	800806	270356	1100678	638969	416213	529201	3756223
RF (Height/Conc):	3972	1341	5460	3169	2065	2625	
%RSD For RF	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **20PCBS1830301**

Component: **Aroclor-1242**

**AR42**

Calibration Levels: 1

Concentration (ng/ml): 198.660000

Min # of Peaks Required: 4

Max %RSD: 30

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1242

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	2.466	2.830	2.952	3.008	3.112	3.266	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	615738	470139	1956603	1118130	819952	1006202	5986764
RF (Height/Conc):	3099	2367	9849	5628	4127	5065	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

Component: **Aroclor-1248**

**AR48**

Calibration Levels: 6

Avg Concentration (ng/ml): 100.950000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1248

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>	
Retention Time:	3.007	3.111	3.266	3.353	3.497	3.624		
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000		
Average Height:	1154046	2162508	2489030	1986315	2918706	1002154	11712758	
RF (Height/Conc):	3906	7531	8511	6773	9868	3403		
%RSD For RF	9.365	12.707	10.550	10.341	9.366	10.459		
Slope								
Y-Intercept								
Level 1	Height	112673	228542	252068	199889	287620	101388	1182180
	Conc	25.240	25.240	25.240	25.240	25.240	25.240	
Level 2	Height	208086	415627	460007	362513	526580	180989	2153802
	Conc	50.470	50.470	50.470	50.470	50.470	50.470	
Level 3	Height	408107	766163	862397	690308	1005389	344966	4077330
	Conc	100.950	100.950	100.950	100.950	100.950	100.950	
Level 4	Height	736241	1383659	1589495	1294921	1859158	636723	7500197
	Conc	201.900	201.900	201.900	201.900	201.900	201.900	
Level 5	Height	1768302	3397752	3929382	3029274	4552702	1555592	18233004
	Conc	504.750	504.750	504.750	504.750	504.750	504.750	
Level 6	Height	3690864	6783306	7840832	6340984	9280784	3193267	37130037
	Conc	1009.500	1009.500	1009.500	1009.500	1009.500	1009.500	

Multiple Component Initial Calibration Report: **20PCBS1830301**

Component: **Aroclor-1254**

**AR54**

Calibration Levels: 6

Avg Concentration (ng/ml): 100.560000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1254

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>	
Retention Time:	3.780	3.839	3.957	4.021	4.167	4.239		
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000		
Average Height:	2631602	4923235	2885305	2153434	1845526	3424851	17863952	
RF (Height/Conc):	8723	16279	9507	7250	5910	11182		
%RSD For RF	7.518	6.993	7.329	8.964	5.451	6.476		
Slope								
Y-Intercept								
Level 1	Height	241670	446332	267292	200373	161331	310202	1627200
	Conc	25.140	25.140	25.140	25.140	25.140	25.140	
Level 2	Height	463911	863238	498265	396743	307602	586671	3116430
	Conc	50.280	50.280	50.280	50.280	50.280	50.280	
Level 3	Height	897084	1680527	960570	757975	598025	1117349	6011530
	Conc	100.560	100.560	100.560	100.560	100.560	100.560	
Level 4	Height	2153397	4000089	2311956	1769486	1389627	2711768	14336323
	Conc	251.400	251.400	251.400	251.400	251.400	251.400	
Level 5	Height	4070016	7746642	4578840	3343004	2900919	5483133	28122554
	Conc	502.800	502.800	502.800	502.800	502.800	502.800	
Level 6	Height	7963531	14802580	8694909	6453022	5715654	10339980	53969676
	Conc	1005.600	1005.600	1005.600	1005.600	1005.600	1005.600	

Component: **Aroclor-1260**

**AR16**

Calibration Levels: 6

Avg Concentration (ng/ml): 100.220000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1260

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>	
Retention Time:	4.020	4.146	4.238	4.436	4.563	4.794		
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000		
Average Height:	4737582	2017729	3355086	2728747	6441521	4477065	23757728	
RF (Height/Conc):	15912	7058	11149	9246	20930	14596		
%RSD For RF	6.758	10.691	6.353	7.216	2.594	4.798		
Slope								
Y-Intercept								
Level 1	Height	431901	202273	293876	254468	532279	389222	2104019
	Conc	25.060	25.060	25.060	25.060	25.060	25.060	
Level 2	Height	848334	384311	606499	485347	1068644	758044	4151179
	Conc	50.110	50.110	50.110	50.110	50.110	50.110	
Level 3	Height	1607470	722474	1110706	949016	2128734	1434451	7952851
	Conc	100.220	100.220	100.220	100.220	100.220	100.220	
Level 4	Height	3157145	1393893	2220841	1837117	4248988	2914058	15772042
	Conc	200.440	200.440	200.440	200.440	200.440	200.440	
Level 5	Height	7202792	3070199	5049392	4190788	9996658	6762662	36272491
	Conc	501.100	501.100	501.100	501.100	501.100	501.100	
Level 6	Height	15177850	6333222	10849200	8655745	20673820	14603950	76293787
	Conc	1002.200	1002.200	1002.200	1002.200	1002.200	1002.200	

Multiple Component Initial Calibration Report: **20PCBS1830301**

Component: **Aroclor-1262**

**AR62**

Calibration Levels: 1

Concentration (ng/ml): 200.000000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1262

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	4.262	4.437	4.566	4.757	4.797	5.102	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	2671276	2589214	4902472	1884808	3143616	1631474	16822860
RF (Height/Conc):	13356	12946	24512	9424	15718	8157	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

Component: **Aroclor-1268**

**AR68**

Calibration Levels: 1

Concentration (ng/ml): 200.000000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1268

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	4.755	4.792	4.936	4.996	5.100	5.287	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	6471340	5490346	4833290	1323134	2027172	12966140	33111422
RF (Height/Conc):	32357	27452	24166	6616	10136	64831	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **20PCBS1830301B**

Area Files Used For Calibration

Sequence \_\_\_\_\_ Injections \_\_\_\_\_

**Component: Aroclor-1016**

**AR16**

Calibration Levels: 6  
 Min # of Peaks Required: 4  
 Slope:  
 Max %RSD: 40  
 Y-Intercept:  
 Avg Concentration (ng/ml): 100.200000  
 Report Base:  
 E-Flag Basis: Aroclor-1016

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	2.802	3.016	3.340	3.427	3.517	3.604	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:	2317395	2604500	3216926	2591120	2600956	2455457	15786355
RF (Height/Conc):	7897	8801	10139	8511	8935	8255	
%RSD For RF	7.386	8.149	3.064	4.947	9.158	7.376	
Slope							
Y-Intercept							
Level 1 Height	215755	247595	250947	228868	252058	228365	1423588
Level 1 Conc	25.050	25.050	25.050	25.050	25.050	25.050	
Level 2 Height	411988	466740	507614	436560	479093	440306	2742301
Level 2 Conc	50.100	50.100	50.100	50.100	50.100	50.100	
Level 3 Height	805660	877421	1026007	853158	899538	826340	5288124
Level 3 Conc	100.200	100.200	100.200	100.200	100.200	100.200	
Level 4 Height	1628065	1732605	2037674	1696740	1788879	1613667	10497630
Level 4 Conc	200.400	200.400	200.400	200.400	200.400	200.400	
Level 5 Height	3566156	3932160	4840516	3933448	3927241	3734820	23934341
Level 5 Conc	501.000	501.000	501.000	501.000	501.000	501.000	
Level 6 Height	7276748	8370481	10638800	8397947	8258924	7889244	50832144
Level 6 Conc	1002.000	1002.000	1002.000	1002.000	1002.000	1002.000	

**Component: Aroclor-1221**

**AR21**

Calibration Levels: 1  
 Min # of Peaks Required: 3  
 Slope:  
 Max %RSD: 5  
 Y-Intercept:  
 Concentration (ng/ml): 201.680000  
 Report Base:  
 E-Flag Basis: Aroclor-1221

	<u>1</u>	<u>2</u>	<u>3</u>	<u>SUM</u>
Retention Time:	2.702	2.748	2.803	
RT Window (Mins):	0.02000	0.02000	0.02000	
Height:	751866	608160	2156590	3516616
RF (Height/Conc):	3728	3015	10693	
%RSD For RF	0.000	0.000	0.000	
Slope				
Y-Intercept				

**Component: Aroclor-1232**

**AR32**

Calibration Levels: 1  
 Min # of Peaks Required: 4  
 Slope:  
 Max %RSD: 40  
 Y-Intercept:  
 Concentration (ng/ml): 201.600000  
 Report Base:  
 E-Flag Basis: Aroclor-1232

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	2.802	3.016	3.340	3.428	3.517	3.604	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	1736983	831046	964604	788974	707449	680294	5709350
RF (Height/Conc):	8616	4122	4785	3914	3509	3374	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

Multiple Component Initial Calibration Report: **20PCBS1830301B**

Component: **Aroclor-1242**

**AR42**

Calibration Levels: 1

Concentration (ng/ml): 198.660000

Min # of Peaks Required: 4

Max %RSD: 30

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1242

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	2.803	3.016	3.340	3.428	3.517	3.604	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	1287823	1466504	1734418	1399472	1348068	1340597	8576882
RF (Height/Conc):	6483	7382	8731	7045	6786	6748	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	

Slope  
Y-Intercept

Component: **Aroclor-1248**

**AR48**

Calibration Levels: 6

Avg Concentration (ng/ml): 100.950000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1248

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	3.427	3.485	3.604	3.704	3.887	3.971	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:	1508386	3530844	3797974	2107507	3685425	4067369	18697503
RF (Height/Conc):	4965	11698	12273	6824	11614	13141	
%RSD For RF	7.619	9.299	6.836	6.989	5.608	6.808	

Slope  
Y-Intercept

Level 1	Height	141576	343766	348744	193156	319409	368812	1715463
	Conc	25.240	25.240	25.240	25.240	25.240	25.240	
Level 2	Height	255771	612707	609981	354096	582044	678764	3093363
	Conc	50.470	50.470	50.470	50.470	50.470	50.470	
Level 3	Height	509592	1168456	1245148	673812	1140820	1320961	6058789
	Conc	100.060	100.060	100.950	100.950	100.950	100.950	
Level 4	Height	941646	2187774	2338734	1267632	2203140	2461971	11400897
	Conc	201.900	201.900	201.900	201.900	201.900	201.900	
Level 5	Height	2290184	5354921	5797886	3290496	5640554	6174314	28548655
	Conc	504.750	504.750	504.750	504.750	504.750	504.750	
Level 6	Height	4911244	11517440	12447350	6865848	12226580	13399390	61367852
	Conc	1009.500	1009.500	1009.500	1009.500	1009.500	1009.500	



Multiple Component Initial Calibration Report: **20PCBS1830301B**

Component: **Aroclor-1254**

**AR54**

Calibration Levels:6

Avg Concentration (ng/ml): 100.560000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1254

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	4.195	4.294	4.370	4.445	4.531	4.619	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:	6668678	2370962	4849020	2734426	2567143	4616028	23806255
RF (Height/Conc):	21250	7970	15446	9112	8097	14605	
%RSD For RF	4.113	11.678	4.614	9.719	4.789	3.843	
Slope							
Y-Intercept							
Level 1	Height 569825	237231	422079	266853	220889	393388	2110265
	Conc 25.140	25.140	25.140	25.140	25.140	25.140	
Level 2	Height 1068161	437368	789506	481561	409345	746534	3932475
	Conc 50.280	50.280	50.280	50.280	50.280	50.280	
Level 3	Height 2180674	800356	1523313	923812	816959	1442803	7687917
	Conc 100.560	100.560	100.560	100.560	100.560	100.560	
Level 4	Height 5311746	1851160	3798569	2165403	1935487	3591863	18654228
	Conc 251.400	251.400	251.400	251.400	251.400	251.400	
Level 5	Height 10124680	3542572	7531930	4204640	3900800	7134517	36439139
	Conc 502.800	502.800	502.800	502.800	502.800	502.800	
Level 6	Height 20756980	7357086	15028720	8364284	8119378	14387060	74013508
	Conc 1005.600	1005.600	1005.600	1005.600	1005.600	1005.600	

Component: **Aroclor-1260**

**AR16**

Calibration Levels:6

Avg Concentration (ng/ml): 100.220000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1260

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	4.445	4.519	4.619	4.671	4.986	5.169	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Average Height:	6098915	3015395	6422973	3151658	7687605	4403910	30780455
RF (Height/Conc):	19820	9838	20211	10472	24146	14238	
%RSD For RF	4.231	6.279	4.293	7.943	3.593	4.741	
Slope							
Y-Intercept							
Level 1	Height 523265	268180	514690	295590	607363	378131	2587219
	Conc 25.060	25.060	25.060	25.060	25.060	25.060	
Level 2	Height 1025112	507140	1022128	553969	1197853	732727	5038929
	Conc 50.110	50.110	50.110	50.110	50.110	50.110	
Level 3	Height 1935793	982554	1997162	1002214	2363964	1397690	9679377
	Conc 100.220	100.220	100.220	100.220	100.220	100.220	
Level 4	Height 4001610	1926950	4022267	2064910	4959957	2843342	19819036
	Conc 200.440	200.440	200.440	200.440	200.440	200.440	
Level 5	Height 9276777	4424770	9441121	4730965	11511100	6571042	45955775
	Conc 501.100	501.100	501.100	501.100	501.100	501.100	
Level 6	Height 19830930	9982775	21540470	10262300	25485390	14500530	101602395
	Conc 1002.200	1002.200	1002.200	1002.200	1002.200	1002.200	

Multiple Component Initial Calibration Report: **20PCBS1830301B**

Component: **Aroclor-1262**

**AR62**

Calibration Levels: 1

Concentration (ng/ml): 200.000000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1262

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	4.673	4.809	4.989	5.173	5.216	5.534	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	3470048	2685002	5847873	3439010	1963081	1728356	19133370
RF (Height/Conc):	17350	13425	29239	17195	9815	8642	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

Component: **Aroclor-1268**

**AR68**

Calibration Levels: 1

Concentration (ng/ml): 200.000000

Min # of Peaks Required: 4

Max %RSD: 40

Report Base:

Slope:

Y-Intercept:

E-Flag Basis: Aroclor-1268

	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>SUM</u>
Retention Time:	5.171	5.216	5.354	5.407	5.532	5.740	
RT Window (Mins):	0.02000	0.02000	0.02000	0.02000	0.02000	0.02000	
Height:	7419710	6352492	5300241	1416025	2123035	13501980	36113483
RF (Height/Conc):	37099	31762	26501	7080	10615	67510	
%RSD For RF	0.000	0.000	0.000	0.000	0.000	0.000	
Slope							
Y-Intercept							

6D

INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Calibration File: 20PCBS1830301

GC Column (1): ZBmultiR1

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	RT OF STANDARDS						MIDPOINT RT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6		FROM	TO
Tetrachloro-m-xylene	2.17	2.17	2.17	2.17	2.17	2.17	2.17	2.14	2.20
Decachlorobiphenyl	5.45	5.45	5.45	5.45	5.45	5.45	5.44	5.41	5.47

6E

INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Calibration File: 20PCBS1830301

GC Column (1): ZBmultiR1 ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	CALIBRATION FACTORS						MEAN	%RSD
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6		
Tetrachloro-m-xylene	1.77E+05	1.75E+05	1.63E+05	1.67E+05	1.72E+05	1.75E+05	1.72E+05	3
Decachlorobiphenyl	1.96E+05	1.79E+05	1.63E+05	1.64E+05	1.70E+05	1.58E+05	1.72E+05	8

## 6F

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342ACalibration File: 20PCBS1830301GC Column (1): ZBmultiR1 ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1016	1	2.47	2.45	2.49	4059	3585	1	25.05	101688	11.86
								50.1	199274	
								100.2	375996	
								200.4	710507	
								501	1534456	
								1002	3120048	
	2	2.83	2.81	2.85	3198	2743	1	25.05	80103	13.12
								50.1	154898	
								100.2	277360	
								200.4	542929	
								501	1167022	
								1002	2305428	
	3	2.95	2.93	2.97	12702	11845	1	25.05	318183	7.08
								50.1	627110	
								100.2	1225348	
								200.4	2406411	
								501	5402414	
								1002	10853520	
	4	3.01	2.99	3.03	7526	6615	1	25.05	188516	10.54
								50.1	356204	
								100.2	684684	
								200.4	1323405	
								501	2877236	
								1002	5886768	
5	3.11	3.09	3.13	6212	5379	1	25.05	155603	11.78	
							50.1	292955		
							100.2	559785		
							200.4	1063328		
							501	2291560		
							1002	4756688		
6	3.27	3.25	3.29	7073	6128	1	25.05	177171	10.97	
							50.1	327937		
							100.2	635057		
							200.4	1213787		
							501	2652525		
							1002	5468395		
Aroclor-1221	1	2.35	2.33	2.37	2346	2346	1	201.68	473180	.00
	2	2.42	2.40	2.44	1570	1570	1	201.68	316674	.00
	3	2.47	2.45	2.49	4934	4934	1	201.68	995082	.00

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## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342ACalibration File: 20PCBS1830301GC Column (1): ZBmultiR1ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE		AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO		CF	LEVEL			
Aroclor-1232	1	2.47	2.45	2.49	3972	3972	1	201.6	800806	.00
	2	2.83	2.81	2.85	1341	1341	1	201.6	270356	.00
	3	2.95	2.93	2.97	5460	5460	1	201.6	1100678	.00
	4	3.01	2.99	3.03	3169	3169	1	201.6	638969	.00
	5	3.11	3.09	3.13	2065	2065	1	201.6	416213	.00
	6	3.27	3.25	3.29	2625	2625	1	201.6	529201	.00
Aroclor-1242	1	2.47	2.45	2.49	3099	3099	1	198.66	615738	.00
	2	2.83	2.81	2.85	2367	2367	1	198.66	470139	.00
	3	2.95	2.93	2.97	9849	9849	1	198.66	1956603	.00
	4	3.01	2.99	3.03	5628	5628	1	198.66	1118130	.00
	5	3.11	3.09	3.13	4127	4127	1	198.66	819952	.00
	6	3.27	3.25	3.29	5065	5065	1	190.00	1000202	.00

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Calibration File: 20PCBS1830301

GC Column (1): ZBmultiR1

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1248	1	3.01	2.99	3.03	4464	3906	1	25.24	112673	9.37
								50.47	208086	
								100.95	408107	
								201.9	736241	
								504.75	1768302	
								1009.5	3690864	
	2	3.11	3.09	3.13	9055	7531	1	25.24	228542	12.71
								50.47	415627	
								100.95	766163	
								201.9	1383659	
								504.75	3397752	
								1009.5	6783308	
	3	3.27	3.25	3.29	9987	8511	1	25.24	252068	10.55
								50.47	480007	
								100.95	862397	
								201.9	1509495	
								504.75	3929382	
								1009.5	7840832	
	4	3.35	3.33	3.37	7920	6773	1	25.24	199889	10.34
								50.47	362513	
								100.95	690308	
								201.9	1294921	
								504.75	3029274	
								1009.5	6340984	
5	3.50	3.48	3.52	11395	9868	1	25.24	287620	9.37	
							50.47	526580		
							100.95	1005389		
							201.9	1859158		
							504.75	4552702		
							1009.5	9280784		
6	3.62	3.60	3.64	4017	3403	1	25.24	101388	10.46	
							50.47	180989		
							100.95	344966		
							201.9	636723		
							504.75	1555592		
							1009.5	3193267		

## 6F

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342ACalibration File: 20PCBS1830301GC Column (1): ZBmultiR1ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1254	1	3.78	3.76	3.80	9613	8723	1	25.14	241670	7.52
					9227		2	50.28	463911	
					8921		3	100.56	897084	
					8566		4	251.4	2153397	
					8095		5	502.8	4070016	
					7919		6	1005.6	7963531	
	2	3.84	3.82	3.86	17754	16279	1	25.14	446332	6.99
					17169		2	50.28	863238	
					16712		3	100.56	1680527	
					15911		4	251.4	4000089	
					15407		5	502.8	7746642	
					14720		6	1005.6	14802680	
	3	3.96	3.94	3.98	10632	9507	1	25.14	267292	7.33
					9910		2	50.28	498265	
					9552		3	100.56	960570	
					0106		4	251.4	2311956	
					9107		5	502.8	4578840	
					8646		6	1005.6	8694909	
	4	4.02	4.00	4.04	7970	7250	1	25.14	200373	8.96
					7891		2	50.28	396743	
					7538		3	100.56	757975	
					7039		4	251.4	1769486	
					6649		5	502.8	3343004	
					6417		6	1005.6	6453022	
5	4.17	4.15	4.19	6417	5910	1	25.14	161331	5.45	
				6118		2	50.28	307602		
				5947		3	100.56	598025		
				5528		4	251.4	1389627		
				5770		5	502.8	2900919		
				5684		6	1005.6	5715654		
6	4.24	4.22	4.26	12339	11182	1	25.14	310202	6.48	
				11668		2	50.28	586671		
				11111		3	100.56	1117349		
				10787		4	251.4	2711768		
				10905		5	502.8	5483133		
				10282		6	1005.6	10339980		



## 6F

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342ACalibration File: 20PCBS1830301GC Column (1): ZBmultiR1 ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1260	1	4.02	4.00	4.04	17235	15912	1	25.06	431901	6.76
								50.11	848334	
								100.22	1607470	
								200.44	3157145	
								501.1	7202792	
								1002.2	15177850	
	2	4.15	4.13	4.17	8072	7058	1	25.06	202273	10.69
								50.11	384311	
								100.22	722474	
								200.44	1393893	
								501.1	3070199	
								1002.2	6333222	
	3	4.24	4.22	4.26	11727	11149	1	25.06	293876	6.35
								50.11	606499	
								100.22	1110706	
								200.44	2220841	
								501.1	5049392	
								1002.2	10849200	
	4	4.44	4.42	4.46	10154	9246	1	25.06	254468	7.22
								50.11	485347	
								100.22	949016	
								200.44	1837117	
								501.1	4190788	
								1002.2	8655745	
5	4.56	4.54	4.58	21240	20930	1	25.06	532279	2.59	
							50.11	1068644		
							100.22	2128734		
							200.44	4248988		
							501.1	9996658		
							1002.2	20673820		
6	4.79	4.77	4.81	15532	14596	1	25.06	389222	4.80	
							50.11	758044		
							100.22	1434451		
							200.44	2914058		
							501.1	6762662		
							1002.2	14603950		

6F

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342ACalibration File: 20PCBS1830301GC Column (1): ZBmultiR1ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE		AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO		CF	LEVEL			
Aroclor-1262	1	4.26	4.24	4.28	13356	13356	1	200	2671276	.00
	2	4.44	4.42	4.46	12946	12946	1	200	2589214	.00
	3	4.57	4.55	4.59	24512	24512	1	200	4902472	.00
	4	4.76	4.74	4.78	9424	9424	1	200	1884808	.00
	5	4.80	4.78	4.82	15718	15718	1	200	3143616	.00
	6	5.10	5.08	5.12	8157	8157	1	200	1631474	.00
Aroclor-1268	1	4.76	4.74	4.78	32357	32357	1	200	6471340	.00
	2	4.79	4.77	4.81	27452	27452	1	200	5490346	.00
	3	4.94	4.92	4.96	24166	24166	1	200	4833290	.00
	4	5.00	4.98	5.02	6616	6616	1	200	1323134	.00
	5	5.10	5.08	5.12	10136	10136	1	200	2027172	.00
	6	5.29	5.27	5.31	64831	64831	1	200	12966140	.00

File Name: V:\CP20\20pcbs1830301.CAL  
 Version: 9

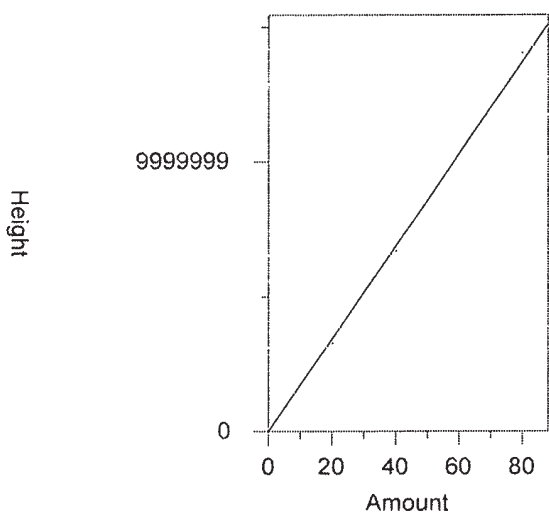
Creator:  
 Description:  
 Reason for change:

External standard calibration  
 Standard injection volume: 1  
 No sample weight correction  
 Area reject threshold: 0  
 Reference peak area reject threshold: 50  
 Amount units: PPB  
 No default component

Method of calculating data point averages: Current update equal to cal data  
 Print calibration update report

All levels are normal data points.

1 TCX



Expected retention time: 2.172 minutes  
 Search window: 0.03 minutes  
 No retention time reference component  
 No response proxy component  
 Group number: 0  
 High alarm limit: 0.1  
 Low alarm limit: 0  
 Component constant: 0

Single peak quantification by height

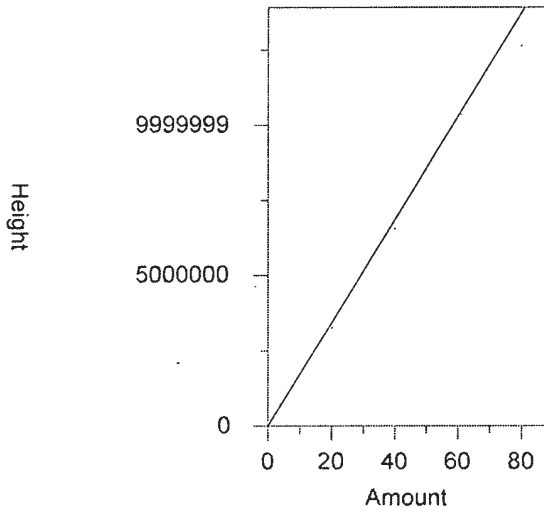
$$Y = 171649.9 X + 0$$

Average CF fit with equal weighting, forced to origin  
 Coefficient of determination: 0.9989759  
 Average error: 2.538%  
 Average CF: 171649.9  
 RSD: 3.192%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.002	354715	177180.3	3.222	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.007.B
2	4.004	699706.6	174751.9	1.807	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.008.B
3	20.02	3261997	162936.9	-5.076	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.009.B
4	40.04	6698381	167292.2	-2.539	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.010.B
5	60.8608	1.048383E+07	172259.2	0.355	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.011.B
6	80.08	1.405235E+07	175478.9	2.231	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.012.B

2 DCB

Chrom Perfect Calibration File



Expected retention time: 5.447 minutes  
 Search window: 0.03 minutes  
 No retention time reference component  
 No response proxy component  
 Group number: 0  
 High alarm limit: 0.2  
 Low alarm limit: 0  
 Component constant: 0

Single peak quantification by height

$$Y = 171581.4 X + 0$$

Average CF fit with equal weighting, forced to origin  
 Coefficient of determination: 0.9893647  
 Average error: 6.208%  
 Average CF: 171581.4  
 RSD: 8.221%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.003	393231.8	196321.4	14.419	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.00
2	4.006	716254.3	178795.4	4.204	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.00
3	20.03	3267379	163124.3	-4.929	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.00
4	40.06	6550430	163515.5	-4.701	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.01
5	60.8912	1.035122E+07	169995.3	-0.924	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.01
6	80.12	1.263786E+07	157736.6	-8.069	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.01

6D

INITIAL CALIBRATION - RETENTION TIME SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Calibration File: 20PCBS1830301B

GC Column (2): ZBmultiR2

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	RT OF STANDARDS						MIDPOINT RT	RT WINDOW	
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6		FROM	TO
Tetrachloro-m-xylene	2.60	2.60	2.60	2.60	2.60	2.60	2.60	2.57	2.63
Decachlorobiphenyl	5.93	5.93	5.92	5.92	5.92	5.92	5.92	5.89	5.95

6E

### INITIAL CALIBRATION - CALIBRATION FACTOR SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Calibration File: 20PCBS1830301B

GC Column (2): ZBmultiR2

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	CALIBRATION FACTORS						MEAN	%RSD
	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	LEVEL 6		
Tetrachloro-m-xylene	3.62E+05	3.72E+05	3.78E+05	3.92E+05	4.14E+05	4.03E+05	3.87E+05	5
Decachlorobiphenyl	1.77E+05	1.62E+05	1.46E+05	1.46E+05	1.51E+05	1.47E+05	1.55E+05	8

6F

INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Calibration File: 20PCBS1830301B

GC Column (2) : ZBmultiR2

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD								
			FROM	TO														
Aroclor-1016	1	2.80	2.78	2.82	8613	7897	1	25.05	215755	7.39								
								50.1	411988									
								100.2	805660									
								200.4	1628065									
								501	3566156									
								1002	7276748									
	2	3.02	3.00	3.04	9884	8801	1	25.05	247595	8.15								
								50.1	466740									
								100.2	877421									
								200.4	1732605									
								501	3932160									
								1002	8370481									
	3	3.34	3.32	3.36	10018	10139	1	25.05	250947	3.06								
								50.1	507614									
								100.2	1026007									
								200.4	2037674									
								501	4840516									
								1002	10638800									
	4	3.43	3.41	3.45	9136	8511	1	25.05	228868	4.95								
								50.1	436500									
								100.2	853158									
								200.4	1696740									
								501	3933448									
								1002	8397947									
5	3.52	3.50	3.54	10062	8935	1	25.05	252058	9.16									
							50.1	479093										
							100.2	899538										
							200.4	1788879										
							501	3927241										
							1002	8258924										
6	3.60	3.58	3.62	9116	8255	1	25.05	228365	7.38									
							50.1	440306										
							100.2	826340										
							200.4	1613667										
							501	3734820										
							1002	7889244										
Aroclor-1221	1	2.70	2.68	2.72	3728	3728	1	201.68	751866	.00								
								2	2.75		2.73	2.77	3015	3015	1	201.68	608160	.00
								3	2.80		2.78	2.82	10693	10693	1	201.68	2156590	.00

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## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342BCalibration File: 20PCBS1830301BGC Column (2): ZBmultiR2ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1232	1	2.80	2.78	2.82	8616	8616	1	201.6	1736983	.00
	2	3.02	3.00	3.04	4122	4122	1	201.6	831046	.00
	3	3.34	3.32	3.36	4785	4785	1	201.6	964604	.00
	4	3.43	3.41	3.45	3914	3914	1	201.6	788974	.00
	5	3.52	3.50	3.54	3509	3509	1	201.6	707449	.00
	6	3.60	3.58	3.62	3374	3374	1	201.6	680294	.00
Aroclor-1242	1	2.80	2.78	2.82	6483	6483	1	198.66	1287823	.00
	2	3.02	3.00	3.04	7382	7382	1	198.66	1466504	.00
	3	3.34	3.32	3.36	8731	8731	1	198.66	1734418	.00
	4	3.43	3.41	3.45	7045	7045	1	198.66	1399472	.00
	5	3.52	3.50	3.54	6786	6786	1	198.66	1348068	.00
	6	3.60	3.58	3.62	6748	6748	1	198.66	1340597	.00



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## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342BCalibration File: 20PCBS1830301BGC Column (2): ZBmultiR2ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1248	1	3.43	3.41	3.45	5609	4965	1	25.24	141576	7.62
							2	50.47	255771	
							3	100.95	509592	
							4	201.9	941646	
							5	504.75	2290484	
							6	1009.5	4911244	
	2	3.49	3.47	3.51	13620	11698	1	25.24	343766	9.30
							2	50.47	612707	
							3	100.95	1168456	
							4	201.9	2187774	
							5	504.75	5354921	
							6	1009.5	11517440	
	3	3.60	3.58	3.62	13817	12273	1	25.24	348744	6.84
							2	50.47	609981	
							3	100.95	1245148	
							4	201.9	2338734	
							5	504.75	5797886	
							6	1009.5	12447350	
	4	3.70	3.68	3.72	7653	6824	1	25.24	193156	6.99
							2	50.47	354096	
							3	100.95	673812	
							4	201.9	1267632	
							5	504.75	3290496	
							6	1009.5	6865848	
5	3.89	3.87	3.91	12655	11614	1	25.24	319409	5.61	
						2	50.47	582044		
						3	100.95	1140820		
						4	201.9	2203140		
						5	504.75	5640554		
						6	1009.5	12226580		
6	3.97	3.95	3.99	14612	13141	1	25.24	368812	6.81	
						2	50.47	678764		
						3	100.95	1320961		
						4	201.9	2461971		
						5	504.75	6174314		
						6	1009.5	13399390		

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342BCalibration File: 20PCBS1830301BGC Column (2): ZBmultiR2ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1254	1	4.20	4.18	4.22	22666	21250	1	25.14	569825	4.11
					21244		2	50.28	1068161	
					21685		3	100.56	2180674	
					21129		4	251.4	5311746	
					20137		5	502.8	10124680	
					20641		6	1005.6	20756980	
	2	4.29	4.27	4.31	9436	7970	1	25.14	237231	11.68
					8699		2	50.28	437368	
					7959		3	100.56	800356	
					7363		4	251.4	1851160	
					7046		5	502.8	3542572	
					7316		6	1005.6	7357086	
	3	4.37	4.35	4.39	16789	15446	1	25.14	422079	4.61
					15702		2	50.28	789506	
					15148		3	100.56	1523313	
					15110		4	251.4	3798569	
					14980		5	502.8	7531930	
					14945		6	1005.6	15028720	
	4	4.45	4.43	4.47	10615	9112	1	25.14	266853	9.72
					9578		2	50.28	481561	
					9187		3	100.56	923812	
					8613		4	251.4	2165403	
					8362		5	502.8	4204640	
					8318		6	1005.6	8364284	
5	4.53	4.51	4.55	8786	8097	1	25.14	220889	4.79	
				8141		2	50.28	409345		
				8124		3	100.56	816959		
				7699		4	251.4	1935487		
				7758		5	502.8	3900800		
				8074		6	1005.6	8119378		
6	4.62	4.60	4.64	15648	14605	1	25.14	393388	3.84	
				14848		2	50.28	746534		
				14348		3	100.56	1442803		
				14287		4	251.4	3591863		
				14190		5	502.8	7134517		
				14307		6	1005.6	14387060		

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INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Calibration File: 20PCBS1830301B

GC Column (2) : ZBmultiR2

ID: 30 (mm)

ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE CF	LEVEL	AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO						
Aroclor-1260	1	4.45	4.43	4.47	20880	19820	1	25.06	523265	4.23
							2	50.11	1025112	
							3	100.22	1935793	
							4	200.44	4001610	
							5	501.1	9276777	
							6	1002.2	19830930	
	2	4.52	4.50	4.54	10702	9838	1	25.06	268180	6.28
							2	50.11	507140	
							3	100.22	982554	
							4	200.44	1926950	
							5	501.1	4424770	
							6	1002.2	9982775	
	3	4.62	4.60	4.64	20538	20211	1	25.06	514690	4.29
							2	50.11	1022128	
							3	100.22	1997162	
							4	200.44	4022267	
							5	501.1	9441121	
							6	1002.2	21540470	
	4	4.67	4.65	4.69	11795	10472	1	25.06	295590	7.94
							2	50.11	559909	
							3	100.22	1002214	
							4	200.44	2064910	
							5	501.1	4730965	
							6	1002.2	10262300	
5	4.99	4.97	5.01	24236	24146	1	25.06	607363	3.59	
						2	50.11	1197853		
						3	100.22	2363964		
						4	200.44	4959957		
						5	501.1	11511100		
						6	1002.2	25485390		
6	5.17	5.15	5.19	15089	14238	1	25.06	378131	4.74	
						2	50.11	732727		
						3	100.22	1397690		
						4	200.44	2843342		
						5	501.1	6571042		
						6	1002.2	14500530		

6F

## INITIAL CALIBRATION OF MULTICOMPONENT ANALYTES

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342BCalibration File: 20PCBS1830301BGC Column (2): ZBmultiR2ID: 30 (mm)ICAL Date(s) Analyzed: 10/30/2018 10/31/2018

COMPOUND	PEAK	RT	RT WINDOW		CALIBRATION FACTOR	AVERAGE		AMOUNT	PEAK HEIGHT	%RSD
			FROM	TO		CF	LEVEL			
Aroclor-1262	1	4.67	4.65	4.69	17350	17350	1	200	3470048	.00
	2	4.81	4.79	4.83	13425	13425	1	200	2685002	.00
	3	4.99	4.97	5.01	29239	29239	1	200	5847873	.00
	4	5.17	5.15	5.19	17195	17195	1	200	3439010	.00
	5	5.22	5.20	5.24	9815	9815	1	200	1963081	.00
	6	5.53	5.51	5.55	8642	8642	1	200	1728356	.00
Aroclor-1268	1	5.17	5.15	5.19	37099	37099	1	200	7419710	.00
	2	5.22	5.20	5.24	31762	31762	1	200	6352492	.00
	3	5.35	5.33	5.37	26501	26501	1	200	5300241	.00
	4	5.41	5.39	5.43	7080	7080	1	200	1416025	.00
	5	5.53	5.51	5.55	10615	10615	1	200	2123035	.00
	6	5.74	5.72	5.76	67510	67510	1	200	13501980	.00

File Name: V:\CP20\20pcbs1830301b.CAL  
 Version: 9

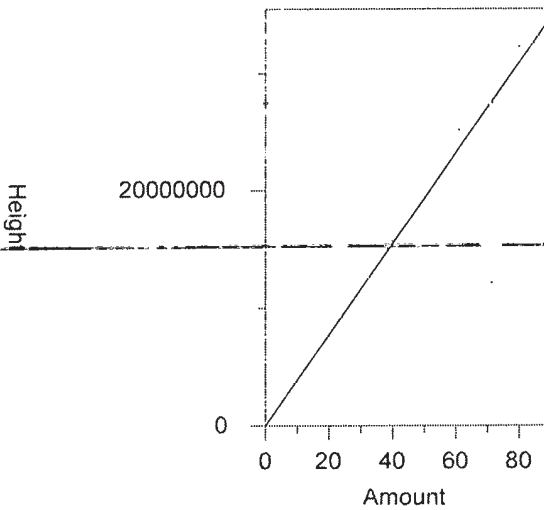
Creator:  
 Description:  
 Reason for change:

External standard calibration  
 Standard injection volume: 1  
 No sample weight correction  
 Area reject threshold: 0  
 Reference peak area reject threshold: 50  
 Amount units: PPB  
 No default component

Method of calculating data point averages: Current update equal to cal data  
 Print calibration update report

All levels are normal data points.

1 TCX



Expected retention time: 2.604 minutes  
 Search window: 0.03 minutes  
 No retention time reference component  
 No response proxy component  
 Group number: 0  
 High alarm limit: 0.1  
 Low alarm limit: 0  
 Component constant: 0

Single peak quantification by height

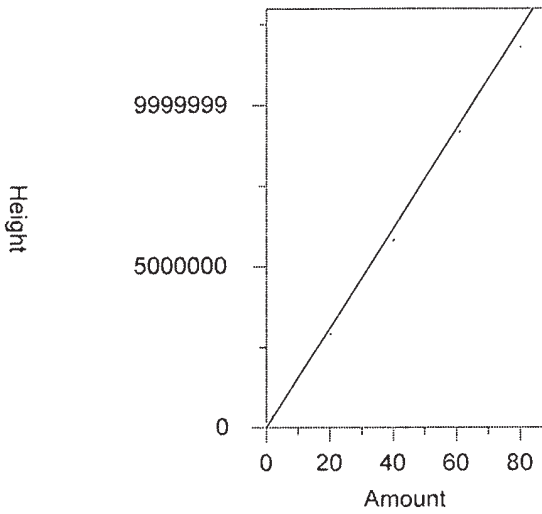
$$Y = 386791.5 X + 0$$

Average CF fit with equal weighting, forced to origin  
 Coefficient of determination: 0.9946714  
 Average error: 4.160%  
 Average CF: 386791.5  
 RSD: 5.081%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.002	724010.6	361643.7	-6.502	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.007.
2	4.004	1489983	372123.6	-3.792	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.008.
3	20.02	7574207	378332	-2.187	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.009.
4	40.04	1.569185E+07	391904.3	1.322	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.010.
5	60.8608	2.517102E+07	413583.4	6.927	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.011.
6	80.08	3.228521E+07	403162	4.232	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.012.

2 DCB

Chrom Perfect Calibration File



Expected retention time: 5.923 minutes  
 Search window: 0.03 minutes  
 No retention time reference component  
 No response proxy component  
 Group number: 0  
 High alarm limit: 0.2  
 Low alarm limit: 0  
 Component constant: 0

Single peak quantification by height

$$Y = 154781.3 X + 0$$

Average CF fit with equal weighting, forced to origin  
 Coefficient of determination: 0.994594  
 Average error: 6.430%  
 Average CF: 154781.3  
 RSD: 8.193%

Level	Amount	Response	Cal Factor	Error, %	Source
1	2.003	355294.1	177381	14.601	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.00
2	4.006	649127.2	162038.7	4.689	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.00
3	20.03	2917054	145634.3	-5.910	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.00
4	40.06	5830973	145556	-5.960	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.01
5	60.8912	9179746	150756.5	-2.600	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.01
6	80.12	1.18034E+07	147321.5	-4.820	\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.01

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## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 10/31/18

GC Column (1) : ZBmultiR1 ID: 30 (mm)

Time Analyzed: 0:15

Lab File ID: 20PCBS18303001.032.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: IC16XAA

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT	NOM AMOUNT	%D
Aroclor-1016	2.47	2.45 2.49	195.64	201.00	-3
	2.83	2.81 2.85	209.69	201.00	4
	2.95	2.93 2.97	207.25	201.00	3
	3.01	2.99 3.03	207.49	201.00	3
	3.11	3.09 3.13	203.96	201.00	1
	3.27	3.25 3.29	199.32	201.00	-1
Aroclor-1260	4.02	4.00 4.04	211.76	200.60	6
	4.15	4.13 4.17	213.16	200.60	6
	4.24	4.22 4.26	202.45	200.60	1
	4.44	4.42 4.46	226.12	200.60	13
	4.57	4.54 4.58	225.97	200.60	13
	4.80	4.77 4.81	221.69	200.60	11

Compounds 12

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 10/31/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 0:15

Lab File ID: 20PCBS18303001B.032.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: IC16XAA

Init. Calib Date(s): 10/30/18

10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW		CALC AMOUNT	NOM AMOUNT	%D
		FROM	TO			
Aroclor-1016	2.80	2.78	2.82	195.08	201.00	-3
	3.02	3.00	3.04	208.93	201.00	4
	3.34	3.32	3.36	215.02	201.00	7
	3.43	3.41	3.45	212.15	201.00	6
	3.52	3.50	3.54	208.05	201.00	4
	3.60	3.58	3.62	205.14	201.00	2
Aroclor-1260	4.45	4.43	4.47	215.42	200.60	7
	4.52	4.50	4.54	216.98	200.60	8
	4.62	4.60	4.64	211.59	200.60	5
	4.67	4.65	4.69	230.89	200.60	15
	4.99	4.97	5.01	229.71	200.60	15
	5.17	5.15	5.19	225.87	200.60	13

Compounds 12



# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC16X1824D      **IC16XAA**    **ID:** AA      **Batchnumber:** 1830299999  
**Sample Amount:** 1                      **Total Volume:** 1    ml    **Analyst:** 9065      **SDG:**                      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.032.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	701426.1	195.64279	6	2.66	1
+ 2.81	2.81	2.85	378742.5	138.085382			2
2.81	2.83	2.85	575153.5	209.694688			2
2.93	2.95	2.97	245495.4	207.252888			3
2.99	3.01	3.03	1372582	207.493182			4
3.09	3.11	3.13	1097042	203.955557			5
3.25	3.27	3.29	1221341	199.321257			6

**Height Summation:** 7422498.6  
**Amount Avg CF:** 203.893394    Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	199500.1	85.031447	3	27.31	1
2.40	2.42	2.44	155998.8	99.350872			2
2.45	2.47	2.49	701426.1	142.162772			3

**Height Summation:** 1056925  
**Amount Avg CF:** 108.848364    Linear:

<b>Aroclor-1232</b>							
2.45	2.47	2.49	701426.1	176.581471	6	29.50	1
E+ 2.81	2.81	2.85	378742.5	282.422021			2
E 2.81	2.83	2.85	575153.5	428.882457			2
E 2.93	2.95	2.97	245495.4	449.648968			3
E 2.99	3.01	3.03	1372582	433.000904			4
E 3.09	3.11	3.13	1097042	531.371358			5
E 3.25	3.27	3.29	1221341	465.271883			6

**Height Summation:** 7422498.6  
**Amount Avg CF:** 414.136184    Linear:

<b>Aroclor-1242</b>							
E 2.45	2.47	2.49	701426.1	226.306171	6	5.23	1
+ 2.81	2.81	2.85	378742.5	160.039871			2
E 2.81	2.83	2.85	575153.5	243.034495			2
E 2.93	2.95	2.97	245495.4	249.25913			3
E 2.99	3.01	3.03	1372582	243.868906			4
E 3.09	3.11	3.13	1097042	265.794051			5
E 3.25	3.27	3.29	1221341	241.136077			6

**Height Summation:** 7422498.6  
**Amount Avg CF:** 244.899805    Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	1372582	351.407835	6	73.53	1
3.09	3.11	3.13	1097042	145.677809			2
3.25	3.27	3.29	1221341	143.49399			3
3.33	3.35	3.37	965666.2	142.57966			4
3.48	3.49	3.52	1073040	108.736274			5
+ 3.60	3.61	3.64	38856.58	11.41777			6
3.60	3.62	3.64	41491.47	12.192017			6
+ 3.60	3.64	3.64	9705.392	2.851871			6

**Height Summation:** 5771162.67  
**Amount Avg CF:** 150.681264    Linear:

### Analysis Report (B)

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.032.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	1540547	195.083396	6	3.34	1
3.00	3.02	3.04	1838725	208.926135			2
+ 3.32	3.32	3.36	1957156	193.023696			3
3.32	3.34	3.36	2180174	215.018754			3
3.41	3.43	3.45	1805539	212.150478			4
3.50	3.52	3.54	1858933	208.050153			5
3.58	3.60	3.62	1693500	205.138975			6

**Height Summation:** 10917418  
**Amount Avg CF:** 207.394648    Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	331347.5	88.880417	3	25.40	1
2.73	2.75	2.77	313443.8	103.945254			2
2.78	2.80	2.82	1540547	144.068886			3

**Height Summation:** 2185338.3  
**Amount Avg CF:** 112.298186    Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	1540547	178.800987	6	29.51	1
E 3.00	3.02	3.04	1838725	446.048666			2
E+ 3.32	3.32	3.36	1957156	409.041067			3
E 3.32	3.34	3.36	2180174	455.651312			3
E 3.41	3.43	3.45	1805539	461.354446			4
E 3.50	3.52	3.54	1858933	529.735561			5
E 3.58	3.60	3.62	1693500	501.855962			6

**Height Summation:** 10917418  
**Amount Avg CF:** 428.907822    Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	1540547	237.645287	6	4.73	1
E 3.00	3.02	3.04	1838725	249.082927			2
E+ 3.32	3.32	3.36	1957156	224.17238			3
E 3.32	3.34	3.36	2180174	249.716831			3
E 3.41	3.43	3.45	1805539	256.302647			4
E 3.50	3.52	3.54	1858933	273.944363			5
E 3.58	3.60	3.62	1693500	250.955888			6

**Height Summation:** 10917418  
**Amount Avg CF:** 252.941324    Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	1805539	363.632058	6	74.84	1
3.47	3.49	3.51	1569234	134.144439			2
3.58	3.60	3.62	1693500	137.985975			3
3.68	3.70	3.72	772270.9	113.174623			4
+ 3.68	3.72	3.72	99788.78	14.623829			4
3.87	3.89	3.91	229159.5	19.730553			5
3.95	3.97	3.99	1857514	141.352401			6

**Height Summation:** 7927217.4  
**Amount Avg CF:** 151.670008    Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC16X1824D      **IC16XAA ID: AA**      **Batchnumber: 1830299999**  
**Sample Amount:** 1      **Total Volume:** 1 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.032.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
3.76	3.78	3.80	281109.3	32.225044	6	124.16	1
3.82	3.84	3.86	2032131	124.833275			2
3.94	3.96	3.98	184254.9	19.380412			3
4.00	4.02	4.04	3369632	464.745975			4
4.15	4.17	4.19	28823.68	4.876699			5
4.22	4.24	4.26	2257176	201.856212			6

**Height Summation:** 8153126.88  
**Amount Avg CF:** 141.319603      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.00	4.02	4.04	3369632	211.764296	6	4.32	1
4.13	4.15	4.17	1504586	213.163579			2
4.22	4.24	4.26	2257176	202.453181			3
4.42	4.44	4.46	2090699	226.124794			4
4.54	4.57	4.58	4729560	225.965113			5
4.77	4.80	4.81	3235855	221.689438			6

**Height Summation:** 17187508  
**Amount Avg CF:** 216.860067      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.24	4.26	4.28	1625234	121.682222	6	27.05	1
4.42	4.44	4.46	2090699	161.492947			2
4.55	4.57	4.59	4729560	192.945926			3
4.74	4.76	4.78	970110.7	102.940630			4
E 4.78	4.80	4.82	3235855	205.868338			5
5.08	5.10	5.12	1056477	129.511963			6

**Height Summation:** 13707941.7  
**Amount Avg CF:** 152.407006      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.74	4.76	4.77	970116.7	29.981942	6	117.15	1
4.77	4.80	4.81	3235855	117.874356			2
4.92	4.93	4.96	111005.4	4.593368			3
4.98	5.00	5.02	42861.48	6.478781			4
5.08	5.10	5.12	1056477	104.231609			5
5.27	5.29	5.31	343171.2	5.293344			6

**Height Summation:** 5759486.78  
**Amount Avg CF:** 44.742234      Linear:

### Analysis Report (B)

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.032.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.18	4.20	4.22	848084.4	39.909143	6	73.75	1
4.27	4.29	4.31	3695810	463.72253			2
4.35	4.37	4.39	550696.4	35.653668			3
4.43	4.45	4.47	4269578	468.562476			4
4.51	4.52	4.55	2134736	263.640353			5
4.60	4.62	4.64	4276506	292.820901			6

**Height Summation:** 15775410.8  
**Amount Avg CF:** 260.718179      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.43	4.45	4.47	4269578	215.422171	6	3.66	1
4.50	4.52	4.54	2134736	216.979271			2
4.60	4.62	4.64	4276506	211.59485			3
4.65	4.67	4.69	2417971	230.893877			4
4.97	4.99	5.01	5546444	229.706014			5
5.15	5.17	5.19	3215850	225.871682			6

**Height Summation:** 21861085  
**Amount Avg CF:** 221.744644      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
4.65	4.67	4.69	2417971	139.362395	6	27.16	1
E 4.79	4.81	4.83	2686435	200.106741			2
4.97	4.99	5.01	5546444	189.690987			3
5.15	5.17	5.19	3215850	187.021846			4
+ 5.20	5.20	5.24	155721.2	15.86498			5
5.20	5.21	5.24	900469.9	91.740473			5
5.51	5.53	5.55	1136850	131.552759			6

**Height Summation:** 15904019.9  
**Amount Avg CF:** 156.5792      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
5.15	5.17	5.19	3215850	86.683981	6	178.19	1
+ 5.20	5.20	5.24	155721.2	4.902681			2
5.20	5.21	5.24	900469.9	28.350131			2
5.33	5.36	5.37	74499.37	2.811169			3
5.39	5.42	5.43	531666.4	75.092799			4
5.51	5.53	5.55	1136850	107.09668			5
E 5.55	5.58	5.59	72452.73	1003.639424			6

**Height Summation:** 5931788.4  
**Amount Avg CF:** 217.279031      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		1.70	4	40	
Aroclor-1221			0.5	0.1		3.12	3	5	
Aroclor-1232			0.5	0.2	E	3.50	4	40	
Aroclor-1242			0.5	0.1	E	3.23	4	30	
Aroclor-1248			0.5	0.1		0.65	4	40	
Aroclor-1254			0.5	0.1		** 59.40	4	40	
Aroclor-1260			0.5	0.15		2.23	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC16X1824D      IC16XAA    ID: AA    **Batchnumber:** 1830299999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.032.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

**Analysis Report (B)**

Injected on : Oct 31, 2018 00:15:00  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.032.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1262			0.5	0.2	E	2.70	4	40	
Aroclor-1268			0.5	0.16		** 131.70	4	40	

Units: ug/l

7E

### CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 10/31/18

GC Column (1) : ZBmultiR1 ID: 30 (mm)

Time Analyzed: 0:25

Lab File ID: 20PCBS18303001.033.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: IC48XAA

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW		CALC AMOUNT	NOM AMOUNT	%D
		FROM	TO			
Aroclor-1248	3.01	2.99	3.03	194.73	200.00	-3
	3.11	3.09	3.13	196.43	200.00	-2
	3.27	3.25	3.29	190.87	200.00	-5
	3.35	3.33	3.37	199.64	200.00	0
	3.50	3.48	3.52	204.02	200.00	2
	3.62	3.60	3.64	202.94	200.00	1

Compounds 6

7E

**CALIBRATION VERIFICATION SUMMARY**

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 10/31/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 0:25

Lab File ID: 20PCBS18303001B.033.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: IC48XAA

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW		CALC AMOUNT	NOM AMOUNT	%D
		FROM	TO			
Aroclor-1248	3.43	3.41	3.45	190.95	200.00	-5
	3.49	3.47	3.51	191.24	200.00	-4
	3.60	3.58	3.62	197.06	200.00	-1
	3.70	3.68	3.72	199.73	200.00	0
	3.89	3.87	3.91	206.87	200.00	3
	3.97	3.95	3.99	204.32	200.00	2

Compounds 6

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC48X1824C      **IC48XAA ID: AA**      **Batchnumber: 1830299999**  
**Sample Amount:** 1      **Total Volume:** 1 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.033.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	106652.6	29.747699	6	70.52	1
+ 2.81	2.81	2.85	175634.7	64.034495			2
2.81	2.83	2.85	215481.8	78.562312			2
2.93	2.95	2.97	1211008	102.236093			3
2.99	3.01	3.03	760599.2	114.97976			4
3.09	3.11	3.13	1479237	275.01099			5
3.25	3.27	3.29	1624542	265.123133			6

**Height Summation:** 5397520.6  
**Amount Avg CF:** 144.276665      Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	54171.68	23.089193	3	51.65	1
+ 2.40	2.40	2.44	4645.574	2.958624			2
2.40	2.42	2.44	10976.33	6.990489			2
2.45	2.47	2.49	106652.6	21.616004			3

**Height Summation:** 171800.61  
**Amount Avg CF:** 17.231895      Linear:

<b>Aroclor-1232</b>							
2.45	2.47	2.49	106652.6	26.849404	6	82.59	1
+ 2.81	2.81	2.85	175634.7	130.967892			2
2.81	2.83	2.85	215481.8	160.681216			2
E 2.93	2.95	2.97	1211008	221.808025			3
E 2.99	3.01	3.03	760599.2	239.975333			4
E 3.09	3.11	3.13	1479237	716.494149			5
E 3.25	3.27	3.29	1624542	618.871973			6

**Height Summation:** 5397520.6  
**Amount Avg CF:** 330.780017      Linear:

<b>Aroclor-1242</b>							
2.45	2.47	2.49	106652.6	34.410099	6	74.03	1
+ 2.81	2.81	2.85	175634.7	74.215476			2
2.81	2.83	2.85	215481.8	91.053102			2
2.93	2.95	2.97	1211008	122.957416			3
2.99	3.01	3.03	760599.2	135.136913			4
E 3.09	3.11	3.13	1479237	358.393202			5
E 3.25	3.27	3.29	1624542	320.74227			6

**Height Summation:** 5397520.6  
**Amount Avg CF:** 177.1155      Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	760599.2	194.72827	6	2.55	1
3.09	3.11	3.13	1479237	196.430041			2
3.25	3.27	3.29	1624542	190.865625			3
3.33	3.35	3.37	1352092	199.635048			4
3.48	3.50	3.52	2013296	204.016911			5
+ 3.60	3.61	3.64	345842.9	101.623838			6
3.60	3.62	3.64	690637.6	202.93967			6
+ 3.60	3.64	3.64	462710.6	135.964703			6

**Height Summation:** 7920403.8  
**Amount Avg CF:** 198.102594      Linear:

### Analysis Report (B)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.033.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	249729.8	31.623921	6	66.60	1
3.00	3.02	3.04	874054.3	99.314899			2
3.32	3.32	3.36	1077713	106.288996			3
+ 3.32	3.34	3.36	926964.2	91.421459			3
3.41	3.43	3.45	948123.1	111.404278			4
3.50	3.52	3.54	2070232	231.698552			5
3.58	3.60	3.62	2418488	292.959049			6

**Height Summation:** 7638340.2  
**Amount Avg CF:** 145.548283      Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	103623.7	27.795947	3	37.35	1
2.73	2.75	2.77	37450.57	12.41948			2
2.78	2.80	2.82	249729.8	23.354233			3

**Height Summation:** 390804.07  
**Amount Avg CF:** 21.189887      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	249729.8	28.984468	6	77.65	1
E 3.00	3.02	3.04	874054.3	212.033205			2
E 3.32	3.32	3.36	1077713	225.239519			3
+ 3.32	3.34	3.36	926964.2	193.733369			3
E 3.41	3.43	3.45	948123.1	242.288053			4
E 3.50	3.52	3.54	2070232	589.948917			5
E 3.58	3.60	3.62	2418488	716.700692			6

**Height Summation:** 7638340.2  
**Amount Avg CF:** 335.862142      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	249729.8	38.523401	6	68.84	1
3.00	3.02	3.04	874054.3	118.403787			2
3.32	3.32	3.36	1077713	123.441099			3
+ 3.32	3.34	3.36	926964.2	106.174352			3
3.41	3.43	3.45	948123.1	134.589427			4
E 3.50	3.52	3.54	2070232	305.082747			5
E 3.58	3.60	3.62	2418488	358.390199			6

**Height Summation:** 7638340.2  
**Amount Avg CF:** 179.738444      Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	948123.1	190.950156	6	3.32	1
3.47	3.49	3.51	2237174	191.242638			2
3.58	3.60	3.62	2418488	197.057824			3
3.68	3.70	3.72	1362879	199.726958			4
3.87	3.89	3.91	2402728	206.874047			5
3.95	3.97	3.99	2684958	204.318771			6

**Height Summation:** 12054348.1  
**Amount Avg CF:** 198.361732      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC48X1824C      **IC48XAA**    **ID:** AA      **Batchnumber:** 1830299999  
**Sample Amount:** 1                      **Total Volume:** 1    ml    **Analyst:** 9065      **SDG:**                      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.033.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	688502.5	78.926677	6	63.27	1
3.82	3.84	3.86	1076662	66.139065			2
+ 3.94	3.94	3.98	146206.7	15.378403			3
3.94	3.96	3.98	577089.4	60.699771			3
4.00	4.02	4.04	110601.7	15.254394			4
4.15	4.17	4.19	645542.5	109.219802			5
4.22	4.24	4.26	184484.3	16.498183			6

**Height Summation:** 3282882.4  
**Amount Avg CF:** 57.789649    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	110601.7	6.950756	6	105.10	1
4.13	4.14	4.17	66616.8	9.437995			2
4.22	4.24	4.26	184484.3	16.546974			3
4.42	4.44	4.46	7660.7	0.828562			4
4.54	4.56	4.58	17758.82	0.848467			5
+ 4.54	4.58	4.58	6476.597	0.309434			5
4.77	4.80	4.81	20037.46	1.372773			6

**Height Summation:** 407159.78  
**Amount Avg CF:** 5.997588    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.42	4.44	4.46	7660.7	0.591739	5	35.70	2
4.55	4.56	4.58	17758.82	0.724484			3
+ 4.55	4.58	4.59	6476.597	0.264218			3
4.74	4.76	4.78	6677.865	0.708599			4
4.78	4.80	4.82	20037.46	1.274803			5
5.08	5.10	5.12	5070.247	0.621554			6

**Height Summation:** 57205.092  
**Amount Avg CF:** 0.784236    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.76	4.77	6677.865	0.206383	5	90.50	1
4.77	4.80	4.81	20037.46	0.729916			2
4.92	4.93	4.96	1887.338	0.078097			3
5.08	5.10	5.12	5070.247	0.500229			5
5.27	5.29	5.31	4917.884	0.075857			6

**Height Summation:** 38590.794  
**Amount Avg CF:** 0.318096    Linear:

### Analysis Report (B)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.033.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.20	4.22	1363957	64.185068	6	78.42	1
4.27	4.30	4.31	111418.9	13.980008			2
4.35	4.37	4.39	1010943	65.451357			3
4.43	4.44	4.47	169256.2	18.574928			4
4.51	4.53	4.55	853046.2	105.351388			5
4.60	4.62	4.64	237957.7	16.293439			6

**Height Summation:** 3746579  
**Amount Avg CF:** 47.306031    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	169256.2	8.539846	6	181.96	1
4.50	4.53	4.54	853046.2	86.705496			2
4.60	4.62	4.64	237957.7	11.773776			3
4.65	4.67	4.69	9449.143	0.902306			4
4.97	4.99	5.01	31057.42	1.286243			5
5.15	5.17	5.19	27202.44	1.910618			6

**Height Summation:** 1327969.103  
**Amount Avg CF:** 18.519714    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	9449.143	0.544612	6	136.73	1
4.79	4.80	4.83	97967.12	7.297359			2
4.97	4.99	5.01	31057.42	1.062178			3
5.15	5.17	5.19	27202.44	1.681992			4
+ 5.20	5.20	5.24	1310.209	0.133485			5
5.20	5.22	5.24	5231.311	0.532969			5
5.51	5.53	5.55	5451.928	0.63088			6

**Height Summation:** 176359.362  
**Amount Avg CF:** 1.941665    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	27202.44	0.733248	5	76.68	1
+ 5.20	5.20	5.24	1310.209	0.04125			2
5.20	5.22	5.24	5231.311	0.164701			2
5.33	5.35	5.37	2105.679	0.079456			3
5.39	5.42	5.43	1852.401	0.261634			4
5.51	5.53	5.55	5451.928	0.513598			5

**Height Summation:** 41843.759  
**Amount Avg CF:** 0.350527    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.88	4	40	
Aroclor-1221			0.5	0.1		20.60	3	5	
Aroclor-1232			0.5	0.2	E	1.52	4	40	
Aroclor-1242			0.5	0.1	E	1.47	4	30	
Aroclor-1248			0.5	0.1		0.13	4	40	
Aroclor-1254			0.5	0.1		19.95	4	40	
Aroclor-1260			0.5	0.15		** 102.15	4	40	
Aroclor-1262			0.5	0.2		** 84.92	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC48X1824C      IC48XAA    ID: AA    **Batchnumber:** 1830299999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

Analysis Report (A)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.033.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Analysis Report (B)

Injected on : Oct 31, 2018 00:25:26  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.033.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Summary Report

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1268			0.5	0.16		9.70	4	40	

Units: ug/l



7E

### CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 10/31/18

GC Column (1) : ZBmultiR1 ID: 30 (mm)

Time Analyzed: 0:35

Lab File ID: 20PCBS18303001.034.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: IC54XAA

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW		CALC AMOUNT	NOM AMOUNT	%D
		FROM	TO			
Aroclor-1254	3.78	3.76	3.80	242.05	250.00	-3
	3.84	3.82	3.86	247.34	250.00	-1
	3.96	3.94	3.98	241.05	250.00	-4
	4.02	4.00	4.04	229.61	250.00	-8
	4.17	4.15	4.19	246.42	250.00	-1
	4.24	4.22	4.26	236.65	250.00	-5

Compounds 6

7E

**CALIBRATION VERIFICATION SUMMARY**

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 10/31/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 0:35

Lab File ID: 20PCBS18303001B.034.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: IC54XAA

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT	NOM AMOUNT	%D
Aroclor-1254	4.20	4.18 4.22	246.50	250.00	-1
	4.29	4.27 4.31	231.08	250.00	-8
	4.37	4.35 4.39	242.98	250.00	-3
	4.45	4.43 4.47	236.70	250.00	-5
	4.53	4.51 4.55	238.38	250.00	-5
	4.62	4.60 4.64	237.88	250.00	-5

Compounds 6

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC54X1824C      IC54XAA    ID: AA    **Batchnumber:** 1830299999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.034.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	12397.51	3.457932	6	128.79	1
+ 2.81	2.81	2.85	8285.312	3.020734			2
2.81	2.83	2.85	89225.37	32.530596			2
2.93	2.94	2.97	91635.77	7.736103			3
2.99	3.01	3.03	181937.7	27.503517			4
3.09	3.11	3.13	1339540	249.039351			5
3.25	3.27	3.29	816337.4	133.225198			6

**Height Summation:** 2531073.75  
**Amount Avg CF:** 75.582116    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1221</b>							
2.33	2.35	2.37	14450.75	6.159236	3	80.62	1
2.40	2.40	2.44	23220.86	14.788657			2
2.45	2.47	2.49	12397.51	2.512687			3

**Height Summation:** 50069.12  
**Amount Avg CF:** 7.820193    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1232</b>							
2.45	2.47	2.49	12397.51	3.121028	6	138.11	1
+ 2.81	2.81	2.85	8285.312	6.17822			2
2.81	2.83	2.85	89225.37	66.533883			2
2.93	2.94	2.97	91635.77	16.783992			3
2.99	3.01	3.03	181937.7	57.402848			4
E 3.09	3.11	3.13	1339540	648.829479			5
E 3.25	3.27	3.29	816337.4	310.985089			6

**Height Summation:** 2531073.75  
**Amount Avg CF:** 183.94272    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1242</b>							
2.45	2.47	2.49	12397.51	3.999898	6	133.29	1
+ 2.81	2.81	2.85	8285.312	3.501007			2
2.81	2.83	2.85	89225.37	37.702705			2
2.93	2.94	2.97	91635.77	9.304065			3
2.99	3.01	3.03	181937.7	32.325171			4
E 3.09	3.11	3.13	1339540	324.547067			5
3.25	3.27	3.29	816337.4	161.173987			6

**Height Summation:** 2531073.75  
**Amount Avg CF:** 94.842149    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
2.99	3.01	3.03	181937.7	46.579609	6	67.00	1
3.09	3.11	3.13	1339540	177.879472			2
3.25	3.27	3.29	816337.4	95.910569			3
3.33	3.35	3.37	461370.6	68.120913			4
3.48	3.50	3.52	2284241	231.473064			5
3.60	3.61	3.64	1067668	313.727768			6
+ 3.60	3.62	3.64	78810.86	23.158093			6

**Height Summation:** 6151094.7  
**Amount Avg CF:** 155.615232    Linear:

### Analysis Report (B)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.034.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	35503.1	4.495848	6	130.81	1
3.00	3.02	3.04	114319	12.989559			2
+ 3.32	3.32	3.36	24341.3	2.400651			3
3.32	3.34	3.36	55062.66	5.430532			3
3.41	3.43	3.45	124881.1	14.673505			4
3.50	3.52	3.54	773571	86.577389			5
3.58	3.60	3.62	1234443	149.531958			6

**Height Summation:** 2337779.86  
**Amount Avg CF:** 45.616465    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1221</b>							
2.68	2.69	2.72	73850.02	19.809477	3	107.25	1
2.73	2.75	2.77	10312.27	3.419789			2
2.78	2.80	2.82	35503.1	3.320179			3

**Height Summation:** 119665.39  
**Amount Avg CF:** 8.849815    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1232</b>							
2.78	2.80	2.82	35503.1	4.120607	6	135.39	1
3.00	3.02	3.04	114319	27.732172			2
+ 3.32	3.32	3.36	24341.3	5.087275			3
3.32	3.34	3.36	55062.66	11.507968			3
3.41	3.43	3.45	124881.1	31.909834			4
E 3.50	3.52	3.54	773571	220.442624			5
E 3.58	3.60	3.62	1234443	365.81788			6

**Height Summation:** 2337779.86  
**Amount Avg CF:** 110.255181    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1242</b>							
2.78	2.80	2.82	35503.1	5.47672	6	130.37	1
3.00	3.02	3.04	114319	15.486226			2
+ 3.32	3.32	3.36	24341.3	2.788049			3
3.32	3.34	3.36	55062.66	6.30687			3
3.41	3.43	3.45	124881.1	17.727314			4
3.50	3.52	3.54	773571	113.998415			5
3.58	3.60	3.62	1234443	182.929282			6

**Height Summation:** 2337779.86  
**Amount Avg CF:** 56.987471    Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
3.41	3.43	3.45	124881.1	25.150812	6	100.94	1
3.47	3.49	3.51	2151693	183.935378			2
3.58	3.60	3.62	1234443	100.58212			3
3.68	3.70	3.72	359747	52.720142			4
3.87	3.89	3.91	887292.2	76.39555			5
3.95	3.97	3.99	5419438	412.406354			6

**Height Summation:** 10177494.3  
**Amount Avg CF:** 141.865059    Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC54X1824C      **IC54XAA**    **ID:** AA      **Batchnumber:** 1830299999  
**Sample Amount:** 1                      **Total Volume:** 1    ml    **Analyst:** 9065      **SDG:**                      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.034.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	2111447	242.04632	6	2.74	1
3.82	3.84	3.86	4026406	247.341066			2
+ 3.94	3.94	3.98	67228.3	7.071248			3
3.94	3.96	3.98	2291774	241.054777			3
4.00	4.02	4.04	1664789	229.610826			4
4.15	4.17	4.19	1456463	246.420026			5
4.22	4.24	4.26	2646283	236.653528			6

**Height Summation:** 14197162  
**Amount Avg CF:** 240.52109    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	1664789	104.623553	6	99.05	1
4.13	4.15	4.17	856952.8	121.409561			2
4.22	4.24	4.26	2646283	237.353406			3
4.42	4.44	4.46	146875	15.885634			4
4.54	4.54	4.58	400801.8	19.149186			5
+ 4.54	4.56	4.58	338332.8	16.164592			5
4.77	4.80	4.81	380044.2	26.036947			6

**Height Summation:** 6095745.8  
**Amount Avg CF:** 87.409715    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.42	4.44	4.46	146875	11.345142	5	87.56	2
4.55	4.56	4.59	338332.8	13.802539			3
+ 4.55	4.58	4.59	60249.9	2.45794			3
4.74	4.76	4.78	15328.87	1.626571			4
4.78	4.80	4.82	380044.2	24.178793			5
5.08	5.10	5.12	17873.54	2.191091			6

**Height Summation:** 898454.41  
**Amount Avg CF:** 10.628827    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.76	4.77	15328.87	0.473746	6	189.26	1
4.77	4.80	4.81	380044.2	13.844089			2
4.92	4.93	4.96	16927.11	0.700438			3
4.98	5.00	5.02	2358.946	0.356569			4
5.08	5.10	5.12	17873.54	1.763396			5
5.27	5.28	5.31	1542.86	0.023798			6

**Height Summation:** 434075.526  
**Amount Avg CF:** 2.86034    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 49.45	4	40	
Aroclor-1221			0.5	0.1		12.35	3	5	
Aroclor-1232			0.5	0.2	E	** 50.09	4	40	
Aroclor-1242			0.5	0.1	E	** 49.86	4	30	
Aroclor-1248			0.5	0.1		9.24	4	40	
Aroclor-1254			0.5	0.1		0.67	4	40	
Aroclor-1260			0.5	0.15		1.93	4	40	

### Analysis Report (B)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.034.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.20	4.22	5238254	246.501679	6	2.23	1
4.27	4.29	4.31	1841648	231.076184			2
4.35	4.37	4.39	3752968	242.977939			3
4.43	4.45	4.47	2156856	236.702969			4
4.51	4.53	4.55	1930184	238.378137			5
4.60	4.62	4.64	3474052	237.875274			6

**Height Summation:** 18393962  
**Amount Avg CF:** 238.918697    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.45	4.47	2156856	108.824479	6	91.80	1
4.50	4.53	4.54	1930184	196.188155			2
4.60	4.62	4.64	3474052	171.890677			3
4.65	4.67	4.69	121674.6	11.618799			4
4.97	4.99	5.01	461356.1	19.107066			5
5.15	5.17	5.19	385417	27.070537			6

**Height Summation:** 8529539.7  
**Amount Avg CF:** 89.116619    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	121674.6	7.012848	6	133.44	1
4.79	4.80	4.83	1100091	81.943403			2
4.97	4.99	5.01	461356.1	15.778595			3
5.15	5.17	5.19	385417	27.414416			4
5.20	5.20	5.24	51848.32	5.282341			5
5.51	5.53	5.55	22600.03	2.615205			6

**Height Summation:** 2142987.05  
**Amount Avg CF:** 22.507801    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	385417	10.389004	4	105.73	1
5.20	5.20	5.24	51848.32	1.632377			2
5.39	5.42	5.43	13671.8	1.931011			4
5.51	5.53	5.55	22600.03	2.12903			5

**Height Summation:** 473537.15  
**Amount Avg CF:** 4.020356    Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IC54X1824C      IC54XAA    ID: AA    **Batchnumber:** 1830299999  
**Sample Amount:** 1                      Total Volume: 1      ml    Analyst: 9065      SDG:                      State:  
**Analyses:** 10227

Analysis Report (A)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303001.034.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBS.MET

Analysis Report (B)

Injected on : Oct 31, 2018 00:35:54  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303001B.034.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBSB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1262			0.5	0.2		** 71.70	4	40	
Aroclor-1268			0.5	0.16		33.72	4	40	

Units: ug/l

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 11/01/18

GC Column (1): ZBmultiR1 ID: 30 (mm)

Time Analyzed: 14:08

Lab File ID: 20PCBS18303002.102.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: AR1641B

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.17	2.14 2.20	41.62	40.06	4
Decachlorobiphenyl	5.45	5.42 5.48	38.80	40.04	-3
Aroclor-1016	2.46	2.45 2.49	212.66	200.40	6
	2.83	2.81 2.85	208.38	200.40	4
	2.95	2.93 2.97	221.17	200.40	10
	3.01	2.99 3.03	215.23	200.40	7
	3.11	3.09 3.13	205.21	200.40	2
	3.26	3.25 3.29	209.77	200.40	5
Aroclor-1260	4.02	4.00 4.04	213.51	200.44	7
	4.14	4.13 4.17	205.99	200.44	3
	4.24	4.22 4.26	213.88	200.44	7
	4.44	4.42 4.46	211.62	200.44	6
	4.57	4.54 4.58	218.64	200.44	9
	4.80	4.77 4.81	206.60	200.44	3

Compounds 14

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 11/01/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 14:08

Lab File ID: 20PCBS18303002B.102.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: AR1641B

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.60	2.57 2.63	43.89	40.06	10
Decachlorobiphenyl	5.93	5.89 5.95	43.97	40.04	10
Aroclor-1016	2.80	2.78 2.82	220.81	200.40	10
	3.01	3.00 3.04	204.97	200.40	2
	3.34	3.32 3.36	232.45	200.40	16
	3.43	3.41 3.45	217.75	200.40	9
	3.51	3.50 3.54	199.58	200.40	0
	3.60	3.58 3.62	207.18	200.40	3
Aroclor-1260	4.44	4.43 4.47	215.71	200.44	8
	4.52	4.50 4.54	213.24	200.44	6
	4.62	4.60 4.64	221.09	200.44	10
	4.67	4.65 4.69	216.48	200.44	8
	4.99	4.97 5.01	223.90	200.44	12
	5.17	5.15 5.19	224.69	200.44	12

Compounds 14

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641B    ID: IB    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.102.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 104% (33-137)      Conc.: 41.62086  
 %SSR(DCB) : 97% (10-148)      Conc.: 38.79667

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	762439.8	212.66082	6	2.66	1
2.81	2.83	2.85	571555.3	208.382824			2
2.93	2.95	2.97	2619784	221.168218			3
2.99	3.01	3.03	1423735	215.22598			4
3.09	3.11	3.13	1103772	205.206759			5
3.25	3.26	3.29	1285384	209.772991			6

Height Summation:      **7766670.1**  
 Amount Avg CF:              **212.069599**      Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	164977.1	70.316965	3	39.15	1
2.40	2.42	2.44	159295.9	101.450694			2
2.45	2.46	2.49	762439.8	154.528832			3

Height Summation:      **1086712.8**  
 Amount Avg CF:              **108.765497**      Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	762439.8	191.941449	6	28.39	1
E+ 2.81	2.81	2.85	405775.8	302.580306			2
E 2.81	2.83	2.85	571555.3	426.199339			2
E 2.93	2.95	2.97	2619784	479.839203			3
E 2.99	3.01	3.03	1423735	449.200158			4
E 3.09	3.11	3.13	1103772	534.631151			5
E 3.25	3.26	3.29	1285384	489.66917			6

Height Summation:      **7766670.1**  
 Amount Avg CF:              **428.580078**      Linear:

<b>Aroclor-1242</b>							
E 2.45	2.46	2.49	762439.8	245.991462	6	4.09	1
E 2.81	2.83	2.85	571555.3	241.514054			2
E 2.93	2.95	2.97	2619784	265.994834			3
E 2.99	3.01	3.03	1423735	252.957344			4
E 3.09	3.11	3.13	1103772	267.424612			5
E 3.25	3.26	3.29	1285384	253.780439			6

Height Summation:      **7766670.1**  
 Amount Avg CF:              **254.610457**      Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	1423735	364.504004	6	69.52	1
3.09	3.11	3.13	1103772	146.571495			2
3.25	3.26	3.29	1285384	151.018331			3
3.33	3.35	3.37	1154136	170.40704			4
3.48	3.49	3.52	1326516	134.42221			5
3.60	3.60	3.64	43668.05	12.831592			6
+ 3.60	3.62	3.64	40926.47	12.025995			6
+ 3.60	3.64	3.64	9477.494	2.784904			6

Height Summation:      **6337211.05**  
 Amount Avg CF:              **163.292445**      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.102.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 110% (33-137)      Conc.: 43.88622  
 %SSR(DCB) : 110% (10-148)      Conc.: 43.96895

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	1743732	220.81323	6	5.68	1
3.00	3.01	3.04	1803924	204.971853			2
+ 3.00	3.03	3.04	685306.8	77.868361			2
3.32	3.34	3.36	2356938	232.45203			3
+ 3.32	3.36	3.36	1404176	138.486274			3
3.41	3.43	3.45	1853226	217.753691			4
3.50	3.51	3.54	1783277	199.5828			5
3.58	3.60	3.62	1710331	207.177767			6

Height Summation:      **11251428**  
 Amount Avg CF:              **213.791895**      Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	259685.4	69.657827	3	41.42	1
2.73	2.75	2.77	324279.6	107.538657			2
2.78	2.80	2.82	1743732	163.070342			3

Height Summation:      **2327697**  
 Amount Avg CF:              **113.422275**      Linear:

<b>Aroclor-1232</b>							
E 2.78	2.80	2.82	1743732	202.383311	6	26.97	1
E 3.00	3.01	3.04	1803924	437.606436			2
+ 3.00	3.03	3.04	685306.8	166.245732			2
E 3.32	3.34	3.36	2356938	492.594579			3
E+ 3.32	3.36	3.36	1404176	293.469529			3
E 3.41	3.43	3.45	1853226	473.53951			4
E 3.50	3.51	3.54	1783277	508.176057			5
E 3.58	3.60	3.62	1710331	506.843702			6

Height Summation:      **11251428**  
 Amount Avg CF:              **436.857266**      Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	1743732	268.988672	6	3.78	1
E 3.00	3.01	3.04	1803924	244.368609			2
+ 3.00	3.03	3.04	685306.8	92.835102			2
E 3.32	3.34	3.36	2356938	269.963355			3
+ 3.32	3.36	3.36	1404176	160.834127			3
E 3.41	3.43	3.45	1853226	263.071985			4
E 3.50	3.51	3.54	1783277	262.795207			5
E 3.58	3.60	3.62	1710331	253.450035			6

Height Summation:      **11251428**  
 Amount Avg CF:              **260.439644**      Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	1853226	373.236127	6	64.61	1
3.47	3.48	3.51	1631643	139.479411			2
3.58	3.60	3.62	1710331	139.357361			3
3.68	3.70	3.72	1232348	180.597923			4
3.87	3.88	3.91	455725.9	39.237842			5
3.95	3.97	3.99	1991078	151.516304			6

Height Summation:      **8874351.9**  
 Amount Avg CF:              **170.570828**      Linear:



# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641B    ID: IB    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.102.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	347656.8	39.853735	6	119.26	1
3.82	3.84	3.86	2008099	123.356996			2
3.94	3.96	3.98	283200.6	29.787779			3
4.00	4.02	4.04	3397460	468.584065			4
4.15	4.17	4.19	37356.32	6.320343			5
4.22	4.24	4.26	2384602	213.251748			6

**Height Summation:** 8458374.72  
**Amount Avg CF:** 146.859111    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	3397460	213.513145	6	2.26	1
4.13	4.14	4.17	1453925	205.986136			2
4.22	4.24	4.26	2384602	213.882418			3
4.42	4.44	4.46	1956608	211.621845			4
4.54	4.57	4.58	4576336	218.6445			5
4.77	4.80	4.81	3015669	206.604426			6

**Height Summation:** 16784600  
**Amount Avg CF:** 211.708745    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	1515273	113.449378	6	27.42	1
4.42	4.44	4.46	1956608	151.135287			2
4.55	4.57	4.59	4576336	186.695039			3
4.74	4.76	4.78	917302.9	97.336482			4
4.78	4.80	4.82	3015669	191.859884			5
5.08	5.10	5.12	994262.1	121.88513			6

**Height Summation:** 12975451  
**Amount Avg CF:** 143.726866    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.76	4.77	917302.9	28.349705	6	96.34	1
4.77	4.80	4.81	3015669	109.853514			2
4.92	4.94	4.96	208477	8.626712			3
4.98	5.00	5.02	222161.6	33.581119			4
5.08	5.10	5.12	994262.1	98.093512			5
5.27	5.29	5.31	309499.8	4.77397			6

**Height Summation:** 5667372.4  
**Amount Avg CF:** 47.213088    Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.102.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	1008871	47.475437	6	71.21	1
4.27	4.29	4.31	3627083	455.099181			2
4.35	4.37	4.39	671714.8	43.488748			3
4.43	4.44	4.47	4275354	469.19636			4
4.51	4.52	4.55	2097990	259.102214			5
4.60	4.62	4.64	4468455	305.964033			6

**Height Summation:** 16149467.8  
**Amount Avg CF:** 263.387662    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	4275354	215.7136	6	2.15	1
4.50	4.52	4.54	2097990	213.244327			2
4.60	4.62	4.64	4468455	221.092187			3
4.65	4.67	4.69	2267055	216.482794			4
4.97	4.99	5.01	5406364	223.9046			5
5.15	5.17	5.19	3199072	224.693246			6

**Height Summation:** 21714290  
**Amount Avg CF:** 219.188459    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2267055	130.664187	6	27.16	1
4.79	4.81	4.83	2542634	189.395315			2
4.97	4.99	5.01	5406364	184.900185			3
5.15	5.17	5.19	3199072	186.0461			4
+ 5.20	5.20	5.24	169027.5	17.220634			5
5.20	5.22	5.24	884249.2	90.087898			5
5.51	5.63	5.65	1110517	120.505580			6

**Height Summation:** 15409891.2  
**Amount Avg CF:** 151.599878    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3199072	86.231726	6	85.18	1
+ 5.20	5.20	5.24	169027.5	5.321612			2
5.20	5.22	5.24	884249.2	27.839443			2
5.33	5.36	5.37	164762.2	6.217159			3
5.39	5.42	5.43	627406.6	88.615187			4
5.51	5.53	5.55	1110517	104.615986			5
5.72	5.74	5.76	312010	4.621693			6

**Height Summation:** 6298017  
**Amount Avg CF:** 53.023532    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.81	4	40	
Aroclor-1221			0.5	0.1		4.19	3	5	
Aroclor-1232			0.5	0.2	E	1.91	4	40	
Aroclor-1242			0.5	0.1	E	2.26	4	30	
Aroclor-1248			0.5	0.1		4.36	4	40	
Aroclor-1254			0.5	0.1		** 56.81	4	40	
Aroclor-1260			0.5	0.15		3.47	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641B    ID: IB    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.102.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

Injected on : Nov 01, 2018 14:08:22  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.102.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1262			0.5	0.2		5.33	4	40	
Aroclor-1268			0.5	0.16		11.59	4	40	

Units: ug/l

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C

Sample Amount: 1000

Analyses: 10227

Total Volume: 10

PIBLKHT ID: HT

ml Analyst: 9065

Batchnumber: 1830399999

SDG:

State:

## Analysis Report (A)

Injected on : Nov 01, 2018 14:18:55  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.103.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 106% (33-137) Conc.: 0.211996  
 %SSR(DCB) : 99% (10-148) Conc.: 0.198667

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	765.5917	0.002135	4	30.19	1
2.93	2.95	2.97	2627.438	0.002218			3
3.09	3.11	3.13	1721.997	0.003201			5
3.25	3.27	3.29	946.4193	0.001545			6
<b>Height Summation:</b>			<b>6061.446</b>				
<b>Amount Avg CF:</b>			<b>0.002275</b>	Linear:			

<b>Aroclor-1221</b>							
2.33	2.36	2.37	793.3112	0.003381	2	52.45	1
2.45	2.48	2.49	765.5917	0.001552			3

<b>Height Summation:</b>			<b>1558.9029</b>				
<b>Amount Avg CF:</b>			<b>0.002466</b>	Linear:			

<b>Aroclor-1232</b>							
2.45	2.48	2.49	765.5917	0.001927	4	58.17	1
2.93	2.95	2.97	2627.438	0.004812			3
3.09	3.11	3.13	1721.997	0.008341			5
3.25	3.27	3.29	946.4193	0.003605			6
<b>Height Summation:</b>			<b>6061.446</b>				
<b>Amount Avg CF:</b>			<b>0.004671</b>	Linear:			

<b>Aroclor-1242</b>							
2.45	2.48	2.49	765.5917	0.00247	4	35.04	1
2.93	2.95	2.97	2627.438	0.002668			3
3.09	3.11	3.13	1721.997	0.004172			5
3.25	3.27	3.29	946.4193	0.001069			6
<b>Height Summation:</b>			<b>6061.446</b>				
<b>Amount Avg CF:</b>			<b>0.002795</b>	Linear:			

<b>Aroclor-1248</b>							
3.09	3.11	3.13	1721.997	0.002287	4	28.09	2
3.25	3.27	3.29	946.4193	0.001112			3
3.33	3.35	3.37	1407.441	0.002078			4
3.48	3.51	3.52	1788.248	0.001812			5
<b>Height Summation:</b>			<b>5864.1053</b>				
<b>Amount Avg CF:</b>			<b>0.001822</b>	Linear:			

<b>Aroclor-1254</b>							
3.76	3.77	3.80	6438.582	0.007381	6	109.59	1
3.82	3.84	3.86	2796.632	0.001718			2
3.94	3.96	3.98	1008.362	0.001061			3
+ 4.00	4.02	4.04	2481.483	0.003423			4
4.00	4.04	4.04	25680.17	0.035419			4
4.15	4.15	4.19	5769.577	0.009762			5
+ 4.22	4.23	4.26	863.4605	0.000772			6
4.22	4.25	4.26	46196.16	0.041313			6
<b>Height Summation:</b>			<b>87889.483</b>				
<b>Amount Avg CF:</b>			<b>0.016109</b>	Linear:			

## Analysis Report (B)

Injected on : Nov 01, 2018 14:18:55  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.103.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 107% (33-137) Conc.: 0.215222  
 %SSR(DCB) : 106% (10-148) Conc.: 0.213098

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	110022	0.139324	6	219.07	1
3.00	3.01	3.04	1009.199	0.001147			2
3.32	3.34	3.36	6279.897	0.006194			3
3.41	3.42	3.45	1299.616	0.001527			4
3.50	3.52	3.54	2083.184	0.002331			5
3.58	3.60	3.62	1911.671	0.002316			6
<b>Height Summation:</b>			<b>122605.567</b>				
<b>Amount Avg CF:</b>			<b>0.025473</b>	Linear:			

<b>Aroclor-1221</b>							
2.78	2.80	2.82	110022	0.10289	1		3
<b>Height Summation:</b>			<b>110022</b>				
<b>Amount Avg CF:</b>			<b>0.10289</b>	Linear:			

<b>Aroclor-1232</b>							
2.78	2.80	2.82	110022	0.127695	6	188.82	1
3.00	3.01	3.04	1009.199	0.002448			2
3.32	3.34	3.36	6279.897	0.013125			3
3.41	3.42	3.45	1299.616	0.003321			4
3.50	3.52	3.54	2083.184	0.005936			5
3.58	3.60	3.62	1911.671	0.005665			6
<b>Height Summation:</b>			<b>122605.567</b>				
<b>Amount Avg CF:</b>			<b>0.026365</b>	Linear:			

<b>Aroclor-1242</b>							
2.78	2.80	2.82	110022	0.16972	6	219.28	1
3.00	3.01	3.04	1009.199	0.001367			2
3.32	3.34	3.36	6279.897	0.007193			3
3.41	3.42	3.45	1299.616	0.001845			4
3.50	3.52	3.54	2083.184	0.00307			5
3.58	3.60	3.62	1911.671	0.002833			6
<b>Height Summation:</b>			<b>122605.567</b>				
<b>Amount Avg CF:</b>			<b>0.031005</b>	Linear:			

<b>Aroclor-1248</b>							
3.41	3.42	3.45	1299.616	0.002617	4	21.50	1
3.47	3.49	3.51	2423.68	0.002072			2
3.58	3.60	3.62	1911.671	0.001558			3
3.95	3.97	3.99	3194.711	0.002431			6
<b>Height Summation:</b>			<b>8829.678</b>				
<b>Amount Avg CF:</b>			<b>0.002169</b>	Linear:			

<b>Aroclor-1254</b>							
4.27	4.29	4.31	8019.103	0.010062	4	65.90	2
4.35	4.37	4.39	4560.411	0.002953			3
4.43	4.44	4.47	3754.228	0.00412			4
4.51	4.51	4.55	2606.648	0.003219			5
<b>Height Summation:</b>			<b>18940.39</b>				
<b>Amount Avg CF:</b>			<b>0.005088</b>	Linear:			

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      **PIBLKHT ID:** HT      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 14:18:55  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.103.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

MIn	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	2481.483	0.001559	6	121.94	1
4.13	4.15	4.17	5769.577	0.008174			2
+ 4.22	4.23	4.26	863.4605	0.000774			3
4.22	4.25	4.26	46196.16	0.041435			3
4.42	4.43	4.46	2196.376	0.002376			4
4.54	4.56	4.58	41999.59	0.020066			5
4.77	4.80	4.81	4752.721	0.003256			6

**Height Summation:** 103395.907  
**Amount Avg CF:** 0.012811      Linear:

MIn	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	46196.16	0.034587	6	137.71	1
4.42	4.43	4.46	2196.376	0.001697			2
4.55	4.56	4.59	41999.59	0.017134			3
4.74	4.75	4.78	1050.812	0.001115			4
4.78	4.80	4.82	4752.721	0.003024			5
5.08	5.10	5.12	1317.343	0.001615			6

**Height Summation:** 97513.002  
**Amount Avg CF:** 0.009862      Linear:

MIn	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	1050.812	0.000325	6	183.03	1
4.77	4.80	4.81	4752.721	0.001731			2
4.92	4.94	4.96	70863.35	0.029323			3
4.98	5.00	5.02	90231.77	0.136391			4
5.08	5.10	5.12	1317.343	0.0013			5
5.27	5.29	5.31	43066.03	0.006643			6

**Height Summation:** 211282.026  
**Amount Avg CF:** 0.029285      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 167.21	4	40	
Aroclor-1221			0.5	0.1		** 190.64	3	5	
Aroclor-1232			0.5	0.2		** 139.79	4	40	
Aroclor-1242			0.5	0.1		** 166.93	4	30	
Aroclor-1248			0.5	0.1		17.40	4	40	
Aroclor-1254			0.5	0.1		** 103.98	4	40	
Aroclor-1260			0.5	0.15		** 132.56	4	40	
Aroclor-1262			0.5	0.2		** 75.16	4	40	
Aroclor-1268			0.5	0.16		17.79	4	40	

Units: ug/l

### Analysis Report (B)

Injected on : Nov 01, 2018 14:18:55  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.103.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	3754.228	0.001894	5	29.21	1
4.50	4.51	4.54	2606.648	0.002649			2
4.65	4.67	4.69	2462.459	0.002351			4
4.97	4.99	5.01	5382.271	0.002229			5
5.15	5.17	5.19	5505.201	0.003867			6

**Height Summation:** 19710.807  
**Amount Avg CF:** 0.002598      Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2462.459	0.001419	6	109.42	1
4.79	4.81	4.83	4130.797	0.003077			2
4.97	4.99	5.01	5382.271	0.001841			3
5.15	5.17	5.19	5505.201	0.003202			4
5.20	5.21	5.24	2895.898	0.00295			5
5.51	5.54	5.55	12407.2	0.014357			6

**Height Summation:** 32783.826  
**Amount Avg CF:** 0.004474      Linear:

Min	R.T	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	5505.201	0.001484	6	173.13	1
5.20	5.21	5.24	2895.898	0.000912			2
5.33	5.36	5.37	86805.01	0.032755			3
5.39	5.41	5.43	110721	0.156383			4
5.51	5.54	5.55	12407.2	0.011688			5
5.72	5.74	5.76	45883.79	0.006797			6

**Height Summation:** 264218.099  
**Amount Avg CF:** 0.036003      Linear:

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 11/01/18

GC Column (1): ZBmultiR1 ID: 30 (mm)

Time Analyzed: 15:00

Lab File ID: 20PCBS18303002.107.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: AR164IC

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.17	2.14 2.20	40.49	40.06	1
Decachlorobiphenyl	5.44	5.42 5.48	39.90	40.04	0
Aroclor-1016	2.46	2.45 2.49	205.04	200.40	2
	2.83	2.81 2.85	199.56	200.40	0
	2.95	2.93 2.97	221.42	200.40	10
	3.01	2.99 3.03	213.84	200.40	7
	3.11	3.09 3.13	203.04	200.40	1
	3.26	3.25 3.29	209.00	200.40	4
Aroclor-1260	4.02	4.00 4.04	214.30	200.44	7
	4.14	4.13 4.17	205.36	200.44	2
	4.24	4.22 4.26	221.94	200.44	11
	4.43	4.42 4.46	216.07	200.44	8
	4.56	4.54 4.58	225.22	200.44	12
	4.79	4.77 4.81	218.78	200.44	9

Compounds 14

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 11/01/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 15:00

Lab File ID: 20PCBS18303002B.107.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: AR164IC

Init. Calib Date(s): 10/30/18

10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.60	2.57 2.63	42.92	40.06	7
Decachlorobiphenyl	5.92	5.89 5.95	44.39	40.04	11
Aroclor-1016	2.80	2.78 2.82	213.20	200.40	6
	3.01	3.00 3.04	204.12	200.40	2
	3.34	3.32 3.36	230.46	200.40	15
	3.43	3.41 3.45	218.48	200.40	9
	3.51	3.50 3.54	197.26	200.40	-2
	3.60	3.58 3.62	205.61	200.40	3
Aroclor-1260	4.44	4.43 4.47	215.20	200.44	7
	4.52	4.50 4.54	216.02	200.44	8
	4.62	4.60 4.64	220.98	200.44	10
	4.67	4.65 4.69	210.24	200.44	5
	4.98	4.97 5.01	228.25	200.44	14
	5.17	5.15 5.19	224.08	200.44	12

Compounds 14

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641C    ID: IC    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.107.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 101% (33-137)      Conc.: 40.48548  
 %SSR(DCB) : 100% (10-148)      Conc.: 39.90259

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	735103.9	205.036251	6	3.82	1
2.81	2.83	2.85	547350.2	199.557909			2
2.93	2.95	2.97	2622716	221.415744			3
2.99	3.01	3.03	1414547	213.83703			4
3.09	3.11	3.13	1092093	203.035468			5
3.25	3.26	3.29	1280649	209.000245			6

Height Summation:      **7692459.1**  
 Amount Avg CF:      **208.647108**      Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	157698.5	67.214661	3	39.19	1
2.40	2.42	2.44	155789.2	99.217384			2
2.45	2.46	2.49	735103.9	148.98848			3

Height Summation:      **1048591.6**  
 Amount Avg CF:      **105.140175**      Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	735103.9	185.059735	6	29.18	1
E 2.81	2.83	2.85	547350.2	408.149996			2
E 2.93	2.95	2.97	2622716	480.376228			3
E 2.99	3.01	3.03	1414547	446.301268			4
E 3.09	3.11	3.13	1092093	528.974224			5
E 3.25	3.26	3.29	1280649	487.865364			6

Height Summation:      **7692459.1**  
 Amount Avg CF:      **422.787803**      Linear:

<b>Aroclor-1242</b>							
E 2.45	2.46	2.49	735103.9	237.171883	6	5.65	1
E 2.81	2.83	2.85	547350.2	231.286047			2
E 2.93	2.95	2.97	2622716	266.292529			3
E 2.99	3.01	3.03	1414547	251.324897			4
E 3.09	3.11	3.13	1092093	264.594995			5
E 3.25	3.26	3.29	1280649	252.845582			6

Height Summation:      **7692459.1**  
 Amount Avg CF:      **250.585989**      Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	1414547	362.151696	6	70.16	1
3.09	3.11	3.13	1092093	145.020624			2
3.25	3.26	3.29	1280649	150.462021			3
3.33	3.35	3.37	1121181	165.541267			4
3.48	3.49	3.52	1293276	131.053842			5
3.60	3.62	3.64	41731.93	12.262675			6
+ 3.60	3.64	3.64	7759.625	2.280119			6

Height Summation:      **6243477.93**  
 Amount Avg CF:      **161.082021**      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.107.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 107% (33-137)      Conc.: 42.91612  
 %SSR(DCB) : 111% (10-148)      Conc.: 44.39253

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	1683578	213.195776	6	5.61	1
3.00	3.01	3.04	1796424	204.119661			2
+ 3.00	3.04	3.04	696904.9	79.186201			2
3.32	3.34	3.36	2336696	230.455671			3
+ 3.32	3.36	3.36	1392415	137.32635			3
3.41	3.43	3.45	1859394	218.47843			4
3.50	3.51	3.54	1762525	197.260254			5
3.58	3.60	3.62	1697374	205.608245			6

Height Summation:      **11135991**  
 Amount Avg CF:      **211.519673**      Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	257123.2	68.970544	3	39.92	1
2.73	2.75	2.77	323006.6	107.116501			2
2.78	2.80	2.82	1683578	157.44486			3

Height Summation:      **2263707.8**  
 Amount Avg CF:      **111.177302**      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	1683578	195.401639	6	27.50	1
E 3.00	3.01	3.04	1796424	435.787042			2
+ 3.00	3.04	3.04	696904.9	169.059267			2
E 3.32	3.34	3.36	2336696	488.364047			3
E+ 3.32	3.36	3.36	1392415	291.011507			3
E 3.41	3.43	3.45	1859394	475.115568			4
E 3.50	3.51	3.54	1762525	502.26241			5
E 3.58	3.60	3.62	1697374	503.003993			6

Height Summation:      **11135991**  
 Amount Avg CF:      **433.32245**      Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	1683578	259.709297	6	3.43	1
E 3.00	3.01	3.04	1796424	243.352621			2
+ 3.00	3.04	3.04	696904.9	94.406239			2
E 3.32	3.34	3.36	2336696	267.64484			3
+ 3.32	3.36	3.36	1392415	159.487023			3
E 3.41	3.43	3.45	1859394	263.947555			4
E 3.50	3.51	3.54	1762525	259.737058			5
E 3.58	3.60	3.62	1697374	251.529967			6

Height Summation:      **11135991**  
 Amount Avg CF:      **257.653556**      Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	1859394	374.47835	6	65.46	1
3.47	3.48	3.51	1613402	137.920097			2
3.58	3.60	3.62	1697374	138.301628			3
3.68	3.70	3.72	1213403	177.821575			4
3.87	3.88	3.91	459511.2	39.563755			5
3.95	3.97	3.99	1941630	147.753429			6

Height Summation:      **8784714.2**  
 Amount Avg CF:      **169.306472**      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641C    ID: IC    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.107.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	353738.2	40.550878	6	118.12	1
3.82	3.84	3.86	2054704	126.219929			2
3.94	3.95	3.98	290371.3	30.542012			3
4.00	4.02	4.04	3409943	470.305743			4
4.15	4.17	4.19	35664.98	6.034184			5
4.22	4.24	4.26	2474492	221.29049			6
+ 4.22	4.26	4.26	1506626	134.735536			6

**Height Summation:** 8618913.48  
**Amount Avg CF:** 149.157206    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	3409943	214.297639	6	3.19	1
4.13	4.14	4.17	1449498	205.358937			2
4.22	4.24	4.26	2474492	221.944934			3
+ 4.22	4.26	4.26	1506626	135.134002			3
4.42	4.43	4.46	1997728	216.069282			4
+ 4.42	4.45	4.46	268667.7	29.058429			4
4.54	4.56	4.58	4714020	225.222656			5
4.77	4.79	4.81	3193425	218.782545			6

**Height Summation:** 17239106  
**Amount Avg CF:** 216.945999    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	1506626	112.801972	6	29.74	1
4.42	4.43	4.46	1997728	154.31154			2
+ 4.42	4.45	4.46	268667.7	20.752839			2
4.55	4.56	4.59	4714020	192.31196			3
4.74	4.75	4.78	914032.8	97.074376			4
E 4.78	4.79	4.82	3193425	203.168898			5
5.08	5.10	5.12	994812.1	121.952553			6
+ 5.08	5.12	5.12	13544.38	1.660386			6

**Height Summation:** 13321443.9  
**Amount Avg CF:** 146.936883    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	914832.8	28.273365	6	98.18	1
4.77	4.79	4.81	3193425	116.328734			2
4.92	4.93	4.96	209755.5	8.679616			3
4.98	4.99	5.02	220737.1	33.365797			4
5.08	5.10	5.12	994812.1	98.147774			5
+ 5.08	5.12	5.12	13544.38	1.336283			5
5.27	5.28	5.31	299861	4.625293			6

**Height Summation:** 5833423.5  
**Amount Avg CF:** 48.236763    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		1.37	4	40	
Aroclor-1221			0.5	0.1		5.58	3	5	
Aroclor-1232			0.5	0.2	E	2.46	4	40	
Aroclor-1242			0.5	0.1	E	2.78	4	30	

### Analysis Report (B)

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.107.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	1031620	48.545959	6	71.10	1
4.27	4.29	4.31	3671219	460.637036			2
4.35	4.37	4.39	667833.9	43.237487			3
4.43	4.44	4.47	4265124	468.073674			4
4.51	4.52	4.55	2125278	262.472288			5
+ 4.51	4.55	4.55	321544	39.710753			5
4.60	4.62	4.64	4466256	305.813463			6

**Height Summation:** 16227330.9  
**Amount Avg CF:** 264.796651    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	4265124	215.197443	6	2.99	1
4.50	4.52	4.54	2125278	216.017939			2
4.60	4.62	4.64	4466256	220.983384			3
4.65	4.67	4.69	2201670	210.239131			4
4.97	4.98	5.01	5511346	228.25243			5
5.15	5.17	5.19	3190303	224.077337			6

**Height Summation:** 21759977  
**Amount Avg CF:** 219.127944    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2201670	126.895651	6	27.79	1
4.79	4.80	4.83	2516160	187.423324			2
4.97	4.98	5.01	5511346	188.490619			3
5.15	5.17	5.19	3190303	185.536128			4
+ 5.15	5.19	5.19	176322.8	10.254277			4
5.20	5.21	5.24	895505.6	91.234707			5
5.51	5.53	5.55	1077103	124.639021			6

**Height Summation:** 15392087.6  
**Amount Avg CF:** 150.703242    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3190303	85.995356	6	84.36	1
5.20	5.21	5.24	895505.6	28.193836			2
5.33	5.35	5.37	164300	6.199718			3
+ 5.33	5.37	5.37	48240.2	1.820302			3
5.39	5.41	5.43	613941	86.7133			4
5.51	5.53	5.55	1077103	101.468228			5
5.72	5.74	5.76	321018	4.755125			6

**Height Summation:** 6262170.6  
**Amount Avg CF:** 52.220927    Linear:



# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641C    ID: IC    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    **SDG:**                      State:  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.107.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

Injected on : Nov 01, 2018 15:00:34  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.107.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1248			0.5	0.1		4.98	4	40	
Aroclor-1254			0.5	0.1		** 55.87	4	40	
Aroclor-1260			0.5	0.15		1.00	4	40	
Aroclor-1262			0.5	0.2	E	2.53	4	40	
Aroclor-1268			0.5	0.16		7.93	4	40	

Units: ug/l

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C

**PIBLKHU ID:** HU

**Batchnumber:** 1830399999

**Sample Amount:** 1000

**Total Volume:** 10 ml

**Analyst:** 9065

**SDG:**

**State:**

**Analyses:** 10227

Analysis Report (A)

Injected on : Nov 01, 2018 15:11:04  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.108.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 110% (33-137) Conc.: 0.220761  
 %SSR(DCB) : 99% (10-148) Conc.: 0.199012

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	820.3995	0.002288	4	53.10	1
2.93	2.95	2.97	7805.01	0.006589			3
3.09	3.11	3.13	6062.214	0.011271			5
3.25	3.27	3.29	5973.341	0.009748			6

**Height Summation:** 20660.9645  
**Amount Avg CF:** 0.007474 Linear:

<b>Aroclor-1221</b>							
2.45	2.46	2.49	820.3995	0.001663	1		3

**Height Summation:** 820.3995  
**Amount Avg CF:** 0.001663 Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	820.3995	0.002065	4	68.81	1
2.93	2.95	2.97	7805.01	0.014296			3
3.09	3.11	3.13	6062.214	0.029363			5
3.25	3.27	3.29	5973.341	0.022756			6

**Height Summation:** 20660.9645  
**Amount Avg CF:** 0.01712 Linear:

<b>Aroclor-1242</b>							
2.45	2.46	2.49	820.3995	0.002647	4	56.23	1
2.93	2.95	2.97	7805.01	0.007925			3
3.09	3.11	3.13	6062.214	0.014688			5
3.25	3.27	3.29	5973.341	0.011793			6

**Height Summation:** 20660.9645  
**Amount Avg CF:** 0.009263 Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	6062.214	0.00805	4	24.34	2
3.25	3.27	3.29	5973.341	0.007018			3
3.33	3.35	3.37	6774.844	0.010003			4
3.48	3.51	3.52	5495.76	0.005569			5

**Height Summation:** 24306.159  
**Amount Avg CF:** 0.00766 Linear:

<b>Aroclor-1254</b>							
3.76	3.77	3.80	6985.92	0.008008	6	108.68	1
+ 3.76	3.80	3.80	3772.116	0.004324			1
3.82	3.84	3.86	2262.916	0.00139			2
3.94	3.94	3.98	2600.867	0.002736			3
+ 4.00	4.00	4.04	1299.048	0.001792			4
+ 4.00	4.02	4.04	2303.768	0.003177			4
4.00	4.04	4.04	28066.98	0.038711			4
4.15	4.15	4.19	5481.856	0.009275			5
+ 4.22	4.23	4.26	548.1589	0.00049			6
4.22	4.25	4.26	48667.12	0.043522			6

**Height Summation:** 94065.659  
**Amount Avg CF:** 0.017274 Linear:

Analysis Report (B)

Injected on : Nov 01, 2018 15:11:04  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.108.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 109% (33-137) Conc.: 0.219171  
 %SSR(DCB) : 110% (10-148) Conc.: 0.21982

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	114241.1	0.144666	5	171.71	1
3.32	3.34	3.36	3362.416	0.003316			3
3.41	3.44	3.45	8187.427	0.00962			4
3.50	3.52	3.54	9998.884	0.011191			5
3.58	3.59	3.62	7444.465	0.009018			6

**Height Summation:** 143234.292  
**Amount Avg CF:** 0.035562 Linear:

<b>Aroclor-1221</b>							
2.68	2.69	2.72	11570.31	0.031036	2	77.75	1
2.78	2.80	2.82	114241.1	0.106836			3

**Height Summation:** 125811.41  
**Amount Avg CF:** 0.068936 Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	114241.1	0.132592	5	121.09	1
3.32	3.34	3.36	3362.416	0.007027			3
3.41	3.44	3.45	8187.427	0.020921			4
3.50	3.52	3.54	9998.884	0.028494			5
3.58	3.59	3.62	7444.465	0.022061			6

**Height Summation:** 143234.292  
**Amount Avg CF:** 0.042219 Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	114241.1	0.176229	5	170.85	1
3.32	3.34	3.36	3362.416	0.003851			3
3.41	3.44	3.45	8187.427	0.011622			4
3.50	3.52	3.54	9998.884	0.014735			5
3.58	3.59	3.62	7444.465	0.011032			6

**Height Summation:** 143234.292  
**Amount Avg CF:** 0.043494 Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	8187.427	0.016489	5	98.69	1
3.47	3.48	3.51	2393.774	0.002046			2
3.58	3.59	3.62	7444.465	0.006066			3
3.87	3.87	3.91	5278.669	0.004545			5
3.95	3.97	3.99	2081.758	0.001584			6

**Height Summation:** 25386.093  
**Amount Avg CF:** 0.006146 Linear:

<b>Aroclor-1254</b>							
4.18	4.19	4.22	2694.7	0.001268	5	82.35	1
4.27	4.29	4.31	9147.498	0.011478			2
4.35	4.37	4.39	5355.59	0.003467			3
4.43	4.44	4.47	3420.636	0.003754			4
4.51	4.51	4.55	3035.811	0.003749			5

**Height Summation:** 23654.235  
**Amount Avg CF:** 0.004743 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      **PIBLKHU ID:** HU      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 15:11:04  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.108.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.00	4.04	1299.048	0.000816	6	121.95	1
4.00	4.02	4.04	2303.768	0.001448			1
4.13	4.15	4.17	5481.856	0.007766			2
4.22	4.23	4.26	548.1589	0.000492			3
4.22	4.25	4.26	48667.12	0.043651			3
4.42	4.44	4.46	2734.133	0.002957			4
4.54	4.56	4.58	46468.78	0.022201			5
4.77	4.80	4.81	5143.086	0.003524			6

**Height Summation:** 110798.743  
**Amount Avg CF:** 0.013591      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	48667.12	0.036437	5	119.99	1
4.42	4.44	4.46	2734.133	0.002112			2
4.55	4.56	4.59	46468.78	0.018957			3
4.74	4.76	4.78	2075.031	0.002202			4
4.78	4.80	4.82	5143.086	0.003272			5

**Height Summation:** 105088.15  
**Amount Avg CF:** 0.012596      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.76	4.77	2075.031	0.000641	5	166.10	1
4.77	4.80	4.81	5143.086	0.001874			2
4.92	4.94	4.96	78293.3	0.032398			3
4.98	5.00	5.02	98784.99	0.14932			4
5.27	5.29	5.31	43755.66	0.006749			6

**Height Summation:** 228052.067  
**Amount Avg CF:** 0.038196      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 15:11:04  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.108.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	3420.636	0.001726	5	36.06	1
4.50	4.51	4.54	3035.811	0.003086			2
4.65	4.67	4.69	1976.826	0.001888			4
4.97	4.99	5.01	5682.962	0.002354			5
5.15	5.17	5.19	5706.111	0.004008			6

**Height Summation:** 19822.346  
**Amount Avg CF:** 0.002612      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	1976.826	0.001139	6	109.09	1
4.79	4.81	4.83	4242.366	0.00316			2
4.97	4.99	5.01	5682.962	0.001944			3
5.15	5.17	5.19	5706.111	0.003318			4
5.20	5.21	5.24	3102.554	0.003161			5
5.51	5.54	5.55	12505.97	0.014472			6

**Height Summation:** 33216.789  
**Amount Avg CF:** 0.004532      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	5706.111	0.001538	6	173.79	1
5.20	5.21	5.24	3102.554	0.000977			2
5.33	5.35	5.37	95418.89	0.036005			3
5.39	5.41	5.43	120235	0.16982			4
5.51	5.54	5.55	12505.97	0.011781			5
5.72	5.74	5.76	49660.56	0.007356			6

**Height Summation:** 286629.085  
**Amount Avg CF:** 0.037913      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 130.53	4	40	
Aroclor-1221			0.5	0.1		** 190.58	3	5	
Aroclor-1232			0.5	0.2		** 84.60	4	40	
Aroclor-1242			0.5	0.1		** 129.77	4	30	
Aroclor-1248			0.5	0.1		21.93	4	40	
Aroclor-1254			0.5	0.1		** 113.83	4	40	
Aroclor-1260			0.5	0.15		** 135.52	4	40	
Aroclor-1262			0.5	0.2		** 94.16	4	40	
Aroclor-1268			0.5	0.16		0.74	4	40	

Units: ug/l

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 11/01/18

GC Column (1): ZBmultiR1 ID: 30 (mm)

Time Analyzed: 17:06

Lab File ID: 20PCBS18303002.119.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: AR164ID

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.17	2.14 2.20	39.87	40.06	0
Decachlorobiphenyl	5.45	5.42 5.48	38.43	40.04	-4
Aroclor-1016	2.46	2.45 2.49	203.43	200.40	2
	2.83	2.81 2.85	199.49	200.40	0
	2.95	2.93 2.97	217.65	200.40	9
	3.01	2.99 3.03	209.10	200.40	4
	3.11	3.09 3.13	199.68	200.40	0
	3.26	3.25 3.29	209.94	200.40	5
Aroclor-1260	4.02	4.00 4.04	211.90	200.44	6
	4.14	4.13 4.17	196.13	200.44	-2
	4.24	4.22 4.26	217.98	200.44	9
	4.43	4.42 4.46	208.71	200.44	4
	4.56	4.54 4.58	221.63	200.44	11
	4.79	4.77 4.81	214.43	200.44	7

Compounds 14

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 11/01/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 17:06

Lab File ID: 20PCBS18303002B.119.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: AR164ID

Init. Calib Date(s): 10/30/18

10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.60	2.57 2.63	42.54	40.06	6
Decachlorobiphenyl	5.92	5.89 5.95	42.82	40.04	7
Aroclor-1016	2.80	2.78 2.82	209.26	200.40	4
	3.01	3.00 3.04	200.35	200.40	0
	3.34	3.32 3.36	222.71	200.40	11
	3.43	3.41 3.45	211.09	200.40	5
	3.51	3.50 3.54	189.28	200.40	-6
	3.60	3.58 3.62	200.54	200.40	0
Aroclor-1260	4.44	4.43 4.47	211.86	200.44	6
	4.52	4.50 4.54	205.80	200.44	3
	4.62	4.60 4.64	215.17	200.44	7
	4.67	4.65 4.69	206.72	200.44	3
	4.99	4.97 5.01	223.31	200.44	11
	5.17	5.15 5.19	222.18	200.44	11

Compounds 14

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR164ID    ID: ID    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

## Analysis Report (A)

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.119.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 100% (33-137)      Conc.: 39.86894  
 %SSR(DCB) : 96% (10-148)      Conc.: 38.43297

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	729355.1	203.432787	6	3.41	1
2.81	2.83	2.85	547160.4	199.48871			2
2.93	2.95	2.97	2578112	217.650171			3
2.99	3.01	3.03	1383236	209.103747			4
3.09	3.11	3.13	1074028	199.676931			5
3.25	3.26	3.29	1286394	209.937821			6

**Height Summation:** 7598285.5  
**Amount Avg CF:** 206.548361    Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	150694.5	64.229398	3	40.73	1
2.40	2.42	2.44	153552.9	97.793153			2
2.45	2.46	2.49	729355.1	147.823332			3

**Height Summation:** 1033602.5  
**Amount Avg CF:** 103.281961    Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	729355.1	183.612496	6	29.07	1
E 2.81	2.83	2.85	547160.4	408.008465			2
E 2.93	2.95	2.97	2578112	472.206566			3
E 2.99	3.01	3.03	1383236	436.422389			4
E 3.09	3.11	3.13	1074028	520.224128			5
E 3.25	3.26	3.29	1286394	490.053931			6

**Height Summation:** 7598285.5  
**Amount Avg CF:** 418.421329    Linear:

<b>Aroclor-1242</b>							
E 2.45	2.46	2.49	729355.1	235.317106	6	5.17	1
E 2.81	2.83	2.85	547160.4	231.205846			2
E 2.93	2.95	2.97	2578112	261.763746			3
E 2.99	3.01	3.03	1383236	245.76182			4
E 3.09	3.11	3.13	1074028	260.218162			5
E 3.25	3.26	3.29	1286394	253.979849			6

**Height Summation:** 7598285.5  
**Amount Avg CF:** 248.041088    Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	1383236	354.135468	6	69.89	1
3.09	3.11	3.13	1074028	142.621746			2
3.25	3.26	3.29	1286394	151.136994			3
3.33	3.35	3.37	1094661	161.625615			4
3.48	3.49	3.52	1261742	127.858351			5
+ 3.60	3.60	3.64	38535.99	11.323567			6
3.60	3.62	3.64	39615.25	11.640701			6
+ 3.60	3.64	3.64	7888.301	2.317929			6

**Height Summation:** 6139676.25  
**Amount Avg CF:** 158.169812    Linear:

## Analysis Report (B)

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.119.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 106% (33-137)      Conc.: 42.53938  
 %SSR(DCB) : 107% (10-148)      Conc.: 42.82495

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	1652490	209.259023	6	5.57	1
3.00	3.01	3.04	1763276	200.353201			2
+ 3.00	3.03	3.04	677082.6	76.933881			2
3.32	3.34	3.36	2258125	222.706639			3
+ 3.32	3.36	3.36	1309624	129.161122			3
3.41	3.43	3.45	1796529	211.091805			4
3.50	3.51	3.54	1691184	189.275832			5
3.58	3.60	3.62	1655572	200.544637			6

**Height Summation:** 10817176  
**Amount Avg CF:** 205.538523    Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	230376.1	61.795921	3	43.39	1
2.73	2.75	2.77	315442.6	104.608102			2
2.78	2.80	2.82	1652490	154.537572			3

**Height Summation:** 2198308.7  
**Amount Avg CF:** 106.980532    Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	1652490	191.793463	6	27.15	1
E 3.00	3.01	3.04	1763276	427.745807			2
+ 3.00	3.03	3.04	677082.6	164.250658			2
E 3.32	3.34	3.36	2258125	471.942891			3
E+ 3.32	3.36	3.36	1309624	273.70838			3
E 3.41	3.43	3.45	1796529	489.052195			4
E 3.50	3.51	3.54	1691184	481.932541			5
E 3.58	3.60	3.62	1655572	490.616285			6

**Height Summation:** 10817176  
**Amount Avg CF:** 420.513864    Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	1652490	254.913651	6	2.93	1
E 3.00	3.01	3.04	1763276	238.862226			2
+ 3.00	3.03	3.04	677082.6	91.721011			2
E 3.32	3.34	3.36	2258125	258.645328			3
+ 3.32	3.36	3.36	1309624	150.004153			3
E 3.41	3.43	3.45	1796529	255.023645			4
E 3.50	3.51	3.54	1691184	249.223788			5
E 3.58	3.60	3.62	1655572	245.335424			6

**Height Summation:** 10817176  
**Amount Avg CF:** 250.334011    Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	1796529	361.817461	6	64.47	1
3.47	3.48	3.51	1621276	138.593198			2
3.58	3.60	3.62	1655572	134.895611			3
3.68	3.70	3.72	1192650	174.780268			4
3.87	3.88	3.91	439565.4	37.846428			5
3.95	3.97	3.99	1913372	145.603063			6

**Height Summation:** 8618964.4  
**Amount Avg CF:** 165.589338    Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR164ID    ID: ID    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    SDG:                      State:  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.119.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	339077.6	38.870256	6	118.97	1
3.82	3.84	3.86	2015821	123.831356			2
3.94	3.95	3.98	283230	29.790871			3
4.00	4.02	4.04	3371819	465.04761			4
4.15	4.17	4.19	29905.77	5.059779			5
4.22	4.24	4.26	2430246	217.33363			6

**Height Summation:** 8470099.37  
**Amount Avg CF:** 146.655584    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	3371819	211.901738	6	4.21	1
4.13	4.14	4.17	1384328	196.125918			2
4.22	4.24	4.26	2430246	217.976371			3
4.42	4.43	4.46	1929711	208.712733			4
+ 4.42	4.46	4.46	247749.8	26.796001			4
4.54	4.56	4.58	4638852	221.631339			5
4.77	4.79	4.81	3129937	214.432963			6

**Height Summation:** 16884893  
**Amount Avg CF:** 211.796844    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	1489685	111.533589	6	28.52	1
4.42	4.43	4.46	1929711	149.057668			2
+ 4.42	4.46	4.46	247749.8	19.137066			2
4.55	4.56	4.59	4638852	189.245426			3
4.74	4.75	4.78	914503.4	97.039423			4
4.78	4.79	4.82	3129937	199.129728			5
5.08	5.10	5.12	1040969	127.61086			6

**Height Summation:** 13143657.4  
**Amount Avg CF:** 145.602782    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	914503.4	28.263185	6	101.57	1
4.77	4.79	4.81	3129937	114.01602			2
4.92	4.93	4.96	184122.5	7.61893			3
4.98	4.99	5.02	186068.2	28.125375			4
5.08	5.10	5.12	1040969	102.701596			5
5.27	5.29	5.31	292098.8	4.505563			6

**Height Summation:** 5747698.9  
**Amount Avg CF:** 47.538445    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.49	4	40	
Aroclor-1221			0.5	0.1		3.52	3	5	
Aroclor-1232			0.5	0.2	E	0.50	4	40	
Aroclor-1242			0.5	0.1	E	0.92	4	30	
Aroclor-1248			0.5	0.1		4.58	4	40	
Aroclor-1254			0.5	0.1		** 55.21	4	40	
Aroclor-1260			0.5	0.15		1.11	4	40	

### Analysis Report (B)

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.119.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	984793.3	46.342389	6	71.76	1
4.27	4.29	4.31	3611984	453.204672			2
4.35	4.37	4.39	660319.9	42.751009			3
4.43	4.44	4.47	4198948	460.811226			4
4.51	4.52	4.55	2024706	250.051625			5
4.60	4.62	4.64	4348696	297.763895			6

**Height Summation:** 15829447.2  
**Amount Avg CF:** 258.487469    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	4198948	211.858524	6	3.49	1
4.50	4.52	4.54	2024706	205.79558			2
4.60	4.62	4.64	4348696	215.166698			3
4.65	4.67	4.69	2164850	206.723161			4
4.97	4.99	5.01	5391963	223.308182			5
5.15	5.17	5.19	3163224	222.17539			6

**Height Summation:** 21292387  
**Amount Avg CF:** 214.171256    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2164850	124.77349	6	26.79	1
4.79	4.81	4.83	2537304	188.998295			2
4.97	4.99	5.01	5391963	184.407664			3
5.15	5.17	5.19	3163224	183.961314			4
5.20	5.21	5.24	912524	92.968553			5
5.51	5.53	5.55	1120198	129.625841			6

**Height Summation:** 15290063  
**Amount Avg CF:** 150.789193    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3163224	85.265435	6	85.59	1
5.20	5.21	5.24	912524	28.729639			2
5.33	5.35	5.37	137970.5	5.206197			3
+ 5.33	5.37	5.37	52941.03	1.997684			3
5.39	5.41	5.43	591946.1	83.60673			4
5.51	5.53	5.55	1120198	105.527982			5
5.72	5.74	5.76	303613.6	4.49732			6

**Height Summation:** 6229476.2  
**Amount Avg CF:** 52.138884    Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR164ID    ID: ID    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1      ml    Analyst: 9065      SDG:                      State:  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.119.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

Injected on : Nov 01, 2018 17:06:41  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.119.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1262			0.5	0.2		3.50	4	40	
Aroclor-1268			0.5	0.16		9.23	4	40	

Units: ug/l



# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      **PIBLKHV ID:** HV      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.120.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 103% (33-137)      Conc.: 0.205802  
 %SSR(DCB) : 105% (10-148)      Conc.: 0.209423

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	1109.647	0.003095	5	40.42	1
2.81	2.83	2.85	1115.27	0.004066			2
2.93	2.95	2.97	6251.42	0.005278			3
3.09	3.11	3.13	4638.532	0.008624			5
3.25	3.28	3.29	4568.011	0.007455			6

**Height Summation:** 17682.88  
**Amount Avg CF:** 0.005703      Linear:

<b>Aroclor-1221</b>							
2.45	2.46	2.49	1109.647	0.002249	1		3

**Height Summation:** 1109.647  
**Amount Avg CF:** 0.002249      Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	1109.647	0.002793	5	61.54	1
2.81	2.83	2.85	1115.27	0.008316			2
2.93	2.95	2.97	6251.42	0.01145			3
3.09	3.11	3.13	4638.532	0.022468			5
3.25	3.28	3.29	4568.011	0.017402			6

**Height Summation:** 17682.88  
**Amount Avg CF:** 0.012486      Linear:

<b>Aroclor-1242</b>							
2.45	2.46	2.49	1109.647	0.00358	5	44.96	1
2.81	2.83	2.85	1115.27	0.004713			2
2.93	2.95	2.97	6251.42	0.006347			3
3.09	3.11	3.13	4638.532	0.011238			5
3.25	3.28	3.29	4568.011	0.009019			6

**Height Summation:** 17682.88  
**Amount Avg CF:** 0.006979      Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	4638.532	0.00616	5	27.40	2
3.25	3.28	3.29	4568.011	0.005367			3
3.33	3.35	3.37	3164.335	0.004672			4
3.48	3.51	3.52	4857.978	0.004923			5
3.60	3.62	3.64	903.825	0.002656			6

**Height Summation:** 18132.681  
**Amount Avg CF:** 0.004755      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.120.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 107% (33-137)      Conc.: 0.214782  
 %SSR(DCB) : 111% (10-148)      Conc.: 0.222735

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	112719.6	0.14274	6	192.28	1
3.00	3.01	3.04	679.8229	0.000772			2
3.32	3.35	3.36	7322.217	0.007222			3
3.41	3.44	3.45	6318.341	0.007424			4
3.50	3.52	3.54	7234.256	0.008097			5
3.58	3.59	3.62	6453.277	0.007817			6

**Height Summation:** 140727.5139  
**Amount Avg CF:** 0.029012      Linear:

<b>Aroclor-1221</b>							
2.68	2.69	2.72	8973.016	0.024069	2	88.84	1
2.78	2.80	2.82	112719.6	0.105413			3

**Height Summation:** 121692.616  
**Amount Avg CF:** 0.064741      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	112719.6	0.130826	6	141.23	1
3.00	3.01	3.04	679.8229	0.001649			2
3.32	3.35	3.36	7322.217	0.015303			3
3.41	3.44	3.45	6318.341	0.016145			4
3.50	3.52	3.54	7234.256	0.020615			5
3.58	3.59	3.62	6453.277	0.019124			6

**Height Summation:** 140727.5139  
**Amount Avg CF:** 0.033944      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	112719.6	0.173882	6	191.91	1
3.00	3.01	3.04	679.8229	0.000921			2
3.32	3.35	3.36	7322.217	0.008387			3
3.41	3.44	3.45	6318.341	0.008969			4
3.50	3.52	3.54	7234.256	0.010661			5
3.58	3.59	3.62	6453.277	0.009563			6

**Height Summation:** 140727.5139  
**Amount Avg CF:** 0.035397      Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	6318.341	0.012725	5	99.96	1
3.47	3.49	3.51	2951.852	0.002523			2
3.58	3.59	3.62	6453.277	0.005258			3
3.87	3.88	3.91	2048.075	0.001763			5
3.95	3.97	3.99	1783.432	0.001357			6

**Height Summation:** 19554.977  
**Amount Avg CF:** 0.004725      Linear:

<b>Aroclor-1254</b>							
4.18	4.19	4.22	2304.59	0.001084	4	113.90	1
4.27	4.29	4.31	10791.32	0.01354			2
4.35	4.37	4.39	4115.087	0.002664			3
4.43	4.44	4.47	2577.044	0.002828			4

**Height Summation:** 19788.041  
**Amount Avg CF:** 0.005029      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      **PIBLKHV ID:** HV      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.120.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.76	3.80	4809.354	0.005513	5	86.07	1
+ 3.76	3.80	3.80	2929.43	0.003358			1
+ 3.82	3.82	3.86	572.214	0.000352			2
3.82	3.84	3.86	1978.901	0.001216			2
+ 4.00	4.02	4.04	1109.083	0.00153			4
4.00	4.04	4.04	19564.1	0.026983			4
4.15	4.15	4.19	7084.475	0.011986			5
+ 4.22	4.22	4.26	2593.922	0.00232			6
4.22	4.25	4.26	35420.93	0.031676			6

**Height Summation:** 68857.76  
**Amount Avg CF:** 0.015475      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
+ 4.00	4.02	4.04	1109.083	0.000697	6	87.60	1
4.00	4.04	4.04	19564.1	0.012295			1
4.13	4.15	4.17	7084.475	0.010037			2
+ 4.22	4.22	4.26	2593.922	0.002327			3
4.22	4.25	4.26	35420.93	0.03177			3
4.42	4.43	4.46	1879.022	0.002032			4
+ 4.42	4.46	4.46	1111.155	0.001202			4
4.54	4.56	4.58	34812.68	0.016633			5
4.77	4.80	4.81	3663.738	0.00251			6

**Height Summation:** 102424.945  
**Amount Avg CF:** 0.012546      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	35420.93	0.02652	6	130.30	1
4.42	4.43	4.46	1879.022	0.001451			2
+ 4.42	4.46	4.46	1111.155	0.000858			2
4.55	4.56	4.59	34812.68	0.014202			3
4.74	4.75	4.78	1320.949	0.001402			4
4.78	4.80	4.82	3663.738	0.002331			5
5.08	5.10	5.12	1510.863	0.001852			6

**Height Summation:** 78608.182  
**Amount Avg CF:** 0.00796      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	1320.949	0.000408	6	180.40	1
4.77	4.80	4.81	3663.738	0.001335			2
4.92	4.94	4.96	66832.7	0.027655			3
4.98	5.00	5.02	81184.58	0.122716			4
5.08	5.10	5.12	1510.863	0.001491			5
5.27	5.29	5.31	42534.21	0.006561			6

**Height Summation:** 197047.04  
**Amount Avg CF:** 0.026694      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 134.28	4	40	
Aroclor-1221			0.5	0.1		** 186.57	3	5	
Aroclor-1232			0.5	0.2		** 92.43	4	40	

### Analysis Report (B)

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.120.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	2577.044	0.0013	4	37.35	1
4.65	4.67	4.69	2035.675	0.001944			4
4.97	4.99	5.01	4527.212	0.001875			5
5.15	5.17	5.19	4464.775	0.003136			6

**Height Summation:** 13604.706  
**Amount Avg CF:** 0.002064      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2035.675	0.001173	6	136.00	1
4.79	4.81	4.83	3452.764	0.002572			2
4.97	4.99	5.01	4527.212	0.001548			3
5.15	5.17	5.19	4464.775	0.002597			4
5.20	5.21	5.24	2539.403	0.002587			5
5.51	5.53	5.55	15233.62	0.017628			6

**Height Summation:** 32253.449  
**Amount Avg CF:** 0.004684      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	4464.775	0.001203	6	167.06	1
5.20	5.21	5.24	2539.403	0.000799			2
5.33	5.35	5.37	82056.28	0.030963			3
5.39	5.41	5.43	100571.6	0.142048			4
5.51	5.53	5.55	15233.62	0.014351			5
5.72	5.74	5.76	47910.45	0.007097			6

**Height Summation:** 252776.128  
**Amount Avg CF:** 0.032744      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      PIBLKHV ID: HV      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.120.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

Injected on : Nov 01, 2018 17:17:10  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.120.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1242			0.5	0.1		** 134.12	4	30	
Aroclor-1248			0.5	0.1		0.63	4	40	
Aroclor-1254			0.5	0.1		** 101.89	4	40	
Aroclor-1260			0.5	0.15		** 143.50	4	40	
Aroclor-1262			0.5	0.2		** 51.81	4	40	
Aroclor-1268			0.5	0.16		20.36	4	40	

Units: ug/l

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641E    ID: IE    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    **Analyst:** 9065    **SDG:**                      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.128.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 96% (33-137)      Conc.: 38.30868  
 %SSR(DCB) : 99% (10-148)      Conc.: 39.47524

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	698678.9	194.876537	6	4.03	1
2.81	2.83	2.85	533023.6	194.334587			2
2.93	2.95	2.97	2553442	215.567473			3
2.99	3.01	3.03	1346511	203.55203			4
3.09	3.11	3.13	1055433	196.219858			5
3.25	3.26	3.29	1246857	203.485435			6

Height Summation:      **7433945.5**  
 Amount Avg CF:      **201.33932**    Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	141664	60.380395	3	41.20	1
2.40	2.42	2.44	148953.7	94.864063			2
2.45	2.46	2.49	698678.9	141.605979			3

Height Summation:      **989296.6**  
 Amount Avg CF:      **98.950146**    Linear:

<b>Aroclor-1232</b>							
2.45	2.46	2.49	698678.9	175.889874	6	29.56	1
E+ 2.81	2.81	2.05	375600.2	280.07886			2
E 2.81	2.83	2.85	533023.6	397.466887			2
E 2.93	2.95	2.97	2553442	467.688013			3
E 2.99	3.01	3.03	1346511	424.835348			4
E 3.09	3.11	3.13	1055433	511.217316			5
E 3.25	3.26	3.29	1246857	474.992245			6

Height Summation:      **7433946.6**  
 Amount Avg CF:      **408.681614**    Linear:

<b>Aroclor-1242</b>							
E 2.45	2.46	2.49	698678.9	225.419822	6	6.04	1
E 2.81	2.83	2.85	533023.6	225.232258			2
E 2.93	2.95	2.97	2553442	259.258924			3
E 2.99	3.01	3.03	1346511	239.236829			4
E 3.09	3.11	3.13	1055433	255.71292			5
E 3.25	3.26	3.29	1246857	246.173841			6

Height Summation:      **7433945.5**  
 Amount Avg CF:      **241.839099**    Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	1346511	344.73315	6	68.88	1
3.09	3.11	3.13	1055433	140.152489			2
3.25	3.26	3.29	1246857	146.491836			3
3.33	3.35	3.37	1092584	161.318948			4
3.48	3.49	3.52	1302155	131.953593			5
3.60	3.60	3.64	36681.98	10.778777			6
+ 3.60	3.62	3.64	36337.48	10.677548			6
+ 3.60	3.64	3.64	7545.524	2.217206			6

Height Summation:      **6080221.98**  
 Amount Avg CF:      **155.904799**    Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.128.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 103% (33-137)      Conc.: 41.31262  
 %SSR(DCB) : 113% (10-148)      Conc.: 45.42468

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	1616223	204.666441	6	6.86	1
3.00	3.01	3.04	1621720	184.268823			2
+ 3.00	3.03	3.04	646355	73.442441			2
3.32	3.34	3.36	2212483	218.205216			3
+ 3.32	3.36	3.36	1286189	126.849855			3
3.41	3.43	3.45	1775166	208.581656			4
3.50	3.51	3.54	1643022	183.885583			5
3.58	3.60	3.62	1682088	203.756603			6

Height Summation:      **10550702**  
 Amount Avg CF:      **200.56072**    Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	215896.1	57.911816	3	44.98	1
2.73	2.75	2.77	307682.5	102.034673			2
2.78	2.80	2.82	1616223	151.145955			3

Height Summation:      **2139801.6**  
 Amount Avg CF:      **103.697481**    Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	1616223	187.584194	6	27.90	1
E 3.00	3.01	3.04	1621720	393.406324			2
+ 3.00	3.03	3.04	646355	156.796577			2
E 3.32	3.34	3.36	2212483	462.403818			3
E+ 3.32	3.36	3.36	1286189	268.81052			3
E 3.41	3.43	3.45	1775166	453.593484			4
E 3.50	3.51	3.54	1643022	468.207935			5
E 3.58	3.60	3.62	1682088	498.474102			6

Height Summation:      **10550702**  
 Amount Avg CF:      **410.611643**    Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	1616223	249.319092	6	5.19	1
E 3.00	3.01	3.04	1621720	219.686339			2
+ 3.00	3.03	3.04	646355	87.558496			2
E 3.32	3.34	3.36	2212483	253.4175			3
+ 3.32	3.36	3.36	1286189	147.319912			3
E 3.41	3.43	3.45	1775166	251.991092			4
E 3.50	3.51	3.54	1643022	242.126325			5
E 3.58	3.60	3.62	1682088	249.264769			6

Height Summation:      **10550702**  
 Amount Avg CF:      **244.300853**    Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	1775166	357.514994	6	64.13	1
3.47	3.48	3.51	1583040	135.324631			2
3.58	3.60	3.62	1682088	137.056128			3
3.68	3.70	3.72	1181336	173.122226			4
3.87	3.88	3.91	445408.9	38.349552			5
3.95	3.97	3.99	1875338	142.708765			6

Height Summation:      **8542376.9**  
 Amount Avg CF:      **164.012716**    Linear:

7E

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342A

Date Analyzed: 11/01/18

GC Column (1): ZBmultiR1 ID: 30 (mm)

Time Analyzed: 18:41

Lab File ID: 20PCBS18303002.128.RAW

Initial Calibration: 20PCBS1830301

Lab Standard ID: AR164IE

Init. Calib Date(s): 10/30/18

10/30/18

Calibration: 20PCBS1830301

COMPOUND	RT	RT WINDOW		CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
		FROM	TO			
Tetrachloro-m-xylene	2.17	2.14	2.20	38.31	40.06	-4
Decachlorobiphenyl	5.44	5.42	5.48	39.48	40.04	-1
Aroclor-1016	2.46	2.45	2.49	194.88	200.40	-3
	2.83	2.81	2.85	194.33	200.40	-3
	2.95	2.93	2.97	215.57	200.40	8
	3.01	2.99	3.03	203.55	200.40	2
	3.11	3.09	3.13	196.22	200.40	-2
	3.26	3.25	3.29	203.49	200.40	2
Aroclor-1260	4.02	4.00	4.04	210.03	200.44	5
	4.14	4.13	4.17	199.26	200.44	-1
	4.24	4.22	4.26	224.30	200.44	12
	4.43	4.42	4.46	202.46	200.44	1
	4.56	4.54	4.58	220.78	200.44	10
	4.79	4.77	4.81	213.50	200.44	7

Compounds 14

## CALIBRATION VERIFICATION SUMMARY

Lab Name: Lancaster Laboratories

Contract:

Lab Code:

Case No.:

SAS No.:

SDG No.:

Instrument: 17342B

Date Analyzed: 11/01/18

GC Column (2) : ZBmultiR2 ID: 30 (mm)

Time Analyzed: 18:41

Lab File ID: 20PCBS18303002B.128.RAW

Initial Calibration: 20PCBS1830301B

Lab Standard ID: AR164IE

Init. Calib Date(s): 10/30/18 10/30/18

Calibration: 20PCBS1830301B

COMPOUND	RT	RT WINDOW FROM TO	CALC AMOUNT (ug/kg)	NOM AMOUNT (ug/kg)	%D
Tetrachloro-m-xylene	2.60	2.57 2.63	41.31	40.06	3
Decachlorobiphenyl	5.92	5.89 5.95	45.42	40.04	13
Aroclor-1016	2.80	2.78 2.82	204.67	200.40	2
	3.01	3.00 3.04	184.27	200.40	-8
	3.34	3.32 3.36	218.21	200.40	9
	3.43	3.41 3.45	208.58	200.40	4
	3.51	3.50 3.54	183.89	200.40	-8
	3.60	3.58 3.62	203.76	200.40	2
Aroclor-1260	4.44	4.43 4.47	209.12	200.44	4
	4.52	4.50 4.54	206.37	200.44	3
	4.62	4.60 4.64	216.13	200.44	8
	4.67	4.65 4.69	208.57	200.44	4
	4.98	4.97 5.01	228.86	200.44	14
	5.17	5.15 5.19	224.87	200.44	12

Compounds 14

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641E    ID: IE    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    **SDG:**                      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.128.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	334885.3	38.38967	5	101.63	1
3.82	3.84	3.86	2012543	123.629989			2
3.94	3.96	3.98	276441	29.076787			3
4.00	4.02	4.04	3341993	460.933952			4
4.22	4.24	4.26	2500781	223.64148			6

**Height Summation:** 8466643.3  
**Amount Avg CF:** 175.134376    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	3341993	210.027325	6	4.66	1
4.13	4.14	4.17	1406452	199.260356			2
4.22	4.24	4.26	2500781	224.302876			3
4.42	4.43	4.46	1871874	202.457227			4
+ 4.42	4.46	4.46	246988.7	26.713682			4
4.54	4.56	4.58	4620968	220.776892			5
4.77	4.79	4.81	3116316	213.499784			6

**Height Summation:** 16858384  
**Amount Avg CF:** 211.720743    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	1510532	113.094416	6	29.20	1
4.42	4.43	4.46	1871874	144.590134			2
+ 4.42	4.46	4.46	246988.7	19.078276			2
4.55	4.56	4.59	4620968	188.515834			3
4.74	4.75	4.78	899398.9	95.43666			4
4.78	4.79	4.82	3116316	198.263147			5
5.08	5.10	5.12	985906.4	120.860817			6

**Height Summation:** 13004995.3  
**Amount Avg CF:** 143.460168    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	899398.9	27.796373	6	102.85	1
4.77	4.79	4.81	3116316	113.51984			2
4.92	4.93	4.96	174701.1	7.229076			3
4.98	4.99	5.02	167147.6	25.265408			4
5.08	5.10	5.12	985906.4	97.269141			5
5.27	5.28	5.31	298261.9	4.600627			6

**Height Summation:** 5641731.9  
**Amount Avg CF:** 45.946744    Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.128.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	986295	46.413056	6	71.13	1
4.27	4.29	4.31	3497820	438.880229			2
4.35	4.37	4.39	640523.9	41.469359			3
4.43	4.44	4.47	4144696	454.85737			4
4.51	4.52	4.55	2030375	250.751747			5
4.60	4.62	4.64	4368104	299.092799			6

**Height Summation:** 15667813.9  
**Amount Avg CF:** 255.244093    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	4144696	209.121231	6	4.34	1
4.50	4.52	4.54	2030375	206.371789			2
4.60	4.62	4.64	4368104	216.126976			3
4.65	4.67	4.69	2184186	208.569571			4
4.97	4.98	5.01	5525996	228.85916			5
5.15	5.17	5.19	3201642	224.873755			6

**Height Summation:** 21454999  
**Amount Avg CF:** 215.653747    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	2184186	125.887942	6	28.52	1
4.79	4.80	4.83	2461002	183.314724			2
4.97	4.98	5.01	5525996	188.991656			3
5.15	5.17	5.19	3201642	186.195562			4
+ 5.15	5.19	5.19	150010.9	8.724075			4
5.20	5.21	5.24	857720.9	87.385177			5
5.51	5.53	5.55	1077525	124.687854			6

**Height Summation:** 15308071.9  
**Amount Avg CF:** 149.410486    Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3201642	86.301001	6	85.92	1
5.20	5.21	5.24	857720.9	27.004234			2
5.33	5.35	5.37	132586.1	5.003022			3
+ 5.33	5.37	5.37	50493.13	1.905314			3
5.39	5.41	5.43	555965.7	78.524842			4
5.51	5.53	5.55	1077525	101.507983			5
5.72	5.74	5.76	305518.2	4.525532			6

**Height Summation:** 6130957.9  
**Amount Avg CF:** 50.477769    Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		0.39	4	40	
Aroclor-1221			0.5	0.1		4.69	3	5	
Aroclor-1232			0.5	0.2	E	0.47	4	40	
Aroclor-1242			0.5	0.1	E	1.01	4	30	
Aroclor-1248			0.5	0.1		5.07	4	40	
Aroclor-1254			0.5	0.1		37.23	4	40	
Aroclor-1260			0.5	0.15		1.84	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** AR1641824D      AR1641E    ID: IE    **Batchnumber:** 1830399999  
**Sample Amount:** 1                      Total Volume: 1    ml    Analyst: 9065    **SDG:**                      State:  
**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.128.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

Injected on : Nov 01, 2018 18:41:14  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.128.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1262			0.5	0.2		4.06	4	40	
Aroclor-1268			0.5	0.16		9.40	4	40	

Units: ug/l



# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C

**PIBLKHW ID:** HW

**Batchnumber:** 1830399999

**Sample Amount:** 1000

**Total Volume:** 10 ml

**Analyst:** 9065

**SDG:**

**State:**

**Analyses:** 10227

Analysis Report (A)

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.129.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 104% (33-137) Conc.: 0.208245  
 %SSR(DCB) : 102% (10-148) Conc.: 0.203306

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.93	2.95	2.97	6994.917	0.005905	3	31.89	3
3.09	3.11	3.13	6162.662	0.011457			5
3.25	3.28	3.29	6394.631	0.010436			6

Height Summation: 19552.21  
 Amount Avg CF: 0.009266 Linear:

<b>Aroclor-1232</b>							
2.93	2.95	2.97	6994.917	0.012812	3	38.93	3
3.09	3.11	3.13	6162.662	0.02985			5
3.25	3.28	3.29	6394.631	0.02436			6

Height Summation: 19552.21  
 Amount Avg CF: 0.022341 Linear:

<b>Aroclor-1242</b>							
2.93	2.95	2.97	6994.917	0.007102	3	34.82	3
3.09	3.11	3.13	6162.662	0.014931			5
3.25	3.28	3.29	6394.631	0.012625			6

Height Summation: 19552.21  
 Amount Avg CF: 0.011553 Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	6162.662	0.008183	4	20.25	2
3.25	3.28	3.29	6394.631	0.007513			3
3.33	3.35	3.37	6711.233	0.009909			4
3.48	3.51	3.52	5966.437	0.006046			5

Height Summation: 25234.963  
 Amount Avg CF: 0.007913 Linear:

<b>Aroclor-1254</b>							
3.76	3.76	3.80	4581.367	0.005252	5	92.24	1
+ 3.76	3.80	3.80	4513.453	0.005174			1
3.82	3.84	3.86	1715.131	0.001054			2
+ 4.00	4.00	4.04	1955.065	0.002696			4
4.00	4.04	4.04	18812.78	0.025947			4
4.15	4.15	4.19	4991.111	0.008444			5
4.22	4.25	4.26	34139.4	0.03053			6

Height Summation: 64239.789  
 Amount Avg CF: 0.014245 Linear:

<b>Aroclor-1260</b>							
+ 4.00	4.00	4.04	1955.065	0.001229	6	90.25	1
4.00	4.04	4.04	18812.78	0.011823			1
4.13	4.15	4.17	4991.111	0.007071			2
4.22	4.25	4.26	34139.4	0.030621			3
4.42	4.44	4.46	1497.252	0.001619			4
+ 4.42	4.45	4.46	846.9149	0.000916			4
4.54	4.56	4.58	33260.28	0.015891			5
4.77	4.79	4.81	5253.29	0.003599			6

Height Summation: 97954.113  
 Amount Avg CF: 0.011771 Linear:

Analysis Report (B)

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.129.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 109% (33-137) Conc.: 0.218247  
 %SSR(DCB) : 108% (10-148) Conc.: 0.217023

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	111546.4	0.141254	5	171.61	1
3.32	3.35	3.36	1446.739	0.001427			3
3.41	3.44	3.45	8734.778	0.010263			4
3.50	3.52	3.54	9337.757	0.010451			5
3.58	3.59	3.62	8599.73	0.010417			6

Height Summation: 139665.404  
 Amount Avg CF: 0.034762 Linear:

<b>Aroclor-1221</b>							
2.68	2.69	2.72	12460.26	0.033423	2	72.79	1
2.78	2.80	2.82	111546.4	0.104316			3

Height Summation: 124006.66  
 Amount Avg CF: 0.06887 Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	111546.4	0.129464	5	121.22	1
3.32	3.35	3.36	1446.739	0.003024			3
3.41	3.44	3.45	8734.778	0.022319			4
3.50	3.52	3.54	9337.757	0.02661			5
3.58	3.59	3.62	8599.73	0.025485			6

Height Summation: 139665.404  
 Amount Avg CF: 0.04138 Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	111546.4	0.172072	5	170.68	1
3.32	3.35	3.36	1446.739	0.001657			3
3.41	3.44	3.45	8734.778	0.012399			4
3.50	3.52	3.54	9337.757	0.013761			5
3.58	3.59	3.62	8599.73	0.012744			6

Height Summation: 139665.404  
 Amount Avg CF: 0.042527 Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	8734.778	0.017592	3	95.91	1
3.58	3.59	3.62	8599.73	0.007007			3
3.95	3.97	3.99	1685.112	0.001282			6

Height Summation: 19019.62  
 Amount Avg CF: 0.008627 Linear:

<b>Aroclor-1254</b>							
4.18	4.19	4.22	2620.72	0.001233	5	84.11	1
4.27	4.29	4.31	6281.187	0.007881			2
4.35	4.37	4.39	4307.908	0.002789			3
4.43	4.44	4.47	2039.387	0.002238			4
4.51	4.51	4.55	1465.981	0.00181			5

Height Summation: 16715.183  
 Amount Avg CF: 0.00319 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C      **PIBLKHW ID:** HW      **Batchnumber:** 1830399999  
**Sample Amount:** 1000      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10227

### Analysis Report (A)

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.129.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	34139.4	0.02556	5	118.55	1
4.42	4.44	4.46	1497.252	0.001157			2
+ 4.42	4.45	4.46	846.9149	0.000654			2
4.55	4.56	4.59	33260.28	0.013569			3
+ 4.74	4.74	4.78	655.3404	0.000695			4
4.74	4.76	4.78	1067.383	0.001133			4
4.78	4.79	4.82	5253.29	0.003342			5

**Height Summation:** 75217.605  
**Amount Avg CF:** 0.008952      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
+ 4.74	4.74	4.77	655.3404	0.000203	5	162.09	1
4.74	4.76	4.77	1067.383	0.00033			1
4.77	4.79	4.81	5253.29	0.001914			2
4.92	4.94	4.96	65426.58	0.027073			3
4.98	5.00	5.02	78496.22	0.118652			4
5.27	5.29	5.31	44136.03	0.006808			6

**Height Summation:** 194379.503  
**Amount Avg CF:** 0.030955      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.129.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	2039.387	0.001029	4	44.83	1
4.50	4.51	4.54	1465.981	0.00149			2
4.97	4.99	5.01	3079.92	0.001276			5
5.15	5.17	5.19	3790.083	0.002662			6

**Height Summation:** 10375.371  
**Amount Avg CF:** 0.001614      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.79	4.81	4.83	2172.056	0.001618	5	111.93	2
4.97	4.99	5.01	3079.92	0.001053			3
5.15	5.17	5.19	3790.083	0.002204			4
5.20	5.21	5.24	1838.353	0.001873			5
5.51	5.53	5.55	8673.016	0.010036			6

**Height Summation:** 19553.428  
**Amount Avg CF:** 0.003357      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3790.083	0.001022	6	175.19	1
5.20	5.21	5.24	1838.353	0.000579			2
5.33	5.35	5.37	78435.16	0.029597			3
5.39	5.41	5.43	97532.4	0.137755			4
5.51	5.53	5.55	8673.016	0.00817			5
5.72	5.74	5.76	42927.13	0.006359			6

**Height Summation:** 233196.142  
**Amount Avg CF:** 0.03058      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 115.82	4	40	
Aroclor-1221			0.5	0.1			3	5	
Aroclor-1232			0.5	0.2		** 59.76	4	40	
Aroclor-1242			0.5	0.1		** 114.55	4	30	
Aroclor-1248			0.5	0.1		8.63	4	40	
Aroclor-1254			0.5	0.1		** 126.81	4	40	
Aroclor-1260			0.5	0.15		** 151.76	4	40	
Aroclor-1262			0.5	0.2		** 90.91	4	40	
Aroclor-1268			0.5	0.16		1.22	4	40	

Units: ug/l

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C

**PIBLKHW ID:** HW

**Batchnumber:** 1830399999

**Sample Amount:** 1000

**Total Volume:** 10 ml

**Analyst:** 9065

**SDG:**

**State:**

**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.129.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 104% (33-137) Conc.: 0.208245  
 %SSR(DCB) : 102% (10-148) Conc.: 0.203306

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.93	2.95	2.97	6994.917	0.005905	3	31.89	3
3.09	3.11	3.13	6162.662	0.011457			5
3.25	3.28	3.29	6394.631	0.010436			6
<b>Height Summation:</b>			<b>19552.21</b>				
<b>Amount Avg CF:</b>			<b>0.009266</b>	Linear:			

<b>Aroclor-1232</b>							
2.93	2.95	2.97	6994.917	0.012812	3	38.93	3
3.09	3.11	3.13	6162.662	0.02985			5
3.25	3.28	3.29	6394.631	0.02436			6
<b>Height Summation:</b>			<b>19552.21</b>				
<b>Amount Avg CF:</b>			<b>0.022341</b>	Linear:			

<b>Aroclor-1242</b>							
2.93	2.95	2.97	6994.917	0.007102	3	34.82	3
3.09	3.11	3.13	6162.662	0.014931			5
3.25	3.28	3.29	6394.631	0.012625			6
<b>Height Summation:</b>			<b>19552.21</b>				
<b>Amount Avg CF:</b>			<b>0.011553</b>	Linear:			

<b>Aroclor-1248</b>							
3.09	3.11	3.13	6162.662	0.008183	4	20.25	2
3.25	3.28	3.29	6394.631	0.007513			3
3.33	3.35	3.37	6711.233	0.009909			4
3.48	3.51	3.52	5966.437	0.006046			5
<b>Height Summation:</b>			<b>25234.963</b>				
<b>Amount Avg CF:</b>			<b>0.007913</b>	Linear:			

<b>Aroclor-1254</b>							
3.76	3.76	3.80	4581.367	0.005252	5	92.24	1
+ 3.76	3.80	3.80	4513.453	0.005174			1
3.82	3.84	3.86	1715.131	0.001054			2
+ 4.00	4.00	4.04	1955.065	0.002696			4
4.00	4.04	4.04	18812.78	0.025947			4
4.15	4.15	4.19	4991.111	0.008444			5
4.22	4.25	4.26	34139.4	0.03053			6
<b>Height Summation:</b>			<b>64239.789</b>				
<b>Amount Avg CF:</b>			<b>0.014245</b>	Linear:			

<b>Aroclor-1260</b>							
+ 4.00	4.00	4.04	1955.065	0.001229	6	90.25	1
4.00	4.04	4.04	18812.78	0.011823			1
4.13	4.15	4.17	4991.111	0.007071			2
4.22	4.25	4.26	34139.4	0.030621			3
4.42	4.44	4.46	1497.252	0.001619			4
+ 4.42	4.45	4.46	846.9149	0.000916			4
4.54	4.56	4.58	33260.28	0.015891			5
4.77	4.79	4.81	5253.29	0.003599			6
<b>Height Summation:</b>			<b>97954.113</b>				
<b>Amount Avg CF:</b>			<b>0.011771</b>	Linear:			

**Analysis Report (B)**

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.129.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 109% (33-137) Conc.: 0.218247  
 %SSR(DCB) : 108% (10-148) Conc.: 0.217023

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	111546.4	0.141254	5	171.61	1
3.32	3.35	3.36	1446.739	0.001427			3
3.41	3.44	3.45	8734.778	0.010263			4
3.50	3.52	3.54	9337.757	0.010451			5
3.58	3.59	3.62	8599.73	0.010417			6
<b>Height Summation:</b>			<b>139665.404</b>				
<b>Amount Avg CF:</b>			<b>0.034762</b>	Linear:			

<b>Aroclor-1221</b>							
2.68	2.69	2.72	12460.26	0.033423	2	72.79	1
2.78	2.80	2.82	111546.4	0.104316			3
<b>Height Summation:</b>			<b>124006.66</b>				
<b>Amount Avg CF:</b>			<b>0.06887</b>	Linear:			

<b>Aroclor-1232</b>							
2.78	2.80	2.82	111546.4	0.129464	5	121.22	1
3.32	3.35	3.36	1446.739	0.003024			3
3.41	3.44	3.45	8734.778	0.022319			4
3.50	3.52	3.54	9337.757	0.02661			5
3.58	3.59	3.62	8599.73	0.025485			6
<b>Height Summation:</b>			<b>139665.404</b>				
<b>Amount Avg CF:</b>			<b>0.04138</b>	Linear:			

<b>Aroclor-1242</b>							
2.78	2.80	2.82	111546.4	0.172072	5	170.68	1
3.32	3.35	3.36	1446.739	0.001657			3
3.41	3.44	3.45	8734.778	0.012399			4
3.50	3.52	3.54	9337.757	0.013761			5
3.58	3.59	3.62	8599.73	0.012744			6
<b>Height Summation:</b>			<b>139665.404</b>				
<b>Amount Avg CF:</b>			<b>0.042527</b>	Linear:			

<b>Aroclor-1248</b>							
3.41	3.44	3.45	8734.778	0.017592	3	95.91	1
3.58	3.59	3.62	8599.73	0.007007			3
3.95	3.97	3.99	1685.112	0.001282			6
<b>Height Summation:</b>			<b>19019.62</b>				
<b>Amount Avg CF:</b>			<b>0.008627</b>	Linear:			

<b>Aroclor-1254</b>							
4.18	4.19	4.22	2620.72	0.001233	5	84.11	1
4.27	4.29	4.31	6281.187	0.007881			2
4.35	4.37	4.39	4307.908	0.002789			3
4.43	4.44	4.47	2039.387	0.002238			4
4.51	4.51	4.55	1465.981	0.00181			5
<b>Height Summation:</b>			<b>16715.183</b>				
<b>Amount Avg CF:</b>			<b>0.00319</b>	Linear:			

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** IBLKX1824C

**PIBLKHW ID:** HW **Batchnumber:** 1830399999

**Sample Amount:** 1000

**Total Volume:** 10 ml

**Analyst:** 9065

**SDG:**

**State:**

**Analyses:** 10227

**Analysis Report (A)**

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.129.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	34139.4	0.02556	5	118.55	1
4.42	4.44	4.46	1497.252	0.001157			2
+ 4.42	4.45	4.46	846.9149	0.000654			2
4.55	4.56	4.59	33260.28	0.013569			3
+ 4.74	4.74	4.78	655.3404	0.000695			4
4.74	4.76	4.78	1067.383	0.001133			4
4.78	4.79	4.82	5253.29	0.003342			5

**Height Summation:** 75217.605  
**Amount Avg CF:** 0.008952 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
+ 4.74	4.74	4.77	655.3404	0.000203	5	162.09	1
4.74	4.76	4.77	1067.383	0.00033			1
4.77	4.79	4.81	5253.29	0.001914			2
4.92	4.94	4.96	65426.58	0.027073			3
4.98	5.00	5.02	78496.22	0.118652			4
5.27	5.29	5.31	44136.03	0.006808			6

**Height Summation:** 194379.503  
**Amount Avg CF:** 0.030955 Linear:

**Analysis Report (B)**

Injected on : Nov 01, 2018 18:51:44  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.129.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	2039.387	0.001029	4	44.83	1
4.50	4.51	4.54	1465.981	0.00149			2
4.97	4.99	5.01	3079.92	0.001276			5
5.15	5.17	5.19	3790.083	0.002662			6

**Height Summation:** 10375.371  
**Amount Avg CF:** 0.001614 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.79	4.81	4.83	2172.056	0.001618	5	111.93	2
4.97	4.99	5.01	3079.92	0.001053			3
5.15	5.17	5.19	3790.083	0.002204			4
5.20	5.21	5.24	1838.353	0.001873			5
5.51	5.53	5.55	8673.016	0.010036			6

**Height Summation:** 19553.428  
**Amount Avg CF:** 0.003357 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3790.083	0.001022	6	175.19	1
5.20	5.21	5.24	1838.353	0.000579			2
5.33	5.35	5.37	78435.16	0.029597			3
5.39	5.41	5.43	97532.4	0.137755			4
5.51	5.53	5.55	8673.016	0.00817			5
5.72	5.74	5.76	42927.13	0.006359			6

**Height Summation:** 233196.142  
**Amount Avg CF:** 0.03058 Linear:

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			0.5	0.1		** 115.82	4	40	
Aroclor-1221			0.5	0.1			3	5	
Aroclor-1232			0.5	0.2		** 59.76	4	40	
Aroclor-1242			0.5	0.1		** 114.55	4	30	
Aroclor-1248			0.5	0.1		8.63	4	40	
Aroclor-1254			0.5	0.1		** 126.81	4	40	
Aroclor-1260			0.5	0.15		** 151.76	4	40	
Aroclor-1262			0.5	0.2		** 90.91	4	40	
Aroclor-1268			0.5	0.16		1.22	4	40	

Units: ug/l

Eurofins Lancaster Laboratories  
Pesticide Residue Analysis  
Runlog for 20PCBS18303001  
Instrument CP20--17342A

Data Directory Path is - \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	20PCBS18303001.001	CONDITIONER		10/30/18	18:50 1830299999	1.00
9065	20PCBS18303001.002	CONDITIONER		10/30/18	19:00 1830299999	1.00
9065	20PCBS18303001.003	CONDITIONER		10/30/18	19:11 1830299999	1.00
9065	20PCBS18303001.004	CONDITIONER		10/30/18	19:21 1830299999	1.00
9065	20PCBS18303001.005	IBLKX1824C	PIBLKAA	10/30/18	19:32 1830299999	10.00
9065	20PCBS18303001.006	EVALX1824B	EVALXAA	10/30/18	19:42 1830299999	1.00
9065	20PCBS18303001.007	AR1611824D	AR161AA	10/30/18	19:53 1830299999	1.00
9065	20PCBS18303001.008	AR1621824D	AR162AA	10/30/18	20:03 1830299999	1.00
9065	20PCBS18303001.009	AR1631824D	AR163AA	10/30/18	20:14 1830299999	1.00
9065	20PCBS18303001.010	AR1641824D	AR164AA	10/30/18	20:24 1830299999	1.00
9065	20PCBS18303001.011	AR1651824D	AR165AA	10/30/18	20:35 1830299999	1.00
9065	20PCBS18303001.012	AR1661824C	AR166AA	10/30/18	20:45 1830299999	1.00
9065	20PCBS18303001.013	AR4811824C	AR481AA	10/30/18	20:55 1830299999	1.00
9065	20PCBS18303001.014	AR4821824C	AR482AA	10/30/18	21:06 1830299999	1.00
9065	20PCBS18303001.015	AR4831824C	AR483AA	10/30/18	21:16 1830299999	1.00
9065	20PCBS18303001.016	AR4841824C	AR484AA	10/30/18	21:27 1830299999	1.00
9065	20PCBS18303001.017	AR4851824C	AR485AA	10/30/18	21:37 1830299999	1.00
9065	20PCBS18303001.018	AR4861824C	AR486AA	10/30/18	21:48 1830299999	1.00
9065	20PCBS18303001.019	AR5411824C	AR541AA	10/30/18	21:58 1830299999	1.00
9065	20PCBS18303001.020	AR5421824C	AR542AA	10/30/18	22:09 1830299999	1.00
9065	20PCBS18303001.021	AR5431824C	AR543AA	10/30/18	22:19 1830299999	1.00
9065	20PCBS18303001.022	AR5441824C	AR544AA	10/30/18	22:30 1830299999	1.00
9065	20PCBS18303001.023	AR5451824C	AR545AA	10/30/18	22:40 1830299999	1.00
9065	20PCBS18303001.024	AR5461824C	AR546AA	10/30/18	22:51 1830299999	1.00
9065	20PCBS18303001.025	AR6241824B	AR624AA	10/30/18	23:01 1830299999	1.00
9065	20PCBS18303001.026	AR6841824B	AR684AA	10/30/18	23:12 1830299999	1.00
9065	20PCBS18303001.027	AR2141824E	AR214AA	10/30/18	23:22 1830299999	1.00
9065	20PCBS18303001.028	AR3241824D	AR324AA	10/30/18	23:33 1830299999	1.00
9065	20PCBS18303001.029	AR4241824E	AR424AA	10/30/18	23:43 1830299999	1.00
9065	20PCBS18303001.030	AR16XX1824B	AR16XAA	10/30/18	23:54 1830299999	1.00
9065	20PCBS18303001.031	MD16X1824E	MD16XAA	10/31/18	0:04 1830299999	1.00
9065	20PCBS18303001.032	IC16X1824D	IC16XAA	10/31/18	0:15 1830299999	1.00
9065	20PCBS18303001.033	IC48X1824C	IC48XAA	10/31/18	0:25 1830299999	1.00
9065	20PCBS18303001.034	IC54X1824C	IC54XAA	10/31/18	0:35 1830299999	1.00
9065	20PCBS18303001.035	9856962 RI CAF	F1203	10/31/18	0:46 182970011A	2.00
9065	20PCBS18303001.036	9856963MS CFA	F1203	10/31/18	0:56 182970011A	2.00
9065	20PCBS18303001.037	9856964MSD CFA	F1203	10/31/18	1:07 182970011A	2.00
9065	20PCBS18303001.038	BLANKA 10/29/18	ACPBLK01302	10/31/18	1:17 183020001A	5.00
9065	20PCBS18303001.039	LCSA 10/29/18	ACF LCS01302	10/31/18	1:28 183020001A	5.00
9065	20PCBS18303001.040	9872093 ACF	OU211	10/31/18	1:38 183020001A	5.00
9065	20PCBS18303001.041	9872094MS ACF	OU211	10/31/18	1:49 183020001A	5.00
9065	20PCBS18303001.042	9872095MSD ACF	OU211	10/31/18	1:59 183020001A	5.00
9065	20PCBS18303001.043	BLANKA 10/29/18	ACPBLK02302	10/31/18	2:10 183020002A	5.00
9065	20PCBS18303001.044	LCSA 10/29/18	ACF LCS02302	10/31/18	2:20 183020002A	5.00
9065	20PCBS18303001.045	AR1641824D	AR164HD	10/31/18	2:31 1830299999	1.00
9065	20PCBS18303001.046	IBLKX1824C	PIBLKGB	10/31/18	2:41 1830299999	10.00
9065	20PCBS18303001.047	9872097 ACF	OU215	10/31/18	2:52 183020002A	5.00
9065	20PCBS18303001.048	9872098MS ACF	OU215	10/31/18	3:02 183020002A	5.00
9065	20PCBS18303001.049	9872099MSD ACF	OU215	10/31/18	3:13 183020002A	5.00
9065	20PCBS18303001.050	9872103 ACF	OU221	10/31/18	3:23 183020002A	5.00
9065	20PCBS18303001.051	9872104 ACF	OU222	10/31/18	3:34 183020002A	5.00
9065	20PCBS18303001.052	9872106 ACF	OU223	10/31/18	3:44 183020002A	5.00
9065	20PCBS18303001.053	9872107 ACF	OU224	10/31/18	3:55 183020002A	5.00
9065	20PCBS18303001.054	BLANKA 10/29/18	C/PBLK12302	10/31/18	4:05 183020012A	2.00
9065	20PCBS18303001.055	LCSA 10/29/18	CAF LCS12302	10/31/18	4:16 183020012A	2.00
9065	20PCBS18303001.056	AR1641824D	AR164HE	10/31/18	4:26 1830299999	1.00

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	20PCBS18303001.057	IBLKX1824C	PIBLKGC	10/31/18	4:37 1830299999	10.00
9065	20PCBS18303001.058	9856962R CAF	F1203	10/31/18	4:47 183020012A	2.00
9065	20PCBS18303001.059	9856963RMS CAF	F1203	10/31/18	4:57 183020012A	2.00
9065	20PCBS18303001.060	9856964RMSD CAF	F1203	10/31/18	5:08 183020012A	2.00
9065	20PCBS18303001.061	9870991 CAF	02W02	10/31/18	5:18 183020012A	2.00
9065	20PCBS18303001.062	AR1641824D	AR164HF	10/31/18	5:29 1830299999	1.00
9065	20PCBS18303001.063	IBLKX1824C	PIBLKGD	10/31/18	5:39 1830299999	10.00
9065	20PCBS18303001.064	BLANKA 10/29/18	AFPBLK46299	10/31/18	5:50 182990046A	0.10
9065	20PCBS18303001.065	LCSA 10/29/18 AF	LCS46299	10/31/18	6:00 182990046A	0.10
9065	20PCBS18303001.066	LCSDA 10/29/18 AF	LCSD46299	10/31/18	6:11 182990046A	0.10
9065	20PCBS18303001.067	9870672 AF	WSBCT	10/31/18	6:21 182990046A	0.10
9065	20PCBS18303001.068	9864999 AF	ST329	10/31/18	6:31 182990046A	0.10
9065	20PCBS18303001.069	9865000 AF	ST330	10/31/18	6:42 182990046A	0.10
9065	20PCBS18303001.070	9865001 AF	ST331	10/31/18	6:52 182990046A	0.10
9065	20PCBS18303001.071	9865002 AF	ST332	10/31/18	7:03 182990046A	0.10
9065	20PCBS18303001.072	9865003 AF	ST333	10/31/18	7:13 182990046A	0.10
9065	20PCBS18303001.073	9865004 AF	ST334	10/31/18	7:24 182990046A	0.10
9065	20PCBS18303001.074	9865005 AF	ST335	10/31/18	7:34 182990046A	0.10
9065	20PCBS18303001.075	9865006 AF	ST336	10/31/18	7:45 182990046A	0.10
9065	20PCBS18303001.076	9865007 AF	ST337	10/31/18	7:55 182990046A	0.10
9065	20PCBS18303001.077	9865008 AF	ST338	10/31/18	8:06 182990046A	0.10
9065	20PCBS18303001.078	AR1641824D	AR164HG	10/31/18	8:16 1830299999	1.00
9065	20PCBS18303001.079	IBLKX1824C	PIBLKGE	10/31/18	8:27 1830299999	10.00

Eurofins Lancaster Laboratories  
Pesticide Residue Analysis  
Runlog for 20PCBS18303002  
Instrument CP20--17342A

Data Directory Path is - \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	20PCBS18303002.001	CONDITIONER		10/31/18 20:29	1830399999	1.00
9065	20PCBS18303002.002	CONDITIONER		10/31/18 20:40	1830399999	1.00
9065	20PCBS18303002.003	CONDITIONER		10/31/18 20:50	1830399999	1.00
9065	20PCBS18303002.004	CONDITIONER		10/31/18 21:00	1830399999	1.00
9065	20PCBS18303002.005	AR1641824D	AR164HS	10/31/18 21:11	1830399999	1.00
9065	20PCBS18303002.006	IBLKX1824C	PIBLKHK	10/31/18 21:21	1830399999	10.00
9065	20PCBS18303002.007	AR4241824E	AA	10/31/18 21:32	1830399999	1.00
9065	20PCBS18303002.008	AR4841824C	AA	10/31/18 21:42	1830399999	1.00
9065	20PCBS18303002.009	AR5441824C	AA	10/31/18 21:53	1830399999	1.00
9065	20PCBS18303002.010	AR6241824B	AA	10/31/18 22:03	1830399999	1.00
9065	20PCBS18303002.011	AR6841824B	AA	10/31/18 22:14	1830399999	1.00
9065	20PCBS18303002.012	BLANKA 10/30/18	ACPBLK04303	10/31/18 22:24	183030004A	10.00
9065	20PCBS18303002.013	LCSA 10/30/18	ACF LCS04303	10/31/18 22:35	183030004A	10.00
9065	20PCBS18303002.014	9864578	ACF DF50 23E03	10/31/18 22:45	183030004A	500.00
9065	20PCBS18303002.015	9864578MS	ACF DF23E03MS	10/31/18 22:55	183030004A	500.00
9065	20PCBS18303002.016	9864578MSD	ACF D23E03MSD	10/31/18 23:06	183030004A	500.00
9065	20PCBS18303002.017	AR1641824D	AR164HT	10/31/18 23:16	1830399999	1.00
9065	20PCBS18303002.018	IBLKX1824C	PIBLKHL	10/31/18 23:27	1830399999	10.00
9065	20PCBS18303002.019	BLANKA.10/30/18	ACPBLK29302	10/31/18 23:37	183020029A	10.00
9065	20PCBS18303002.020	LCSA 10/30/18	ACF LCS29302	10/31/18 23:48	183020029A	10.00
9065	20PCBS18303002.021	9870992	ACF 02W03	10/31/18 23:58	183020029A	10.00
9065	20PCBS18303002.022	AR1641824D	AR164HU	11/1/18 0:09	1830399999	1.00
9065	20PCBS18303002.023	IBLKX1824C	PIBLKHM	11/1/18 0:19	1830399999	10.00
9065	20PCBS18303002.024	9839658	ACF DF5	11/1/18 0:30	183020029A	50.00
9065	20PCBS18303002.025	9868299	ACF 2E667	11/1/18 0:40	183020029A	10.00
9065	20PCBS18303002.026	9868300	ACF 2F665	11/1/18 0:51	183020029A	10.00
9065	20PCBS18303002.027	9868301	ACF 2C487	11/1/18 1:01	183020029A	10.00
9065	20PCBS18303002.028	9868302	ACF 2C388	11/1/18 1:12	183020029A	10.00
9065	20PCBS18303002.029	9868565	ACF DF50 3E671	11/1/18 1:22	183020029A	500.00
9065	20PCBS18303002.030	9868566	ACF DF2003E531	11/1/18 1:33	183020029A	20,000.00
9065	20PCBS18303002.031	9868566	ACF DF5003E531	11/1/18 1:43	183020029A	50,000.00
9065	20PCBS18303002.032	9868567	ACF DF5003F422	11/1/18 1:54	183020029A	5,000.00
9065	20PCBS18303002.033	9868568	ACF DF50 3E441	11/1/18 2:04	183020029A	500.00
9065	20PCBS18303002.034	AR1641824D	AR164HV	11/1/18 2:15	1830399999	1.00
9065	20PCBS18303002.035	IBLKX1824C	PIBLKHN	11/1/18 2:25	1830399999	10.00
9065	20PCBS18303002.036	9868571	ACF DF100E482-	11/1/18 2:35	183020029A	1,000.00
9065	20PCBS18303002.037	9869111	ACF E7801	11/1/18 2:46	183020029A	10.00
9065	20PCBS18303002.038	9869111MS	ACF E7801MS	11/1/18 2:56	183020029A	10.00
9065	20PCBS18303002.039	9869111MSD	ACF E7801MSD	11/1/18 3:07	183020029A	10.00
9065	20PCBS18303002.040	9870637	ACF E538-	11/1/18 3:17	183020029A	10.00
9065	20PCBS18303002.041	9870639	ACF DF50 E575-	11/1/18 3:28	183020029A	500.00
9065	20PCBS18303002.042	9872138	ACF 4D353	11/1/18 3:38	183020029A	10.00
9065	20PCBS18303002.043	9872140	ACF 4D365	11/1/18 3:49	183020029A	10.00
9065	20PCBS18303002.044	9872228	ACF 4D32A	11/1/18 3:59	183020029A	10.00
9065	20PCBS18303002.045	9872229	ACF 4D32A	11/1/18 4:10	183020029A	10.00
9065	20PCBS18303002.046	AR1641824D	AR164HW	11/1/18 4:20	1830399999	1.00
9065	20PCBS18303002.047	IBLKX1824C	PIBLKHO	11/1/18 4:31	1830399999	10.00
9065	20PCBS18303002.048	9855042	RI ACF X3722	11/1/18 4:41	182980008A	10.00
9065	20PCBS18303002.049	9856929	RI ACF DF501381	11/1/18 4:52	182980008A	50.00
9065	20PCBS18303002.050	9857027	RI ACF DF199269	11/1/18 5:02	182980008A	100.00
9065	20PCBS18303002.051	9857028	RI ACF DF599270	11/1/18 5:13	182980008A	50.00
9065	20PCBS18303002.052	9857029	RI ACF DF599271	11/1/18 5:23	182980008A	50.00
9065	20PCBS18303002.053	9857032	RI ACF 99274	11/1/18 5:34	182980008A	10.00
9065	20PCBS18303002.054	9857033	RI ACF DF299275	11/1/18 5:44	182980008A	200.00
9065	20PCBS18303002.055	9857034	RI ACF DF599276	11/1/18 5:55	182980008A	50.00
9065	20PCBS18303002.056	9857035	RI ACF DF599277	11/1/18 6:05	182980008A	50.00

Operator	File	LLI#	Client ID	Analysis Date	Batch	Dilution Factor
9065	20PCBS18303002.057	9857036 RI ACF DF5	99278	11/1/18 6:16	182980008A	50.00
9065	20PCBS18303002.058	IBLKX1824C	PIBLKHP	11/1/18 6:26	1830399999	10.00
9065	20PCBS18303002.059	AR1641824D	AR164HX	11/1/18 6:37	1830399999	1.00
9065	20PCBS18303002.060	BLANKA 10/26/18 RI	PBLK37298	11/1/18 6:47	182980037A	10.00
9065	20PCBS18303002.061	9857039 ACF	99281	11/1/18 6:58	182980037A	10.00
9065	20PCBS18303002.062	9857040 ACF	99282	11/1/18 7:08	182980037A	10.00
9065	20PCBS18303002.063	9857041 ACF DF20	99283	11/1/18 7:19	182980037A	200.00
9065	20PCBS18303002.064	9857042 ACF DF100	99284	11/1/18 7:29	182980037A	10,000.00
9065	20PCBS18303002.065	9857042 ACF DF200	99284	11/1/18 7:40	182980037A	20,000.00
9065	20PCBS18303002.066	9857043 ACF	99285	11/1/18 7:50	182980037A	10.00
9065	20PCBS18303002.067	9857044 ACF	99286	11/1/18 8:01	182980037A	10.00
9065	20PCBS18303002.068	9857045 ACF	99287	11/1/18 8:11	182980037A	10.00
9065	20PCBS18303002.069	9857046 ACF	99288	11/1/18 8:21	182980037A	10.00
9065	20PCBS18303002.070	IBLKX1824C	PIBLKHQ	11/1/18 8:32	1830399999	10.00
9065	20PCBS18303002.071	AR1641824D	AR164HY	11/1/18 8:43	1830399999	1.00
9065	20PCBS18303002.072	9857047 ACF DF50	99289	11/1/18 8:53	182980037A	500.00
9065	20PCBS18303002.073	9857047 ACF DF100	99289	11/1/18 9:04	182980037A	1,000.00
9065	20PCBS18303002.074	9857048 ACF	99290	11/1/18 9:14	182980037A	10.00
9065	20PCBS18303002.075	9857049 ACF DF20	99291	11/1/18 9:25	182980037A	200.00
9065	20PCBS18303002.076	9857050 ACF	99292	11/1/18 9:35	182980037A	10.00
9065	20PCBS18303002.094	AR6241824B	AA	11/1/18 12:44	1830399999	1.00
9065	20PCBS18303002.095	AR6841824B	AA	11/1/18 12:54	1830399999	1.00
9065	20PCBS18303002.096	BLANKA 10/29/18 AC	PBLK42299	11/1/18 13:05	182990042A	10.00
9065	20PCBS18303002.097	LCSA 10/29/18 ACF	LCS42299	11/1/18 13:15	182990042A	10.00
9065	20PCBS18303002.098	9861366 ACF	93481	11/1/18 13:26	182990042A	10.00
9065	20PCBS18303002.099	9864017 ACF	04951	11/1/18 13:36	182990042A	10.00
9065	20PCBS18303002.100	9864017MS ACF	04951MS	11/1/18 13:47	182990042A	10.00
9065	20PCBS18303002.101	9864017MSD ACF	04951MSD	11/1/18 13:57	182990042A	10.00
9065	20PCBS18303002.102	AR1641824D	AR164IB	11/1/18 14:08	1830399999	1.00
9065	20PCBS18303002.103	IBLKX1824C	PIBLKHT	11/1/18 14:18	1830399999	10.00
9065	20PCBS18303002.104	9866547 ACF	07572	11/1/18 14:29	182990042A	10.00
9065	20PCBS18303002.105	BLANKA 10/30/18 AC	PBLK17303	11/1/18 14:39	183030017A	10.00
9065	20PCBS18303002.106	LCSA 10/30/18 ACF	LCS17303	11/1/18 14:50	183030017A	10.00
9065	20PCBS18303002.107	AR1641824D	AR164IC	11/1/18 15:00	1830399999	1.00
9065	20PCBS18303002.108	IBLKX1824C	PIBLKHU	11/1/18 15:11	1830399999	10.00
9065	20PCBS18303002.109	9863851 ACF	GKP-1	11/1/18 15:21	183030017A	10.00
9065	20PCBS18303002.110	9863852 ACF DF5	GKP-2	11/1/18 15:32	183030017A	50.00
9065	20PCBS18303002.111	9863853 ACF	GKP-4	11/1/18 15:42	183030017A	10.00
9065	20PCBS18303002.112	9863854MS ACF	GKP-4	11/1/18 15:53	183030017A	10.00
9065	20PCBS18303002.113	9863855MSD ACF	GKP-4	11/1/18 16:03	183030017A	10.00
9065	20PCBS18303002.114	9863857 ACF	GKP-D	11/1/18 16:14	183030017A	10.00
9065	20PCBS18303002.115	9863858 ACF DF5	GKP-3	11/1/18 16:24	183030017A	50.00
9065	20PCBS18303002.116	9863858 ACF DF10	GKP-3	11/1/18 16:35	183030017A	100.00
9065	20PCBS18303002.117	9866461 ACF	T0902	11/1/18 16:45	183030017A	10.00
9065	20PCBS18303002.119	AR1641824D	AR164ID	11/1/18 17:06	1830399999	1.00
9065	20PCBS18303002.120	IBLKX1824C	PIBLKHV	11/1/18 17:17	1830399999	10.00
9065	20PCBS18303002.121	9866462 ACF DF5	T0903	11/1/18 17:27	183030017A	50.00
9065	20PCBS18303002.122	9866462 ACF DF10	T0903	11/1/18 17:38	183030017A	100.00
9065	20PCBS18303002.123	9866463 ACF DF10	T0904	11/1/18 17:48	183030017A	100.00
9065	20PCBS18303002.124	9866464 ACF	T0905	11/1/18 17:59	183030017A	10.00
9065	20PCBS18303002.125	9866465 ACF	T0906	11/1/18 18:09	183030017A	10.00
9065	20PCBS18303002.126	9866466 ACF	T0907	11/1/18 18:20	183030017A	10.00
9065	20PCBS18303002.127	9866467 ACF	T0908	11/1/18 18:30	183030017A	10.00
9065	20PCBS18303002.128	AR1641824D	AR164IE	11/1/18 18:41	1830399999	1.00
9065	20PCBS18303002.129	IBLKX1824C	PIBLKHW	11/1/18 18:51	1830399999	10.00



# **Sample Data**

## **Polychlorinated Biphenyls (PCBs)**

# Data Summary

Sample Name: 9866461      ACF      T0902      Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30.08 g      Total Volume: 10 ml      Analyst: 13786      SDG: TID09      State: NY  
 Analyses: 10885

### Analysis Report (A)

Injected on Nov 01, 2018 16:45:40  
 Instrument 17342A  
 Result file 20PCBS18303002.117.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 102% (44 - 130) Conc: 10.20427  
 %SSR(DCB) 100% (45 - 143) Conc: 9.899567

### Analysis Report (B)

Injected on Nov 01, 2018 16:45:40  
 Instrument 17342B  
 Result file 20PCBS18303002B.117.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 109% (44 - 130) Conc: 10.89609  
 %SSR(DCB) 114% (45 - 143) Conc: 11.31055

### Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5268698	10.20427	Tetrachloro-m-xylene	2.57	2.60	2.63	12677260	10.89609
Decachlorobiphenyl	5.42	5.45	5.48	5109334	9.899567	Decachlorobiphenyl	5.89	5.92	5.95	5265992	11.31055

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	10.89609	0.4987	0.9973	0.9973		6.56	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.20427	0.4987	0.9973	0.9973			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	10.89609	0.4987	0.9973	0.9973			
<input type="checkbox"/> Decachlorobiphenyl	B	11.31055	0.4987	0.9973	0.9973		13.30	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	9.899567	0.4987	0.9973	0.9973			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	11.31055	0.4987	0.9973	0.9973			

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<3.5904	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<4.5878	<9.9734	<16.9548	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<7.9787	<15.9574	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<3.2912	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<3.2912	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<3.2912	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<4.887	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<3.2912	<9.9734	<16.9548	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<3.2912	<9.9734	<16.9548	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866461 ACF      **T0902**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.08 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885



### Analysis Report (A)

Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.117.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 102% (44-130)      Conc.: 10.20427  
 %SSR(DCB) : 100% (45-143)      Conc.: 9.899567

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	134677.3	12.488161	6	87.90	1
+ 2.81	2.83	2.85	3402.141	0.412362			2
2.81	2.85	2.85	61011.43	7.394981			2
2.93	2.95	2.97	14366.37	0.403206			3
2.99	3.01	3.03	115209.1	5.789946			4
3.09	3.11	3.13	30619.27	1.892471			5
+ 3.25	3.26	3.29	7324.04	0.397365			6
3.25	3.28	3.29	45770.75	2.483287			6

**Height Summation:** 401654.22  
**Amount Avg CF:** 5.075342      Linear:

<b>Aroclor-1221</b>							
+ 2.33	2.34	2.37	948.9807	0.134467	2	133.92	1
2.33	2.36	2.37	1745.169	0.247284			1
2.45	2.47	2.49	134677.3	9.074455			3

**Height Summation:** 136422.469  
**Amount Avg CF:** 4.660869      Linear:

<b>Aroclor-1232</b>							
2.45	2.47	2.49	134677.3	11.27145	6	63.95	1
+ 2.81	2.83	2.85	3402.141	0.843391			2
2.81	2.85	2.85	61011.43	15.124739			2
2.93	2.95	2.97	14366.37	0.874781			3
2.99	3.01	3.03	115209.1	12.08425			4
3.09	3.11	3.13	30619.27	4.93051			5
+ 3.25	3.26	3.29	7324.04	0.927562			6
3.25	3.28	3.29	45770.75	5.79669			6

**Height Summation:** 401654.22  
**Amount Avg CF:** 8.34707      Linear:

<b>Aroclor-1242</b>							
2.45	2.47	2.49	134677.3	14.445449	6	85.66	1
+ 2.81	2.83	2.85	3402.141	0.477924			2
2.81	2.85	2.85	61011.43	8.570724			2
2.93	2.95	2.97	14366.37	0.484928			3
2.99	3.01	3.03	115209.1	6.804984			4
3.09	3.11	3.13	30619.27	2.466261			5
+ 3.25	3.26	3.29	7324.04	0.480727			6
3.25	3.28	3.29	45770.75	3.004246			6

**Height Summation:** 401654.22  
**Amount Avg CF:** 5.962765      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.117.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 109% (44-130)      Conc.: 10.89609  
 %SSR(DCB) : 114% (45-143)      Conc.: 11.31055

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	134200.5	5.649651	6	92.01	1
+ 2.78	2.82	2.82	33689.8	1.418293			1
3.00	3.03	3.04	8069.312	0.304814			2
+ 3.32	3.34	3.36	10833.1	0.355189			3
3.32	3.36	3.36	54889.4	1.799682			3
3.41	3.43	3.45	223350.8	8.724626			4
3.50	3.51	3.54	25804.28	0.960104			5
3.58	3.59	3.62	86477.8	3.482489			6

**Height Summation:** 532792.092  
**Amount Avg CF:** 3.486894      Linear:

<b>Aroclor-1221</b>							
2.73	2.77	2.77	12778.44	1.408786	2	70.03	2
2.78	2.80	2.82	134200.5	4.172262			3
+ 2.78	2.82	2.82	33689.8	1.047408			3

**Height Summation:** 146978.94  
**Amount Avg CF:** 2.790524      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	134200.5	5.17811	6	100.38	1
+ 2.78	2.82	2.82	33689.8	1.299917			1
3.00	3.03	3.04	8069.312	0.650765			2
+ 3.32	3.34	3.36	10833.1	0.75269			3
3.32	3.36	3.36	54889.4	3.813749			3
3.41	3.43	3.45	223350.8	18.973008			4
3.50	3.51	3.54	25804.28	2.444608			5
3.58	3.59	3.62	86477.8	8.519629			6

**Height Summation:** 532792.092  
**Amount Avg CF:** 6.596655      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	134200.5	6.882252	6	91.60	1
+ 2.78	2.82	2.82	33689.8	1.727726			1
3.00	3.03	3.04	8069.312	0.363401			2
+ 3.32	3.34	3.36	10833.1	0.412507			3
3.32	3.36	3.36	54889.4	2.090101			3
3.41	3.43	3.45	223350.8	10.540371			4
3.50	3.51	3.54	25804.28	1.264191			5
3.58	3.59	3.62	86477.8	4.260288			6

**Height Summation:** 532792.092  
**Amount Avg CF:** 4.233434      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866461 ACF      **T0902**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.08 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.117.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
2.99	3.01	3.03	115209.1	9.805779	6	168.90	1
3.09	3.11	3.13	30619.27	1.351721			2
+ 3.25	3.26	3.29	7324.04	0.286068			3
3.25	3.28	3.29	45770.75	1.787751			3
3.33	3.35	3.37	13973.89	0.685915			4
3.48	3.49	3.52	42100.41	1.418296			5
+ 3.48	3.51	3.52	4680.515	0.157679			5
+ 3.60	3.61	3.64	68438.29	6.685564			6
3.60	3.64	3.64	410641.5	40.114533			6

Height Summation: 658314.92  
 Amount Avg CF: 9.193999 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.77	3.80	129972.5	4.953269	6	59.92	1
+ 3.76	3.80	3.80	3772.163	0.143758			1
3.82	3.84	3.86	85550.2	1.747116			2
3.94	3.96	3.98	47814.37	1.671955			3
4.00	4.02	4.04	109776.6	5.033442			4
4.15	4.17	4.19	19830.2	1.115388			5
4.22	4.24	4.26	91370.43	2.716468			6
+ 4.22	4.26	4.26	36845.09	1.095415			6

Height Summation: 484314.3  
 Amount Avg CF: 2.87294 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	109776.6	2.293518	6	17.14	1
4.13	4.14	4.17	37996.27	1.789613			2
+ 4.13	4.17	4.17	19830.2	0.933997			2
4.22	4.24	4.26	91370.43	2.724501			3
4.42	4.43	4.46	48746.25	1.75275			4
+ 4.42	4.46	4.46	22936.29	0.824711			4
4.54	4.56	4.58	127002.7	2.017232			5
4.77	4.79	4.81	100637.9	2.292132			6

Height Summation: 515530.15  
 Amount Avg CF: 2.144958 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	36845.09	0.917092	6	34.90	1
4.42	4.43	4.46	48746.25	1.251773			2
+ 4.42	4.46	4.46	22936.29	0.588989			2
4.55	4.56	4.59	127002.7	1.722463			3
4.74	4.75	4.78	37716.39	1.330501			4
4.78	4.79	4.82	100637.9	2.128552			5
5.08	5.10	5.12	21880.97	0.891741			6

Height Summation: 372829.3  
 Amount Avg CF: 1.373687 Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.117.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
3.41	3.43	3.45	223350.8	14.954261	6	101.64	1
3.47	3.48	3.51	82230.34	2.336895			2
3.58	3.59	3.62	86477.8	2.342484			3
+ 3.68	3.70	3.72	15242.56	0.742608			4
3.68	3.72	3.72	66339.05	3.231996			4
3.87	3.89	3.91	20900.68	0.598252			5
3.95	3.96	3.99	347556.2	8.79262			6

Height Summation: 826854.87  
 Amount Avg CF: 5.376085 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.18	4.22	467092	7.307317	6	55.56	1
4.27	4.29	4.31	103723.2	4.326599			2
4.35	4.37	4.39	81115.85	1.745902			3
4.43	4.45	4.47	182403.2	6.654833			4
4.51	4.52	4.55	49371.15	2.027044			5
4.60	4.62	4.64	141413.6	3.21904			6

Height Summation: 1025119  
 Amount Avg CF: 4.213456 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.45	4.47	182403.2	3.059568	6	20.91	1
4.50	4.52	4.54	49371.15	1.668282			2
4.60	4.62	4.64	141413.6	2.326105			3
4.65	4.67	4.69	83347.73	2.645923			4
4.97	4.98	5.01	143278.4	1.972698			5
5.15	5.17	5.19	102031.9	2.382452			6

Height Summation: 701845.98  
 Amount Avg CF: 2.342505 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	83347.73	1.59702	6	17.17	1
4.79	4.80	4.83	74508.5	1.845072			2
4.97	4.98	5.01	143278.4	1.629052			3
5.15	5.17	5.19	102031.9	1.972671			4
5.20	5.21	5.24	52773.13	1.787421			5
5.51	5.53	5.55	30020.4	1.154876			6

Height Summation: 485960.06  
 Amount Avg CF: 1.664352 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	102031.9	0.914326	6	122.44	1
5.20	5.21	5.24	52773.13	0.552358			2
5.33	5.35	5.37	94627.96	1.187069			3
5.39	5.41	5.43	115431.5	5.420079			4
5.51	5.53	5.55	30020.4	0.940181			5
5.72	5.74	5.76	73048.53	0.359721			6

Height Summation: 467933.42  
 Amount Avg CF: 1.562289 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866461 ACF      T0902      ID: AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.08 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.117.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	37716.39	0.387515	6	106.27	1
4.77	4.79	4.81	100637.9	1.218748			2
4.92	4.93	4.96	82080.05	1.129138			3
4.98	4.99	5.02	79329.01	3.986395			4
+ 5.08	5.08	5.12	4176.999	0.137002			5
5.08	5.10	5.12	21880.97	0.717676			5
5.27	5.28	5.31	59743.66	0.306361			6

**Height Summation:** 381387.98

**Amount Avg CF:** 1.290972      **Linear:**

### Analysis Report (B)

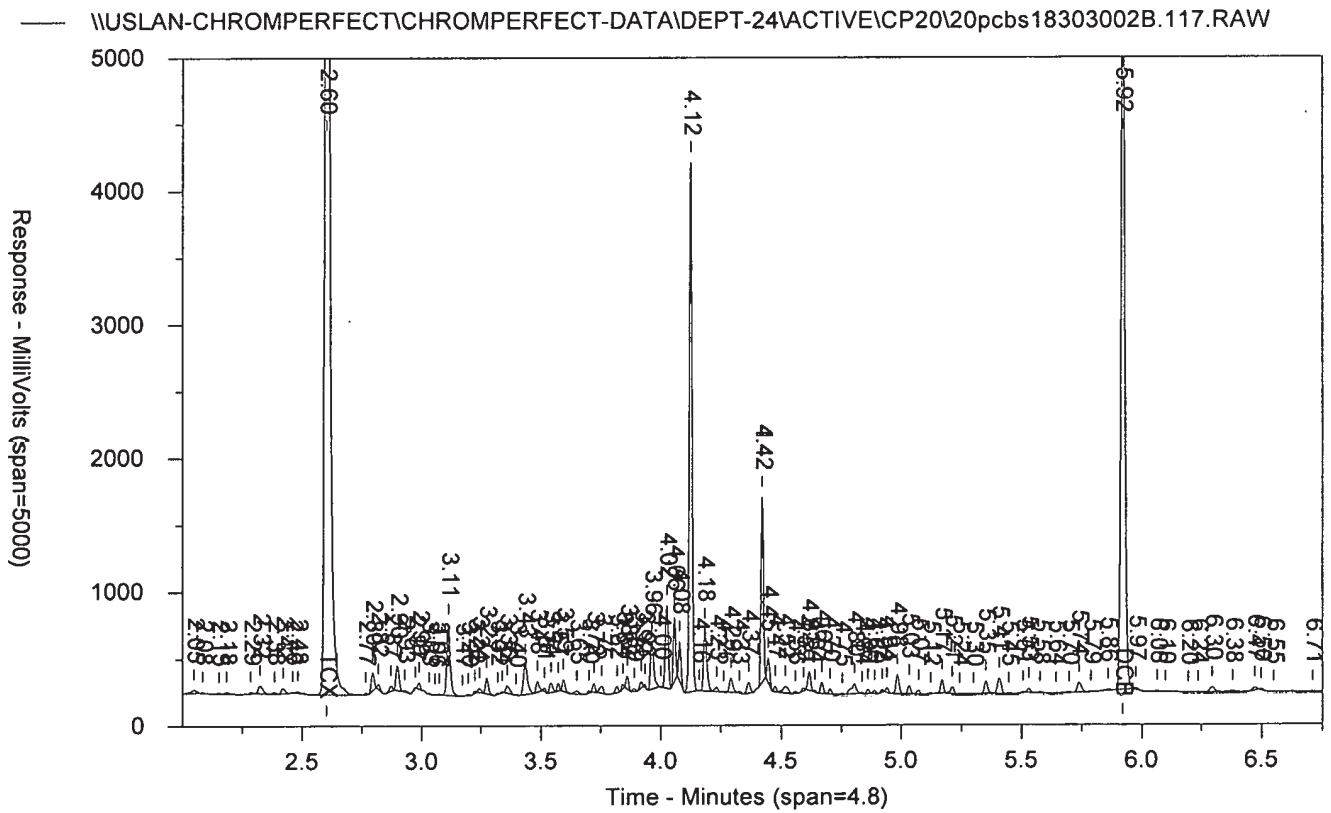
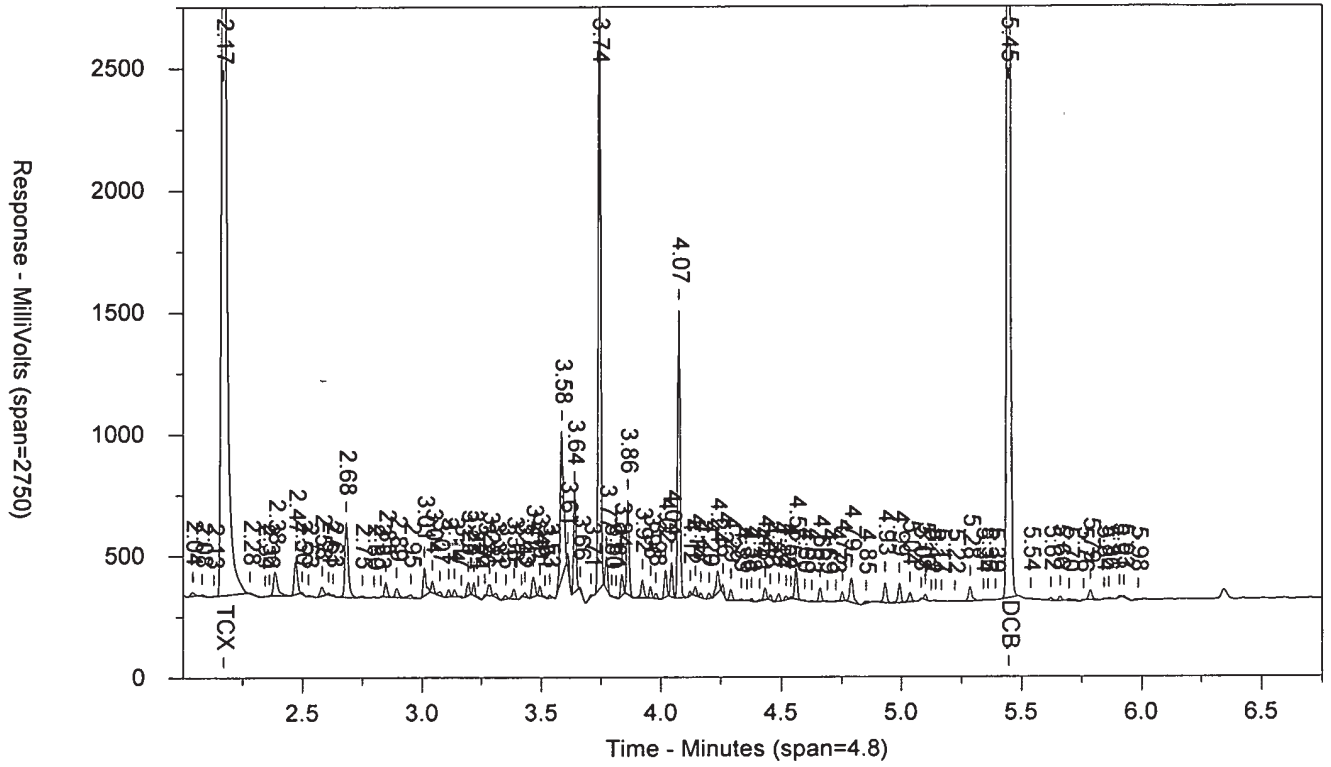
Injected on : Nov 01, 2018 16:45:40  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.117.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.9548	3.5904		37.10	4	40	
Aroclor-1221			16.9548	4.5878		** 50.20	3	5	
Aroclor-1232			16.9548	7.9787		23.43	4	40	
Aroclor-1242			16.9548	3.2912		33.92	4	30	
Aroclor-1248			16.9548	3.2912		** 52.41	4	40	
Aroclor-1254			16.9548	3.2912		37.83	4	40	
Aroclor-1260			16.9548	4.887		8.80	4	40	
Aroclor-1262			16.9548	3.2912		19.14	4	40	
Aroclor-1268			16.9548	3.2912		19.02	4	40	

Units: ug/kg

9866461 ACF ABT0902 T 183030017A 10885 SW-846 8082A Feb  
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LANCASTER LABORATORIES

Sample Number: 9866461 ACF ABT0902 T 183030017A 10885  
 Injected On: 11/1/2018 4:45:40 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

SW-846 8082A Feb 2007 R  
 Sample Weight: 30.08  
 Dilution Factor: 10

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

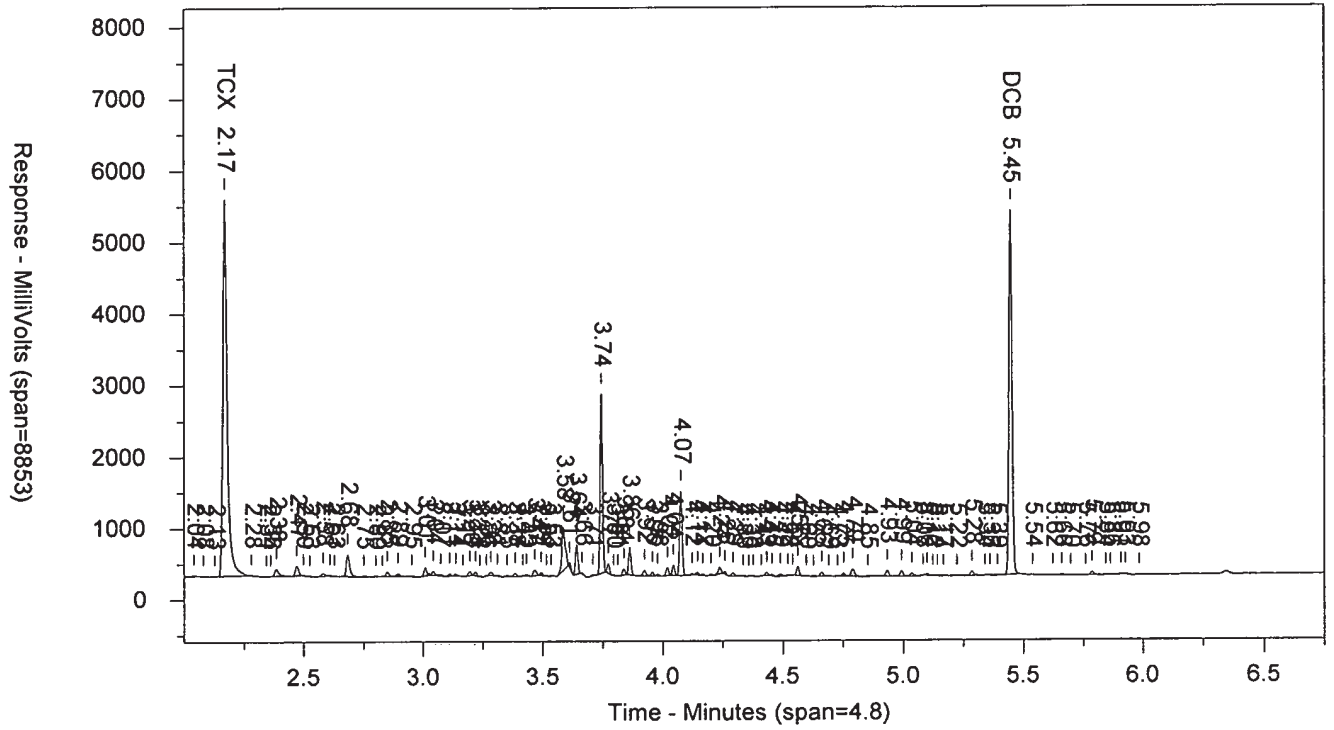
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	5268699	10.204	TCX	2.602	12677260	10.896	TCX
5.446	5109334	9.9	DCB	5.92	5265992	11.311	DCB

Files:

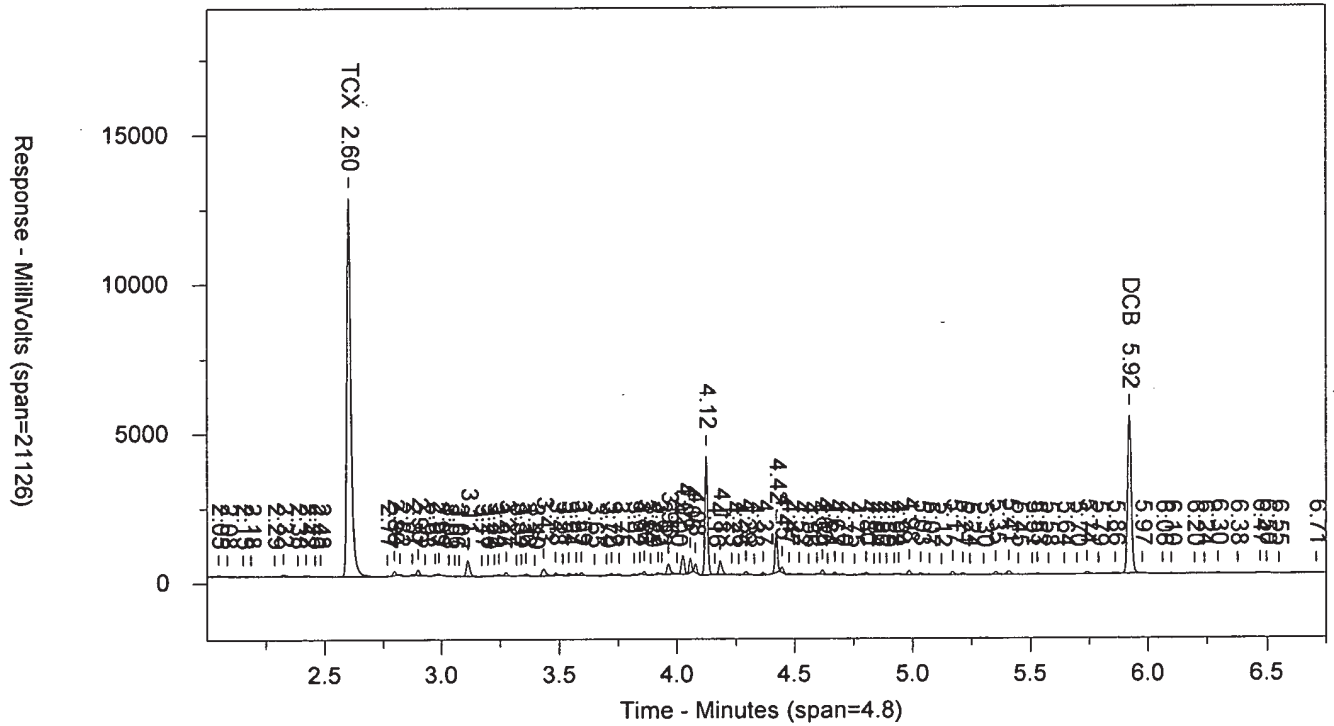
Area File: 20pcbs18303002.117.RAW  
 Area File: 20pcbs18303002B.117.RAW  
 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 4:53:50 PM  
 File Reported On: 11/1/2018 at 4:54:00 PM

9866461 ACF ABT0902 T 183030017A 10885 SW-846 8082A I

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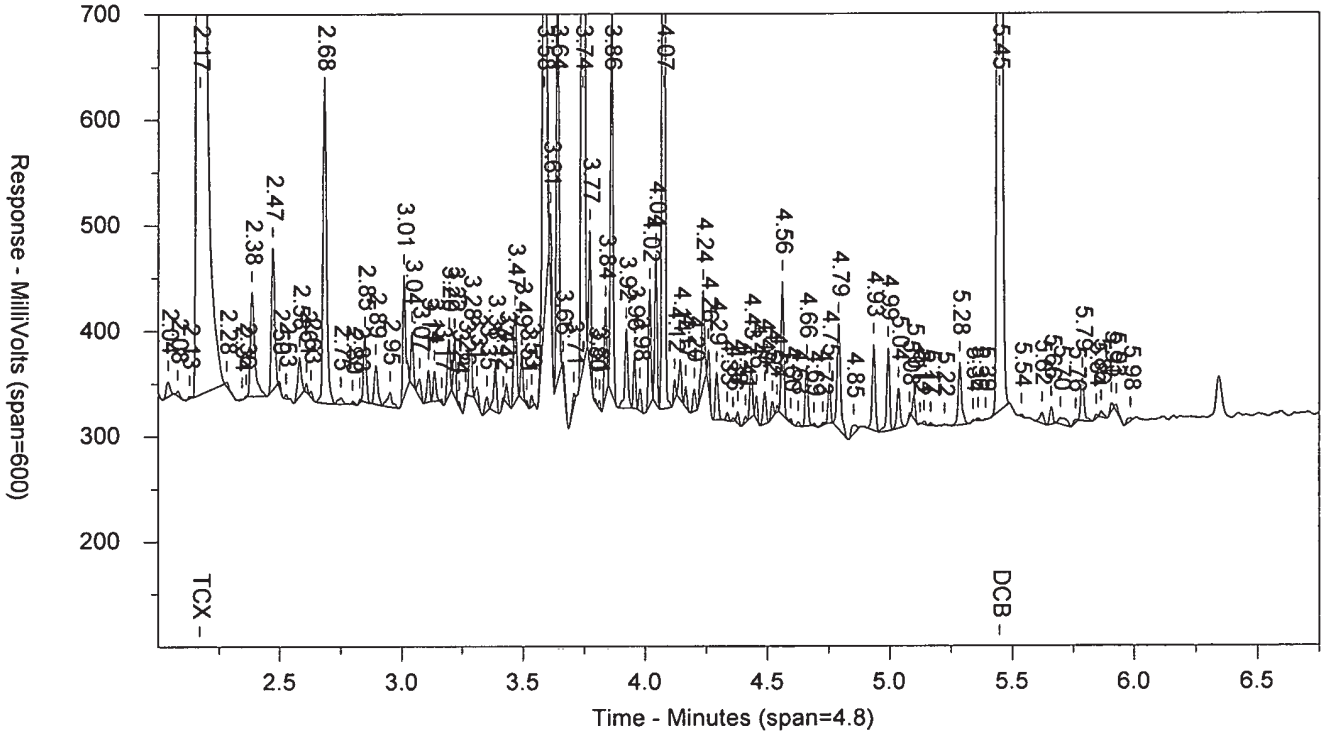
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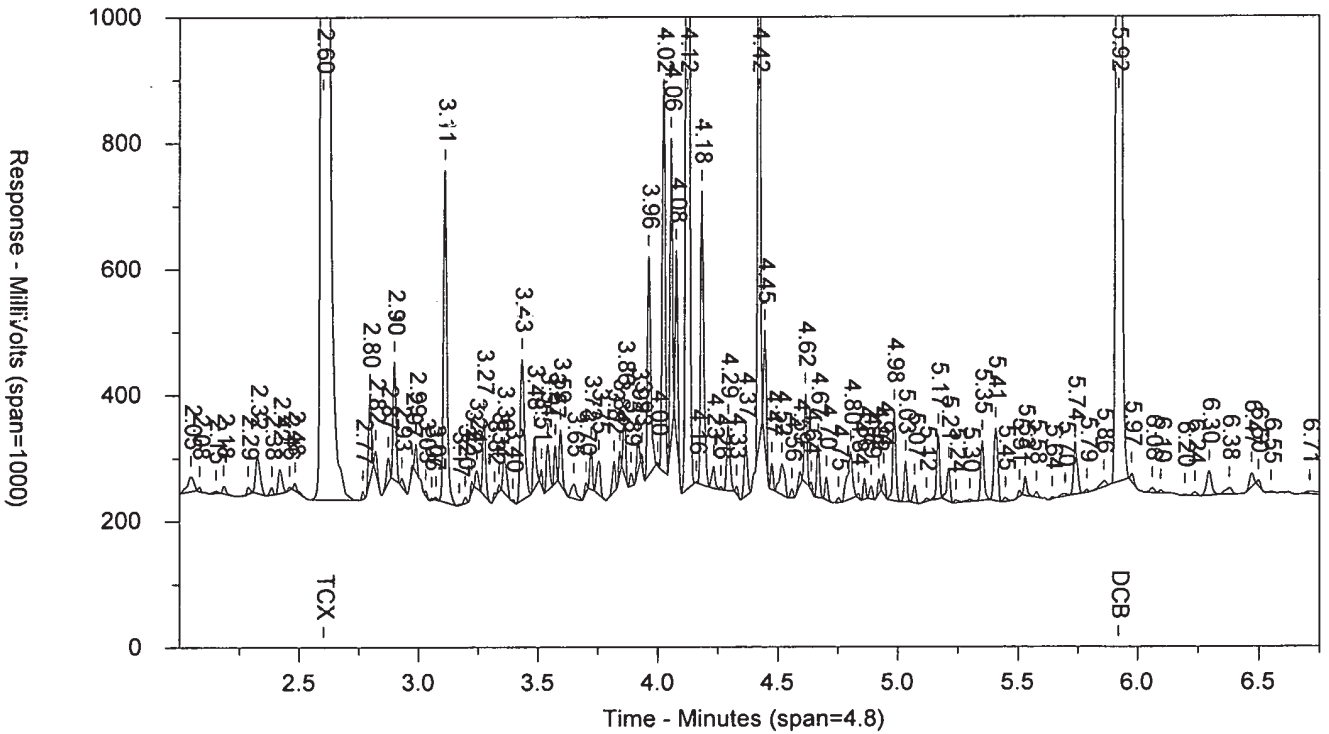


9866461 ACF ABT0902 T 183030017A 10885 SW-846 8082A I

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# Data Summary

Sample Name: **9866462** ACF DF5 T0903 Sample ID: AC Batchnumber: **183030017A**  
 Sample Amount: 30.45 g Total Volume: 50 ml Analyst: 13786 SDG: TID09 State: NY  
 Analyses: 10885

**Analysis Report (A)**

Injected on Nov 01, 2018 17:27:43  
 Instrument 17342A  
 Result file 20PCBS18303002.121.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 97% (44 - 130) Conc: 9.581913  
 %SSR(DCB) 91% (45 - 143) Conc: 8.930743

**Analysis Report (B)**

Injected on Nov 01, 2018 17:27:43  
 Instrument 17342B  
 Result file 20PCBS18303002B.121.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 92% (44 - 130) Conc: 9.128676  
 %SSR(DCB) 111% (45 - 143) Conc: 10.84023

**Single Component Data**

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	1001643	9.581913	Tetrachloro-m-xylene	2.57	2.60	2.63	2150315	9.128676
Decachlorobiphenyl	5.42	5.44	5.48	933201	8.930743	Decachlorobiphenyl	5.89	5.92	5.95	1021820	10.84023

**Single Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	9.581913	2.4631	4.9261	4.9261		4.84	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	9.581913	2.4631	4.9261	4.9261			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	9.128676	2.4631	4.9261	4.9261			
<input type="checkbox"/> Decachlorobiphenyl	B	10.84023	2.4631	4.9261	4.9261		19.32	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	8.930743	2.4631	4.9261	4.9261			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	10.84023	2.4631	4.9261	4.9261			

**Multiple Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<17.734	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<22.6601	<49.2611	<83.7438	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<39.4089	<78.8177	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<16.2562	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<16.2562	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<16.2562	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<24.1379	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<16.2562	<49.2611	<83.7438	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<16.2562	<49.2611	<83.7438	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866462 ACF DF5 T0903 ID: AC **Batchnumber:** 183030017A  
**Sample Amount:** 30.45 g **Total Volume:** 50 ml **Analyst:** 9065 **SDG:** TID09 **State:** NY  
**Analyses:** 10885



## Analysis Report (A)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.121.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 97% (44-130) Conc.: 9.581913  
 %SSR(DCB) : 91% (45-143) Conc.: 8.930743

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	363483.1	166.474936	6	87.10	1
+ 2.81	2.83	2.85	27385.78	16.395002			2
2.81	2.85	2.85	337500.9	202.05114			2
2.93	2.95	2.97	132900.1	18.423208			3
2.99	3.01	3.03	519362.4	128.919539			4
3.09	3.11	3.13	103950.4	31.733733			5
3.25	3.26	3.29	64471.53	17.276961			6

**Height Summation:** 1521668.43  
**Amount Avg CF:** 94.146586 **Linear:**

<b>Aroclor-1221</b>							
+ 2.33	2.35	2.37	2843.126	1.989827	3	115.22	1
2.33	2.36	2.37	4300.144	3.009554			1
2.40	2.41	2.44	33364.54	34.89139			2
+ 2.40	2.43	2.44	6512.053	6.810062			2
2.45	2.47	2.49	363483.1	120.968109			3

**Height Summation:** 401147.784  
**Amount Avg CF:** 52.956351 **Linear:**

<b>Aroclor-1232</b>							
2.45	2.47	2.49	363483.1	150.255418	6	89.64	1
+ 2.81	2.81	2.85	37033.41	45.345159			2
+ 2.81	2.83	2.85	27385.78	33.532222			2
E 2.81	2.85	2.85	337500.9	413.24933			2
2.93	2.95	2.97	132900.1	39.970378			3
2.99	3.01	3.03	519362.4	269.069178			4
3.09	3.11	3.13	103950.4	82.676819			5
3.25	3.26	3.29	64471.53	40.329288			6

**Height Summation:** 1521668.43  
**Amount Avg CF:** 165.925068 **Linear:**

<b>Aroclor-1242</b>							
2.45	2.47	2.49	363483.1	192.566796	6	85.25	1
+ 2.81	2.83	2.85	27385.78	19.001679			2
2.81	2.85	2.85	337500.9	234.175682			2
2.93	2.95	2.97	132900.1	22.157244			3
2.99	3.01	3.03	519362.4	151.520482			4
3.09	3.11	3.13	103950.4	41.355271			5
3.25	3.26	3.29	64471.53	20.901427			6

**Height Summation:** 1521668.43  
**Amount Avg CF:** 110.44615 **Linear:**

## Analysis Report (B)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.121.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 92% (44-130) Conc.: 9.128676  
 %SSR(DCB) : 111% (45-143) Conc.: 10.84023

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
+ 2.78	2.80	2.82	86548.69	17.996521	6	112.04	1
2.78	2.82	2.82	157192.2	32.685795			1
3.00	3.01	3.04	161210.4	30.078194			2
+ 3.00	3.03	3.04	37326.25	6.964229			2
+ 3.32	3.34	3.36	99827.36	16.166555			3
3.32	3.36	3.36	226105.9	36.616749			3
3.41	3.44	3.45	1349352	260.34252			4
3.50	3.51	3.54	143190.7	26.314906			5
3.58	3.59	3.62	551926.7	109.780977			6

**Height Summation:** 2588977.9  
**Amount Avg CF:** 82.636524 **Linear:**

<b>Aroclor-1221</b>							
2.68	2.70	2.72	9593.381	4.225487	3	72.95	1
2.73	2.75	2.77	62417.2	33.988498			2
+ 2.78	2.80	2.82	86548.69	13.290412			3
2.78	2.82	2.82	157192.2	24.138426			3

**Height Summation:** 229202.781  
**Amount Avg CF:** 20.784137 **Linear:**

<b>Aroclor-1232</b>							
+ 2.78	2.80	2.82	86548.69	16.494462	6	116.20	1
2.78	2.82	2.82	157192.2	29.957713			1
3.00	3.01	3.04	161210.4	64.215701			2
+ 3.00	3.03	3.04	37326.25	14.868342			2
+ 3.32	3.34	3.36	99827.36	34.258927			3
3.32	3.36	3.36	226105.9	77.595417			3
E 3.41	3.44	3.45	1349352	566.155591			4
3.50	3.51	3.54	143190.7	67.002794			5
3.58	3.59	3.62	551926.7	268.570309			6

**Height Summation:** 2588977.9  
**Amount Avg CF:** 178.916254 **Linear:**

<b>Aroclor-1242</b>							
+ 2.78	2.80	2.82	86548.69	21.922873	6	111.50	1
2.78	2.82	2.82	157192.2	39.816947			1
3.00	3.01	3.04	161210.4	35.859394			2
+ 3.00	3.03	3.04	37326.25	8.302794			2
+ 3.32	3.34	3.36	99827.36	18.775389			3
3.32	3.36	3.36	226105.9	42.525679			3
3.41	3.44	3.45	1349352	314.524284			4
3.50	3.51	3.54	143190.7	34.649434			5
3.58	3.59	3.62	551926.7	134.300089			6

**Height Summation:** 2588977.9  
**Amount Avg CF:** 100.279304 **Linear:**

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866462 ACF DF5      T0903      ID: AC      **Batchnumber:** 183030017A  
**Sample Amount:** 30.45 g      **Total Volume:** 50 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.121.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
2.99	3.01	3.03	519362.4	218.336505	6	168.11	1
3.09	3.11	3.13	103950.4	22.666216			2
3.25	3.26	3.29	64471.53	12.437911			3
3.33	3.35	3.37	50477.2	12.237945			4
+ 3.33	3.37	3.37	13031.74	3.15948			4
3.48	3.49	3.52	112729	18.757584			5
+ 3.48	3.52	3.52	20459.91	3.404434			5
+ 3.60	3.61	3.64	361155.6	174.258428			6
3.60	3.64	3.64	1471749	710.122359			6

Height Summation: 2322739.53  
 Amount Avg CF: 165.759753      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.77	3.80	374446.2	70.483982	6	61.75	1
+ 3.76	3.80	3.80	32370.1	6.093195			1
3.82	3.84	3.86	175401.4	17.692713			2
+ 3.94	3.96	3.98	111507.5	19.258867			3
3.94	3.98	3.98	250528.4	43.269674			3
4.00	4.02	4.04	224013.4	50.732921			4
4.15	4.16	4.19	65968.84	18.327284			5
4.22	4.24	4.26	657001.2	96.477395			6
+ 4.22	4.26	4.26	34534.34	5.071198			6

Height Summation: 1747359.44  
 Amount Avg CF: 49.497328      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	224013.4	23.11676	6	115.89	1
+ 4.13	4.14	4.17	54783.2	12.744597			2
4.13	4.16	4.17	65968.84	15.34679			2
4.22	4.24	4.26	657001.2	96.762716			3
+ 4.22	4.26	4.26	34534.34	5.086196			3
4.42	4.43	4.46	55465.84	9.850652			4
+ 4.42	4.45	4.46	47272.5	8.395527			4
4.54	4.56	4.58	124020.2	9.729618			5
4.77	4.79	4.81	170579.4	19.18957			6

Height Summation: 1297048.88  
 Amount Avg CF: 28.999351      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	34534.34	4.245659	6	61.99	1
4.42	4.43	4.46	55465.84	7.035101			2
+ 4.42	4.45	4.46	47272.5	5.995885			2
4.55	4.56	4.59	124020.2	8.307876			3
4.74	4.75	4.78	46113.44	8.034764			4
4.78	4.79	4.82	170579.4	17.820086			5
5.08	5.09	5.12	18701.27	3.764468			6
+ 5.08	5.12	5.12	3108.871	0.6258			6

Height Summation: 449414.49  
 Amount Avg CF: 8.201326      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.121.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
3.41	3.44	3.45	1349352	446.234613	6	154.43	1
3.47	3.48	3.51	308966.6	43.36898			2
3.58	3.59	3.62	551926.7	73.843769			3
+ 3.68	3.70	3.72	66266.31	15.946115			4
3.68	3.72	3.72	73936.87	17.791934			4
3.87	3.89	3.91	58943.91	8.333416			5
3.95	3.96	3.99	485658.9	60.685531			6
+ 3.95	3.98	3.99	64741.48	8.089775			6

Height Summation: 2828784.98  
 Amount Avg CF: 108.376374      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.18	4.22	7270343	561.786032	6	160.24	1
4.27	4.30	4.31	371345.1	76.508373			2
4.35	4.36	4.39	234241.3	24.902225			3
4.43	4.45	4.47	300856.5	54.215649			4
4.51	4.53	4.55	78637.76	15.947094			5
4.60	4.60	4.64	527260.2	59.281705			6
+ 4.60	4.64	4.64	31250.53	3.513606			6

Height Summation: 8782683.86  
 Amount Avg CF: 132.106846      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.45	4.47	300856.5	24.925711	6	61.48	1
4.50	4.53	4.54	78637.76	13.124656			2
4.60	4.60	4.64	527260.2	42.837459			3
+ 4.60	4.64	4.64	31250.53	2.538961			3
4.65	4.67	4.69	81040.11	12.70703			4
4.97	4.98	5.01	157133.3	10.68584			5
5.15	5.17	5.19	134413	15.50208			6

Height Summation: 1279340.87  
 Amount Avg CF: 19.963796      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	81040.11	7.66968	6	19.24	1
+ 4.79	4.79	4.83	15447.22	1.889376			2
4.79	4.81	4.83	69188.51	8.462566			2
4.97	4.98	5.01	157133.3	8.824356			3
+ 4.97	5.01	5.01	17097.74	0.960182			3
5.15	5.17	5.19	134413	12.835729			4
+ 5.15	5.19	5.19	3281.193	0.313337			4
5.20	5.21	5.24	57083.64	9.549621			5
+ 5.20	5.23	5.24	1836.583	0.307245			5
5.51	5.53	5.55	46873.66	8.906527			6

Height Summation: 545732.22  
 Amount Avg CF: 9.374746      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866462 ACF DF5 T0903 ID: AC Batchnumber: 183030017A  
**Sample Amount:** 30.45 g Total Volume: 50 ml Analyst: 9065 SDG: TID09 State: NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.121.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	46113.44	2.340162	6	80.41	1
4.77	4.79	4.81	170579.4	10.203275			2
4.92	4.93	4.96	37661.17	2.558961			3
4.98	4.99	5.02	21936.87	5.44482			4
+ 5.08	5.08	5.12	18395.8	2.980168			5
5.08	5.09	5.12	18701.27	3.029655			5
+ 5.08	5.12	5.12	3108.871	0.503645			5
5.27	5.28	5.31	43391.75	1.099029			6
+ 5.27	5.30	5.31	10372.56	0.262717			6

**Height Summation:** 338383.9  
**Amount Avg CF:** 4.11265 Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 17:27:43  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.121.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	134413	5.949316	6	75.28	1
+ 5.15	5.19	5.19	3281.193	0.14523			1
5.20	5.21	5.24	57083.64	2.951075			2
+ 5.20	5.23	5.24	1836.583	0.094947			2
5.33	5.35	5.37	39732.91	2.461883			3
5.39	5.41	5.43	60827.61	14.107256			4
5.51	5.53	5.55	46873.66	7.250775			5
5.72	5.74	5.76	115152.3	2.800837			6

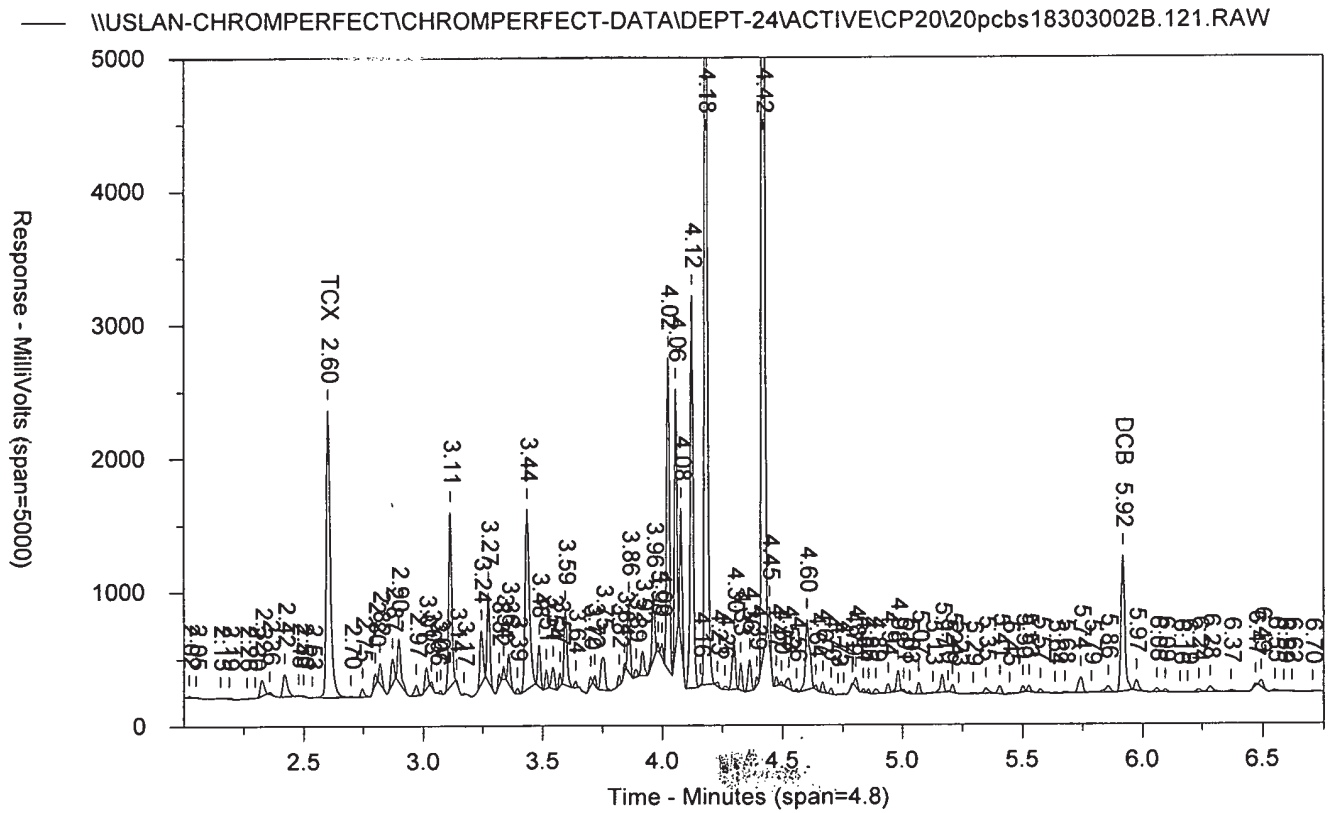
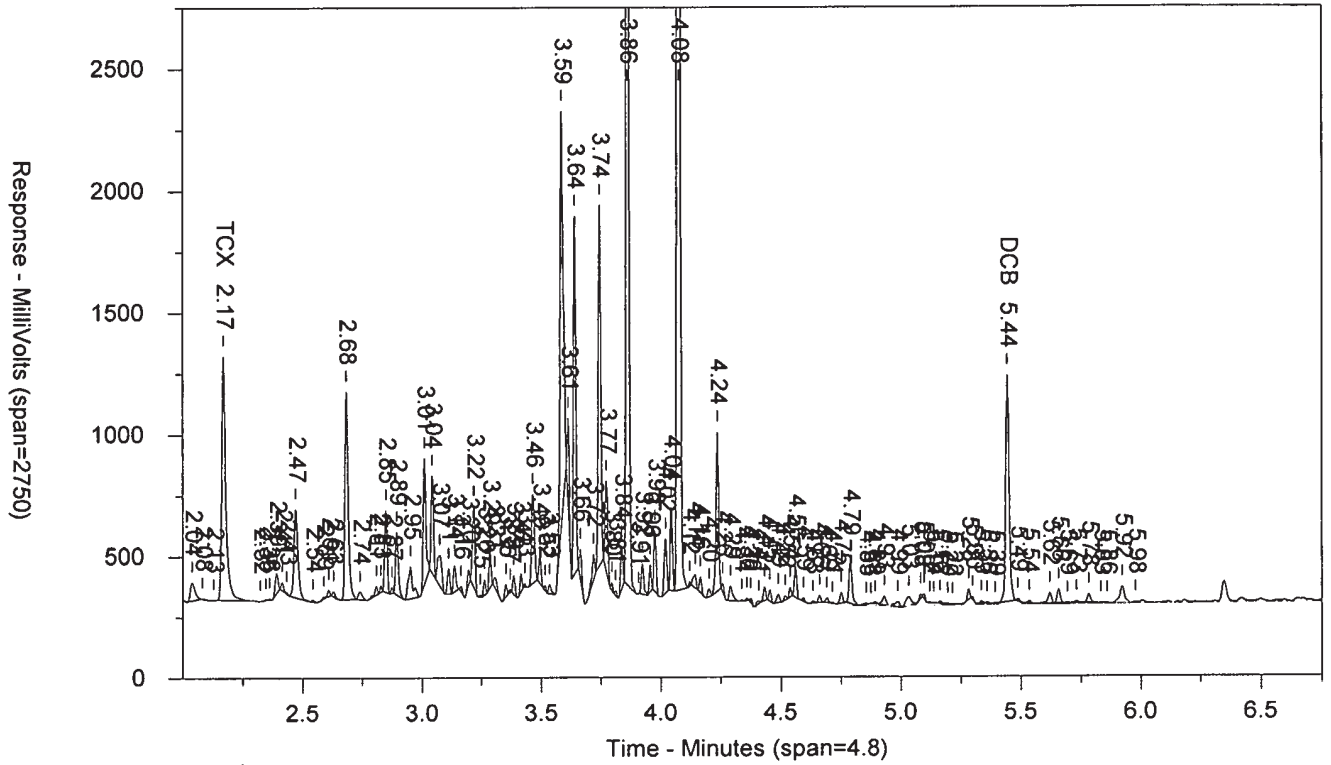
**Height Summation:** 454083.12  
**Amount Avg CF:** 5.92019 Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			83.7438	17.734		13.02	4	40	
Aroclor-1221			83.7438	22.6601		** 87.26	3	5	
Aroclor-1232			83.7438	39.4089	E	7.53	4	40	
Aroclor-1242			83.7438	16.2562		9.65	4	30	
Aroclor-1248			83.7438	16.2562		** 41.86	4	40	
Aroclor-1254			83.7438	16.2562		** 90.98	4	40	
Aroclor-1260			83.7438	24.1379		36.91	4	40	
Aroclor-1262			83.7438	16.2562		13.35	4	40	
Aroclor-1268			83.7438	16.2562		36.03	4	40	

Units: ug/kg

9866462 ACF DF5 ACT0903 T 183030017A 10885 SW-846 8082A F1  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.121.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9866462 ACF DF5 ACT0903 T 183030017A 10885  
Injected On: 11/1/2018 5:27:43 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082A Feb 2007  
Sample Weight: 30.45  
Dilution Factor: 50

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

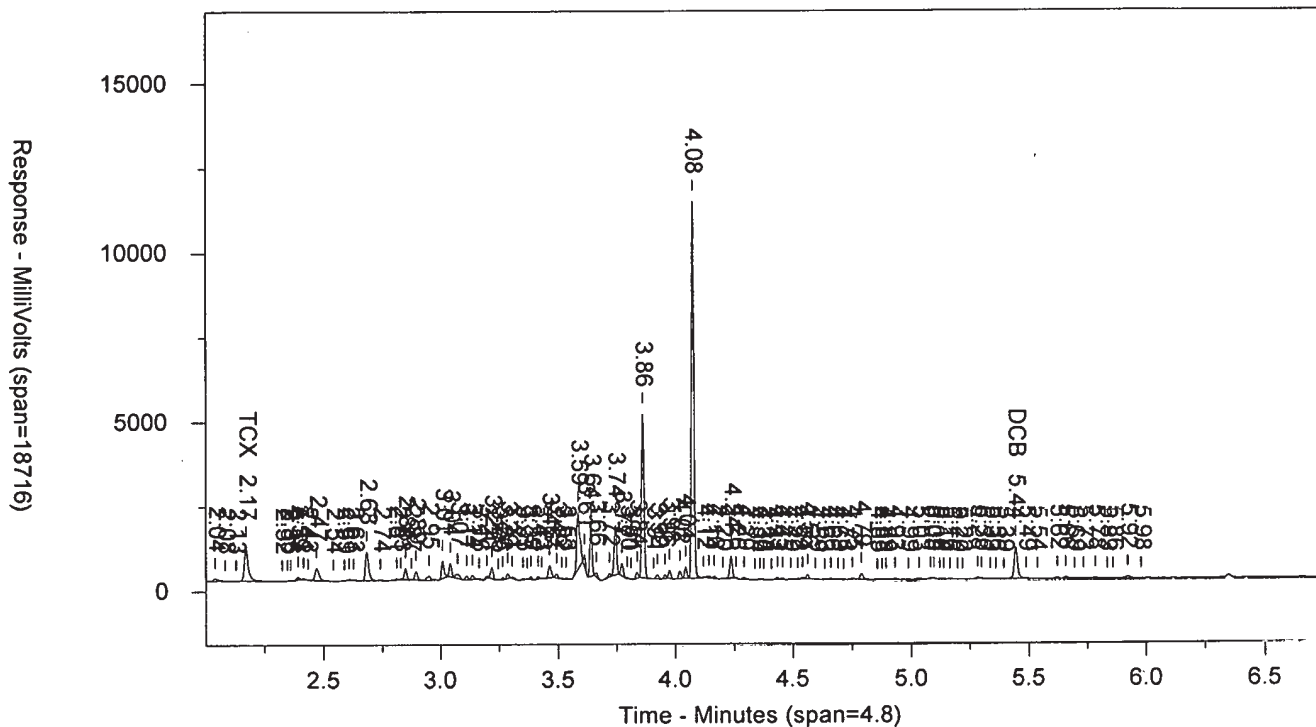
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	1001643	9.582	TCX	2.602	2150315	9.129	TCX
5.443	933201	8.931	DCB	5.917	1021820	10.84	DCB

Files:

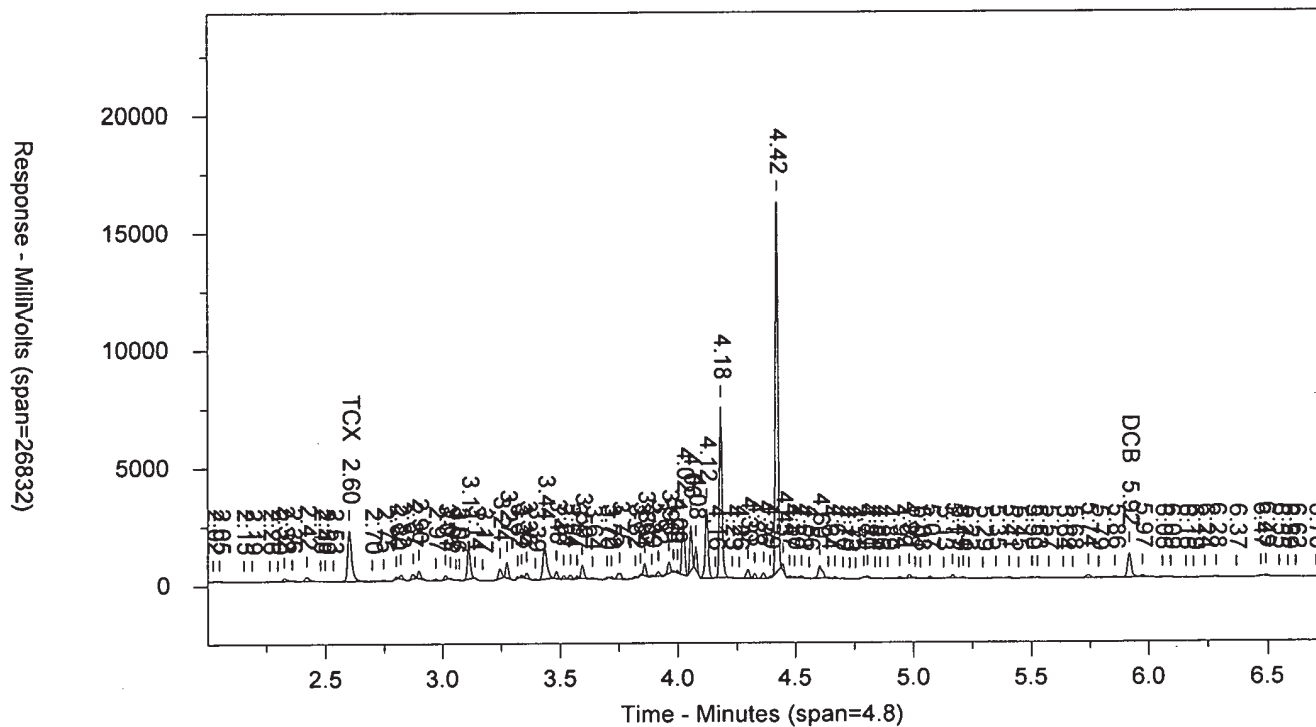
Area File: 20pcbs18303002.121.RAW  
Area File: 20pcbs18303002B.121.RAW  
Method A: 20PCBA.MET  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 5:35:53 PM  
File Reported On: 11/1/2018 at 5:35:57 PM

9866462 ACF DF5 ACT0903 T 183030017A 10885 SW-846 8082/

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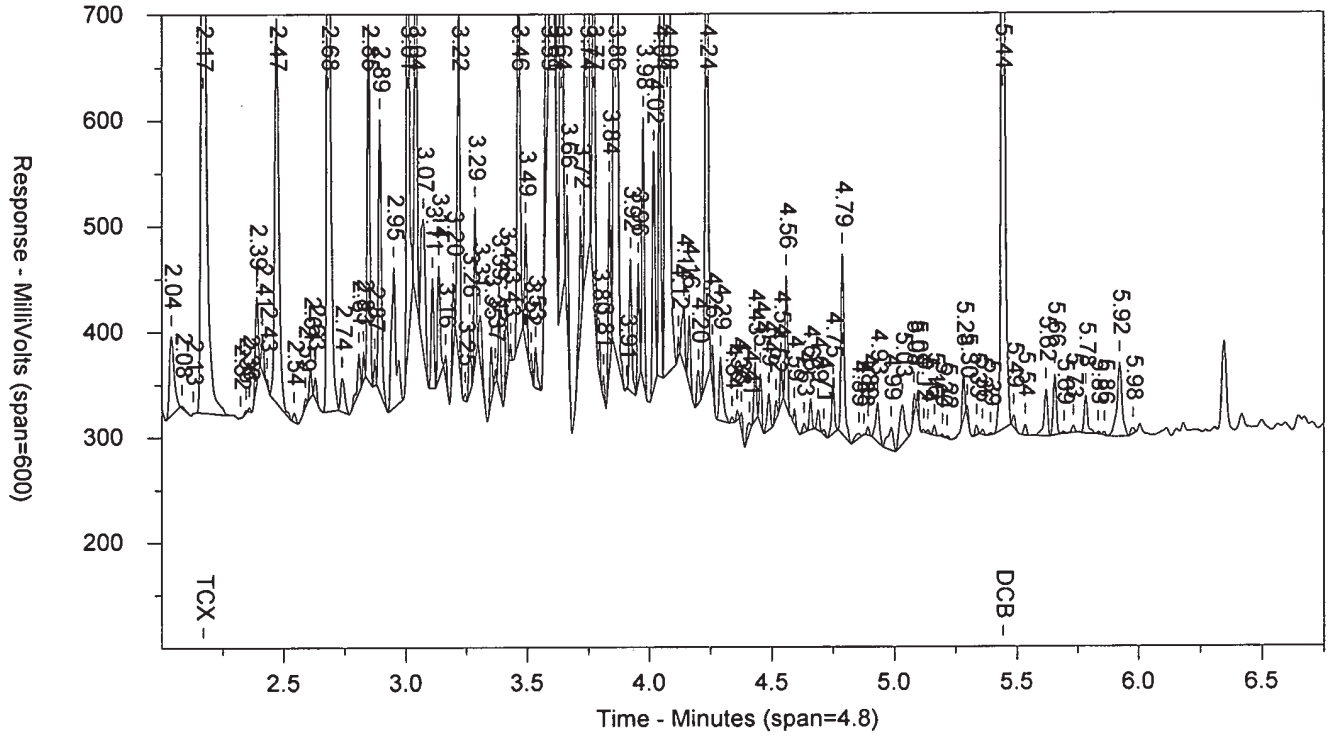
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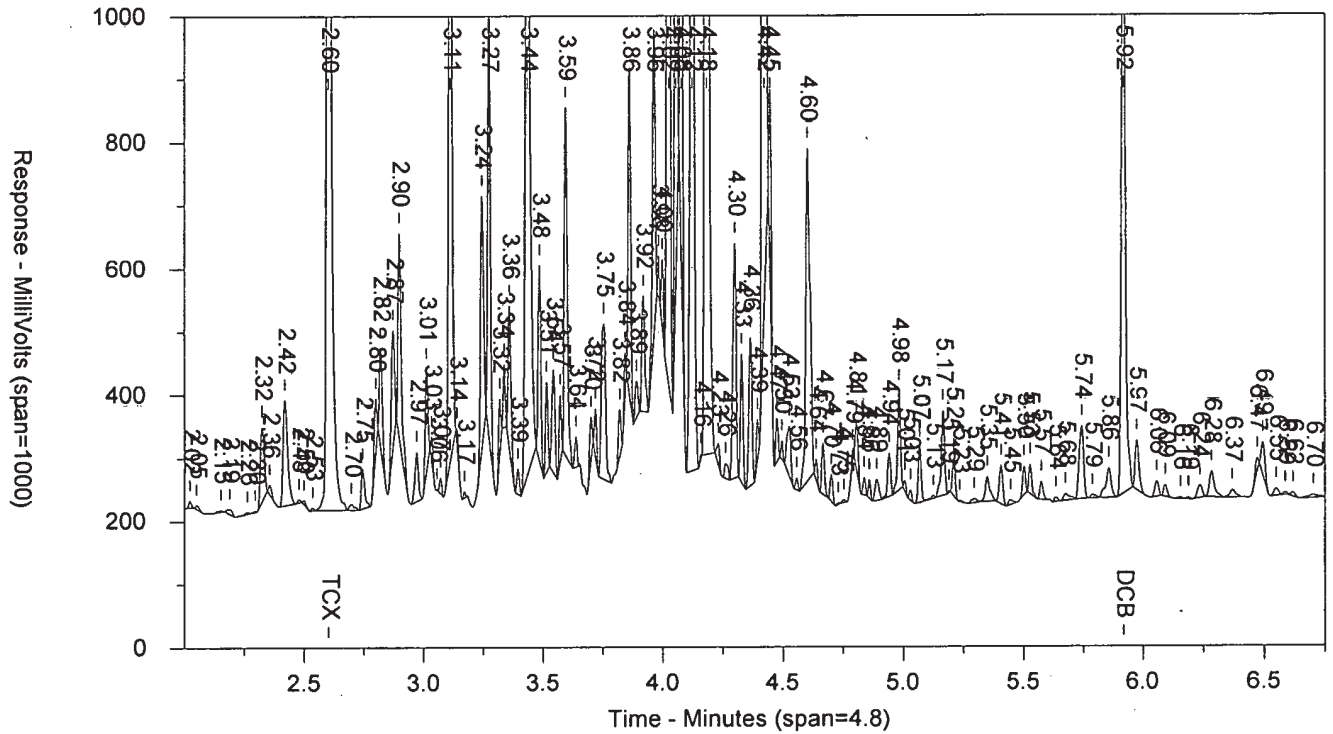


9866462 ACF DF5 ACT0903 T 183030017A 10885 SW-846 8082/

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.121.RAW



# Data Summary

Sample Name: 9866463      ACF DF10      T0904      Sample ID: AC Batchnumber: 183030017A  
 Sample Amount: 30.26 g      Total Volume: 100 ml      Analyst: 13786      SDG: TID09      State: NY  
 Analyses: 10885

## Analysis Report (A)

Injected on Nov 01, 2018 17:48:44  
 Instrument 17342A  
 Result file 20PCBS18303002.123.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 106% (44 - 130) Conc: 10.5945  
 %SSR(DCB) \* 175% (45 - 143) Conc: 17.2229

### Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	550292	10.5945
Decachlorobiphenyl	5.42	5.44	5.48	894222	17.2229

## Analysis Report (B)

Injected on Nov 01, 2018 17:48:44  
 Instrument 17342B  
 Result file 20PCBS18303002B.123.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 102% (44 - 130) Conc: 10.14114  
 %SSR(DCB) \* 190% (45 - 143) Conc: 18.66372

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.57	2.60	2.63	1186951	10.14114
Decachlorobiphenyl	5.89	5.92	5.95	874150	18.66372

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	A	10.5945	4.957	9.9141	9.9141		4.37	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.5945	4.957	9.9141	9.9141			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	10.14114	4.957	9.9141	9.9141			
<input type="checkbox"/> Decachlorobiphenyl	B	18.66372	4.957	9.9141	9.9141		8.03	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	17.2229	4.957	9.9141	9.9141			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	18.66372	4.957	9.9141	9.9141			

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<35.6907	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<45.6048	<99.1408	<168.5393	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<79.3126	<158.6252	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<32.7165	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<32.7165	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<32.7165	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1260			<48.579	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1262			<32.7165	<99.1408	<168.5393	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<32.7165	<99.1408	<168.5393	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866463 ACF DF10 T0904 ID: AC Batchnumber: 183030017A  
**Sample Amount:** 30.26 g Total Volume: 100 ml Analyst: 9065 SDG: TID09 State: NY  
**Analyses:** 10885

## Analysis Report (A)

Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.123.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET



%SSR(TCX) : 106% (44-130) Conc.: 10.5945  
 %SSR(DCB) : \*175% (45-143) Conc.: 17.2229

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	62908.09	57.985513	5	86.59	1
2.81	2.82	2.85	15152.11	18.256094			2
+ 2.81	2.84	2.85	2956.553	3.562217			2
2.99	3.00	3.03	23015.87	11.498045			4
3.09	3.11	3.13	110324.8	67.782333			5
+ 3.25	3.27	3.29	7507.754	4.049093			6
3.25	3.28	3.29	13389.67	7.221337			6

**Height Summation:** 224790.54  
**Amount Avg CF:** 32.548664 Linear:

<b>Aroclor-1221</b>							
2.33	2.34	2.37	5594.582	7.880162	3	110.06	1
2.40	2.43	2.44	2704.929	5.69295			2
2.45	2.48	2.49	62908.09	42.134858			3

**Height Summation:** 71207.601  
**Amount Avg CF:** 18.569324 Linear:

<b>Aroclor-1232</b>							
2.45	2.48	2.49	62908.09	52.336031	5	107.11	1
2.81	2.82	2.85	15152.11	37.338658			2
+ 2.81	2.84	2.85	2956.553	7.2857			2
2.99	3.00	3.03	23015.87	23.997677			4
3.09	3.11	3.13	110324.8	176.595288			5
+ 3.25	3.27	3.29	7507.754	9.451723			6
3.25	3.28	3.29	13389.67	16.866633			6

**Height Summation:** 224790.54  
**Amount Avg CF:** 61.424858 Linear:

<b>Aroclor-1242</b>							
2.45	2.48	2.49	62908.09	67.073667	5	89.82	1
2.81	2.82	2.85	15152.11	21.158669			2
+ 2.81	2.84	2.85	2956.553	4.128582			2
2.99	3.00	3.03	23015.87	13.513772			4
3.09	3.11	3.13	110324.8	88.33366			5
+ 3.25	3.27	3.29	7507.754	4.898537			6
3.25	3.28	3.29	13389.67	8.736273			6

**Height Summation:** 224790.54  
**Amount Avg CF:** 39.763208 Linear:

<b>Aroclor-1248</b>							
2.99	3.00	3.03	23015.87	19.472944	6	74.58	1
3.09	3.11	3.13	110324.8	48.41438			2
+ 3.25	3.27	3.29	7507.754	2.914995			3
3.25	3.28	3.29	13389.67	5.198736			3
3.33	3.35	3.37	53828.28	26.264681			4
3.48	3.49	3.52	37019	12.396934			5
3.60	3.64	3.64	61818.16	60.029383			6

**Height Summation:** 299395.78  
**Amount Avg CF:** 28.62951 Linear:

## Analysis Report (B)

Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.123.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

%SSR(TCX) : 102% (44-130) Conc.: 10.14114  
 %SSR(DCB) : \*190% (45-143) Conc.: 18.66372

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.79	2.82	15965.47	6.681256	5	169.08	1
3.32	3.33	3.36	11418.2	3.721465			3
3.41	3.44	3.45	65831.06	25.562249			4
3.50	3.50	3.54	456042.6	168.671145			5
+ 3.58	3.60	3.62	9469.162	3.790579			6
3.58	3.62	3.62	15273.99	6.114297			6

**Height Summation:** 564531.32  
**Amount Avg CF:** 42.150083 Linear:

<b>Aroclor-1221</b>							
+ 2.68	2.69	2.72	6483.279	5.747092	2	60.14	1
2.68	2.72	2.72	13803.71	12.236277			1
2.78	2.79	2.82	15965.47	4.934101			3

**Height Summation:** 29769.18  
**Amount Avg CF:** 8.585189 Linear:

<b>Aroclor-1232</b>							
2.78	2.79	2.82	15965.47	6.123613	5	178.71	1
3.32	3.33	3.36	11418.2	7.886244			3
3.41	3.44	3.45	65831.06	55.589115			4
3.50	3.50	3.54	456042.6	429.469058			5
+ 3.58	3.60	3.62	9469.162	9.273347			6
3.58	3.62	3.62	15273.99	14.958136			6

**Height Summation:** 564531.32  
**Amount Avg CF:** 102.005233 Linear:

<b>Aroclor-1242</b>							
2.78	2.79	2.82	15965.47	8.138925	5	172.65	1
3.32	3.33	3.36	11418.2	4.322006			3
3.41	3.44	3.45	65831.06	30.882194			4
3.50	3.50	3.54	456042.6	222.093128			5
+ 3.58	3.60	3.62	9469.162	4.637189			6
3.58	3.62	3.62	15273.99	7.4799			6

**Height Summation:** 564531.32  
**Amount Avg CF:** 54.58323 Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	65831.06	43.814435	6	109.63	1
3.47	3.50	3.51	456042.6	128.831319			2
+ 3.58	3.60	3.62	9469.162	2.549719			3
3.58	3.62	3.62	15273.99	4.11276			3
+ 3.68	3.70	3.72	35407.98	17.147927			4
3.68	3.72	3.72	39983.07	19.363622			4
+ 3.87	3.88	3.91	6374.27	1.813689			5
3.87	3.89	3.91	10773.15	3.065316			5
3.95	3.96	3.99	246902.3	62.090807			6

**Height Summation:** 834806.17  
**Amount Avg CF:** 43.546376 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866463 ACF DF10 T0904 ID: AC Batchnumber: 183030017A  
**Sample Amount:** 30.26 g Total Volume: 100 ml Analyst: 9065 SDG: TID09 State: NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.123.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
+ 3.76	3.78	3.80	67445.14	25.550537	6	55.17	1
3.76	3.80	3.80	163315	61.869335			1
3.82	3.83	3.86	258917.4	52.56189			2
3.94	3.95	3.98	51383.01	17.860539			3
4.00	4.02	4.04	202983.3	92.51764			4
4.15	4.16	4.19	43912.56	24.552537			5
+ 4.22	4.22	4.26	11923.28	3.523737			6
4.22	4.24	4.26	151509.2	44.776153			6

**Height Summation:** 872020.47  
**Amount Avg CF:** 49.023016 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	202983.3	42.156219	6	31.67	1
4.13	4.14	4.17	157746.4	73.856125			2
+ 4.13	4.16	4.17	43912.56	20.559655			2
+ 4.22	4.22	4.26	11923.28	3.534158			3
4.22	4.24	4.26	151509.2	44.908574			3
4.42	4.43	4.46	108911.7	38.928017			4
+ 4.42	4.45	4.46	21408.06	7.651826			4
+ 4.54	4.55	4.58	4380.855	0.691689			5
4.54	4.56	4.58	196326.6	30.9978			5
+ 4.54	4.58	4.58	83621.69	13.202941			5
4.77	4.79	4.81	246732.1	55.861511			6

**Height Summation:** 1064209.3  
**Amount Avg CF:** 47.784708 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	127717.3	31.600361	6	34.05	1
4.42	4.43	4.46	108911.7	27.801464			2
+ 4.42	4.45	4.46	21408.06	5.464752			2
+ 4.55	4.55	4.59	4380.855	0.590615			3
4.55	4.56	4.59	196326.6	26.468242			3
+ 4.55	4.58	4.59	83621.69	11.273659			3
4.74	4.75	4.78	166723.7	58.464373			4
4.78	4.79	4.82	246732.1	51.874896			5
5.08	5.10	5.12	122978.2	49.820611			6
+ 5.08	5.12	5.12	11709.29	4.743837			6

**Height Summation:** 969389.6  
**Amount Avg CF:** 41.004991 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	166723.7	17.028022	6	50.62	1
4.77	4.79	4.81	246732.1	29.70209			2
4.92	4.93	4.96	90843.46	12.422582			3
4.98	4.99	5.02	59823.91	29.88354			4
5.08	5.10	5.12	122978.2	40.095774			5
+ 5.08	5.12	5.12	11709.29	3.817693			5
5.27	5.28	5.31	202708.3	10.332892			6

**Height Summation:** 889809.67  
**Amount Avg CF:** 23.24415 Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.123.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
+ 4.18	4.19	4.22	60704.77	9.440331	6	27.35	1
4.18	4.21	4.22	266093.8	41.380827			1
4.27	4.28	4.31	52155.81	21.626305			2
+ 4.27	4.29	4.31	49689.42	20.603622			2
+ 4.35	4.35	4.39	84510.59	18.081489			3
+ 4.35	4.37	4.39	35719.64	7.642406			3
4.35	4.39	4.39	184905.4	39.561491			3
4.43	4.44	4.47	149760.2	54.313782			4
4.51	4.52	4.55	119470.6	48.759566			5
4.60	4.62	4.64	170845.5	38.658732			6
+ 4.60	4.64	4.64	82516.75	18.6718			6

**Height Summation:** 943231.31  
**Amount Avg CF:** 40.716784 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	149760.2	24.970827	6	32.00	1
4.50	4.52	4.54	119470.6	40.129726			2
4.60	4.62	4.64	170845.5	27.935126			3
+ 4.60	4.64	4.64	82516.75	13.4924			3
4.65	4.67	4.69	131136.2	41.382336			4
4.97	4.98	5.01	272586.9	37.307298			5
5.15	5.17	5.19	257826.4	59.844531			6

**Height Summation:** 1101625.8  
**Amount Avg CF:** 38.594974 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	131136.2	24.977455	6	29.12	1
4.79	4.81	4.83	185409.8	45.640369			2
4.97	4.98	5.01	272586.9	30.808327			3
5.15	5.17	5.19	257826.4	49.551296			4
5.20	5.21	5.24	165037.8	55.565635			5
5.51	5.53	5.55	140915	53.887135			6

**Height Summation:** 1152912.1  
**Amount Avg CF:** 43.405036 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	257826.4	22.966855	6	60.94	1
5.20	5.21	5.24	165037.8	17.171189			2
5.33	5.35	5.37	96570.74	12.042344			3
5.39	5.41	5.43	92576.38	43.210605			4
5.51	5.53	5.55	140915	43.869344			5
5.72	5.74	5.76	202759	9.925303			6

**Height Summation:** 955685.32  
**Amount Avg CF:** 24.864273 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866463 ACF DF10 T0904 ID: AC **Batchnumber:** 183030017A  
**Sample Amount:** 30.26 g **Total Volume:** 100 ml **Analyst:** 9065 **SDG:** TID09 **State:** NY  
**Analyses:** 10885

**Analysis Report (A)**

Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.123.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

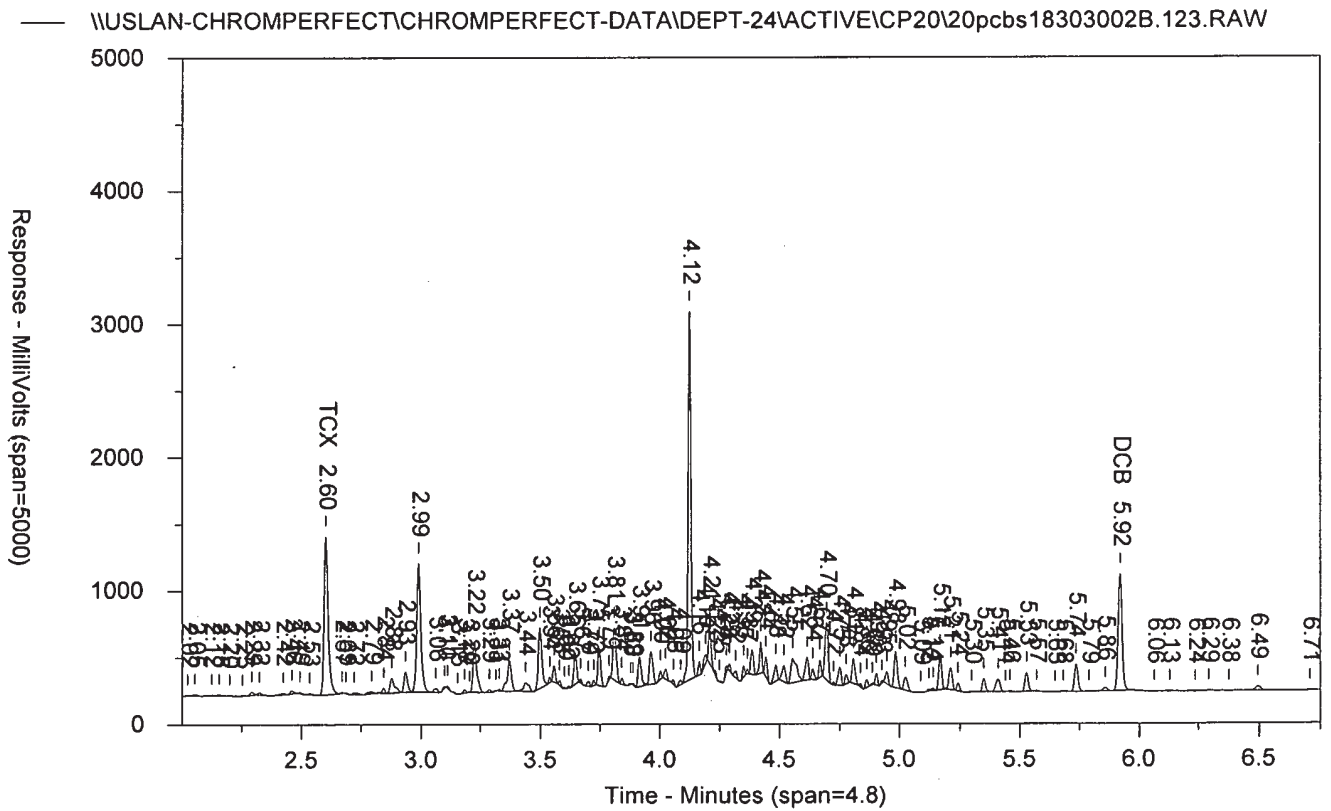
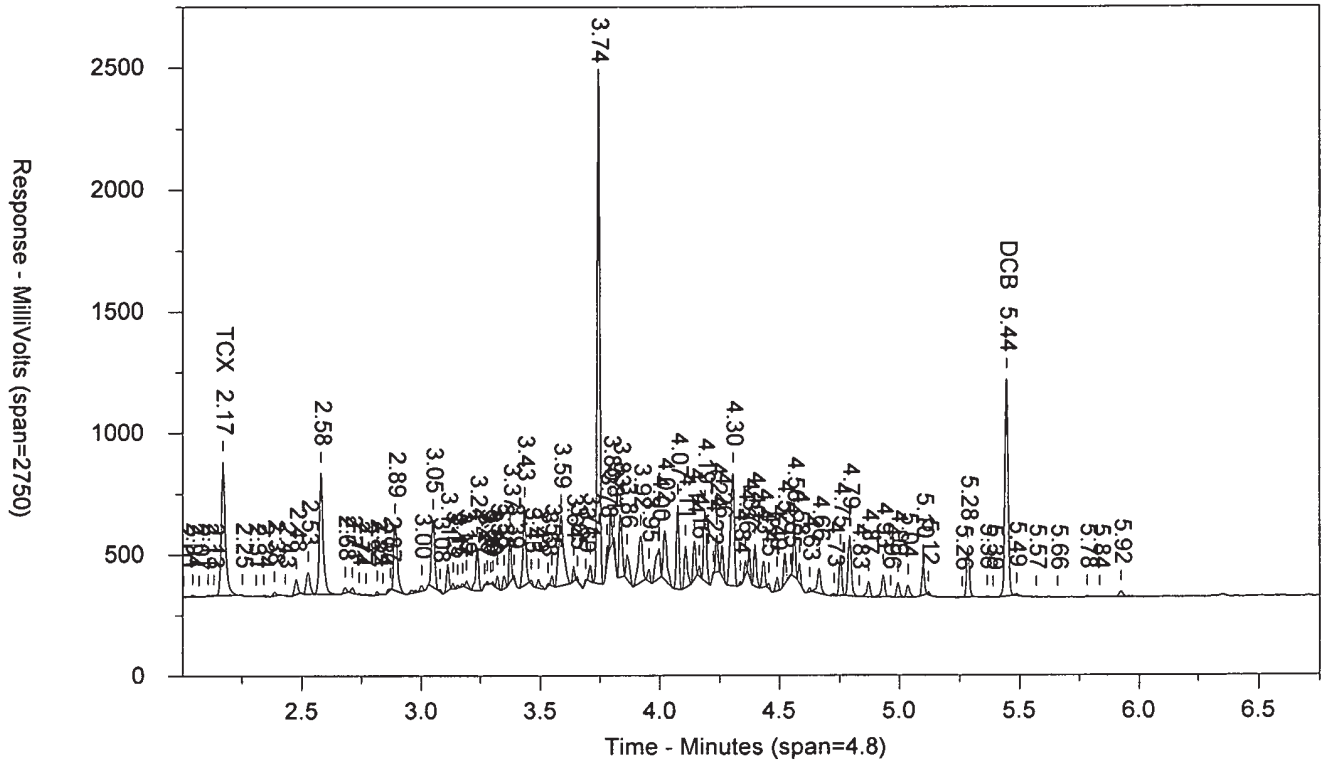
Injected on : Nov 01, 2018 17:48:44  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.123.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			168.5393	35.6907	—	25.71	4	40	
Aroclor-1221			168.5393	45.6048	—	** 73.54	3	5	
Aroclor-1232			168.5393	79.3126	—	** 50.39	4	40	
Aroclor-1242			168.5393	32.7165	—	31.42	4	30	
Aroclor-1248			168.5393	32.7165	—	** 41.33	4	40	
Aroclor-1254			168.5393	32.7165	—	18.51	4	40	
Aroclor-1260			168.5393	48.579	—	21.28	4	40	
Aroclor-1262			168.5393	32.7165	—	5.69	4	40	
Aroclor-1268			168.5393	32.7165	—	6.74	4	40	

Units: ug/kg

9866463 ACF DF10 ACT0904 T 183030017A 10885 SW-846 8082A F  
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LANCASTER LABORATORIES

Sample Number: 9866463 ACF DF10 ACT0904 T 183030017A 10885  
 Injected On: 11/1/2018 5:48:44 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

SW-846 8082A Feb 2007  
 Sample Weight: 30.26  
 Dilution Factor: 100

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

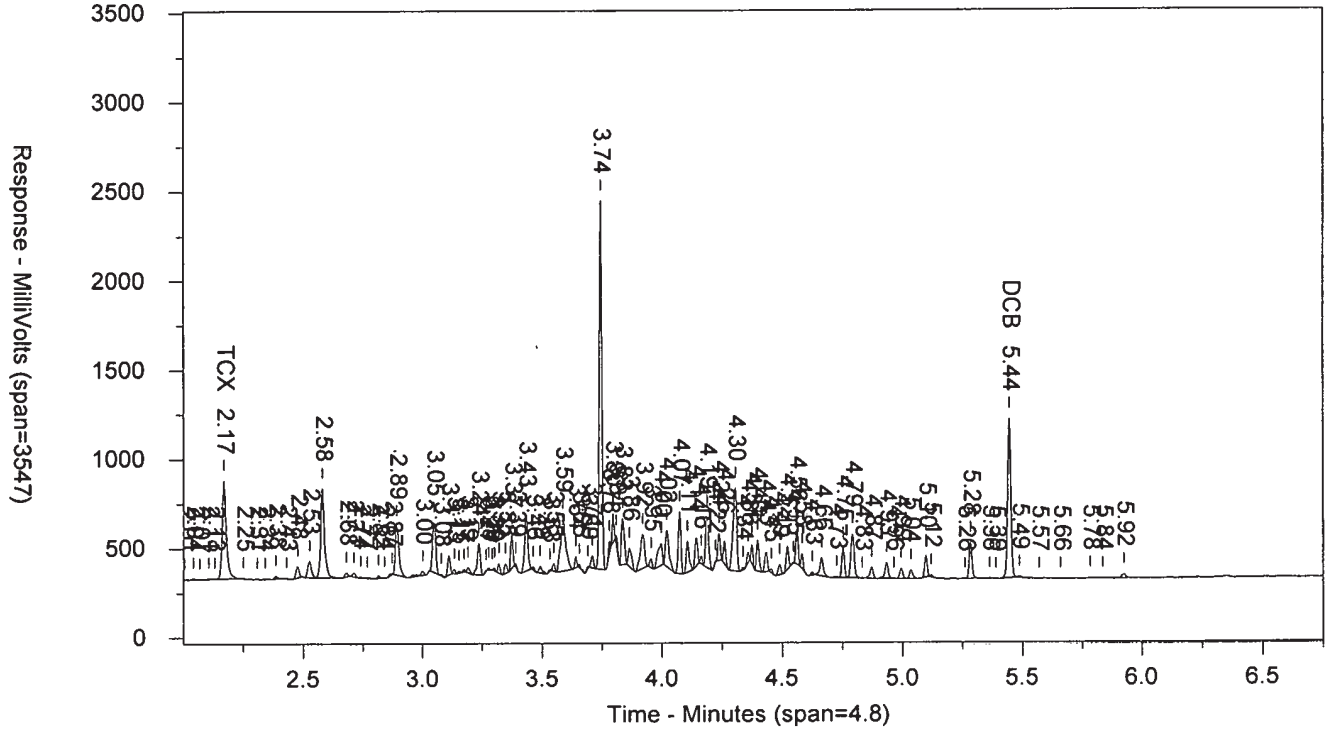
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.169	550292	10.595	TCX	2.602	1186951	10.141	TCX
5.445	894222	17.223	DCB	5.919	874150	18.664	DCB

Files:

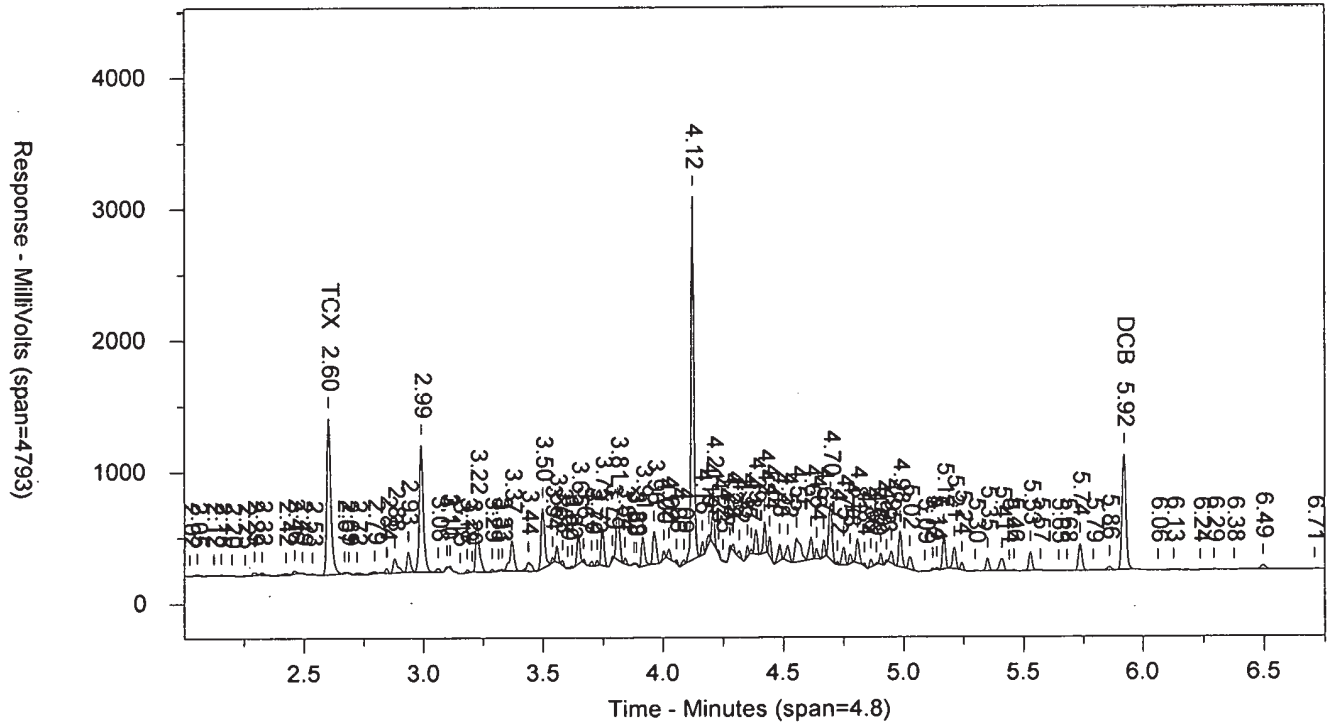
Area File: 20pcbs18303002.123.RAW  
 Area File: 20pcbs18303002B.123.RAW  
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 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 5:56:54 PM  
 File Reported On: 11/1/2018 at 5:56:59 PM

9866463 ACF DF10 ACT0904 T 183030017A 10885 SW-846 8082

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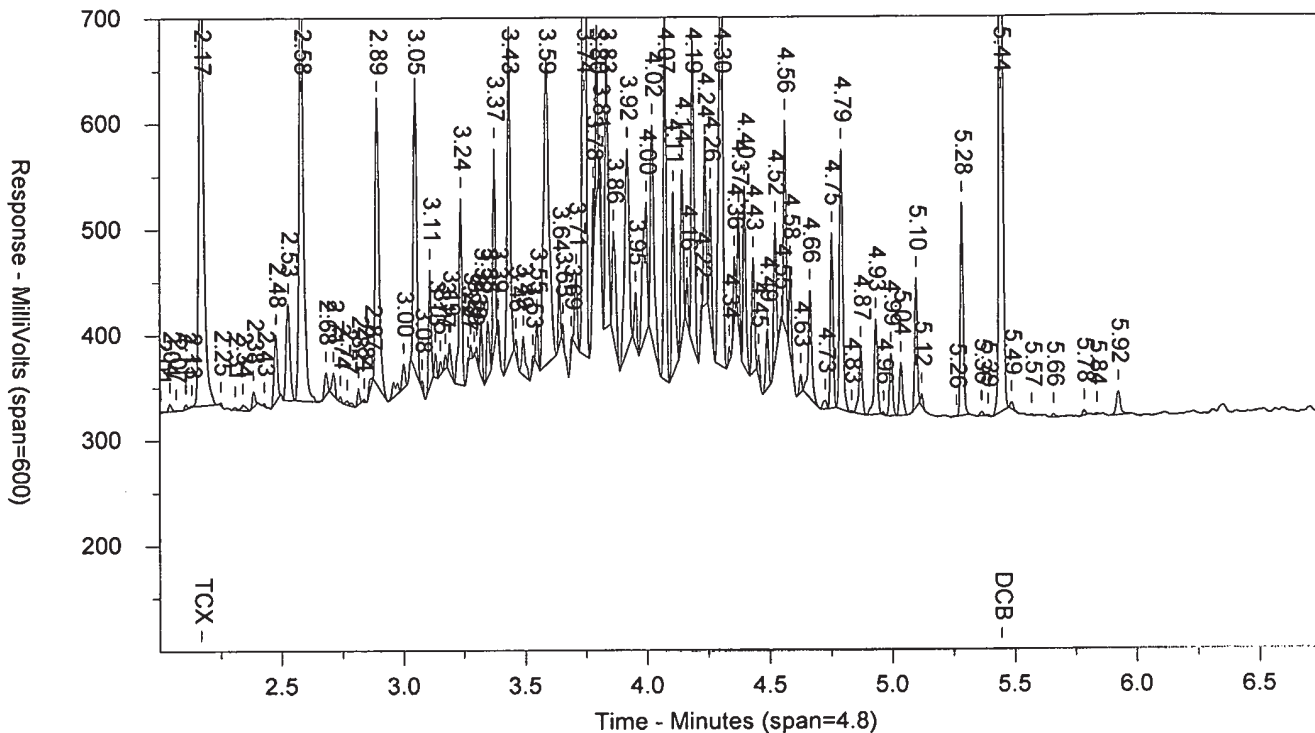
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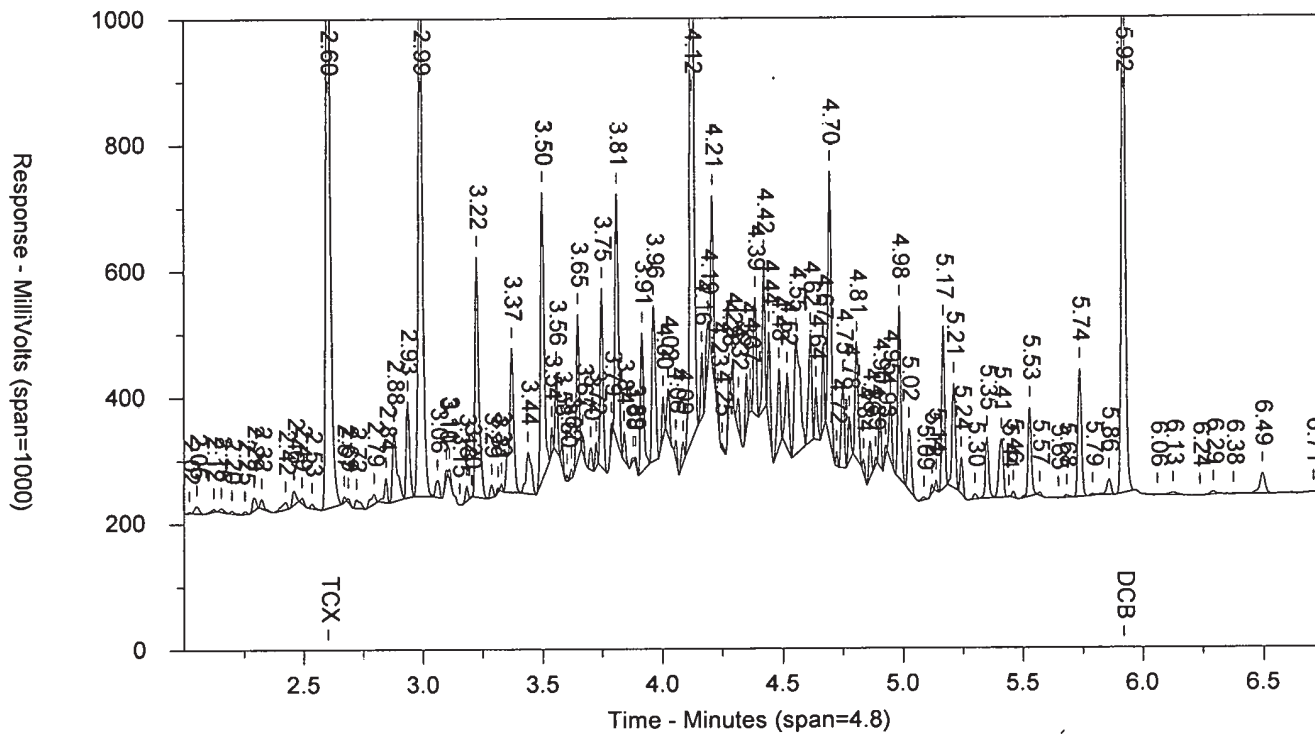


9866463 ACF DF10 ACT0904 T 183030017A 10885 SW-846 8082

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# Data Summary

Sample Name: 9866464 ACF T0905 Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30.16 g Total Volume: 10 ml Analyst: 13786 SDG: TID09 State: NY  
 Analyses: 10885

### Analysis Report (A)

Injected on Nov 01, 2018 17:59:13  
 Instrument 17342A  
 Result file 20PCBS18303002.124.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 102% (44 - 130) Conc: 10.18408  
 %SSR(DCB) 108% (45 - 143) Conc: 10.6641

### Single Component Data

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5272258	10.18408
Decachlorobiphenyl	5.42	5.45	5.48	5518561	10.6641

### Analysis Report (B)

Injected on Nov 01, 2018 17:59:13  
 Instrument 17342B  
 Result file 20PCBS18303002B.124.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 107% (44 - 130) Conc: 10.6914  
 %SSR(DCB) 121% (45 - 143) Conc: 11.96966

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.57	2.60	2.63	12472190	10.6914
Decachlorobiphenyl	5.89	5.92	5.95	5587683	11.96966

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	10.6914	0.4973	0.9947	0.9947		4.86	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.18408	0.4973	0.9947	0.9947			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	10.6914	0.4973	0.9947	0.9947			
<input type="checkbox"/> Decachlorobiphenyl	B	11.96966	0.4973	0.9947	0.9947		11.54	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	10.6641	0.4973	0.9947	0.9947			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	11.96966	0.4973	0.9947	0.9947			

### Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260								Aroclor-1260							
								20.36							
4.13	4.14	4.17	114926.3	5.398636	2			4.60	4.62	4.64	337422.1	5.535517	3		
4.22	4.24	4.26	186583.7	5.548832	3			4.65	4.67	4.69	311007.8	9.84694	4		
4.42	4.43	4.46	161401.1	5.788044	4			4.97	4.98	5.01	446111.8	6.125903	5		
4.54	4.56	4.58	437792.7	6.935182	5			5.15	5.17	5.19	436590.1	10.167368	6		
4.77	4.79	4.81	375016.6	8.518735	6			Height summation:		1531131.8					
Height summation:				1275720.4					Concentration		CF:	7.918932	L:		
Concentration				CF:	6.437886										

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<3.5809	<9.9469	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<4.5756	<9.9469	<16.9098	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<7.9576	<15.9151	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<3.2825	<9.9469	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<3.2825	<9.9469	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<3.2825	<9.9469	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1260	B	7.918932	4.874	<9.9469	<16.9098	JD2	20.63	4	
<input checked="" type="checkbox"/> PCB-1262			<3.2825	<9.9469	<16.9098	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<3.2825	<9.9469	<16.9098	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866464 ACF      **T0905**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.16 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.124.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 102% (44-130)      Conc.: 10.18408  
 %SSR(DCB) : 108% (45-143)      Conc.: 10.6641

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	617836.4	57.137874	5	200.37	1
+ 2.81	2.81	2.85	2977.371	0.359919			2
2.81	2.84	2.85	7246.946	0.876047			2
2.93	2.95	2.97	13410.29	0.375374			3
3.09	3.11	3.13	53834.85	3.31852			5
+ 3.25	3.26	3.29	4711.884	0.254965			6
3.25	3.28	3.29	12276.94	0.664317			6

**Height Summation:** 704605.426  
**Amount Avg CF:** 12.474426      Linear:

<b>Aroclor-1221</b>							
2.33	2.34	2.37	111857.4	15.807742	3	107.46	1
2.40	2.43	2.44	2454.636	0.51833			2
2.45	2.48	2.49	617836.4	41.518927			3

**Height Summation:** 732148.436  
**Amount Avg CF:** 19.281666      Linear:

<b>Aroclor-1232</b>							
2.45	2.48	2.49	617836.4	51.570978	5	169.81	1
+ 2.81	2.81	2.85	2977.371	0.736133			2
2.81	2.84	2.85	7246.946	1.791753			2
2.93	2.95	2.97	13410.29	0.814399			3
3.09	3.11	3.13	53834.85	8.645837			5
+ 3.25	3.26	3.29	4711.884	0.595159			6
3.25	3.28	3.29	12276.94	1.550703			6

**Height Summation:** 704605.426  
**Amount Avg CF:** 12.874734      Linear:

<b>Aroclor-1242</b>							
E 2.45	2.48	2.49	617836.4	66.093177	5	198.54	1
+ 2.81	2.81	2.85	2977.371	0.417144			2
2.81	2.84	2.85	7246.946	1.015331			2
2.93	2.95	2.97	13410.29	0.451455			3
3.09	3.11	3.13	53834.85	4.324682			5
+ 3.25	3.26	3.29	4711.884	0.308453			6
3.25	3.28	3.29	12276.94	0.803682			6

**Height Summation:** 704605.426  
**Amount Avg CF:** 14.537665      Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	53834.85	2.370295	5	53.08	2
+ 3.25	3.26	3.29	4711.884	0.183552			3
3.25	3.28	3.29	12276.94	0.478251			3
3.33	3.35	3.37	29276.18	1.433222			4
3.48	3.49	3.52	41208.04	1.384552			5
+ 3.48	3.51	3.52	4962.331	0.16673			5
3.60	3.64	3.64	28066.79	2.734501			6

**Height Summation:** 164662.8  
**Amount Avg CF:** 1.680164      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.124.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 107% (44-130)      Conc.: 10.6914  
 %SSR(DCB) : 121% (45-143)      Conc.: 11.96966

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	138030.4	5.795471	5	115.93	1
3.32	3.34	3.36	4747.707	0.155252			3
+ 3.41	3.42	3.45	11953.89	0.465709			4
3.41	3.44	3.45	20458.29	0.797031			4
3.50	3.50	3.54	181085.9	6.719819			5
+ 3.58	3.60	3.62	8486.233	0.340837			6
3.58	3.62	3.62	9380.076	0.376737			6

**Height Summation:** 353702.373  
**Amount Avg CF:** 2.768862      Linear:

<b>Aroclor-1221</b>							
2.78	2.80	2.82	138030.4	4.27995	1		3
<b>Height Summation:</b> 138030.4							
<b>Amount Avg CF:</b> 4.27995      Linear:							

<b>Aroclor-1232</b>							
2.78	2.80	2.82	138030.4	5.311759	5	137.71	1
3.32	3.34	3.36	4747.707	0.328999			3
+ 3.41	3.42	3.45	11953.89	1.012758			4
3.41	3.44	3.45	20458.29	1.733268			4
3.50	3.50	3.54	181085.9	17.109948			5
+ 3.58	3.60	3.62	8486.233	0.83383			6
3.58	3.62	3.62	9380.076	0.921656			6

**Height Summation:** 353702.373  
**Amount Avg CF:** 5.001126      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	138030.4	7.059886	5	117.69	1
3.32	3.34	3.36	4747.707	0.180306			3
+ 3.41	3.42	3.45	11953.89	0.562632			4
3.41	3.44	3.45	20458.29	0.962907			4
3.50	3.50	3.54	181085.9	8.848139			5
+ 3.58	3.60	3.62	8486.233	0.416961			6
3.58	3.62	3.62	9380.076	0.460879			6

**Height Summation:** 353702.373  
**Amount Avg CF:** 3.502423      Linear:

<b>Aroclor-1248</b>							
+ 3.41	3.42	3.45	11953.89	0.798239	6	89.46	1
3.41	3.44	3.45	20458.29	1.366134			1
3.47	3.50	3.51	181085.9	5.13261			2
+ 3.58	3.60	3.62	8486.233	0.229263			3
3.58	3.62	3.62	9380.076	0.253411			3
+ 3.68	3.70	3.72	15622.95	0.759121			4
3.68	3.72	3.72	23896.29	1.161124			4
3.87	3.88	3.91	37060.93	1.058002			5
3.95	3.97	3.99	158648.1	4.002899			6

**Height Summation:** 430529.586  
**Amount Avg CF:** 2.162363      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 986646 ACF      **T0905**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.16 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.124.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	37210.75	1.414345	6	70.67	1
+ 3.76	3.80	3.80	1377.322	0.052351			1
3.82	3.84	3.86	229522.3	4.674899			2
3.94	3.96	3.98	71348.52	2.48827			3
4.00	4.02	4.04	202713.8	9.270115			4
+ 4.00	4.04	4.04	44509.09	2.035404			4
4.15	4.17	4.19	32463.4	1.821123			5
4.22	4.24	4.26	186583.7	5.53247			6

**Height Summation:** 759842.47  
**Amount Avg CF:** 4.200204      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	202713.8	4.223984	6	24.39	1
4.13	4.14	4.17	114926.3	5.398636			2
4.22	4.24	4.26	186583.7	5.548832			3
4.42	4.43	4.46	161401.1	5.788044			4
+ 4.42	4.46	4.46	60716.78	2.177379			4
4.54	4.56	4.58	437792.7	6.935182			5
4.77	4.79	4.81	375016.6	8.518735			6

**Height Summation:** 1478434.2  
**Amount Avg CF:** 6.068902      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	199055.7	4.941451	6	27.92	1
4.42	4.43	4.46	161401.1	4.133683			2
+ 4.42	4.46	4.46	60716.78	1.555032			2
4.55	4.56	4.59	437792.7	5.921777			3
4.74	4.75	4.78	244922.1	8.617068			4
4.78	4.79	4.82	375016.6	7.910786			5
5.08	5.10	5.12	195219.4	7.9349			6

**Height Summation:** 1613407.6  
**Amount Avg CF:** 6.576611      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	244922.1	2.509761	6	67.06	1
4.77	4.79	4.81	375016.6	4.529491			2
4.92	4.93	4.96	264006.6	3.622185			3
4.98	4.99	5.02	223967.1	11.224811			4
5.08	5.10	5.12	195219.4	6.386031			5
5.27	5.28	5.31	405770.4	2.07524			6

**Height Summation:** 1708902.2  
**Amount Avg CF:** 5.05792      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.9098	3.5809		** 127.34	4	40	
Aroclor-1221			16.9098	4.5756		** 127.34	3	5	
Aroclor-1232			16.9098	7.9576		** 86.81	4	40	
Aroclor-1242			16.9098	3.2825	E	** 122.34	4	30	
Aroclor-1248			16.9098	3.2825		25.10	4	40	
Aroclor-1254			16.9098	3.2825		34.79	4	40	

### Analysis Report (B)

Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.124.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	266264.8	4.154471	6	46.35	1
4.27	4.29	4.31	222617.7	9.261406			2
4.35	4.37	4.39	122658.5	2.633045			3
4.43	4.44	4.47	228247.2	8.305326			4
4.51	4.51	4.55	92824.65	3.801016			5
4.60	4.62	4.64	337422.1	7.660466			6

**Height Summation:** 1270034.95  
**Amount Avg CF:** 5.969288      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	228247.2	3.818384	6	46.22	1
4.50	4.51	4.54	92824.65	3.128283			2
4.60	4.62	4.64	337422.1	5.535517			3
4.65	4.67	4.69	311007.8	9.84694			4
4.97	4.98	5.01	446111.8	6.125903			5
5.15	5.17	5.19	436590.1	10.167368			6

**Height Summation:** 1852203.65  
**Amount Avg CF:** 6.437066      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	311007.8	5.943393	6	31.43	1
+ 4.79	4.79	4.83	18275.02	0.451348			2
4.79	4.80	4.83	126913	3.134441			2
4.97	4.98	5.01	446111.8	5.058764			3
5.15	5.17	5.19	436590.1	8.418585			4
+ 5.15	5.19	5.19	6430.424	0.123995			4
5.20	5.21	5.24	235194.9	7.941808			5
5.51	5.53	5.55	175177	6.721134			6

**Height Summation:** 1730994.6  
**Amount Avg CF:** 6.203536      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	436590.1	3.901985	6	91.43	1
5.20	5.21	5.24	235194.9	2.455175			2
5.33	5.35	5.37	276599.1	3.460619			3
5.39	5.41	5.43	324696.3	15.205653			4
5.51	5.53	5.55	175177	5.471654			5
5.72	5.74	5.76	404387.4	1.986089			6

**Height Summation:** 1852644.8  
**Amount Avg CF:** 5.413529      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866464 ACF      T0905      ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30.16 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

**Analysis Report (A)**

Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.124.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

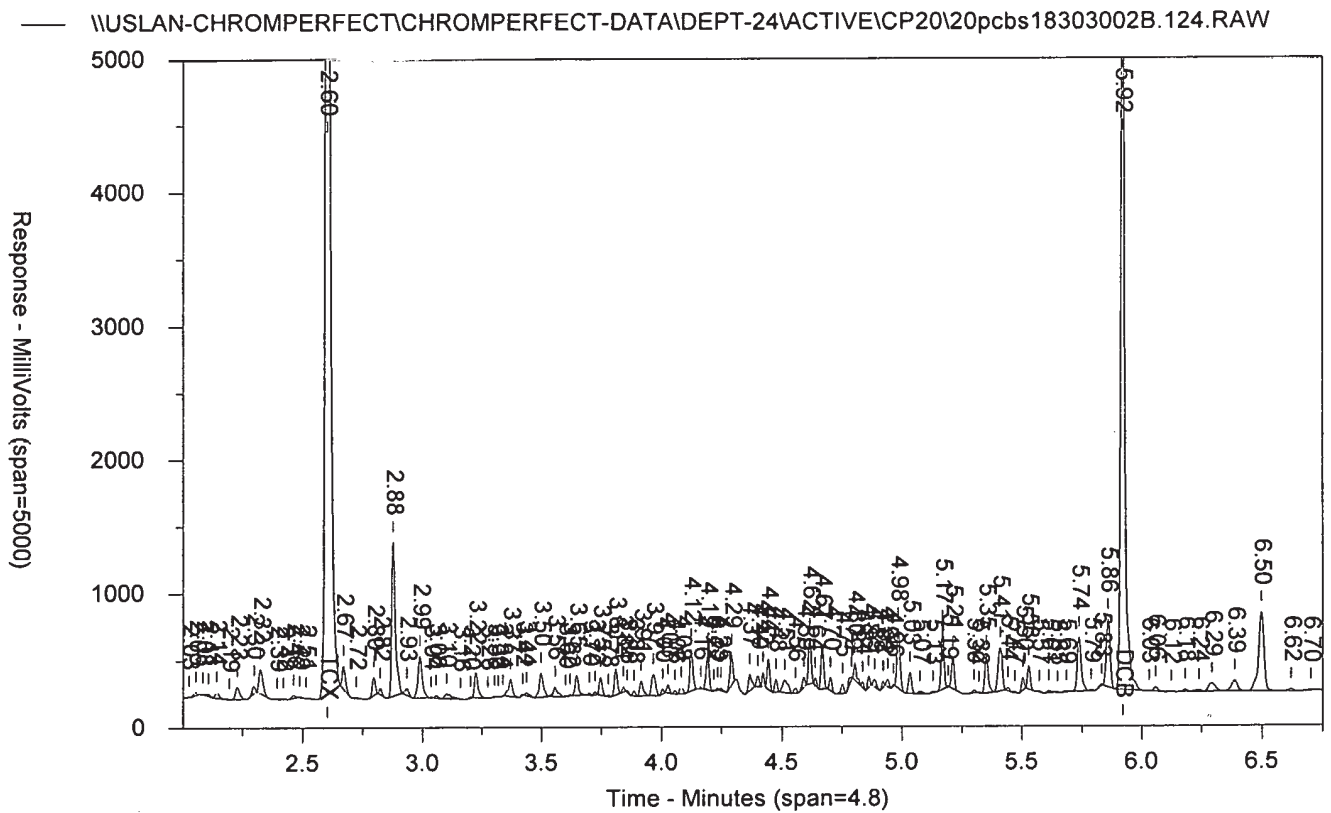
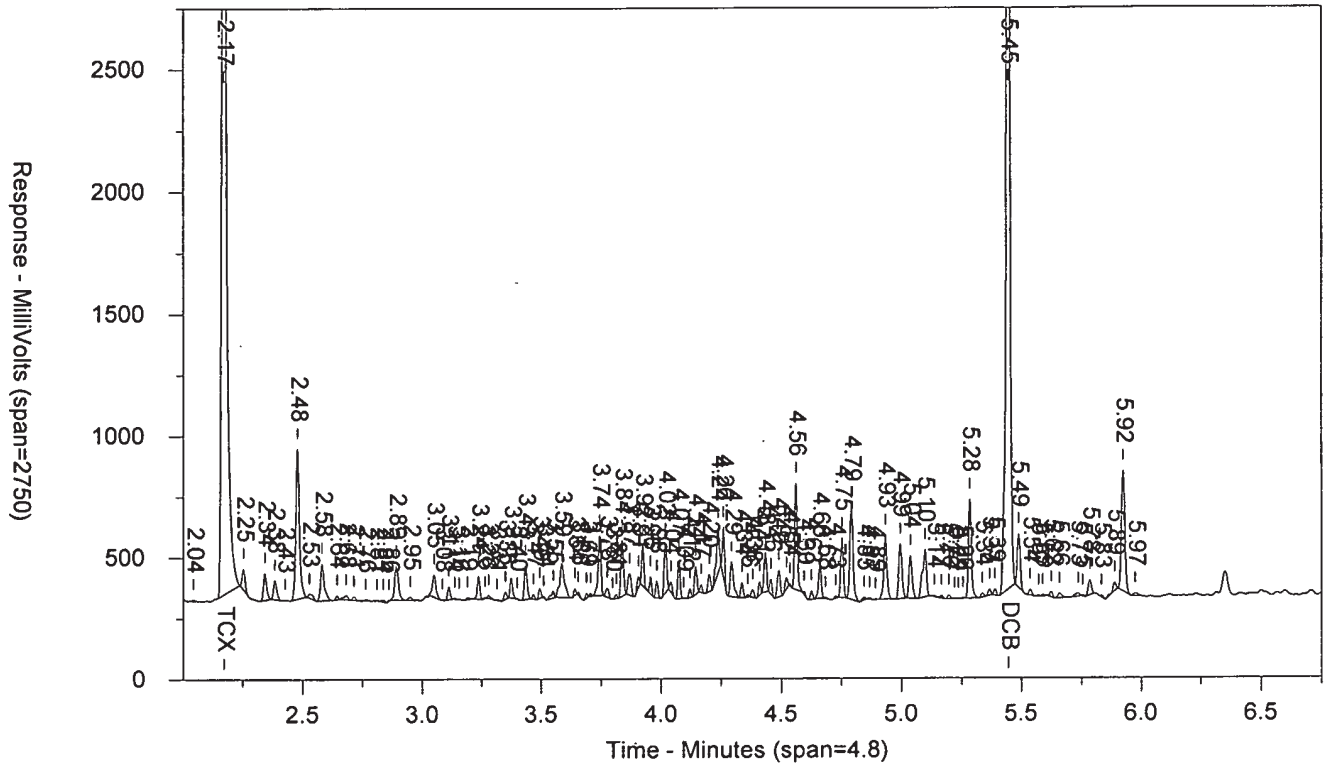
Injected on : Nov 01, 2018 17:59:13  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.124.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1260			16.9098	4.874		5.89	4	40	
Aroclor-1262			16.9098	3.2825		5.84	4	40	
Aroclor-1268			16.9098	3.2825		6.79	4	40	

Units: ug/kg

9866464 ACF ABT0905 T 183030017A 10885 SW-846 8082A Feb  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.124.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9866464 ACF ABT0905 T 183030017A 10885  
 Injected On: 11/1/2018 5:59:13 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

SW-846 8082A Feb 2007 R  
 Sample Weight: 30.16  
 Dilution Factor: 10

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

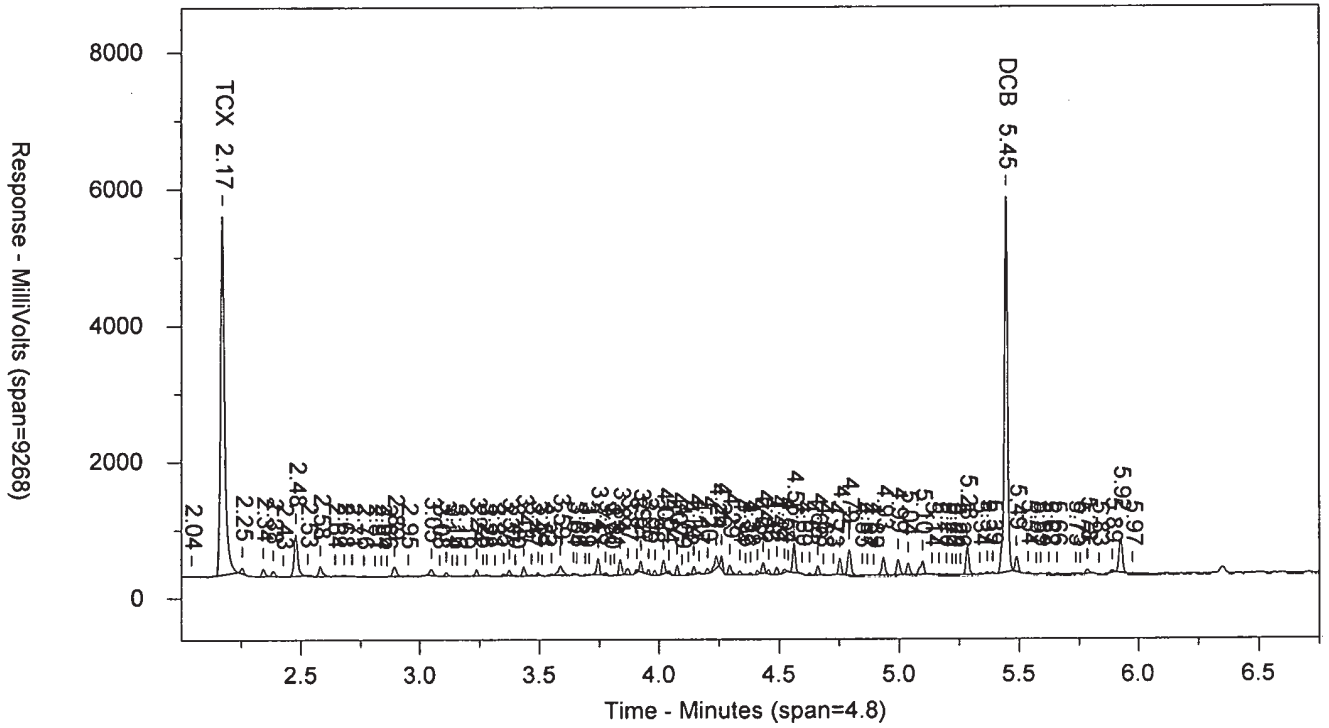
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	5272258	10.184	TCX	2.602	12472190	10.691	TCX
5.445	5518561	10.664	DCB	5.92	5587683	11.97	DCB

Files:

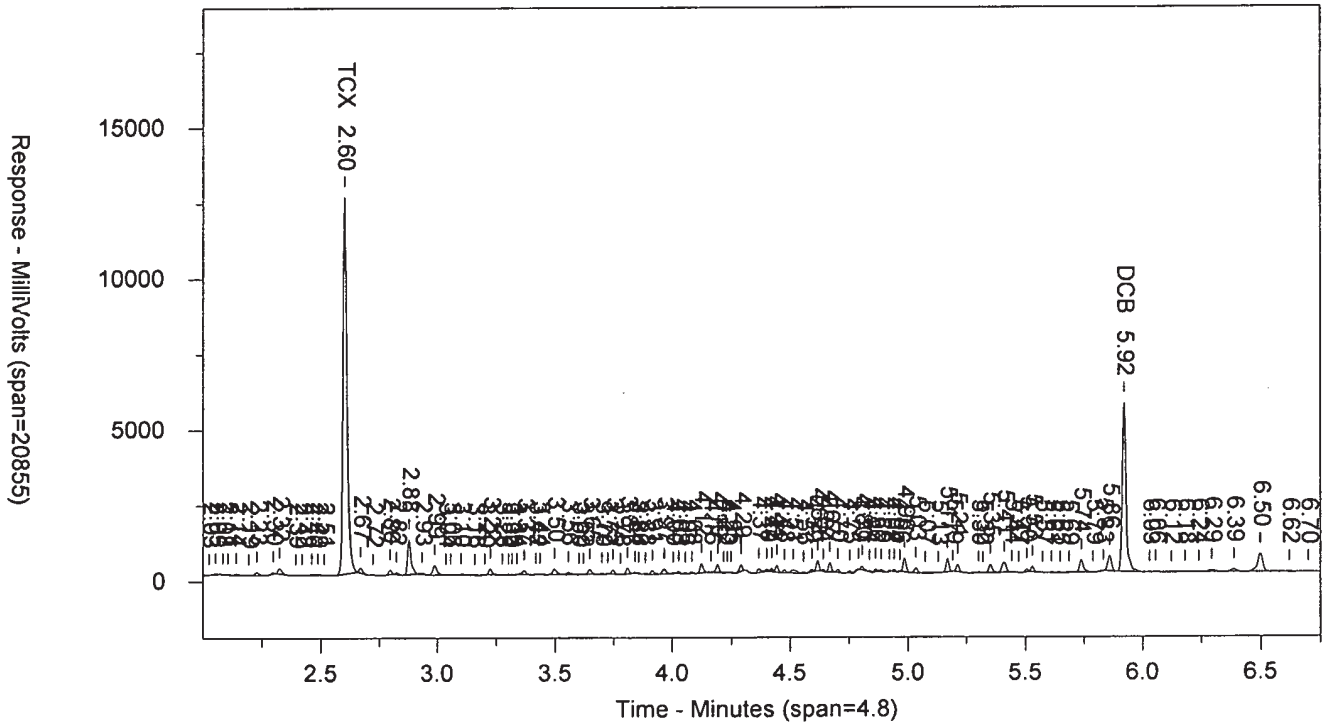
Area File: 20pcbs18303002.124.RAW  
 Area File: 20pcbs18303002B.124.RAW  
 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 6:07:23 PM  
 File Reported On: 11/1/2018 at 6:07:29 PM

9866464 ACF ABT0905 T 183030017A 10885 SW-846 8082A I

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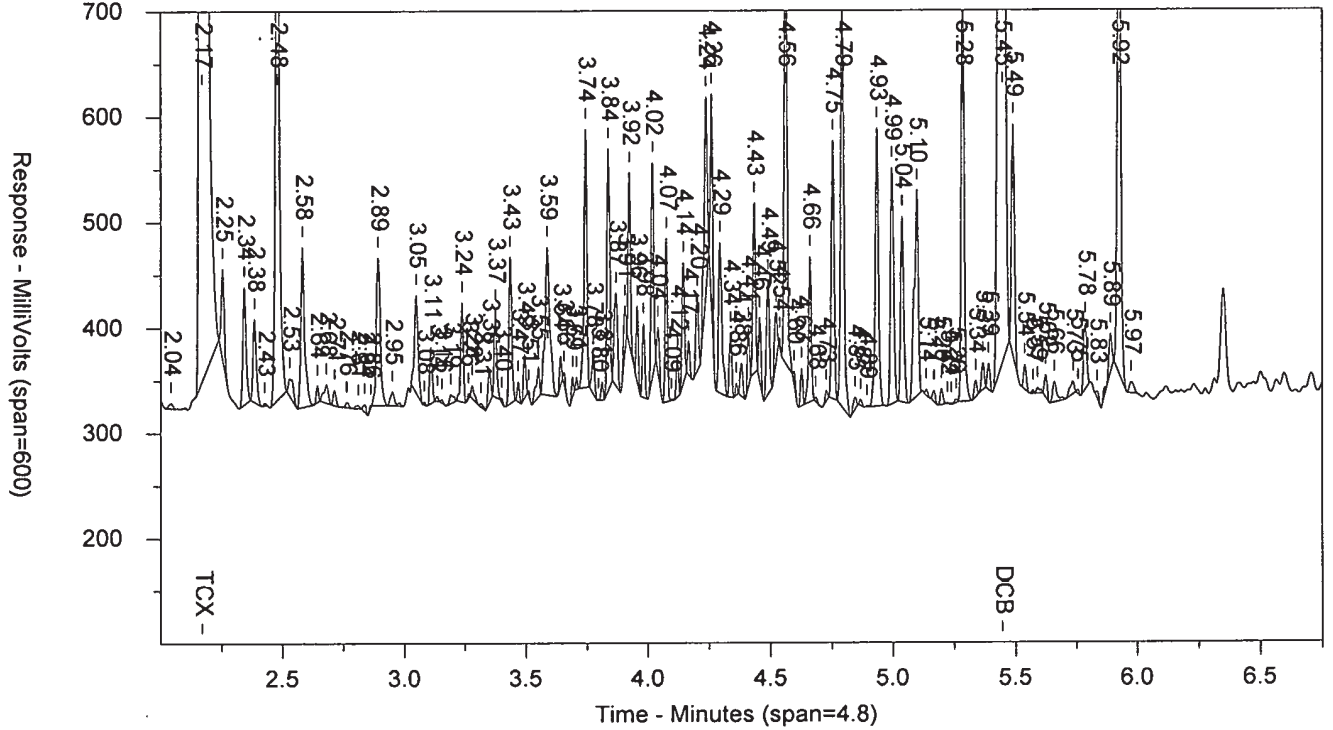
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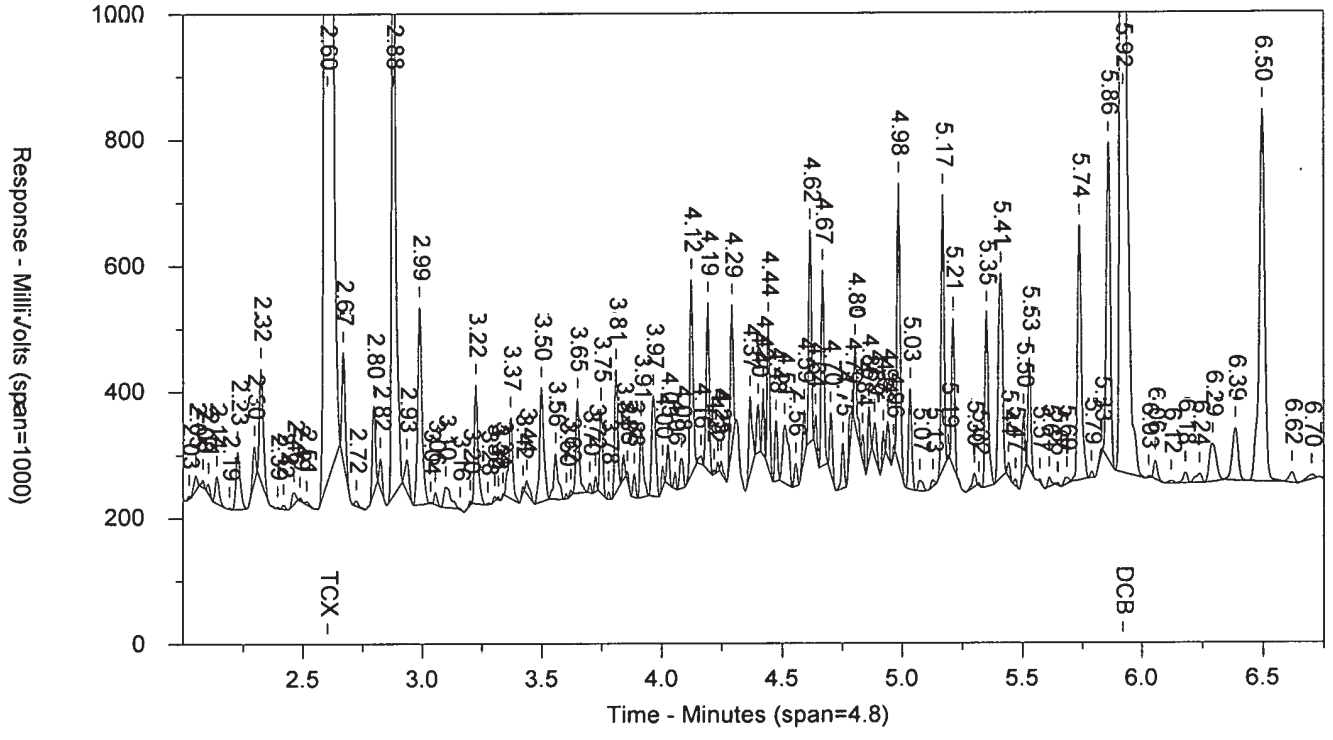


9866464 ACF ABT0905 T 183030017A 10885 SW-846 8082A I

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.124.RAW



# Data Summary

Sample Name: 9866465      ACF      T0906      Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30.47 g      Total Volume: 10 ml      Analyst: 13786      SDG: TID09      State: NY  
 Analyses: 10885

### Analysis Report (A)

Injected on Nov 01, 2018 18:09:42  
 Instrument 17342A  
 Result file 20PCBS18303002.125.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 109% (44 - 130) Conc: 10.79125  
 %SSR(DCB) 104% (45 - 143) Conc: 10.18065

### Analysis Report (B)

Injected on Nov 01, 2018 18:09:42  
 Instrument 17342B  
 Result file 20PCBS18303002B.125.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 111% (44 - 130) Conc: 10.91768  
 %SSR(DCB) 118% (45 - 143) Conc: 11.52969

### Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5644009	10.79125	Tetrachloro-m-xylene	2.57	2.60	2.63	12867070	10.91768
Decachlorobiphenyl	5.42	5.45	5.48	5322534	10.18065	Decachlorobiphenyl	5.89	5.92	5.95	5437619	11.52969

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	10.91768	0.4923	0.9846	0.9846		1.16	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.79125	0.4923	0.9846	0.9846			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	10.91768	0.4923	0.9846	0.9846			
<input type="checkbox"/> Decachlorobiphenyl	B	11.52969	0.4923	0.9846	0.9846		12.43	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	10.18065	0.4923	0.9846	0.9846			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	11.52969	0.4923	0.9846	0.9846			

### Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260								Aroclor-1260							
					25.52									28.85	
4.00	4.02	4.04	289953	5.980334	1			4.43	4.44	4.47	343709.7	5.691474			1
4.13	4.14	4.17	169400.1	7.000663	2			4.50	4.52	4.54	188450.7	6.200302			2
4.22	4.24	4.26	235488.9	6.931978	3			4.60	4.62	4.64	433742.1	7.043283			3
4.42	4.43	4.46	262017.4	9.300672	4			4.65	4.67	4.69	319835.8	10.02342			4
4.54	4.56	4.58	679352.1	10.652293	5			4.97	4.98	5.01	727059.6	9.882238			5
4.77	4.79	4.81	524912.4	11.8024	6			5.15	5.17	5.19	509694.6	11.749072			6
Height summation:				2161211.9				Height summation:				2522492.5			
Concentration				CF: 8.758057	L:			Concentration				CF: 8.445975	L:		

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<3.5445	<9.8457	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<4.529	<9.8457	<16.7378	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<7.8766	<15.7532	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<3.2491	<9.8457	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<3.2491	<9.8457	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<3.2491	<9.8457	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1260	A	8.758057	4.8244	<9.8457	<16.7378	JD1	3.63	4	
<input checked="" type="checkbox"/> PCB-1262			<3.2491	<9.8457	<16.7378	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<3.2491	<9.8457	<16.7378	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

Reviewed and digitally signed by Covenant Mutuku on 11/2/2018 16:09:33

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866465 ACF      T0906      ID: AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.47 g      Total Volume: 10 ml      Analyst: 9065      SDG: TID09      State: NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.125.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 109% (44-130)      Conc.: 10.79125  
 %SSR(DCB) : 104% (45-143)      Conc.: 10.18065

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	259994.6	23.799827	5	159.05	1
+ 2.81	2.81	2.85	2005.374	0.239953			2
2.81	2.84	2.85	9897.979	1.184344			2
2.93	2.94	2.97	18959.9	0.525316			3
3.09	3.11	3.13	87720.12	5.352283			5
+ 3.25	3.27	3.29	6582.208	0.352546			6
3.25	3.28	3.29	10453.11	0.559873			6

**Height Summation:** 387025.709  
**Amount Avg CF:** 6.284329      Linear:

<b>Aroclor-1221</b>							
2.33	2.34	2.37	19391.79	2.712576	3	131.25	1
2.40	2.43	2.44	3327.335	0.695464			2
2.45	2.48	2.49	259994.6	17.294015			3

**Height Summation:** 282713.725  
**Amount Avg CF:** 6.900685      Linear:

<b>Aroclor-1232</b>							
2.45	2.48	2.49	259994.6	21.481029	5	114.41	1
+ 2.81	2.81	2.85	2005.374	0.490769			2
2.81	2.84	2.85	9897.979	2.422304			2
2.93	2.94	2.97	18959.9	1.139709			3
3.09	3.11	3.13	87720.12	13.944458			5
+ 3.25	3.27	3.29	6582.208	0.822942			6
3.25	3.28	3.29	10463.11	1.306902			6

**Height Summation:** 387025.709  
**Amount Avg CF:** 8.05888      Linear:

<b>Aroclor-1242</b>							
2.45	2.48	2.49	259994.6	27.530009	5	155.17	1
+ 2.81	2.81	2.85	2005.374	0.278104			2
2.81	2.84	2.85	9897.979	1.372645			2
2.93	2.94	2.97	18959.9	0.631788			3
3.09	3.11	3.13	87720.12	6.975073			5
+ 3.25	3.27	3.29	6582.208	0.426505			6
3.25	3.28	3.29	10453.11	0.677327			6

**Height Summation:** 387025.709  
**Amount Avg CF:** 7.437368      Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	87720.12	3.822935	5	56.75	2
+ 3.25	3.27	3.29	6582.208	0.253803			3
3.25	3.28	3.29	10453.11	0.40306			3
3.33	3.35	3.37	39227.17	1.900838			4
3.48	3.49	3.52	105028.2	3.492947			5
+ 3.60	3.62	3.64	6408.982	0.618064			6
3.60	3.64	3.64	24989.63	2.409928			6

**Height Summation:** 267418.23  
**Amount Avg CF:** 2.405942      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.125.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 111% (44-130)      Conc.: 10.91768  
 %SSR(DCB) : 118% (45-143)      Conc.: 11.52969

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	150444.1	6.252419	5	111.18	1
3.32	3.34	3.36	6093.949	0.197248			3
3.41	3.44	3.45	27055.59	1.04333			4
3.50	3.50	3.54	238774.4	8.770404			5
3.58	3.60	3.62	24291.63	0.965711			6
+ 3.58	3.62	3.62	7348.659	0.292145			6

**Height Summation:** 446659.669  
**Amount Avg CF:** 3.445822      Linear:

<b>Aroclor-1221</b>							
2.78	2.80	2.82	150444.1	4.617405	1		3

**Height Summation:** 150444.1  
**Amount Avg CF:** 4.617405      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	150444.1	5.730568	5	135.73	1
3.32	3.34	3.36	6093.949	0.417992			3
3.41	3.44	3.45	27055.59	2.268885			4
3.50	3.50	3.54	238774.4	22.33113			5
3.58	3.60	3.62	24291.63	2.362534			6
+ 3.58	3.62	3.62	7348.659	0.714709			6

**Height Summation:** 446659.669  
**Amount Avg CF:** 6.622222      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	150444.1	7.616527	5	113.95	1
3.32	3.34	3.36	6093.949	0.229078			3
3.41	3.44	3.45	27055.59	1.260465			4
3.50	3.50	3.54	238774.4	11.548191			5
3.58	3.60	3.62	24291.63	1.181398			6
+ 3.58	3.62	3.62	7348.659	0.357394			6

**Height Summation:** 446659.669  
**Amount Avg CF:** 4.367132      Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	27055.59	1.788298	6	76.23	1
3.47	3.50	3.51	238774.4	6.69885			2
3.58	3.60	3.62	24291.63	0.649582			3
+ 3.58	3.62	3.62	7348.659	0.19651			3
+ 3.68	3.70	3.72	24503.21	1.178501			4
3.68	3.72	3.72	33231.82	1.59831			4
3.87	3.88	3.91	86218.94	2.436305			5
3.95	3.97	3.99	182254.2	4.551727			6

**Height Summation:** 591826.58  
**Amount Avg CF:** 2.953845      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866465 ACF      **T0906**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.47 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

## Analysis Report (A)

Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.125.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	48282.1	1.816486	6	81.79	1
3.82	3.84	3.86	206711.5	4.167454			2
3.94	3.96	3.98	82451.31	2.846224			3
4.00	4.02	4.04	289953	13.124668			4
+ 4.00	4.04	4.04	34389.83	1.556649			4
4.15	4.17	4.19	44497	2.470784			5
4.22	4.24	4.26	235488.9	6.911538			6

Height Summation: 907383.81  
 Amount Avg CF: 5.222859 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	289953	5.980334	6	25.52	1
4.13	4.14	4.17	169488.1	7.880663			2
+ 4.13	4.17	4.17	44497	2.06897			2
4.22	4.24	4.26	235488.9	6.931978			3
4.42	4.43	4.46	262017.4	9.300672			4
4.54	4.56	4.58	679352.1	10.652293			5
4.77	4.79	4.81	524912.4	11.8024			6

Height Summation: 2161211.9  
 Amount Avg CF: 8.758057 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	198182.7	4.869726	6	28.64	1
4.42	4.43	4.46	262017.4	6.642319			2
+ 4.42	4.46	4.46	53206.56	1.348822			2
4.55	4.56	4.59	679352.1	9.095725			3
4.74	4.75	4.78	180268.3	6.227833			4
4.78	4.79	4.82	524912.4	10.960109			5
5.08	5.10	5.12	192183.4	7.732025			6
+ 5.08	5.12	5.12	3518.447	0.141556			6

Height Summation: 2036916.3  
 Amount Avg CF: 7.59629 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	180268.3	1.828448	6	73.09	1
4.77	4.79	4.81	524912.4	6.275447			2
4.92	4.93	4.96	190379.9	2.585448			3
4.98	4.99	5.02	199522.6	9.897963			4
5.08	5.10	5.12	192183.4	6.222757			5
+ 5.08	5.12	5.12	3518.447	0.113925			5
5.27	5.28	5.31	211654.8	1.071458			6

Height Summation: 1498921.4  
 Amount Avg CF: 4.64692 Linear:

## Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.7378	3.5445		** 58.34	4	40	
Aroclor-1221			16.7378	4.529		39.65	3	5	
Aroclor-1232			16.7378	7.8766		19.57	4	40	
Aroclor-1242			16.7378	3.2491		** 52.02	4	30	
Aroclor-1248			16.7378	3.2491		20.44	4	40	

## Analysis Report (B)

Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.125.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	171368.6	2.646623	6	57.50	1
4.27	4.29	4.31	342087.9	14.086848			2
4.35	4.37	4.39	141787.9	3.01272			3
4.43	4.44	4.47	343709.7	12.379465			4
4.51	4.52	4.55	188450.7	7.638235			5
4.60	4.62	4.64	433742.1	9.747026			6

Height Summation: 1621146.9  
 Amount Avg CF: 8.251819 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	343709.7	5.691474	6	28.85	1
4.50	4.52	4.54	188450.7	6.286362			2
4.60	4.62	4.64	433742.1	7.043283			3
4.65	4.67	4.69	319835.8	10.02342			4
4.97	4.98	5.01	727059.6	9.882238			5
5.15	5.17	5.19	509694.6	11.749072			6

Height Summation: 2522492.5  
 Amount Avg CF: 8.445975 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	319835.8	6.049913	6	18.56	1
4.79	4.80	4.83	345549.3	8.447398			2
4.97	4.98	5.01	727059.6	8.160742			3
5.15	5.17	5.19	509694.6	9.728237			4
+ 5.15	5.19	5.19	26144.67	0.499008			4
5.20	5.21	5.24	181833.7	6.079862			5
5.51	5.53	5.55	205917.7	7.820203			6

Height Summation: 2289890.7  
 Amount Avg CF: 7.714392 Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	509694.6	4.509004	6	85.41	1
5.20	5.21	5.24	181833.7	1.878831			2
5.33	5.35	5.37	198134.5	2.453703			3
5.39	5.41	5.43	256933.3	11.90987			4
5.51	5.53	5.55	205917.7	6.366402			5
5.72	5.74	5.76	227784.3	1.107347			6

Height Summation: 1580298.1  
 Amount Avg CF: 4.704193 Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866465 ACF      T0906      ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30.47 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

**Analysis Report (A)**

Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.125.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

**Analysis Report (B)**

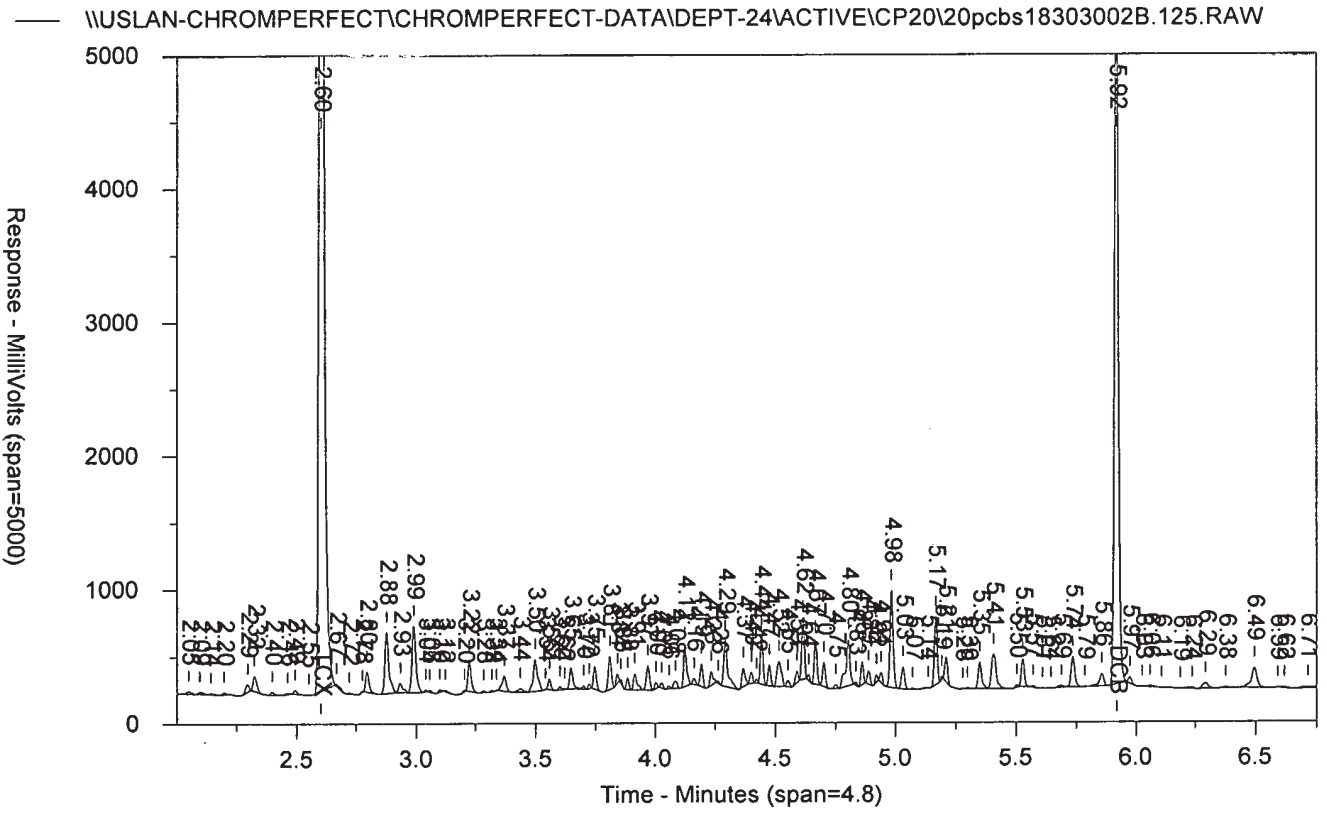
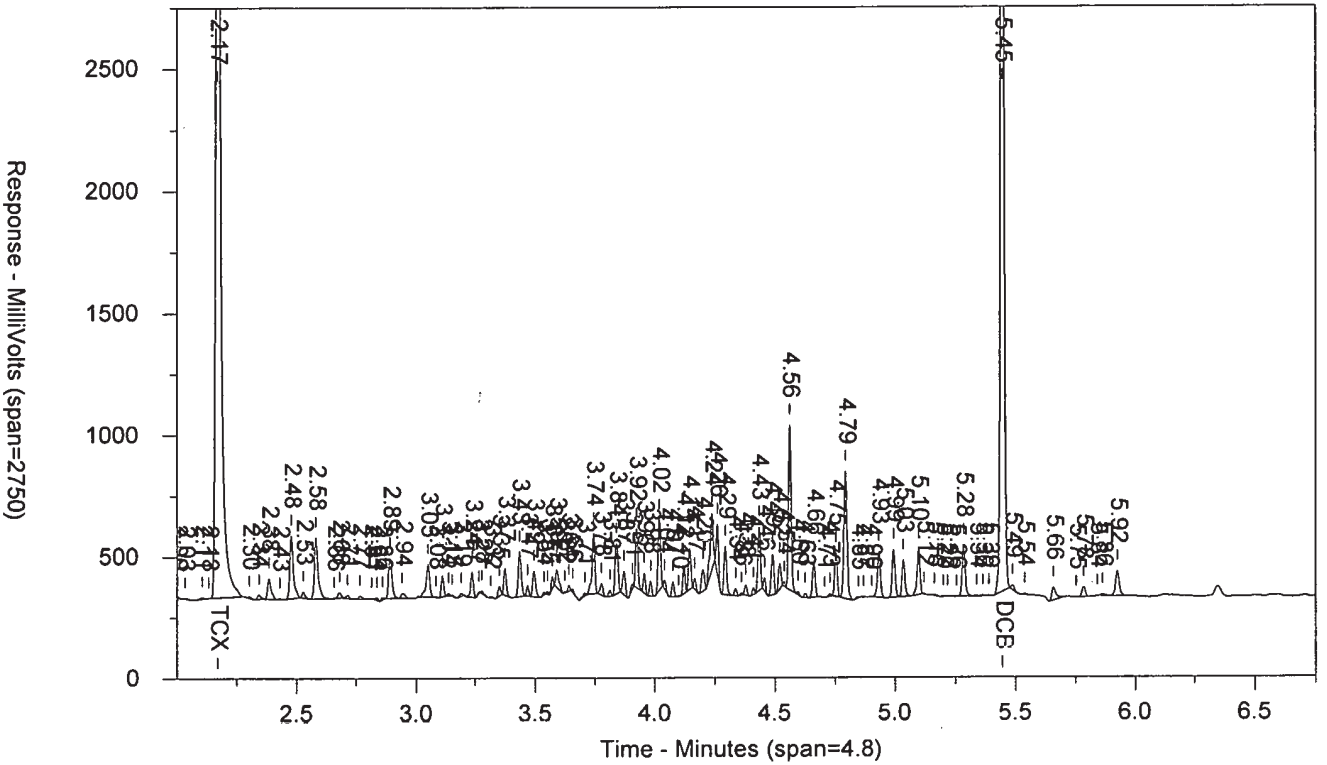
Injected on : Nov 01, 2018 18:09:42  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.125.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1254			16.7378	3.2491	—	** 44.96	4	40	
Aroclor-1260			16.7378	4.8244	—	3.63	4	40	
Aroclor-1262			16.7378	3.2491	—	1.54	4	40	
Aroclor-1268			16.7378	3.2491	—	1.22	4	40	

Units: ug/kg

9866465 ACF ABT0906 T 183030017A 10885 SW-846 8082A Feb  
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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9866465 ACF ABT0906 T 183030017A 10885  
Injected On: 11/1/2018 6:09:42 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082A Feb 2007 R  
Sample Weight: 30.47  
Dilution Factor: 10

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	5644009	10.791	TCX	2.602	12867070	10.918	TCX
5.445	5322534	10.181	DCB	5.918	5437619	11.53	DCB

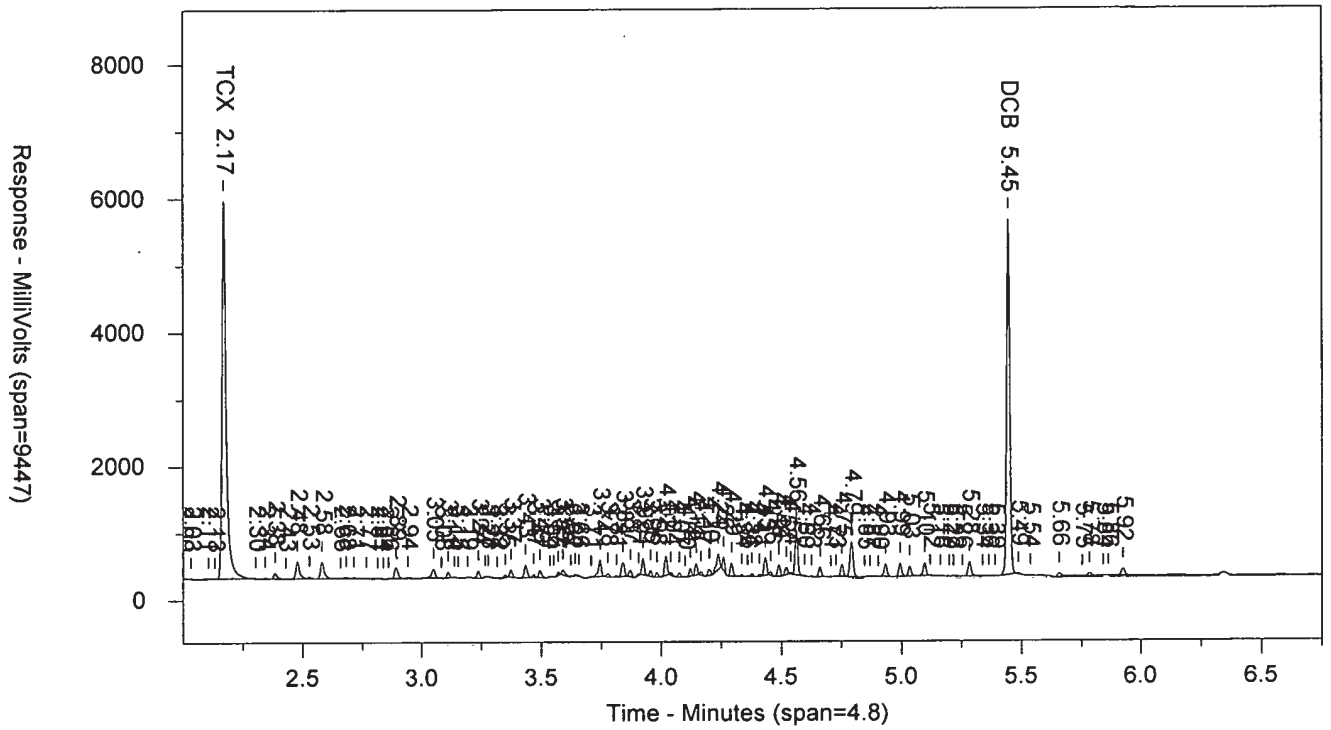
Files:

Area File: 20pcbs18303002.125.RAW  
Area File: 20pcbs18303002B.125.RAW  
Method A: 20PCBA.MET  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 6:17:52 PM  
File Reported On: 11/1/2018 at 6:17:57 PM

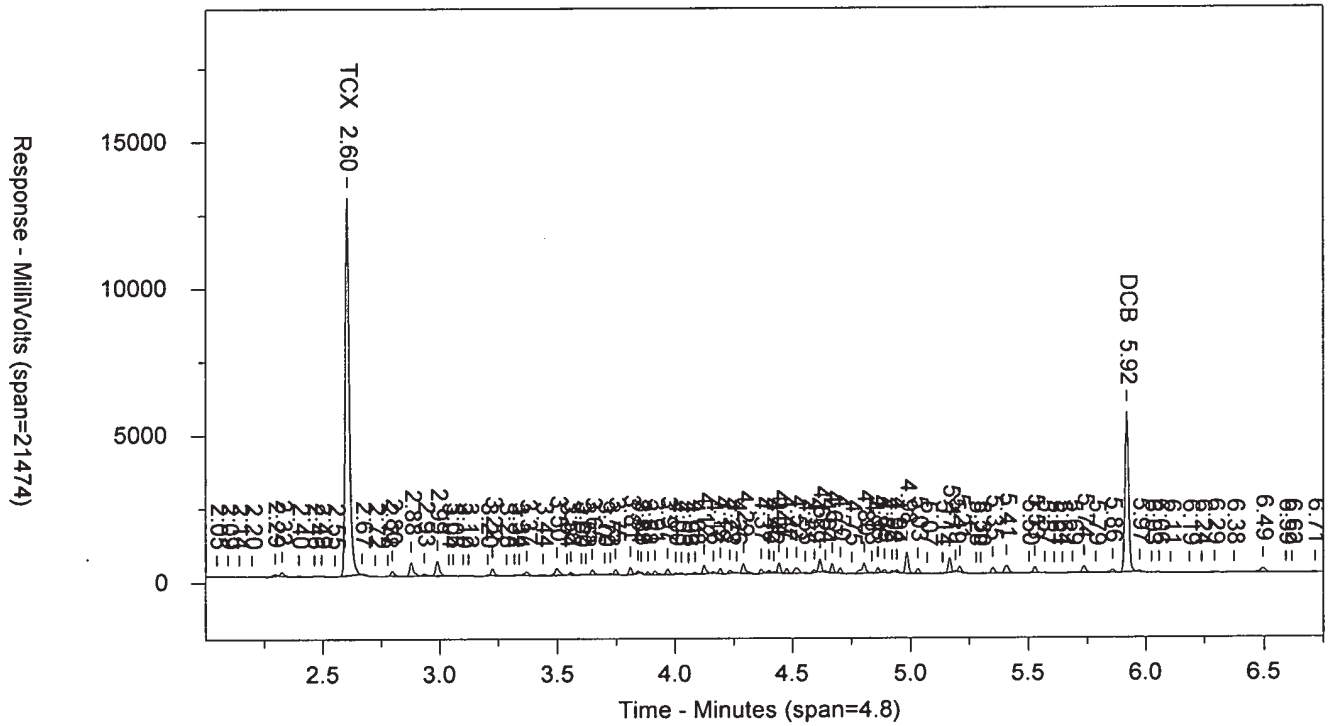
Chrom Perfect Chromatogram Report

9866465 ACF ABT0906 T 183030017A 10885 SW-846 8082A I

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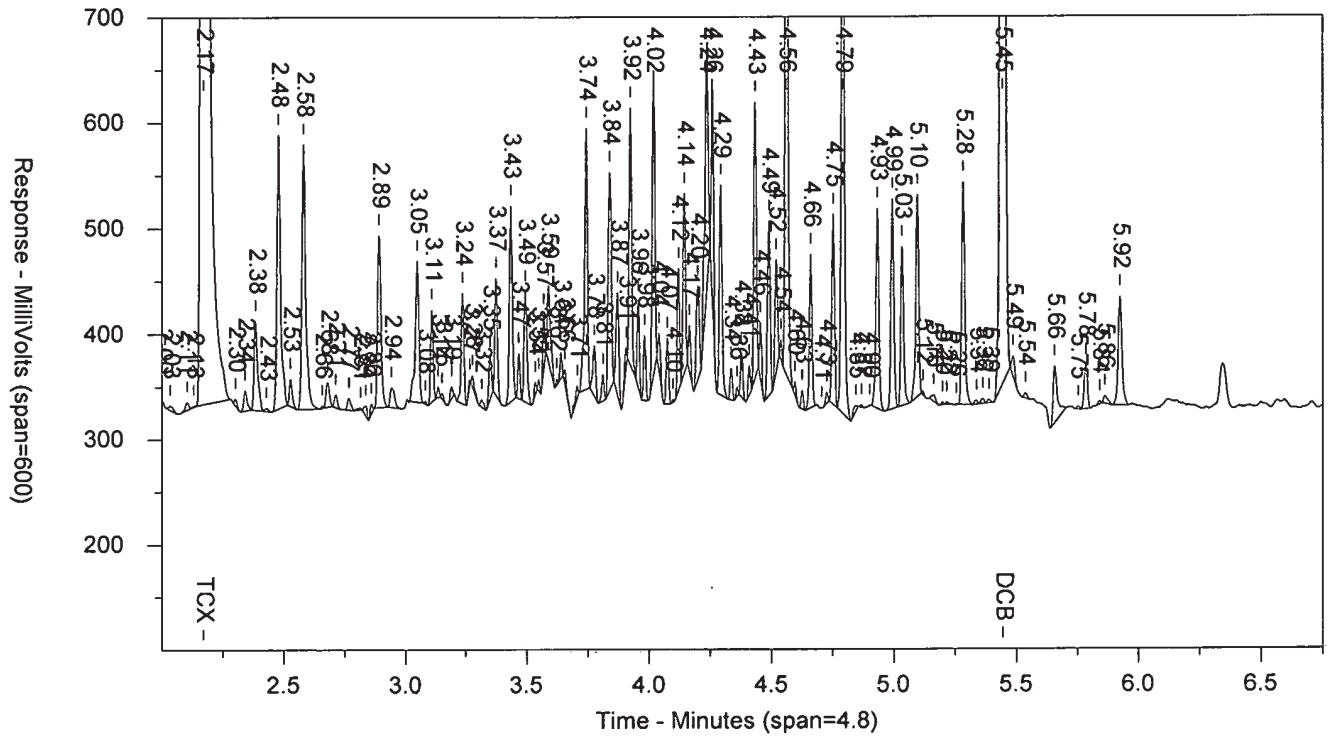
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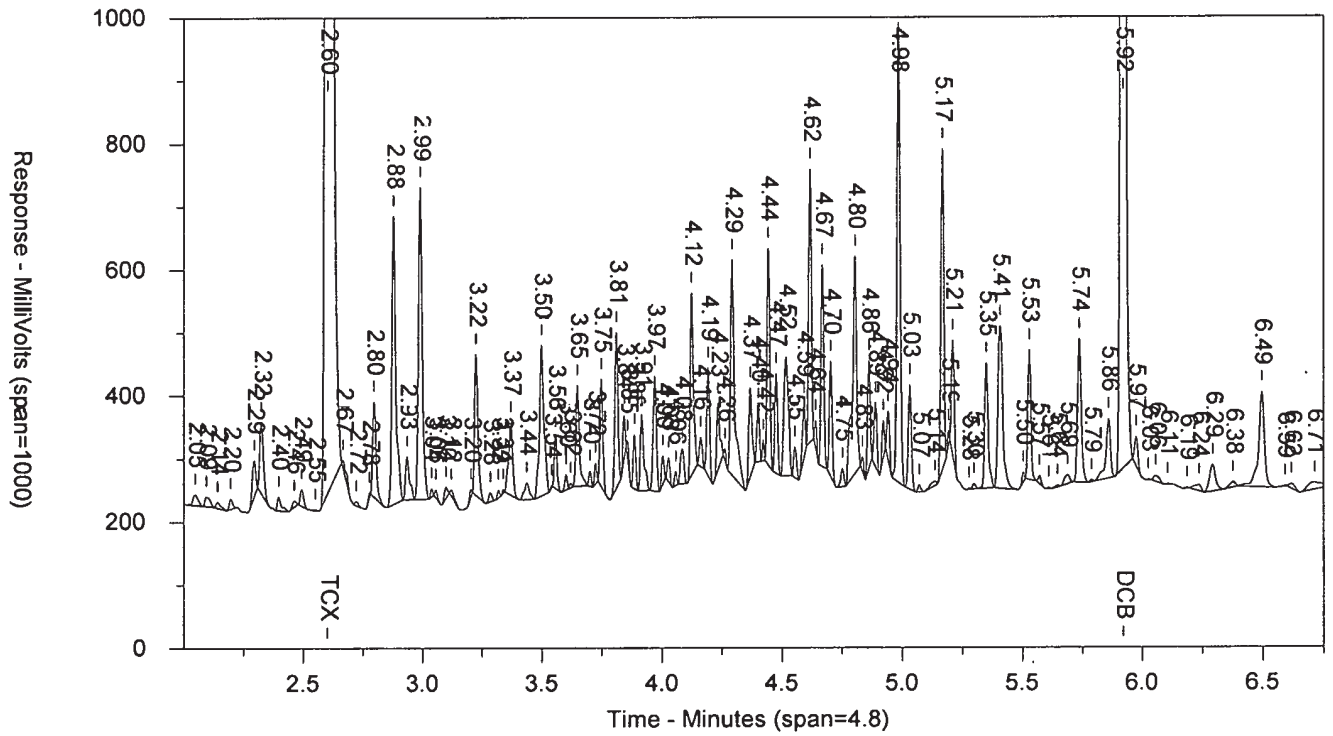


9866465 ACF ABT0906 T 183030017A 10885 SW-846 8082A I

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.125.RAW



# Data Summary

Sample Name: **9866466** ACF T0907 Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30.07 g Total Volume: 10 ml Analyst: 13786 SDG: TID09 State: NY  
 Analyses: 10885

### Analysis Report (A)

Injected on Nov 01, 2018 18:20:11  
 Instrument 17342A  
 Result file 20PCBS18303002.126.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 86% (44 - 130) Conc: 8.631503  
 %SSR(DCB) \* 340% (45 - 143) Conc: 33.60291

### Analysis Report (B)

Injected on Nov 01, 2018 18:20:11  
 Instrument 17342B  
 Result file 20PCBS18303002B.126.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 90% (44 - 130) Conc: 9.051462  
 %SSR(DCB) \* 433% (45 - 143) Conc: 42.80692

### Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	4455160	8.631503	Tetrachloro-m-xylene	2.57	2.60	2.63	10527590	9.051462
Decachlorobiphenyl	5.42	5.44	5.48	17337270	33.60291	Decachlorobiphenyl	5.89	5.92	5.95	19923520	42.80692

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	9.051462	0.4988	0.9977	0.9977		4.75	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	8.631503	0.4988	0.9977	0.9977			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	9.051462	0.4088	0.9977	0.9977			
<input type="checkbox"/> Decachlorobiphenyl	B	42.80692	0.4988	0.9977	0.9977		24.09	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	33.60291	0.4988	0.9977	0.9977			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	42.80692	0.4988	0.9977	0.9977			

### Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak								
Aroclor-1260								Aroclor-1260															
								15.98								25.96							
4.00	4.02	4.04	1500211	31.353728	1			4.43	4.44	4.47	1640602	27.528038			1								
4.13	4.14	4.17	728979.6	34.34614	2			4.50	4.51	4.54	662007.3	22.37708			2								
4.22	4.24	4.26	1295567	38.644317	3			4.60	4.62	4.64	2504943	41.217384			3								
4.42	4.43	4.46	847540.6	30.484828	4			4.97	4.98	5.01	2380106	32.78088			5								
4.54	4.56	4.58	2071811	32.918297	5			Height summation:			7187658.3												
4.77	4.79	4.81	1999662	45.559517	6			Concentration			CF: 30.975846			L:									
Height summation:				8443771.2																			
Concentration				CF: 35.551138			L:																

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<3.5916	<9.9767	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<4.5893	<9.9767	<16.9604	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<7.9814	<15.9628	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<3.2923	<9.9767	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<3.2923	<9.9767	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<3.2923	<9.9767	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1260	A	35.551138	4.8886	9.9767	16.9604	D1	13.75	4	
<input checked="" type="checkbox"/> PCB-1262			<3.2923	<9.9767	<16.9604	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<3.2923	<9.9767	<16.9604	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

Reviewed and digitally signed by Covenant Mutuku on 11/2/2018 16:09:35

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866466 ACF      **T0907**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.07 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.126.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 86% (44-130)      Conc.: 8.631503  
 %SSR(DCB) : \*340% (45-143)      Conc.: 33.60291

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	512931.1	47.578148	5	136.63	1
+ 2.81	2.81	2.85	5170.5	0.626907			2
2.81	2.85	2.85	36191.84	4.388144			2
2.93	2.95	2.97	14509.15	0.407348			3
3.09	3.11	3.13	291949.2	18.050372			5
+ 3.25	3.26	3.29	19165.35	1.04016			6
3.25	3.28	3.29	36122.09	1.960452			6

**Height Summation:** 891703.38  
**Amount Avg CF:** 14.476893      Linear:

<b>Aroclor-1221</b>							
2.33	2.34	2.37	42355.87	6.003667	3	128.97	1
2.40	2.43	2.44	6158.959	1.304441			2
2.45	2.48	2.49	512931.1	34.572403			3

**Height Summation:** 561445.929  
**Amount Avg CF:** 13.96017      Linear:

<b>Aroclor-1232</b>							
2.45	2.48	2.49	512931.1	42.942647	5	106.49	1
+ 2.81	2.81	2.85	5170.5	1.282194			2
2.81	2.85	2.85	36191.84	8.974944			2
2.93	2.95	2.97	14509.15	0.883769			3
3.09	3.11	3.13	291949.2	47.02716			5
+ 3.25	3.26	3.29	19165.35	2.428025			6
3.25	3.28	3.29	36122.09	1.676246			6

**Height Summation:** 891703.38  
**Amount Avg CF:** 20.880953      Linear:

<b>Aroclor-1242</b>							
2.45	2.48	2.49	512931.1	55.03514	5	132.98	1
+ 2.81	2.81	2.85	5170.5	0.72658			2
2.81	2.85	2.85	36191.84	5.085825			2
2.93	2.95	2.97	14509.15	0.48991			3
3.09	3.11	3.13	291949.2	23.523171			5
+ 3.25	3.26	3.29	19165.35	1.258371			6
3.25	3.28	3.29	36122.09	2.371727			6

**Height Summation:** 891703.38  
**Amount Avg CF:** 17.301155      Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	291949.2	12.892704	5	64.05	2
+ 3.25	3.26	3.29	19165.35	0.748825			3
3.25	3.28	3.29	36122.09	1.411355			3
+ 3.33	3.35	3.37	100384.8	4.929071			4
3.33	3.37	3.37	252804.3	12.413138			4
3.48	3.49	3.52	783401	26.400322			5
3.60	3.64	3.64	210603.9	20.580206			6

**Height Summation:** 1574880.49  
**Amount Avg CF:** 14.739545      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.126.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 90% (44-130)      Conc.: 9.051462  
 %SSR(DCB) : \*433% (45-143)      Conc.: 42.80692

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	115243	4.853181	5	103.16	1
+ 2.78	2.82	2.82	17325.29	0.729613			1
3.32	3.34	3.36	4127.917	0.135389			3
3.41	3.44	3.45	489430	19.124685			4
3.50	3.50	3.54	544559	20.26823			5
3.58	3.60	3.62	55855.03	2.250048			6
+ 3.58	3.62	3.62	22540.09	0.907999			6

**Height Summation:** 1209214.947  
**Amount Avg CF:** 9.326307      Linear:

<b>Aroclor-1221</b>							
2.68	2.72	2.72	17273.14	1.54085	3	90.91	1
2.73	2.77	2.77	2892.57	0.319003			2
2.78	2.80	2.82	115243	3.584069			3
+ 2.78	2.82	2.82	17325.29	0.538818			3

**Height Summation:** 135408.71  
**Amount Avg CF:** 1.814641      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	115243	4.448116	5	116.00	1
+ 2.78	2.82	2.82	17325.29	0.668717			1
3.32	3.34	3.36	4127.917	0.286906			3
3.41	3.44	3.45	489430	41.589624			4
3.50	3.50	3.54	544559	51.606797			5
3.50	3.60	3.02	55855.03	5.504582			6
+ 3.58	3.62	3.62	22540.09	2.221345			6

**Height Summation:** 1209214.947  
**Amount Avg CF:** 20.687201      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	115243	5.912013	5	104.60	1
+ 2.78	2.82	2.82	17325.29	0.888794			1
3.32	3.34	3.36	4127.917	0.157237			3
3.41	3.44	3.45	489430	23.104862			4
3.50	3.50	3.54	544559	26.687638			5
3.58	3.60	3.62	55855.03	2.752587			6
+ 3.58	3.62	3.62	22540.09	1.110796			6

**Height Summation:** 1209214.947  
**Amount Avg CF:** 11.722867      Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	489430	32.780264	6	88.72	1
3.47	3.50	3.51	544559	15.48091			2
3.58	3.60	3.62	55855.03	1.513487			3
+ 3.58	3.62	3.62	22540.09	0.610762			3
3.68	3.70	3.72	109035.9	5.313926			4
+ 3.68	3.72	3.72	74118.97	3.612229			4
3.87	3.89	3.91	272270	7.795927			5
3.95	3.97	3.99	1416283	35.841626			6

**Height Summation:** 2887432.93  
**Amount Avg CF:** 16.454357      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866466 ACF      **T0907**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.07 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.126.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.77	3.80	387044.2	14.755211	6	71.96	1
3.82	3.84	3.86	1680214	34.324944			2
3.94	3.95	3.98	394657	13.804807			3
4.00	4.02	4.04	1500211	68.810083			4
4.15	4.17	4.19	220985.5	12.433886			5
4.22	4.24	4.26	1295567	38.530367			6
+ 4.22	4.26	4.26	1123958	33.426688			6

**Height Summation:** 5478678.7  
**Amount Avg CF:** 30.443216      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	1500211	31.353728	6	15.98	1
4.13	4.14	4.17	728979.6	34.34614			2
+ 4.13	4.17	4.17	220985.5	10.411812			2
4.22	4.24	4.26	1295567	38.644317			3
+ 4.22	4.26	4.26	1123958	33.525544			3
4.42	4.43	4.46	847540.6	30.484828			4
+ 4.42	4.45	4.46	383052.2	13.777842			4
4.54	4.56	4.58	2071811	32.918297			5
4.77	4.79	4.81	1999662	45.559517			6

**Height Summation:** 8443771.2  
**Amount Avg CF:** 35.551138      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.26	4.28	1123958	27.985166	6	40.03	1
4.42	4.43	4.46	847540.6	21.771539			2
+ 4.42	4.45	4.46	383052.2	9.839807			2
4.55	4.56	4.59	2071811	28.108106			3
4.74	4.75	4.78	1777846	62.736977			4
4.78	4.79	4.82	1999662	42.308114			5
5.08	5.10	5.12	924864.2	37.704604			6
+ 5.08	5.12	5.12	6770.918	0.276035			6

**Height Summation:** 8745681.8  
**Amount Avg CF:** 36.769084      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.75	4.77	1777846	18.272438	6	34.62	1
4.77	4.79	4.81	1999662	24.224423			2
4.92	4.93	4.96	2904702	39.971947			3
4.98	4.99	5.02	998822.8	50.208955			4
5.08	5.10	5.12	924864.2	30.344776			5
+ 5.08	5.12	5.12	6770.918	0.222154			5
5.27	5.28	5.31	6644423	34.083417			6

**Height Summation:** 15250320  
**Amount Avg CF:** 32.850993      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.9604	3.5916		** 43.28	4	40	
Aroclor-1221			16.9604	4.5893		** 153.99	3	5	
Aroclor-1232			16.9604	7.9814		0.93	4	40	

### Analysis Report (B)

Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.126.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	2558475	40.038802	6	47.52	1
4.27	4.29	4.31	1829132	76.323834			2
4.35	4.37	4.39	819969.4	17.654532			3
4.43	4.44	4.47	1640602	59.875943			4
4.51	4.51	4.55	662007.3	27.18924			5
4.60	4.62	4.64	2504943	57.039723			6
+ 4.60	4.64	4.64	323170.1	7.358863			6

**Height Summation:** 10015128.7  
**Amount Avg CF:** 46.353679      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.44	4.47	1640602	27.528038	6	44.71	1
4.50	4.51	4.54	662007.3	22.37708			2
4.60	4.62	4.64	2504943	41.217384			3
+ 4.60	4.64	4.64	323170.1	5.317577			3
4.65	4.67	4.69	1818415	57.745867			4
4.97	4.98	5.01	2380106	32.78088			5
5.15	5.17	5.19	3042675	71.070299			6

**Height Summation:** 12048748.3  
**Amount Avg CF:** 42.119925      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.65	4.67	4.69	1818415	34.854117	6	42.46	1
4.79	4.80	4.83	623541.4	15.446043			2
4.97	4.98	5.01	2380106	27.070416			3
5.15	5.17	5.19	3042675	58.846237			4
+ 5.15	5.19	5.19	24716.72	0.478029			4
5.20	5.21	5.24	1607662	54.469463			5
5.51	5.53	5.55	1094034	42.101172			6

**Height Summation:** 10566433.4  
**Amount Avg CF:** 38.797908      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
5.15	5.17	5.19	3042675	27.275028	6	40.47	1
+ 5.15	5.19	5.19	24716.72	0.221565			1
5.20	5.21	5.24	1607662	16.832444			2
5.33	5.35	5.37	3461787	43.441148			3
5.39	5.40	5.43	1279021	60.07632			4
5.51	5.53	5.55	1094034	34.274429			5
5.72	5.73	5.76	7320948	36.06338			6

**Height Summation:** 17806127  
**Amount Avg CF:** 36.327125      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866466 ACF      T0907      ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30.07 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.126.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

### Analysis Report (B)

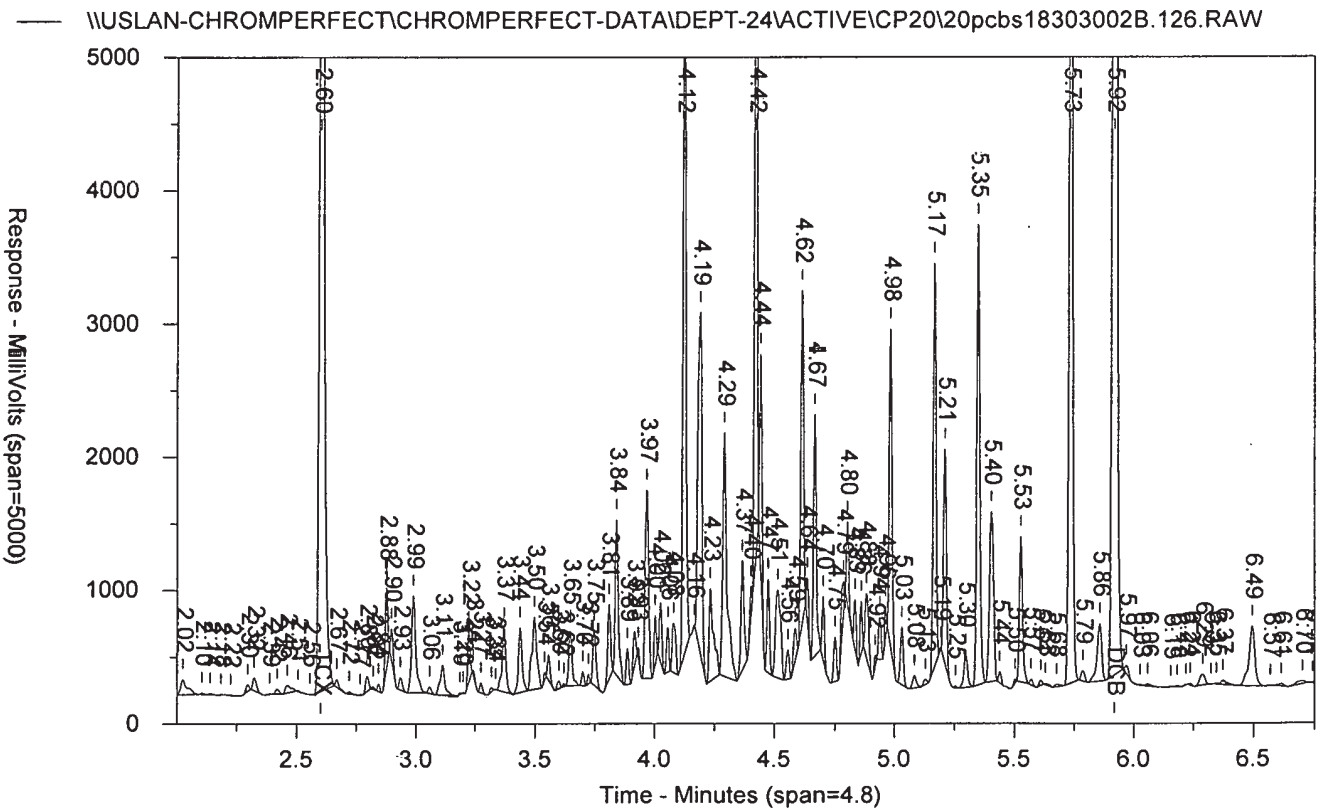
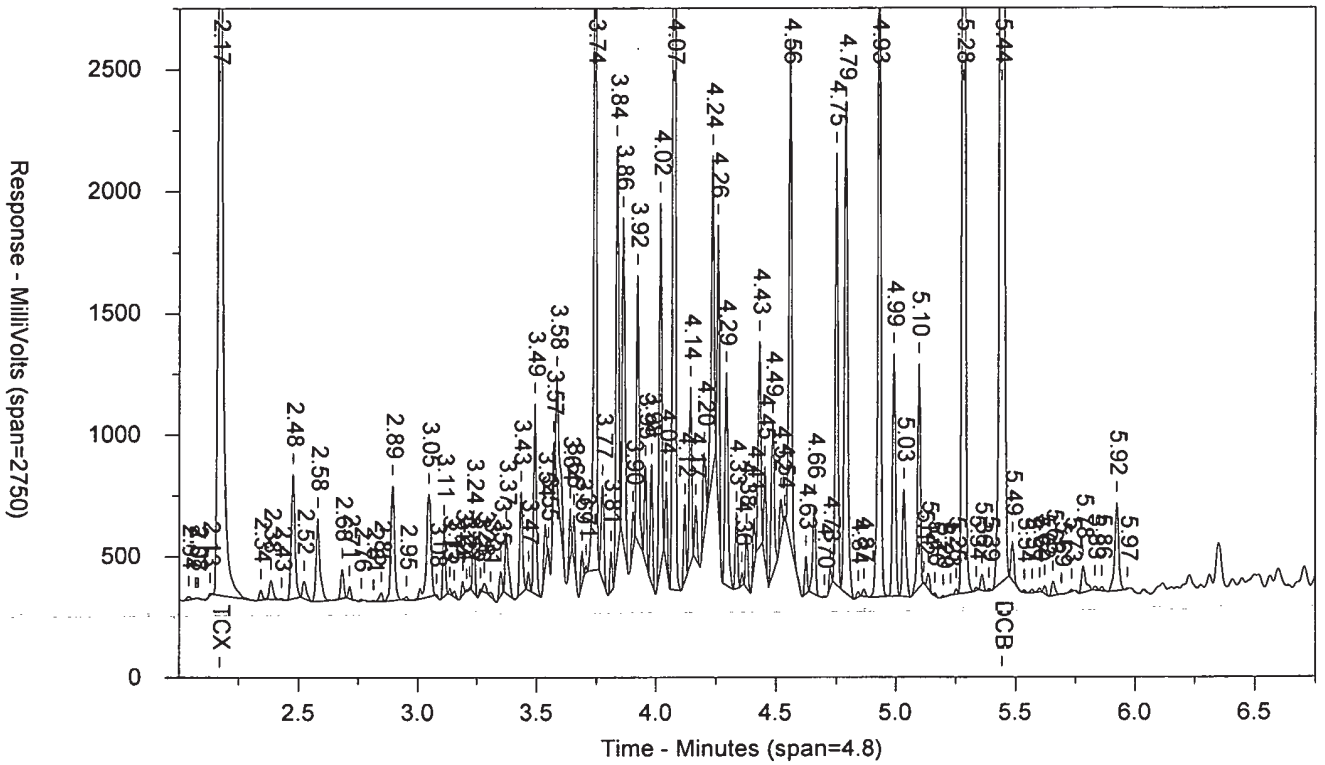
Injected on : Nov 01, 2018 18:20:11  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.126.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1242			16.9604	3.2923	—	38.44	4	30	
Aroclor-1248			16.9604	3.2923	—	10.99	4	40	
Aroclor-1254			16.9604	3.2923	—	**41.44	4	40	
Aroclor-1260			16.9604	4.8886	—	16.91	4	40	
Aroclor-1262			16.9604	3.2923	—	5.37	4	40	
Aroclor-1268			16.9604	3.2923	—	10.05	4	40	

Units: ug/kg

9866466 ACF ABT0907 T 183030017A 10885 SW-846 8082A Feb  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.126.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9866466 ACF ABT0907 T 183030017A 10885  
Injected On: 11/1/2018 6:20:11 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082A Feb 2007 R  
Sample Weight: 30.07  
Dilution Factor: 10

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

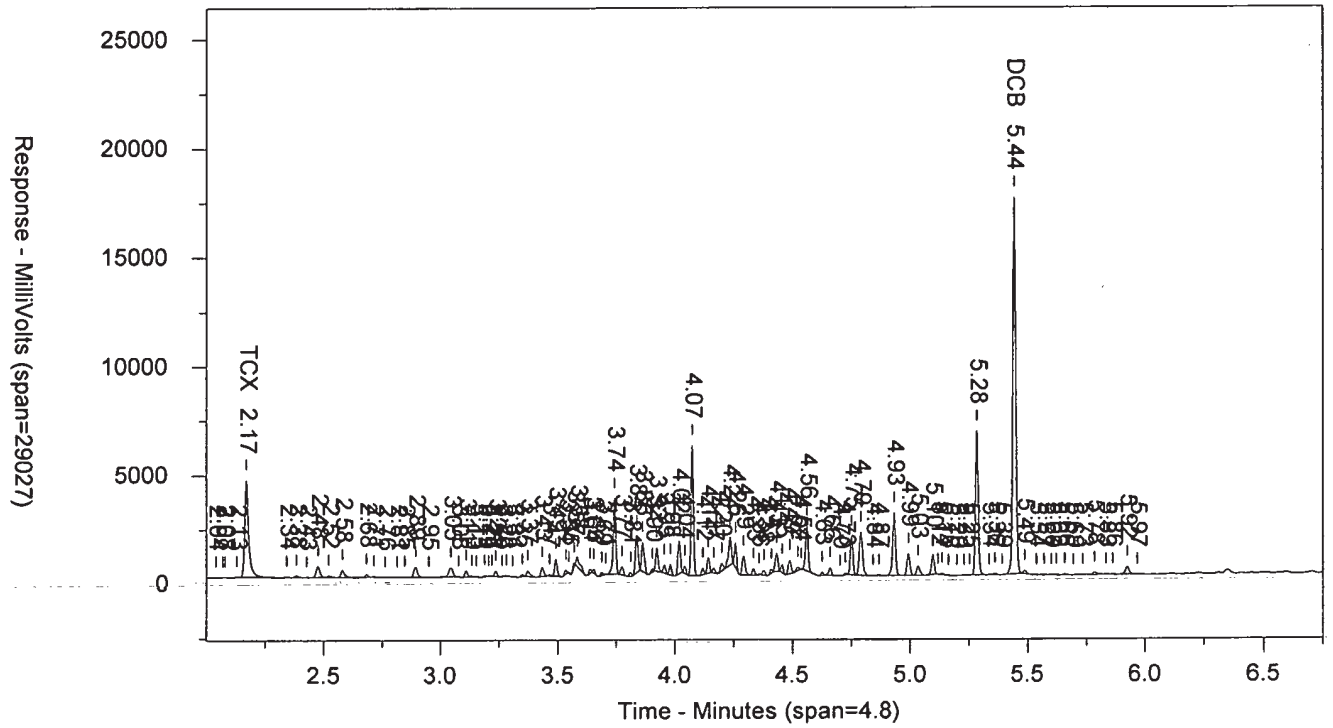
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	4455161	8.632	TCX	2.602	10527590	9.051	TCX
5.443	17337270	33.603	DCB	5.917	19923520	42.807	DCB

Files:

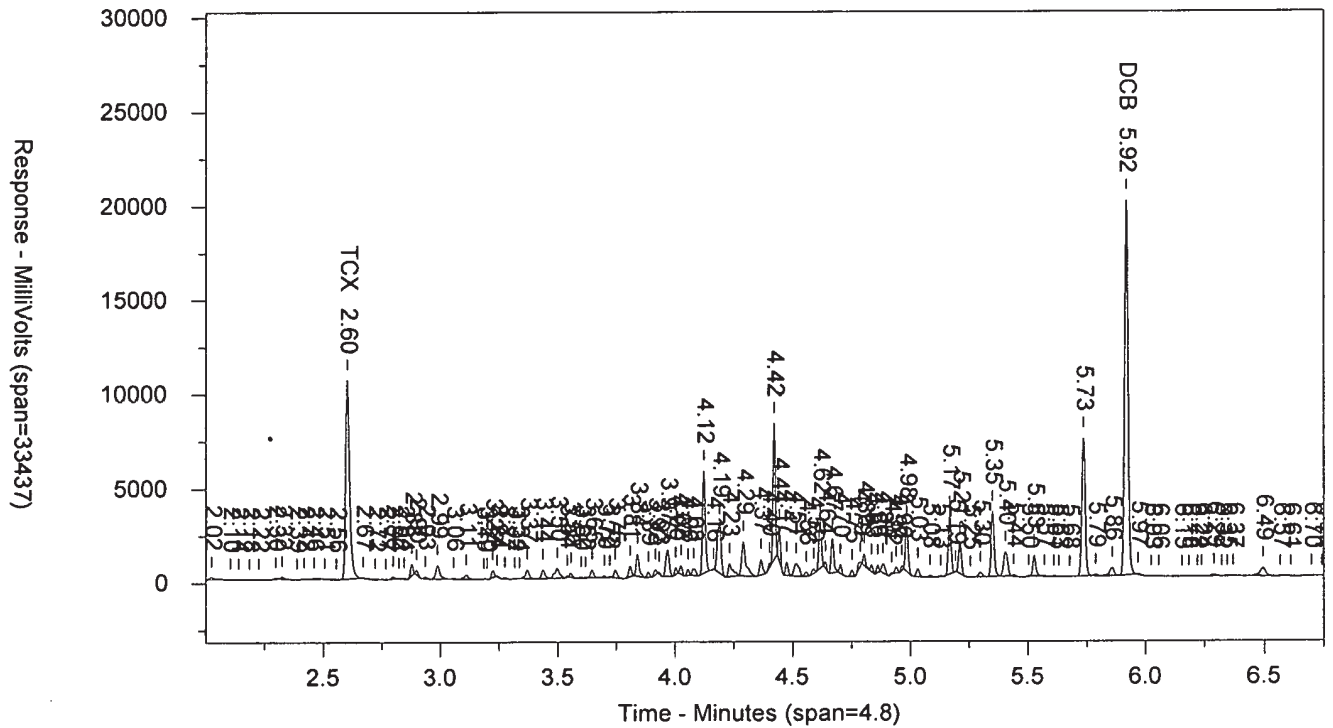
Area File: 20pcbs18303002.126.RAW  
Area File: 20pcbs18303002B.126.RAW  
Method A: 20PCBA.MEI  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 6:28:21 PM  
File Reported On: 11/1/2018 at 6:28:29 PM

9866466 ACF ABT0907 T 183030017A 10885 SW-846 8082A I

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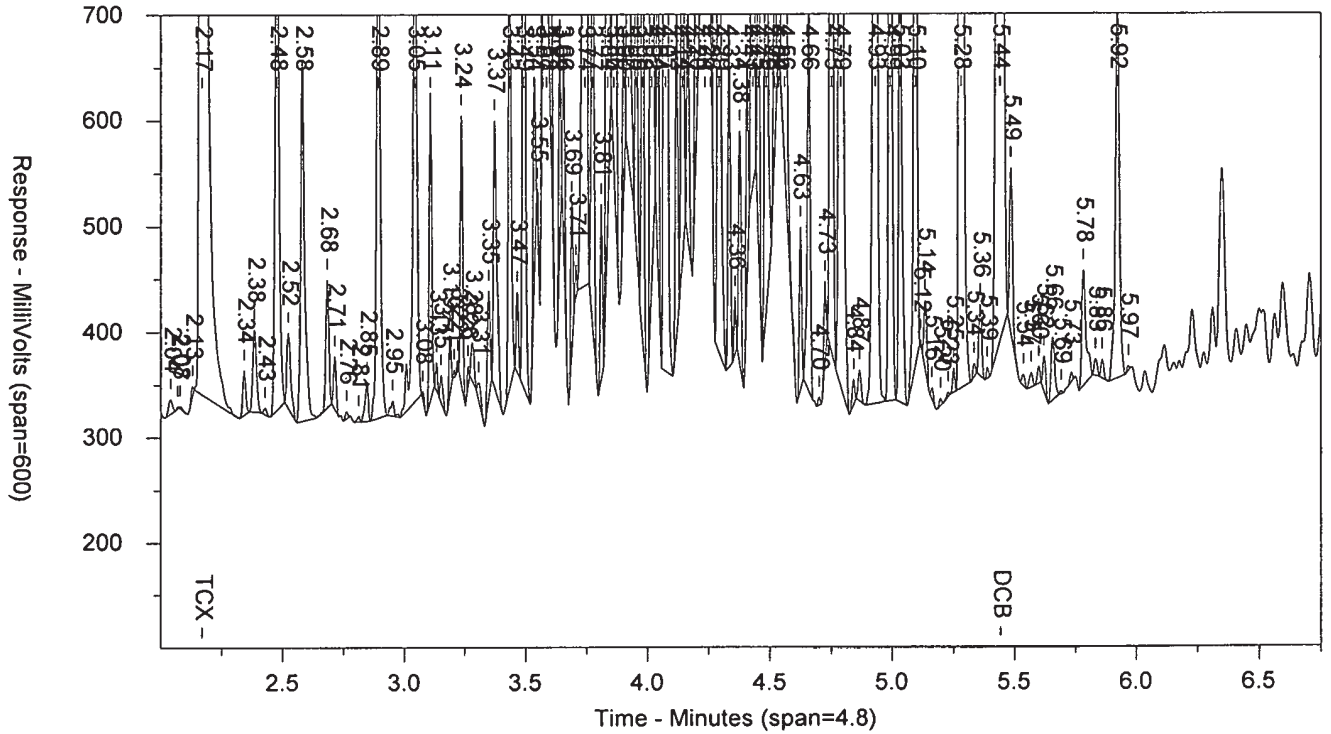
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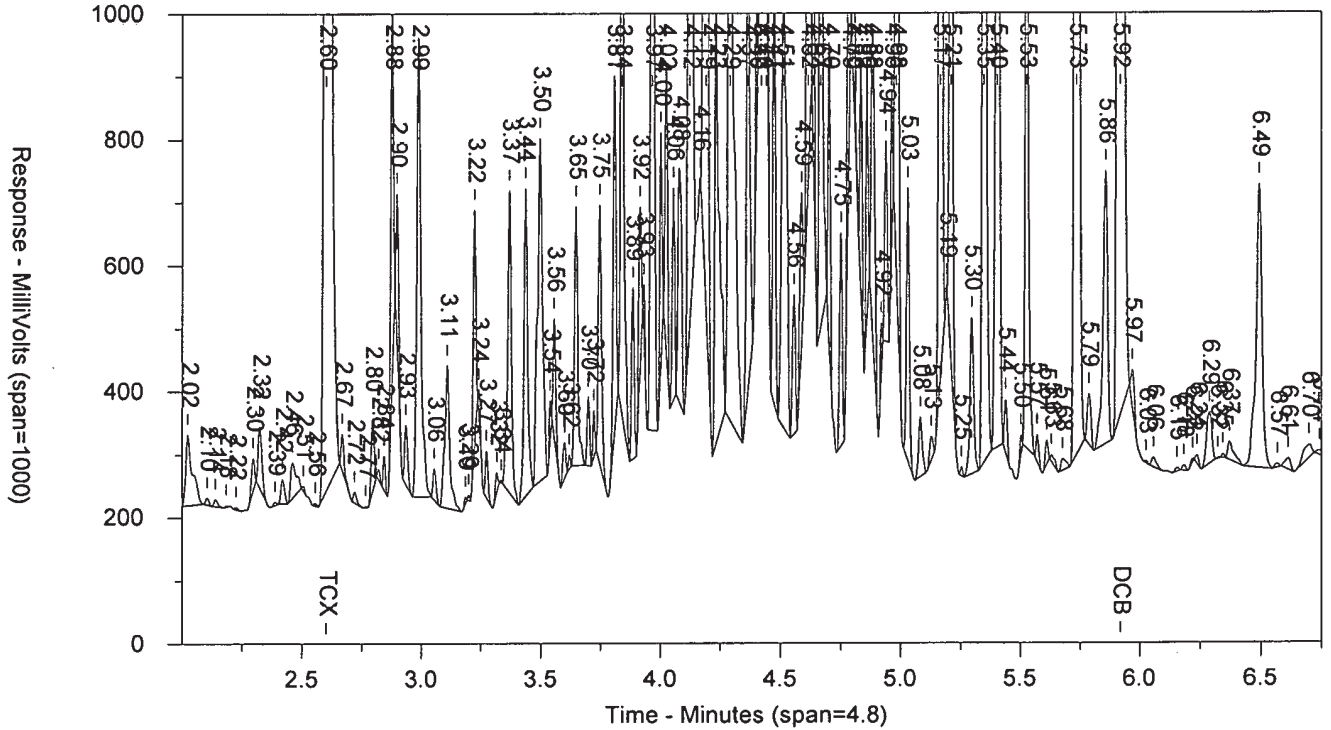


9866466 ACF ABT0907 T 183030017A 10885 SW-846 8082A I

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# Data Summary

Sample Name: 9866467      ACF      T0908      Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30.49 g      Total Volume: 10 ml      Analyst: 13786      SDG: TID09      State: NY  
 Analyses: 10885

## Analysis Report (A)

Injected on Nov 01, 2018 18:30:46  
 Instrument 17342A  
 Result file 20PCBS18303002.127.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 100% (44 - 130) Conc: 9.916821  
 %SSR(DCB) \* 382% (45 - 143) Conc: 37.25661

## Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5190073	9.916821	Tetrachloro-m-xylene	2.57	2.60	2.63	12172760	10.32178
Decachlorobiphenyl	5.42	5.45	5.48	19490860	37.25661	Decachlorobiphenyl	5.89	5.92	5.95	22077240	46.78092

## Analysis Report (B)

Injected on Nov 01, 2018 18:30:46  
 Instrument 17342B  
 Result file 20PCBS18303002B.127.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 105% (44 - 130) Conc: 10.32178  
 %SSR(DCB) \* 479% (45 - 143) Conc: 46.78092

## Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	10.32178	0.492	0.9839	0.9839		4.00	
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D1	A	9.916821	0.492	0.9839	0.9839			
<input checked="" type="checkbox"/> Tetrachloro-m-xylene-D2	B	10.32178	0.492	0.9839	0.9839			
<input type="checkbox"/> Decachlorobiphenyl	B	46.78092	0.492	0.9839	0.9839		22.67	
<input checked="" type="checkbox"/> Decachlorobiphenyl-D1	A	37.25661	0.492	0.9839	0.9839			
<input checked="" type="checkbox"/> Decachlorobiphenyl-D2	B	46.78092	0.492	0.9839	0.9839			

## Multiple Component Data

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
Aroclor-1260								Aroclor-1260							
						22.00									22.46
4.00	4.02	4.04	1347678	27.777873			1	4.43	4.44	4.47	1888377	31.249043			1
4.13	4.14	4.17	667145	30.999793			2	4.50	4.51	4.54	630775.8	21.027695			2
4.22	4.24	4.26	1137542	33.463333			3	4.60	4.62	4.64	2255467	36.601178			3
4.42	4.43	4.46	955822.3	33.905988			4	4.97	4.98	5.01	2554314	34.695615			5
4.54	4.56	4.58	2279008	35.711581			5	Height summation:			7328933.8				
4.77	4.79	4.81	2233855	50.194196			6	Concentration		CF:	30.893383				L:
Height summation:				8621050.3											
Concentration				CF:	35.342127		L:								

## Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input checked="" type="checkbox"/> PCB-1016			<3.5421	<9.8393	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1221			<4.5261	<9.8393	<16.7268	D1		3	
<input checked="" type="checkbox"/> PCB-1232			<7.8714	<15.7429	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1242			<3.247	<9.8393	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1248			<3.247	<9.8393	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1254			<3.247	<9.8393	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1260	A	35.342127	4.8213	9.8393	16.7268	D1	13.43	4	
<input checked="" type="checkbox"/> PCB-1262			<3.247	<9.8393	<16.7268	D1		4	
<input checked="" type="checkbox"/> PCB-1268			<3.247	<9.8393	<16.7268	D1		4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

Reviewed and digitally signed by Covenant Mutuku on 11/2/2018 16:09:37

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866467 ACF      **T0908**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.49 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

## Analysis Report (A)

Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.127.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 100% (44-130)      Conc.: 9.916821 *1268*  
 %SSR(DCB) : \*382% (45-143)      Conc.: 37.25661 *mmhx*

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.48	2.49	410653.5	37.566439	6	152.03	1
+ 2.81	2.81	2.85	4954.533	0.592446			2
2.81	2.85	2.85	24850.17	2.971499			2
2.93	2.95	2.97	16924.51	0.468615			3
2.99	2.99	3.03	30310.44	1.502797			4
3.09	3.11	3.13	189369.9	11.546911			5
+ 3.25	3.27	3.29	4273.206	0.228725			6
3.25	3.28	3.29	47543.42	2.544777			6

Height Summation: 719651.94  
 Amount Avg CF: 9.433506      Linear:

<b>Aroclor-1221</b>							
2.33	2.34	2.37	40985.41	5.729389	3	123.65	1
2.40	2.43	2.44	4749.689	0.992106			2
2.45	2.48	2.49	410653.5	27.297449			3

Height Summation: 456388.599  
 Amount Avg CF: 11.339648      Linear:

<b>Aroclor-1232</b>							
2.45	2.48	2.49	410653.5	33.906371	6	109.33	1
+ 2.81	2.81	2.85	4954.533	1.211713			2
2.81	2.85	2.85	24850.17	6.077521			2
2.93	2.95	2.97	16924.51	1.016691			3
2.99	2.99	3.03	30310.44	3.136502			4
3.09	3.11	3.13	189369.9	30.083503			5
+ 3.25	3.27	3.29	4273.206	0.533908			6
3.25	3.28	3.29	47543.42	5.940225			6

Height Summation: 719651.94  
 Amount Avg CF: 13.360135      Linear:

<b>Aroclor-1242</b>							
2.45	2.48	2.49	410653.5	43.454282	6	148.17	1
+ 2.81	2.81	2.85	4954.533	0.686641			2
2.81	2.85	2.85	24850.17	3.443944			2
2.93	2.95	2.97	16924.51	0.563594			3
2.99	2.99	3.03	30310.44	1.766253			4
3.09	3.11	3.13	189369.9	15.047887			5
+ 3.25	3.27	3.29	4273.206	0.276708			6
3.25	3.28	3.29	47543.42	3.078635			6

Height Summation: 719651.94  
 Amount Avg CF: 11.225766      Linear:

## Analysis Report (B)

Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.127.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 105% (44-130)      Conc.: 10.32178  
 %SSR(DCB) : \*479% (45-143)      Conc.: 46.78092

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	134957.5	5.605121	4	101.43	1
+ 2.78	2.82	2.82	10986.67	0.456304			1
3.41	3.44	3.45	134769	5.193615			4
3.50	3.50	3.54	538523.7	19.767498			5
+ 3.58	3.60	3.62	29935.62	1.189307			6
3.58	3.62	3.62	33791.79	1.342508			6

Height Summation: 842041.99  
 Amount Avg CF: 7.977185      Linear:

<b>Aroclor-1221</b>							
2.68	2.72	2.72	14470.88	1.273092	2	74.89	1
2.78	2.80	2.82	134957.5	4.139376			3
+ 2.78	2.82	2.82	10986.67	0.33698			3

Height Summation: 149428.38  
 Amount Avg CF: 2.706234      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	134957.5	5.137296	4	126.46	1
+ 2.78	2.82	2.82	10986.67	0.418219			1
3.41	3.44	3.45	134769	11.294329			4
3.50	3.50	3.54	538523.7	50.331838			5
+ 3.58	3.60	3.62	29935.62	2.909543			6
3.58	3.62	3.62	33791.79	3.284337			6

Height Summation: 842041.99  
 Amount Avg CF: 17.51195      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	134957.5	6.828005	4	106.05	1
+ 2.78	2.82	2.82	10986.67	0.555857			1
3.41	3.44	3.45	134769	6.274495			4
3.50	3.50	3.54	538523.7	26.028313			5
+ 3.58	3.60	3.62	29935.62	1.454933			6
3.58	3.62	3.62	33791.79	1.642351			6

Height Summation: 842041.99  
 Amount Avg CF: 10.193291      Linear:

<b>Aroclor-1248</b>							
3.41	3.44	3.45	134769	8.902006	6	77.94	1
3.47	3.50	3.51	538523.7	15.09845			2
+ 3.58	3.60	3.62	29935.62	0.799983			3
3.58	3.62	3.62	33791.79	0.903033			3
+ 3.68	3.70	3.72	42264.34	2.031403			4
3.68	3.72	3.72	77923.18	3.745317			4
3.87	3.89	3.91	118264.7	3.339636			5
3.95	3.97	3.99	574160.3	14.330021			6

Height Summation: 1477432.67  
 Amount Avg CF: 7.719744      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866467 ACF      **T0908**      **ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30.49 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.127.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1248</b>							
2.99	2.99	3.03	30310.44	2.545118	6	78.28	1
3.09	3.11	3.13	189369.9	8.247526			2
+ 3.25	3.27	3.29	4273.206	0.164662			3
3.25	3.28	3.29	47543.42	1.832018			3
3.33	3.35	3.37	75396.84	3.651121			4
3.48	3.49	3.52	264083.7	8.776932			5
3.60	3.64	3.64	166119.7	16.009599			6

**Height Summation:** 772824  
**Amount Avg CF:** 6.843719      Linear:

<b>Aroclor-1254</b>							
3.76	3.77	3.80	132474.5	4.980732	6	97.35	1
3.82	3.84	3.86	1099770	22.15762			2
3.94	3.96	3.98	218850.9	7.54979			3
4.00	4.02	4.04	1347678	60.962375			4
4.15	4.17	4.19	107128.1	5.944598			5
+ 4.22	4.24	4.26	1137542	33.364661			6
4.22	4.26	4.26	1148691	33.691666			6

**Height Summation:** 4054592.5  
**Amount Avg CF:** 22.547797      Linear:

<b>Aroclor-1260</b>							
4.00	4.02	4.04	1347678	27.777873	6	22.00	1
4.13	4.14	4.17	667145	30.999793			2
4.22	4.24	4.26	1137542	33.463333			3
4.42	4.43	4.46	955822.3	33.905988			4
4.54	4.56	4.58	2279008	35.711581			5
4.77	4.79	4.81	2233855	50.194196			6

**Height Summation:** 8621050.3  
**Amount Avg CF:** 35.342127      Linear:

<b>Aroclor-1262</b>							
4.24	4.26	4.28	1148691	28.207008	6	38.11	1
4.42	4.43	4.46	955822.3	24.21485			2
+ 4.42	4.46	4.46	351679.8	8.909474			2
4.55	4.56	4.59	2279008	30.493221			3
4.74	4.75	4.78	1856455	64.608533			4
4.78	4.79	4.82	2233855	46.612035			5
5.08	5.10	5.12	1080851	43.45685			6
+ 5.08	5.12	5.12	8257.459	0.332001			6

**Height Summation:** 9554682.3  
**Amount Avg CF:** 39.59875      Linear:

<b>Aroclor-1268</b>							
4.74	4.75	4.77	1856455	18.817537	6	35.06	1
4.77	4.79	4.81	2233855	26.688726			2
4.92	4.93	4.96	3135966	42.559945			3
4.98	4.99	5.02	1102102	54.637464			4
5.08	5.10	5.12	1080851	34.974201			5
+ 5.08	5.12	5.12	8257.459	0.267195			5
5.27	5.29	5.31	6922105	35.018702			6

**Height Summation:** 16331334  
**Amount Avg CF:** 35.449429      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.127.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	1287212	19.866711	6	61.66	1
4.27	4.29	4.31	1571665	64.677186			2
4.35	4.37	4.39	476232.5	10.112385			3
4.43	4.44	4.47	1888377	67.969462			4
4.51	4.51	4.55	630775.8	25.549671			5
4.60	4.62	4.64	2255467	50.651468			6
+ 4.60	4.64	4.64	283098.2	6.357592			6

**Height Summation:** 8109729.3  
**Amount Avg CF:** 39.804481      Linear:

<b>Aroclor-1260</b>							
4.43	4.44	4.47	1888377	31.249043	6	48.07	1
4.50	4.51	4.54	630775.8	21.027695			2
4.60	4.62	4.64	2255467	36.601178			3
+ 4.60	4.64	4.64	283098.2	4.59405			3
4.65	4.67	4.69	1931013	60.476841			4
4.97	4.98	5.01	2554314	34.695615			5
5.15	5.17	5.19	3339674	76.932998			6

**Height Summation:** 12599620.8  
**Amount Avg CF:** 43.497228      Linear:

<b>Aroclor-1262</b>							
4.65	4.67	4.69	1931013	36.502473	6	42.81	1
4.79	4.80	4.83	735458.4	17.967435			2
4.97	4.98	5.01	2554314	28.651603			3
5.15	5.17	5.19	3339674	63.700554			4
5.20	5.21	5.24	1833930	61.279767			5
5.51	5.53	5.55	1215281	46.122844			6

**Height Summation:** 11609670.4  
**Amount Avg CF:** 42.370779      Linear:

<b>Aroclor-1268</b>							
5.15	5.17	5.19	3339674	29.524987	6	40.89	1
5.20	5.21	5.24	1833930	18.937001			2
5.33	5.35	5.37	3809499	47.145996			3
E 5.39	5.41	5.43	1427760	66.138884			4
5.51	5.53	5.55	1215281	37.54846			5
5.72	5.74	5.76	7669680	37.260815			6

**Height Summation:** 19295824  
**Amount Avg CF:** 39.426024      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** 9866467 ACF      T0908      ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30.49 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:** TID09      **State:** NY  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.127.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

### Analysis Report (B)

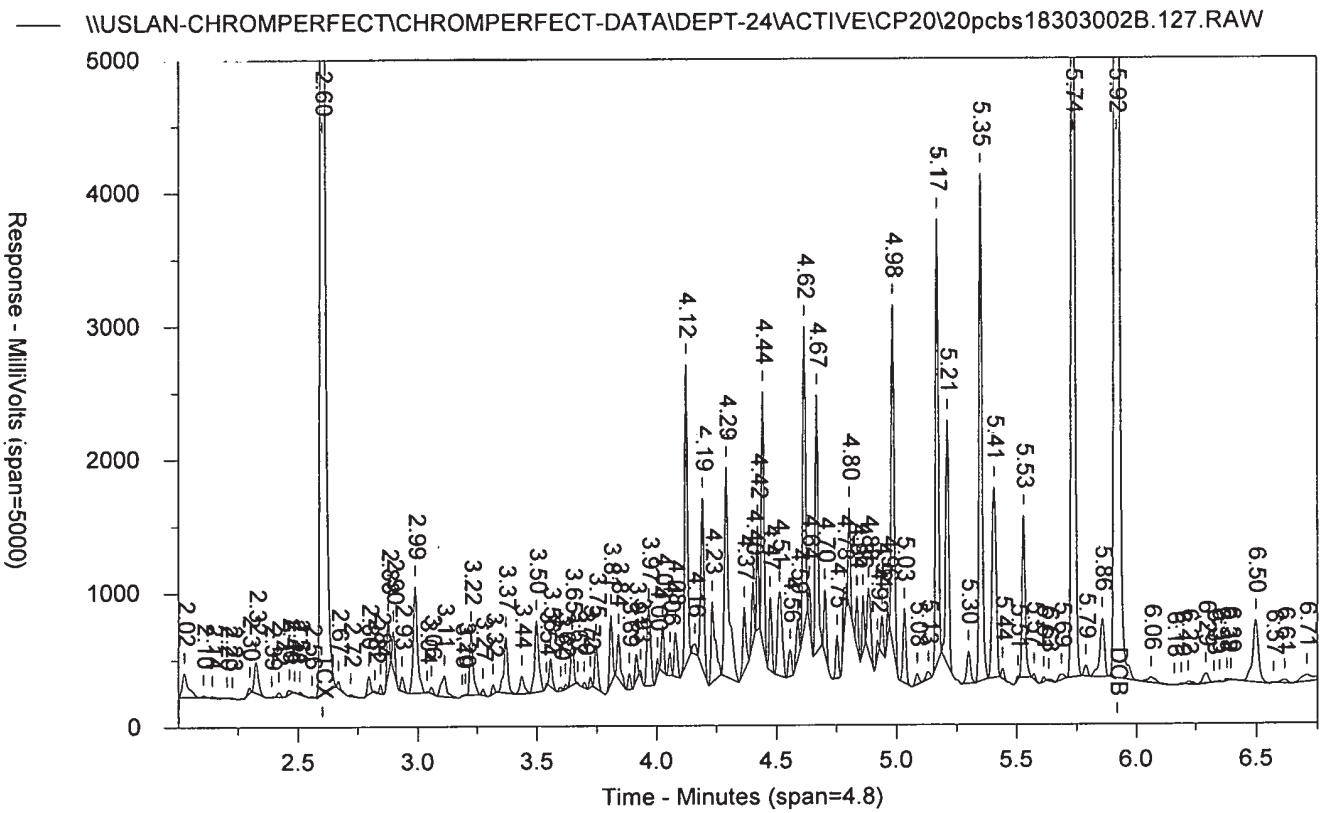
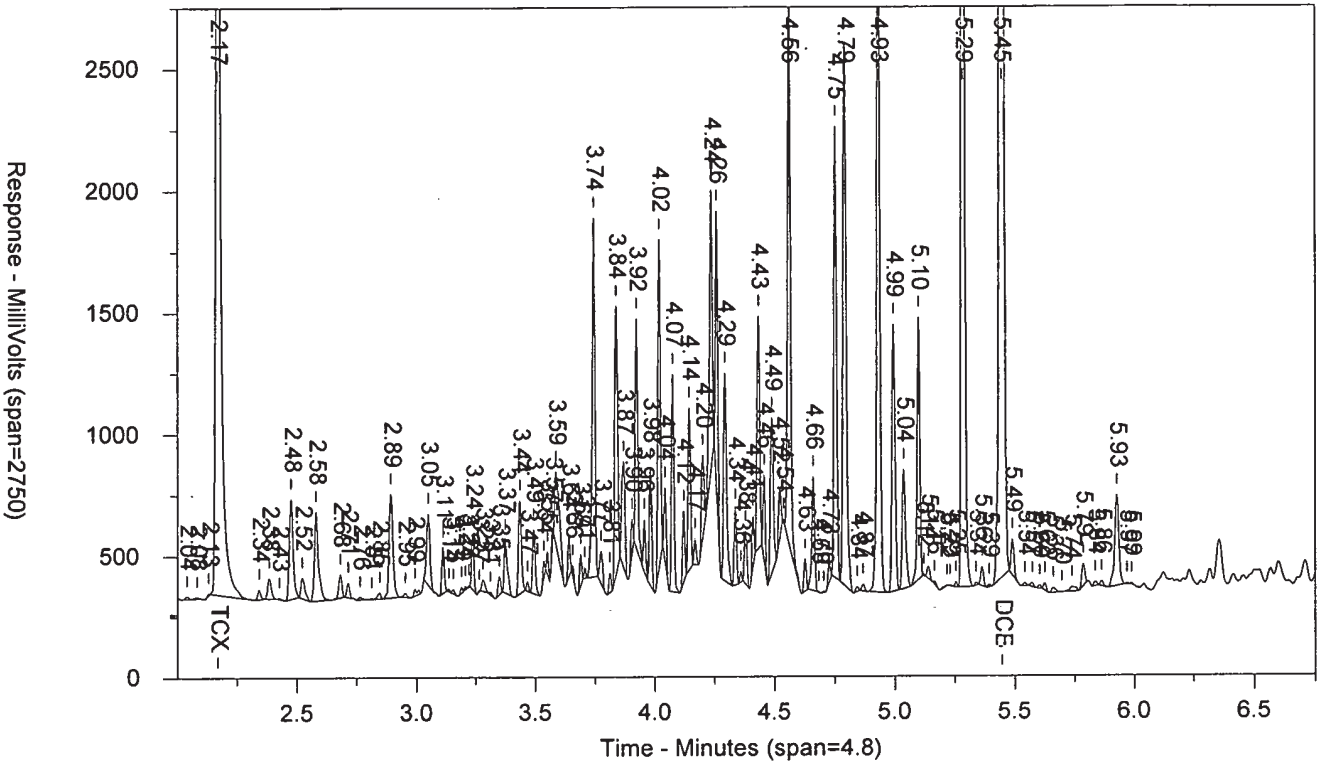
Injected on : Nov 01, 2018 18:30:46  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.127.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			16.7268	3.5421		16.73	4	40	
Aroclor-1221			16.7268	4.5261		** 122.93	3	5	
Aroclor-1232			16.7268	7.8714		26.90	4	40	
Aroclor-1242			16.7268	3.247		9.64	4	30	
Aroclor-1248			16.7268	3.247		12.03	4	40	
Aroclor-1254			16.7268	3.247		** 55.35	4	40	
Aroclor-1260			16.7268	4.8213		20.69	4	40	
Aroclor-1262			16.7268	3.247		6.76	4	40	
Aroclor-1268			16.7268	3.247		10.62	4	40	

Units: ug/kg

9866467 ACF ABT0908 T 183030017A 10885 SW-846 8082A Feb  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.127.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: 9866467 ACF ABT0908 T 183030017A 10885  
Injected On: 11/1/2018 6:30:46 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082A Feb 2007 R  
Sample Weight: 30.49  
Dilution Factor: 10

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	5190073	9.917	TCX	2.602	12172760	10.322	TCX
5.447	19490860	37.257	DCB	5.92	22077240	46.781	DCB

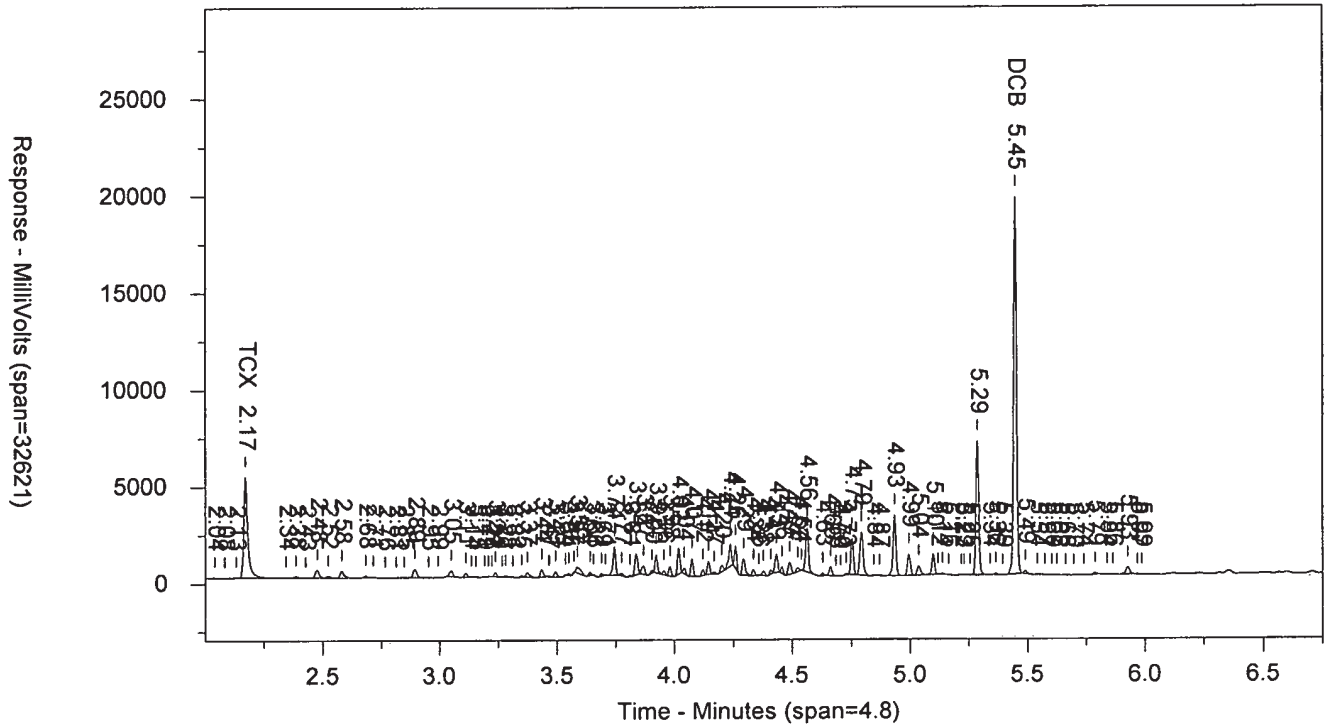
Files:

Area File: 20pcbs18303002.127.RAW  
Area File: 20pcbs18303002B.127.RAW  
Method A: 20PCBA.MEI  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 6:38:56 PM  
File Reported On: 11/1/2018 at 6:39:03 PM

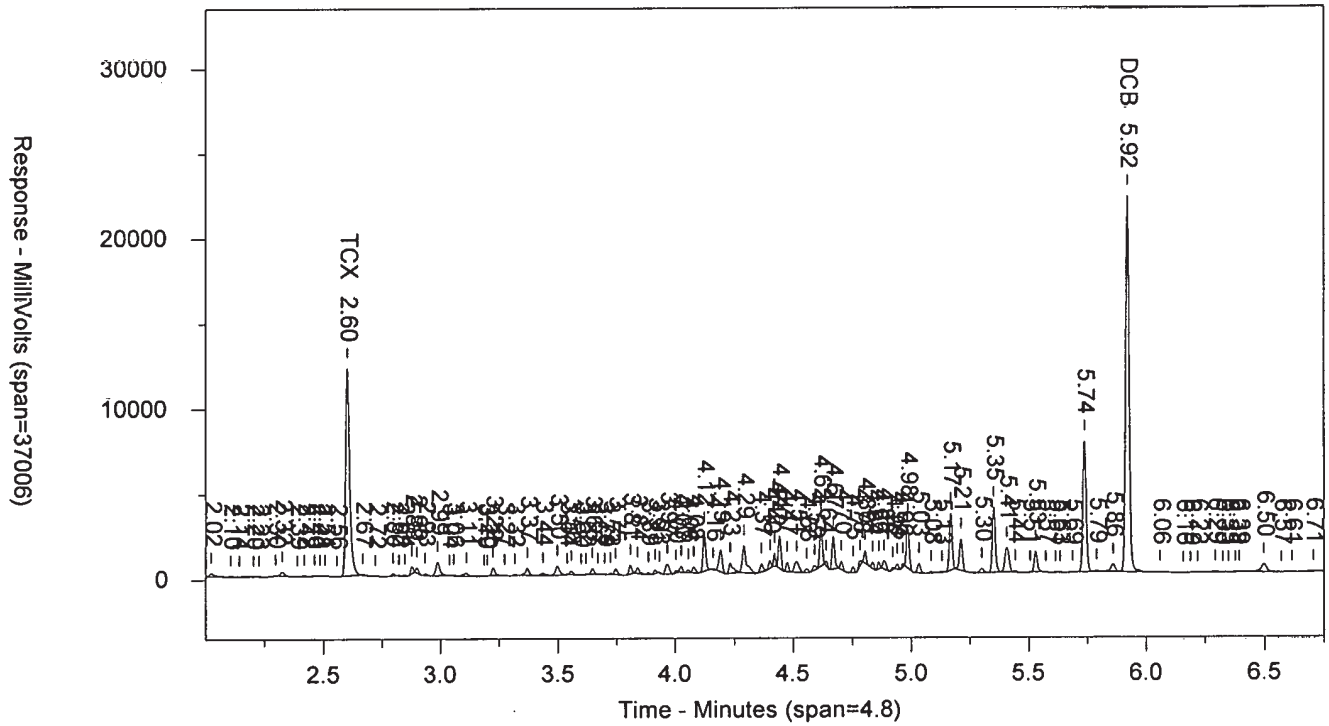
Chrom Perfect Chromatogram Report

9866467 ACF ABT0908 T 183030017A 10885 SW-846 8082A I

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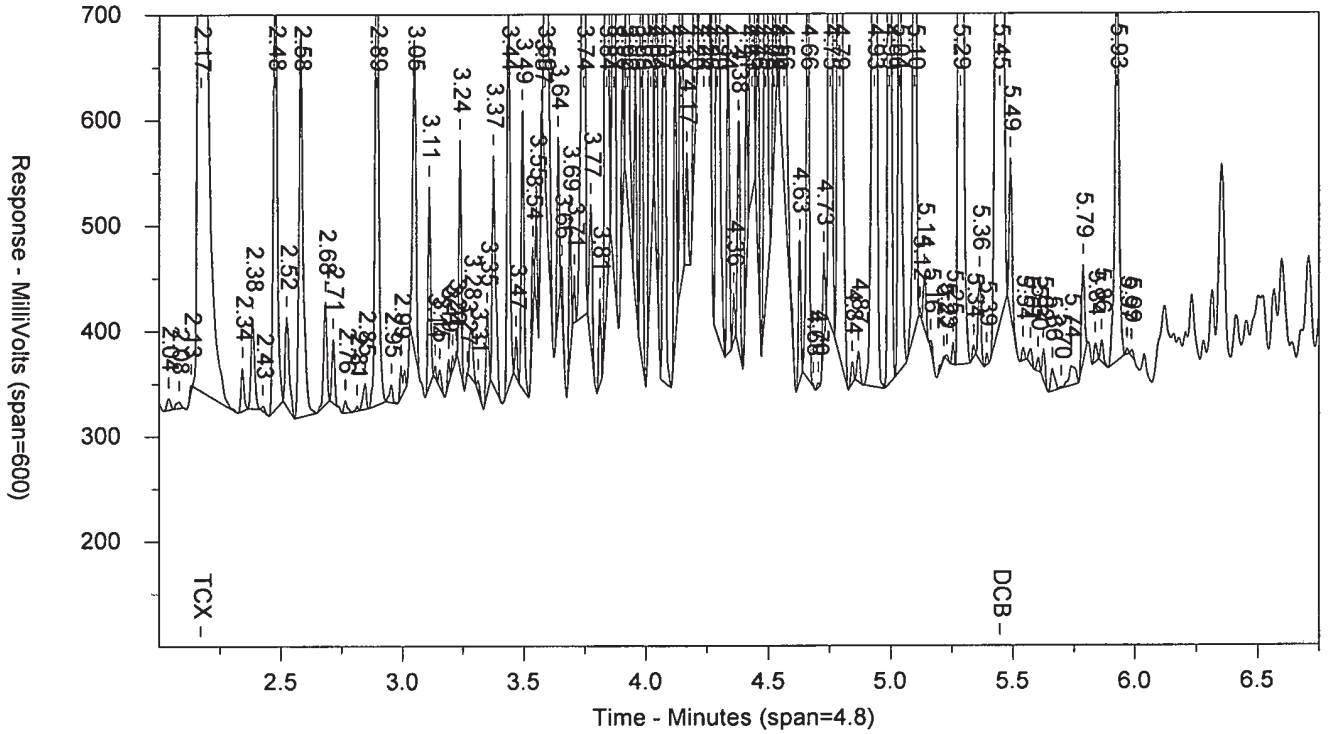
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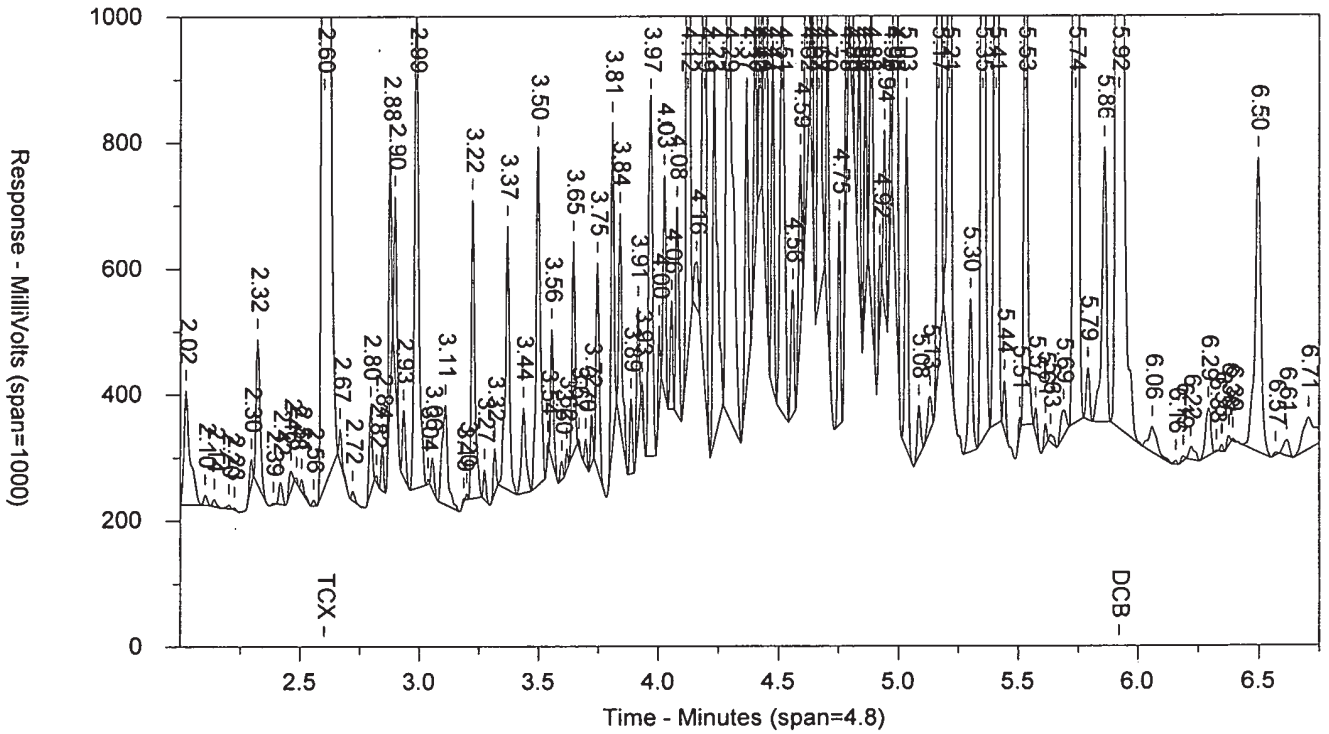


9866467 ACF ABT0908 T 183030017A 10885 SW-846 8082A I

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.127.RAW



**Standards Data**

**Polychlorinated Biphenyls (PCBs)**

**Eurofins Lancaster Laboratories**  
**CHROM PERFECT SEQUENCE FILE**

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP20\20pcbs18303001.seq  
 Chromatography Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20  
 Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20  
 Number of Entries: 79

<u>Samplename</u>	<u>VP</u>	<u>Code</u>	<u>ID</u>	<u>Method</u>	<u>Samp Amt</u>	<u>DF</u>	<u>Int Std</u>	<u>C</u>	<u>Batch Number</u>	<u>Analysis</u>
1 CONDITIONER	1	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	
2 CONDITIONER	2	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	
3 CONDITIONER	3	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	
4 CONDITIONER	4	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	
5 IBLKX1824C	5	PIBLK	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1000	10	1	0	1830299999	10227
6 EVALX1824B	6	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
7 AR1611824D	7	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	1	1830299999	10227
8 AR1621824D	8	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	2	1830299999	10227
9 AR1631824D	9	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	3	1830299999	10227
10 AR1641824D	10	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	4	1830299999	10227
11 AR1651824D	11	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	5	1830299999	10227
12 AR1661824C	12	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	6	1830299999	10227
13 AR4811824C	13	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
14 AR4821824C	14	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
15 AR4831824C	15	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
16 AR4841824C	16	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830200000	10227
17 AR4851824C	17	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
18 AR4861824C	18	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
19 AR5411824C	19	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
20 AR5421824C	20	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
21 AR5431824C	21	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
22 AR5441824C	22	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
23 AR5451824C	23	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
24 AR5461824C	24	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
25 AR6241824B	25	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
26 AR6841824B	26	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
27 AR2141824E	27	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
28 AR3241824D	28	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
29 AR4241824E	29	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
30 AR16XX1824B	30	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
31 MD16X1824E	31	ICAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
32 IC16X1824D	32	CCAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
33 IC48X1824C	33	CCAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
34 IC54X1824C	34	CCAL	AA	EPT-24\ACTIVE\CP20\20PCBS.MET	1	1	1	0	1830299999	10227
35 9856962 RI CAF	35	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	182970011A	10591
36 9856963MS CFA	36	MS	AE	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	182970011A	10591
37 9856964MSD CFA	37	MSD	AE	EPT-24\ACTIVE\CP20\20PCBA.MET	247	2	1	0	182970011A	10591
38 BLANKA 10/29/18 ACF	38	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	250	5	1	0	183020001A	14188
39 LCSA 10/29/18 ACF	39	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	250	5	1	0	183020001A	14188
40 9872093 ACF	40	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	220	5	1	0	183020001A	14188
41 9872094MS ACF	41	MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	211	5	1	0	183020001A	14188
42 9872095MSD ACF	42	MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	204	5	1	0	183020001A	14188
43 BLANKA 10/29/18 ACF	43	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	250	5	1	0	183020002A	14188
44 LCSA 10/29/18 ACF	44	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	250	5	1	0	183020002A	14188
45 AR1641824D	45	CCAL	HD	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	10227
46 IBLKX1824C	46	PIBLK	GB	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830299999	10227
47 9872097 ACF	47	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	213	5	1	0	183020002A	14188
48 9872098MS ACF	48	MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	215	5	1	0	183020002A	14188
49 9872099MSD ACF	49	MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	209	5	1	0	183020002A	14188
50 9872103 ACF	50	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	201	5	1	0	183020002A	14188

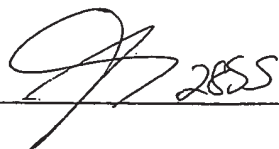


**Eurofins Lancaster Laboratories**  
**CHROM PERFECT SEQUENCE FILE**

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 Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20  
 Number of Entries: 79

<u>Samplename</u>	<u>VP</u>	<u>Code</u>	<u>ID</u>	<u>Method</u>	<u>amp Amt</u>	<u>DF</u>	<u>Int Std</u>	<u>C</u>	<u>Batch Number</u>	<u>Analysis</u>
51 9872104 ACF	51	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	223	5	1	0	183020002A	14188
52 9872106 ACF	52	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	219	5	1	0	183020002A	14188
53 9872107 ACF	53	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	201	5	1	0	183020002A	14188
54 BLANKA 10/29/18 CAF	54	BLK	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	183020012A	10591
55 LCSA 10/29/18 CAF	55	LCS	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	183020012A	10591
56 AR1641824D	56	CCAL	HE	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	10227
57 IBLKX1824C	57	PIBLK	GC	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830299999	10227
58 9856962R CAF	58	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	246	2	1	0	183020012A	10591
59 9856963RMS CAF	59	MS	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	183020012A	10591
60 9856964RMSD CAF	60	MSD	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	250	2	1	0	183020012A	10591
61 9870991 CAF	61	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	249	2	1	0	183020012A	10591
62 AR1641824D	62	CCAL	HF	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	10227
63 IBLKX1824C	63	PIBLK	GD	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830299999	10227
64 BLANKA 10/29/18 RI AF	64	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
65 LCSA 10/29/18 RI AF	65	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
66 LCSDA 10/29/18 RI AF	66	LCSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
67 9864999 RI AF	67	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
68 9865000 RI AF	68	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
69 9865001 RI AF	69	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
70 9865002 RI AF	70	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
71 9865003 RI AF	71	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
72 9865004 RI AF	72	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
73 9865005 RI AF	73	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
74 9865006 RI AF	74	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
75 9865007 RI AF	75	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
76 9865008 RI AF	76	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
77 9870672 RI AF	77	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	0.01	1	0	182990046A	14869
78 AR1641824D	78	CCAL	HG	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830299999	10227
79 IBLKX1824C	79	PIBLK	GE	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830299999	10227

*cm to 11/1/18  
 ③ cm 13786 11/1/18*

Set-up by:  2855  
 11/1/2018

Date: 11/01/18



**Eurofins Lancaster Laboratories**  
**CHROM PERFECT SEQUENCE FILE**

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP20\20pcbs18303002.seq  
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 Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20  
 Number of Entries: 129

<u>Samplename</u>	<u>VP</u>	<u>Code</u>	<u>ID</u>	<u>Method</u>	<u>Samp Amt</u>	<u>DF</u>	<u>Int Std</u>	<u>C</u>	<u>Batch Number</u>	<u>Analysis</u>
1 CONDITIONER	1	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
2 CONDITIONER	2	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
3 CONDITIONER	3	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
4 CONDITIONER	4	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
5 AR1641824D	5	CCAL	HS	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
6 IBLKX1824C	6	PIBLK	HK	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
7 AR4241824E	7	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
8 AR4841824C	8	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
9 AR5441824C	9	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
10 AR6241824B	10	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
11 AR6841824B	11	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	
12 BLANKA 10/30/18 ACF	12	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183030004A	10592
13 LCSA 10/30/18 ACF	13	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183030004A	10592
14 9864578 ACF DF50	14	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.1	500	1	0	183030004A	10592
15 9864578MS ACF DF50	15	MS	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	500	1	0	183030004A	10592
16 9864578MSD ACF DF50	16	MSD	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30	500	1	0	183030004A	10592
17 AR1641824D	17	CCAL	HT	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
18 IBLKX1824C	18	PIBLK	HL	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
19 BLANKA 10/30/18 ACF	19	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183020029A	10885
20 LCSA 10/30/18 ACF	20	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183020029A	10885
21 9870992 ACF	21	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.1	10	1	0	183020029A	10885
22 AR1641824D	22	CCAL	HU	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
23 IBLKX1824C	23	PIBLK	HM	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
24 9839658 ACF DF5	24	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	50	1	0	183020029A	10885
25 9868299 ACF	25	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.26	10	1	0	183020029A	10885
26 9868300 ACF	26	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.32	10	1	0	183020029A	10885
27 9868301 ACF	27	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.48	10	1	0	183020029A	10885
28 9868302 ACF	28	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.34	10	1	0	183020029A	10885
29 9868565 ACF DF50	29	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	500	1	0	183020029A	10885
30 9868566 ACF DF2000	30	T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.12	20000	1	0	183020029A	10885
31 9868566 ACF DF5000	31	T	AE	EPT-24\ACTIVE\CP20\20PCBA.MET	30.12	50000	1	0	183020029A	10885
32 9868567 ACF DF500	32	T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.25	5000	1	0	183020029A	10885
33 9868568 ACF DF50	33	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.11	500	1	0	183020029A	10885
34 AR1641824D	34	CCAL	HV	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
35 IBLKX1824C	35	PIBLK	HN	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
36 9868571 ACF DF100	36	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.27	1000	1	0	183020029A	10885
37 9869111 ACF	37	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.26	10	1	0	183020029A	10885
38 9869111MS ACF	38	MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.23	10	1	0	183020029A	10885
39 9869111MSD ACF	39	MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.14	10	1	0	183020029A	10885
40 9870637 ACF	40	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	10	1	0	183020029A	10885
41 9870639 ACF DF50	41	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.33	500	1	0	183020029A	10885
42 9872138 ACF	42	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.3	10	1	0	183020029A	10885
43 9872140 ACF	43	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.44	10	1	0	183020029A	10885
44 9872228 ACF	44	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.48	10	1	0	183020029A	10885
45 9872229 ACF	45	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	10	1	0	183020029A	10885
46 AR1641824D	46	CCAL	HW	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
47 IBLKX1824C	47	PIBLK	HO	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
48 9855042 RI ACF	48	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.3	10	1	0	182980008A	10885
49 9856929 RI ACF DF5	49	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.32	50	1	0	182980008A	10885
50 9857027 RI ACF DF10	50	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.14	100	1	0	182980008A	10885



**Eurofins Lancaster Laboratories**  
**CHROM PERFECT SEQUENCE FILE**

Sequence File: \\Uslan-chromperfect\chromperfect-data\Dept-24\Active\CP20\20pcbs18303002.seq

Chromatography Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20

Method Directory: \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20

Number of Entries: 129

<u>Samplename</u>	<u>VP</u>	<u>Code</u>	<u>ID</u>	<u>Method</u>	<u>Samp Amt</u>	<u>DF</u>	<u>Int Std</u>	<u>C</u>	<u>Batch Number</u>	<u>Analysis</u>
51 9857028 RI ACF DF5	51	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	50	1	0	182980008A	10885
52 9857029 RI ACF DF5	52	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	50	1	0	182980008A	10885
53 9857032 RI ACF	53	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.26	10	1	0	182980008A	10885
54 9857033 RI ACF DF20	54	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.32	200	1	0	182980008A	10885
55 9857034 RI ACF DF5	55	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.45	50	1	0	182980008A	10885
56 9857035 RI ACF DF5	56	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.45	50	1	0	182980008A	10885
57 9857036 RI ACF DF5	57	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.13	50	1	0	182980008A	10885
58 IBLKX1824C	58	PIBLK	HP	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
59 AR1641824D	59	CCAL	HX	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
60 BLANKA 10/26/18 RI ACF	60	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	182980037A	10885
61 9857039 ACF	61	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.48	10	1	0	182980037A	10885
62 9857040 ACF	62	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.48	10	1	0	182980037A	10885
63 9857041 ACF DF20	63	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	200	1	0	182980037A	10885
64 9857042 ACF DF1000	64	T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	10000	1	0	182980037A	10885
65 9857042 ACF DF2000	65	T	AE	EPT-24\ACTIVE\CP20\20PCBA.MET	30.2	20000	1	0	182980037A	10885
66 9857043 ACF	66	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.46	10	1	0	182980037A	10885
67 9857044 ACF	67	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	182980037A	10885
68 9857045 ACF	68	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.39	10	1	0	182980037A	10885
69 9857046 ACF	69	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.08	10	1	0	182980037A	10885
70 IBLKX1824C	70	PIBLK	HQ	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
71 AR1641824D	71	CCAL	HY	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
72 9857047 ACF DF50	72	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.14	500	1	0	182980037A	10885
73 9857047 ACF DF100	73	T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.14	1000	1	0	182980037A	10885
74 9857048 ACF	74	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.19	10	1	0	182980037A	10885
75 9857049 ACF DF20	75	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.43	200	1	0	182980037A	10885
76 9857050 ACF	76	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.36	10	1	0	182980037A	10885
77 9858163 ACF	77	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.15	10	1	0	182980037A	10885
78 9858180 ACF	78	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.12	10	1	0	182980037A	10885
79 9858181MS ACF	79	MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	10	1	0	182980037A	10885
80 9858182MSD ACF	80	MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.36	10	1	0	182980037A	10885
81 9858862 ACF DF5	81	T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	5.3	50	1	0	182980037A	10885
82 IBLKX1824C	82	PIBLK	HR	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
83 AR1641824D	83	CCAL	HZ	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
84 9859425 ACF	84	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.49	10	1	0	182980037A	10885
85 9859503 ACF DF1000	85	T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.36	10000	1	0	182980037A	10885
86 9859503 ACF DF2000	86	T	AE	EPT-24\ACTIVE\CP20\20PCBA.MET	30.36	20000	1	0	182980037A	10885
87 9859504 ACF	87	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.4	10	1	0	182980037A	10885
88 9860271 ACF	88	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.17	50	1	0	182980037A	10885
89 IBLKX1824C	89	PIBLK	HS	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
90 AR1641824D	90	CCAL	IA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
91 AR4241824E	91	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
92 AR4841824C	92	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
93 AR5441824C	93	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
94 AR6241824B	94	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
95 AR6841824B	95	MISC	AA	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
96 BLANKA 10/29/18 ACF	96	BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	182990042A	10885
97 LCSA 10/29/18 ACF	97	LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	182990042A	10885
98 9861366 ACF	98	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.02	10	1	0	182990042A	10885
99 9864017 ACF	99	T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.13	10	1	0	182990042A	10885
100 9864017MS ACF	100	MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.09	10	1	0	182990042A	10885



**Eurofins Lancaster Laboratories**  
**CHROM PERFECT SEQUENCE FILE**

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 Number of Entries: 129

Samplename	VP Code	ID	Method	Samp Amt	DF	Int Std	C	Batch Number	Analysis
101 9864017MSD ACF	101 MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.08	10	1	0	182990042A	10885
102 AR1641824D	102 CCAL	IB	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
103 IBLKX1824C	103 PIBLK	HT	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
104 9866547 ACF	104 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	182990042A	10885
105 BLANKA 10/30/18 ACF	105 BLK	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183030017A	10885
106 LCSA 10/30/18 ACF	106 LCS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183030017A	10885
107 AR1641824D	107 CCAL	IC	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
108 IBLKX1824C	108 PIBLK	HU	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
109 9863851 ACF	109 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.34	10	1	0	183030017A	10885
110 9863852 ACF DF5	110 T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.25	50	1	0	183030017A	10885
111 9863853 ACF	111 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.04	10	1	0	183030017A	10885
112 9863854MS ACF	112 MS	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30	10	1	0	183030017A	10885
113 9863855MSD ACF	113 MSD	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.25	10	1	0	183030017A	10885
114 9863857 ACF	114 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.12	10	1	0	183030017A	10885
115 9863858 ACF DF5	115 T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.49	50	1	0	183030017A	10885
116 9863858 ACF DF10	116 T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.49	100	1	0	183030017A	10885
117 9866461 ACF	117 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.08	10	1	0	183030017A	10885
118 9866461 ACF DF5	118 T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.08	50	1	0	183030017A	10885
119 AR1641824D	119 CCAL	ID	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
120 IBLKX1824C	120 PIBLK	HV	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227
121 9866462 ACF DF5	121 T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.45	50	1	0	183030017A	10885
122 9866462 ACF DF10	122 T	AD	EPT-24\ACTIVE\CP20\20PCBA.MET	30.45	100	1	0	183030017A	10885
123 9866463 ACF DF10	123 T	AC	EPT-24\ACTIVE\CP20\20PCBA.MET	30.26	100	1	0	183030017A	10885
124 9866464 ACF	124 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.16	10	1	0	183030017A	10885
125 9866465 ACF	125 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.47	10	1	0	183030017A	10885
126 9866466 ACF	126 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.07	10	1	0	183030017A	10885
127 9866467 ACF	127 T	AB	EPT-24\ACTIVE\CP20\20PCBA.MET	30.49	10	1	0	183030017A	10885
128 AR1641824D	128 CCAL	IE	EPT-24\ACTIVE\CP20\20PCBA.MET	1	1	1	0	1830399999	10227
129 IBLKX1824C	129 PIBLK	HW	EPT-24\ACTIVE\CP20\20PCBA.MET	1000	10	1	0	1830399999	10227

*cm 13786 to 11/1/18*  
*③ cm 13786 11/1/18*

Set-up by: *JF 2855*  
 10/31/2018

Date: *31 OCT 18*



LANCASTER LABORATORIES

Sample Number: IBLKX1824C      AAPIBLKAA      PIBLK1830299999      10227  
 Injected On: 10/30/2018 7:32:14 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.005.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

SW-846 8082  
 Injection Volume: 1 ul  
 Analyst: 9065

RT A	Compound A	Height A	Area A
2.006		596	264
2.092		1155	6652
2.134		1484	1177
2.172	TCX	3311686	3994060
2.385		50866	50819
2.501		8750	8875
2.82		792	377
2.86		5086	3623
2.895		2968	1878
3.142		1127	1232
3.171		764	341
3.186		875	326
3.268		823	583
3.359		1540	1345
3.637		992	577
3.735		1499	1033
3.766		9184	7026
3.848		855	327
3.897		1277	1098
3.945		815	384
4.017		1281	513
4.041		40821	31978
4.125		1062	526
4.149		5142	5468
4.199		3669	2749
4.251		63371	49422
4.297		2941	1853
4.383		1353	795
4.441		1921	1975
4.493		5158	4819
4.54		2493	2951
4.564		55691	42457
4.667		90584	70429
4.721		1059	243
4.759		1039	741
4.801		3561	2728
4.844		1022	735
4.913		780	316
4.94		79345	65716
5		105894	86110
5.042		34048	28928
5.106		1006	776
5.193		740	275
5.244		1013	582
5.293		43601	35572
5.325		1065	234
5.342		1451	899
5.454	DCB	3145572	2914966
5.729		946	758
5.793		557	283
5.865		901	291
5.889		3350	3105
6.005		595	218
6.14		832	465



Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
6.491		846	518

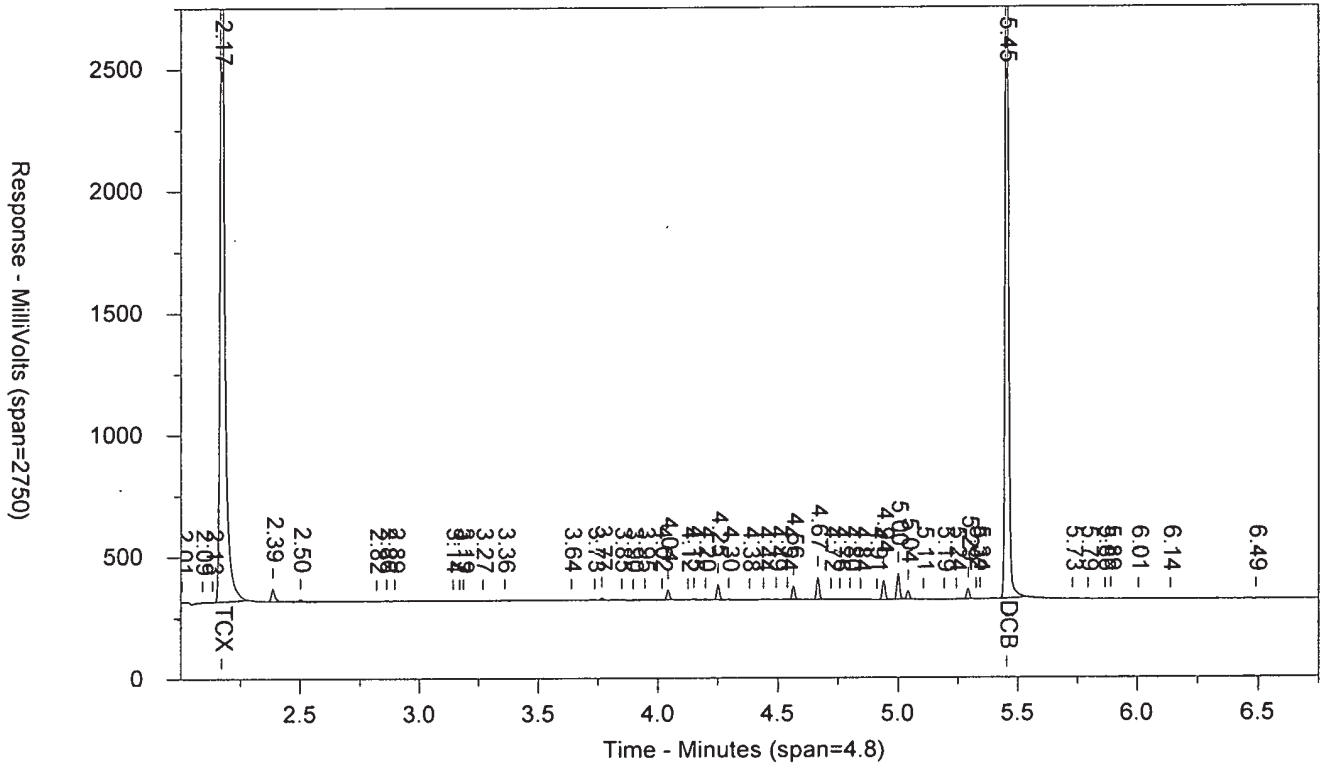
## LANCASTER LABORATORIES

Sample Number: IBLKX1824C      AAPIBLKAA      PIBLK1830299999      10227  
Injected On: 10/30/2018 7:32:14 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.005.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

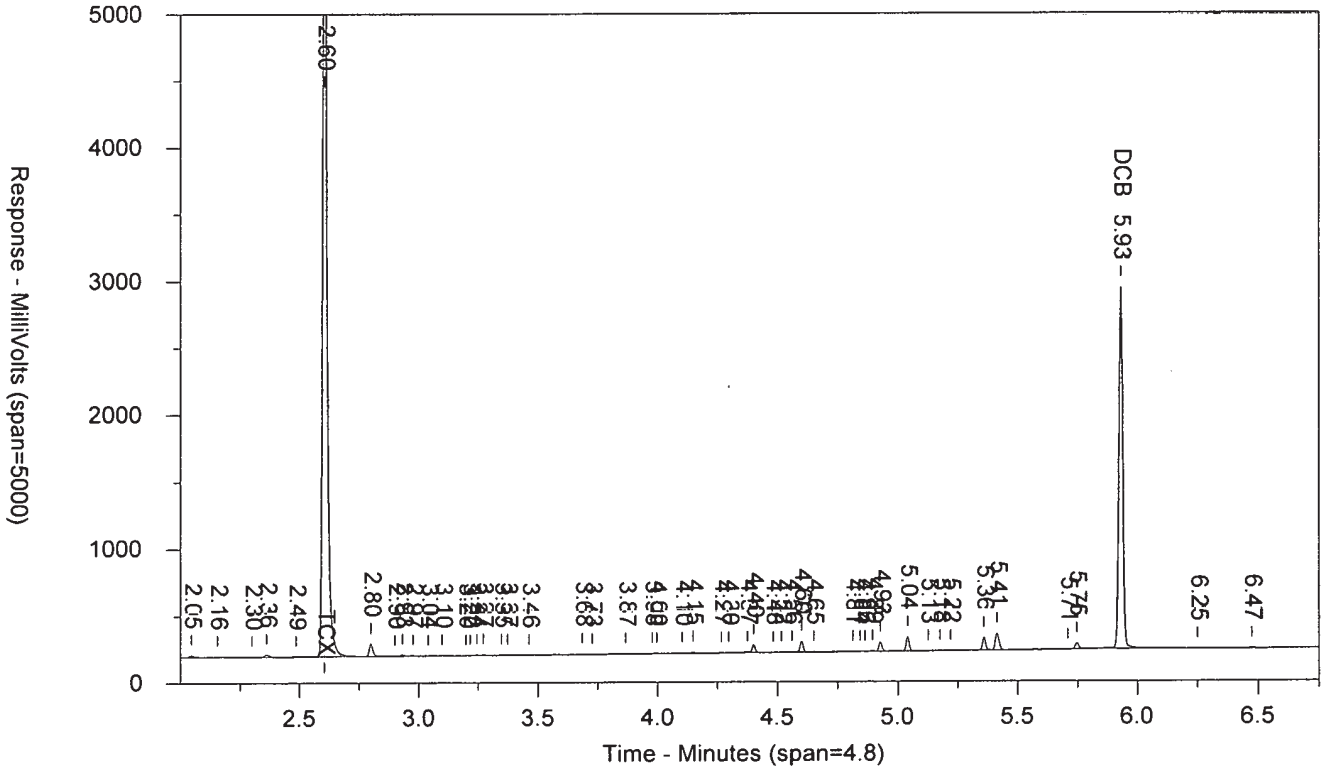
SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.047		13523	19779
2.157		3152	2841
2.299		1120	1264
2.361		17589	28916
2.485		810	6064
2.604	TCX	7228072	8258000
2.798		93719	98133
2.898		1109	988
2.93		11103	10241
2.975		3083	2989
3.04		604	193
3.099		2137	1788
3.198		456	79
3.216		763	370
3.244		5228	3473
3.27		5991	5713
3.347		3654	2793
3.373		2938	2561
3.462		664	510
3.684		4247	4990
3.725		1299	1439
3.865		1687	1482
3.976		2159	1547
3.996		1893	1520
4.1		2870	3955
4.147		11372	11585
4.266		3012	2423
4.297		2810	2366
4.374		3602	3793
4.401		55541	46180
4.482		2375	2432
4.515		3193	2734
4.559		4616	3410
4.6		82002	71463
4.651		3420	2820
4.813		2267	3865
4.844		2118	1358
4.864		1540	1284
4.895		7271	6766
4.927		69280	61651
5.041		108409	92183
5.126		1409	1403
5.175		3321	2991
5.22		2896	3217
5.359		95667	83310
5.413		126426	138405
5.709		1097	1167
5.747		45455	44181
5.931	DCB	2706272	3107240
6.251		957	541
6.473		3301	4312

IBLKX1824C      AAPIBLKAA      PIBLK1830299999      10227      SW-846 8082  
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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.005.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: IBLKX1824C      AAPIBLKAA      PIBLK1830299999      10227  
Injected On: 10/30/2018 7:32:14 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1000  
Dilution Factor: 10

Threshold: 6  
Calibration Type: external  
Quantitation: Height

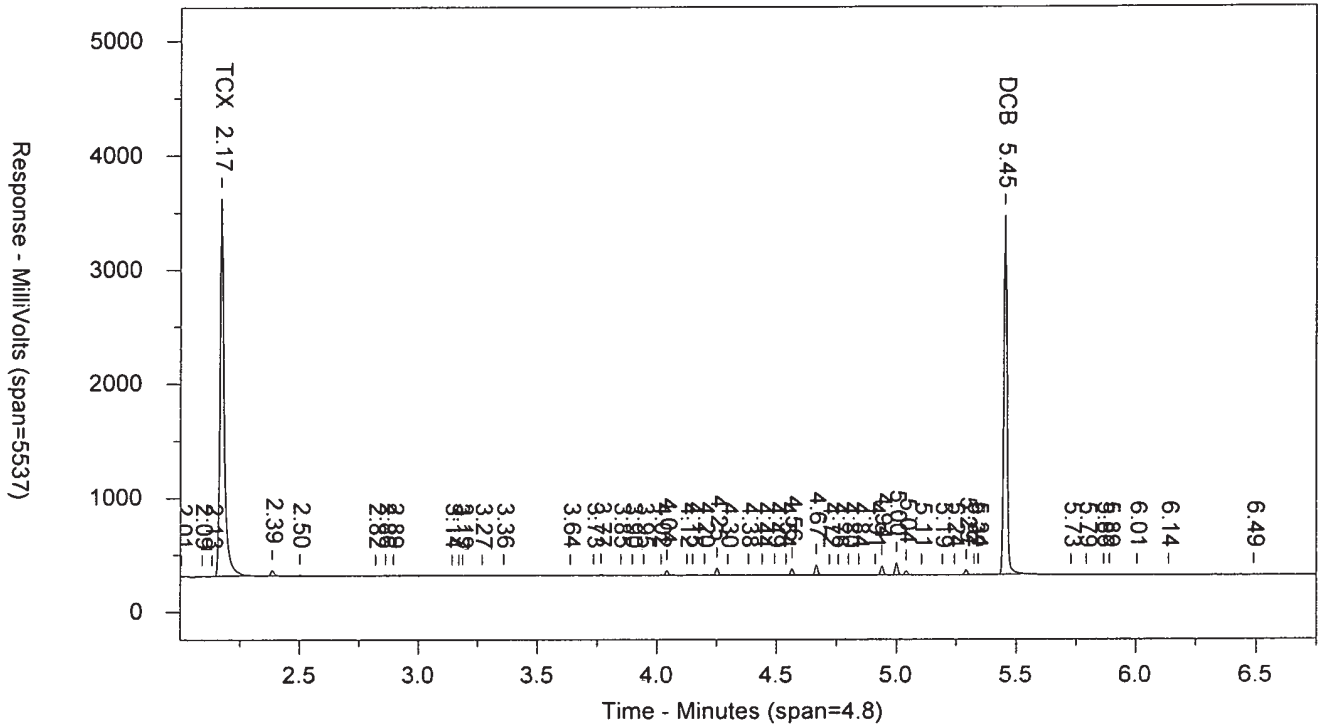
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.172	3311686	.193	TCX	2.604	7228072	.187	TCX
5.454	3145572	.183	DCB	5.931	2706272	.175	DCB

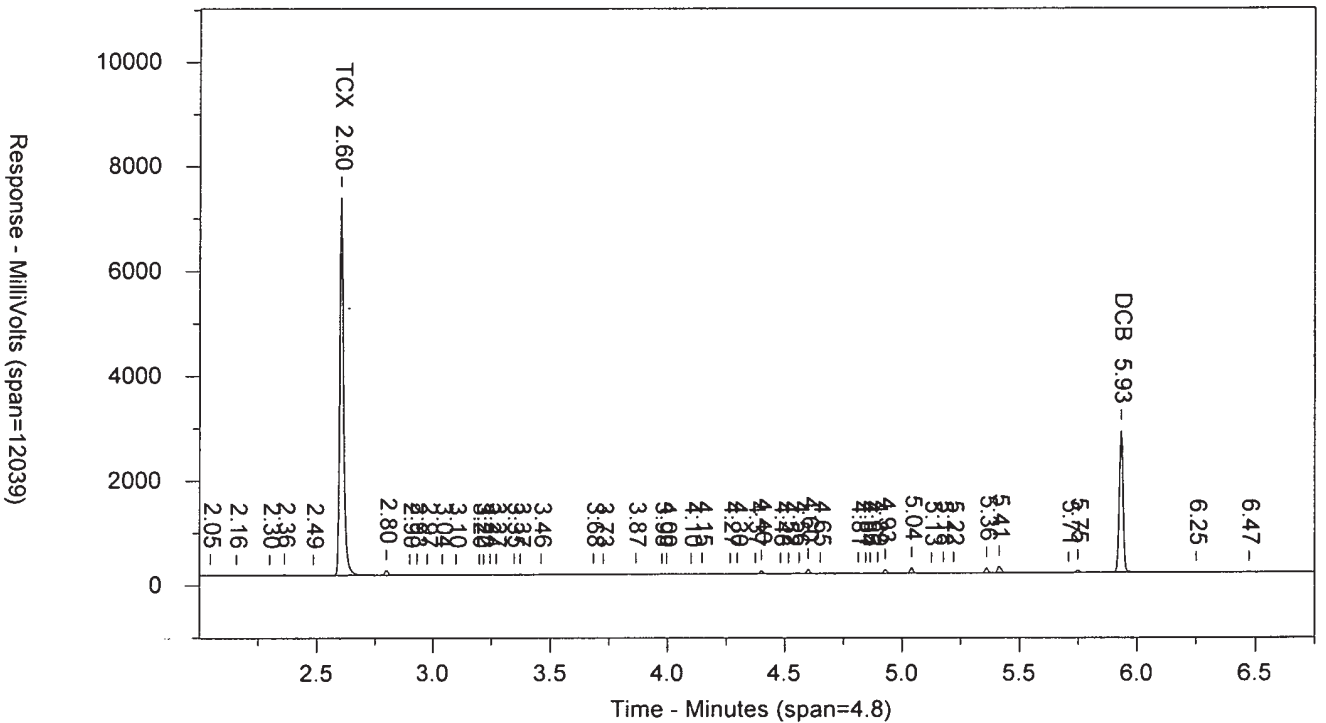
Files:

Area File: 20pcbs18303001.005.RAW  
Area File: 20pcbs18303001B.005.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 7:40:16 PM  
File Reported On: 10/31/2018 at 2:09:29 PM

IBLKX1824C    AAPIBLKAA    PIBLK1830299999    10227    SW-846 8082  
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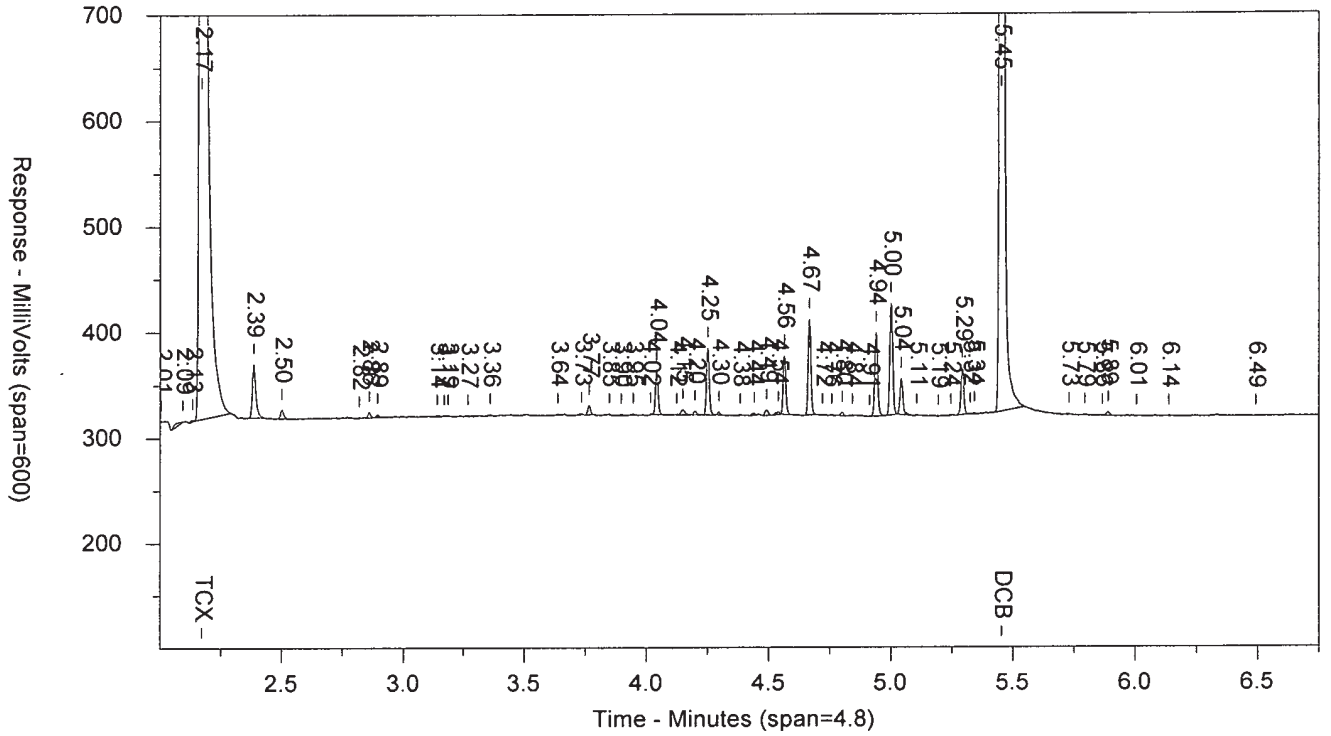


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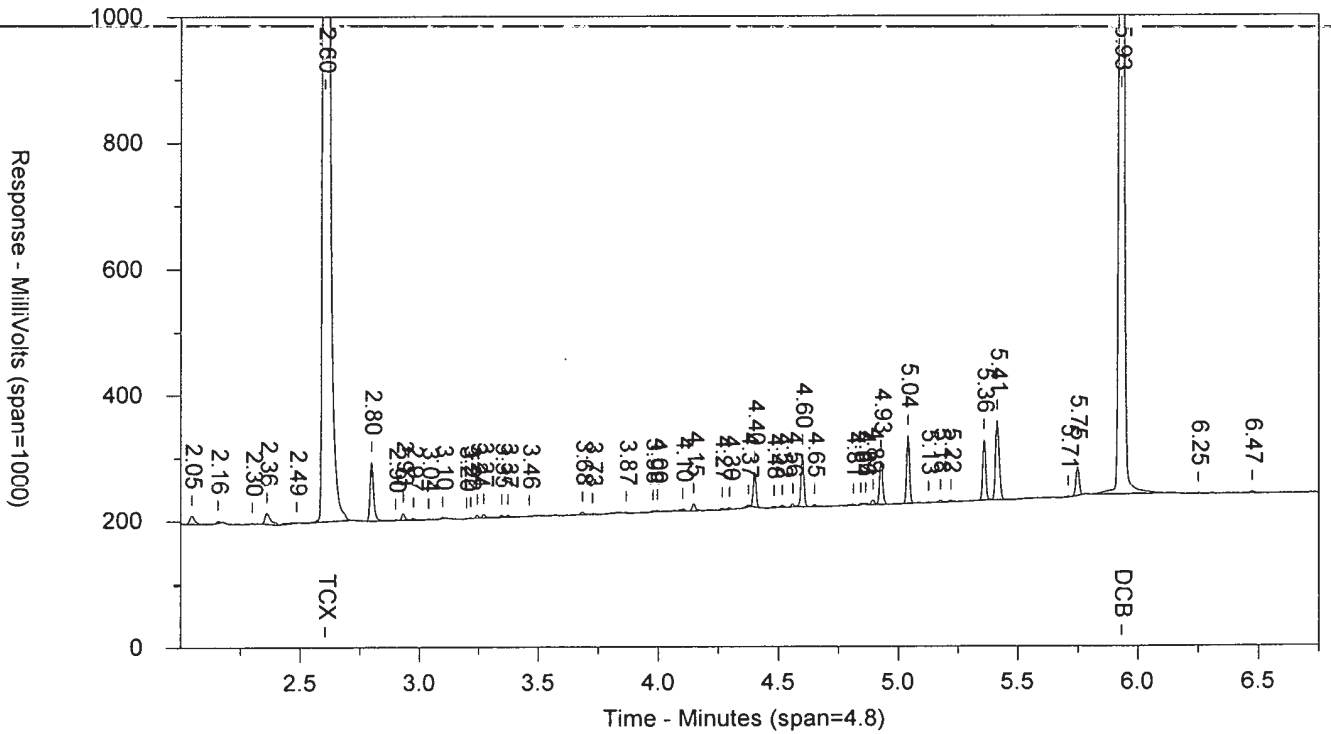


IBLKX1824C    AAPIBLKAA    PIBLK1830299999    10227    SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.005.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: EVALX1824B      AAEVALXAA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 7:42:40 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.006.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.012		7856	10678
2.089		1191	3836
2.11		7725	6055
2.171	TCX	3402895	4083283
2.305		9249	7677
2.352		676	478
2.385		54008	64324
2.452		7450	8871
2.498		5662	3992
2.522		1947639	1559656
2.587		10209	9506
2.68		60381	77303
2.742		1581900	1209841
2.821		3473	2654
2.874		849256	628692
2.914		10831	6637
2.939		9287	10938
3.043		354286	287210
3.081		170249	141728
3.12		1557	574
3.135		2221	1045
3.152		6482	4172
3.189		15493	13892
3.215		3450	2178
3.269		14565	18336
3.306		8452	6880
3.354		4029	4359
3.37		14419	7146
3.386		314619	239325
3.423		3741	2547
3.436		12450	5743
3.454		72439	46939
3.504		14463	16976
3.586		447834	348965
3.616		8246	4827
3.649		9645	7474
3.686		2382	1702
3.745		173040	158331
3.771		10038	19379
3.83		2173	1073
3.861		216134	184111
3.929		3214	2100
3.974		241386	169396
4		14156	7984
4.028		3979197	3109315
4.077		1166164	852557
4.12		164044	122996
4.165		19541	19016
4.215		233908	150358
4.239		2548131	1913615
4.271		36439	20553
4.311		404010	316859
4.341		3420	2079
4.363		13084	8085

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.409		53429	40007
4.444		16990	16111
4.49		4505	3622
4.52		631052	505429
4.562		56033	38584
4.596		2405	1623
4.631		2752453	2220392
4.665		79976	59016
4.692		13103	7001
4.728		4376	3530
4.754		1232	564
4.796		1307377	1132148
4.832		88166	65044
4.938		87293	69258
4.998		114606	94997
5.039		36007	30468
5.097		1067	239
5.106		1030	331
5.288		47383	40170
5.34		1453	721
5.363		1250	521
5.382		644	301
5.45	DCB	3365469	3166766
5.712		726	246
5.761		912	210
5.788		912	620
5.882		2651	3182
6.021		991	278
6.055		675	589
6.091		630	313
6.231		641	144
6.316		764	328
6.353		768	425



## LANCASTER LABORATORIES

Sample Number: EVALX1824B      AAEVALXAA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 7:42:40 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.006.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.026		32427	39873
2.102		13581	14536
2.135		1323	761
2.166		73842	70270
2.203		14858	12106
2.28		1456	1253
2.304		21995	24399
2.36		14911	16554
2.402		23129	21809
2.474		1189	735
2.499		23625	22545
2.604	TCX	7549560	8525431
2.687		24390	19063
2.75		2995	2388
2.778		13967	8077
2.798		81729	81650
2.848		2396629	2022808
2.901		2172	1465
2.925		56024	51339
2.955		20191	18315
3.043		1686362	1391335
3.094		83081	73460
3.122		15712	19783
3.189		920058	776397
3.244		5608	3087
3.291		35876	44732
3.333		224657	212368
3.364		8256	9492
3.439		580447	668449
3.511		4808	3879
3.541		7214	7241
3.589		14748	29404
3.658		11171	11225
3.702		130312	107523
3.731		18145	16561
3.768		12997	9051
3.795		387191	330771
3.827		75412	52902
3.862		3945	2908
3.896		28202	31867
3.929		23588	18503
3.964		556150	449095
3.994		16231	11387
4.019		7298	4987
4.057		4288	5288
4.095		33579	25078
4.126		404557	357497
4.202		243127	198734
4.247		4517	3777
4.278		460815	354361
4.298		24266	12631
4.336		1791	1114
4.373		3533689	2668999
4.397		230056	139046

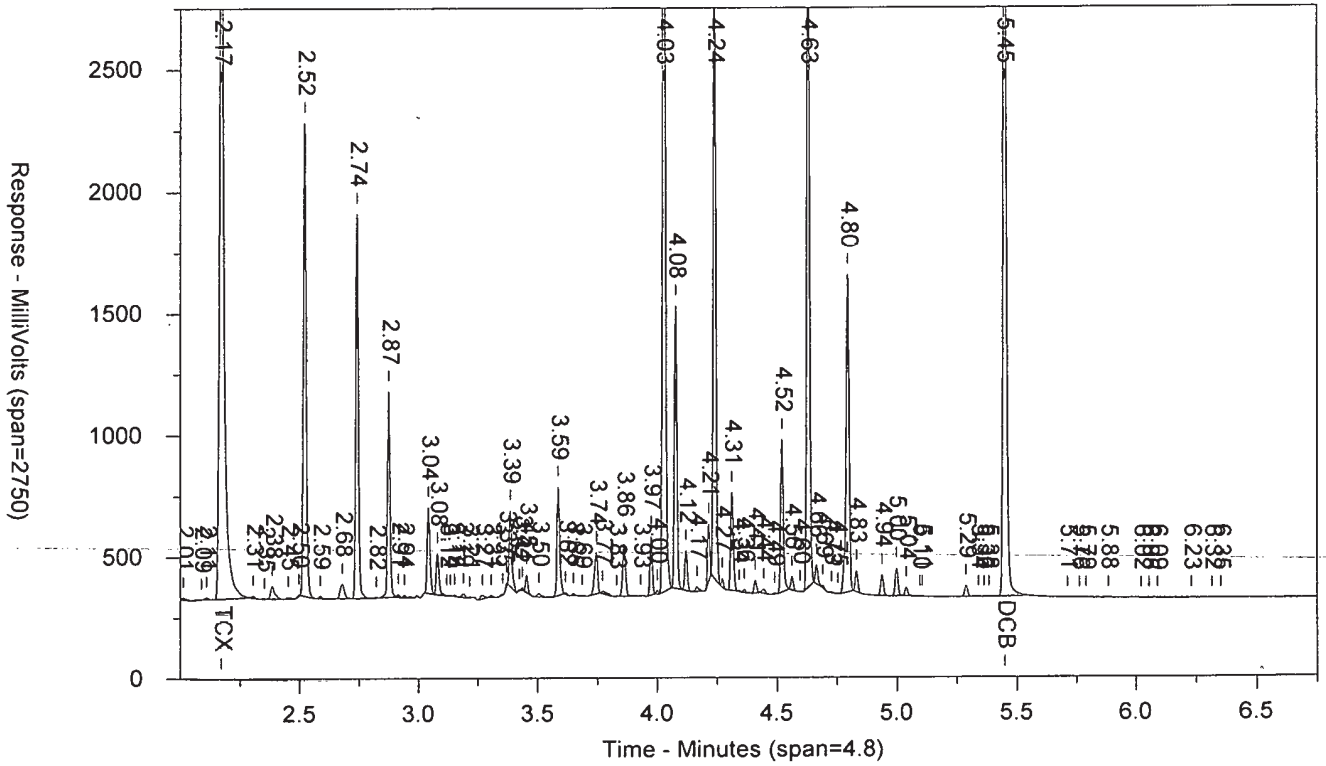
## Chrom Perfect Chromatogram Report

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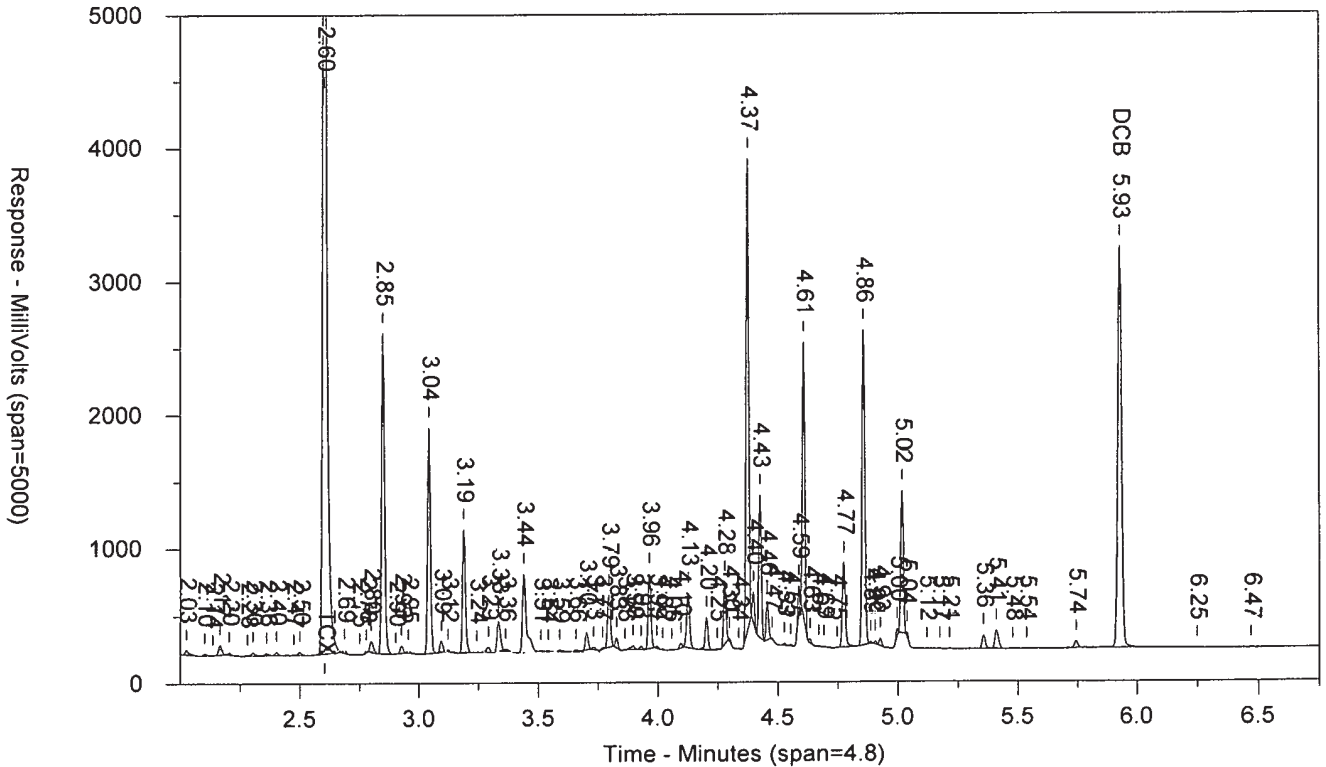
RT B	Compound B	Height B	Area B
4.426		1065395	789982
4.456		277509	203259
4.475		11319	5113
4.527		16114	12563
4.553		9509	7329
4.588		193243	124959
4.607		2058701	1454434
4.634		29019	16959
4.671		6722	4266
4.691		7268	6086
4.747		2459	1975
4.774		633494	540528
4.856		2363535	1924366
4.886		14248	7632
4.905		21329	12537
4.926		56302	39663
4.997		55650	35620
5.017		1063169	840480
5.038		38970	19042
5.121		1802	1970
5.174		4180	5991
5.215		3827	3579
5.357		100988	91318
5.41		139170	148760
5.477		838	937
5.536		1786	3528
5.743		50789	48194
5.926	DCB	3004126	3383055
6.249		1154	1056
6.469		3415	4722

EVALX1824B    AAEVALXAA    ICAL 1830299999    10227    SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: EVALX1824B      AAEVALXAA      ICAL 1830299999      10227  
Injected On: 10/30/2018 7:42:40 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	3402895	19.825	TCX	2.604	7549560	19.518	TCX
5.45	3365469	19.614	DCB	5.926	3004126	19.409	DCB

Files:

Area File: 20pcbs18303001.006.RAW  
Area File: 20pcbs18303001B.006.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 7:50:43 PM  
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EVALX1824B

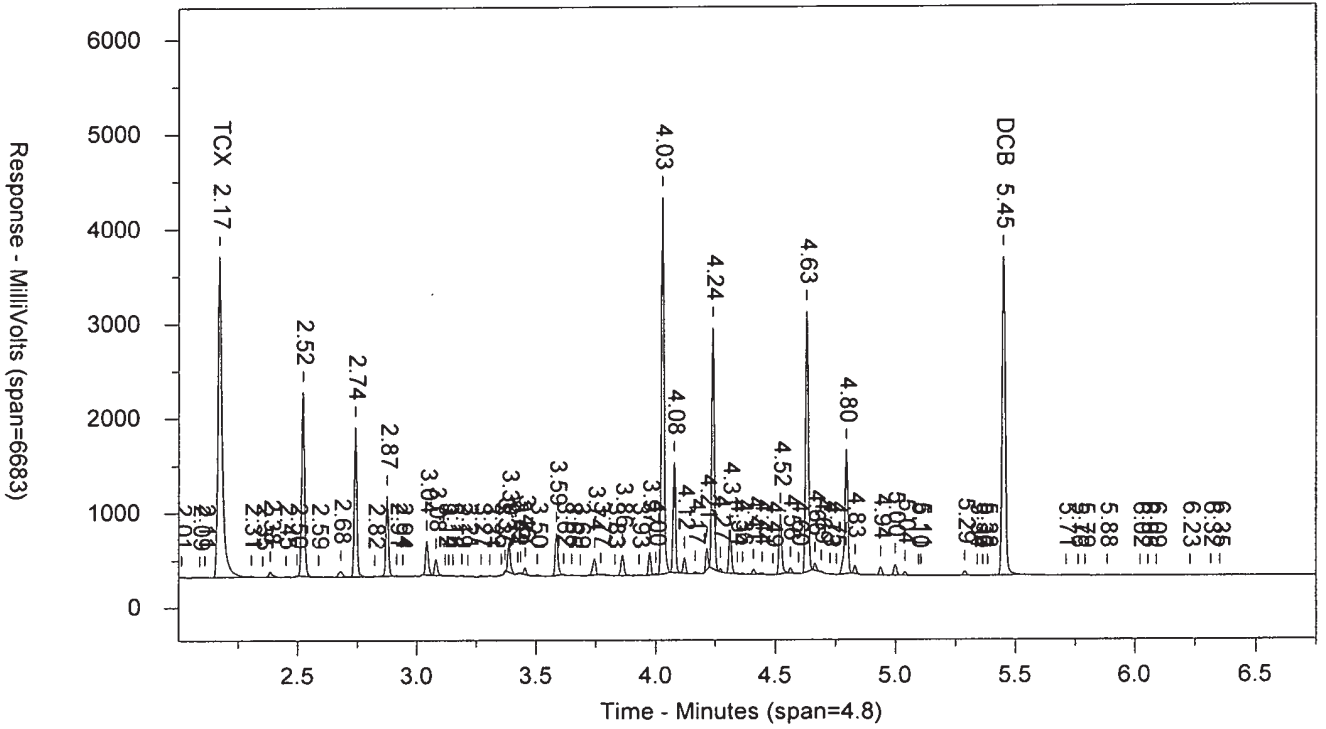
AAEVALXAA

ICAL 1830299999

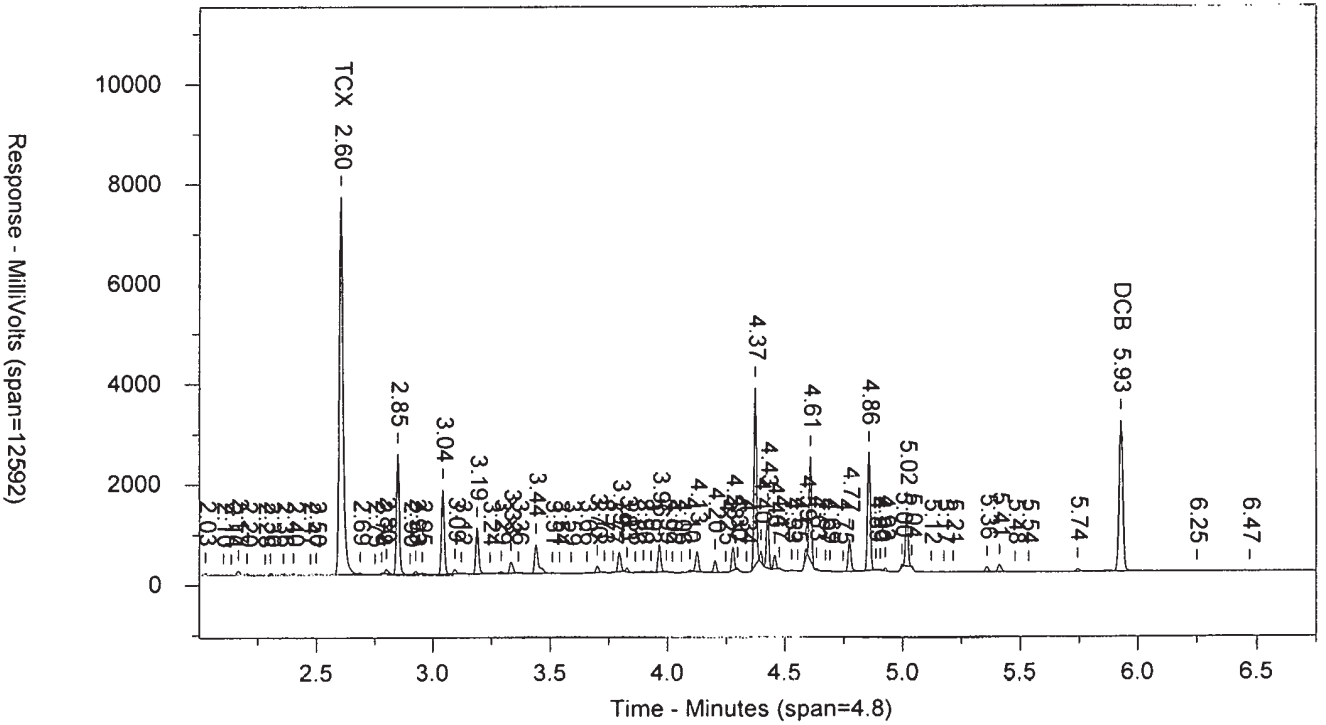
10227

SW-846 8082

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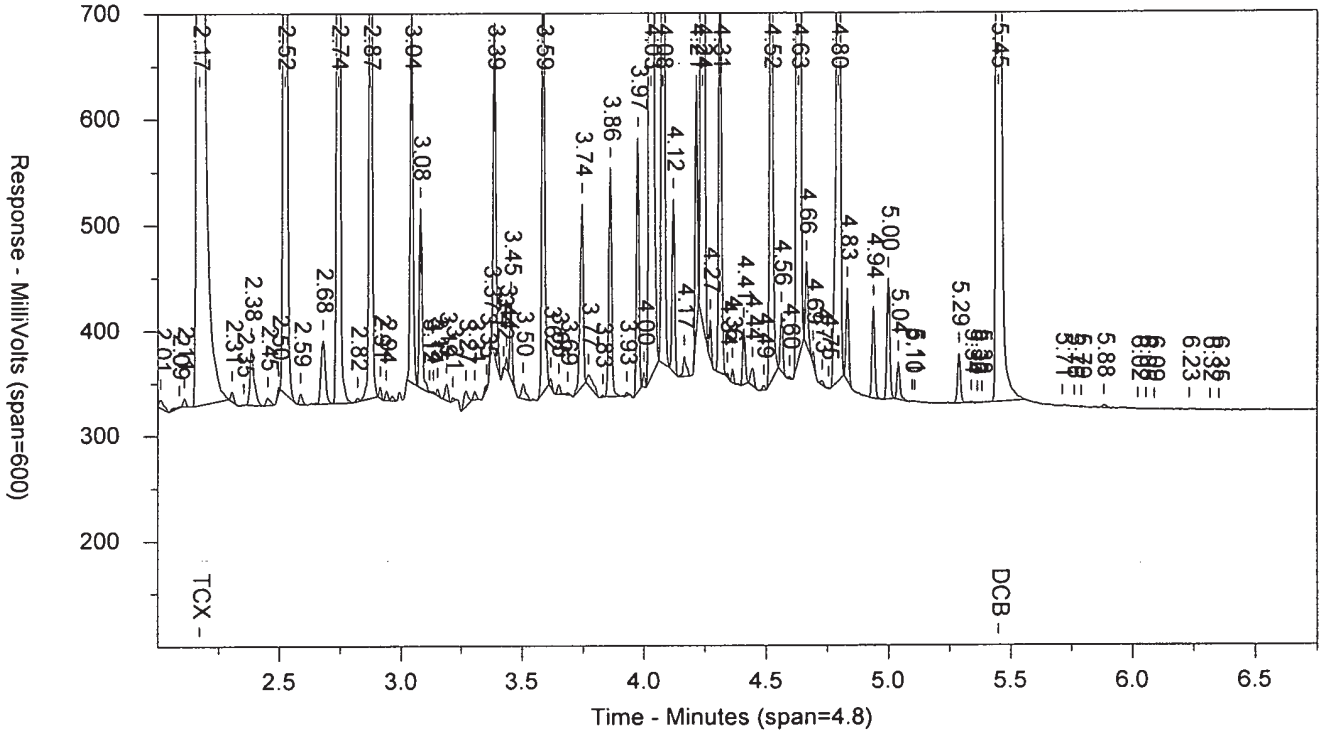


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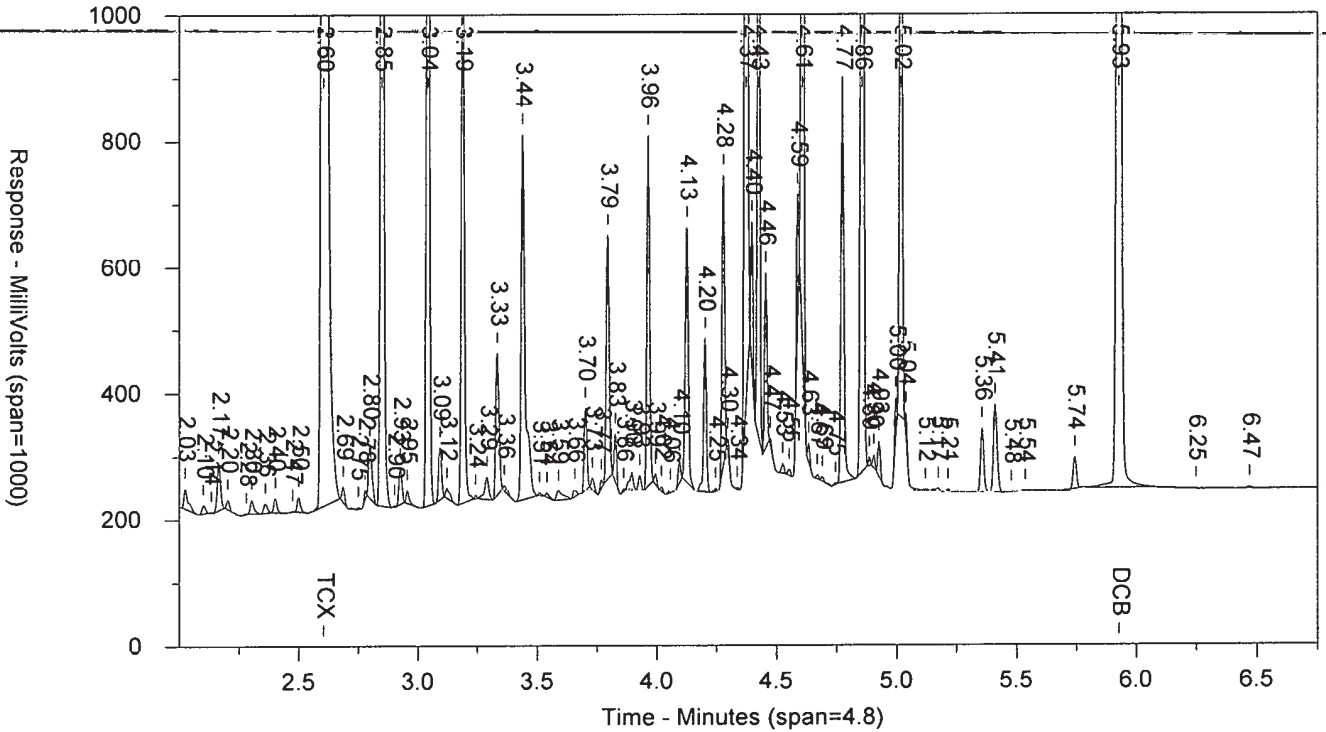


EVALX1824B    AAEVALXAA    ICAL 1830299999    10227    SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR1611824D      AAAR161AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 7:53:11 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.007.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		2404	4946
2.085		1536	3395
2.108		2306	1978
2.133		1736	1003
2.171	TCX	354715	412929
2.254		7933	8309
2.305		2164	1678
2.35		21644	21821
2.384		3394	2285
2.417		18531	15615
2.466		101688	109187
2.607		14915	14877
2.685		181565	232000
2.742		17234	32645
2.811		51795	31535
2.829		80103	55051
2.875		36768	23071
2.893		19007	10983
2.952		318183	403504
3.008		188516	162316
3.038		3573	1552
3.086		118447	79677
3.111		155603	111092
3.138		69393	38768
3.156		72185	50217
3.186		2546	1909
3.233		794	174
3.266		177171	127849
3.291		53053	33830
3.316		35856	20024
3.329		13269	5497
3.354		149617	115261
3.422		44186	29887
3.445		36679	24968
3.47		51831	32451
3.495		182137	140884
3.537		27674	23124
3.572		169801	128492
3.606		6741	3868
3.624		4746	2461
3.659		19897	18129
3.697		1411	739
3.732		43853	37194
3.78		43208	35816
3.814		2429	1028
3.843		266293	232938
3.874		97685	71449
3.925		353384	274381
3.958		34584	21354
3.984		69817	49439
4.021		431901	360915
4.123		170303	115033
4.147		202273	149826
4.17		5584	3219

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.203		88507	77635
4.239		293876	283715
4.262		201663	128448
4.295		167711	126261
4.362		8445	4680
4.382		44863	31027
4.438		254468	189582
4.459		32083	18331
4.494		146059	109396
4.523		92372	67334
4.543		22428	10264
4.566		532279	426761
4.599		8395	5160
4.665		30422	24358
4.73		8137	5706
4.757		116600	90984
4.797		389222	356516
4.937		16602	19352
4.999		17332	15388
5.04		63537	53484
5.103		130395	96785
5.24		964	439
5.29		32430	26761
5.362		1135	233
5.382		637	175
5.452	DCB	393232	349701
5.848		581	285
5.957		615	262
6.104		639	233
6.119		1051	289
6.142		981	1113
6.213		580	130
6.278		889	233
6.439		935	279



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1611824D    AAAR161AA    ICAL 1830299999    10227  
 Injected On: 10/30/2018 7:53:11 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.007.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
 Injection Volume: 1 ul  
 Analyst: 9065

RT B	Compound B	Height B	Area B
2.043		1203	1764
2.096		3282	4362
2.157		4803	6447
2.201		6779	8370
2.301		7179	9527
2.361		22581	27164
2.399		6369	5408
2.499		6709	7404
2.537		27841	31004
2.572		2201	1144
2.603	TCX	724011	816393
2.701		39516	64325
2.748		46354	43064
2.802		215755	238751
2.867		3579	2368
2.89		31935	30117
2.954		3853	2829
3.016		247595	197869
3.037		97632	67753
3.073		28912	20444
3.097		14395	10361
3.133		207139	318261
3.22		16155	18733
3.254		68050	49663
3.276		34810	24101
3.322		240301	157104
3.34		250947	153747
3.36		192391	139291
3.427		228868	215777
3.458		20987	13709
3.486		234331	198455
3.517		252058	205971
3.544		67064	49446
3.604		228365	182181
3.633		82074	62729
3.657		73947	49719
3.681		57309	36869
3.705		122274	95745
3.724		23570	13146
3.774		9706	7591
3.802		14057	10245
3.823		4667	2416
3.844		262215	295558
3.887		64219	49666
3.936		41785	36057
3.972		276294	234887
4.006		13919	10435
4.063		4400	3466
4.089		62633	55349
4.141		55302	40367
4.165		89724	70378
4.196		138668	113612
4.237		203873	188999
4.266		34146	18079

## Chrom Perfect Chromatogram Report

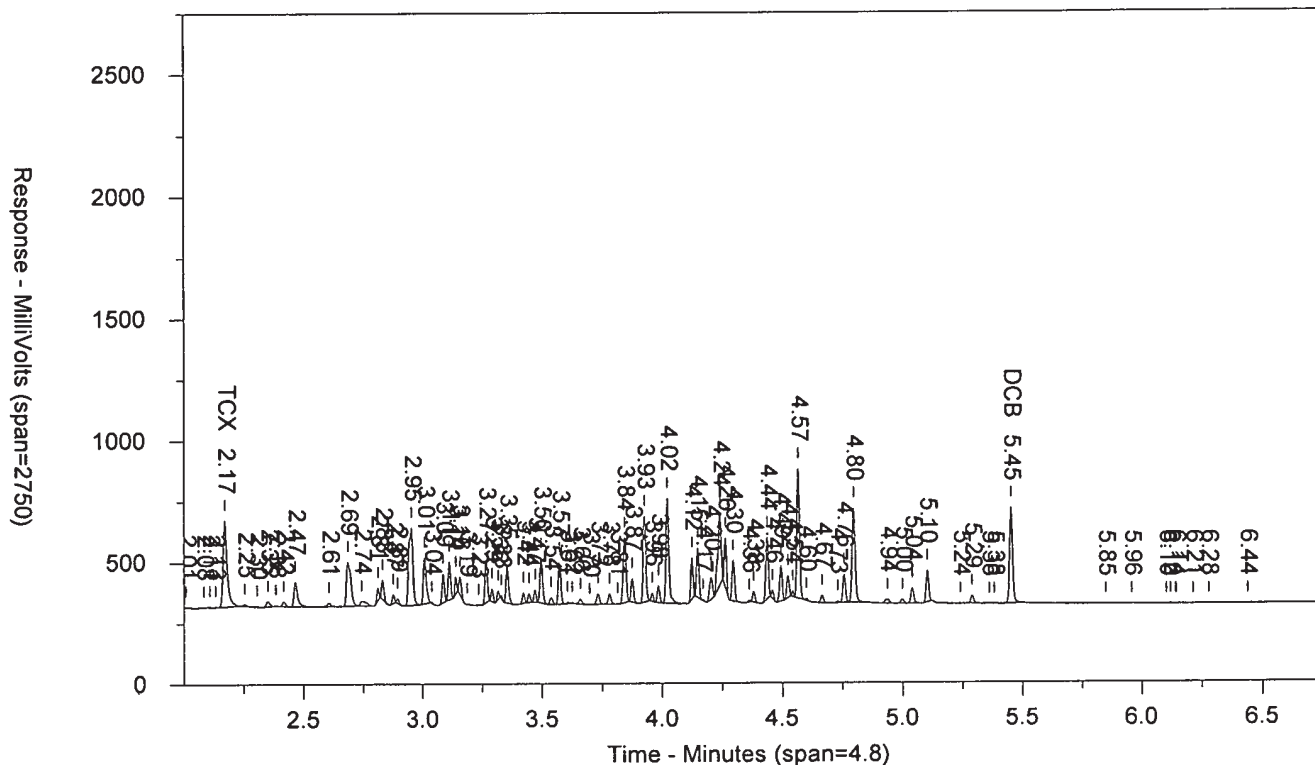
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RT B	Compound B	Height B	Area B
4.295		458850	400812
4.329		8155	5489
4.371		95291	81617
4.407		96430	86897
4.447		523265	438893
4.479		193362	152081
4.52		268180	278448
4.556		48485	40420
4.592		59826	53785
4.621		514690	435335
4.645		48791	28221
4.673		295590	238052
4.707		182607	148186
4.809		322792	363256
4.841		20496	12823
4.867		156637	125970
4.894		94184	76880
4.926		7660	5027
4.948		84273	74545
4.989		607363	548181
5.037		42877	40717
5.074		1626	1539
5.124		1819	1727
5.173		378131	317463
5.198		24831	12441
5.216		116543	95161
5.356		13976	9957
5.377		8027	5081
5.419		75967	80423
5.534		140677	130283
5.578		8601	7494
5.744		36334	35306
5.787		1645	1566
5.927	DCB	355294	404649
6.312		751	582
6.556		802	1100
6.803		1336	2232

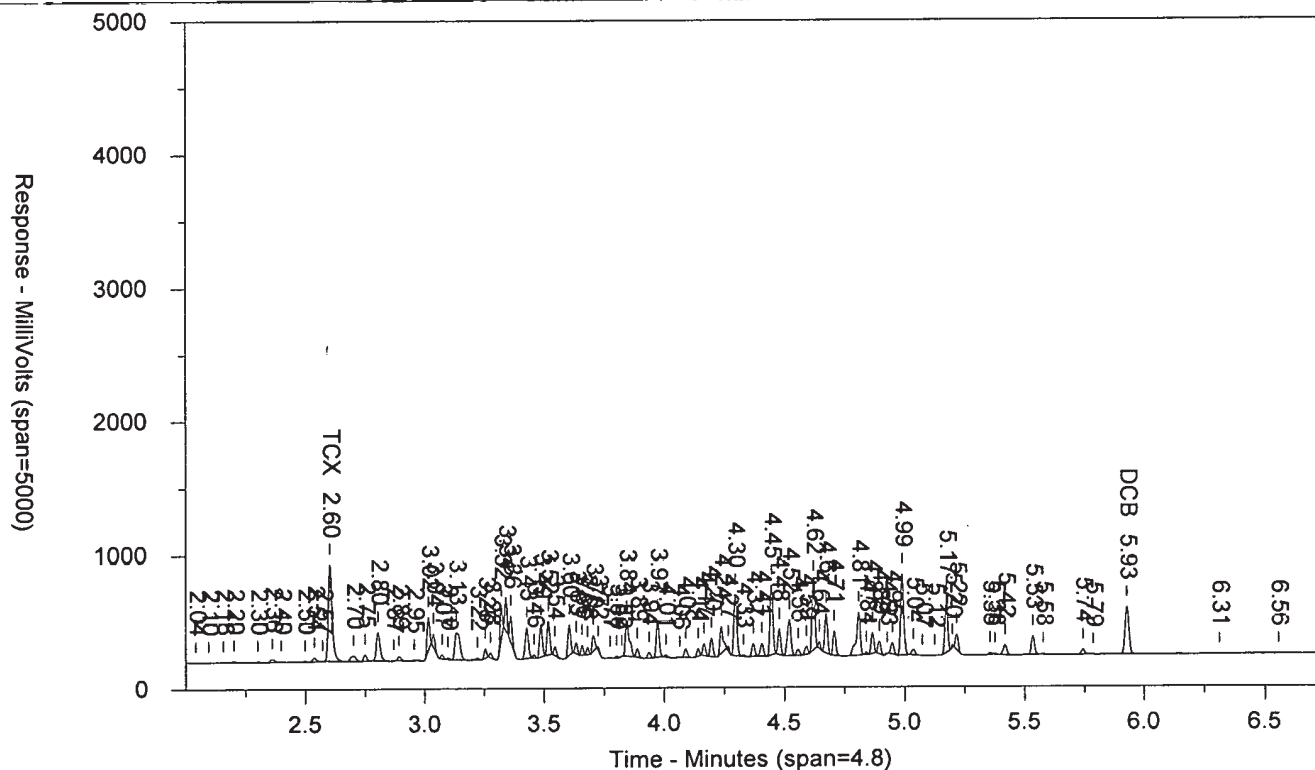
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AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.007.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1611824D      AAAR161AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 7:53:11 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	354715	2.111	TCX	2.603	724011	1.924	TCX
5.452	393232	2.303	DCB	5.927	355294	1.493	DCB

Files:

Area File: 20pcbs18303001.007.RAW  
Area File: 20pcbs18303001B.007.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 8:01:14 PM  
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AR1611824D

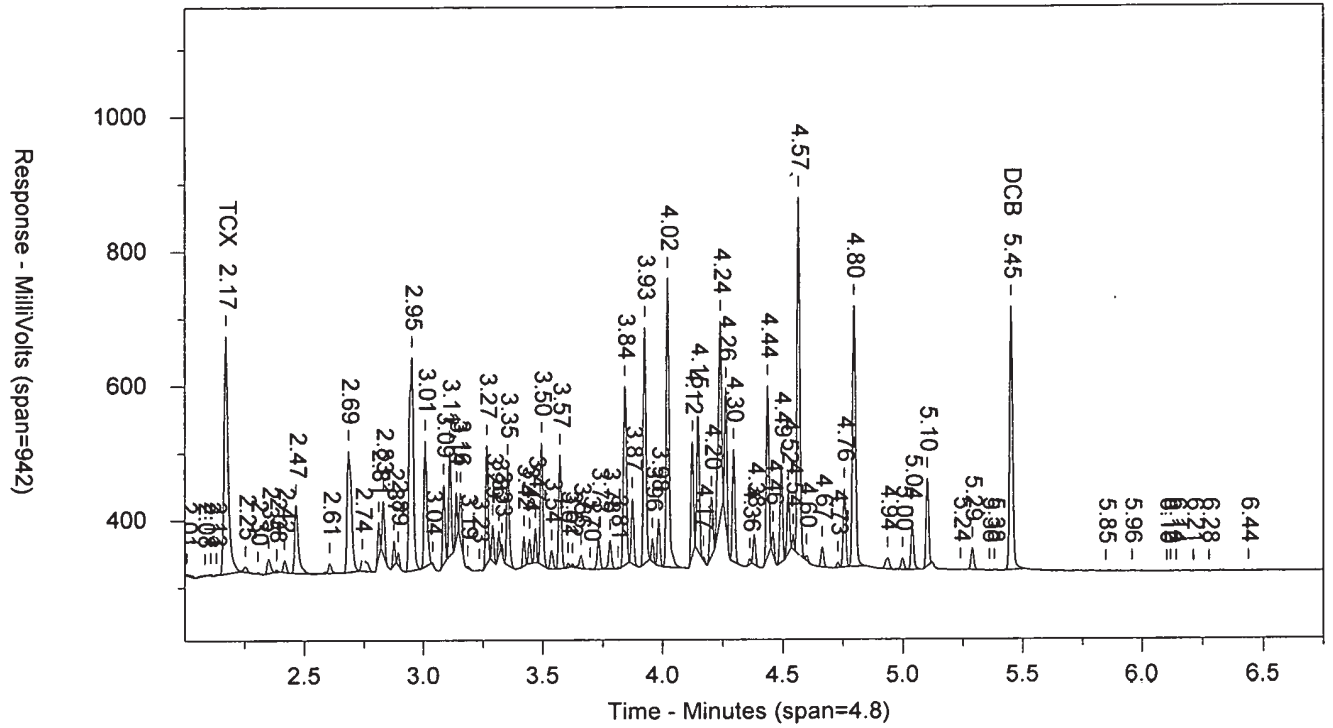
AAAR161AA

ICAL 1830299999

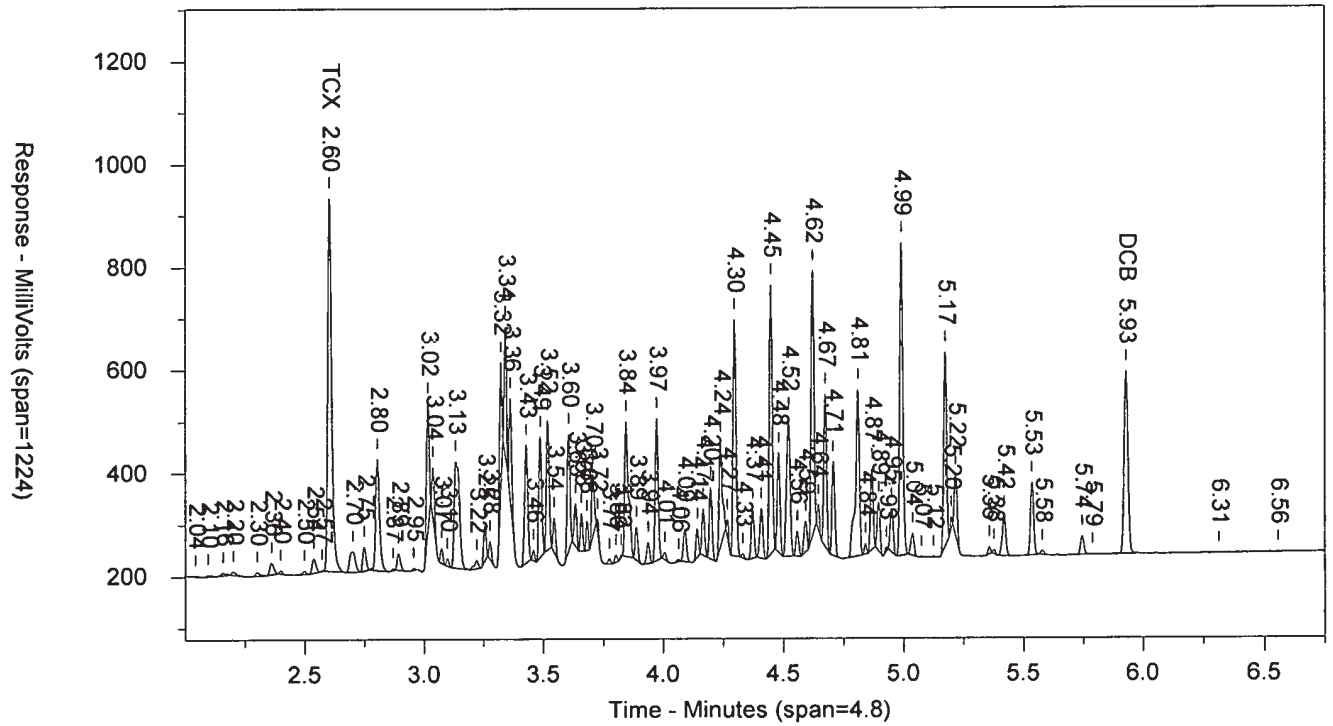
10227

SW-846 8082

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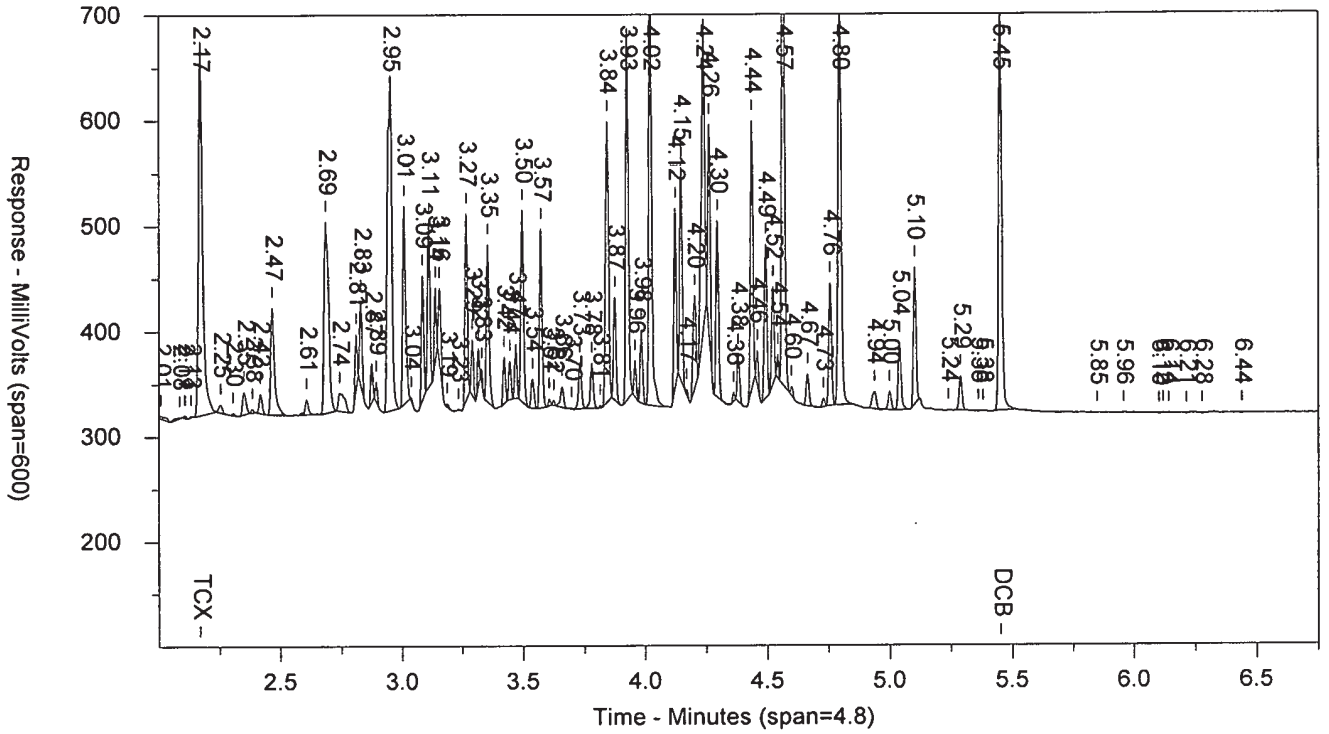


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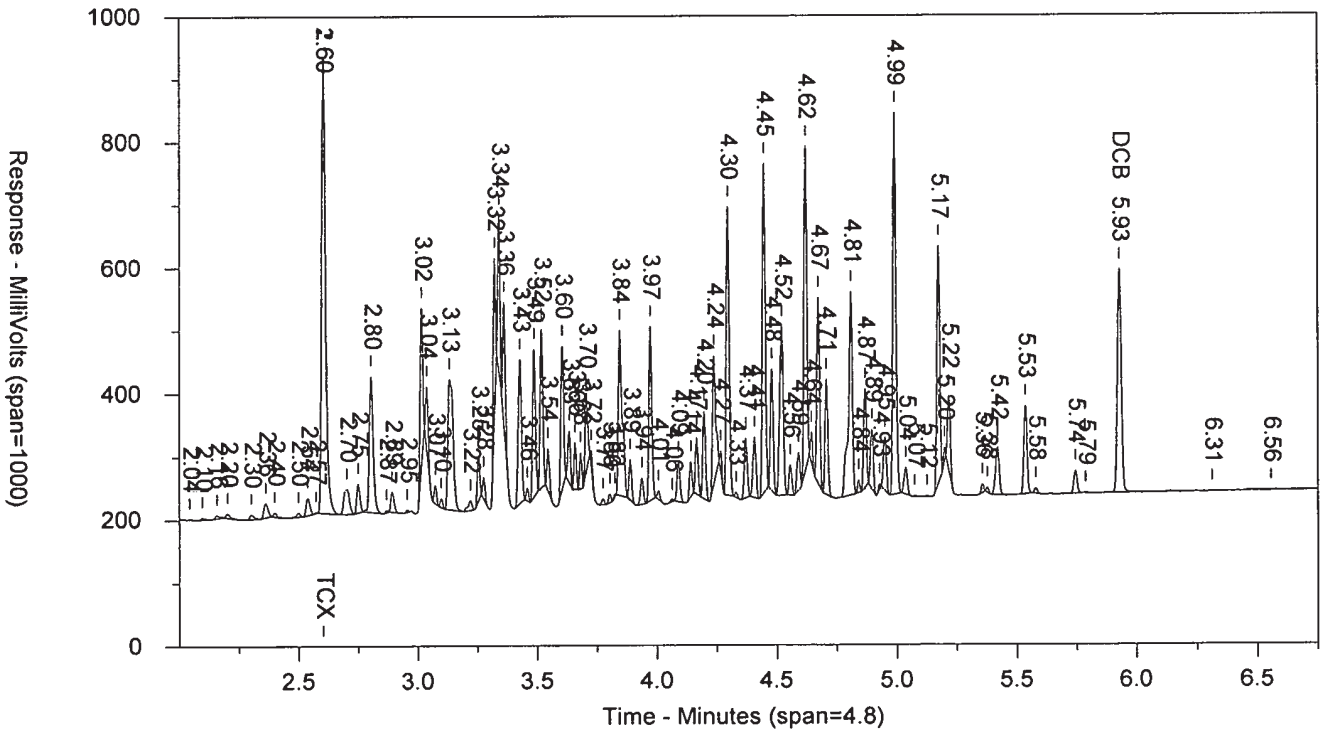


AR1611824D AAAR161AA ICAL 1830299999 10227 SW-846 808%

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.007.RAW



## LANCASTER LABORATORIES

Sample Number: AR1621824D      AAAR162AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 8:03:38 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.008.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.089		1278	5058
2.101		1554	1728
2.136		960	1259
2.172	TCX	699707	801270
2.254		16402	17022
2.301		1096	725
2.351		43636	43870
2.386		8162	5698
2.418		39396	35007
2.466		199274	212646
2.608		30250	28444
2.685		340963	447458
2.743		34396	61105
2.811		106367	63726
2.829		154898	110569
2.875		72480	45664
2.893		37728	21244
2.952		627110	786626
3.008		356204	314650
3.038		7328	3877
3.086		225643	157398
3.112		292955	210409
3.138		132210	74685
3.155		138661	95949
3.234		2030	1311
3.266		327937	244484
3.291		106100	67624
3.316		72033	41160
3.329		26675	11887
3.354		283173	221929
3.403		1634	1008
3.421		86153	58159
3.445		75512	51211
3.469		105500	64971
3.495		347158	268177
3.537		55451	44565
3.571		321757	247514
3.606		12148	7141
3.624		9860	5591
3.642		2450	1040
3.659		36232	27091
3.696		2638	1354
3.732		89445	69941
3.78		86766	69783
3.815		4746	2714
3.843		505759	456697
3.874		197040	144935
3.925		678025	526531
3.957		68826	42751
3.983		139716	101674
4.021		848334	704651
4.091		1025	664
4.123		325642	223329
4.146		384311	286126

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.169		10585	6731
4.202		169179	155381
4.238		606499	562568
4.262		390010	251769
4.294		342106	246955
4.361		17498	9644
4.38		91061	61834
4.437		485347	367904
4.458		65657	37060
4.493		278648	217111
4.522		179281	135125
4.542		43747	21262
4.565		1068644	841344
4.599		19129	11469
4.664		60957	48704
4.73		15497	10622
4.756		228398	182802
4.796		758044	711391
4.935		32595	37763
4.997		32078	25577
5.038		127877	105647
5.101		246757	193804
5.237		1328	955
5.287		64791	54866
5.413		642	166
5.449	DCB	716254	677287
5.676		734	202
5.711		654	639
5.783		709	162
5.883		1096	333
5.915		926	528
5.963		1011	355
6.126		500	280
6.295		663	218
6.324		1184	1301
6.409		854	244



## LANCASTER LABORATORIES

Sample Number: AR1621824D      AAAR162AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 8:03:38 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.008.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.047		2624	4703
2.159		5292	4765
2.2		6105	7847
2.297		2683	2866
2.361		24623	31136
2.463		426	2002
2.497		2231	3886
2.538		57114	72341
2.604	TCX	1489983	1695748
2.702		78757	121414
2.748		90581	91782
2.803		411988	474028
2.891		67961	71651
2.973		4376	3233
3.016		466740	369473
3.037		178231	120907
3.073		52278	37896
3.099		29793	21652
3.133		394835	613244
3.221		31908	30168
3.255		132315	95684
3.275		64350	43783
3.322		451661	302190
3.34		507614	306272
3.361		365241	259297
3.428		436560	426358
3.458		40034	26037
3.486		439555	370596
3.517		479093	379429
3.544		122020	90217
3.604		440306	346899
3.633		152273	114118
3.658		127231	87863
3.681		106620	68846
3.705		245526	187286
3.723		37515	21051
3.774		21824	17014
3.802		24835	16878
3.823		9358	5235
3.844		485896	559306
3.887		120918	96185
3.936		79645	66101
3.971		509515	446502
4.005		26329	19490
4.063		7786	5261
4.089		117518	109965
4.14		104184	76708
4.164		162616	130035
4.195		264101	219109
4.236		385439	367585
4.265		59596	32883
4.295		873361	752635
4.329		14931	10168
4.37		181475	155228

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.406		181695	167021
4.446		1025112	841774
4.478		361446	281563
4.52		507140	534575
4.555		93424	77317
4.591		108801	100006
4.62		1022128	840021
4.643		89541	51065
4.672		553969	448959
4.706		345118	285197
4.808		618352	692304
4.839		37640	24345
4.865		302667	236281
4.893		184677	144633
4.924		16972	11340
4.946		165518	145212
4.988		1197853	1072735
5.035		79634	79789
5.118		2615	2643
5.171		732727	609492
5.196		41755	21798
5.214		226685	182556
5.355		24826	18198
5.374		15499	10034
5.416		142927	155449
5.532		273051	251999
5.575		17472	14823
5.741		70045	70285
5.78		3019	2887
5.925	DCB	649127	751225
6.801		1877	1934

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AR1621824D

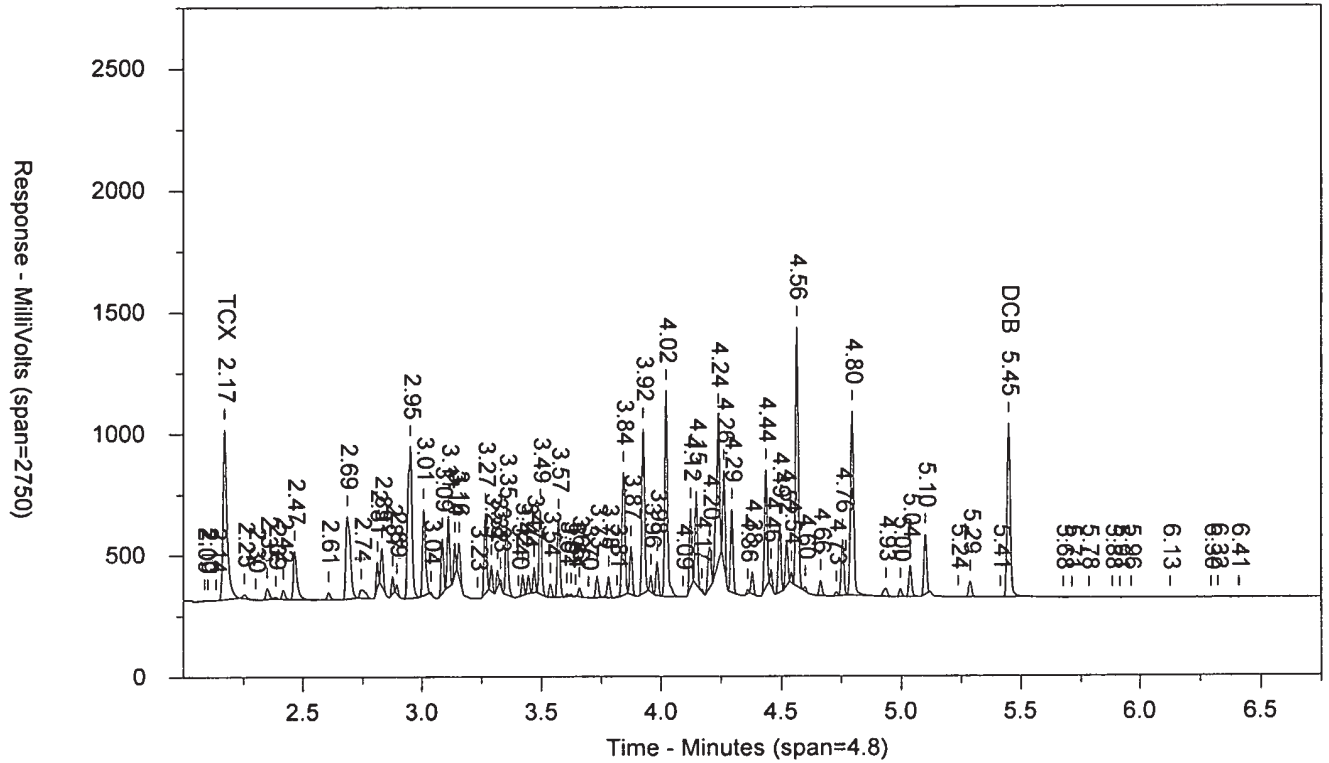
AAAR162AA

ICAL 1830299999

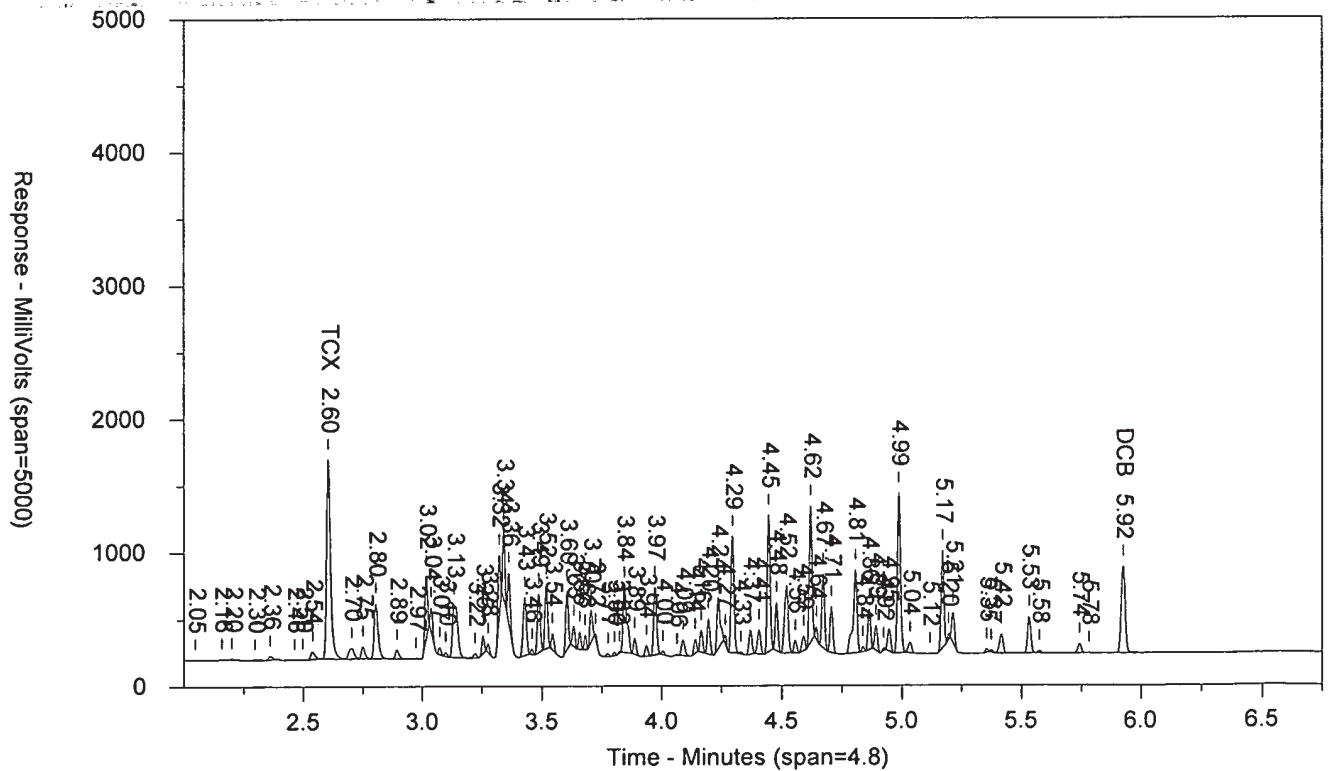
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR1621824D      AAAR162AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 8:03:38 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.172	699707	4.167	TCX	2.604	1489983	3.959	TCX
5.449	716254	4.201	DCB	5.925	649127	2.904	DCB

Files:  
 Area File: 20pcbs18303001.008.RAW  
 Area File: 20pcbs18303001B.008.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 8:11:40 PM  
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AR1621824D

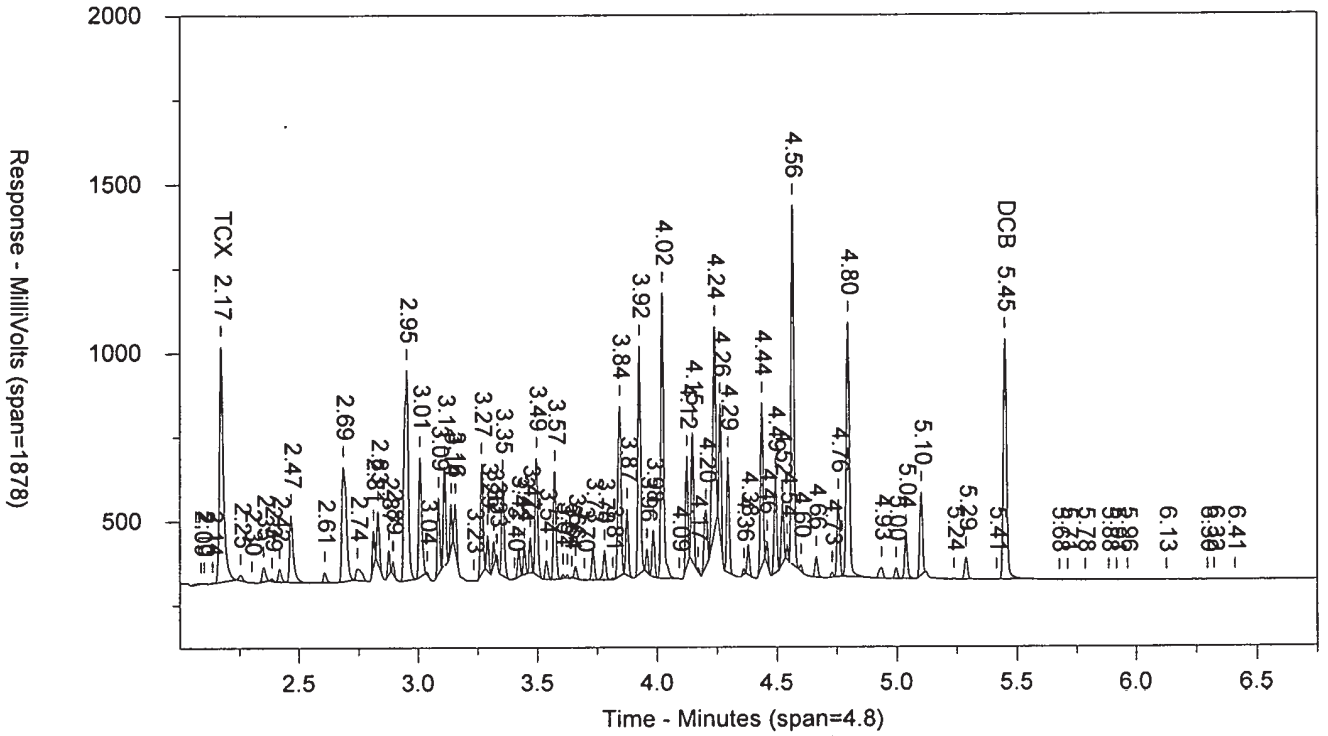
AAAR162AA

ICAL 1830299999

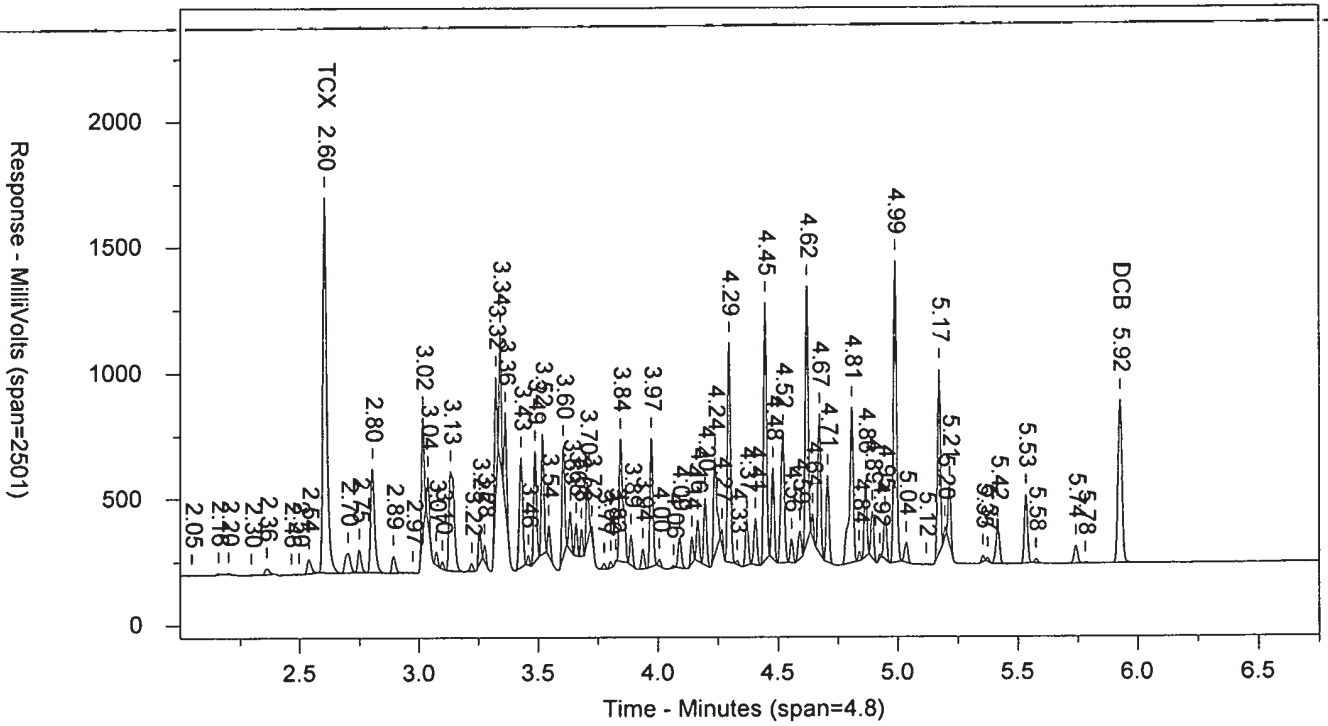
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SW-846 8082

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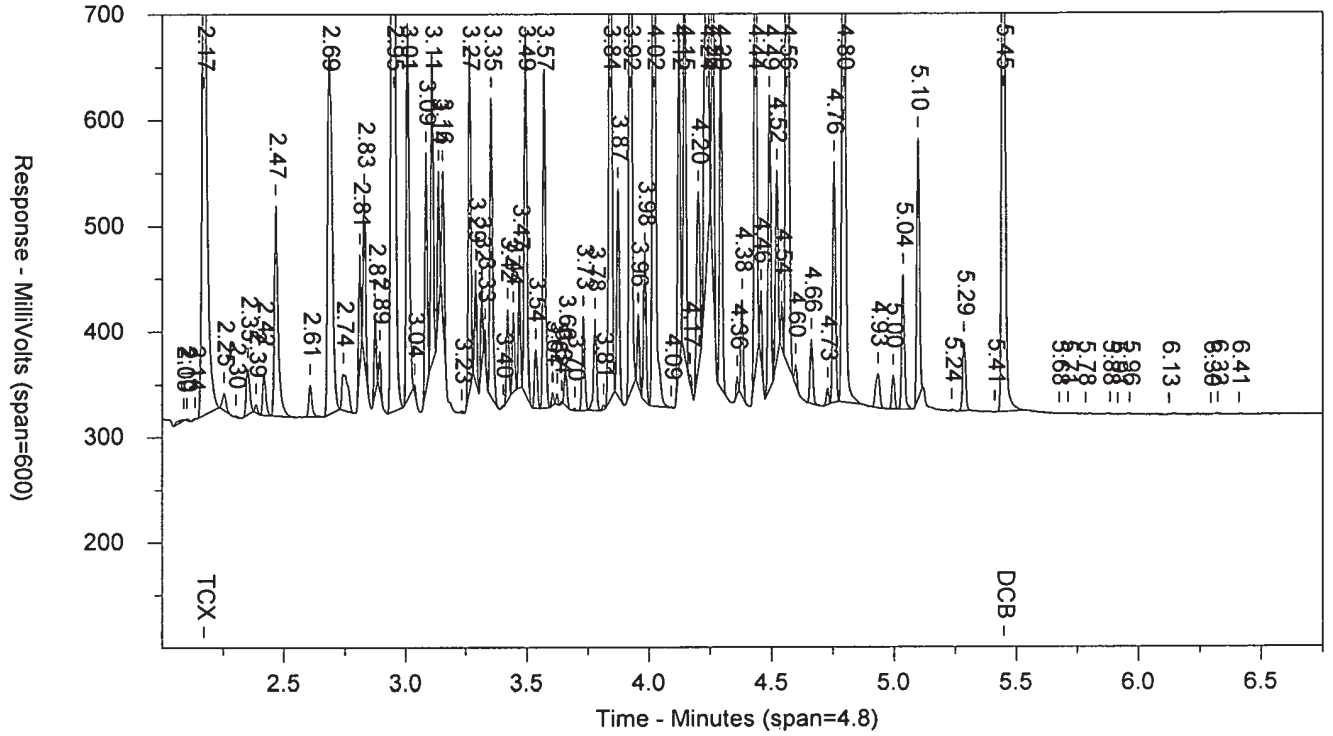


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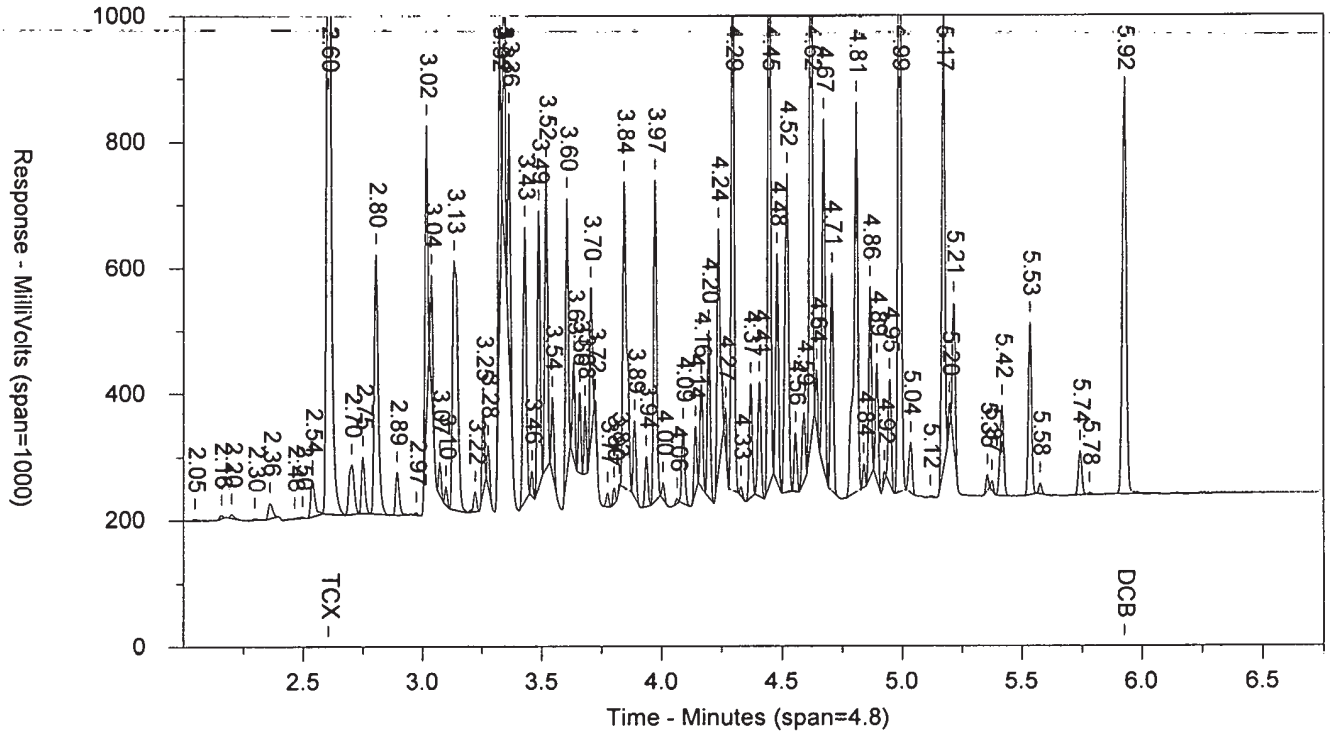


AR1621824D AAAR162AA ICAL 1830299999 10227 SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR1631824D      AAAR163AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 8:14:05 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.009.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.006		5079	7217
2.08		1237	2557
2.107		9233	7944
2.135		3891	3709
2.172	TCX	3261997	3931851
2.253		23746	21311
2.304		10065	8257
2.351		79462	79895
2.385		36431	29508
2.418		65526	56753
2.466		375996	423977
2.587		7624	4624
2.608		54410	45163
2.685		644104	861021
2.743		66475	127273
2.811		192560	117549
2.829		277360	198762
2.875		142930	88136
2.893		67131	39972
2.952		1225348	1539307
3.008		684684	607851
3.038		10840	5922
3.086		437368	300904
3.112		559785	402224
3.138		244006	136269
3.156		256619	181561
3.188		12320	8152
3.236		3267	2356
3.266		635057	471836
3.291		202828	129585
3.316		133603	76242
3.329		49963	22710
3.354		531571	428284
3.401		4204	2117
3.422		172828	117435
3.445		146677	98534
3.47		198024	125551
3.495		657108	522200
3.537		109287	89059
3.572		621651	478210
3.606		22877	13862
3.624		20129	11261
3.658		84542	77501
3.697		5003	2711
3.732		181895	154323
3.78		171396	147879
3.814		9890	5100
3.843		988923	858353
3.874		369486	272480
3.925		1301494	1000974
3.957		137200	84168
3.982		263754	192302
4.021		1607470	1352944
4.122		611619	421785

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.146		722474	525278
4.17		23638	12592
4.201		331831	295437
4.238		1110706	1032836
4.261		692508	447030
4.294		639946	474248
4.361		31005	17387
4.379		168284	118975
4.436		949016	688989
4.457		122624	70520
4.492		523132	412594
4.522		331049	252115
4.541		84978	39802
4.564		2128734	1623837
4.598		33603	21044
4.663		183221	143634
4.728		31013	20941
4.754		444986	341390
4.794		1434451	1341534
4.934		117181	115976
4.995		136371	109843
5.036		253254	216211
5.098		470932	363929
5.119		9511	4446
5.285		153449	129715
5.447	DCB	3267379	2984988
5.715		561	229
5.879		3762	4078
5.904		957	247
6.232		855	863
6.293		878	243
6.329		1358	1403



## LANCASTER LABORATORIES

Sample Number: AR1631824D    AAAR163AA    ICAL 1830299999    10227  
Injected On: 10/30/2018 8:14:05 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.009.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.046		12038	14977
2.09		13217	17046
2.159		4746	4532
2.198		26291	39044
2.299		23726	29270
2.362		65502	86260
2.398		18988	15696
2.458		831	637
2.497		26192	25553
2.538		100793	129533
2.604	TCX	7574207	8978543
2.701		136867	230361
2.748		152886	149196
2.778		6497	3144
2.802		805660	905483
2.867		20126	13080
2.891		114798	113925
2.93		6973	4099
2.954		27666	27530
3.016		877421	678450
3.037		356347	243234
3.073		92410	67697
3.098		49264	34756
3.133		207149	152780
3.14		105483	67622
3.205		10125	6460
3.221		46019	34387
3.255		241820	178816
3.276		117899	85727
3.322		923694	568655
3.34		1026007	610538
3.36		707138	489347
3.428		853158	815572
3.458		65407	41240
3.486		789079	672333
3.517		899538	712283
3.544		226721	167139
3.604		826340	641011
3.633		282230	208587
3.657		236327	162614
3.681		182636	117003
3.705		432262	341736
3.723		64536	36993
3.774		35743	26455
3.801		48426	35185
3.824		16906	9100
3.844		898802	1034029
3.887		220031	172752
3.935		148255	128260
3.971		968467	821764
4.005		49747	37176
4.063		17561	14423
4.088		215717	201357
4.14		197441	143522

## Chrom Perfect Chromatogram Report

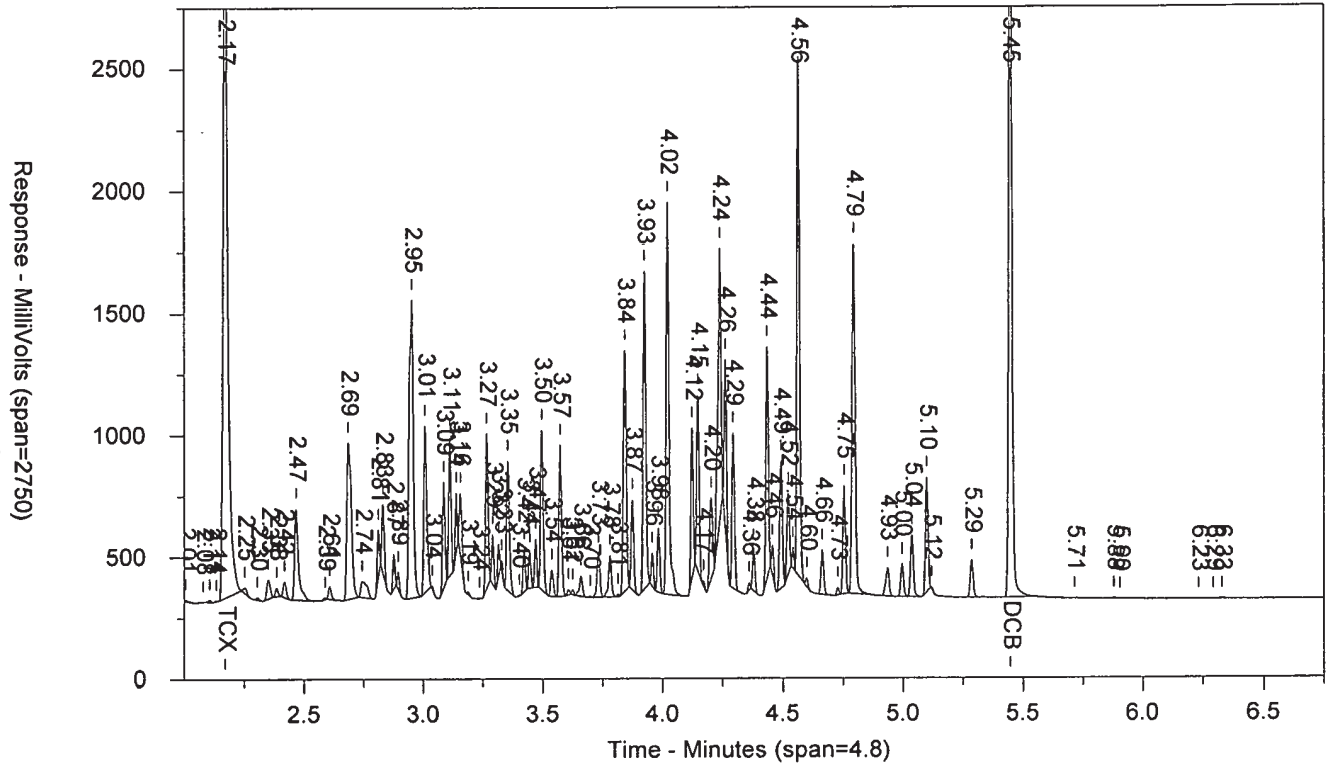
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RT B	Compound B	Height B	Area B
4.164		290721	228264
4.195		493336	401450
4.236		707513	665904
4.265		115177	65488
4.294		1678583	1403361
4.328		27896	18623
4.37		326557	279657
4.405		348055	326426
4.446		1935793	1574989
4.478		649635	514852
4.519		982554	998496
4.555		165635	141758
4.592		204614	190971
4.619		1997162	1585885
4.643		167965	99753
4.671		1002214	821421
4.705		642738	517397
4.807		1168592	1292039
4.838		68248	44964
4.864		548815	424564
4.891		330856	263436
4.923		64575	40466
4.946		293392	252232
4.986		2363964	2048206
5.035		205919	201006
5.071		2860	2376
5.169		1397690	1148036
5.195		78026	39237
5.213		402985	322419
5.353		96695	77098
5.372		19660	11497
5.414		315383	365584
5.531		503198	460124
5.574		32403	28881
5.7		1488	1450
5.739		150863	159371
5.922	DCB	2917054	3201320
6.465		3331	3316
6.536		2702	1062
6.797		1102	2181

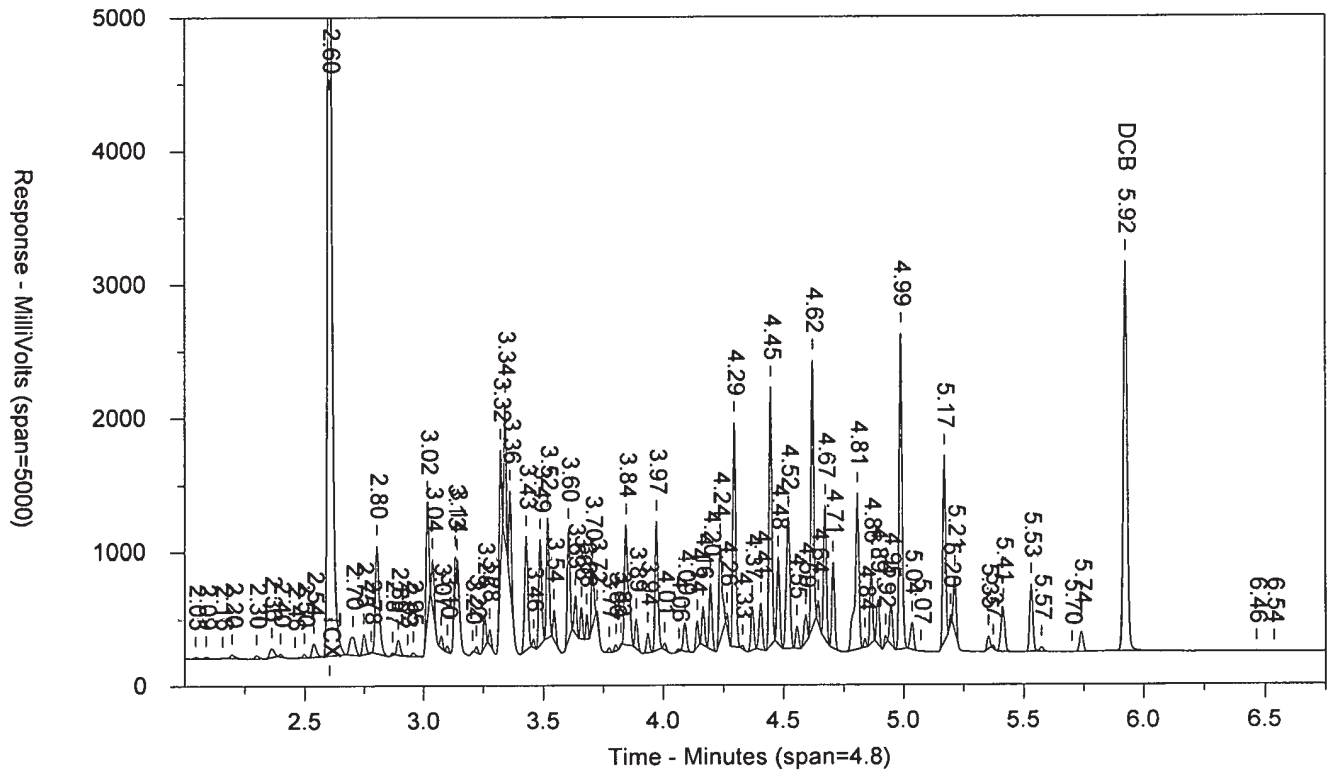
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AR1631824D AAAR163AA ICAL 1830299999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.009.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.009.RAW



LANCASTER LABORATORIES

Sample Number: AR1631824D      AAAR163AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 8:14:05 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/mln to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.172	3261997	19.324	TCX	2.604	7574207	20.018	TCX
5.447	3267379	19.221	DCB	5.922	2917054	13.757	DCB

Files:

Area File: 20pcbs18303001.009.RAW  
Area File: 20pcbs18303001B.009.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
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AR1631824D

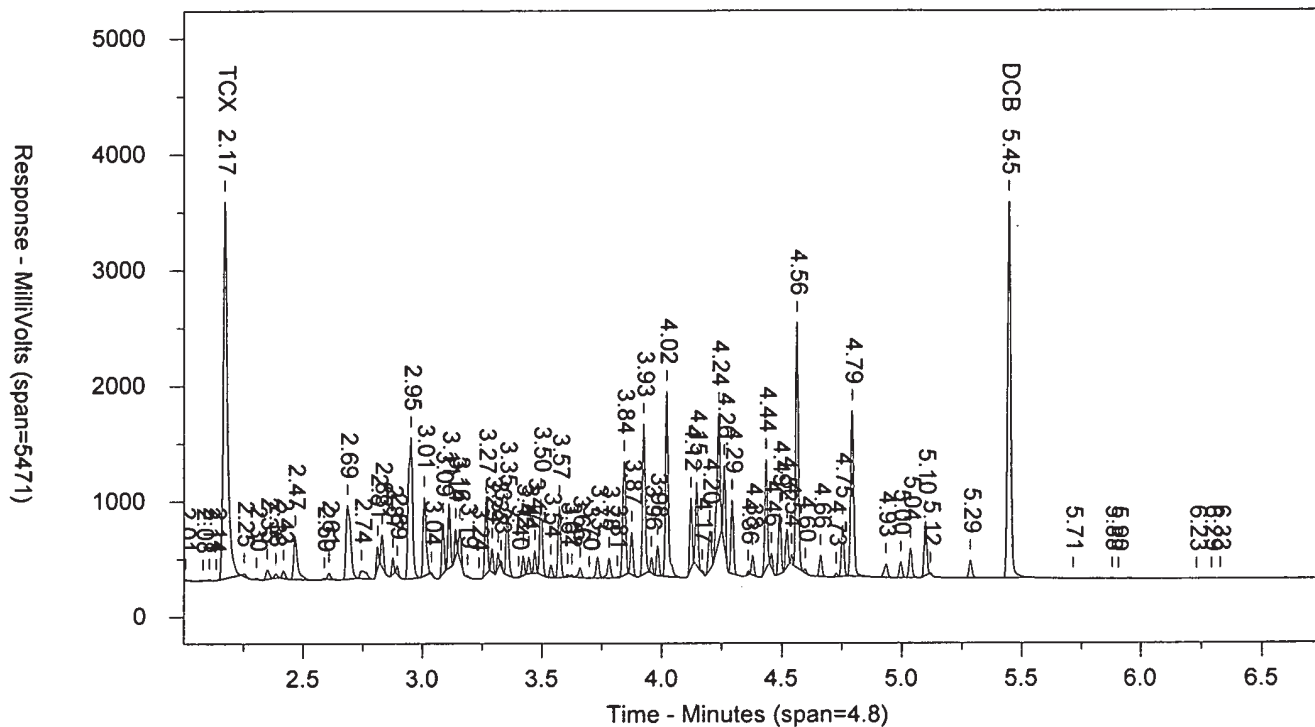
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ICAL 1830299999

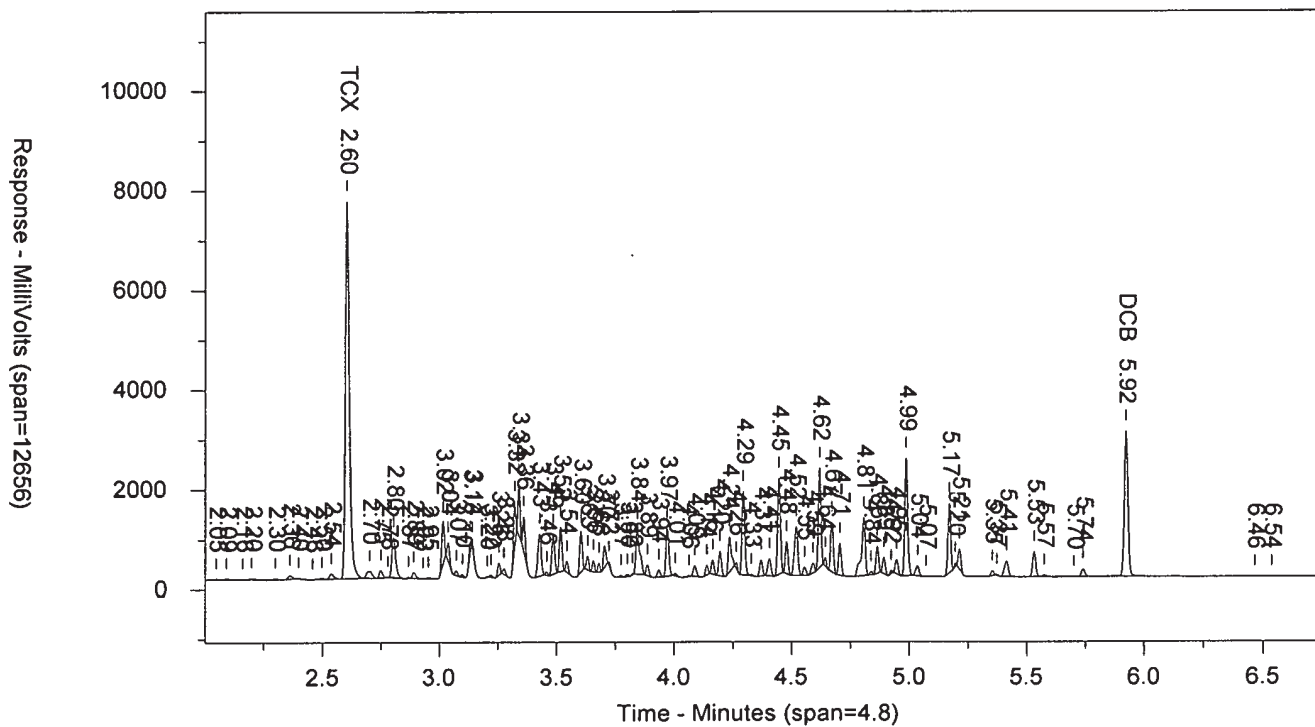
10227

SW-846 8082

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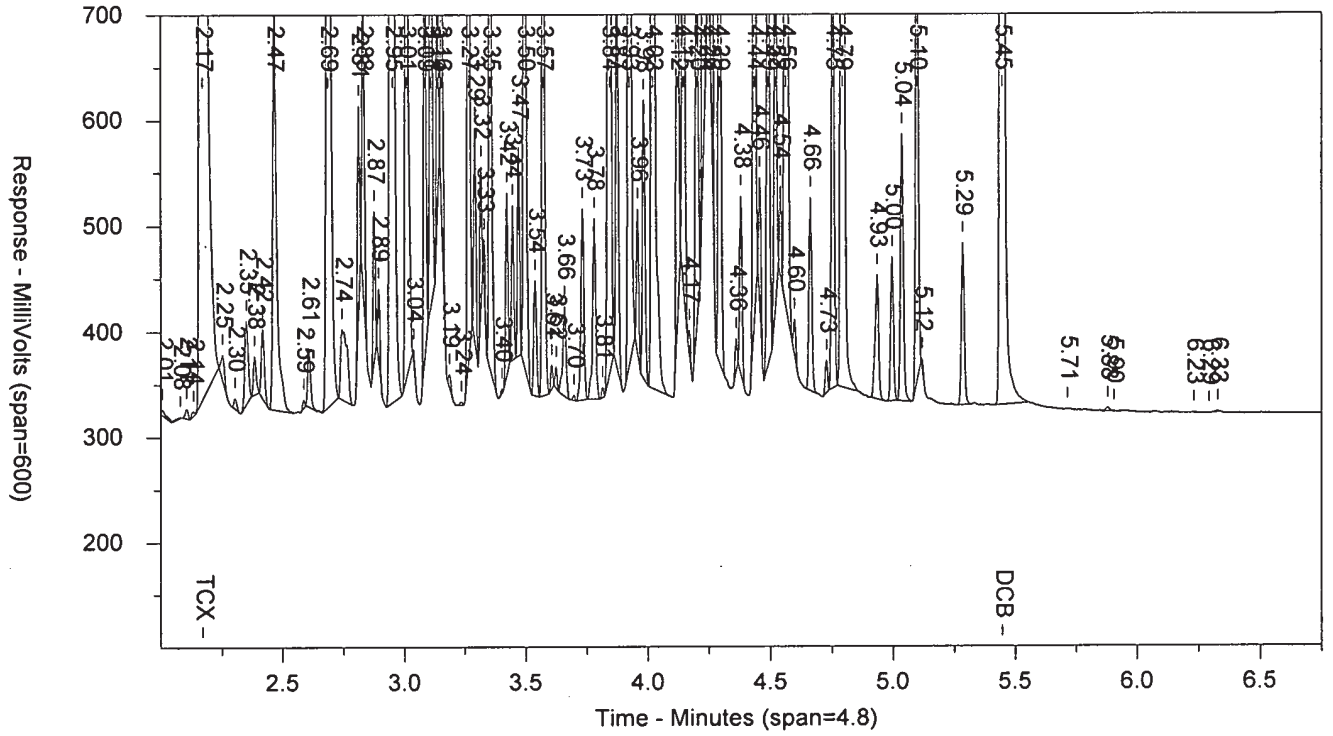


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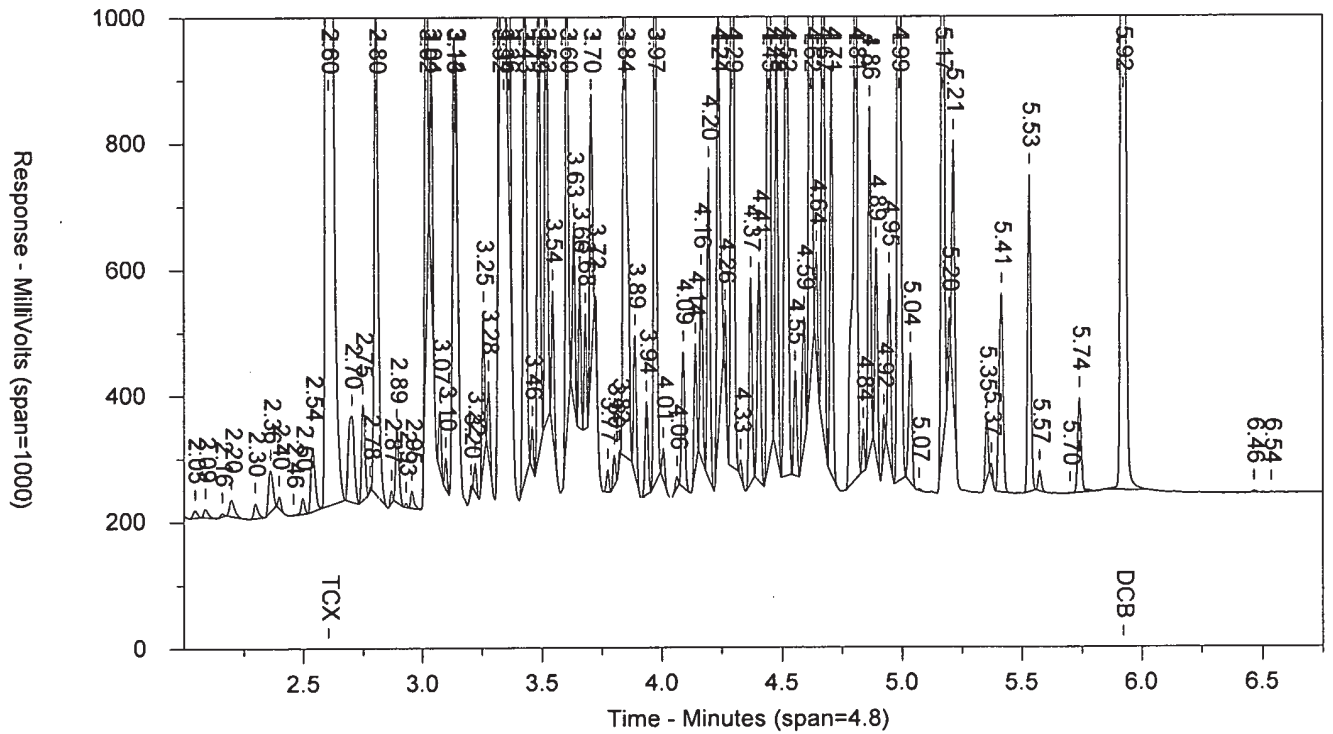


AR1631824D      AAAR163AA      ICAL 1830299999      10227      SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.009.RAW



## LANCASTER LABORATORIES

Sample Number: AR1641824D      AAAR164AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 8:24:32 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.010.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.022		12821	17754
2.117		7975	23932
2.172	TCX	6698381	7913280
2.253		51182	46104
2.308		10590	8189
2.351		170786	172045
2.385		81009	59527
2.418		141338	124836
2.466		710507	817245
2.588		4694	2546
2.608		113105	97931
2.685		1249710	1651039
2.742		134706	247960
2.811		377557	231021
2.83		542929	393722
2.875		268397	169560
2.893		130847	76331
2.952		2406411	3009395
3.008		1323405	1179168
3.038		28358	14320
3.086		833266	579708
3.111		1063329	762910
3.138		459678	257001
3.155		509506	360871
3.186		13084	8427
3.234		8002	5357
3.266		1213787	898058
3.29		389336	246263
3.316		239228	140868
3.329		94982	46628
3.354		1041529	829991
3.402		8160	4732
3.421		328891	222069
3.444		286180	196215
3.469		361705	234530
3.494		1264656	998626
3.536		215384	177366
3.571		1214361	914528
3.606		48632	27896
3.623		40902	22718
3.643		7324	3086
3.658		153720	116990
3.695		10291	6089
3.731		376890	309106
3.779		339754	287250
3.814		19781	11675
3.842		1936197	1688454
3.873		704893	533068
3.924		2524836	1948634
3.956		259215	161868
3.982		512162	379100
4.02		3157145	2687294
4.122		1251729	838966
4.146		1393893	1017573

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.169		36791	23155
4.202		629304	568626
4.238		2220841	2051950
4.261		1452687	870440
4.293		1246594	934206
4.36		64246	36566
4.379		323288	230689
4.436		1837117	1362085
4.457		245322	137069
4.492		1030233	795028
4.521		630303	480633
4.541		155794	72389
4.563		4248989	3286284
4.598		73972	44558
4.663		355859	292913
4.728		64409	41772
4.754		852792	668910
4.794		2914058	2690004
4.933		228012	231280
4.995		269554	215940
5.036		508565	421166
5.099		913587	847678
5.237		2270	1507
5.285		292098	254055
5.333		3481	2554
5.355		1843	1362
5.381		1709	799
5.447	DCB	6550430	5784194
5.741		891	449
5.84		995	585
5.877		6205	6842
5.991		664	170
6.069		817	276
6.126		2221	2548
6.226		870	472
6.275		714	231
6.448		691	396



## LANCASTER LABORATORIES

Sample Number: AR1641824D    AAAR164AA    ICAL 1830299999    10227  
 Injected On: 10/30/2018 8:24:32 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.010.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
 Injection Volume: 1 ul  
 Analyst: 9065

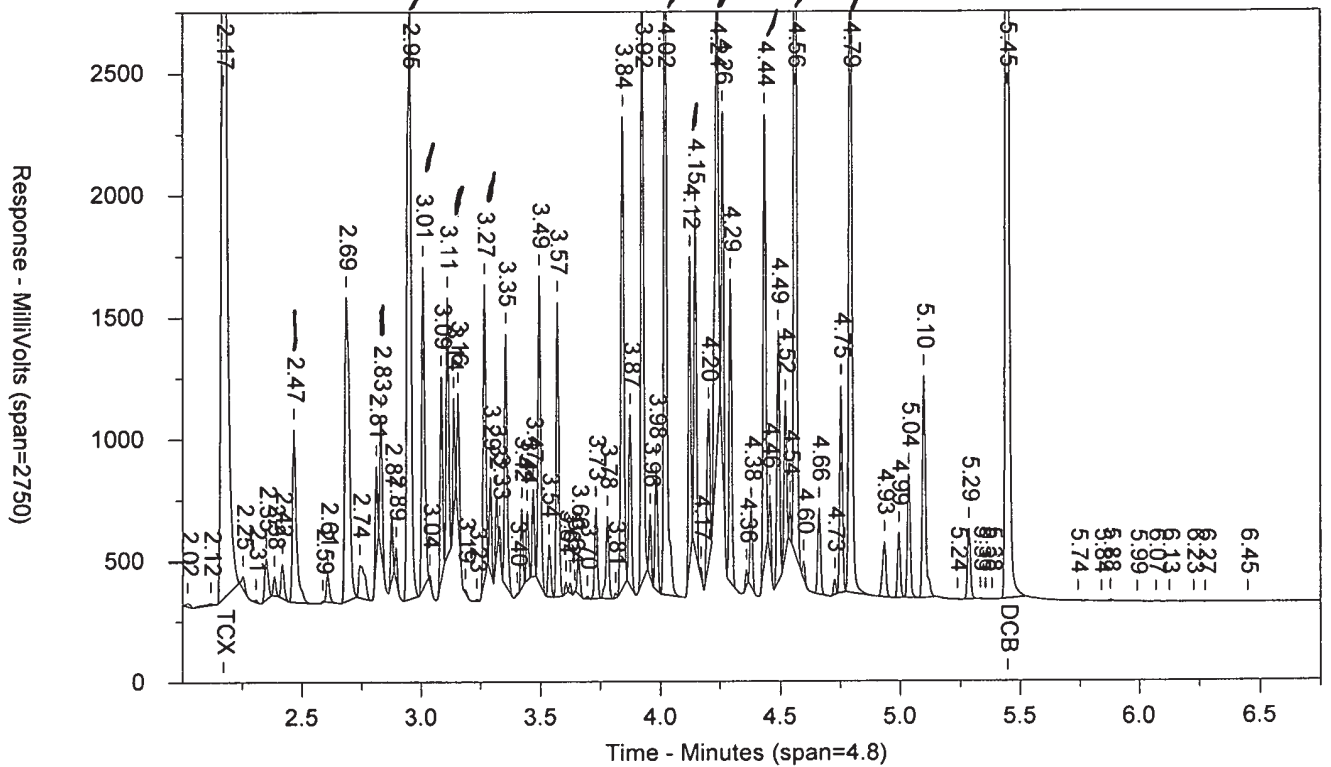
RT B	Compound B	Height B	Area B
2.021		3942	3722
2.046		20090	23184
2.117		15485	20026
2.157		4866	4358
2.21		35684	69007
2.311		24430	30741
2.362		12612	14442
2.406		22713	25425
2.502		26089	29974
2.538		196142	249485
2.604	TCX	15691850	18362320
2.702		280999	445075
2.748		299859	300422
2.802		1628065	1847881
2.868		15907	8748
2.891		225743	225585
2.929		13470	8610
2.955		24496	21109
3.016		1732605	1336020
3.037		663134	456508
3.072		182671	129957
3.098		97863	72319
3.133		1446780	2250398
3.204		3957	4299
3.22		104701	85339
3.255		472185	345485
3.276		221126	153244
3.321		1840989	1183968
3.34		2037675	1238054
3.36		1365646	984347
3.427		1696741	1618337
3.457		122132	76815
3.485		1552147	1294593
3.517		1788879	1387537
3.543		415243	308263
3.604		1613667	1261085
3.632		547952	401023
3.657		446302	299665
3.68		361407	229511
3.704		1097539	1425125
3.774		72849	57281
3.801		88289	62848
3.823		34805	20460
3.843		1808488	2021346
3.886		418713	330786
3.936		270407	232073
3.971		1912461	1612312
4.005		91103	70796
4.063		33385	24064
4.088		454443	424928
4.14		368045	280417
4.164		560800	432116
4.195		948473	774941
4.236		1371854	1284747

Chrom Perfect Chromatogram Report

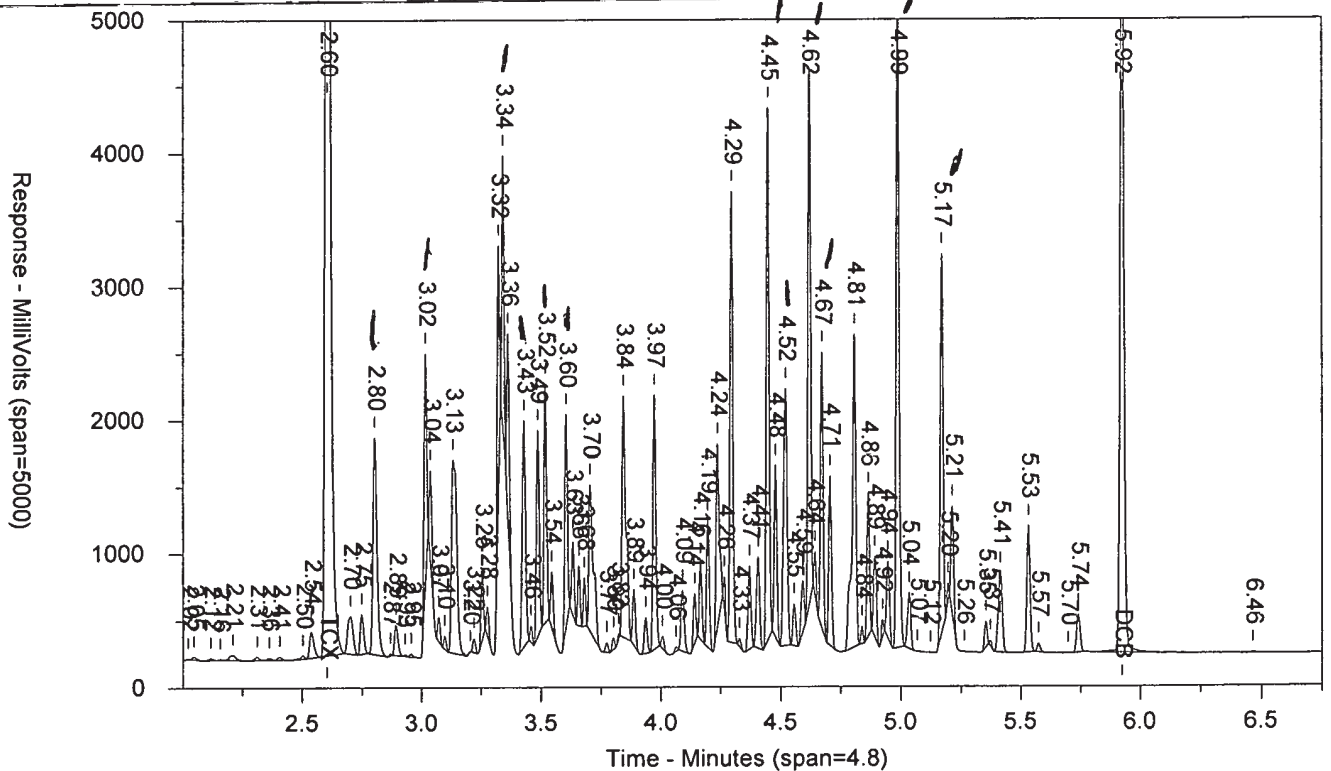
RT B	Compound B	Height B	Area B
4.264		233157	128800
4.294		3380055	2765141
4.328		61663	42899
4.37		622051	531677
4.405		682505	628943
4.445		4001610	3147004
4.477		1288503	987000
4.519		1926950	1975185
4.554		310720	268533
4.591		385221	350000
4.619		4022267	3210100
4.643		325324	188692
4.671		2064910	1612384
4.705		1272429	1007403
4.806		2345513	2539722
4.838		130666	83328
4.864		1070872	805085
4.891		605003	497903
4.923		124853	80788
4.945		569682	489158
4.986		4959957	4169758
5.035		416818	392652
5.069		4526	4510
5.123		2798	2490
5.169		2843342	2302338
5.195		140325	70275
5.213		803491	640018
5.263		2655	2319
5.353		196259	147731
5.372		44887	25621
5.414		589383	695792
5.531		947656	884723
5.574		63566	55629
5.697		2234	2207
5.74		282498	290159
5.923	DCB	5830973	6447031
6.463		6709	9077
6.795		926	1059

AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.010.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.010.RAW



LANCASTER LABORATORIES

Sample Number: AR1641824D      AAAR164AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 8:24:32 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

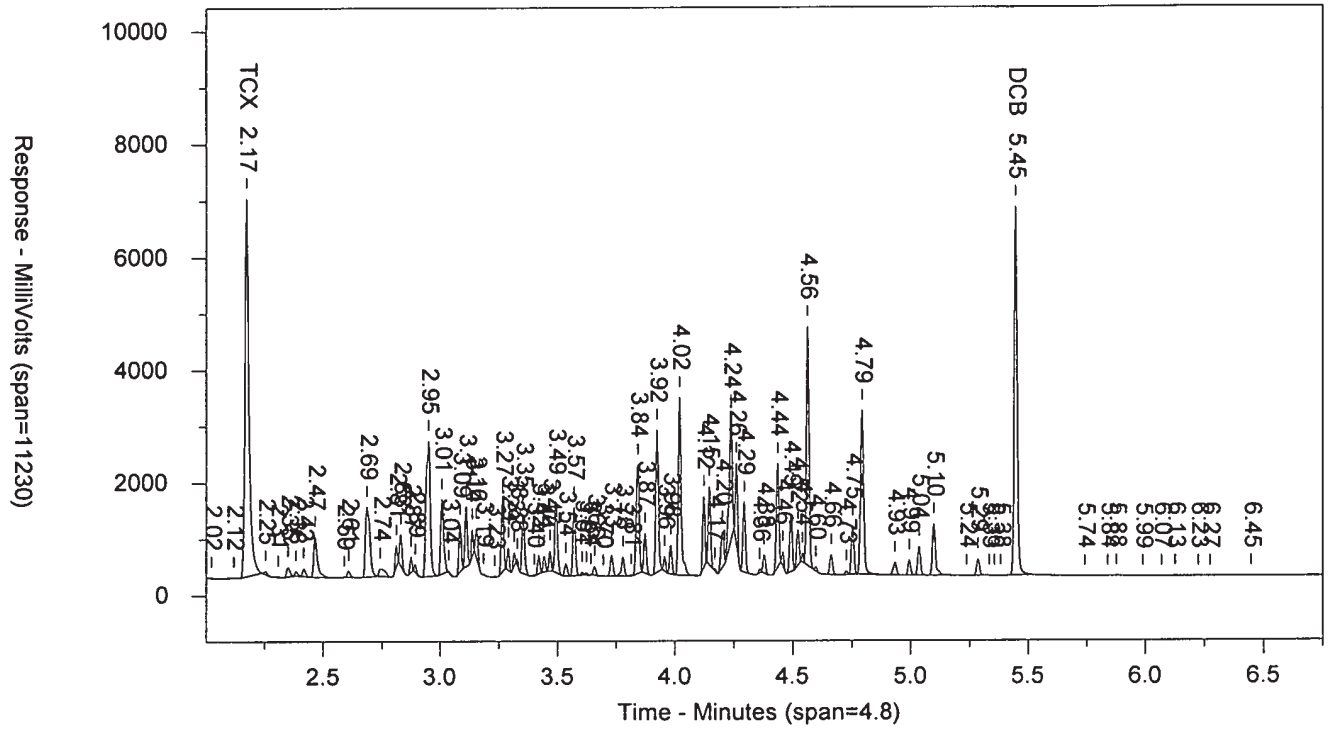
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.172	6698381	39.562	TCX	2.604	15691850	41.224	TCX
5.447	6550430	38.563	DCB	5.923	5830973	29.217	DCB

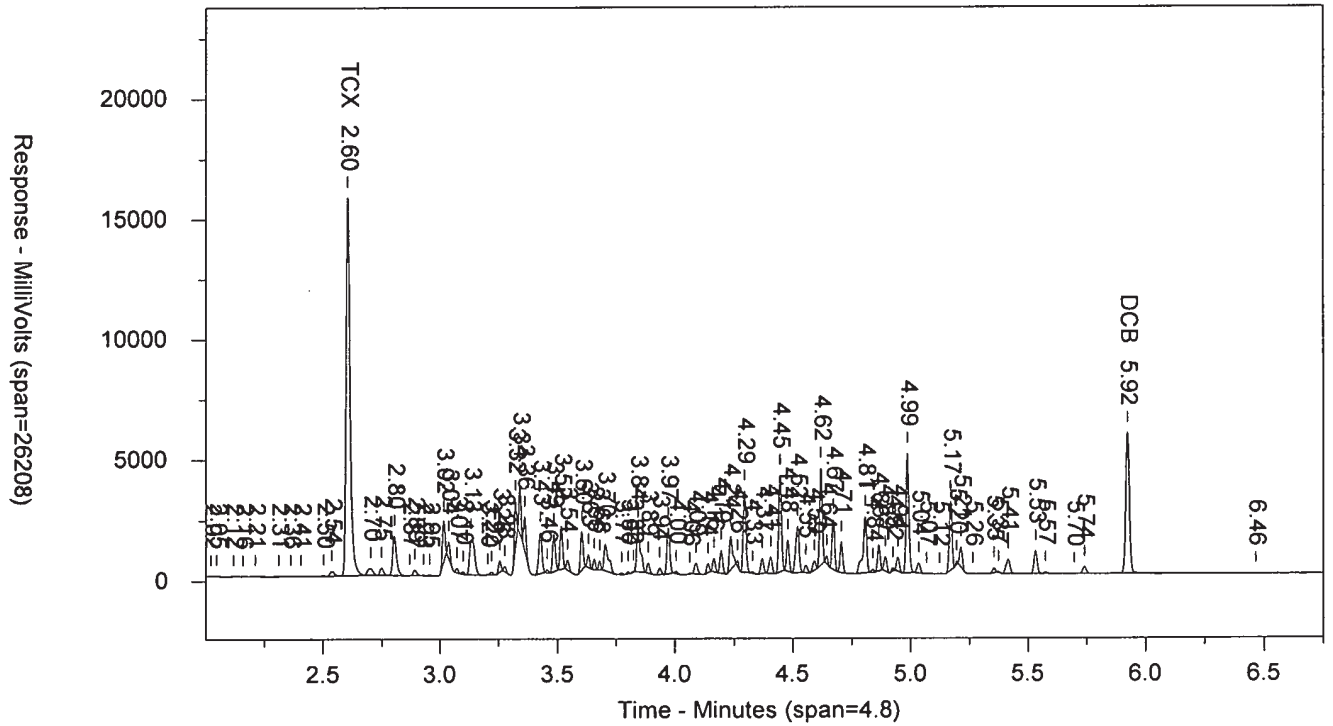
Files:  
 Area File: 20pcbs18303001.010.RAW  
 Area File: 20pcbs18303001B.010.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
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AR1641824D AAAR164AA ICAL 1830299999 10227 SW-846 8082

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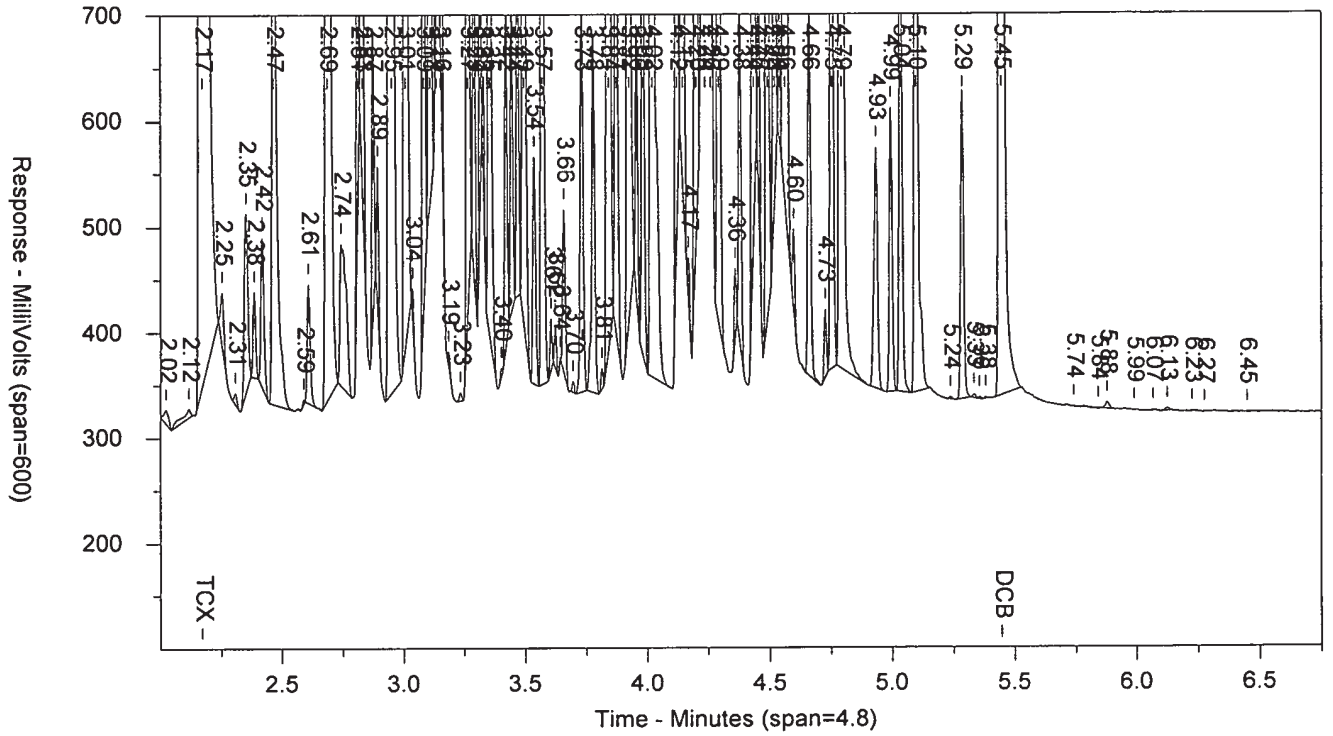


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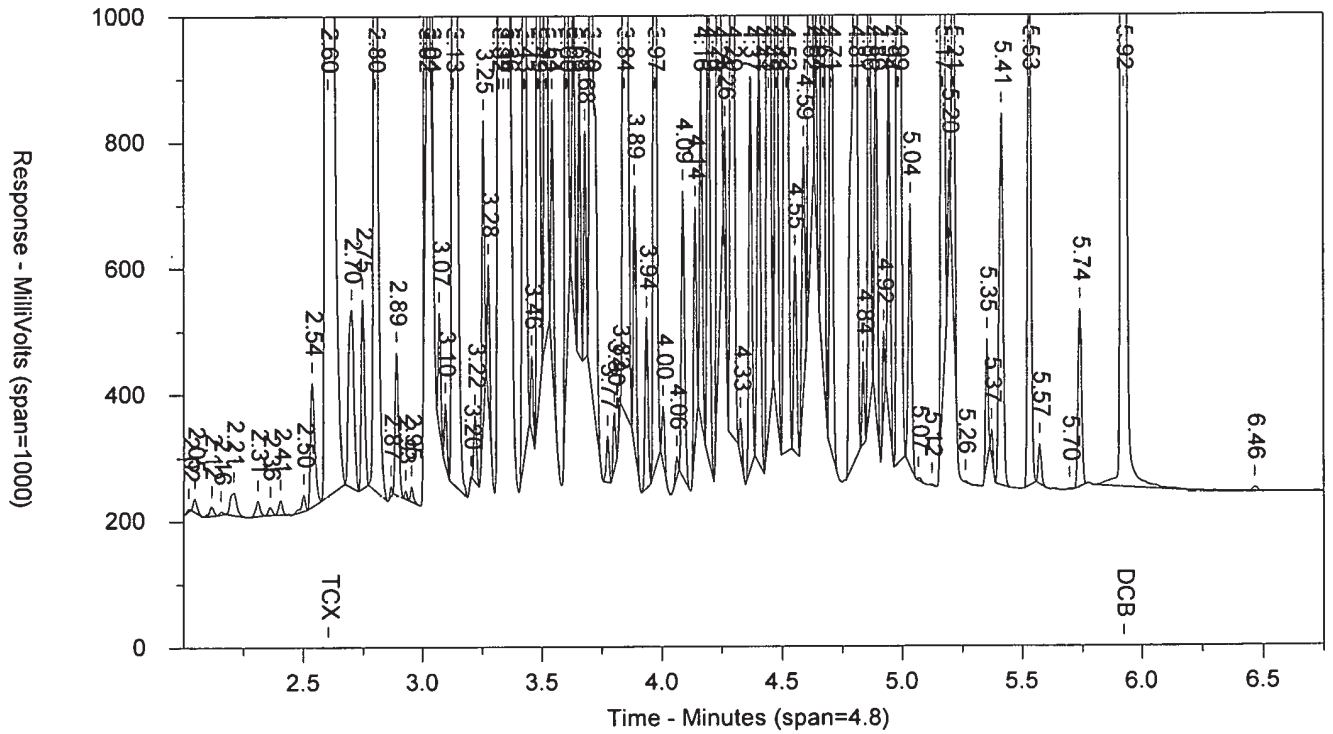


AR1641824D      AAAR164AA      ICAL 1830299999      10227      SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR1651824D      AAAR165AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 8:35:00 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.011.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		8650	17749
2.09		1844	12063
2.107		8713	7180
2.171	TCX	10483830	12214490
2.253		119787	123306
2.303		9006	6961
2.35		353477	360957
2.384		123752	94208
2.417		318753	285184
2.466		1534456	1680410
2.566		4479	3123
2.607		257783	257598
2.685		2614460	3454260
2.742		284209	515134
2.811		798506	497182
2.829		1167022	815247
2.875		560143	368018
2.892		275910	160439
2.952		5402415	6670786
3.008		2877225	2516389
3.038		67016	35370
3.086		1838299	1281030
3.111		2291560	1621419
3.138		994566	560239
3.155		1080585	750341
3.234		15850	10366
3.266		2652525	1942966
3.29		844405	530621
3.316		544080	313870
3.329		184594	91344
3.354		2277696	1778937
3.402		13238	7564
3.421		682978	471537
3.444		615197	412851
3.47		792377	510907
3.495		2759776	2148916
3.537		455964	378131
3.571		2547781	1966059
3.606		100977	58848
3.623		91693	51655
3.643		14602	6690
3.658		307569	231400
3.697		24235	15052
3.732		706315	582411
3.78		710313	596501
3.813		40345	23282
3.843		4355822	3713416
3.873		1547414	1155045
3.924		5707348	4279902
3.957		565447	349959
3.982		1082933	796139
4.02		7202792	5827816
4.122		2897850	1877925
4.146		3070199	2209291

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.169		94221	53342
4.201		1372695	1244638
4.238		5049393	4715203
4.26		3108742	1935522
4.293		2699440	2042542
4.36		138928	81162
4.379		703985	498490
4.435		4190788	3039047
4.456		505874	286124
4.491		2222146	1737001
4.521		1442440	1064771
4.54		369152	171807
4.563		9996658	7432106
4.597		159710	95990
4.662		603085	477321
4.727		135973	93000
4.754		1902938	1459156
4.794		6762662	6068419
4.933		350866	388877
4.995		369549	307857
5.035		1050826	867595
5.098		2068399	1877447
5.238		3255	2196
5.285		595233	503034
5.332		4291	3064
5.353		1608	1066
5.381		2664	1689
5.446	DCB	10351220	9191287
5.57		2575	1571
5.785		1476	1350
5.833		1103	846
5.878		10148	9463
5.945		526	270
6.071		1410	1470
6.316		1460	1112



## LANCASTER LABORATORIES

Sample Number: AR1651824D    AAAR165AA    ICAL 1830299999    10227    SW-846 8082  
Injected On: 10/30/2018 8:35:00 PM    Injection Volume: 1 ul  
Instrument ID: CP20-17342    Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.011.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.045		40968	56500
2.092		14287	17147
2.155		3674	3761
2.199		69183	109639
2.299		25995	31524
2.36		11579	12801
2.399		28891	23815
2.435		1057	978
2.478		6263	4987
2.496		22477	17945
2.537		402286	528393
2.604	TCX	25171020	29197520
2.702		574710	907845
2.747		636754	653814
2.802		3566156	3920847
2.866		13524	7158
2.89		478432	493653
2.928		18746	11330
2.953		21296	17188
3.016		3932161	3002434
3.036		1527534	1016303
3.072		383708	274403
3.098		212341	152664
3.133		3199315	4922908
3.203		10103	7463
3.22		216820	178336
3.254		1052137	751703
3.275		493692	338247
3.322		4128571	2689477
3.34		4840516	2903847
3.36		3163699	2195447
3.427		3933449	3658095
3.457		245000	151609
3.485		3454403	2845404
3.517		3927241	3039276
3.543		934170	680335
3.604		3734820	2806642
3.632		1190146	868795
3.657		964019	647935
3.68		749945	476544
3.704		2487400	3188501
3.774		148421	117728
3.801		153701	107721
3.823		66780	37572
3.843		4090201	4492124
3.886		888952	708344
3.935		566768	469719
3.971		4252447	3520857
4.005		185829	139760
4.063		54082	40900
4.088		842195	781168
4.139		789565	575146
4.164		1174697	892912
4.195		2060622	1682547

## Chrom Perfect Chromatogram Report

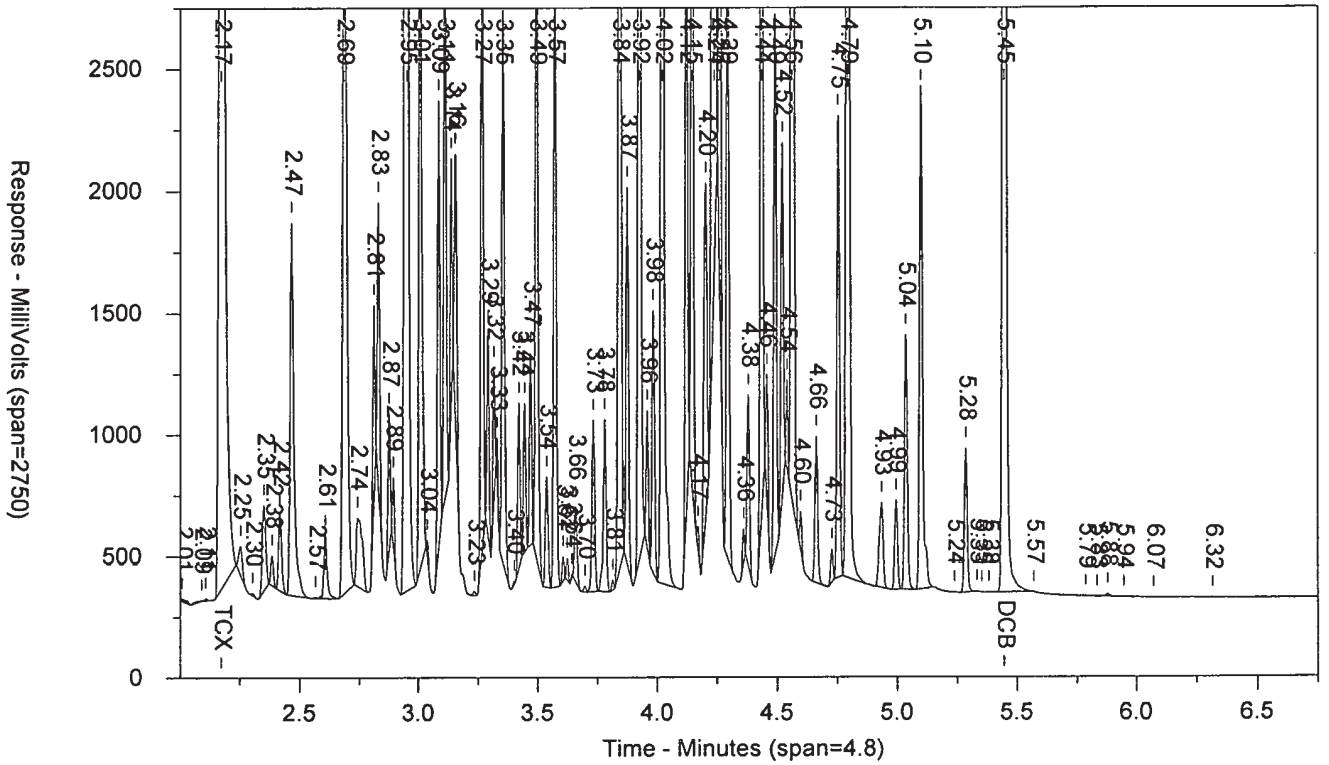
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RT B	Compound B	Height B	Area B
4.235		3242896	2886999
4.263		484670	269092
4.294		7733330	6248598
4.327		91661	63172
4.369		1339015	1138525
4.404		1404230	1255750
4.445		9276777	7180636
4.477		2839019	2162248
4.518		4424770	4470011
4.554		663748	552110
4.59		803086	734408
4.618		9441121	7553190
4.642		696970	406977
4.67		4730965	3671222
4.704		2838819	2226412
4.806		5251857	5697390
4.838		253509	163570
4.863		2362251	1779777
4.89		1413313	1079324
4.922		157372	101141
4.944		1322066	1138361
4.985		11511110	9711678
5.033		684681	658246
5.069		12905	11286
5.168		6571043	5349540
5.194		299740	152282
5.211		1762074	1394423
5.352		257945	191247
5.371		106319	66014
5.413		1199737	1261523
5.53		2215752	1944952
5.573		130004	116557
5.697		3732	2904
5.738		560141	578677
5.921	DCB	9179746	10311260
6.054		2597	2801
6.296		1841	2157
6.464		10969	15278
6.6		912	2127
6.691		892	632
6.801		1603	1559

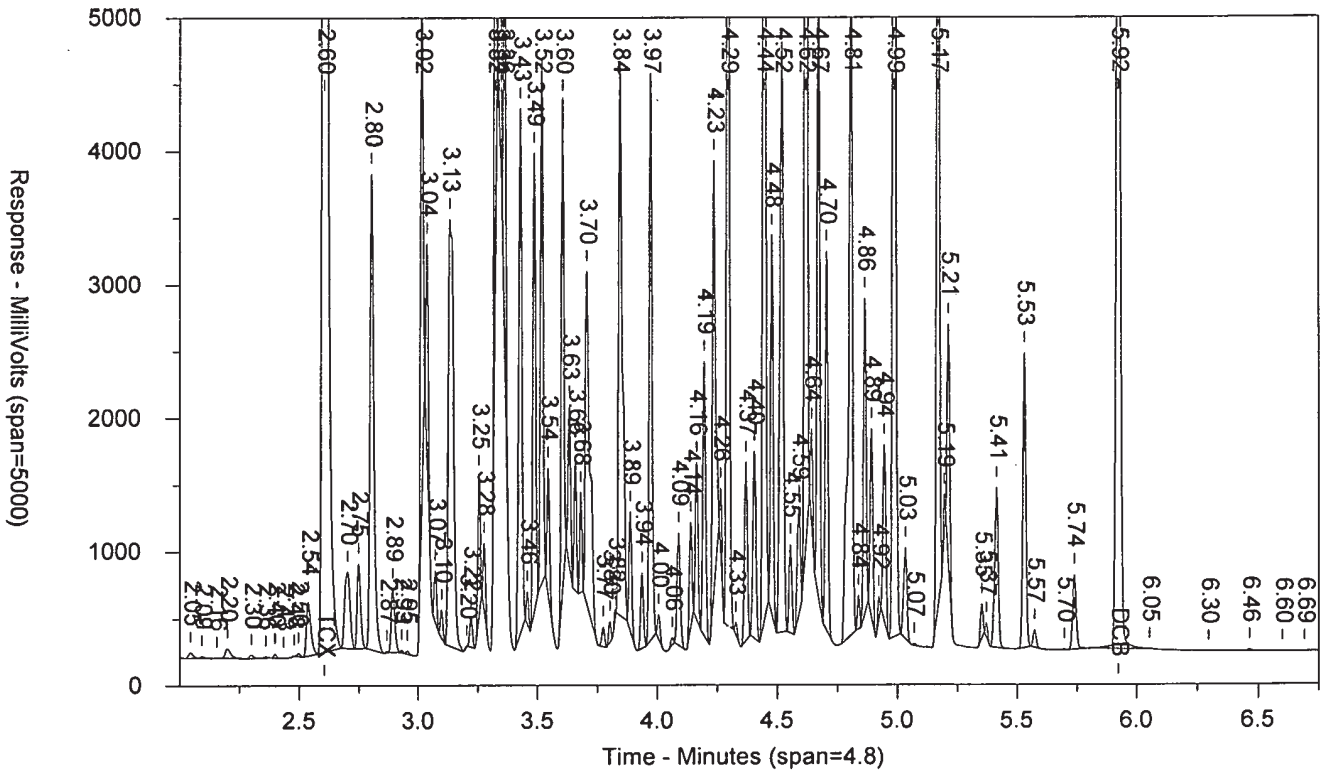
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AR1651824D      AAAR165AA      ICAL 1830299999      10227      SW-846 808%

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.011.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1651824D      AAAR165AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 8:35:00 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

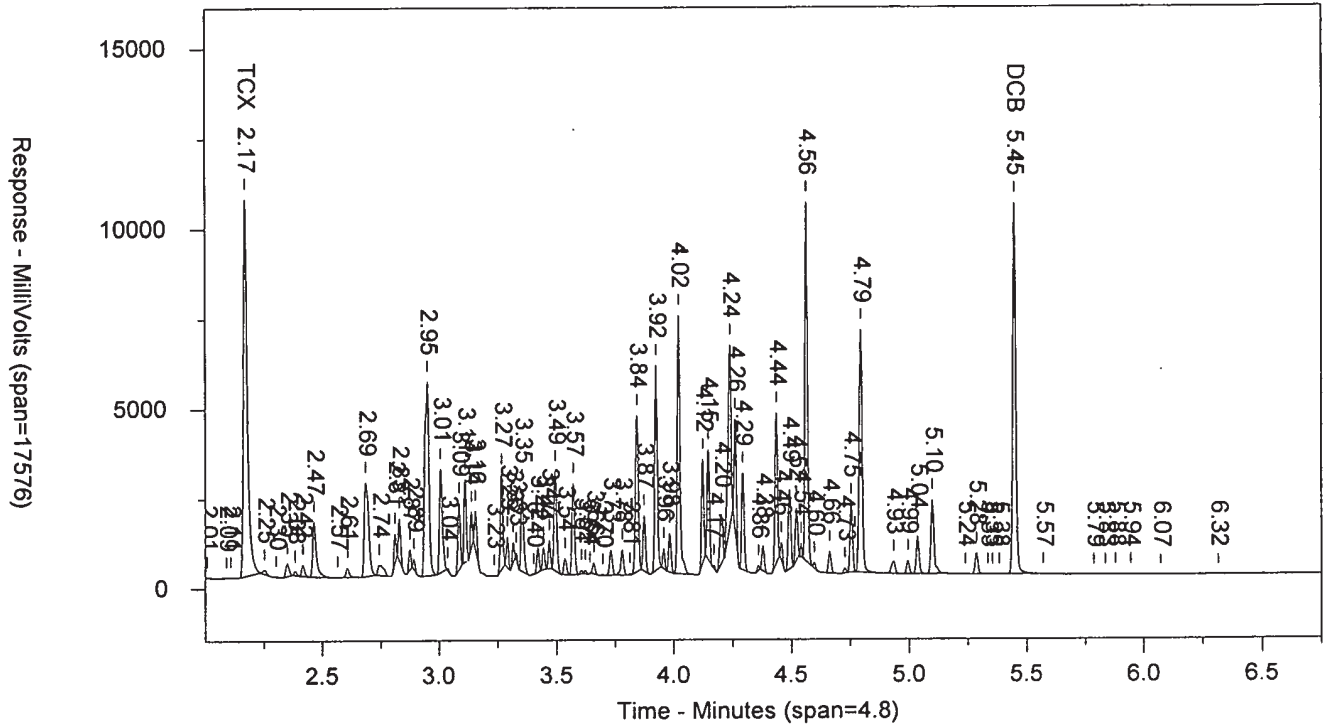
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	10483830	61.8	TCX	2.604	25171020	65.777	TCX
5.446	10351220	60.75	DCB	5.921	9179746	49.325	DCB

Files:

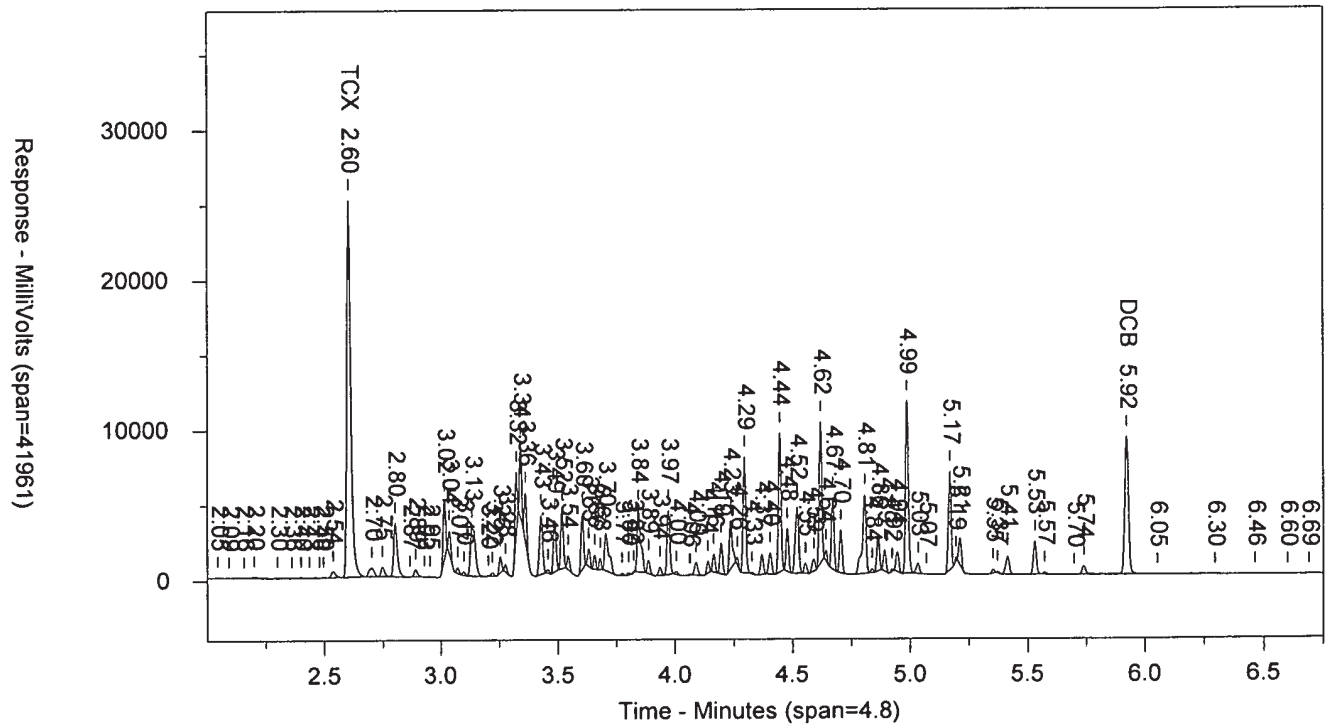
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Area File: 20pcbs18303001B.011.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 8:43:02 PM  
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AR1651824D AAAR165AA ICAL 1830299999 10227 SW-846 8082

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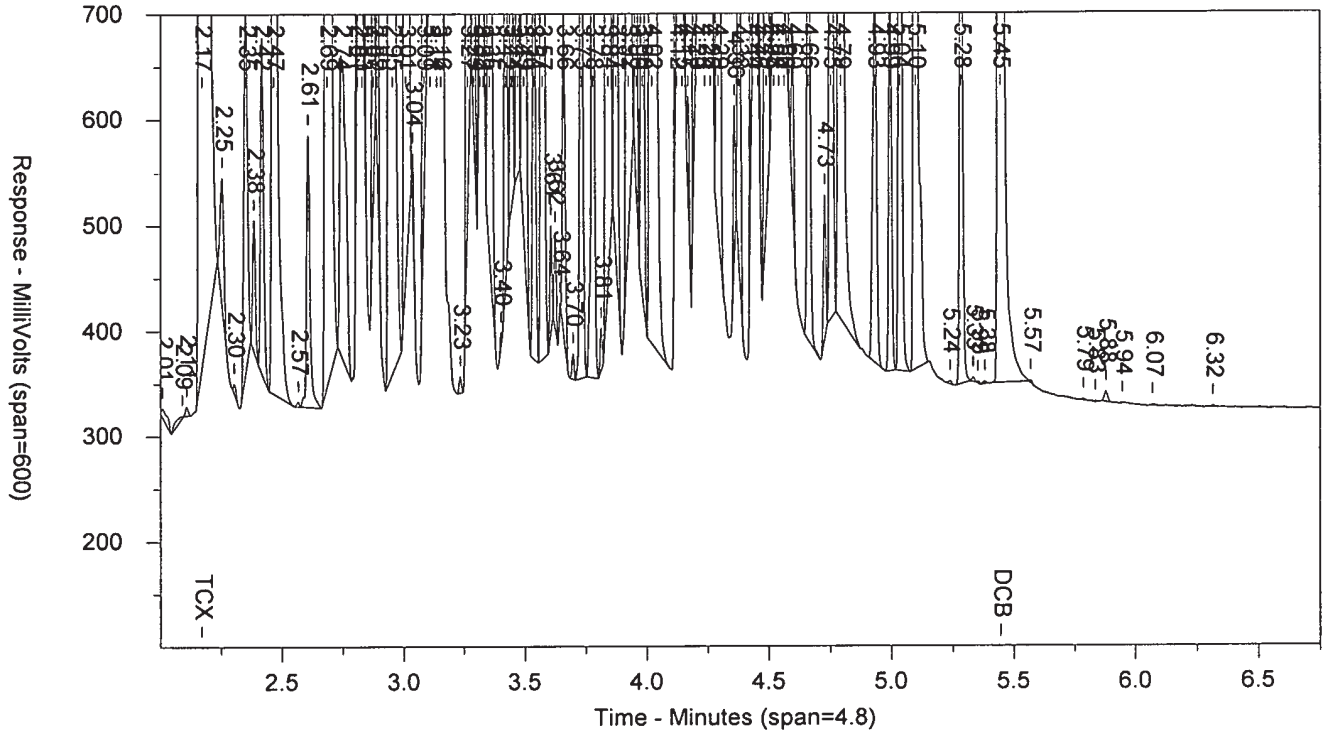


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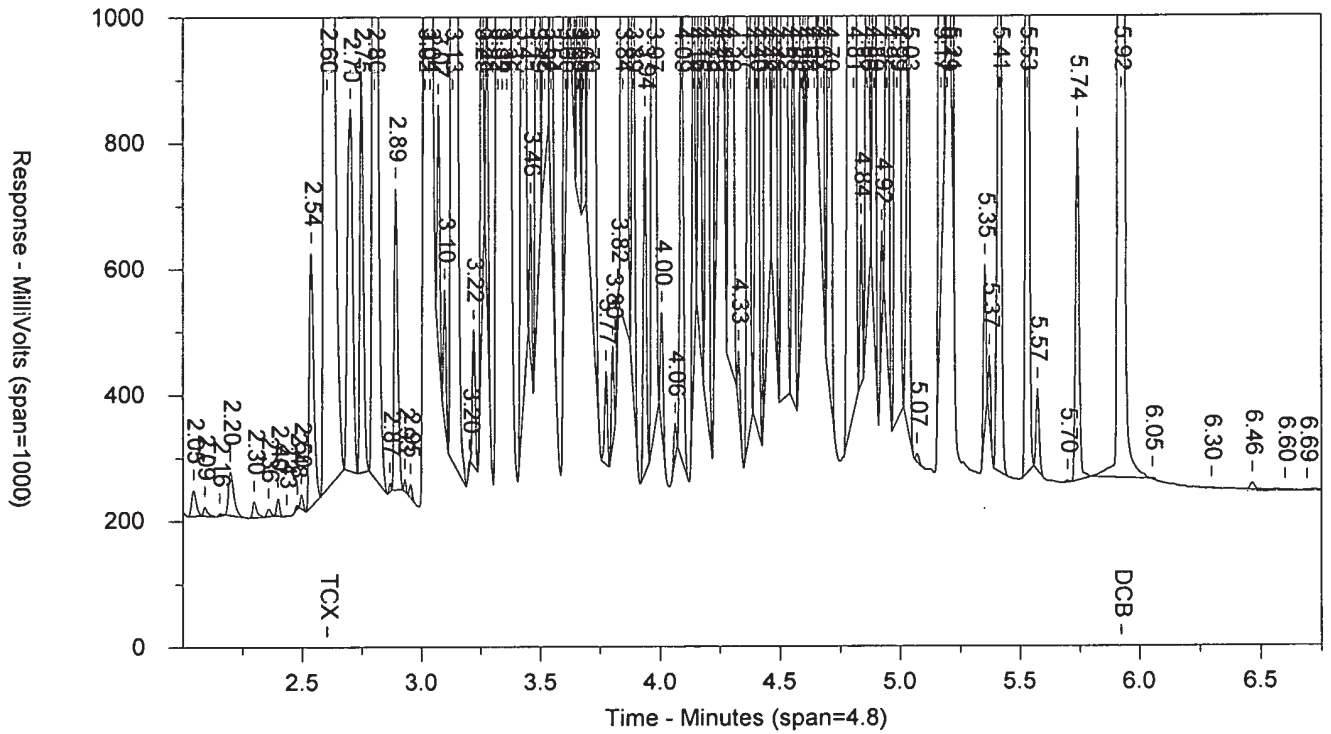


AR1651824D      AAAR165AA      ICAL 1830299999      10227      SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.011.RAW



## LANCASTER LABORATORIES

Sample Number: AR1661824C    AAAR166AA    ICAL 183029999    10227    SW-846 8082  
Injected On: 10/30/2018 8:45:26 PM    Injection Volume: 1 ul  
Instrument ID: CP20-17342    Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.012.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.007		11389	8348
2.071		970	1950
2.083		1286	591
2.108		16374	12677
2.14		3750	2249
2.171	TCX	14052350	15156040
2.253		271008	291414
2.304		17211	13217
2.35		741795	754816
2.384		152056	108813
2.418		671864	592329
2.466		3120049	3310463
2.565		8929	5863
2.587		6067	3292
2.607		523436	476744
2.685		5264688	6874696
2.742		586000	1029692
2.79		6374	2039
2.811		1728209	1057038
2.829		2365428	1658308
2.874		1248878	767365
2.892		595856	346296
2.952		10853520	13620670
3.008		5886768	5123816
3.038		137321	72547
3.086		3957189	2688629
3.111		4756688	3340791
3.138		2198206	1204621
3.155		2237081	1564484
3.234		35145	22313
3.266		5468395	3994308
3.29		1717761	1092622
3.315		1125068	632270
3.328		400389	193889
3.353		4770402	3659869
3.401		31097	18210
3.421		1427442	952210
3.444		1229063	830033
3.469		1717278	1070047
3.495		5818445	4413997
3.536		915883	760459
3.571		5404052	4045694
3.606		206154	122763
3.623		178907	99585
3.642		30483	14259
3.658		601651	461933
3.696		50713	32618
3.732		1411507	1126825
3.779		1478004	1201847
3.813		93986	54829
3.842		8806534	7709093
3.873		3326770	2388316
3.924		11654720	8774514
3.957		1170138	731822

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
3.982		2296843	1620856
4.02		15177850	11856050
4.122		6012771	4032763
4.145		6333222	4495792
4.168		160742	100105
4.202		2873158	2556816
4.238		10849200	9911951
4.26		6508110	4074440
4.293		5761688	4304486
4.36		290966	168527
4.379		1491503	1023450
4.435		8655745	6343856
4.456		1116354	623862
4.491		4696003	3610594
4.521		3014777	2247558
4.54		807493	376165
4.563		20673820	15580260
4.597		311678	197391
4.662		1039143	851603
4.727		277665	184678
4.753		3883547	3033176
4.793		14603950	12738280
4.932		555129	651563
4.971		802	242
4.994		549340	445953
5.035		2095796	1748045
5.098		4446927	3895097
5.235		3641	2926
5.284		1103276	935233
5.332		4384	2752
5.38		3502	2659
5.445	DCB	12637860	11349820
5.568		4725	3839
5.781		1679	1751
5.815		12616	13690
6.073		1834	2022
6.229		964	361
6.313		1894	1826
6.355		1653	1771
6.399		699	341



## LANCASTER LABORATORIES

Sample Number: AR1661824C      AAAR166AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 8:45:26 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.012.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		54399	70087
2.093		31206	33575
2.157		5869	5808
2.199		135659	209541
2.299		47889	52090
2.361		29878	33777
2.399		46825	42665
2.477		14832	11776
2.496		34989	26508
2.538		785741	1018298
2.604	TCX	32285210	36845880
2.702		1217921	1879696
2.748		1308423	1332942
2.803		7276748	7918585
2.866		23626	12936
2.891		973912	993792
2.929		19662	10281
2.953		40025	33727
3.016		8370481	6263260
3.037		3245314	2207951
3.072		822321	577605
3.098		418121	307099
3.133		1657451	1212673
3.14		990938	755702
3.202		21460	13905
3.22		421816	346902
3.254		2266686	1598896
3.275		1038274	695036
3.322		9231331	5845693
3.34		10638800	6344252
3.36		6544099	4632353
3.427		8397947	7822439
3.457		477814	296560
3.486		7342444	6004953
3.517		8258924	6441652
3.544		1960532	1443931
3.604		7889245	6042627
3.632		2636345	1909772
3.657		2080790	1381250
3.68		1591389	992177
3.704		5500318	6824869
3.774		302682	236943
3.801		307198	205686
3.823		118413	71241
3.843		8826536	9656589
3.886		1946220	1490443
3.935		1142997	940980
3.971		9198499	7502544
4.005		393666	282044
4.062		109201	78401
4.088		1710794	1539953
4.139		1695787	1215678
4.163		2530515	1901438
4.195		4637347	3608427

## Chrom Perfect Chromatogram Report

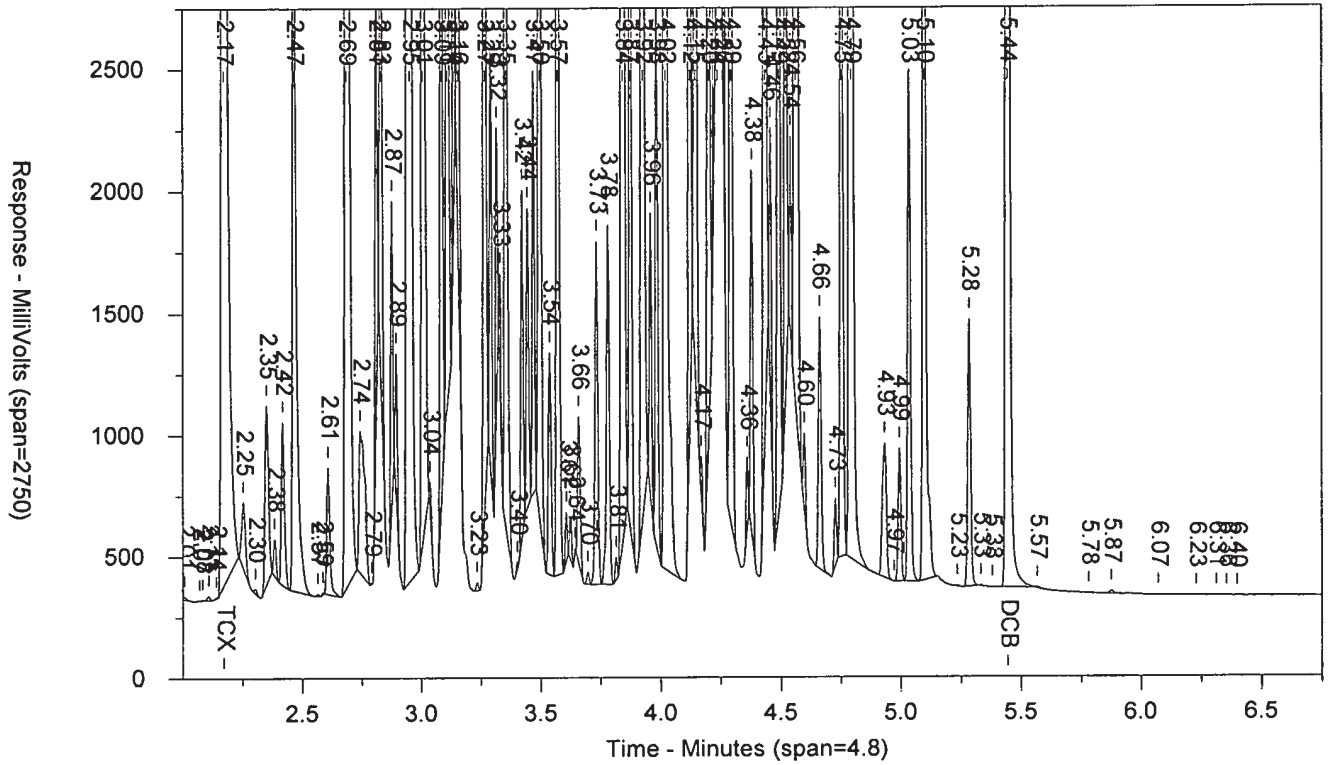
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RT B	Compound B	Height B	Area B
4.235		6896158	6192659
4.264		1125384	613979
4.294		16832270	13477680
4.327		174983	119458
4.369		2901945	2377732
4.405		2904826	2512665
4.445		19830930	15545700
4.477		5953678	4622540
4.519		9982775	9719941
4.554		1356015	1117907
4.589		1708419	1508371
4.619		21540470	16708560
4.641		1651353	931011
4.67		10262300	7949973
4.704		6116798	4798386
4.806		11521950	12339640
4.837		499068	322494
4.863		5182430	3809205
4.891		2903059	2254403
4.922		232149	147363
4.945		2902832	2502247
4.985		25485390	21320130
5.032		1241466	1211865
5.07		23741	21550
5.125		5921	5016
5.168		14500530	11670450
5.194		688039	354368
5.211		3979185	3017669
5.351		368525	284440
5.37		230698	151568
5.413		2313467	2365648
5.528		4587743	4082107
5.572		255786	230499
5.696		3278	2838
5.737		1006165	1046638
5.806		1478	958
5.921	DCB	11803400	12826280
6.058		3613	3680
6.462		12939	16556
6.566		1923	2437
6.797		1197	1445

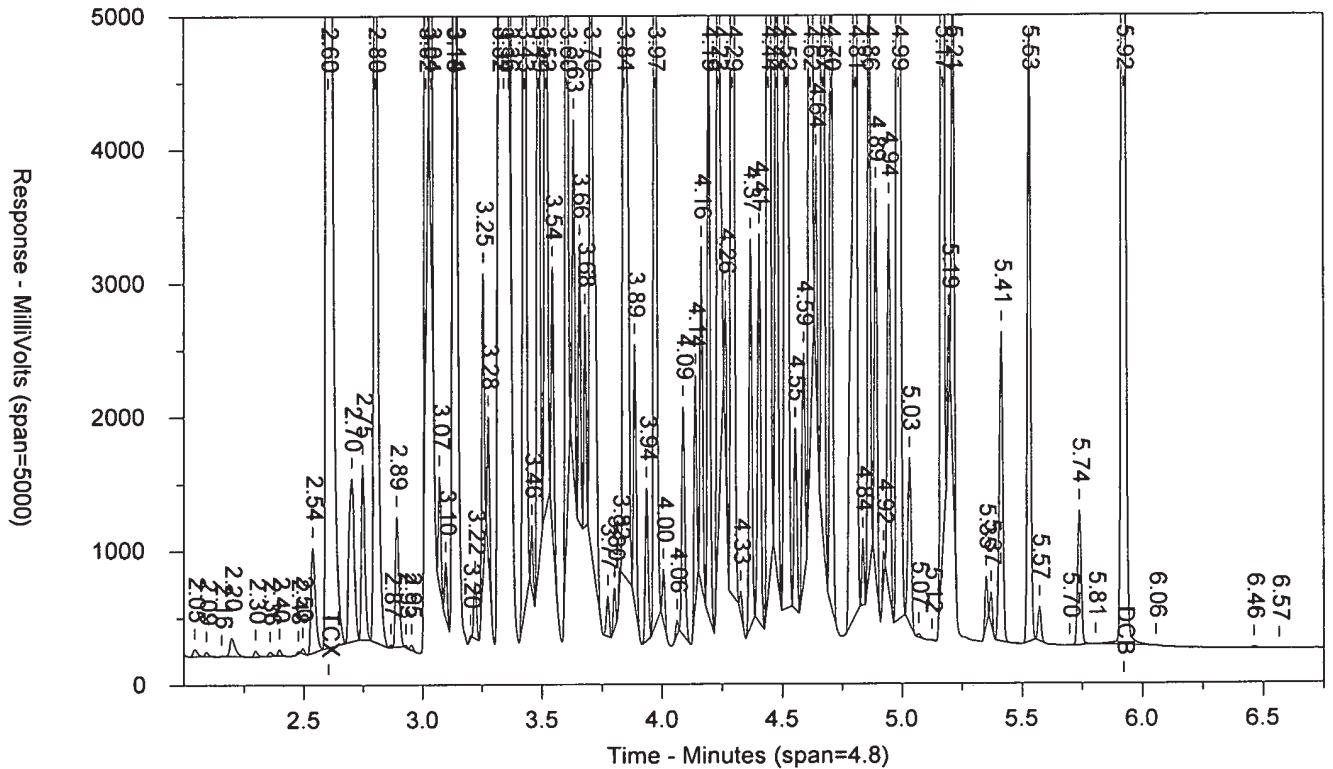
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AR1661824C      AAAR166AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR1661824C      AAAR166AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 8:45:26 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	14052350	82.857	TCX	2.604	32285210	84.036	TCX
5.445	12637860	73.759	DCB	5.921	11803400	69.683	DCB

## Files:

Area File: 20pcbs18303001.012.RAW  
Area File: 20pcbs18303001B.012.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
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AR1661824C

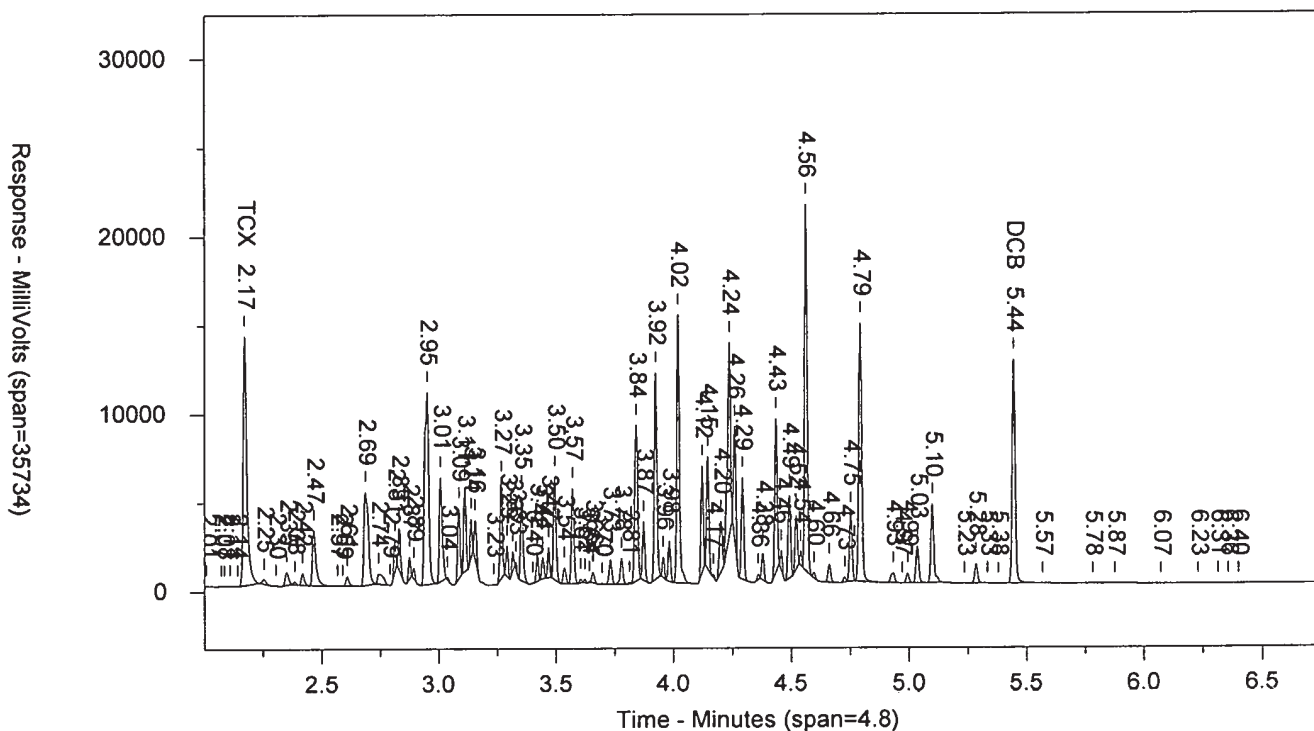
AAAR166AA

ICAL 1830299999

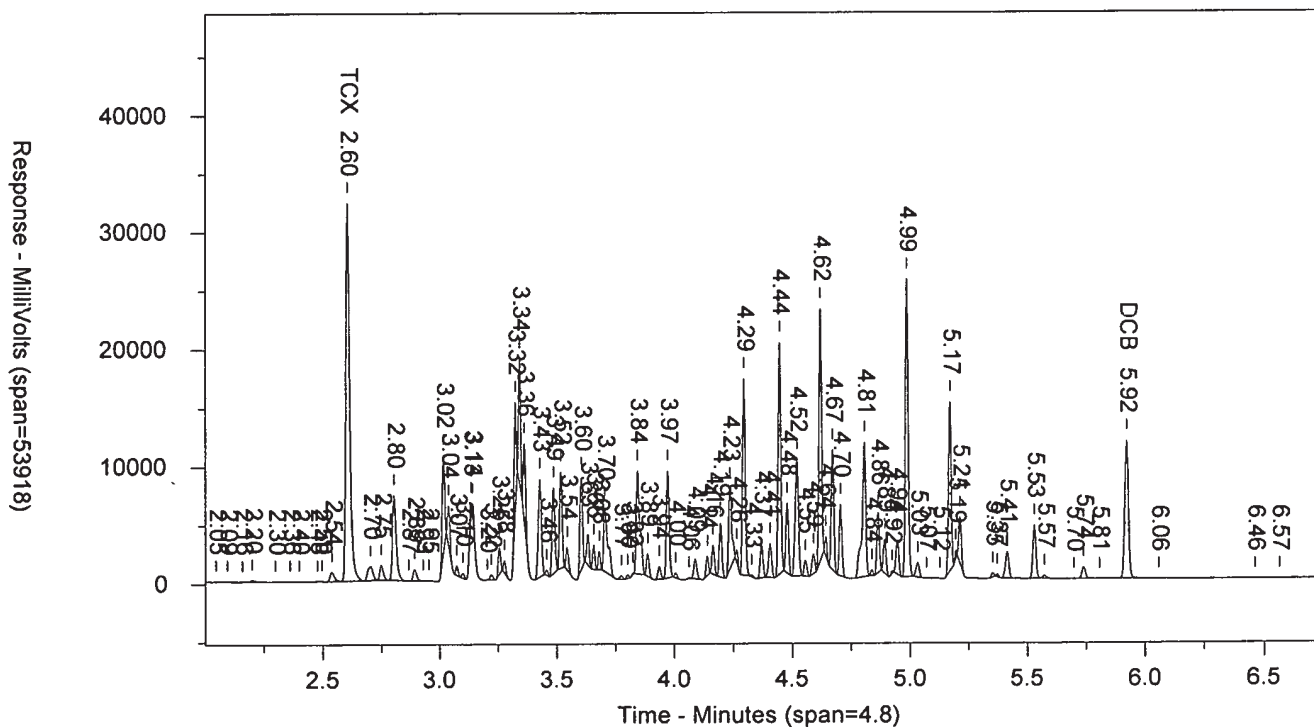
10227

SW-846 8082

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AR1661824C

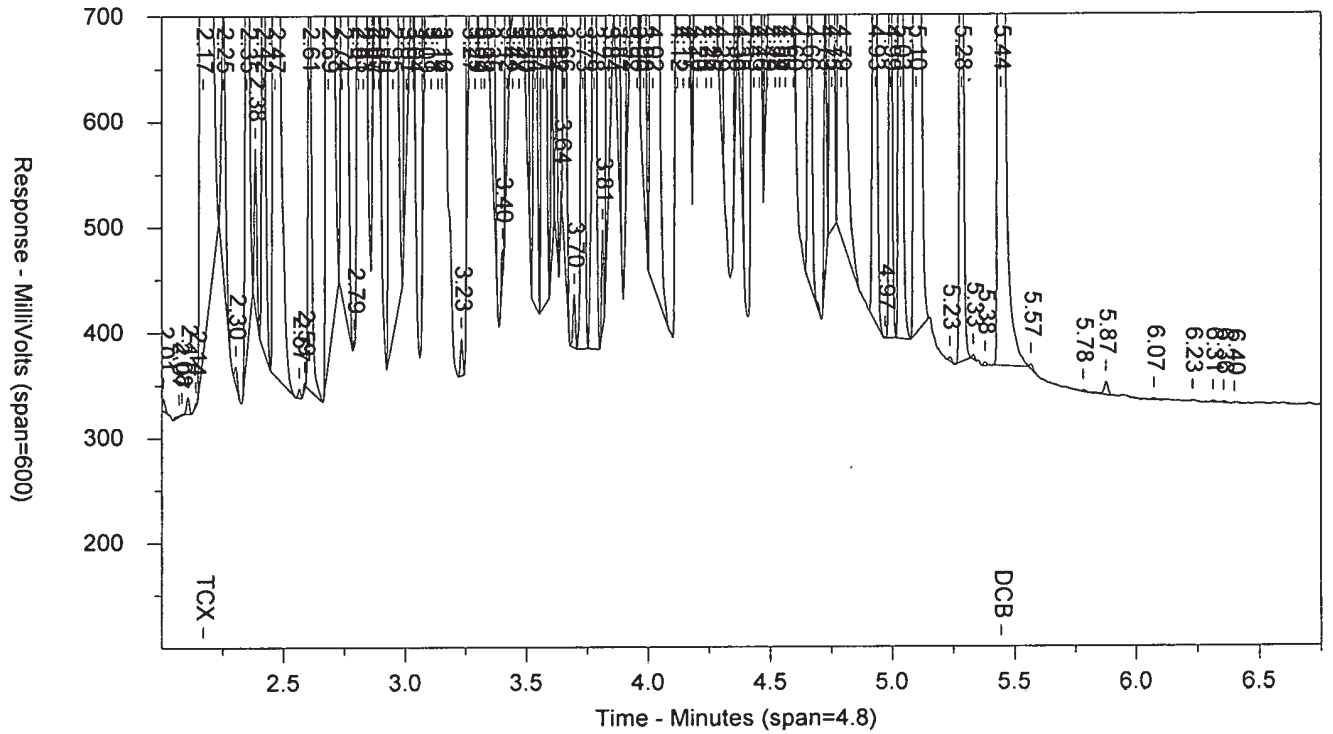
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ICAL 1830299999

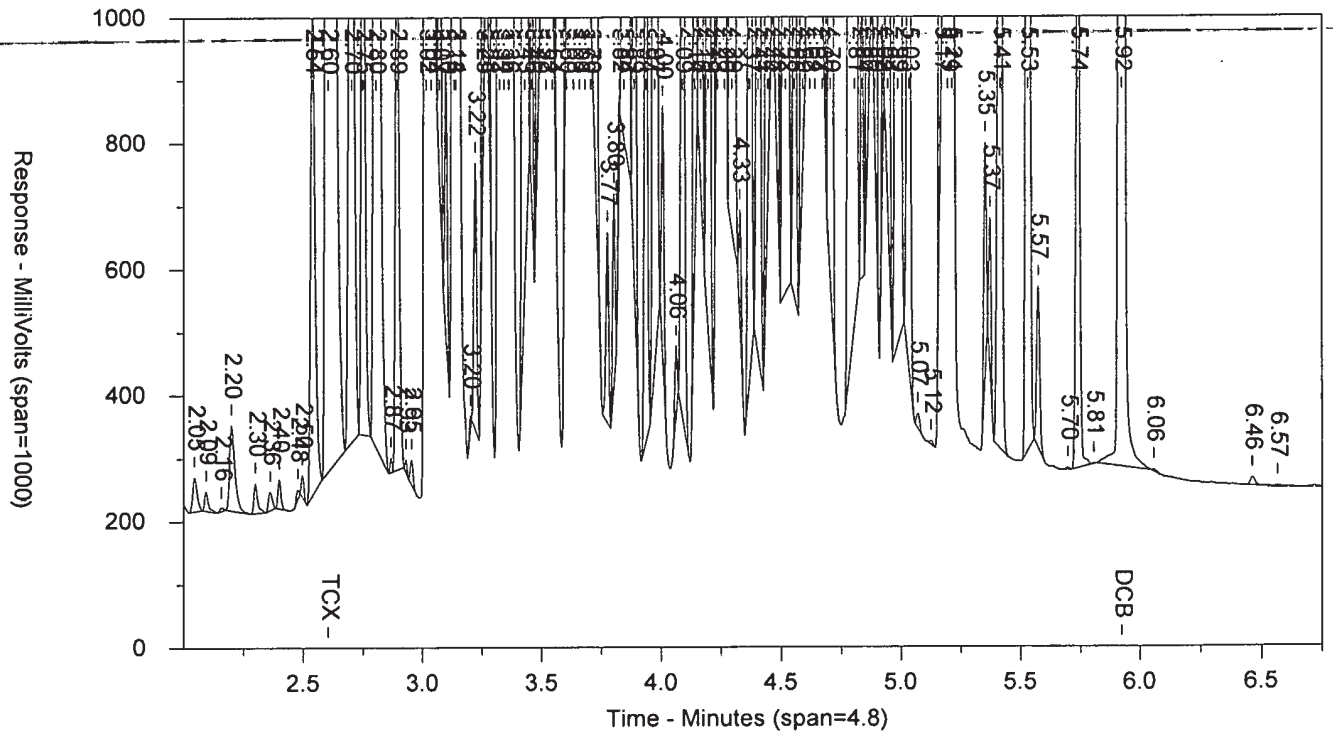
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4811824C      AAAR481AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 8:55:57 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.013.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		4129	9660
2.089		1379	6579
2.107		5069	4067
2.133		4202	3560
2.206		3139	2406
2.252		1318	675
2.306		3693	3283
2.353		7170	7561
2.403		1579	1047
2.419		2210	1585
2.466		17716	15057
2.492		1872	1279
2.588		2639	1712
2.608		4150	3032
2.685		97934	117076
2.742		4219	3127
2.767		6068	5008
2.811		26686	16623
2.83		32607	23513
2.875		13366	8150
2.894		5688	3191
2.952		181879	244723
3.008		112673	96097
3.038		4895	2534
3.086		54572	36389
3.112		228542	163492
3.138		101716	57192
3.156		76697	50987
3.189		3228	1946
3.235		1604	949
3.266		252068	181719
3.291		68212	41808
3.316		69589	55250
3.354		199889	152757
3.399		1495	909
3.421		60846	40928
3.445		128117	82485
3.469		246506	173353
3.497		287620	211478
3.539		41606	34934
3.572		105925	81153
3.606		51754	28605
3.624		101388	56438
3.642		63455	33791
3.657		31224	16177
3.696		11029	6942
3.731		62634	48119
3.78		94067	76021
3.813		52646	34622
3.837		154214	111775
3.88		11668	13185
3.926		12532	7045
3.941		18368	8820
3.957		79597	48628

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.02		17059	12536
4.051		9111	6150
4.123		6703	4316
4.145		11702	7180
4.166		81784	58463
4.202		3918	3418
4.238		22088	19138
4.26		2961	1739
4.292		4862	3892
4.361		1015	409
4.382		3270	2722
4.435		3656	2489
4.456		7445	5160
4.491		2057	1322
4.542		3939	2333
4.564		7998	5738
4.617		1457	1239
4.695		1188	671
4.757		3545	2681
4.795		6525	6278
4.931		1520	1822
4.99		1020	1044
5.04		1143	985
5.1		4040	3933
5.163		813	554
5.216		824	357
5.281		700	183
5.435	DCB	2978	4430
5.495		1116	1201
5.523		725	269
5.721		1015	415
6.055		559	270
6.088		608	530
6.291		394	142
6.321		756	337
6.404		776	246

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## Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4811824C      AAAR481AA      ICAL 1830299999      10227

Injected On: 10/30/2018 8:55:57 PM

Injection Volume: 1 ul

Instrument ID: CP20-17342

Analyst: 9065

Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min

Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um

Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um

Data File: 20pcbs18303001B.013.RAW

Method File: 20PCBSB.MET

Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		6159	6994
2.157		9063	11849
2.198		7095	7844
2.3		10369	12932
2.362		58147	75796
2.398		7989	5284
2.498		9420	9005
2.539		4148	4023
2.572		4800	3684
2.593	TCX	7822	6110
2.702		16629	33892
2.749		7551	6447
2.778		6545	3779
2.803		47080	48081
2.867		7406	5610
2.89		10130	9831
2.955		5400	3271
2.972		3563	2331
3.016		148503	119209
3.037		40251	26381
3.073		8661	6023
3.1		6291	4488
3.134		13185	13037
3.141		21581	15473
3.205		2698	1817
3.221		11357	9263
3.254		26206	18120
3.275		10037	8746
3.322		157589	107909
3.34		128390	77823
3.361		100474	82274
3.427		141576	147369
3.457		24496	16397
3.485		343766	294830
3.517		304700	245306
3.544		88328	68423
3.604		348744	284484
3.632		98558	68942
3.657		98457	69749
3.68		53687	32320
3.704		193156	141325
3.724		46189	27219
3.774		9758	6346
3.8		13863	9565
3.822		8795	4968
3.846		66309	49172
3.858		234605	143091
3.886		319409	258193
3.935		40938	34536
3.971		368812	318164
4.003		193005	171172
4.059		20614	19268
4.09		93913	79247
4.139		117516	92785

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.172		64508	46301
4.195		198750	156749
4.235		4688	2881
4.262		65521	62678
4.294		27290	25928
4.338		17922	13526
4.369		144611	121957
4.406		1344	723
4.444		29232	25487
4.477		18742	15103
4.531		112443	97002
4.56		1969	1124
4.582		6055	5460
4.618		37972	30411
4.643		6711	4772
4.671		6647	5044
4.705		3504	2630
4.795		12813	18216
4.861		4998	6245
4.948		5569	4519
4.987		13734	13165
5.123		2560	2550
5.171		8736	7357
5.215		3887	4220
5.378		1988	1800
5.532		4110	3922
5.641		1323	1173
5.705		1141	1770
5.741		2183	4608
5.926	DCB	3297	4248
6.47		882	1644
6.798		1036	1640

Chrom Perfect Chromatogram Report

AR4811824C

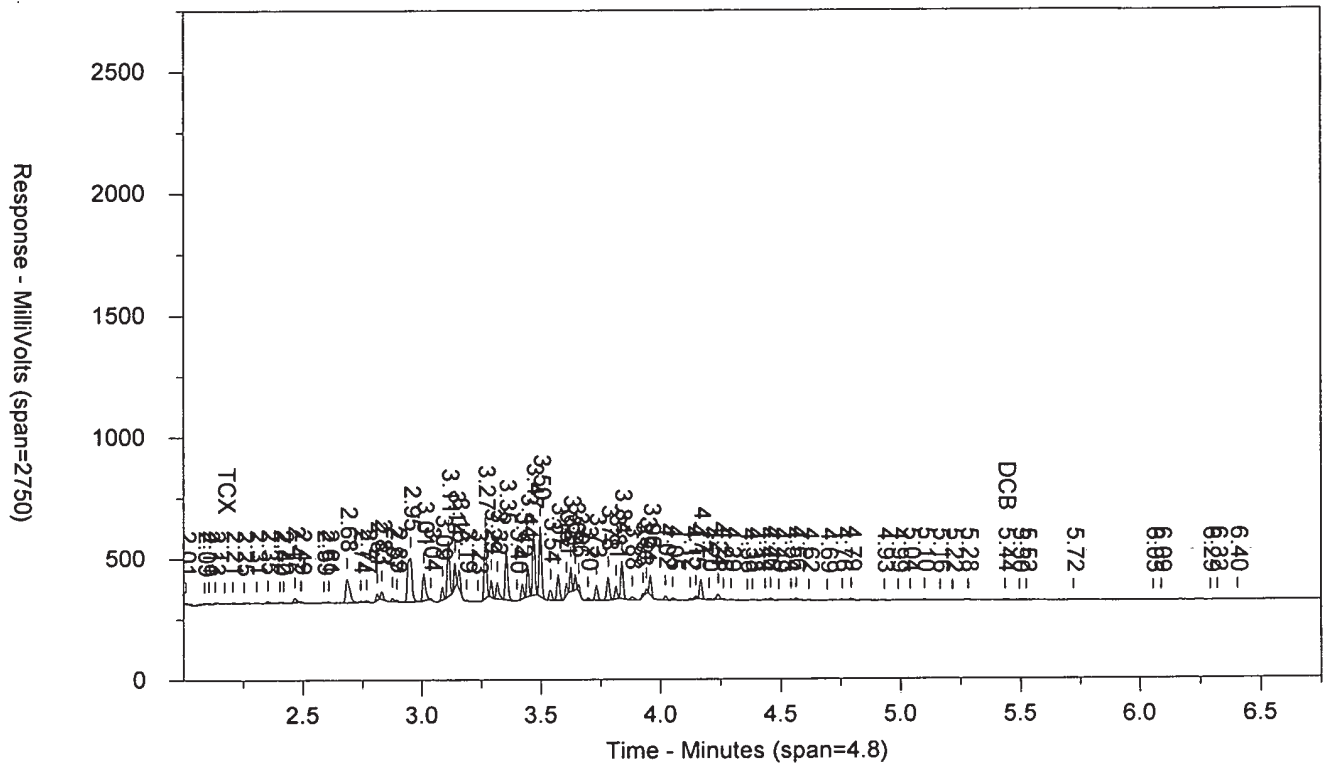
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ICAL 1830299999

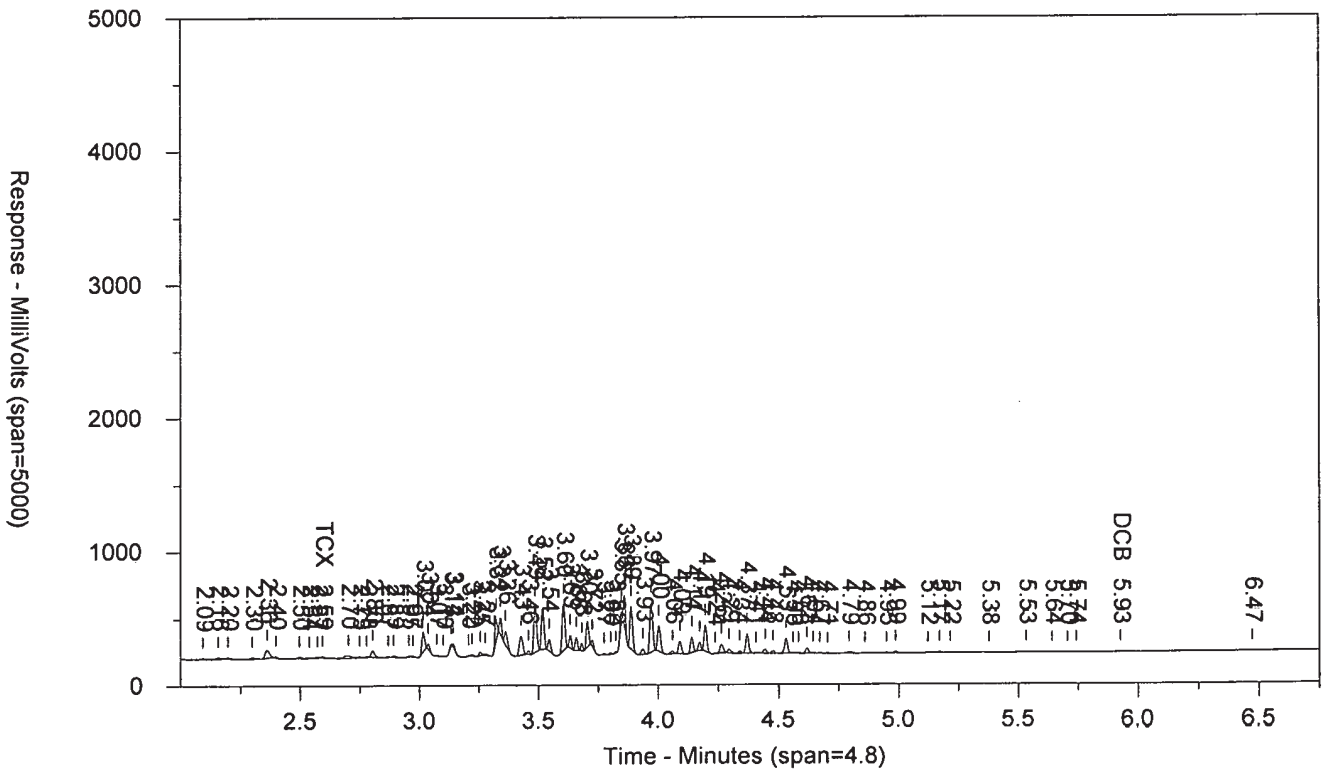
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SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4811824C      AAAR481AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 8:55:57 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.593	7822	.02	TCX
5.435	2978	.017	DCB	5.926	3297	.021	DCB

Files:

Area File: 20pcbs18303001.013.RAW  
Area File: 20pcbs18303001B.013.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 9:03:58 PM  
File Reported On: 10/30/2018 at 9:04:13 PM

AR4811824C

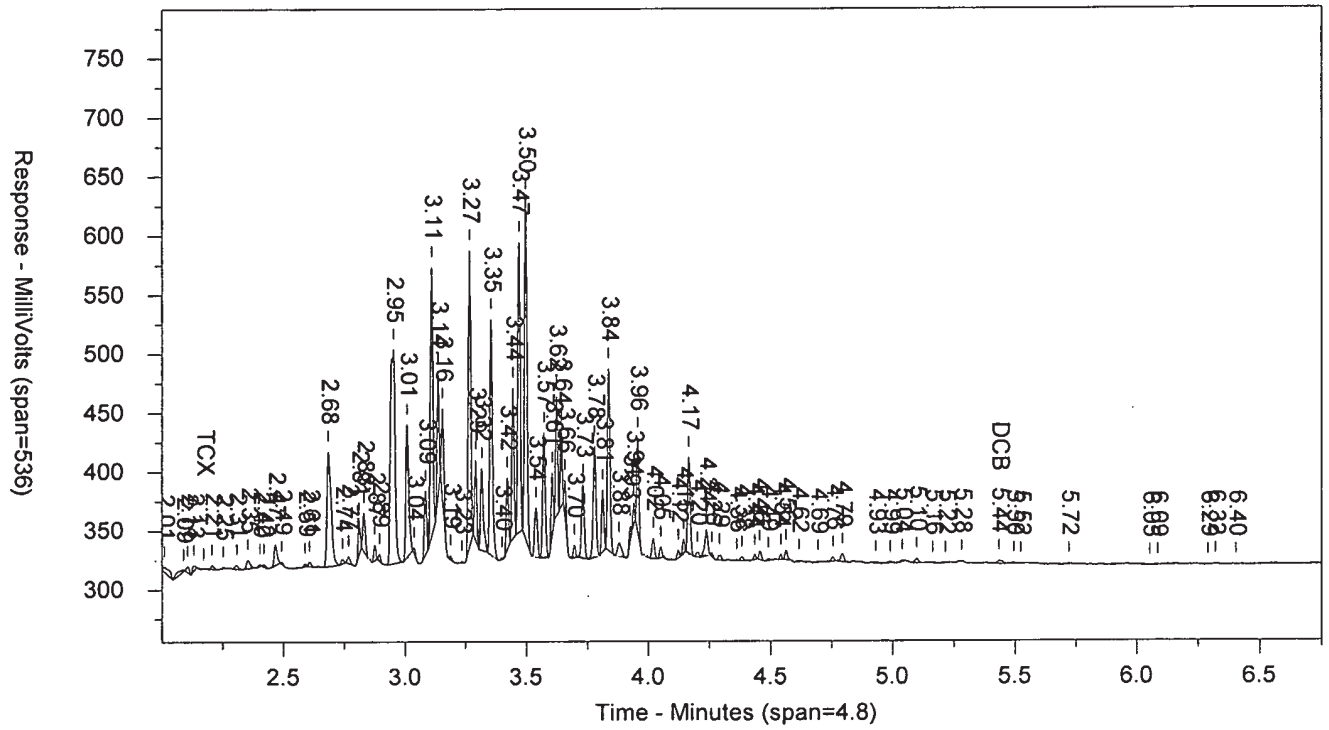
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ICAL 1830299999

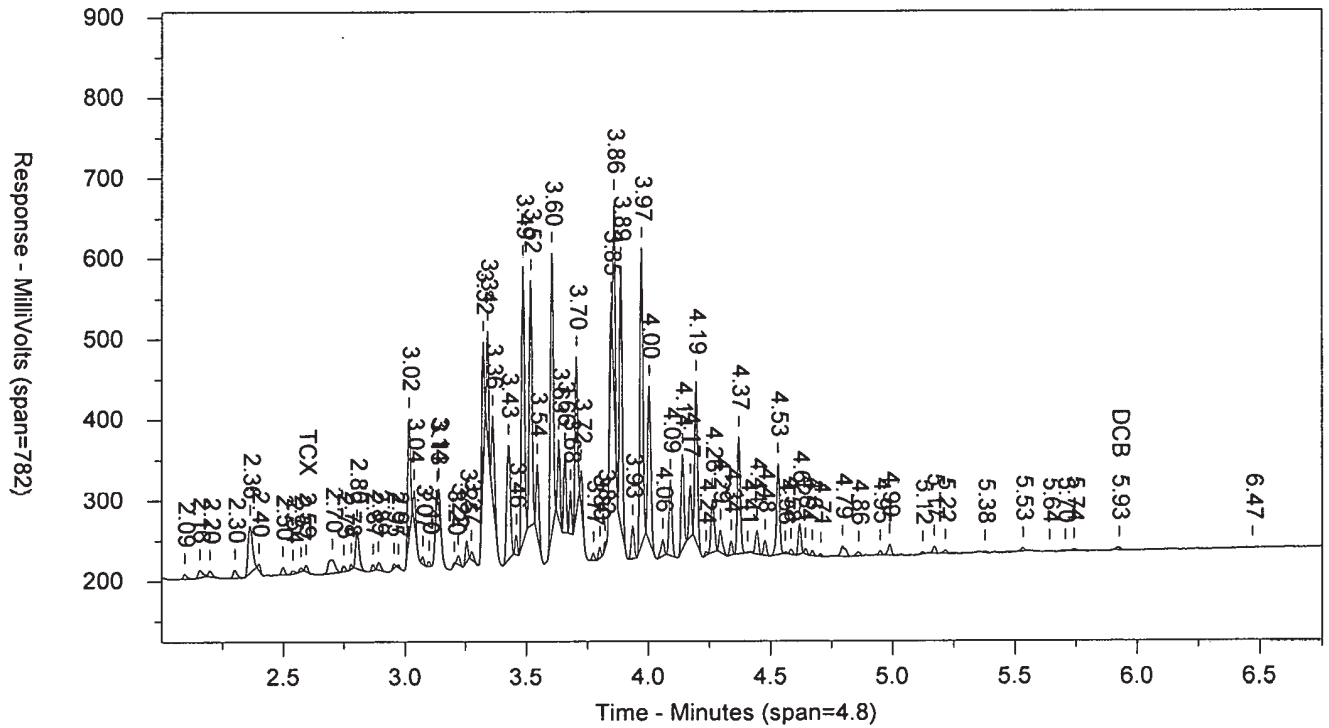
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SW-846 8082

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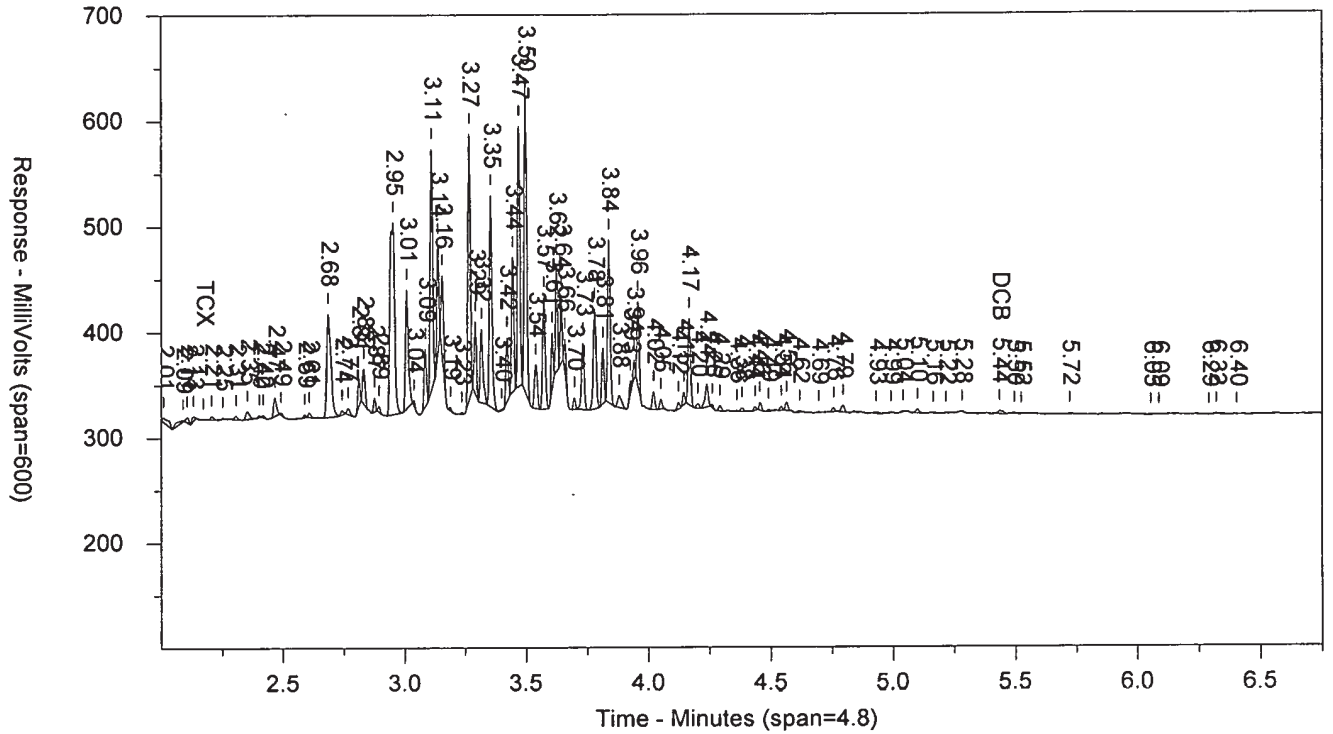
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ICAL 1830299999

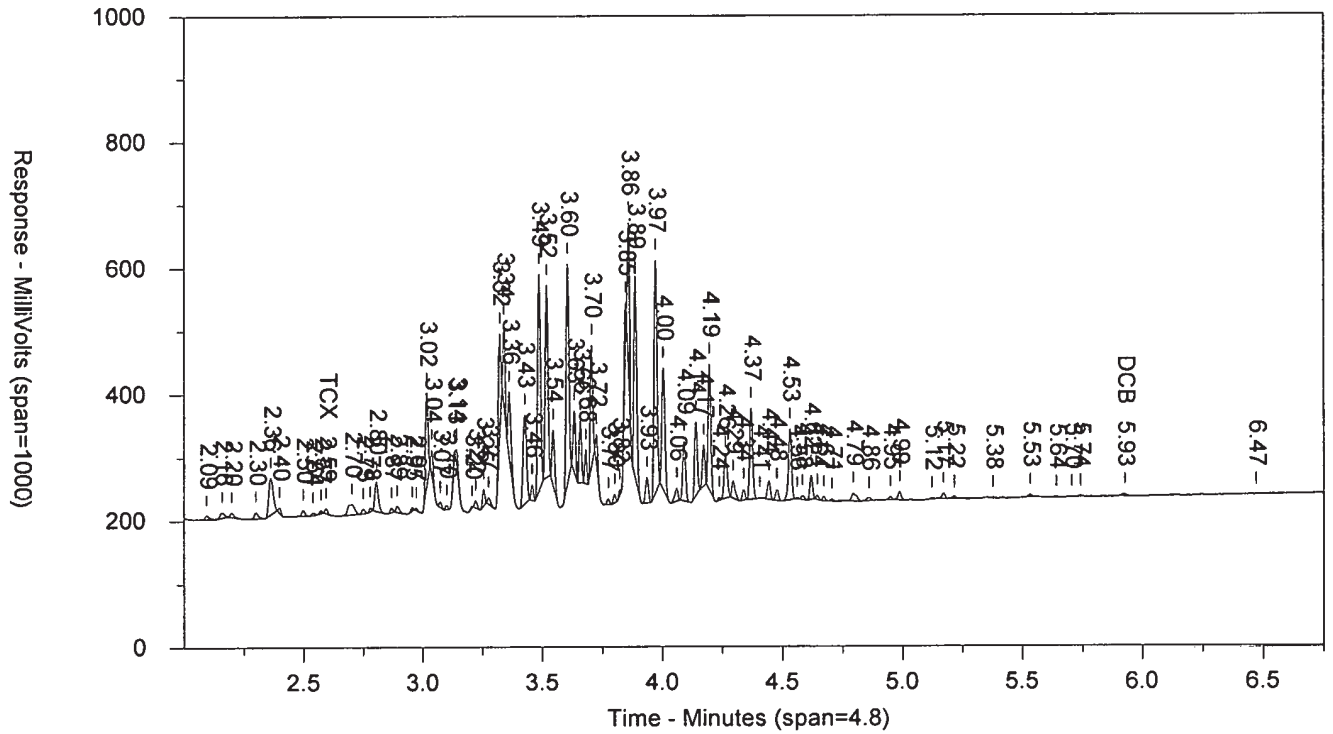
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4821824C      AAAR482AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 9:06:24 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.014.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		10953	11596
2.083		745	1798
2.108		13125	10078
2.207		14479	13722
2.254		3009	3194
2.305		16026	14568
2.352		13330	16320
2.401		12861	9207
2.466		31699	26845
2.495		14378	10333
2.587		15108	10840
2.607		5071	2861
2.652		2147	1180
2.685		188948	231190
2.742		8198	5356
2.767		21104	17286
2.811		48516	30299
2.83		57924	40914
2.854		8917	4888
2.875		23688	13921
2.893		8198	4493
2.951		341185	469048
3.008		208086	185590
3.037		6239	2823
3.086		103872	69659
3.111		415627	308763
3.138		170634	99600
3.155		131599	91043
3.189		14060	10856
3.236		2681	1837
3.266		460007	340302
3.29		123367	76530
3.316		133294	103741
3.354		362513	294271
3.402		2236	1813
3.421		118188	79807
3.444		223591	151163
3.47		450952	319681
3.497		526580	399972
3.539		81471	66980
3.572		197293	159810
3.606		89894	51238
3.624		180989	105282
3.643		118849	63080
3.657		57579	29876
3.697		20653	13213
3.731		127393	101278
3.78		179137	141973
3.813		99306	63667
3.838		278028	204817
3.879		20548	23313
3.927		20354	12157
3.941		40311	18067
3.957		145234	92209

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
3.999		4513	2373
4.021		29337	19669
4.051		18922	18379
4.124		10883	7071
4.145		17599	10293
4.167		156548	112852
4.202		8673	7364
4.239		40096	34858
4.262		6997	3635
4.292		10658	7918
4.324		3898	2867
4.357		1881	1408
4.384		3727	3207
4.436		6443	4104
4.458		14010	9941
4.493		3043	2059
4.52		1530	710
4.541		6883	4192
4.565		16321	13952
4.631		1180	1502
4.691		1060	557
4.754		6547	4926
4.796		11364	10158
4.838		1009	709
4.926		1308	871
4.989		1063	1047
5.039		2334	2109
5.099		5608	4835
5.236		2270	1658
5.286		2711	3536
5.433	DCB	1216	1493
5.492		684	624
5.557		1010	956
5.72		789	519
6.325		1023	573
6.419		819	221



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4821824C      AAAR482AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 9:06:24 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.014.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		27183	31617
2.159		2927	2767
2.198		31567	35700
2.299		40013	44460
2.362		24974	29269
2.399		39714	37277
2.458		2142	1720
2.498		42921	40576
2.54		7452	9471
2.574		1843	1098
2.593	TCX	43097	37967
2.688		53092	84203
2.749		13585	11903
2.778		33732	23816
2.803		75390	75849
2.868		38210	29690
2.891		14390	13032
2.955		44451	46836
3.016		254731	204910
3.038		85593	59308
3.073		17052	11672
3.1		9683	6073
3.133		32745	31865
3.142		34107	21341
3.205		21626	15646
3.221		12508	8428
3.255		48999	35711
3.281		33923	33671
3.322		285510	193244
3.34		240472	144801
3.361		193001	156179
3.427		255771	266852
3.458		39800	25689
3.486		612707	515097
3.517		554735	442171
3.544		153412	116138
3.604		609981	502495
3.633		168997	118358
3.657		183123	128061
3.68		82555	50278
3.705		354096	255901
3.725		87716	53311
3.774		15230	9809
3.8		30953	23675
3.822		17455	9085
3.847		114988	86045
3.858		400832	252778
3.887		582044	461684
3.935		77097	69672
3.971		678764	566013
4.004		349085	308575
4.059		41282	38860
4.091		158298	133010
4.14		209837	162854

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.172		109051	76932
4.195		354253	277377
4.237		8470	5130
4.263		118219	110851
4.295		42237	43157
4.338		31585	23498
4.37		256120	216172
4.407		2550	1365
4.42		3008	1191
4.445		50047	43322
4.478		35172	28628
4.531		201699	176190
4.561		5526	3230
4.585		8769	8293
4.619		64825	52229
4.644		12547	8883
4.671		12091	8724
4.704		5839	4417
4.794		23179	31859
4.863		6695	7157
4.89		2560	1993
4.949		9936	7854
4.988		21978	20989
5.034		1642	1194
5.123		1484	978
5.171		16004	12901
5.214		6941	6276
5.418		2723	2722
5.533		6774	6613
5.742		2330	2052
5.785		4373	4920
5.926	DCB	1619	2781
6.301		968	1160

AR4821824C

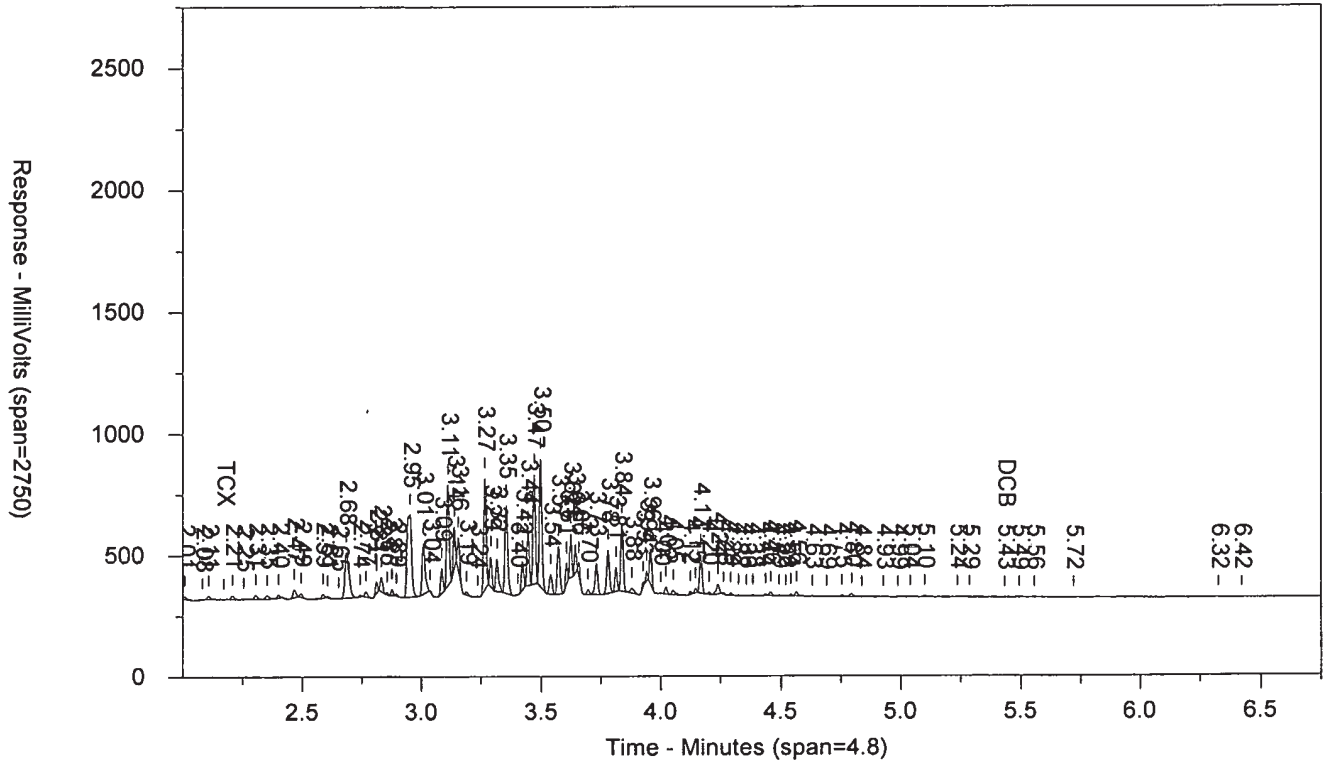
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ICAL 1830299999

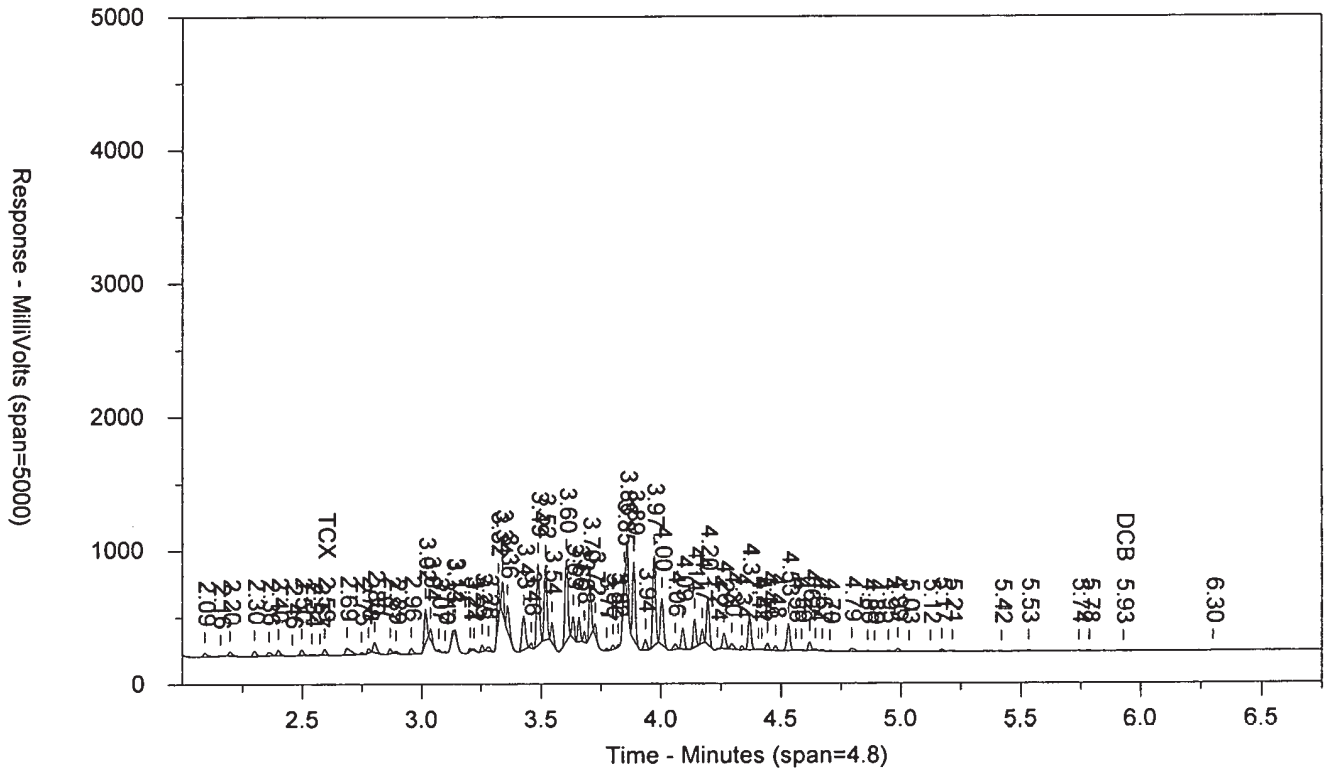
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR4821824C      AAAR482AA      ICAL 1830299999      10227  
 Injected On: 10/30/2018 9:06:24 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

SW-846 8082  
 Sample Weight: 1  
 Dilution Factor: 1

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.593	43097	.111	TCX
5.433	1216	.007	DCB	5.926	1619	.01	DCB

Files:

Area File: 20pcbs18303001.014.RAW  
 Area File: 20pcbs18303001B.014.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 9:14:27 PM  
 File Reported On: 10/30/2018 at 9:14:34 PM

AR4821824C

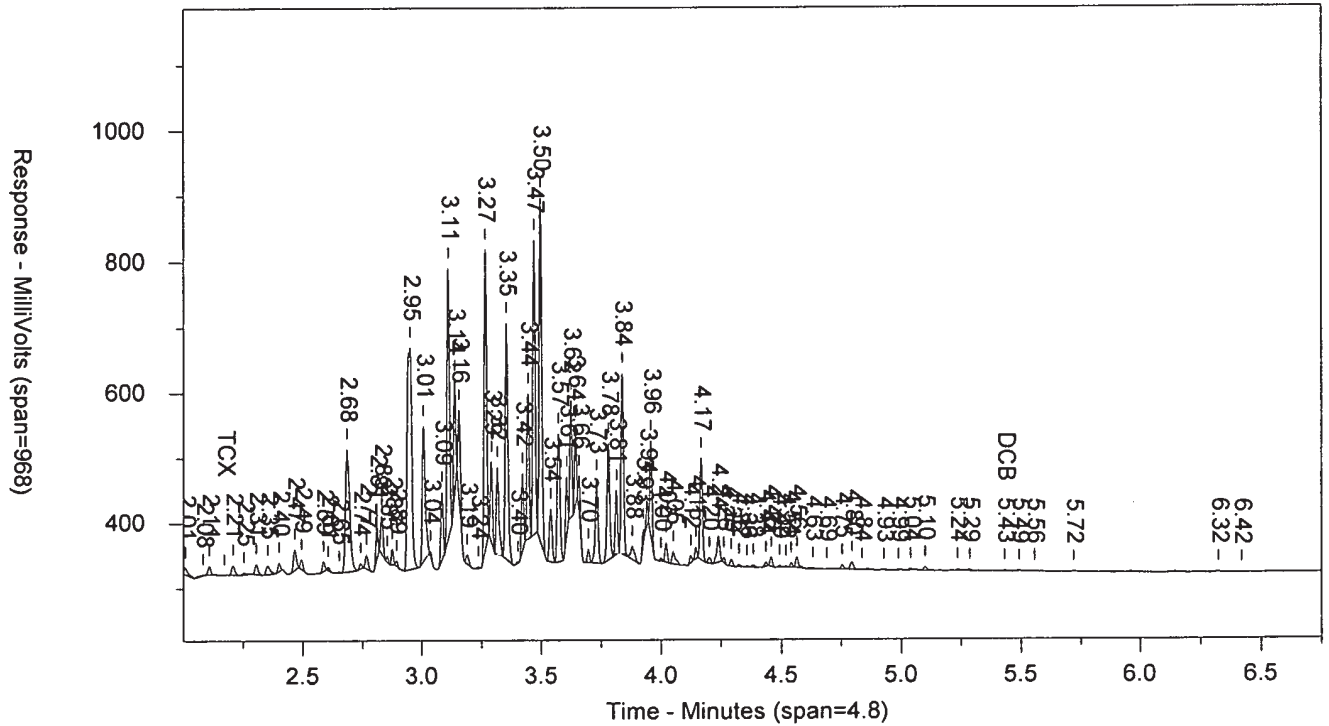
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ICAL 1830299999

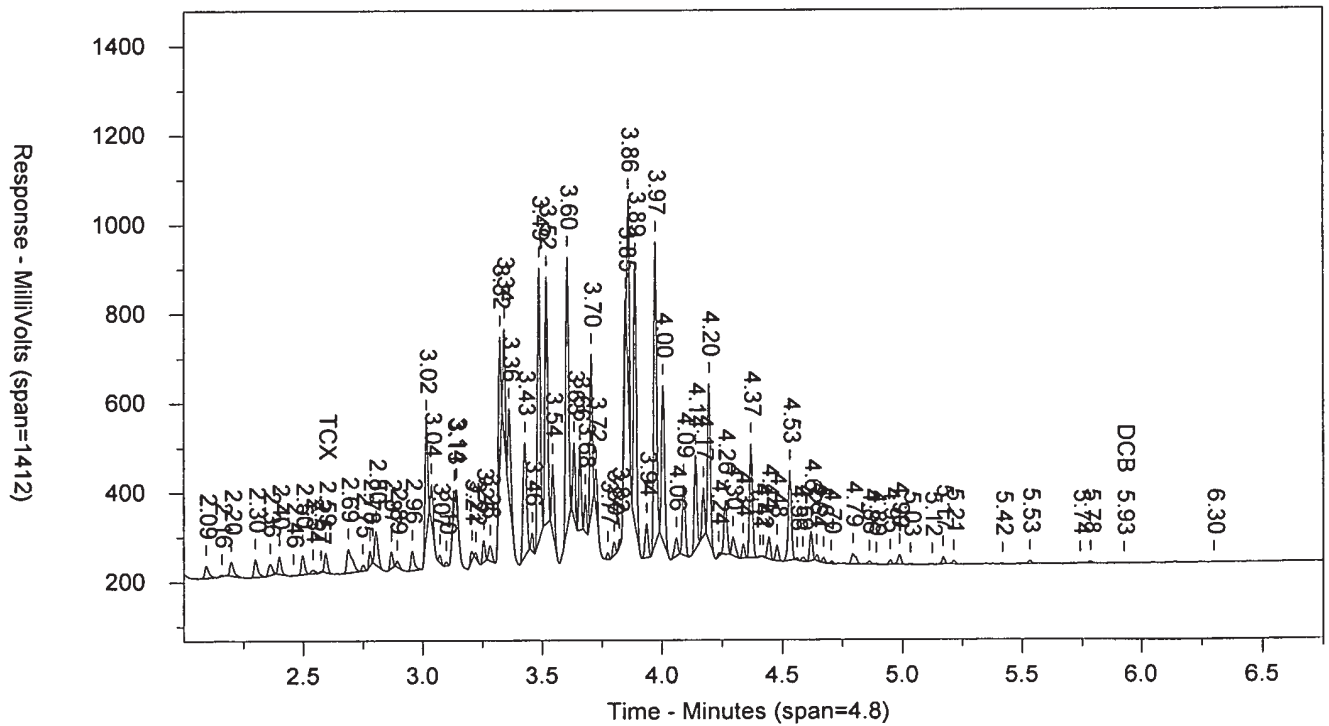
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SW-846 8082

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AR4821824C

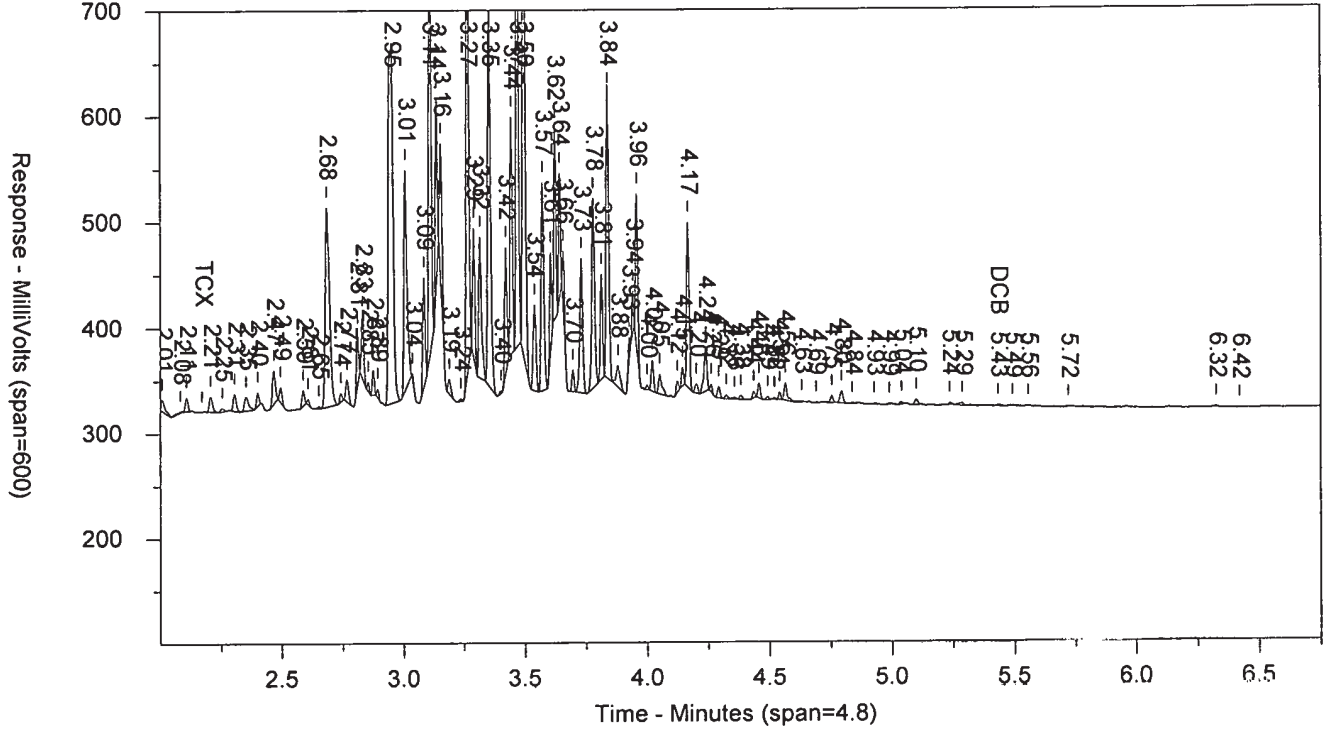
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ICAL 1830299999

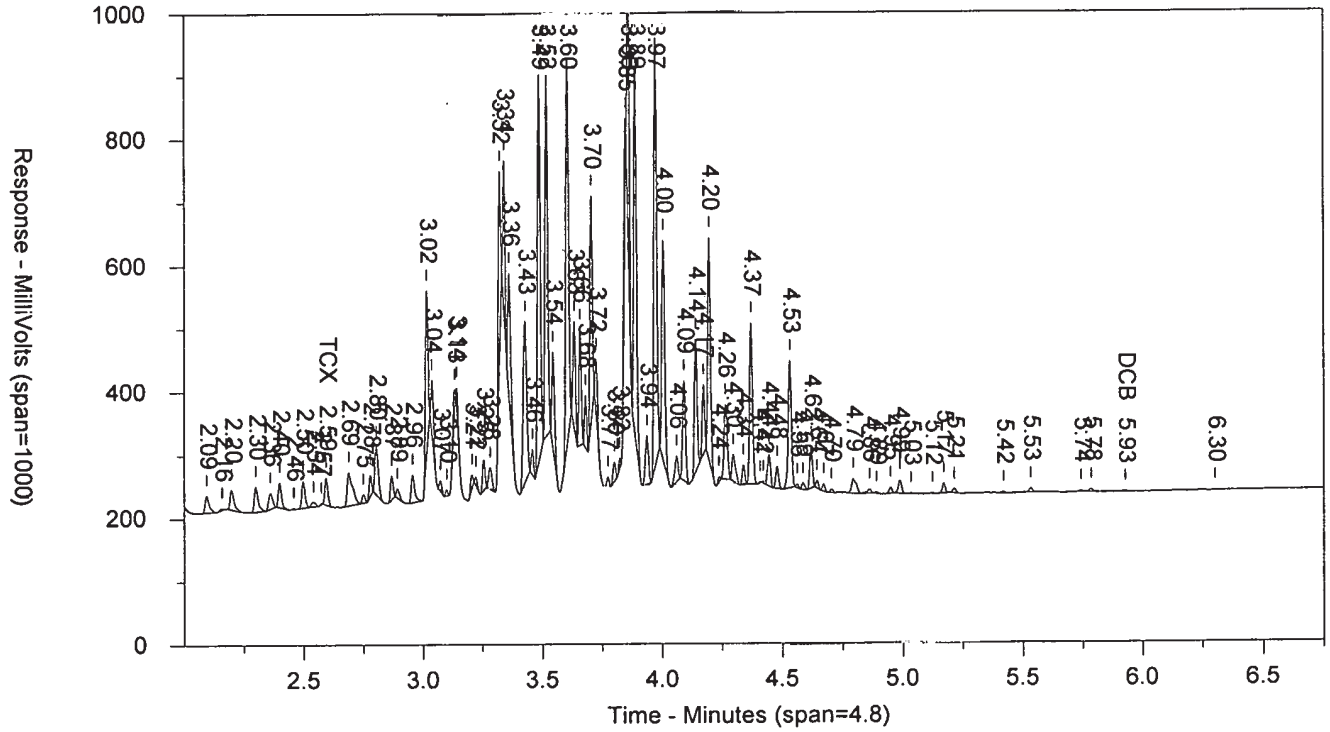
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4831824C      AAAR483AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 9:16:51 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.015.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.011		1269	788
2.064		1056	642
2.107		1418	684
2.175	TCX	645	181
2.207		1974	1193
2.255		6595	8088
2.305		2148	1920
2.353		28023	32701
2.418		12155	11906
2.466		72969	88586
2.608		18055	16278
2.685		340415	419553
2.742		16147	11789
2.765		9812	6607
2.811		101059	62470
2.83		123245	90339
2.875		53491	34851
2.893		15684	8823
2.951		655387	876451
3.008		408107	351839
3.038		22292	12112
3.086		209589	139563
3.111		766163	564635
3.138		335878	194863
3.155		270156	180337
3.235		3118	1755
3.266		862397	634772
3.291		231244	149560
3.316		254905	208580
3.354		690308	544738
3.401		4988	3425
3.422		220227	148952
3.444		438688	296200
3.47		875591	608931
3.497		1005389	743386
3.539		158525	132455
3.572		364736	288241
3.606		184508	105868
3.624		344966	201773
3.642		228706	117347
3.658		114591	61929
3.697		41271	27598
3.731		234365	174818
3.78		354244	279695
3.813		200205	135389
3.838		542627	408481
3.88		49255	52902
3.926		44758	25938
3.941		69075	33613
3.957		277478	176184
3.981		6550	3650
4.021		59231	45354
4.051		41966	30655
4.123		23276	14808

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.146		37482	22081
4.167		302017	221662
4.203		13853	10737
4.239		85420	71878
4.261		11795	6495
4.293		20165	14671
4.324		1701	1327
4.344		1158	454
4.362		2647	1690
4.382		3754	2589
4.436		14543	9829
4.459		29637	19744
4.493		7677	5791
4.524		3198	2195
4.542		12920	7802
4.565		30061	20481
4.614		589	291
4.666		2207	1777
4.73		1019	288
4.757		12731	9669
4.796		23397	21663
4.839		1405	1087
4.867		856	860
4.936		1848	1498
4.985		632	243
5.04		3969	2662
5.102		10761	8749
5.208		683	276
5.29		5007	4438
5.325		952	849
5.384		654	513
5.675		588	198
5.885		594	166
5.911		561	146
5.928		757	235
6.119		1142	474
6.327		1009	730
6.402		785	292



## LANCASTER LABORATORIES

Sample Number: AR4831824C      AAAR483AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 9:16:51 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.015.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		3559	3845
2.157		5946	6902
2.2		5637	7228
2.274		1551	1000
2.3		4451	4603
2.362		6955	7095
2.399		7310	8126
2.498		5867	6670
2.539		19090	21851
2.57		2489	1516
2.593	TCX	4765	3566
2.704		55626	90129
2.748		29430	27590
2.78		1318	758
2.803		174089	198857
2.867		3787	2442
2.891		44517	46208
2.955		3980	3568
3.016		496359	401656
3.037		113595	75137
3.073		29601	20171
3.1		23499	18144
3.141		338438	532473
3.204		2158	1534
3.222		51456	43157
3.255		100959	74466
3.276		32578	21870
3.322		554845	369313
3.34		480304	282866
3.361		342107	278153
3.427		509592	525805
3.458		84487	56794
3.486		1168456	981599
3.517		1026533	815989
3.544		286660	226551
3.604		1245148	986834
3.633		324908	230017
3.658		328458	224360
3.681		163006	97295
3.705		673812	493635
3.725		138194	82549
3.774		38852	29726
3.8		44474	29676
3.823		33320	18660
3.847		223449	166505
3.859		844068	508764
3.887		1140820	898350
3.935		132266	113467
3.971		1320961	1117219
4.003		664541	589984
4.06		69101	64116
4.091		314179	275278
4.14		404352	320793
4.173		221215	155224

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.196		674637	535532
4.236		15165	9361
4.263		230243	215950
4.295		74191	72856
4.339		66375	52353
4.37		482568	409592
4.406		6698	3550
4.42		6189	2649
4.446		96356	89572
4.479		65232	52673
4.533		386025	346967
4.562		10249	6000
4.587		16234	14791
4.62		125929	103591
4.645		24769	17287
4.673		25219	18744
4.707		12024	9057
4.796		44963	62589
4.842		2060	1164
4.866		10295	7839
4.893		5561	4533
4.95		20582	16607
4.989		45658	40037
5.038		3099	2437
5.124		1709	1349
5.174		30917	25355
5.217		15674	14613
5.352		1471	1286
5.378		1309	1172
5.419		5091	5093
5.536		12844	11352
5.747		5437	7120
6.515		1104	761

AR4831824C

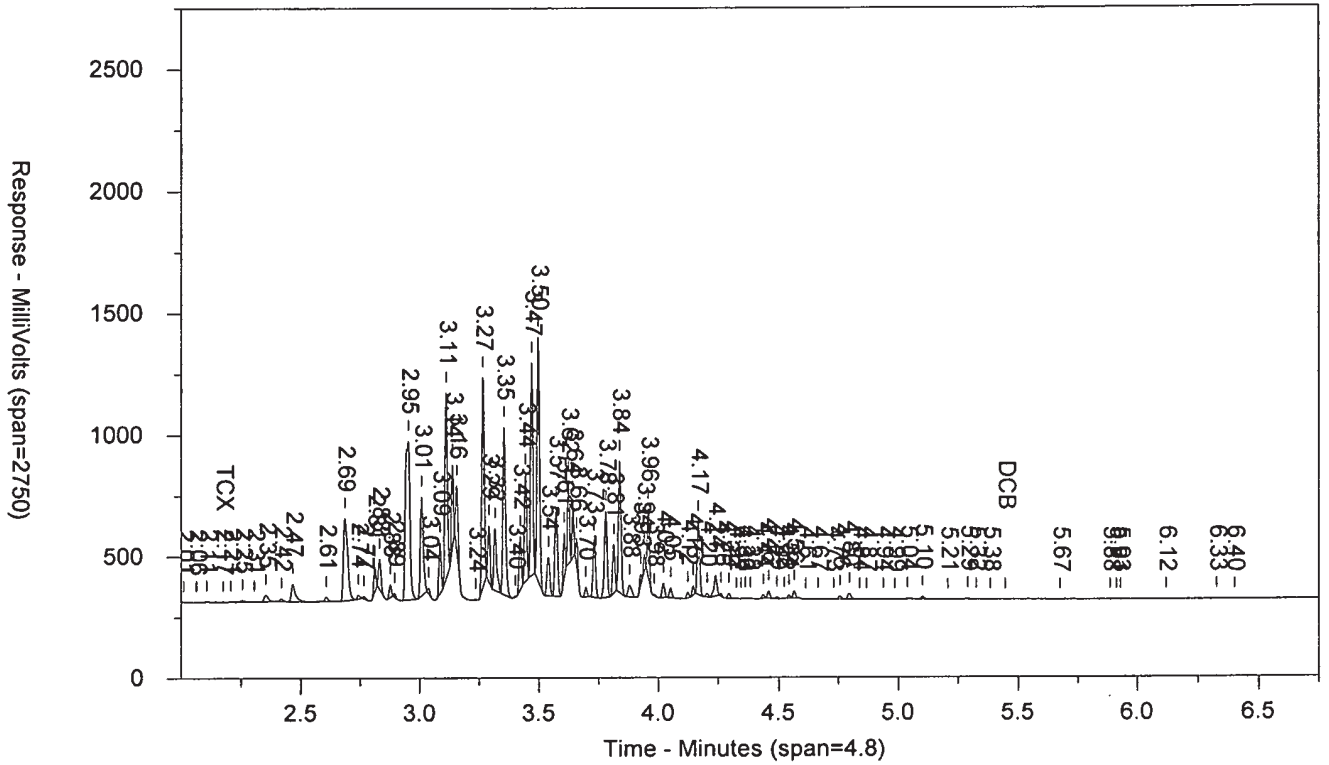
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ICAL 1830299999

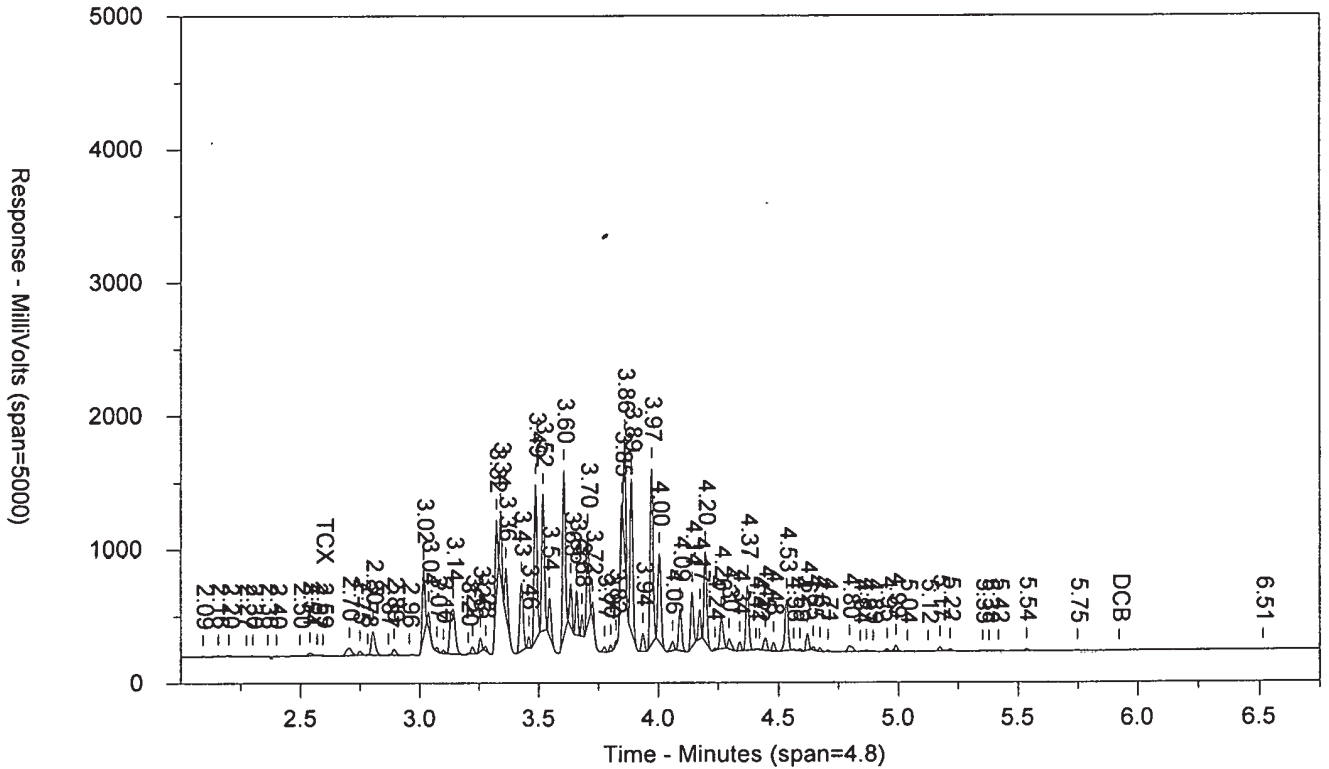
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SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4831824C      AAAR483AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 9:16:51 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.175	645	.004	TCX	2.593	4765	.012	TCX

Files:

Area File: 20pcbs18303001.015.RAW  
Area File: 20pcbs18303001B.015.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 9:24:53 PM  
File Reported On: 10/30/2018 at 9:25:00 PM

AR4831824C

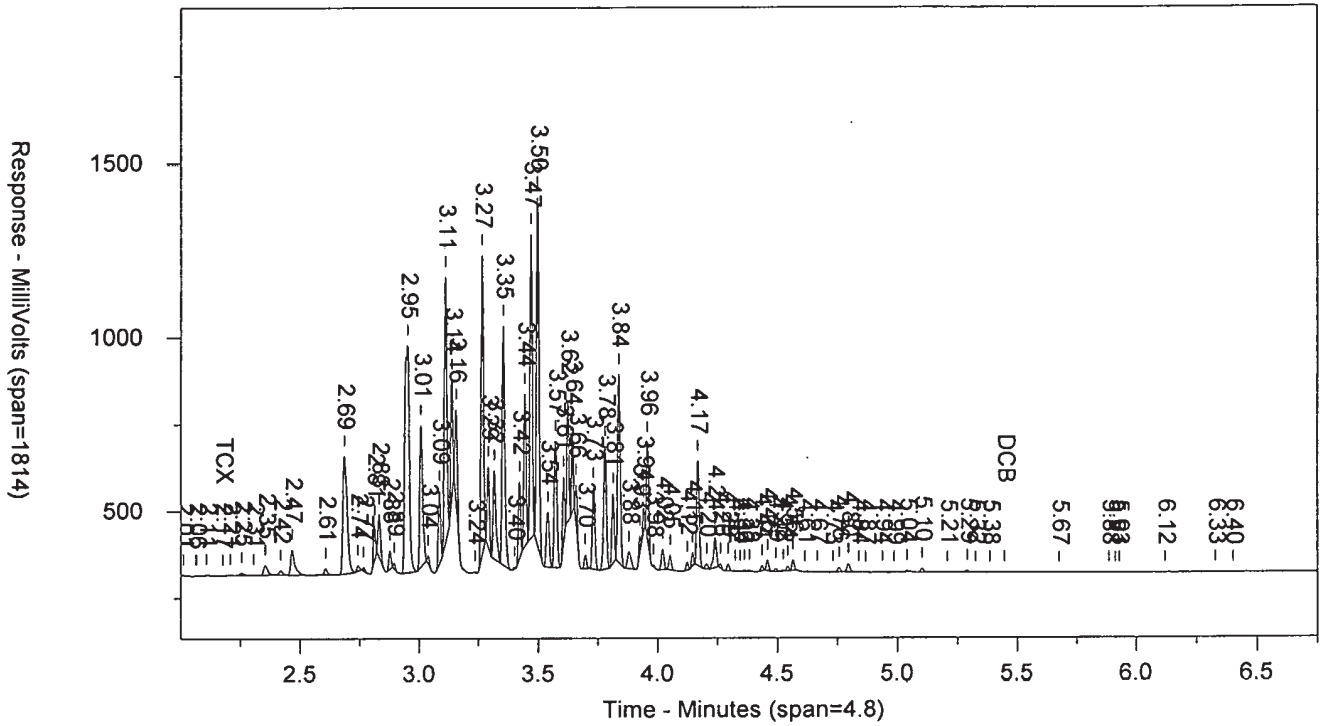
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ICAL 1830299999

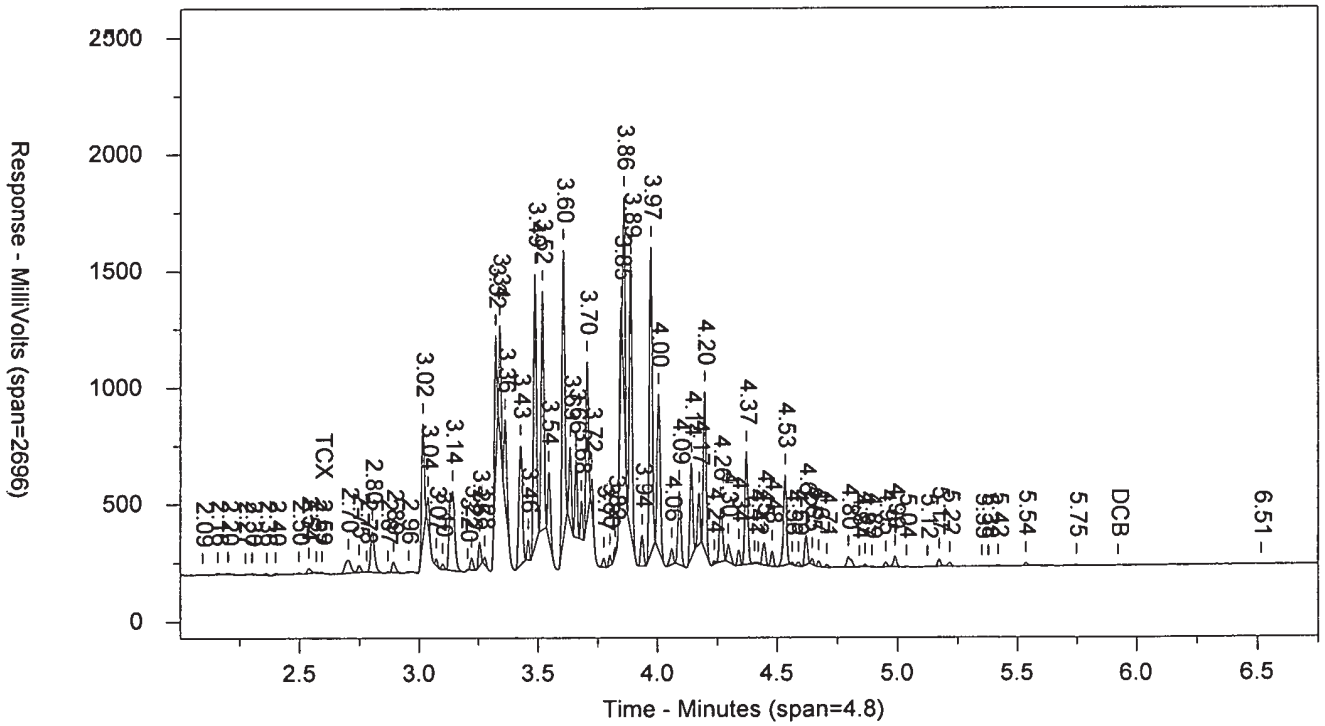
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SW-846 8082

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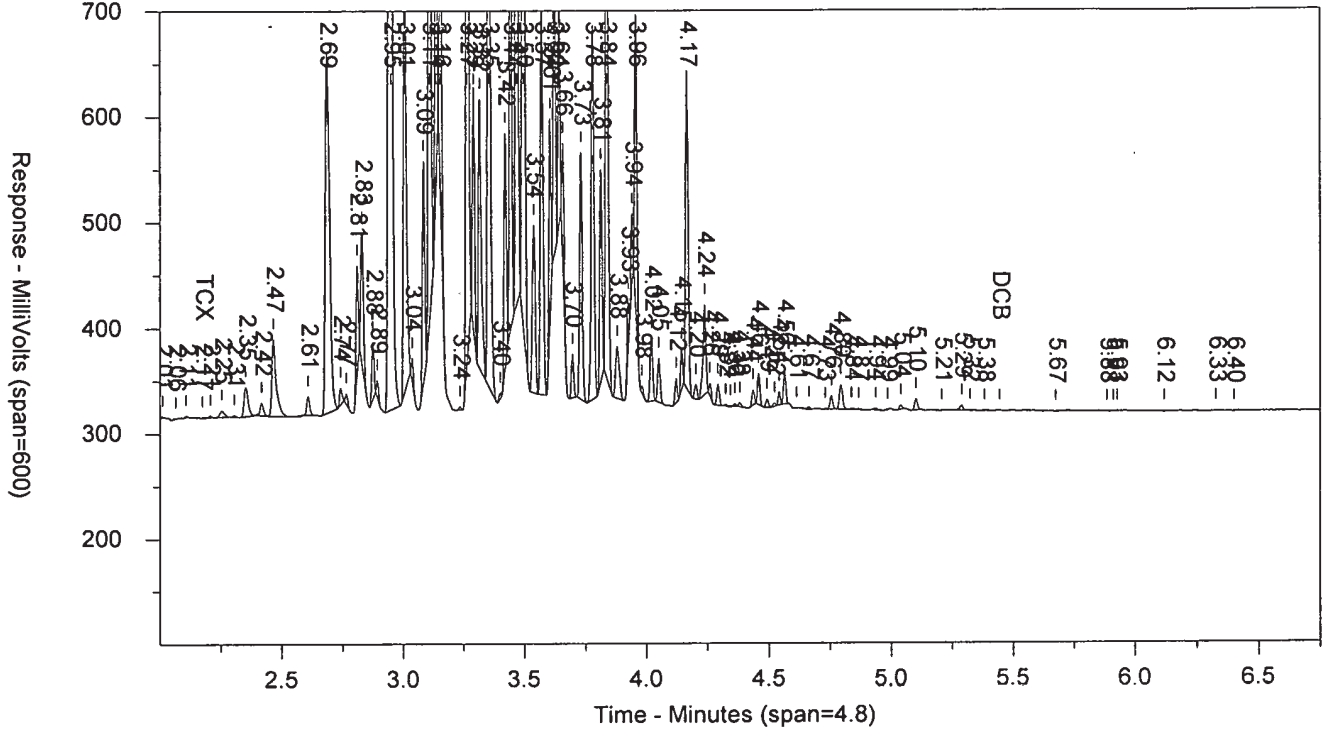


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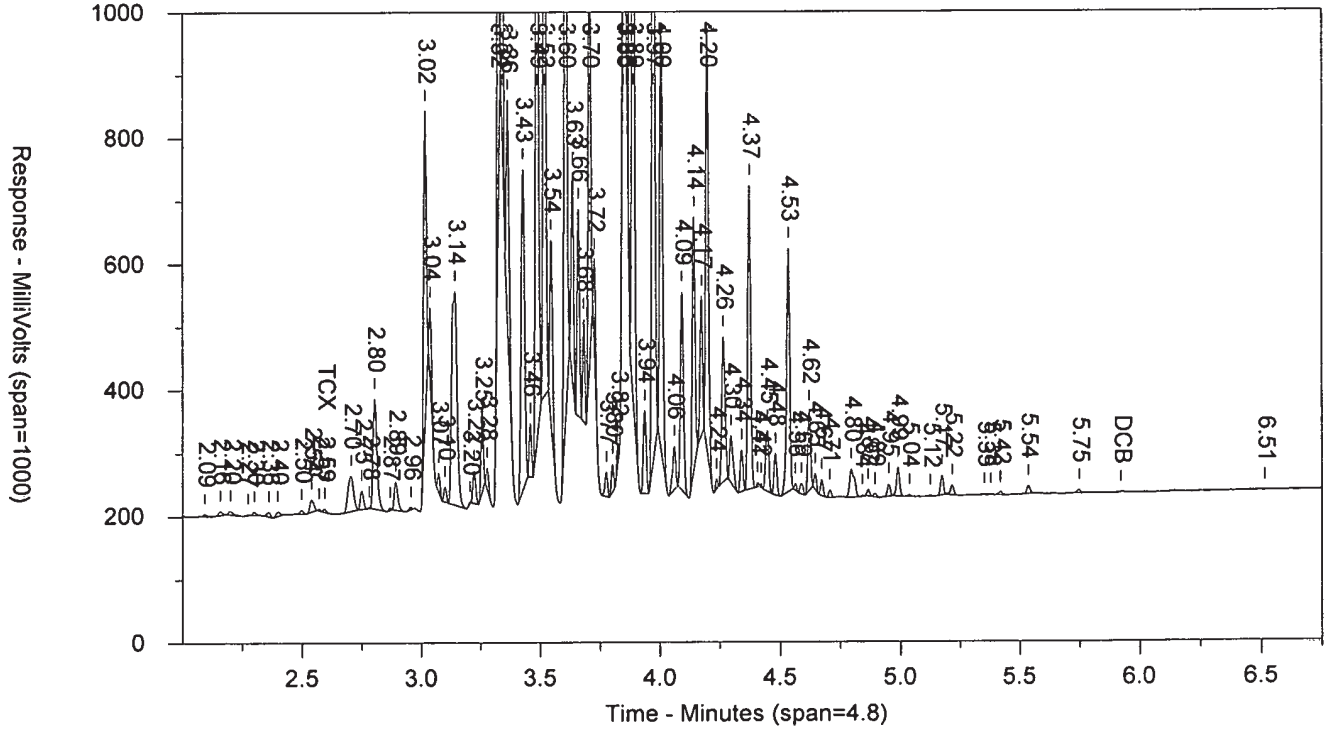


AR4831824C      AAAR483AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4841824C      AAAR484AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 9:27:18 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.016.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.018		11540	15254
2.089		1306	3109
2.116		11514	12788
2.18	TCX	1551	1685
2.212		13409	12442
2.254		10113	10969
2.282		1997	1160
2.308		15466	13870
2.353		48005	61007
2.416		23157	33196
2.465		121347	120955
2.493		5067	3494
2.565		2278	1663
2.588		10253	5562
2.606		26448	19750
2.651		3722	3109
2.684		615212	781694
2.741		30286	24268
2.765		26717	20430
2.81		176919	113457
2.829		215707	155537
2.874		96460	61352
2.892		26993	14489
2.95		1227914	1662945
3.007		736241	641666
3.037		36064	18866
3.085		385771	258390
3.111		1383659	1035618
3.138		607076	345742
3.154		449042	322575
3.187		6216	4203
3.235		7908	5220
3.266		1589495	1173197
3.29		420377	267898
3.315		455482	382511
3.353		1294921	1022016
3.399		11449	6797
3.421		394061	272061
3.444		813436	537658
3.469		1637287	1135088
3.497		1859159	1397767
3.539		289389	245789
3.571		671022	535113
3.606		315577	186726
3.624		636723	370205
3.643		411530	218392
3.657		196015	100805
3.696		74894	51409
3.731		427910	331000
3.78		632240	516837
3.813		363733	245481
3.838		986307	746592
3.879		90333	97640
3.927		70897	42603

## Chrom Perfect Chromatogram Report

RT A	Compound A	Height A	Area A
3.942		112390	54396
3.957		522071	321902
3.982		9527	4700
4.021		112590	84432
4.051		76722	58572
4.092		2168	1884
4.123		41537	27002
4.146		69662	39943
4.167		562685	412323
4.204		25808	19522
4.239		152533	134245
4.261		21791	11677
4.294		37007	27371
4.326		4869	3318
4.345		1164	403
4.361		4844	2680
4.382		7412	5139
4.408		1033	557
4.437		25553	17402
4.459		54062	36602
4.494		13802	10716
4.523		5997	4293
4.544		22291	14088
4.566		58062	45561
4.625		1150	1262
4.664		3631	2306
4.757		23846	17858
4.796		44065	40878
4.842		1285	811
4.966		923	223
4.992		2006	1737
5.04		7564	5873
5.103		19384	14804
5.29		8170	6479
5.385		820	789
5.433	DCB	706	306
5.598		685	395
5.684		1023	204
5.723		1056	678
5.877		808	278
5.922		743	394
6.004		689	398
6.053		686	243
6.14		989	558
6.179		827	314
6.275		955	273
6.329		1361	1424
6.396		487	221



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4841824C    AAR484AA    ICAL 1830299999    10227  
 Injected On: 10/30/2018 9:27:18 PM  
 Instrument ID: CP20-17342  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.016.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
 Injection Volume: 1 ul  
 Analyst: 9065

RT B	Compound B	Height B	Area B
2.014		13145	16326
2.111		21455	31333
2.155		3086	3011
2.209		34737	55850
2.308		36283	49362
2.361		14678	16842
2.405		38020	44748
2.465		1636	1063
2.501		40898	42008
2.537		31959	38636
2.595	TCX	46135	51583
2.7		97754	185000
2.748		49627	47383
2.779		18356	10695
2.802		281250	300001
2.868		30158	20672
2.89		61429	56977
2.955		41342	38732
3.015		898739	715397
3.036		212012	143948
3.072		50831	35984
3.099		37192	26579
3.141		607063	974203
3.205		12202	8997
3.221		66820	54294
3.254		176138	128978
3.276		54678	45251
3.322		1069048	707487
3.339		913785	552241
3.36		626576	487386
3.427		941646	954886
3.457		138162	91180
3.485		2187775	1823303
3.517		1971777	1529587
3.544		525503	401831
3.604		2338734	1840620
3.632		593119	413598
3.657		598504	408054
3.68		280868	166516
3.704		1267632	929321
3.724		273398	157358
3.774		60084	41454
3.8		74069	52428
3.822		55888	32047
3.846		344768	292315
3.858		1574117	962760
3.887		2203140	1711182
3.935		234188	202083
3.971		2461971	2083679
4.003		1285697	1104952
4.059		114693	109233
4.09		546166	471179
4.14		727876	580628
4.172		399351	276346

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.195		1263028	974587
4.236		27653	15780
4.263		393643	381162
4.295		123136	123772
4.339		112088	89724
4.37		890652	734040
4.406		11520	6087
4.42		11389	5213
4.445		167320	155657
4.479		112362	92468
4.532		732164	635116
4.563		19723	11863
4.587		28973	25872
4.62		219271	179689
4.645		44974	30657
4.673		43714	32628
4.707		19665	15204
4.731		2378	1379
4.795		80851	111800
4.842		4205	2635
4.866		18662	14359
4.892		9264	7631
4.95		38454	31733
4.989		78322	72901
5.036		6376	5774
5.126		1897	2086
5.173		56416	46705
5.217		28522	28334
5.36		2234	1859
5.418		10108	9749
5.535		24519	22402
5.745		10444	12033
5.923	DCB	1480	1703
6.562		931	589
6.806		2003	2602

AR4841824C

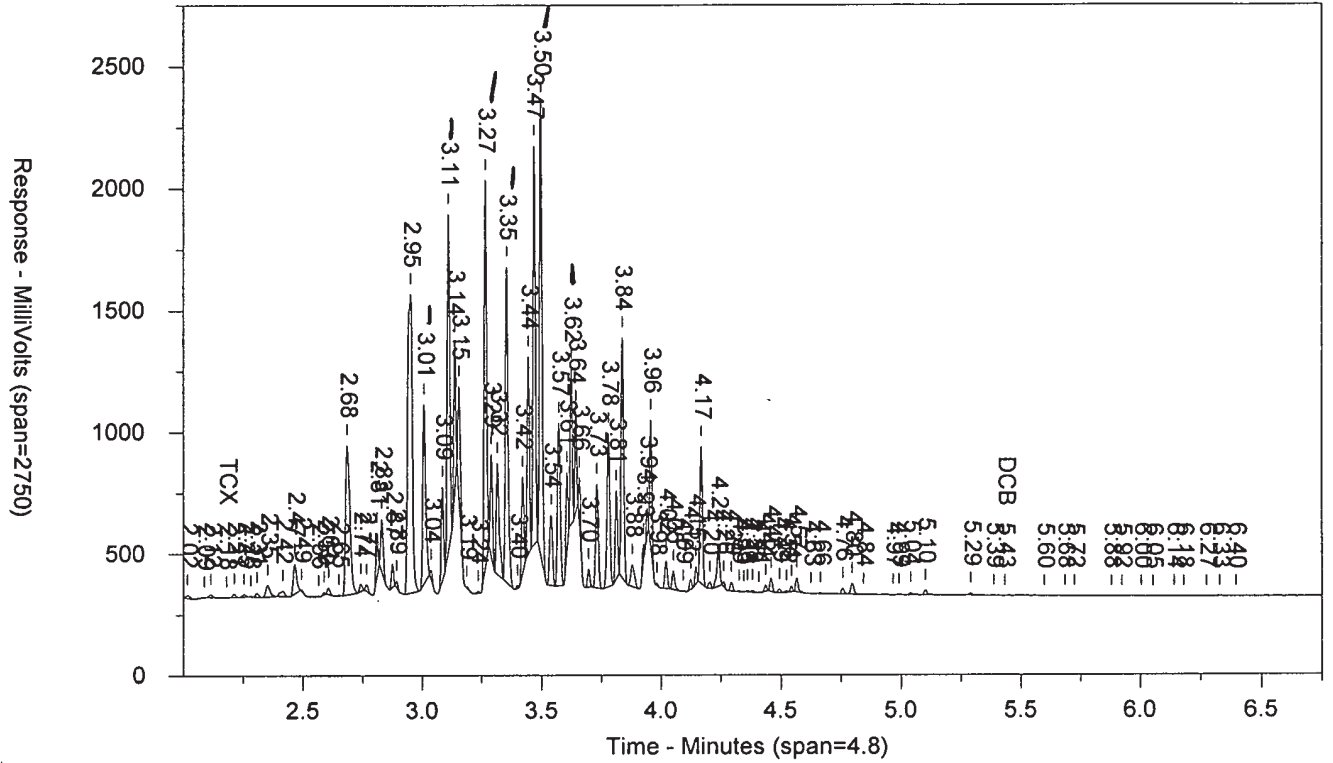
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ICAL 1830299999

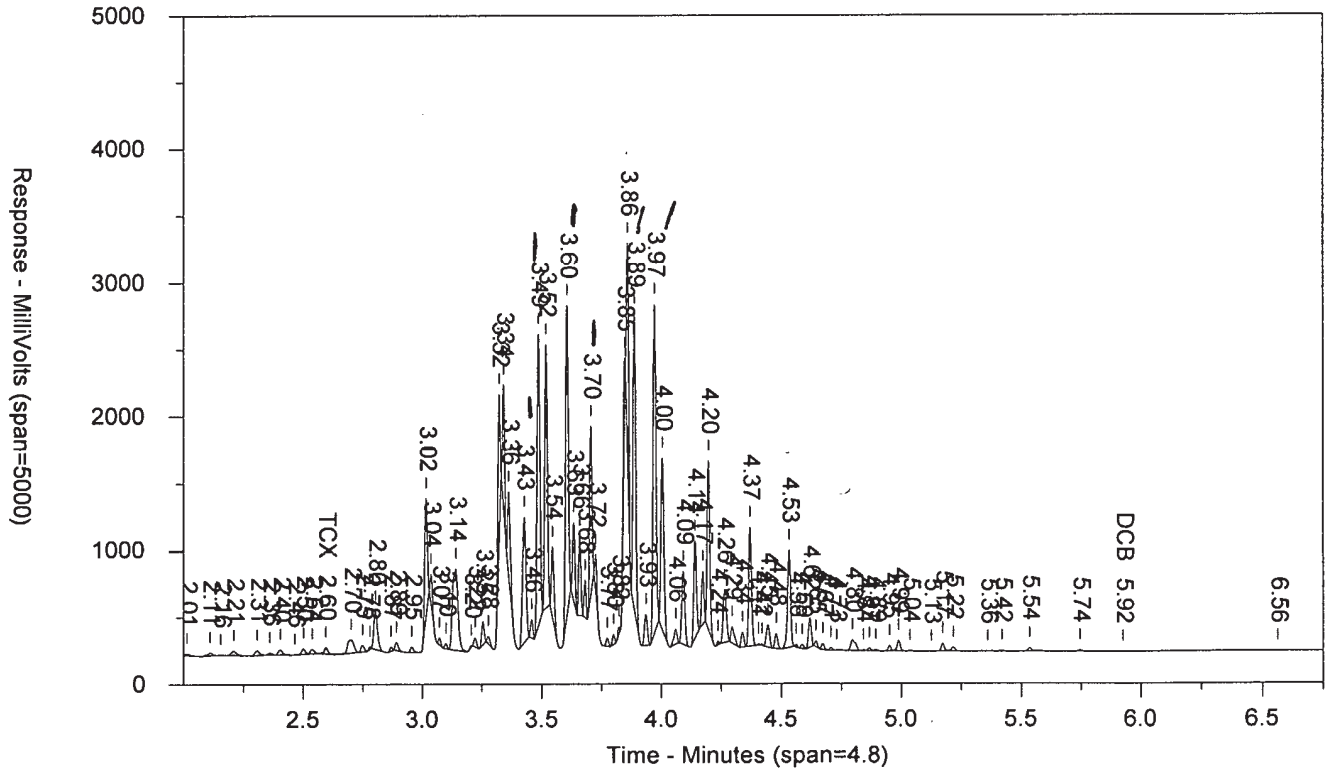
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR4841824C      AAAR484AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 9:27:18 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

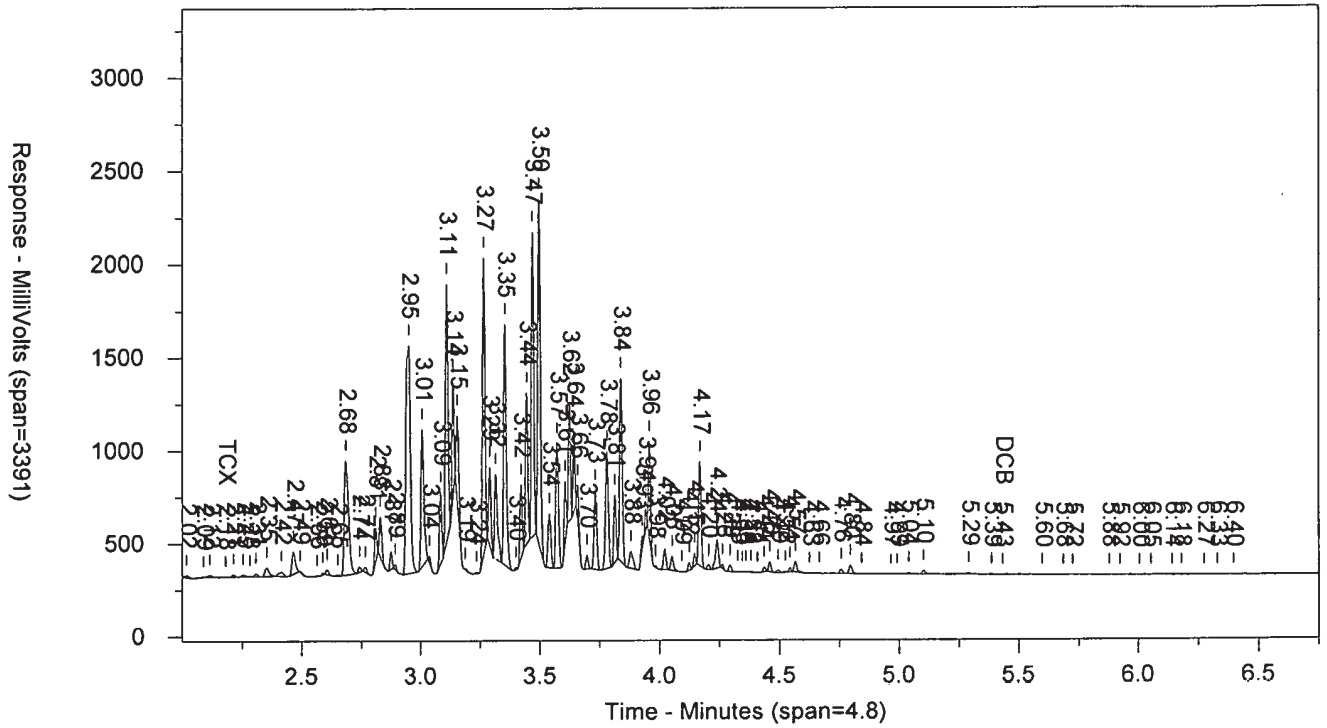
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.18	1551	.009	TCX	2.595	46135	.119	TCX
5.433	706	.004	DCB	5.923	1480	.01	DCB

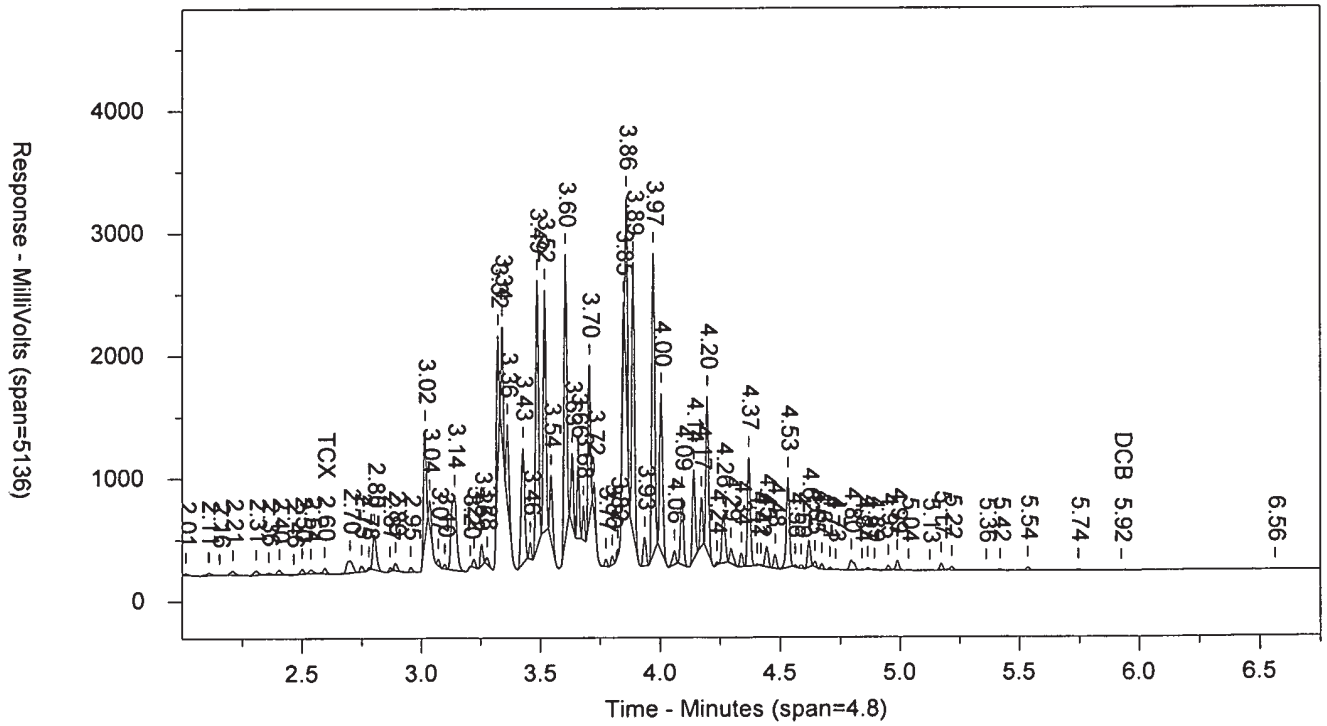
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 Method A: 20PCBS.MET  
 Method B: 20PCRSR MFT  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 9:35:20 PM  
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AR4841824C      AAAR484AA      ICAL 1830299999      10227      SW-846 8082

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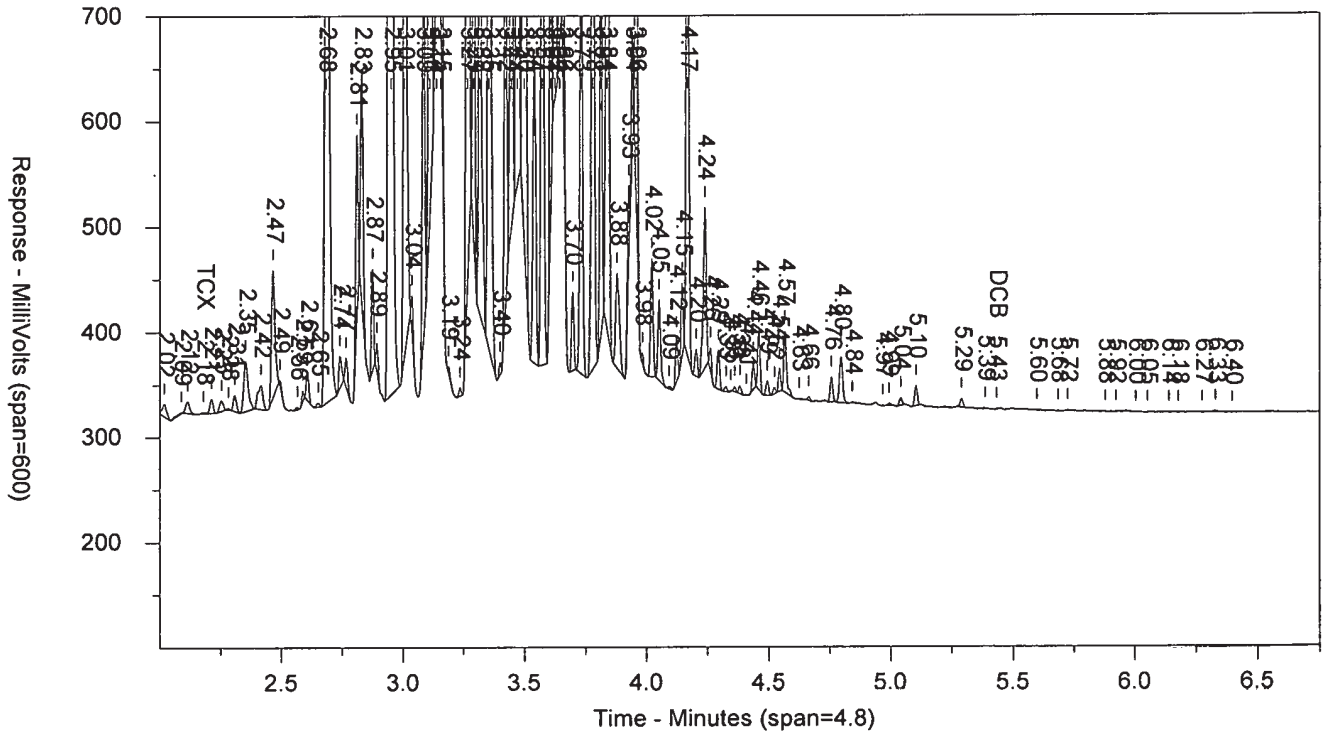


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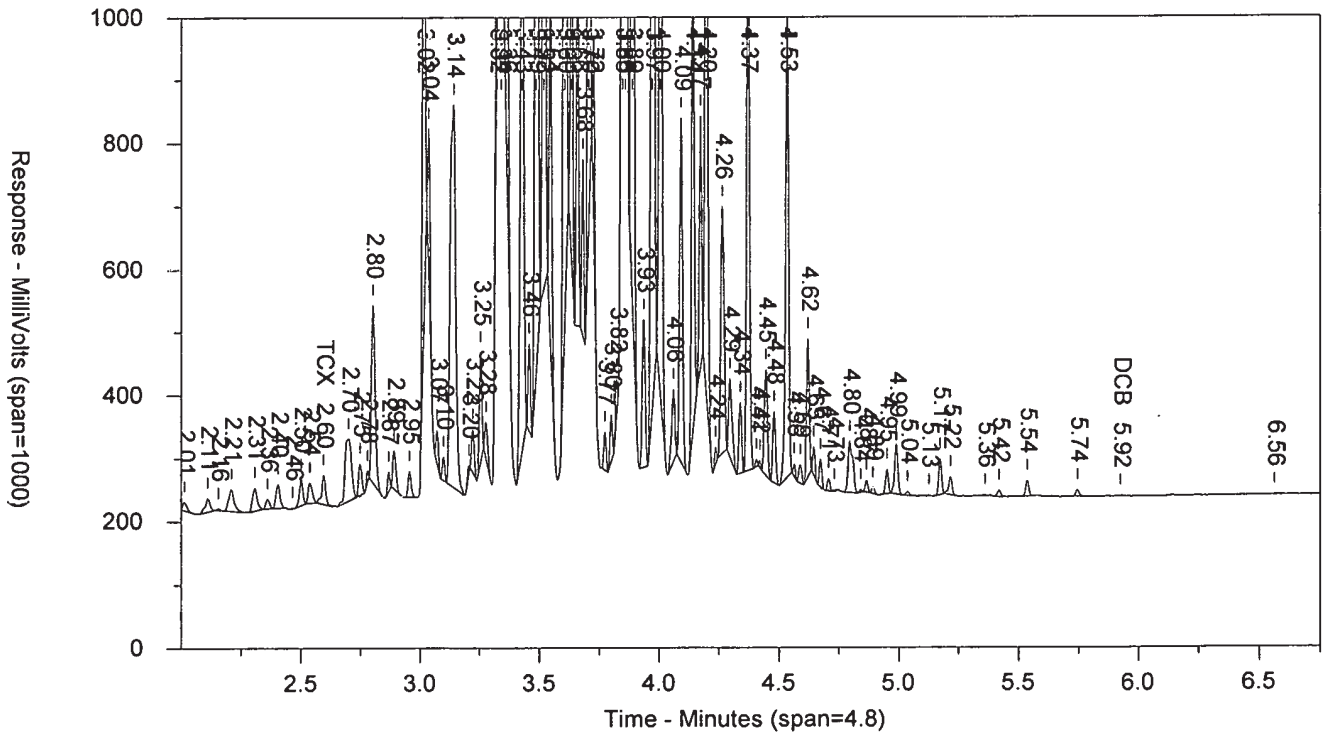


AR4841824C      AAAR484AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4851824C      AAAR485AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 9:37:45 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.017.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		3720	8518
2.087		1565	5575
2.107		5576	4023
2.137		5569	8507
2.207		4258	4073
2.255		33899	43557
2.303		4176	3729
2.353		133018	157000
2.418		57725	54273
2.466		328023	393863
2.566		1498	1052
2.607		90241	89363
2.685		1433041	1783581
2.742		76013	56267
2.765		40042	25643
2.811		428448	268117
2.83		509377	389956
2.875		240067	159717
2.892		71916	39209
2.951		2985427	3956932
3.008		1768302	1519205
3.038		104742	56439
3.086		886750	607082
3.111		3397752	2439554
3.138		1467188	830292
3.155		1112237	748346
3.235		16244	10699
3.266		3929382	2786070
3.29		1021082	638958
3.316		1077867	887035
3.354		3029274	2388583
3.4		29392	16274
3.421		977819	635633
3.444		1968911	1304764
3.47		4152233	2765843
3.497		4552702	3374310
3.539		671513	574638
3.571		1589591	1242064
3.606		762004	440627
3.623		1555592	891399
3.643		1021269	533956
3.658		442371	229782
3.696		189372	133088
3.731		1004508	757962
3.78		1566450	1246495
3.813		866347	586028
3.838		2427875	1800716
3.88		226331	248439
3.926		176807	101947
3.942		264698	128501
3.957		1250156	779300
3.982		34783	17557
4.021		275824	209207
4.051		192146	143985

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.122		105206	69701
4.145		159265	96945
4.167		1388482	1007590
4.203		68359	49683
4.239		373529	329300
4.261		47944	26769
4.294		95816	68261
4.323		6606	5208
4.345		2218	942
4.361		13714	7875
4.38		12259	8211
4.436		66242	45827
4.458		134007	93260
4.493		36150	27211
4.522		15235	10120
4.542		60921	36153
4.565		139844	96018
4.632		2188	1705
4.663		8784	7078
4.731		3044	2052
4.756		56480	44766
4.796		108835	101102
4.937		5994	5609
4.993		3890	5338
5.039		19066	14703
5.102		50569	42787
5.215		1030	799
5.241		894	240
5.288		20386	18242
5.38		890	366
5.488		1037	1056
5.559		970	228
5.609		978	363
5.659		767	684
5.731		919	627
5.997		922	278
6.055		616	209
6.132		699	524
6.235		994	425
6.328		962	889
6.459		904	784
6.48		758	288



## LANCASTER LABORATORIES

Sample Number: AR4851824C      AAAR485AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 9:37:45 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.017.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.093		6565	7606
2.157		4303	3669
2.2		23016	37949
2.299		11782	14094
2.361		52019	68316
2.397		8866	6322
2.479		1814	1340
2.496		9932	7909
2.539		92684	127741
2.593	TCX	9639	7808
2.704		230062	368203
2.748		122160	121622
2.803		721100	844245
2.867		7015	3856
2.891		183105	201669
2.954		15649	19684
3.016		2171493	1690231
3.037		503939	329196
3.073		120866	81905
3.099		96951	73551
3.141		1440181	2243066
3.221		215998	217395
3.255		417501	314158
3.276		134544	87945
3.322		2788289	1790658
3.339		2408099	1430126
3.361		1550039	1204366
3.427		2290484	2333239
3.458		318736	209444
3.486		5354921	4426525
3.517		4871281	3744702
3.544		1259200	958904
3.604		5797886	4565727
3.633		1461542	1017229
3.657		1400611	960129
3.68		647776	393095
3.704		3290496	2340870
3.724		603293	340320
3.774		152090	109140
3.8		158960	105814
3.823		139208	78988
3.846		1182957	846031
3.859		4125484	2520154
3.887		5640554	4317595
3.935		540895	447722
3.971		6174315	5178479
4.003		3199872	2715343
4.059		268241	243313
4.09		1309266	1126290
4.14		1801381	1396022
4.172		954663	669718
4.195		3239121	2413043
4.236		62729	37547
4.263		959611	898865

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.294		279411	268721
4.338		270198	213784
4.369		2152444	1761469
4.406		28052	15135
4.42		27189	12072
4.445		390973	364018
4.478		256400	210290
4.531		1815068	1567063
4.562		48047	28113
4.587		66514	60284
4.619		504512	416034
4.644		97608	70484
4.672		104455	77962
4.707		50307	37298
4.731		5465	2972
4.746		3594	2078
4.795		188087	260296
4.841		10914	7552
4.866		45254	33170
4.892		23581	19623
4.95		91268	74682
4.989		183811	169445
5.037		15062	13975
5.124		1916	1372
5.172		130278	109111
5.197		2953	1458
5.215		62046	52417
5.356		5535	4233
5.376		2410	1609
5.418		23943	24524
5.534		58439	53592
5.575		2786	2660
5.743		24449	24092
5.786		2052	2483
5.921	DCB	2791	3413
6.657		773	955

AR4851824C

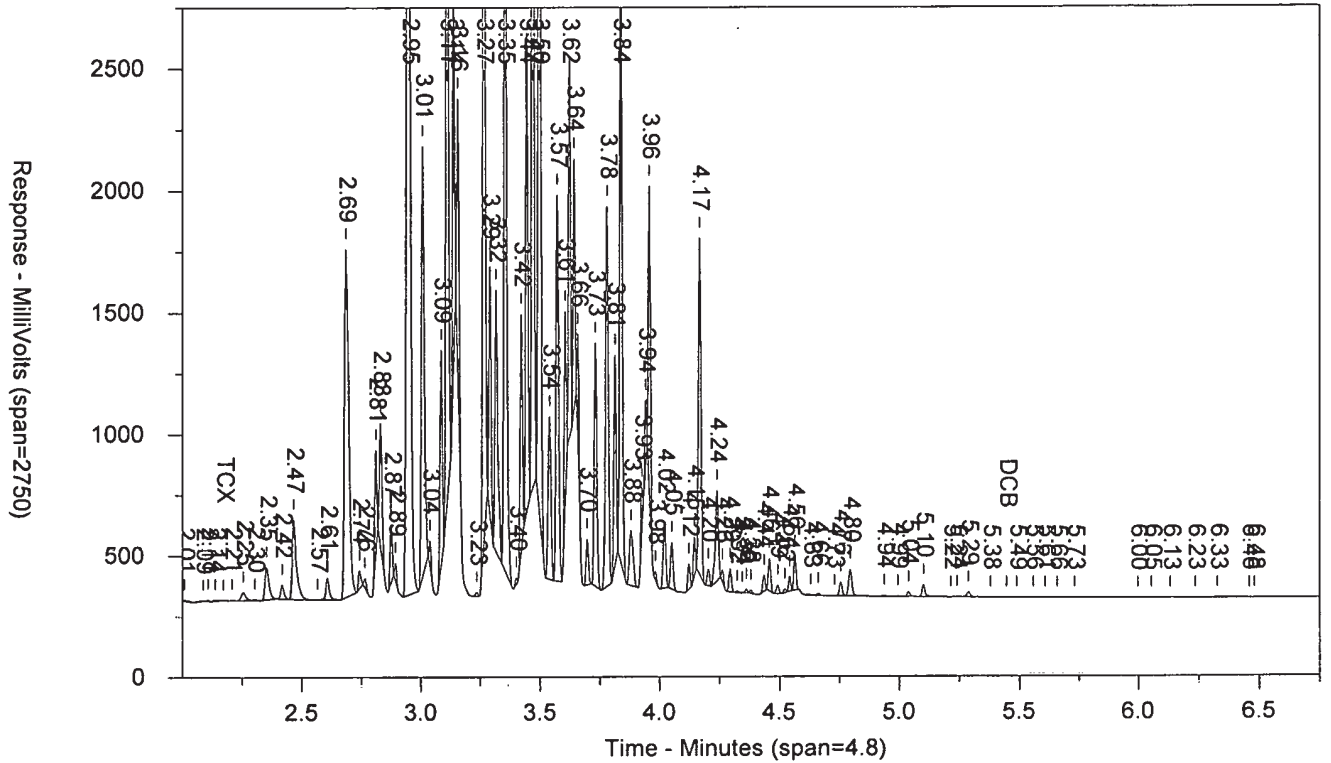
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ICAL 1830299999

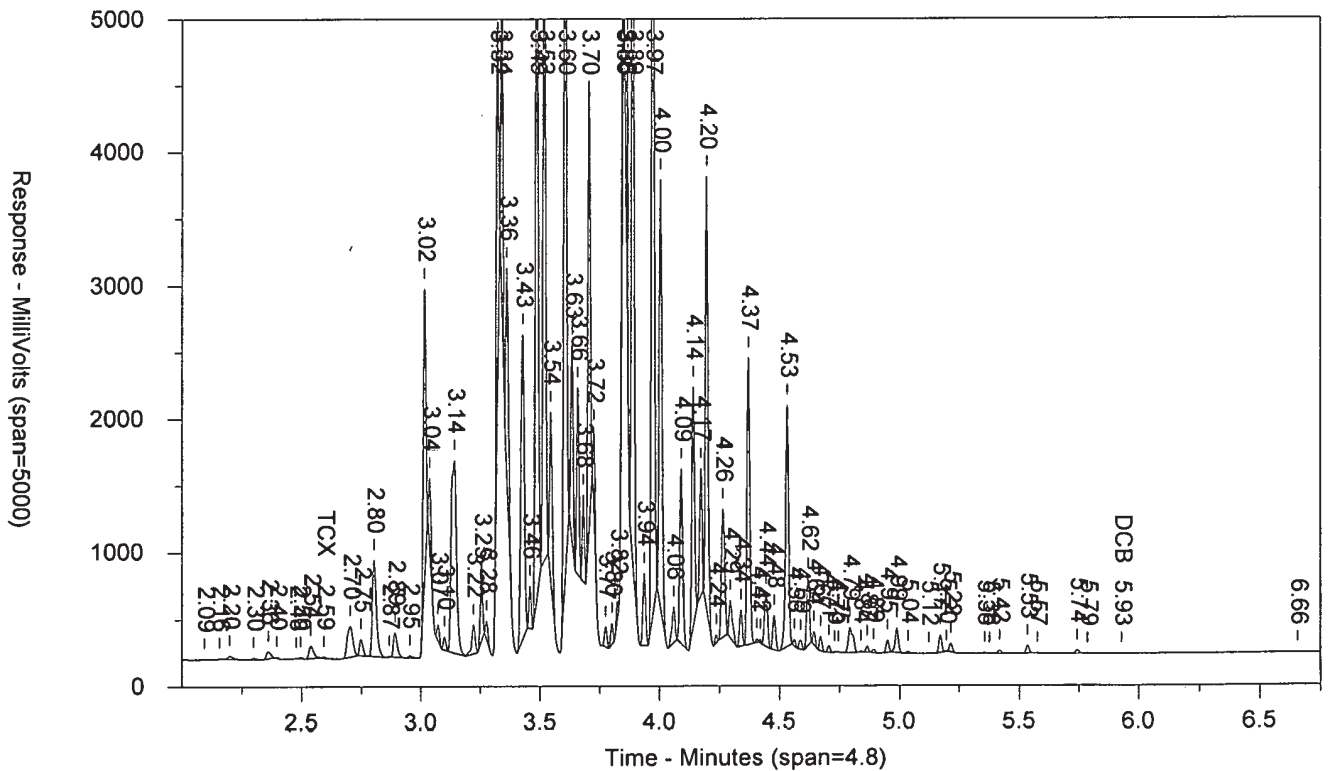
10227

SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.017.RAW



LANCASTER LABORATORIES

Sample Number: AR4851824C      AAAR485AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 9:37:45 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

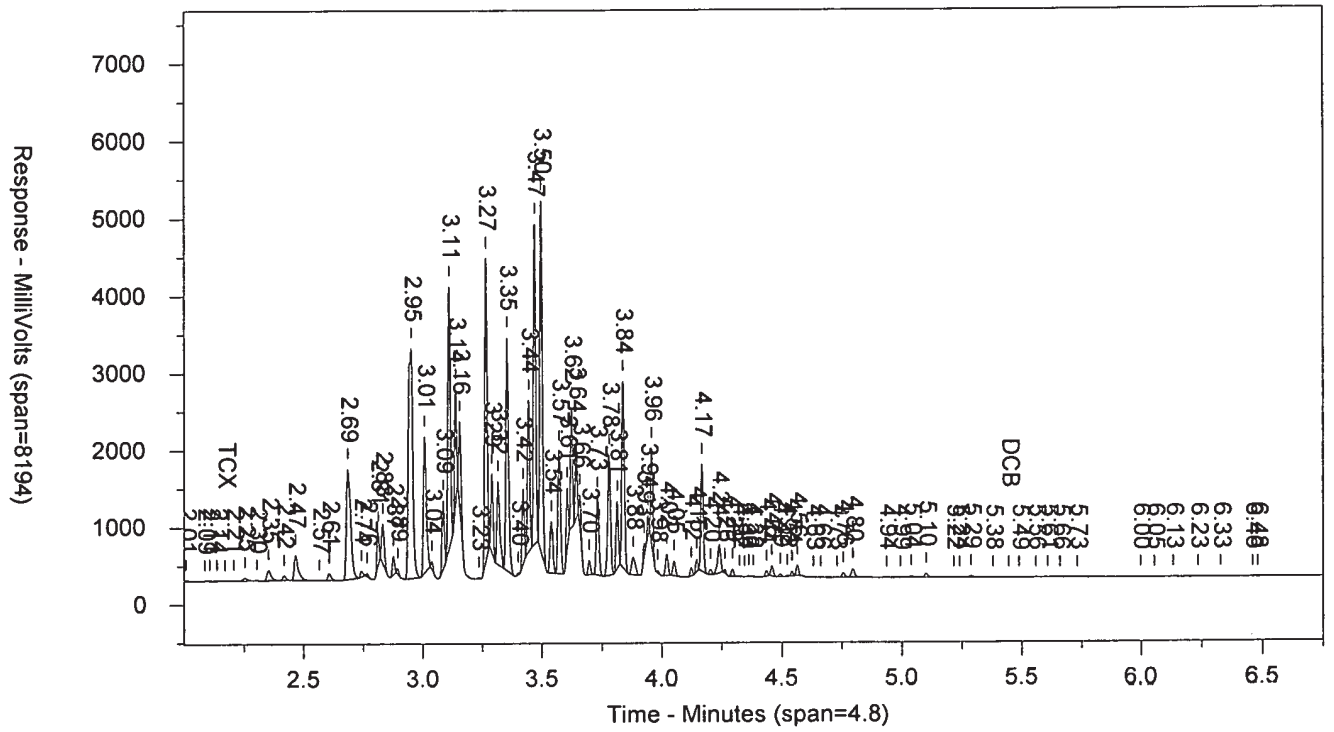
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.593	9639	.025	TCX
	0		DCB	5.927	2791	.018	DCB

Files:

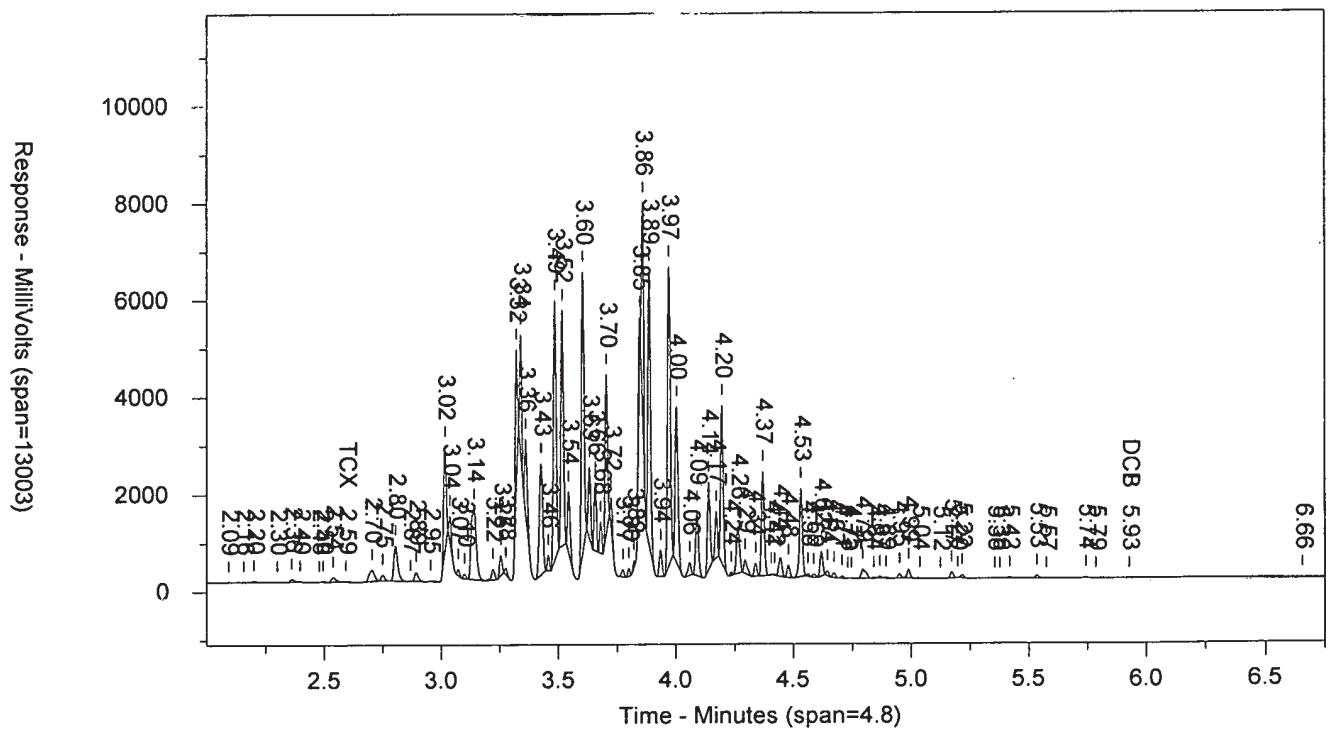
Area File: 20pcbs18303001.017.RAW  
 Area File: 20pcbs18303001B.017.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 9:45:47 PM  
 File Reported On: 10/30/2018 at 9:45:56 PM

AR4851824C      AAAR485AA      ICAL 1830299999      10227      SW-846 8082

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AR4851824C

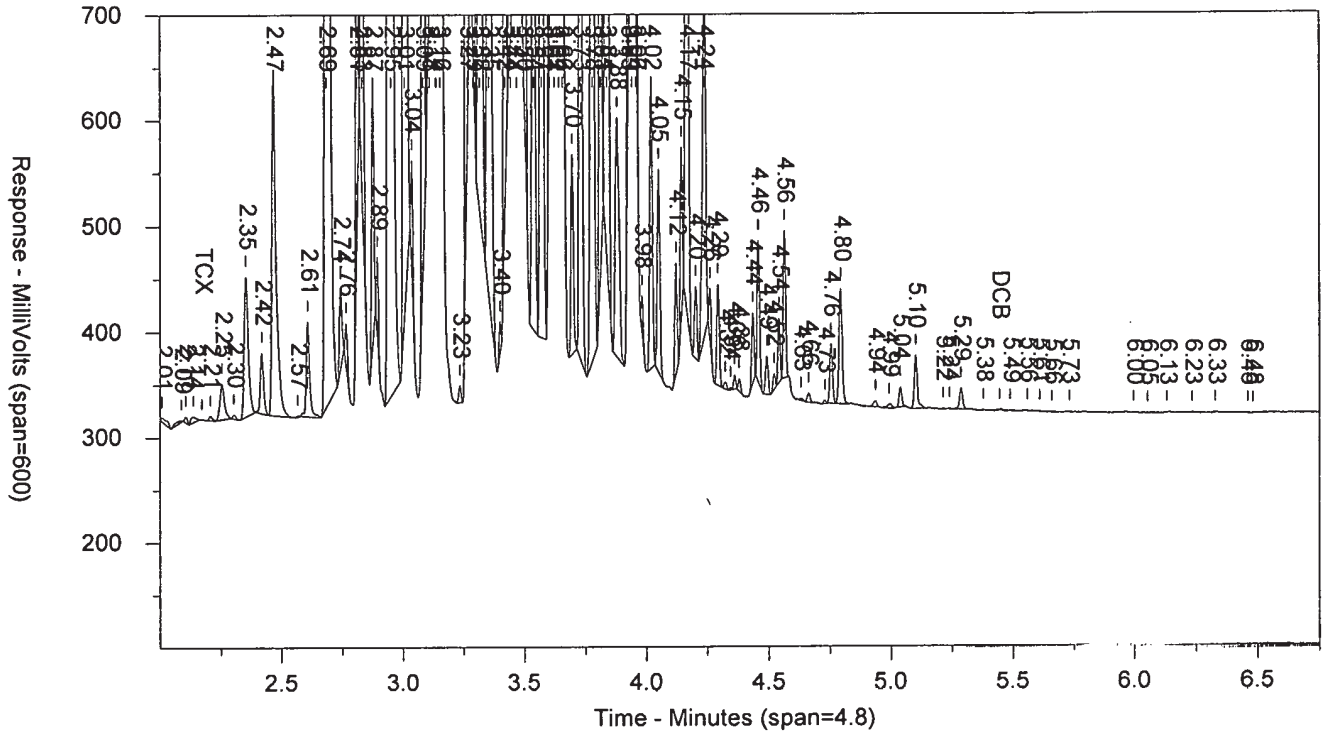
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ICAL 1830299999

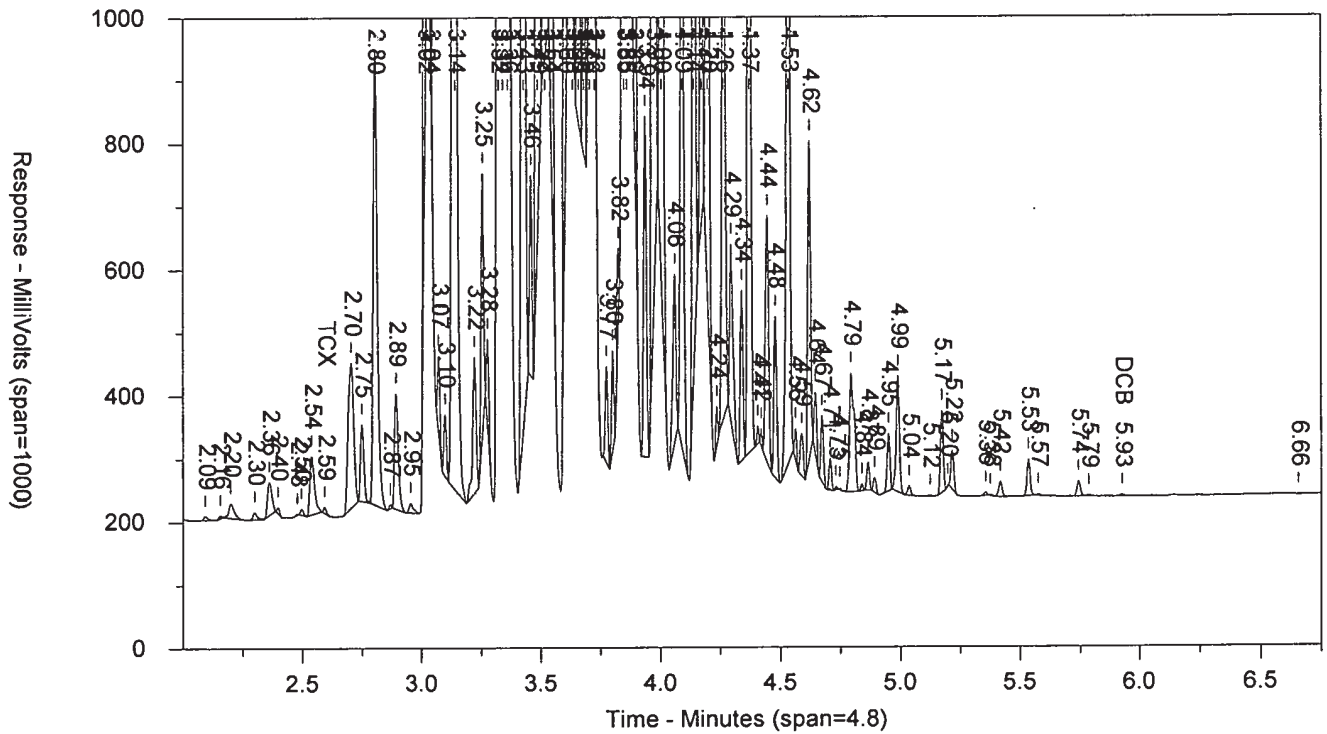
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4861824C      AAAR486AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 9:48:11 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.018.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.005		751	237
2.069		1221	1175
2.088		726	401
2.104		2733	2772
2.14		5616	9442
2.208		1672	1587
2.255		68392	93061
2.353		276155	350175
2.418		117502	114603
2.466		641340	798669
2.57		3121	2397
2.608		183815	181781
2.686		2835475	3577608
2.742		143691	111026
2.765		80416	53859
2.811		882761	546986
2.83		1031877	782761
2.875		490875	320697
2.893		136293	77754
2.951		6083515	8193176
3.008		3690864	3120213
3.038		192950	109188
3.086		1868981	1245904
3.112		6783306	4920124
3.138		2969758	1695791
3.155		2304901	1541974
3.235		33729	21763
3.266		7840833	5676642
3.291		2068019	1283346
3.316		2239369	1809942
3.354		6340985	4945364
3.4		53419	31659
3.421		1898265	1286434
3.445		4093592	2709659
3.47		8200173	5645103
3.497		9280784	6904385
3.539		1365543	1147222
3.572		3195740	2524678
3.606		1487094	869609
3.624		3193267	1837906
3.643		2139605	1119301
3.658		942587	480380
3.697		373603	269808
3.732		2031102	1544546
3.78		3313359	2572919
3.813		1764016	1192859
3.838		5052512	3746580
3.88		457948	488741
3.926		334194	200527
3.942		569422	273697
3.957		2578725	1622138
3.982		64499	35493
4.021		550172	422718
4.051		387917	293003

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.123		217274	143091
4.146		321038	191169
4.168		2883965	2107724
4.204		131997	99910
4.24		738364	651822
4.261		96924	52737
4.294		195213	141828
4.324		11985	8750
4.347		3400	1611
4.362		26783	15564
4.38		23781	14527
4.437		138495	96600
4.459		265091	189045
4.493		77185	57288
4.523		30917	21037
4.544		117408	73826
4.566		277858	193643
4.583		9465	4382
4.63		3291	2997
4.664		19021	14177
4.73		6546	4194
4.757		125899	92766
4.797		231409	206017
4.937		12171	12275
4.999		7256	6144
5.04		39383	33888
5.103		100898	88729
5.216		954	264
5.29		44865	36819
5.415		648	340
5.451	DCB	3011	2234
5.666		934	491
5.784		607	191
5.854		917	309
5.971		1015	587
6.325		804	285
6.369		821	339
6.43		647	199
6.456		741	150

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## LANCASTER LABORATORIES

Sample Number: AR4861824C    AAAR486AA    ICAL 1830299999    10227  
Injected On: 10/30/2018 9:48:11 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.018.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.087		2567	3673
2.157		5290	4655
2.202		38329	67188
2.297		4767	6157
2.361		34996	44754
2.478		10599	18352
2.539		188142	308123
2.704		481731	756116
2.748		243329	252565
2.803		1469339	1764896
2.891		368273	422909
2.95		11154	10211
3.016		4494774	3558944
3.037		1000825	640700
3.072		228326	155244
3.1		210998	162917
3.142		2989189	4619020
3.203		9370	8479
3.222		443900	387622
3.255		828828	623814
3.276		258172	168027
3.322		5519946	3721592
3.34		5105656	3016797
3.36		3205789	2524961
3.427		4911244	4931708
3.458		624858	408506
3.486		11517440	9330909
3.517		10336460	7926630
3.544		2684987	2020195
3.604		12447350	9709520
3.633		3082356	2153524
3.657		3098053	2063740
3.681		1395334	837142
3.704		6865849	4990156
3.724		1240830	701374
3.774		307879	234390
3.801		294642	194590
3.823		275423	156589
3.847		2416687	1742232
3.859		8764917	5403579
3.887		12226580	9214994
3.935		1068817	889097
3.971		13399390	11083210
4.004		7035991	5842417
4.06		503171	471435
4.09		2788493	2304733
4.14		3732050	2954990
4.172		2063286	1403813
4.196		6702406	5086840
4.236		120475	70491
4.263		2000302	1848712
4.295		546534	530165
4.339		524634	422351
4.37		4562619	3671465

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.406		56346	28889
4.42		51287	22697
4.445		784237	727111
4.478		505291	406600
4.532		3911653	3313398
4.563		93950	56038
4.588		129942	115123
4.62		1028481	825052
4.645		190650	136771
4.673		203130	149025
4.707		96266	72457
4.732		9836	5481
4.748		8255	4145
4.796		371159	511016
4.841		21885	15110
4.867		85753	63409
4.894		47308	37662
4.951		177840	150217
4.99		359084	333750
5.038		29659	28011
5.123		1445	1169
5.174		244319	214405
5.217		129346	130694
5.357		11631	8735
5.378		3125	1924
5.42		48938	49228
5.536		116238	106558
5.579		5873	5271
5.744		50629	50043
5.788		1272	1632
5.928	DCB	5107	6188
6.144		1606	2301
6.807		2272	3263

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AR4861824C

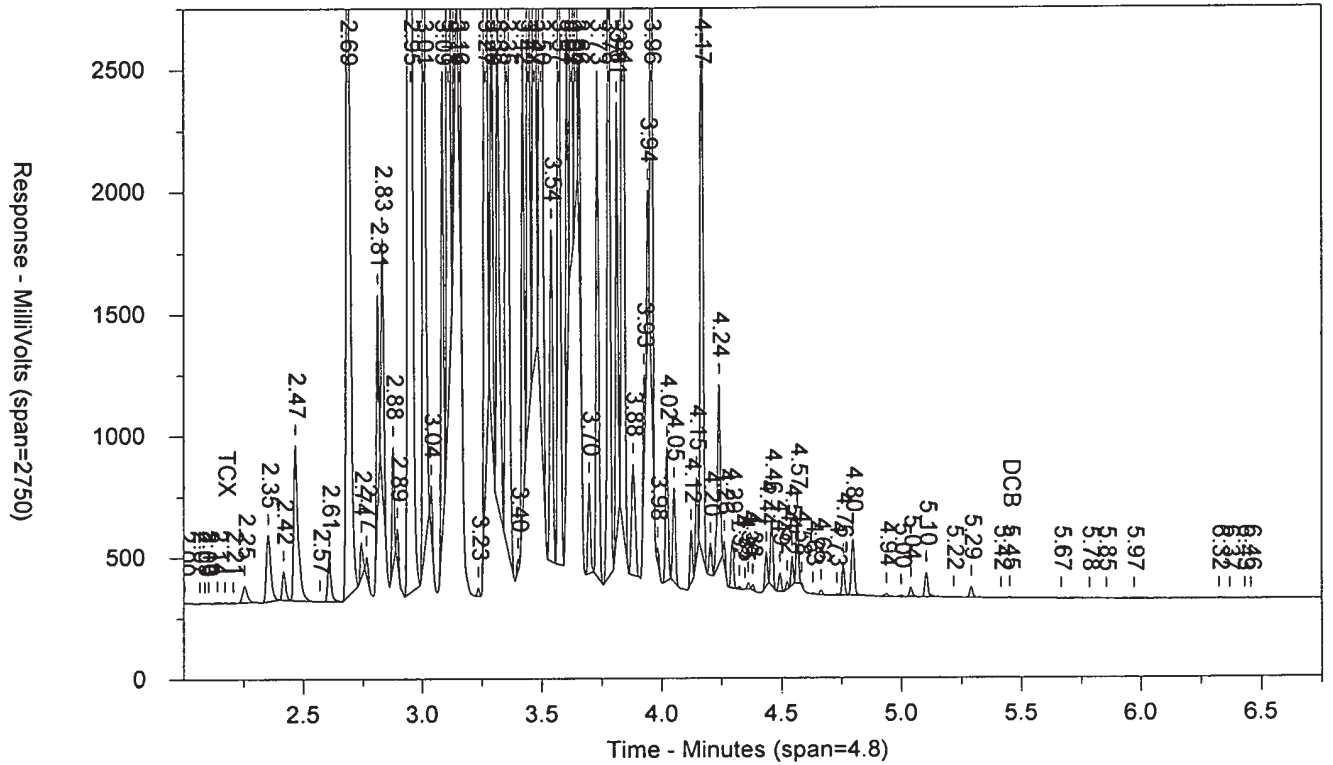
AAAR486AA

ICAL 1830299999

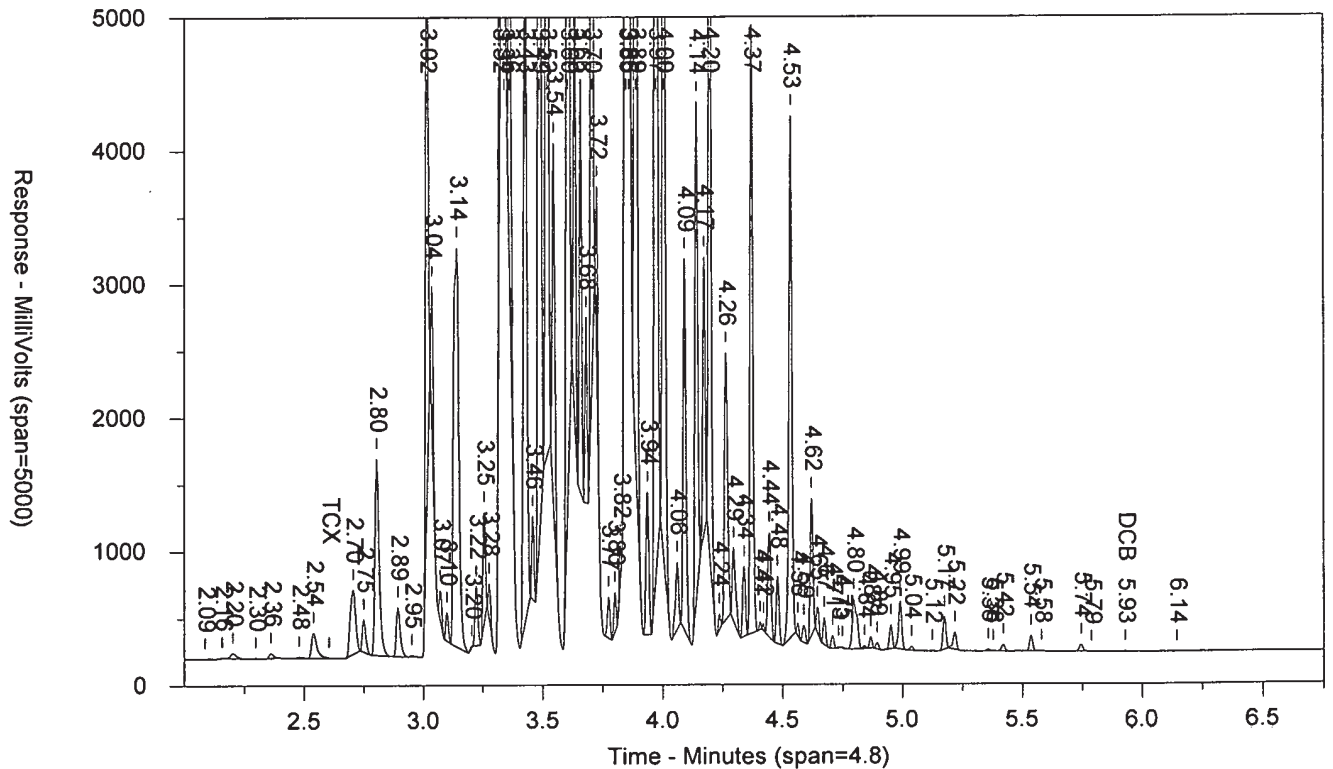
10227

SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4861824C      AAAR486AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 9:48:11 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082

Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

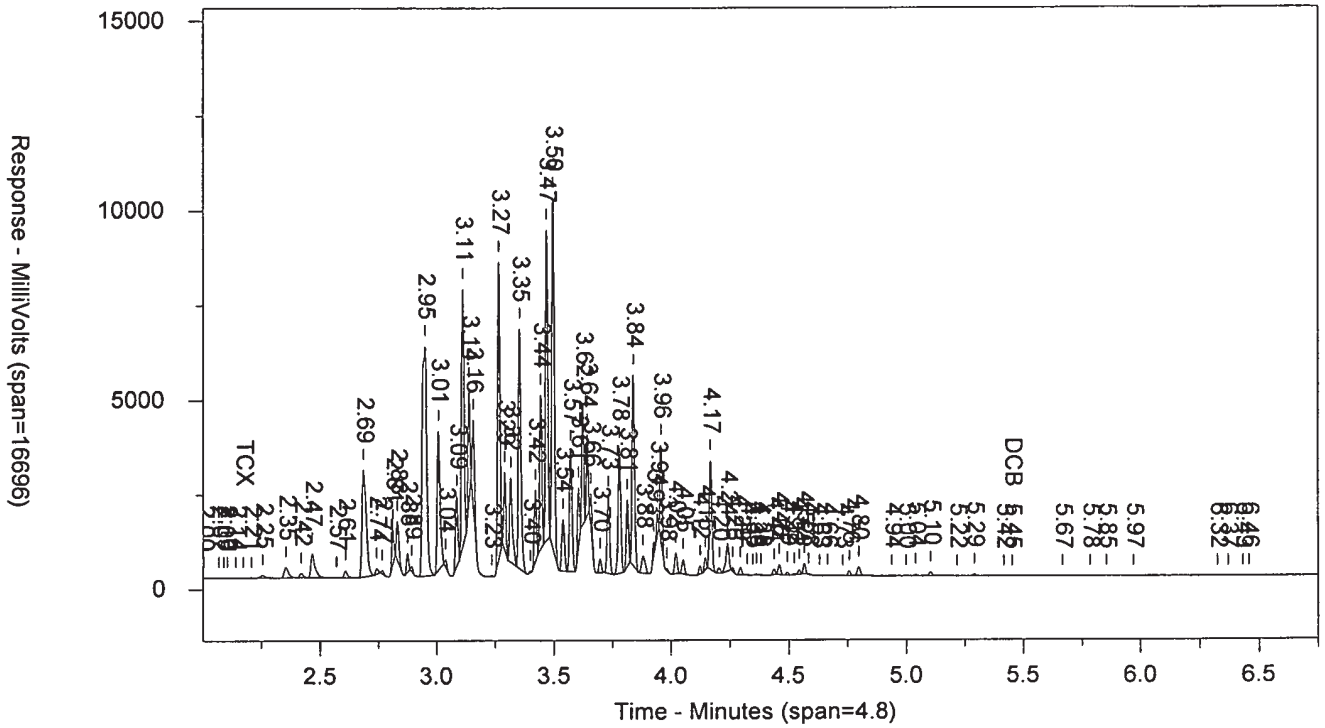
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
5.451	3011	.018	DCB	5.928	5107	.033	DCB

## Files:

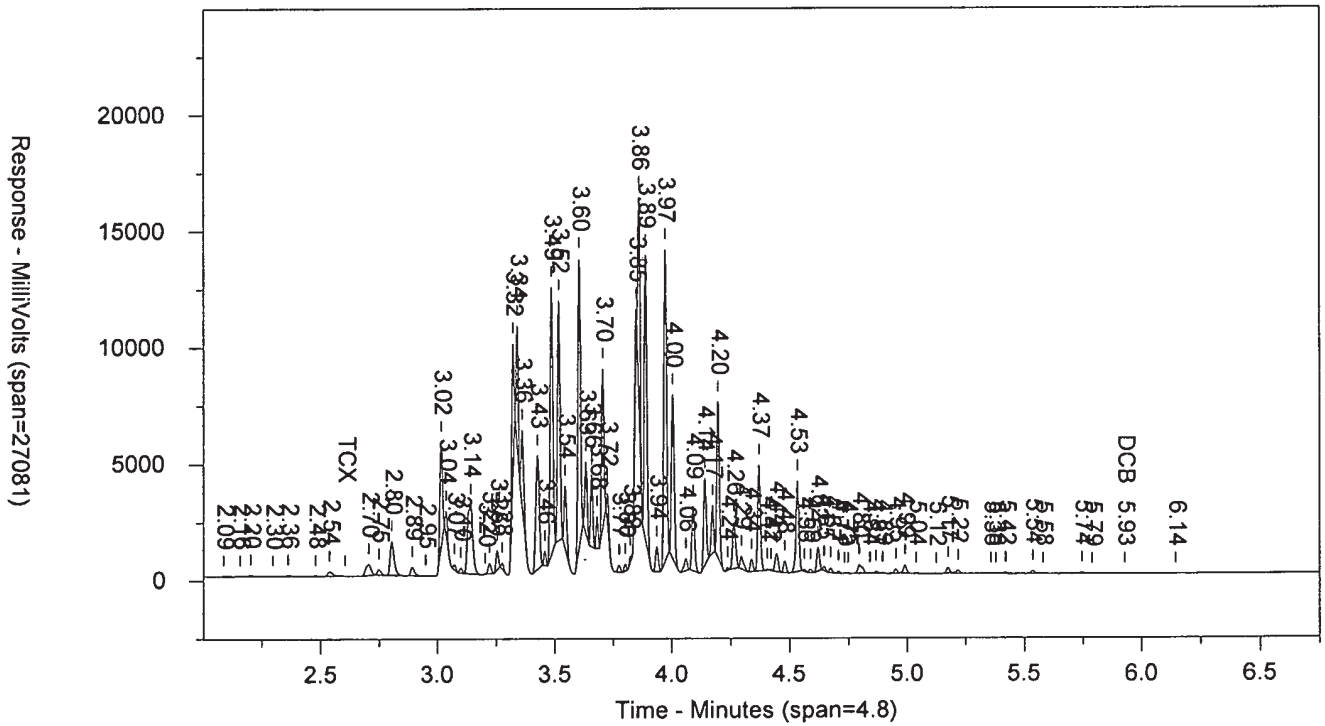
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Area File: 20pcbs18303001B.018.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 9:56:13 PM  
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AR4861824C AAAR486AA ICAL 1830299999 10227 SW-846 8082

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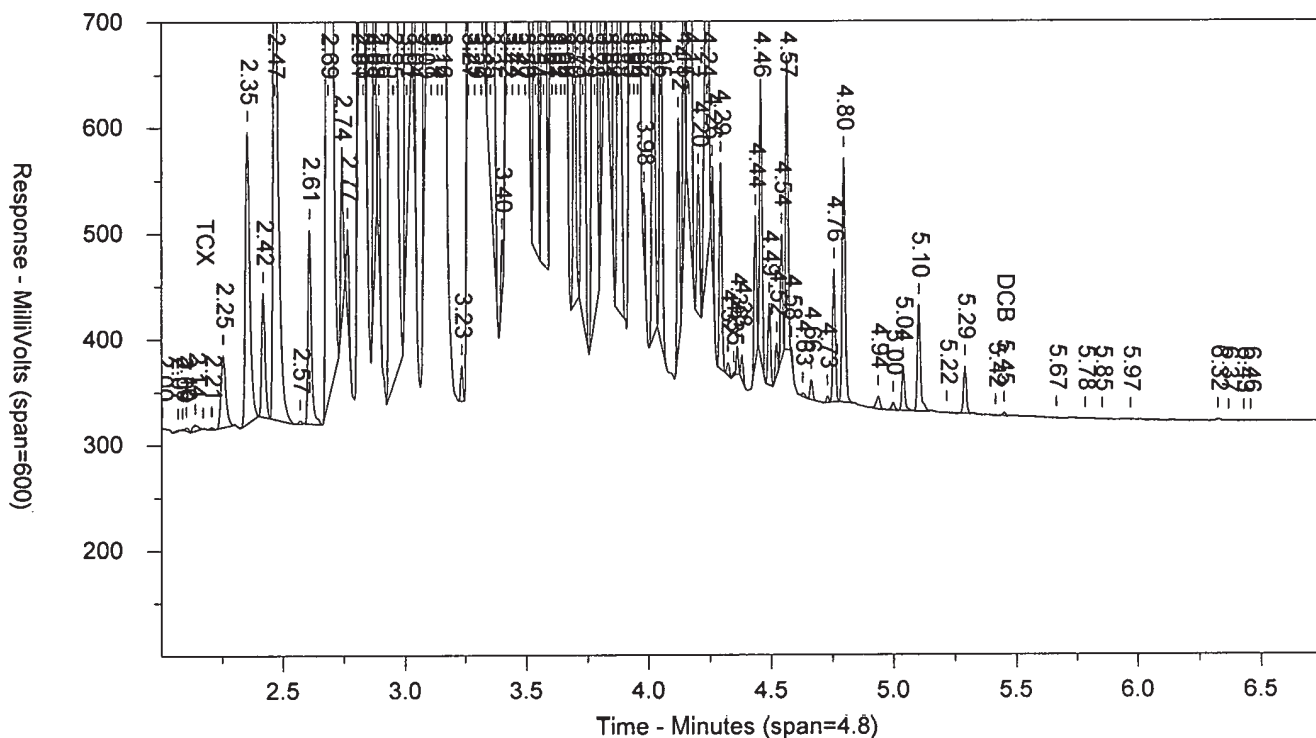


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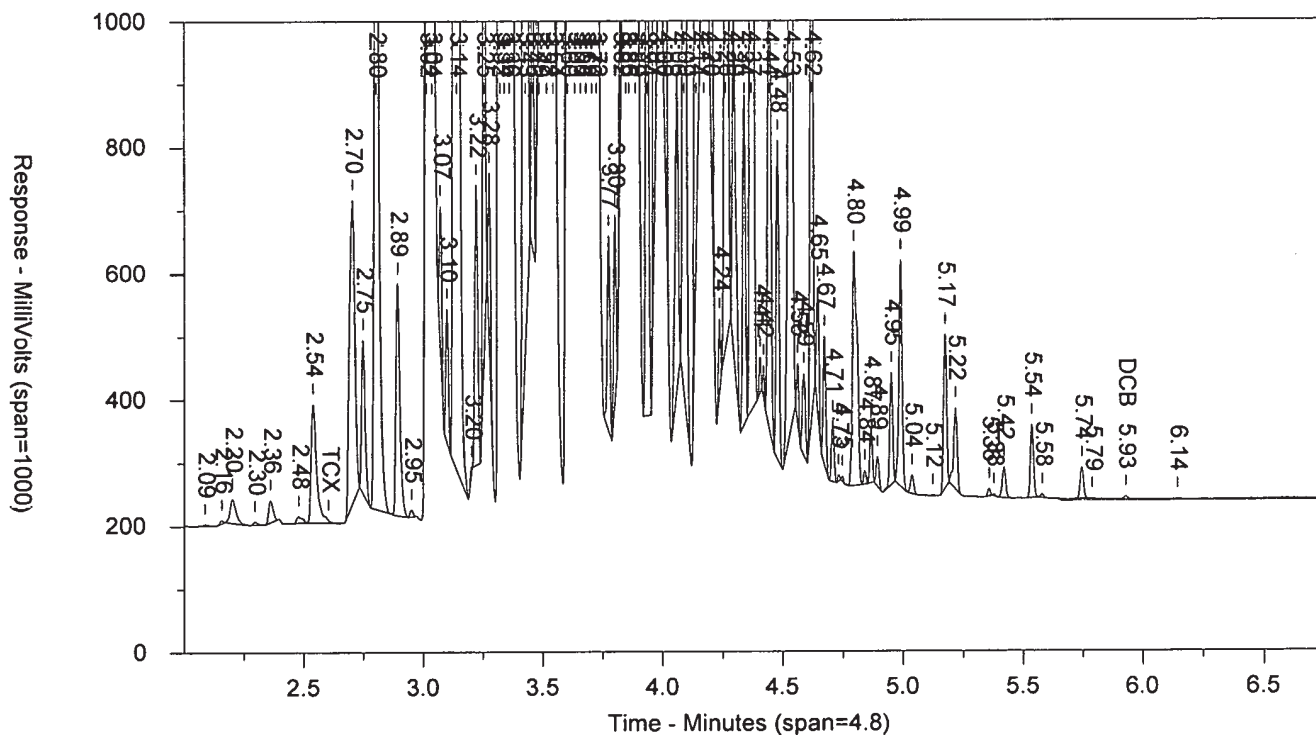


AR4861824C      AAAR486AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5411824C      AAAR541AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 9:58:44 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.019.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		15656	16811
2.085		1293	2403
2.109		20458	16502
2.208		24836	24725
2.252		658	187
2.283		1317	1129
2.306		27640	26675
2.352		886	493
2.402		31057	28853
2.453		857	574
2.469		2631	1918
2.496		31858	28274
2.588		32538	28508
2.654		2123	1366
2.68		35896	41636
2.768		36366	33414
2.811		1006	784
2.834		6610	4589
2.855		30770	25683
2.896		2426	1317
2.91		1033	749
2.941		40082	40843
3.025		40910	55494
3.084		3445	3251
3.112		187106	144509
3.138		29930	16170
3.156		17498	11554
3.19		30470	30518
3.237		1365	650
3.267		119716	109942
3.317		12596	9657
3.354		71922	72634
3.4		2662	2236
3.427		15952	12346
3.444		31289	19300
3.47		133482	87679
3.496		290010	236306
3.538		92828	78001
3.572		350221	270354
3.606		127327	85313
3.623		8266	3670
3.658		131706	118894
3.697		22144	14705
3.731		148993	126868
3.78		241670	190405
3.813		66035	40020
3.839		446332	360419
3.873		42528	28932
3.89		5013	2050
3.905		2626	940
3.925		153907	105488
3.94		9029	2050
3.958		267292	176855
3.983		25313	14324

## Chrom Perfect Chromatogram Report

RT A	Compound A	Height A	Area A
4		2341	780
4.021		200373	150763
4.05		9234	6012
4.067		5685	3387
4.096		1454	671
4.123		63259	40251
4.145		114313	73405
4.167		161331	120199
4.204		42397	33844
4.24		310202	313866
4.294		45025	32697
4.325		4889	3797
4.347		1338	601
4.362		13122	8327
4.386		4688	3698
4.438		15305	9374
4.459		100346	71696
4.495		11321	7539
4.523		9062	5919
4.543		48279	31062
4.566		39595	25247
4.584		6301	2979
4.631		1489	1198
4.69		1285	887
4.756		2013	1872
4.798		43579	37348
4.841		1299	882
4.929		2197	1620
4.965		735	212
4.99		749	379
5.101		1966	1408
5.276		1438	1269
5.322		685	215
5.382		963	405
5.435	DCB	855	169
5.476		977	281
5.496		1589	1681
5.591		648	360
5.727		696	802
5.822		519	214
5.928		915	276
6.228		624	570
6.298		502	126
6.328		923	537
6.387		759	354



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5411824C      AAAR541AA      ICAL 1830299999      10227  
 Injected On: 10/30/2018 9:58:44 PM  
 Instrument ID: CP20-17342

SW-846 8082  
 Injection Volume: 1 ul  
 Analyst: 9065

Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.019.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.093		36672	50740
2.158		4968	4457
2.197		45785	60519
2.299		59946	72631
2.361		33267	39838
2.399		61448	62237
2.461		2557	2557
2.498		70262	76242
2.556		1185	1486
2.594	TCX	75255	78847
2.687		76853	74412
2.754		1841	1261
2.779		75717	69505
2.868		75800	68156
2.902		5967	4757
2.955		77856	86227
3.018		9888	6574
3.04		70427	62908
3.075		3782	2696
3.099		4180	2449
3.124		73837	97464
3.205		70367	98601
3.284		59829	59704
3.32		5551	2987
3.338		4283	2793
3.363		77176	96639
3.438		52082	68036
3.485		258595	219883
3.517		124511	124486
3.604		172971	216227
3.659		44010	37326
3.682		18498	10900
3.703		39157	25183
3.729		36188	43276
3.799		39775	42001
3.843		270335	185639
3.858		69544	35314
3.887		102569	80839
3.936		122781	113296
3.972		592598	505855
4.006		202028	165751
4.059		47829	44138
4.09		177274	145400
4.14		282552	220501
4.172		76946	57817
4.196		569825	458253
4.237		30501	19128
4.263		83197	77281
4.295		237231	224936
4.338		31386	23101
4.37		422079	356587
4.407		46291	38794
4.446		266853	218390
4.479		175208	141655

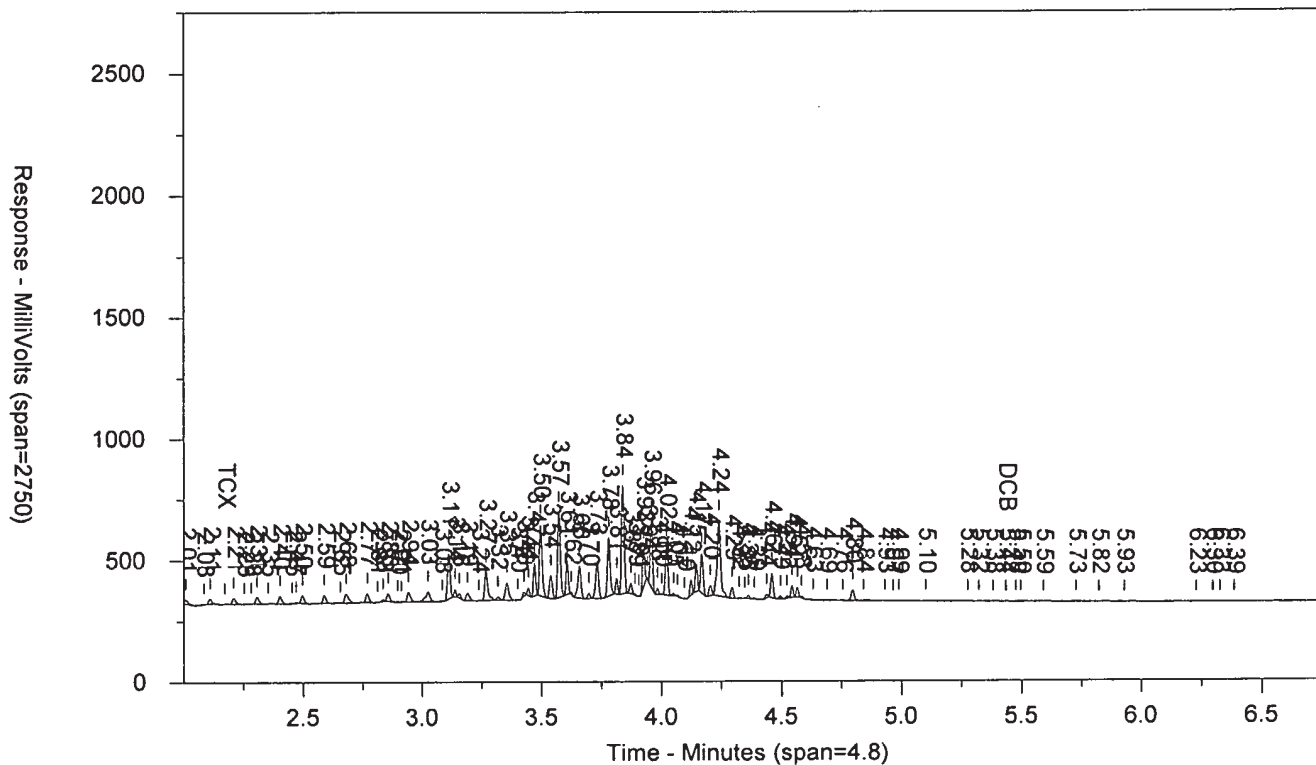
Chrom Perfect Chromatogram Report

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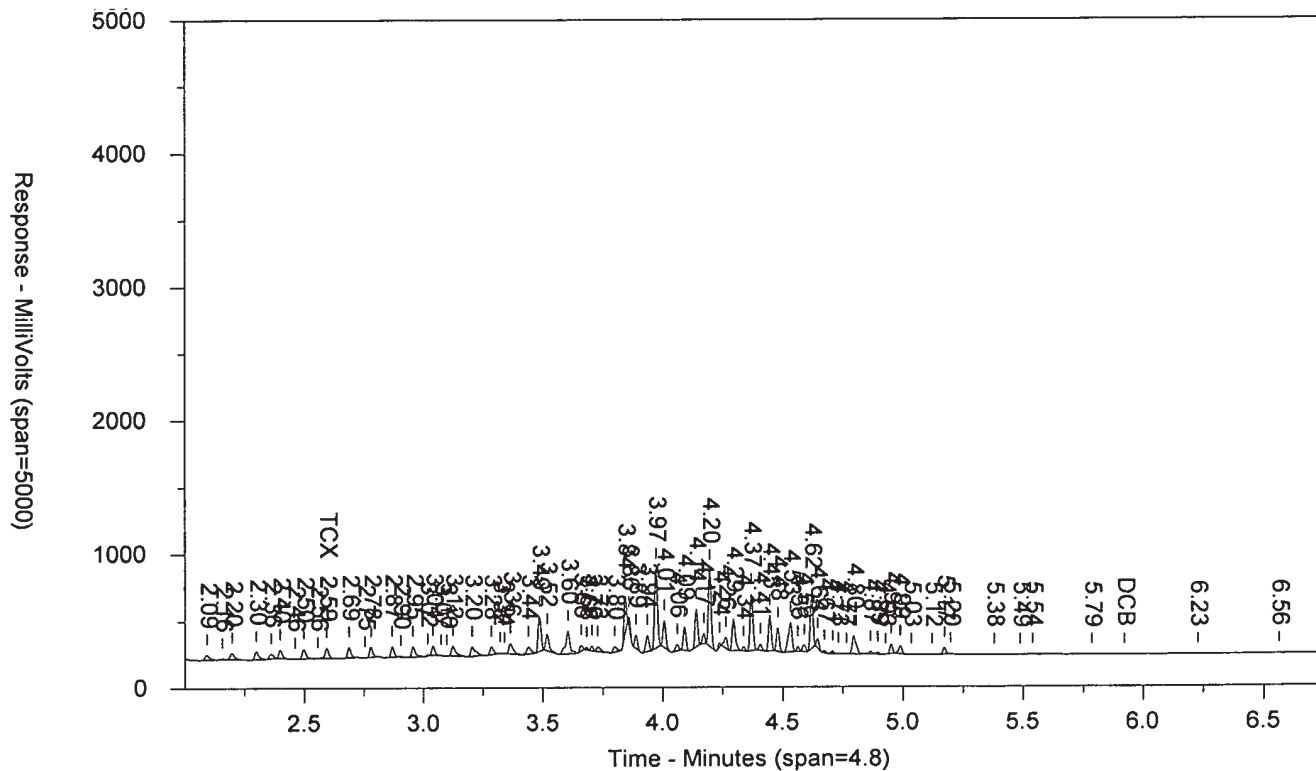
RT B	Compound B	Height B	Area B
4.532		220889	238199
4.563		36407	23570
4.589		50717	45678
4.62		393388	322059
4.645		70052	49350
4.672		15960	10837
4.707		18790	14026
4.732		3429	2167
4.765		2352	1802
4.796		135652	156229
4.866		19194	16015
4.894		14681	11172
4.927		829	466
4.95		71273	57314
4.989		59530	57976
5.035		2514	2101
5.122		1504	1244
5.173		49068	39717
5.198		5661	4874
5.38		3262	2772
5.489		703	997
5.539		2166	2302
5.787		1414	1753
6.227		669	536
6.565		915	935
6.805		1875	2531

AR5411824C      AAR541AA      ICAL 1830299999      10227      SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.019.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.019.RAW



LANCASTER LABORATORIES

Sample Number: AR5411824C      AAR541AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 9:58:44 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	75255	.195	TCX
5.435	855	.005	DCB		0		DCB

Files:  
 Area File: 20pcbs18303001.019.RAW  
 Area File: 20pcbs18303001B.019.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 10:06:48 PM  
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AR5411824C

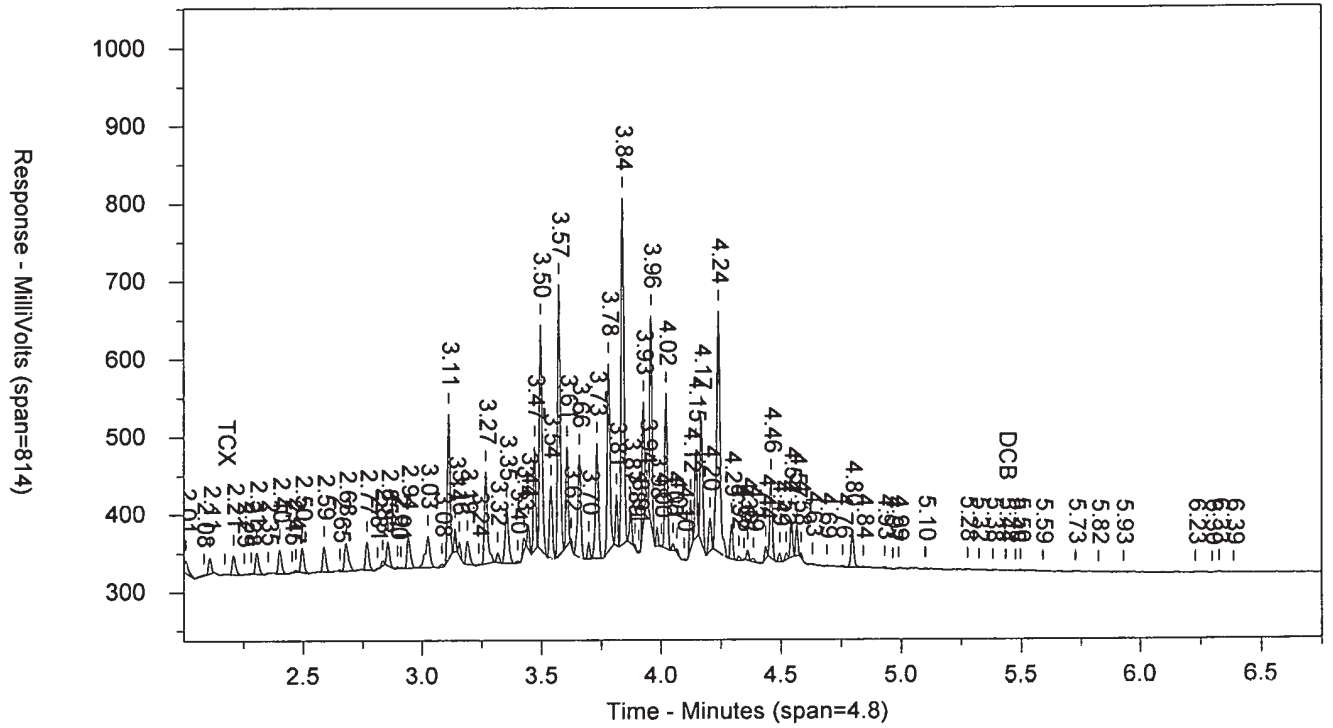
AAAR541AA

ICAL 1830299999

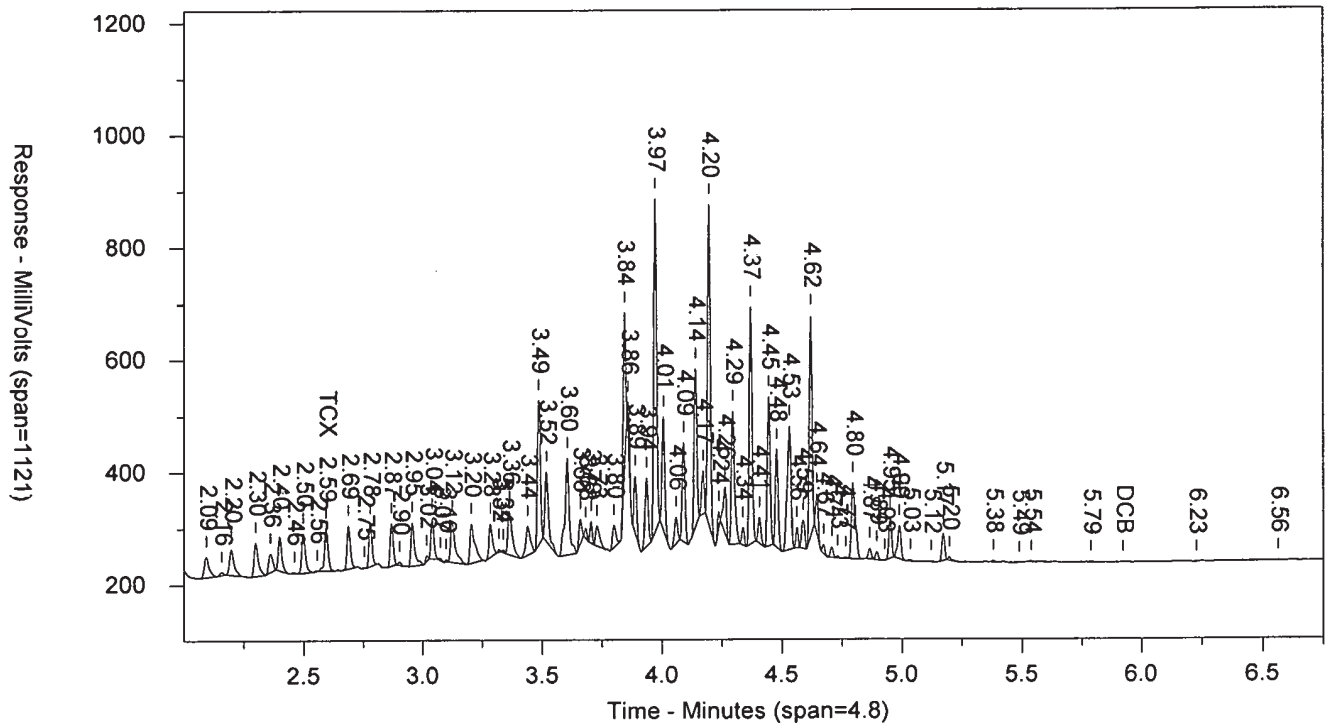
10227

SW-846 8082

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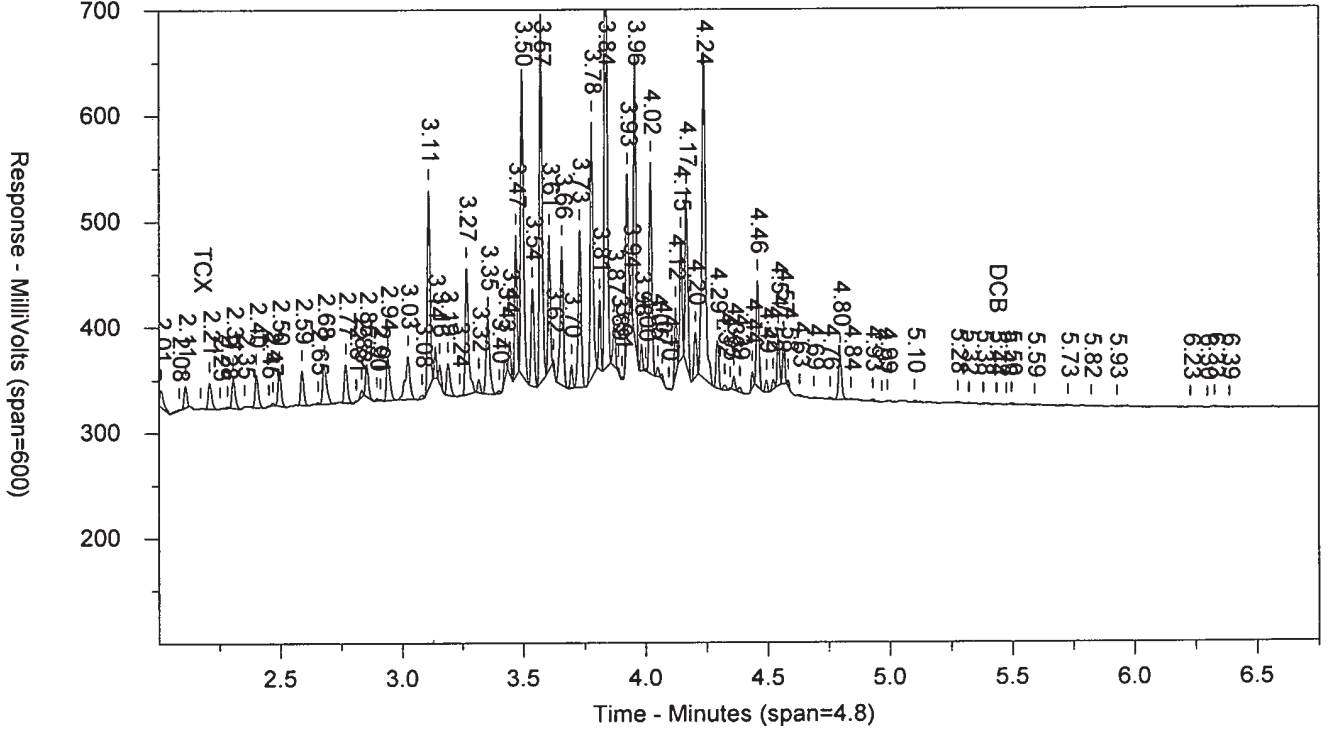


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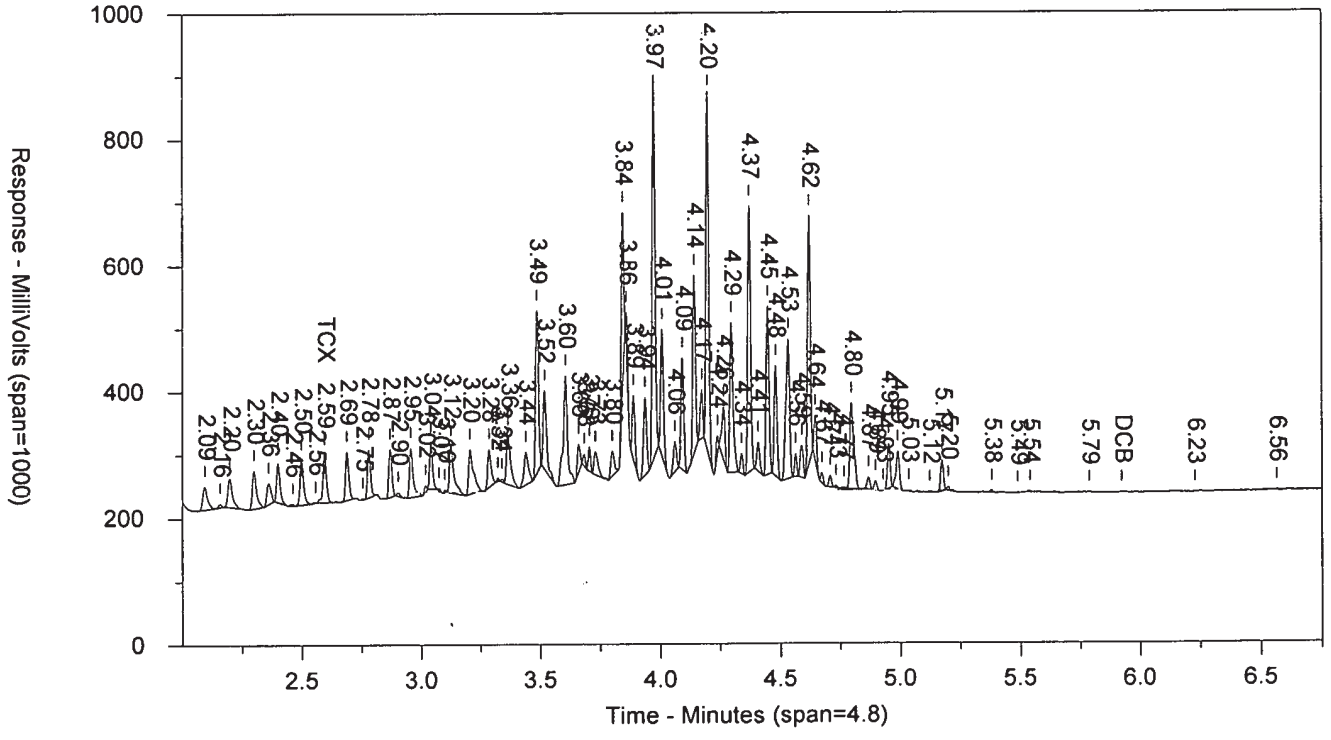


AR5411824C      AAAR541AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5421824C      AAAR542AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 10:09:11 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.020.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		7700	9256
2.06		801	478
2.084		992	809
2.108		9506	7226
2.131		3461	3281
2.173	TCX	769	350
2.207		10903	9986
2.26		952	564
2.281		1662	1017
2.305		12352	11265
2.357		2757	2480
2.401		12296	11770
2.448		934	219
2.47		3515	3395
2.495		12355	10222
2.587		13569	12061
2.651		1932	1222
2.686		22333	33324
2.741		1451	1175
2.768		19003	17938
2.811		1973	1251
2.834		15540	11523
2.854		8283	5313
2.894		1939	1005
2.942		27459	29895
3.01		36882	59737
3.084		4416	3774
3.112		314080	233983
3.138		55278	30981
3.155		32687	20766
3.189		14615	12028
3.239		1521	939
3.266		191946	146720
3.29		7550	3376
3.317		24092	18432
3.354		105530	95128
3.398		3387	2544
3.423		19165	12640
3.445		69225	45978
3.469		251587	164785
3.495		518850	410188
3.538		181455	156291
3.571		632527	481733
3.605		244610	167013
3.623		15780	6562
3.657		216765	185528
3.696		42342	28177
3.731		263468	204027
3.779		463911	366457
3.813		140490	88640
3.838		863238	697723
3.873		76744	48733
3.888		9835	4059
3.906		5386	1955

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
3.925		285323	189919
3.94		18060	5073
3.957		498265	333545
3.983		60561	37483
4.02		396743	297721
4.048		28313	21486
4.123		122099	82889
4.145		216059	140133
4.167		307602	226861
4.204		77805	60043
4.238		586671	587631
4.293		88497	64587
4.323		4131	2566
4.345		1627	704
4.361		24978	16189
4.38		4051	2879
4.436		32021	19233
4.458		190970	137753
4.492		24087	16719
4.522		17668	11669
4.542		93634	59693
4.564		76430	47905
4.582		12993	6402
4.631		1383	1202
4.696		975	826
4.755		4047	3542
4.795		84318	71781
4.904		769	216
4.925		4363	4088
4.98		961	509
5.038		2724	2143
5.098		4517	3831
5.141		577	209
5.188		927	281
5.27		1283	1292
5.315		873	286
5.38		858	366
5.49		1470	1769
5.768		904	214
5.877		452	234
5.934		813	197
6.16		621	292
6.292		749	831
6.467		938	338

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5421824C      AAAR542AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 10:09:11 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.020.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

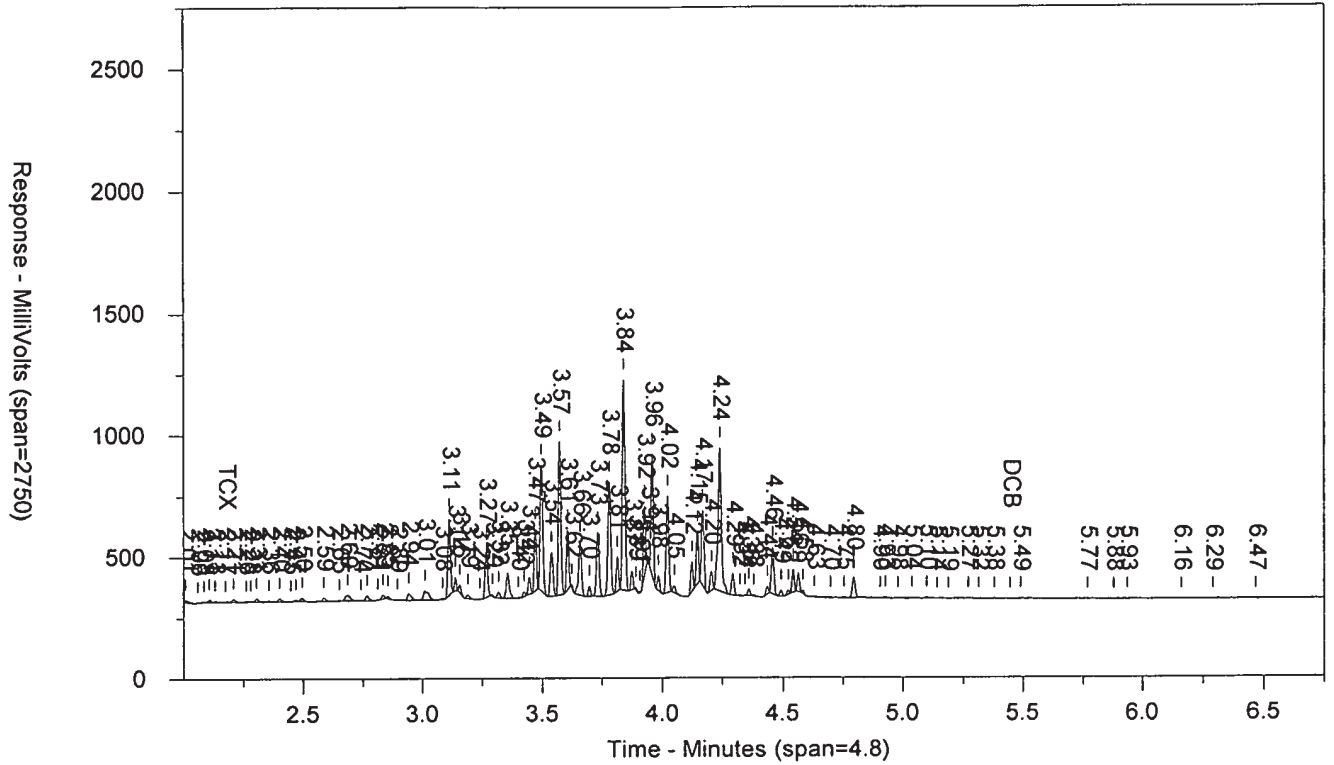
RT B	Compound B	Height B	Area B
2.094		17829	23696
2.156		4459	3980
2.199		21943	27757
2.3		29936	34567
2.362		45434	57058
2.399		27375	23841
2.497		33104	33549
2.55		985	599
2.593	TCX	35921	41050
2.687		37546	47645
2.753		3640	2995
2.778		30598	23844
2.802		4952	4332
2.867		32545	29331
2.902		2589	2120
2.955		32523	35265
3.018		24108	18178
3.04		31221	24455
3.076		2489	1243
3.1		9003	6111
3.126		31799	51925
3.205		13592	9191
3.221		18543	13896
3.256		3676	2093
3.285		24082	23774
3.322		7480	4861
3.338		11743	8373
3.363		71414	81369
3.434		25800	50478
3.486		497097	431948
3.517		191463	155917
3.543		9140	4690
3.604		279665	252504
3.632		11950	7028
3.659		45376	33966
3.682		42678	26988
3.704		79868	56384
3.725		20481	14817
3.775		8656	5222
3.801		33272	27654
3.843		766998	976576
3.887		206974	166288
3.936		208813	179336
3.971		1154825	990996
4.006		378110	303445
4.059		72022	64626
4.09		344699	296795
4.14		538095	430248
4.17		157310	120801
4.195		1068161	873852
4.236		58372	38010
4.262		162331	144386
4.294		437368	406831
4.337		68199	50579

Chrom Perfect Chromatogram Report

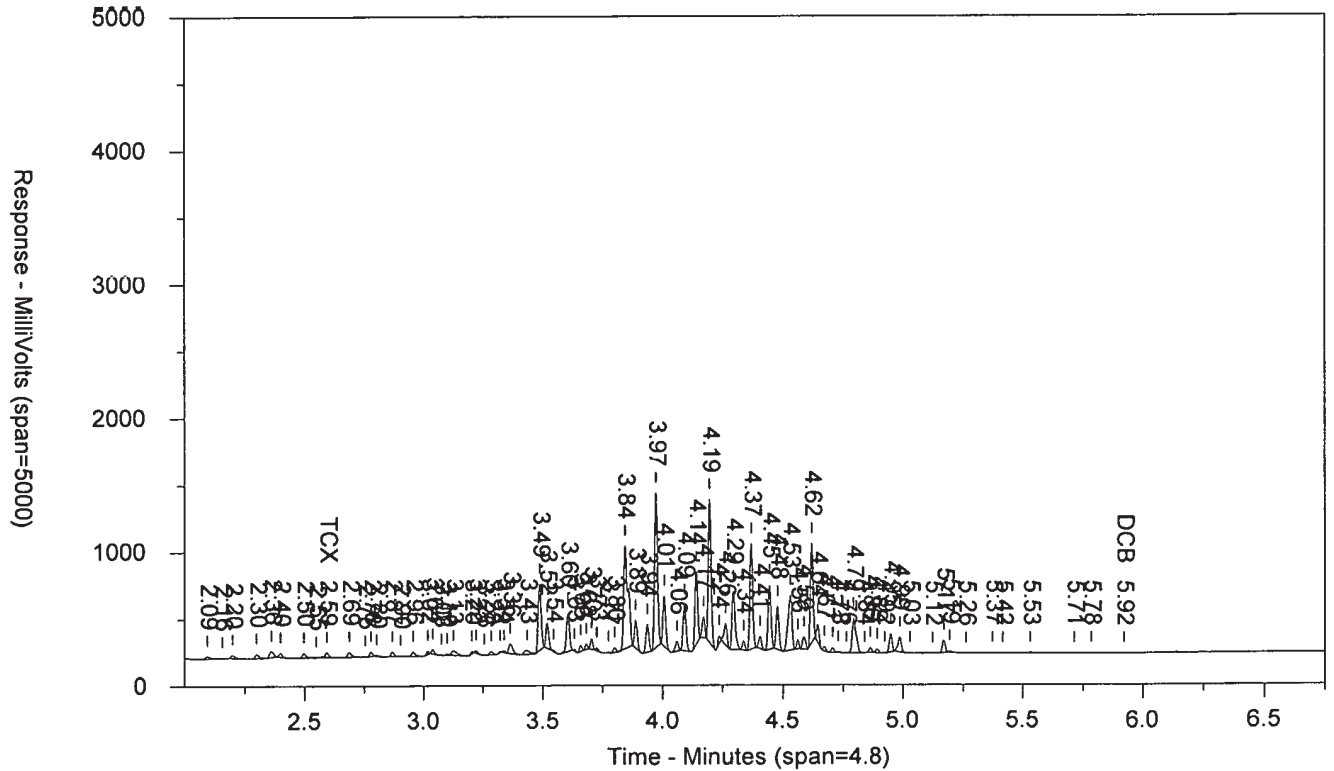
RT B	Compound B	Height B	Area B
4.369		789506	658977
4.406		90998	74737
4.445		481561	406883
4.478		321534	258601
4.531		409345	450728
4.561		68249	46214
4.587		91394	83933
4.619		746534	593923
4.643		131533	92590
4.672		32091	21583
4.706		33000	25650
4.729		6958	4220
4.764		3723	2472
4.794		256747	293263
4.84		1838	1174
4.864		37000	28853
4.892		28296	22308
4.924		1890	1066
4.948		135529	108316
4.987		111641	108688
5.029		4624	4773
5.123		2023	2547
5.17		92007	75267
5.195		10818	6567
5.263		1234	965
5.374		5416	4725
5.416		3054	2863
5.531		5022	4226
5.712		713	366
5.783		1484	1419
5.92	DCB	1089	1029
6.979		684	1415

AR5421824C      AAR542AA      ICAL 1830299999      10227      SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.020.RAW



LANCASTER LABORATORIES

Sample Number: AR5421824C      AAAR542AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 10:09:11 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.173	769	.004	TCX	2.593	35921	.093	TCX
	0		DCB	5.92	1089	.007	DCB

Files:

Area File: 20pcbs18303001.020.RAW  
 Area File: 20pcbs18303001B.020.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 10:17:13 PM  
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AR5421824C

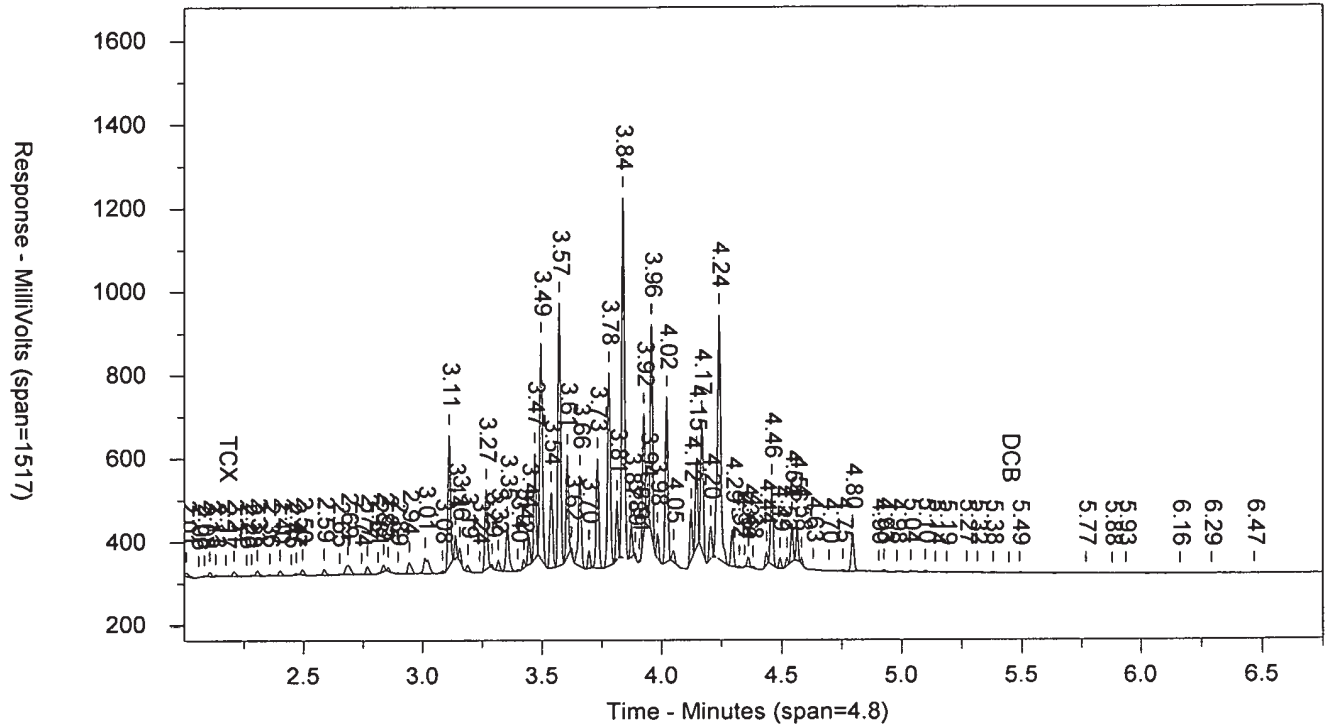
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ICAL 1830299999

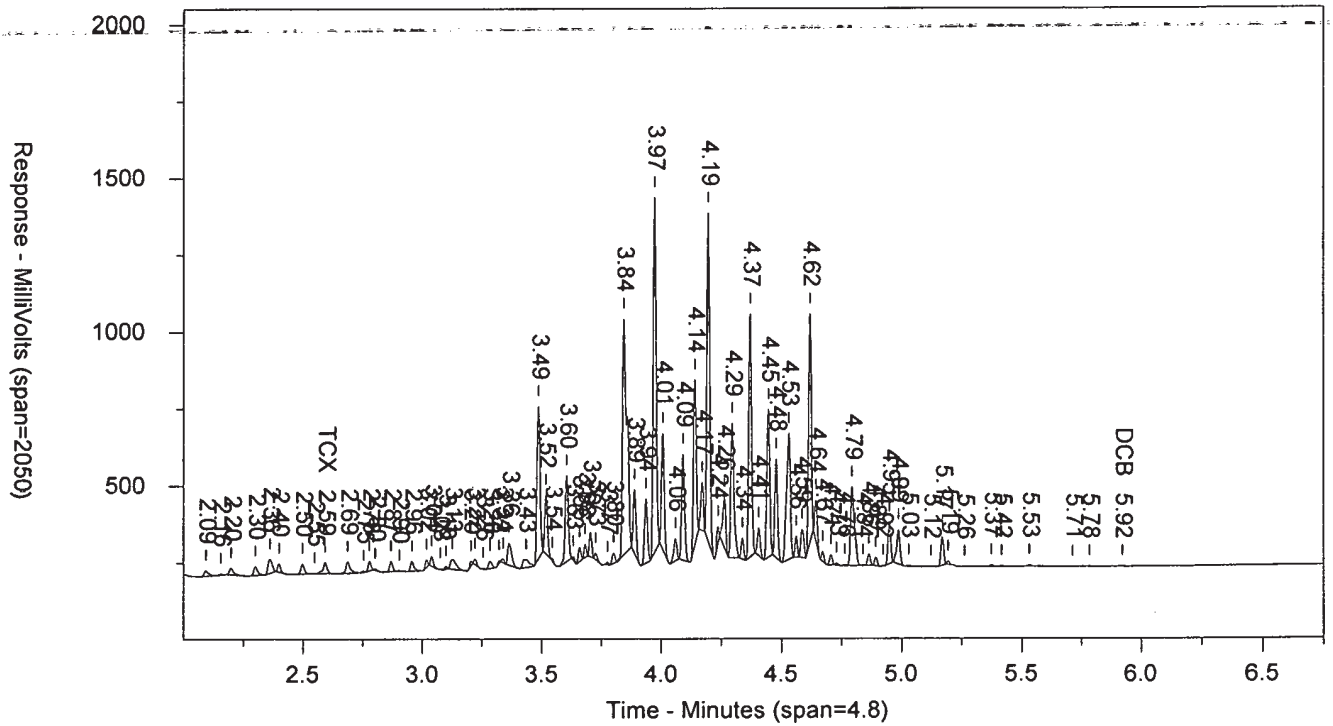
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SW-846 8082

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AR5421824C

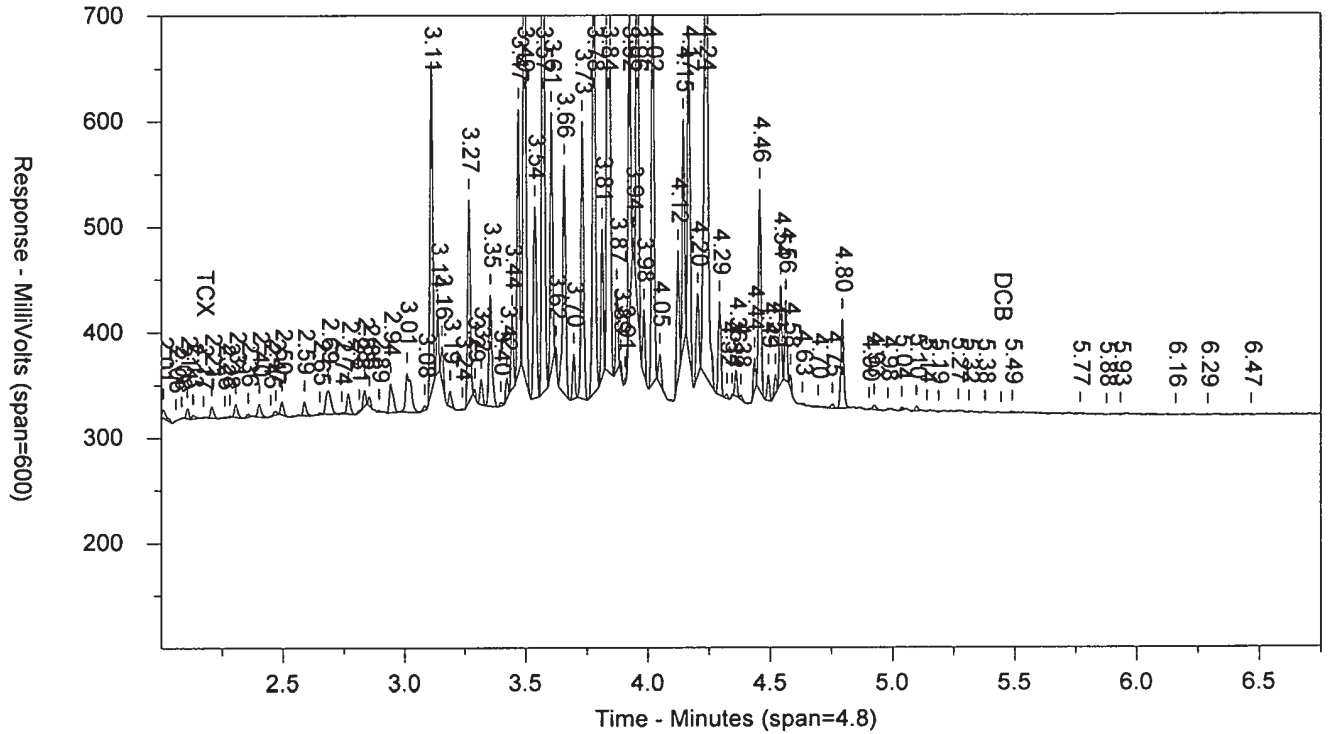
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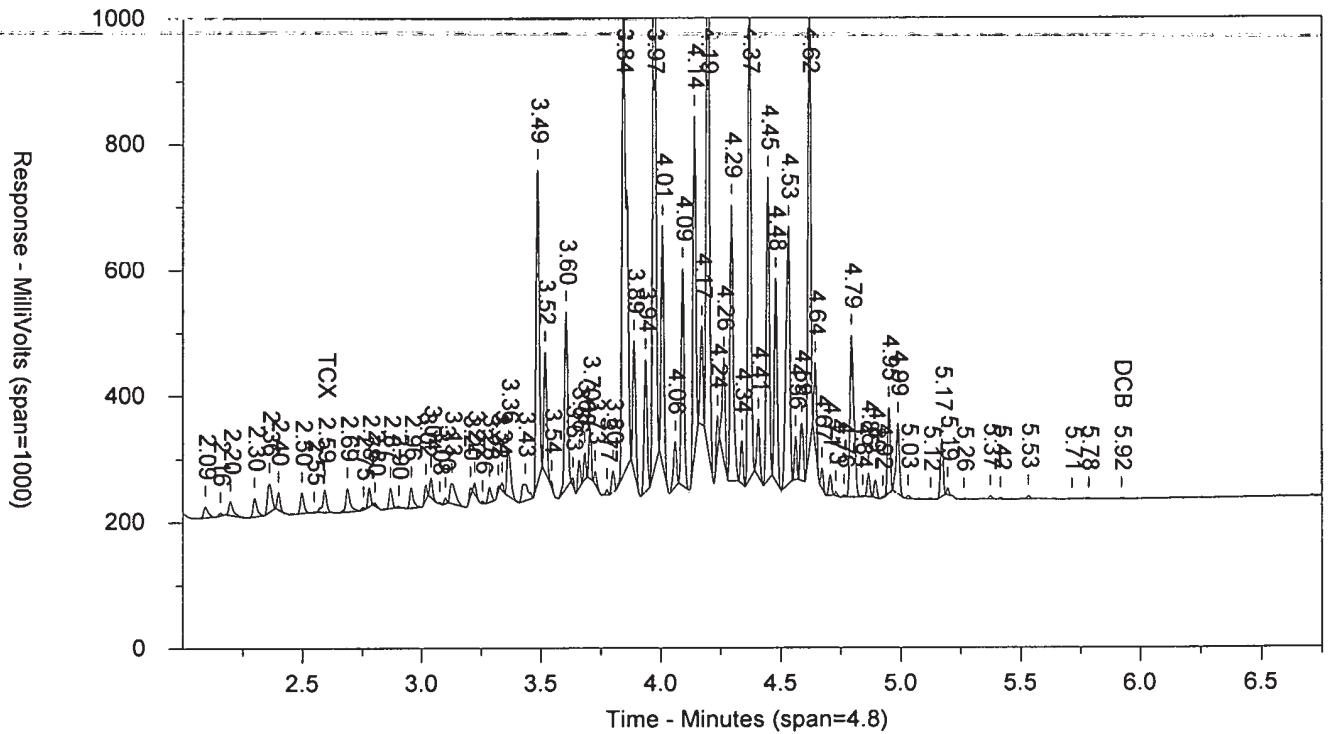
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5431824C      AAAR543AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 10:19:39 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.021.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.024		7019	7812
2.061		786	535
2.122		4183	5885
2.195	TCX	754	434
2.216		7527	7005
2.31		7666	7001
2.355		4859	4682
2.406		8596	8574
2.466		4989	4279
2.497		7866	6299
2.59		9114	9005
2.688		38726	52125
2.768		20305	21486
2.813		2890	2148
2.835		33617	26721
2.855		3837	1709
2.876		2777	1357
2.896		2480	1172
2.943		37785	45140
3.01		69590	96883
3.086		7478	4938
3.112		579536	437021
3.138		114115	63669
3.158		65060	40401
3.189		12212	9343
3.24		924	437
3.266		354248	272511
3.29		15915	8230
3.317		43821	33650
3.354		196216	172080
3.4		6182	4022
3.422		31506	20204
3.445		139311	95061
3.47		458558	313360
3.495		1002854	769599
3.538		346194	302661
3.572		1194131	916827
3.606		465280	321368
3.623		33523	14484
3.658		408814	345911
3.697		82513	57497
3.732		496051	383360
3.78		897084	715598
3.813		265246	174772
3.838		1680527	1360988
3.874		149018	96600
3.889		18189	6772
3.907		8296	3043
3.925		521624	356666
3.941		29832	8265
3.957		960570	640561
3.983		126489	81067
4.02		757975	575808
4.049		62350	44087

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.123		239419	162522
4.145		391326	258649
4.167		598025	439473
4.204		151141	115404
4.239		1117349	1137459
4.293		171726	129036
4.321		5346	3338
4.346		4074	1960
4.362		49935	32347
4.379		4044	2348
4.437		64000	39895
4.459		365377	269126
4.493		47822	33694
4.523		35378	22918
4.542		182877	119106
4.565		144964	95742
4.584		25146	12435
4.631		2129	1454
4.661		1312	674
4.756		6699	5253
4.796		167520	144015
4.926		7386	5687
4.975		587	205
4.986		995	536
5.038		4489	3310
5.101		8025	6115
5.158		1073	600
5.211		994	360
5.494		1246	1205
5.628		670	197
5.811		678	248
5.851		929	521
5.901		785	189
5.946		685	179
6.027		892	256
6.066		620	311
6.141		1046	807
6.229		1087	827
6.321		791	255
6.341		540	175
6.439		744	307



## LANCASTER LABORATORIES

Sample Number: AR5431824C      AAAR543AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 10:19:39 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.021.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.023		7938	10836
2.098		1027	766
2.119		9413	9711
2.157		3410	4632
2.217		15793	19513
2.313		18069	21485
2.361		30932	39511
2.409		17847	18481
2.505		22224	22026
2.54		1733	1944
2.576		1810	1528
2.598	TCX	22526	20047
2.692		31826	42309
2.753		4020	3631
2.781		17301	11581
2.802		14472	12368
2.869		22692	18806
2.898		2918	2553
2.956		23753	27161
3.018		51019	40550
3.039		24117	17322
3.101		19724	14942
3.132		44438	63065
3.205		5104	3457
3.222		49306	42078
3.255		6635	4067
3.284		15851	16124
3.323		14883	9910
3.338		27699	18692
3.364		109334	125478
3.425		53395	58492
3.458		5956	3154
3.486		933070	818960
3.518		335298	273896
3.543		17751	9361
3.604		540369	458190
3.632		26243	15996
3.658		71137	51570
3.682		75441	49208
3.704		161854	113812
3.725		26177	15177
3.761		2117	901
3.775		20580	12948
3.801		52479	39385
3.844		1463013	1890831
3.888		390582	318105
3.936		385356	323661
3.972		2287668	1931459
4.006		711200	575329
4.059		129738	117769
4.09		658119	576142
4.139		1083584	834126
4.171		296585	230014
4.195		2180674	1709668

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.236		120237	73100
4.262		302879	270009
4.294		800356	750067
4.337		126247	97235
4.37		1523313	1272546
4.406		171002	143752
4.446		923812	768638
4.478		597047	482518
4.531		816959	877635
4.562		127121	85733
4.587		168779	152106
4.618		1442803	1148784
4.644		248238	174788
4.671		60501	40564
4.706		66844	51107
4.729		11584	7446
4.764		6924	4265
4.795		487185	553703
4.84		4523	2741
4.865		69077	53903
4.894		55672	43378
4.923		4474	2454
4.949		250351	209407
4.988		207388	205328
5.029		8315	8794
5.075		1018	581
5.17		167962	142953
5.196		23211	19301
5.267		1500	1927
5.374		9613	8670
5.417		6178	5682
5.531		9680	10104
5.924	DCB	1137	1160
6.201		943	415
6.521		632	937

AR5431824C

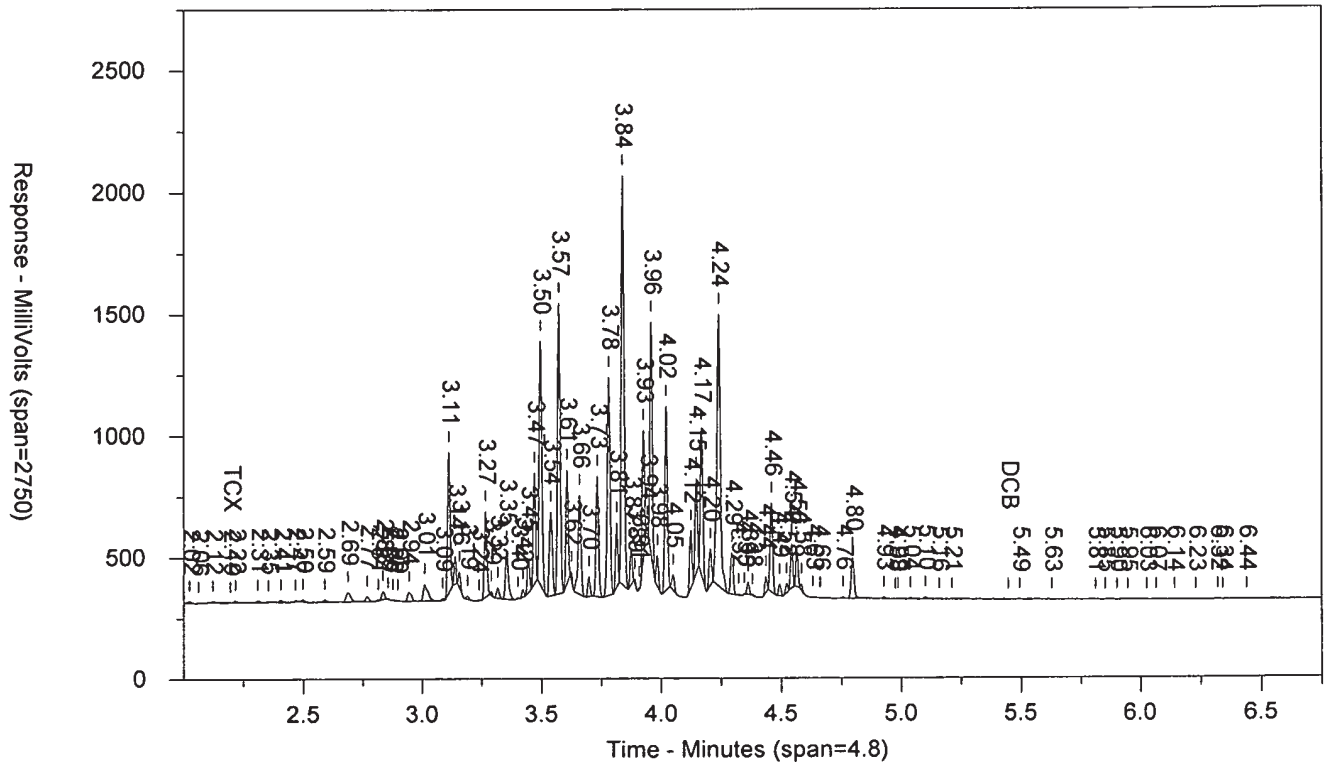
AAAR543AA

ICAL 1830299999

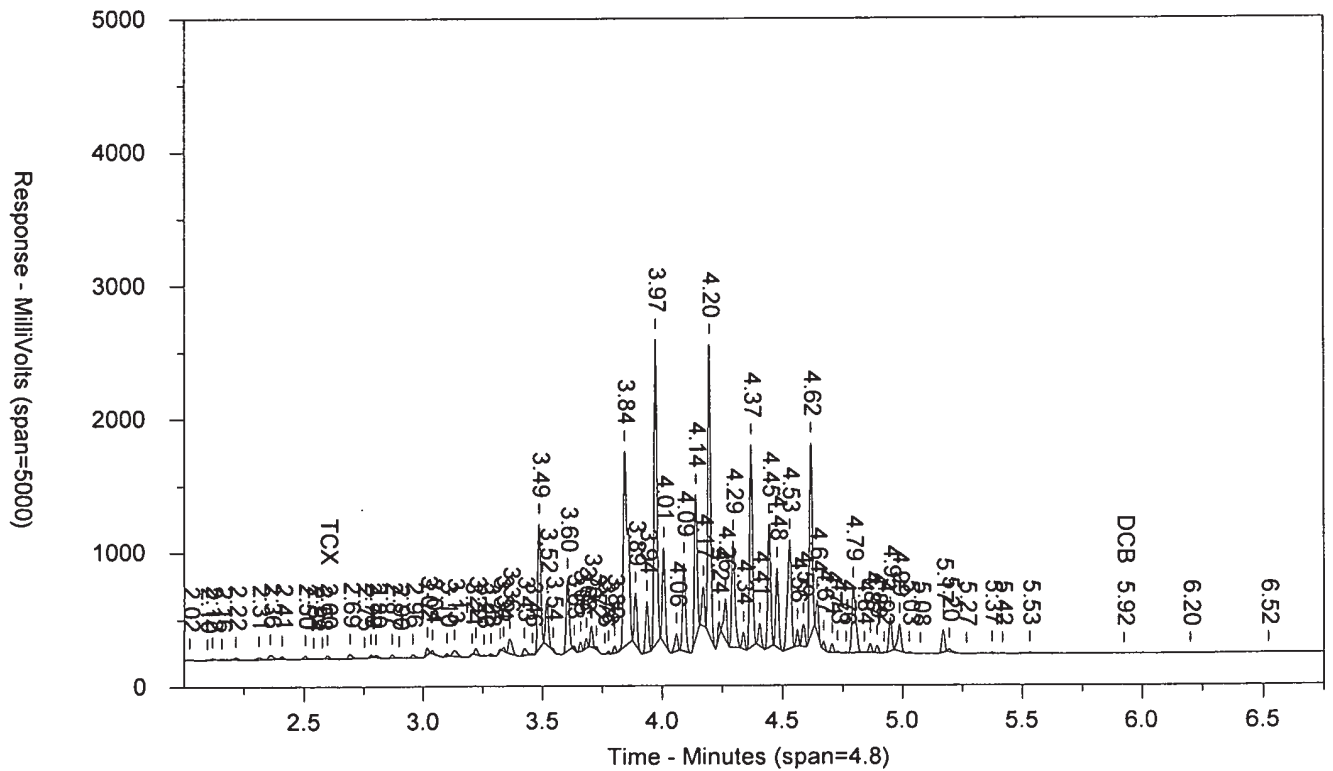
10227

SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.021.RAW



LANCASTER LABORATORIES

Sample Number: AR5431824C      AAAR543AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 10:19:39 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

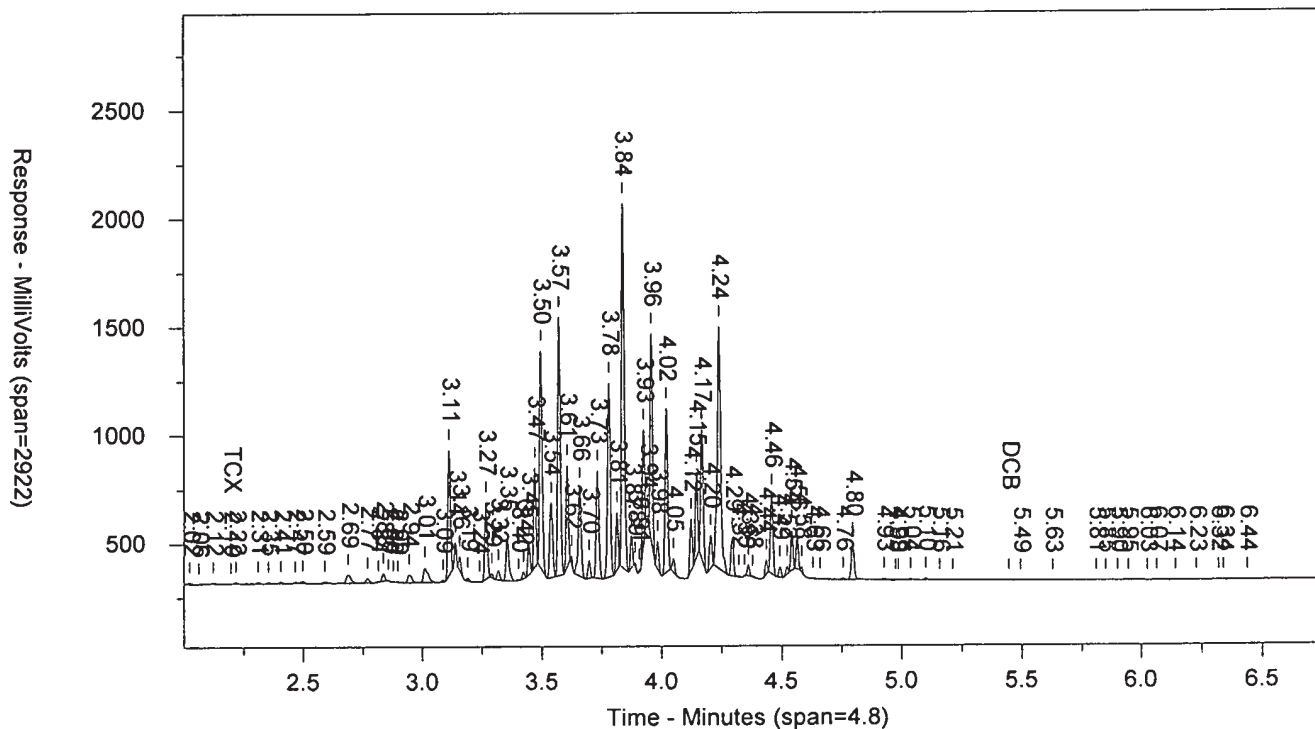
Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

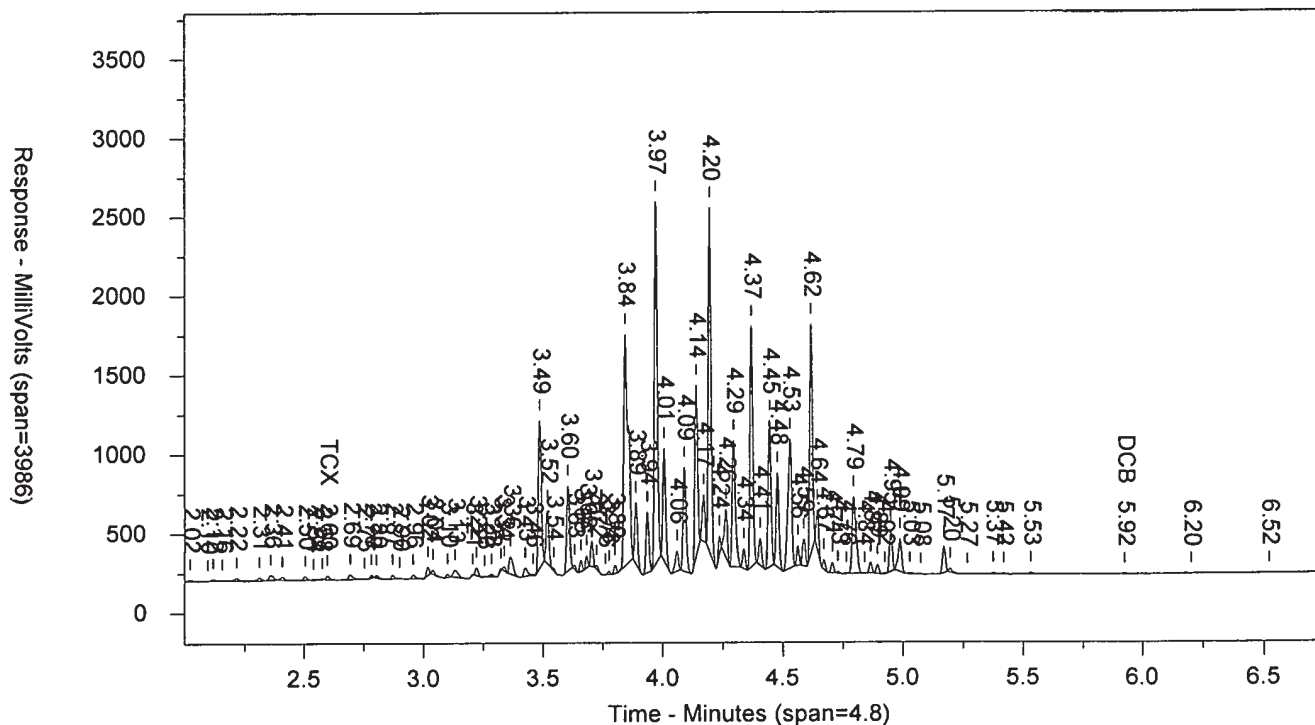
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.195	754	.004	TCX	2.598	22526	.058	TCX
	0		DCB	5.924	1137	.007	DCB

Files:  
 Area File: 20pcbs18303001.021.RAW  
 Area File: 20pcbs18303001B.021.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 10:27:40 PM  
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AR5431824C    AAAR543AA    ICAL 1830299999    10227    SW-846 8082  
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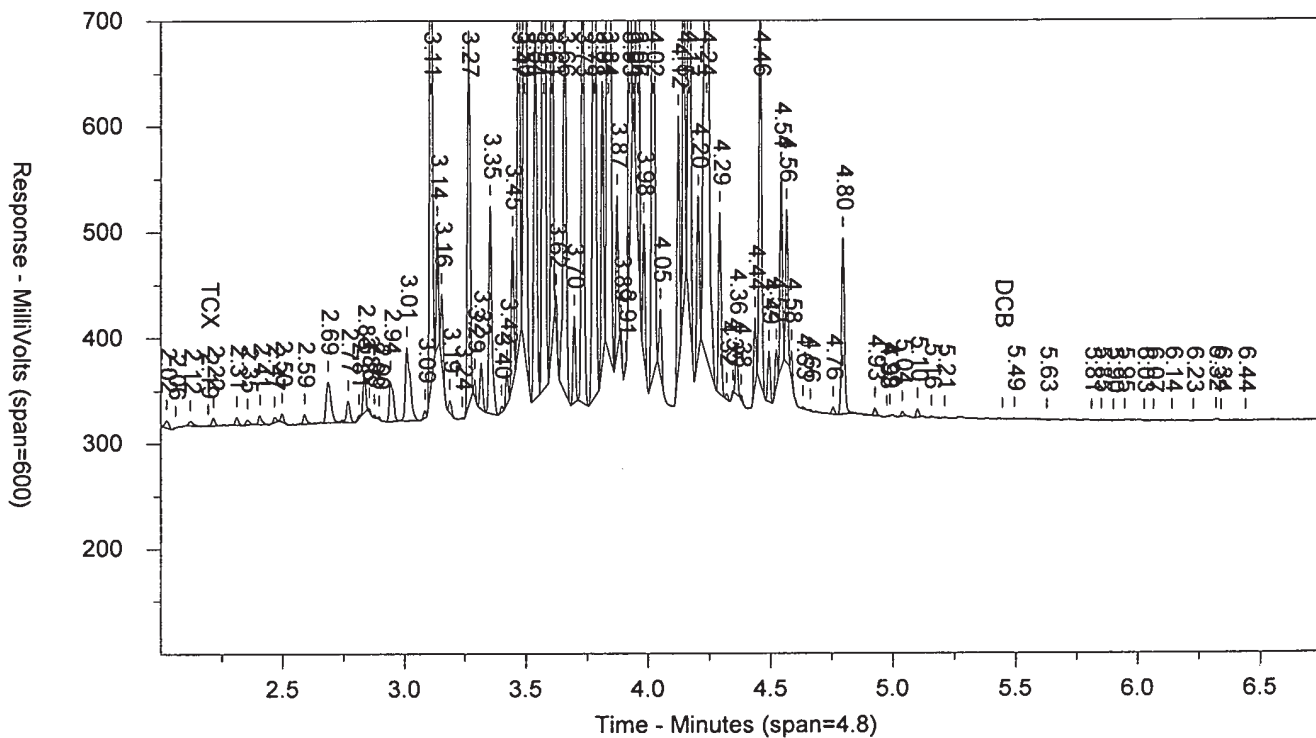


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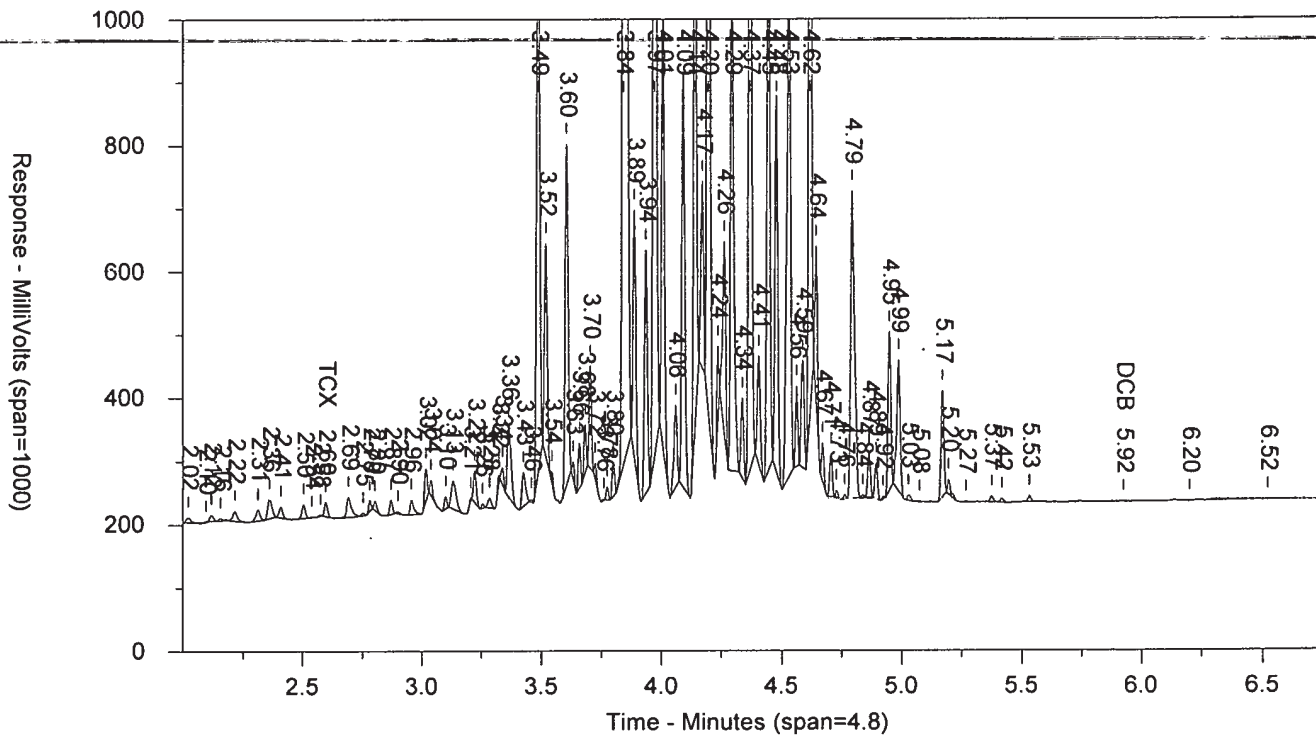


AR5431824C      AAAR543AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5441824C      AAAR544AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 10:30:08 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.022.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.009		8760	16800
2.109		10241	26824
2.13		1086	762
2.207		8612	7968
2.257		2228	2268
2.306		9546	7932
2.354		13331	15343
2.401		8958	11294
2.466		11390	7949
2.495		7273	4765
2.588		8780	6359
2.688		88511	117504
2.767		37705	38704
2.812		9851	6029
2.835		93470	89140
2.877		10477	5809
2.895		4984	2614
2.943		76713	96513
3.01		166287	217362
3.086		18057	11180
3.112		1312422	973671
3.138		246747	138510
3.155		149840	93344
3.189		16794	12479
3.238		1021	506
3.266		814318	615542
3.291		44496	22100
3.317		107810	80390
3.355		442801	385395
3.403		15178	10601
3.422		72097	44549
3.445		322971	220765
3.47		1090021	715742
3.495		2331020	1769910
3.538		795865	690823
3.572		2728016	2108780
3.606		1075739	731714
3.623		75832	34079
3.658		951308	783440
3.697		200919	142474
3.732		1143115	871229
3.78		2153397	1665828
3.814		612223	399568
3.839		4000089	3209669
3.873		352523	224003
3.889		49231	20182
3.907		24267	9011
3.925		1260273	820639
3.94		89516	25886
3.957		2311956	1527858
3.983		284883	179632
4.021		1769486	1326439
4.05		145877	110623
4.122		586361	379075

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.145		908792	587226
4.167		1389627	1046990
4.204		357706	267795
4.239		2711768	2698433
4.293		407321	301129
4.321		13148	7629
4.346		9869	5123
4.361		123804	80152
4.38		10986	5107
4.417		901	384
4.436		144414	92777
4.458		854476	623855
4.493		118052	82527
4.522		81742	53866
4.542		416499	274629
4.564		348391	221348
4.583		57143	28637
4.628		4421	4213
4.659		2228	1472
4.728		931	554
4.756		15154	11185
4.796		386538	335656
4.891		1001	718
4.926		17803	16194
4.998		2470	1939
5.036		9075	7053
5.099		18044	14145
5.155		959	491
5.195		949	232
5.238		852	398
5.286		2538	3086
5.317		761	290
5.363		899	318
5.434	DCB	913	531
5.839		796	236
6.054		822	451
6.141		909	622
6.215		716	309
6.298		928	712
6.313		945	424
6.42		833	851
6.478		668	334



## Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5441824C      AAAR544AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 10:30:08 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.022.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.094		14725	17738
2.156		8781	10884
2.199		18003	20613
2.3		23527	26783
2.362		17814	20909
2.399		24235	18558
2.428		1198	904
2.498		26210	24668
2.543		5930	6499
2.572		3773	2610
2.594	TCX	24549	20964
2.692		38869	67040
2.751		9838	8554
2.779		18477	12669
2.802		43129	42678
2.868		23756	19022
2.894		6987	7044
2.955		26648	33680
3.018		118433	97563
3.039		32425	20283
3.101		47928	37788
3.134		92135	120286
3.205		3916	3979
3.222		119797	107530
3.256		21075	14094
3.282		18940	18731
3.323		32769	22380
3.337		57700	40275
3.363		233686	261502
3.425		130176	134022
3.459		16680	9475
3.486		2183687	1857920
3.518		738085	601428
3.543		39182	21782
3.566		8942	5411
3.604		1231086	1040595
3.632		57445	33354
3.658		149652	106233
3.682		166571	108351
3.704		365021	259540
3.725		53593	30470
3.775		52211	44555
3.801		109397	80773
3.844		3630847	4443488
3.888		888516	712860
3.936		855918	714847
3.972		5626005	4593853
4.006		1647702	1301434
4.059		272945	251974
4.09		1500765	1291335
4.14		2569432	1971114
4.172		683107	510026
4.195		5311746	4098018
4.236		261388	160477

## Chrom Perfect Chromatogram Report

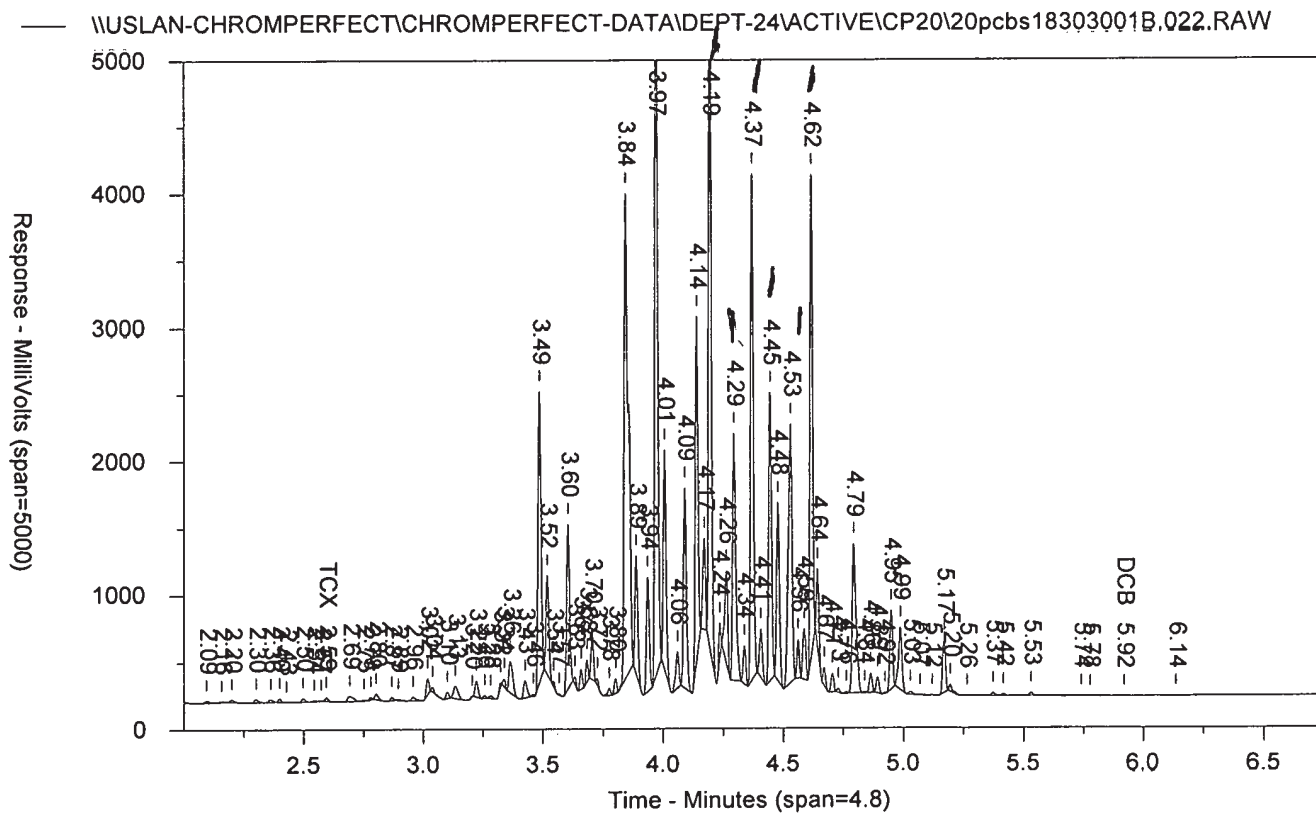
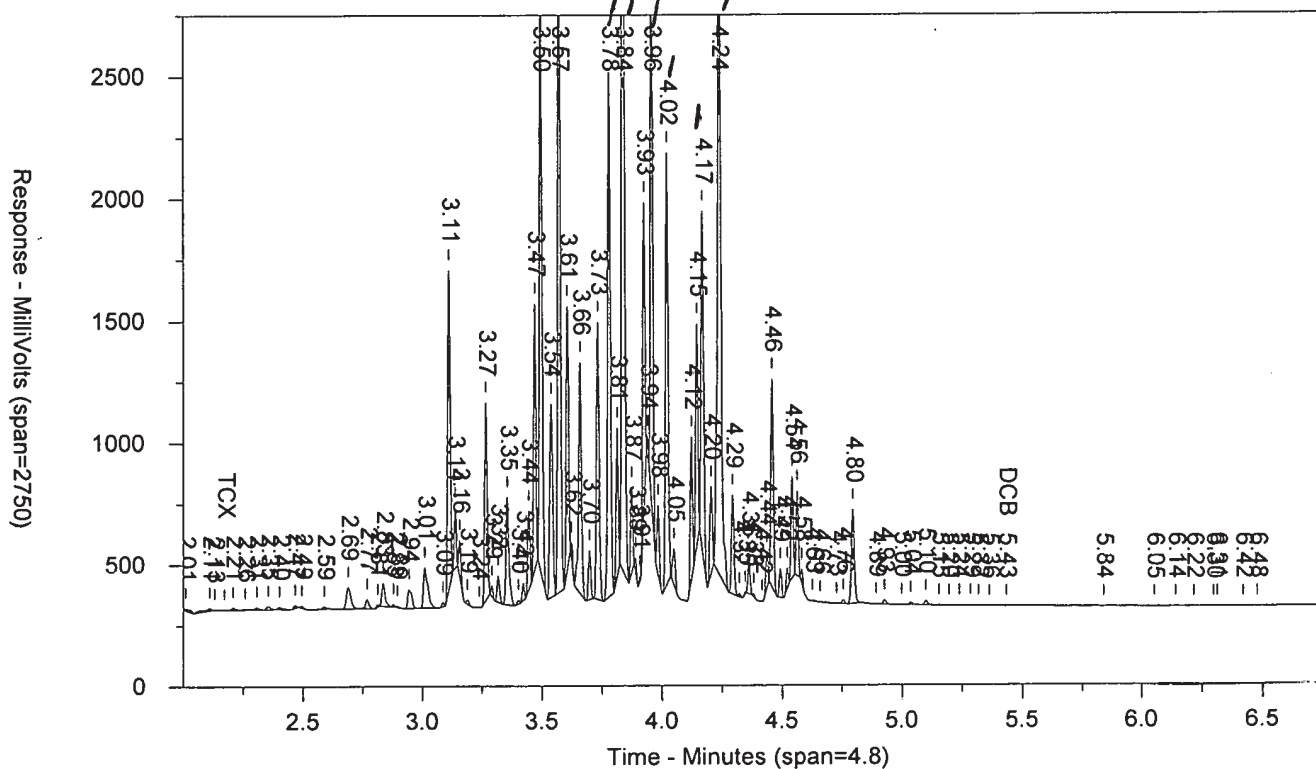
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RT B	Compound B	Height B	Area B
4.263		689830	611835
4.294		1851160	1691309
4.337		286617	219749
4.37		3798569	3028249
4.406		361866	311083
4.445		2165403	1772548
4.478		1334168	1086218
4.531		1935487	2089430
4.562		291018	198065
4.588		378384	340979
4.619		3591863	2787516
4.644		581119	410578
4.671		129545	88432
4.706		139386	108850
4.73		29270	18931
4.764		13172	8146
4.794		1116864	1252334
4.84		10913	6150
4.864		143356	115367
4.893		121165	94680
4.923		10223	5888
4.949		588204	483745
4.986		464769	459460
5.029		20319	20914
5.07		2356	2866
5.121		2064	2063
5.17		390624	323635
5.196		53147	44388
5.265		2013	2205
5.373		21282	18654
5.416		13467	11647
5.531		22535	23004
5.742		2985	3139
5.778		1636	2287
5.92	DCB	1212	1295
6.138		1459	2796

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AR5441824C      AAR544AA      ICAL 1830299999      10227      SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR5441824C      AAR544AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 10:30:08 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	24549	.063	TCX
5.434	913	.005	DCB	5.92	1212	.008	DCB

Files:

Area File: 20pcbs18303001.022.RAW  
 Area File: 20pcbs18303001B.022.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 10:38:09 PM  
 File Reported On: 10/30/2018 at 10:38:17 PM

AR5441824C

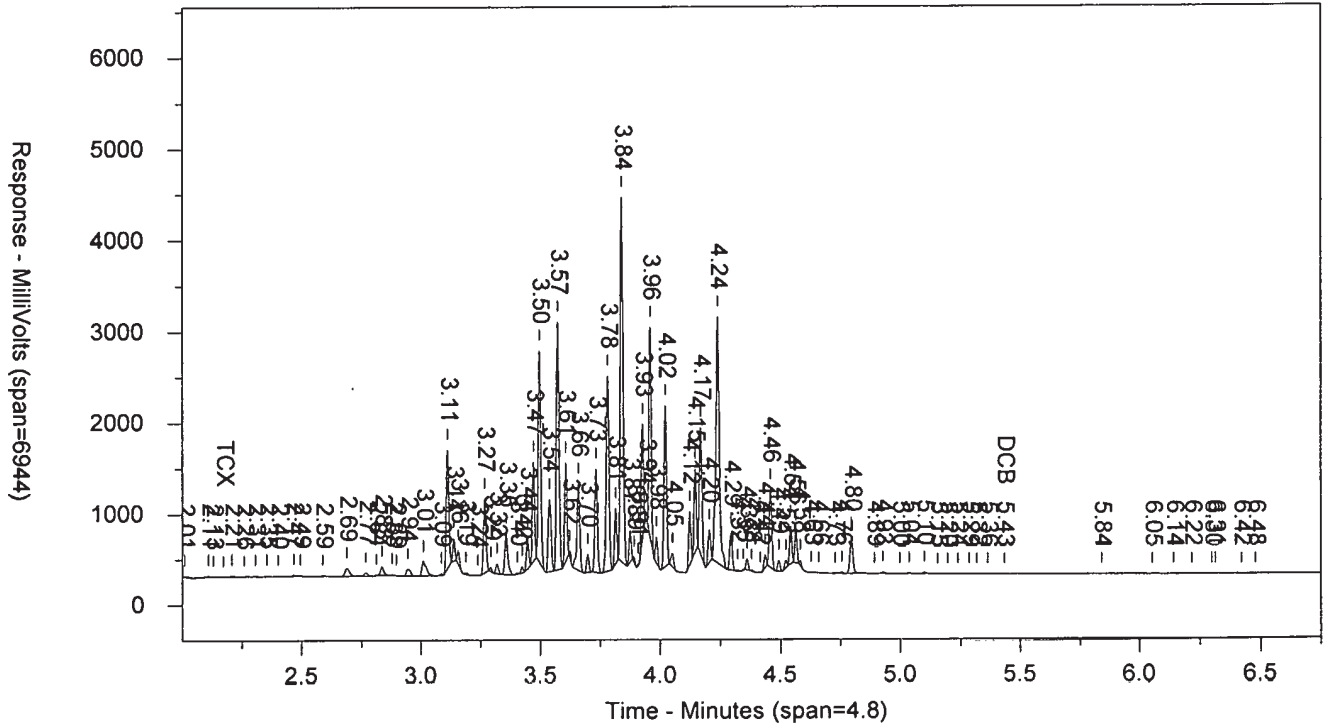
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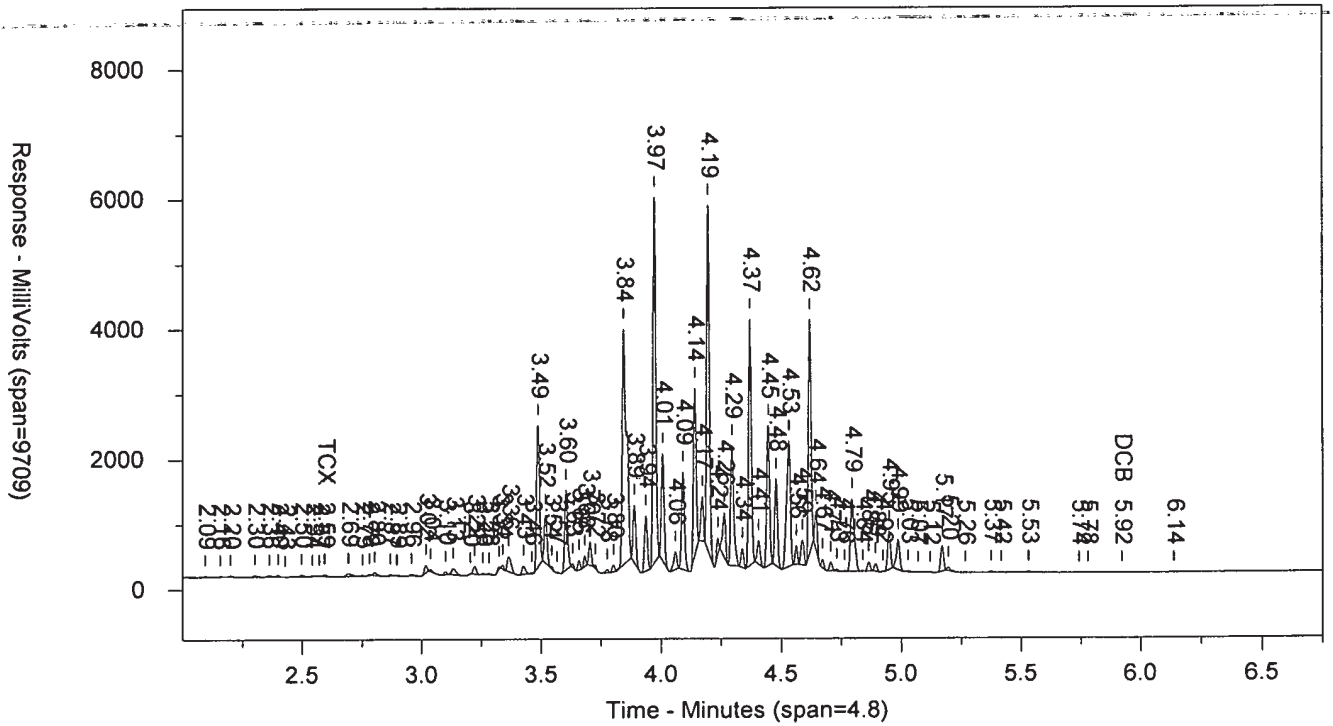
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SW-846 8082

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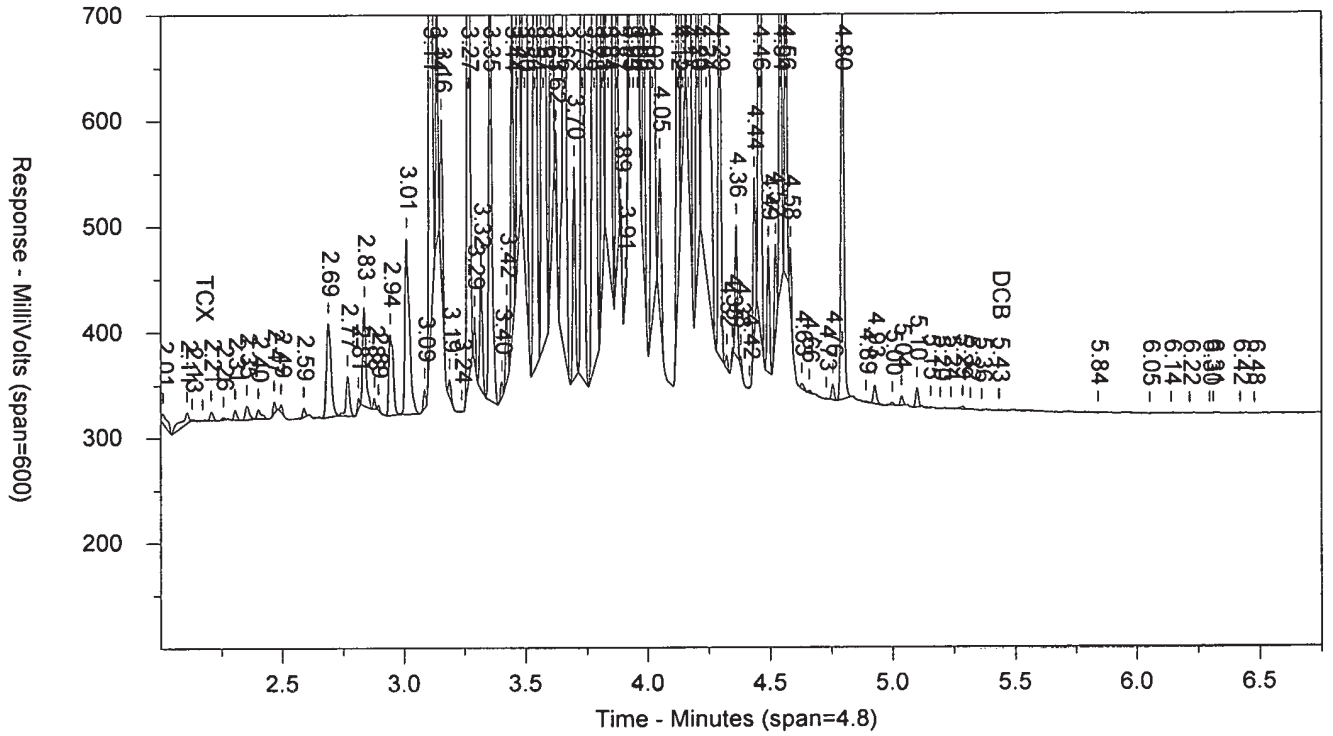


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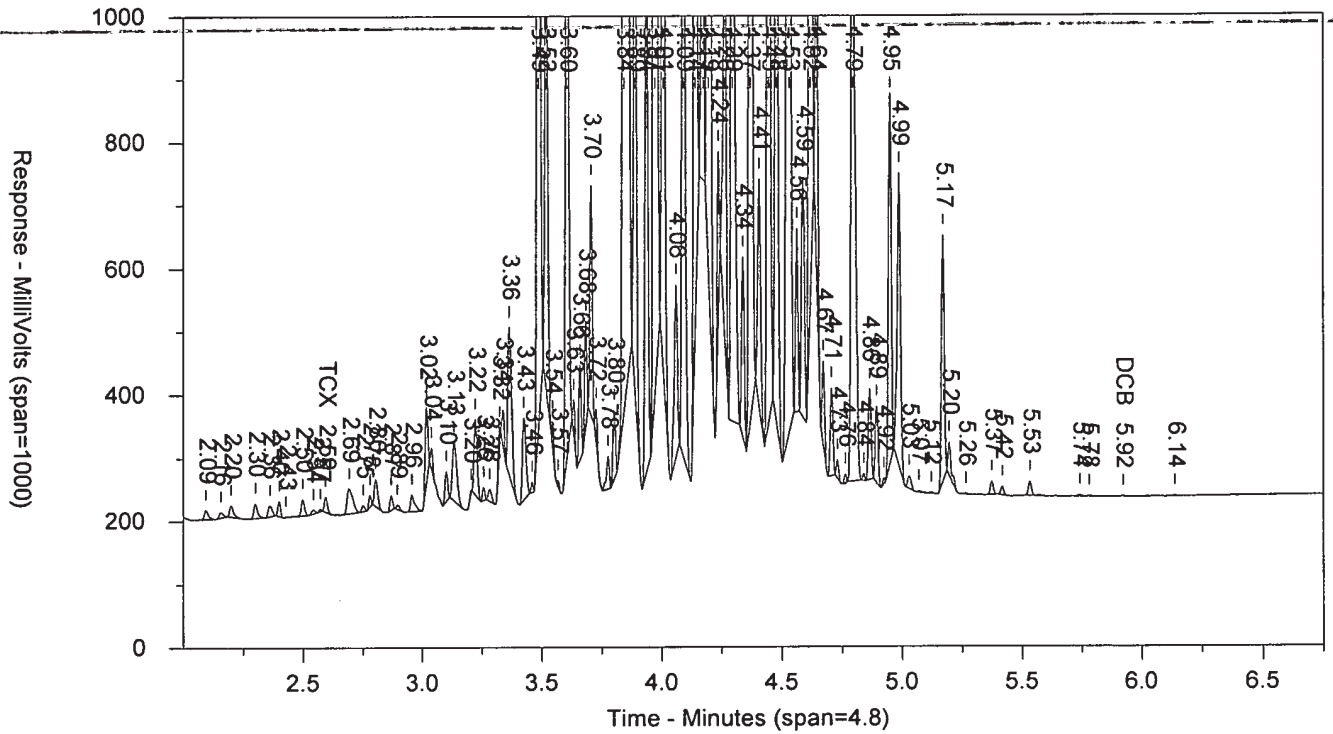


AR5441824C      AAAR544AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5451824C      AAAR545AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 10:40:36 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.023.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.008		7666	12821
2.087		1235	5738
2.109		8706	6395
2.129		1742	1254
2.209		9695	8362
2.258		4552	5274
2.306		10326	9578
2.354		27645	31123
2.402		6502	4274
2.419		3859	2826
2.466		22035	14923
2.482		1284	545
2.494		5030	3177
2.588		10221	7505
2.61		5423	4118
2.688		172953	222522
2.742		3296	1890
2.767		66585	58812
2.812		17445	10969
2.835		192493	176257
2.876		18653	11685
2.893		7906	4575
2.943		143083	178098
3.01		312567	403348
3.086		34995	21809
3.112		2476467	1807572
3.138		448209	253239
3.156		281995	180953
3.188		26393	18924
3.236		1958	1153
3.266		1507453	1136482
3.29		79923	40193
3.317		190923	148570
3.355		811169	709868
3.402		27884	18567
3.422		134197	83769
3.445		604682	413547
3.47		2035220	1348797
3.495		4541590	3358376
3.538		1494060	1291970
3.572		5318395	4001591
3.606		2035412	1380369
3.623		125087	51934
3.658		1772292	1459686
3.696		385265	273409
3.732		2179285	1638045
3.78		4070016	3218978
3.813		1148723	762097
3.839		7746642	6183316
3.874		639514	402717
3.888		82446	33716
3.907		33005	13000
3.925		2445496	1574336
3.941		135380	37737

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
3.957		4578841	2978997
3.983		534559	342699
4.021		3343004	2554738
4.049		274052	205916
4.123		1085999	713150
4.145		1710703	1113305
4.167		2900919	2086605
4.204		670269	500894
4.239		5483133	5244111
4.293		751632	568994
4.32		23201	13795
4.346		17659	9342
4.361		232397	151649
4.378		16963	7962
4.416		1192	613
4.436		294340	180486
4.458		1652187	1193994
4.493		217559	159272
4.522		156047	102017
4.542		806768	526483
4.564		667077	415342
4.583		112985	58203
4.63		9427	7659
4.66		5298	3583
4.678		2128	1496
4.728		1860	1066
4.756		29010	21927
4.795		744115	652271
4.892		1664	1095
4.926		33921	29259
4.997		4752	3421
5.037		19016	16635
5.1		34643	30522
5.237		1301	761
5.271		701	417
5.287		4140	3408
5.382		988	554
5.427	DCB	843	379
5.467		1033	197
5.575		972	478
5.687		696	277
5.712		586	274
5.767		590	265
5.823		726	409
5.971		820	268
6.119		482	180
6.225		668	196
6.335		790	215
6.444		826	285

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## Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5451824C      AAAR545AA      ICAL 1830299999      10227

Injected On: 10/30/2018 10:40:36 PM

SW-846 8082

Instrument ID: CP20-17342

Injection Volume: 1 ul

Analyst: 9065

Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min

Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um

Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um

Data File: 20pcbs18303001B.023.RAW

Method File: 20PCBSB.MET

Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		13795	16413
2.159		4646	4497
2.199		18688	24499
2.3		23716	27626
2.361		25305	29823
2.4		23953	19673
2.498		27326	26404
2.543		14704	17747
2.574		1381	777
2.594	TCX	26989	23858
2.696		64049	110546
2.75		18162	16595
2.778		17960	11091
2.802		84997	88823
2.868		26186	19958
2.894		15404	15715
2.955		31314	34533
3.018		224973	186099
3.038		43458	24782
3.101		100614	83129
3.134		164176	206526
3.204		4786	5504
3.222		240267	220904
3.256		37410	24970
3.28		24296	22774
3.323		69388	45886
3.337		96271	68174
3.363		415439	480011
3.425		245465	249222
3.459		28356	16406
3.485		4230166	3549135
3.517		1429575	1124692
3.543		65962	34694
3.567		23361	15563
3.604		2379014	1960669
3.632		105813	61852
3.658		253719	180299
3.682		300093	192713
3.704		676614	480741
3.724		85059	47748
3.775		87021	76581
3.801		189618	138785
3.843		7014951	8659377
3.887		1656849	1326515
3.935		1624857	1320488
3.971		10955770	8968521
4.005		3099671	2506799
4.059		496829	457701
4.09		2914291	2460822
4.14		5109336	3897521
4.171		1370127	1011409
4.195		10124680	8131777
4.235		530241	315560
4.262		1295740	1157775

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.294		3542572	3237512
4.337		524402	404635
4.369		7531931	5988272
4.405		709533	575268
4.445		4204641	3435910
4.477		2630612	2063426
4.53		3900800	4144738
4.561		550263	364719
4.587		649373	614587
4.618		7134517	5497628
4.643		1152375	793521
4.671		233210	154910
4.705		255411	197502
4.73		54904	35695
4.763		25473	15476
4.794		2152225	2377586
4.839		20875	11954
4.864		267723	207382
4.892		218398	171467
4.922		17581	10298
4.948		1145103	927644
4.986		863212	857628
5.028		38316	40278
5.072		4316	3526
5.091		2653	1494
5.169		738929	591756
5.194		87965	54055
5.212		13050	8258
5.265		4604	5279
5.373		39026	33155
5.415		25999	22688
5.531		42461	37905
5.574		1776	1508
5.741		5332	4965
5.754		2654	2724
5.923	DCB	2417	2771

AR5451824C

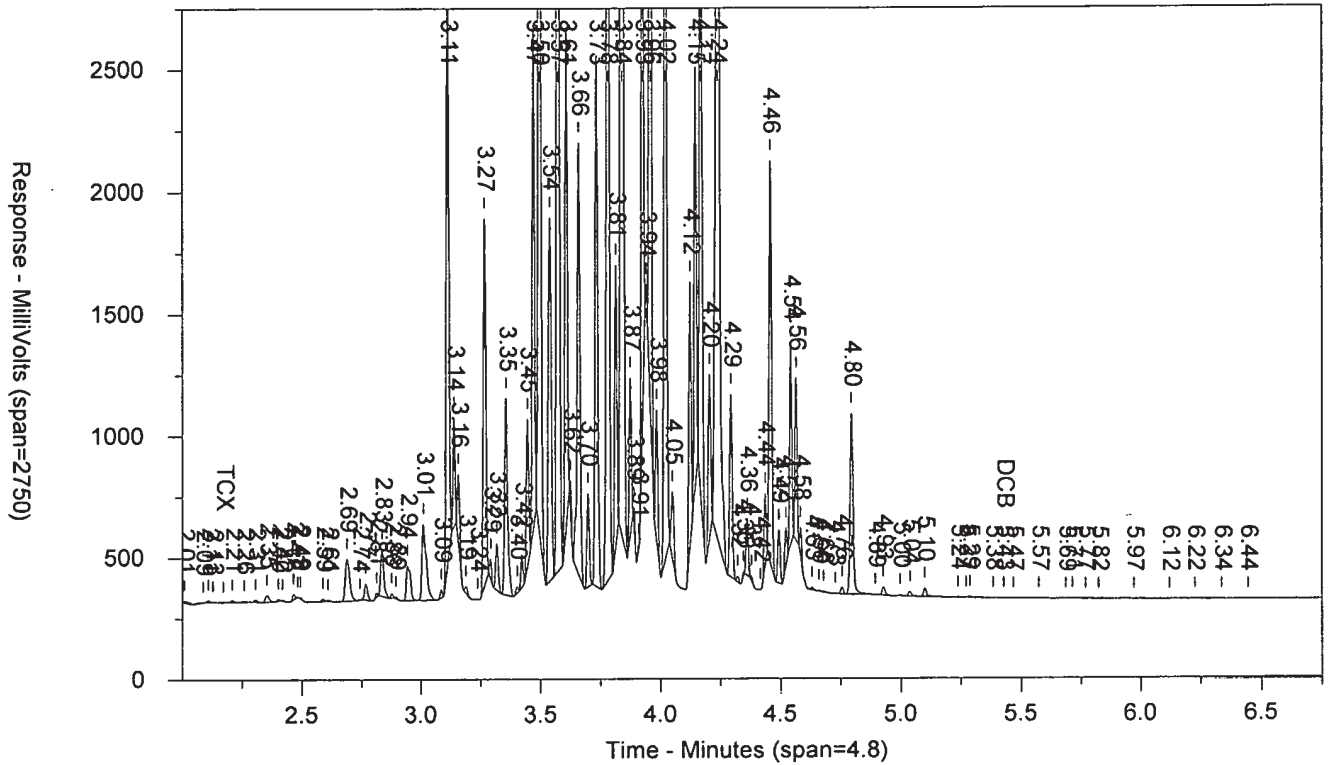
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ICAL 1830299999

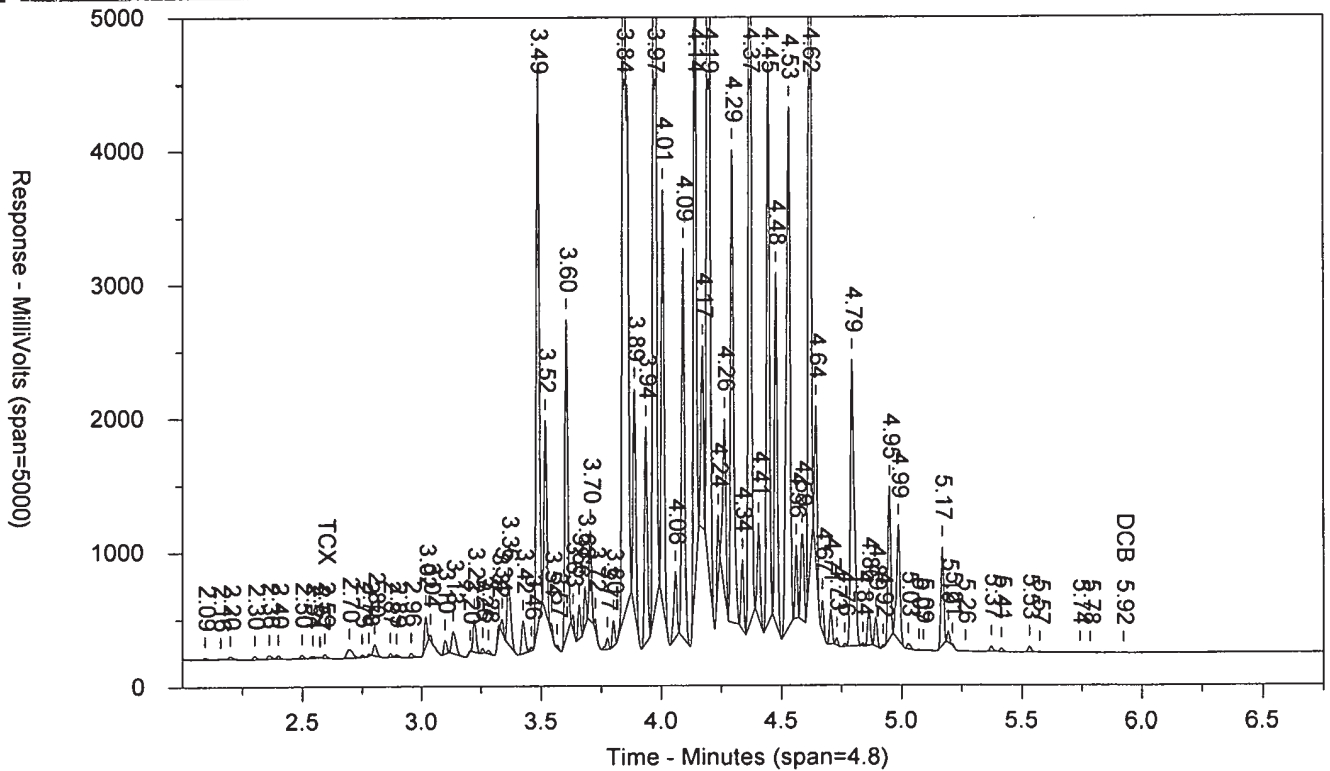
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR5451824C      AAAR545AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 10:40:36 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

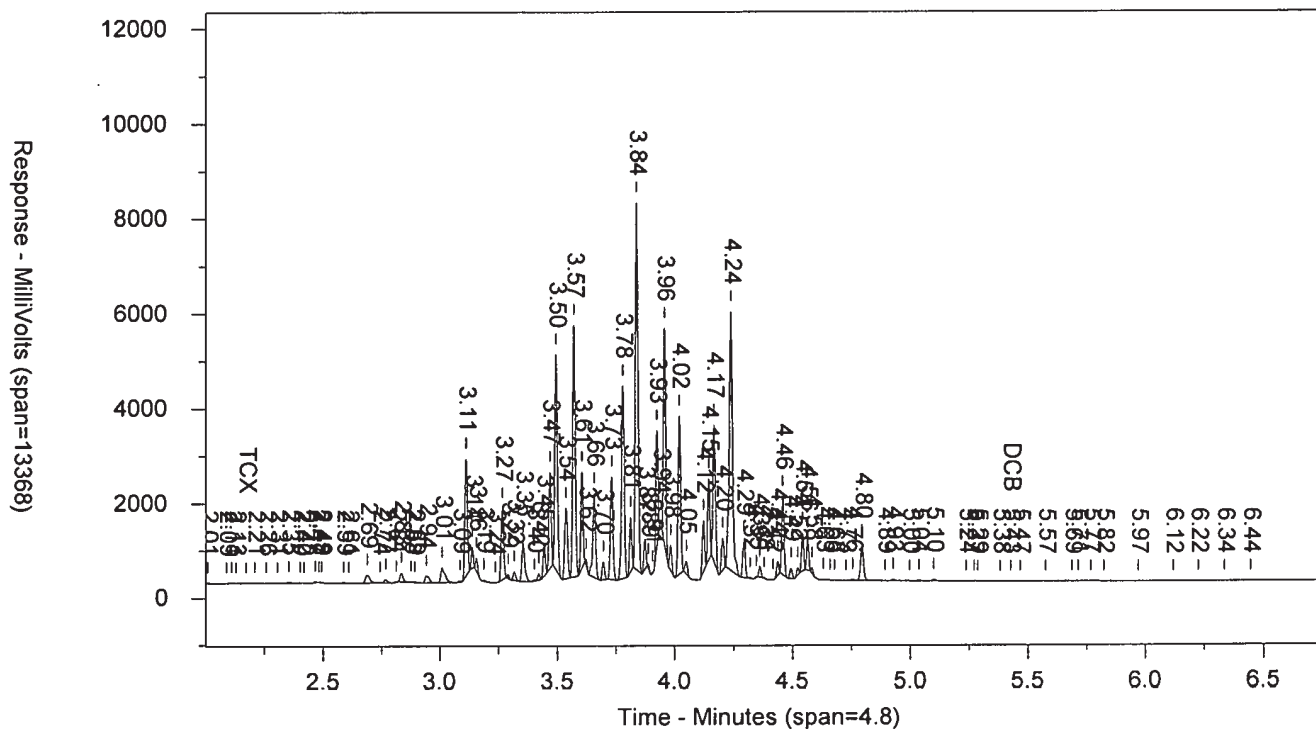
Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	26989	.07	TCX
5.427	843	.005	DCB	5.923	2417	.016	DCB

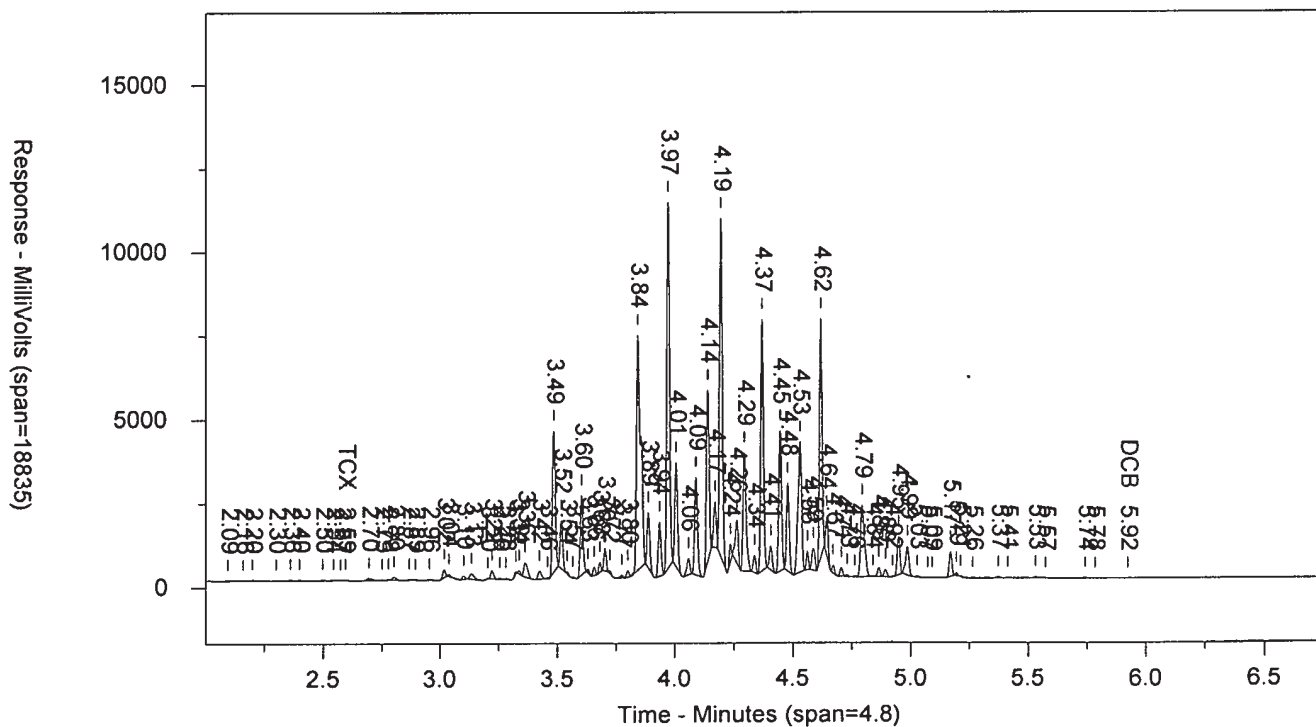
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 Area File: 20pcbs18303001.023.RAW  
 Area File: 20pcbs18303001B.023.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 10:48:38 PM  
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AR5451824C      AAAR545AA      ICAL 1830299999      10227      SW-846 8082

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— \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.023.RAW



AR5451824C

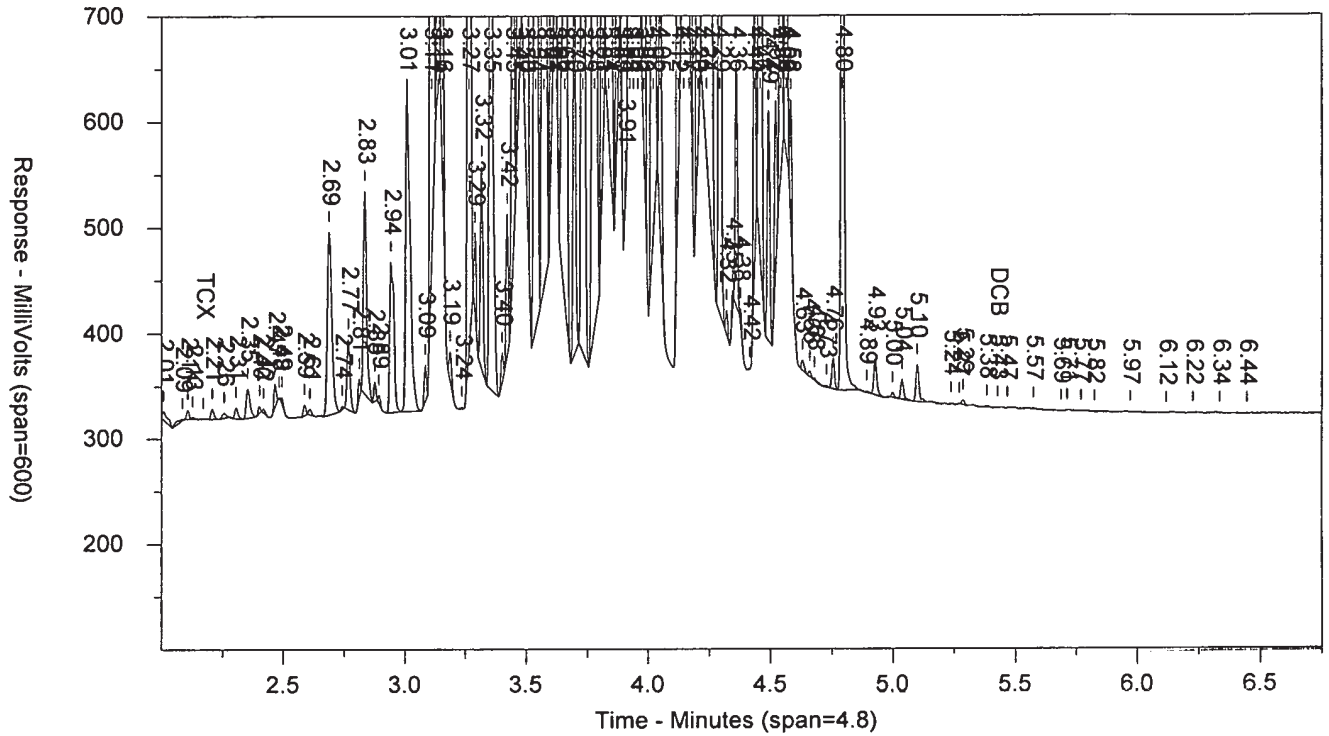
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ICAL 1830299999

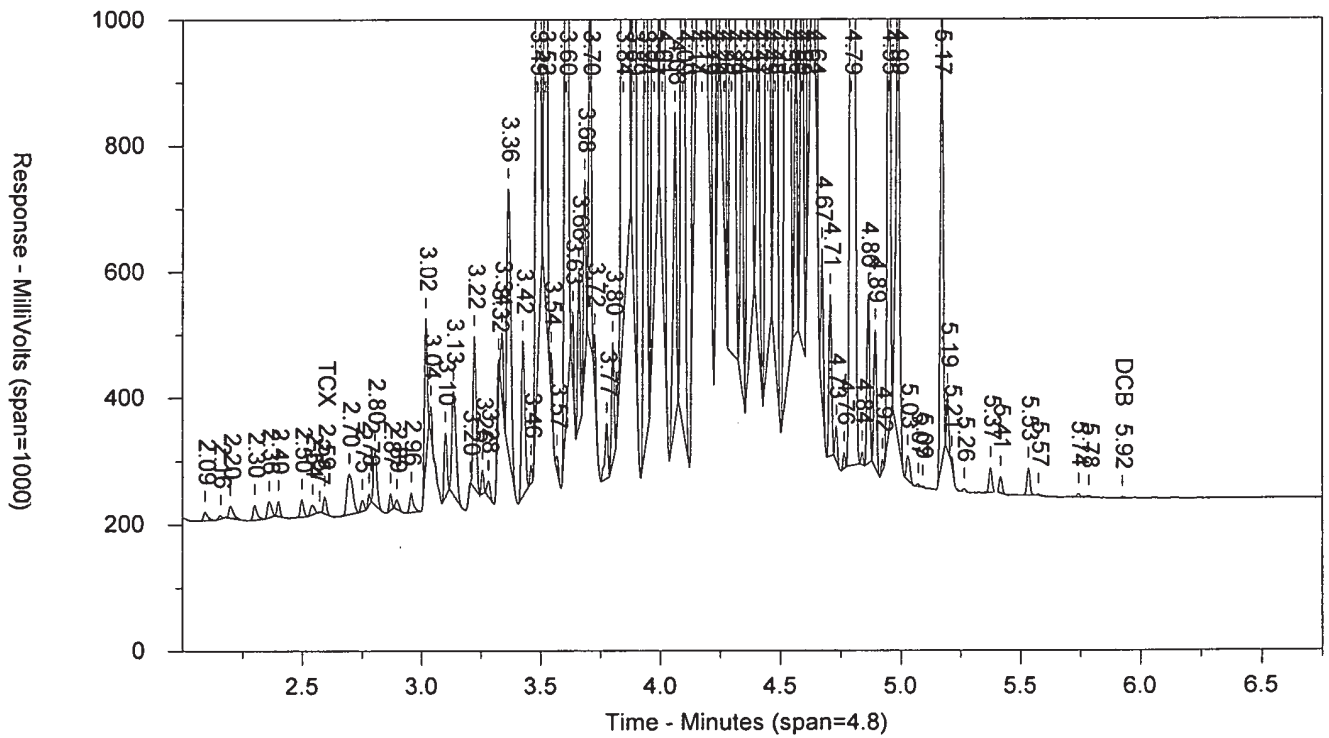
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SW-846 808%

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## LANCASTER LABORATORIES

Sample Number: AR5461824C      AAAR546AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 10:51:05 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.024.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		12509	16946
2.09		991	4547
2.109		12887	9800
2.128		3412	3261
2.209		15776	14368
2.257		9760	14392
2.306		17826	15869
2.354		50766	59793
2.402		11449	7218
2.418		6018	5554
2.466		40919	29912
2.588		16466	11217
2.61		9503	7101
2.689		319941	418616
2.743		6611	3871
2.767		124270	107986
2.813		32149	20563
2.835		347076	327640
2.876		36945	23262
2.894		13143	6842
2.944		271624	347621
3.01		601101	783434
3.086		68954	42346
3.112		4715994	3477532
3.138		860479	481614
3.156		498373	314455
3.188		44621	31769
3.236		3158	2012
3.266		2942757	2189861
3.29		136110	73049
3.317		374234	289736
3.355		1564609	1388874
3.402		59045	38218
3.422		249418	154263
3.445		1134607	782474
3.47		3951603	2623663
3.495		8534629	6461920
3.538		2862163	2482120
3.572		10223400	7696032
3.606		3951254	2666659
3.623		215750	98059
3.658		3392960	2817090
3.697		712642	509551
3.732		4169304	3195486
3.781		7963531	6288243
3.814		2224064	1461589
3.839		14802580	11973560
3.874		1250088	784167
3.889		133365	55736
3.908		73658	28944
3.926		4712434	3106932
3.942		257690	72797
3.958		8694909	5773972
3.984		1028989	636778

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.022		6453023	4958980
4.051		531708	385276
4.124		2181461	1402510
4.146		3452941	2161404
4.169		5715654	4181245
4.206		1243592	944864
4.241		10339980	10263790
4.295		1446925	1098156
4.323		44630	26704
4.348		29571	16489
4.363		426417	281603
4.381		30521	14117
4.417		1243	611
4.438		533386	332320
4.46		3245186	2332814
4.494		394272	294212
4.524		290985	187482
4.545		1644263	1051726
4.567		1264458	799658
4.585		201839	102581
4.632		19190	17143
4.663		9775	6429
4.68		3375	2058
4.731		3530	2368
4.758		57499	43299
4.798		1401277	1261715
4.896		3276	2349
4.929		63081	55749
5.001		8286	5917
5.04		34814	27550
5.103		68456	55815
5.157		1380	1952
5.219		1148	318
5.24		1328	689
5.289		8876	6816
5.428	DCB	876	387
5.472		830	222
5.495		1325	891
5.58		1344	771
5.694		993	459
5.782		885	680
5.891		663	233
5.919		935	395
6.111		548	164
6.194		893	307
6.26		931	224
6.321		974	405

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR5461824C    AAR546AA    ICAL 1830299999    10227    SW-846 8082  
 Injected On: 10/30/2018 10:51:05 PM    Injection Volume: 1 ul  
 Instrument ID: CP20-17342    Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.024.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.095		25357	35926
2.157		3816	3421
2.2		37464	57893
2.301		41595	51151
2.361		58269	74470
2.4		39783	35311
2.458		1649	938
2.498		48020	46869
2.542		27946	35217
2.576		1208	565
2.594	TCX	47590	43013
2.696		109527	192070
2.751		34314	31114
2.779		28251	17723
2.802		156782	163415
2.868		42755	32006
2.893		27197	27109
2.955		51308	52457
3.018		390091	324768
3.038		87530	50706
3.101		174531	145540
3.134		293846	381896
3.204		16079	11771
3.222		436580	399775
3.256		74165	51338
3.28		44207	40914
3.323		106318	80694
3.337		180809	123576
3.364		799790	925468
3.425		440731	459050
3.459		50866	29305
3.486		8428755	6994989
3.517		2796669	2215887
3.543		134475	75652
3.567		39887	26198
3.605		4687677	3872841
3.632		195011	113320
3.658		491756	339248
3.682		563778	370092
3.704		1318953	935045
3.725		151017	82938
3.776		172634	148757
3.802		344829	250013
3.844		10019940	6554312
3.858		2080510	1051315
3.888		3357519	2664417
3.937		3232850	2573941
3.973		22331370	18089720
4.007		6328774	4998906
4.06		951776	850764
4.091		5903794	4872476
4.141		10460230	7870681
4.172		2731153	2021687
4.197		20756980	16488750

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.236		1042835	610261
4.264		2643409	2361411
4.296		7357086	6442787
4.338		1038279	784205
4.371		15028720	12044480
4.407		1334869	1098580
4.447		8364284	6854263
4.479		5301103	4105264
4.532		8119378	8406059
4.563		1101553	726283
4.589		1306814	1186630
4.621		14387060	11151920
4.645		2465470	1646042
4.673		408131	285000
4.707		479992	368353
4.732		103343	65470
4.766		42065	25857
4.796		4274840	4663844
4.841		38958	22524
4.866		479840	377886
4.895		407448	316349
4.925		35693	19698
4.951		2294849	1831502
4.989		1686036	1627068
5.031		67405	72130
5.073		7746	5902
5.094		4428	2204
5.143		1020	907
5.172		1388153	1133318
5.198		176841	147310
5.268		7262	7686
5.327		2101	1659
5.375		72530	61517
5.419		48798	41423
5.534		77597	68839
5.576		4349	4222
5.742		10278	10197
5.926	DCB	1881	2528
6.066		1657	1506
6.807		1176	1881

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AR5461824C

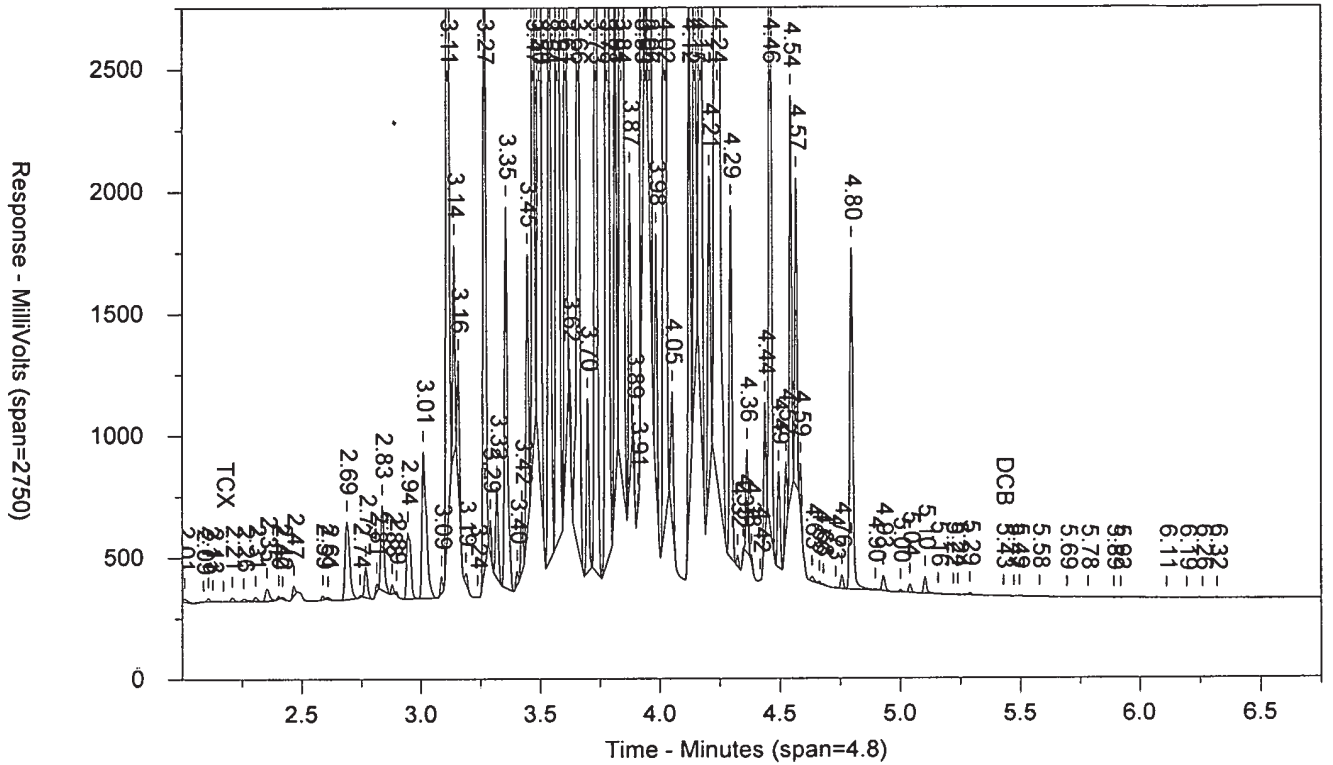
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ICAL 1830299999

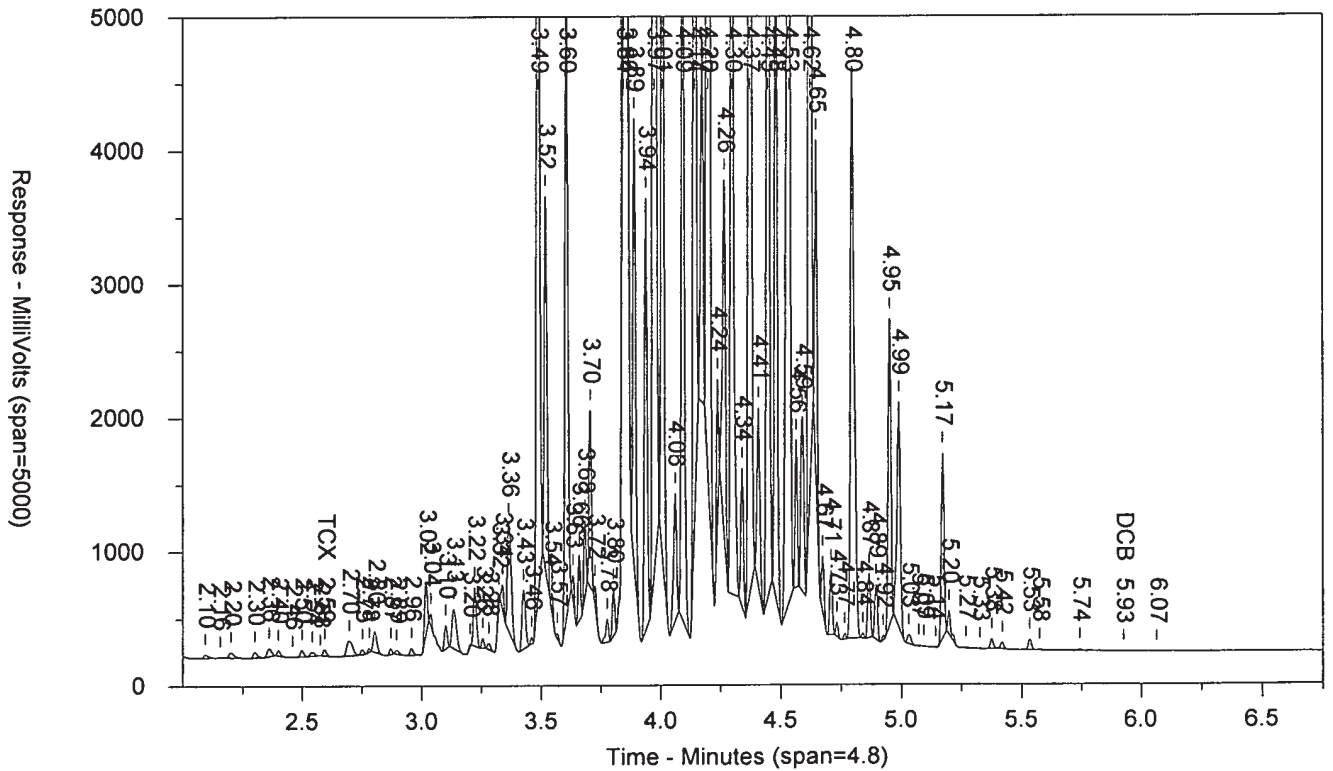
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR5461824C      AAAR546AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 10:51:05 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

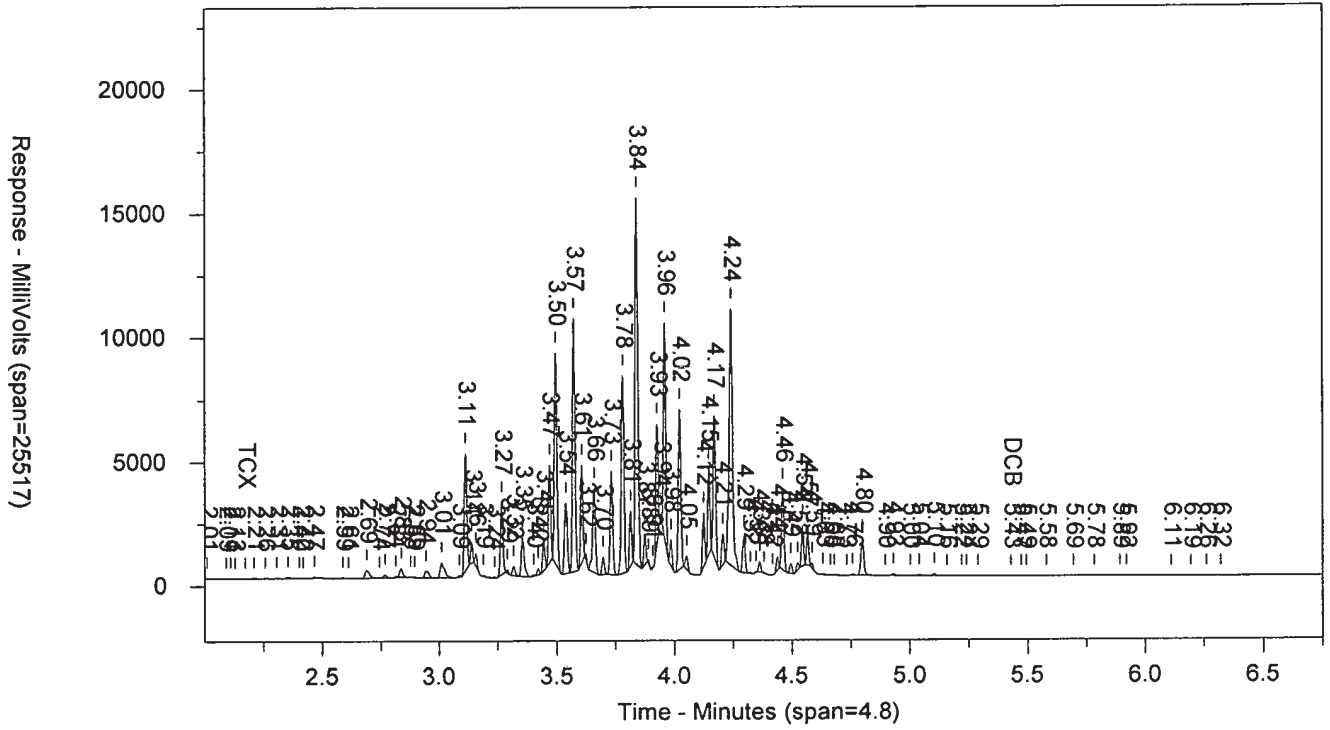
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	47590	.123	TCX
5.428	876	.005	DCB	5.926	1881	.012	DCB

## Files:

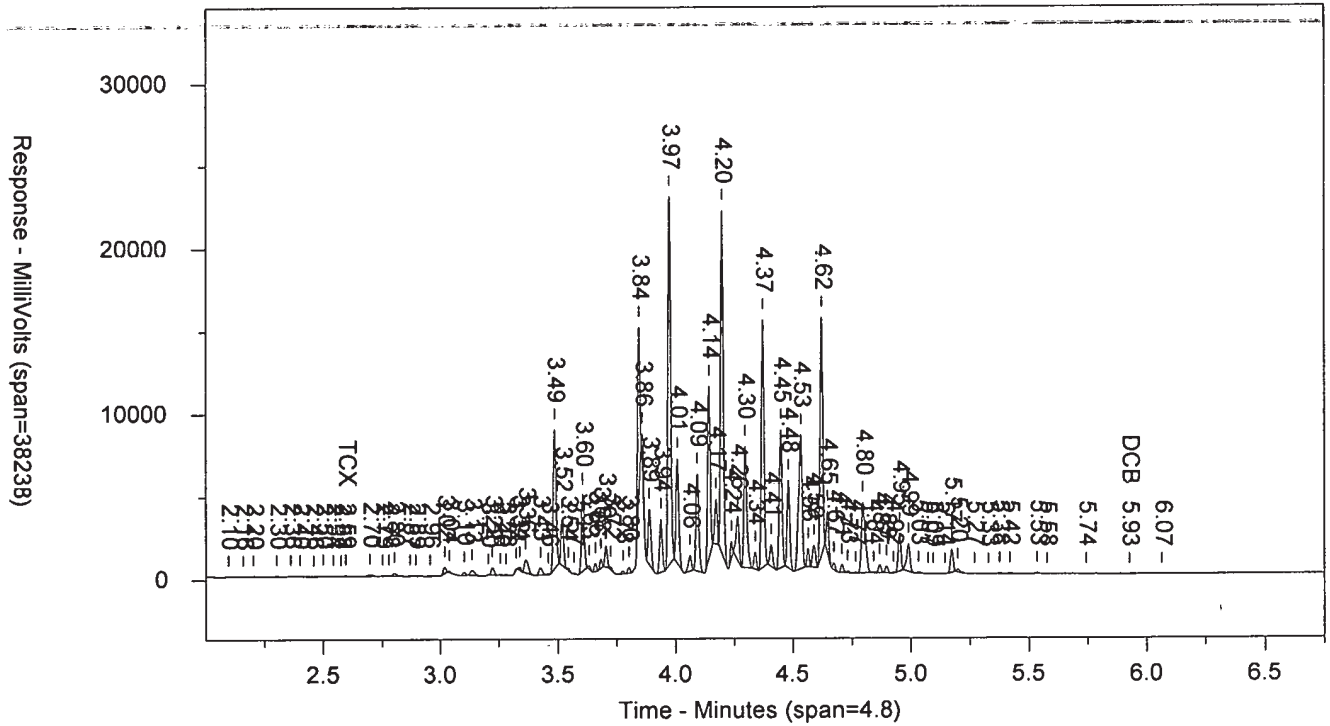
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Area File: 20pcbs18303001B.024.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 10:59:08 PM  
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AR5461824C      AAAR546AA      ICAL 1830299999      10227      SW-846 8082

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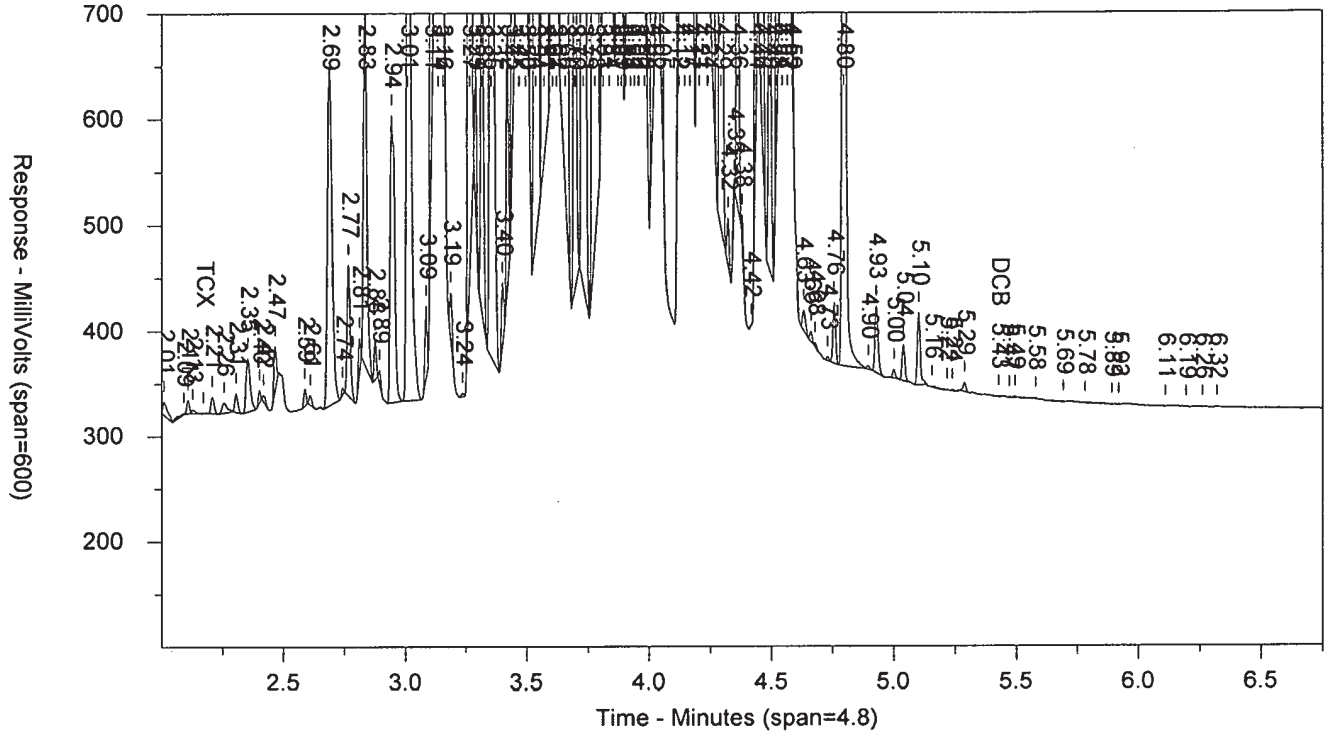


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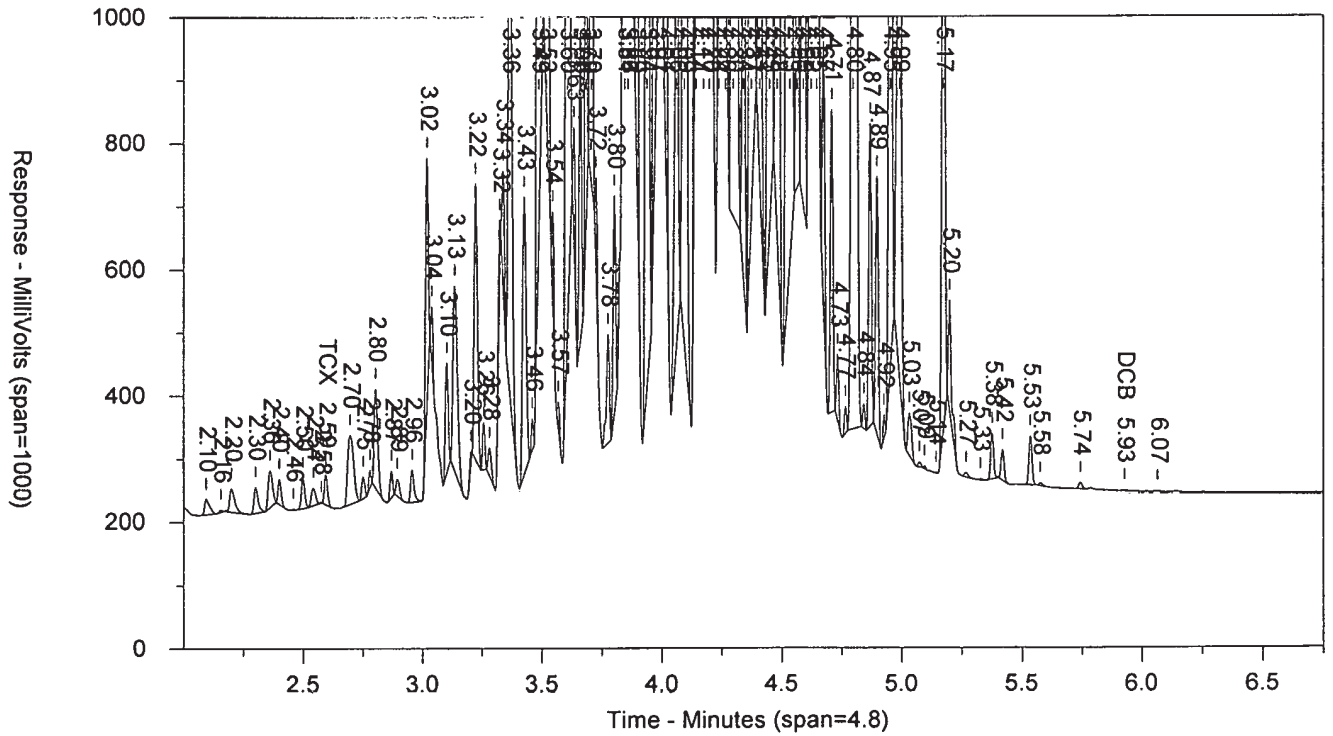


AR5461824C      AAAR546AA      ICAL 1830299999      10227      SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR6241824B      AAAR624AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 11:01:36 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.025.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.009		5442	4519
2.109		8210	13383
2.135		1552	1418
2.174	TCX	545	170
2.208		6833	5656
2.255		1457	1396
2.306		8349	7474
2.352		3974	4312
2.402		8607	10413
2.466		16038	12730
2.496		8460	6954
2.588		9169	11409
2.685		45451	61612
2.745		2433	1931
2.768		13164	11080
2.811		10874	6405
2.832		27464	23364
2.854		3756	1817
2.874		6139	3176
2.893		5906	3370
2.951		65780	88535
3.009		47211	67078
3.086		23253	15728
3.112		73565	54942
3.138		10288	4660
3.156		88293	65138
3.187		19510	17024
3.238		935	409
3.267		57053	44931
3.29		7545	4026
3.317		7903	4412
3.356		65932	61486
3.405		6844	5116
3.423		12515	7015
3.447		68649	58492
3.469		29145	14706
3.494		354650	311482
3.537		37405	31358
3.572		381384	298616
3.606		36424	22399
3.624		18087	9081
3.644		5346	2308
3.66		44333	35651
3.698		8599	4600
3.732		340306	278537
3.765		8061	4443
3.78		62051	41868
3.813		19536	11745
3.844		1448231	1156442
3.874		433265	321990
3.925		1805297	1426489
3.957		55620	31735
3.983		298721	228520
4.021		2085508	1749310

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.123		767897	529574
4.148		1228354	909563
4.169		16246	10277
4.201		683280	592459
4.239		790437	758037
4.262 ✓		2671276	1857714
4.295		1292881	972930
4.362		3797	1718
4.381		547317	418095
4.437 ✓		2589214	2200710
4.493		1128433	932328
4.523		548502	489450
4.566 ✓		4902472	3792983
4.6		46161	26172
4.665		360728	289916
4.73		119990	79624
4.757 ✓		1884809	1510456
4.797 -		3143616	2904843
4.937		153785	135324
4.998		98793	79836
5.039		683281	572425
5.102 ✓		1631474	1463606
5.289		564082	488032
5.451	DCB	13511	12215
5.558		1177	1139
5.744		927	453
5.778		845	374
5.847		821	193
5.907		733	210



## Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR6241824B      AAAR624AA      ICAL 183029999      10227  
Injected On: 10/30/2018 11:01:36 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.025.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.094		12885	14508
2.159		4938	5002
2.198		14458	15968
2.3		20560	23397
2.361		28983	35564
2.399		19655	15719
2.498		22265	22288
2.543		3958	4712
2.572		3114	1835
2.593	TCX	22084	18951
2.689		28660	37681
2.749		8208	7014
2.779		17081	11580
2.802		42749	41548
2.868		21450	16924
2.892		6535	6405
2.955		25400	30108
3.017		62680	48894
3.038		36915	27197
3.072		4420	2523
3.1		15714	12270
3.132		64904	100098
3.205		7318	4848
3.221		29525	24297
3.254		12687	7792
3.283		17792	20762
3.321		47578	31253
3.34		59430	36351
3.361		69878	71014
3.426		82152	87917
3.457		4536	2634
3.486		91747	78334
3.518		203358	199647
3.565		21822	16769
3.604		72903	58117
3.632		16926	12249
3.658		24638	17714
3.682		57426	40891
3.703		16484	10593
3.726		20596	14261
3.773		9772	11063
3.802		69263	51849
3.824		22335	12028
3.843		503341	498866
3.887		61239	47610
3.936		63706	57384
3.971		620353	548716
4.006		71955	57659
4.064		35902	25419
4.088		428304	382779
4.142		80711	57432
4.164		418874	348318
4.196		219689	173367
4.236		1422060	1271690

## Chrom Perfect Chromatogram Report

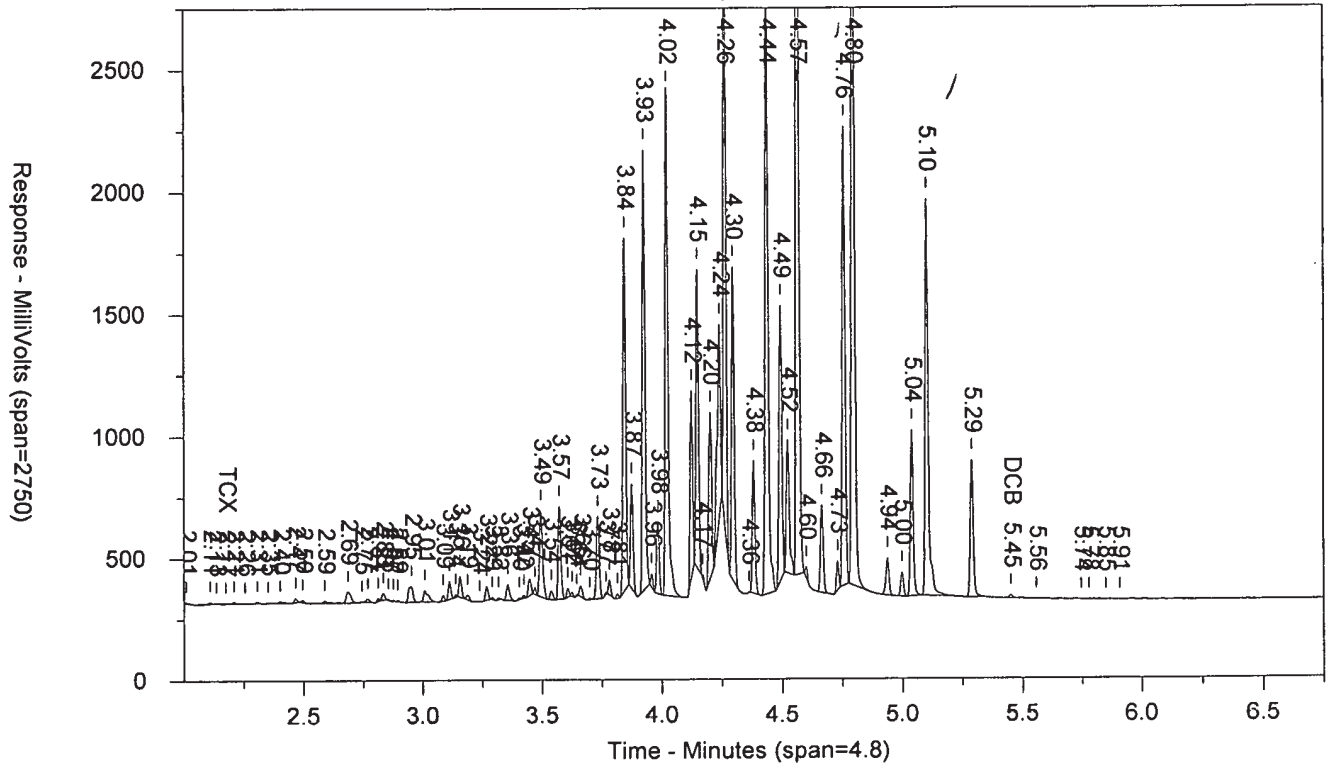
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RT B	Compound B	Height B	Area B
4.265		152099	90093
4.295		2382327	2014288
4.329		98274	68142
4.371		211276	183349
4.407		338603	321511
4.447		2713846	2185442
4.479		471405	357803
4.516		1589853	1922741
4.556		377989	321223
4.592		140659	110463
4.622		2001751	1697028
4.646		76834	39775
4.673		3470048	2760195
4.707		1412293	1117328
4.785		469036	314709
4.809		2685003	2077525
4.84		347306	241893
4.866		1086786	801547
4.893		518158	438297
4.946		431880	483355
4.989		5847873	4957600
5.037		403808	364206
5.124		2596	2827
5.173		3439010	2875130
5.216		1963081	1899353
5.356		137806	113438
5.418		731741	747406
5.534		1728356	1545815
5.577		91742	79572
5.743		553019	581348
5.926	DCB	17405	20992
6.057		2370	3774
6.306		1540	1378
6.635		2072	4220
6.8		2109	2875

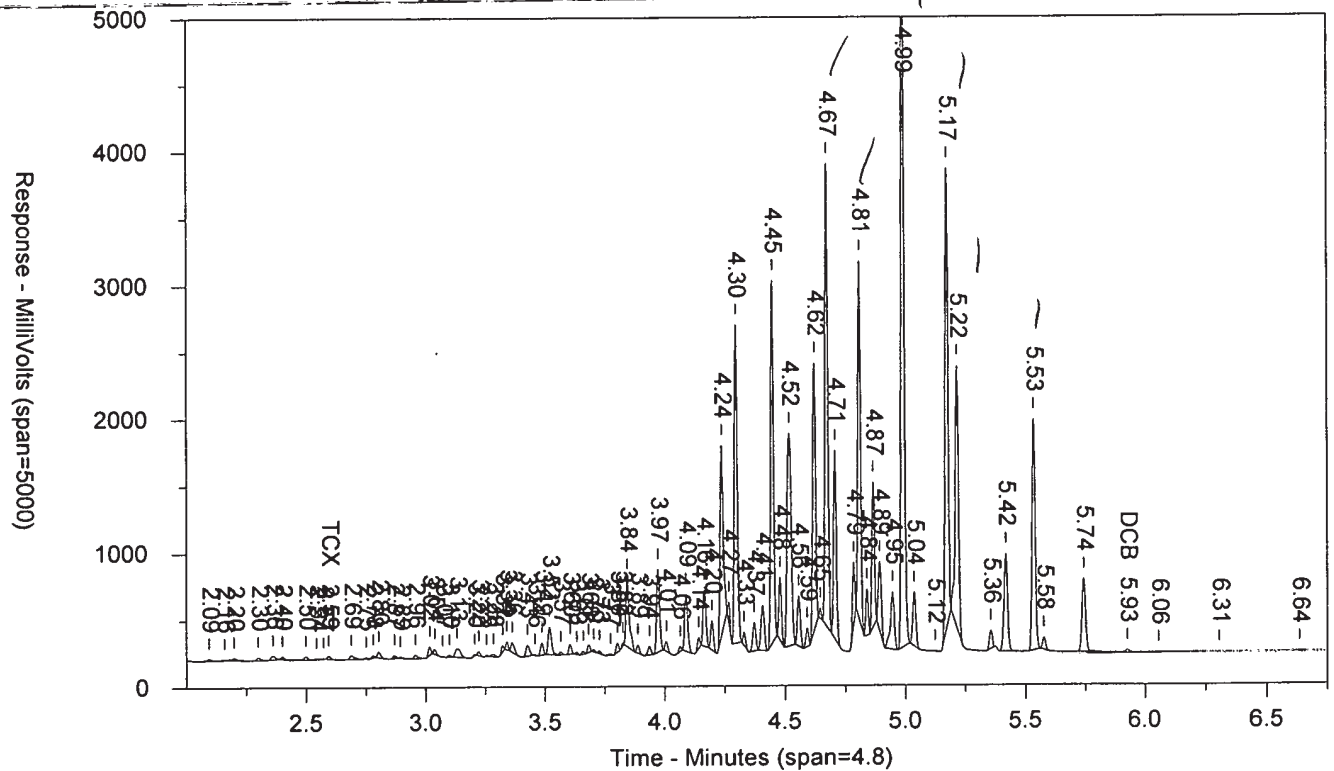
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AR6241824B      AAR624AA      ICAL 1830299999      10227      SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.025.RAW



LANCASTER LABORATORIES

Sample Number: AR6241824B      AAAR624AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:01:36 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.174	545	.003	TCX	2.593	22084	.057	TCX
5.451	13511	.079	DCB	5.926	17405	.112	DCB

Files:  
 Area File: 20pcbs18303001.025.RAW  
 Area File: 20pcbs18303001B.025.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 11:09:39 PM  
 File Reported On: 10/30/2018 at 11:09:49 PM

AR6241824B

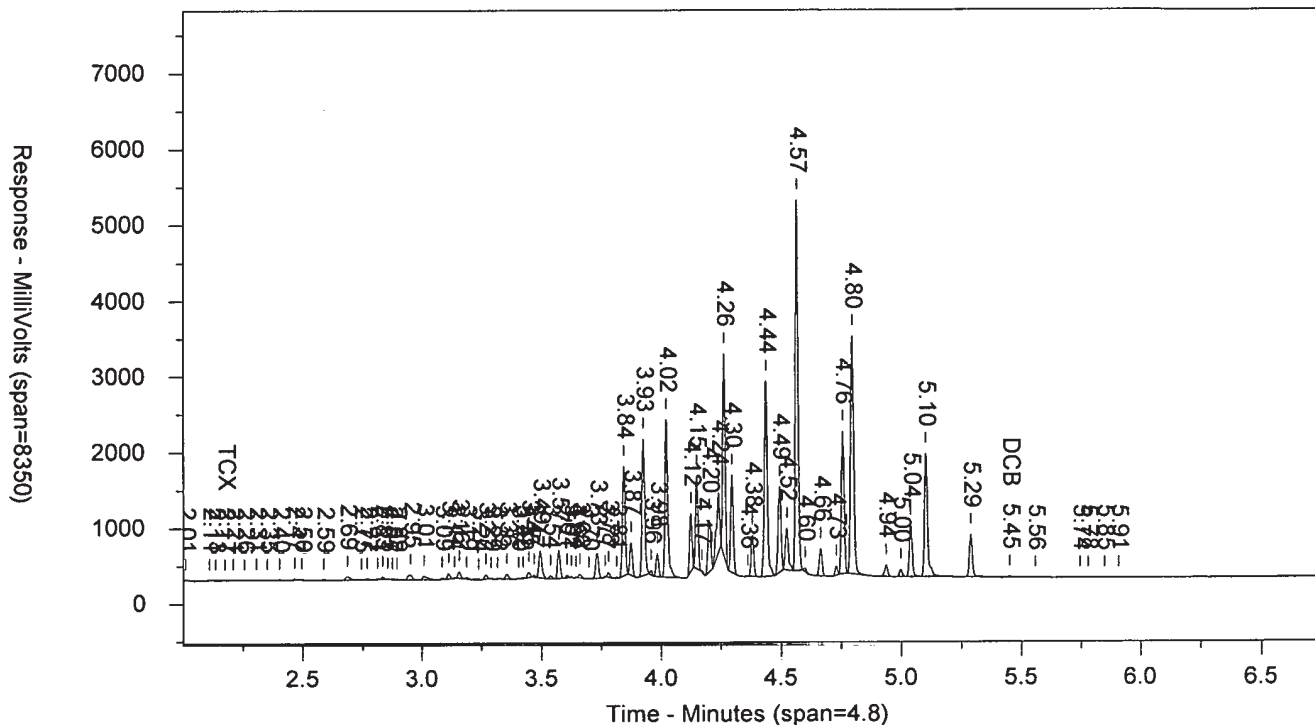
AAAR624AA

ICAL 1830299999

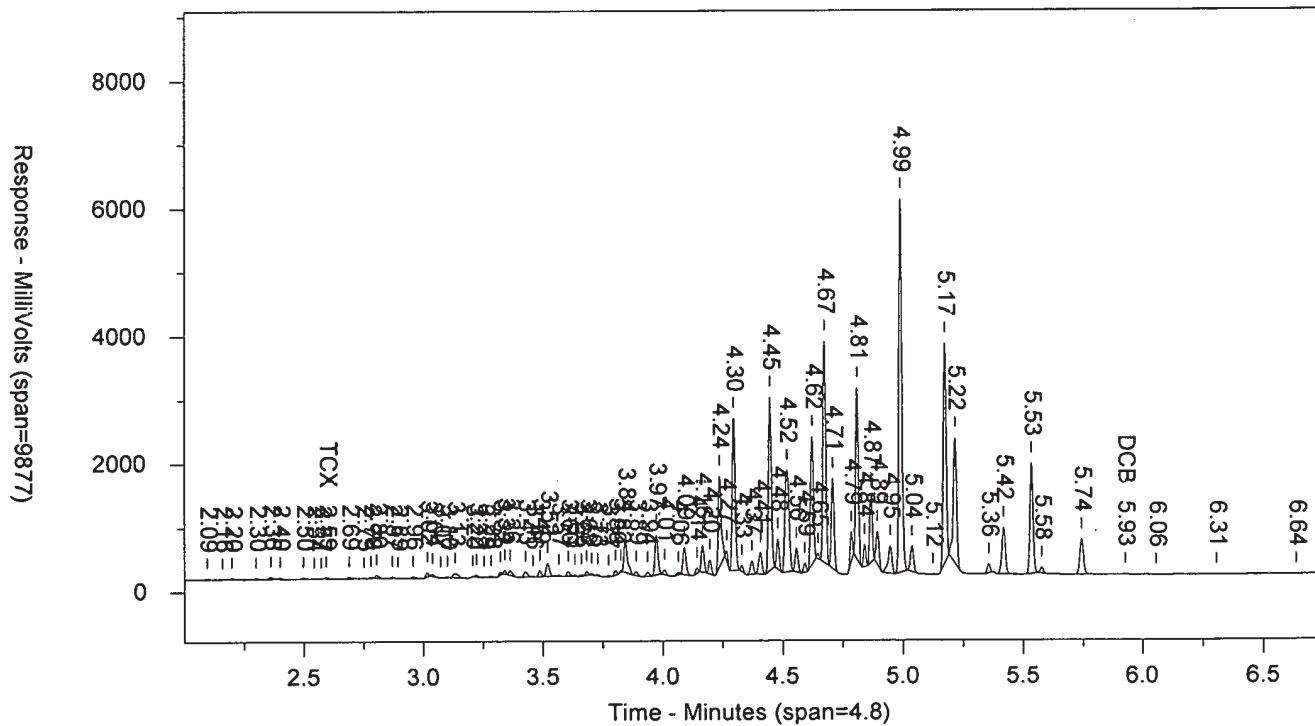
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SW-846 8082

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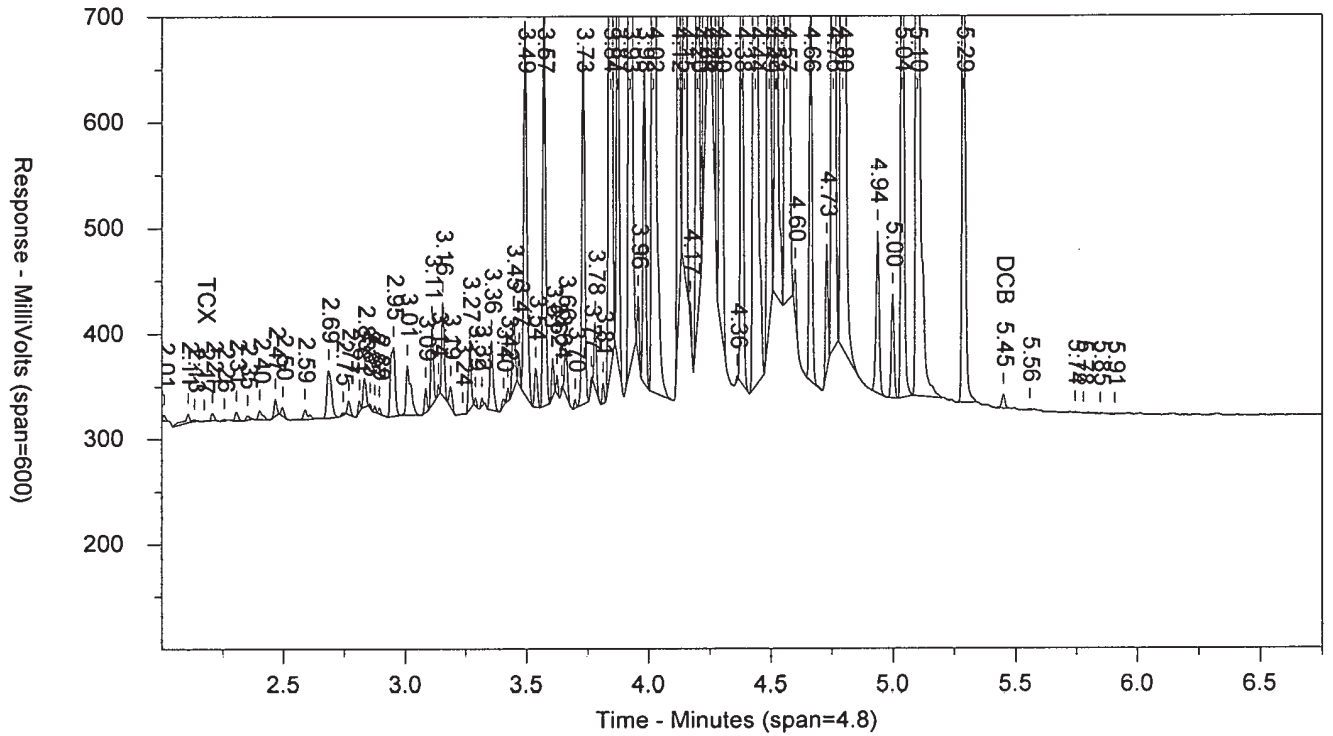
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ICAL 1830299999

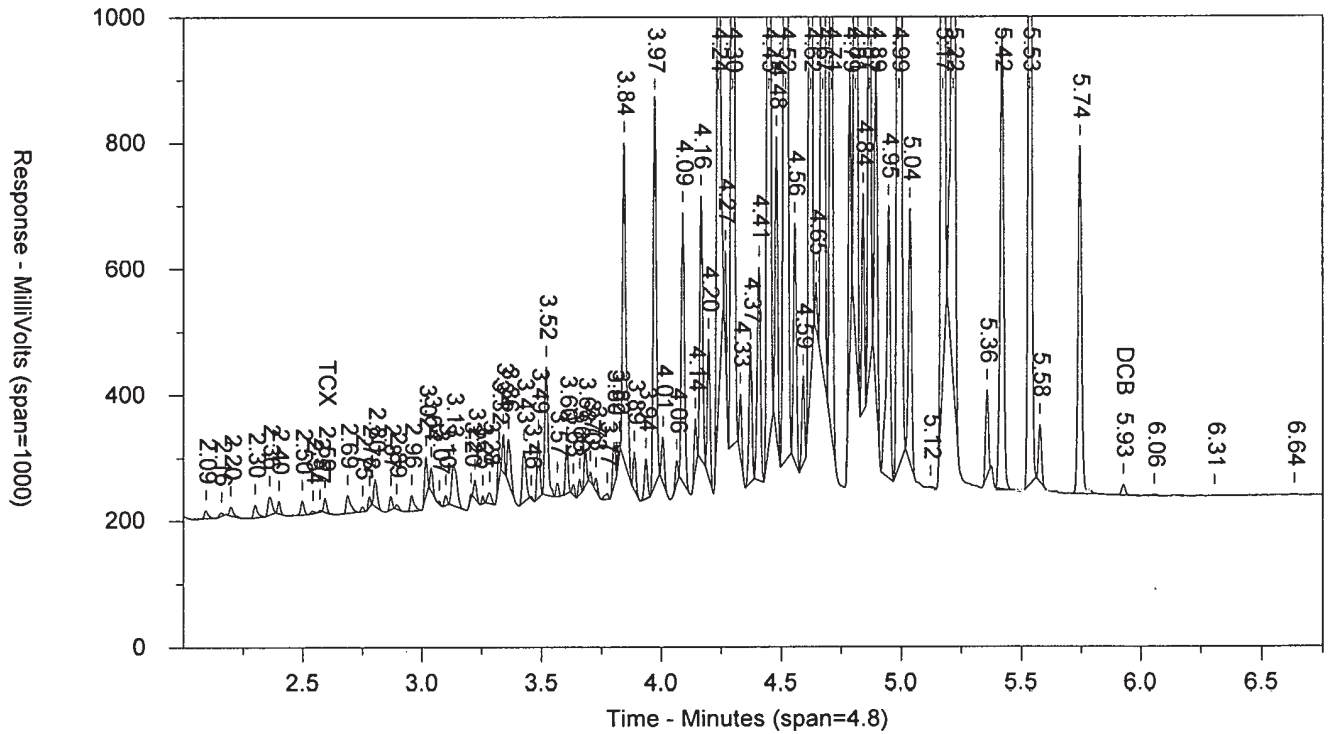
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR6841824B      AAAR684AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:12:07 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.026.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.009		7744	6017
2.084		815	2918
2.109		9269	7212
2.176	TCX	522	356
2.208		12623	13345
2.279		773	437
2.307		14684	14505
2.353		1169	903
2.402		15822	15100
2.467		2231	1558
2.496		16818	14780
2.588		17086	15532
2.681		22870	27586
2.768		19908	20960
2.812		1979	1333
2.833		6281	4698
2.855		14070	12192
2.894		3999	2585
2.942		34864	40725
3.025		27110	41112
3.084		7059	5069
3.111		32800	27566
3.139		6279	2962
3.156		13775	10300
3.189		21980	19693
3.268		33177	27517
3.29		3843	1987
3.317		6753	5925
3.354		35056	36444
3.403		2283	1675
3.424		14736	9798
3.445		45484	34506
3.469		20558	11023
3.497		49722	61001
3.542		4227	3353
3.575		21740	22492
3.608		3081	1790
3.624		19018	11396
3.644		9183	5679
3.659		9947	7430
3.698		2573	1242
3.732		176911	157192
3.765		43247	33380
3.791		4471	2634
3.813		3907	1917
3.844		31990	31719
3.877		8624	5405
3.908		1984	1003
3.927		59893	40494
3.956		11012	5712
3.98		120430	89646
4.018		52593	33672
4.04		200123	154248
4.124		18366	11715

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.148		197795	171715
4.2		80423	66402
4.261		1278082	1055016
4.293		342048	260784
4.38		164053	122387
4.43		1676939	1620599
4.487		510903	429154
4.522		22985	15181
4.537		18612	9905
4.564		834911	655313
4.664		639652	501062
4.729		128944	81248
4.755		6471341	4830910
4.792		5490346	4669661
4.936		4833290	3908234
4.996		1323134	1074014
5.037		317784	256348
5.1		2027172	1741640
5.241		9310	8572
5.287		12966140	11127090
5.422		1062	325
5.448	DCB	2635990	2356124
5.574		5079	4233
5.654		1039	1050
5.716		959	331
5.787		6827	5854
6.022		689	451
6.115		869	301
6.323		1357	1344
6.406		782	937



## LANCASTER LABORATORIES

Sample Number: AR6841824B      AAAR684AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 11:12:07 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.026.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		18729	23081
2.157		4308	4004
2.198		22903	28531
2.3		30350	38181
2.361		23367	27211
2.4		31381	31299
2.462		940	826
2.499		37086	41548
2.594	TCX	41724	51073
2.688		42735	42832
2.753		1833	1361
2.779		39362	31998
2.869		42241	37430
2.9		3558	2950
2.955		42758	48341
3.015		14330	9990
3.04		42703	37041
3.073		1857	1161
3.097		3625	2465
3.126		43154	69020
3.205		39966	53248
3.251		1173	610
3.285		30876	34318
3.322		18330	11461
3.34		18580	10539
3.363		46615	54961
3.437		33570	56528
3.486		27127	20527
3.517		63024	61221
3.566		6687	4569
3.588		4942	3636
3.604		27397	19292
3.632		8676	5556
3.658		23884	19634
3.682		15463	9832
3.703		12498	7675
3.727		30663	30416
3.801		27503	23878
3.824		40007	24043
3.843		30979	17354
3.86		35386	21886
3.886		39726	29005
3.932		19793	22514
3.972		63028	53757
4		26884	23286
4.064		31895	24726
4.088		208582	185350
4.145		59101	47333
4.169		10318	7433
4.194		23460	17575
4.236		32507	23415
4.264		38103	31947
4.295		102127	84277
4.328		166365	137389

## Chrom Perfect Chromatogram Report

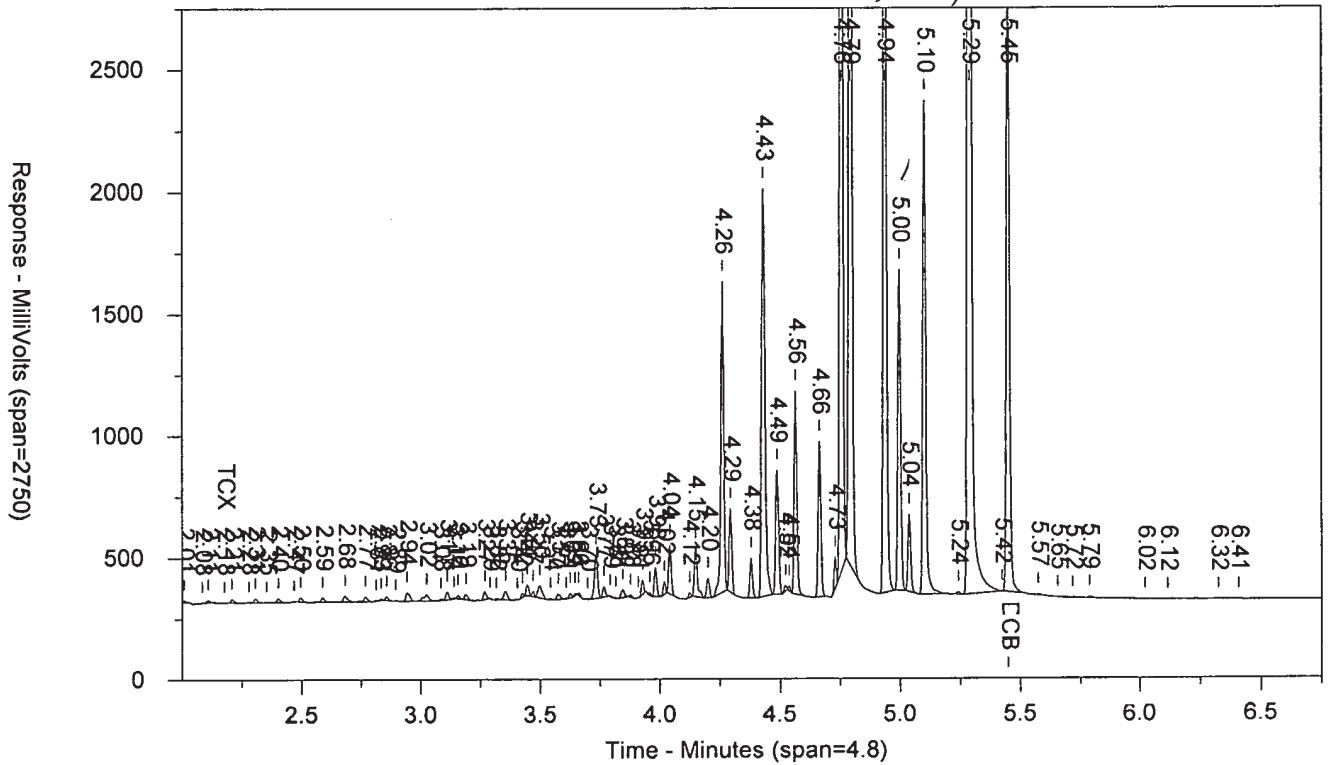
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RT B	Compound B	Height B	Area B
4.372		83356	71773
4.399		267536	225889
4.445		35481	26487
4.479		36616	28784
4.512		238311	248272
4.556		47538	38985
4.596		103244	79787
4.621		72019	50349
4.648		218769	146541
4.671		1491529	1199188
4.706		156090	119272
4.784		141070	98847
4.808		528094	399410
4.839		1802099	1468667
4.864		28114	11650
4.886		536807	454999
4.924		230193	247910
4.987		790109	693612
5.036		678810	616390
5.106		4000	3890
5.171 -		7419711	6403799
5.216 -		6352492	5553198
5.354 -		5300241	4560934
5.407 -		1416025	1482790
5.532 -		2123035	1930676
5.574 ✓		14438	10003
5.647		9329	11065
✓ 5.74		13501900	13100200
5.923	DCB	2390294	2830355
6.061		6553	8290
6.299		6459	7679
6.799		1894	3205

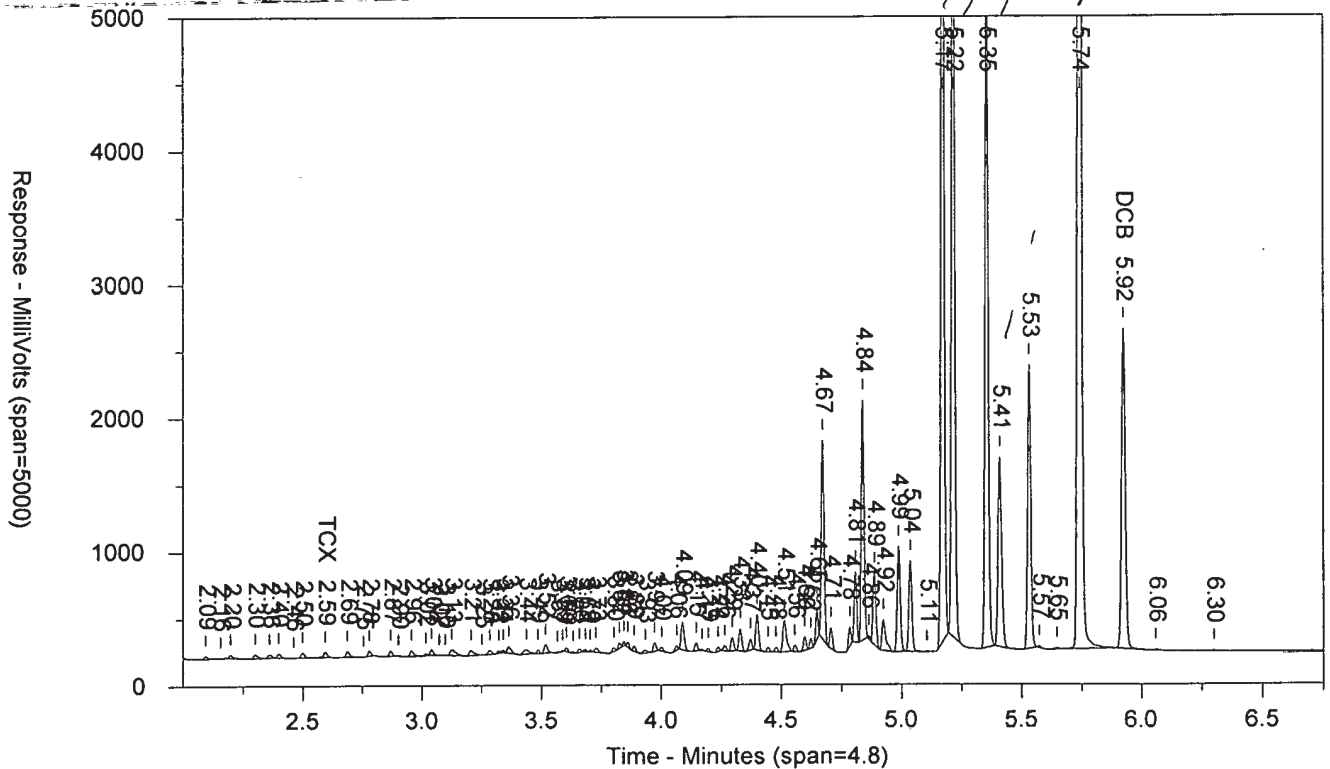
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AR6841824B      AAR684AA      ICAL 1830299999      10227      SW-846 8082

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR6841824B      AAAR684AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 11:12:07 PM      Sample Weight: 1  
Instrument ID: CP20-17342      Dilution Factor: 1  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

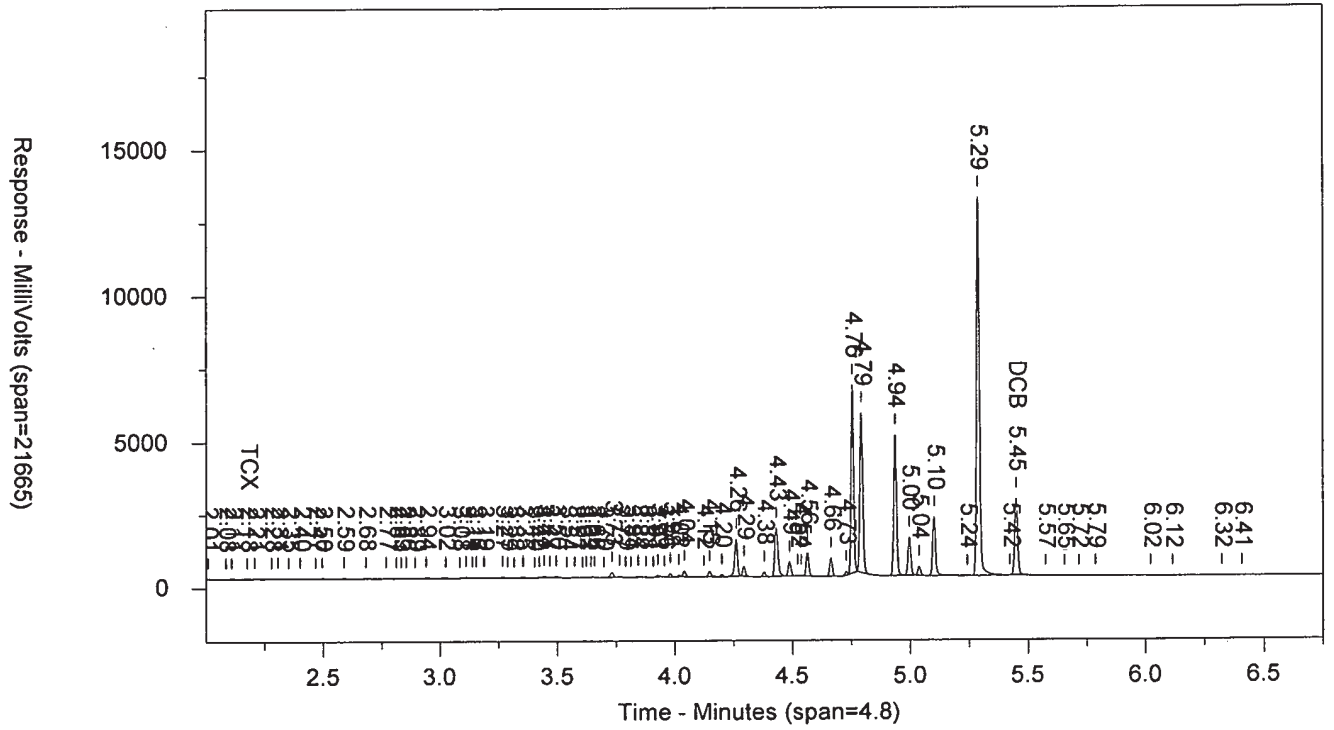
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.176	522	.003	TCX	2.594	41724	.108	TCX
5.448	2635990	15.363	DCB	5.923	2390294	15.443	DCB

Files:

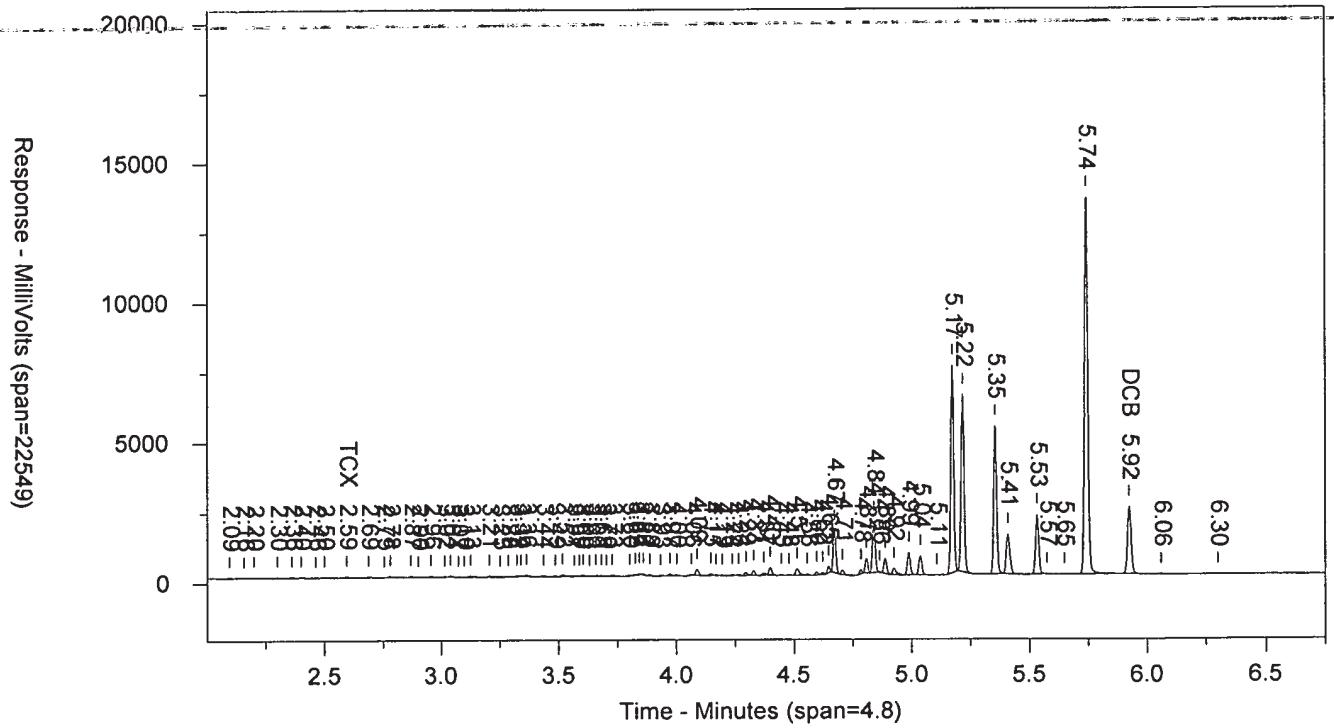
Area File: 20pcbs18303001.026.RAW  
Area File: 20pcbs18303001B.026.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 11:20:11 PM  
File Reported On: 10/30/2018 at 11:20:26 PM

AR6841824B      AAAR684AA      ICAL 1830299999      10227      SW-846 8082

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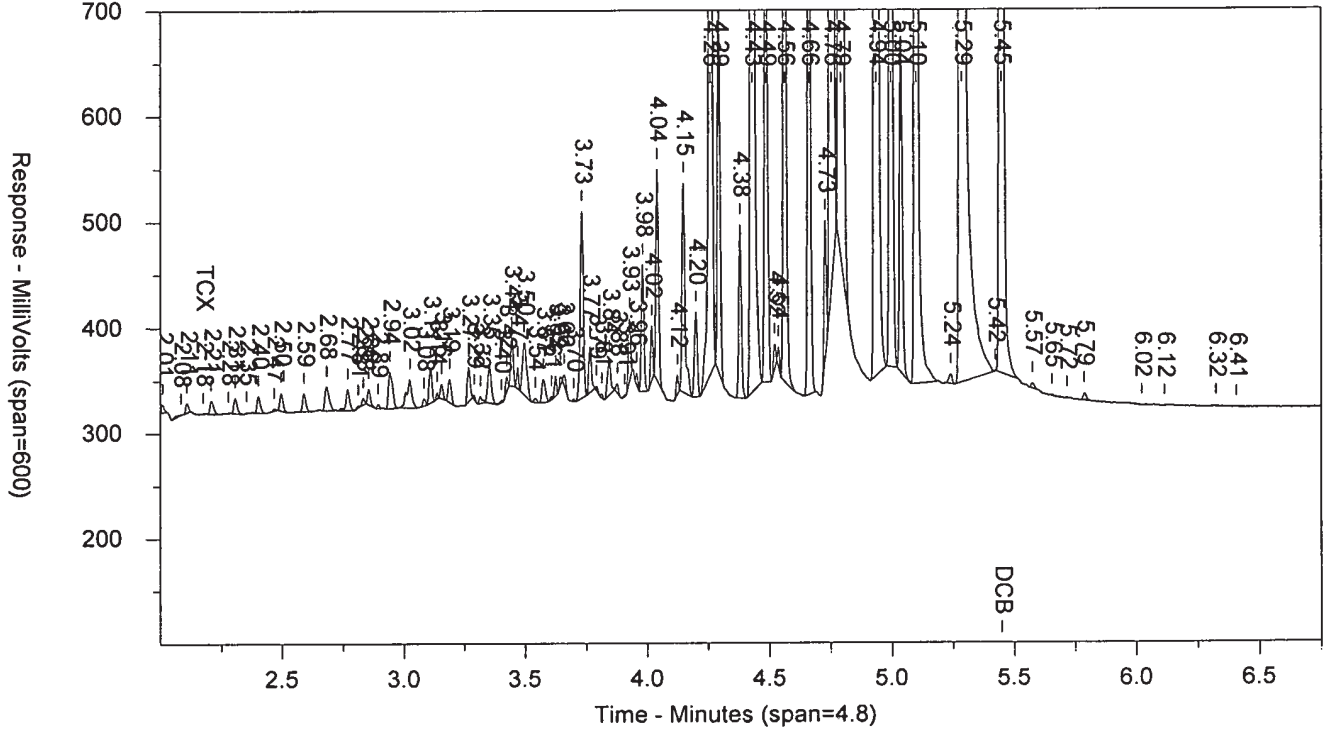


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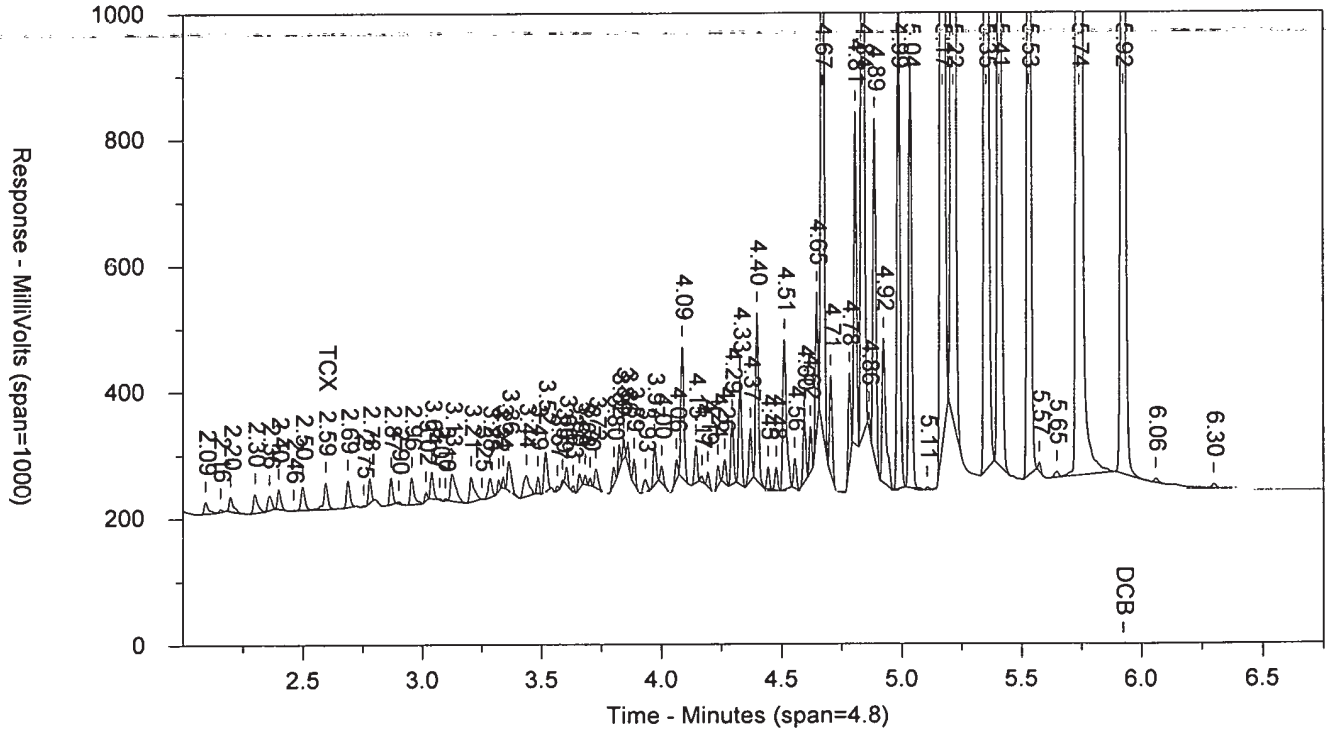


AR6841824B    AAAR684AA    ICAL 1830299999    10227    SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR2141824E      AAAR214AA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/30/2018 11:22:35 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.027.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.009		8670	10980
2.108		12559	16254
2.139		97574	115641
2.208		10788	9093
2.253		125747	177503
2.306		12128	10175
2.349		473180	489105
2.418		316674	300197
2.466		995082	1130064
2.587		10761	7038
2.607		8714	5646
2.638		4647	4668
2.686		189352	267158
2.753		176903	176098
2.811		34511	21103
2.829		62774	43065
2.854		7070	4307
2.875		27101	15387
2.893		25565	15473
2.952		208780	260911
3.008		120756	135705
3.086		76706	51236
3.111		45179	32606
3.138		17998	9931
3.156		16110	11185
3.191		13383	12980
3.24		1127	471
3.266		49400	38666
3.29		11097	6332
3.316		6226	2986
3.33		15821	8202
3.354		39696	31971
3.395		982	379
3.424		16175	12559
3.444		13441	7605
3.469		33487	22296
3.498		44826	39638
3.542		4369	3811
3.575		17371	17614
3.605		2687	1147
3.623		13489	7821
3.645		17245	20392
3.68		854	289
3.723		12996	14421
3.762		896	646
3.793		9491	9918
3.837		8138	5653
3.863		8444	7461
3.894		2575	2423
3.93		9298	9519
3.955		3856	3185
3.999		7036	5762
4.065		5826	5103
4.132		1893	1413

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.149		1490	1296
4.197		4365	3647
4.259		2984	2438
4.323		2858	2655
4.385		4072	3712
4.449		2393	2366
4.514		1238	1202
4.538		959	404
4.567		673	251
4.615		994	355
4.69		1110	821
4.793		966	1101
4.837		1608	1619
4.926		2169	2610
4.984		1602	1696
5.039		1023	601
5.062		1359	440
5.095		1115	616
5.155		1016	644
5.238		694	214
5.274		3692	4329
5.378		923	608
5.436	DCB	613	359
5.482		848	150
5.491		830	385
5.692		791	290
5.776		892	447
5.853		676	541
6.09		600	464
6.136		571	338
6.461		714	186
6.477		757	349



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR2141824E      AAAR214AA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:22:35 PM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.027.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.095		17294	20700
2.158		5836	5512
2.198		597120	960402
2.3		29014	30767
2.362		45936	57139
2.4		26974	20784
2.429		11994	12020
2.475		235387	331084
2.538		344149	449010
2.594	TCX	29646	23763
2.702	-	751866	1098189
2.748	-	608160	621067
2.803	✓	2156590	2463006
2.867		27364	19248
2.891		20837	18245
2.955		35056	40257
3.016		176111	138521
3.038		75874	43607
3.054		34759	16409
3.072		72498	50031
3.097		9274	5116
3.132		449105	553129
3.205		17567	11782
3.218		5830	3079
3.254		55037	38162
3.277		51480	49540
3.322		144791	96093
3.341		175232	105758
3.361		156900	119577
3.428		141079	160265
3.486		62456	49911
3.516		81647	70767
3.543		17025	11969
3.603		66709	69467
3.632		17396	11962
3.657		28458	21043
3.68		14752	9328
3.712		50079	90725
3.771		2653	1453
3.797		15747	18122
3.858		56731	66548
3.885		45787	34203
3.931		15767	18912
3.97		37900	28322
4		30691	32647
4.057		9431	10376
4.089		4644	3347
4.125		2104	2731
4.138		7469	4835
4.194		18361	25423
4.242		3311	3007
4.26		3060	2353
4.296		9168	11988
4.368		13897	17115

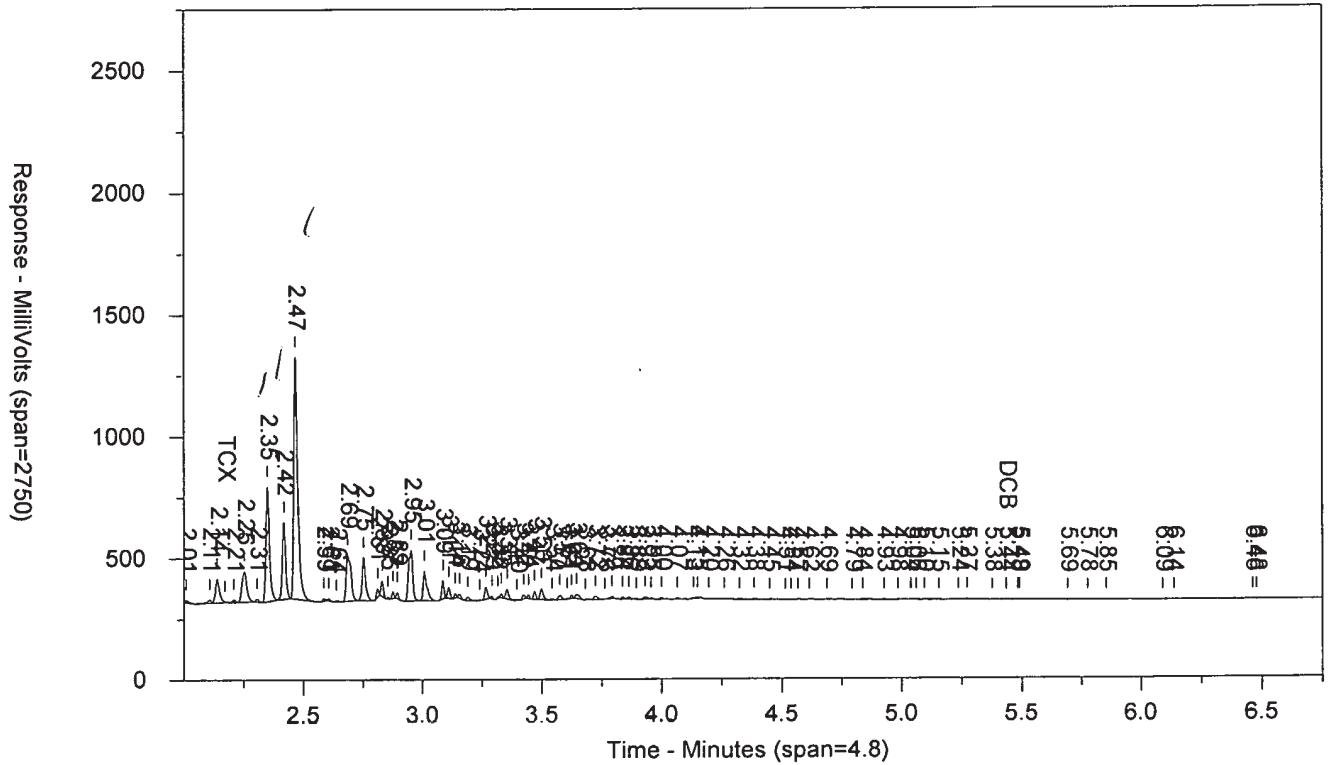
Chrom Perfect Chromatogram Report

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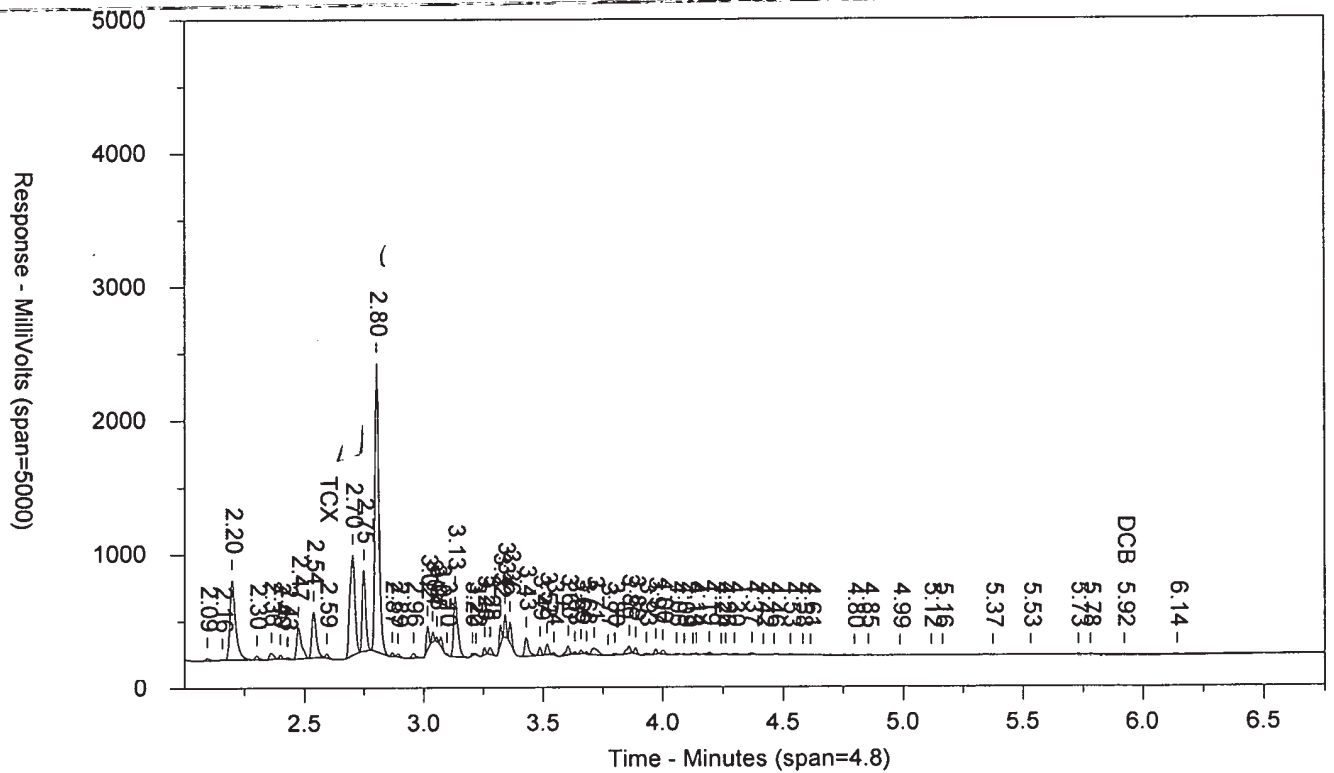
RT B	Compound B	Height B	Area B
4.417		1927	1651
4.463		2473	1801
4.531		7182	7607
4.581		4877	5017
4.614		2727	2112
4.796		1615	3172
4.854		4302	4096
4.986		1083	581
5.118		2302	2393
5.165		1237	1094
5.375		2129	2532
5.532		1237	3926
5.73		1824	2009
5.782		2200	2320
5.922	DCB	2077	2717
6.143		1118	1129

AR2141824E      AAAR214AA      ICAL 1830299999      10227      SW-846 808z

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.027.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.027.RAW



LANCASTER LABORATORIES

Sample Number: AR2141824E      AAAR214AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:22:35 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

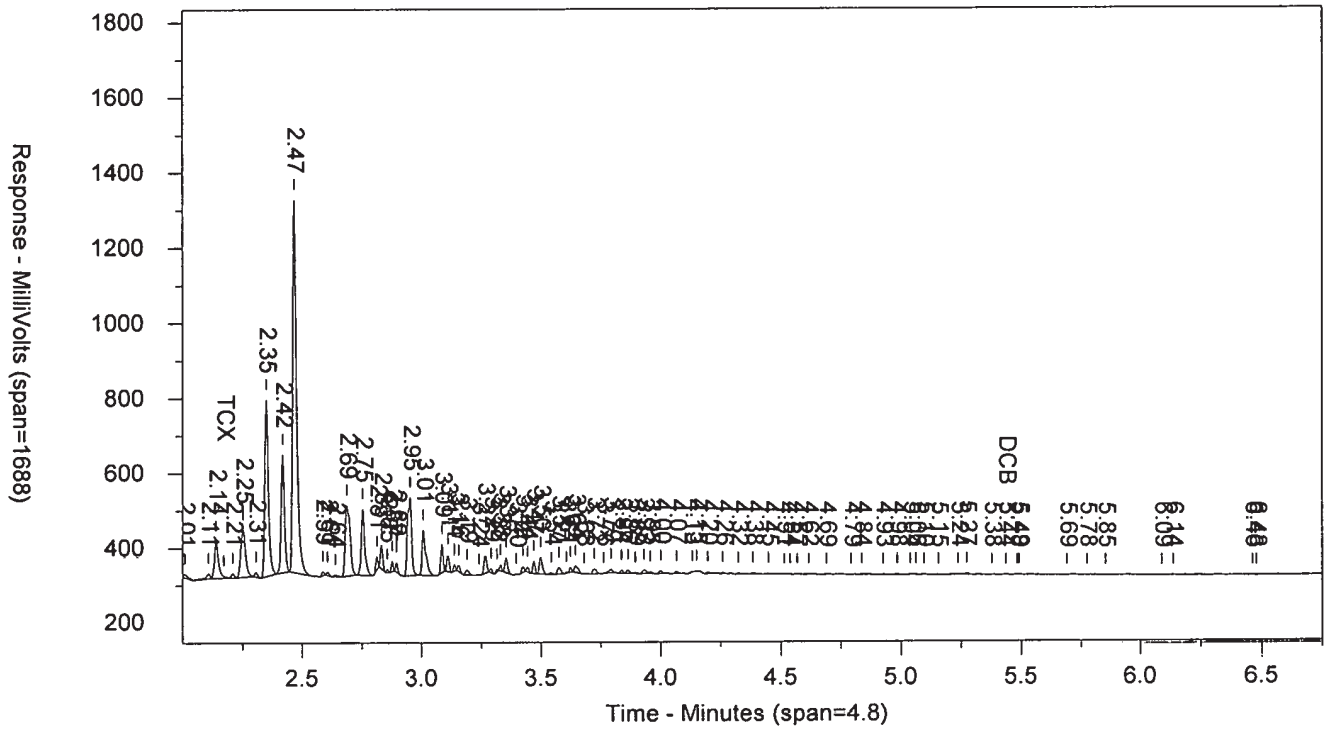
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	29646	.077	TCX
5.436	613	.004	DCB	5.922	2077	.013	DCB

Files:

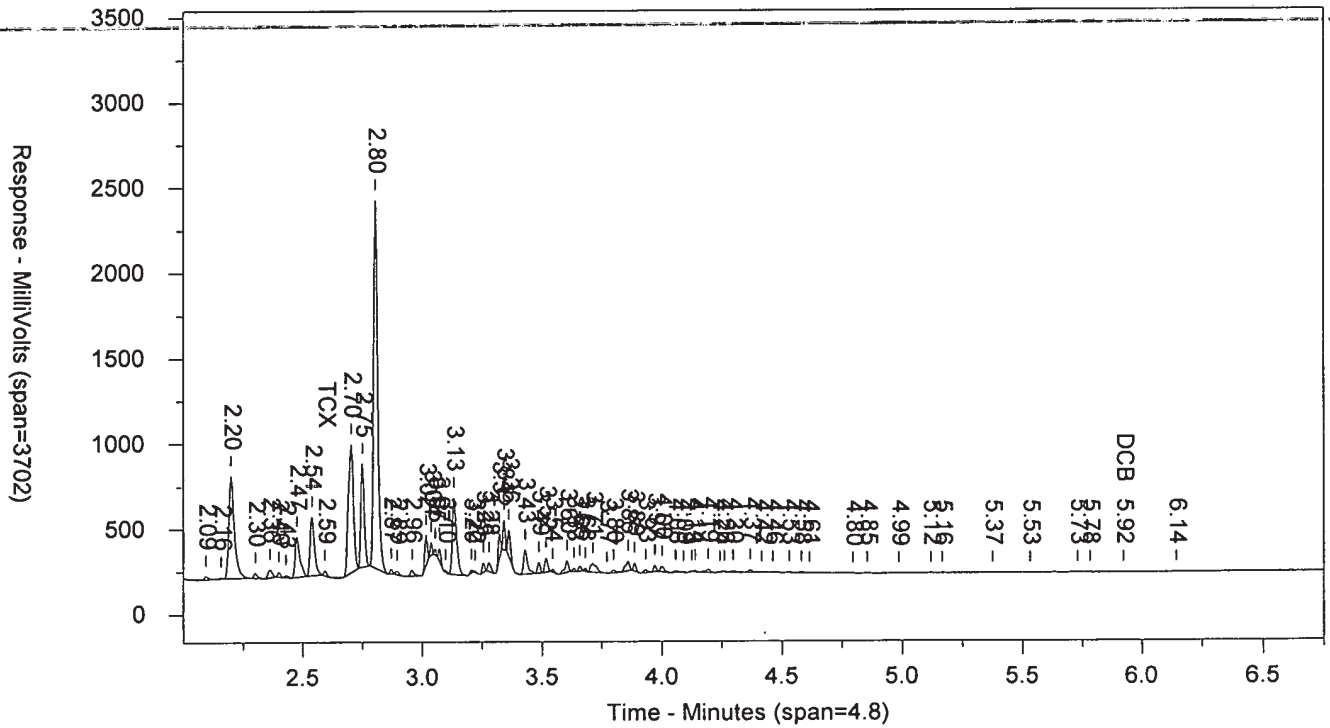
Area File: 20pcbs18303001.027.RAW  
 Area File: 20pcbs18303001B.027.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 11:30:36 PM  
 File Reported On: 10/30/2018 at 11:30:45 PM

AR2141824E AAAR214AA ICAL 1830299999 10227 SW-846 8082

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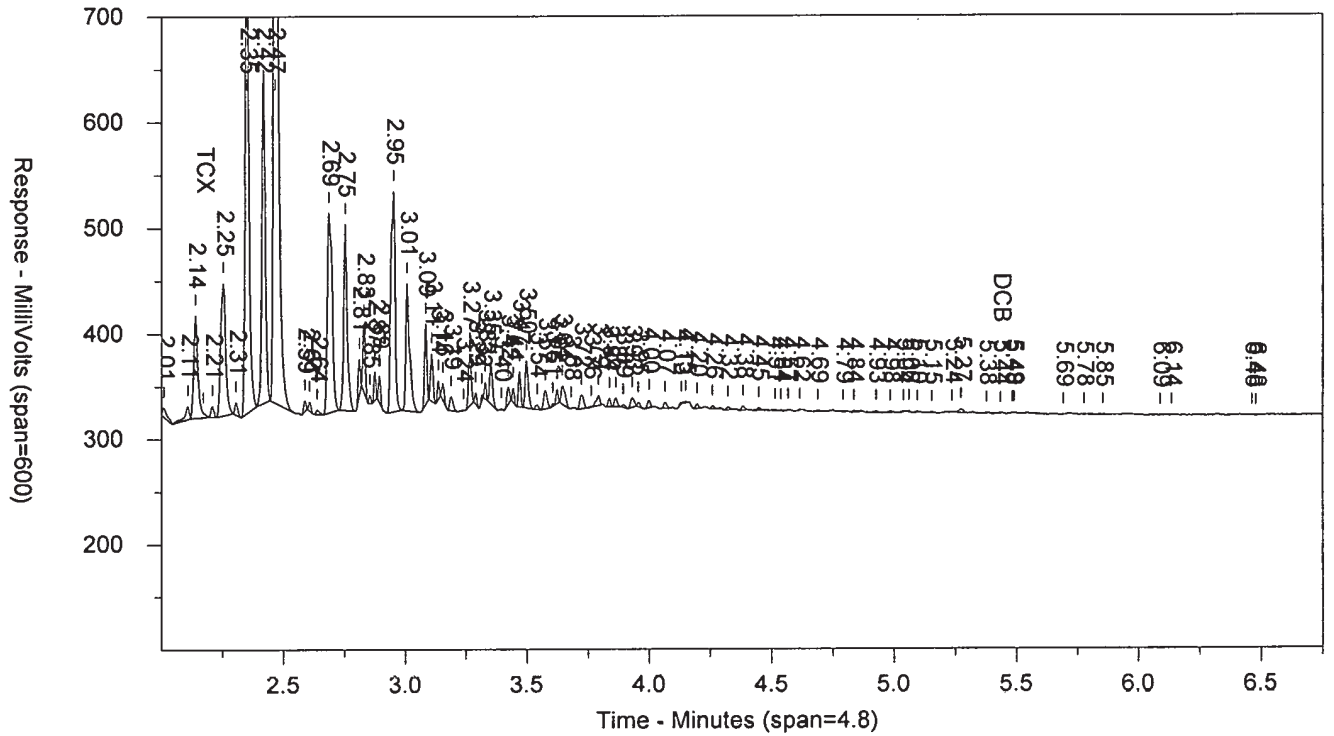


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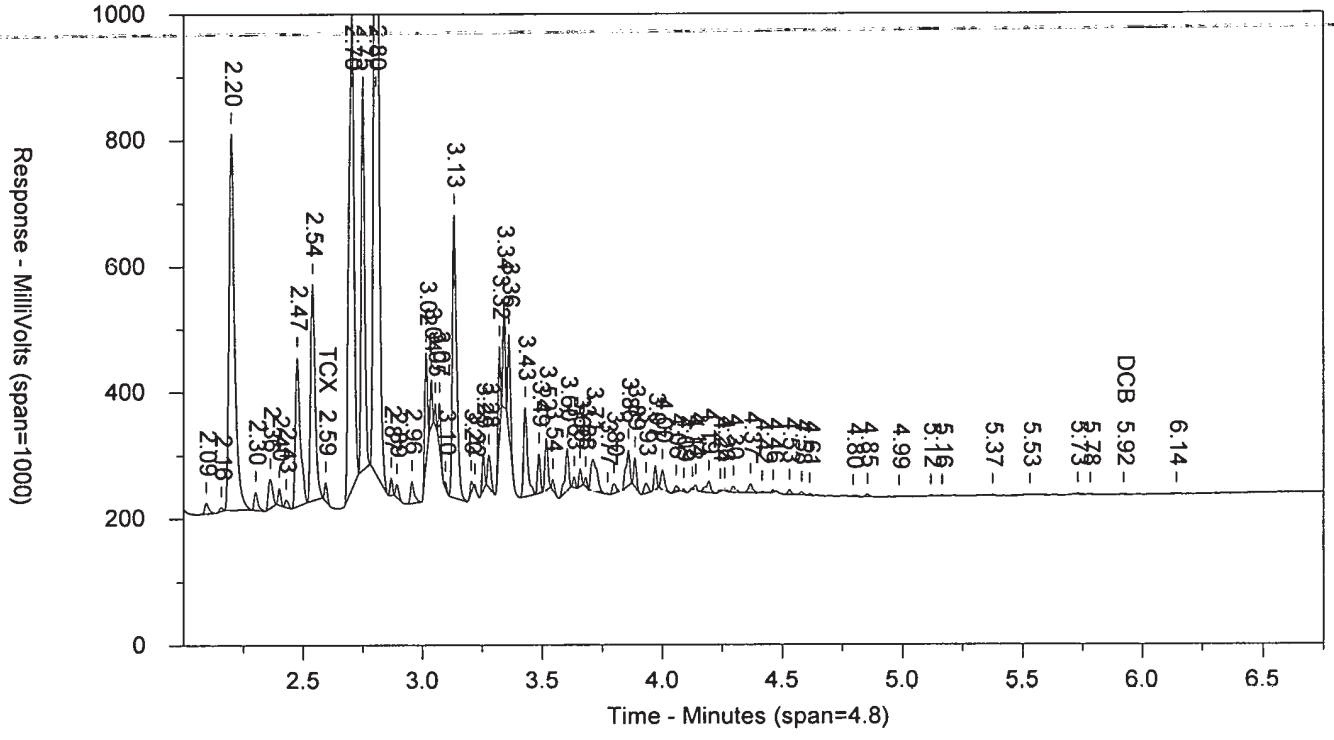


AR2141824E      AAR214AA      ICAL 1830299999      10227      SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR3241824D    AAAR324AA    ICAL 183029999    10227    SW-846 8082  
 Injected On: 10/30/2018 11:33:02 PM    Injection Volume: 1 ul  
 Instrument ID: CP20-17342    Analyst: 9065  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.028.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		7145	9651
2.071		921	1369
2.107		8464	8686
2.139		57025	73781
2.209		8280	6988
2.253		98970	135267
2.306		9253	7537
2.35		316193	347790
2.417		228638	220141
2.466 ✓		800806	922990
2.588		5765	2842
2.608		48459	39334
2.685		630551	829536
2.752		145580	186049
2.811 ✓		179833	110789
2.829 ✓		270356	189951
2.875 ✓		135793	84830
2.893		72886	42631
2.952 ✓		1100678	1400900
3.008 ✓		638969	583076
3.086		405152	284042
3.111 ✓		416213	302850
3.138		218808	121595
3.155		178090	122918
3.189		7365	5135
3.234		2842	2006
3.266 ✓		529201	392467
3.29		171522	109713
3.316		95335	54032
3.329		74091	37894
3.354		448633	345227
3.4		1421	495
3.421		156988	104569
3.444		273468	178628
3.47		490739	339929
3.497		559321	420226
3.539		47577	39050
3.571		134040	110804
3.606		46788	26342
3.623		232228	141769
3.642		171011	98354
3.657		16613	7720
3.696		12189	7577
3.731		77778	63708
3.78		114536	89213
3.812		63998	41591
3.837		161636	121982
3.879		35253	29580
3.926		17410	9922
3.94		24952	11494
3.957		88141	53417
3.981		1766	734
3.998		3110	1545
4.02		23093	16661

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.05		12882	14108
4.123		9247	6608
4.145		11125	6507
4.166		92011	66488
4.201		6561	6143
4.238		23784	21348
4.26		8285	5420
4.293		8490	6315
4.324		2626	2167
4.381		3600	3485
4.435		8700	5806
4.456		5578	3331
4.492		4962	3441
4.52		3185	2546
4.541		3083	1879
4.563		20936	17025
4.613		1097	702
4.752		3777	3170
4.793		13909	11560
4.837		1007	340
4.986		963	515
5.034		2525	1604
5.096		5093	5001
5.209		1257	1068
5.272		1914	2397
5.308		828	154
5.378		904	206
5.432	DCB	805	551
5.573		486	216
5.657		703	750
5.683		840	558
5.895		737	445
5.943		725	259

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## LANCASTER LABORATORIES

Sample Number: AR3241824D    AAAR324AA    ICAL 1830299999    10227  
Injected On: 10/30/2018 11:33:02 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.028.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.095		11708	14468
2.158		3230	2866
2.198		364600	601567
2.3		19521	21404
2.362		79575	111278
2.399		16607	11908
2.43		6356	5375
2.474		140603	200406
2.538		271952	361023
2.594	TCX	23332	19564
2.702		525601	788107
2.748		448720	459765
2.802		1736983	2009441
2.868		17261	10768
2.891		110017	110920
2.955		29594	31451
3.016		831046	632824
3.037		306465	206568
3.072		112193	78149
3.098		43183	29370
3.132		838568	1270368
3.22		66283	81033
3.255		236884	175166
3.276		124967	91037
3.322		841797	536108
3.34		964604	577358
3.36		678529	496757
3.428		788974	758173
3.457		50719	30840
3.486		605996	519250
3.517		707449	560622
3.544		197467	152235
3.604		680294	543968
3.632		238371	173808
3.657		206649	140429
3.68		142158	88577
3.705		493102	726476
3.774		42495	30841
3.8		17911	12119
3.822		23007	13938
3.858		766633	947118
3.886		700044	548628
3.933		65746	60984
3.97		617422	519724
4.002		375955	323352
4.059		26950	24711
4.09		106379	90632
4.139		135660	106067
4.171		77032	54436
4.195		213125	168312
4.236		9172	5872
4.263		81879	94563
4.294		31903	28042
4.338		20202	15328

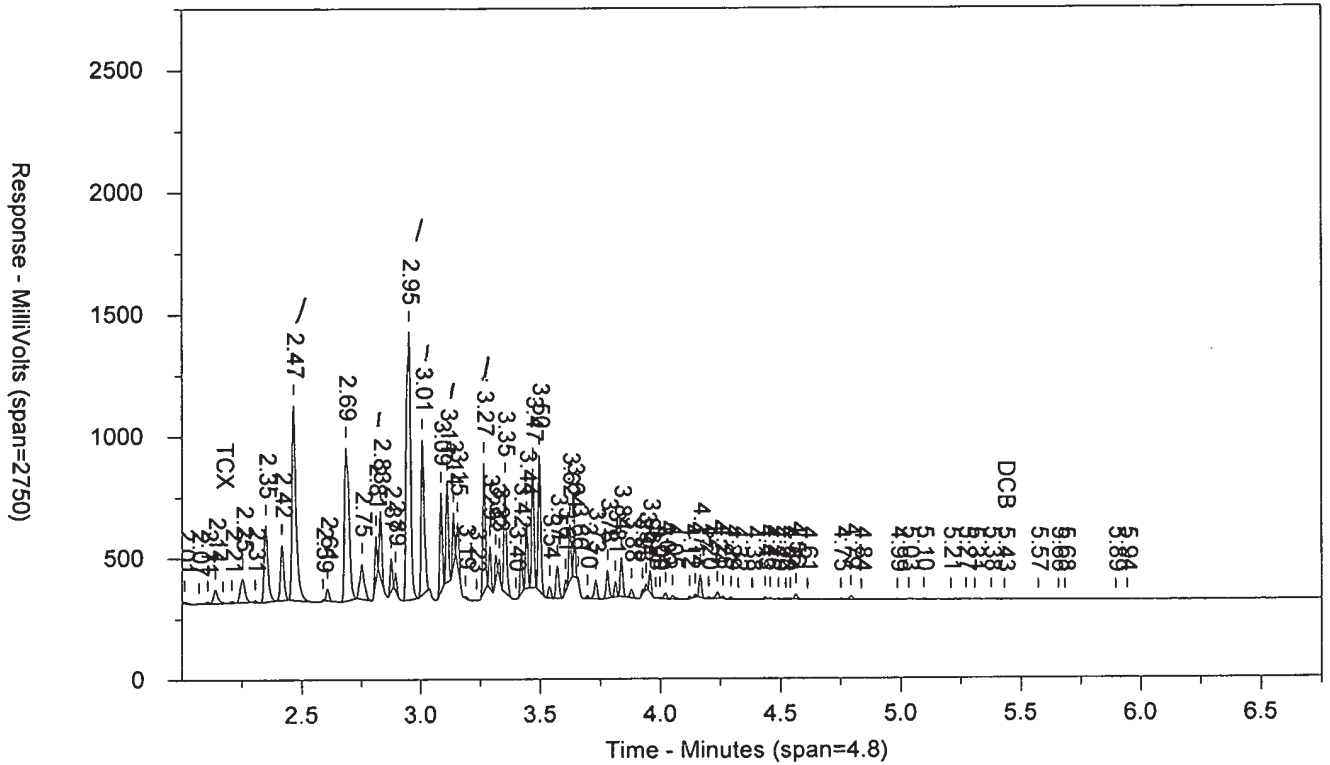
Chrom Perfect Chromatogram Report

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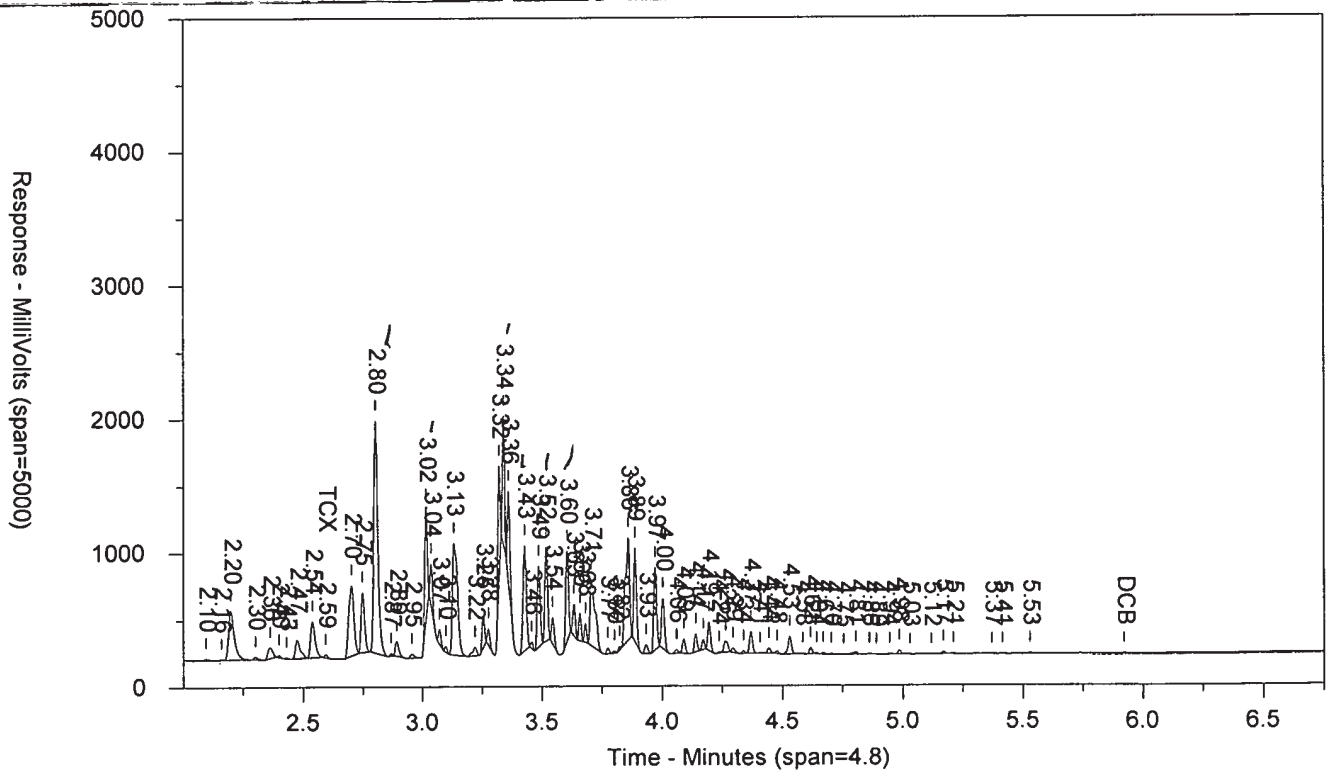
RT B	Compound B	Height B	Area B
4.368		163390	137583
4.405		2273	987
4.443		38945	34036
4.477		18636	13885
4.53		131520	127063
4.583		6042	5789
4.618		45291	36302
4.643		6371	4375
4.67		13863	10041
4.704		8239	7062
4.754		1492	1901
4.805		17499	24298
4.862		7985	7156
4.89		4066	3036
4.945		6392	5485
4.985		28380	25187
5.03		1071	1043
5.118		1691	1361
5.168		17198	14260
5.211		5800	6709
5.371		1420	1389
5.413		2338	2041
5.529		6877	12362

AR3241824D AAAR324AA ICAL 1830299999 10227 SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.028.RAW



LANCASTER LABORATORIES

Sample Number: AR3241824D      AAAR324AA      ICAL 183029999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:33:02 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	23332	.06	TCX
5.432	805	.005	DCB		0		DCB

Files:  
 Area File: 20pcbs18303001.028.RAW  
 Area File: 20pcbs18303001B.028.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/30/2018 11:41:03 PM  
 File Reported On: 10/30/2018 at 11:41:12 PM

AR3241824D

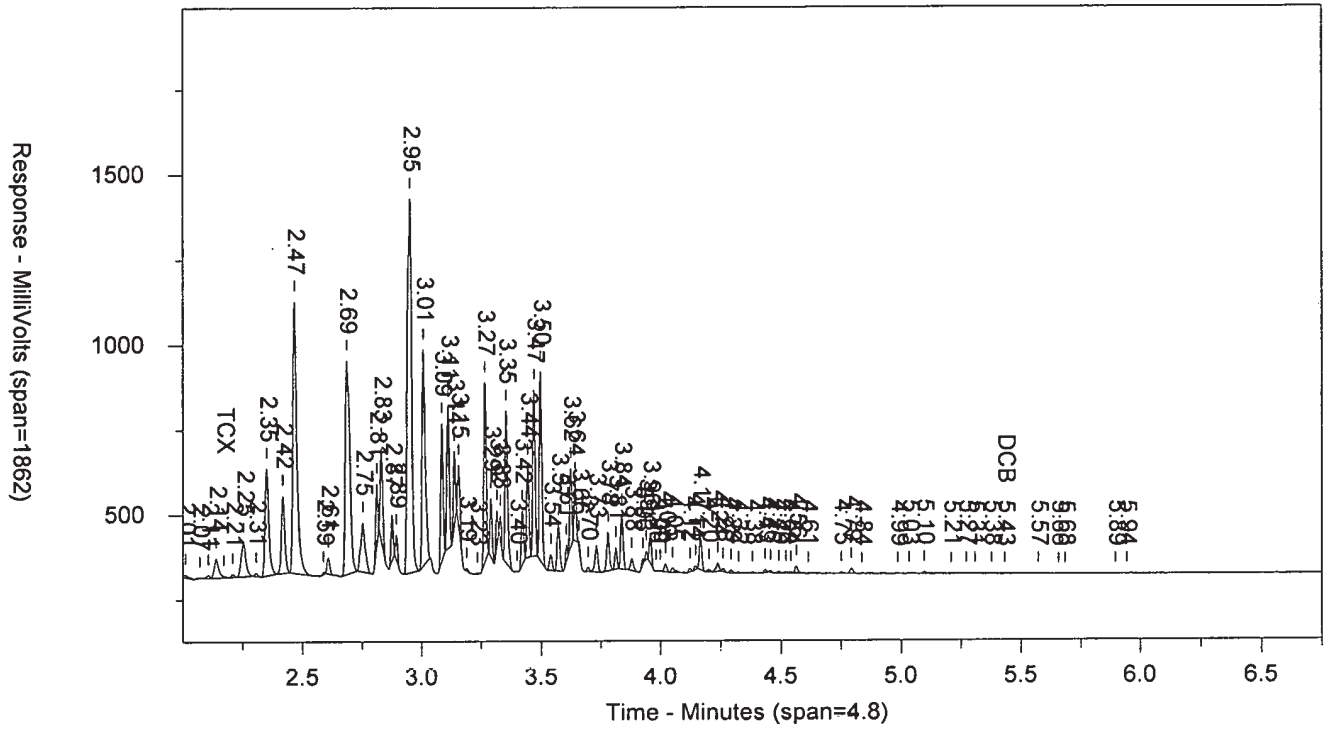
AAAR324AA

ICAL 1830299999

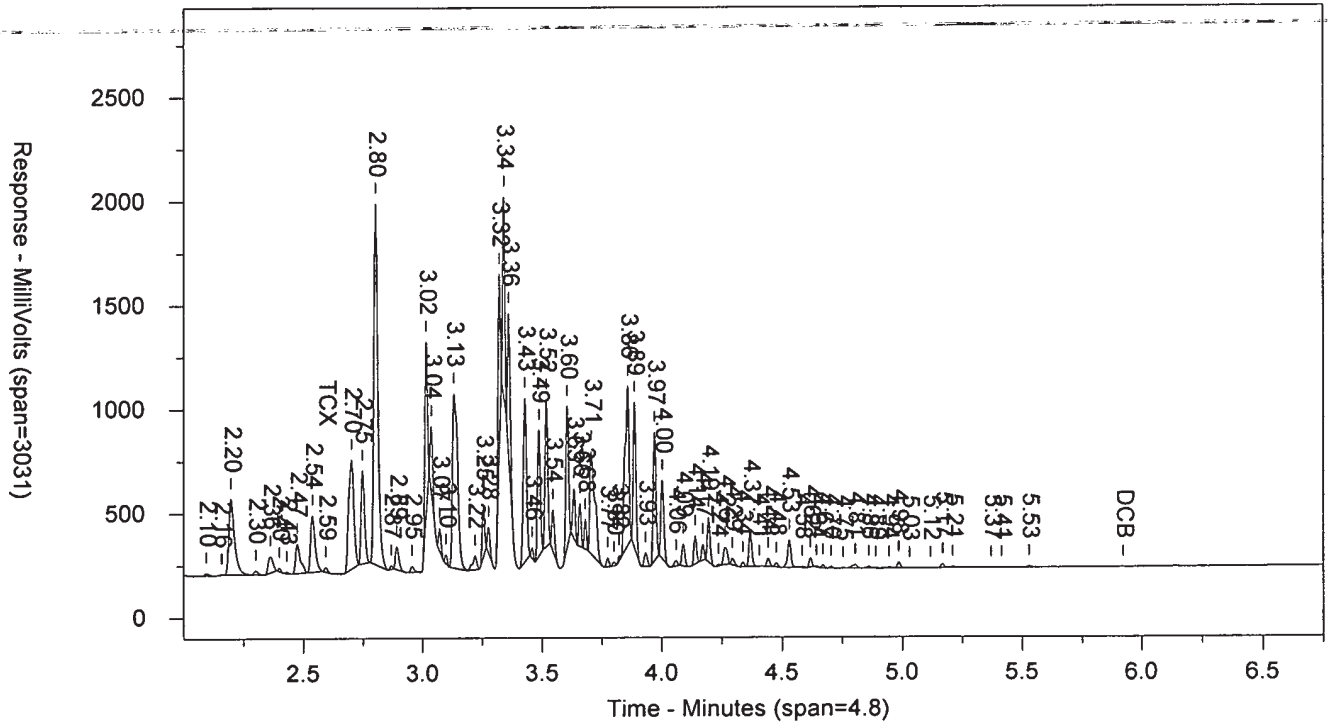
10227

SW-846 8082

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AR3241824D

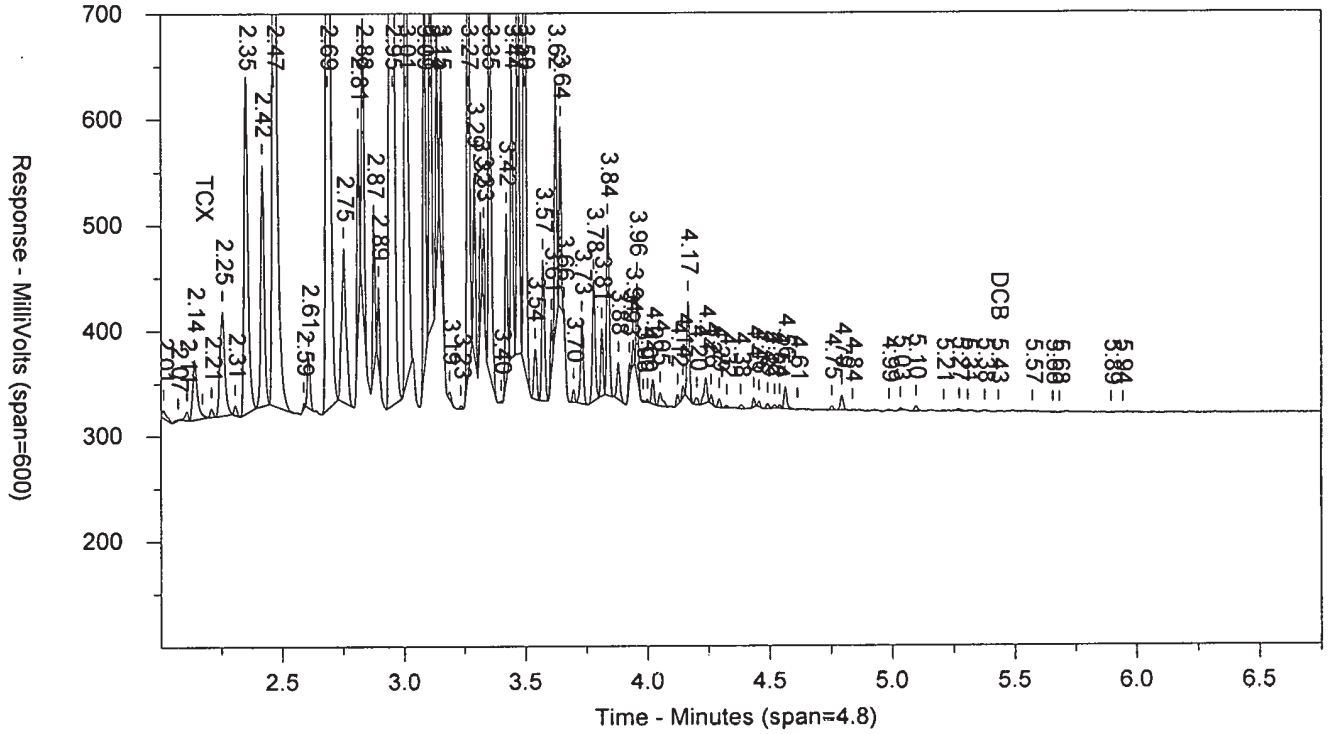
AAAR324AA

ICAL 1830299999

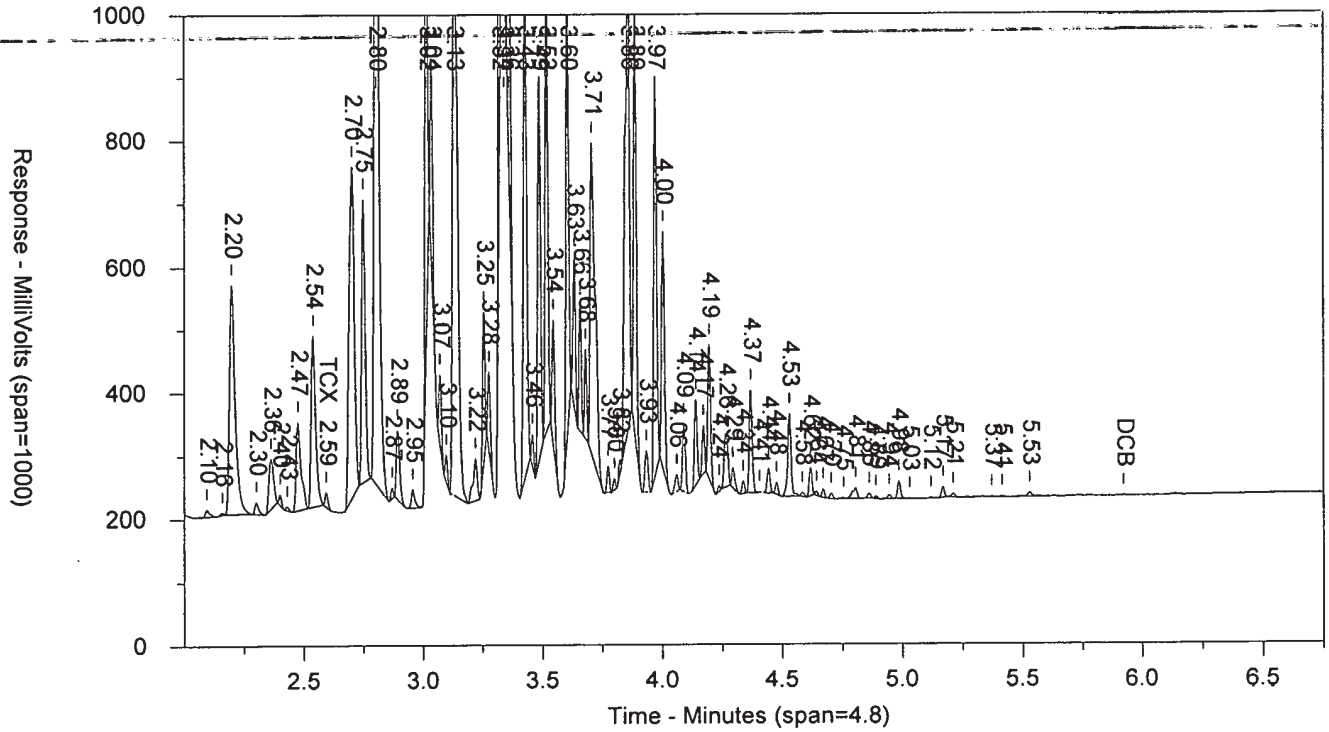
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SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: AR4241824E    AAAR424AA    ICAL 183029999    10227    SW-846 8082  
Injected On: 10/30/2018 11:43:33 PM    Injection Volume: 1 ul  
Instrument ID: CP20-17342    Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.029.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		8853	13365
2.089		1691	5512
2.109		8477	6476
2.134		6018	8949
2.209		10241	8843
2.255		64349	81336
2.307		10703	8954
2.351		163811	187597
2.418		136802	130727
2.466		615738	675789
2.59		4733	2934
2.608		92322	76426
2.685		1041811	1366482
2.743		111776	201263
2.811		321148	193481
2.83		470139	328260
2.875		227225	143971
2.893		113791	67266
2.952		1956603	2444203
3.008		1118130	1004850
3.038		18354	9968
3.086		714475	480763
3.112		819952	588745
3.130		411325	228897
3.155		354818	248949
3.188		6867	5114
3.236		5943	4123
3.266		1006203	742475
3.291		329661	210067
3.316		201462	113081
3.329		109743	54359
3.354		860688	680170
3.4		4590	2057
3.422		290533	196661
3.445		547390	352863
3.47		944403	654304
3.497		1098801	803571
3.539		116030	94356
3.572		290797	236145
3.605		132557	72443
3.623		430428	255926
3.642		324412	179952
3.657		48100	23766
3.697		28165	17259
3.731		182237	139455
3.779		260559	209502
3.813		157897	104642
3.837		365842	276040
3.88		66503	59906
3.927		19320	12410
3.94		53983	26368
3.957		229184	146722
3.981		3208	1309
3.995		2167	997

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.02		38813	27781
4.05		35157	30204
4.123		14071	8739
4.144		23226	12423
4.167		236937	181699
4.203		10286	8143
4.238		73651	71345
4.292		11058	8102
4.322		2999	2502
4.36		3843	2321
4.383		2111	2064
4.435		1312	677
4.457		27109	20259
4.518		1080	410
4.542		16157	10994
4.564		4697	2687
4.582		3099	2190
4.69		985	573
4.719		760	304
4.754		1225	891
4.793		6041	5268
4.841		570	335
4.926		974	329
4.987		895	717
5.037		1269	896
5.101		1252	818
5.264		687	236
5.434	DCB	840	885
5.585		564	253
5.646		734	168
5.705		626	301
5.714		970	276
5.813		728	318
5.851		823	723
6.071		850	364
6.321		1329	1378

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## Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4241824E      AAAR424AA      ICAL 1830299999      10227  
Injected On: 10/30/2018 11:43:33 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.029.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.096		14377	20153
2.157		3739	3752
2.201		41691	64895
2.302		26113	30198
2.362		64506	85345
2.4		23531	18086
2.499		29188	31702
2.538		172073	229159
2.594	TCX	28656	24993
2.702		270625	444628
2.748		261869	261786
2.779		3168	1303
2.803		1287823	1439732
2.868		18254	10735
2.891		188619	196473
2.955		32703	33458
3.016		1466504	1112710
3.037		581397	394753
3.073		152451	106252
3.098		79644	57079
3.133		351517	245044
3.14		129845	105611
3.221		112310	126351
3.255		399522	293546
3.276		194194	139456
3.322		1520168	959951
3.34		1734418	1043121
3.36		1233385	880435
3.428		1399472	1344999
3.458		97619	59562
3.486		1203434	1003545
3.517		1348068	1076278
3.544		368940	282576
3.604		1340597	1050926
3.633		456113	327959
3.657		383942	255757
3.68		270446	169835
3.705		973470	1322621
3.774		81453	59272
3.8		33531	21768
3.822		46350	28624
3.847		182386	142822
3.858		904478	563748
3.886		1355319	1062326
3.934		129606	116616
3.97		1248246	1047825
4.002		757045	655566
4.059		54741	51160
4.09		236778	200844
4.139		295221	237942
4.172		173993	121347
4.195		469627	369991
4.236		4703	2627
4.263		179941	197792

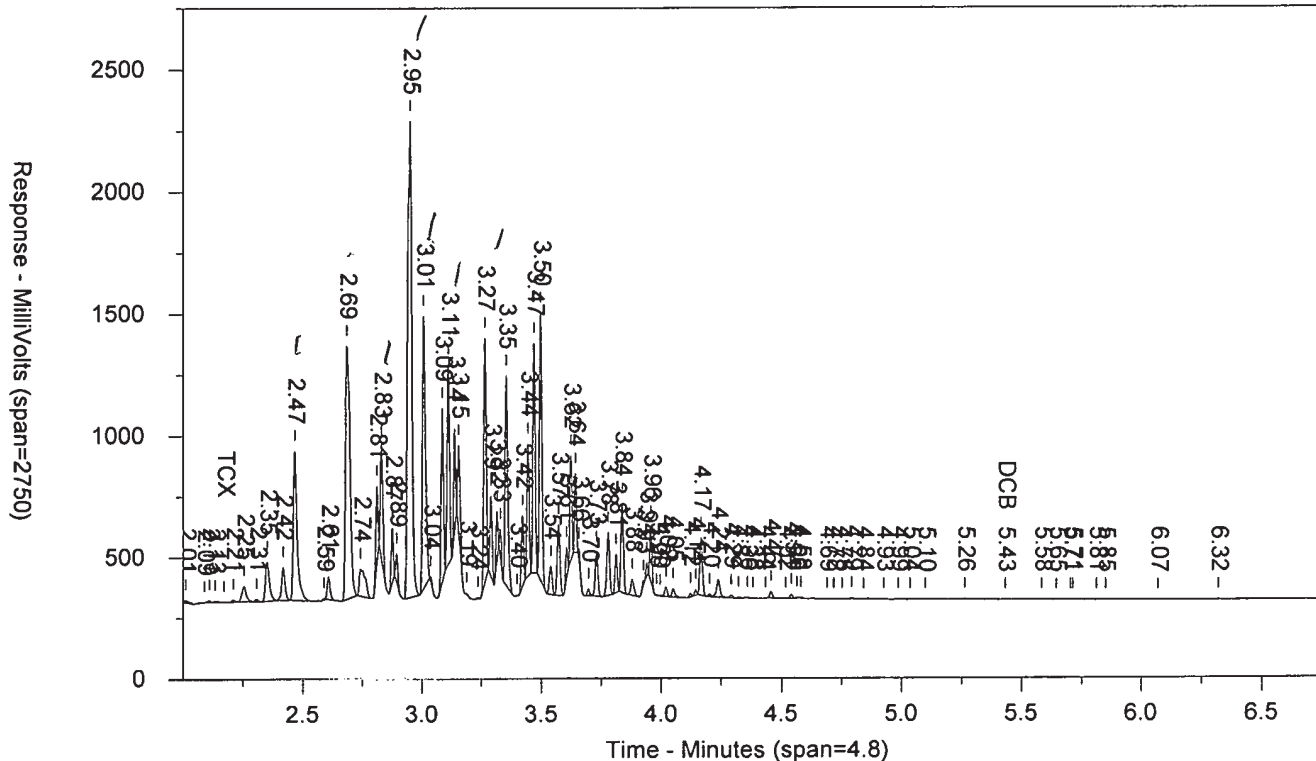
## Chrom Perfect Chromatogram Report

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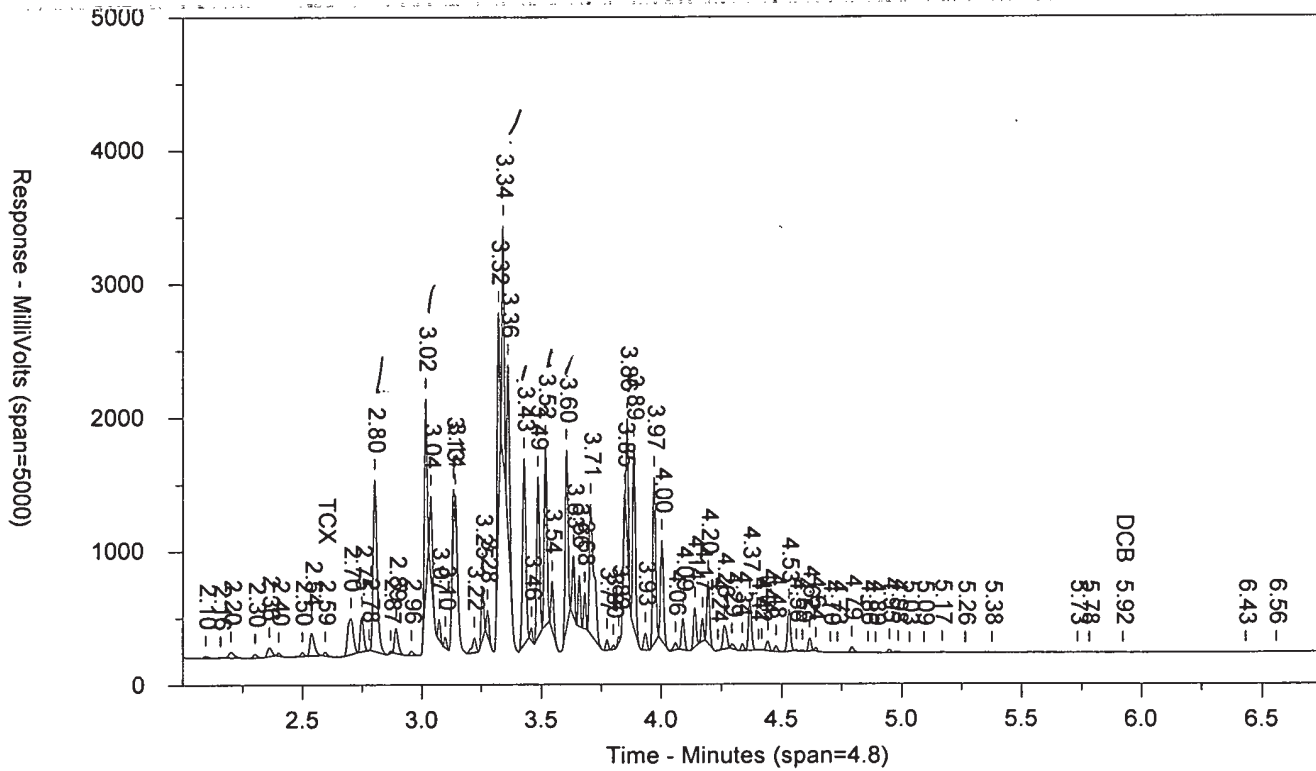
RT B	Compound B	Height B	Area B
4.294		36003	37885
4.338		51766	40498
4.369		386838	327411
4.405		2969	1398
4.418		6587	3072
4.443		74766	66118
4.477		44227	37308
4.53		314155	273177
4.561		10340	5829
4.586		12156	10729
4.617		100501	82110
4.643		23484	16735
4.704		2366	1708
4.733		2057	2700
4.793		42132	43053
4.861		3657	4438
4.891		1901	1579
4.948		22360	17483
4.985		8542	10179
5.033		1077	706
5.094		925	626
5.169		7840	6500
5.264		995	790
5.376		1671	2057
5.733		912	563
5.781		2045	2607
5.921	DCB	1541	2281
6.432		605	532
6.559		825	1871
6.802		1767	2753

AR4241824E      AAAR424AA      ICAL 1830299999      10227      SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.029.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.029.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR4241824E      AAAR424AA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 11:43:33 PM      Sample Weight: 1  
Instrument ID: CP20-17342      Dilution Factor: 1  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	28656	.074	TCX
5.434	840	.005	DCB	5.921	1541	.01	DCB

Files:

Area File: 20pcbs18303001.029.RAW  
Area File: 20pcbs18303001B.029.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/30/2018 11:51:35 PM  
File Reported On: 10/30/2018 at 11:51:40 PM

AR4241824E

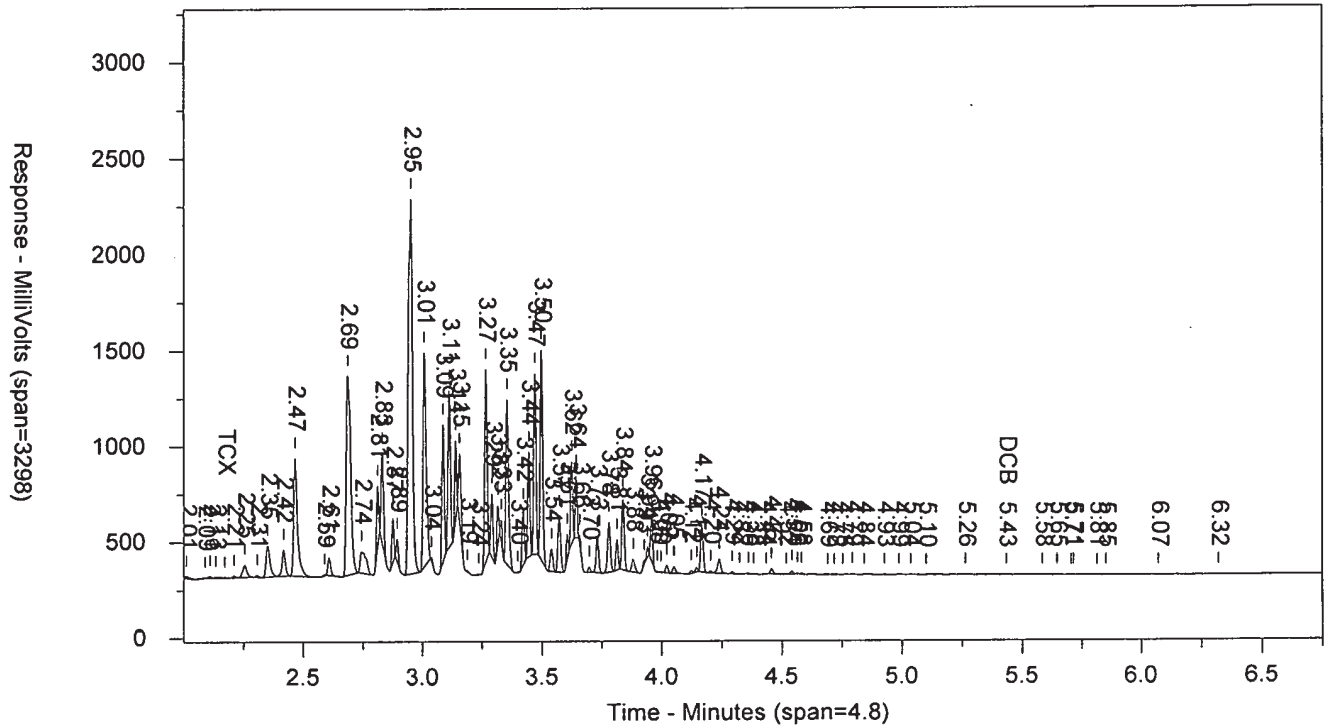
AAAR424AA

ICAL 1830299999

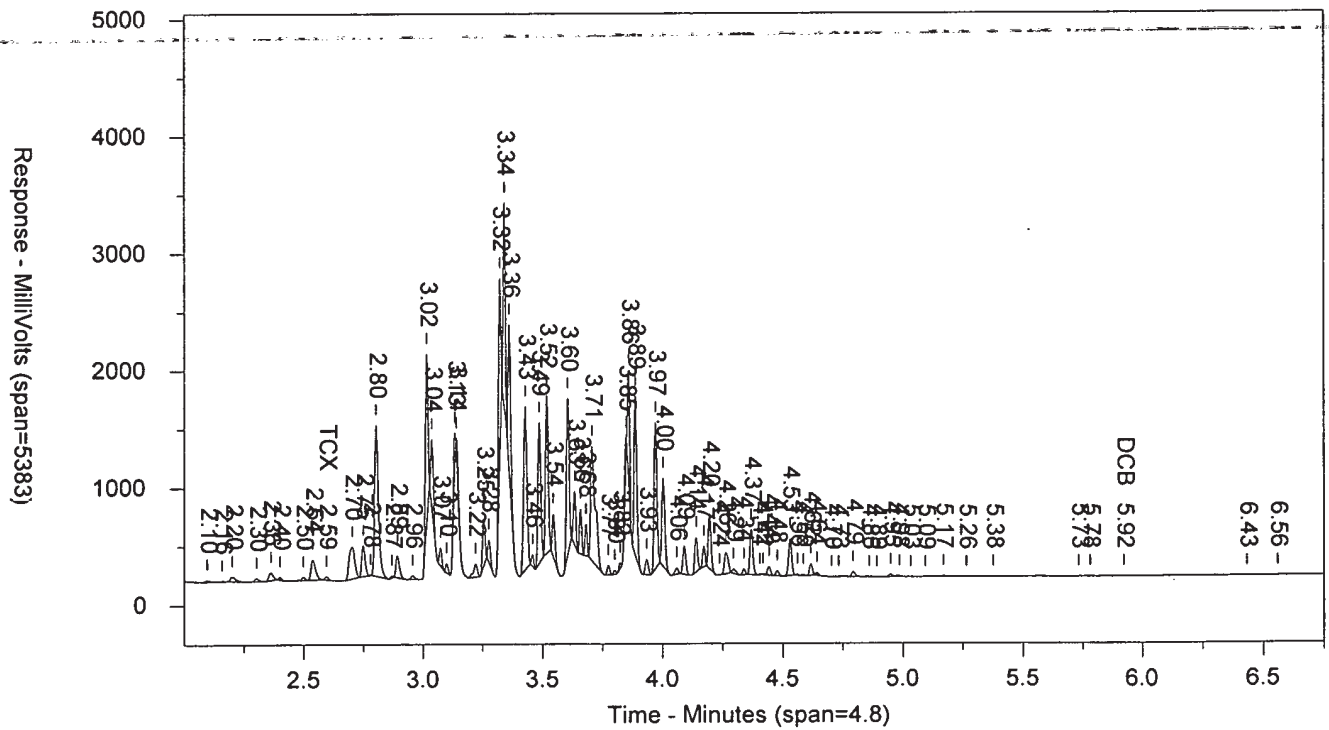
10227

SW-846 8082

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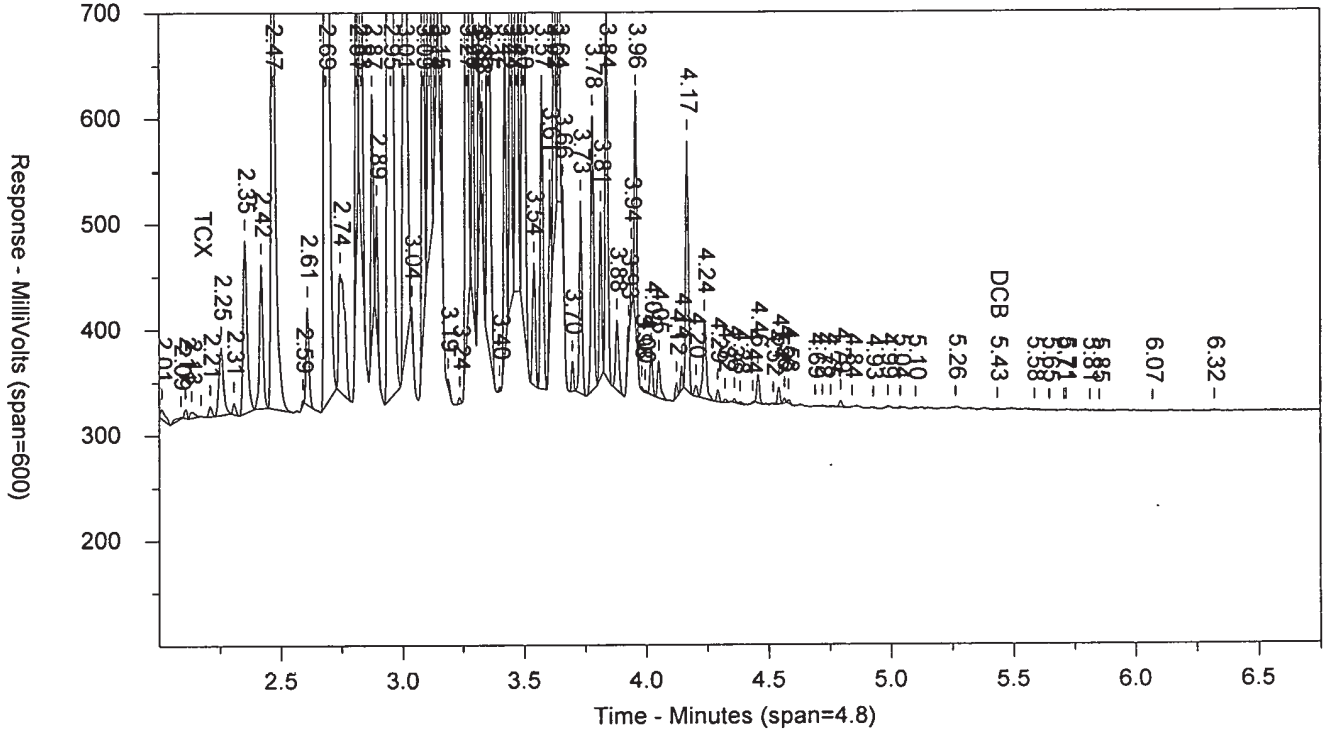


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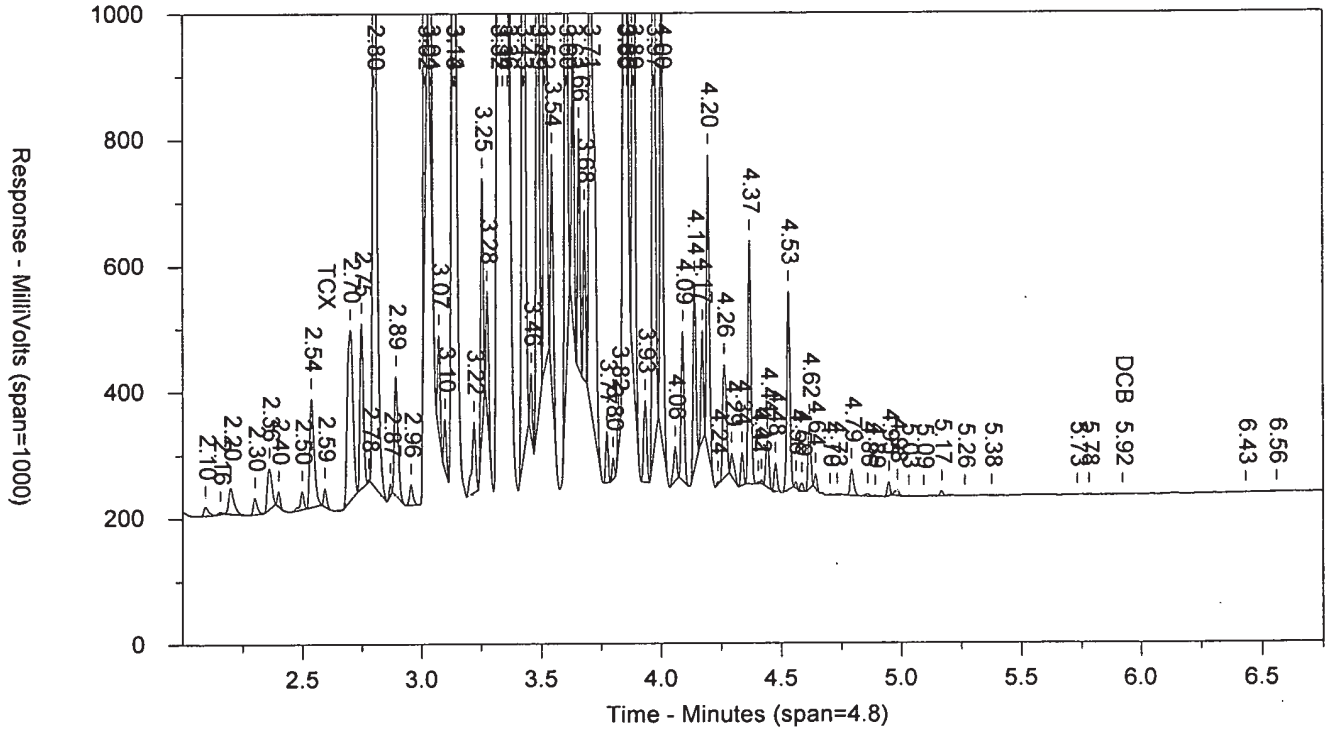


AR4241824E      AAR424AA      ICAL 1830299999      10227      SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.029.RAW



## LANCASTER LABORATORIES

Sample Number: AR16XX1824B      AAAR16XAA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/30/2018 11:54:00 PM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.030.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		8416	13746
2.086		1230	5124
2.11		7554	5635
2.131		937	460
2.172	TCX	1558549	1849983
2.254		66585	77170
2.306		10937	9261
2.351		178142	187248
2.384		10847	6121
2.418		150578	138089
2.466		708631	797903
2.567		2209	1349
2.608		120315	121923
2.685		1236400	1630662
2.743		132980	241900
2.811		374732	231153
2.83		546914	382065
2.875		271106	171522
2.893		133975	78177
2.952		2397322	2975793
3.008		1312654	1149223
3.038		33525	16040
3.086		850738	583384
3.111		980684	695961
3.138		474063	268528
3.155		412302	289403
3.235		7283	4790
3.266		1231216	879924
3.291		391794	247079
3.316		259484	144793
3.329		94637	45750
3.354		999580	772774
3.4		4781	2754
3.421		319856	225875
3.444		239650	156554
3.47		389262	264552
3.497		430936	332074
3.54		64277	49099
3.572		34403	32313
3.605		5948	2893
3.624		33142	19898
3.644		8084	4027
3.658		41295	26511
3.723		12783	15270
3.765		4732	3319
3.794		7795	6136
3.837		4619	3031
3.863		8724	7801
3.897		2442	2180
3.934		7767	7875
3.956		3021	2152
4		6238	5185
4.021		1008	492
4.042		22812	16245

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.068		4442	3519
4.133		1666	1590
4.147		2274	1410
4.167		2237	1481
4.198		5581	4804
4.252		33883	28735
4.295		2147	1404
4.325		2336	2207
4.357		781	300
4.388		3356	2577
4.437		895	225
4.491		2870	2320
4.522		964	573
4.54		1704	864
4.564		29012	23099
4.616		848	468
4.639		947	232
4.666		51703	39163
4.758		1480	859
4.798		2617	2685
4.842		1139	1058
4.939		44888	37024
5		59726	49677
5.041		17444	13533
5.105		1083	772
5.157		1183	1284
5.243		853	317
5.29		22163	19031
5.325		737	379
5.36		638	283
5.378		854	205
5.417		828	189
5.452	DCB	1532222	1427278
5.659		502	335
5.710		708	240
5.884		1354	1517
6.048		487	360
6.091		687	493
6.15		650	533
6.404		789	495

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## LANCASTER LABORATORIES

Sample Number: AR16XX1824B    AAAR16XAA    ICAL 1830299999    10227    SW-846 8082  
Injected On: 10/30/2018 11:54:00 PM    Injection Volume: 1 ul  
Instrument ID: CP20-17342    Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.030.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.046		5069	6052
2.096		13826	12652
2.158		5402	5235
2.2		43919	69573
2.3		25643	32928
2.361		31528	38537
2.4		25407	23260
2.477		3335	2121
2.499		26165	23843
2.538		198500	264425
2.604	TCX	3748070	4429134
2.702		308592	501002
2.748		304461	302251
2.803		1547421	1769750
2.868		18329	11261
2.891		225058	232861
2.955		33570	35051
3.016		1762539	1344225
3.037		672364	470166
3.073		180032	129509
3.098		89199	64929
3.133		1472552	2344123
3.219		89118	104070
3.254		476849	350394
3.275		215919	158750
3.322		1816108	1164055
3.34		2107859	1278407
3.36		1395357	976543
3.428		1704015	1637845
3.458		117165	71006
3.486		1432114	1189782
3.517		1588419	1269243
3.544		448549	339876
3.604		1584979	1243693
3.632		531452	390383
3.657		435910	299872
3.68		308519	192469
3.705		1154367	1523246
3.774		62767	44587
3.8		35401	24391
3.822		30756	18339
3.846		217879	149522
3.859		293696	173509
3.887		403571	319723
3.934		30501	30907
3.972		154847	130701
4.002		43779	36388
4.06		9290	10366
4.089		3612	2149
4.124		2792	2278
4.144		7828	6510
4.194		10861	16526
4.245		2287	2464
4.296		8594	12353

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.371		11589	11554
4.4		30468	24674
4.48		4537	5162
4.533		5641	5597
4.558		3339	2303
4.599		48611	47729
4.649		2917	3453
4.804		2653	4839
4.86		3739	5283
4.893		4987	4391
4.926		37691	34532
5.039		66339	58393
5.124		2216	1926
5.172		2719	2196
5.214		2130	1884
5.326		546	990
5.357		58224	51537
5.41		78842	85298
5.533		1138	1639
5.744		25546	24687
5.927	DCB	1399133	1615944
6.472		2119	3462

AR16XX1824B

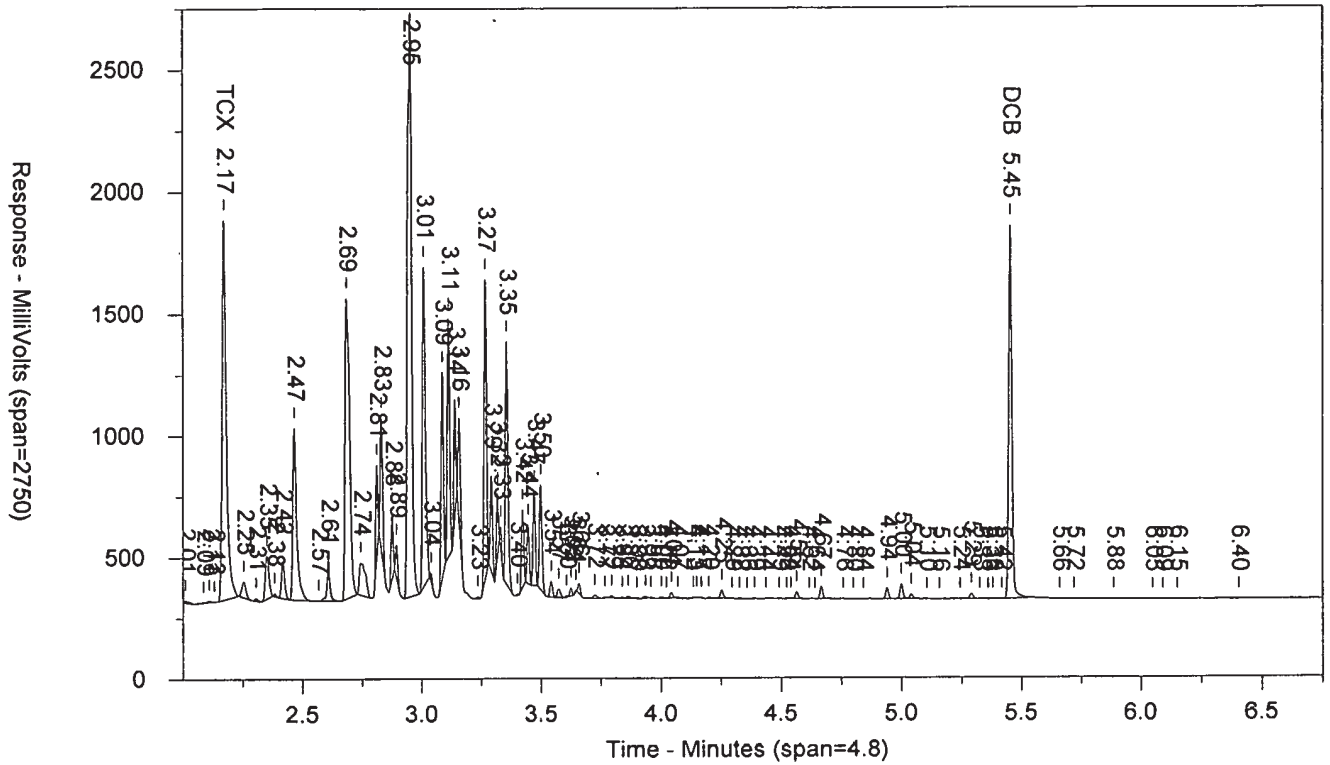
AAAR16XAA

ICAL 183029999

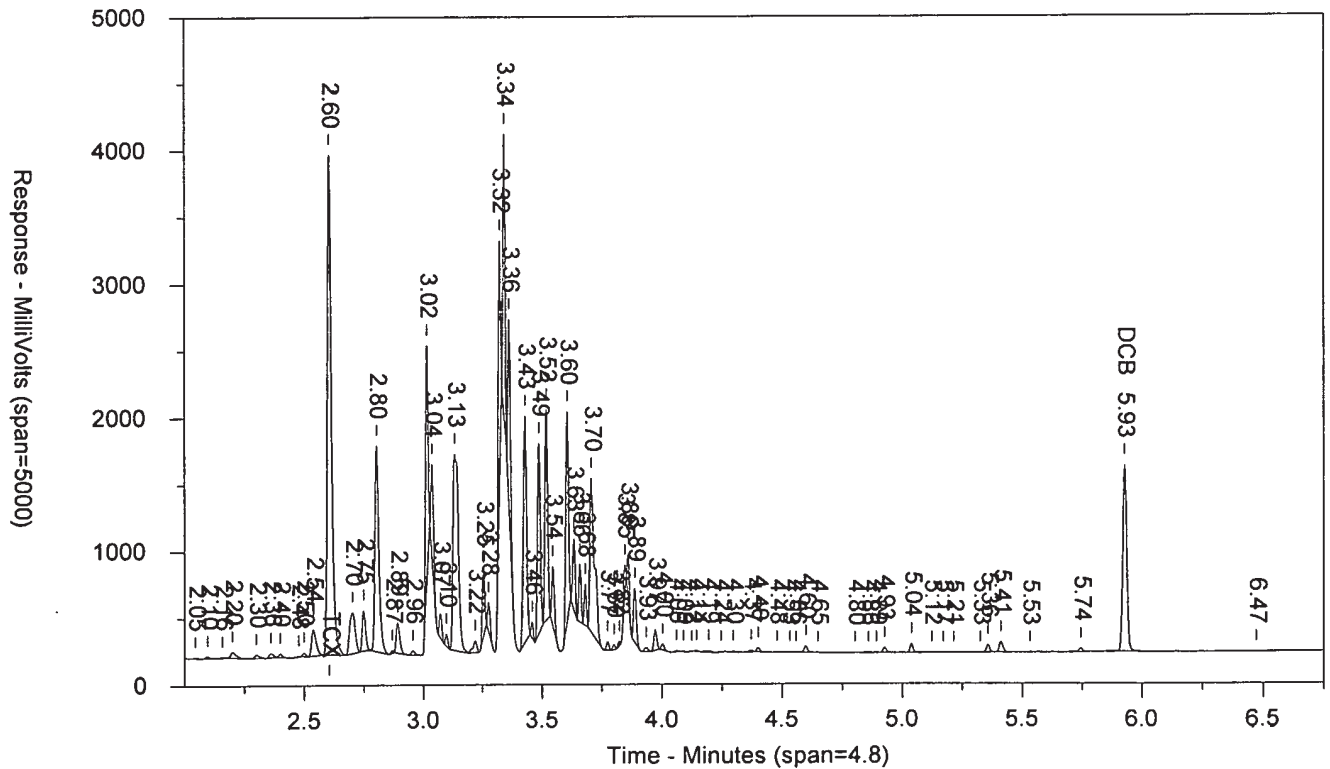
10227

SW-846 808

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LANCASTER LABORATORIES

Sample Number: AR16XX1824B      AAAR16XAA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/30/2018 11:54:00 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.172	1558549	9.08	TCX	2.604	3748070	9.69	TCX
5.452	1532222	8.93	DCB	5.927	1399133	9.039	DCB

Files:

Area File: 20pcbs18303001.030.RAW  
 Area File: 20pcbs18303001B.030.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/31/2018 12:02:02 AM  
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AR16XX1824B

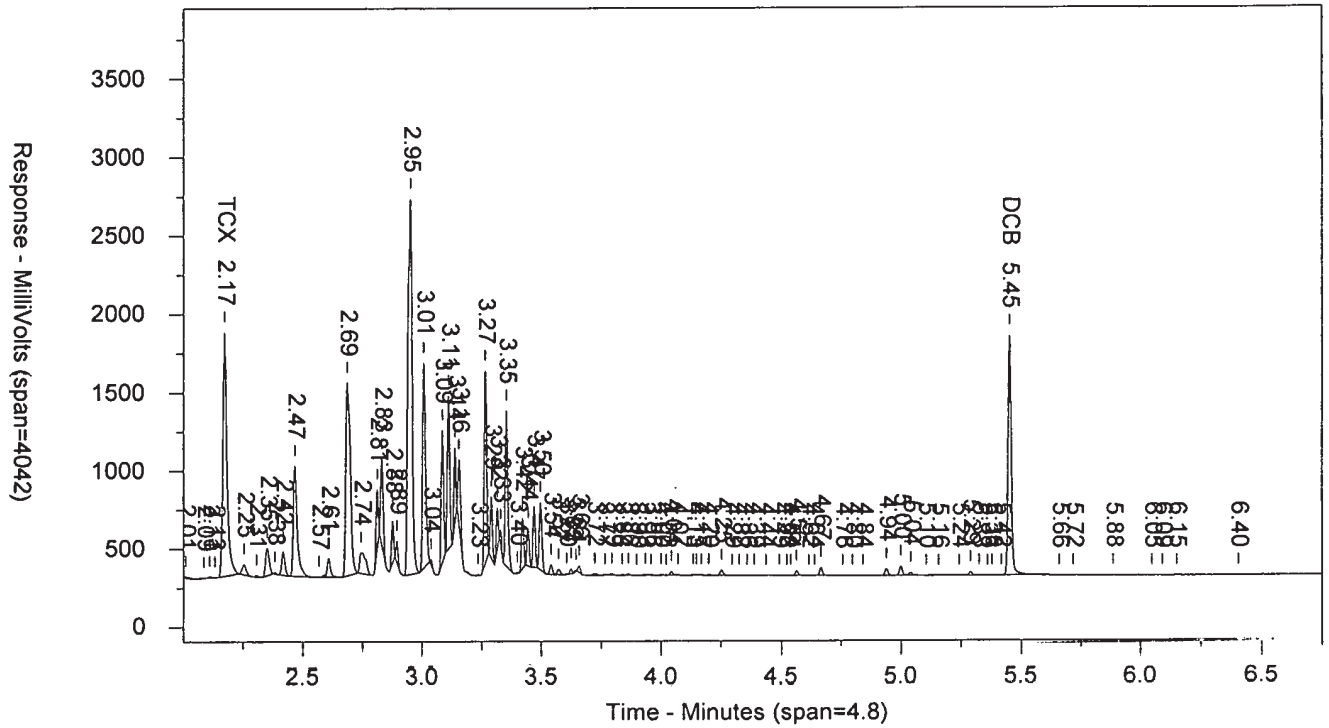
AAAR16XAA

ICAL 1830299999

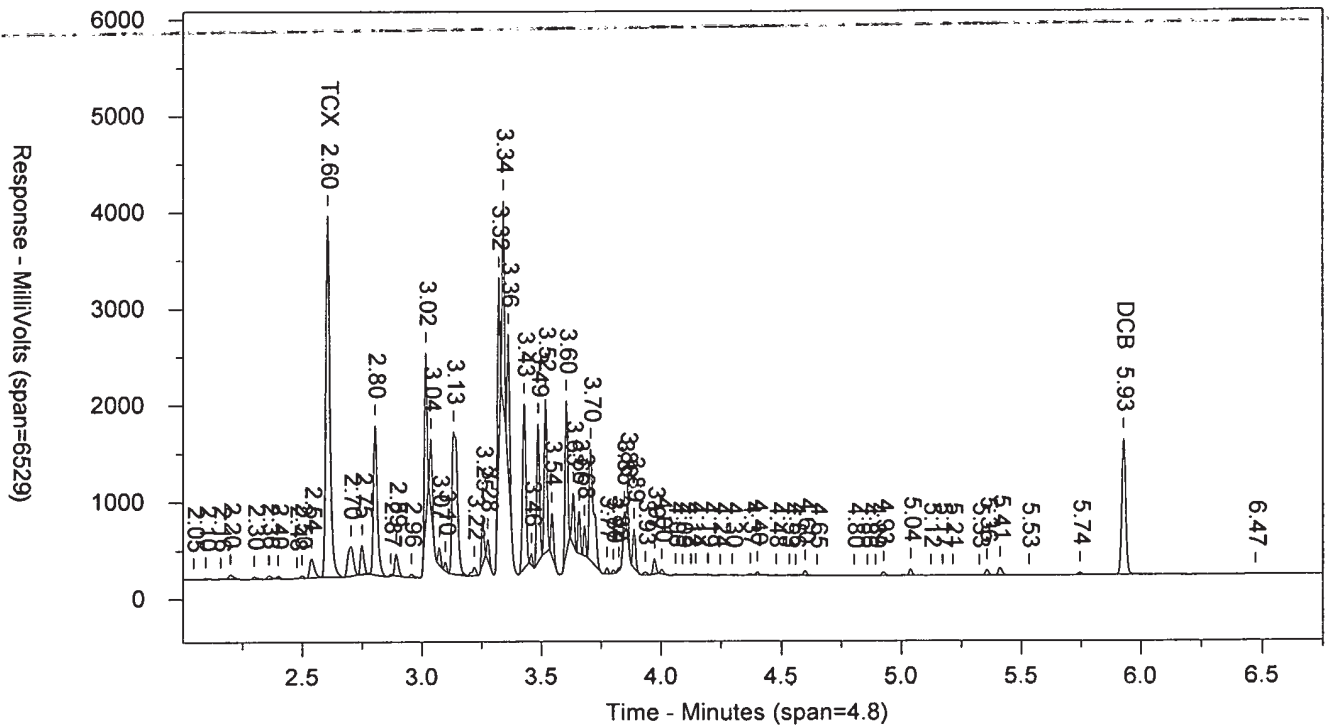
10227

SW-846 808

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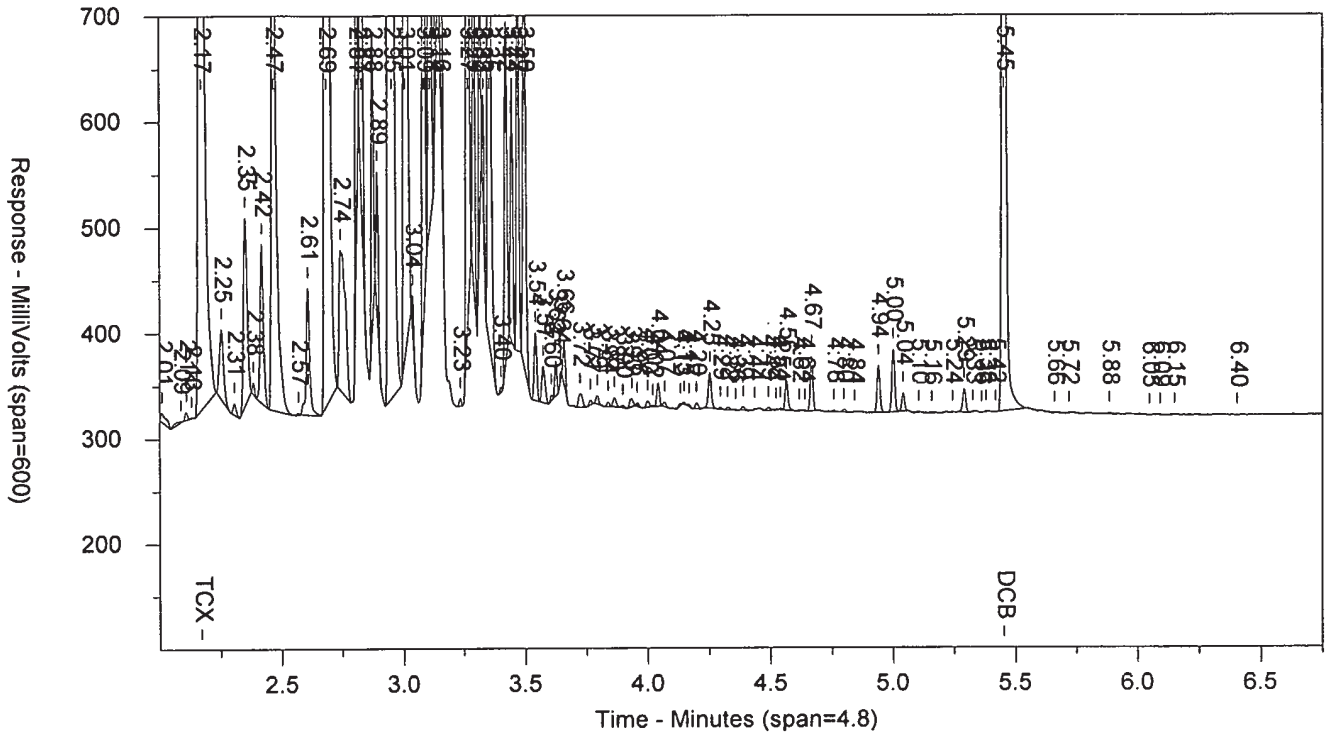


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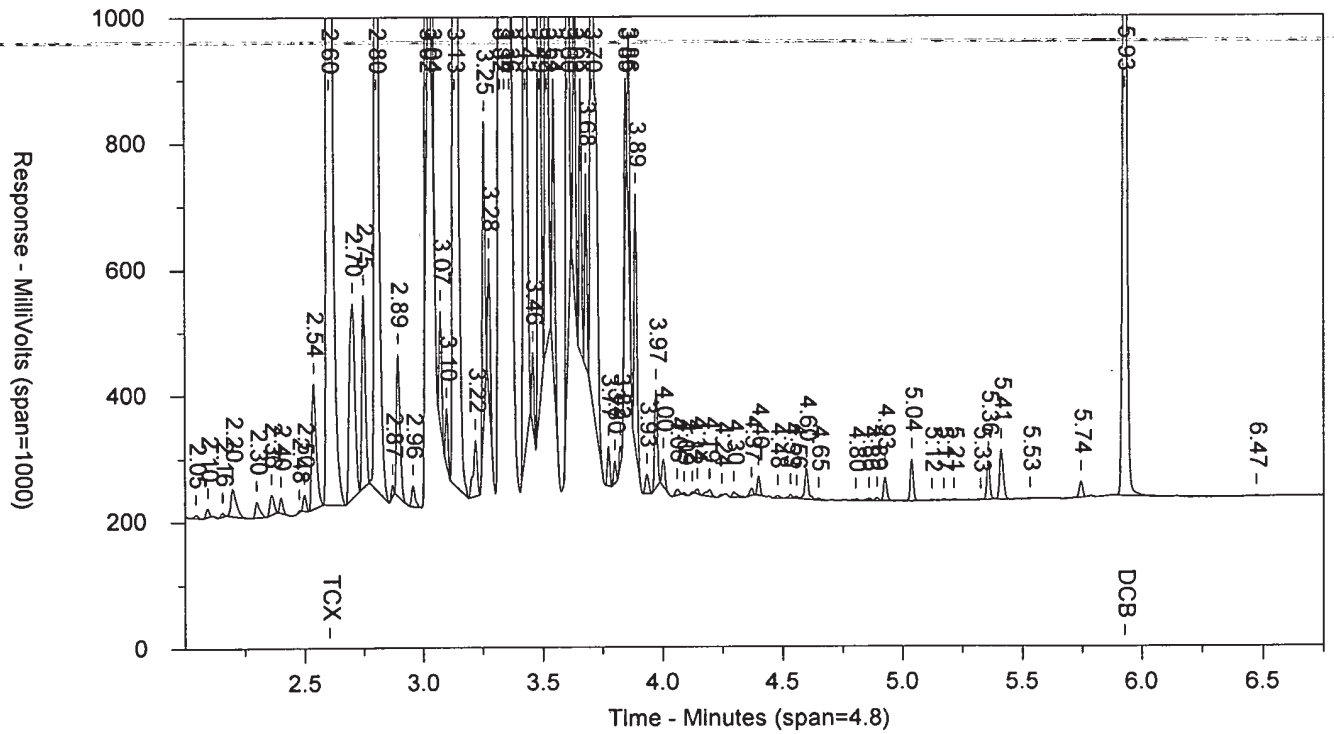


AR16XX1824B    AAR16XAA    ICAL 183029999    10227    SW-846 808

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## LANCASTER LABORATORIES

Sample Number: MD16X1824E      AAMD16XAA      ICAL 183029999      10227      SW-846 8082  
Injected On: 10/31/2018 12:04:32 AM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.031.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		5411	4343
2.066		1194	1089
2.109		8014	8087
2.132		2993	2666
2.171	TCX	77599	79105
2.208		5070	3690
2.255		1787	1419
2.306		7971	7353
2.351		5297	5258
2.401		5360	3473
2.466		23848	20345
2.496		7777	5934
2.589		9816	11521
2.684		51044	66744
2.768		12759	17956
2.811		12548	7525
2.83		20370	13842
2.855		7007	4040
2.876		7294	3696
2.893		5360	3436
2.952		84945	108700
3.009		47914	57193
3.086		28355	19142
3.112		40705	34005
3.139		17213	9496
3.155		19200	13836
3.19		10911	9741
3.237		479	180
3.267		47821	35982
3.291		11937	6760
3.317		9429	5375
3.354		43294	36592
3.393		748	196
3.423		15542	11526
3.445		7295	4349
3.47		13296	8421
3.497		50366	44827
3.537		7411	6045
3.573		46638	39903
3.608		1621	892
3.654		11502	13425
3.731		16247	18465
3.78		5225	2601
3.843		63810	53777
3.874		22360	15995
3.925		96845	74251
3.957		8279	5165
3.984		14597	10728
4.022		111873	85545
4.067		3791	3370
4.124		40450	27820
4.147		50655	36941
4.203		23098	21413
4.24		78081	70674

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.263		53571	33767
4.296		42525	31011
4.326		1255	821
4.362		2309	1156
4.383		11921	9273
4.438		63082	46445
4.459		7437	4143
4.494		35117	25869
4.524		22195	16521
4.544		5747	2595
4.566		147133	110761
4.666		7544	5811
4.73		2020	1262
4.758		29375	23016
4.799		100449	89455
4.937		4872	6517
4.998		3916	3112
5.042		16261	15313
5.103		31678	24961
5.163		964	678
5.244		995	597
5.292		8429	8129
5.453	DCB	89587	80251
5.562		1007	534
5.666		1095	221
5.909		752	188
6.262		638	663
6.291		689	499
6.333		947	867
6.467		653	179

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: MD16X1824E      AAMD16XAA      ICAL 1830299999      10227      SW-846 8082  
 Injected On: 10/31/2018 12:04:32 AM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.031.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.094		11686	14007
2.157		4242	3911
2.198		15406	20069
2.3		20696	23861
2.361		40075	50515
2.4		18364	15153
2.498		22897	22125
2.539		5875	6125
2.603	TCX	178507	224786
2.689		30000	40621
2.748		11466	10340
2.779		17534	11677
2.803		54930	52605
2.868		21786	17311
2.892		4651	4229
2.956		24629	27589
3.016		72759	55984
3.038		44594	34090
3.073		8151	5967
3.097		4382	2723
3.131		70405	117131
3.206		22237	27234
3.254		16560	10935
3.283		18670	21097
3.322		63894	43038
3.34		69116	42667
3.361		64213	50412
3.428		64776	84970
3.486		68044	55018
3.517		83619	70813
3.543		16037	11824
3.604		66932	62752
3.632		21948	15164
3.658		27281	19750
3.681		16118	10337
3.705		32071	22615
3.725		12926	8366
3.8		11874	11325
3.844		72371	82636
3.887		14332	10874
3.935		17249	18662
3.971		74173	58896
3.997		4428	6396
4.061		5075	5326
4.089		17788	14616
4.141		15053	13953
4.165		22830	16616
4.196		40381	32202
4.237		58328	55714
4.296		142448	130483
4.371		29656	27531
4.407		25188	22021
4.447		155348	127292
4.479		54742	43767

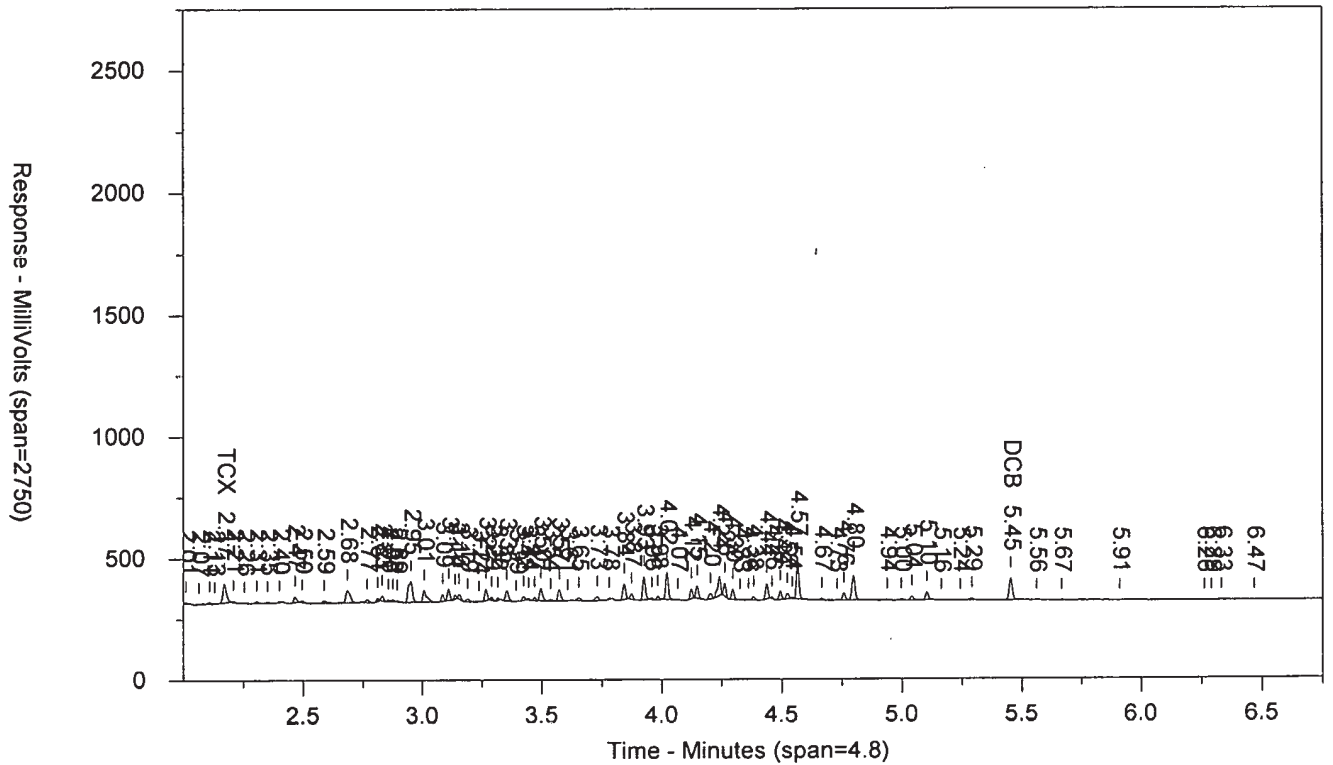
Chrom Perfect Chromatogram Report

RT B	Compound B	Height B	Area B
4.52		73786	77970
4.556		12073	9463
4.592		15856	15289
4.621		147438	125623
4.644		11874	7060
4.674		86749	69832
4.707		52924	42230
4.809		96155	105190
4.841		4757	2862
4.867		47266	37305
4.895		26407	20767
4.926		2487	1338
4.949		23968	20834
4.99		175170	159407
5.037		10843	10349
5.126		2050	2223
5.173		111612	93519
5.2		5465	2885
5.217		35103	27936
5.317		605	628
5.358		3581	2609
5.379		2799	2249
5.42		21242	21669
5.536		39347	37012
5.745		9815	9611
5.789		2414	3050
5.929	DCB	100036	110878
6.402		807	727

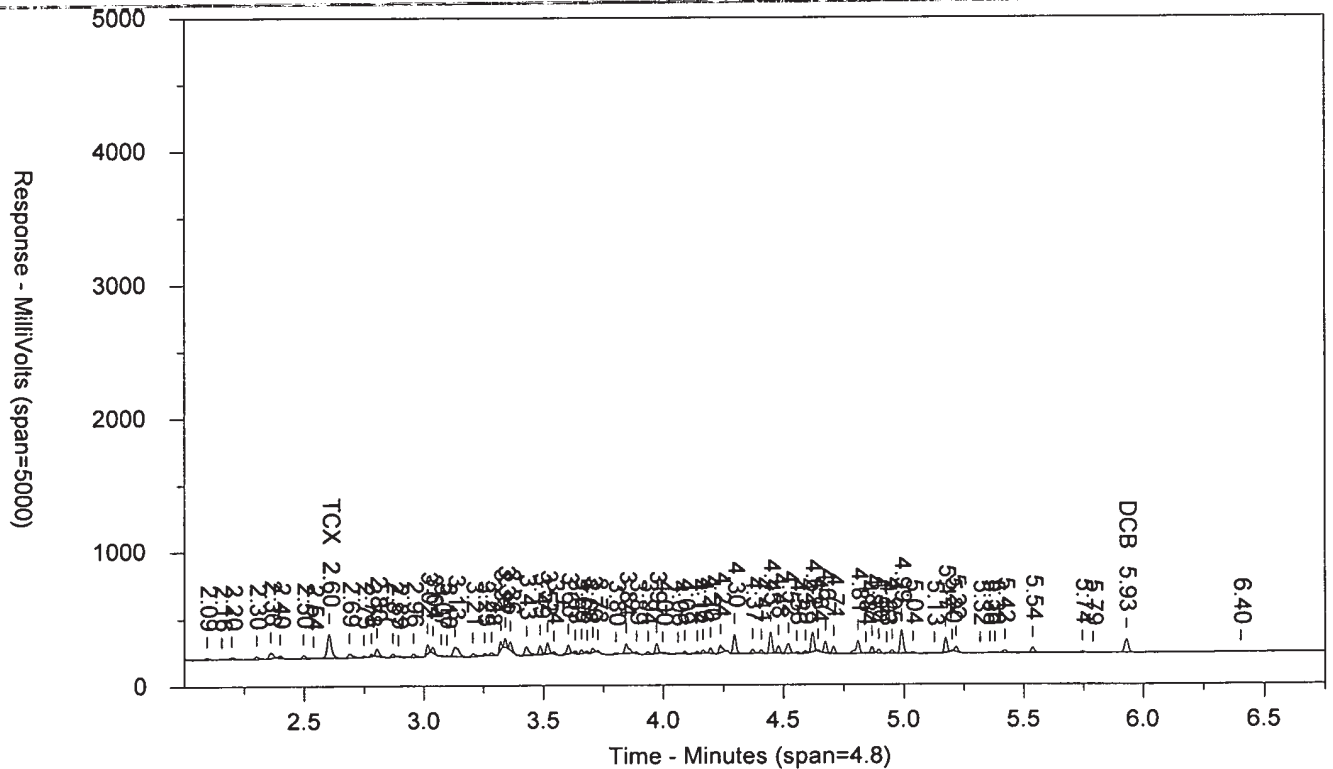
Chrom Perfect Chromatogram Report

MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 808

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001.031.RAW



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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: MD16X1824E      AAMD16XAA      ICAL 1830299999      10227      SW-846 8082  
Injected On: 10/31/2018 12:04:32 AM      Sample Weight: 1  
Instrument ID: CP20-17342      Dilution Factor: 1  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

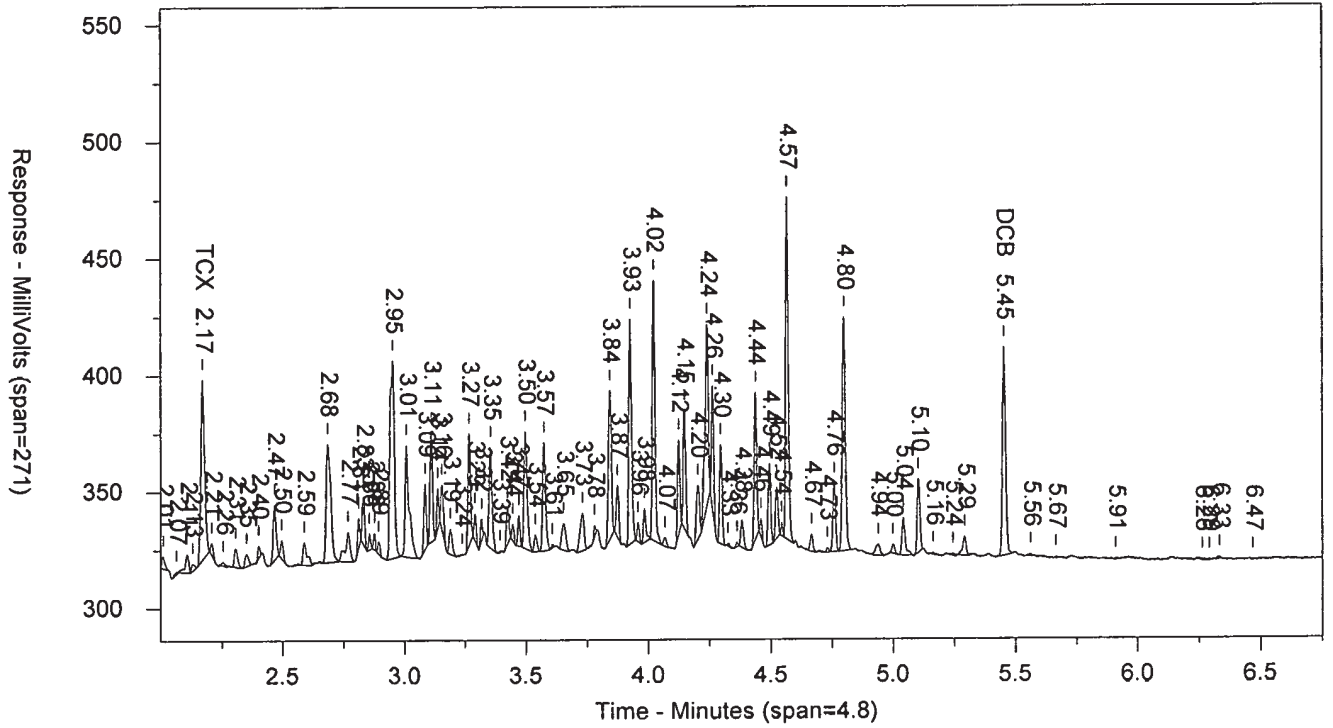
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.171	77599	.452	TCX	2.603	178507	.462	TCX
5.453	89587	.522	DCB	5.929	100036	.646	DCB

Files:

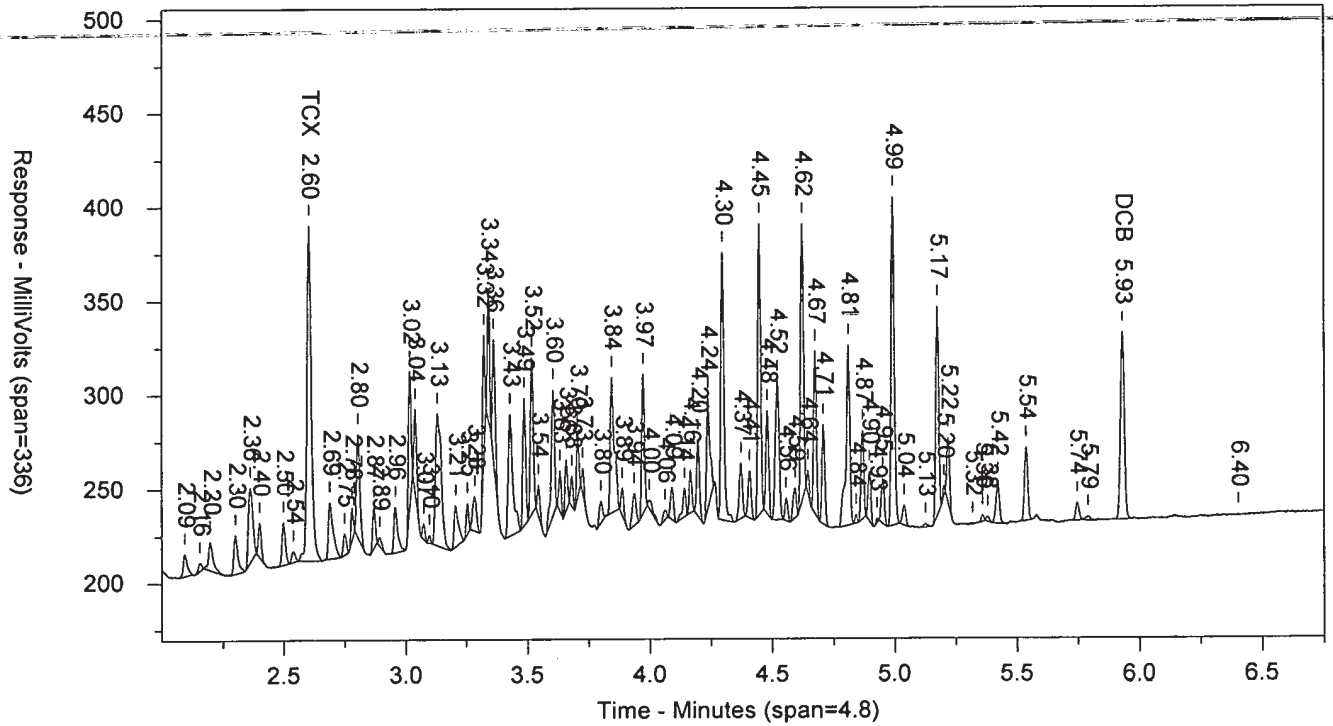
Area File: 20pcbs18303001.031.RAW  
Area File: 20pcbs18303001B.031.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/31/2018 12:12:34 AM  
File Reported On: 10/31/2018 at 12:12:44 AM

MD16X1824E AAMD16XAA ICAL 1830299999 10227 SW-846 808

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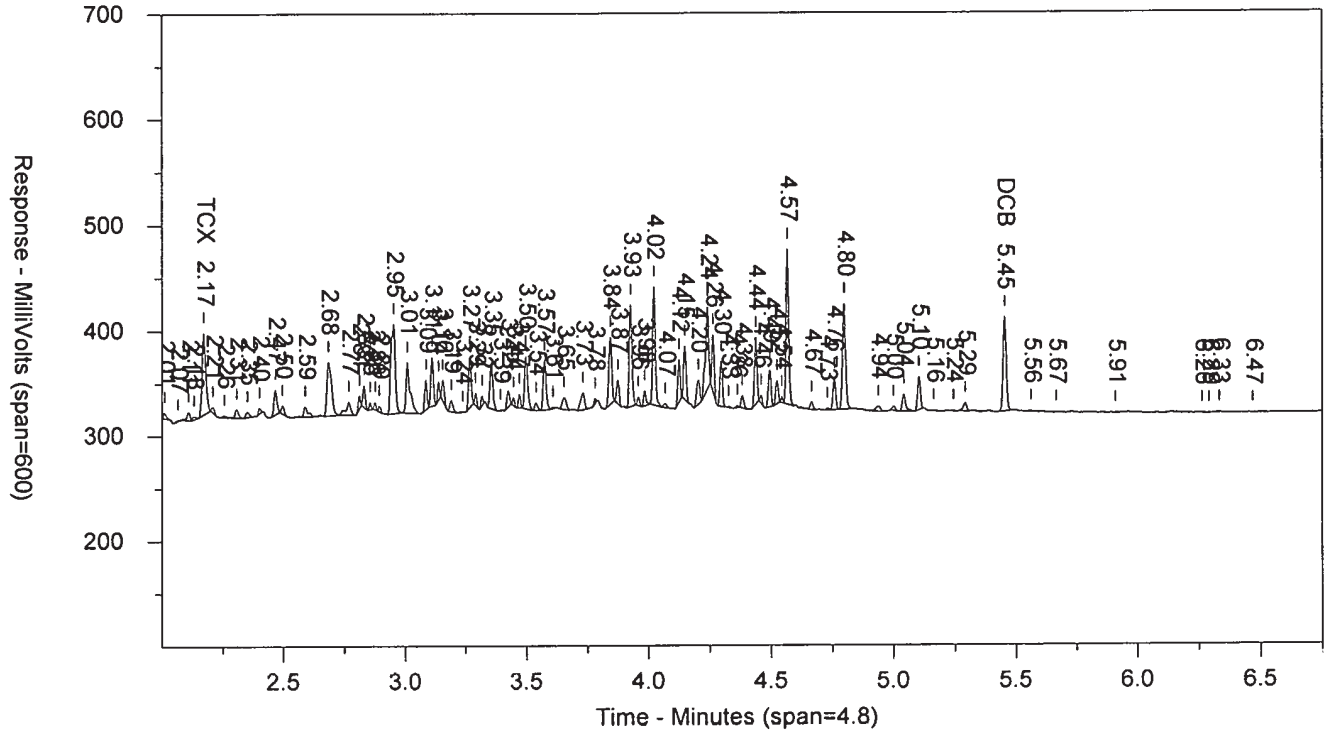


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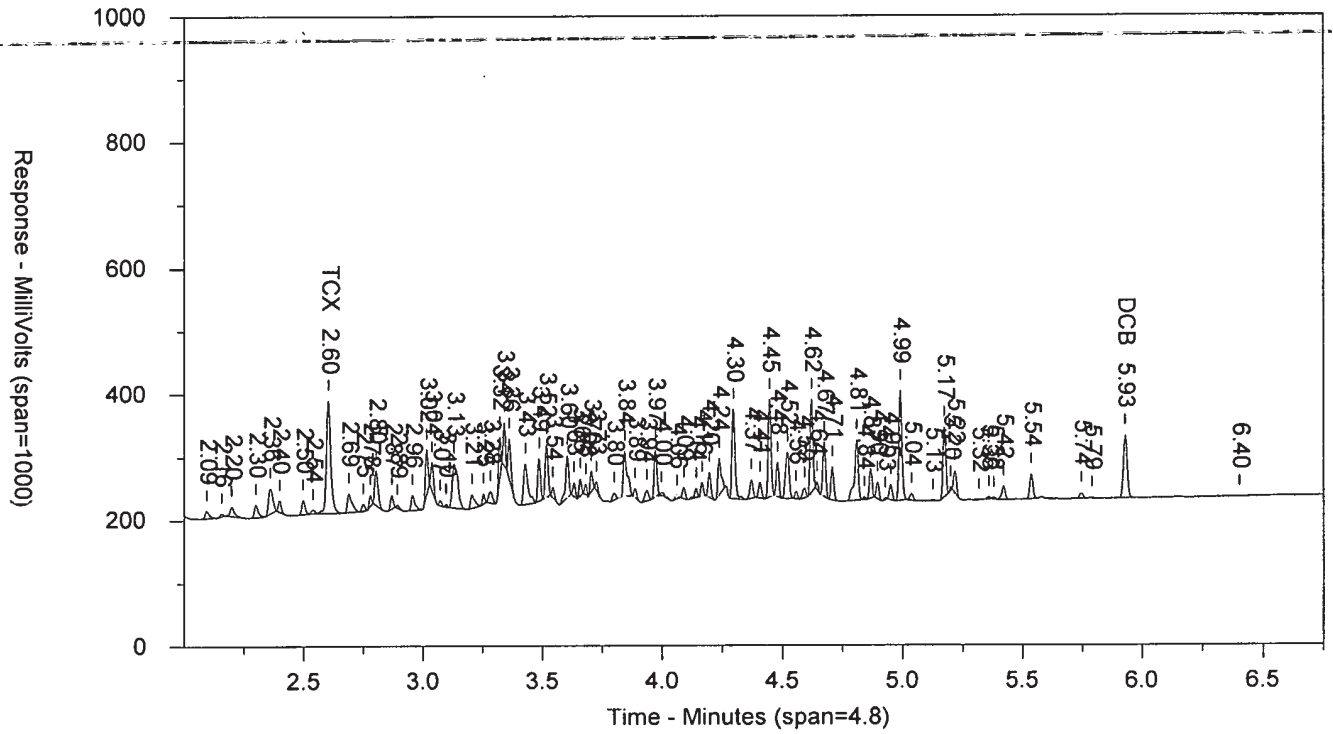


MD16X1824E      AAMD16XAA      ICAL 1830299999      10227      SW-846 808

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.031.RAW



LANCASTER LABORATORIES

Sample Number: IC16X1824D      AAIC16XAA      CCAL 1830299999      10227      SW-846 8082  
 Injected On: 10/31/2018 12:15:00 AM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
 Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
 Date File: 20pcbs18303001.032.RAW  
 Method File: 20PCBS.MET  
 Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.069		1034	1334
2.106		1764	1193
2.145	TCX	3432	4860
2.21		1574	1124
2.255		76515	102798
2.351		199500	236712
2.418		155999	143873
2.466		701426	792651
2.566		2474	1814
2.608		127828	120781
2.685		1294319	1694871
2.742		136922	244058
2.811		378743	238624
2.83		575154	418436
2.875		277435	179158
2.893		138977	78571
2.952		2454954	3044200
3.008		1372582	1192366
3.038		40889	19616
3.086		866896	592999
3.111		1097042	773270
3.138		481167	269195
3.156		564731	397895
3.204		5858	3980
3.266		1221341	895937
3.291		380556	247348
3.316		363379	324197
3.354		965666	763017
3.403		9878	6080
3.421		231661	159027
3.445		186827	137540
3.469		167496	99702
3.495		1073040	878209
3.536		173243	139717
3.572		1151814	888300
3.607		38857	22678
3.624		41491	22514
3.643		9705	3840
3.66		124455	93292
3.698		9772	5142
3.732		441094	363204
3.78		281109	231891
3.815		23029	13515
3.844		2032131	1748141
3.874		751586	572177
3.925		2784412	2122968
3.957		184255	109317
3.983		549960	411032
4.021		3369633	2774155
4.123		1315891	896566
4.146		1504587	1091563
4.17		28824	16301
4.202		683886	608731
4.239		2257176	2111573

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.261		1625234	1033492
4.294		1322316	999794
4.361		62067	35030
4.38		377041	261315
4.437		2090699	1552877
4.458		194456	106609
4.494		1138159	884060
4.523		706052	537594
4.542		127067	58073
4.565		4729560	3608235
4.599		78946	50649
4.664		180153	141333
4.73		69343	44701
4.757		970117	756994
4.797		3235855	2919485
4.935		111005	132534
4.997		42861	34274
5.039		495010	413865
5.102		1056477	810085
5.289		343171	285926
5.382		1540	1229
5.451	DCB	42097	38531
5.493		1226	1295
5.555		1403	739
5.725		996	617
5.955		668	254
6.393		860	238
0.423		108	287



## LANCASTER LABORATORIES

Sample Number: IC16X1824D      AAIC16XAA      CCAL 183029999      10227      SW-846 8082  
Injected On: 10/31/2018 12:15:00 AM      Injection Volume: 1 ul  
Instrument ID: CP20-17342      Analyst: 9065  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.032.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.092		2797	3161
2.158		4071	3688
2.202		32790	54517
2.301		4788	6033
2.361		25680	32130
2.399		4476	3312
2.443		832	586
2.478		5436	5342
2.538		212219	327111
2.702		331348	524391
2.748		313444	331479
2.802		1540547	1769618
2.891		255380	286799
2.949		8602	12451
3.016		1838725	1406012
3.037		722873	486218
3.073		178388	128436
3.099		113480	85841
3.133		341673	282165
3.14		234216	141353
3.201		4940	3009
3.221		123571	109363
3.254		496988	362143
3.276		228429	157153
3.322		1957156	1239097
3.34		2180174	1305564
3.361		1440827	1012713
3.428		1805539	1730883
3.458		127556	79612
3.485		1569234	1315777
3.517		1858933	1490157
3.544		412785	300141
3.604		1693500	1287434
3.632		549995	405081
3.657		432014	287138
3.681		354390	227673
3.704		772271	588687
3.724		99789	60181
3.774		48888	42258
3.802		105133	77072
3.824		27161	15713
3.843		1585499	1606981
3.887		229160	182703
3.936		252288	211634
3.971		1857514	1590977
4.005		77776	58414
4.064		34002	23694
4.088		565023	526445
4.14		316220	231296
4.164		621846	486924
4.195		848084	691135
4.235		1630582	1467268
4.265		248704	133252
4.294		3695811	3080980

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.328		81335	52793
4.37		550696	478393
4.406		666049	590568
4.446		4269578	3429933
4.478		1343052	1020268
4.519		2134736	2203371
4.555		339210	286913
4.59		397863	340438
4.62		4276507	3494803
4.643		295265	170409
4.672		2417971	1864899
4.706		1376837	1105730
4.808		2686435	2828889
4.839		135632	87637
4.865		1218023	927811
4.893		664697	529738
4.925		25724	17510
4.946		642998	571414
4.988		5546444	4804737
5.034		225157	228416
5.071		4221	3438
5.129		4024	3258
5.171		3215850	2608282
5.197		155721	76665
5.215		900470	716287
5.355		74499	53683
5.374		63662	42889
5.417		531666	519578
5.533		1136850	1043701
5.576		72453	61381
5.743		343790	348958
5.783		2582	2176
5.843		1036	643
5.925	DCB	48719	53505
6.002		2647	3207
6.677		918	693
6.801		1535	2391

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IC16X1824D

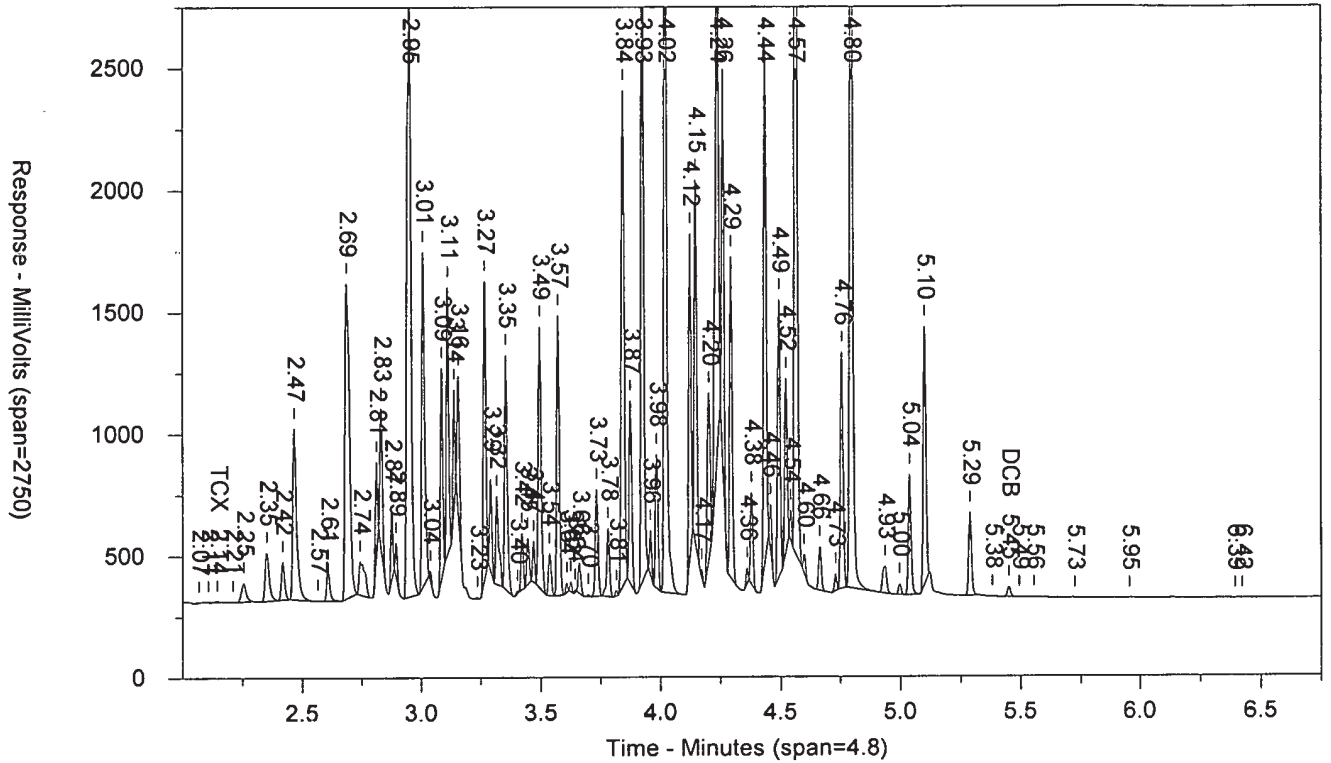
AAIC16XAA

CCAL 1830299999

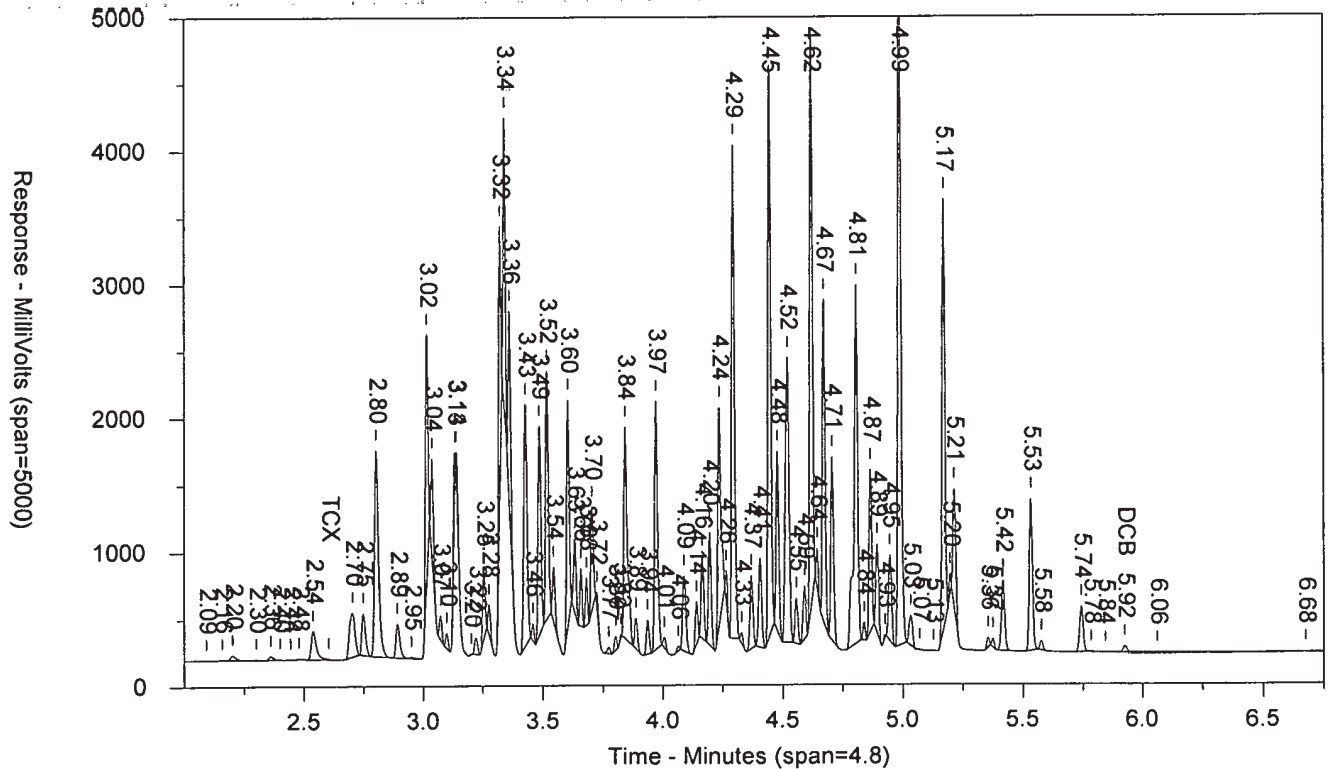
10227

SW-846 8082

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LANCASTER LABORATORIES

Sample Number: IC16X1824D      AAIC16XAA      CCAL 1830299999      10227  
Injected On: 10/31/2018 12:15:00 AM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.145	3432	.02	TCX		0		TCX
5.451	42097	.245	DCB	5.925	48719	.315	DCB

Files:

Area File: 20pcbs18303001.032.RAW  
Area File: 20pcbs18303001B.032.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/31/2018 12:23:04 AM  
File Reported On: 10/31/2018 at 12:23:10 AM

IC16X1824D

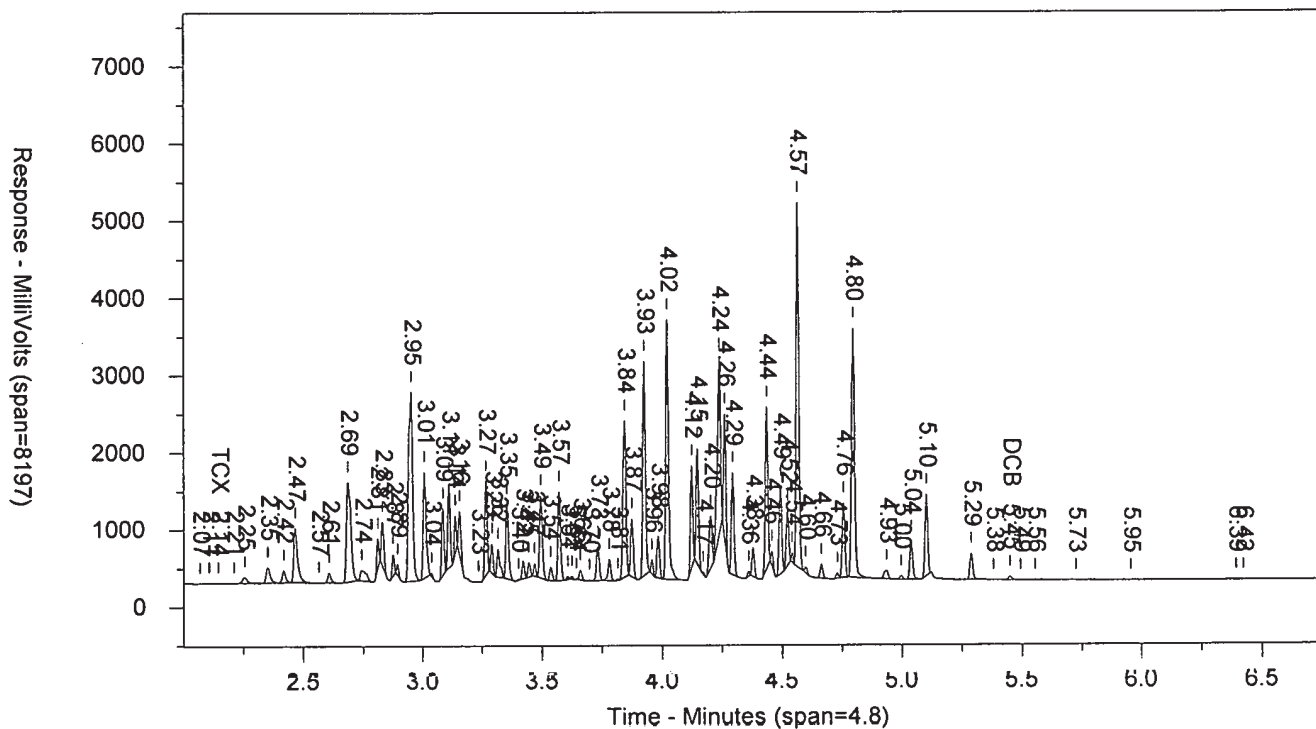
AAIC16XAA

CCAL 1830299999

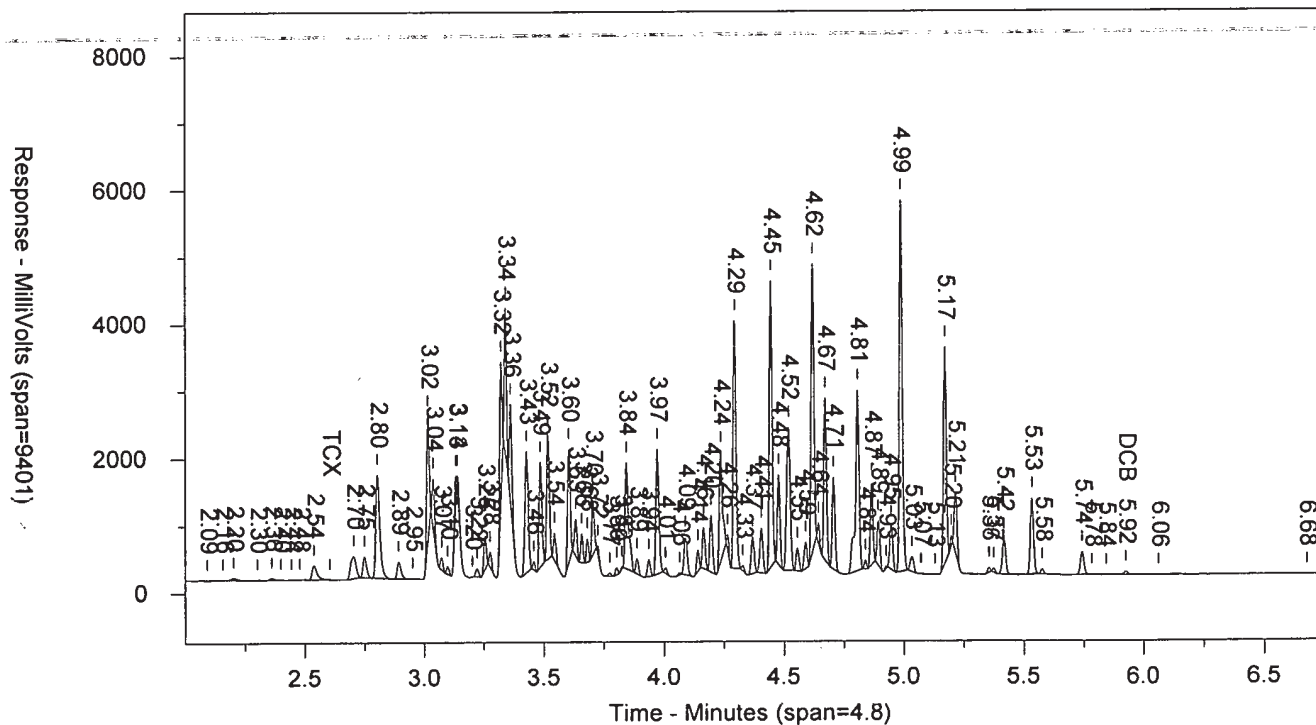
10227

SW-846 8082

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IC16X1824D

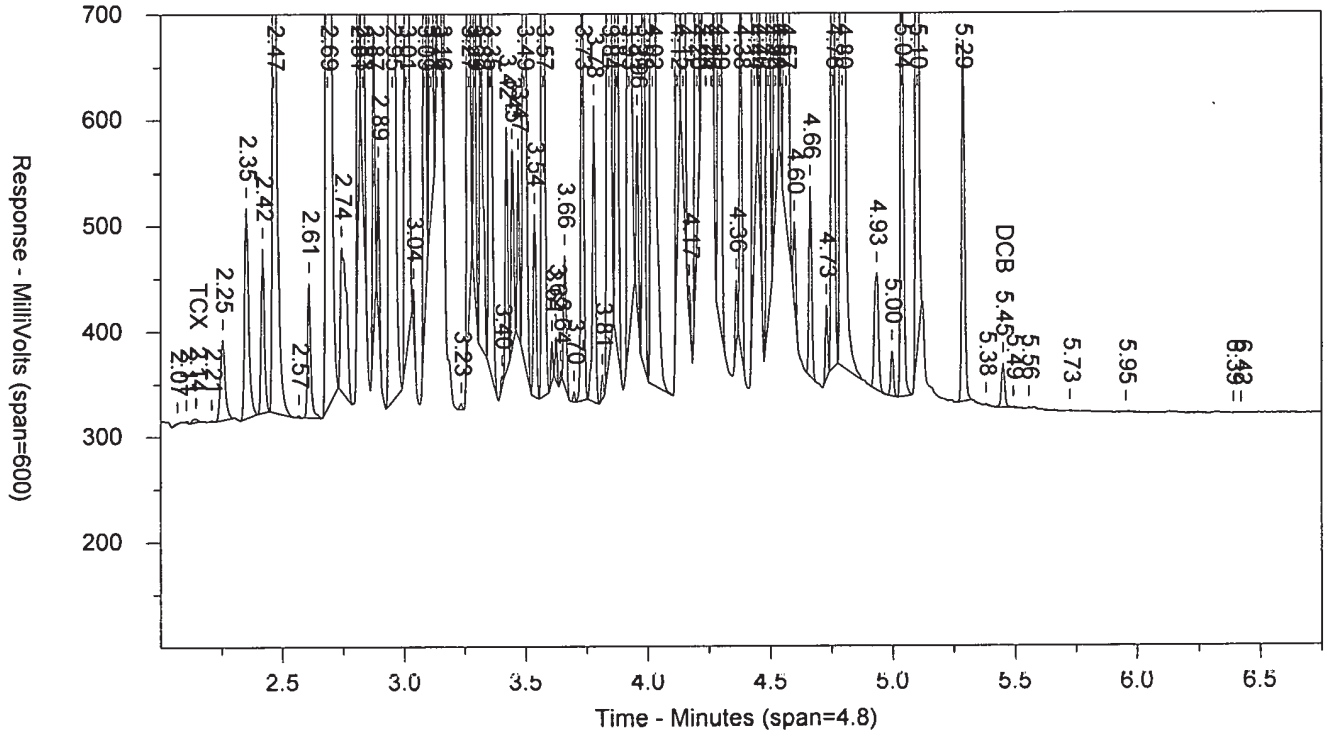
AAIC16XAA

CCAL 1830299999

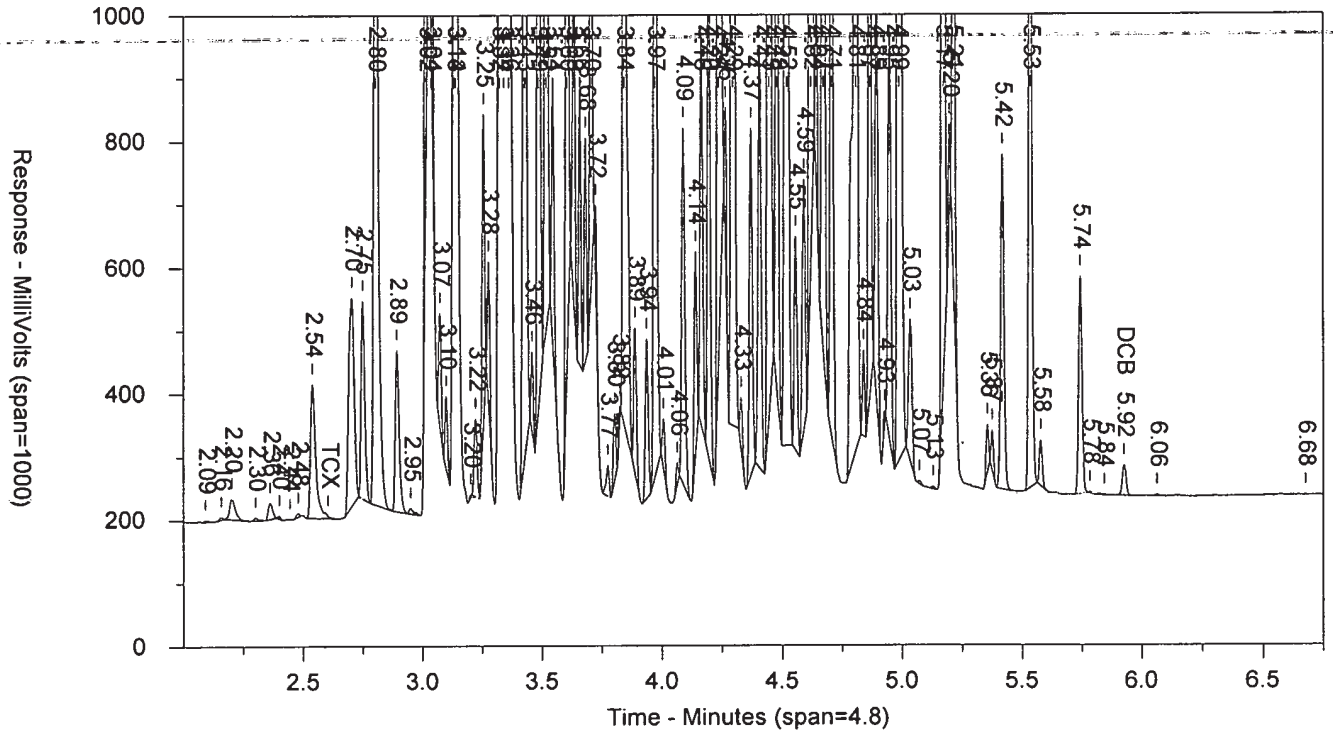
10227

SW-846 8082

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## LANCASTER LABORATORIES

Sample Number: IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082  
Injected On: 10/31/2018 12:25:26 AM Injection Volume: 1 ul  
Instrument ID: CP20-17342 Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.033.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.01		6061	5513
2.066		1618	1541
2.082		860	460
2.109		7430	5643
2.135		2370	2494
2.208		8416	7330
2.256		8883	10538
2.306		9318	7360
2.354		54172	64409
2.401		4646	2559
2.417		10976	8500
2.466		106653	144491
2.589		5718	3643
2.608		28463	22904
2.685		619481	755514
2.742		27120	20188
2.768		28089	20748
2.81		175635	113799
2.83		215482	161761
2.875		97874	61815
2.893		24760	13801
2.951		1211008	1646771
3.008		760599	661472
3.038		44834	23574
3.086		376806	253563
3.112		1479237	1066796
3.138		659480	375001
3.155		512275	346036
3.235		7111	4520
3.266		1624542	1215638
3.29		453231	287223
3.316		499220	402007
3.354		1352092	1077288
3.399		10610	6077
3.421		424341	282902
3.444		886470	587503
3.47		1799276	1213400
3.496		2013296	1487775
3.539		302473	255020
3.571		704398	556061
3.605		345843	197725
3.623		690638	399206
3.642		462711	242516
3.657		190340	106733
3.696		80527	54011
3.731		456184	347584
3.779		688503	554586
3.812		405841	273313
3.837		1076662	797281
3.88		103576	107073
3.926		69056	41351
3.94		146207	68671
3.956		577089	372058
3.981		10118	5065

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
4.02		110602	77477
4.05		88849	68575
4.122		39758	25679
4.144		66617	38764
4.166		645543	488914
4.203		25703	18381
4.238		184484	181578
4.293		29419	22403
4.324		4731	3793
4.346		883	272
4.361		7889	4980
4.381		2515	2145
4.409		618	214
4.436		7661	4561
4.458		70874	49612
4.493		4651	2915
4.523		2528	1759
4.542		34065	22182
4.564		17759	11041
4.582		6477	3446
4.632		1298	887
4.663		1173	669
4.719		1098	290
4.757		6678	5046
4.796		20037	17303
4.84		1115	777
4.933		1887	1652
5.039		1685	1327
5.101		5070	3952
5.214		748	296
5.287		4918	5110
5.383		855	482
5.478		921	386
5.492		520	224
5.032		583	353
5.646		803	286
6.138		558	255
6.218		1013	410
6.275		842	302
6.324		1449	1609
6.419		725	325

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## LANCASTER LABORATORIES

Sample Number: IC48X1824C      AAIC48XAA      CCAL 1830299999      10227  
Injected On: 10/31/2018 12:25:26 AM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
Data File: 20pcbs18303001B.033.RAW  
Method File: 20PCBSB.MET  
Calibration File: 20pcbs1830301b.CAL

SW-846 8082  
Injection Volume: 1 ul  
Analyst: 9065

RT B	Compound B	Height B	Area B
2.095		14516	15964
2.157		4612	4458
2.199		19424	24847
2.3		24048	27141
2.362		33947	42341
2.4		22559	18400
2.498		25717	24236
2.54		27299	33508
2.571		2074	1164
2.594	TCX	24878	20702
2.704		103624	179214
2.749		37451	35158
2.779		11075	6624
2.803		249730	280328
2.868		18100	12128
2.891		66619	66722
2.955		26361	28688
3.016		874054	709396
3.037		206088	130953
3.072		43697	29168
3.1		45527	33824
3.142		595806	934522
3.221		118387	131110
3.255		170480	125516
3.276		51615	38493
3.322		1077713	730271
3.34		926964	550396
3.361		661637	530874
3.427		948123	967099
3.458		146548	96849
3.486		2237174	1854829
3.517		2070232	1601832
3.544		571825	438348
3.604		2418488	1910801
3.633		635741	441149
3.657		632133	433102
3.68		300591	180950
3.704		1362879	986851
3.724		280871	162182
3.774		71243	52242
3.8		77935	53095
3.822		61731	36155
3.846		374436	311976
3.858		1701164	1046891
3.886		2402729	1871117
3.935		244841	206713
3.971		2684956	2229069
4.003		1440194	1206236
4.059		124179	116681
4.09		599346	519162
4.14		789320	628445
4.172		424583	298610
4.196		1363957	1054632
4.236		16774	8861

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.263		460143	439154
4.296		111419	115753
4.338		125175	101844
4.37		1010943	839338
4.407		10392	4840
4.421		15125	6898
4.444		169256	156021
4.479		121580	97966
4.532		853048	739586
4.562		22662	13197
4.586		31059	28402
4.62		237958	193924
4.644		51926	37125
4.673		9449	6450
4.707		7340	4898
4.732		2955	1743
4.795		97967	106004
4.864		8581	9278
4.893		4967	3613
4.949		48663	38101
4.988		31057	31554
5.037		2921	2596
5.122		2072	2158
5.172		27202	22108
5.199		1310	847
5.215		5231	3754
5.352		2106	2450
5.377		1686	1587
5.416		1852	1461
5.532		5452	4828
5.635		1095	1143
5.743		5677	5919
5.782		2011	2040
5.928	DCB	2734	3238
6.142		1318	3819
6.8		2249	2998

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IC48X1824C

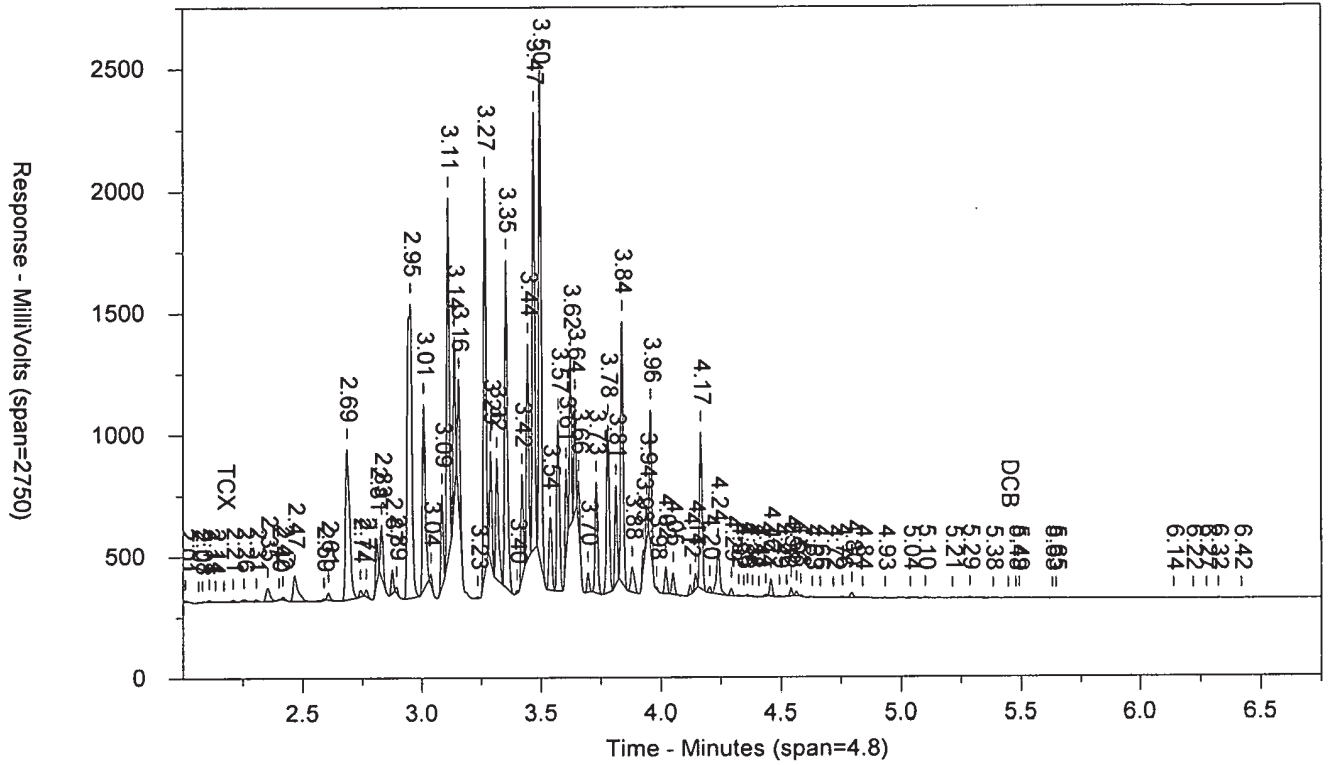
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CCAL 1830299999

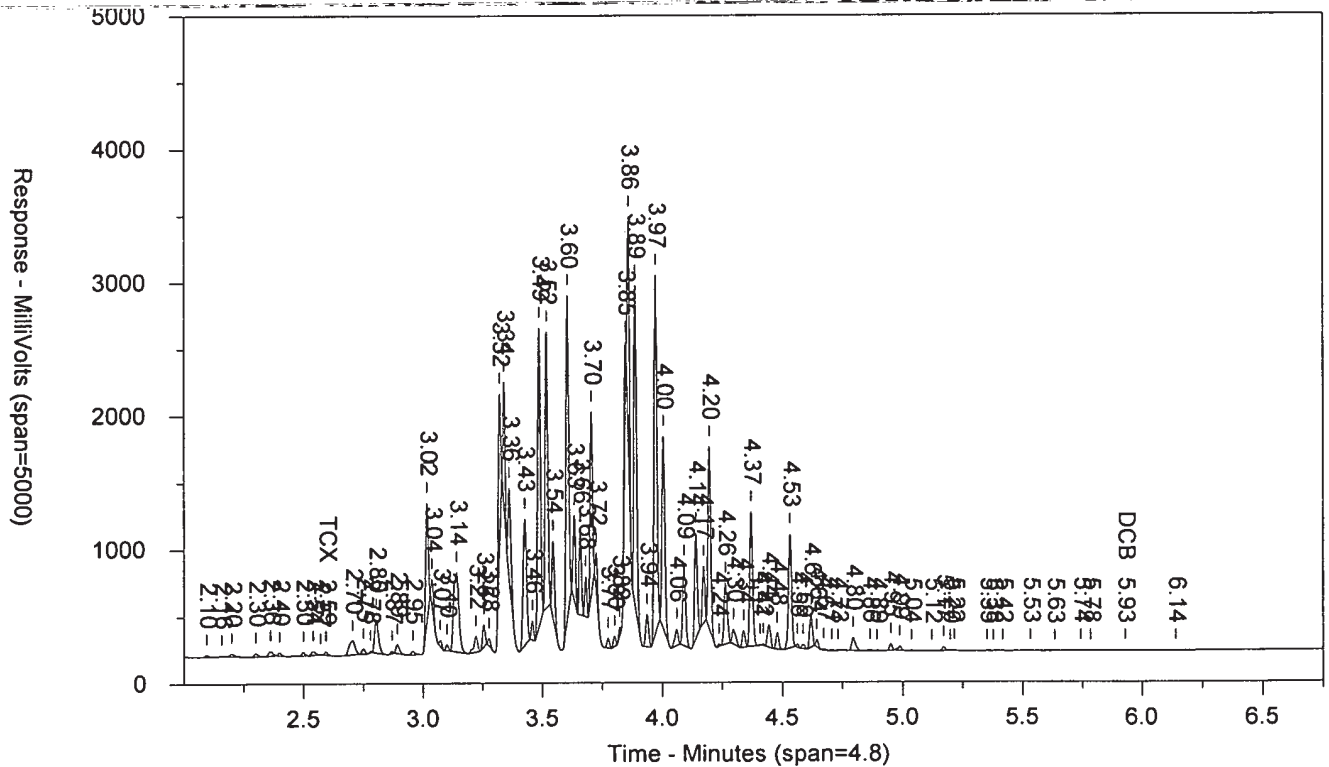
10227

SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.033.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: IC48X1824C      AAIC48XAA      CCAL 1830299999      10227  
Injected On: 10/31/2018 12:25:26 AM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1  
Dilution Factor: 1

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

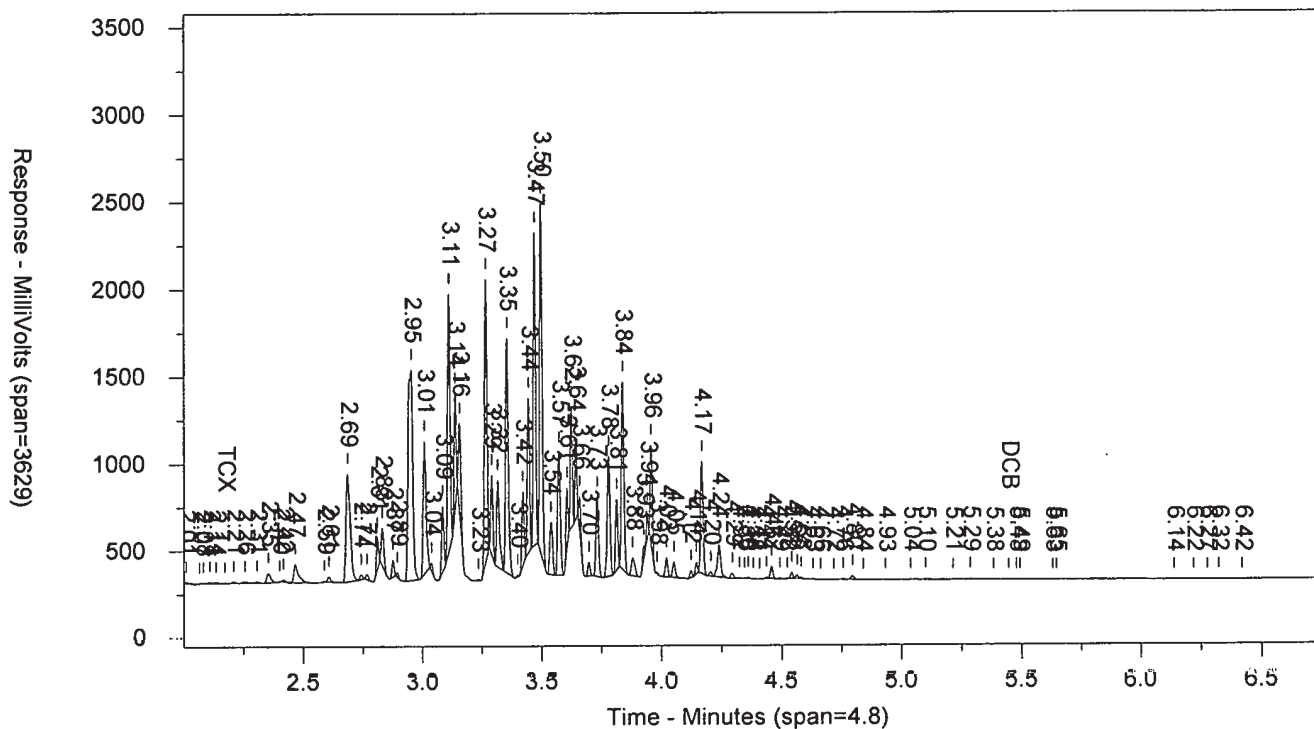
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
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	0		DCB	5.928	2734	.018	DCB

Files:

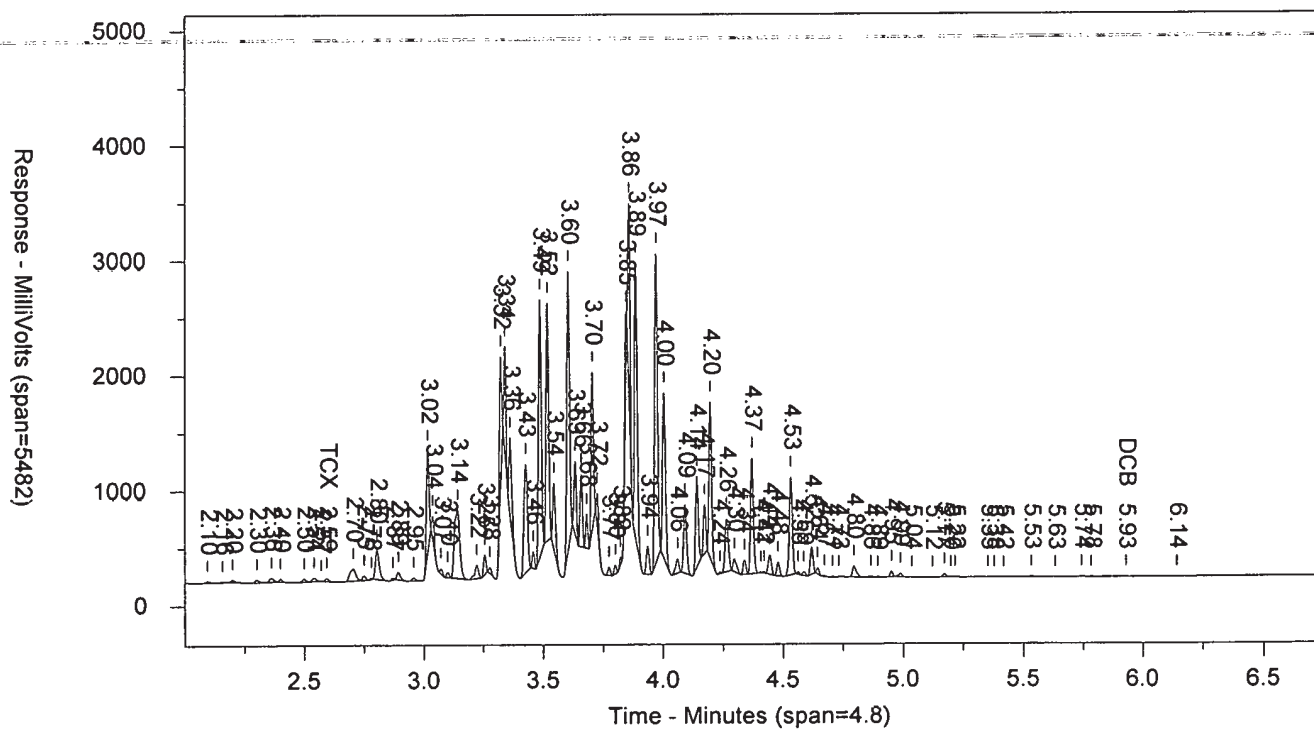
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Area File: 20pcbs18303001B.033.RAW  
Method A: 20PCBS.MET  
Method B: 20PCBSB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 10/31/2018 12:33:29 AM  
File Reported On: 10/31/2018 at 12:33:34 AM

IC48X1824C AAIC48XAA CCAL 1830299999 10227 SW-846 8082

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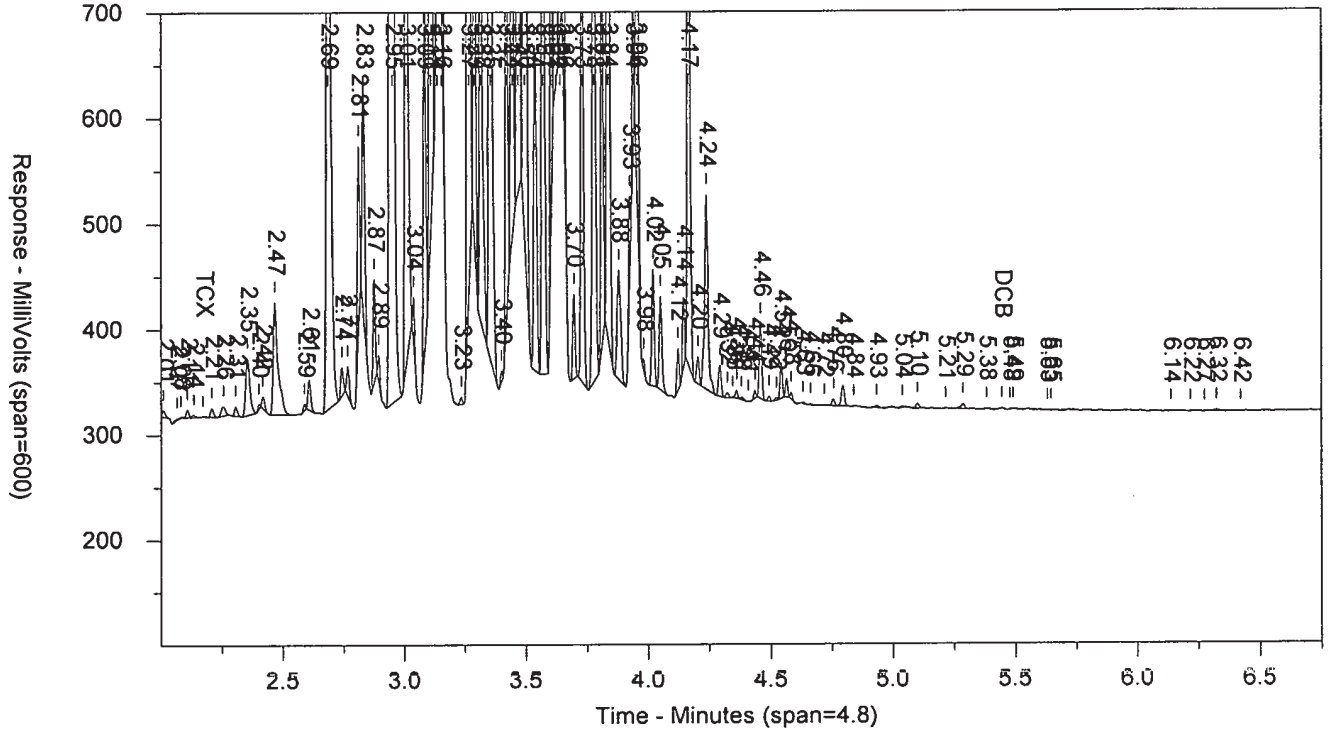
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CCAL 1830299999

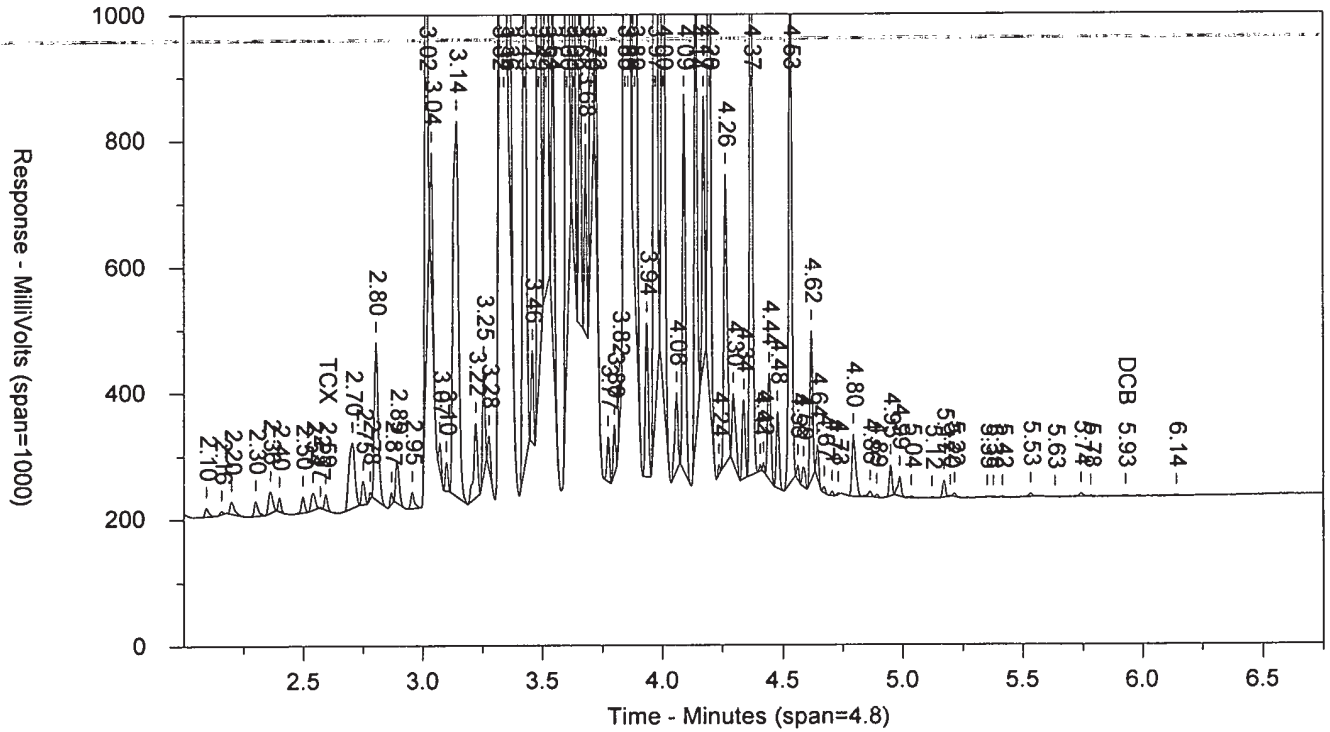
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SW-846 808Z

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## LANCASTER LABORATORIES

Sample Number: IC54X1824C    AAIC54XAA    CCAL 1830299999    10227    SW-846 8082  
Injected On: 10/31/2018 12:35:54 AM    Injection Volume: 1 ul  
Instrument ID: CP20-17342    Analyst: 9065  
Oven Parameters: 160C hold 0.25min, 35C/min to 330C hold 3min  
Column A ID: DB-CLP1 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2 30m x 0.32mm x 0.5um  
Date File: 20pcbs18303001.034.RAW  
Method File: 20PCBS.MET  
Calibration File: 20pcbs1830301.CAL

RT A	Compound A	Height A	Area A
2.009		17175	19795
2.091		1176	4549
2.109		17701	12914
2.132		2616	2258
2.209		21126	19665
2.255		2224	2012
2.283		1072	439
2.307		22912	20319
2.354		14451	16932
2.402		23221	24073
2.467		12398	9551
2.495		21722	17385
2.589		24281	24220
2.688		99748	134742
2.746		1960	1483
2.768		51066	46696
2.013		8285	5153
2.835		89225	69873
2.853		7122	3952
2.876		9001	5161
2.893		4465	2466
2.943		91636	109801
3.01		181938	247509
3.086		18570	12032
3.112		1339541	981275
3.138		241860	135715
3.156		156381	100442
3.189		26993	21738
3.238		2220	1038
3.266		816337	620824
3.29		40438	21059
3.317		113133	86443
3.355		461371	410848
3.403		13830	9901
3.422		73479	45511
3.445		313151	217029
3.47		1068535	704782
3.496		2284241	1764569
3.538		787626	684073
3.571		2735214	2093417
3.606		1067668	719101
3.623		78811	34864
3.658		930139	793231
3.697		200505	137611
3.732		1149856	881109
3.781		2111447	1651936
3.814		601494	393938
3.839		4026406	3172433
3.874		325304	213633
3.889		45649	18351
3.907		22113	7993
3.926		1256082	820829
3.941		67228	19714
3.957		2291774	1498326

## Chrom Perfect Chromatogram Report

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RT A	Compound A	Height A	Area A
3.983		288290	179700
4.021		1664789	1313434
4.05		146341	105007
4.123		570362	366077
4.146		856953	578928
4.168		1456463	1046093
4.205		339037	262261
4.239		2646283	2652267
4.294		396016	298754
4.322		12230	7524
4.346		10089	5129
4.362		127334	80816
4.381		11006	5634
4.415		909	207
4.437		146875	92943
4.459		805675	614579
4.494		115152	80960
4.523		85493	54545
4.543		400802	268412
4.565		338333	216663
4.584		60250	30121
4.631		4814	3976
4.659		2694	1680
4.731		1636	1158
4.757		15329	11667
4.797		380044	329929
4.094		1079	738
4.927		10927	14654
5		2359	1827
5.039		9910	10307
5.101		17874	16203
5.215		945	715
5.284		1543	1009
5.322		1263	1346
5.38		1210	925
5.442	DCB	1174	854
5.493		1979	1936
5.596		793	195
5.719		1216	846
5.775		644	231
5.823		852	184
5.889		719	246
5.918		503	332
5.996		610	337
6.045		500	321
6.3		916	320
6.325		802	374

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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: IC54X1824C      AAIC54XAA      CCAL 183029999      10227      SW-846 8082  
 Injected On: 10/31/2018 12:35:54 AM      Injection Volume: 1 ul  
 Instrument ID: CP20-17342      Analyst: 9065  
 Oven Parameters: 160C hold 0.25 min, 35C/min to 330C, hold 3 min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm x 0.50um  
 Data File: 20pcbs18303001B.034.RAW  
 Method File: 20PCBSB.MET  
 Calibration File: 20pcbs1830301b.CAL

RT B	Compound B	Height B	Area B
2.095		43974	50730
2.157		8909	10779
2.199		49053	55195
2.3		58713	65787
2.361		57971	74033
2.4		55019	48209
2.456		2836	2438
2.498		62694	58790
2.542		4964	5692
2.572		2154	1257
2.594	TCX	62301	55441
2.688		73850	106607
2.751		10312	8693
2.779		49860	35969
2.802		35503	33240
2.868		57952	48667
2.896		6593	6872
2.956		60911	67348
3.018		114319	92423
3.039		56104	39583
3.101		45212	33800
3.132		104159	147142
3.205		13258	11516
3.222		109049	93056
3.255		21276	13702
3.284		44316	42789
3.323		24341	20440
3.337		55063	37144
3.363		266329	303433
3.425		124881	141866
3.459		14363	7728
3.486		2151693	1836076
3.517		773571	629150
3.543		36624	19700
3.567		6928	3595
3.604		1234443	1025253
3.632		53439	33411
3.658		160680	115423
3.682		186662	121990
3.704		359747	251831
3.725		55354	32843
3.775		52144	41938
3.801		111812	84732
3.844		2422051	1658190
3.858		529446	250991
3.888		887292	698647
3.936		844302	712340
3.972		5419438	4568654
4.006		1617997	1289057
4.06		268926	244908
4.09		1492415	1288204
4.14		2575980	1962514
4.171		672713	511797
4.196		5238254	4105574

## Chrom Perfect Chromatogram Report

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RT B	Compound B	Height B	Area B
4.236		266431	164024
4.263		713837	606129
4.294		1841648	1683536
4.338		278791	211565
4.37		3752968	3004854
4.406		369909	308904
4.446		2156857	1755401
4.478		1346608	1076176
4.531		1930185	2071713
4.562		275986	190658
4.588		372062	333074
4.619		3474052	2735659
4.644		579513	399542
4.672		121675	81756
4.706		139104	106350
4.73		29296	19118
4.764		13221	8264
4.795		1100091	1242389
4.841		9936	5928
4.865		145131	114718
4.894		118905	93337
4.923		10487	5832
4.95		598099	476700
4.988		461356	452604
5.03		19057	20837
5.071		2092	2488
5.123		1824	1317
5.171		385417	316311
5.196		51848	42224
5.374		21494	18590
5.417		13672	12286
5.533		22600	21165
5.742		2790	2979
5.783		1699	1616
5.925	DCB	2108	2204
6.472		850	437

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IC54X1824C

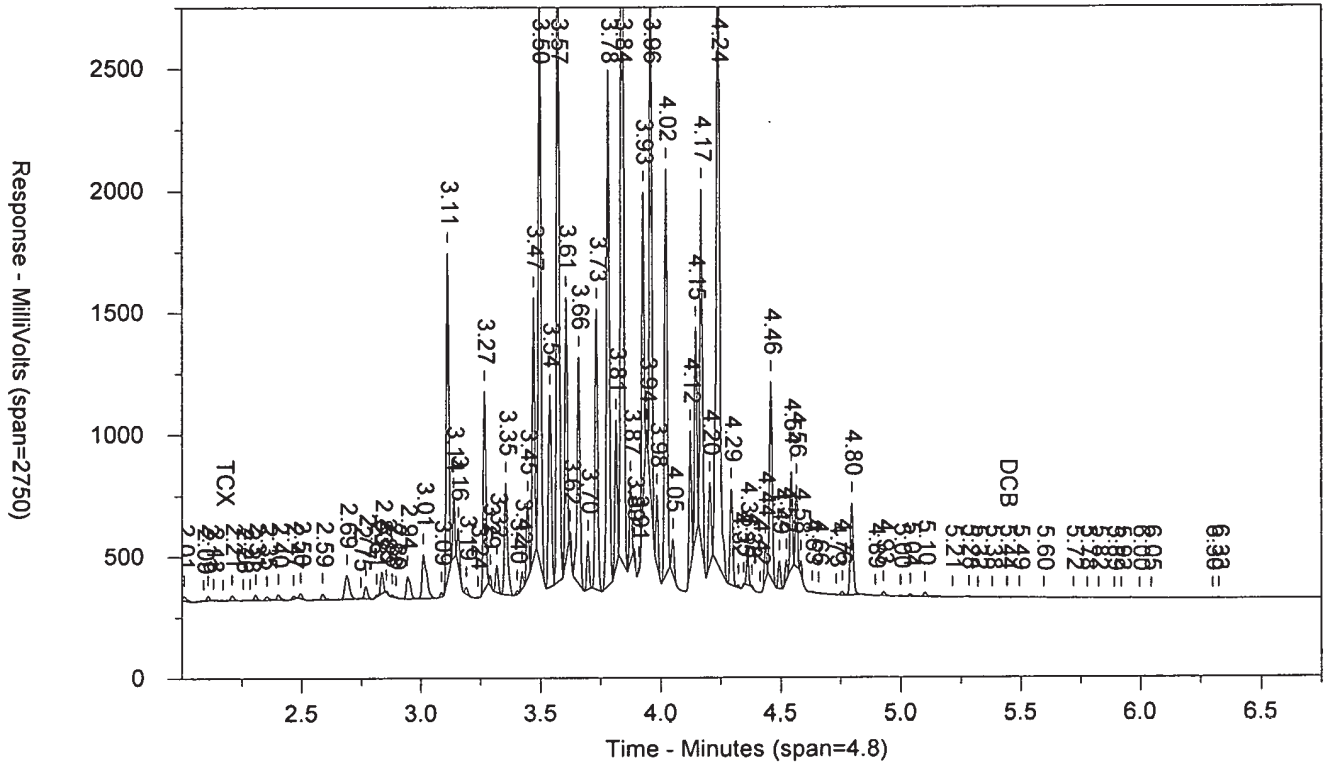
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CCAL 1830299999

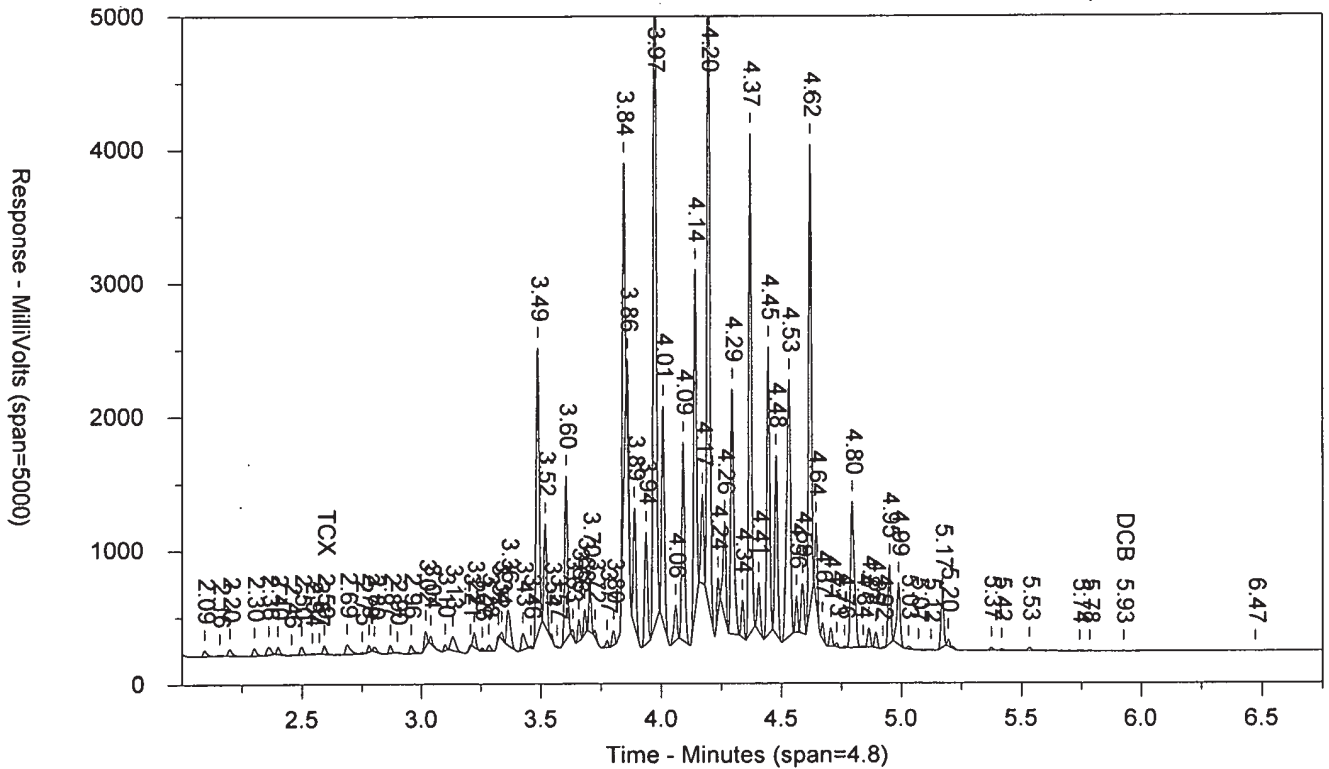
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SW-846 8082

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303001B.034.RAW



LANCASTER LABORATORIES

Sample Number: IC54X1824C      AAIC54XAA      CCAL 1830299999      10227      SW-846 8082  
 Injected On: 10/31/2018 12:35:54 AM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
	0		TCX	2.594	62301	.161	TCX
5.442	1174	.007	DCB	5.925	2108	.014	DCB

Files:  
 Area File: 20pcbs18303001.034.RAW  
 Area File: 20pcbs18303001B.034.RAW  
 Method A: 20PCBS.MET  
 Method B: 20PCBSB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 10/31/2018 12:43:57 AM  
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IC54X1824C

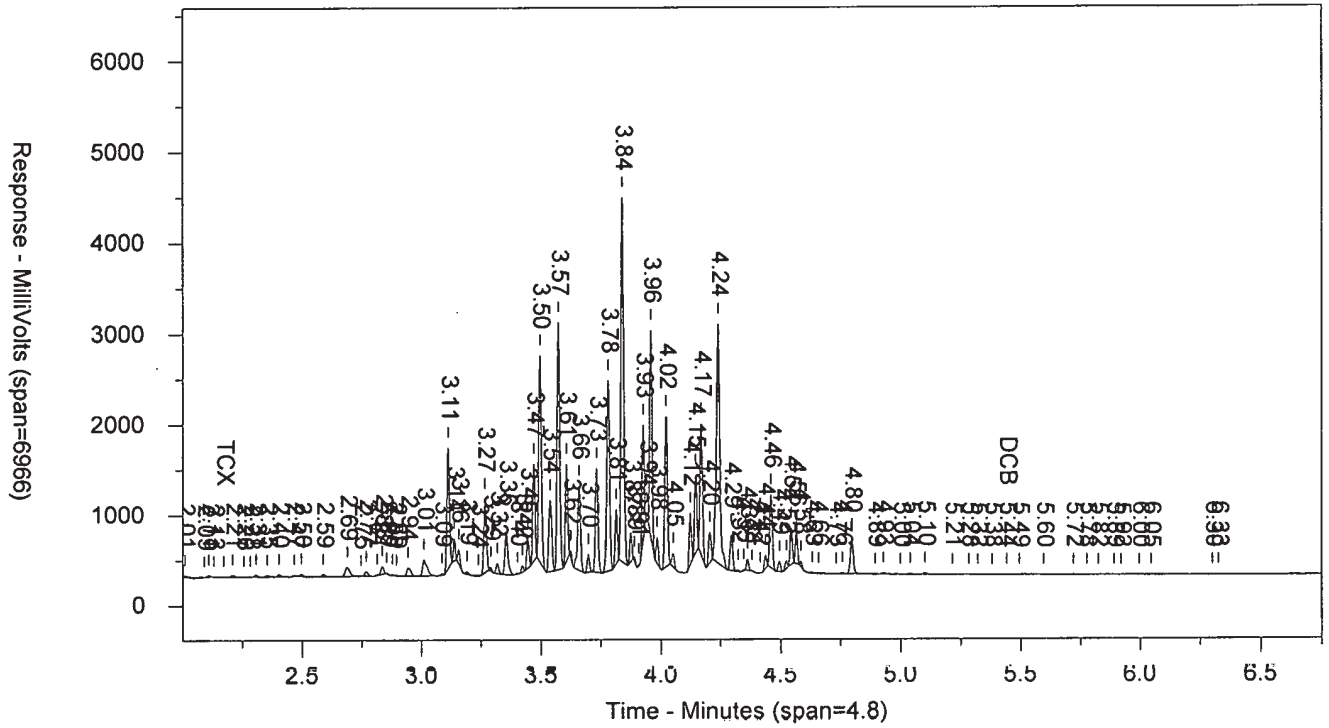
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CCAL 1830299999

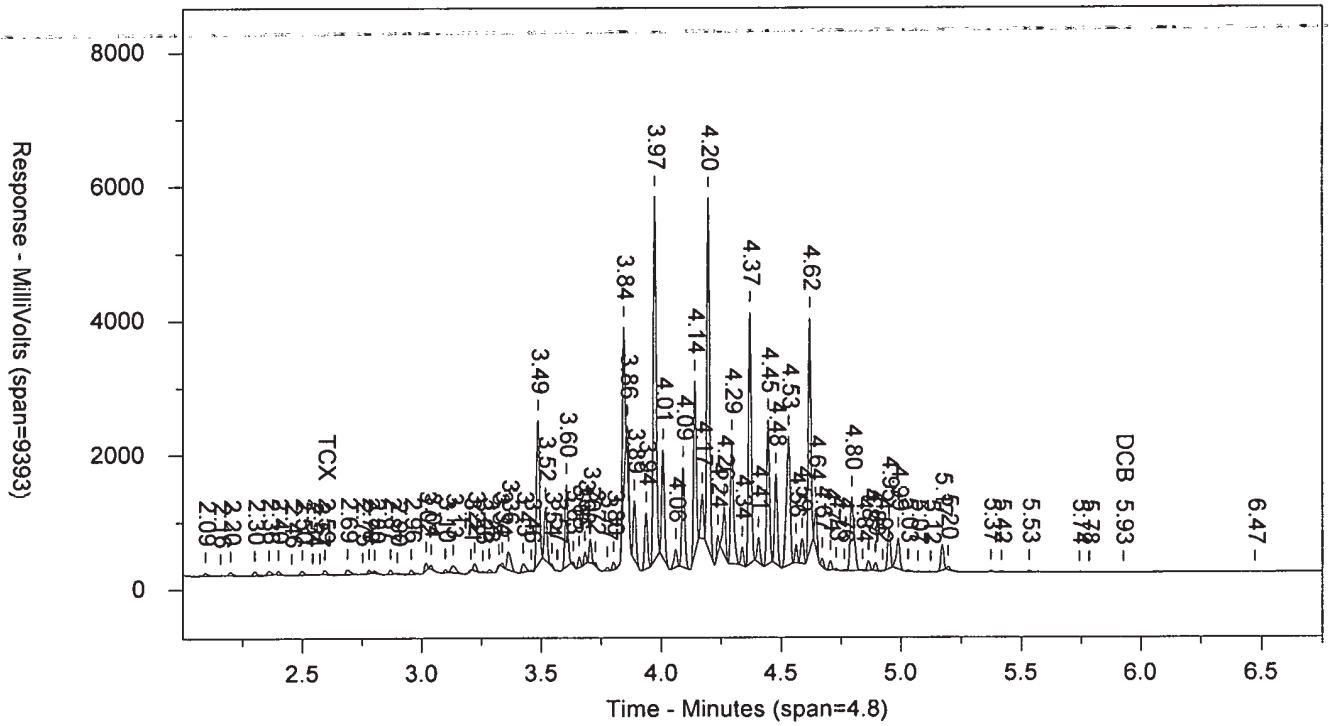
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SW-846 8082

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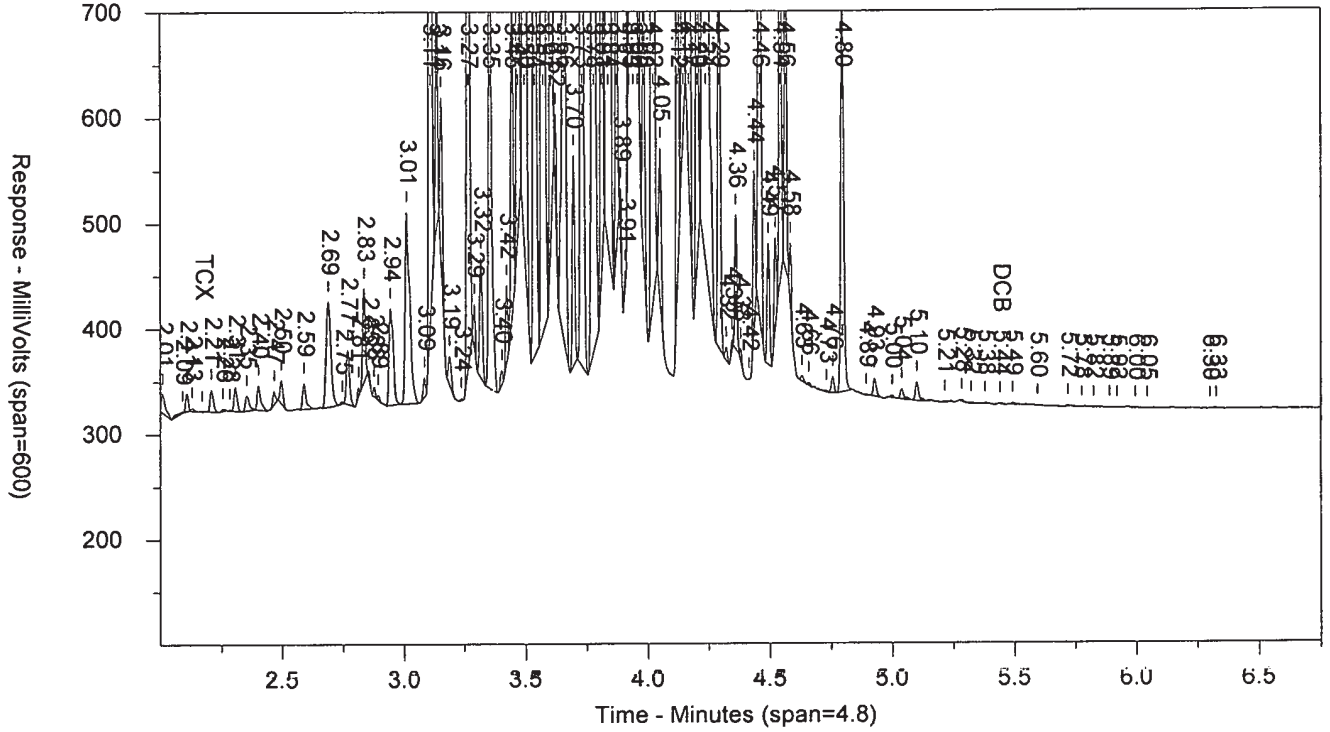
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CCAL 1830299999

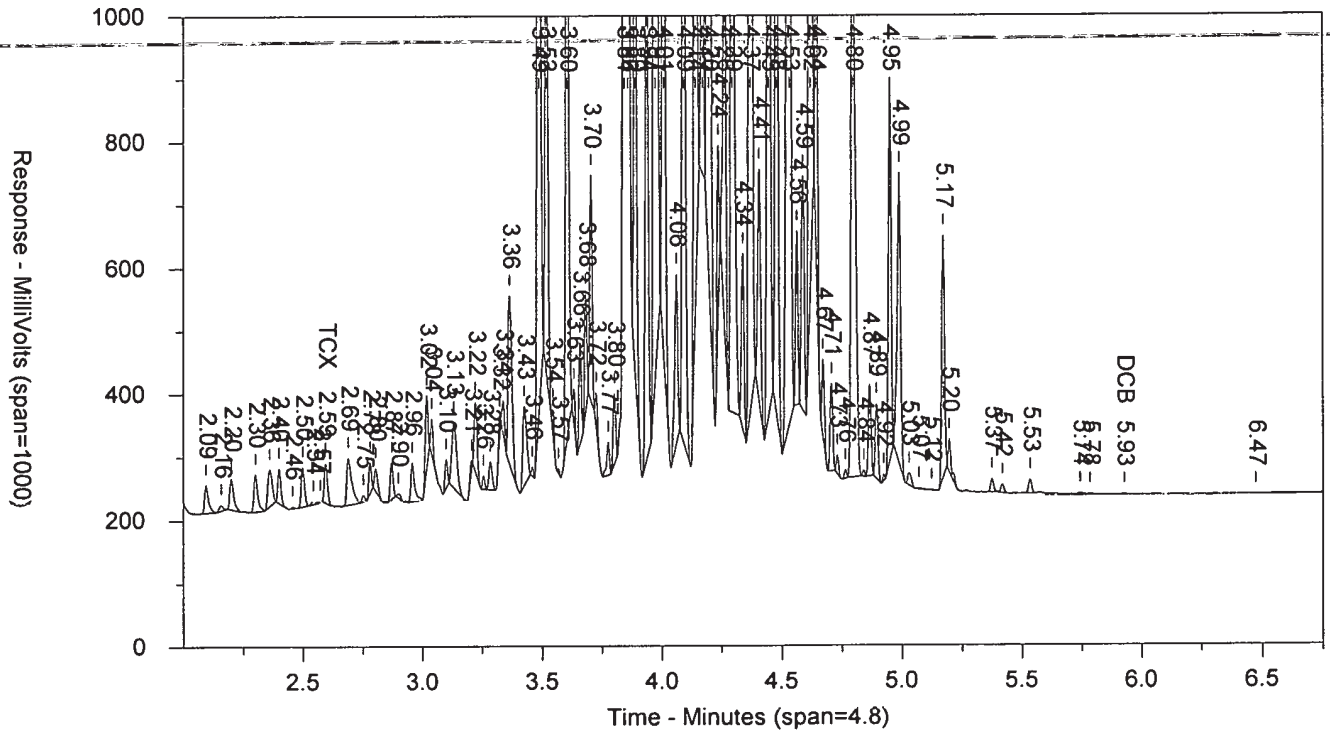
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SW-846 8082

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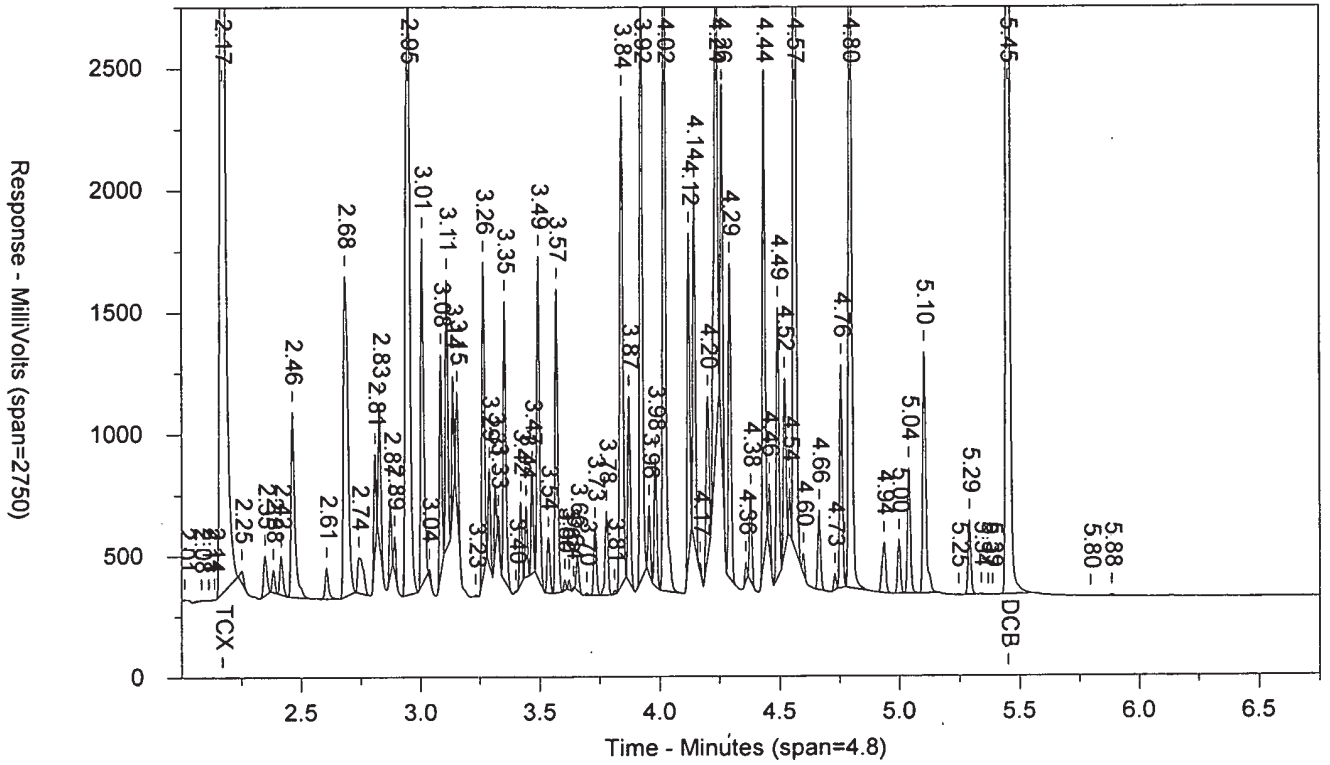
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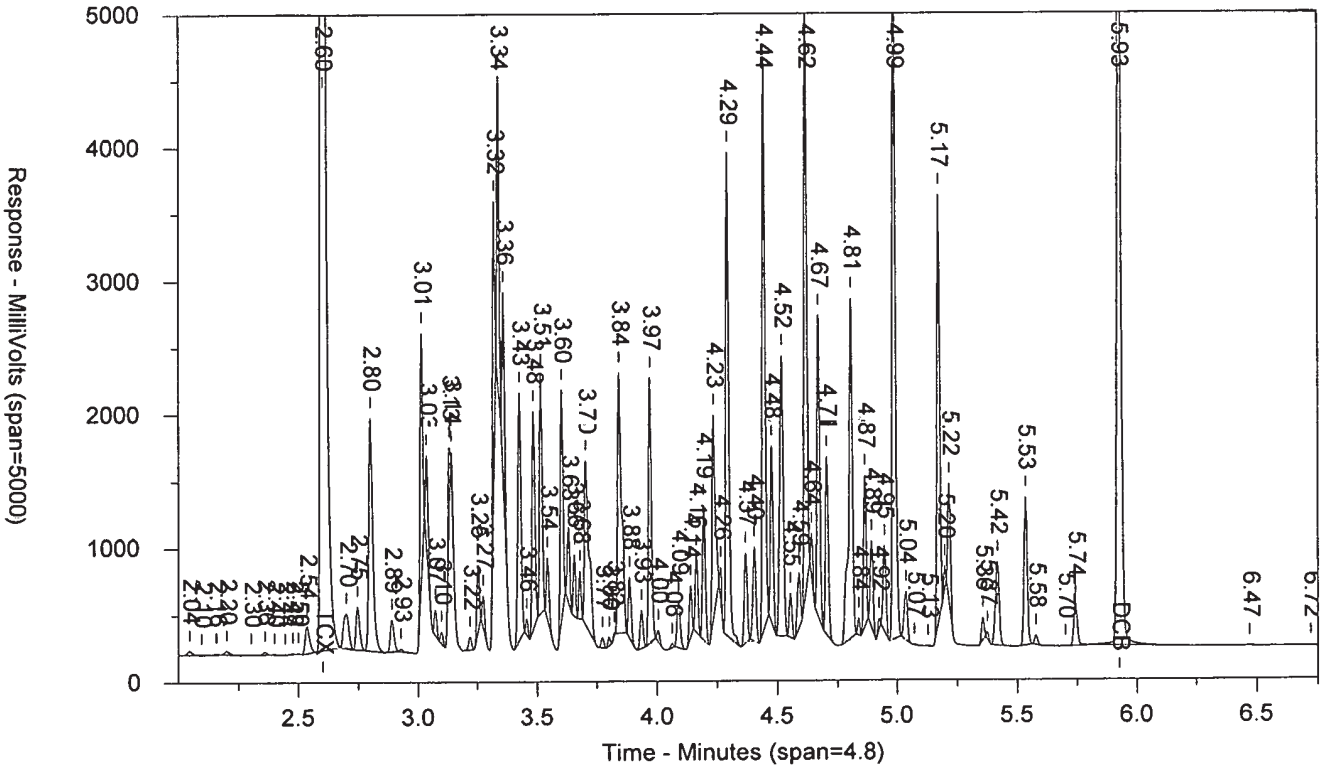
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SW-846 8082

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LANCASTER LABORATORIES

Sample Number: AR1641824D      IBAR164IB      CCAL 1830399999      10227      SW-846 8082  
 Injected On: 11/1/2018 2:08:22 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	7144216	41.621	TCX	2.603	16974820	43.886	TCX
5.452	6656787	38.797	DCB	5.926	6805572	43.969	DCB

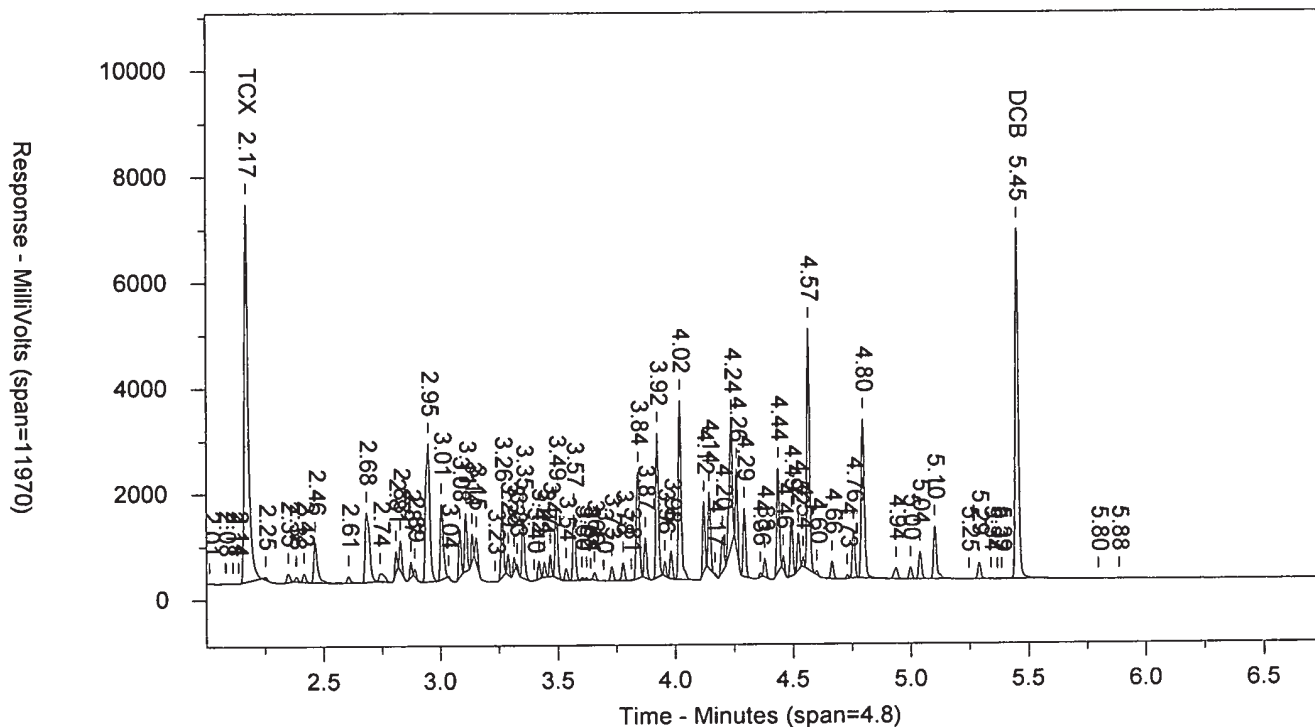
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 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
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 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
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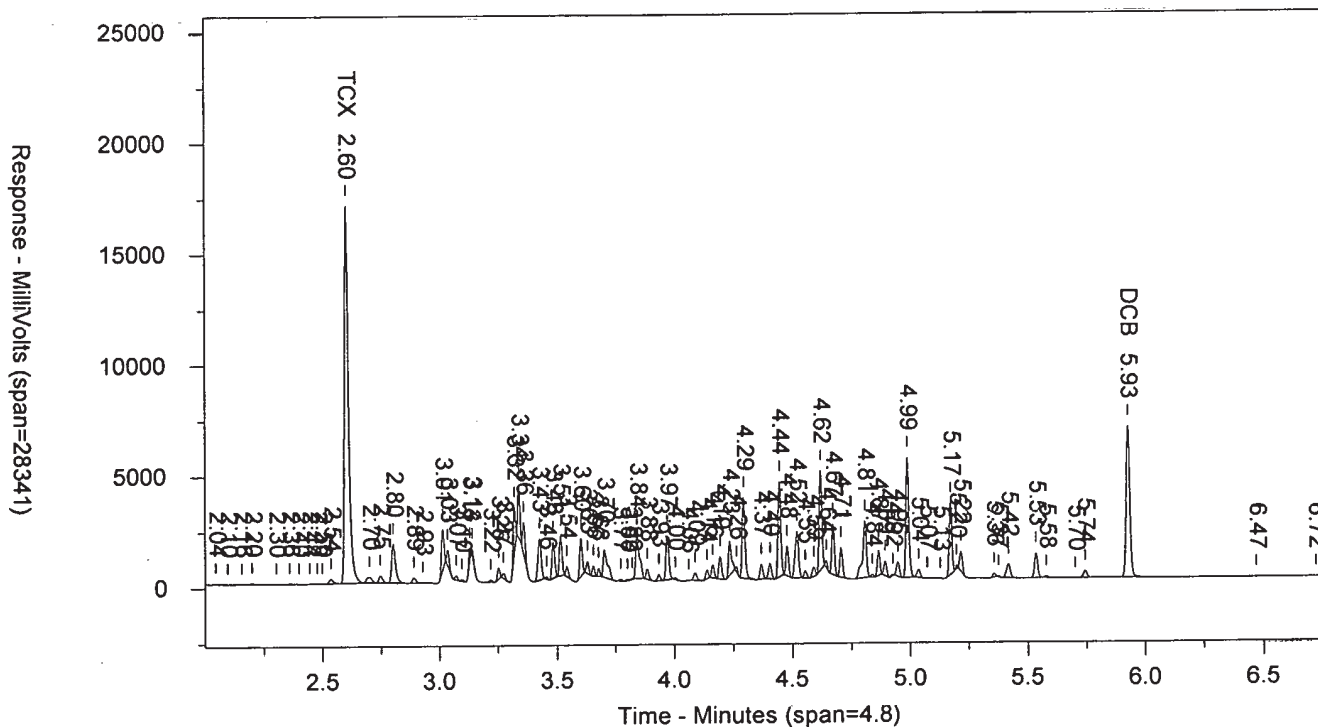


AR1641824D IBAR164IB CCAL 183039999 10227 SW-846 8082

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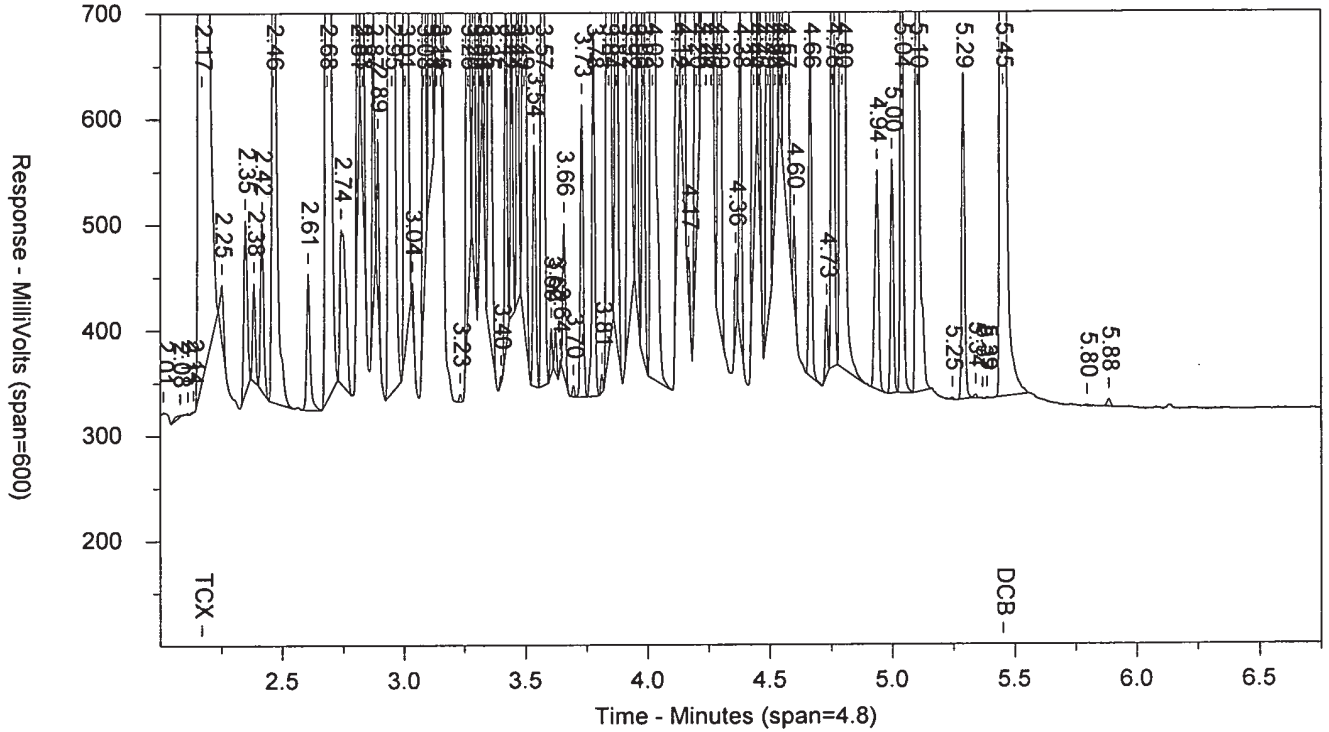


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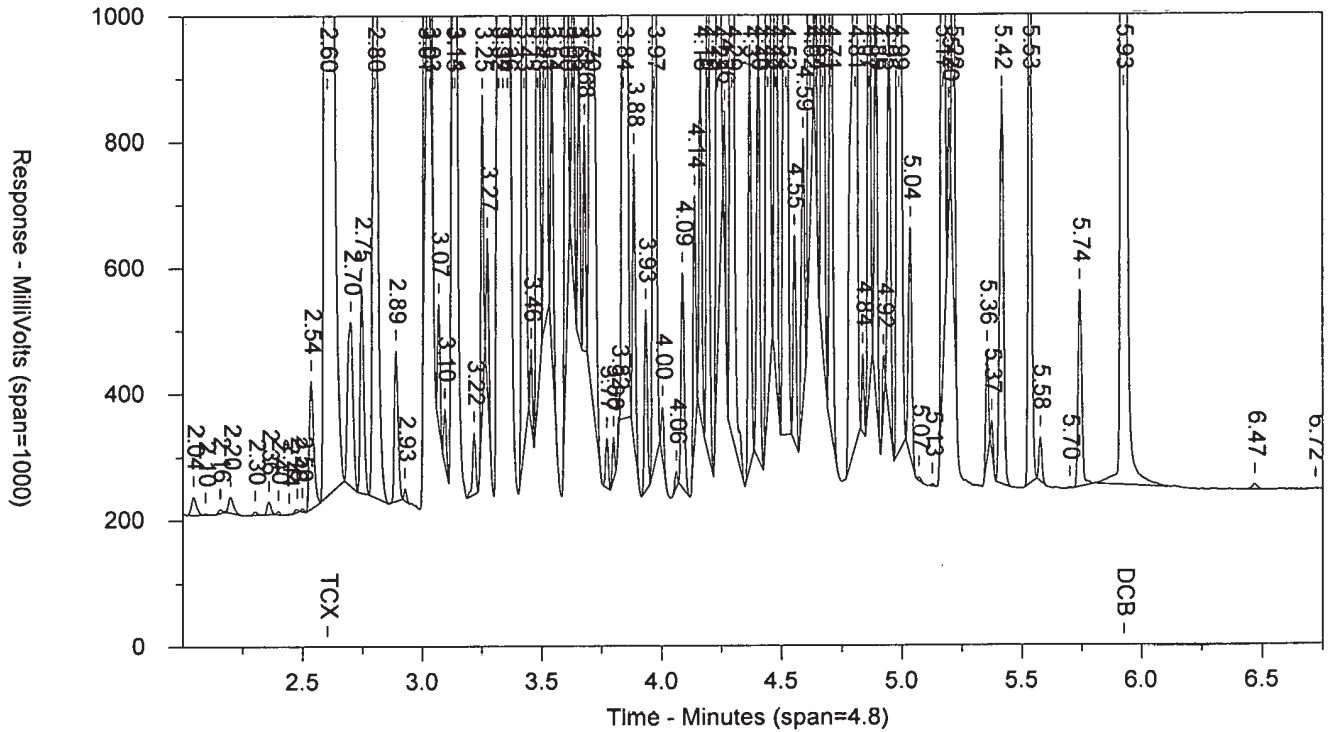


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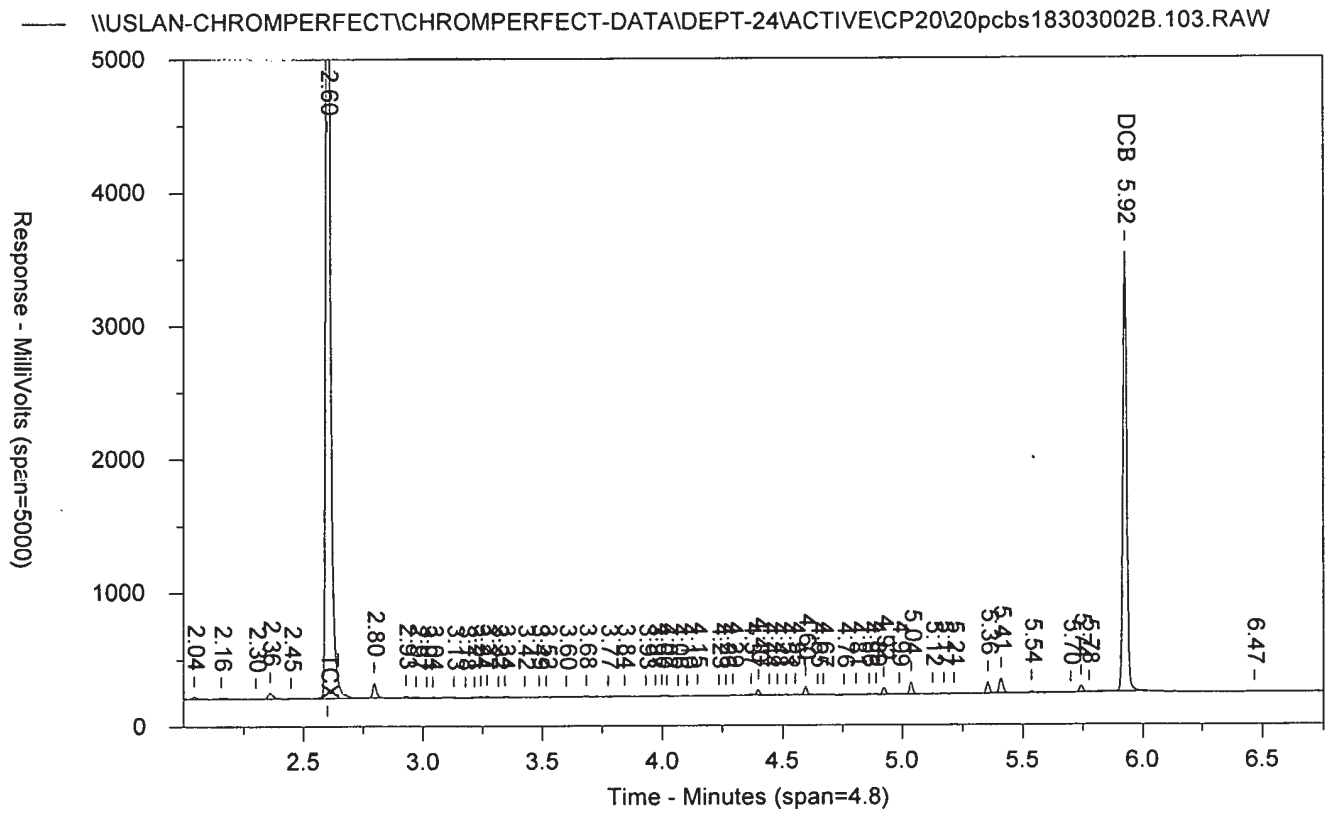
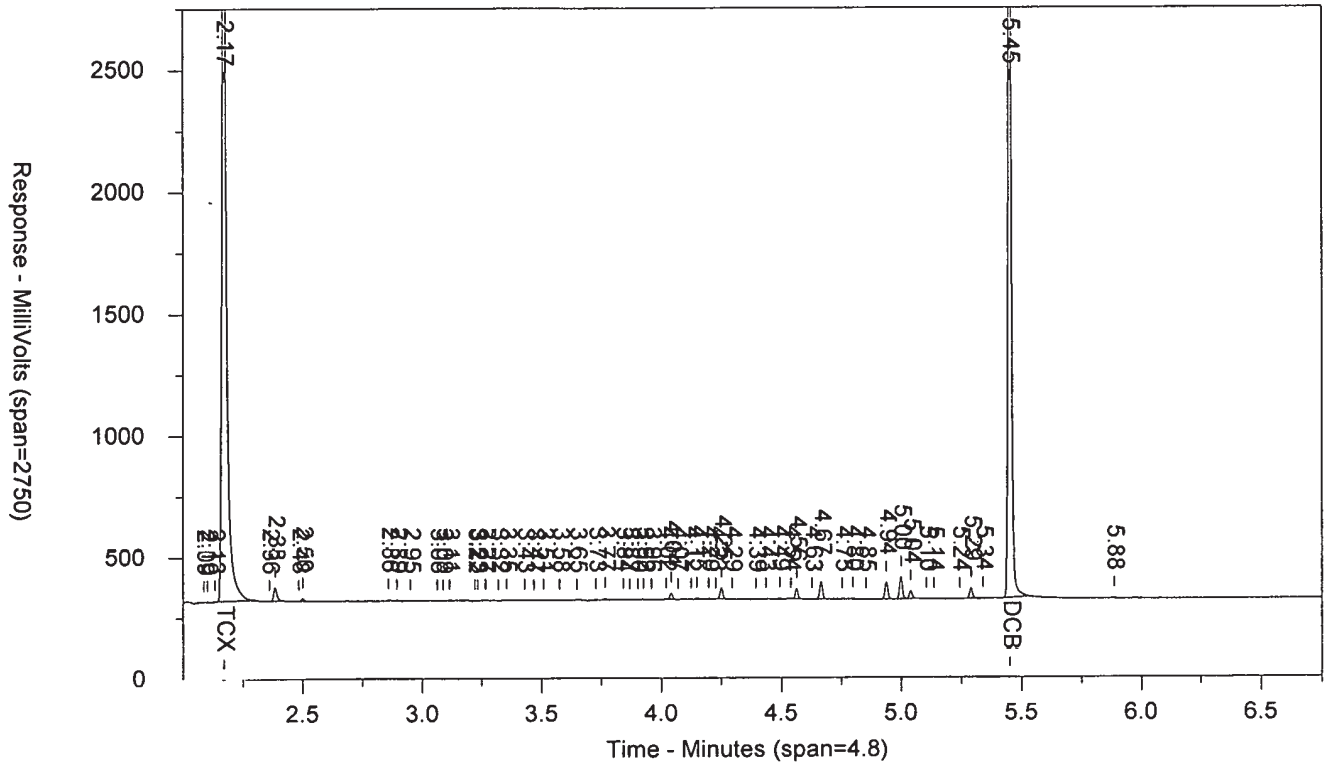
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IBLKX1824C      HTPIBLKHT      PIBLK183039999      10227      SW-846 8082  
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LANCASTER LABORATORIES

Sample Number: IBLKX1824C      HTPIBLKHT      PIBLK1830399999      10227      SW-846 8082  
 Injected On: 11/1/2018 2:18:55 PM      Sample Weight: 1000  
 Instrument ID: CP20-17342      Dilution Factor: 10  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

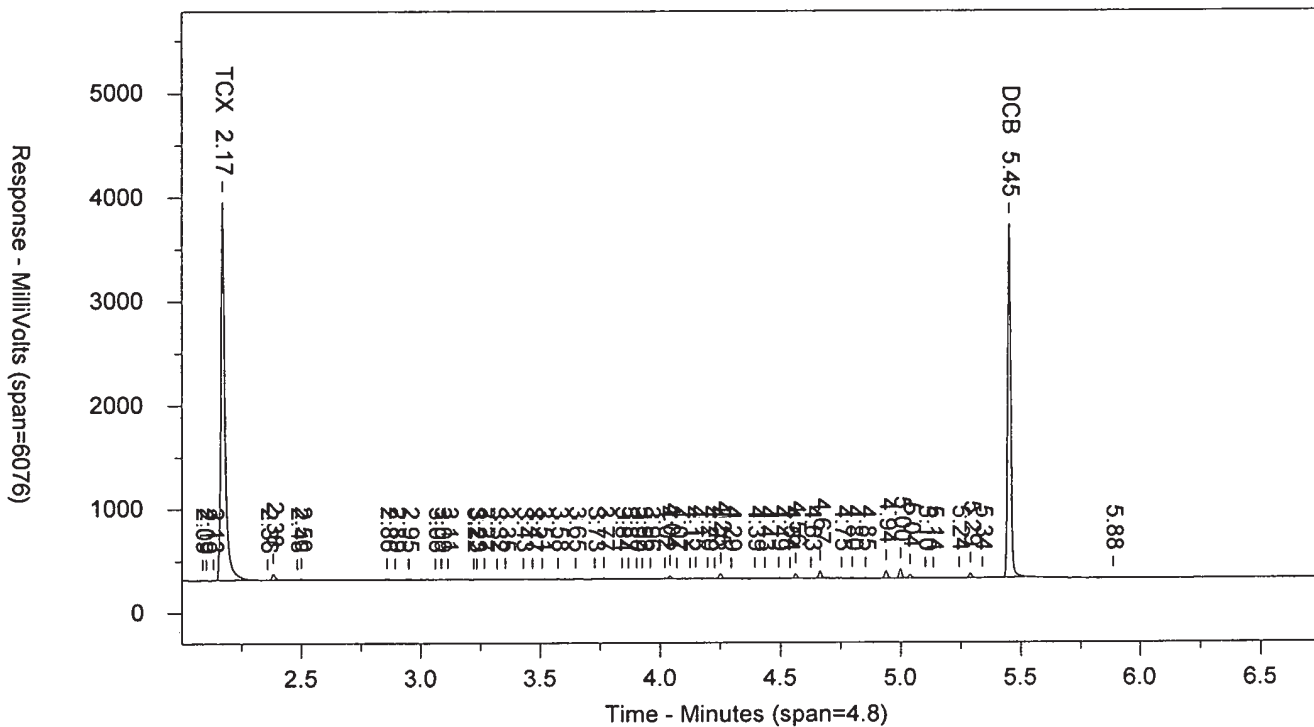
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	3638905	.212	TCX	2.602	8324589	.215	TCX
5.451	3408748	.199	DCB	5.925	3298351	.213	DCB

Files:

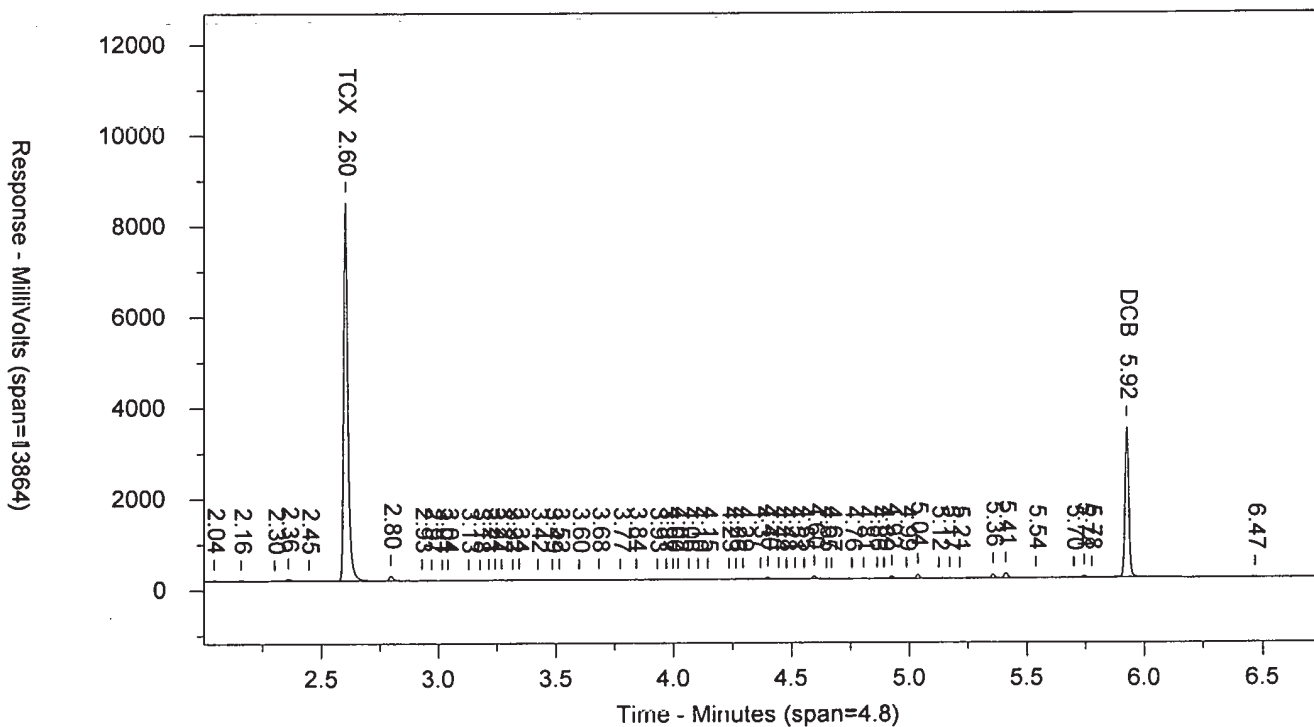
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 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
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IBLKX1824C HTPIBLKHT PIBLK1830399999 10227 SW-846 8082

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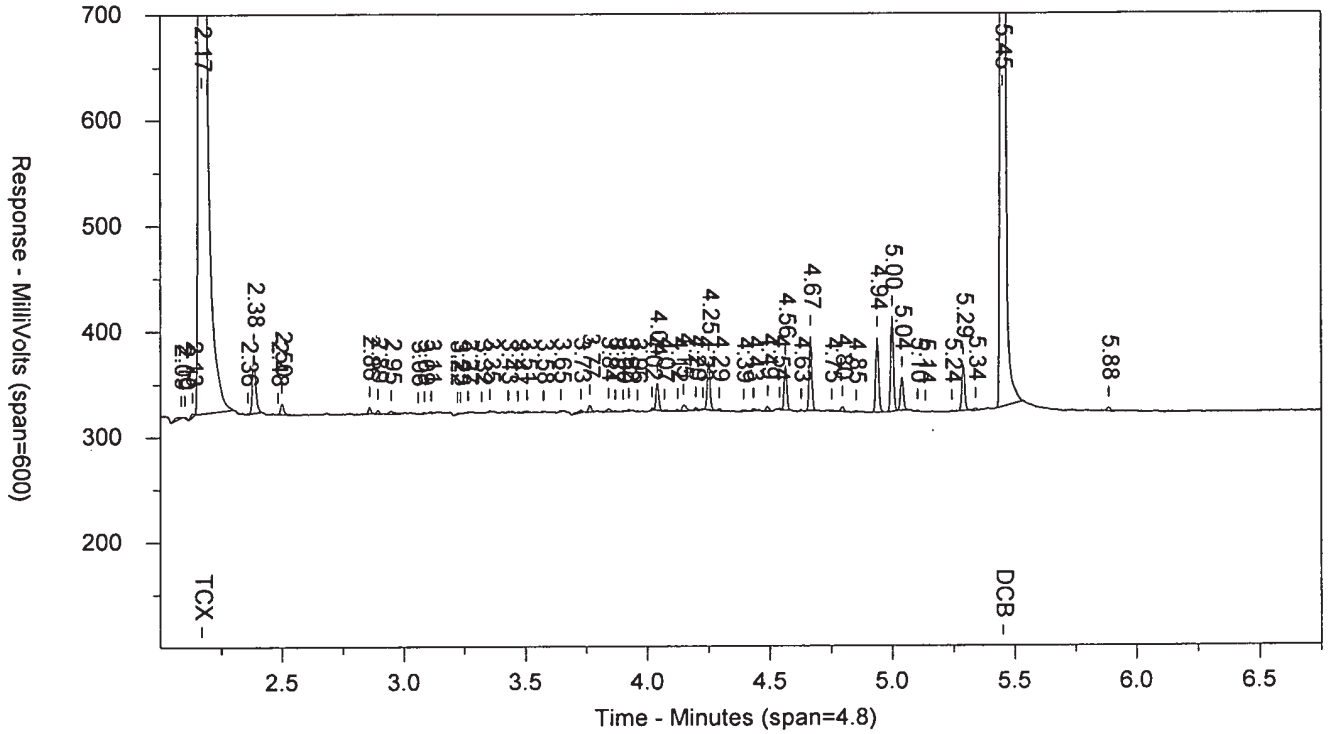


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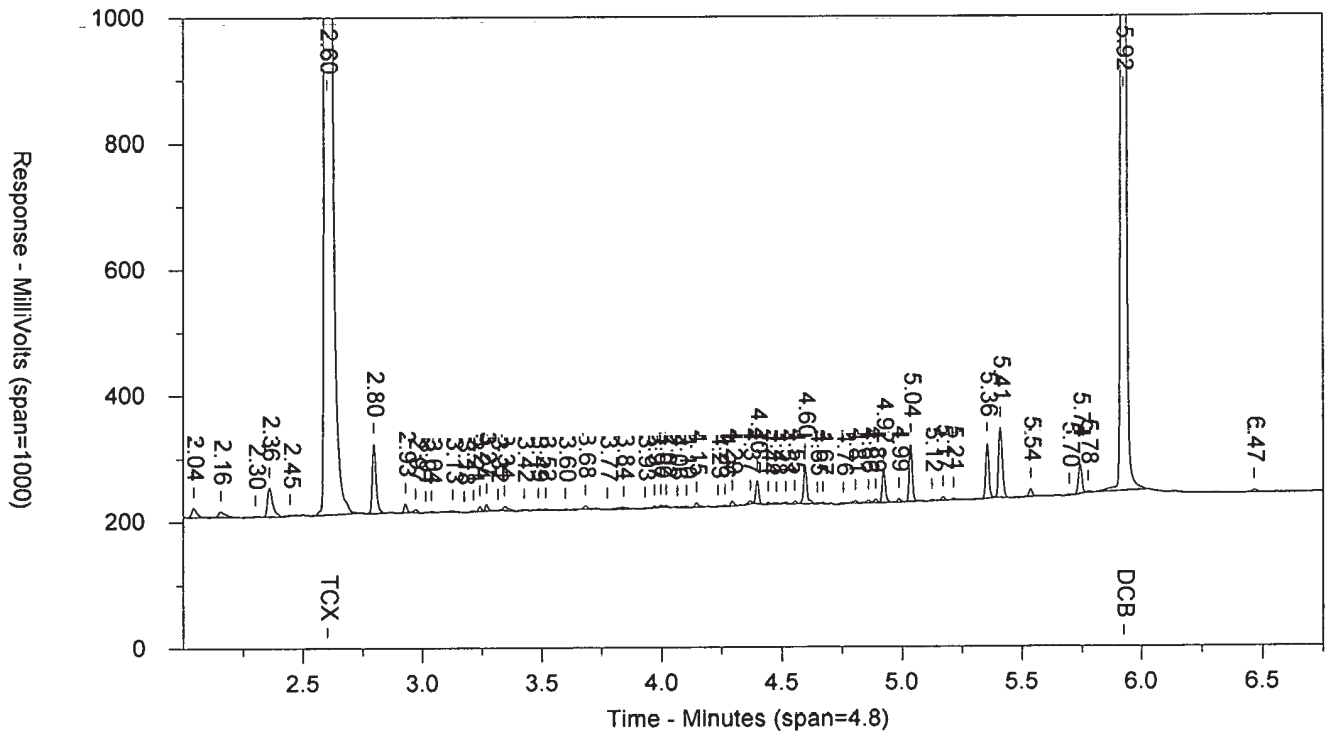


IBLKX1824C HTPIBLKHT PIBLK1830399999 10227 SW-846 8082

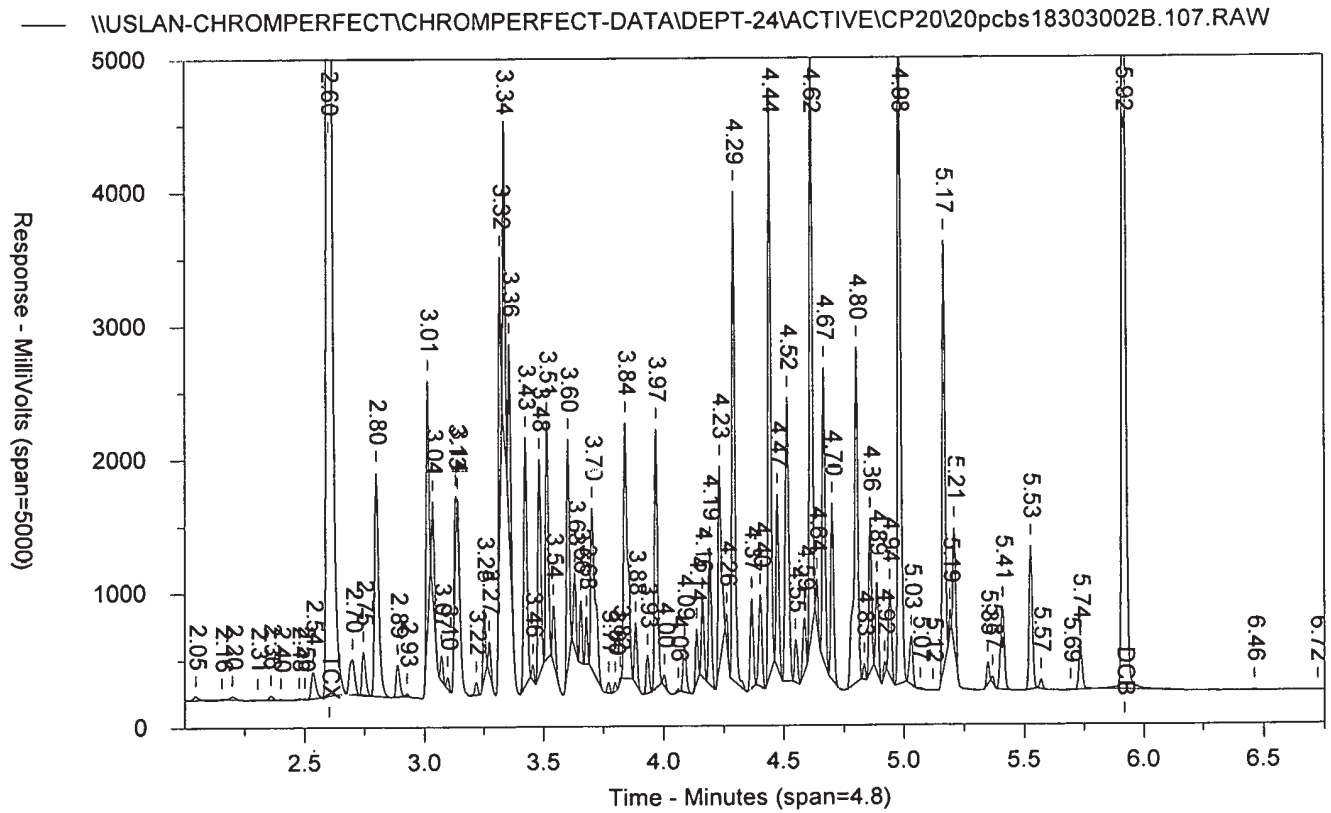
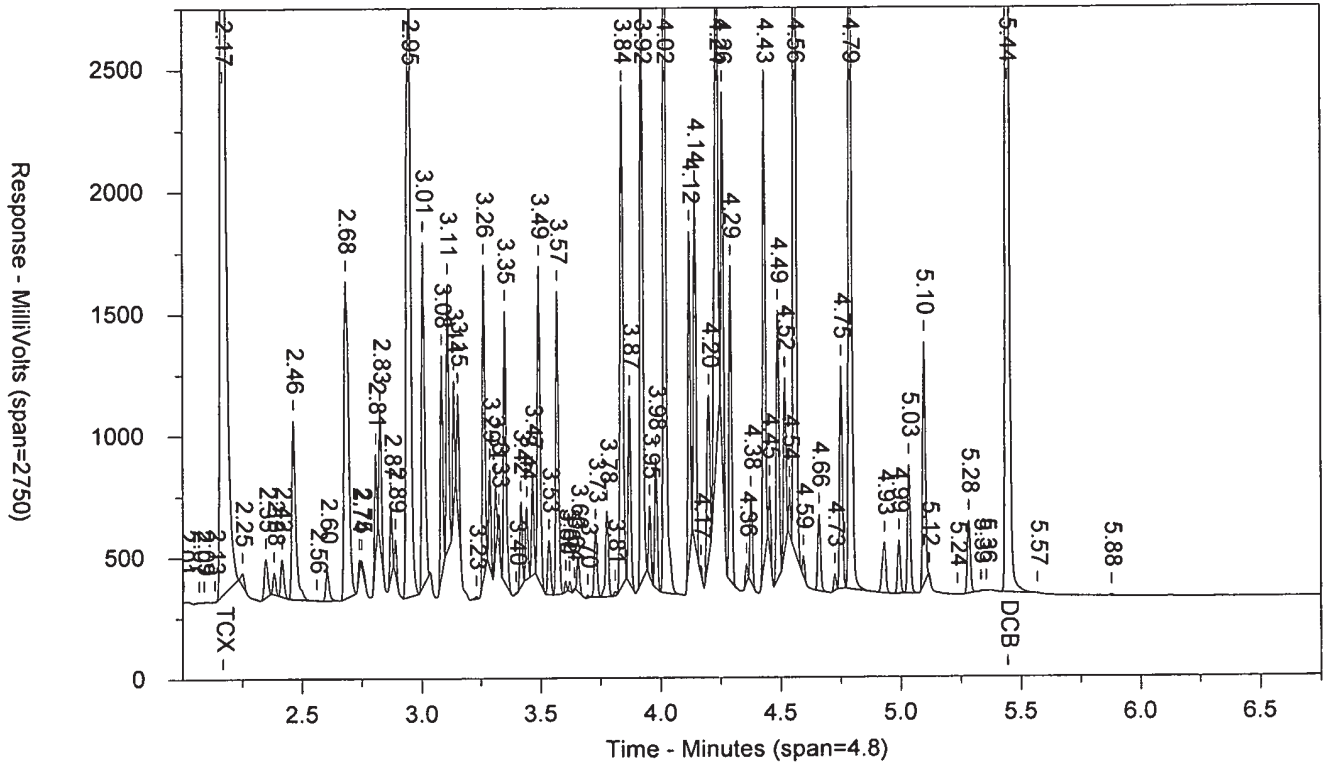
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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.103.RAW



AR1641824D ICAR1641C CCAL 183039999 10227 SW-846 8082  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.107.RAW



LANCASTER LABORATORIES

Sample Number: AR1641824D      ICAR164IC      CCAL 1830399999      10227      SW-846 8082  
 Injected On: 11/1/2018 3:00:34 PM      Sample Weight: 1  
 Instrument ID: CP20-17342      Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

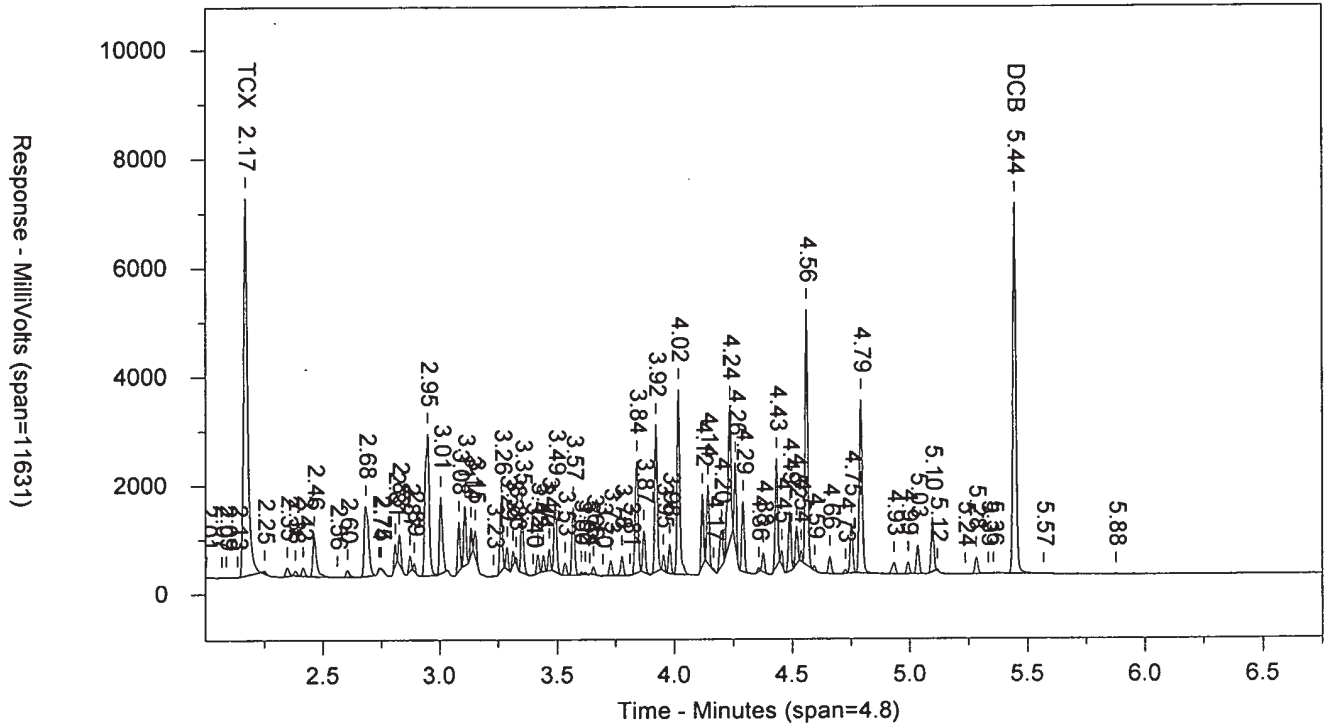
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.169	6949328	40.485	TCX	2.603	16599590	42.916	TCX
5.445	6846543	39.903	DCB	5.918	6871135	44.393	DCB

Files:  
 Area File: 20pcbs18303002.107.RAW  
 Area File: 20pcbs18303002B.107.RAW  
 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 3:08:44 PM  
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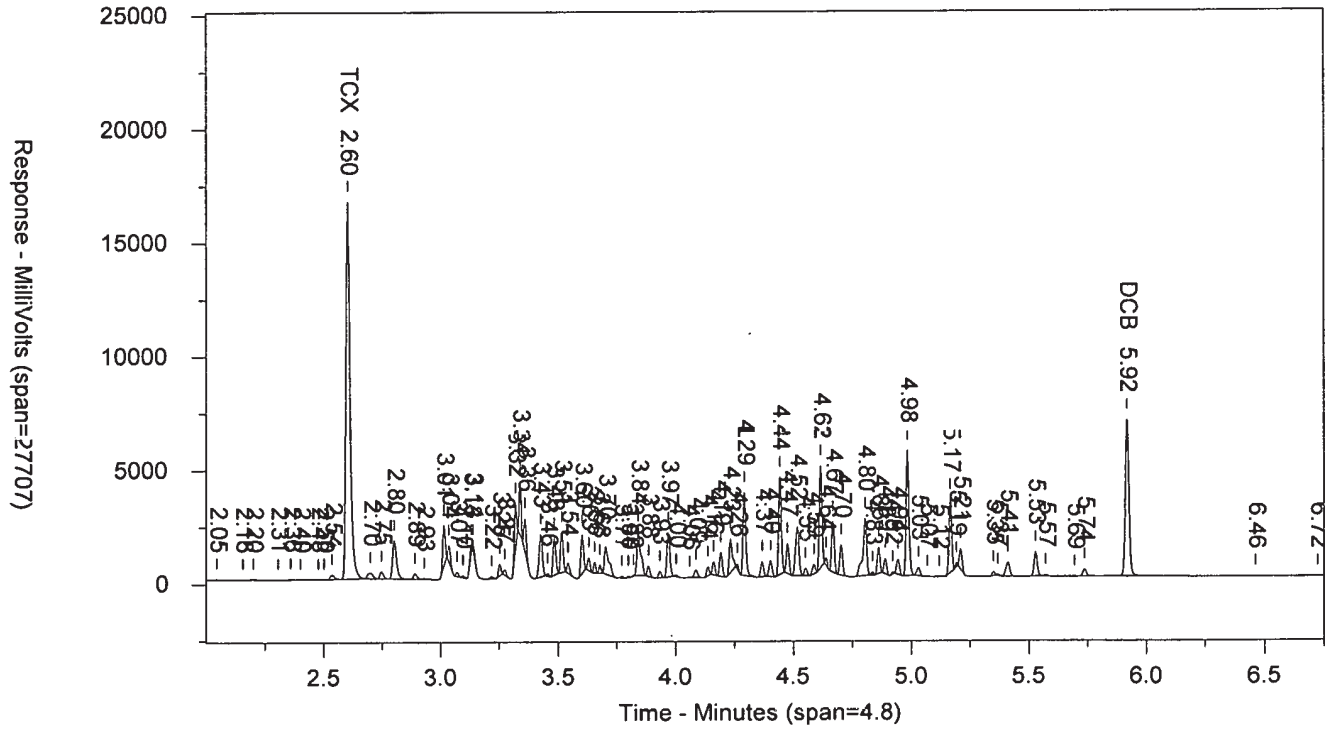


AR1641824D ICAR164IC CCAL 1830399999 10227 SW-846 8082

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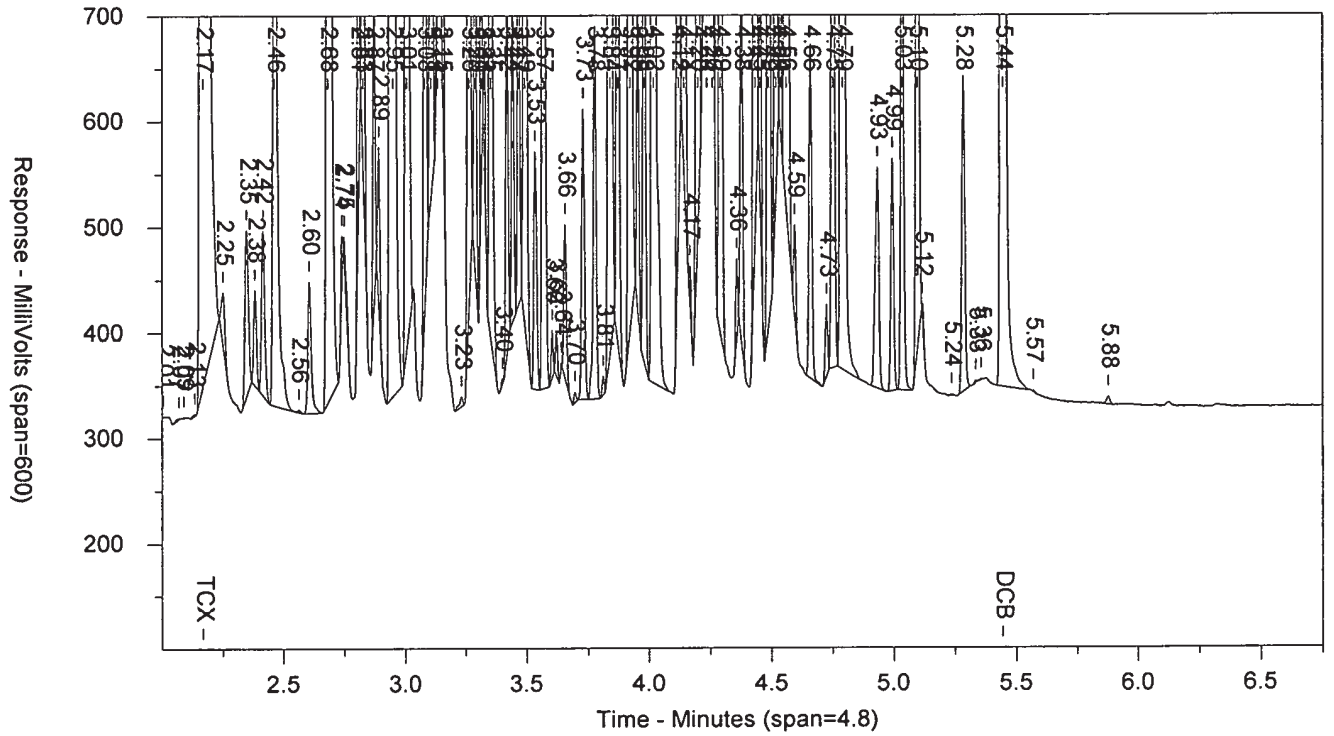


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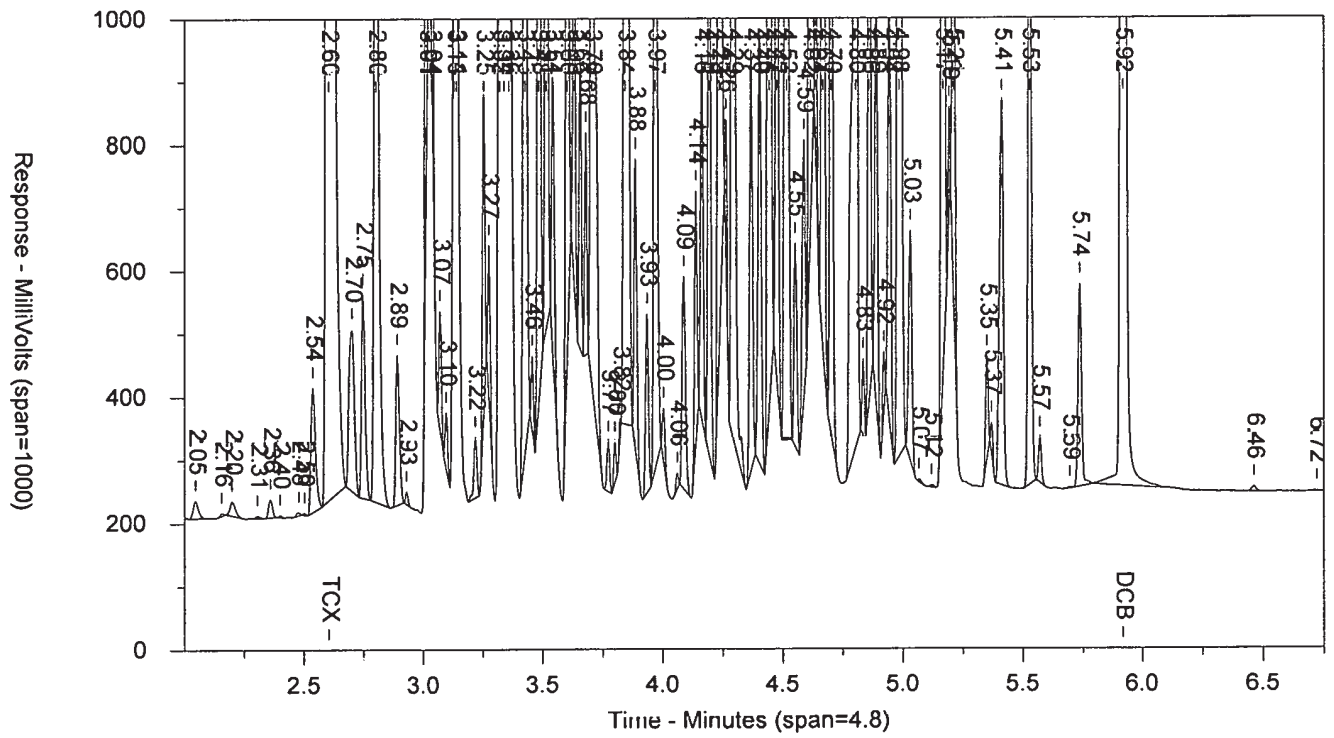


AR1641824D ICAR164IC CCAL 1830399999 10227 SW-846 8082

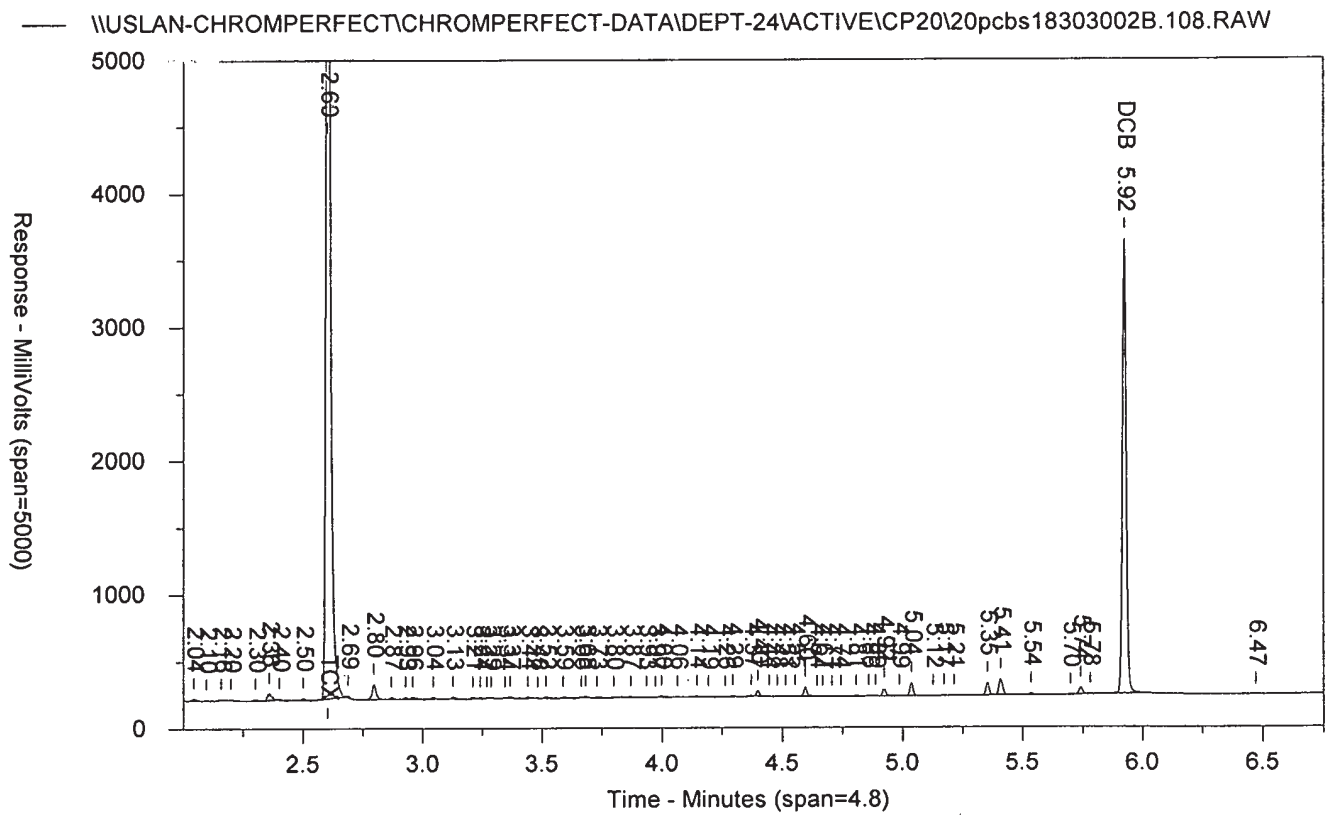
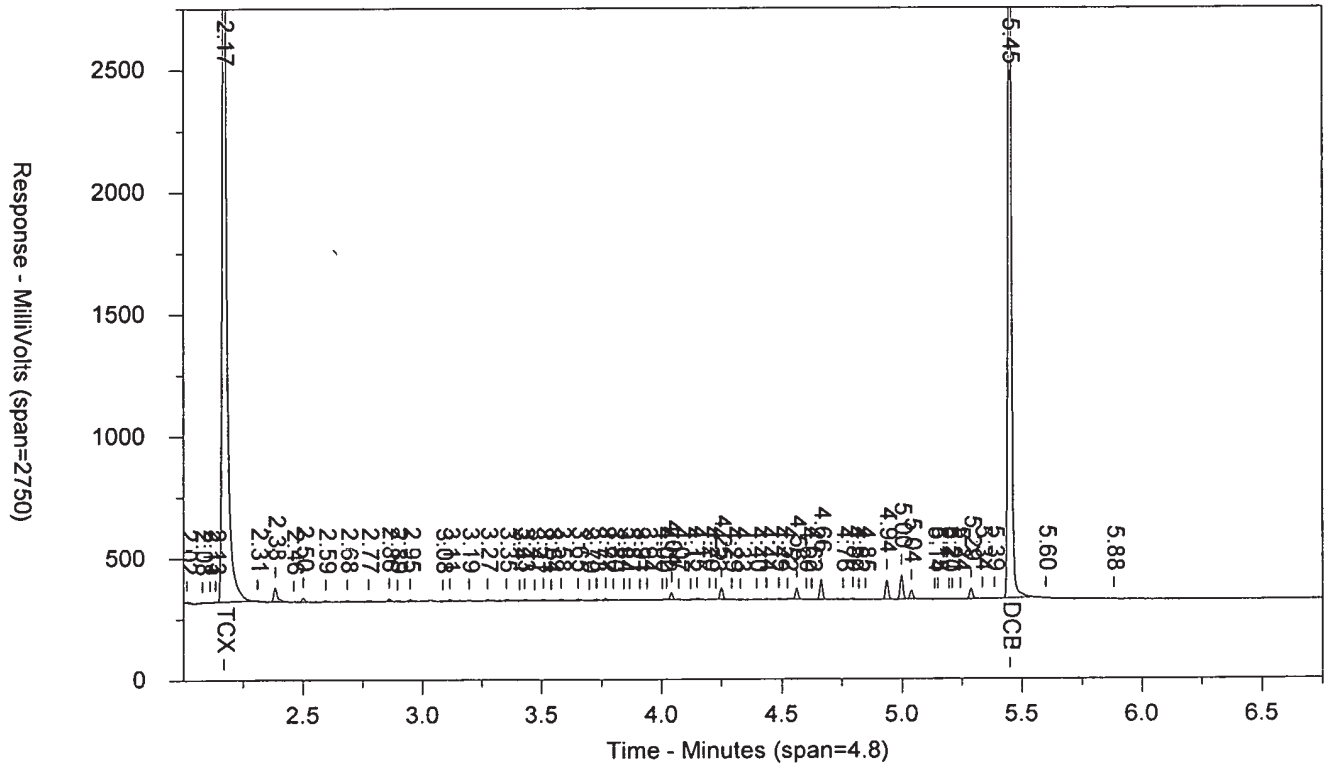
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IBLKX1824C      HUPIBLKHU      PIBLK1830399999      10227      SW-846 8082  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.108.RAW



## LANCASTER LABORATORIES

Sample Number: IBLKX1824C      HUIBLKHU      PIBLK183039999      10227  
Injected On: 11/1/2018 3:11:04 PM  
Instrument ID: CP20-17342  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

SW-846 8082  
Sample Weight: 1000  
Dilution Factor: 10

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

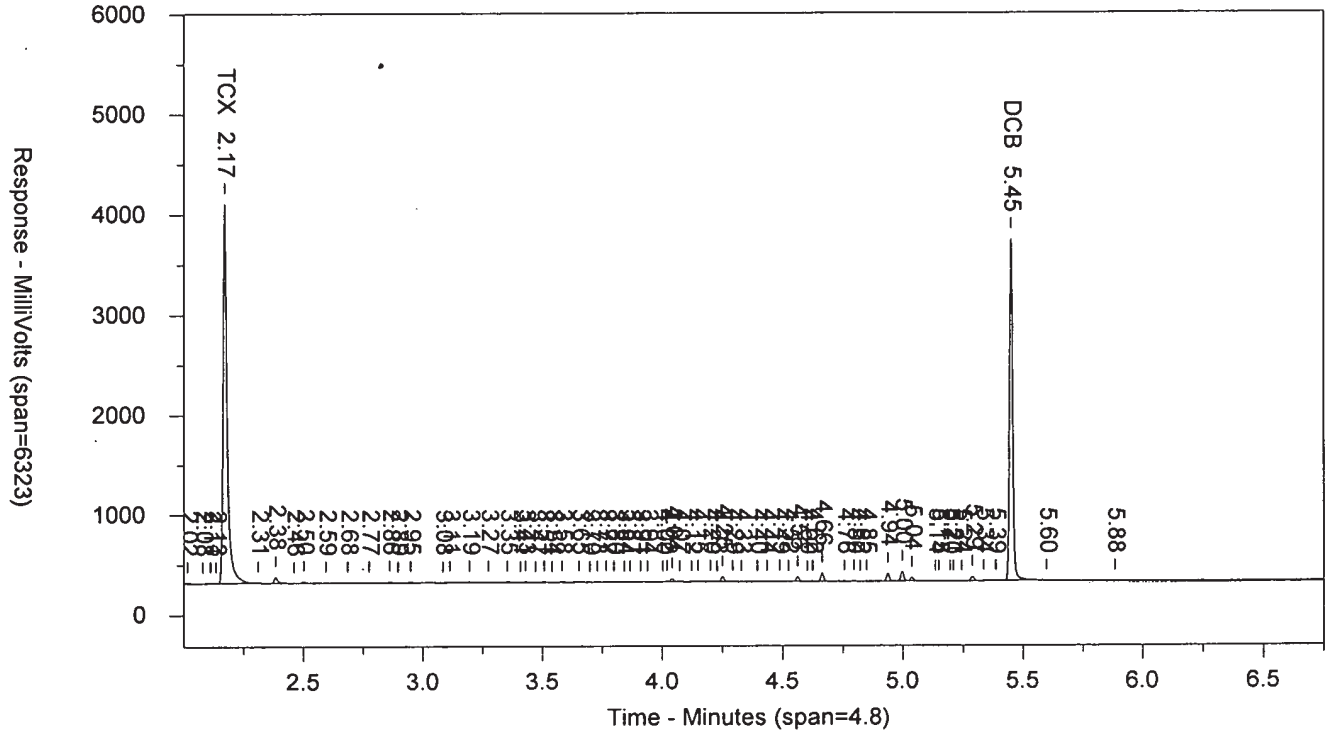
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	3789357	.221	TCX	2.602	8477334	.219	TCX
5.45	3414671	.199	DCB	5.923	3402396	.22	DCB

## Files:

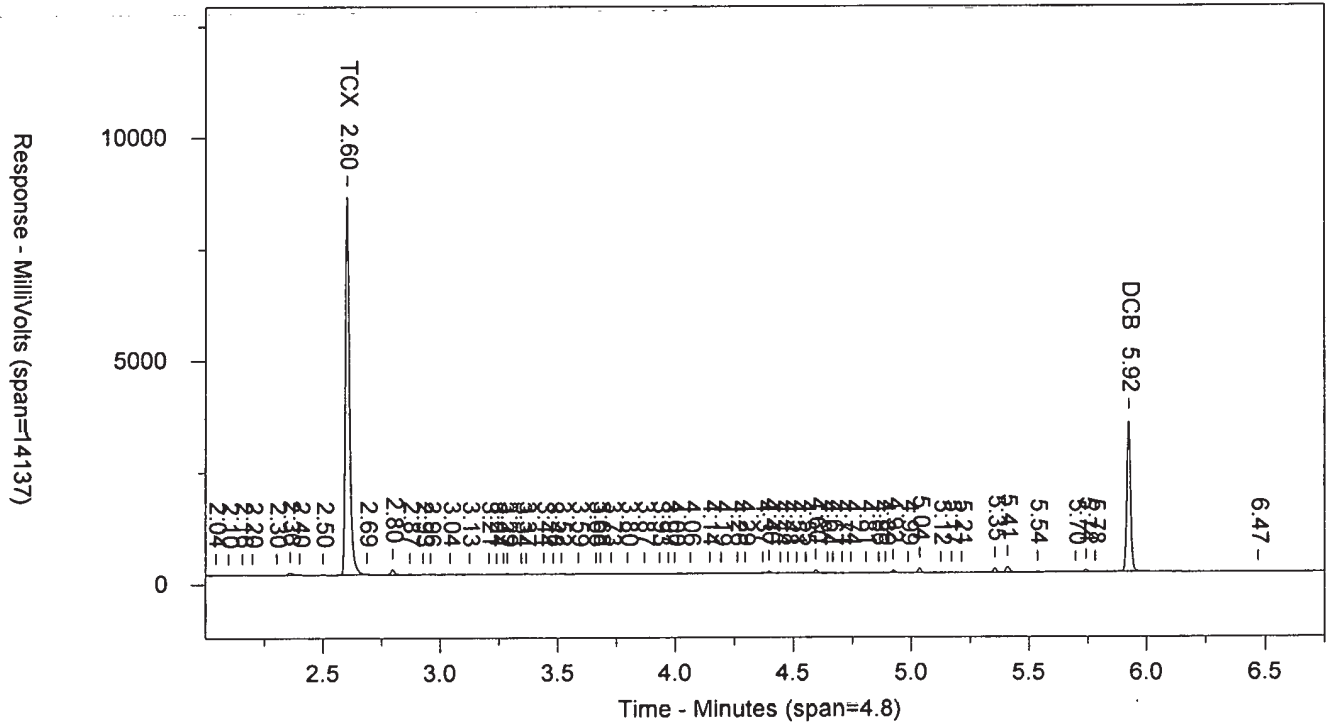
Area File: 20pcbs18303002.108.RAW  
Area File: 20pcbs18303002B.108.RAW  
Method A: 20PCBA.MET  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 3:19:14 PM  
File Reported On: 11/1/2018 at 3:19:23 PM

IBLKX1824C HUPIBLKHU PIBLK1830399999 10227 SW-846 808;

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.108.RAW

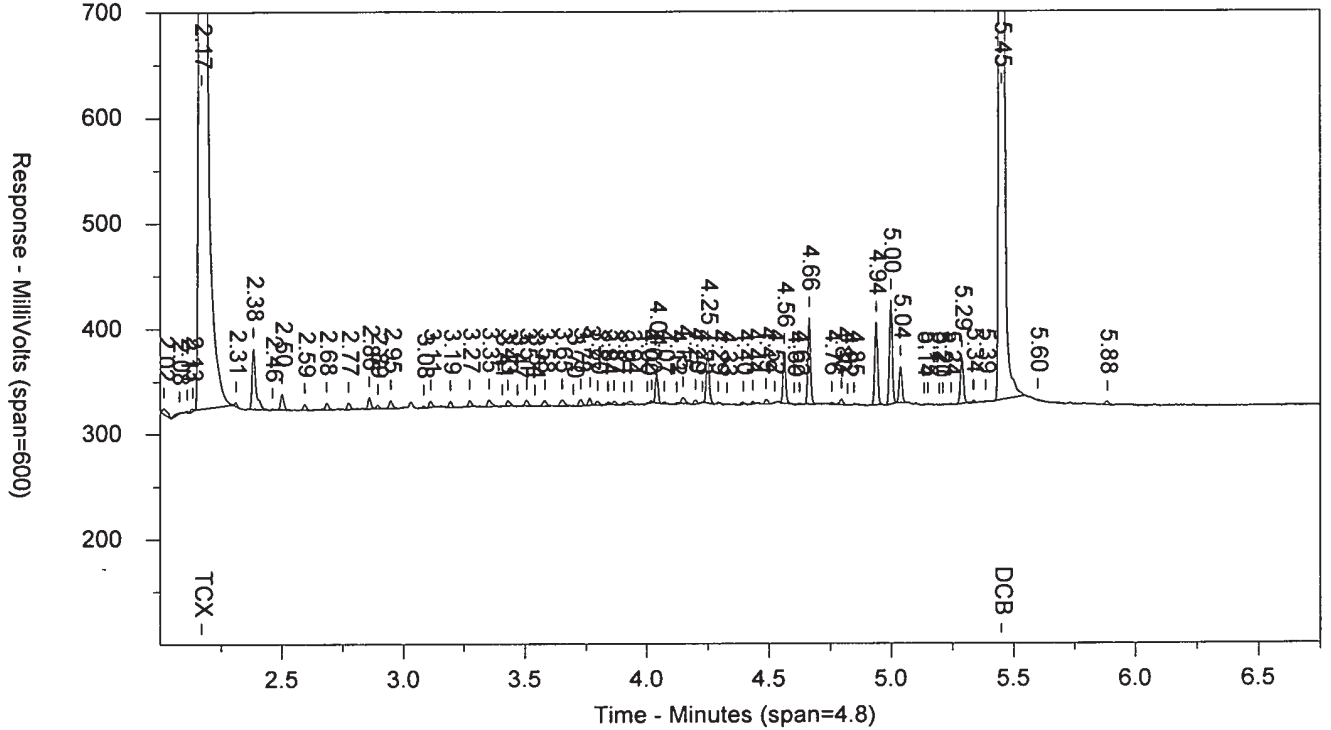


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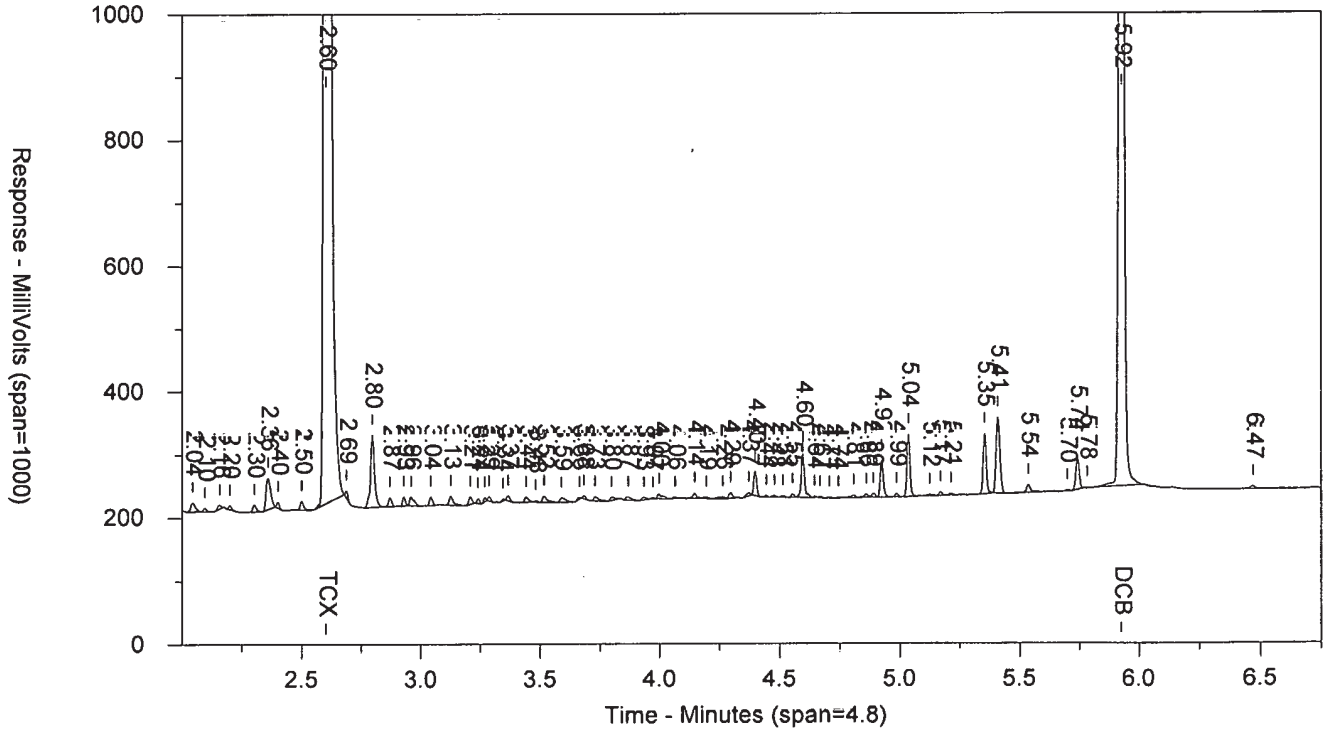


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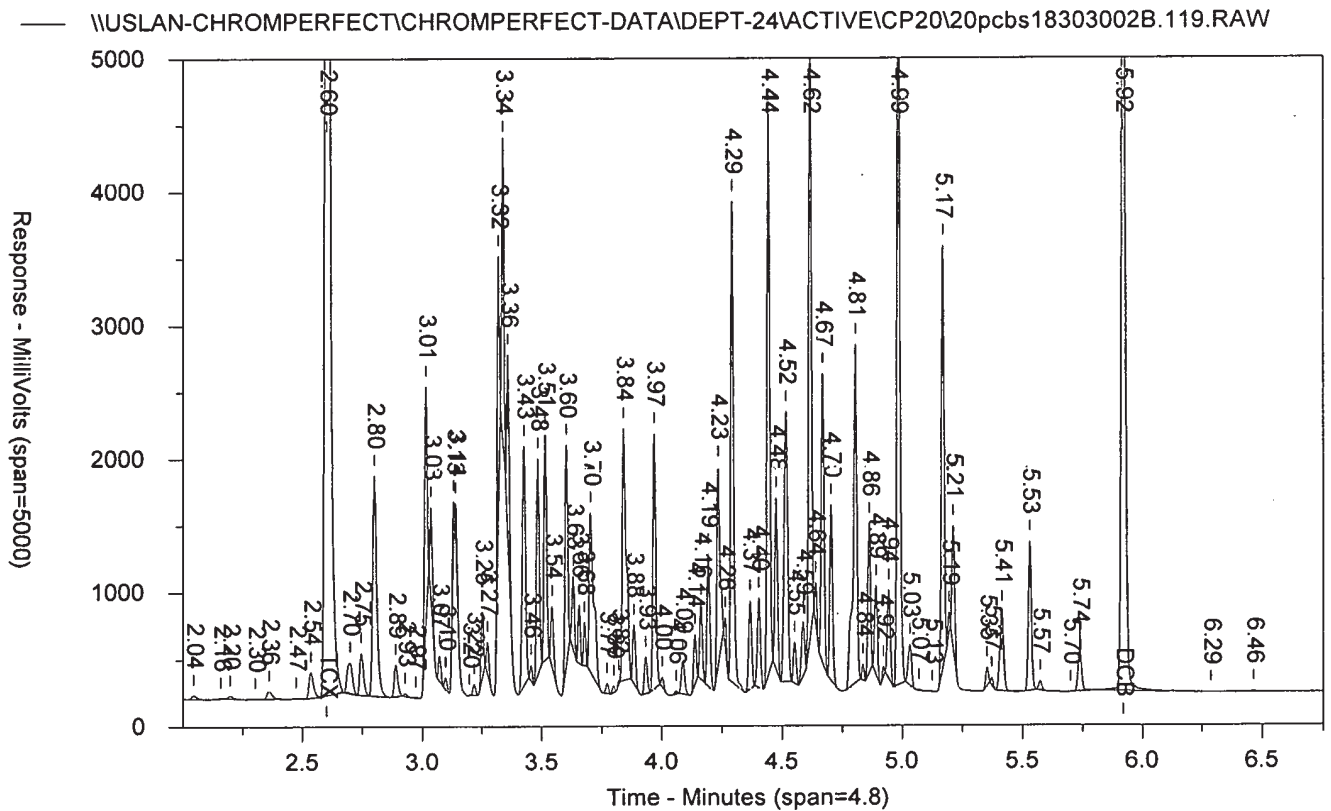
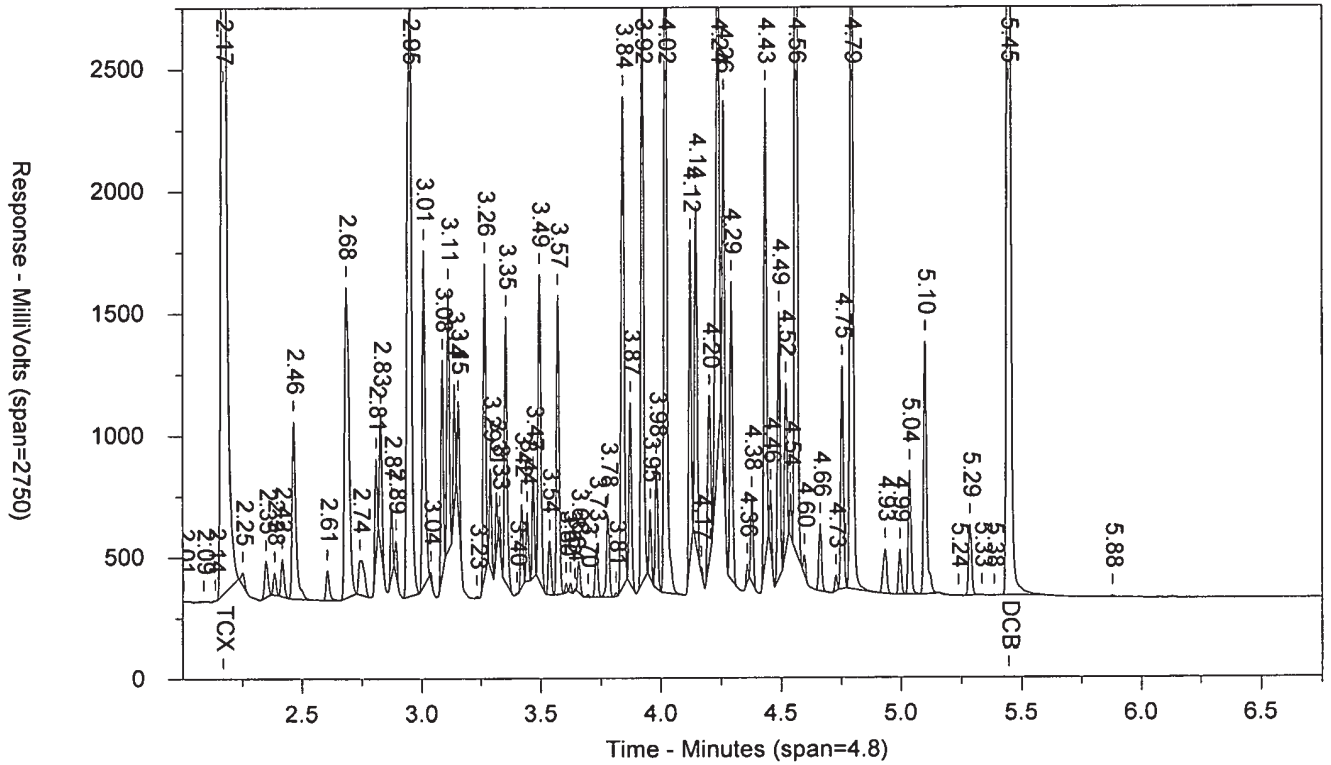
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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.108.RAW



AR1641824D IDAR164ID CCAL 183039999 10227 SW-846 8082  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.119.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: AR1641824D IDAR164ID CCAL 1830399999 10227 SW-846 8082  
Injected On: 11/1/2018 5:06:41 PM Sample Weight: 1  
Instrument ID: CP20-17342 Dilution Factor: 1  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	6843500	39.869	TCX	2.602	16453870	42.539	TCX
5.447	6594384	38.433	DCB	5.921	6628502	42.825	DCB

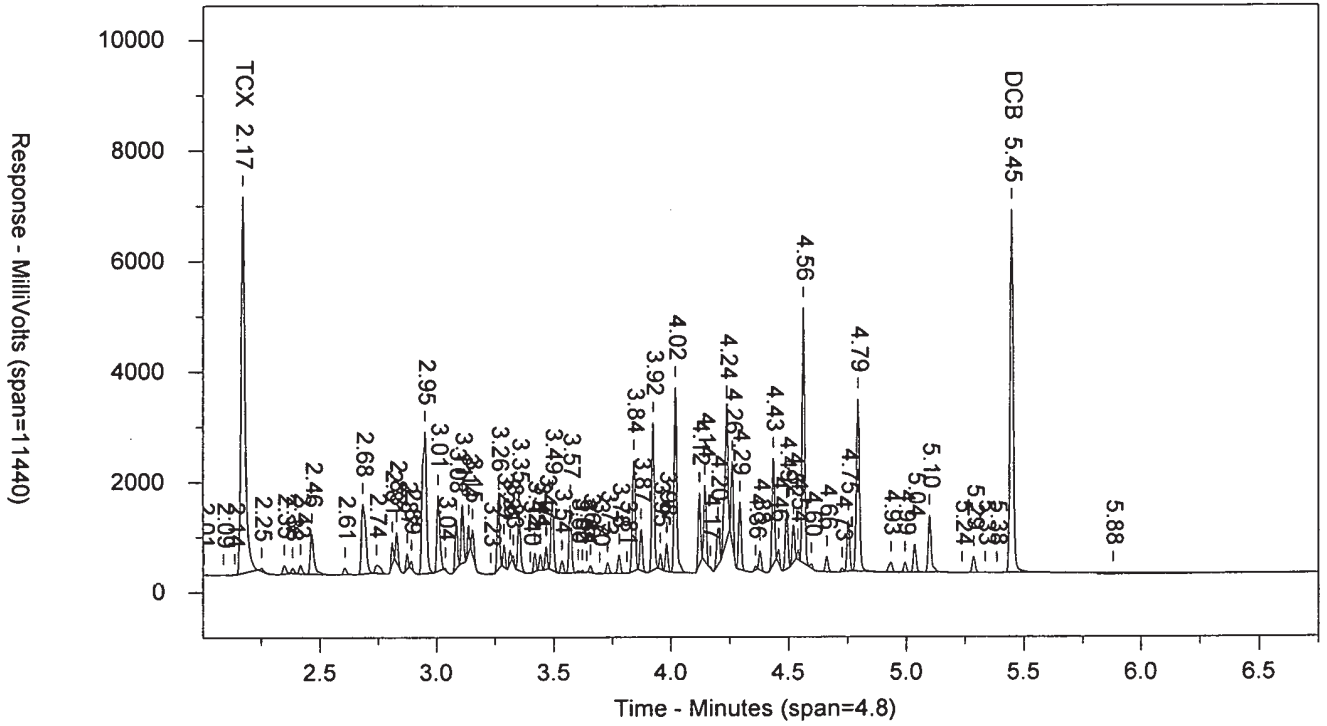
Files:

Area File: 20pcbs18303002.119.RAW  
Area File: 20pcbs18303002B.119.RAW  
Method A: 20PCBA.MET  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 5:14:48 PM  
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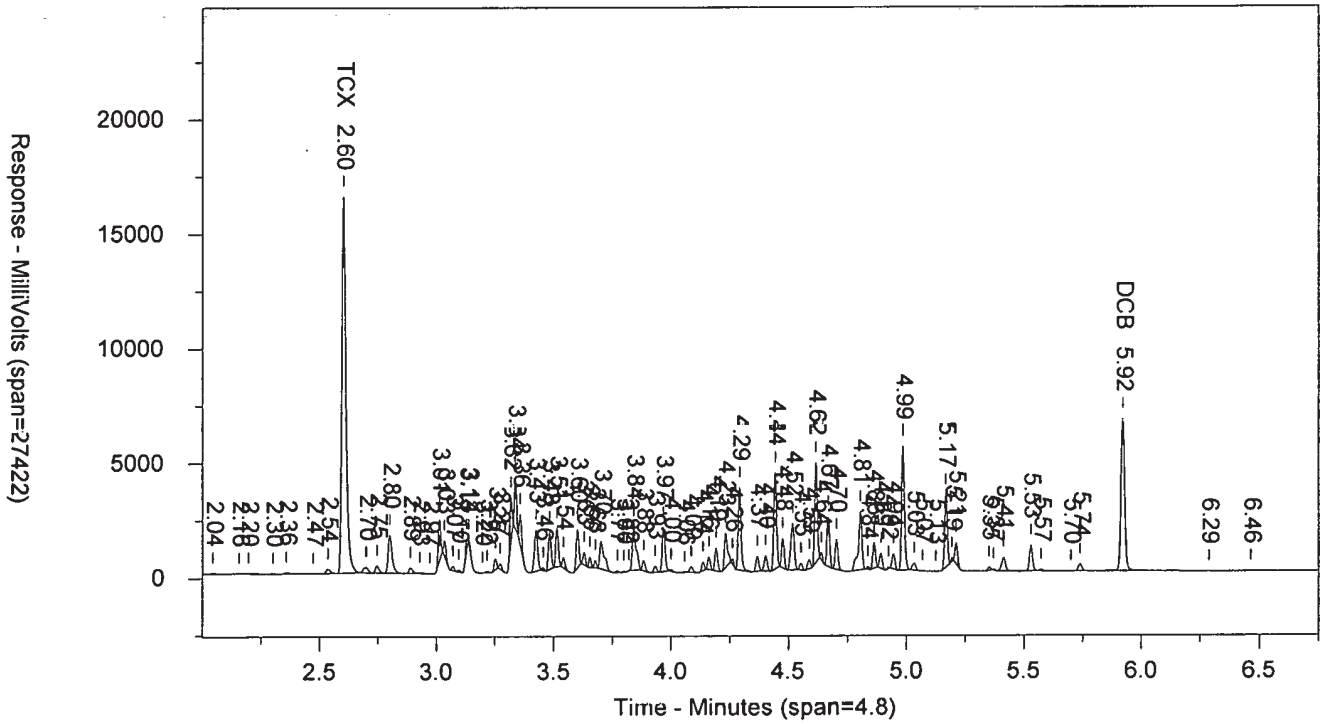


AR1641824D IDAR164ID CCAL 1830399999 10227 SW-846 8082

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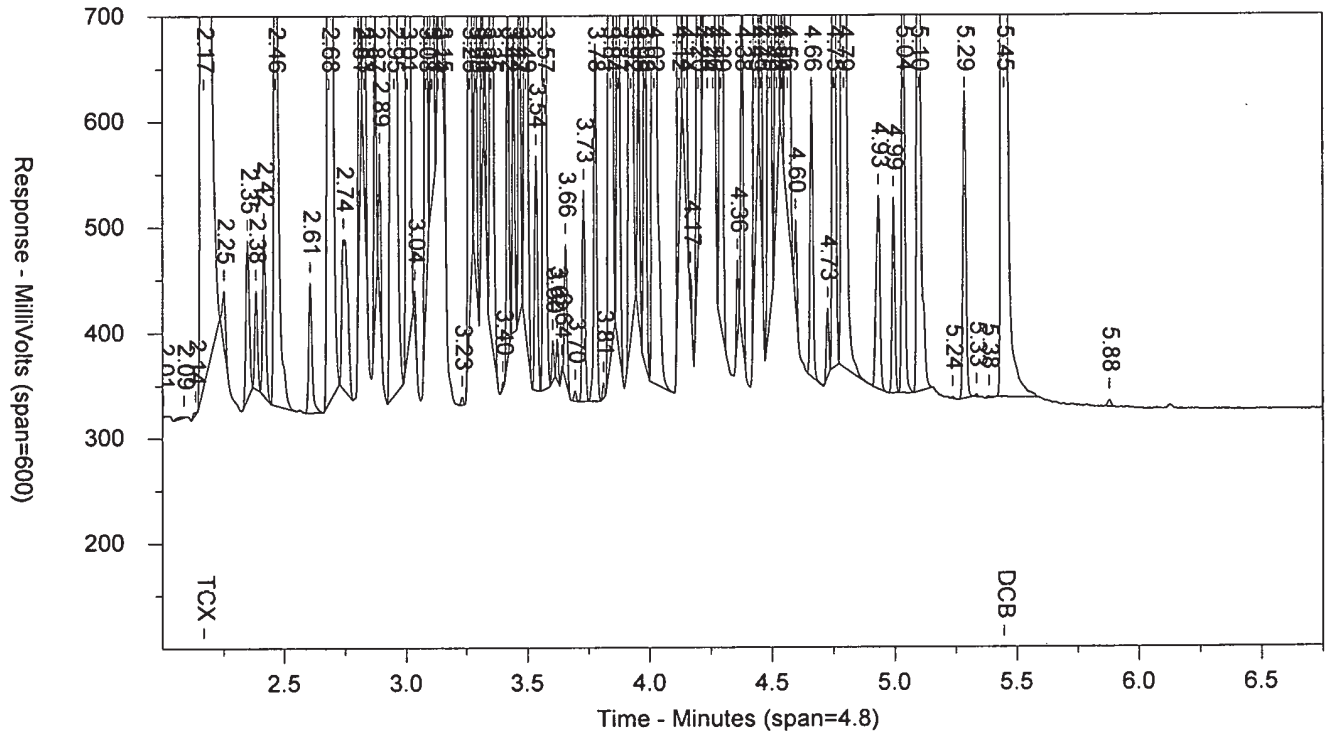


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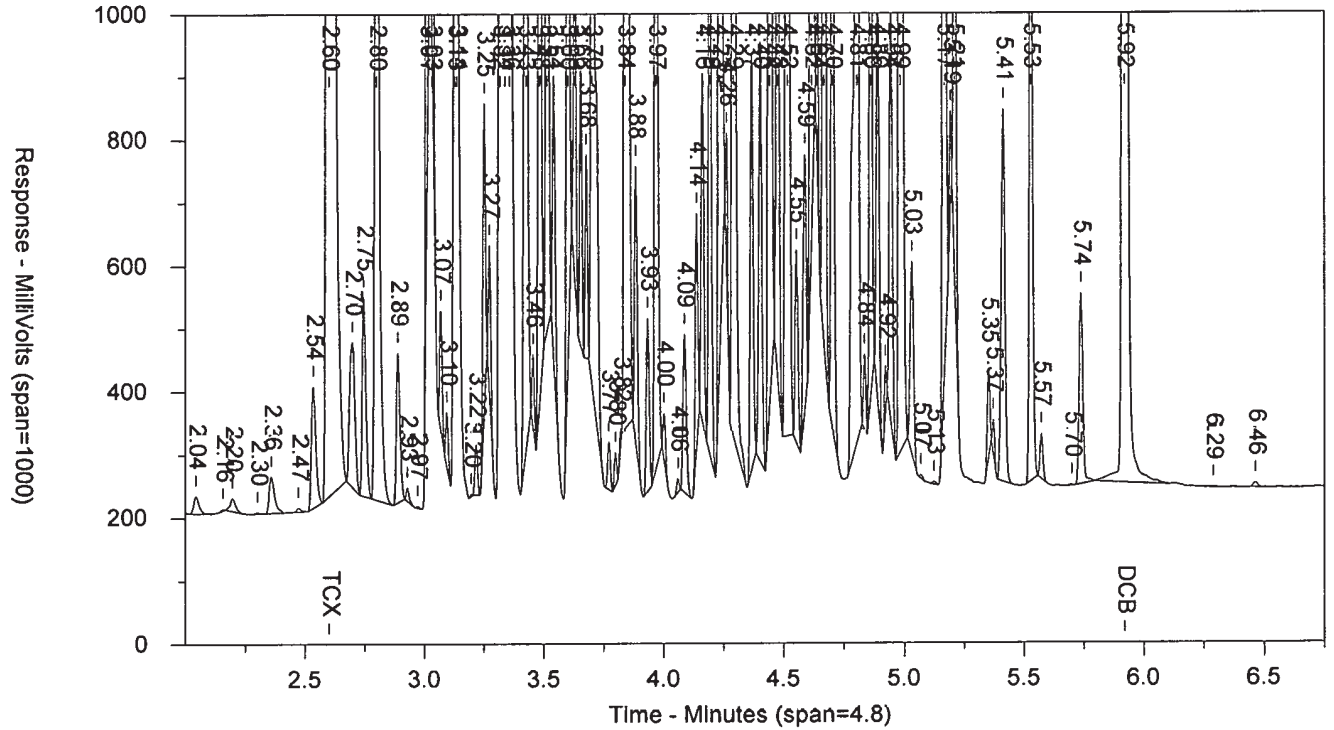


AR1641824D IDAR164ID CCAL 1830399999 10227 SW-846 8082

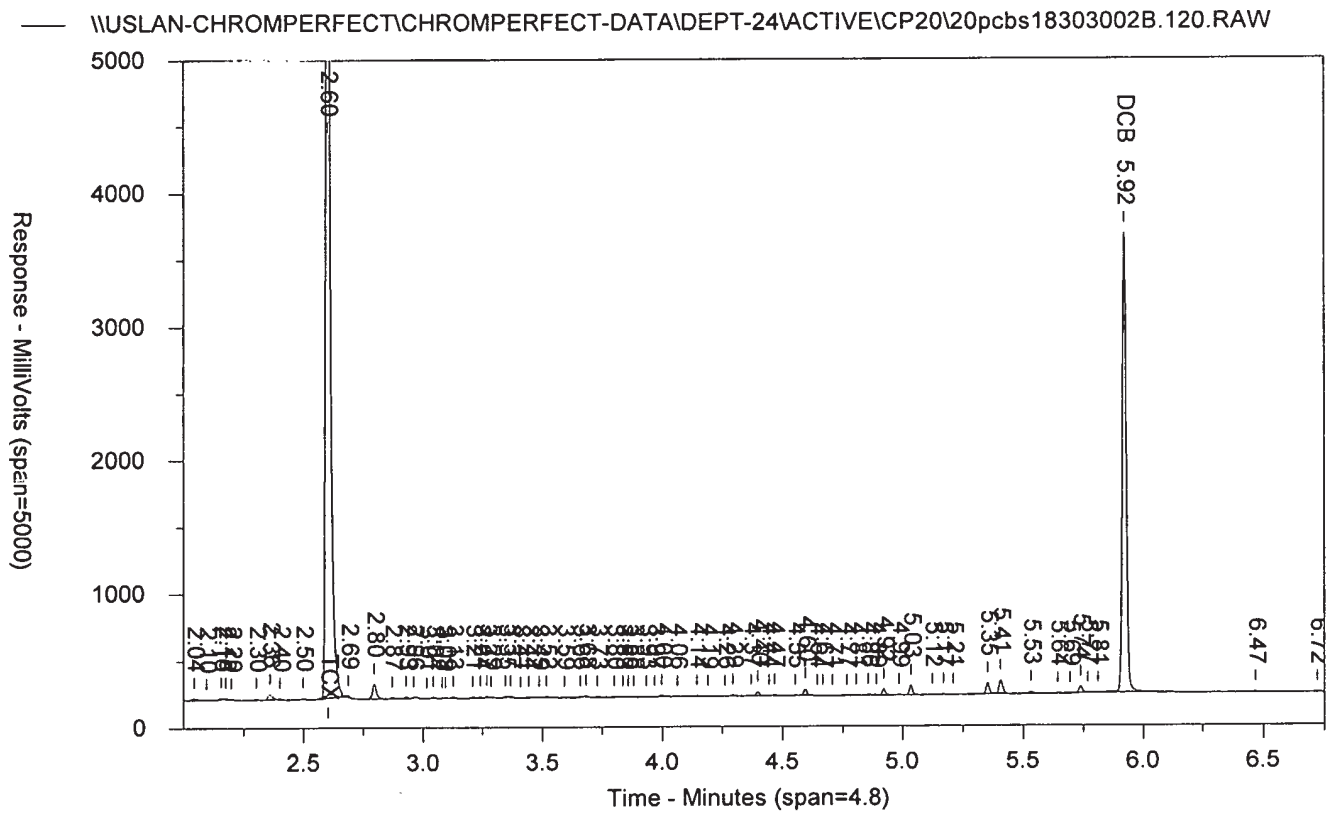
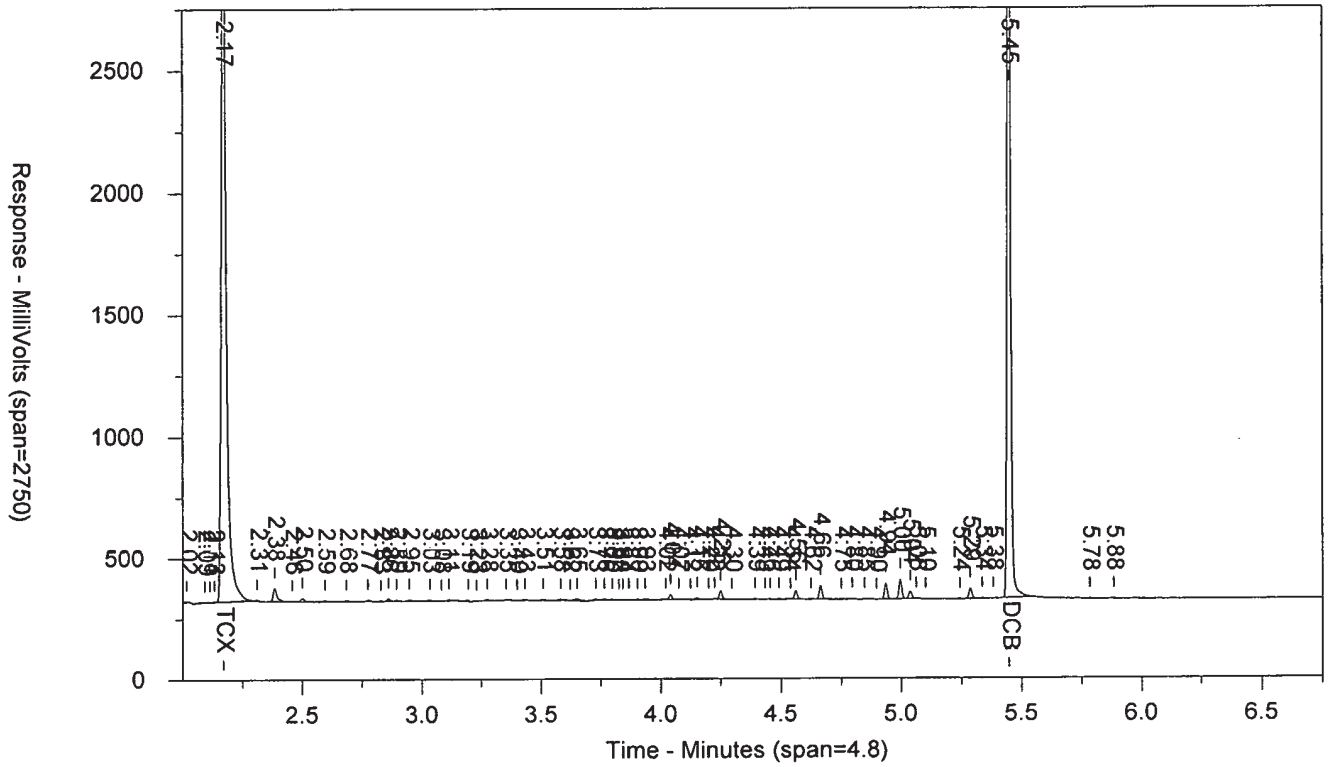
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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.119.RAW



IBLKX1824C HVPIBLKHV PIBLK183039999 10227 SW-846 8082  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.120.RAW



LANCASTER LABORATORIES

Sample Number: IBLKX1824C      HVPIBLKHV      PIBLK1830399999      10227      SW-846 8082  
 Injected On: 11/1/2018 5:17:10 PM      Sample Weight: 1000  
 Instrument ID: CP20-17342      Dilution Factor: 10  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

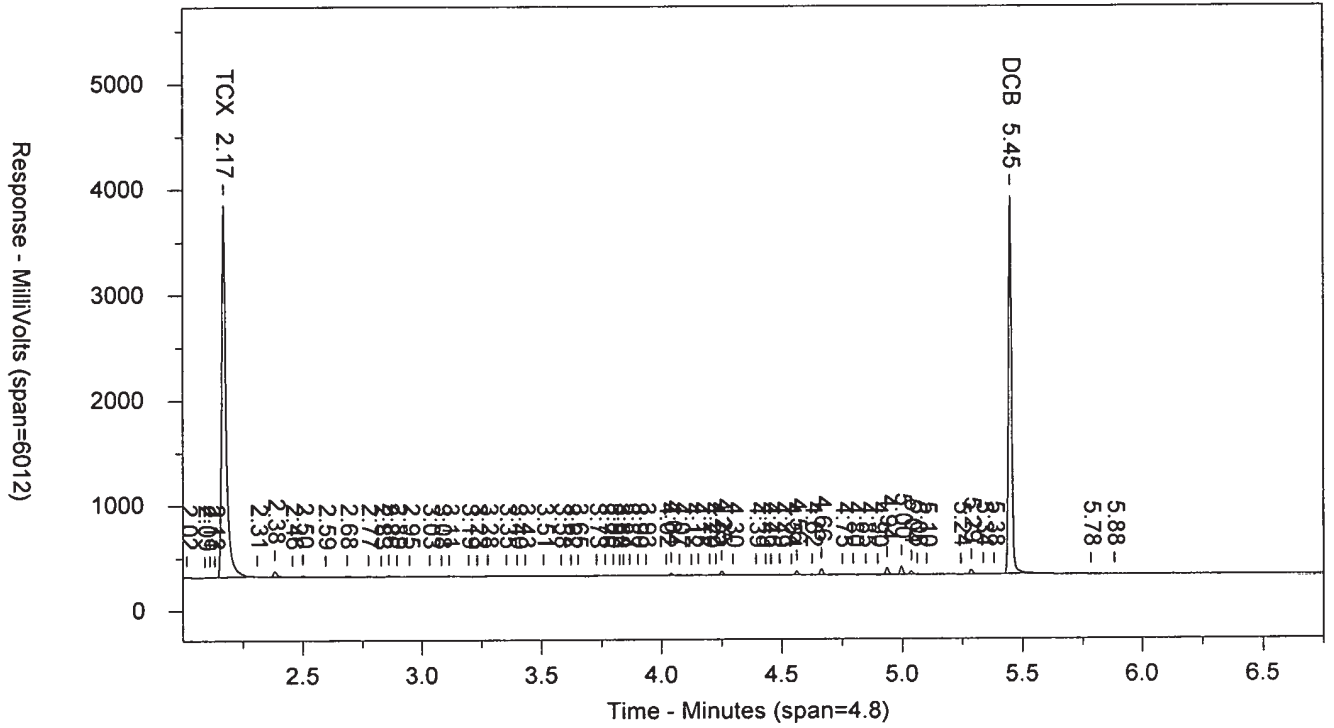
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	3532596	.206	TCX	2.602	8307603	.215	TCX
5.448	3593317	.209	DCB	5.921	3447514	.223	DCB

Files:

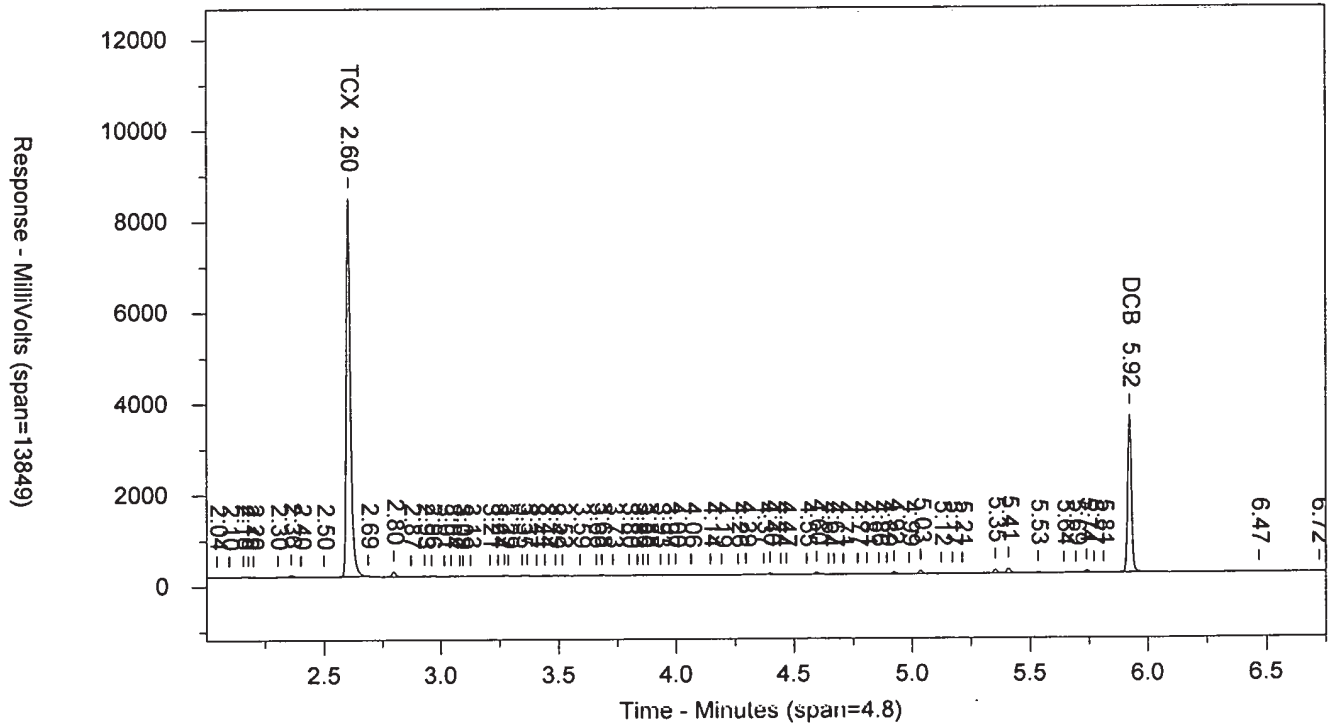
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 Area File: 20pcbs18303002B.120.RAW  
 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 5:25:20 PM  
 File Reported On: 11/1/2018 at 5:25:27 PM

IBLKX1824C HVPIBLKHV PIBLK1830399999 10227 SW-846 8082

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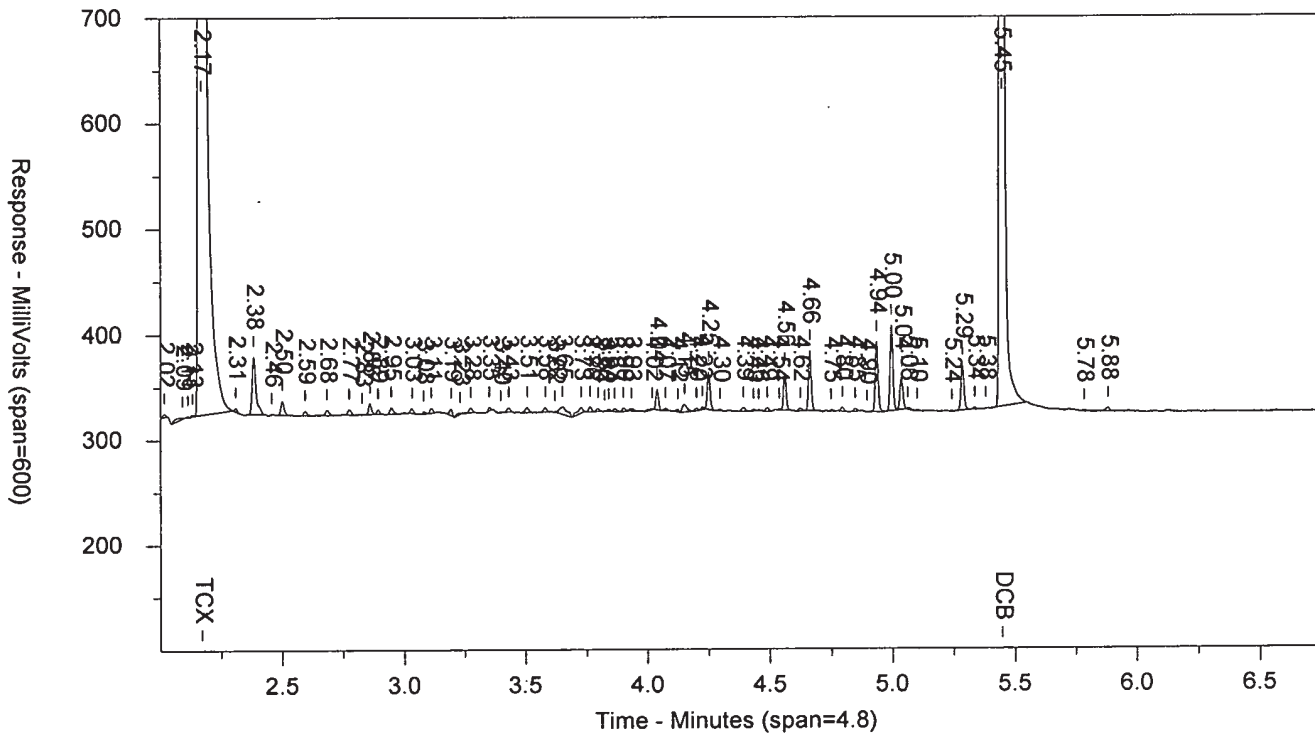


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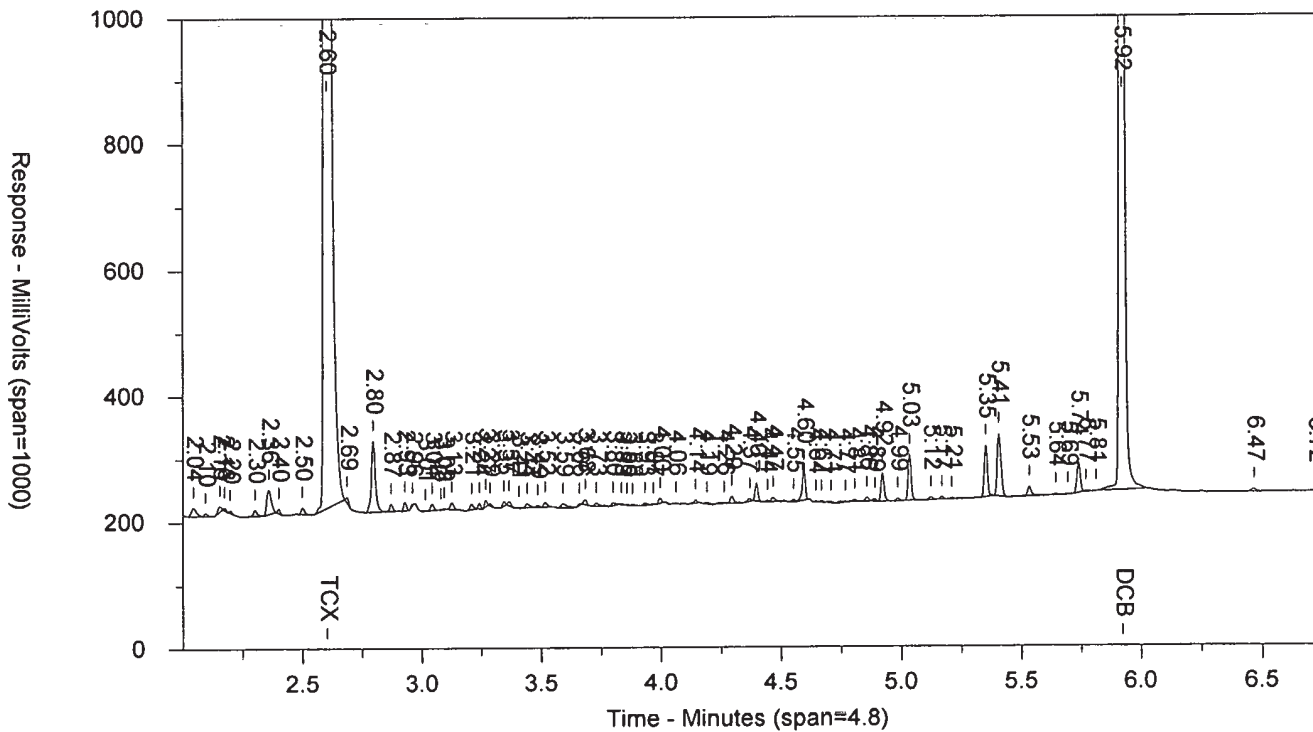


IBLKX1824C HVPBLKHV PIBLK1830399999 10227 SW-846 8082

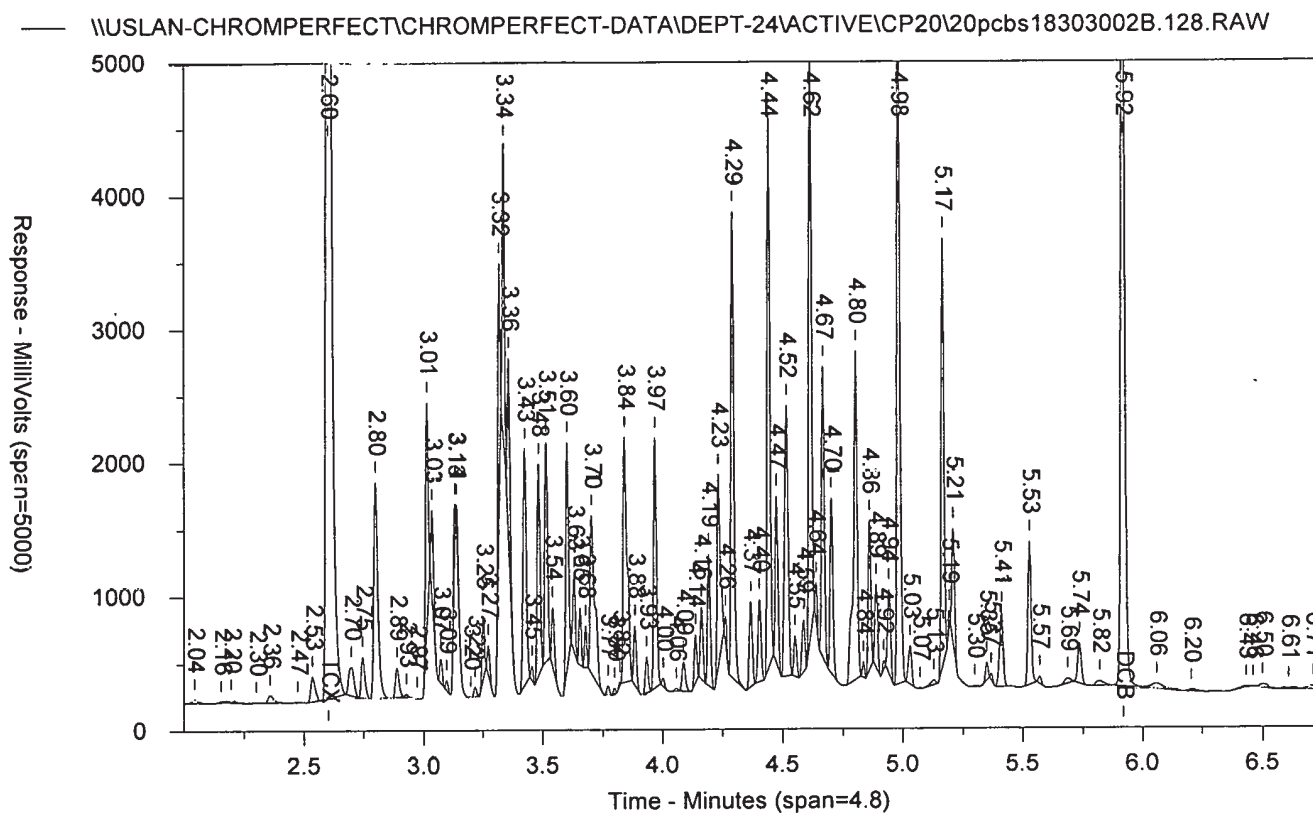
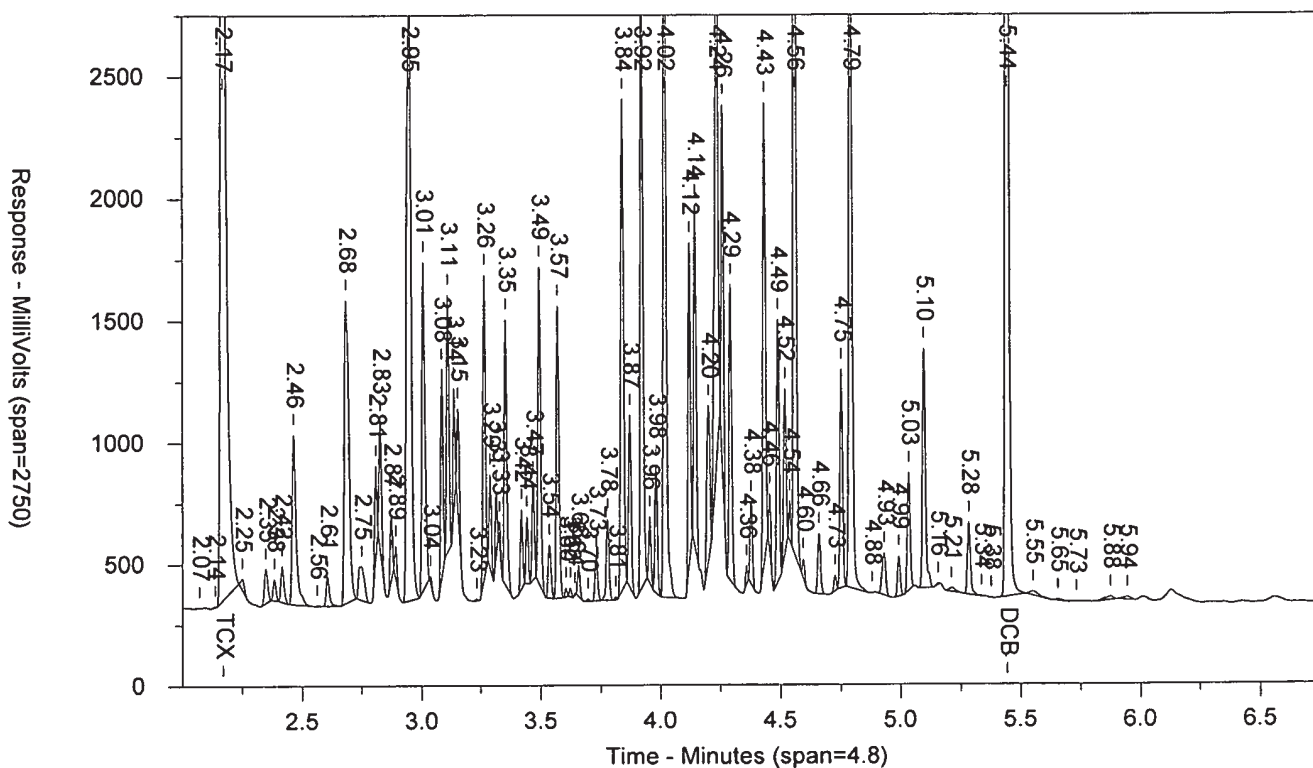
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AR1641824D IEAR164IE CCAL 183039999 10227 SW-846 8082  
 \\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.128.RAW



LANCASTER LABORATORIES

Sample Number: AR1641824D IEAR164IE CCAL 1830399999 10227 SW-846 8082  
 Injected On: 11/1/2018 6:41:14 PM Sample Weight: 1  
 Instrument ID: CP20-17342 Dilution Factor: 1  
 Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
 Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
 Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
 Injection Volume: 1 ul

Threshold: 6  
 Calibration Type: external  
 Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	6575681	38.309	TCX	2.602	15979370	41.313	TCX
5.445	6773218	39.475	DCB	5.918	7030892	45.425	DCB

Files:  
 Area File: 20pcbs18303002.128.RAW  
 Area File: 20pcbs18303002B.128.RAW  
 Method A: 20PCBA.MET  
 Method B: 20PCBAB.MET  
 Calibration File A: 20pcbs1830301.CAL  
 Calibration File B: 20pcbs1830301b.CAL  
 Format A: pestD20.FMTA  
 Format B: pestD20.FMTB  
 Area File Created On: 11/1/2018 6:49:23 PM  
 File Reported On: 11/1/2018 at 6:49:32 PM



AR1641824D

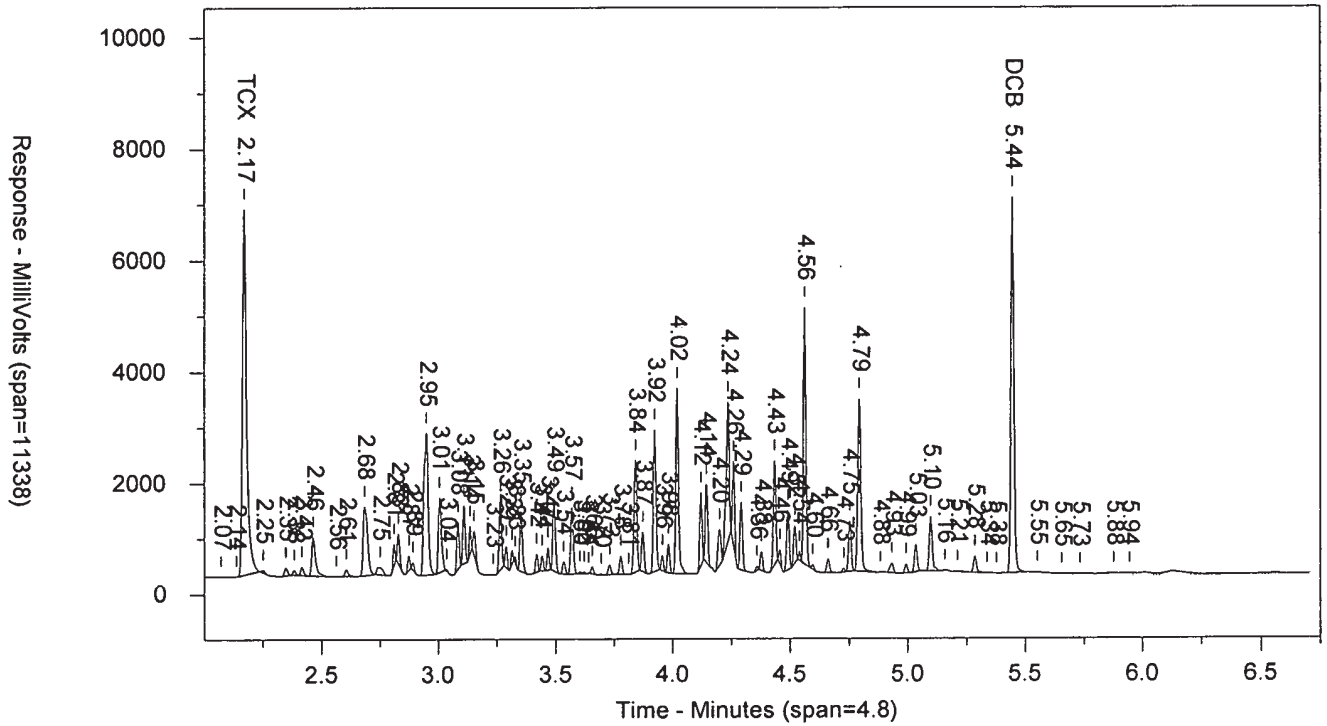
IEAR164IE

CCAL 1830399999

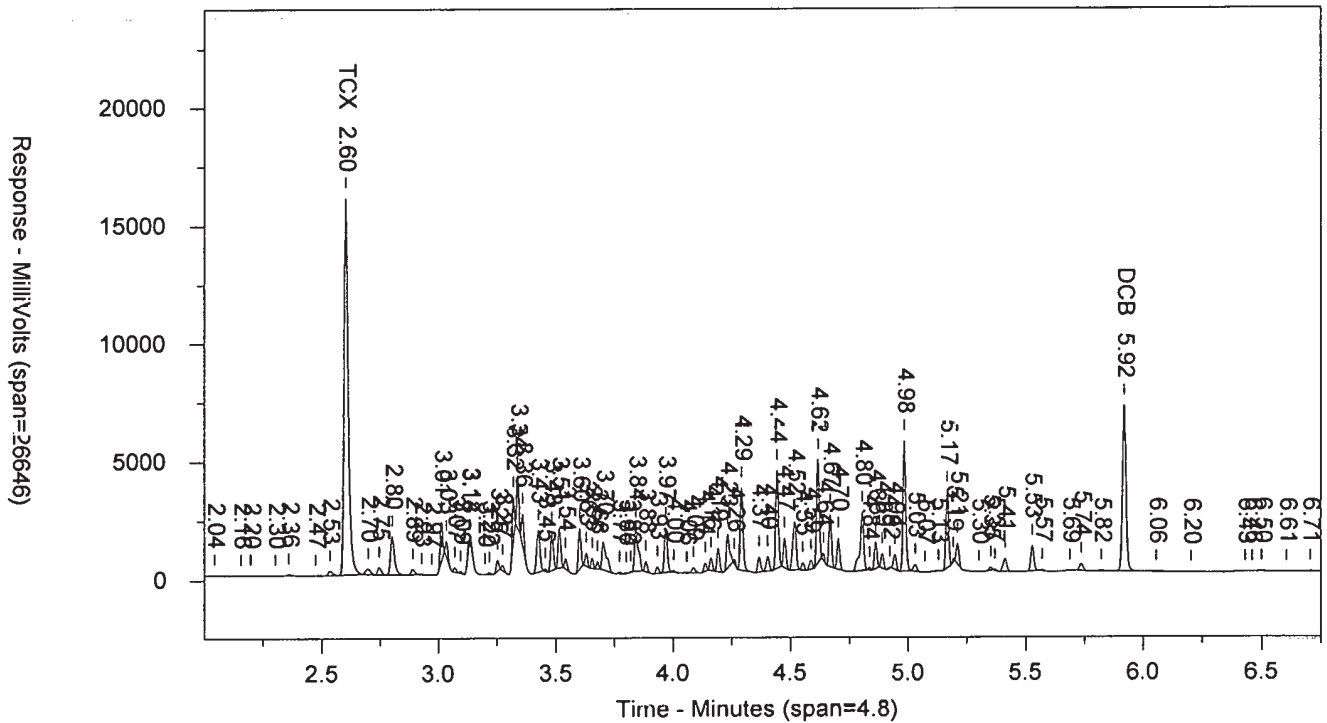
10227

SW-846 8082

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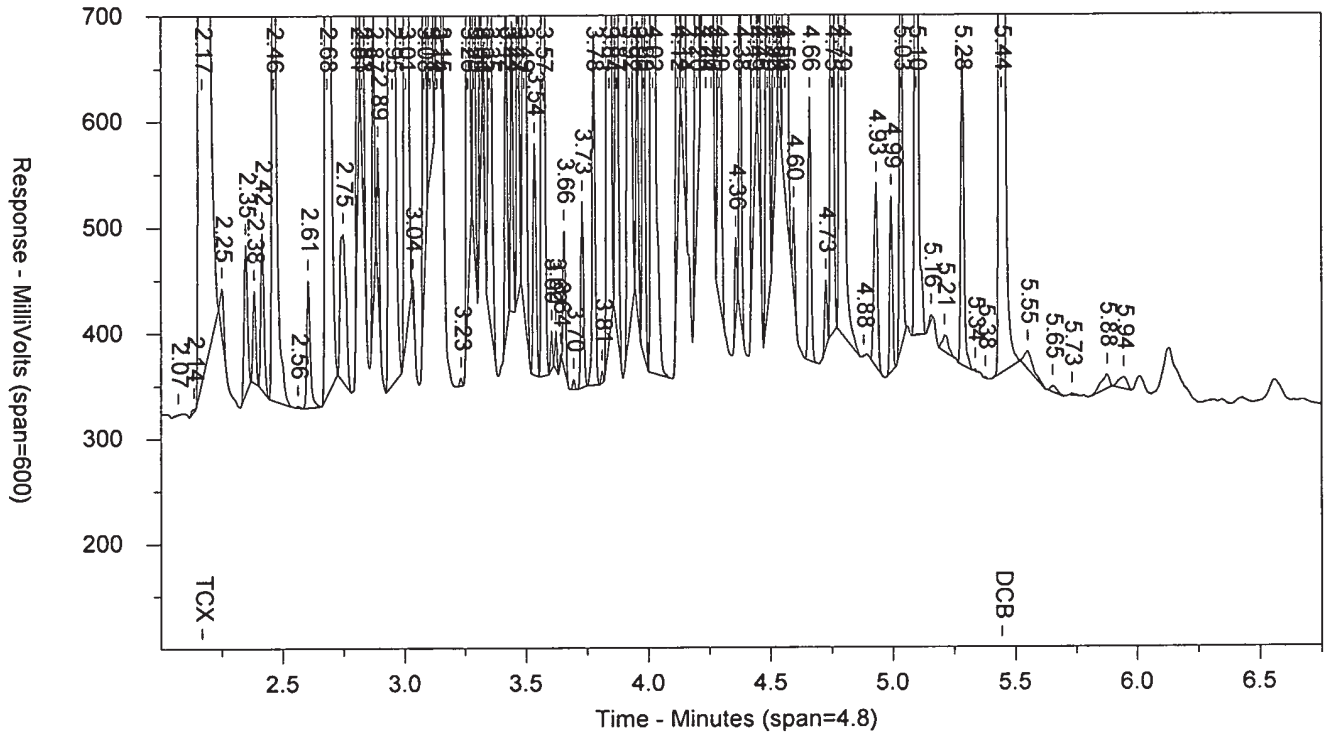


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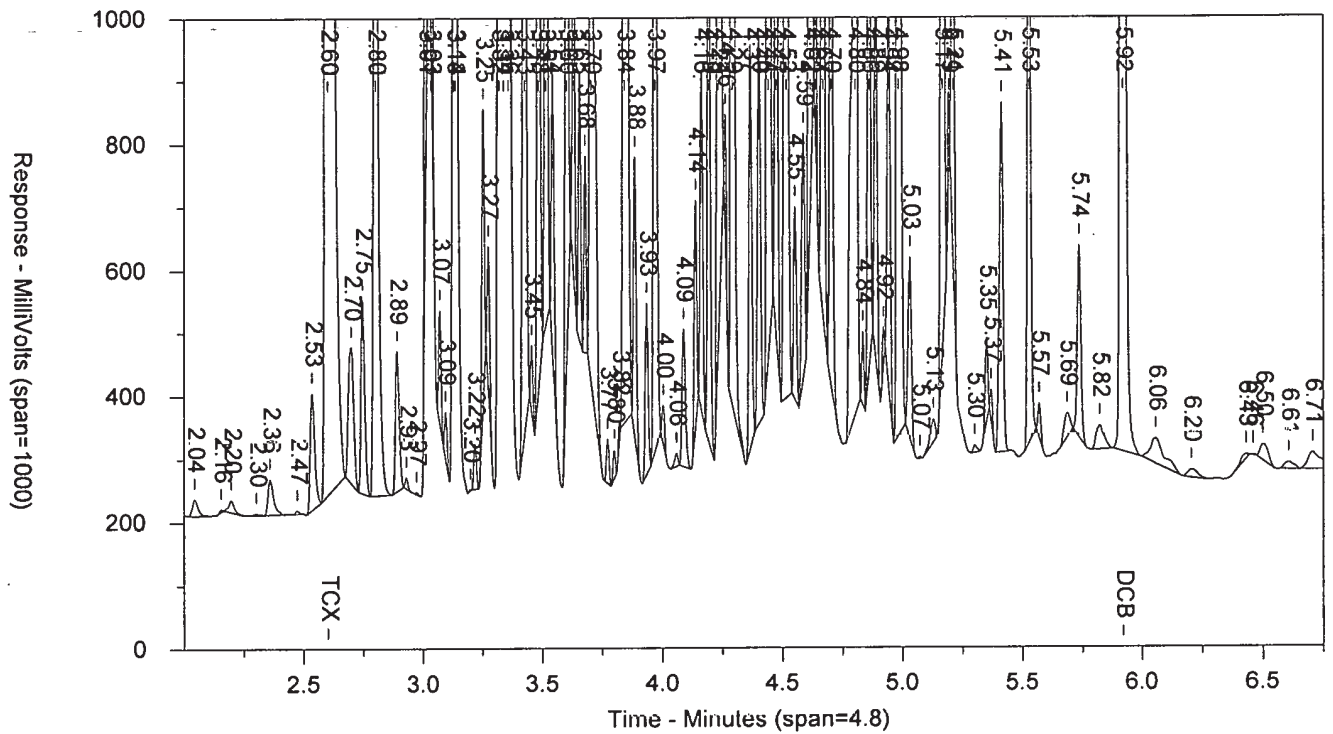


AR1641824D IEAR164IE CCAL 1830399999 10227 SW-846 8082

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IBLKX1824C

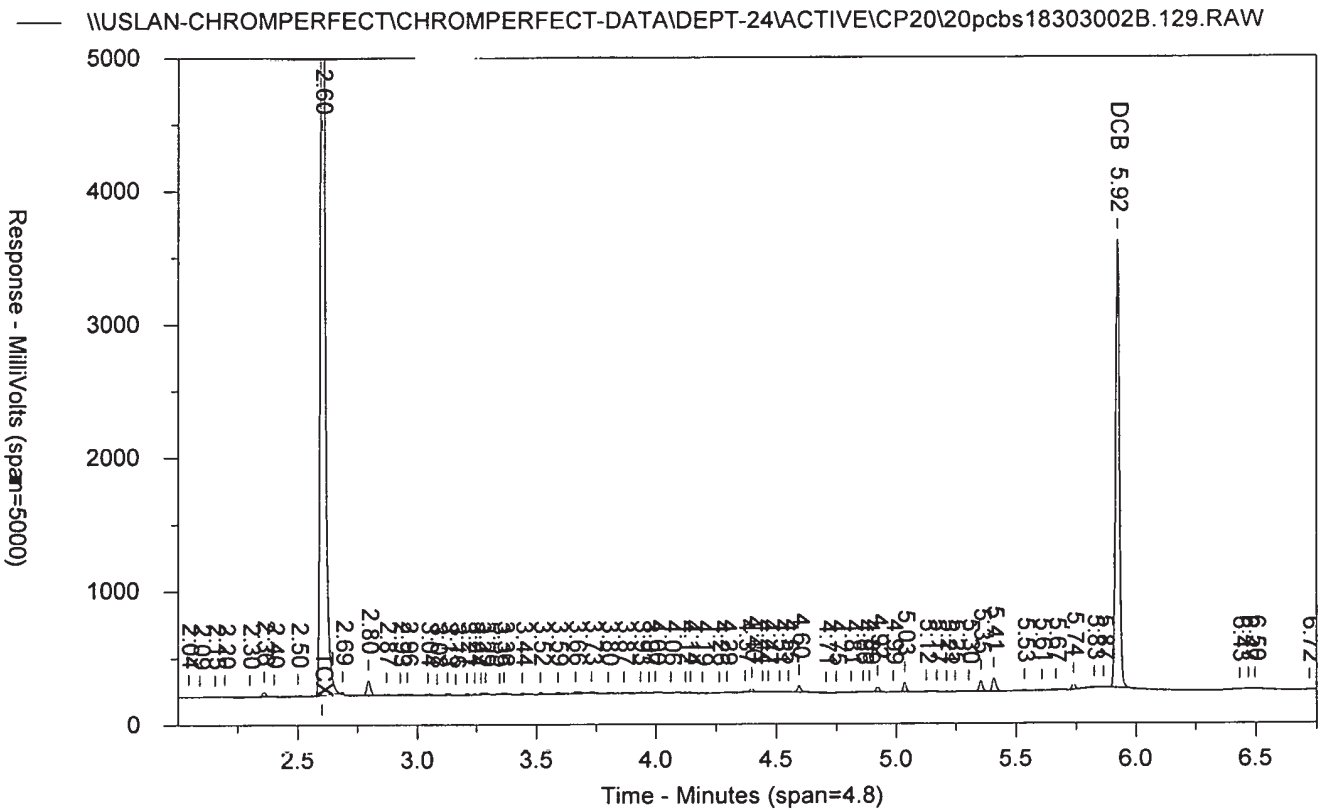
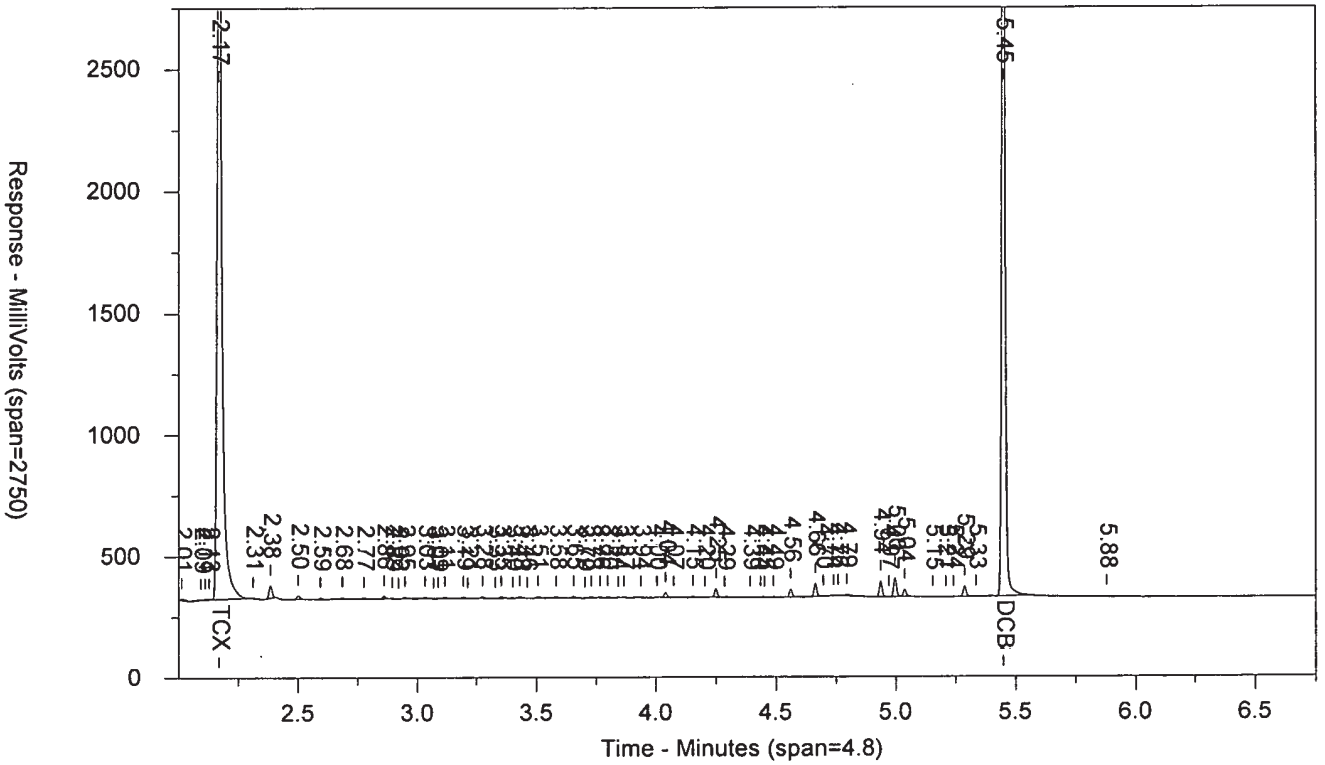
HWPIBLKHW

PIBLK1830399999

10227

SW-846 8082

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.129.RAW



## LANCASTER LABORATORIES

Sample Number: IBLKX1824C      HWPIBLKHW      PIBLK1830399999      10227

SW-846 8082

Injected On: 11/1/2018 6:51:44 PM

Sample Weight: 1000

Instrument ID: CP20-17342

Dilution Factor: 10

Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min

Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um

Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um

Injection Volume: 1 ul

Threshold: 6

Calibration Type: external

Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	3574518	.208	TCX	2.602	8441611	.218	TCX
5.449	3488360	.203	DCB	5.923	3359112	.217	DCB

## Files:

Area File: 20pcbs18303002.129.RAW

Area File: 20pcbs18303002B.129.RAW

Method A: 20PCBA.MET

Method B: 20PCBAB.MET

Calibration File A: 20pcbs1830301.CAL

Calibration File B: 20pcbs1830301b.CAL

Format A: pestD20.FMTA

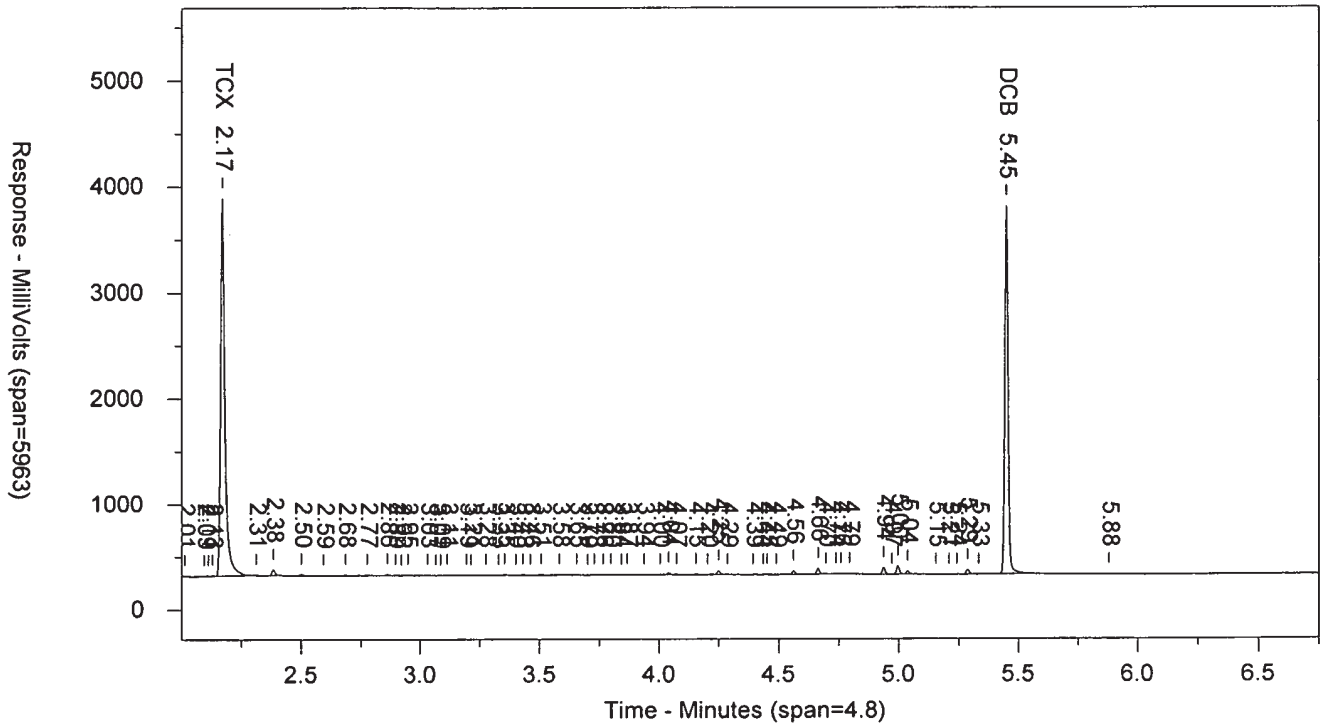
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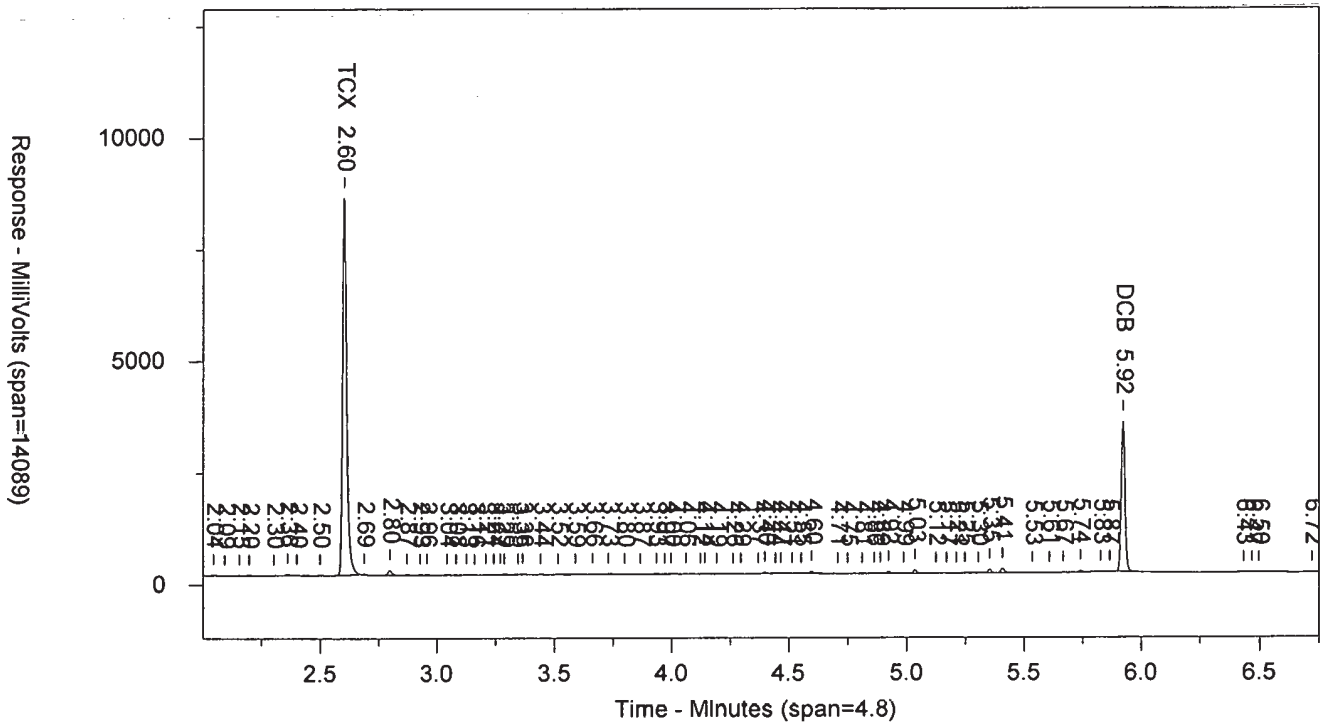
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IBLKX1824C HWPIBLKHW PIBLK183039999 10227 SW-846 808

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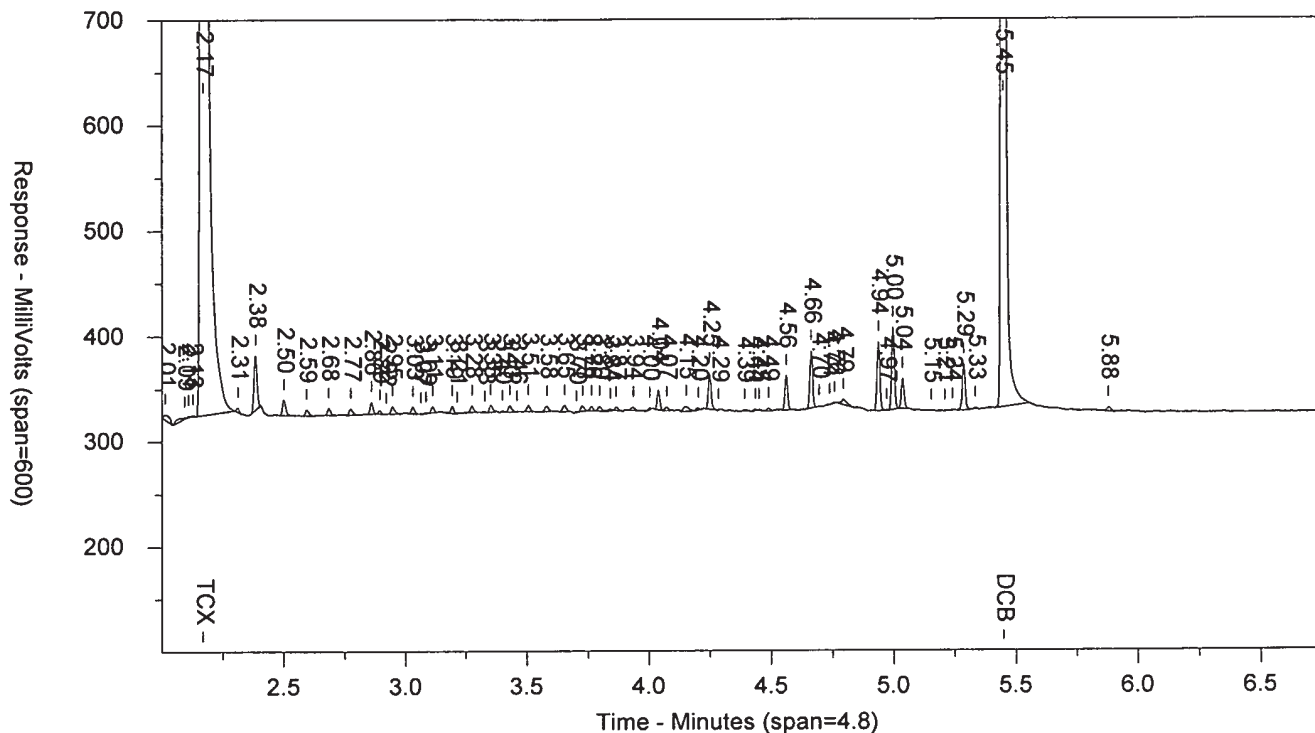


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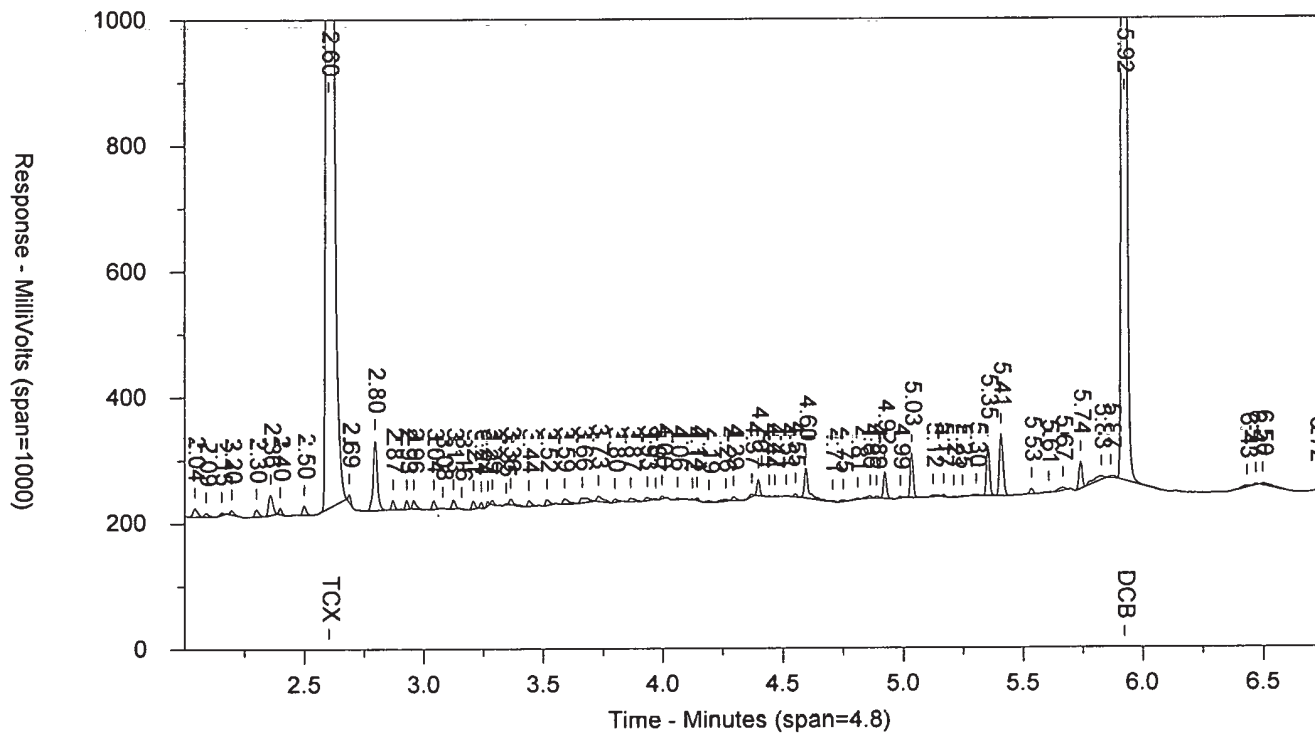


IBLKX1824C HWPIBLKHW PIBLK1830399999 10227 SW-846 808

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.129.RAW



\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.129.RAW



**Raw QC Data**

**Polychlorinated Biphenyls (PCBs)**

# Data Summary

Sample Name: **BLANKA**      10/30/18 ACF      PBLK17303 BLK      Sample ID: AB      Batchnumber: 183030017A  
 Sample Amount: 30 g      Total Volume: 10 ml      Analyst: 13786      SDG:      State:  
 Analyses: 10885

### Analysis Report (A)

Injected on Nov 01, 2018 14:39:52  
 Instrument 17342A  
 Result file 20PCBS18303002.105.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 106% (53 - 140) Conc: 10.61863  
 %SSR(DCB) 101% (45 - 143) Conc: 9.98635

### Analysis Report (B)

Injected on Nov 01, 2018 14:39:52  
 Instrument 17342B  
 Result file 20PCBS18303002B.105.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 112% (53 - 140) Conc: 11.22909  
 %SSR(DCB) 110% (45 - 143) Conc: 10.92975

### Single Component Data

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5468058	10.61863	Tetrachloro-m-xylene	2.57	2.60	2.63	13029950	11.22909
Decachlorobiphenyl	5.42	5.45	5.48	5140416	9.98635	Decachlorobiphenyl	5.89	5.92	5.95	5075163	10.92975

### Single Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	11.22909	0.5	1	1		5.59	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.61863	0.5	1	1			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	11.22909	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl	B	10.92975	0.5	1	1		9.02	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	9.98635	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	10.92975	0.5	1	1			

### Multiple Component Summary

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016			<3.6	<10	<17			4	
<input type="checkbox"/> PCB-1221			<4.6	<10	<17			3	
<input type="checkbox"/> PCB-1232			<8	<16	<17			4	
<input type="checkbox"/> PCB-1242			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1248			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1254			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1260			<4.9	<10	<17			4	
<input type="checkbox"/> PCB-1262			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1268			<3.3	<10	<17			4	
<input type="checkbox"/> Total PCBs			<3.3	<10	<17				

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018



# Data Summary

Sample Name: **BLANKA** 10/30/18 ACF PBLK17303 BLK Sample ID: AB Batchnumber: 183030017A  
 Sample Amount: 30 g Total Volume: 10 ml Analyst: 13786 SDG: State:  
 Analyses: 10885

**Analysis Report (A)**

Injected on Nov 01, 2018 14:39:52  
 Instrument 17342A  
 Result file 20PCBS18303002.105.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

%SSR(TCX) 106% (44 - 130) Conc: 10.61863  
 %SSR(DCB) 101% (45 - 143) Conc: 9.98635

**Analysis Report (B)**

Injected on Nov 01, 2018 14:39:52  
 Instrument 17342B  
 Result file 20PCBS18303002B.105.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

%SSR(TCX) 112% (44 - 130) Conc: 11.22909  
 %SSR(DCB) 110% (45 - 143) Conc: 10.92975

**Single Component Data**

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5468058	10.61863	Tetrachloro-m-xylene	2.57	2.60	2.63	13029950	11.22909
Decachlorobiphenyl	5.42	5.45	5.48	5140416	9.98635	Decachlorobiphenyl	5.89	5.92	5.95	5075163	10.92975

**Single Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	11.22909	0.5	1	1		5.59	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.61863	0.5	1	1			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	11.22909	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl	B	10.92975	0.5	1	1		9.02	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	9.98635	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	10.92975	0.5	1	1			

**Multiple Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req. Hits	Comments
<input type="checkbox"/> PCB-1016			<3.6	<10	<17			4	
<input type="checkbox"/> PCB-1221			<4.6	<10	<17			3	
<input type="checkbox"/> PCB-1232			<8	<16	<17			4	
<input type="checkbox"/> PCB-1242			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1248			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1254			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1260			<1.9	<10	<17			4	
<input type="checkbox"/> PCB-1262			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1268			<3.3	<10	<17			4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

*Valerie L. Tomayto*  
 Valerie L. Tomayto  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** BLANKA 10/30/18 ACF      **PBLK17303 ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10885

## Analysis Report (A)

Injected on : Nov 01, 2018 14:39:52  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.105.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET  
 %SSR(TCX) : 106% (53-140)      Conc.: 10.61863  
 %SSR(DCB) : 101% (45-143)      Conc.: 9.98635



Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.47	2.49	1385.744	0.128838	6	44.23	1
2.81	2.83	2.85	1373.067	0.166868			2
2.93	2.94	2.97	9007.592	0.253481			3
2.99	3.03	3.03	5653.817	0.284896			4
3.09	3.11	3.13	7367.105	0.45655			5
+ 3.25	3.25	3.29	909.3944	0.049471			6
3.25	3.27	3.29	6668.216	0.362748			6

Height Summation:      **31455.541**  
 Amount Avg CF:      **0.275563**      Linear:

<b>Aroclor-1221</b>							
2.45	2.47	2.49	1385.744	0.093619	1		3

Height Summation:      **1385.744**  
 Amount Avg CF:      **0.093619**      Linear:

<b>Aroclor-1232</b>							
2.45	2.47	2.49	1385.744	0.116285	6	62.21	1
2.81	2.83	2.85	1373.067	0.341291			2
2.93	2.94	2.97	9007.592	0.549943			3
2.99	3.03	3.03	5653.817	0.594609			4
3.09	3.11	3.13	7367.105	1.189462			5
+ 3.25	3.25	3.29	909.3944	0.115478			6
3.25	3.27	3.29	6668.216	0.846756			6

Height Summation:      **31455.541**  
 Amount Avg CF:      **0.606391**      Linear:

<b>Aroclor-1242</b>							
2.45	2.47	2.49	1385.744	0.149031	6	48.71	1
2.81	2.83	2.85	1373.067	0.193399			2
2.93	2.94	2.97	9007.592	0.304856			3
2.99	3.03	3.03	5653.817	0.334841			4
3.09	3.11	3.13	7367.105	0.594973			5
+ 3.25	3.25	3.29	909.3944	0.059849			6
3.25	3.27	3.29	6668.216	0.438848			6

Height Summation:      **31455.541**  
 Amount Avg CF:      **0.335991**      Linear:

<b>Aroclor-1248</b>							
3.09	3.11	3.13	7367.105	0.326096	4	26.39	2
+ 3.25	3.25	3.29	909.3944	0.035615			3
3.25	3.27	3.29	6668.216	0.261147			3
3.33	3.35	3.37	8217.595	0.40444			4
3.48	3.51	3.52	6556.069	0.221453			5

Height Summation:      **28808.985**  
 Amount Avg CF:      **0.303284**      Linear:

## Analysis Report (B)

Injected on : Nov 01, 2018 14:39:52  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.105.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET  
 %SSR(TCX) : 112% (53-140)      Conc.: 11.22909  
 %SSR(DCB) : 110% (45-143)      Conc.: 10.92975

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	165962.5	7.005418	3	159.52	1
3.41	3.45	3.45	3549.548	0.139024			4
3.58	3.59	3.62	6216.763	0.251019			6

Height Summation:      **175728.811**  
 Amount Avg CF:      **2.465154**      Linear:

<b>Aroclor-1221</b>							
2.68	2.69	2.72	12125.03	1.084136	2	92.42	1
2.78	2.80	2.82	165962.5	5.173494			3

Height Summation:      **178087.53**  
 Amount Avg CF:      **3.128815**      Linear:

<b>Aroclor-1232</b>							
2.78	2.80	2.82	165962.5	6.420719	3	140.90	1
3.41	3.45	3.45	3549.548	0.302329			4
3.58	3.59	3.62	6216.763	0.614097			6

Height Summation:      **175728.811**  
 Amount Avg CF:      **2.446715**      Linear:

<b>Aroclor-1242</b>							
2.78	2.80	2.82	165962.5	8.53381	3	159.52	1
3.41	3.45	3.45	3549.548	0.167957			4
3.58	3.59	3.62	6216.763	0.307083			6

Height Summation:      **175728.811**  
 Amount Avg CF:      **3.00295**      Linear:

<b>Aroclor-1248</b>							
3.41	3.45	3.45	3549.548	0.238291	3	18.87	1
3.58	3.59	3.62	6216.763	0.168847			3
3.87	3.89	3.91	6319.086	0.181357			5

Height Summation:      **16085.397**  
 Amount Avg CF:      **0.196165**      Linear:

<b>Aroclor-1254</b>							
4.18	4.19	4.22	2551.61	0.040025	5	69.01	1
4.27	4.29	4.31	7300.940	0.305350			2
4.35	4.37	4.39	4637.038	0.100072			3
4.43	4.45	4.47	5360.185	0.196084			4
4.51	4.54	4.55	2599.374	0.107008			5

Height Summation:      **22449.153**  
 Amount Avg CF:      **0.149709**      Linear:

<b>Aroclor-1260</b>							
4.43	4.45	4.47	5360.185	0.09015	5	17.23	1
4.50	4.54	4.54	2599.374	0.088069			2
4.65	4.67	4.69	3382.251	0.107658			4
4.97	4.99	5.01	9380.359	0.129496			5
+ 5.15	5.15	5.19	1894.989	0.044366			6
5.15	5.17	5.19	5209.812	0.121974			6

Height Summation:      **25931.981**  
 Amount Avg CF:      **0.107469**      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** BLANKA 10/30/18 ACF      **PBLK17303 ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 14:39:52  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.105.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.76	3.80	12828.11	0.490185	5	98.46	1
+ 3.76	3.80	3.80	4094.25	0.156448			1
3.82	3.84	3.86	3884.872	0.079549			2
+ 4.00	4.02	4.04	2822.826	0.129776			4
4.00	4.04	4.04	49931.45	2.295546			4
4.15	4.15	4.19	6983.153	0.393828			5
4.22	4.25	4.26	77814.43	2.319613			6

**Height Summation:** 151442.015  
**Amount Avg CF:** 1.115744      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
+ 4.00	4.00	4.04	1458.371	0.03055	5	120.57	1
4.00	4.02	4.04	2822.826	0.059133			1
4.13	4.15	4.17	6983.153	0.329782			2
4.22	4.25	4.26	77814.43	2.326473			3
4.42	4.44	4.46	3089.772	0.111394			4
4.54	4.56	4.58	73236.8	1.16635			5

**Height Summation:** 163946.981  
**Amount Avg CF:** 0.798626      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
4.24	4.25	4.28	77814.43	1.942004	5	124.34	1
4.42	4.44	4.46	3089.772	0.079555			2
4.55	4.56	4.59	73236.8	0.995917			3
4.74	4.74	4.78	5647.204	0.199745			4
+ 4.74	4.76	4.78	2277.604	0.08056			4
5.08	5.11	5.12	1541.758	0.063001			6

**Height Summation:** 161329.964  
**Amount Avg CF:** 0.656044      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.74	4.77	5647.204	0.058177	5	168.36	1
+ 4.74	4.76	4.77	2277.604	0.023463			1
4.92	4.94	4.96	102372.2	1.412043			3
4.98	5.00	5.02	126305.3	6.363946			4
5.08	5.11	5.12	1541.758	0.050703			5
5.27	5.29	5.31	35517.48	0.182617			6

**Height Summation:** 271383.942  
**Amount Avg CF:** 1.613497      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			17	3.6		** 159.78	4	40	
Aroclor-1221			17	4.6		** 188.38	3	5	
Aroclor-1232			17	8		** 120.53	4	40	
Aroclor-1242			17	3.3		** 159.75	4	30	
Aroclor-1248			17	3.3		** 42.89	4	40	
Aroclor-1254			17	3.3		** 152.68	4	40	
Aroclor-1260			17	4.9		** 152.56	4	40	
Aroclor-1262			17	3.3		29.93	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** BLANKA 10/30/18 ACF      PBLK17303 ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30 g      Total Volume: 10 ml      Analyst: 9065      SDG:      State:  
**Analyses:** 10885

Analysis Report (A)

Injected on : Nov 01, 2018 14:39:52  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.105.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Analysis Report (B)

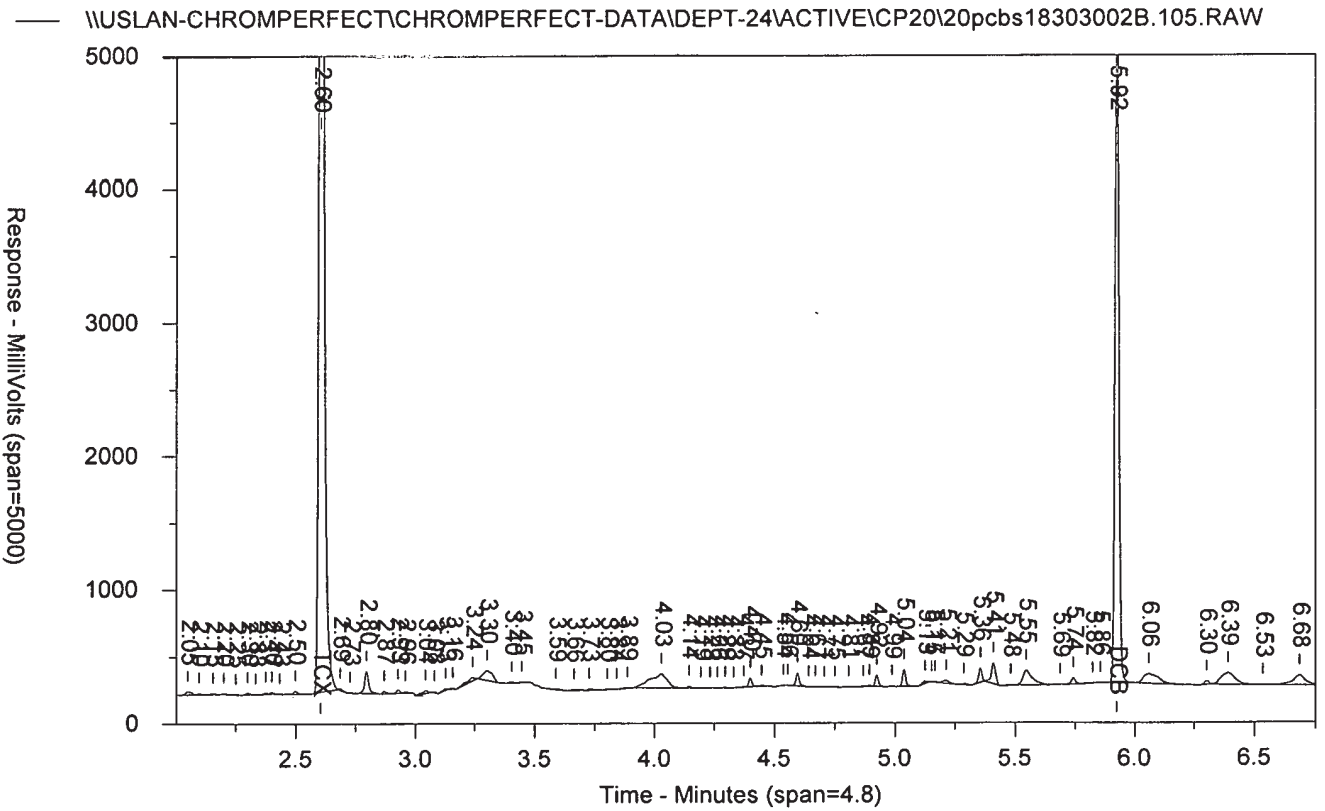
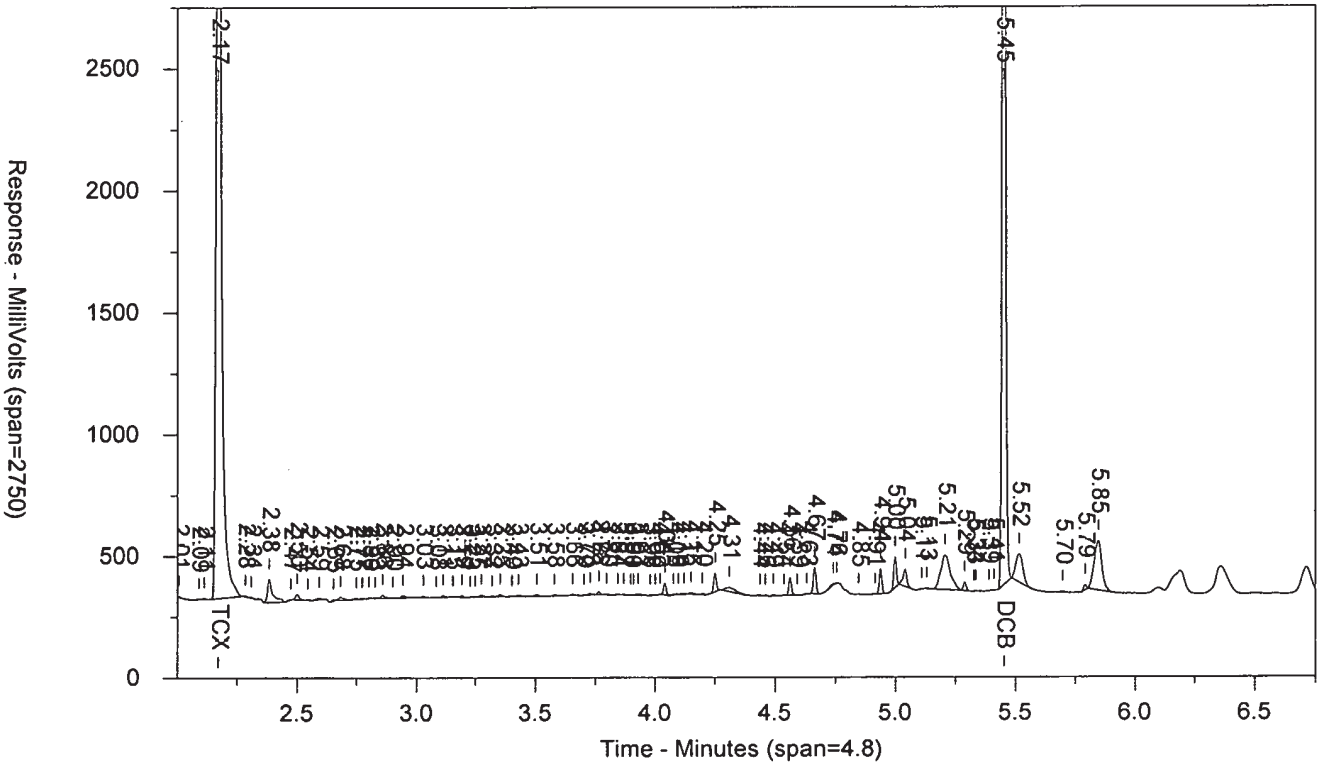
Injected on : Nov 01, 2018 14:39:52  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.105.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

<u>Compound Name</u>	<u>Column</u>	<u>Higher Amount Found</u>	<u>LOQ</u>	<u>MDL</u>	<u>Qualifiers</u>	<u>%Difference</u>	<u>No of Hits Required</u>	<u>Max %RSD</u>	<u>Comments</u>
Aroclor-1268			17	3.3		26.79	4	40	

Units: ug/kg

BLANKA 10/30/18 ACFABPLK17303 BLK 183030017A 10885 SW-846 808  
\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.105.RAW



Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: BLANKA 10/30/18 ACFABPBLK17303 BLK 183030017A 10885 SW-846 8082A Feb  
Injected On: 11/1/2018 2:39:52 PM Sample Weight: 30  
Instrument ID: CP20-17342 Dilution Factor: 10  
Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min  
Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um  
Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um  
Injection Volume: 1 ul

Threshold: 6  
Calibration Type: external  
Quantitation: Height

Analyst: 9065

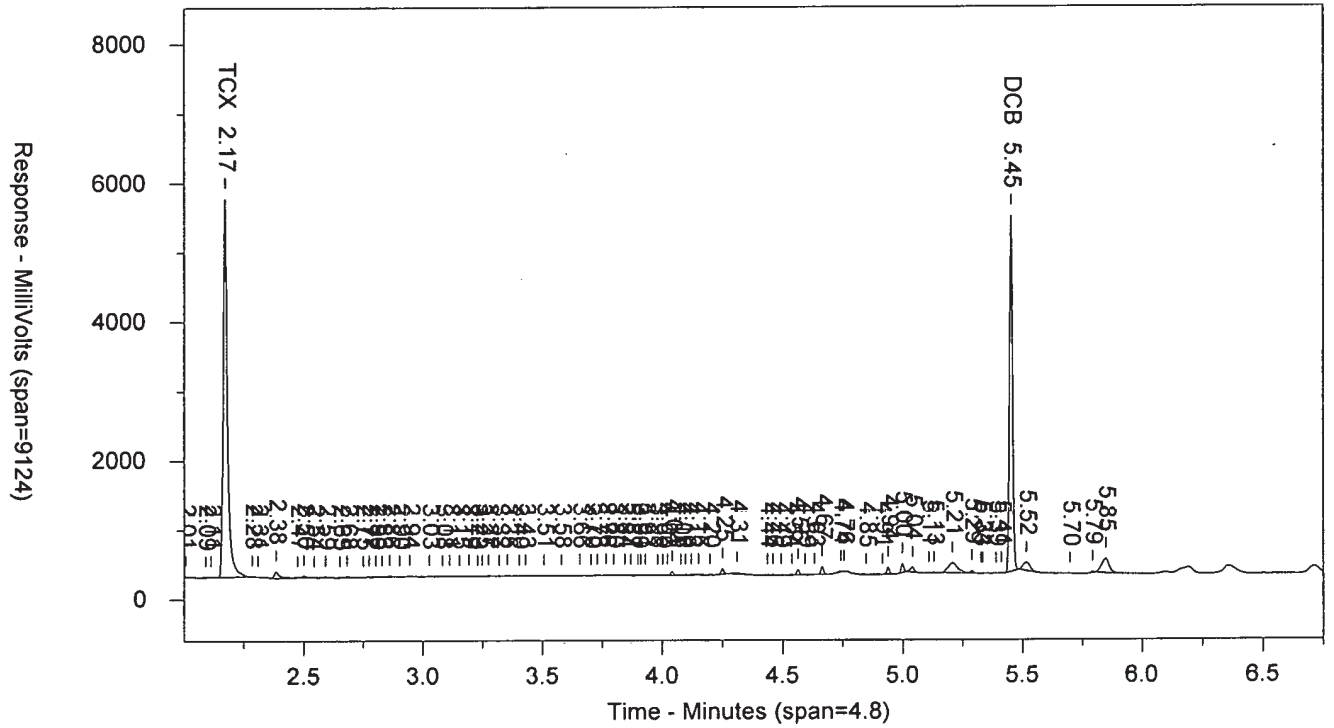
RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	5468059	10.619	TCX	2.602	13029950	11.229	TCX
5.452	5140417	9.986	DCB	5.924	5075163	10.93	DCB

Files:

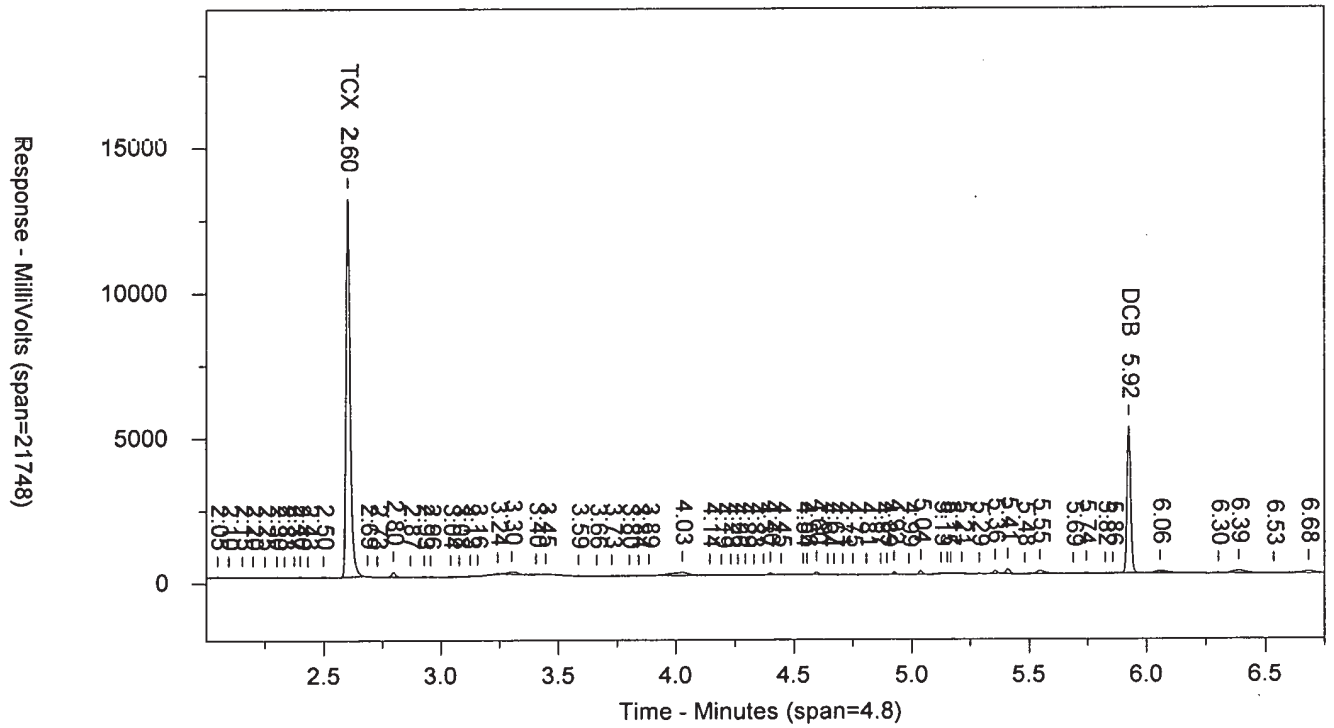
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Area File: 20pcbs18303002B.105.RAW  
Method A: 20PCBA.MET  
Method B: 20PCBAB.MET  
Calibration File A: 20pcbs1830301.CAL  
Calibration File B: 20pcbs1830301b.CAL  
Format A: pestD20.FMTA  
Format B: pestD20.FMTB  
Area File Created On: 11/1/2018 2:48:00 PM  
File Reported On: 11/1/2018 at 2:48:19 PM

BLANKA 10/30/18 ACFABPBLK17303 BLK 183030017A 10885 SW-846

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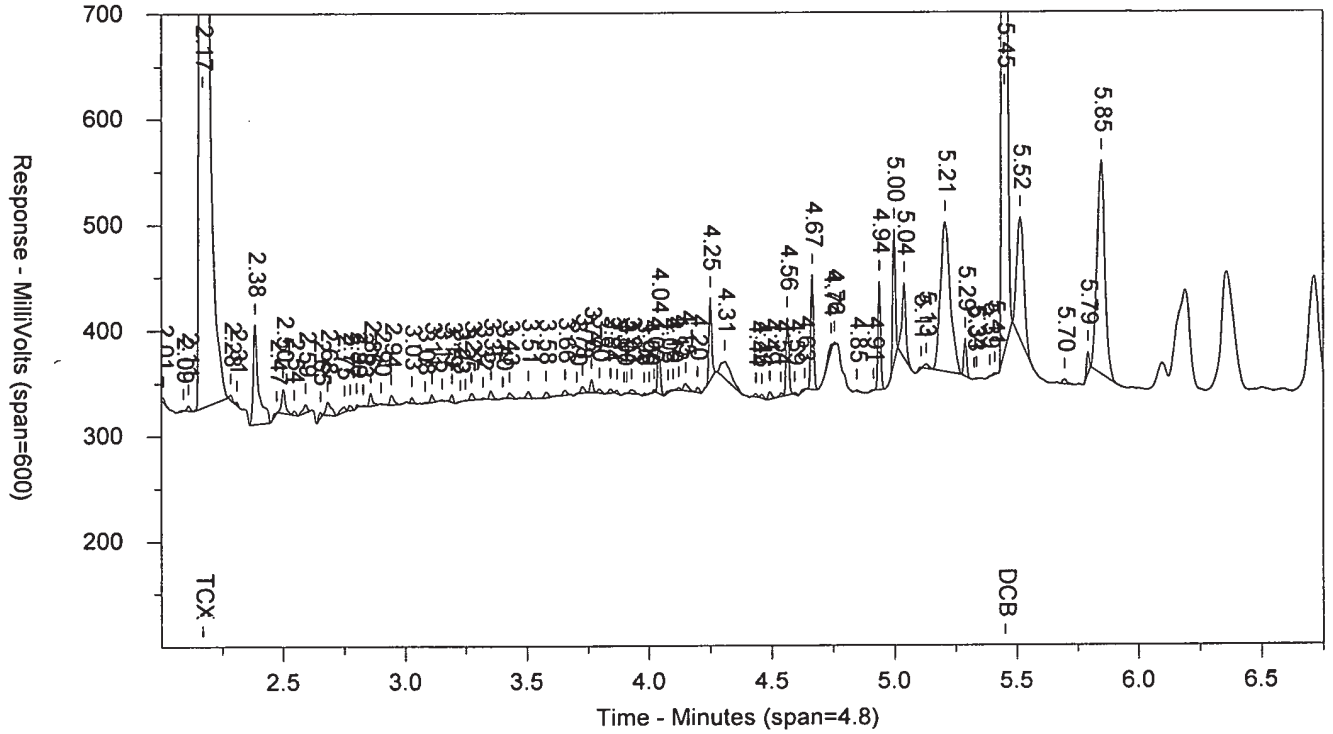


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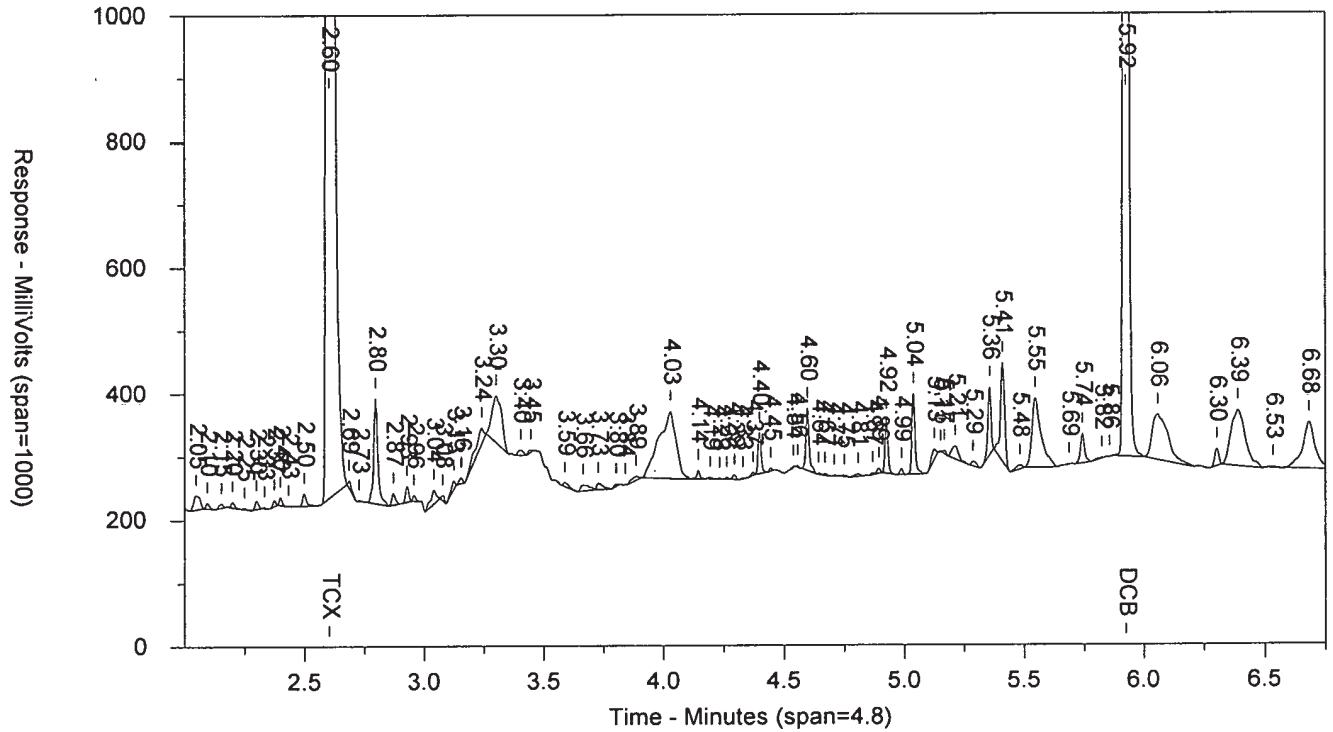


BLANKA 10/30/18 ACFABPBLK17303 BLK 183030017A 10885 SW-846

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\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002B.105.RAW





# Data Summary

**Sample Name:** LCSA      10/30/18 ACF      LCS17303 LCS      **Sample ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 13786      **SDG:**      **State:**  
**Analyses:** 10885

**Analysis Report (A)**

**Injected on** Nov 01, 2018 14:50:24  
**Instrument** 17342A  
**Result file** 20PCBS18303002.106.RAW  
**Calibration file** 20PCBS1830301  
**Method file** 20PCBA

**%SSR(TCX)** 102% (53 - 140) **Conc:** 10.23132  
**%SSR(DCB)** 103% (45 - 143) **Conc:** 10.22449

**Single Component Data**

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5268617	10.23132
Decachlorobiphenyl	5.42	5.45	5.48	5262996	10.22449

**Analysis Report (B)**

**Injected on** Nov 01, 2018 14:50:24  
**Instrument** 17342B  
**Result file** 20PCBS18303002B.106.RAW  
**Calibration file** 20PCBS1830301B  
**Method file** 20PCBAB

**%SSR(TCX)** 110% (53 - 140) **Conc:** 11.03141  
**%SSR(DCB)** 109% (45 - 143) **Conc:** 10.8306

Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.57	2.60	2.63	12800570	11.03141
Decachlorobiphenyl	5.89	5.93	5.95	5029123	10.8306

**Single Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	11.03141	0.5	1	1		7.53	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.23132	0.5	1	1			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	11.03141	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl	B	10.8306	0.5	1	1		5.76	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	10.22449	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	10.8306	0.5	1	1			

**Multiple Component Data**

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>								<b>Aroclor-1016</b>							
6.18								8.46							
2.45	2.46	2.49	1599538	148.715157	1			2.78	2.80	2.82	3635298	153.449019	1		
2.81	2.83	2.85	1260653	153.206775	2			3.00	3.01	3.04	4211392	159.507241	2		
2.93	2.95	2.97	6314376	177.691403	3			3.32	3.34	3.36	5898320	193.906452	3		
2.99	3.01	3.03	3205636	161.531968	4			3.41	3.43	3.45	4455652	174.512745	4		
3.09	3.11	3.13	2568385	159.166314	5			3.50	3.51	3.54	4365306	162.853742	5		
3.25	3.26	3.29	2965950	161.346389	6			3.58	3.60	3.62	4205499	169.808435	6		
Height summation:				17914538	Height summation:				26771467	Height summation:					
Concentration				CF: 160.276334	L:	Concentration				CF: 169.006272	L:	Concentration			
<b>Aroclor-1260</b>								<b>Aroclor-1260</b>							
14.23								14.16							
4.00	4.02	4.04	7288798	152.688007	1			4.43	4.45	4.47	9539672	160.44184	1		
4.13	4.15	4.17	3131555	147.888627	2			4.50	4.52	4.54	4885282	165.516943	2		
4.22	4.24	4.26	4585771	137.104052	3			4.60	4.62	4.64	9264898	152.804236	3		
4.42	4.44	4.46	5019185	180.954181	4			4.65	4.67	4.69	6511399	207.259469	4		
4.54	4.57	4.58	12313590	196.102933	5			4.97	4.99	5.01	15271640	210.825023	5		
4.77	4.80	4.81	8077400	184.461733	6			5.15	5.17	5.19	8500385	199.01387	6		
Height summation:				40416299	Height summation:				53973276	Height summation:					
Concentration				CF: 166.533256	L:	Concentration				CF: 182.643564	L:	Concentration			

*Valerie L. Tomayko*  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Data Summary

**Sample Name:** LCSA      10/30/18 ACF      LCS17303 LCS      Sample ID: AB      **Batchnumber: 183030017A**  
 Sample Amount: 30 g      Total Volume: 10 ml      Analyst: 13786      SDG:      State:  
**Analyses:** 10885

**Analysis Report (A)**

Injected on Nov 01, 2018 14:50:24  
 Instrument 17342A  
 Result file 20PCBS18303002.106.RAW  
 Calibration file 20PCBS1830301  
 Method file 20PCBA

**Analysis Report (B)**

Injected on Nov 01, 2018 14:50:24  
 Instrument 17342B  
 Result file 20PCBS18303002B.106.RAW  
 Calibration file 20PCBS1830301B  
 Method file 20PCBAB

**Multiple Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req.	
								Hits	Comments
<input type="checkbox"/> PCB-1016	B	169.006272	3.6	10	17		5.30	4	
<input type="checkbox"/> PCB-1221			<4.6	<10	<17			3	
<input type="checkbox"/> PCB-1232			<8	<16	<17			4	
<input type="checkbox"/> PCB-1242			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1248			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1254			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1260	B	182.643564	4.9	10	17		9.23	4	
<input type="checkbox"/> PCB-1262			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1268			<3.3	<10	<17			4	
<input type="checkbox"/> Total PCBs	A	351.649836	3.3	10	17				

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

# Data Summary

**Sample Name:** LCSA      10/30/18 ACF      LCS17303 LCS      **Sample ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 13786      **SDG:**      **State:**  
**Analyses:** 10885

**Analysis Report (A)**

**Injected on** Nov 01, 2018 14:50:24  
**Instrument** 17342A  
**Result file** 20PCBS18303002.106.RAW  
**Calibration file** 20PCBS1830301  
**Method file** 20PCBA  
**%SSR(TCX)** 102% (44 - 130) **Conc:** 10.23132  
**%SSR(DCB)** 103% (45 - 143) **Conc:** 10.22449

**Analysis Report (B)**

**Injected on** Nov 01, 2018 14:50:24  
**Instrument** 17342B  
**Result file** 20PCBS18303002B.106.RAW  
**Calibration file** 20PCBS1830301B  
**Method file** 20PCBAB  
**%SSR(TCX)** 110% (44 - 130) **Conc:** 11.03141  
**%SSR(DCB)** 109% (45 - 143) **Conc:** 10.8306

**Single Component Data**

Compound	Min	RT	Max	Height	Amount	Compound	Min	RT	Max	Height	Amount
Tetrachloro-m-xylene	2.14	2.17	2.20	5268617	10.23132	Tetrachloro-m-xylene	2.57	2.60	2.63	12800570	11.03141
Decachlorobiphenyl	5.42	5.45	5.48	5262996	10.22449	Decachlorobiphenyl	5.89	5.93	5.95	5029123	10.8306

**Single Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	Comments
<input type="checkbox"/> Tetrachloro-m-xylene	B	11.03141	0.5	1	1		7.53	
<input type="checkbox"/> Tetrachloro-m-xylene-D1	A	10.23132	0.5	1	1			
<input type="checkbox"/> Tetrachloro-m-xylene-D2	B	11.03141	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl	B	10.8306	0.5	1	1		5.76	
<input type="checkbox"/> Decachlorobiphenyl-D1	A	10.22449	0.5	1	1			
<input type="checkbox"/> Decachlorobiphenyl-D2	B	10.8306	0.5	1	1			

**Multiple Component Data**

Min	RT	Max	Height	Amount	Pks	%RSD	Peak	Min	RT	Max	Height	Amount	Pks	%RSD	Peak								
<b>Aroclor-1016</b>								<b>Aroclor-1016</b>															
								<b>6.18</b>								<b>8.46</b>							
2.45	2.46	2.49	1599538	148.715157	1			2.78	2.80	2.82	3635298	153.449019	1										
2.81	2.83	2.85	1260653	153.206775	2			3.00	3.01	3.04	4211392	159.507241	2										
2.93	2.95	2.97	6314376	177.691403	3			3.32	3.34	3.36	5898320	193.906452	3										
2.99	3.01	3.03	3205636	161.531968	4			3.41	3.43	3.45	4455652	174.512745	4										
3.09	3.11	3.13	2568385	159.166314	5			3.50	3.51	3.54	4365306	162.853742	5										
3.25	3.26	3.29	2965950	161.346389	6			3.58	3.60	3.62	4205499	169.808435	6										
Height summation:				<b>17914538</b>					Height summation:				<b>26771467</b>										
Concentration				CF: <b>160.276334</b>	L:				Concentration				CF: <b>169.006272</b>	L:									
<b>Aroclor-1260</b>								<b>Aroclor-1260</b>															
								<b>14.23</b>								<b>14.16</b>							
4.00	4.02	4.04	7288798	152.688007	1			4.43	4.45	4.47	9539672	160.44184	1										
4.13	4.15	4.17	3131555	147.888627	2			4.50	4.52	4.54	4885282	165.516943	2										
4.22	4.24	4.26	4585771	137.104052	3			4.60	4.62	4.64	9264898	152.804236	3										
4.42	4.44	4.46	5019185	180.954181	4			4.65	4.67	4.69	6511399	207.259469	4										
4.54	4.57	4.58	12313590	196.102933	5			4.97	4.99	5.01	15271640	210.825023	5										
4.77	4.80	4.81	8077400	184.461733	6			5.15	5.17	5.19	8500385	199.01387	6										
Height summation:				<b>40416299</b>					Height summation:				<b>53973276</b>										
Concentration				CF: <b>166.533256</b>	L:				Concentration				CF: <b>182.643564</b>	L:									

# Data Summary

**Sample Name:** LCSA                      10/30/18 ACF                      LCS17303 LCS                      Sample ID: AB                      Batchnumber: 183030017A  
**Sample Amount:** 30                      g                      Total Volume:                      10 ml                      Analyst: 13786                      SDG:                      State:  
**Analyses:** 10885

**Analysis Report (A)**

**Injected on**                      Nov 01, 2018 14:50:24  
**Instrument**                      17342A  
**Result file**                      20PCBS18303002.106.RAW  
**Calibration file**                      20PCBS1830301  
**Method file**                      20PCBA

**Analysis Report (B)**


**Injected on**                      Nov 01, 2018 14:50:24  
**Instrument**                      17342B  
**Result file**                      20PCBS18303002B.106.RAW  
**Calibration file**                      20PCBS1830301B  
**Method file**                      20PCBAB

**Multiple Component Summary**

Compound Name	Column	Amount Found	DL	LOD	LOQ	Qualifiers	%RPD	No Req.	
								Hits	Comments
<input type="checkbox"/> PCB-1016	B	169.006272	3.6	10	17		5.30	4	
<input type="checkbox"/> PCB-1221			<4.6	<10	<17			3	
<input type="checkbox"/> PCB-1232			<8	<16	<17			4	
<input type="checkbox"/> PCB-1242			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1248			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1254			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1260	B	182.643564	4.9	10	17		9.23	4	
<input type="checkbox"/> PCB-1262			<3.3	<10	<17			4	
<input type="checkbox"/> PCB-1268			<3.3	<10	<17			4	

Units: ug/kg

%RPD = High - Low Amount divided by the Average times 100

  
 Valerie L. Tomayko  
 Principal Specialist

NOV 05 2018

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** LCSA 10/30/18 ACF      **LCS17303 ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20--17342A  
 Result file : 20PCBS18303002.106.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

%SSR(TCX) : 102% (53-140)      Conc.: 10.23132  
 %SSR(DCB) : 103% (45-143)      Conc.: 10.22449

MIn	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.45	2.46	2.49	1599538	148.715157	6	6.18	1
2.81	2.83	2.85	1260653	153.206775			2
2.93	2.95	2.97	6314376	177.691403			3
2.99	3.01	3.03	3205636	161.531968			4
3.09	3.11	3.13	2568385	159.166314			5
3.25	3.26	3.29	2965950	161.346389			6

**Height Summation:** 17914538  
**Amount Avg CF:** 160.276334      Linear:

<b>Aroclor-1221</b>							
2.33	2.35	2.37	351567.7	49.948697	3	38.07	1
E 2.40	2.42	2.44	342533.8	72.716439			2
E 2.45	2.46	2.49	1599538	108.063062			3

**Height Summation:** 2293639.5  
**Amount Avg CF:** 76.909399      Linear:

<b>Aroclor-1232</b>							
E 2.45	2.46	2.49	1599538	134.225959	6	30.90	1
E+ 2.81	2.81	2.85	881095.7	219.006166			2
E 2.81	2.83	2.85	1260653	313.349368			2
E 2.93	2.95	2.97	6314376	385.513354			3
E 2.99	3.01	3.03	3205636	337.134883			4
E 3.09	3.11	3.13	2568385	414.680637			5
E 3.25	3.26	3.29	2965950	376.62786			6

**Height Summation:** 17914538  
**Amount Avg CF:** 326.92201      Linear:

<b>Aroclor-1242</b>							
E 2.45	2.46	2.49	1599538	172.023501	6	8.46	1
E 2.81	2.83	2.85	1260653	177.565447			2
E 2.93	2.95	2.97	6314376	213.706091			3
E 2.99	3.01	3.03	3205636	189.850211			4
E 3.09	3.11	3.13	2568385	207.424892			5
E 3.25	3.26	3.29	2965950	195.194612			6

**Height Summation:** 17914538  
**Amount Avg CF:** 192.627459      Linear:

<b>Aroclor-1248</b>							
2.99	3.01	3.03	3205636	273.568503	6	72.94	1
3.09	3.11	3.13	2568385	113.686531			2
3.25	3.26	3.29	2965950	116.155384			3
3.33	3.35	3.37	2296465	113.023596			4
3.48	3.49	3.52	2176170	73.507238			5
3.60	3.60	3.64	156794.1	15.357665			6
+ 3.60	3.62	3.64	80173.15	7.852798			6
+ 3.60	3.64	3.64	22957.77	2.248667			6

**Height Summation:** 13369400.1  
**Amount Avg CF:** 117.549819      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20--17342B  
 Result file : 20PCBS18303002B.106.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

%SSR(TCX) : 110% (53-140)      Conc.: 11.03141  
 %SSR(DCB) : 109% (45-143)      Conc.: 10.8306

MIn	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1016</b>							
2.78	2.80	2.82	3635298	153.449019	6	8.46	1
3.00	3.01	3.04	4211392	159.507241			2
+ 3.00	3.03	3.04	1640470	62.133101			2
3.32	3.34	3.36	5898320	193.906452			3
+ 3.32	3.36	3.36	3353088	110.232303			3
3.41	3.43	3.45	4455652	174.512745			4
3.50	3.51	3.54	4365306	162.853742			5
3.58	3.60	3.62	4205499	169.808435			6

**Height Summation:** 26771467  
**Amount Avg CF:** 169.006272      Linear:

<b>Aroclor-1221</b>							
2.68	2.70	2.72	581159.2	51.963243	3	38.71	1
E 2.73	2.75	2.77	678168.7	74.965504			2
E 2.78	2.80	2.82	3635298	113.321942			3

**Height Summation:** 4894625.9  
**Amount Avg CF:** 80.083563      Linear:

<b>Aroclor-1232</b>							
E 2.78	2.80	2.82	3635298	140.641575	6	30.47	1
E 3.00	3.01	3.04	4211392	340.541369			2
E+ 3.00	3.03	3.04	1640470	132.651603			2
E 3.32	3.34	3.36	5898320	410.911736			3
E+ 3.32	3.36	3.36	3353088	233.595873			3
E 3.41	3.43	3.45	4455652	379.5053			4
E 3.50	3.51	3.54	4365306	414.656835			5
E 3.58	3.60	3.62	4205499	415.422645			6

**Height Summation:** 26771467  
**Amount Avg CF:** 350.27991      Linear:

<b>Aroclor-1242</b>							
E 2.78	2.80	2.82	3635298	186.927422	6	7.14	1
E 3.00	3.01	3.04	4211392	190.16544			2
E+ 3.00	3.03	3.04	1640470	74.075436			2
E 3.32	3.34	3.36	5898320	225.197588			3
E+ 3.32	3.36	3.36	3353088	128.020747			3
E 3.41	3.43	3.45	4455652	210.831853			4
E 3.50	3.51	3.54	4365306	214.433221			5
E 3.58	3.60	3.62	4205499	207.734423			6

**Height Summation:** 26771467  
**Amount Avg CF:** 205.881658      Linear:

<b>Aroclor-1248</b>							
3.41	3.43	3.45	4455652	299.119894	6	73.30	1
3.47	3.48	3.51	3946260	112.447396			2
3.58	3.60	3.62	4205499	114.221018			3
3.68	3.70	3.72	2445603	119.465936			4
3.87	3.88	3.91	630772.8	18.103106			5
3.95	3.97	3.99	3748760	95.090576			6

**Height Summation:** 19432546.8  
**Amount Avg CF:** 126.407988      Linear:

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** LCSA 10/30/18 ACF      **LCS17303 ID:** AB      **Batchnumber:** 183030017A  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10885

### Analysis Report (A)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.106.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
3.76	3.78	3.80	623057.8	23.808135	6	123.41	1
3.82	3.84	3.86	4489225	91.923972			2
3.94	3.96	3.98	502673.5	17.624171			3
E 4.00	4.02	4.04	7288798	335.094904			4
4.15	4.17	4.19	70444.74	3.972865			5
4.22	4.24	4.26	4585771	136.699777			6

**Height Summation:** 17559970.04  
**Amount Avg CF:** 101.520637      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.00	4.02	4.04	7288798	152.688007	6	14.23	1
4.13	4.15	4.17	3131555	147.888627			2
4.22	4.24	4.26	4585771	137.104052			3
4.42	4.44	4.46	5019185	180.954181			4
4.54	4.57	4.58	12313590	196.102933			5
4.77	4.80	4.81	8077400	184.461733			6

**Height Summation:** 40416299  
**Amount Avg CF:** 166.533255      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
E 4.24	4.26	4.28	4276014	106.715892	6	22.85	1
E 4.42	4.44	4.46	5019185	129.23317			2
E 4.55	4.57	4.59	12313590	167.447361			3
E 4.74	4.76	4.78	2719000	96.172484			4
E 4.78	4.80	4.82	8077400	171.297427			5
E 5.08	5.10	5.12	3304632	135.03666			6

**Height Summation:** 35709821  
**Amount Avg CF:** 134.317166      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
4.74	4.76	4.77	2719000	28.010685	6	113.28	1
E 4.77	4.80	4.81	8077400	98.080036			2
4.92	4.94	4.96	268472.3	3.703099			3
4.98	5.00	5.02	247064.1	12.448429			4
E 5.08	5.10	5.12	3304632	108.677902			5
5.27	5.29	5.31	764149.7	3.92895			6

**Height Summation:** 15380718.1  
**Amount Avg CF:** 42.47485      Linear:

### Analysis Report (B)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.106.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1254</b>							
4.18	4.19	4.22	1839639	28.856568	6	73.73	1
E 4.27	4.29	4.31	8190618	342.56578			2
4.35	4.37	4.39	1251709	27.01308			3
E 4.43	4.45	4.47	9539672	348.975342			4
4.51	4.52	4.55	4885282	201.111124			5
4.60	4.62	4.64	9264898	211.462019			6

**Height Summation:** 34971818  
**Amount Avg CF:** 193.330652      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1260</b>							
4.43	4.45	4.47	9539672	160.44184	6	14.16	1
4.50	4.52	4.54	4885282	165.516943			2
4.60	4.62	4.64	9264898	152.804236			3
4.65	4.67	4.69	6511399	207.259469			4
4.97	4.99	5.01	15271640	210.825023			5
5.15	5.17	5.19	8500385	199.01387			6

**Height Summation:** 53973276  
**Amount Avg CF:** 182.643563      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1262</b>							
E 4.65	4.67	4.69	6511399	125.097194	6	20.03	1
E 4.79	4.81	4.83	6090848	151.231371			2
E 4.97	4.99	5.01	15271640	174.099084			3
E 5.15	5.17	5.19	8500385	164.783567			4
+ 5.20	5.20	5.24	281109.8	9.546551			5
E 5.20	5.22	5.24	2852759	96.880329			5
F 5.51	5.54	5.55	3503051	135.120735			6

**Height Summation:** 42730082  
**Amount Avg CF:** 141.202047      Linear:

Min	R.T.	Max	Height	Amount	Pks	%RSD	Peak
<b>Aroclor-1268</b>							
E 5.15	5.17	5.19	8500385	76.376615	6	89.01	1
+ 5.20	5.20	5.24	281109.8	2.950126			2
5.20	5.22	5.24	2852759	29.938477			2
5.33	5.36	5.37	185354.6	2.331398			3
E 5.39	5.42	5.43	1547890	72.87489			4
E 5.51	5.54	5.55	3503051	110.001358			5
5.72	5.74	5.76	805937.8	3.979356			6

**Height Summation:** 17395377.4  
**Amount Avg CF:** 49.250349      Linear:

### Summary Report

Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1016			17	3.6		5.30	4	40	
Aroclor-1221			17	4.6	E	4.04	3	5	
Aroclor-1232			17	8	E	6.90	4	40	
Aroclor-1242			17	3.3	E	6.65	4	30	
Aroclor-1248			17	3.3		7.26	4	40	
Aroclor-1254			17	3.3	E	**62.28	4	40	
Aroclor-1260			17	4.9		9.23	4	40	

# Eurofins Lancaster Laboratories-Multiple Component Data Summary

**Sample Name:** LCSA 10/30/18 ACF      LCS17303 ID: AB      **Batchnumber: 183030017A**  
**Sample Amount:** 30 g      **Total Volume:** 10 ml      **Analyst:** 9065      **SDG:**      **State:**  
**Analyses:** 10885

Analysis Report (A)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20-17342A  
 Result file : 20PCBS18303002.106.RAW  
 Calibration file : 20PCBS1830301.CAL  
 Method file : 20PCBA.MET

Analysis Report (B)

Injected on : Nov 01, 2018 14:50:24  
 Instrument : CP20-17342B  
 Result file : 20PCBS18303002B.106.RAW  
 Calibration file : 20PCBS1830301B.CAL  
 Method file : 20PCBAB.MET

**Summary Report**

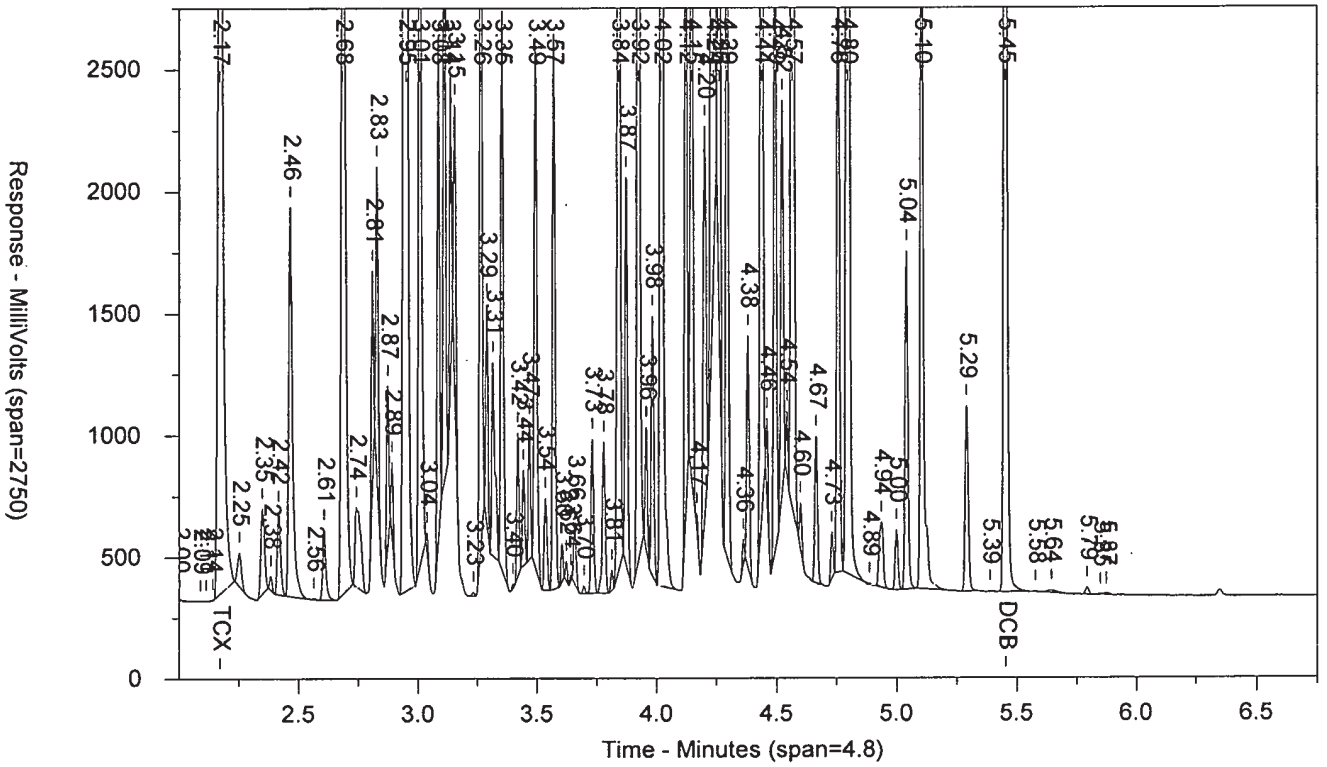
Compound Name	Column	Higher Amount Found	LOQ	MDL	Qualifiers	%Difference	No of Hits Required	Max %RSD	Comments
Aroclor-1262			17	3.3	E	5.00	4	40	
Aroclor-1268			17	3.3	E	14.77	4	40	

Units: ug/kg

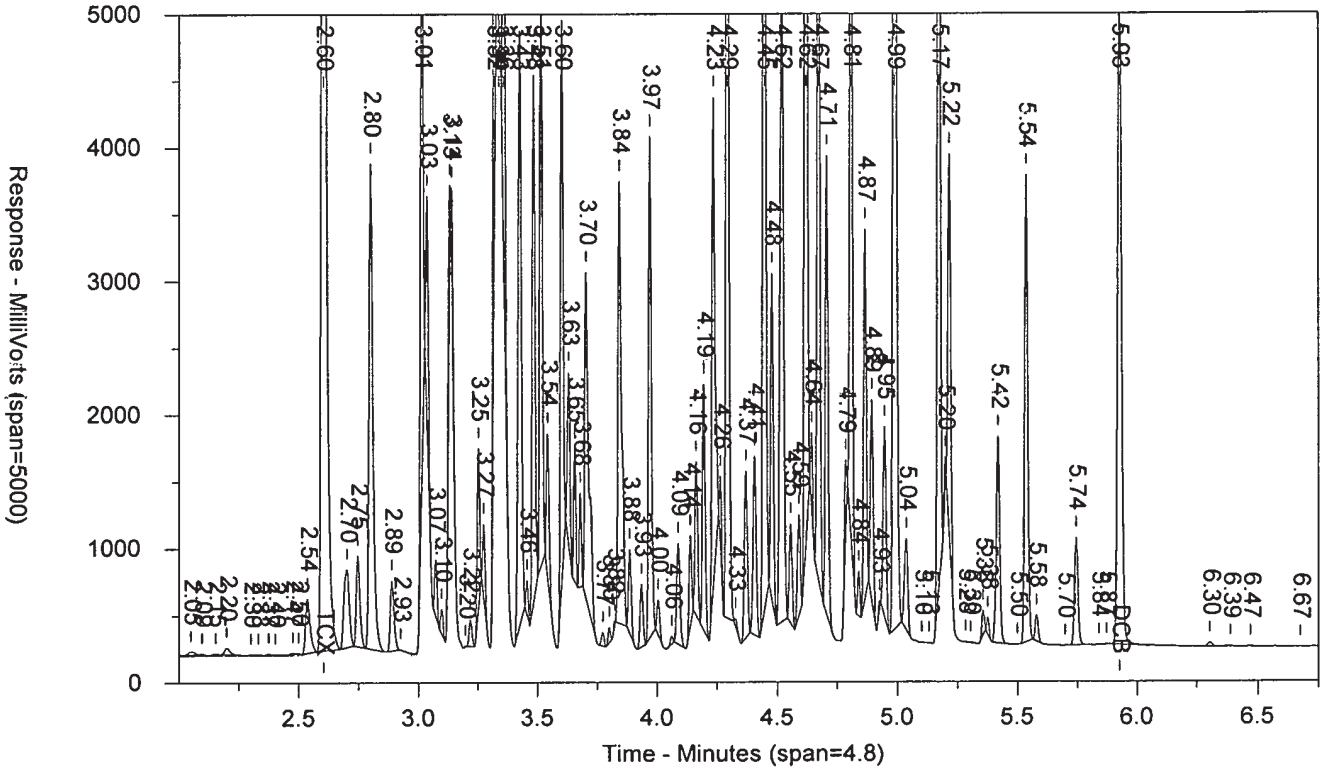
LCSA 10/30/18 ACF ABLCS17303 LCS 183030017A 10885

SW-846 8082/

\\USLAN-CHROMPERFECT\CHROMPERFECT-DATA\DEPT-24\ACTIVE\CP20\20pcbs18303002.106.RAW



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Chrom Perfect Chromatogram Report

LANCASTER LABORATORIES

Sample Number: LCSA 10/30/18 ACF ABLCS17303 LCS 183030017A 10885

SW-846 8082A Feb 20

Injected On: 11/1/2018 2:50:24 PM

Sample Weight: 30

Instrument ID: CP20-17342

Dilution Factor: 10

Oven Parameters: 160C hold 0.25min, 35C/min to 330c hold for 3min

Column A ID: DB-CLP1: 30m x 0.32mm x 0.25um

Column B ID: DB-CLP2: 30m x 0.32mm, 0.5um

Injection Volume: 1 ul

Threshold: 6

Calibration Type: external

Quantitation: Height

Analyst: 9065

RT A	Height A	Amount A - PPB	Compound A	RT B	Height B	Amount B - PPB	Compound B
2.17	5268617	10.231	TCX	2.602	12800570	11.031	TCX
5.453	5262996	10.224	DCB	5.926	5029123	10.831	DCB

Files:

Area File: 20pcbs18303002.106.RAW

Area File: 20pcbs18303002B.106.RAW

Method A: 20PCBA.MET

Method B: 20PCBAB.MET

Calibration File A: 20pcbs1830301.CAL

Calibration File B: 20pcbs1830301b.CAL

Format A: pestD20.FMTA

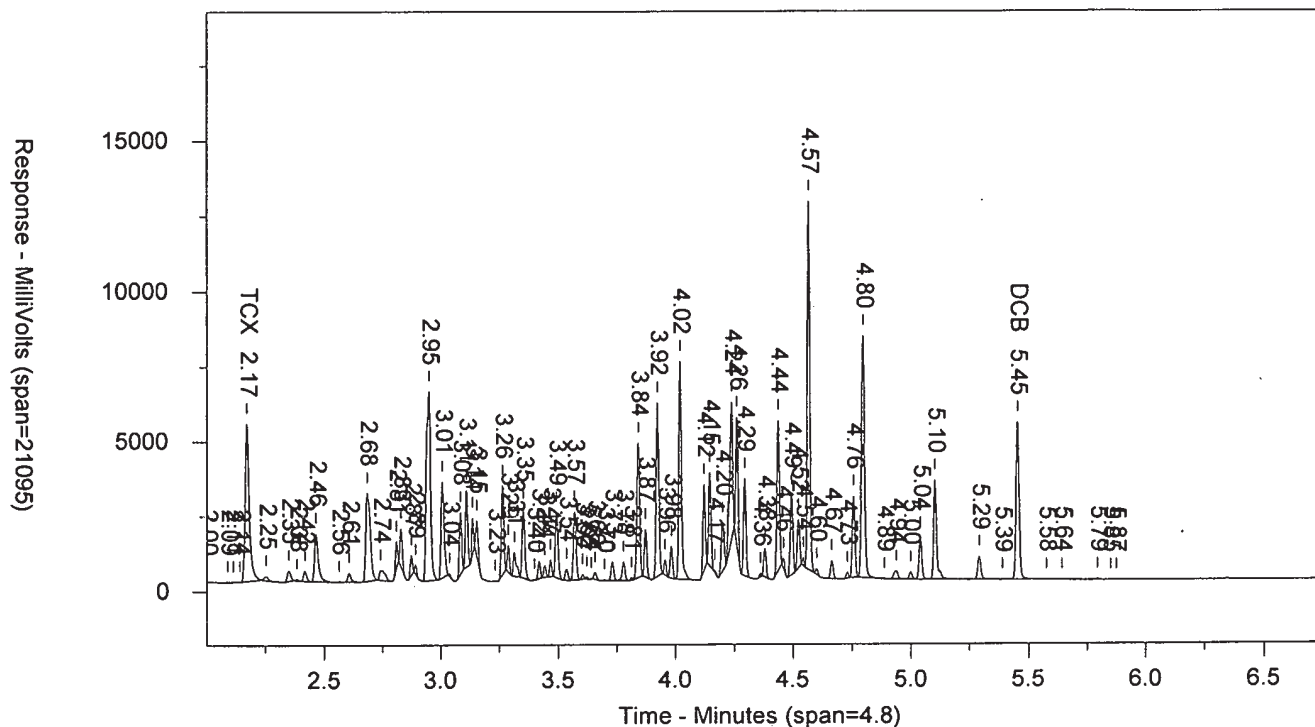
Format B: pestD20.FMTB

Area File Created On: 11/1/2018 2:58:32 PM

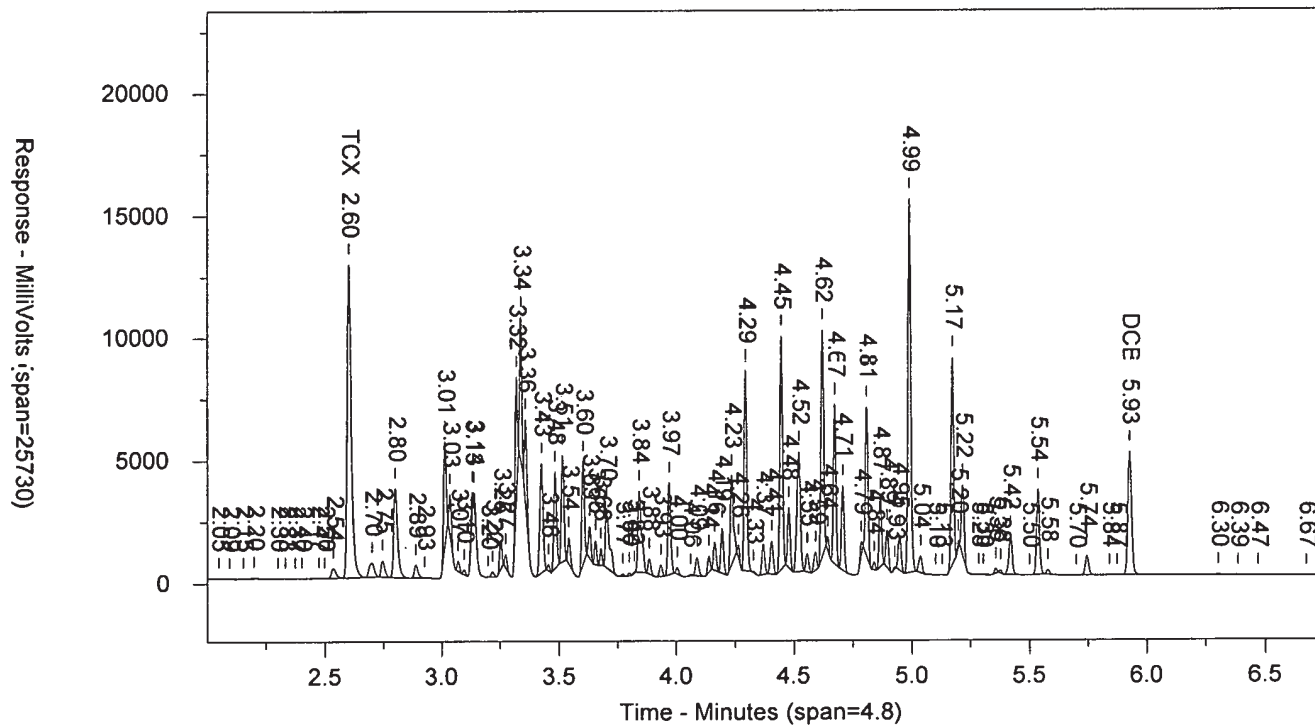
File Reported On: 11/1/2018 at 2:58:39 PM

LCSA 10/30/18 ACF ABLCS17303 LCS 183030017A 10885 SW-846 80

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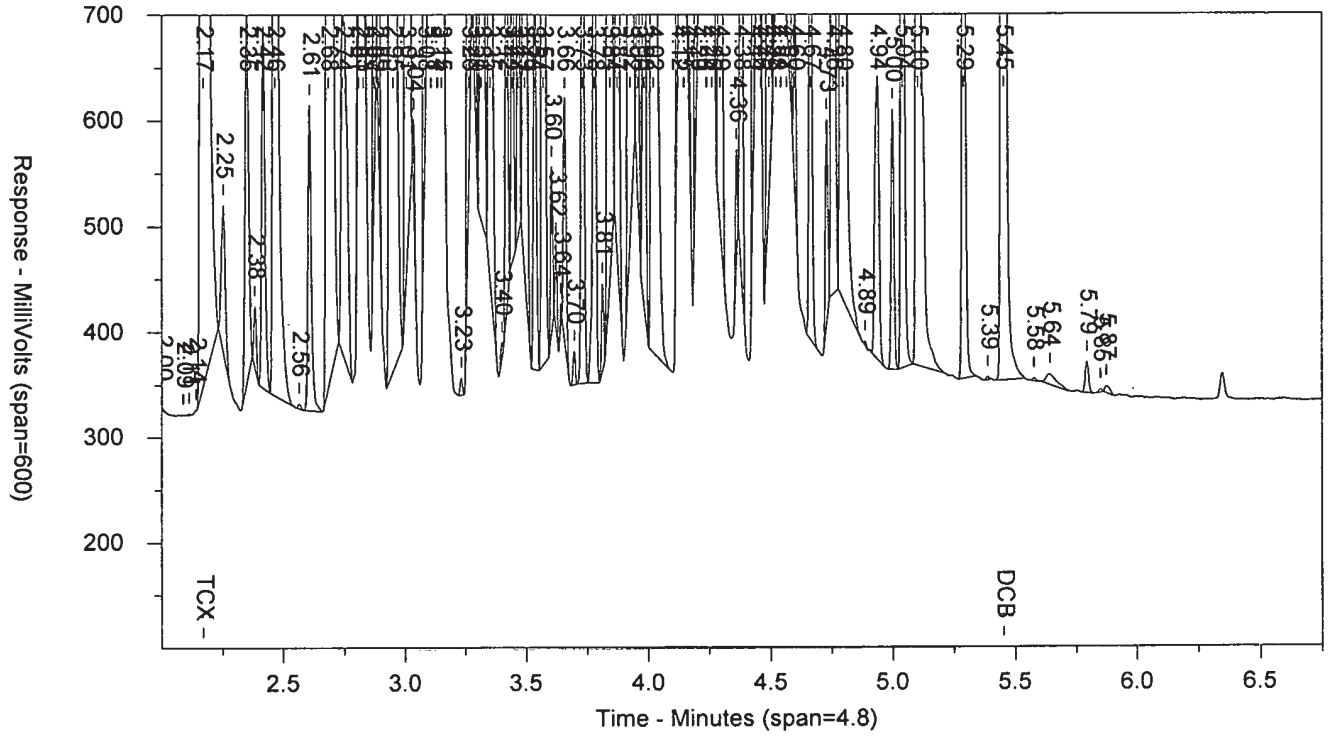


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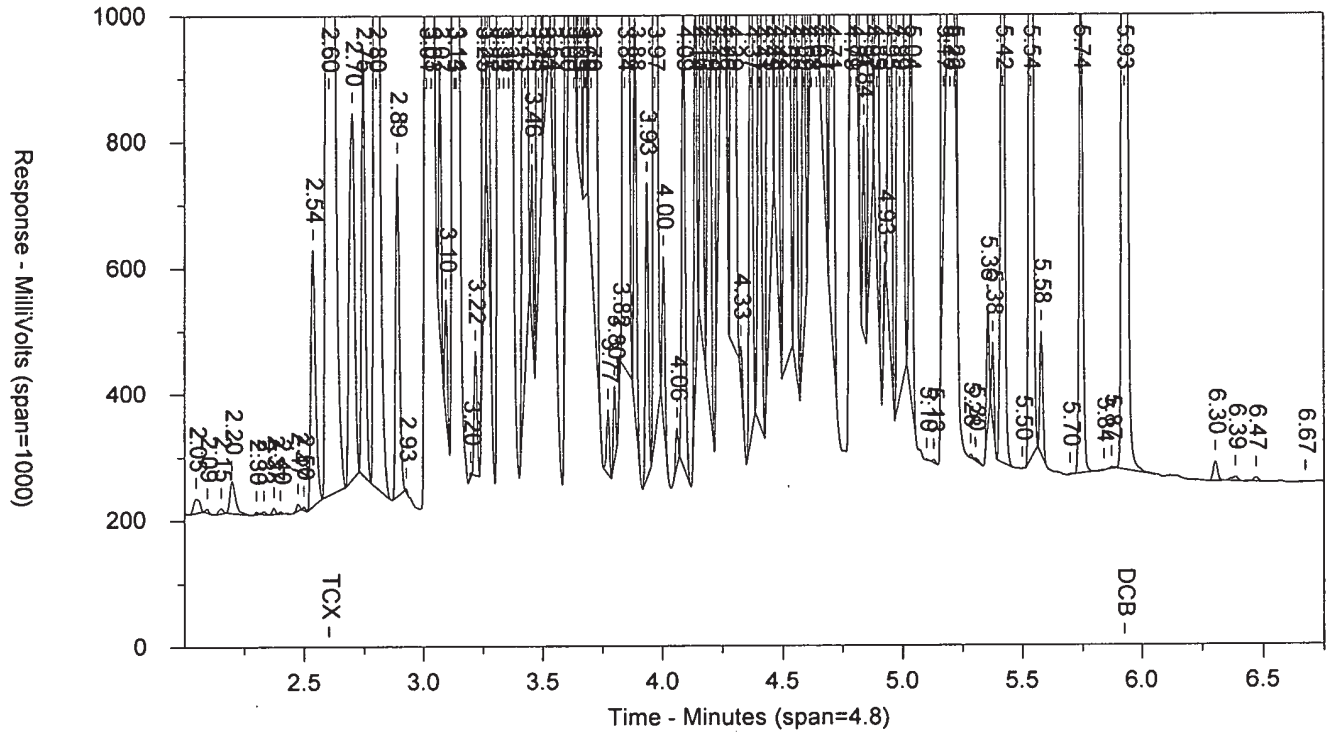


LCSA 10/30/18 ACF ABLCS17303 LCS 183030017A 10885 SW-846 8C

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**Extraction/Distillation/Digestion Logs**

**Polychlorinated Biphenyls (PCBs)**

**183030017A**

QC	Sample Code	Amt (%)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (mL)	pH	BC	pH	BC	Comments	Solvent Used	Lot No.
9863854MS	GKP-4	30.00	SS1828524A	1.0	MS1828824C	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Brown	1:1 Methylene Chloride/Acetone	24470103018B
9863855MSD	GKP-4	30.25	SS1828524A	1.0	MS1828824C	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Brown	Hexane	185388
BLANKA	PBLK17303	30.0	SS1828524A	1.0				Z		Z		Organic Matter; Sludge; Brown	18299A	
LCSA	LCS17303	30.0	SS1828524A	1.0	MS1828824C	1.0	10	Z		Z		NaOH		

Spike Solutions: NA EA24470 Witness: NA  
 MS1828824C PCB SPIKE  
 SS1828524A SW846 SURROGATE STANDARDI

Sample #	Sample Code	Amt (%)	SS/IS Sol.	Amt (mL)	FV (mL)	pH	BC	pH	BC	Comments	Analyses	List	Due Date	Prio
1	9863851	30.34	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Rocks; Brown	10885	22371	11/01/2018	N
2	9863852	30.25	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Rocks; Brown	10885	22371	11/01/2018	N
3	9863853BKG	30.04	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Rocks; Brown	10885	22371	11/01/2018	N
4	9863857	30.12	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Sludge; Rocks; Brown	10885	22371	11/01/2018	N
5	9863858	30.49	SS1828524A	1.0	10	Z	312D	Z	312D	Soil; Wet; Black	10885	22371	11/01/2018	N
6	9866461	30.08	SS1828524A	1.0	10	Z	312B	Z	312B	Sludge; Sandy; Rocks; Brown	10885	22371	11/02/2018	N
7	9866462	30.45	SS1828524A	1.0	10	Z	312d	Z	312d	Organic Matter; Soil; Wet; Black	10885	22371	11/02/2018	N
8	9866463	30.26	SS1828524A	1.0	10	Z	312B	Z	312B	Soil; Rocks; Brown	10885	22371	11/02/2018	N
9	9866464	30.16	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Soil; Brown	10885	22371	11/02/2018	N
10	9866465	30.47	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Soil; Gritty; Rocks; Grey	10885	22371	11/02/2018	N
11	9866466	30.07	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Soil; Brown	10885	22371	11/02/2018	N
12	9866467	30.49	SS1828524A	1.0	10	Z	312B	Z	312B	Organic Matter; Soil; Rocks; Brown	10885	22371	11/02/2018	N

NA EA24470  
10/30/18

Bench#	Bench#	Bench#	R-VAP ID	C	R-VAP ID	C	R-VAP ID	C
Rack ID:	Work Station	Micro temp	S-bath ID	C	S-bath ID	C	N-Evap	C
Internal Standard	Balance #	17609	M-vap	C	M-vap	C		

Prep-Process Worksheet

<b>Acid Cleanup</b>
Prep: 10497 PCB Microwave Soil Extraction
<b>Batch No: 183030017A</b>

Verified: <u>cm 13780</u>
Start Date: <u>10/30/18</u>
Start Time: <u>20:45</u>
Tech 1: <u>E024470</u>
Tech 2: _____

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments
				Aliq	F.V.	
9863854MS		10	10			/
9863855MSD		10	10			
BLANKA		10	10			
LCSA		10	10			

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments	Analyses
				Aliq	F.V.		
1 9863851		10	10				10885
2 9863852		10	10				10885
3 9863853		10	10				10885
4 9863857		10	10				10885
5 9863858		10	10				10885
6 9866461		10	10				10885
7 9866462		10	10				10885
8 9866463		10	10				10885
9 9866464		10	10				10885
10 9866465		10	10				10885
11 9866466		10	10				10885
12 9866467		10	10				10885

NA E024470  
10/30/18

Additional Comment: NA

DF = Dilution Factor FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
		H <sub>2</sub> SO <sub>4</sub>	184517

# Prep-Process Worksheet

<b>Copper/Florisol</b>
Prep: 10497 PCB Microwave Soil Extraction
<b>Batch No:</b> 183030017A

Verified: <u>LM 13786</u>
Start Date: <u>10/30/16</u>
Start Time: <u>21:15</u>
Tech 1: <u>ED24470</u>
Tech 2: _____

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments
				Aliq	F.V.	
9863854MS		2	2			/
9863855MSD		2	2			
BLANKA		2	2			
LCSA		2	2			

Sample #	QC	Aliquot (g)	Final Volume (mL)	D.F.		Comments	Analyses
				Aliq	F.V.		
1		2	2			/	10885
2		2	2				10885
3		2	2				10885
4		2	2				10885
5		2	2				10885
6		2	2				10885
7		2	2				10885
8		2	2				10885
9		2	2				10885
10		2	2				10885
11		2	2				10885
12		2	2				10885

NA

ED24470

10/30/16

Additional Comment: NA

DF = Dilution Factor    FV = Final Volume

Solvent Used	Lot No.	Solvent Used	Lot No.
Copper		Florisol	

# **Dioxins/Furans by HRMS Data**



# **Case Narrative/Conformance Summary**

## **Dioxins/Furans by HRMS**

## Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.  
SDG: TID09

### HRMS Group

Fraction: Dioxins/Furans by HRMS

Sample #	Client ID	Matrix		DF	Comments
		Liquid	Solid		
9866461	OU1-1-SE005		X	1	
9866462	REF-1-SE001		X	1	
9866463	OU2-1-SS007		X	1	
9866464	OU2-1-SS003		X	1	
9866465	OU2-1-SS001		X	1	
9866466	OU2-1-SS005		X	1	
9866467	OU2-1-SS005-DUP		X	1	Field Duplicate Sample

### LABORATORY SUBMITTED QC:

Sample #	Matrix	
	Liquid	Solid
BLK309016		X
OPR309016		X

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.

### SAMPLE PREPARATION:

No problems were encountered with the extraction of these samples.

### QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

All QC is within specifications.

### SAMPLE ANALYSIS:

All samples were analyzed by SW846 Method 8290A.

Confirmation analysis for 2378-TCDF was performed on samples 9866462, 9866463, 9866466 and 9866467.

No problems were encountered with the analysis of the samples.

## Case Narrative/Conformance Summary

**CLIENT: Tidewater, Inc.**  
**SDG: TID09**

### **HRMS Group**

**Fraction: Dioxins/Furans by HRMS**

### **DATA INTERPRETATION:**

Data was processed and interpreted using standard operating procedures.

# **Quality Control and Calibration Summary Forms**

## **Dioxins/Furans by HRMS**

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: OPR309016
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-13
Water Sample Prep: N/A		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/06/2018 19:18
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.82	0.78	22.2		0.151
2378-TCDD	320/322	29.93	0.79	22.2		0.133
12378-PeCDF	340/342	34.94	1.56	107		0.250
23478-PeCDF	340/342	36.27	1.56	107		0.250
12378-PeCDD	356/358	36.67	1.54	109		0.321
123478-HxCDF	374/376	40.01	1.23	99.7		0.250
123678-HxCDF	374/376	40.17	1.23	97.9		0.250
234678-HxCDF	374/376	40.89	1.23	99.0		0.250
123478-HxCDD	390/392	41.09	1.24	105		0.250
123678-HxCDD	390/392	41.21	1.24	105		0.250
123789-HxCDD	390/392	41.52	1.21	103		0.250
123789-HxCDF	374/376	41.93	1.25	96.7		0.250
1234678-HpCDF	408/410	43.66	1.03	101		0.250
1234678-HpCDD	424/426	44.89	1.02	97.7		0.250
1234789-HpCDF	408/410	45.47	1.05	98.5		0.250
OCDD	458/460	47.94	0.87	201		1.38
OCDF	442/444	48.13	0.90	188		0.543

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.34	0.81	0.65 - 0.90	77	31 - 191
13C12-2378-TCDF	316/318	28.79	0.80	0.65 - 0.90	61	40 - 135
13C12-2378-TCDD	332/334	29.90	0.81	0.65 - 0.90	57	40 - 135
13C12-12378-PeCDF	352/354	34.91	1.60	1.32 - 1.79	61	40 - 135
13C12-23478-PeCDF	352/354	36.24	1.58	1.32 - 1.79	66	40 - 135
13C12-12378-PeCDD	368/370	36.64	1.62	1.32 - 1.79	62	40 - 135
13C12-123478-HxCDF	384/386	40.00	0.52	0.43 - 0.60	54	40 - 135
13C12-123678-HxCDF	384/386	40.15	0.52	0.43 - 0.60	57	40 - 135
13C12-234678-HxCDF	384/386	40.87	0.52	0.43 - 0.60	54	40 - 135
13C12-123478-HxCDD	402/404	41.06	1.26	1.05 - 1.44	62	40 - 135
13C12-123678-HxCDD	402/404	41.18	1.26	1.05 - 1.44	60	40 - 135
13C12-123789-HxCDD	402/404	41.51	1.25	1.05 - 1.44	61	40 - 135
13C12-123789-HxCDF	384/386	41.91	0.52	0.43 - 0.60	55	40 - 135
13C12-1234678-HpCDF	418/420	43.64	0.45	0.37 - 0.52	59	40 - 135
13C12-1234678-HpCDD	436/438	44.87	1.05	0.88 - 1.21	59	40 - 135
13C12-1234789-HpCDF	418/420	45.45	0.45	0.37 - 0.52	48	40 - 135
13C12-OCDD	470/472	47.92	0.88	0.76 - 1.03	52	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: OPR309016
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-13
Water Sample Prep: N/A		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/06/2018 19:18
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.11	0.88	0.76 - 1.03	44	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: BLK309016
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-15
Water Sample Prep: N/A		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/06/2018 21:09
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.81	0.75		U	0.151
2378-TCDD	320/322	29.92	1.13 *		U	0.133
12378-PeCDF	340/342	34.93	1.28 *		U	0.250
23478-PeCDF	340/342	36.24	1.30 *		U	0.250
12378-PeCDD	356/358	36.67	5.97 *		U	0.321
123478-HxCDF	374/376	39.99	2.06 *		U	0.250
123678-HxCDF	374/376	40.15	1.92 *		U	0.250
234678-HxCDF	374/376	40.88	1.40		U	0.250
123478-HxCDD	390/392	41.06	1.55 *		U	0.250
123678-HxCDD	390/392	41.19	1.18		U	0.250
123789-HxCDD	390/392	41.52	1.39		U	0.250
123789-HxCDF	374/376	41.91	1.17		U	0.250
1234678-HpCDF	408/410	43.65	1.48 *		U	0.250
1234678-HpCDD	424/426	44.88	1.33 *		U	0.250
1234789-HpCDF	408/410	45.43	1.33 *		U	0.250
OCDD	458/460	47.92	0.88		U	1.38
OCDF	442/444	48.10	0.60 *		U	0.543

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.33	0.78	0.65 - 0.90	90	35 - 197
13C12-2378-TCDF	316/318	28.79	0.79	0.65 - 0.90	75	40 - 135
13C12-2378-TCDD	332/334	29.90	0.81	0.65 - 0.90	73	40 - 135
13C12-12378-PeCDF	352/354	34.90	1.60	1.32 - 1.79	76	40 - 135
13C12-23478-PeCDF	352/354	36.23	1.60	1.32 - 1.79	78	40 - 135
13C12-12378-PeCDD	368/370	36.63	1.61	1.32 - 1.79	73	40 - 135
13C12-123478-HxCDF	384/386	39.99	0.54	0.43 - 0.60	74	40 - 135
13C12-123678-HxCDF	384/386	40.14	0.53	0.43 - 0.60	75	40 - 135
13C12-234678-HxCDF	384/386	40.86	0.54	0.43 - 0.60	75	40 - 135
13C12-123478-HxCDD	402/404	41.05	1.27	1.05 - 1.44	74	40 - 135
13C12-123678-HxCDD	402/404	41.17	1.27	1.05 - 1.44	74	40 - 135
13C12-123789-HxCDD	402/404	41.50	1.27	1.05 - 1.44	78	40 - 135
13C12-123789-HxCDF	384/386	41.90	0.53	0.43 - 0.60	71	40 - 135
13C12-1234678-HpCDF	418/420	43.63	0.46	0.37 - 0.52	80	40 - 135
13C12-1234678-HpCDD	436/438	44.86	1.03	0.88 - 1.21	79	40 - 135
13C12-1234789-HpCDF	418/420	45.43	0.45	0.37 - 0.52	69	40 - 135
13C12-OCDD	470/472	47.92	0.92	0.76 - 1.03	72	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: BLK309016
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-15
Water Sample Prep: N/A		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/06/2018 21:09
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.09	0.88	0.76 - 1.03	62	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits



SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866461RE
Sample (wt): 10.1 (g)		Lab File ID: 18NOV06-16
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 75.3		Date Analyzed: 11/06/2018 22:06
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.82	0.81	0.423	J	0.198
2378-TCDD	320/322	29.93	1.00 *	0.351	JQ	0.174
12378-PeCDF	340/342	34.94	1.17 *	0.455	JQ	0.327
23478-PeCDF	340/342	36.27	1.53	0.587	J	0.327
12378-PeCDD	356/358	36.67	1.37	0.431	J	0.420
123478-HxCDF	374/376	40.02	1.25	0.772	J	0.327
123678-HxCDF	374/376	40.18	1.35	0.748	J	0.327
234678-HxCDF	374/376	40.90	1.20	0.739	J	0.327
123478-HxCDD	390/392	41.10	1.09	0.461	J	0.327
123678-HxCDD	390/392	41.22	1.31	1.89	J	0.327
123789-HxCDD	390/392	41.53	1.20	0.958	J	0.327
123789-HxCDF	374/376	41.94	1.25	0.429	J	0.327
1234678-HpCDF	408/410	43.67	1.07	17.2		0.327
1234678-HpCDD	424/426	44.89	1.04	46.3		0.327
1234789-HpCDF	408/410	45.47	1.15	0.996	J	0.327
OCDD	458/460	47.94	0.88	750		1.81
OCDF	442/444	48.13	0.91	35.9		0.711

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.36	0.79	0.65 - 0.90	77	35 - 197
13C12-2378-TCDF	316/318	28.81	0.78	0.65 - 0.90	69	40 - 135
13C12-2378-TCDD	332/334	29.90	0.80	0.65 - 0.90	66	40 - 135
13C12-12378-PeCDF	352/354	34.91	1.58	1.32 - 1.79	68	40 - 135
13C12-23478-PeCDF	352/354	36.25	1.57	1.32 - 1.79	70	40 - 135
13C12-12378-PeCDD	368/370	36.66	1.60	1.32 - 1.79	67	40 - 135
13C12-123478-HxCDF	384/386	40.01	0.53	0.43 - 0.60	61	40 - 135
13C12-123678-HxCDF	384/386	40.16	0.53	0.43 - 0.60	64	40 - 135
13C12-234678-HxCDF	384/386	40.89	0.53	0.43 - 0.60	63	40 - 135
13C12-123478-HxCDD	402/404	41.07	1.30	1.05 - 1.44	67	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.23	1.05 - 1.44	65	40 - 135
13C12-123789-HxCDD	402/404	41.52	1.25	1.05 - 1.44	67	40 - 135
13C12-123789-HxCDF	384/386	41.91	0.53	0.43 - 0.60	66	40 - 135
13C12-1234678-HpCDF	418/420	43.66	0.45	0.37 - 0.52	65	40 - 135
13C12-1234678-HpCDD	436/438	44.87	1.07	0.88 - 1.21	63	40 - 135
13C12-1234789-HpCDF	418/420	45.45	0.46	0.37 - 0.52	60	40 - 135
13C12-OCDD	470/472	47.93	0.89	0.76 - 1.03	57	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866461RE
Sample (wt): 10.1 (g)		Lab File ID: 18NOV06-16
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 75.3		Date Analyzed: 11/06/2018 22:06
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.11	0.90	0.76 - 1.03	53	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866462RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-17
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 64.9		Date Analyzed: 11/06/2018 23:03
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	0.82	4.86	C	0.232
2378-TCDD	320/322	29.97	1.62 *		U	0.205
12378-PeCDF	340/342	34.96	1.83 *	7.39	JQ	0.384
23478-PeCDF	340/342	36.31	3.84 *	6.42	JQ	0.384
12378-PeCDD	356/358	36.70	2.40 *	11.2	Q	0.494
123478-HxCDF	374/376	40.05	1.06	11.7		0.384
123678-HxCDF	374/376	40.20	1.09	11.8		0.384
234678-HxCDF	374/376	40.92	1.90 *	13.2	Q	0.384
123478-HxCDD	390/392	41.13	1.08	14.7		0.384
123678-HxCDD	390/392	41.23	1.28	31.6		0.384
123789-HxCDD	390/392	41.54	1.04 *	25.1	Q	0.384
123789-HxCDF	374/376	41.96	1.42	7.47	J	0.384
1234678-HpCDF	408/410	43.68	1.03	184		0.384
1234678-HpCDD	424/426	44.91	1.01	706		0.384
1234789-HpCDF	408/410	45.49	1.14	13.9		0.384
OCDD	458/460	47.96	0.88	5970		2.12
OCDF	442/444	48.15	0.87	440		0.835

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.38	0.72	0.65 - 0.90	75	35 - 197
13C12-2378-TCDF	316/318	28.84	0.77	0.65 - 0.90	66	40 - 135
13C12-2378-TCDD	332/334	29.94	0.73	0.65 - 0.90	61	40 - 135
13C12-12378-PeCDF	352/354	34.93	1.46	1.32 - 1.79	64	40 - 135
13C12-23478-PeCDF	352/354	36.27	1.59	1.32 - 1.79	61	40 - 135
13C12-12378-PeCDD	368/370	36.67	1.60	1.32 - 1.79	61	40 - 135
13C12-123478-HxCDF	384/386	40.02	0.53	0.43 - 0.60	59	40 - 135
13C12-123678-HxCDF	384/386	40.18	0.55	0.43 - 0.60	62	40 - 135
13C12-234678-HxCDF	384/386	40.90	0.55	0.43 - 0.60	61	40 - 135
13C12-123478-HxCDD	402/404	41.10	1.32	1.05 - 1.44	68	40 - 135
13C12-123678-HxCDD	402/404	41.22	1.22	1.05 - 1.44	66	40 - 135
13C12-123789-HxCDD	402/404	41.53	1.38	1.05 - 1.44	69	40 - 135
13C12-123789-HxCDF	384/386	41.93	0.49	0.43 - 0.60	65	40 - 135
13C12-1234678-HpCDF	418/420	43.67	0.48	0.37 - 0.52	62	40 - 135
13C12-1234678-HpCDD	436/438	44.90	1.01	0.88 - 1.21	61	40 - 135
13C12-1234789-HpCDF	418/420	45.48	0.50	0.37 - 0.52	59	40 - 135
13C12-OCDD	470/472	47.95	0.84	0.76 - 1.03	58	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866462RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-17
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 64.9		Date Analyzed: 11/06/2018 23:03
GC Column: DB5MS ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.14	0.90	0.76 - 1.03	54	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866463RE
Sample (wt): 10.1 (g)		Lab File ID: 18NOV06-18
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 93.3		Date Analyzed: 11/07/2018 00:00
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.83	0.80	1.87	C	0.161
2378-TCDD	320/322	29.95	0.74	0.232	J	0.142
12378-PeCDF	340/342	34.96	1.40	1.83	J	0.266
23478-PeCDF	340/342	36.27	1.54	5.41		0.266
12378-PeCDD	356/358	36.67	1.59	0.879	J	0.342
123478-HxCDF	374/376	40.02	1.24	2.95	J	0.266
123678-HxCDF	374/376	40.17	1.11	2.39	J	0.266
234678-HxCDF	374/376	40.90	1.25	3.13	J	0.266
123478-HxCDD	390/392	41.10	1.32	1.21	J	0.266
123678-HxCDD	390/392	41.21	1.28	4.32	J	0.266
123789-HxCDD	390/392	41.53	1.21	2.75	J	0.266
123789-HxCDF	374/376	41.97	1.04 *	1.12	JQ	0.266
1234678-HpCDF	408/410	43.66	1.03	42.7		0.266
1234678-HpCDD	424/426	44.89	1.04	112		0.266
1234789-HpCDF	408/410	45.47	1.01	2.32	J	0.266
OCDD	458/460	47.94	0.90	1050		1.47
OCDF	442/444	48.13	0.93	41.3		0.579

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.37	0.80	0.65 - 0.90	85	35 - 197
13C12-2378-TCDF	316/318	28.81	0.78	0.65 - 0.90	47	40 - 135
13C12-2378-TCDD	332/334	29.92	0.81	0.65 - 0.90	48	40 - 135
13C12-12378-PeCDF	352/354	34.91	1.55	1.32 - 1.79	49	40 - 135
13C12-23478-PeCDF	352/354	36.26	1.57	1.32 - 1.79	48	40 - 135
13C12-12378-PeCDD	368/370	36.64	1.61	1.32 - 1.79	51	40 - 135
13C12-123478-HxCDF	384/386	40.01	0.51	0.43 - 0.60	48	40 - 135
13C12-123678-HxCDF	384/386	40.16	0.54	0.43 - 0.60	49	40 - 135
13C12-234678-HxCDF	384/386	40.89	0.52	0.43 - 0.60	49	40 - 135
13C12-123478-HxCDD	402/404	41.08	1.27	1.05 - 1.44	53	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.26	1.05 - 1.44	52	40 - 135
13C12-123789-HxCDD	402/404	41.51	1.25	1.05 - 1.44	53	40 - 135
13C12-123789-HxCDF	384/386	41.91	0.53	0.43 - 0.60	50	40 - 135
13C12-1234678-HpCDF	418/420	43.64	0.46	0.37 - 0.52	49	40 - 135
13C12-1234678-HpCDD	436/438	44.87	1.03	0.88 - 1.21	51	40 - 135
13C12-1234789-HpCDF	418/420	45.45	0.45	0.37 - 0.52	47	40 - 135
13C12-OCDD	470/472	47.93	0.90	0.76 - 1.03	45	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866463RE
Sample (wt): 10.1 (g)		Lab File ID: 18NOV06-18
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 93.3		Date Analyzed: 11/07/2018 00:00
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.11	0.89	0.76 - 1.03	41	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866464RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-19
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 87.0		Date Analyzed: 11/07/2018 00:56
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	1.03 *	0.717	JQ	0.173
2378-TCDD	320/322	29.95	0.87	0.261	J	0.152
12378-PeCDF	340/342	34.94	1.60	0.612	J	0.286
23478-PeCDF	340/342	36.30	1.45	1.05	J	0.286
12378-PeCDD	356/358	36.67	1.08 *	1.40	JQ	0.368
123478-HxCDF	374/376	40.03	1.22	1.84	J	0.286
123678-HxCDF	374/376	40.19	1.28	1.82	J	0.286
234678-HxCDF	374/376	40.91	1.27	2.36	J	0.286
123478-HxCDD	390/392	41.10	1.20	2.15	J	0.286
123678-HxCDD	390/392	41.22	1.22	8.38		0.286
123789-HxCDD	390/392	41.53	1.21	4.15	J	0.286
123789-HxCDF	374/376	41.97	1.28	0.790	J	0.286
1234678-HpCDF	408/410	43.66	1.03	57.9		0.286
1234678-HpCDD	424/426	44.89	1.04	256		0.286
1234789-HpCDF	408/410	45.47	1.07	3.70	J	0.286
OCDD	458/460	47.94	0.88	1930		1.58
OCDF	442/444	48.13	0.90	189		0.622

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.36	0.78	0.65 - 0.90	75	35 - 197
13C12-2378-TCDF	316/318	28.80	0.79	0.65 - 0.90	57	40 - 135
13C12-2378-TCDD	332/334	29.92	0.80	0.65 - 0.90	50	40 - 135
13C12-12378-PeCDF	352/354	34.92	1.59	1.32 - 1.79	55	40 - 135
13C12-23478-PeCDF	352/354	36.25	1.60	1.32 - 1.79	54	40 - 135
13C12-12378-PeCDD	368/370	36.65	1.59	1.32 - 1.79	54	40 - 135
13C12-123478-HxCDF	384/386	40.00	0.51	0.43 - 0.60	53	40 - 135
13C12-123678-HxCDF	384/386	40.17	0.52	0.43 - 0.60	54	40 - 135
13C12-234678-HxCDF	384/386	40.88	0.53	0.43 - 0.60	53	40 - 135
13C12-123478-HxCDD	402/404	41.08	1.26	1.05 - 1.44	57	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.25	1.05 - 1.44	56	40 - 135
13C12-123789-HxCDD	402/404	41.51	1.26	1.05 - 1.44	57	40 - 135
13C12-123789-HxCDF	384/386	41.92	0.53	0.43 - 0.60	56	40 - 135
13C12-1234678-HpCDF	418/420	43.65	0.45	0.37 - 0.52	55	40 - 135
13C12-1234678-HpCDD	436/438	44.88	1.07	0.88 - 1.21	56	40 - 135
13C12-1234789-HpCDF	418/420	45.46	0.45	0.37 - 0.52	52	40 - 135
13C12-OCDD	470/472	47.93	0.89	0.76 - 1.03	52	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866464RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-19
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 87.0		Date Analyzed: 11/07/2018 00:56
GC Column: DB5MS ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.12	0.89	0.76 - 1.03	48	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits



SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866465RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-20
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 94.2		Date Analyzed: 11/07/2018 01:53
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	0.96 *	0.239	JQ	0.160
2378-TCDD	320/322	29.93	0.75		U	0.141
12378-PeCDF	340/342	34.96	1.20 *	0.319	JQ	0.265
23478-PeCDF	340/342	36.30	1.61	0.496	J	0.265
12378-PeCDD	356/358	36.67	1.41	0.696	J	0.341
123478-HxCDF	374/376	40.03	1.35	0.648	J	0.265
123678-HxCDF	374/376	40.18	1.16	0.737	J	0.265
234678-HxCDF	374/376	40.91	1.37	0.912	J	0.265
123478-HxCDD	390/392	41.11	1.23	0.947	J	0.265
123678-HxCDD	390/392	41.22	1.18	2.13	J	0.265
123789-HxCDD	390/392	41.54	1.20	1.96	J	0.265
123789-HxCDF	374/376	41.95	1.73 *		U	0.265
1234678-HpCDF	408/410	43.68	1.07	12.7		0.265
1234678-HpCDD	424/426	44.90	1.03	56.6		0.265
1234789-HpCDF	408/410	45.48	1.14	0.877	J	0.265
OCDD	458/460	47.95	0.88	652		1.46
OCDF	442/444	48.14	0.88	23.0		0.576

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.36	0.80	0.65 - 0.90	72	35 - 197
13C12-2378-TCDF	316/318	28.82	0.80	0.65 - 0.90	63	40 - 135
13C12-2378-TCDD	332/334	29.91	0.77	0.65 - 0.90	58	40 - 135
13C12-12378-PeCDF	352/354	34.92	1.58	1.32 - 1.79	62	40 - 135
13C12-23478-PeCDF	352/354	36.27	1.57	1.32 - 1.79	61	40 - 135
13C12-12378-PeCDD	368/370	36.65	1.58	1.32 - 1.79	61	40 - 135
13C12-123478-HxCDF	384/386	40.02	0.53	0.43 - 0.60	60	40 - 135
13C12-123678-HxCDF	384/386	40.17	0.53	0.43 - 0.60	60	40 - 135
13C12-234678-HxCDF	384/386	40.90	0.52	0.43 - 0.60	61	40 - 135
13C12-123478-HxCDD	402/404	41.09	1.27	1.05 - 1.44	63	40 - 135
13C12-123678-HxCDD	402/404	41.21	1.24	1.05 - 1.44	62	40 - 135
13C12-123789-HxCDD	402/404	41.53	1.24	1.05 - 1.44	61	40 - 135
13C12-123789-HxCDF	384/386	41.92	0.53	0.43 - 0.60	62	40 - 135
13C12-1234678-HpCDF	418/420	43.67	0.46	0.37 - 0.52	59	40 - 135
13C12-1234678-HpCDD	436/438	44.88	1.05	0.88 - 1.21	61	40 - 135
13C12-1234789-HpCDF	418/420	45.46	0.45	0.37 - 0.52	55	40 - 135
13C12-OCDD	470/472	47.94	0.88	0.76 - 1.03	54	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866465RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-20
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 94.2		Date Analyzed: 11/07/2018 01:53
GC Column: DB5MS ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.12	0.89	0.76 - 1.03	49	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866466RE
Sample (wt): 10.3 (g)		Lab File ID: 18NOV06-21
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.4		Date Analyzed: 11/07/2018 02:50
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.83	0.80	2.67	C	0.171
2378-TCDD	320/322	29.93	0.74	0.391	J	0.151
12378-PeCDF	340/342	34.94	1.52	2.88	J	0.283
23478-PeCDF	340/342	36.28	1.54	5.89		0.283
12378-PeCDD	356/358	36.67	1.08 *	1.78	JQ	0.364
123478-HxCDF	374/376	40.02	1.25	4.81	J	0.283
123678-HxCDF	374/376	40.18	1.21	5.46	J	0.283
234678-HxCDF	374/376	40.89	1.25	5.14	J	0.283
123478-HxCDD	390/392	41.09	1.09	1.53	J	0.283
123678-HxCDD	390/392	41.22	1.30	9.49		0.283
123789-HxCDD	390/392	41.53	1.17	4.43	J	0.283
123789-HxCDF	374/376	41.96	1.11	1.91	J	0.283
1234678-HpCDF	408/410	43.66	1.03	171		0.283
1234678-HpCDD	424/426	44.89	1.03	251		0.283
1234789-HpCDF	408/410	45.46	1.00	3.54	J	0.283
OCDD	458/460	47.94	0.87	4460		1.56
OCDF	442/444	48.13	0.88	138		0.616

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.36	0.81	0.65 - 0.90	91	35 - 197
13C12-2378-TCDF	316/318	28.80	0.81	0.65 - 0.90	72	40 - 135
13C12-2378-TCDD	332/334	29.91	0.80	0.65 - 0.90	70	40 - 135
13C12-12378-PeCDF	352/354	34.92	1.57	1.32 - 1.79	68	40 - 135
13C12-23478-PeCDF	352/354	36.25	1.57	1.32 - 1.79	67	40 - 135
13C12-12378-PeCDD	368/370	36.65	1.55	1.32 - 1.79	69	40 - 135
13C12-123478-HxCDF	384/386	40.00	0.52	0.43 - 0.60	66	40 - 135
13C12-123678-HxCDF	384/386	40.16	0.52	0.43 - 0.60	64	40 - 135
13C12-234678-HxCDF	384/386	40.88	0.51	0.43 - 0.60	62	40 - 135
13C12-123478-HxCDD	402/404	41.08	1.26	1.05 - 1.44	71	40 - 135
13C12-123678-HxCDD	402/404	41.20	1.24	1.05 - 1.44	69	40 - 135
13C12-123789-HxCDD	402/404	41.51	1.23	1.05 - 1.44	70	40 - 135
13C12-123789-HxCDF	384/386	41.92	0.52	0.43 - 0.60	65	40 - 135
13C12-1234678-HpCDF	418/420	43.65	0.44	0.37 - 0.52	61	40 - 135
13C12-1234678-HpCDD	436/438	44.88	1.03	0.88 - 1.21	67	40 - 135
13C12-1234789-HpCDF	418/420	45.46	0.45	0.37 - 0.52	61	40 - 135
13C12-OCDD	470/472	47.93	0.89	0.76 - 1.03	65	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866466RE
Sample (wt): 10.3 (g)		Lab File ID: 18NOV06-21
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.4		Date Analyzed: 11/07/2018 02:50
GC Column: DB5MS ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.12	0.89	0.76 - 1.03	57	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866467RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-32
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.5		Date Analyzed: 11/07/2018 12:35
GC Column: DB5MS	ID: 0.25 (mm)	Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	28.84	0.72	2.93	C	0.176
2378-TCDD	320/322	29.94	1.05 *	0.342	JQ	0.155
12378-PeCDF	340/342	34.96	1.74	3.12	J	0.292
23478-PeCDF	340/342	36.30	1.59	5.93		0.292
12378-PeCDD	356/358	36.69	1.12 *	1.82	JQ	0.375
123478-HxCDF	374/376	40.04	1.22	5.13	J	0.292
123678-HxCDF	374/376	40.20	1.23	6.82		0.292
234678-HxCDF	374/376	40.92	1.30	5.56	J	0.292
123478-HxCDD	390/392	41.10	1.28	1.23	J	0.292
123678-HxCDD	390/392	41.24	1.29	9.42		0.292
123789-HxCDD	390/392	41.55	1.16	4.13	J	0.292
123789-HxCDF	374/376	41.99	1.14	2.01	J	0.292
1234678-HpCDF	408/410	43.69	1.03	170		0.292
1234678-HpCDD	424/426	44.90	1.04	237		0.292
1234789-HpCDF	408/410	45.48	1.05	3.77	J	0.292
OCDD	458/460	47.97	0.88	4420		1.61
OCDF	442/444	48.15	0.89	141		0.634

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-1278-TCDD (CRS)	332/334	30.37	0.79	0.65 - 0.90	116	35 - 197
13C12-2378-TCDF	316/318	28.81	0.79	0.65 - 0.90	82	40 - 135
13C12-2378-TCDD	332/334	29.92	0.79	0.65 - 0.90	80	40 - 135
13C12-12378-PeCDF	352/354	34.93	1.59	1.32 - 1.79	87	40 - 135
13C12-23478-PeCDF	352/354	36.27	1.57	1.32 - 1.79	86	40 - 135
13C12-12378-PeCDD	368/370	36.67	1.57	1.32 - 1.79	84	40 - 135
13C12-123478-HxCDF	384/386	40.03	0.53	0.43 - 0.60	70	40 - 135
13C12-123678-HxCDF	384/386	40.17	0.53	0.43 - 0.60	71	40 - 135
13C12-234678-HxCDF	384/386	40.90	0.52	0.43 - 0.60	71	40 - 135
13C12-123478-HxCDD	402/404	41.09	1.27	1.05 - 1.44	76	40 - 135
13C12-123678-HxCDD	402/404	41.21	1.26	1.05 - 1.44	74	40 - 135
13C12-123789-HxCDD	402/404	41.53	1.26	1.05 - 1.44	76	40 - 135
13C12-123789-HxCDF	384/386	41.94	0.52	0.43 - 0.60	73	40 - 135
13C12-1234678-HpCDF	418/420	43.67	0.47	0.37 - 0.52	76	40 - 135
13C12-1234678-HpCDD	436/438	44.90	1.07	0.88 - 1.21	73	40 - 135
13C12-1234789-HpCDF	418/420	45.47	0.46	0.37 - 0.52	69	40 - 135
13C12-OCDD	470/472	47.95	0.92	0.76 - 1.03	67	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280	Lab Sample ID: 9866467RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV06-32
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.5		Date Analyzed: 11/07/2018 12:35
GC Column: DB5MS ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-OCDF	454/456	48.14	0.90	0.76 - 1.03	63	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF18471	Lab Sample ID: BLK309016
Sample (wt): 10.0 (g)		Lab File ID: 18NOV07-19
Water Sample Prep: N/A		Date Collected: N/A
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: N/A		Date Analyzed: 11/08/2018 06:08
GC Column: DB-Dioxin ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.64	3.18 *		U	0.151

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.64	0.77	0.65 - 0.89	48	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF18471	Lab Sample ID: 9866462RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV07-21
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 64.9		Date Analyzed: 11/08/2018 08:13
GC Column: DB-Dioxin ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.75	0.65	2.06		0.232

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.70	0.77	0.65 - 0.90	50	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits



SDG No.: TID09

Matrix: SOIL	Instrument ID: DF18471	Lab Sample ID: 9866463RE
Sample (wt): 10.1 (g)		Lab File ID: 18NOV07-22
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 93.3		Date Analyzed: 11/08/2018 09:16
GC Column: DB-Dioxin ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.70	0.67	1.53		0.161

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.64	0.78	0.65 - 0.90	40	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF18471	Lab Sample ID: 9866466RE
Sample (wt): 10.3 (g)		Lab File ID: 18NOV07-24
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.4		Date Analyzed: 11/08/2018 11:22
GC Column: DB-Dioxin ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.73	0.78	1.98		0.171

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.70	0.78	0.65 - 0.90	47	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF18471	Lab Sample ID: 9866467RE
Sample (wt): 10.0 (g)		Lab File ID: 18NOV10-07
Water Sample Prep: N/A		Date Collected: 10/24/2018 11:10
Concentration Extract Volume: 20.0 (uL)		Date Extracted: 11/05/2018 14:56
Injection Volume: 1.00 (uL) % Solid/Lipids: 85.5		Date Analyzed: 11/10/2018 21:07
GC Column: DB-Dioxin ID: 0.25 (mm)		Dilution Factor: 1.0

Concentration Units: ng/kg

Analyte	Selected Ions	Peak RT	Ion Ratio	Concentration	Qual.	DL
2378-TCDF	304/306	26.72	0.86	1.59		0.176

Labeled Compounds	Selected Ions	Peak RT	Ion Ratio	Ion Ratio Limits	% REC	Recovery Limits
13C12-2378-TCDF	316/318	26.67	0.79	0.65 - 0.89	57	40 - 135

Abbreviations:

B = Detected in Method Blank	E = Exceeds calibration range
U = Undetected	F = Interference is present
J = Estimated concentration between EDL and LOQ	N = See comment in Case Narrative
C = Concentration confirmed on second column	S = The detector is saturated
Q = Estimated Maximum Possible Concentration	* = Outside QC Limits

SDG No.: TID09

Matrix: SOIL	Instrument ID: DF17280
Sample wt: 10.0 (g)	Lab Sample ID: OPR309016
Water Sample PREP: N/A	Lab File ID: 18NOV06-13
Concentrated Extract Volume: 20.0 (uL)	Date Received: N/A
Injection Volume: 1.00 (uL) %SOLID/LIPIDS: N/A	Date Extracted: 11/05/2018 14:56
GC Column: DB5MS ID: 0.25 (mm)	Date Analyzed: 11/06/2018 19:18
Method Reference: SW-846 8290A Feb 2007 Rev 1	Dilution Factor: 1.0

Concentration Units: ng/kg

Spike Analyte	Spike Added	Amount Recovered	Percent Recovery	QC Limits
2378-TCDF	20.0	22.2	111	75 - 135
2378-TCDD	20.0	22.2	111	70 - 128
12378-PeCDF	100	107	107	77 - 131
23478-PeCDF	100	107	107	75 - 128
12378-PeCDD	100	109	109	74 - 125
123478-HxCDF	100	99.7	100	77 - 130
123678-HxCDF	100	97.9	98	73 - 134
234678-HxCDF	100	99.0	99	74 - 133
123478-HxCDD	100	105	105	72 - 131
123678-HxCDD	100	105	105	74 - 134
123789-HxCDD	100	103	103	71 - 138
123789-HxCDF	100	96.7	97	74 - 135
1234678-HpCDF	100	101	101	73 - 135
1234678-HpCDD	100	97.7	98	76 - 125
1234789-HpCDF	100	98.5	98	72 - 131
OCDD	200	201	100	73 - 135
OCDF	200	188	94	66 - 144

\* Outside Quality Control (QC) limits.

SDG No.: TID09

Matrix: SOIL

Lab Sample ID: BLK309016

Water Sample Prep: N/A

Lab File ID: 18NOV06-15

Sample wt: 10.0 (g)

GC Column: DB5MS

ID: 0.25 (mm)

Date Analyzed: 11/06/2018 21:09

This Method Blank applies to Samples:

Lab Sample ID	Lab File ID	Date Analyzed
OPR309016	18NOV06-13	11/06/2018 19:18
9866461RE	18NOV06-16	11/06/2018 22:06
9866462RE	18NOV06-17	11/06/2018 23:03
9866463RE	18NOV06-18	11/07/2018 00:00
9866464RE	18NOV06-19	11/07/2018 00:56
9866465RE	18NOV06-20	11/07/2018 01:53
9866466RE	18NOV06-21	11/07/2018 02:50
9866467RE	18NOV06-32	11/07/2018 12:35

SDG No.: TID09

GC Column: DB5MS

ID: 0.25 (mm)

Instrument ID	Lab File ID	Sample ID	Analysis Date/Time	Compound Name	% Valley	QC Limits (%)
DF17280	18NOV02-02	CPS01	11/02/2018 09:27	2378-TCDD	7.360	25
DF17280	18NOV06-06	CPS02	11/06/2018 13:03	2378-TCDD	7.537	25
DF17280	18NOV06-11	CPS02	11/06/2018 17:12	2378-TCDD	7.761	25
DF17280	18NOV06-25	CPS03	11/07/2018 06:00	2378-TCDD	7.514	25

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm)

Instrument ID	Lab File ID	Sample ID	Analysis Date/Time	Compound Name	% Valley	QC Limits (%)
DF18471	18OCT17-12	CPS01	10/18/2018 15:14	2378-TCDF	15.232	25
DF18471	18NOV07-16	CPS03	11/08/2018 02:59	2378-TCDF	13.379	25
DF18471	18NOV10-02	CPS02	11/10/2018 15:54	2378-TCDF	12.356	25

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280

Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18NOV02-02	11/02/2018 09:27
CSL01	18NOV02-06	11/02/2018 14:38
CS101	18NOV02-07	11/02/2018 15:41
CS201	18NOV02-08	11/02/2018 16:35
CS301	18NOV02-09	11/02/2018 17:32
CS401	18NOV02-10	11/02/2018 18:29
CPS02	18NOV06-06	11/06/2018 13:03
ICV	18NOV06-08	11/06/2018 14:54
CPS02	18NOV06-11	11/06/2018 17:12
CS3CC02	18NOV06-12	11/06/2018 18:06
OPR309016	18NOV06-13	11/06/2018 19:18
BLK309016	18NOV06-15	11/06/2018 21:09
9866461RE	18NOV06-16	11/06/2018 22:06
9866462RE	18NOV06-17	11/06/2018 23:03
9866463RE	18NOV06-18	11/07/2018 00:00
9866464RE	18NOV06-19	11/07/2018 00:56
9866465RE	18NOV06-20	11/07/2018 01:53
9866466RE	18NOV06-21	11/07/2018 02:50
CPS03	18NOV06-25	11/07/2018 06:00
CS3CC03	18NOV06-26	11/07/2018 06:54
9866467RE	18NOV06-32	11/07/2018 12:35
CS3CC04	18NOV06-35	11/07/2018 14:48



SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Lab Sample ID	Lab File ID	Date/Time Analyzed
CPS01	18OCT17-12	10/18/2018 15:14
CSL01	18OCT17-14	10/18/2018 17:20
CS101	18OCT17-15	10/18/2018 18:23
CS201	18OCT17-16	10/18/2018 19:26
CS301	18OCT17-17	10/18/2018 20:28
CS401	18OCT17-18	10/18/2018 21:31
CS501	18OCT17-19	10/18/2018 22:34
ICV	18OCT17-22	10/19/2018 00:40
CPS03	18NOV07-16	11/08/2018 02:59
CS3CC03	18NOV07-17	11/08/2018 04:02
BLK309016	18NOV07-19	11/08/2018 06:08
9866462RE	18NOV07-21	11/08/2018 08:13
9866463RE	18NOV07-22	11/08/2018 09:16
9866466RE	18NOV07-24	11/08/2018 11:22
CS3CC03	18NOV07-30	11/08/2018 16:48
CPS02	18NOV10-02	11/10/2018 15:54
CS3CC02	18NOV10-03	11/10/2018 16:56
9866467RE	18NOV10-07	11/10/2018 21:07
CS3CC03	18NOV10-09	11/10/2018 22:23

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/18/2018 22:34

Lab File Names: CSL = 18OCT17-14; CS1 = 18OCT17-15; CS2 = 18OCT17-16;  
CS3 = 18OCT17-17; CS4 = 18OCT17-18; CS5 = 18OCT17-19;

Analyte	Type	RF						Mean RF	%RSD	QC Limits (%)
		CSL	CS1	CS2	CS3	CS4	CS5			
2378-TCDF	TARGET	1.035	0.983	1.003	1.026	1.012	1.050	1.018	2.35	± 20
13C12-2378-TCDF	LABELED	2.058	1.959	2.082	1.982	2.020	2.126	2.038	3.08	± 20

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471

Init. Calib. Date/Times: 10/18/2018 17:20 10/18/2018 22:34

Lab File Names: CSL = 18OCT17-14; CS1 = 18OCT17-15; CS2 = 18OCT17-16;  
CS3 = 18OCT17-17; CS4 = 18OCT17-18; CS5 = 18OCT17-19;

Analytes	Type	Selected Ion	Ion Abundance Ratio					Ion Ratio QC Limits	
			CSL	CS1	CS2	CS3	CS4		CS5
2378-TCDF	TARGET	304/306	0.69	0.82	0.82	0.78	0.80	0.81	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	0.79	0.82	0.80	0.79	0.80	0.80	0.65 - 0.89

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-12 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/06/2018 18:06  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.881	0.923	4.63	20	0.78	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.098	1.094	0.32	20	0.80	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.850	0.850	0.07	20	1.55	1.32 - 1.79
23478-PeCDF	TARGET	340/342	0.954	0.951	0.31	20	1.55	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.929	0.896	3.68	20	1.58	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.027	1.068	3.80	20	1.23	1.05 - 1.44
123678-HxCDF	TARGET	374/376	0.989	1.044	5.30	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.064	1.108	3.99	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.889	0.911	2.35	20	1.23	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.879	0.904	2.77	20	1.24	1.05 - 1.44
123789-HxCDD	TARGET	390/392	0.920	0.954	3.59	20	1.21	1.05 - 1.44
123789-HxCDF	TARGET	374/376	0.964	1.018	5.25	20	1.25	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.097	1.148	4.43	20	1.03	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.926	0.937	1.12	20	1.03	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.143	1.181	3.27	20	1.04	0.88 - 1.21
OCDD	TARGET	458/460	0.895	0.912	1.91	20	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.783	0.846	7.40	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.020	1.032	1.18	20	0.82	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.785	1.770	0.82	30	0.79	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.973	0.977	0.43	30	0.80	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.545	1.632	5.32	30	1.57	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.528	1.633	6.46	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.911	0.975	6.57	30	1.58	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.188	1.266	6.17	30	0.52	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.262	1.336	5.52	30	0.52	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.168	1.237	5.52	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.984	0.989	0.58	30	1.26	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.993	1.015	2.19	30	1.23	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.959	0.962	0.31	30	1.24	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.052	1.127	6.60	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.068	1.165	8.31	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.925	0.969	4.58	30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.885	0.956	7.47	30	0.45	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.846	0.942	10.21	30	0.89	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.098	1.258	12.74	30	0.88	0.76 - 1.03

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-26 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/07/2018 06:54  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.956	0.923	3.52	20	0.80	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.148	1.094	4.96	20	0.76	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.875	0.850	2.88	20	1.57	1.32 - 1.79
23478-PeCDF	TARGET	340/342	0.949	0.951	0.17	20	1.54	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.934	0.896	4.24	20	1.56	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.108	1.068	3.72	20	1.25	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.047	1.044	0.28	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.123	1.108	1.32	20	1.24	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.959	0.911	5.35	20	1.25	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.945	0.904	4.48	20	1.26	1.05 - 1.44
123789-HxCDD	TARGET	390/392	0.997	0.954	4.48	20	1.23	1.05 - 1.44
123789-HxCDF	TARGET	374/376	0.981	1.018	3.58	20	1.24	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.150	1.148	0.21	20	1.03	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.900	0.937	3.89	20	1.03	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.106	1.181	6.41	20	1.02	0.88 - 1.21
OCDD	TARGET	458/460	0.915	0.912	0.29	20	0.88	0.76 - 1.03
OCDF	TARGET	442/444	0.795	0.846	5.99	20	0.90	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.002	1.032	2.98	20	0.80	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.768	1.770	0.16	30	0.81	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	0.962	0.977	1.55	30	0.78	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.564	1.632	4.19	30	1.58	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.595	1.633	2.32	30	1.56	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.941	0.975	3.51	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.256	1.266	0.79	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.334	1.336	0.11	30	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.253	1.237	1.30	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	1.005	0.989	1.59	30	1.30	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	1.030	1.015	1.49	30	1.26	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	1.016	0.962	5.55	30	1.26	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.188	1.127	5.42	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.184	1.165	1.67	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	1.061	0.969	9.45	30	1.05	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.972	0.956	1.61	30	0.45	0.37 - 0.52
13C12-OCDD	LABELED	470/472	1.080	0.942	14.60	30	0.89	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.354	1.258	7.59	30	0.88	0.76 - 1.03

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-35 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/07/2018 14:48  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.950	0.923	2.94	20	0.79	0.65 - 0.90
2378-TCDD	TARGET	320/322	1.165	1.094	6.51	20	0.81	0.65 - 0.90
12378-PeCDF	TARGET	340/342	0.927	0.850	9.02	20	1.60	1.32 - 1.79
23478-PeCDF	TARGET	340/342	1.024	0.951	7.73	20	1.57	1.32 - 1.79
12378-PeCDD	TARGET	356/358	0.969	0.896	8.15	20	1.56	1.32 - 1.79
123478-HxCDF	TARGET	374/376	1.077	1.068	0.80	20	1.25	1.05 - 1.44
123678-HxCDF	TARGET	374/376	1.039	1.044	0.52	20	1.25	1.05 - 1.44
234678-HxCDF	TARGET	374/376	1.146	1.108	3.39	20	1.25	1.05 - 1.44
123478-HxCDD	TARGET	390/392	0.963	0.911	5.70	20	1.26	1.05 - 1.44
123678-HxCDD	TARGET	390/392	0.961	0.904	6.23	20	1.25	1.05 - 1.44
123789-HxCDD	TARGET	390/392	1.028	0.954	7.71	20	1.27	1.05 - 1.44
123789-HxCDF	TARGET	374/376	1.057	1.018	3.87	20	1.24	1.05 - 1.44
1234678-HpCDF	TARGET	408/410	1.210	1.148	5.41	20	1.05	0.88 - 1.21
1234678-HpCDD	TARGET	424/426	0.991	0.937	5.76	20	1.05	0.88 - 1.21
1234789-HpCDF	TARGET	408/410	1.231	1.181	4.20	20	1.05	0.88 - 1.21
OCDD	TARGET	458/460	0.963	0.912	5.64	20	0.89	0.76 - 1.03
OCDF	TARGET	442/444	0.855	0.846	1.05	20	0.91	0.76 - 1.03
13C12-1278-TCDD (CRS)	LABELED	332/334	1.063	1.032	2.96	20	0.77	0.65 - 0.90
13C12-2378-TCDF	LABELED	316/318	1.917	1.770	8.27	30	0.80	0.65 - 0.90
13C12-2378-TCDD	LABELED	332/334	1.017	0.977	4.06	30	0.81	0.65 - 0.90
13C12-12378-PeCDF	LABELED	352/354	1.659	1.632	1.65	30	1.57	1.32 - 1.79
13C12-23478-PeCDF	LABELED	352/354	1.695	1.633	3.77	30	1.58	1.32 - 1.79
13C12-12378-PeCDD	LABELED	368/370	0.997	0.975	2.28	30	1.59	1.32 - 1.79
13C12-123478-HxCDF	LABELED	384/386	1.222	1.266	3.46	30	0.53	0.43 - 0.60
13C12-123678-HxCDF	LABELED	384/386	1.275	1.336	4.53	30	0.53	0.43 - 0.60
13C12-234678-HxCDF	LABELED	384/386	1.184	1.237	4.24	30	0.53	0.43 - 0.60
13C12-123478-HxCDD	LABELED	402/404	0.914	0.989	7.62	30	1.25	1.05 - 1.44
13C12-123678-HxCDD	LABELED	402/404	0.930	1.015	8.40	30	1.25	1.05 - 1.44
13C12-123789-HxCDD	LABELED	402/404	0.881	0.962	8.42	30	1.27	1.05 - 1.44
13C12-123789-HxCDF	LABELED	384/386	1.090	1.127	3.24	30	0.53	0.43 - 0.60
13C12-1234678-HpCDF	LABELED	418/420	1.029	1.165	11.60	30	0.46	0.37 - 0.52
13C12-1234678-HpCDD	LABELED	436/438	0.855	0.969	11.81	30	1.07	0.88 - 1.21
13C12-1234789-HpCDF	LABELED	418/420	0.895	0.956	6.41	30	0.45	0.37 - 0.52
13C12-OCDD	LABELED	470/472	0.844	0.942	10.47	30	0.91	0.76 - 1.03
13C12-OCDF	LABELED	454/456	1.138	1.258	9.56	30	0.91	0.76 - 1.03

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471  
 Lab File ID: 18NOV07-17 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/08/2018 04:02  
 Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.844	1.018	17.13	20	0.75	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.743	2.038	14.48	30	0.79	0.65 - 0.89

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471  
 Lab File ID: 18NOV07-30 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/08/2018 16:48  
 Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.833	1.018	18.21	20	0.76	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.763	2.038	13.50	30	0.77	0.65 - 0.89

\* Outside QC Limits.



SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471  
 Lab File ID: 18NOV10-03 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/10/2018 16:56  
 Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.951	1.018	6.64	20	0.80	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.856	2.038	8.90	30	0.79	0.65 - 0.89

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB-Dioxin ID: 0.25 (mm) Instrument ID: DF18471  
 Lab File ID: 18NOV10-09 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/10/2018 22:23  
 Init. Calib. Date/Times: 10/18/2018 17:20 10/19/2018 00:40

Analytes	Type	Selected Ions	RF	Mean RF	%D	%D Limit	Ion Ratio	Ion Ratio QC Limits
2378-TCDF	TARGET	304/306	0.963	1.018	5.44	20	0.78	0.65 - 0.89
13C12-2378-TCDF	LABELED	316/318	1.895	2.038	7.01	30	0.80	0.65 - 0.89

\* Outside QC Limits.

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-12 Lab Sample ID: CS3CC02 Date/Time Analyzed: 11/06/2018 18:06  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	28.81	1.001	0.999-1.003
2378-TCDD	TARGET	29.92	1.001	0.999-1.002
12378-PeCDF	TARGET	34.92	1.001	0.999-1.002
23478-PeCDF	TARGET	36.24	1.000	0.999-1.002
12378-PeCDD	TARGET	36.64	1.000	0.999-1.002
123478-HxCDF	TARGET	40.00	1.000	0.999-1.001
123678-HxCDF	TARGET	40.16	1.001	0.997-1.005
234678-HxCDF	TARGET	40.88	1.000	0.999-1.001
123478-HxCDD	TARGET	41.08	1.000	0.999-1.001
123678-HxCDD	TARGET	41.20	1.000	0.998-1.004
123789-HxCDD	TARGET	41.51	1.000	1.000-1.019
123789-HxCDF	TARGET	41.91	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.64	1.000	0.999-1.001
1234678-HpCDD	TARGET	44.87	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.44	1.000	0.999-1.001
OCDD	TARGET	47.93	1.000	0.999-1.001
OCDF	TARGET	48.11	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.33	1.044	0.988-1.056
13C12-2378-TCDF	LABELED	28.79	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	29.89	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	34.90	1.201	1.000-1.425
13C12-23478-PeCDF	LABELED	36.23	1.247	1.011-1.526
13C12-12378-PeCDD	LABELED	36.63	1.261	1.000-1.567
13C12-123478-HxCDF	LABELED	39.99	1.003	0.989-1.015
13C12-123678-HxCDF	LABELED	40.13	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	40.86	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.06	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.19	1.033	1.019-1.041
13C12-123789-HxCDD	LABELED	41.50	1.040	1.027-1.049
13C12-123789-HxCDF	LABELED	41.90	1.050	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.63	1.094	1.067-1.109
13C12-1234678-HpCDD	LABELED	44.86	1.125	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.43	1.139	1.084-1.178
13C12-OCDD	LABELED	47.91	1.201	1.051-1.330
13C12-OCDF	LABELED	48.10	1.206	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

\* RRT exceeds the acceptable range

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-26 Lab Sample ID: CS3CC03 Date/Time Analyzed: 11/07/2018 06:54  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	28.84	1.001	0.999-1.003
2378-TCDD	TARGET	29.93	1.001	0.999-1.002
12378-PeCDF	TARGET	34.94	1.000	0.999-1.002
23478-PeCDF	TARGET	36.27	1.001	0.999-1.002
12378-PeCDD	TARGET	36.67	1.001	0.999-1.002
123478-HxCDF	TARGET	40.02	1.000	0.999-1.001
123678-HxCDF	TARGET	40.18	1.000	0.997-1.005
234678-HxCDF	TARGET	40.90	1.000	0.999-1.001
123478-HxCDD	TARGET	41.10	1.000	0.999-1.001
123678-HxCDD	TARGET	41.22	1.000	0.998-1.004
123789-HxCDD	TARGET	41.53	1.000	1.000-1.019
123789-HxCDF	TARGET	41.94	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.67	1.000	0.999-1.001
1234678-HpCDD	TARGET	44.90	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.47	1.000	0.999-1.001
OCDD	TARGET	47.94	1.000	0.999-1.001
OCDF	TARGET	48.13	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.36	1.045	0.988-1.056
13C12-2378-TCDF	LABELED	28.80	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	29.91	1.029	0.976-1.043
13C12-12378-PeCDF	LABELED	34.93	1.202	1.000-1.425
13C12-23478-PeCDF	LABELED	36.25	1.247	1.011-1.526
13C12-12378-PeCDD	LABELED	36.65	1.261	1.000-1.567
13C12-123478-HxCDF	LABELED	40.01	1.003	0.989-1.015
13C12-123678-HxCDF	LABELED	40.17	1.007	0.993-1.019
13C12-234678-HxCDF	LABELED	40.88	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.09	1.030	1.016-1.039
13C12-123678-HxCDD	LABELED	41.21	1.033	1.019-1.041
13C12-123789-HxCDD	LABELED	41.52	1.040	1.027-1.049
13C12-123789-HxCDF	LABELED	41.92	1.050	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.66	1.094	1.067-1.109
13C12-1234678-HpCDD	LABELED	44.89	1.125	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.45	1.139	1.084-1.178
13C12-OCDD	LABELED	47.94	1.201	1.051-1.330
13C12-OCDF	LABELED	48.13	1.206	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

\* RRT exceeds the acceptable range

SDG No.: TID09

GC Column: DB5MS ID: 0.25 (mm) Instrument ID: DF17280  
 Lab File ID: 18NOV06-35 Lab Sample ID: CS3CC04 Date/Time Analyzed: 11/07/2018 14:48  
 Init. Calib. Date/Times: 11/02/2018 14:38 11/06/2018 14:54

Analytes	Type	RT	RRT	RRT QC Limits
2378-TCDF	TARGET	28.81	1.001	0.999-1.003
2378-TCDD	TARGET	29.92	1.001	0.999-1.002
12378-PeCDF	TARGET	34.92	1.001	0.999-1.002
23478-PeCDF	TARGET	36.25	1.001	0.999-1.002
12378-PeCDD	TARGET	36.65	1.001	0.999-1.002
123478-HxCDF	TARGET	40.00	1.000	0.999-1.001
123678-HxCDF	TARGET	40.15	1.000	0.997-1.005
234678-HxCDF	TARGET	40.88	1.000	0.999-1.001
123478-HxCDD	TARGET	41.08	1.001	0.999-1.001
123678-HxCDD	TARGET	41.20	1.000	0.998-1.004
123789-HxCDD	TARGET	41.51	1.000	1.000-1.019
123789-HxCDF	TARGET	41.92	1.000	0.999-1.001
1234678-HpCDF	TARGET	43.65	1.000	0.999-1.001
1234678-HpCDD	TARGET	44.88	1.000	0.999-1.001
1234789-HpCDF	TARGET	45.45	1.000	0.999-1.001
OCDD	TARGET	47.92	1.000	0.999-1.001
OCDF	TARGET	48.11	1.000	0.999-1.008
13C12-1278-TCDD (CRS)	LABELED	30.33	1.045	0.988-1.056
13C12-2378-TCDF	LABELED	28.78	0.991	0.923-1.103
13C12-2378-TCDD	LABELED	29.89	1.030	0.976-1.043
13C12-12378-PeCDF	LABELED	34.89	1.202	1.000-1.425
13C12-23478-PeCDF	LABELED	36.23	1.248	1.011-1.526
13C12-12378-PeCDD	LABELED	36.63	1.262	1.000-1.567
13C12-123478-HxCDF	LABELED	39.99	1.002	0.989-1.015
13C12-123678-HxCDF	LABELED	40.14	1.006	0.993-1.019
13C12-234678-HxCDF	LABELED	40.87	1.024	0.992-1.053
13C12-123478-HxCDD	LABELED	41.05	1.029	1.016-1.039
13C12-123678-HxCDD	LABELED	41.18	1.032	1.019-1.041
13C12-123789-HxCDD	LABELED	41.50	1.040	1.027-1.049
13C12-123789-HxCDF	LABELED	41.90	1.050	1.012-1.082
13C12-1234678-HpCDF	LABELED	43.64	1.094	1.067-1.109
13C12-1234678-HpCDD	LABELED	44.87	1.125	1.105-1.129
13C12-1234789-HpCDF	LABELED	45.43	1.139	1.084-1.178
13C12-OCDD	LABELED	47.92	1.201	1.051-1.330
13C12-OCDF	LABELED	48.11	1.206	1.056-1.335

RRT = (RT of analyte) / (RT of appropriate labeled compound).

\* RRT exceeds the acceptable range

**Sample Data**

**Dioxins/Furans by HRMS**

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 22:06  
Number of Entries 270  
Comment S:11030:12937:17962  
Vial 63  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU1-1-SE005 Grab Sediment  
Sample ID 9866461RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan w:\18nov06\18nov06-16.quan  
Data w:\18nov06\18nov06-16.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.14  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.82	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.93	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	34.94	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.94	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.67	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.90	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.91	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.66	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.07	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	





## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 22:06  
Number of Entries 270  
Comment S:11030:12937:17962  
Vial 63  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU1-1-SE005 Grab Sediment  
Sample ID 9866461RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

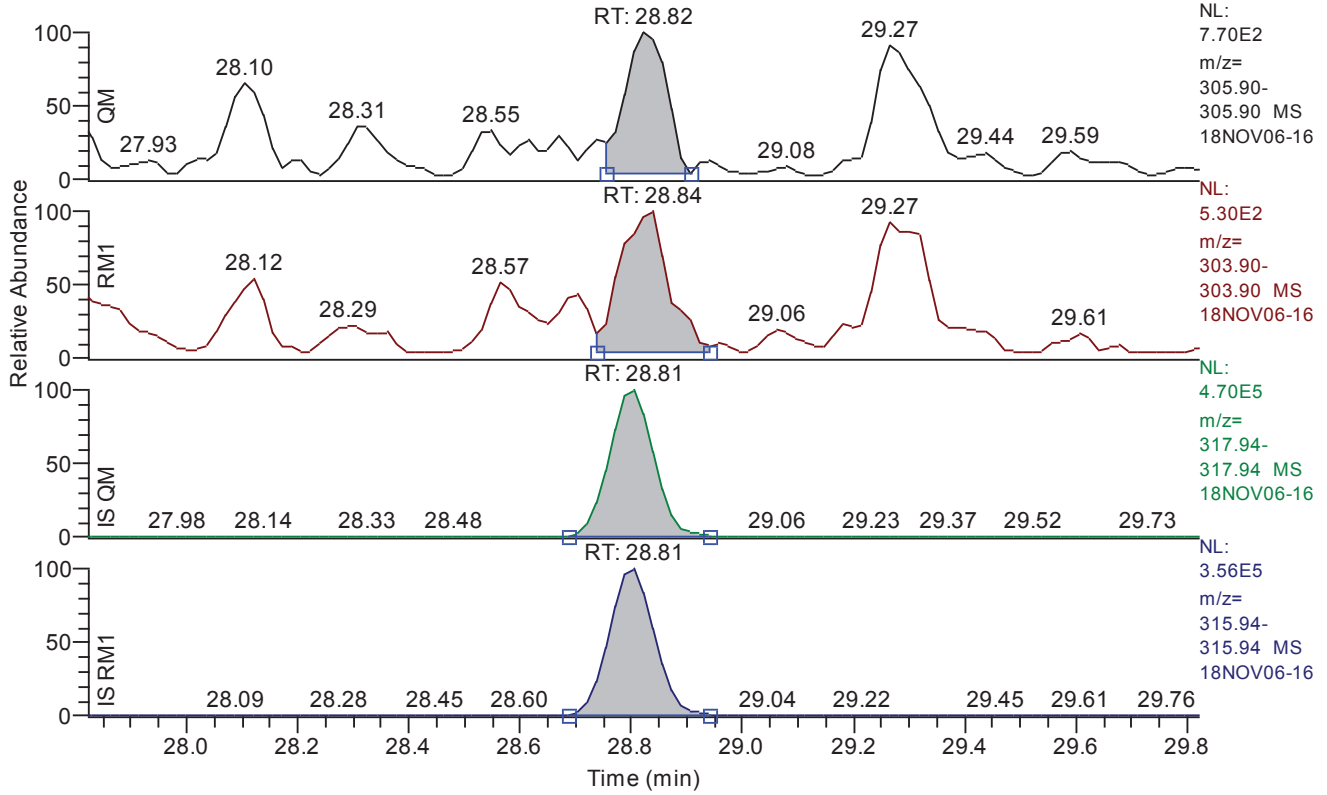
Quan w:\18nov06\18nov06-16.quan  
Data w:\18nov06\18nov06-16.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.14  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.82 - 29.82 SM: 3G



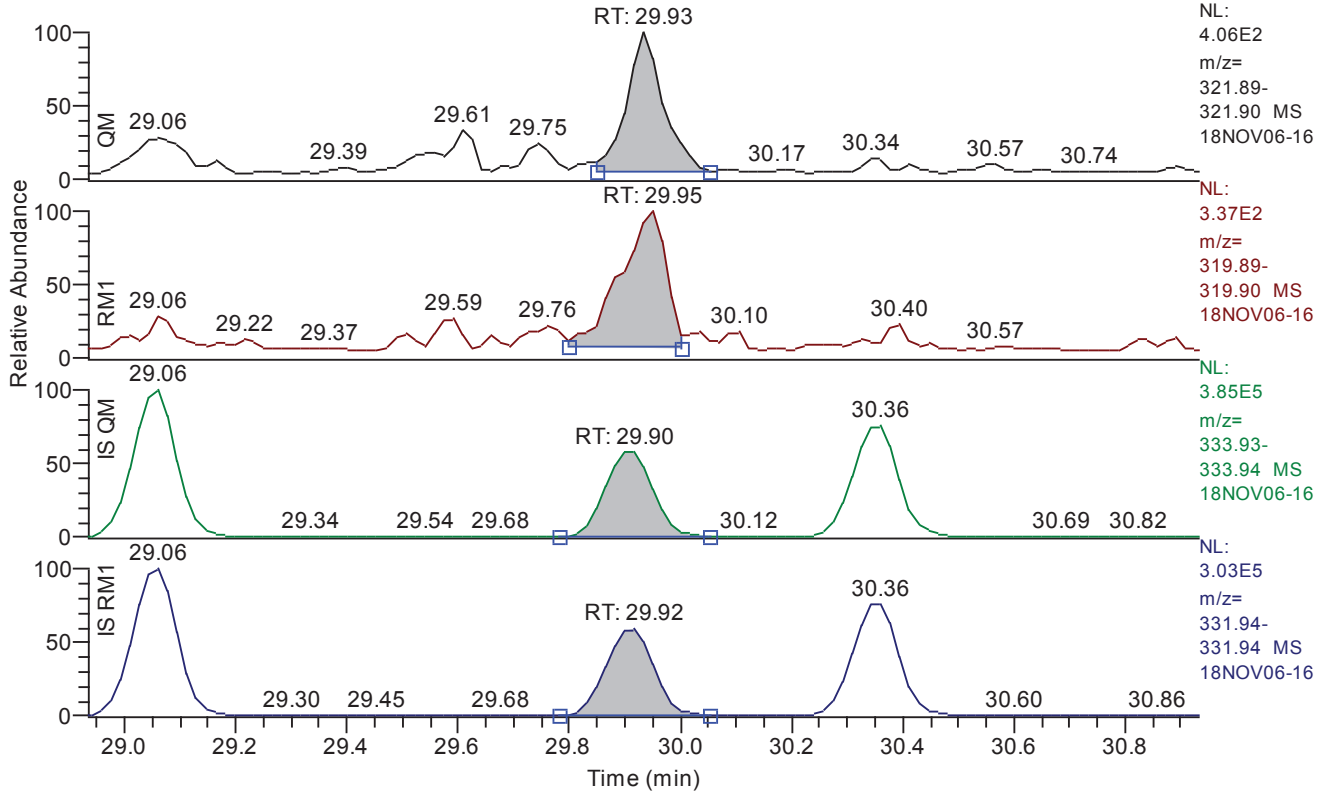
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.82
QM Area	3880
QM Integration Mode	A
RM1 Area	3136
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0317
Unqualified Amount (A)	0.318450
Adjusted Amount (A)	0.3184
Signal-to-Noise	25
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 28.93 - 30.93 SM: 3G



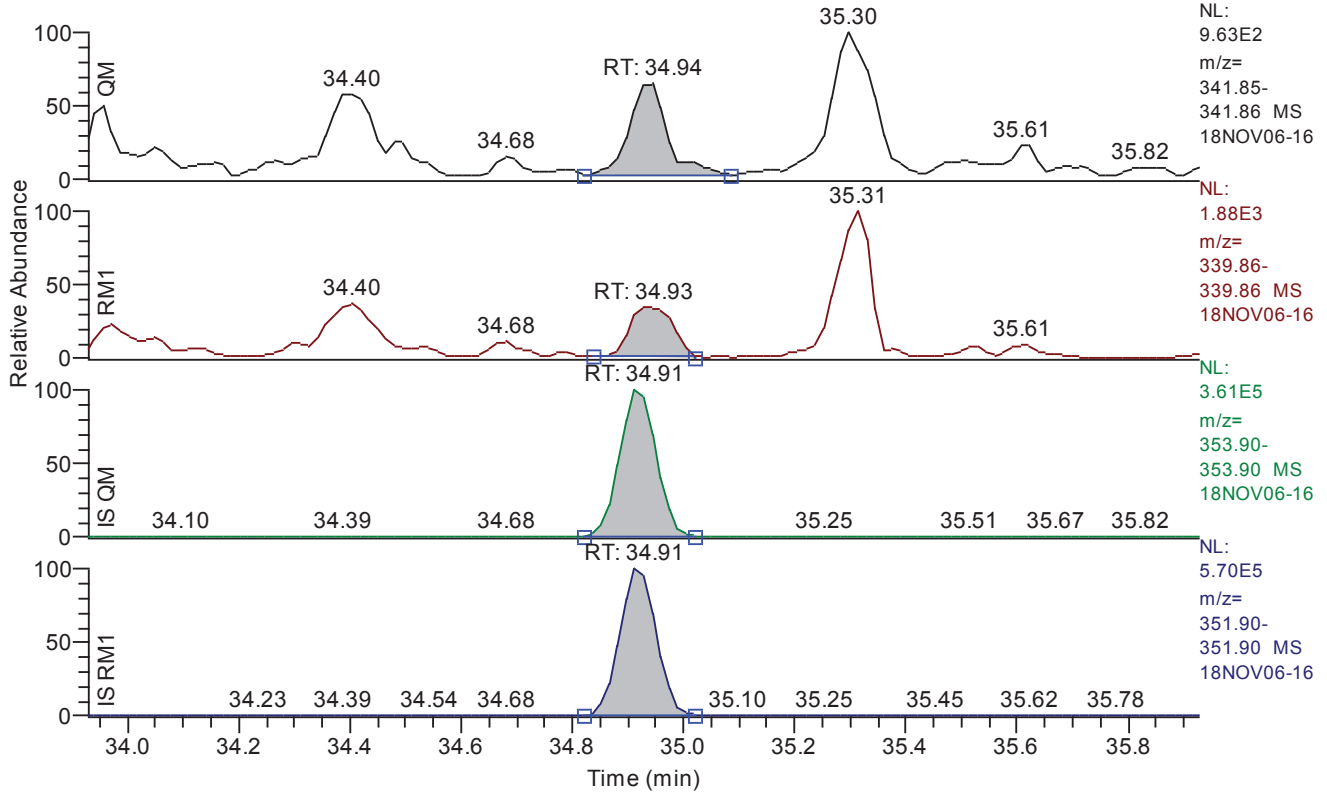
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	1817
QM Integration Mode	A
RM1 Area	1822
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0207
Unqualified Amount (A)	0.264445
Adjusted Amount (A)	n.d.
Signal-to-Noise	37
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Chromatogram**

RT: 33.93 - 35.93 SM: 3G

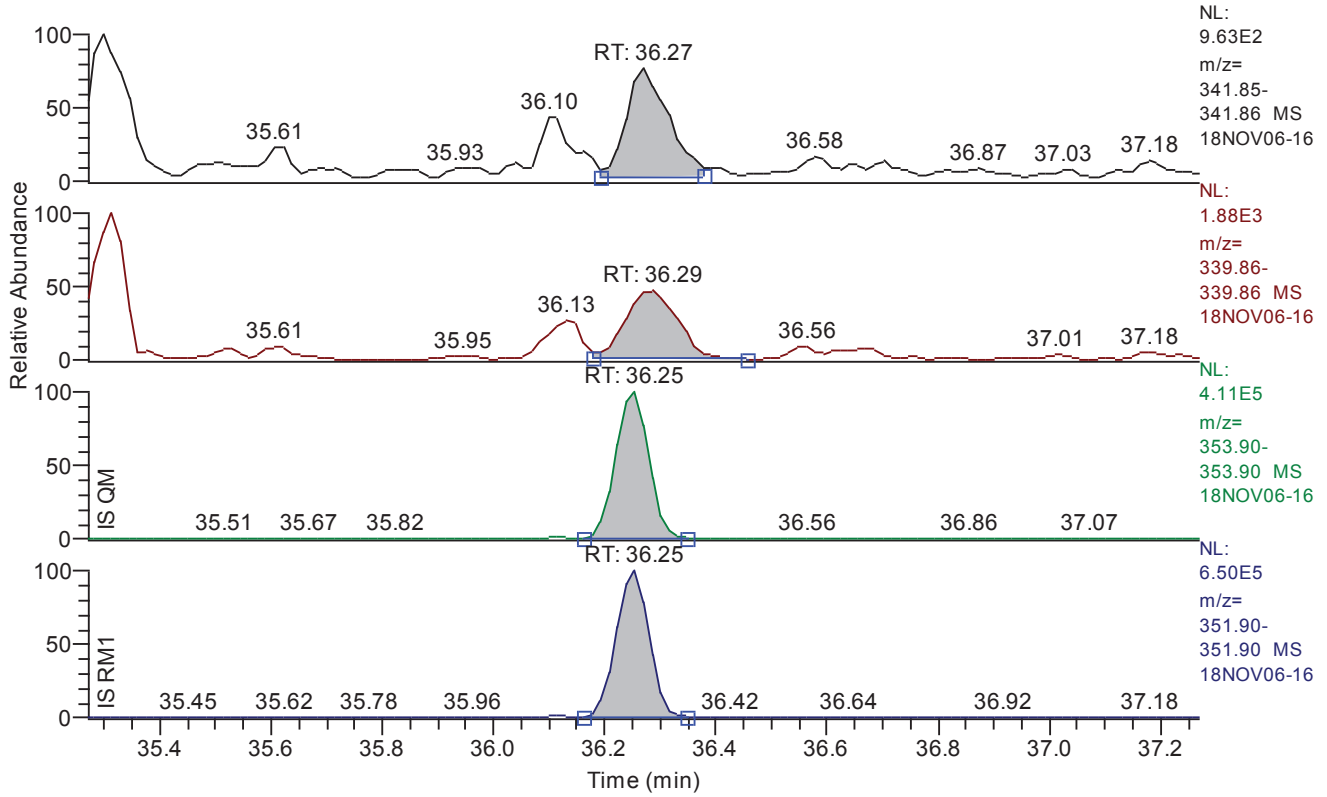


**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	2896
QM Integration Mode	A
RM1 Area	3398
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0213
Unqualified Amount (A)	0.342263
Adjusted Amount (A)	n.d.
Signal-to-Noise	36
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 35.27 - 37.27 SM: 3G



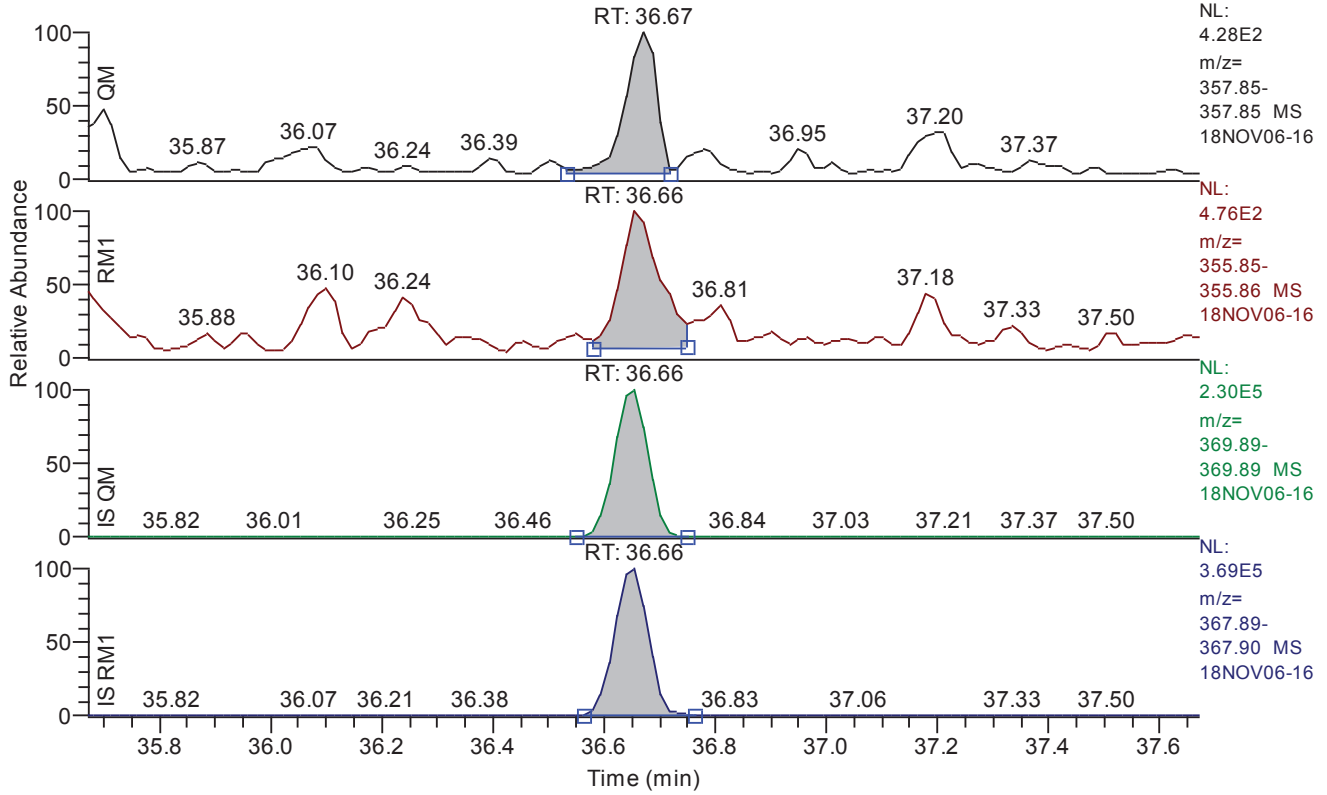
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.27
QM Area	3685
QM Integration Mode	A
RM1 Area	5653
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0167
Unqualified Amount (A)	0.441877
Adjusted Amount (A)	0.4419
Signal-to-Noise	47
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.67 - 37.67 SM: 3G



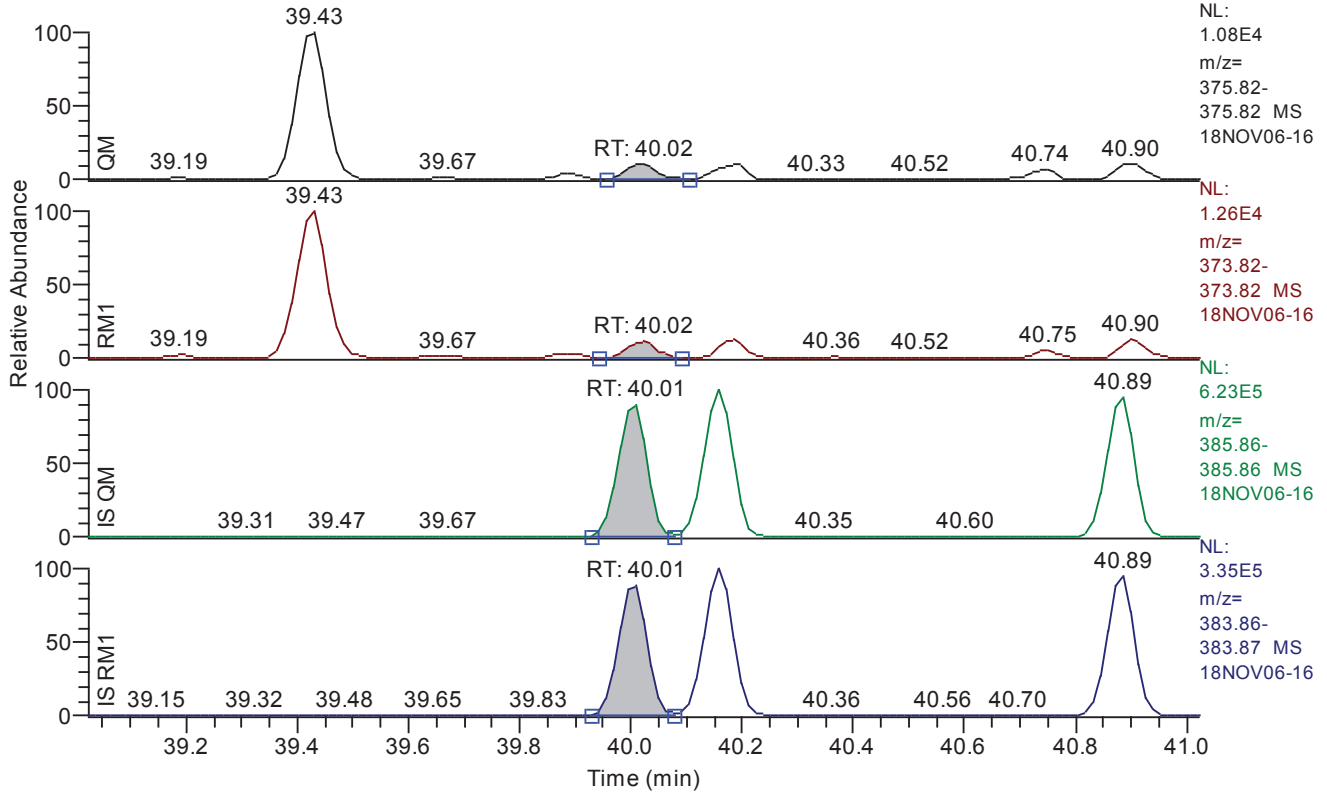
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	1572
QM Integration Mode	A
RM1 Area	2149
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0349
Unqualified Amount (A)	0.324850
Adjusted Amount (A)	0.3249
Signal-to-Noise	22
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.02 - 41.02 SM: 3G

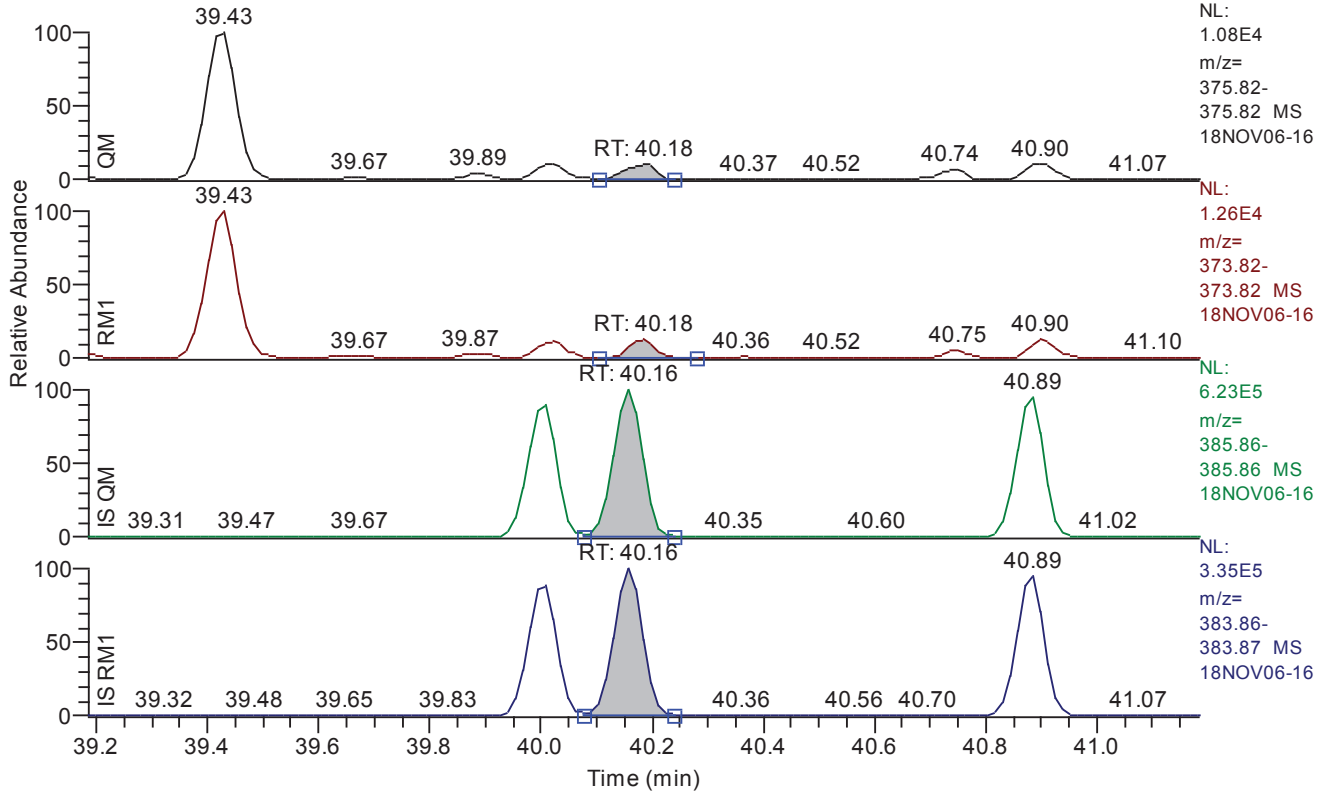


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.02
QM Area	4392
QM Integration Mode	A
RM1 Area	5478
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0204
Unqualified Amount (A)	0.580979
Adjusted Amount (A)	0.5810
Signal-to-Noise	70
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.18 - 41.18 SM: 3G



NL: 1.08E4  
 m/z= 375.82-375.82 MS  
 18NOV06-16

NL: 1.26E4  
 m/z= 373.82-373.82 MS  
 18NOV06-16

NL: 6.23E5  
 m/z= 385.86-385.86 MS  
 18NOV06-16

NL: 3.35E5  
 m/z= 383.86-383.87 MS  
 18NOV06-16

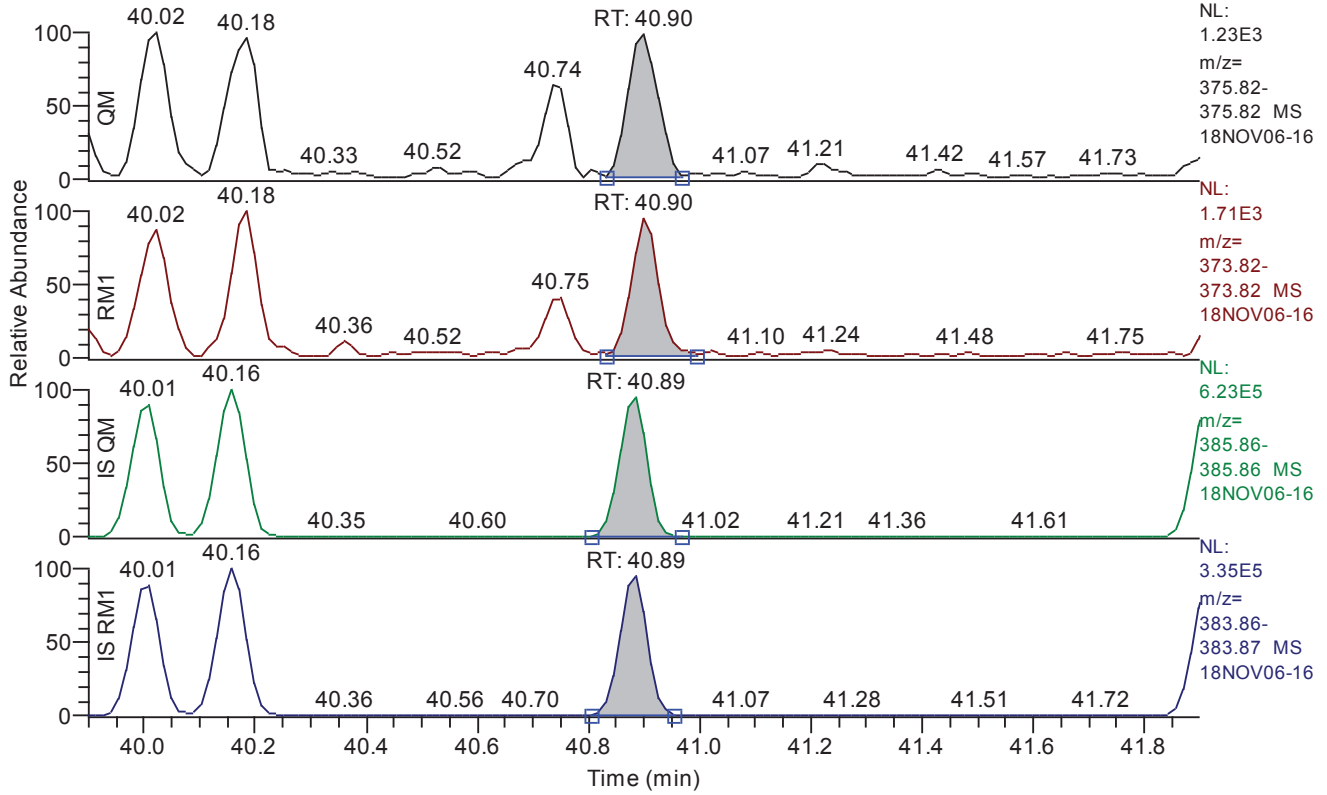
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	4376
QM Integration Mode	A
RM1 Area	5903
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0189
Unqualified Amount (A)	0.563486
Adjusted Amount (A)	0.5635
Signal-to-Noise	75
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.90 - 41.90 SM: 3G



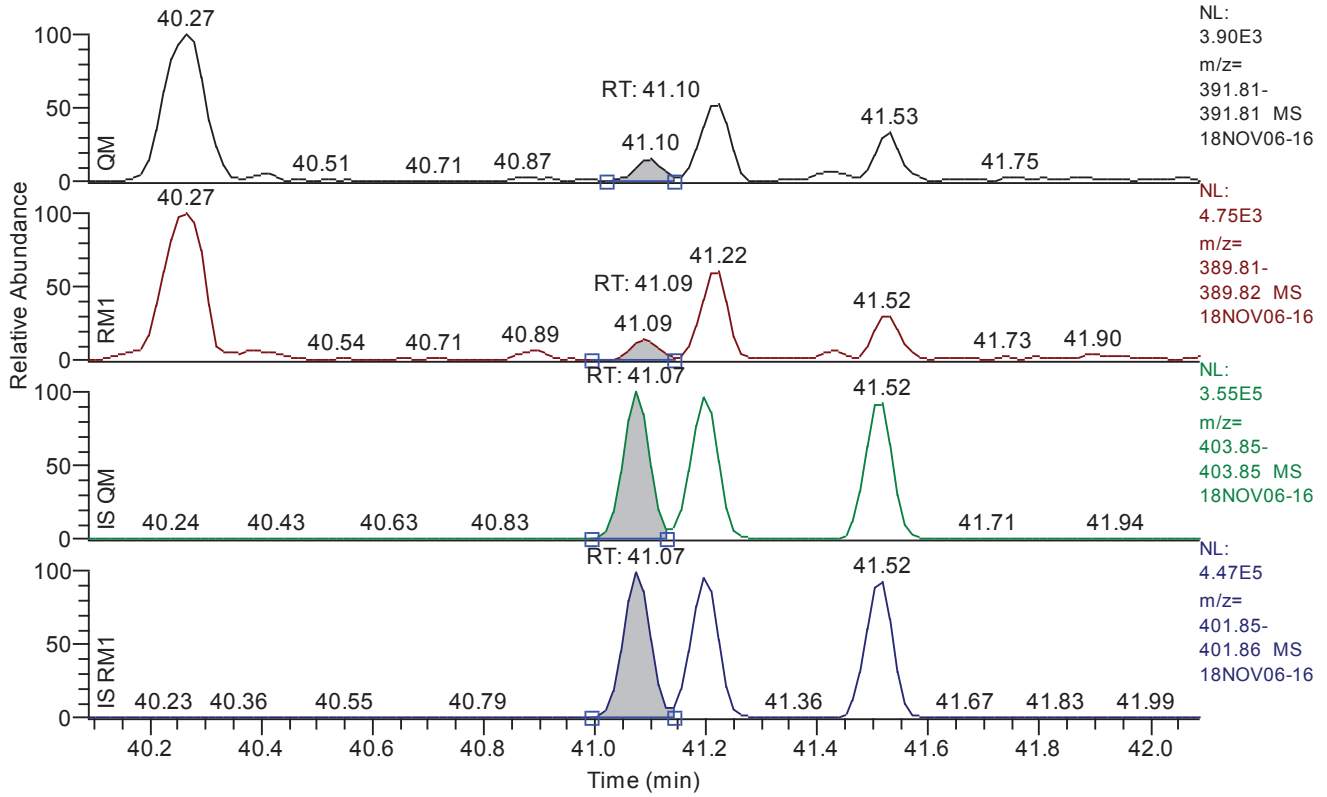
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	4510
QM Integration Mode	A
RM1 Area	5420
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0184
Unqualified Amount (A)	0.556818
Adjusted Amount (A)	0.5568
Signal-to-Noise	73
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.09 - 42.09 SM: 3G



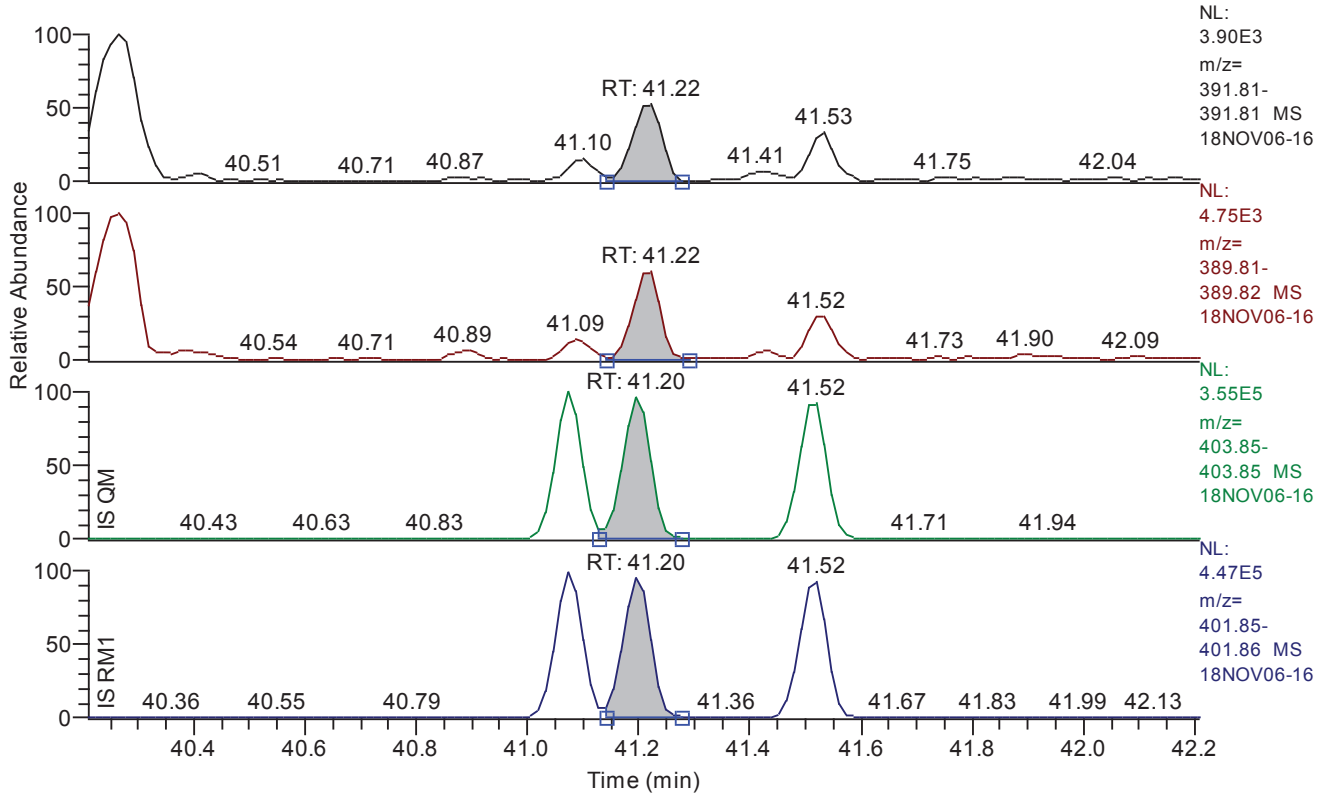
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	2070
QM Integration Mode	A
RM1 Area	2265
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0322
Unqualified Amount (A)	0.347328
Adjusted Amount (A)	0.3473
Signal-to-Noise	26
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.21 - 42.21 SM: 3G



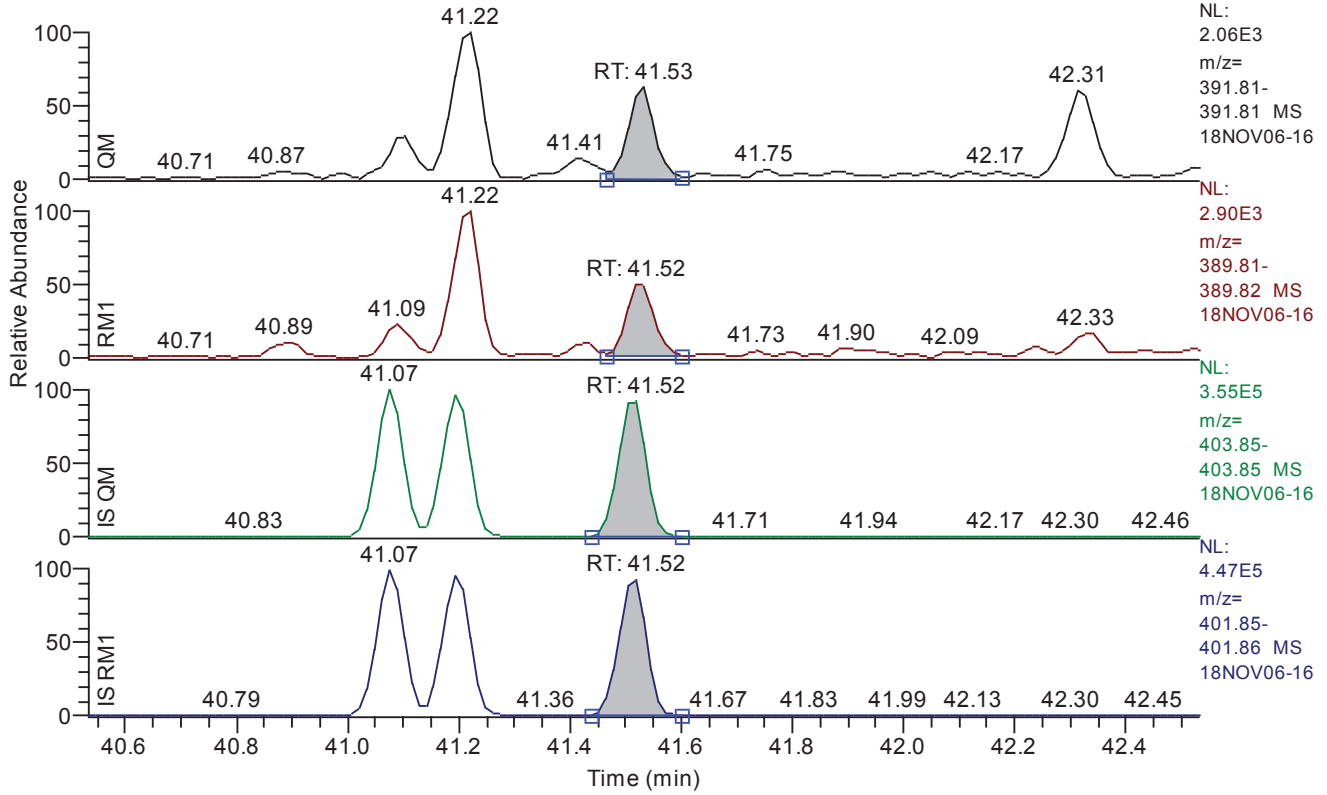
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	7553
QM Integration Mode	A
RM1 Area	9917
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0336
Unqualified Amount (A)	1.423530
Adjusted Amount (A)	1.4235
Signal-to-Noise	103
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.53 - 42.53 SM: 3G



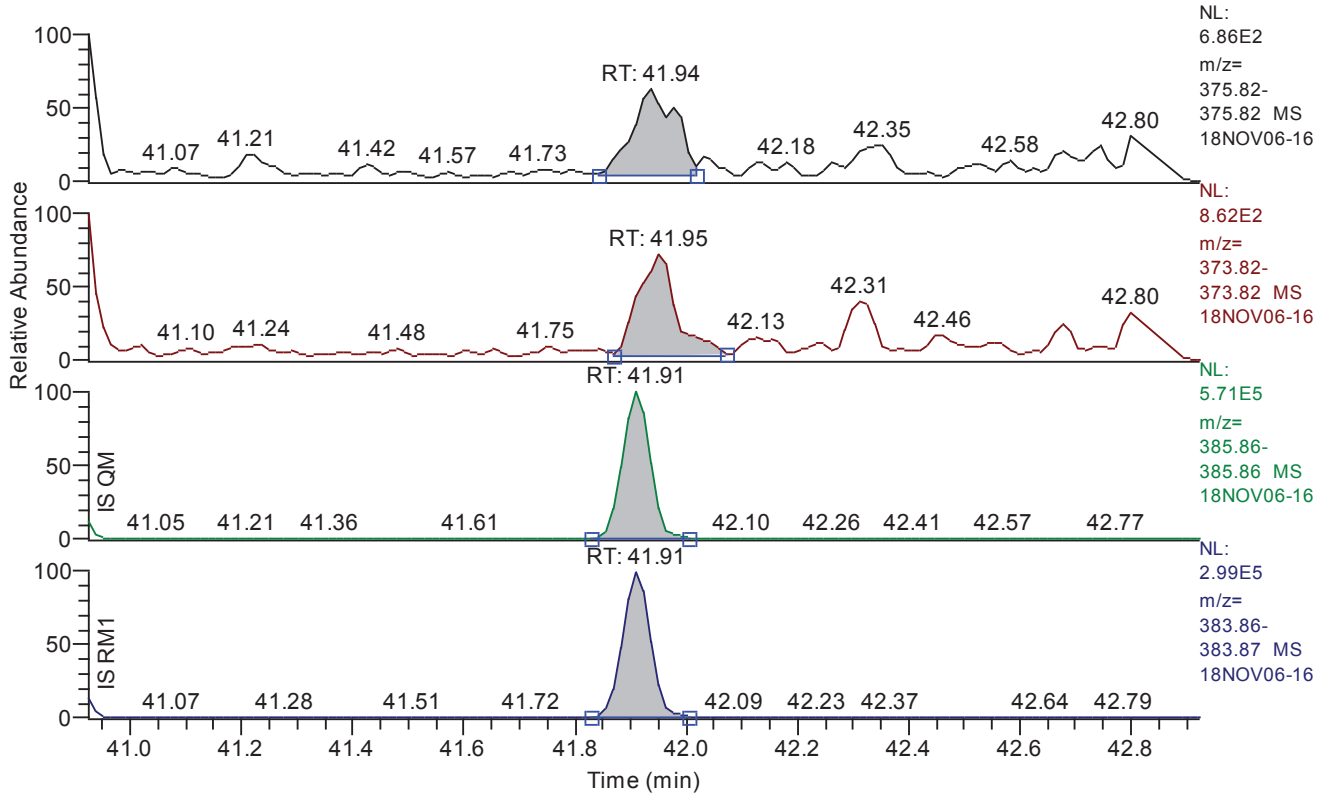
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	4137
QM Integration Mode	A
RM1 Area	4949
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0331
Unqualified Amount (A)	0.721210
Adjusted Amount (A)	0.7212
Signal-to-Noise	57
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.92 - 42.92 SM: 3G



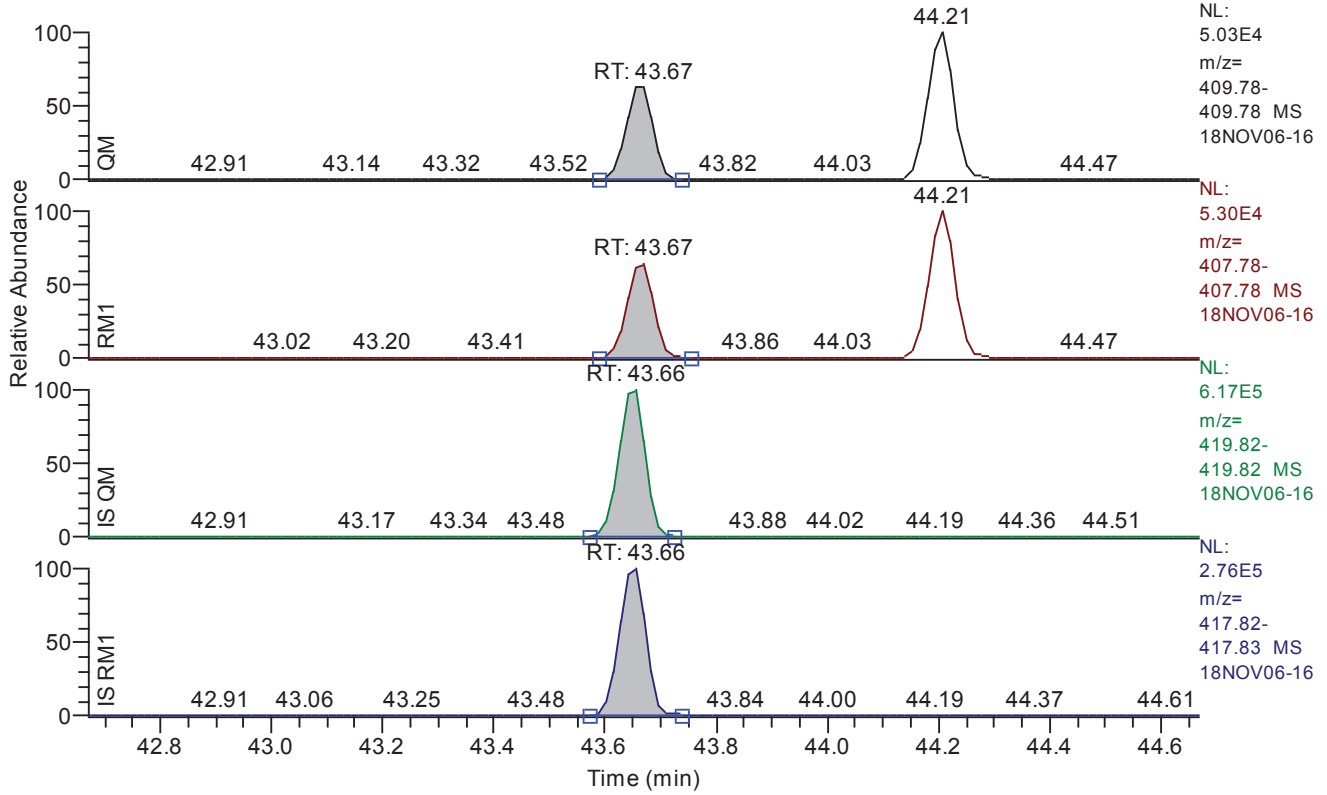
**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.94
QM Area	2236
QM Integration Mode	M
RM1 Area	2790
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0213
Unqualified Amount (A)	0.322793
Adjusted Amount (A)	0.3228
Signal-to-Noise	26
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 42.67 - 44.67 SM: 3G



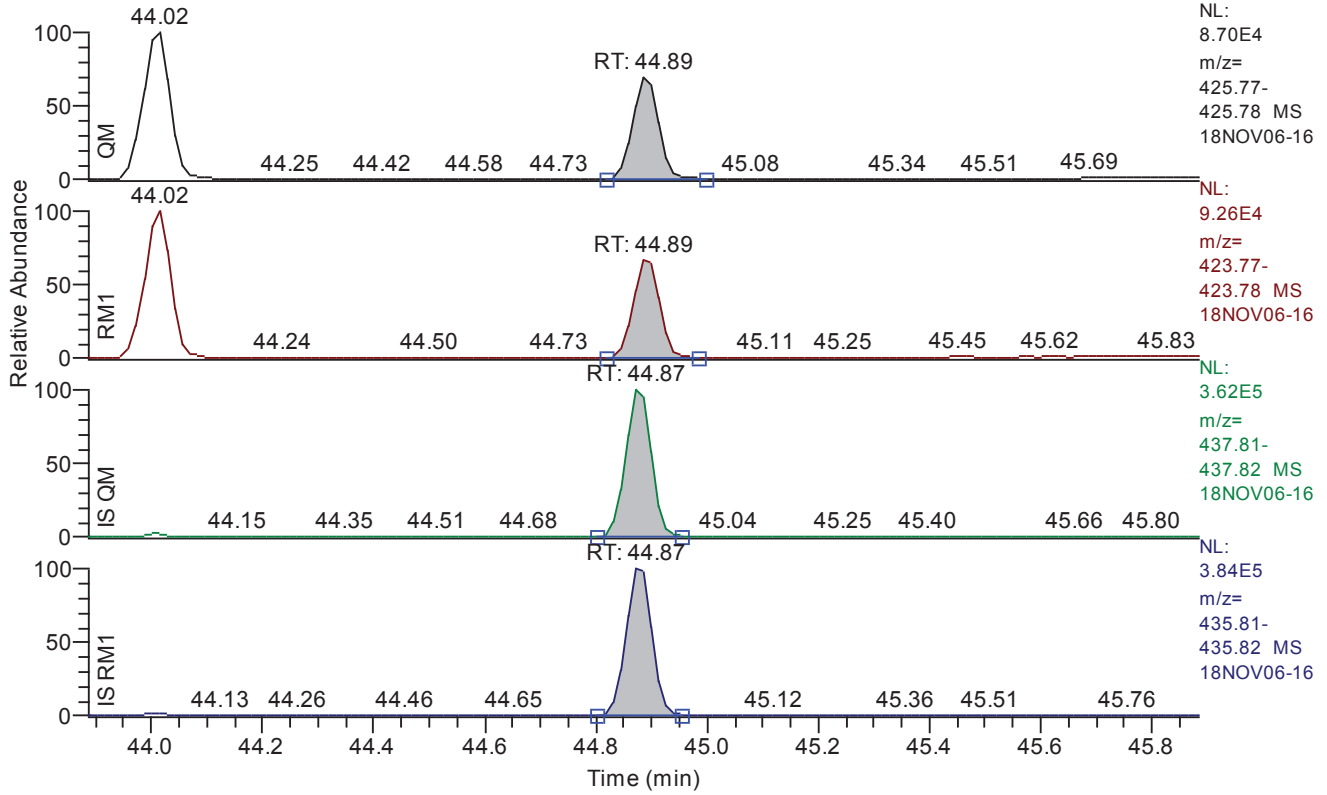
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.67
QM Area	111465
QM Integration Mode	A
RM1 Area	119100
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0207
Unqualified Amount (A)	12.939315
Adjusted Amount (A)	12.9393
Signal-to-Noise	1549
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.89 - 45.89 SM: 3G



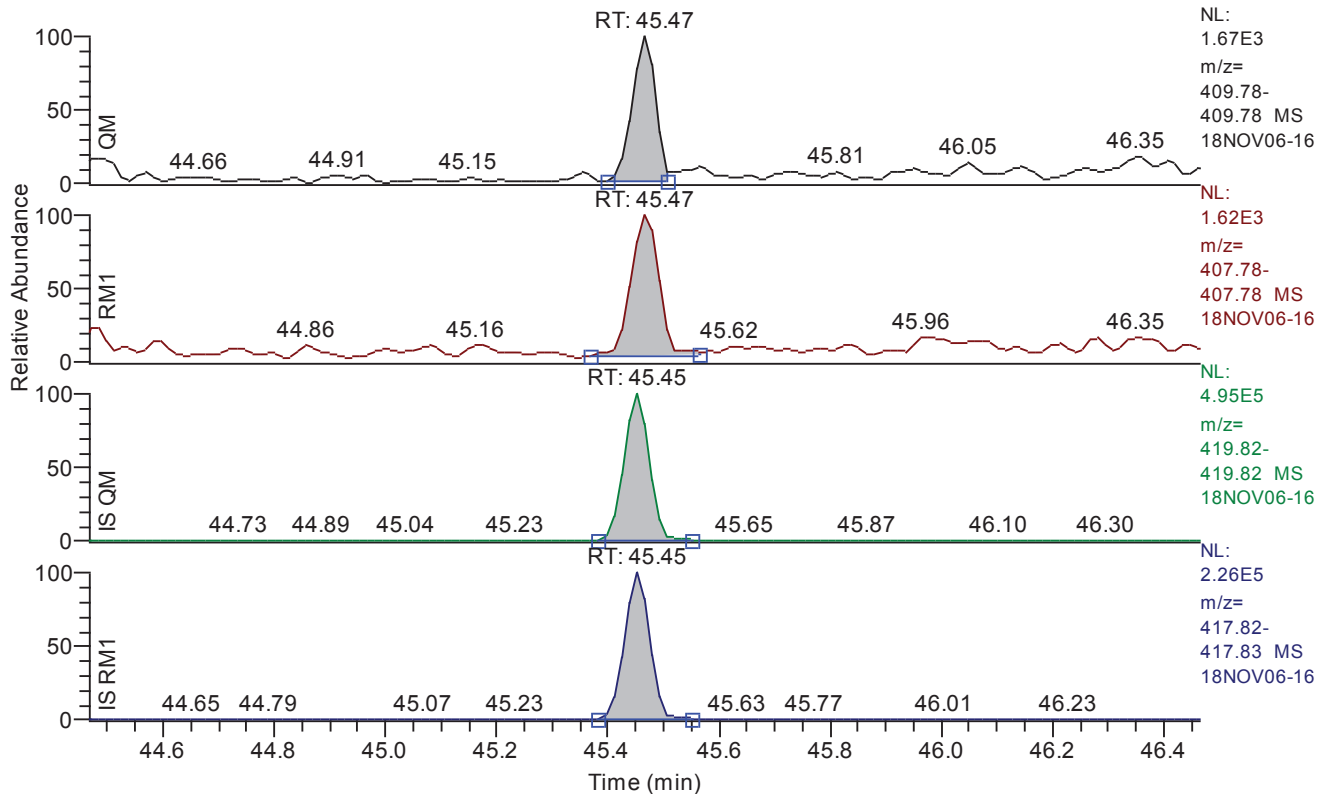
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	201572
QM Integration Mode	A
RM1 Area	209384
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0958
Unqualified Amount (A)	34.851860
Adjusted Amount (A)	34.8519
Signal-to-Noise	902
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



**Entry Parameters**

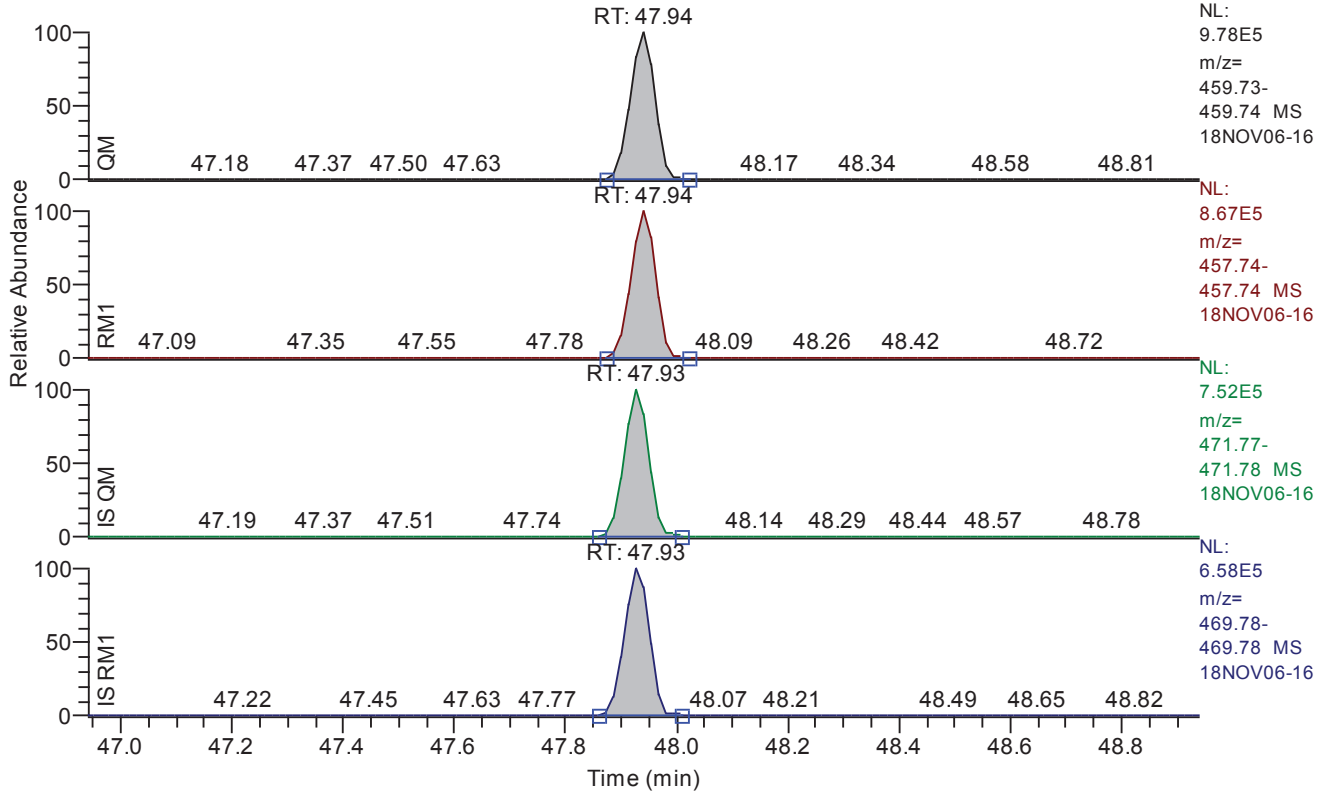
Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	4890
QM Integration Mode	A
RM1 Area	5602
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	0.750186
Adjusted Amount (A)	0.7502
Signal-to-Noise	74
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 46.94 - 48.94 SM: 3G



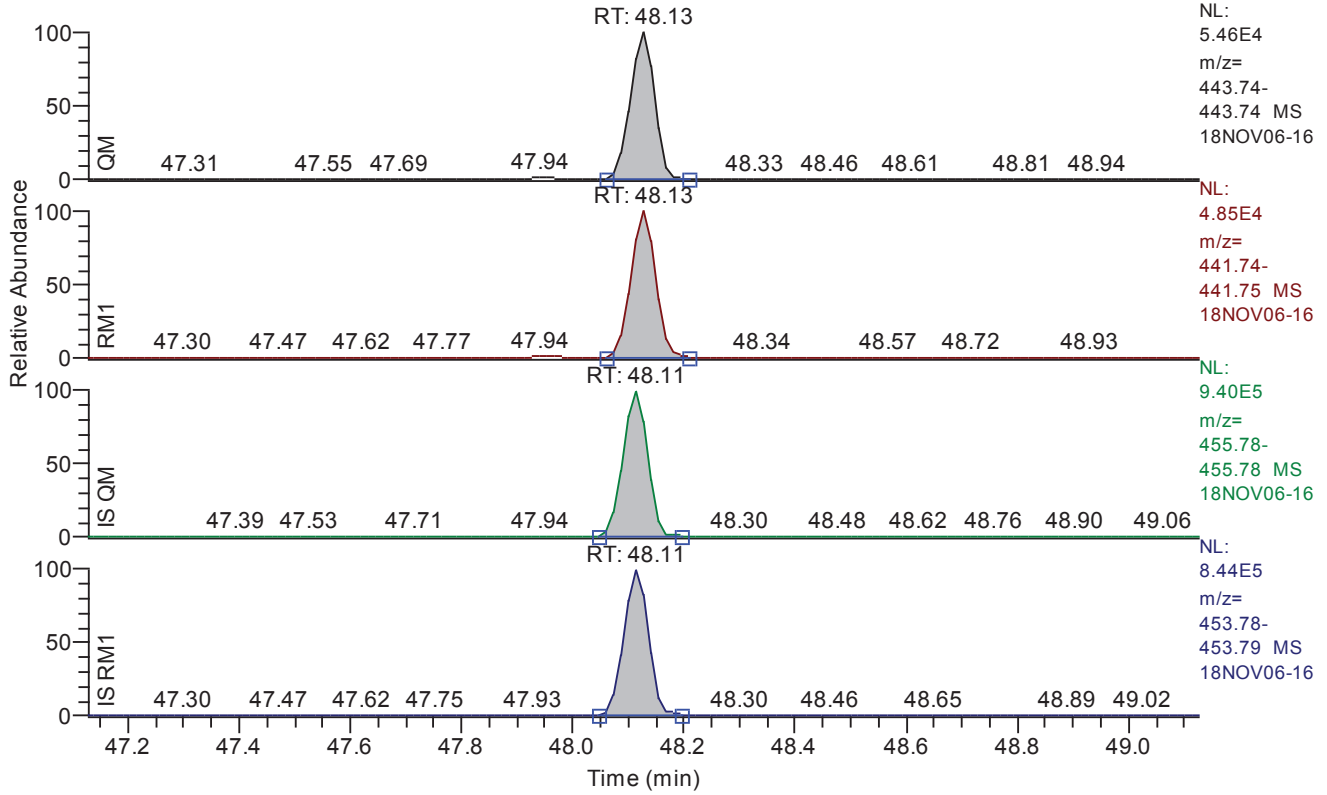
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	3020644
QM Integration Mode	A
RM1 Area	2671990
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0508
Unqualified Amount (A)	564.463734
Adjusted Amount (A)	564.4637
Signal-to-Noise	27857
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.13 - 49.13 SM: 3G

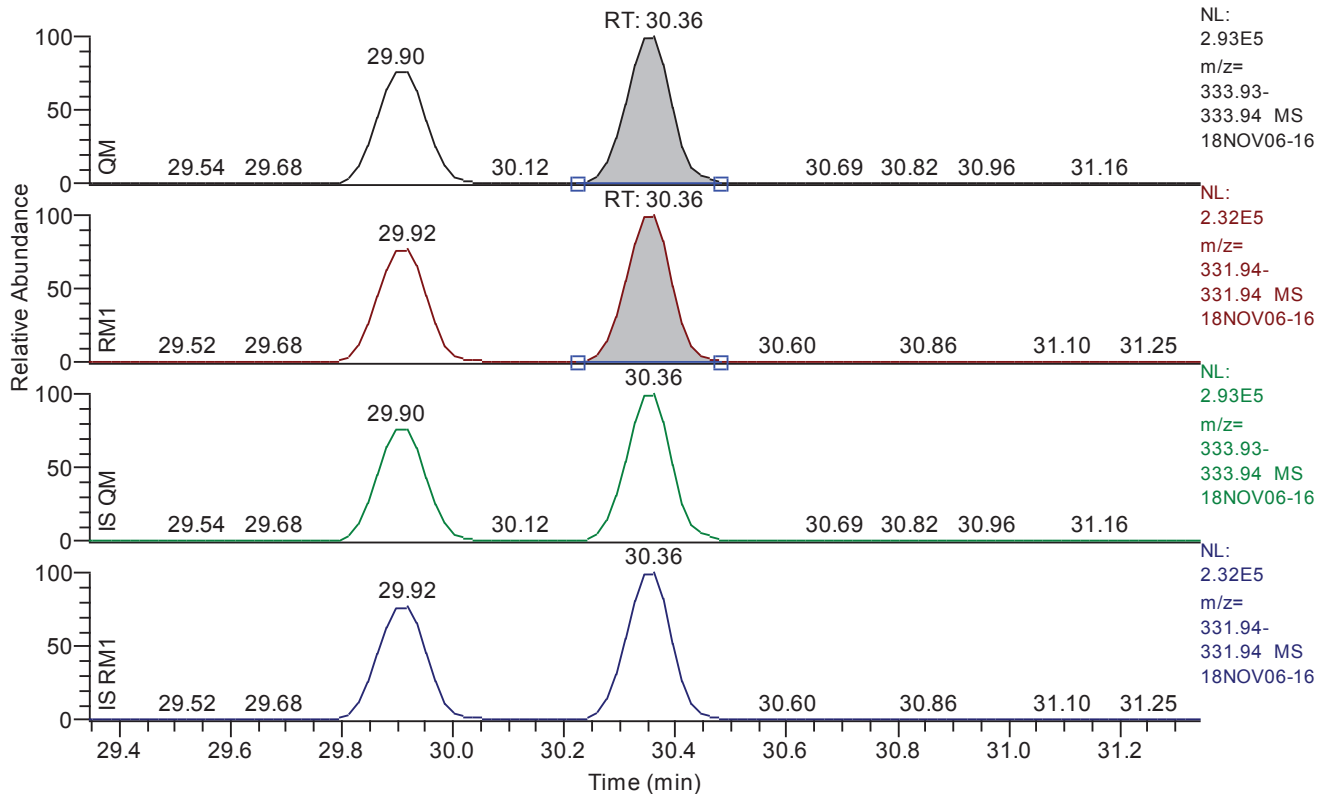


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	165938
QM Integration Mode	A
RM1 Area	150410
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0255
Unqualified Amount (A)	27.028803
Adjusted Amount (A)	27.0288
Signal-to-Noise	2641
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 29.34 - 31.34 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	1696026
QM Integration Mode	A
RM1 Area	1343608
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0238
Unqualified Amount (A)	151.345407
Adjusted Amount (A)	151.3454
Signal-to-Noise	15286
Client Flags	
Status Overview	passed
Status Info	



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 22:06  
Number of Entries 270  
Comment S:11030:12937:17962  
Vial 63  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU1-1-SE005 Grab Sediment  
Sample ID 9866461RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

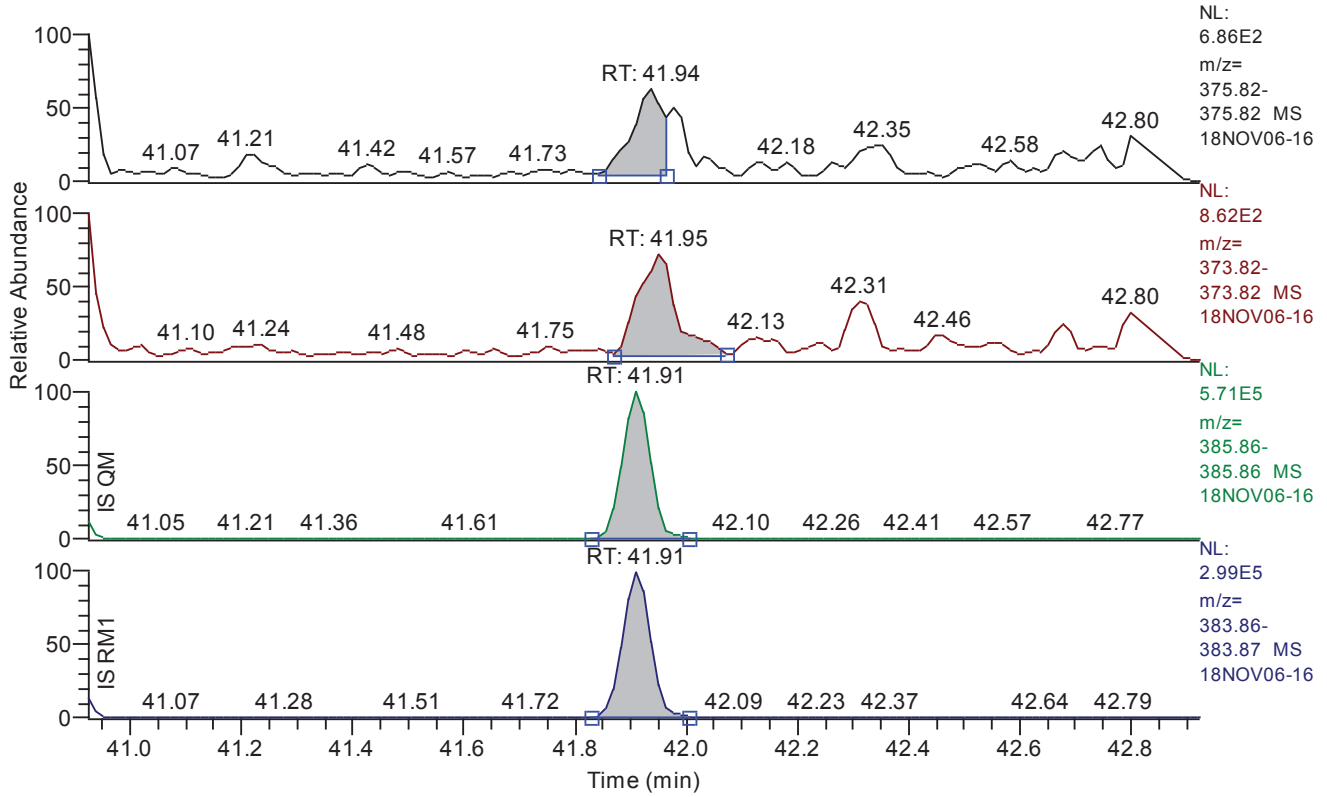
Quan w:\18nov06\18nov06-16.quan  
Data w:\18nov06\18nov06-16.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.14  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 40.92 - 42.92 SM: 3G



**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.94
QM Area	1539
QM Integration Mode	A
RM1 Area	2790
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0285
Unqualified Amount (A)	0.278019
Adjusted Amount (A)	n.d.
Signal-to-Noise	20
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.82	28.84	28.81	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.93	29.95	29.90	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.93	34.91	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.27	36.29	36.25	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.66	36.66	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.02	40.02	40.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.18	40.18	40.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.90	40.90	40.89	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.10	41.09	41.07	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.22	41.22	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.53	41.52	41.52	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.94	41.95	41.91	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.67	43.67	43.66	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.89	44.89	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.47	45.47	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.13	48.13	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.36	30.36	30.36	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.81	28.81	28.65	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.90	29.92	29.92	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.91	34.91	34.88	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.25	36.25	36.25	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.66	36.66	36.66	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.01	40.01	40.17	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.16	40.16	40.17	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.89	40.89	40.94	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.07	41.07	41.07	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.52	41.52	41.52	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.91	41.91	41.92	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.66	43.66	43.66	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.45	45.45	45.33	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.11	48.11	48.56	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.82	0.8084	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.93	1.0030	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.94	1.1735	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.27	1.5343	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.3673	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.02	1.2471	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.18	1.3489	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.90	1.2017	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.10	1.0944	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.22	1.3130	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.53	1.1960	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.94	1.2478	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.67	1.0685	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0388	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.47	1.1455	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.94	0.8846	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.9064	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.36	0.7922	0.6450 - 0.8950	passed	76.73	35 - 197	passed
19	13C12-1234-TCDD	29.06	0.8064	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.81	0.7772	0.6450 - 0.8950	passed	69.29	40 - 135	passed
22	13C12-2378-TCDD	29.90	0.8011	0.6450 - 0.8950	passed	66.19	40 - 135	passed
23	13C12-12378-PeCDF	34.91	1.5766	1.3150 - 1.7850	passed	68.14	40 - 135	passed
24	13C12-23478-PeCDF	36.25	1.5730	1.3150 - 1.7850	passed	69.94	40 - 135	passed
25	13C12-12378-PeCDD	36.66	1.6004	1.3150 - 1.7850	passed	67.40	40 - 135	passed
26	13C12-123478-HxCDF	40.01	0.5272	0.4250 - 0.5950	passed	61.07	40 - 135	passed
27	13C12-123678-HxCDF	40.16	0.5308	0.4250 - 0.5950	passed	63.59	40 - 135	passed
28	13C12-234678-HxCDF	40.89	0.5311	0.4250 - 0.5950	passed	63.24	40 - 135	passed
29	13C12-123478-HxCDD	41.07	1.2956	1.0450 - 1.4350	passed	67.34	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2286	1.0450 - 1.4350	passed	64.99	40 - 135	passed
31	13C12-123789-HxCDD	41.52	1.2475	1.0450 - 1.4350	passed	66.70	40 - 135	passed
32	13C12-123789-HxCDF	41.91	0.5259	0.4250 - 0.5950	passed	66.01	40 - 135	passed
33	13C12-1234678-HpCDF	43.66	0.4488	0.3650 - 0.5150	passed	64.80	40 - 135	passed
34	13C12-1234678-HpCDD	44.87	1.0739	0.8750 - 1.2050	passed	63.13	40 - 135	passed
35	13C12-1234789-HpCDF	45.45	0.4572	0.3650 - 0.5150	passed	60.18	40 - 135	passed
36	13C12-OCDD	47.93	0.8932	0.7550 - 1.0250	passed	57.04	40 - 135	passed
37	13C12-OCDF	48.11	0.8958	0.7550 - 1.0250	passed	53.45	40 - 135	passed



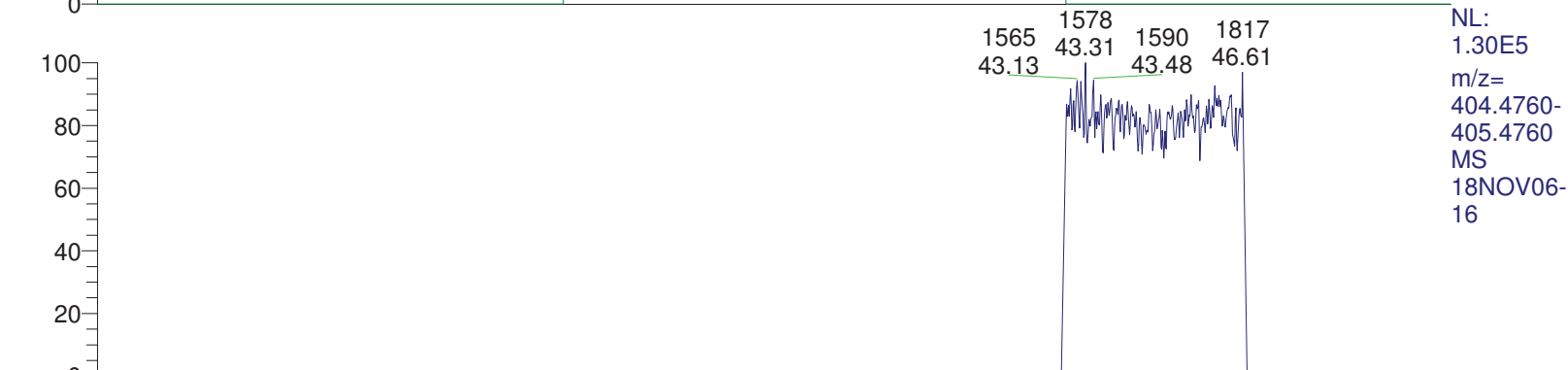
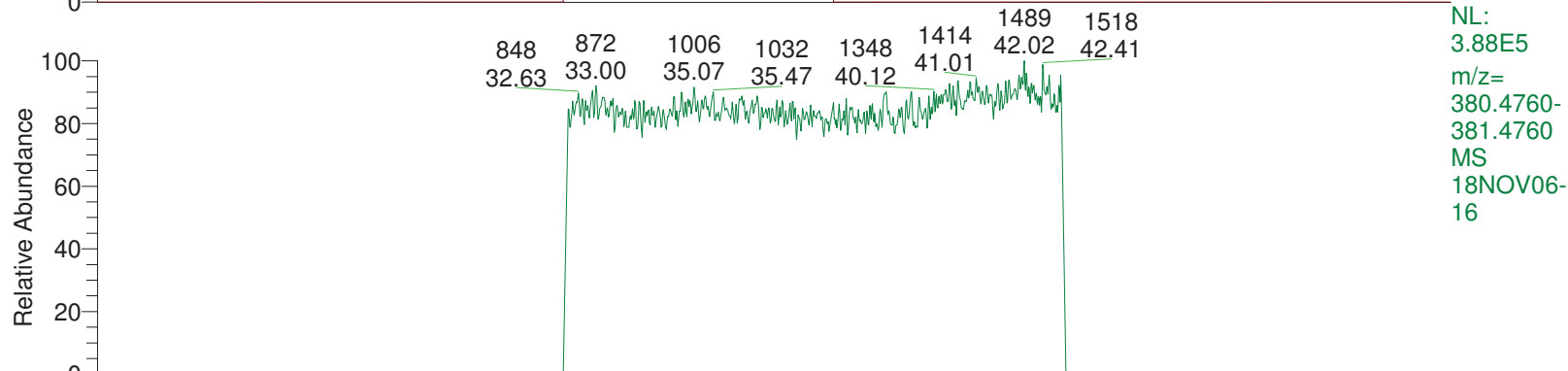
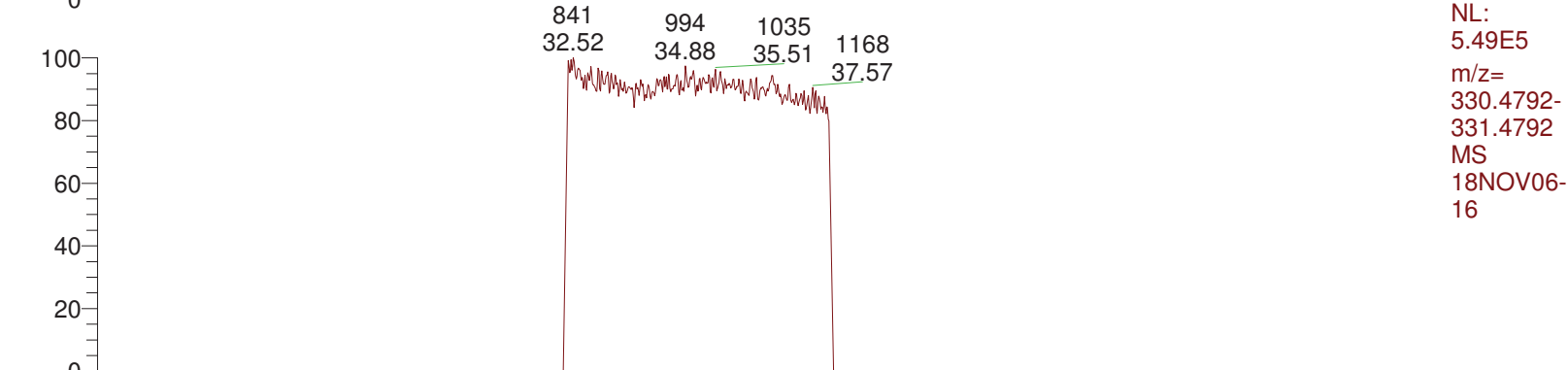
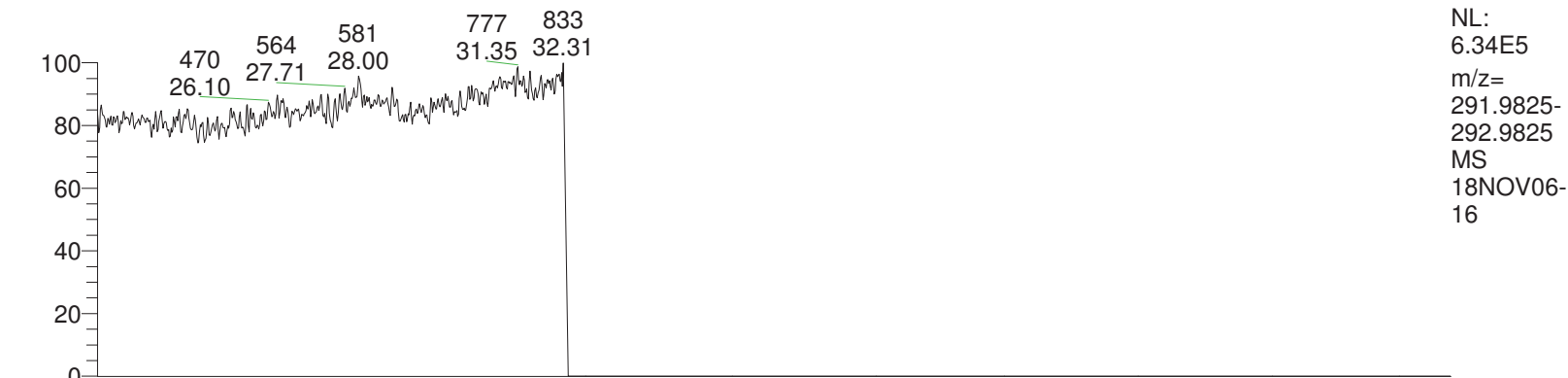
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.82	3880	A	3136	A	0.0317	0.318450	0.3184	0.000000	25	
2	2378-TCDD	failed	29.93	1817	A	1822	A	0.0207	0.264445	n.d.	0.000000	37	
3	12378-PeCDF	failed	34.94	2896	A	3398	A	0.0213	0.342263	n.d.	0.000000	36	
4	23478-PeCDF	passed	36.27	3685	A	5653	A	0.0167	0.441877	0.4419	0.000000	47	
5	12378-PeCDD	passed	36.67	1572	A	2149	A	0.0349	0.324850	0.3249	0.000000	22	
6	123478-HxCDF	passed	40.02	4392	A	5478	A	0.0204	0.580979	0.5810	0.000000	70	
7	123678-HxCDF	passed	40.18	4376	A	5903	A	0.0189	0.563486	0.5635	0.000000	75	
8	234678-HxCDF	passed	40.90	4510	A	5420	A	0.0184	0.556818	0.5568	0.000000	73	
9	123478-HxCDD	passed	41.10	2070	A	2265	A	0.0322	0.347328	0.3473	0.000000	26	
10	123678-HxCDD	passed	41.22	7553	A	9917	A	0.0336	1.423530	1.4235	0.000000	103	
11	123789-HxCDD	passed	41.53	4137	A	4949	A	0.0331	0.721210	0.7212	0.000000	57	
12	123789-HxCDF	passed	41.94	2236	M	2790	A	0.0213	0.322793	0.3228	0.000000	26	
13	1234678-HpCDF	passed	43.67	111465	A	119100	A	0.0207	12.939315	12.9393	0.000000	1549	
14	1234678-HpCDD	passed	44.89	201572	A	209384	A	0.0958	34.851860	34.8519	0.000000	902	
15	1234789-HpCDF	passed	45.47	4890	A	5602	A	0.0249	0.750186	0.7502	0.000000	74	
16	OCDD	passed	47.94	3020644	A	2671990	A	0.0508	564.463734	564.4637	0.000000	27857	
17	OCDF	passed	48.13	165938	A	150410	A	0.0255	27.028803	27.0288	0.000000	2641	
18	13C12-1278-TCDD (CRS)	passed	30.36	1696026	A	1343608	A	0.0238	151.345407	151.3454	197.238659	15286	
19	13C12-1234-TCDD	passed	29.06	2124127	A	1712795	A	0.0246	197.238659	197.2387	197.238659	20036	
20	13C12-123468-HxCDD	passed	39.92	1782958	A	2275318	A	0.0312	197.238659	197.2387	197.238659	15813	
21	13C12-2378-TCDF	passed	28.81	2648228	A	2058231	A	0.0210	136.665120	136.6651	197.238659	15915	
22	13C12-2378-TCDD	passed	29.90	1377416	A	1103500	A	0.0252	130.549823	130.5498	197.238659	11828	
23	13C12-12378-PeCDF	passed	34.91	1655976	A	2610798	A	0.0357	134.394593	134.3946	197.238659	11447	
24	13C12-23478-PeCDF	passed	36.25	1703568	A	2679767	A	0.0357	137.956622	137.9566	197.238659	13038	
25	13C12-12378-PeCDD	passed	36.66	969781	A	1552061	A	0.0403	132.947466	132.9475	197.238659	10917	
26	13C12-123478-HxCDF	passed	40.01	2054548	A	1083068	A	0.0345	120.463483	120.4635	197.238659	8384	
27	13C12-123678-HxCDF	passed	40.16	2251541	A	1195079	A	0.0327	125.430784	125.4308	197.238659	9256	
28	13C12-234678-HxCDF	passed	40.89	2072632	A	1100718	A	0.0353	124.725890	124.7259	197.238659	8920	
29	13C12-123478-HxCDD	passed	41.07	1177605	A	1525652	A	0.0315	132.817396	132.8174	197.238659	10883	
30	13C12-123678-HxCDD	passed	41.20	1201079	A	1475659	A	0.0307	128.182065	128.1821	197.238659	10503	
31	13C12-123789-HxCDD	passed	41.52	1158764	A	1445550	A	0.0324	131.552889	131.5529	197.238659	10108	
32	13C12-123789-HxCDF	passed	41.91	1977542	A	1040024	A	0.0388	130.190703	130.1907	197.238659	8423	
33	13C12-1234678-HpCDF	passed	43.66	2113631	A	948634	A	0.0539	127.805166	127.8052	197.238659	6022	
34	13C12-1234678-HpCDD	passed	44.87	1197407	A	1285859	A	0.0564	124.518972	124.5190	197.238659	5768	
35	13C12-1234789-HpCDF	passed	45.45	1602602	A	732678	A	0.0656	118.689271	118.6893	197.238659	4854	
36	13C12-OCDD	passed	47.93	2304151	A	2058101	A	0.0158	225.018628	225.0186	394.477318	40023	
37	13C12-OCDF	passed	48.11	2879023	A	2578900	A	0.0172	210.833856	210.8339	394.477318	34908	





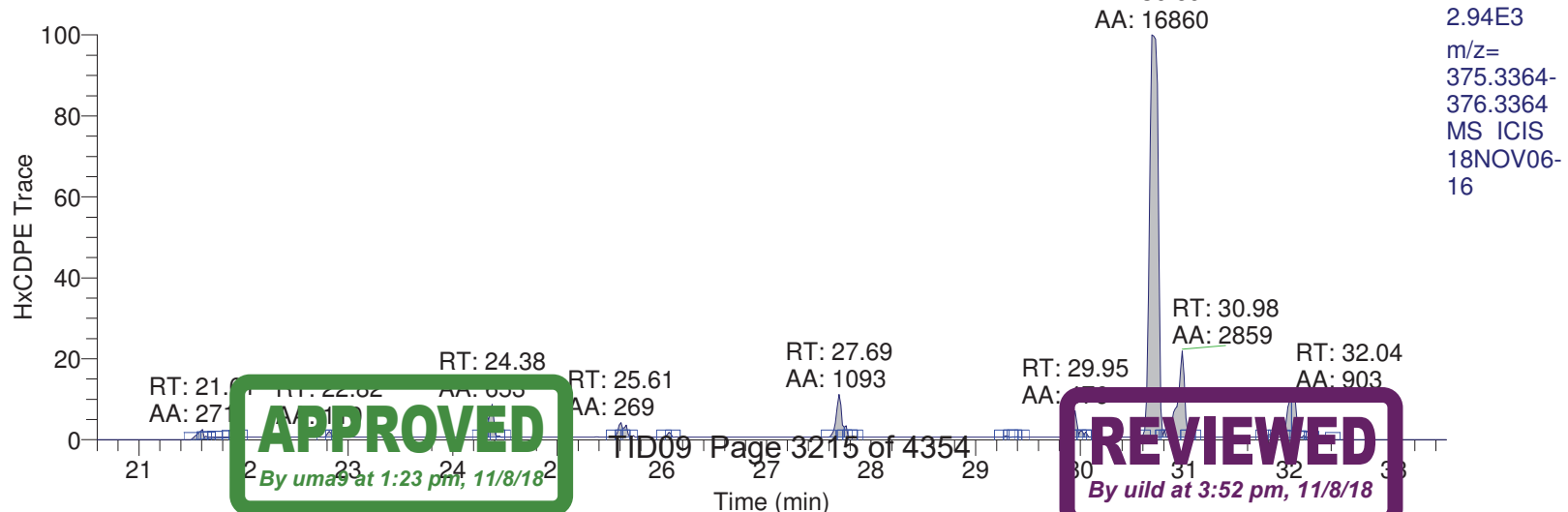
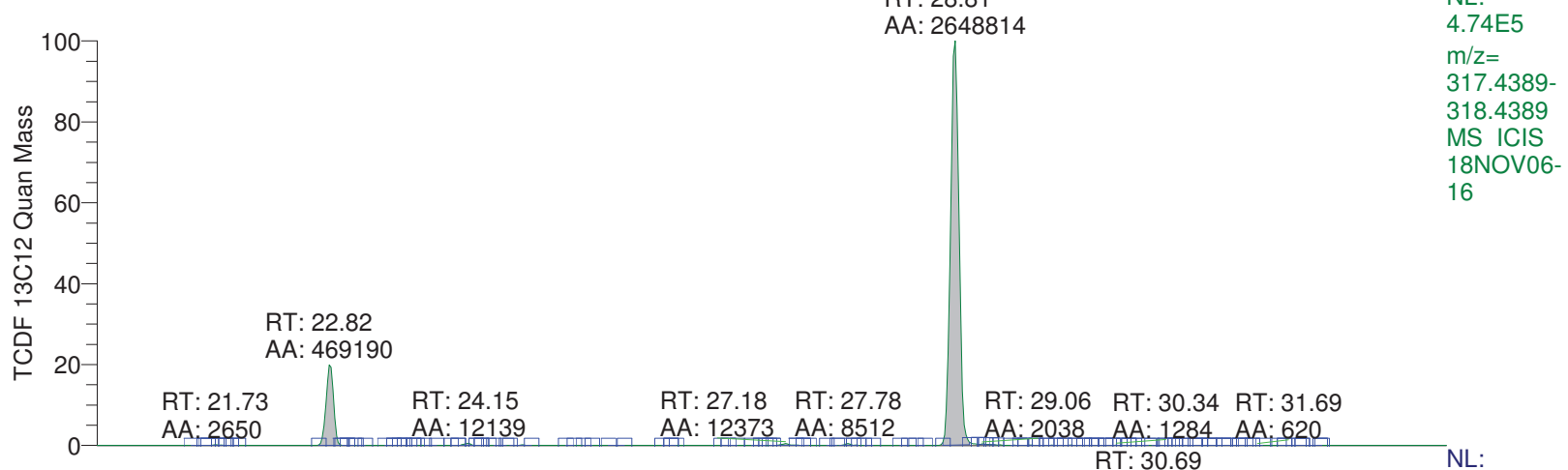
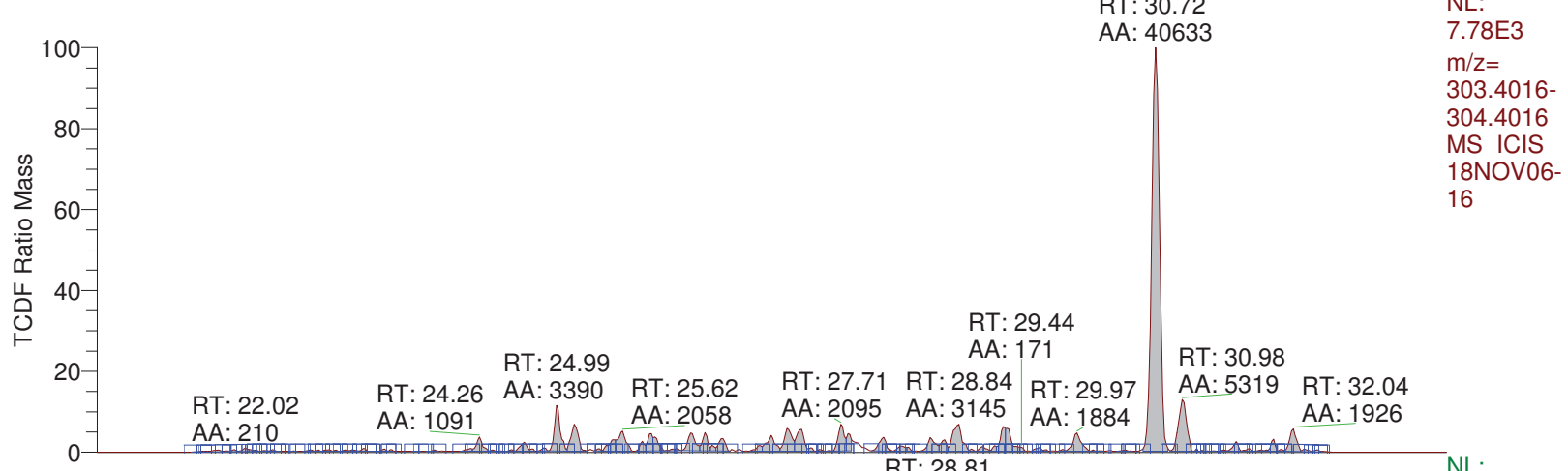
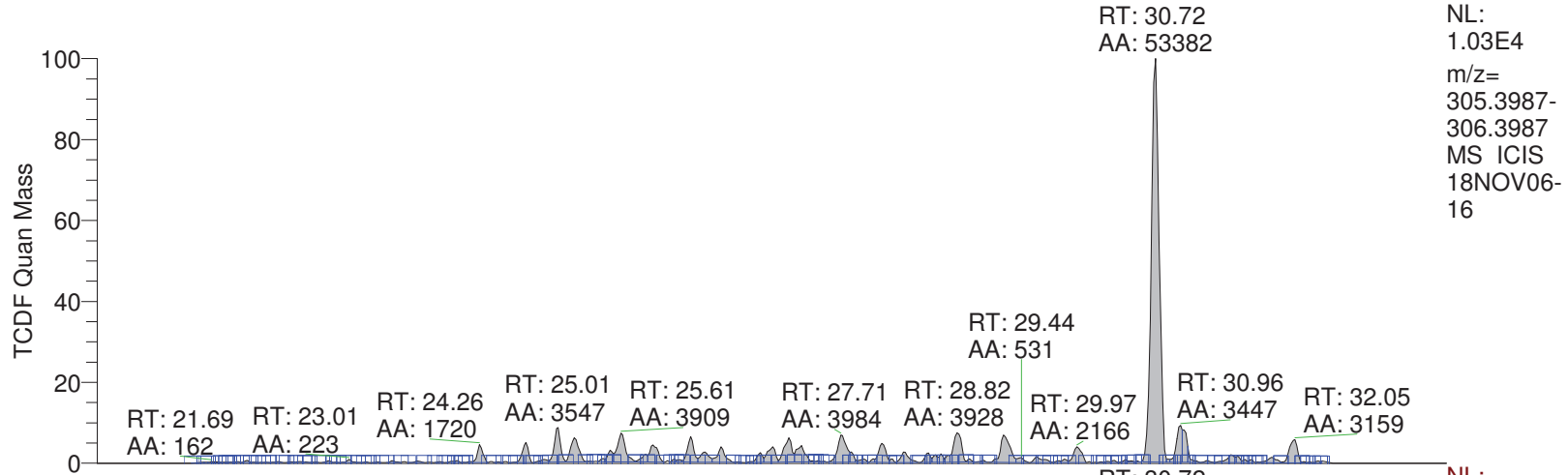
RT: 22.50 - 51.00



**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

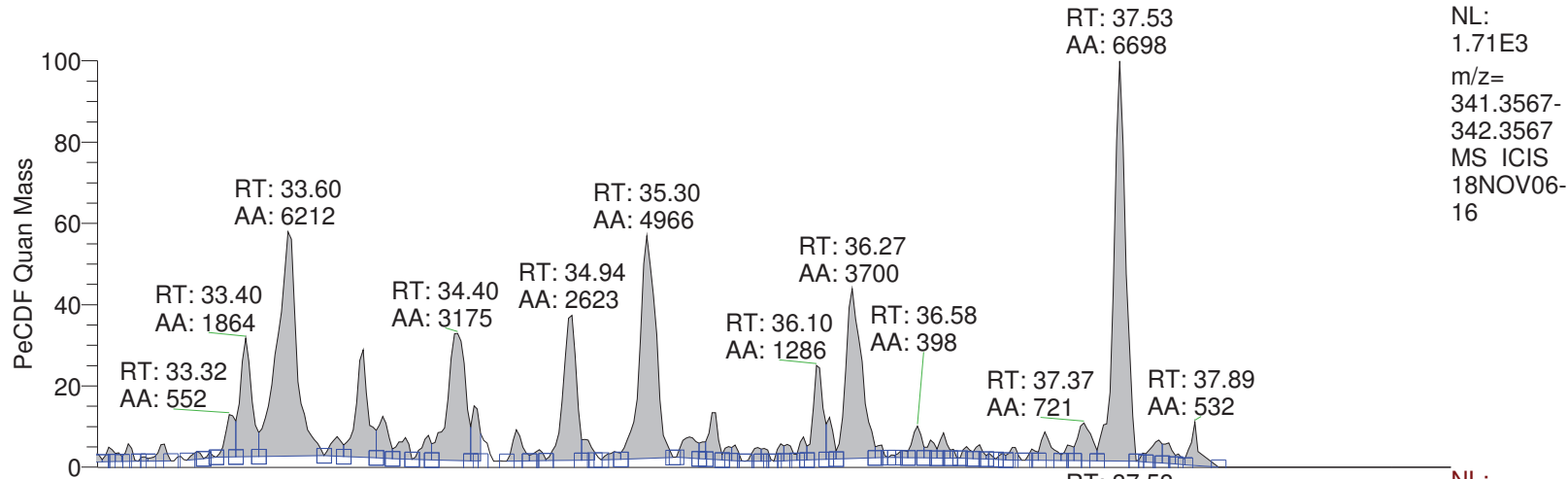
RT: 20.60 - 33.50



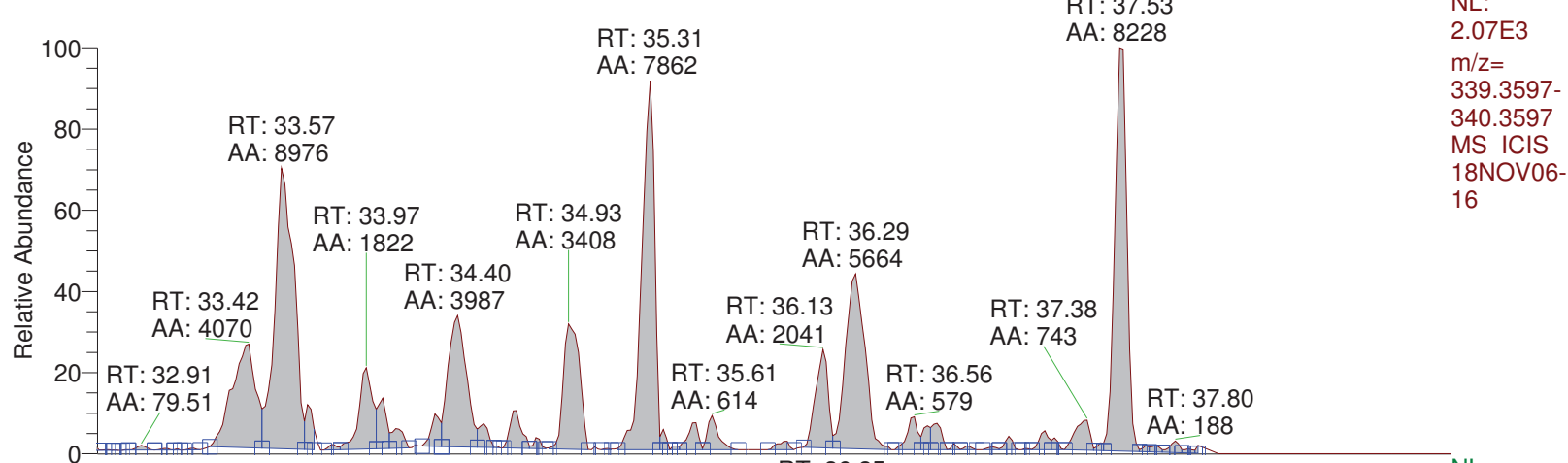
**APPROVED**  
By uma at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

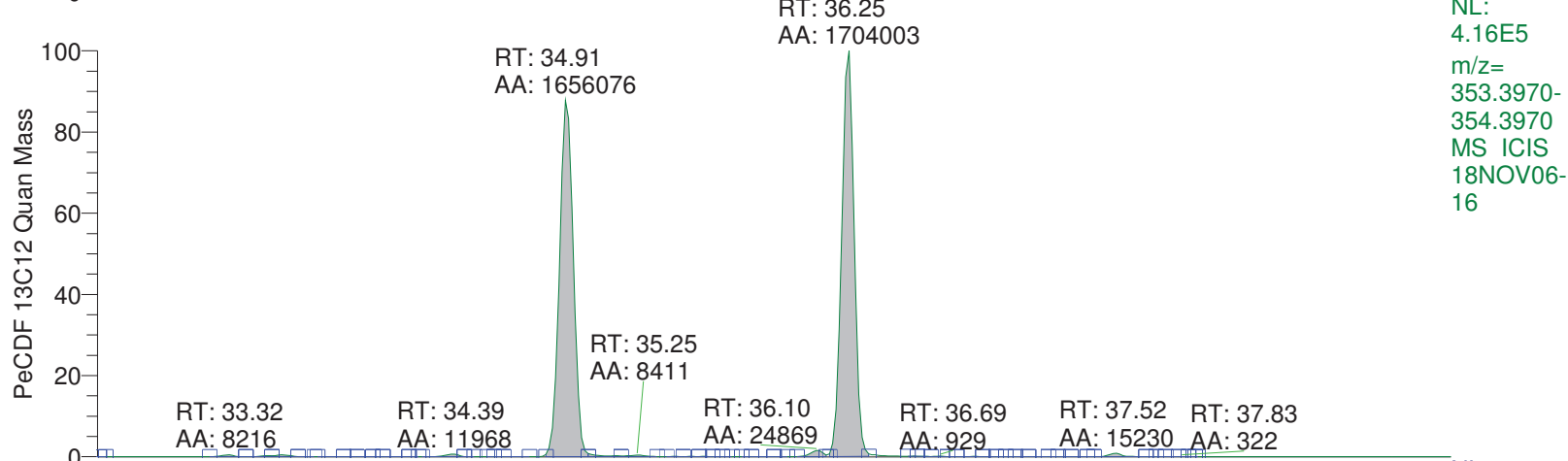
RT: 32.70 - 39.10



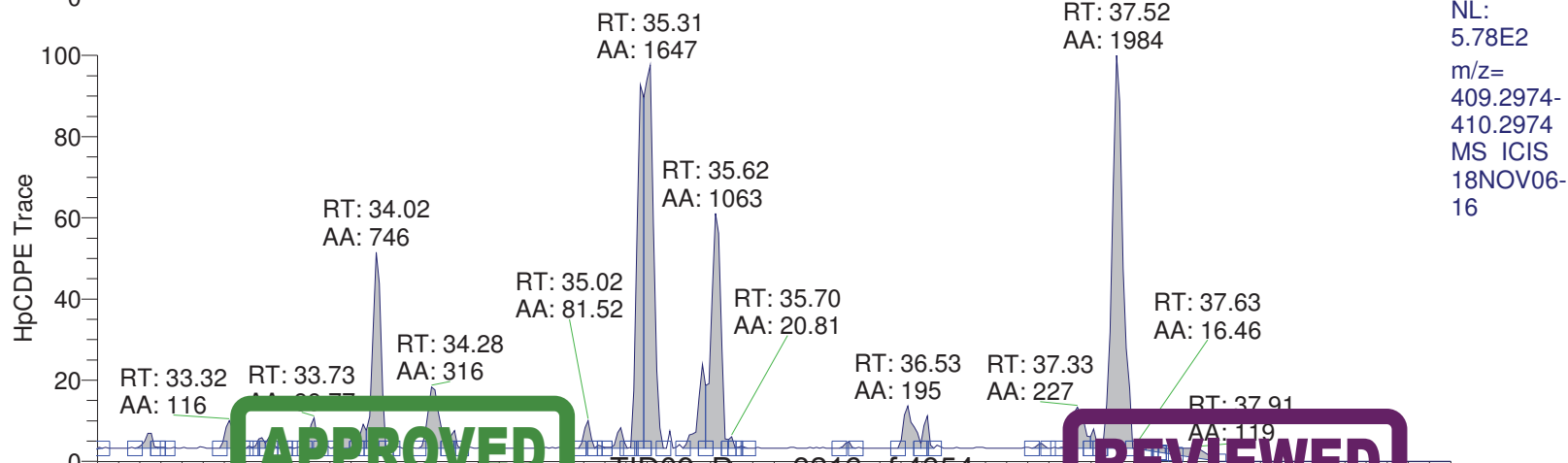
NL:  
1.71E3  
m/z=  
341.3567-  
342.3567  
MS ICIS  
18NOV06-  
16



NL:  
2.07E3  
m/z=  
339.3597-  
340.3597  
MS ICIS  
18NOV06-  
16



NL:  
4.16E5  
m/z=  
353.3970-  
354.3970  
MS ICIS  
18NOV06-  
16

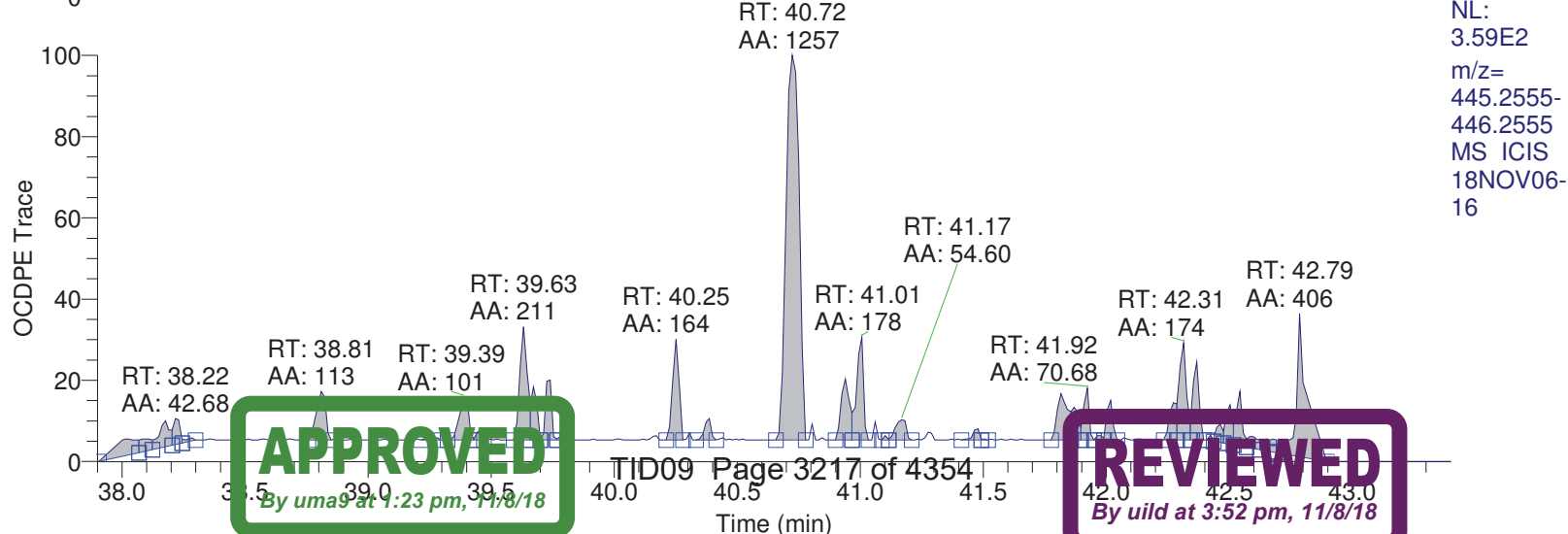
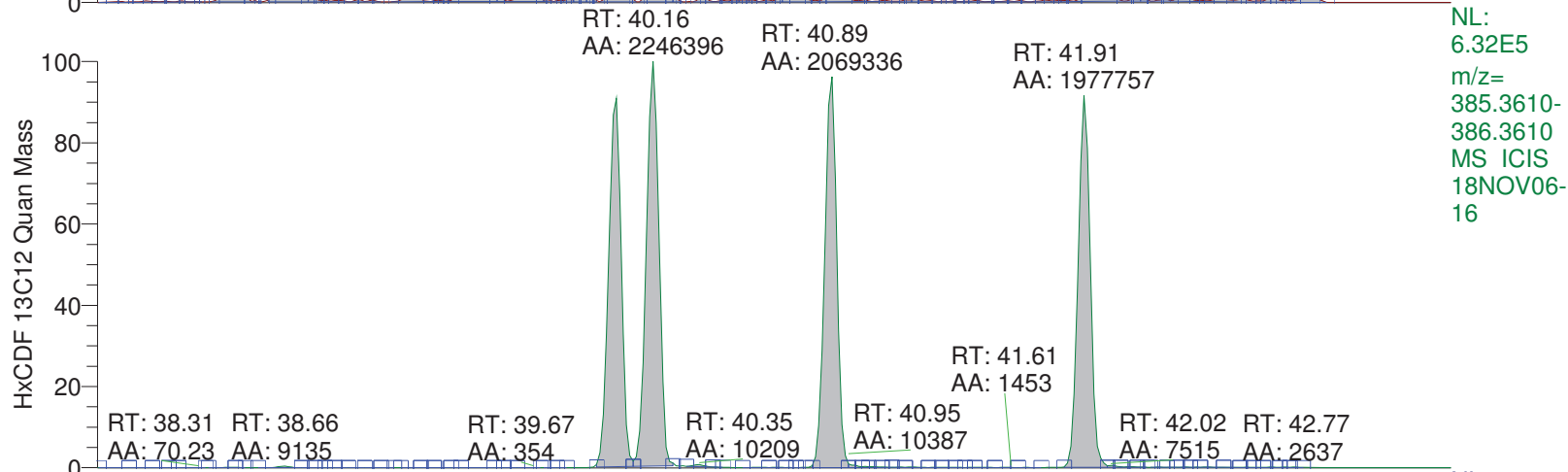
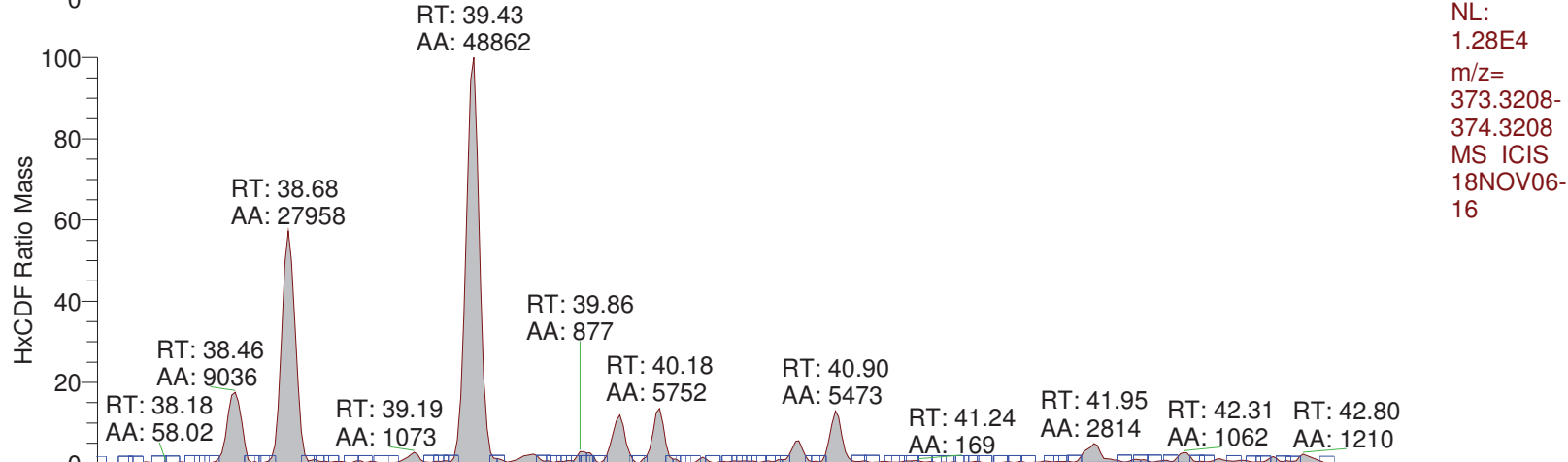
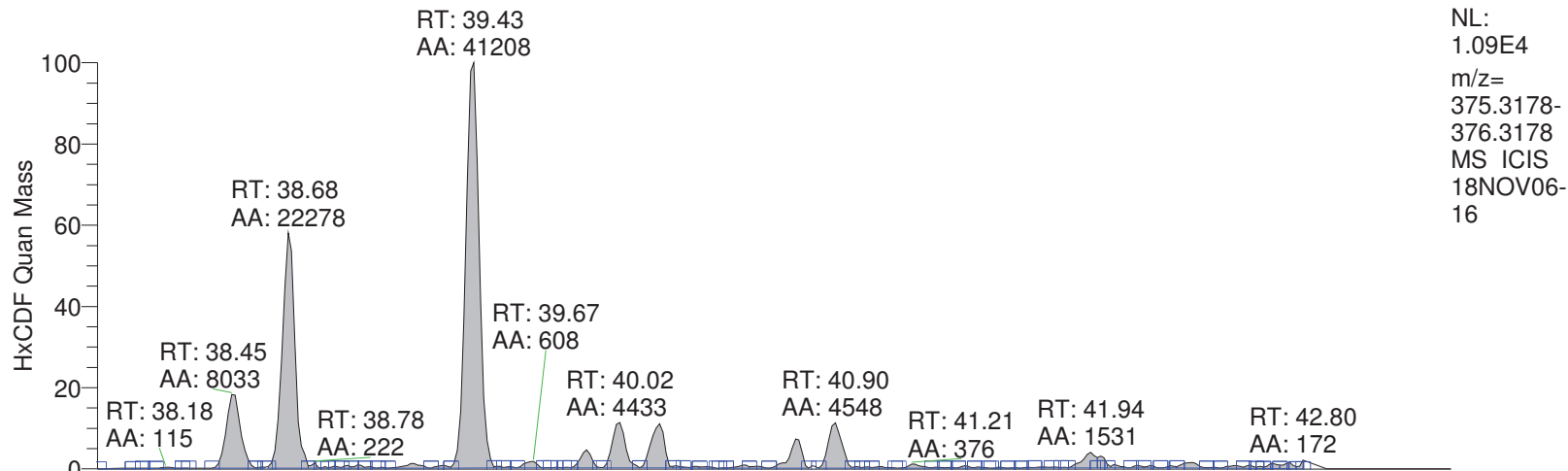


NL:  
5.78E2  
m/z=  
409.2974-  
410.2974  
MS ICIS  
18NOV06-  
16

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

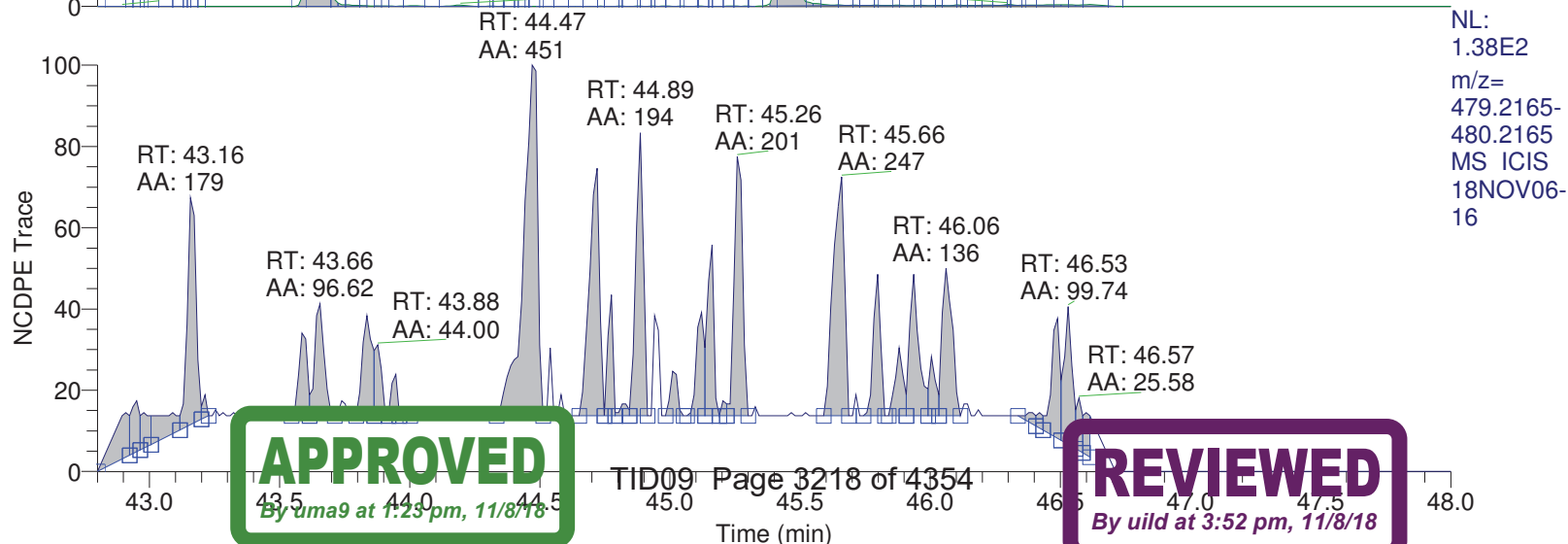
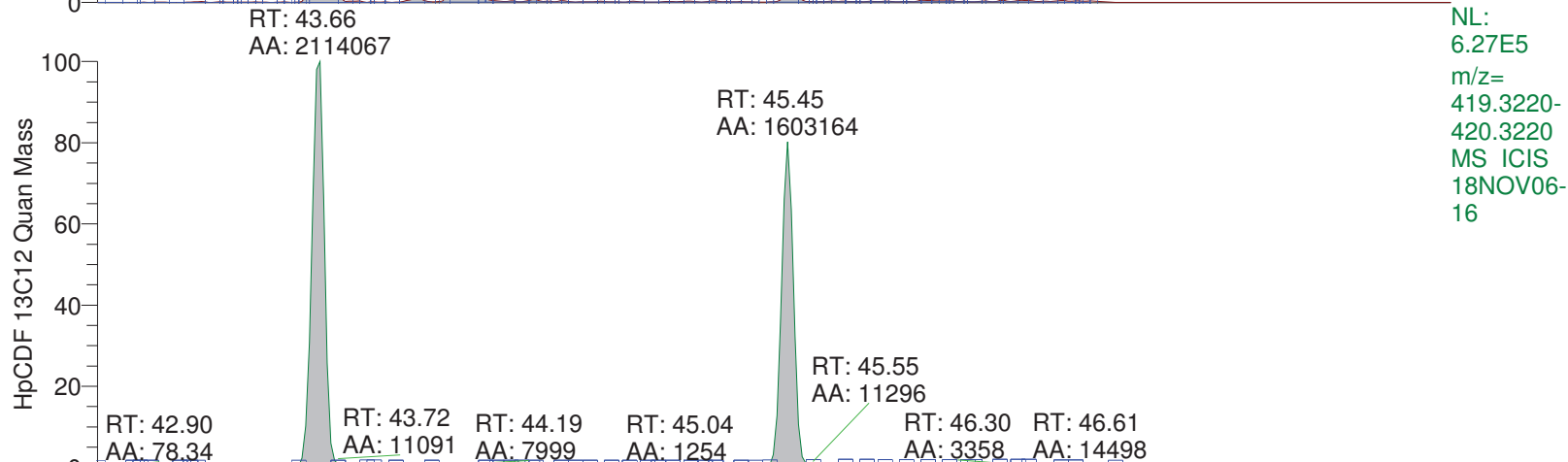
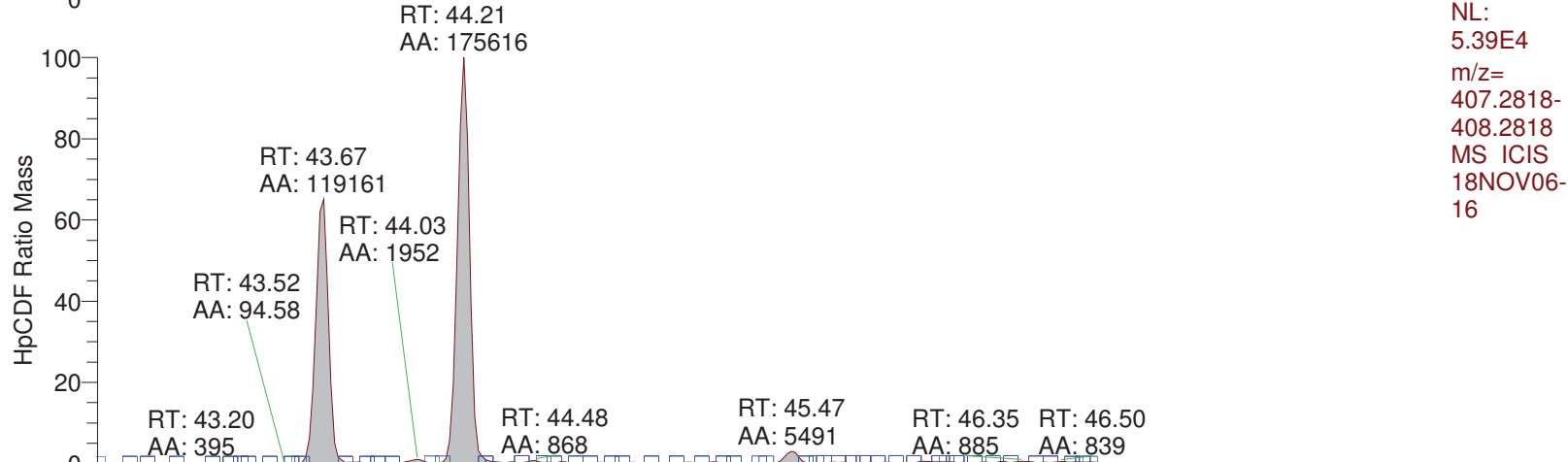
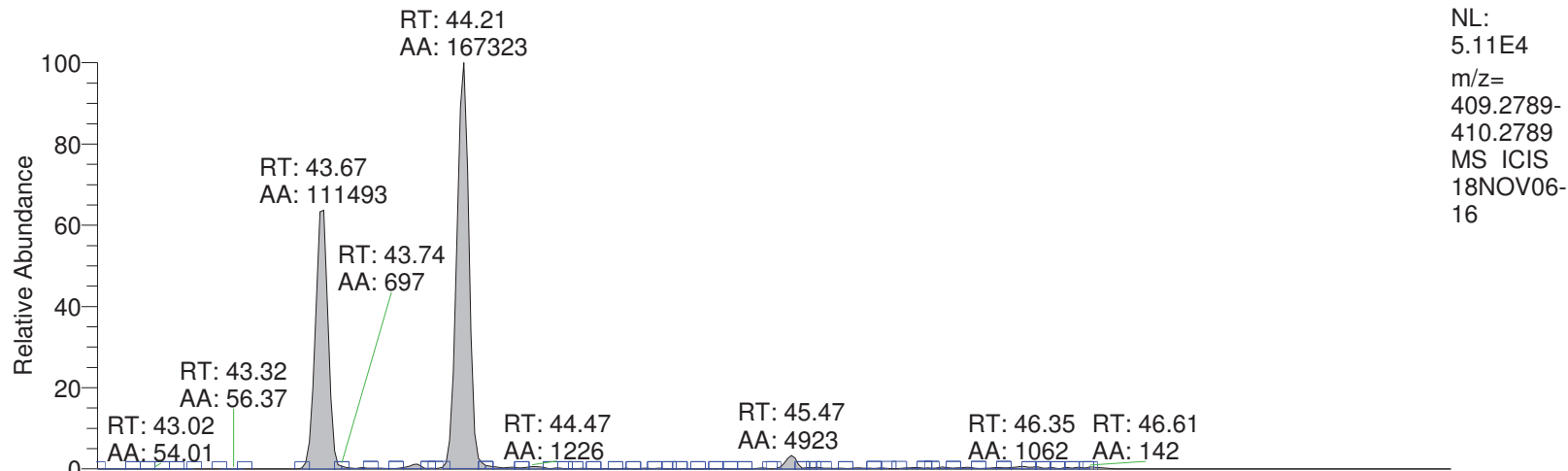
RT: 37.90 - 43.40



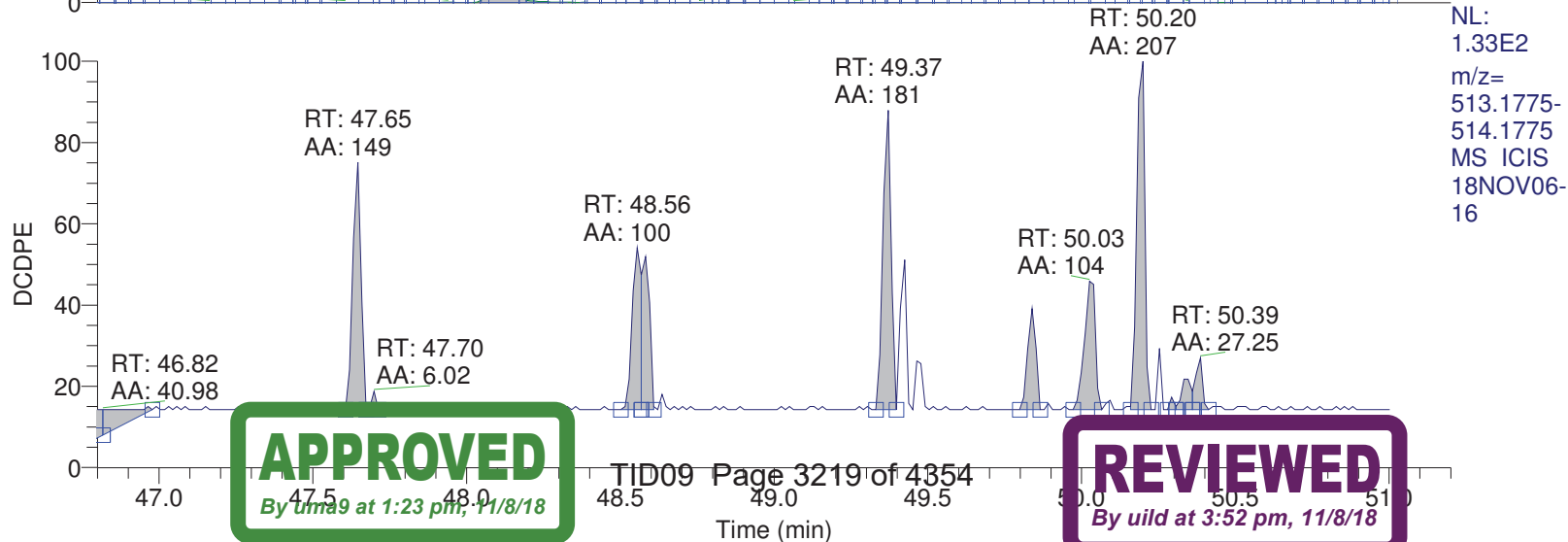
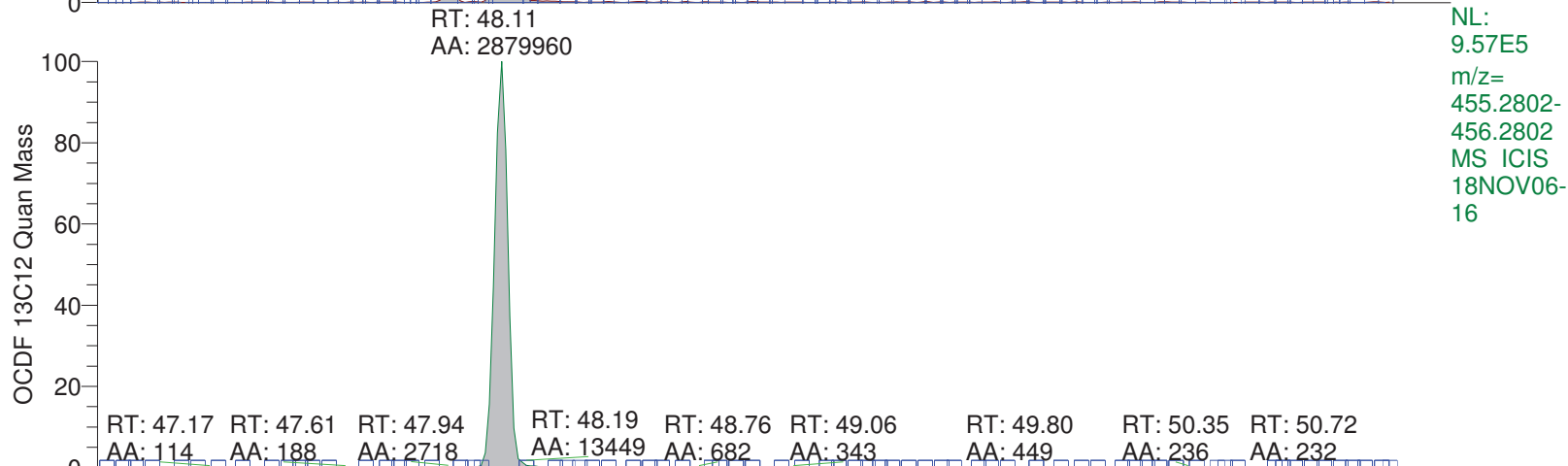
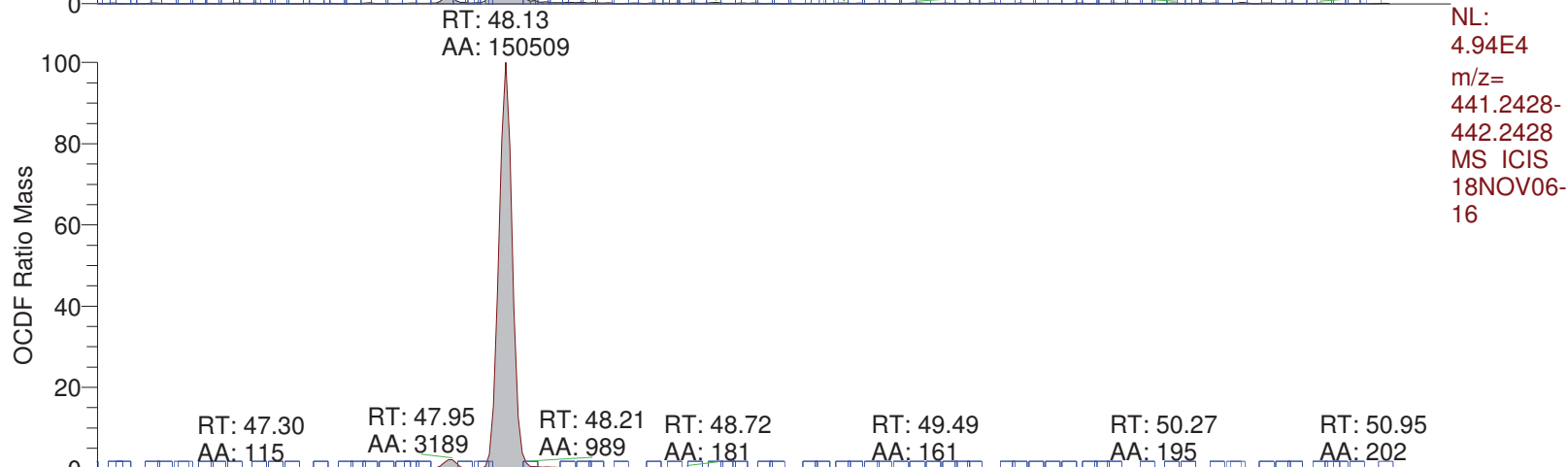
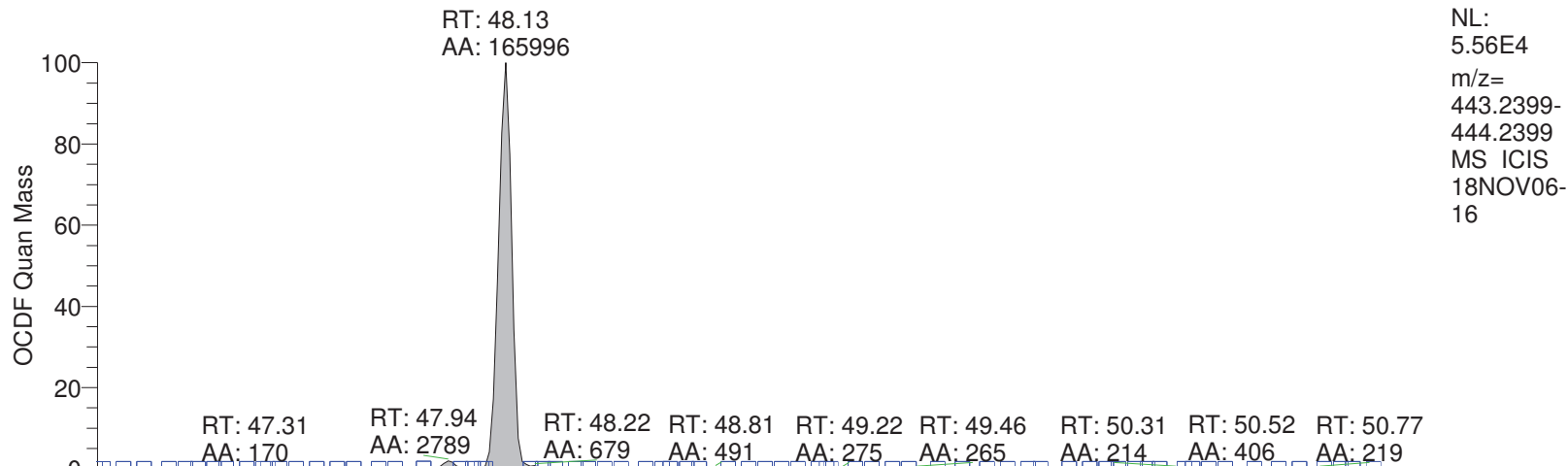
**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

RT: 42.80 - 48.00



RT: 46.80 - 51.20



\*\*\* file opened Tue Nov 06 22:12:13 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 22:12:13

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
	Window # 2	292.9819	l	20	1
303.9011			1	1	118
305.8981			1	1	118
315.9413			5	1	23
317.9384			5	1	23
319.8960			1	1	118
321.8930			1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes





18NOV06-16

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	96.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0185	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	96.5000	LKM	442.9723	MASS	96.5000
MDAC	1420463.0737	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2164.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9788	RELEN	0.0000
RES	13510.2635	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11883.  
MID Time window 2: Resolution is 12351.  
MID Time window 3: Resolution is 12891.  
MID Time window 4: Resolution is 12521.



18NOV06-16

MID Time Window 5: Resolution is 13418.  
MID Time Window 6: Resolution is 13510.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 23:03:15 2018  
\*\*\*



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 23:03  
Number of Entries 291  
Comment S:11030:12937:17962  
Vial 64  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 REF-1-SE001 Grab Sediment  
Sample ID 9866462RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan w:\18nov06\18nov06-17.quan  
Data w:\18nov06\18nov06-17.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.02  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.97	failed	passed	failed	failed	passed	passed	Failed on: Ratio1A RM1Time < min
3	12378-PeCDF	34.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.31	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	36.70	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.05	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.20	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.92	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
9	123478-HxCDD	41.13	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.23	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.54	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
12	123789-HxCDF	41.96	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.68	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.91	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.49	passed	passed	passed	passed	passed	passed	
16	OCDD	47.96	passed	passed	passed	passed	passed	passed	
17	OCDF	48.15	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.38	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.08	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.94	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.84	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.94	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.93	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.93	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.67	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.90	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.48	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.95	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.14	passed	passed	passed	passed	passed	passed	

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 23:03  
Number of Entries 291  
Comment S:11030:12937:17962  
Vial 64  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 REF-1-SE001 Grab Sediment  
Sample ID 9866462RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

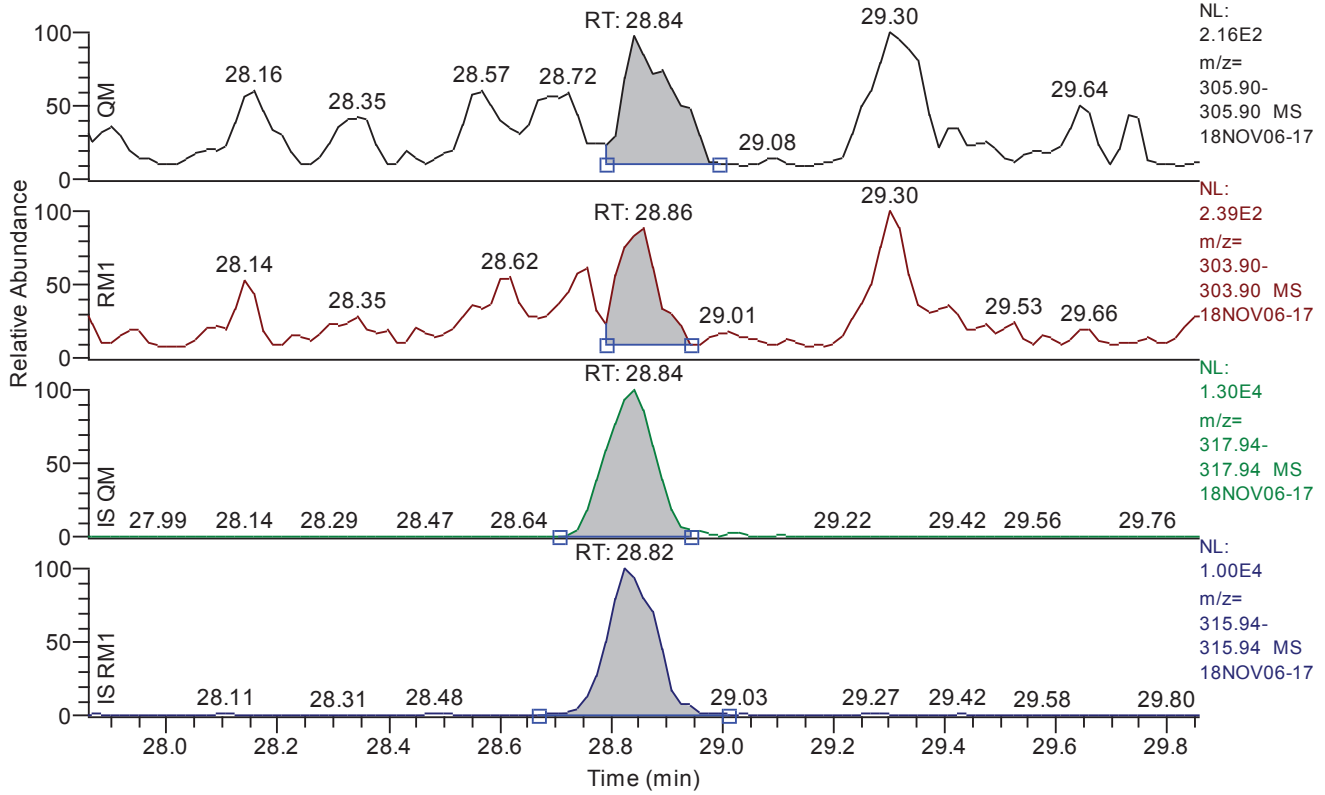
Quan w:\18nov06\18nov06-17.quan  
Data w:\18nov06\18nov06-17.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.02  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.86 - 29.86 SM: 3G

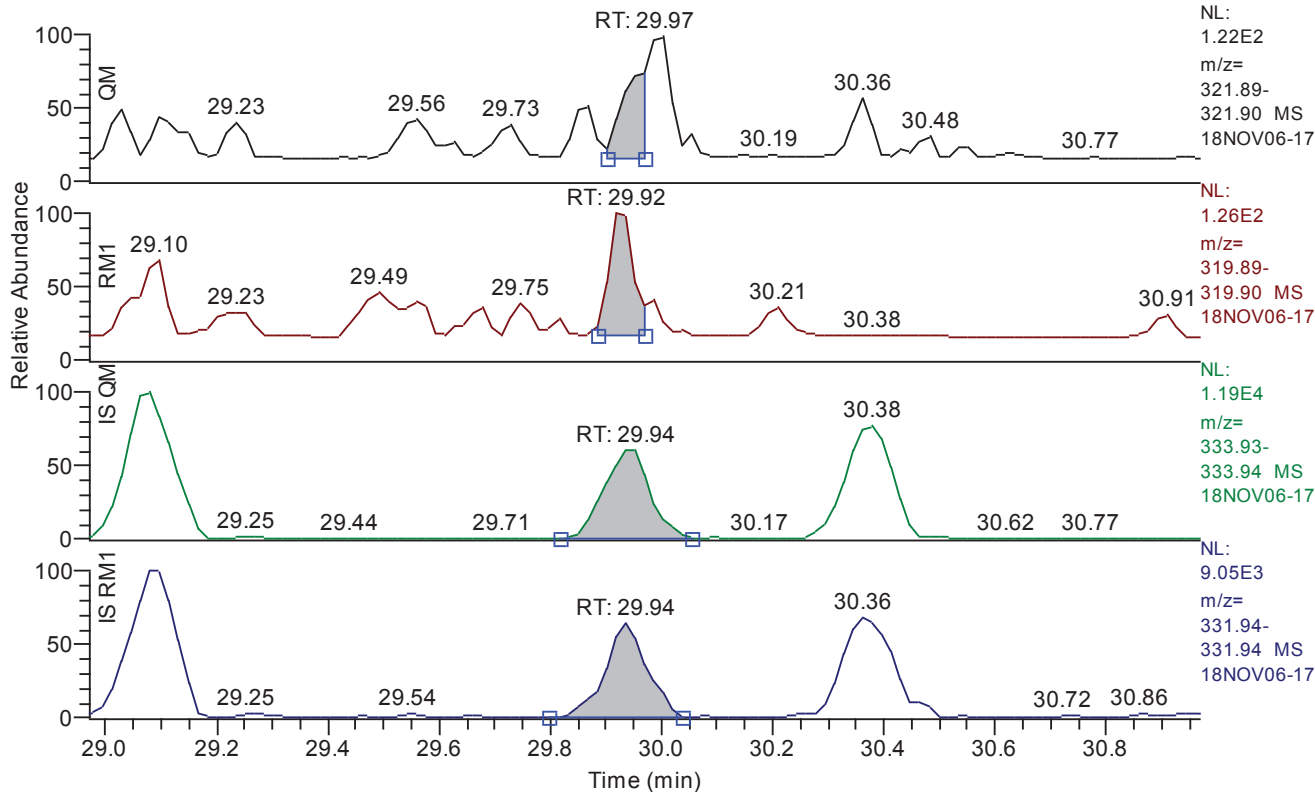


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	1153
QM Integration Mode	M
RM1 Area	946
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.6857
Unqualified Amount (A)	3.150912
Adjusted Amount (A)	3.1509
Signal-to-Noise	13
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.97 - 30.97 SM: 3G

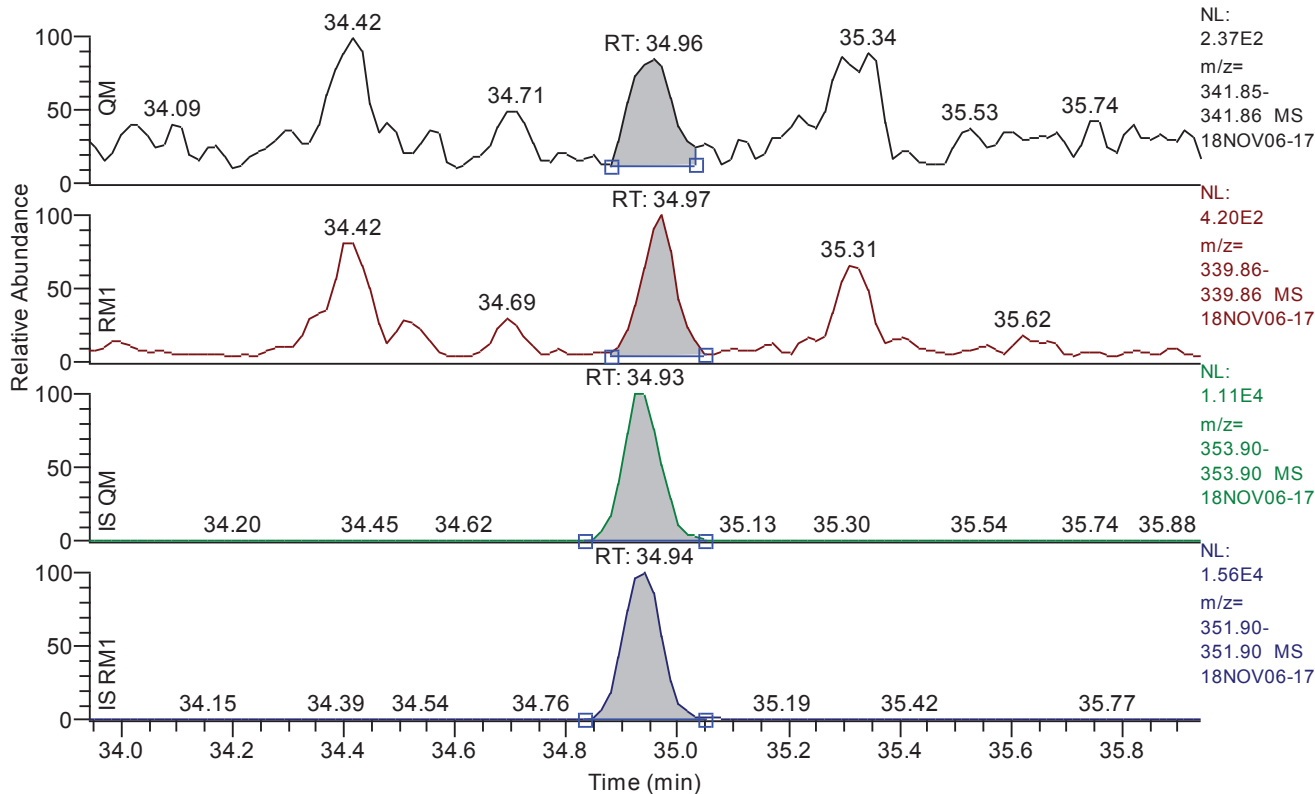


**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.97
QM Area	201
QM Integration Mode	M
RM1 Area	325
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.4175
Unqualified Amount (A)	1.297946
Adjusted Amount (A)	n.d.
Signal-to-Noise	15
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM1Time < min

**Chromatogram**

RT: 33.94 - 35.94 SM: 3G



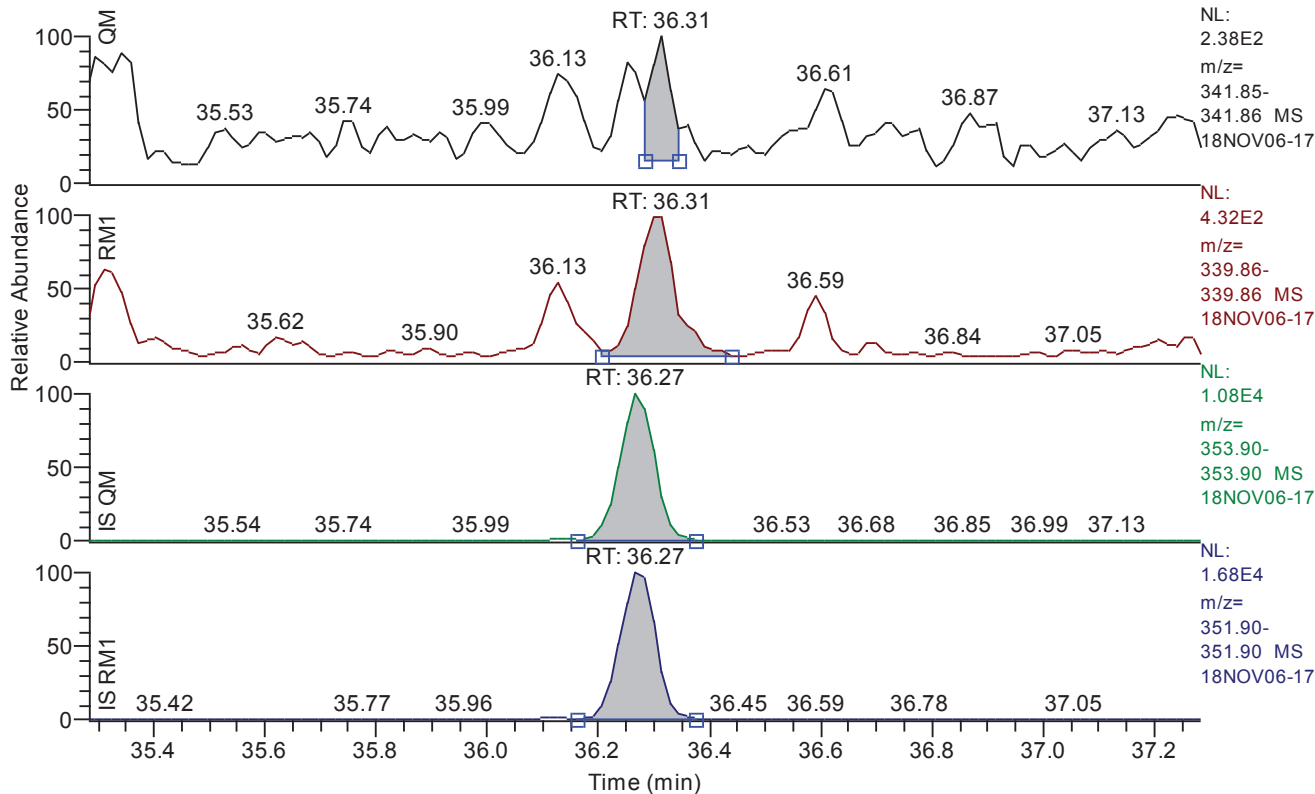
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.96
QM Area	931
QM Integration Mode	A
RM1 Area	1705
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6472
Unqualified Amount (A)	4.796186
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Chromatogram**

RT: 35.28 - 37.28 SM: 3G

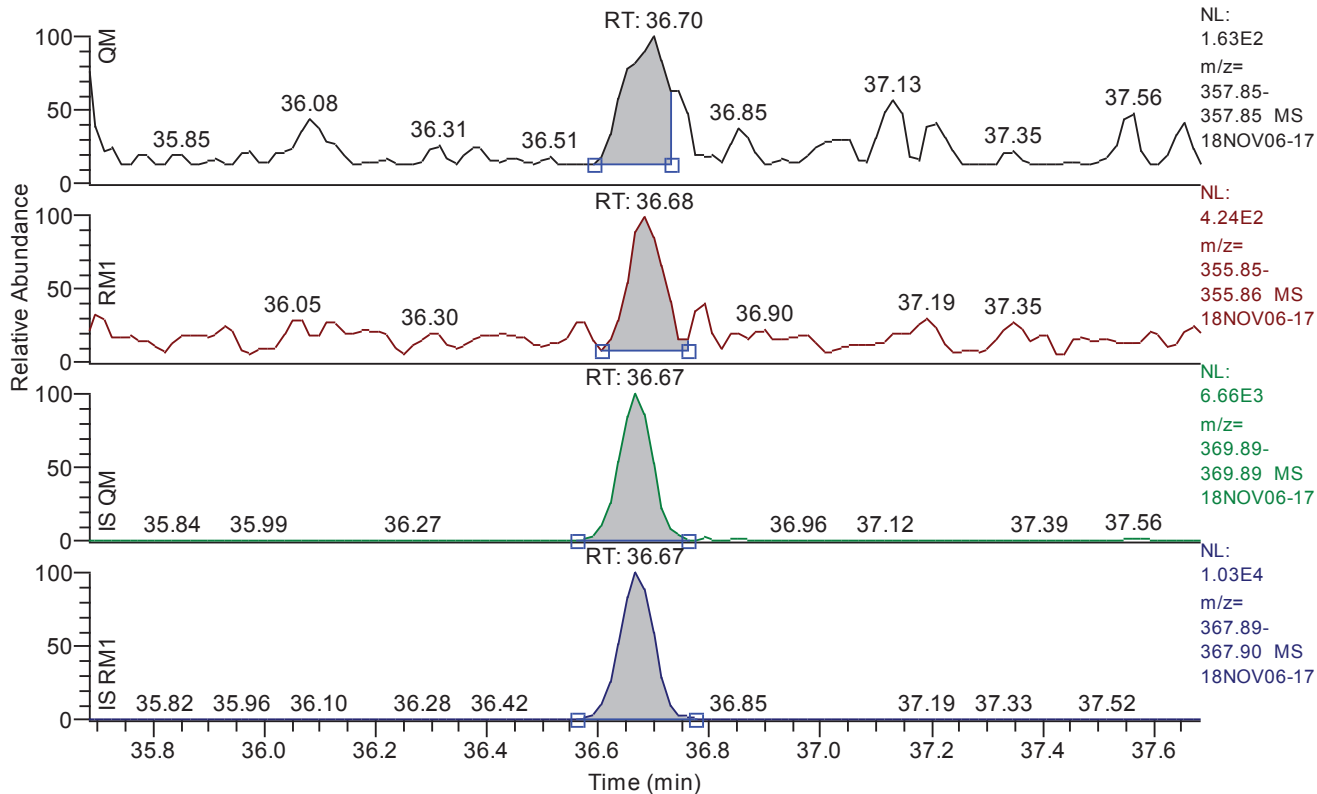


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.31
QM Area	502
QM Integration Mode	A
RM1 Area	1929
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5591
Unqualified Amount (A)	4.164773
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 35.68 - 37.68 SM: 3G

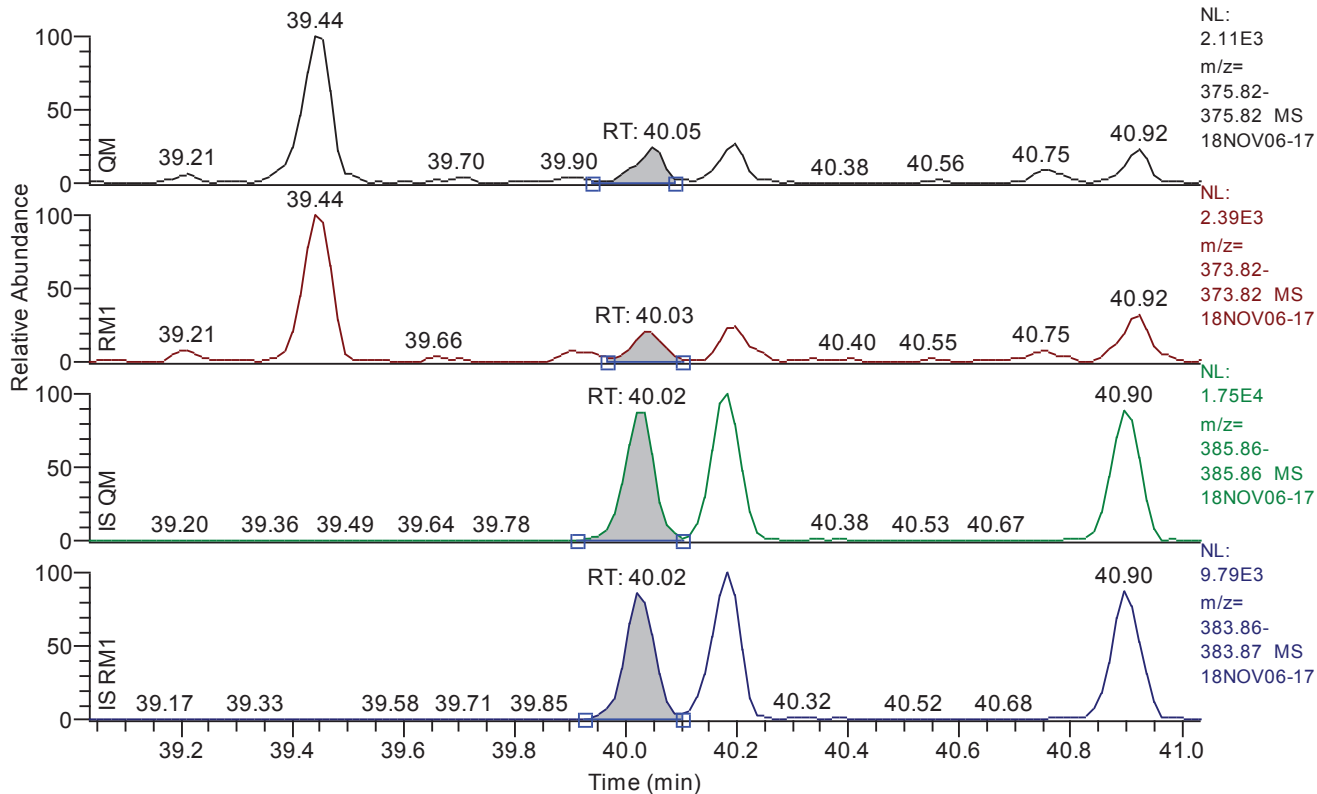


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.70
QM Area	698
QM Integration Mode	A
RM1 Area	1675
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.0898
Unqualified Amount (A)	7.259435
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.03 - 41.03 SM: 3G

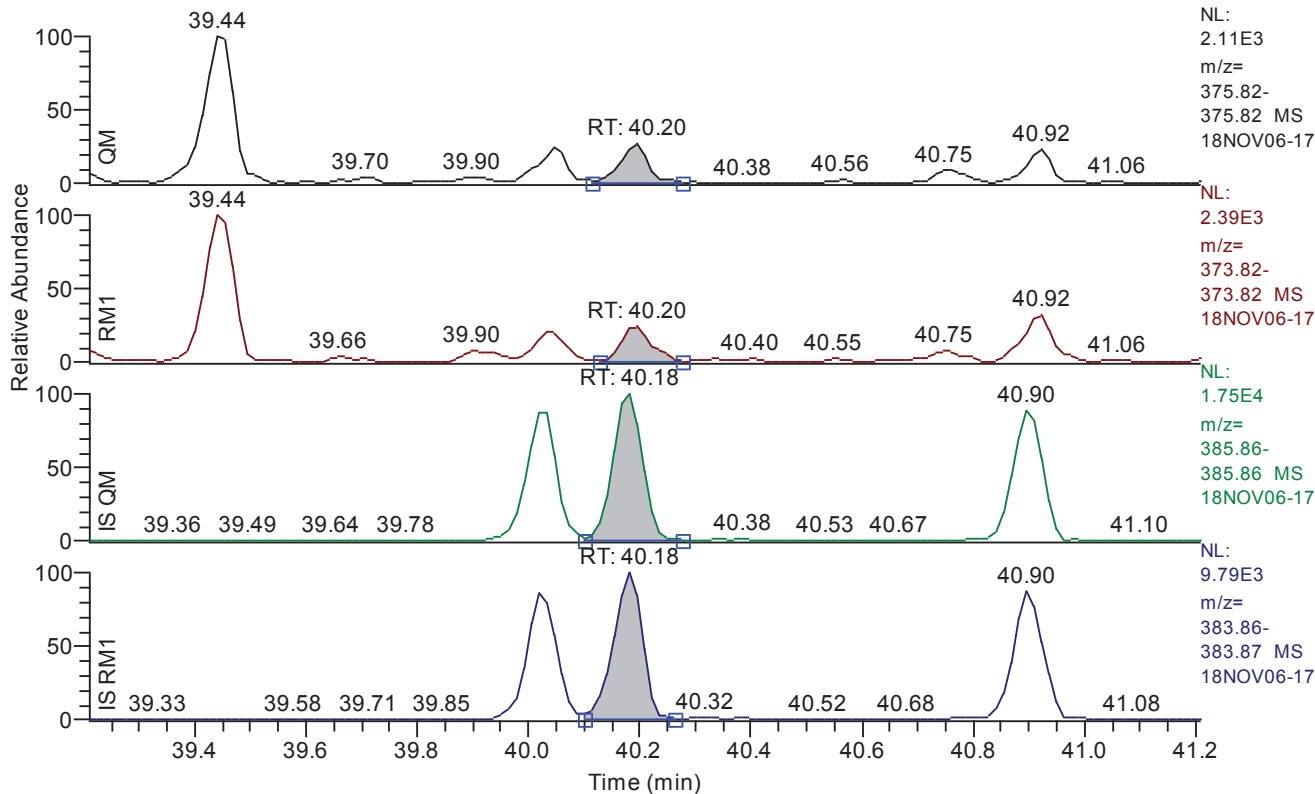


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.05
QM Area	1782
QM Integration Mode	A
RM1 Area	1884
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5724
Unqualified Amount (A)	7.567951
Adjusted Amount (A)	7.5680
Signal-to-Noise	34
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.21 - 41.21 SM: 3G



NL: 2.11E3  
 m/z= 375.82-375.82 MS  
 18NOV06-17

NL: 2.39E3  
 m/z= 373.82-373.82 MS  
 18NOV06-17

NL: 1.75E4  
 m/z= 385.86-385.86 MS  
 18NOV06-17

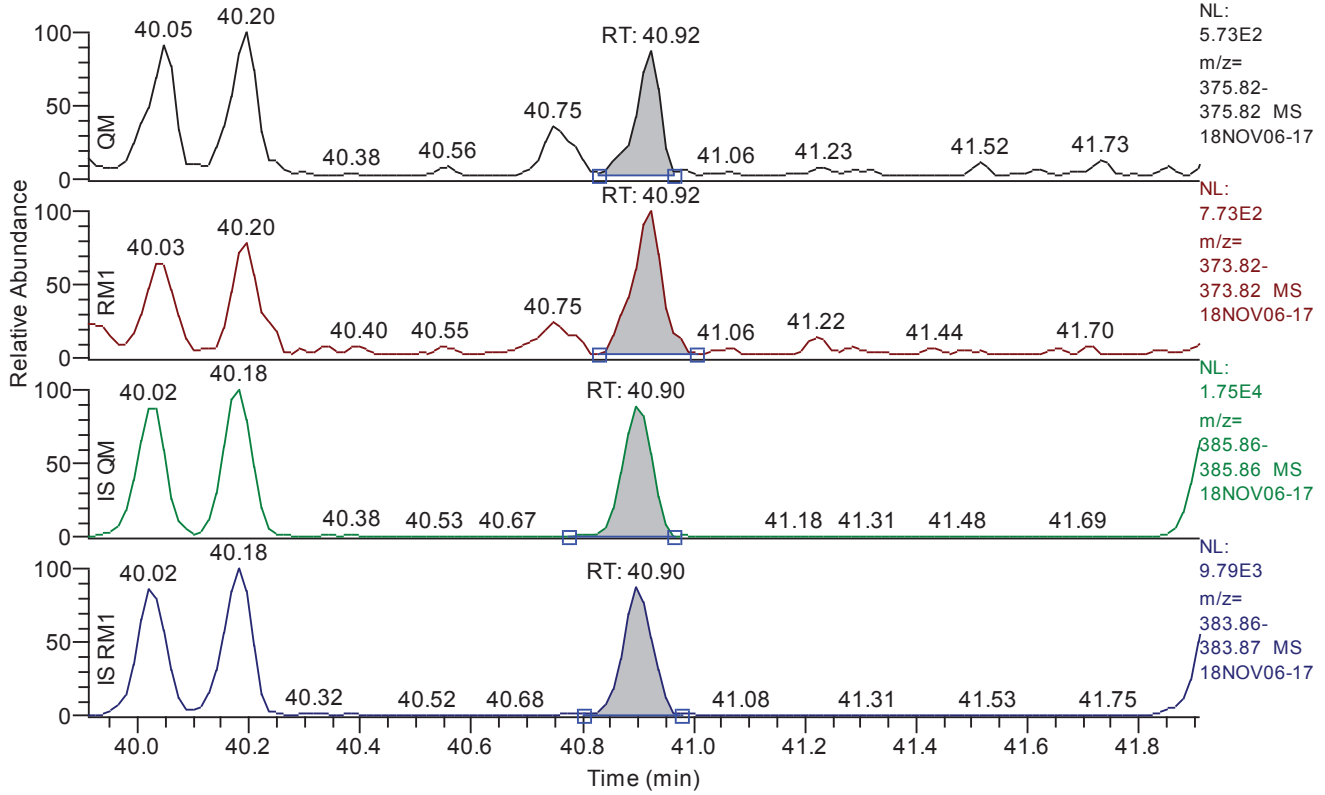
NL: 9.79E3  
 m/z= 383.86-383.87 MS  
 18NOV06-17

**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.20
QM Area	1908
QM Integration Mode	A
RM1 Area	2088
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5113
Unqualified Amount (A)	7.642109
Adjusted Amount (A)	7.6421
Signal-to-Noise	39
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.91 - 41.91 SM: 3G

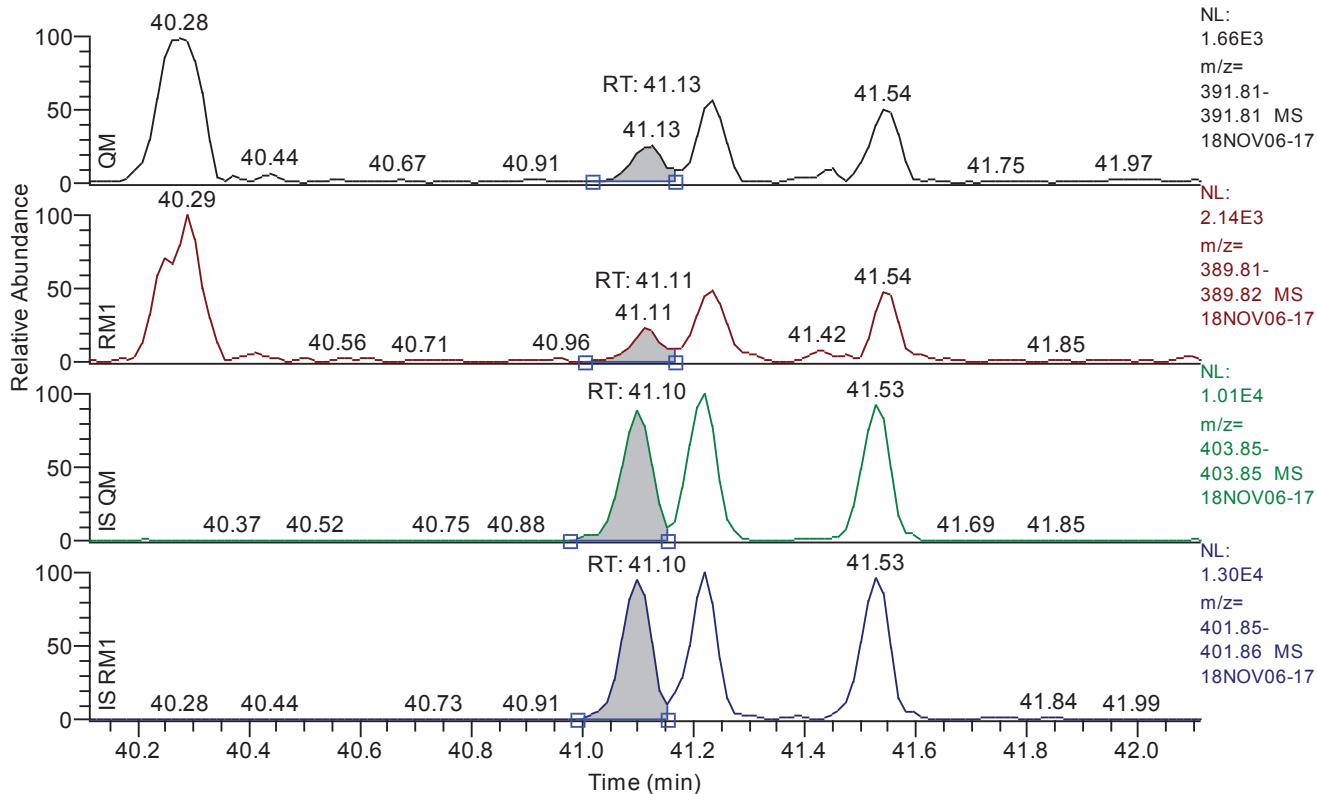


**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.92
QM Area	1487
QM Integration Mode	A
RM1 Area	2825
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.5432
Unqualified Amount (A)	8.576422
Adjusted Amount (A)	n.d.
Signal-to-Noise	42
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 40.11 - 42.11 SM: 3G

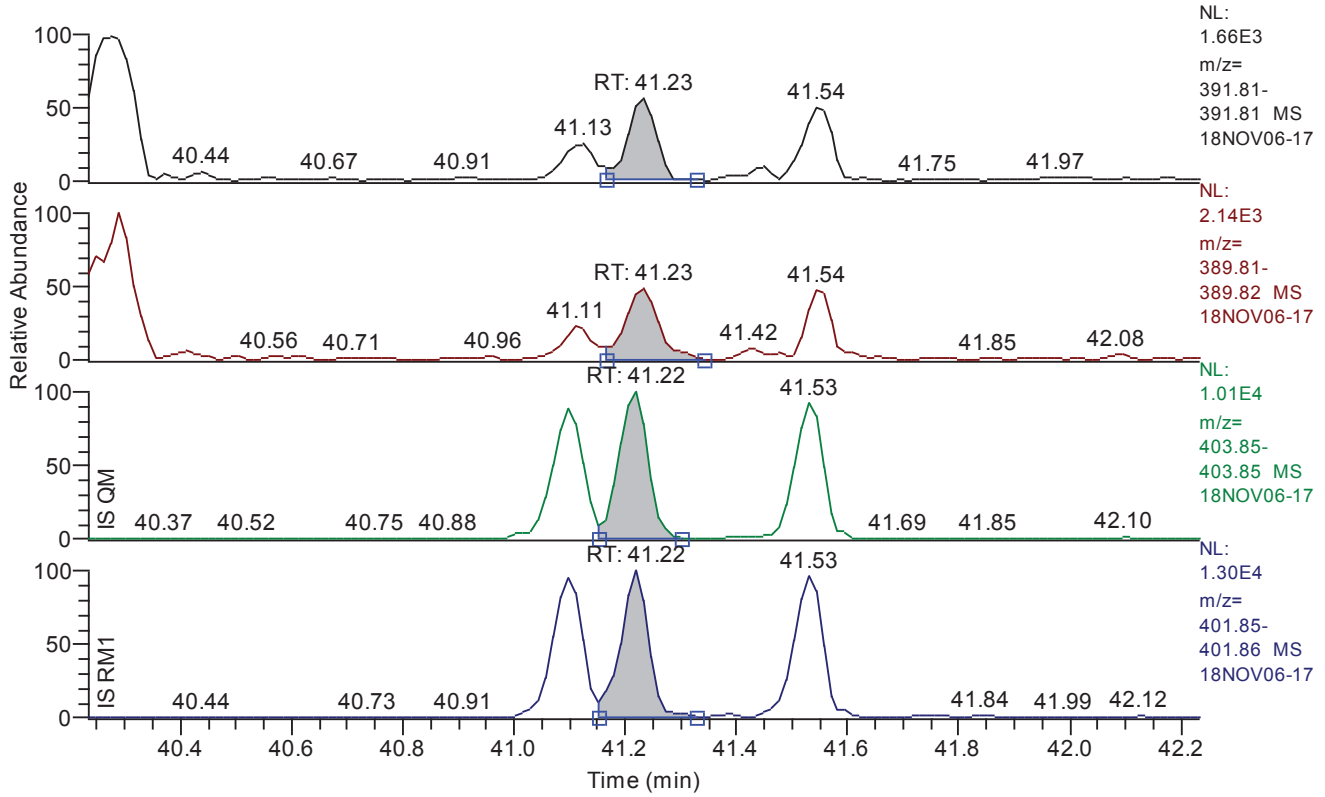


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.13
QM Area	1694
QM Integration Mode	A
RM1 Area	1827
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7294
Unqualified Amount (A)	9.548798
Adjusted Amount (A)	9.5488
Signal-to-Noise	32
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.23 - 42.23 SM: 3G

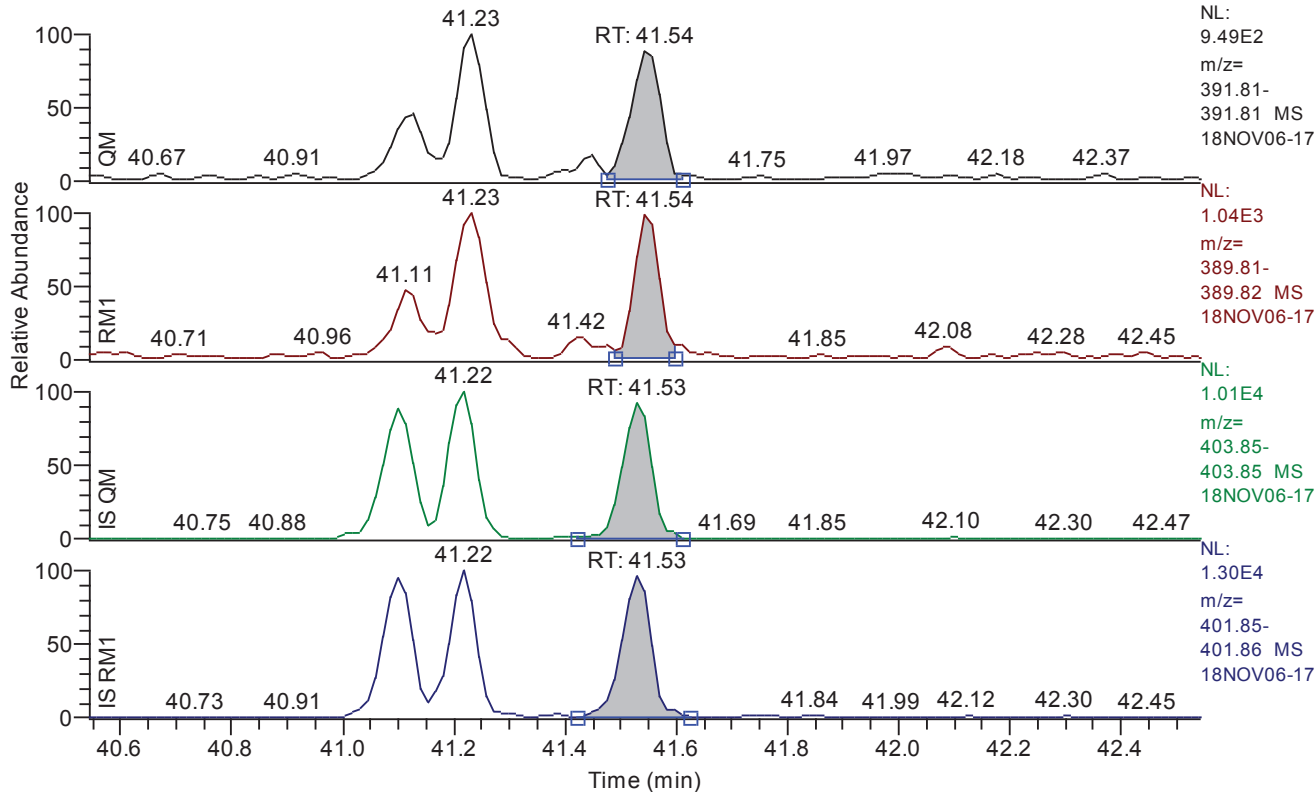


**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.23
QM Area	3328
QM Integration Mode	A
RM1 Area	4251
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6770
Unqualified Amount (A)	20.526082
Adjusted Amount (A)	20.5261
Signal-to-Noise	69
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.54 - 42.54 SM: 3G



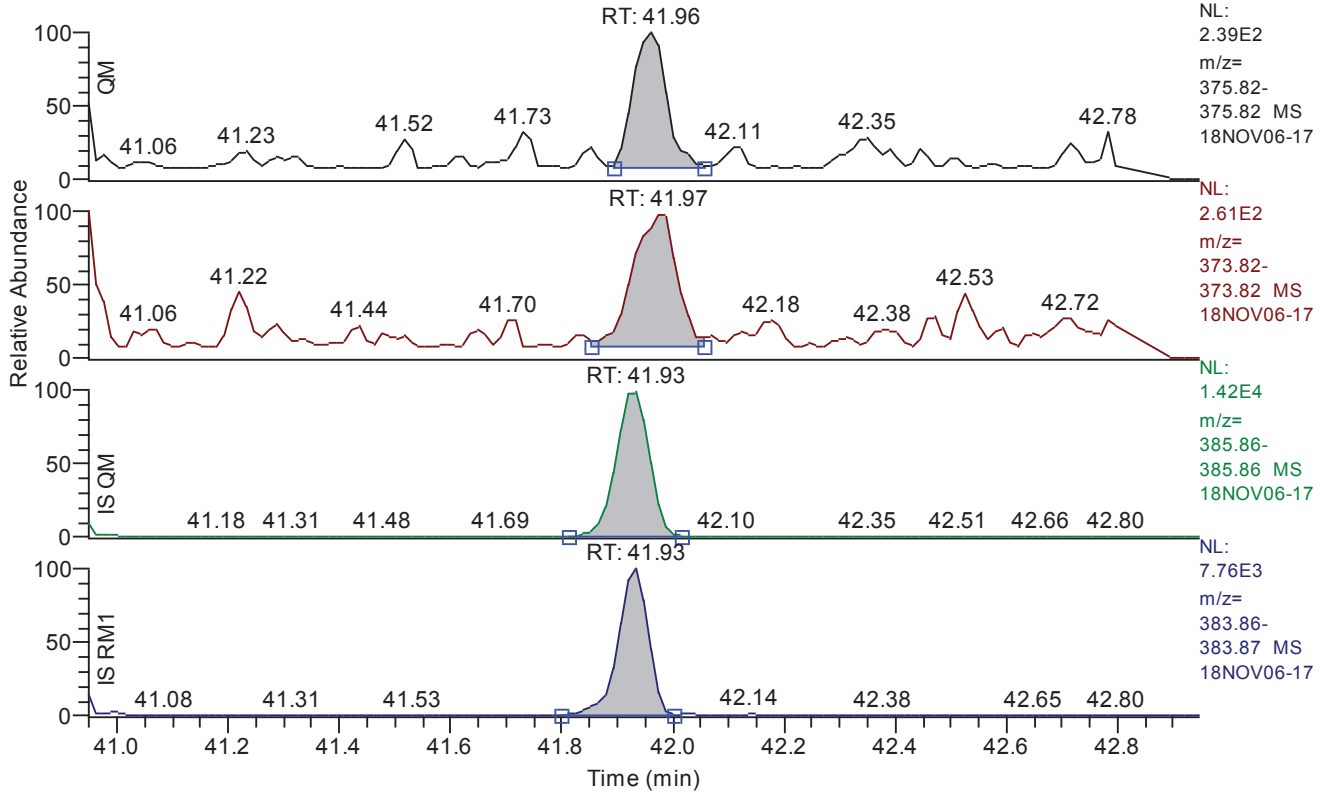
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.54
QM Area	3049
QM Integration Mode	A
RM1 Area	3176
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6734
Unqualified Amount (A)	16.274022
Adjusted Amount (A)	n.d.
Signal-to-Noise	66
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Chromatogram**

RT: 40.95 - 42.95 SM: 3G

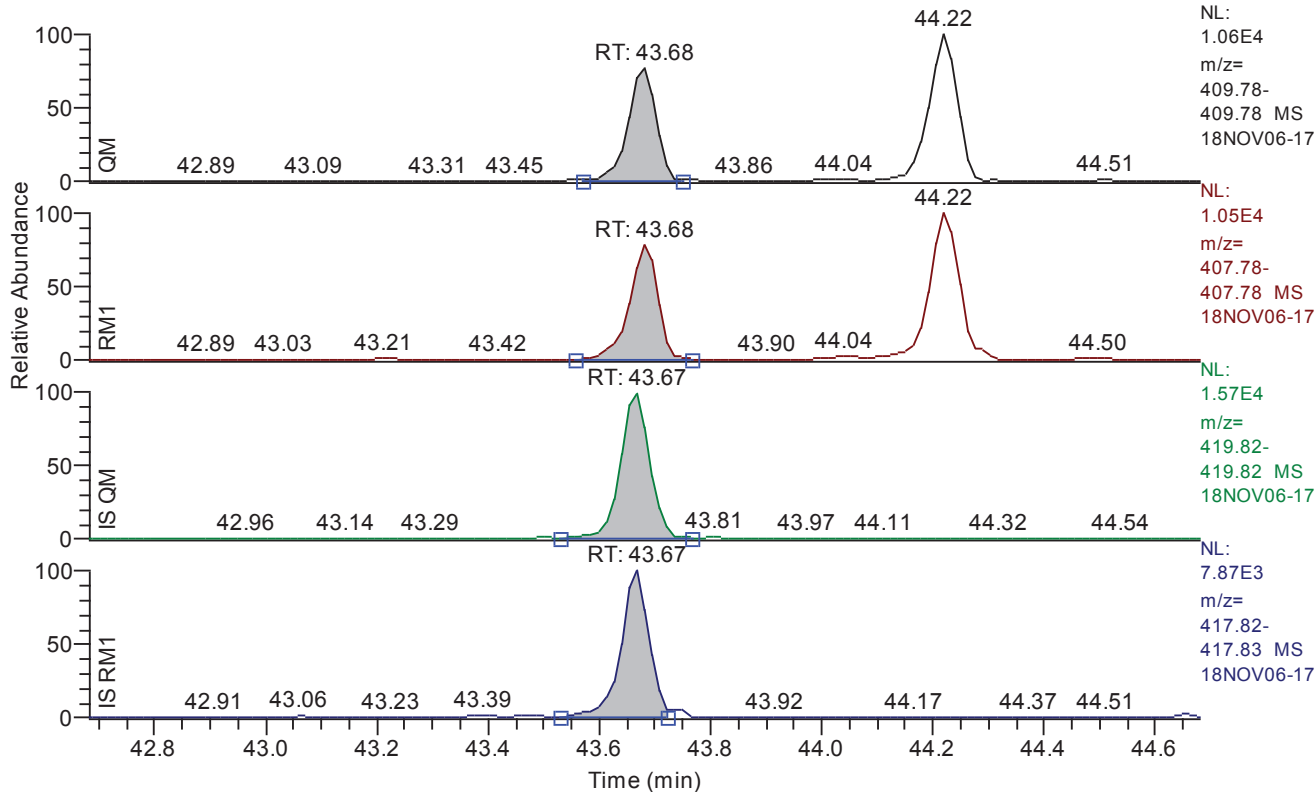


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.96
QM Area	909
QM Integration Mode	A
RM1 Area	1293
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6498
Unqualified Amount (A)	4.850745
Adjusted Amount (A)	4.8507
Signal-to-Noise	16
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.68 - 44.68 SM: 3G

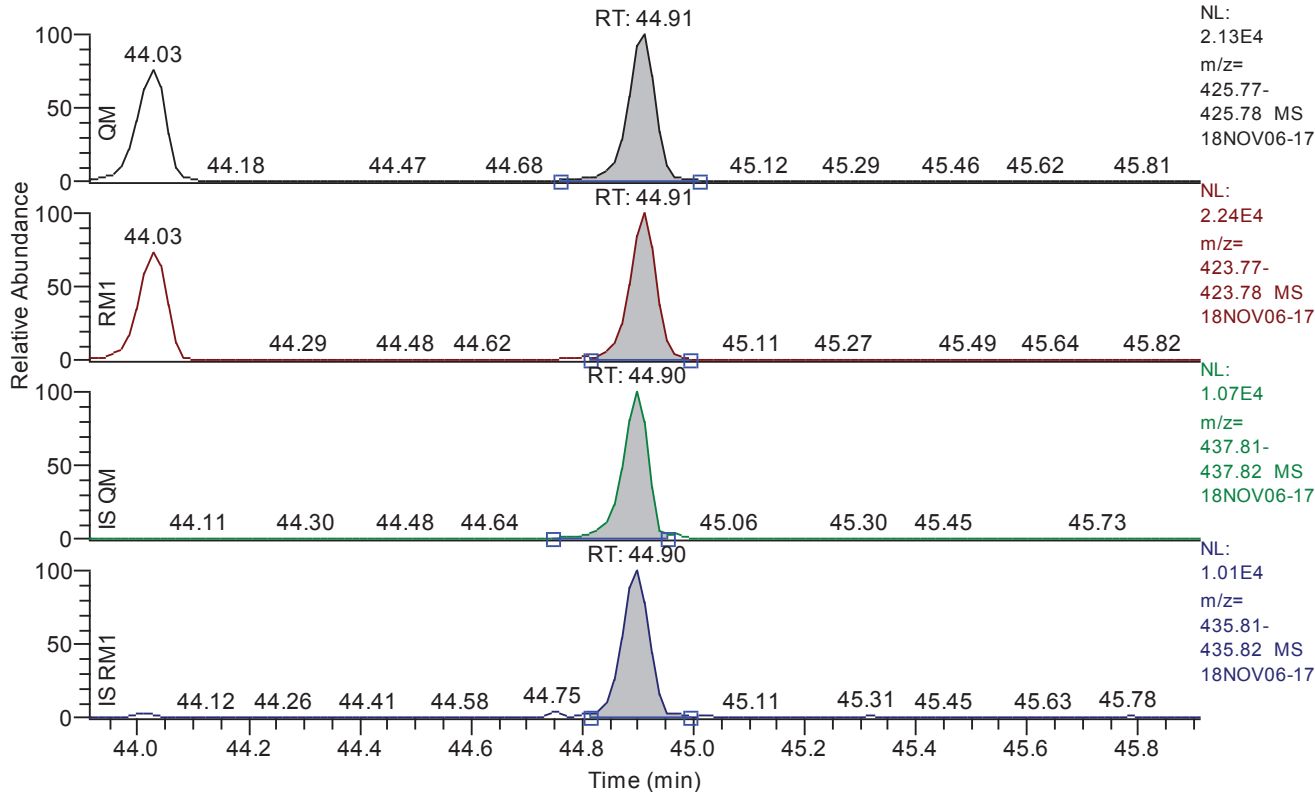


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.68
QM Area	29629
QM Integration Mode	A
RM1 Area	30522
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.7291
Unqualified Amount (A)	119.246125
Adjusted Amount (A)	119.2461
Signal-to-Noise	417
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.91 - 45.91 SM: 3G

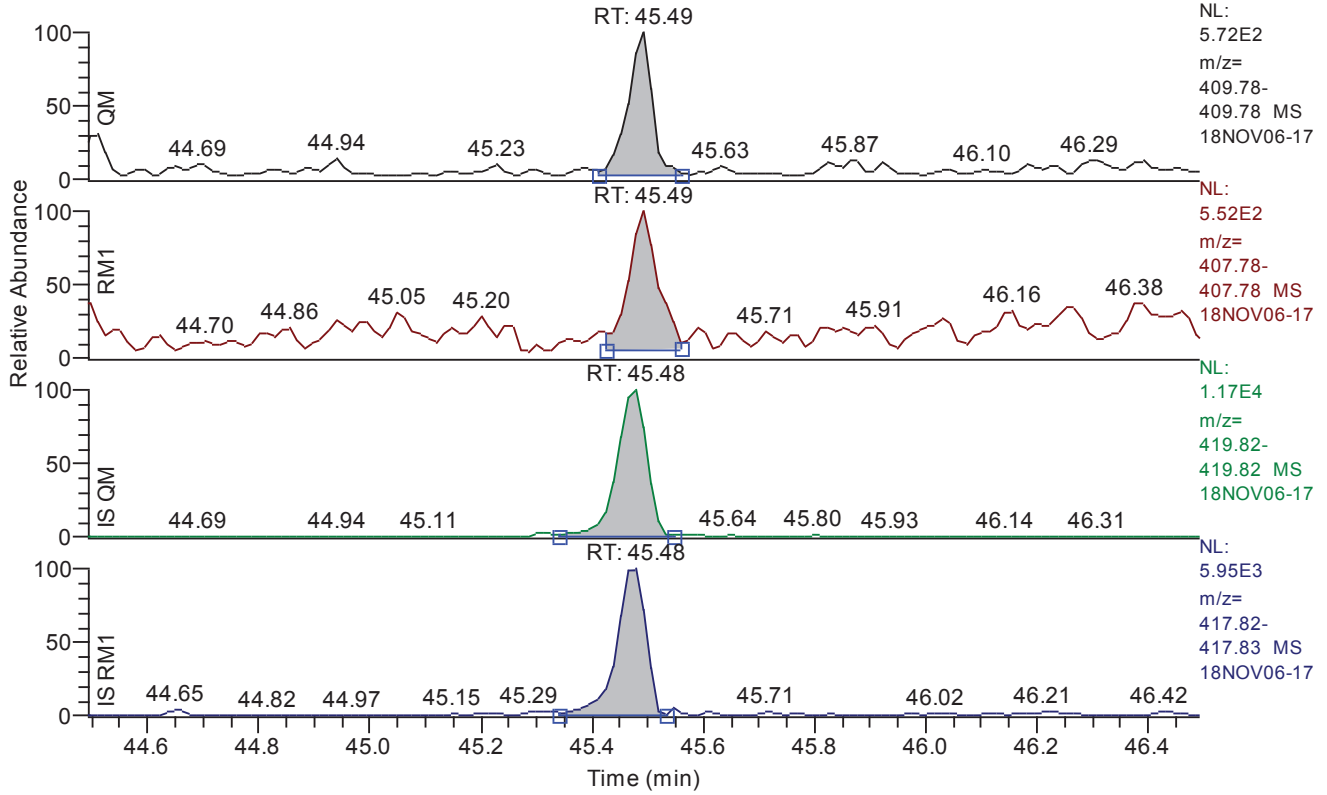


**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.91
QM Area	76947
QM Integration Mode	A
RM1 Area	77433
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	1.2052
Unqualified Amount (A)	458.006907
Adjusted Amount (A)	458.0069
Signal-to-Noise	927
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 44.49 - 46.49 SM: 3G

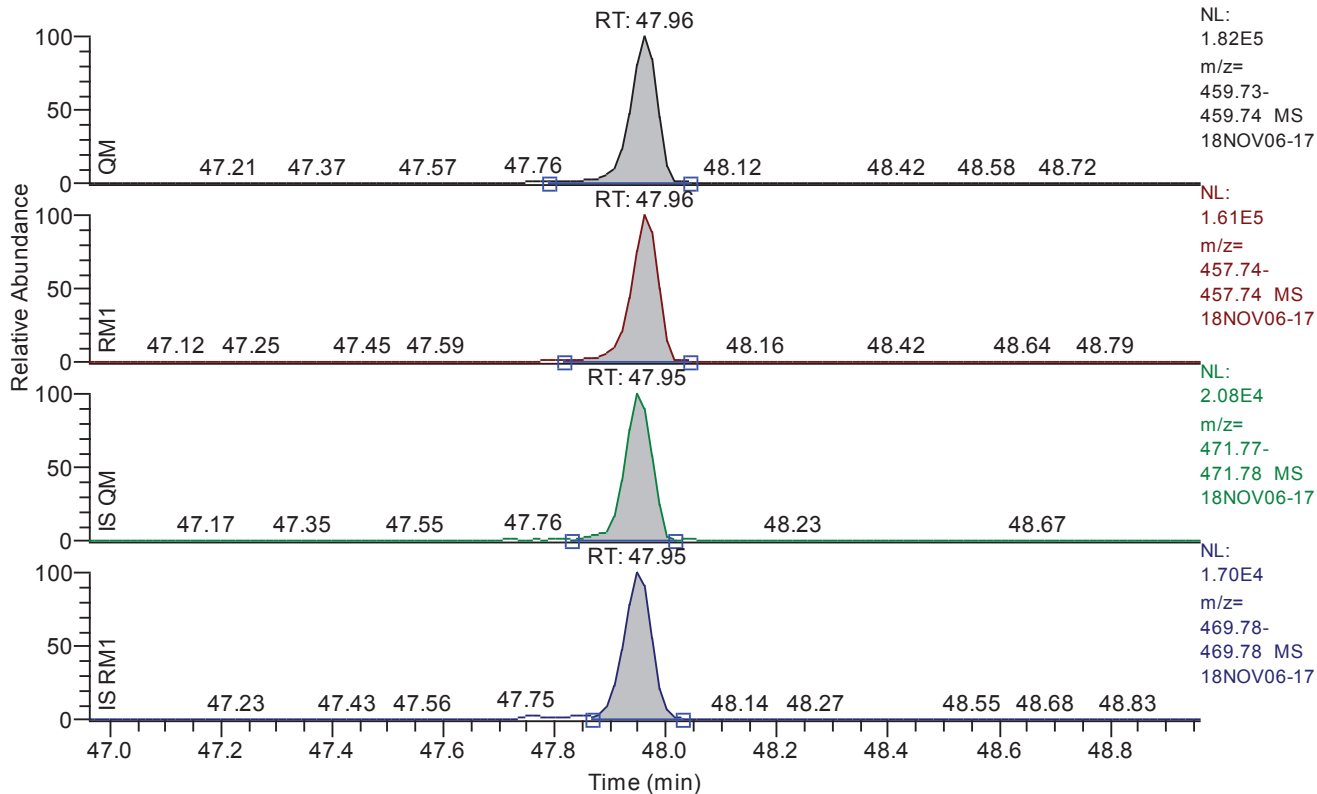


**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.49
QM Area	1701
QM Integration Mode	A
RM1 Area	1941
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.9453
Unqualified Amount (A)	9.040502
Adjusted Amount (A)	9.0405
Signal-to-Noise	27
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 46.96 - 48.96 SM: 3G

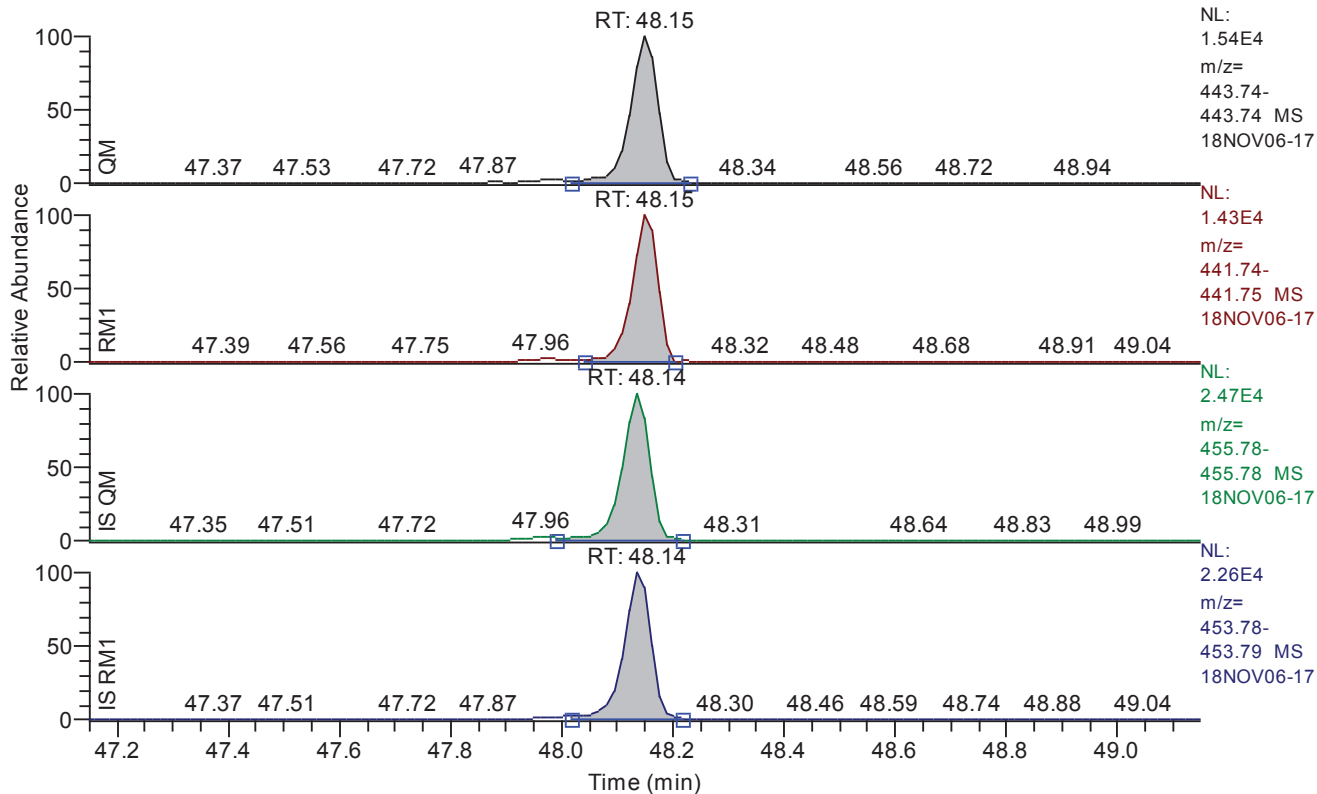


**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.96
QM Area	623930
QM Integration Mode	A
RM1 Area	546862
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	2.0672
Unqualified Amount (A)	3876.417736
Adjusted Amount (A)	3876.4177
Signal-to-Noise	4791
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 47.15 - 49.15 SM: 3G

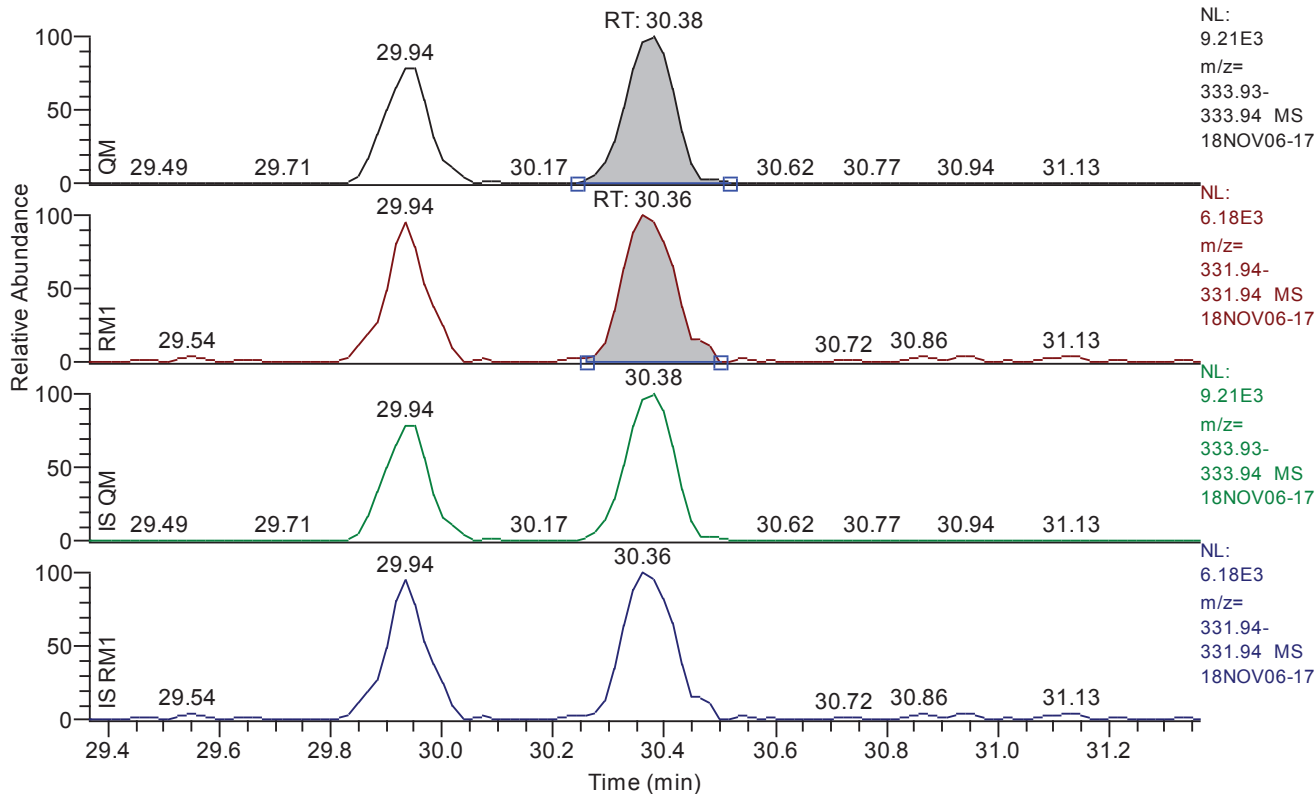


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.15
QM Area	52783
QM Integration Mode	A
RM1 Area	45737
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.9634
Unqualified Amount (A)	285.560418
Adjusted Amount (A)	285.5604
Signal-to-Noise	767
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 29.36 - 31.36 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.38
QM Area	55470
QM Integration Mode	A
RM1 Area	39848
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.6606
Unqualified Amount (A)	149.515722
Adjusted Amount (A)	149.5157
Signal-to-Noise	536
Client Flags	
Status Overview	passed
Status Info	

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/06 23:03  
Number of Entries 291  
Comment S:11030:12937:17962  
Vial 64  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 REF-1-SE001 Grab Sediment  
Sample ID 9866462RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan w:\18nov06\18nov06-17.quan  
Data w:\18nov06\18nov06-17.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

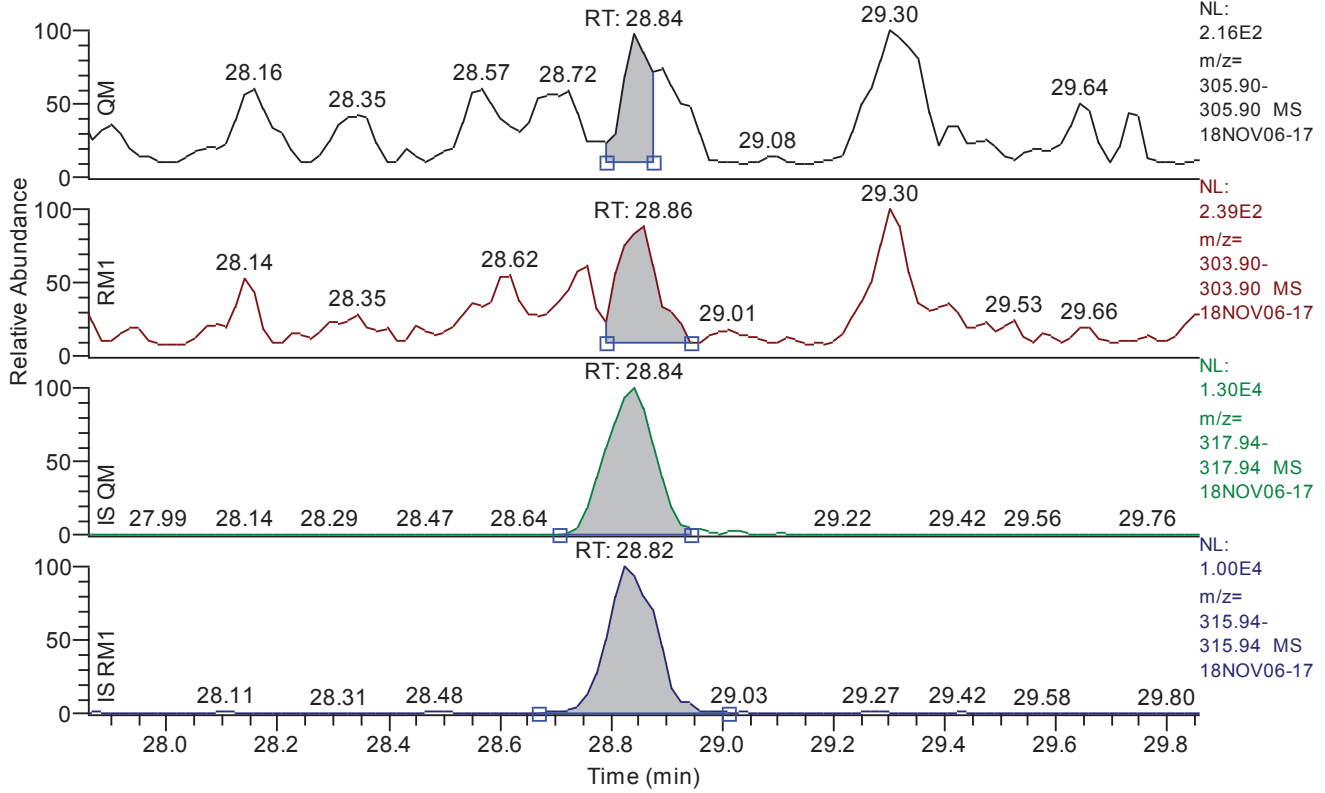
### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.02  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Chromatogram**

RT: 27.86 - 29.86 SM: 3G

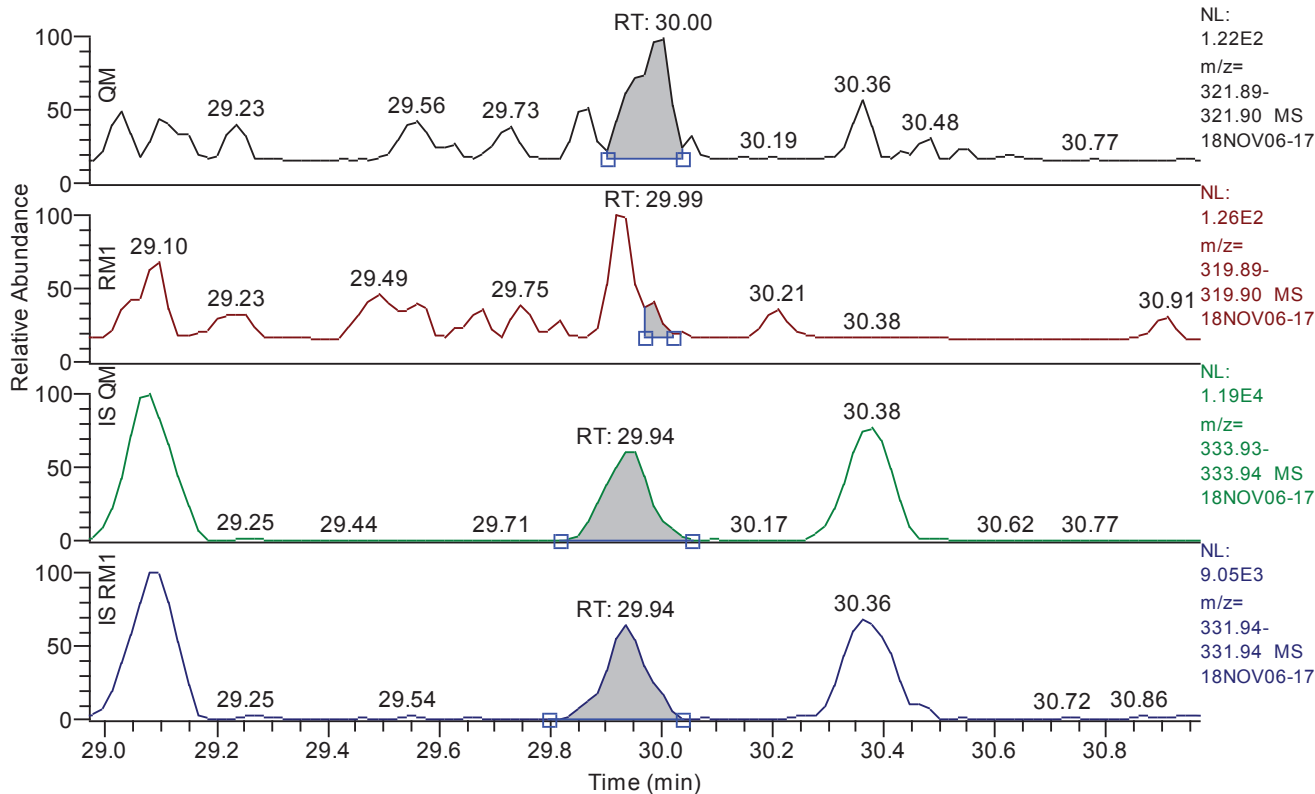


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	613
QM Integration Mode	A
RM1 Area	946
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.6857
Unqualified Amount (A)	2.340054
Adjusted Amount (A)	n.d.
Signal-to-Noise	13
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 28.97 - 30.97 SM: 3G



**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.00
QM Area	488
QM Integration Mode	A
RM1 Area	60
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.4175
Unqualified Amount (A)	1.351577
Adjusted Amount (A)	n.d.
Signal-to-Noise	11
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM2Time < min

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.84	28.86	28.84	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.97	29.92	29.94	failed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.96	34.97	34.93	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.31	36.31	36.27	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.70	36.68	36.67	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.05	40.03	40.02	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.20	40.20	40.18	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.92	40.92	40.90	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.13	41.11	41.10	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.23	41.23	41.22	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.54	41.54	41.53	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.96	41.97	41.93	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.68	43.68	43.67	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.91	44.91	44.90	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.49	45.49	45.48	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.96	47.96	47.95	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.15	48.15	48.14	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.38	30.36	30.38	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.08	29.08	29.08	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.94	39.94	39.94	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.84	28.82	28.74	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.94	29.94	29.94	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.93	34.94	35.03	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.27	36.27	36.27	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.67	36.67	36.67	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.02	40.02	40.02	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.18	40.18	40.17	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.90	40.90	40.87	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.10	41.10	41.10	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.22	41.22	41.22	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.53	41.53	41.53	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.93	41.93	42.03	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.67	43.67	43.67	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.90	44.90	44.90	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.48	45.48	45.31	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.95	47.95	47.95	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.14	48.14	48.38	passed	passed

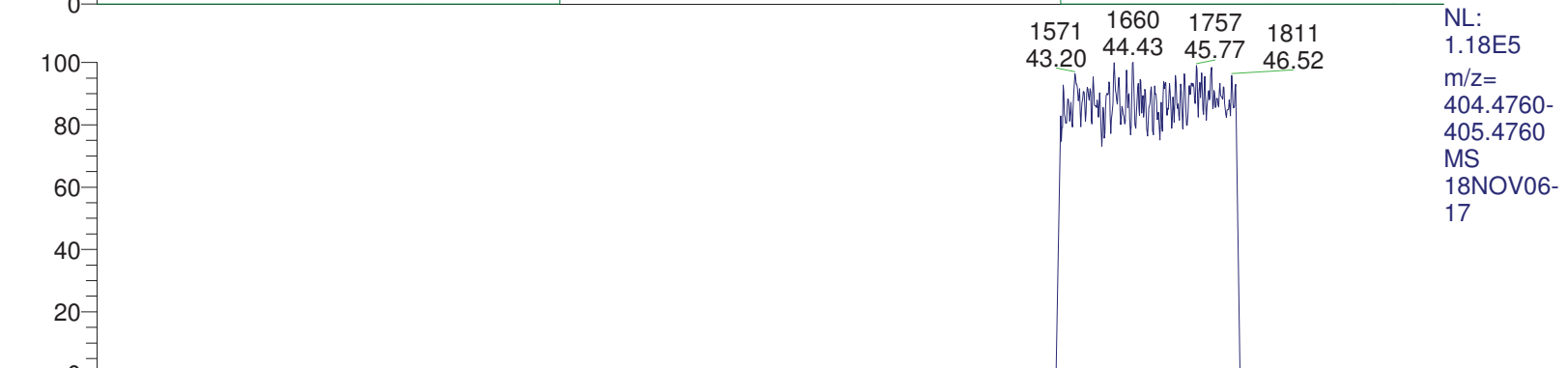
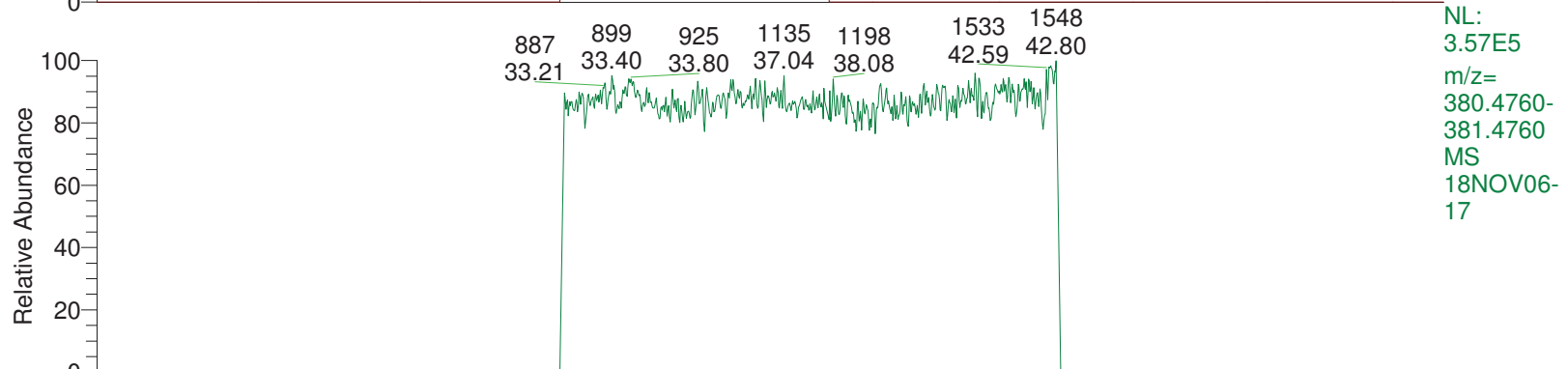
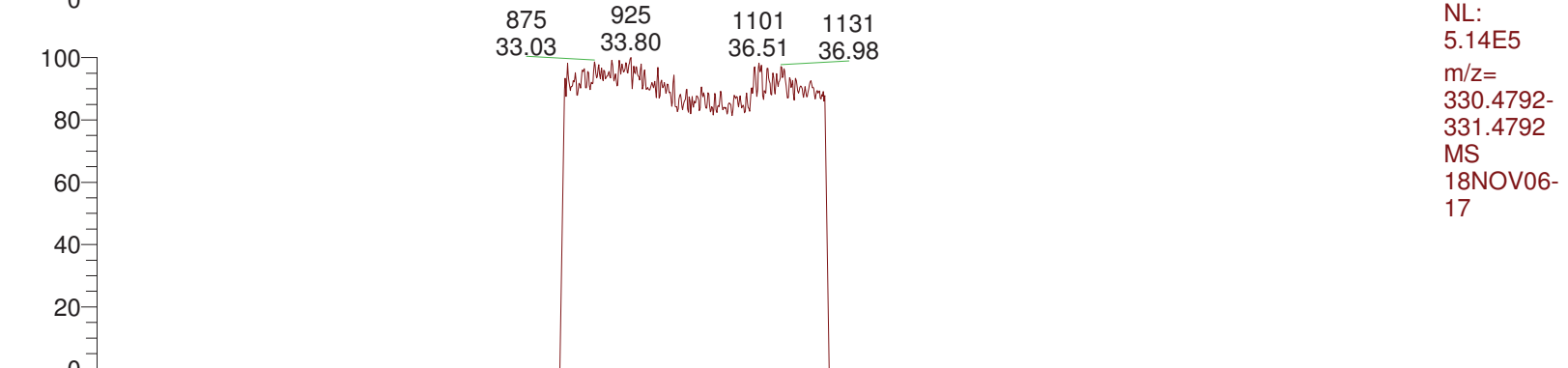
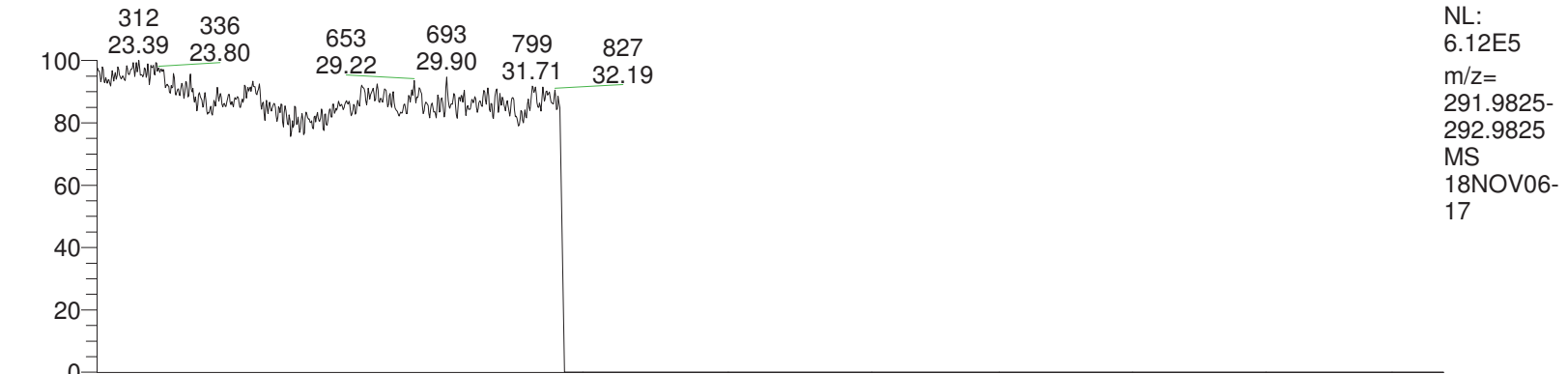
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.8207	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.97	1.6185	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.96	1.8320	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.31	3.8420	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	36.70	2.4008	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.05	1.0573	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.20	1.0946	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.92	1.9002	1.0450 - 1.4350	failed	---	0 - 0	passed
9	123478-HxCDD	41.13	1.0787	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.23	1.2774	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.54	1.0416	1.0450 - 1.4350	failed	---	0 - 0	passed
12	123789-HxCDF	41.96	1.4236	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.68	1.0301	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.91	1.0063	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.49	1.1411	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.96	0.8765	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.15	0.8665	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.38	0.7184	0.6450 - 0.8950	passed	74.91	35 - 197	passed
19	13C12-1234-TCDD	29.08	0.7522	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.94	1.2049	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.84	0.7666	0.6450 - 0.8950	passed	66.02	40 - 135	passed
22	13C12-2378-TCDD	29.94	0.7292	0.6450 - 0.8950	passed	61.33	40 - 135	passed
23	13C12-12378-PeCDF	34.93	1.4573	1.3150 - 1.7850	passed	64.14	40 - 135	passed
24	13C12-23478-PeCDF	36.27	1.5885	1.3150 - 1.7850	passed	60.88	40 - 135	passed
25	13C12-12378-PeCDD	36.67	1.5989	1.3150 - 1.7850	passed	60.61	40 - 135	passed
26	13C12-123478-HxCDF	40.02	0.5277	0.4250 - 0.5950	passed	59.19	40 - 135	passed
27	13C12-123678-HxCDF	40.18	0.5459	0.4250 - 0.5950	passed	61.96	40 - 135	passed
28	13C12-234678-HxCDF	40.90	0.5457	0.4250 - 0.5950	passed	60.61	40 - 135	passed
29	13C12-123478-HxCDD	41.10	1.3176	1.0450 - 1.4350	passed	67.63	40 - 135	passed
30	13C12-123678-HxCDD	41.22	1.2247	1.0450 - 1.4350	passed	66.47	40 - 135	passed
31	13C12-123789-HxCDD	41.53	1.3750	1.0450 - 1.4350	passed	68.84	40 - 135	passed
32	13C12-123789-HxCDF	41.93	0.4948	0.4250 - 0.5950	passed	65.41	40 - 135	passed
33	13C12-1234678-HpCDF	43.67	0.4782	0.3650 - 0.5150	passed	62.35	40 - 135	passed
34	13C12-1234678-HpCDD	44.90	1.0133	0.8750 - 1.2050	passed	61.35	40 - 135	passed
35	13C12-1234789-HpCDF	45.48	0.5004	0.3650 - 0.5150	passed	58.93	40 - 135	passed
36	13C12-OCDD	47.95	0.8357	0.7550 - 1.0250	passed	58.07	40 - 135	passed
37	13C12-OCDF	48.14	0.8993	0.7550 - 1.0250	passed	53.56	40 - 135	passed

**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	1153	M	946	A	0.6857	3.150912	3.1509	0.000000	13	
2	2378-TCDD	failed	29.97	201	M	325	M	0.4175	1.297946	n.d.	0.000000	15	
3	12378-PeCDF	failed	34.96	931	A	1705	A	0.6472	4.796186	n.d.	0.000000	19	
4	23478-PeCDF	failed	36.31	502	A	1929	A	0.5591	4.164773	n.d.	0.000000	21	
5	12378-PeCDD	failed	36.70	698	A	1675	A	1.0898	7.259435	n.d.	0.000000	16	
6	123478-HxCDF	passed	40.05	1782	A	1884	A	0.5724	7.567951	7.5680	0.000000	34	
7	123678-HxCDF	passed	40.20	1908	A	2088	A	0.5113	7.642109	7.6421	0.000000	39	
8	234678-HxCDF	failed	40.92	1487	A	2825	A	0.5432	8.576422	n.d.	0.000000	42	
9	123478-HxCDD	passed	41.13	1694	A	1827	A	0.7294	9.548798	9.5488	0.000000	32	
10	123678-HxCDD	passed	41.23	3328	A	4251	A	0.6770	20.526082	20.5261	0.000000	69	
11	123789-HxCDD	failed	41.54	3049	A	3176	A	0.6734	16.274022	n.d.	0.000000	66	
12	123789-HxCDF	passed	41.96	909	A	1293	A	0.6498	4.850745	4.8507	0.000000	16	
13	1234678-HpCDF	passed	43.68	29629	A	30522	A	0.7291	119.246125	119.2461	0.000000	417	
14	1234678-HpCDD	passed	44.91	76947	A	77433	A	1.2052	458.006907	458.0069	0.000000	927	
15	1234789-HpCDF	passed	45.49	1701	A	1941	A	0.9453	9.040502	9.0405	0.000000	27	
16	OCDD	passed	47.96	623930	A	546862	A	2.0672	3876.417736	3876.4177	0.000000	4791	
17	OCDF	passed	48.15	52783	A	45737	A	0.9634	285.560418	285.5604	0.000000	767	
18	13C12-1278-TCDD (CRS)	passed	30.38	55470	A	39848	A	0.6606	149.515722	149.5157	199.600798	536	
19	13C12-1234-TCDD	passed	29.08	70342	A	52908	A	0.6820	199.600798	199.6008	199.600798	732	
20	13C12-123468-HxCDD	passed	39.94	54794	A	66019	A	0.7206	199.600798	199.6008	199.600798	692	
21	13C12-2378-TCDF	passed	28.84	81540	A	62512	A	0.3795	131.779895	131.7799	199.600798	816	
22	13C12-2378-TCDD	passed	29.94	42702	A	31138	A	0.6982	122.410147	122.4101	199.600798	457	
23	13C12-12378-PeCDF	passed	34.93	52507	A	76518	A	0.2518	128.033537	128.0335	199.600798	1543	
24	13C12-23478-PeCDF	passed	36.27	47343	A	75206	A	0.2516	121.510128	121.5101	199.600798	1596	
25	13C12-12378-PeCDD	passed	36.67	28029	A	44815	A	0.2762	120.981921	120.9819	199.600798	1497	
26	13C12-123478-HxCDF	passed	40.02	59255	A	31266	A	0.3590	118.140667	118.1407	199.600798	845	
27	13C12-123678-HxCDF	passed	40.18	64671	A	35304	A	0.3403	123.679670	123.6797	199.600798	967	
28	13C12-234678-HxCDF	passed	40.90	58580	A	31965	A	0.3675	120.976908	120.9769	199.600798	858	
29	13C12-123478-HxCDD	passed	41.10	34873	A	45950	A	0.7285	134.989430	134.9894	199.600798	473	
30	13C12-123678-HxCDD	passed	41.22	36638	A	44870	A	0.7100	132.683853	132.6839	199.600798	514	
31	13C12-123789-HxCDD	passed	41.53	33691	A	46325	A	0.7489	137.397871	137.3979	199.600798	489	
32	13C12-123789-HxCDF	passed	41.93	59554	A	29465	A	0.4034	130.556484	130.5565	199.600798	781	
33	13C12-1234678-HpCDF	passed	43.67	59345	A	28381	A	0.5854	124.459447	124.4594	199.600798	557	
34	13C12-1234678-HpCDD	passed	44.90	35681	A	36156	A	0.2680	122.447759	122.4478	199.600798	1293	
35	13C12-1234789-HpCDF	passed	45.48	45378	A	22706	A	0.7128	117.629907	117.6299	199.600798	417	
36	13C12-OCDD	passed	47.95	72018	A	60188	A	0.2732	231.822697	231.8227	399.201597	2366	
37	13C12-OCDF	passed	48.14	85725	A	77088	A	0.4194	213.794599	213.7946	399.201597	1445	

RT: 22.50 - 51.00

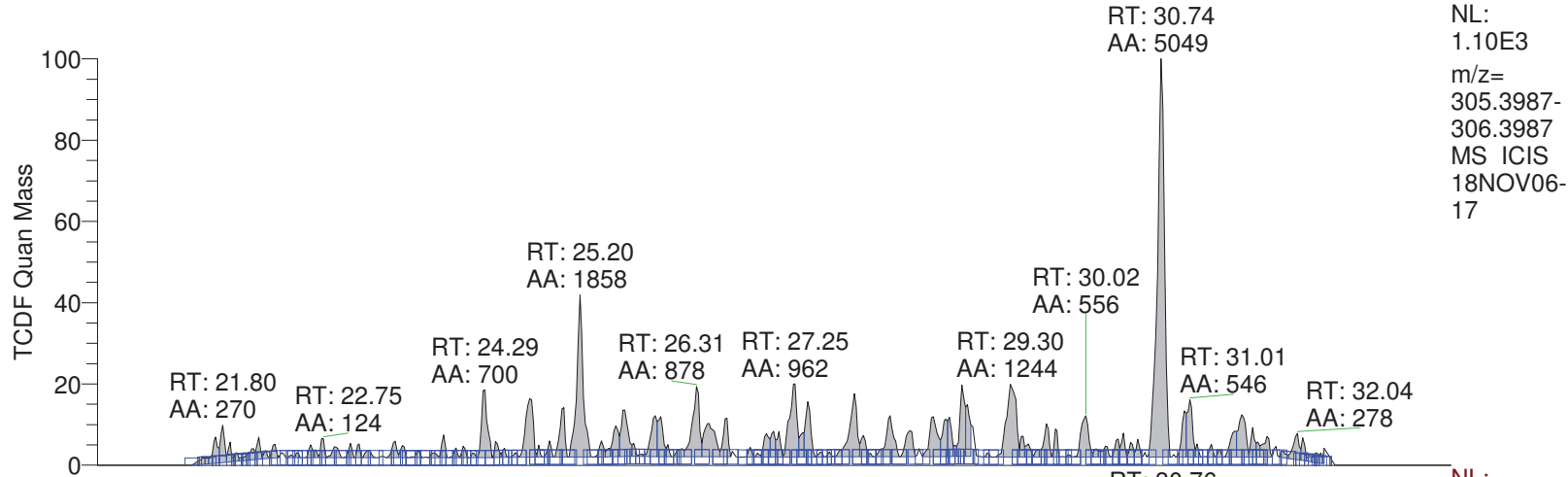


**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

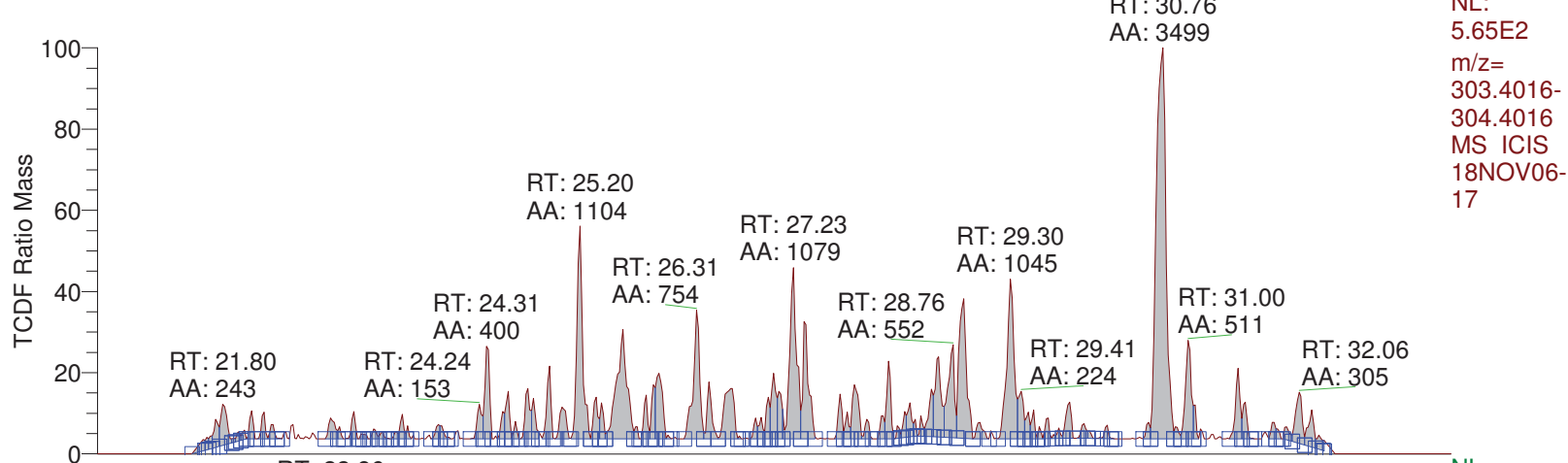
**REVIEWED**  
By uild at 4:13 pm, 11/8/18

24 26 28 30 32 34 36 38 40 42 44 46 48 50  
Time (min)

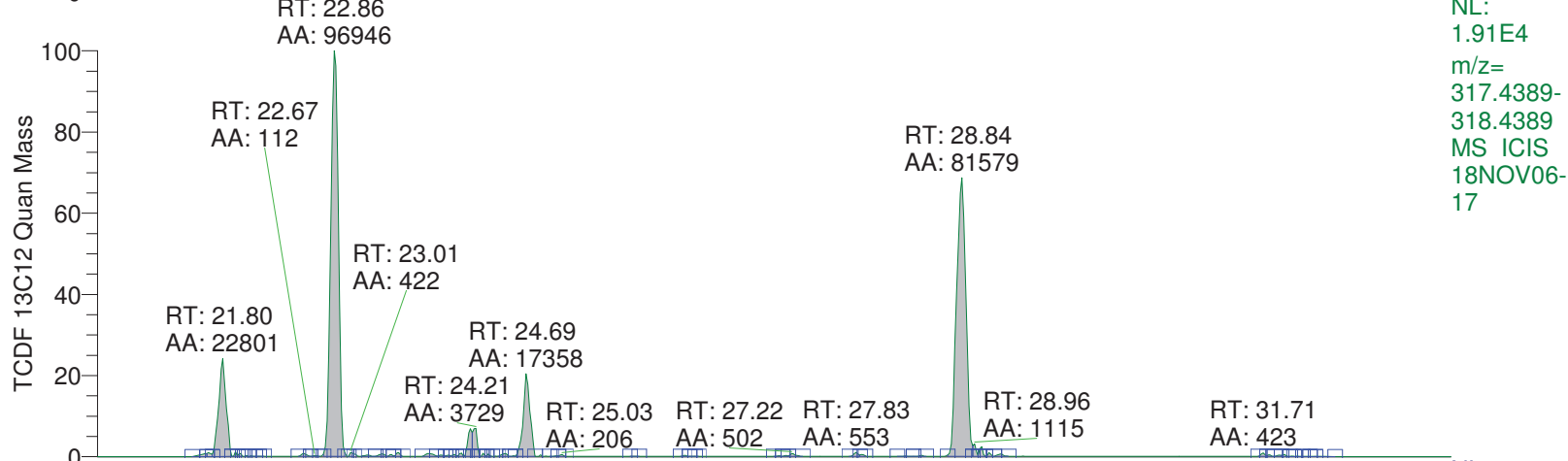
RT: 20.60 - 33.50



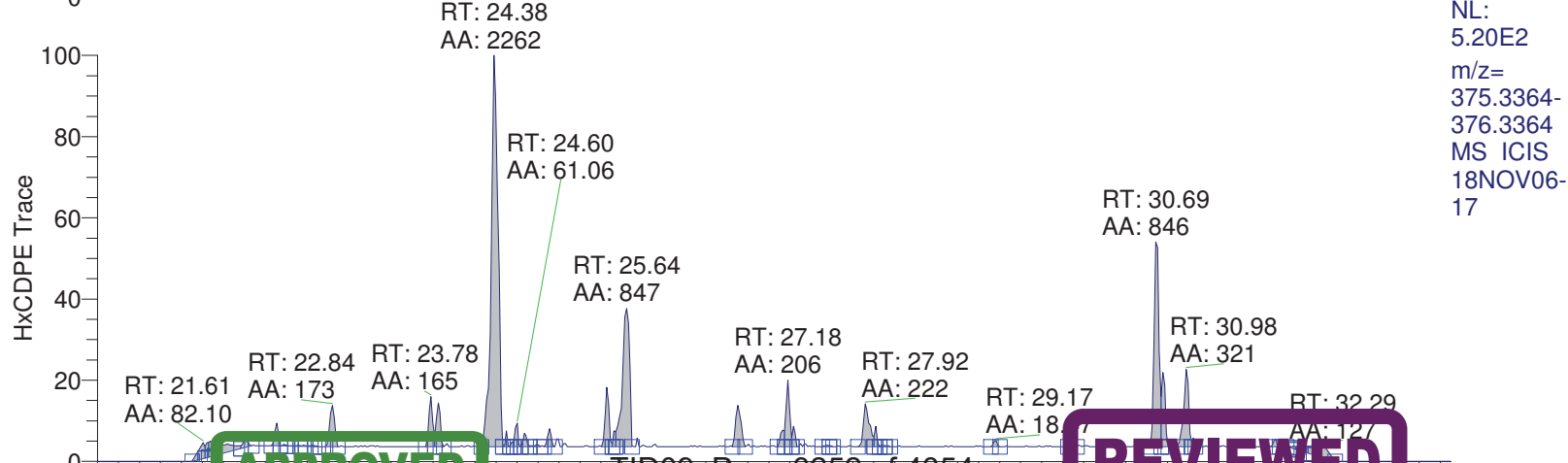
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m/z= 305.3987-306.3987  
MS ICIS 18NOV06-17



NL: 5.65E2  
m/z= 303.4016-304.4016  
MS ICIS 18NOV06-17



NL: 1.91E4  
m/z= 317.4389-318.4389  
MS ICIS 18NOV06-17

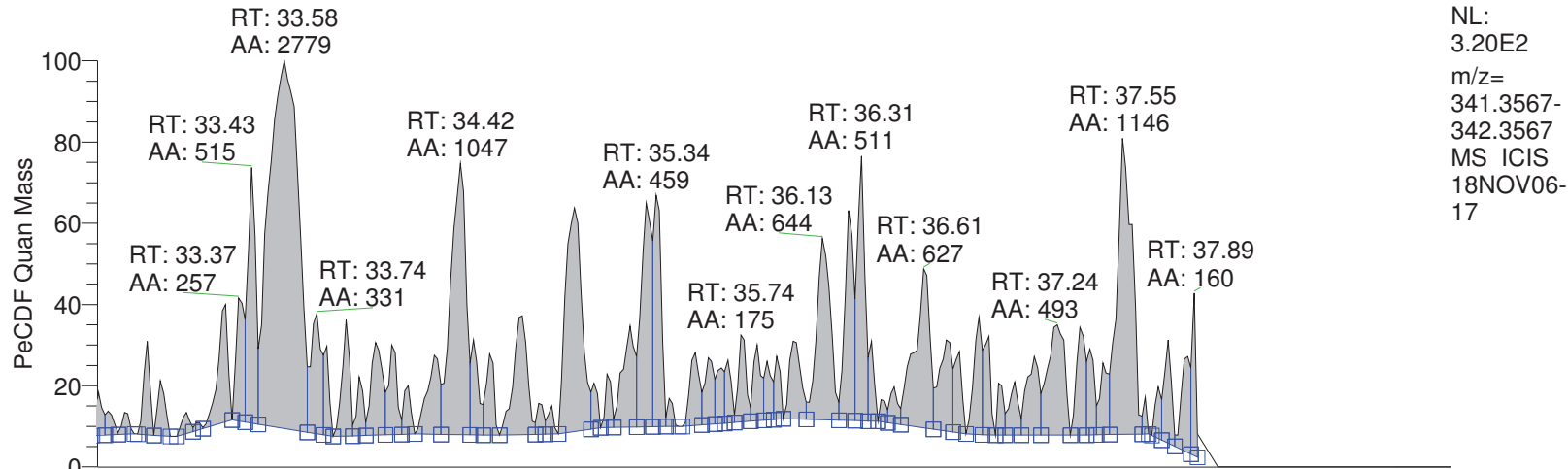


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MS ICIS 18NOV06-17

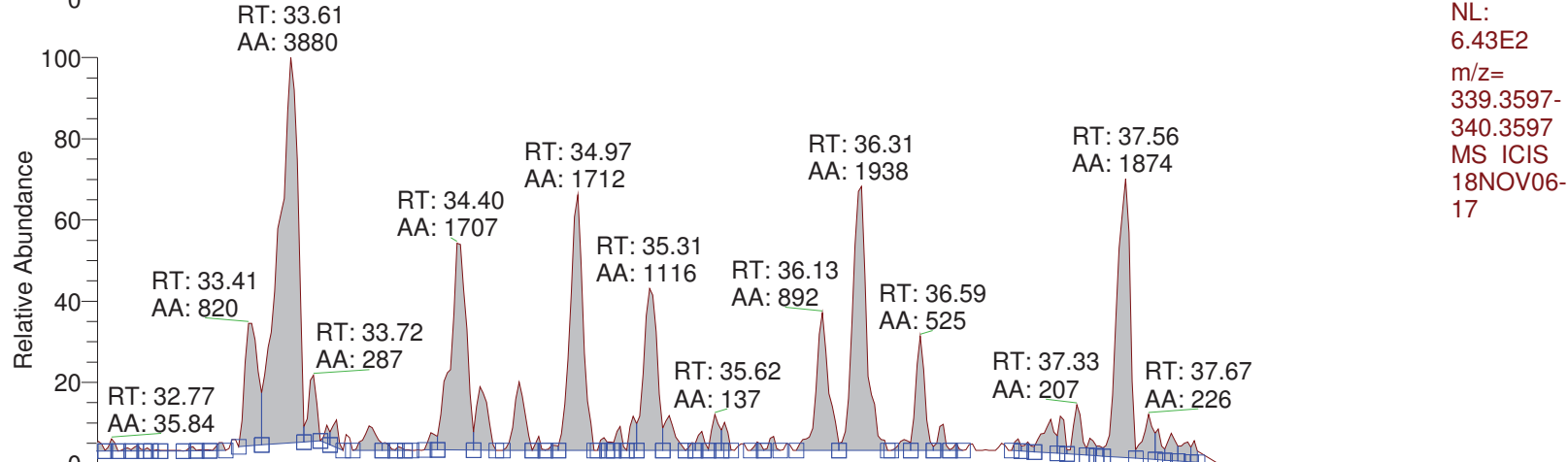
**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

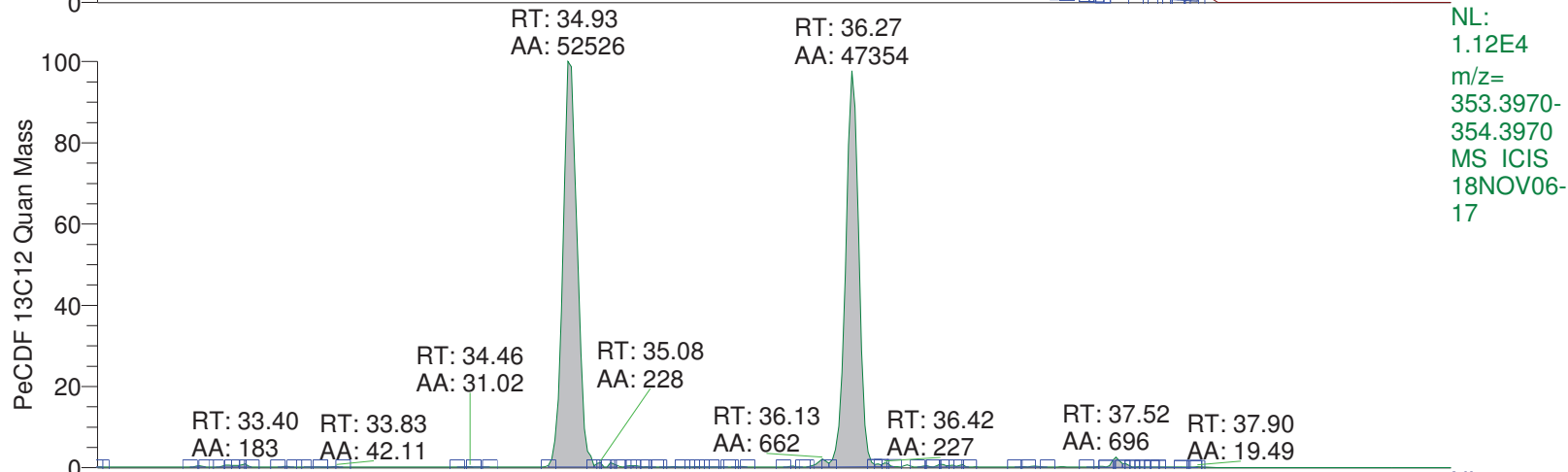
RT: 32.70 - 39.10



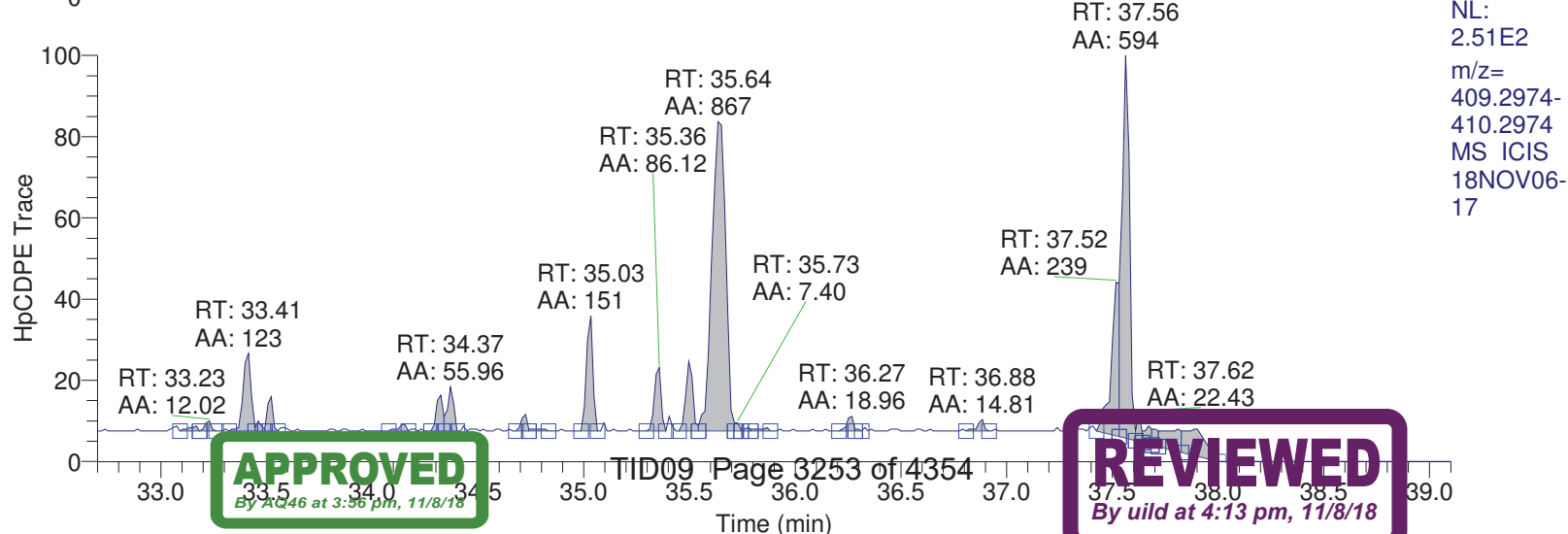
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3.20E2  
m/z=  
341.3567-  
342.3567  
MS ICIS  
18NOV06-  
17



NL:  
6.43E2  
m/z=  
339.3597-  
340.3597  
MS ICIS  
18NOV06-  
17



NL:  
1.12E4  
m/z=  
353.3970-  
354.3970  
MS ICIS  
18NOV06-  
17



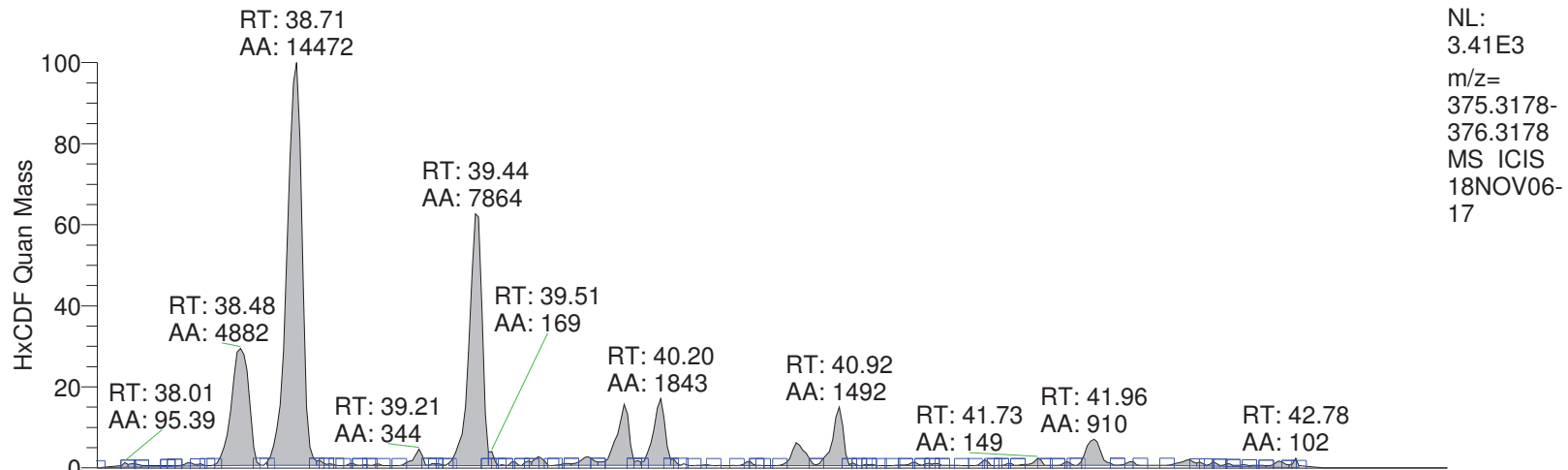
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MS ICIS  
18NOV06-  
17

**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

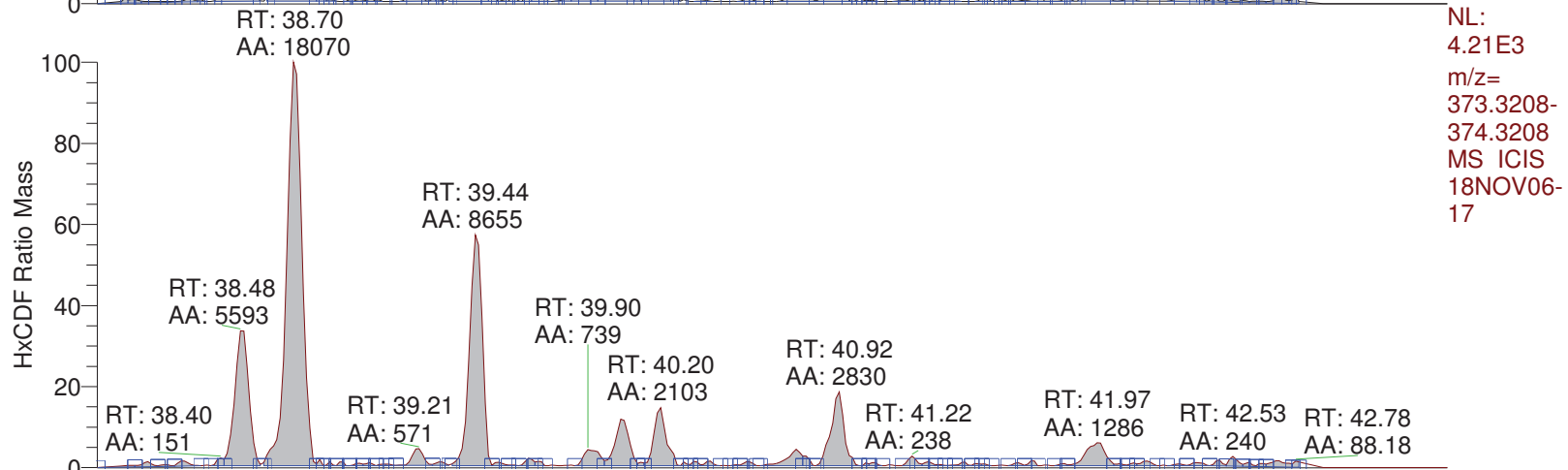
**REVIEWED**  
By uild at 4:13 pm, 11/8/18



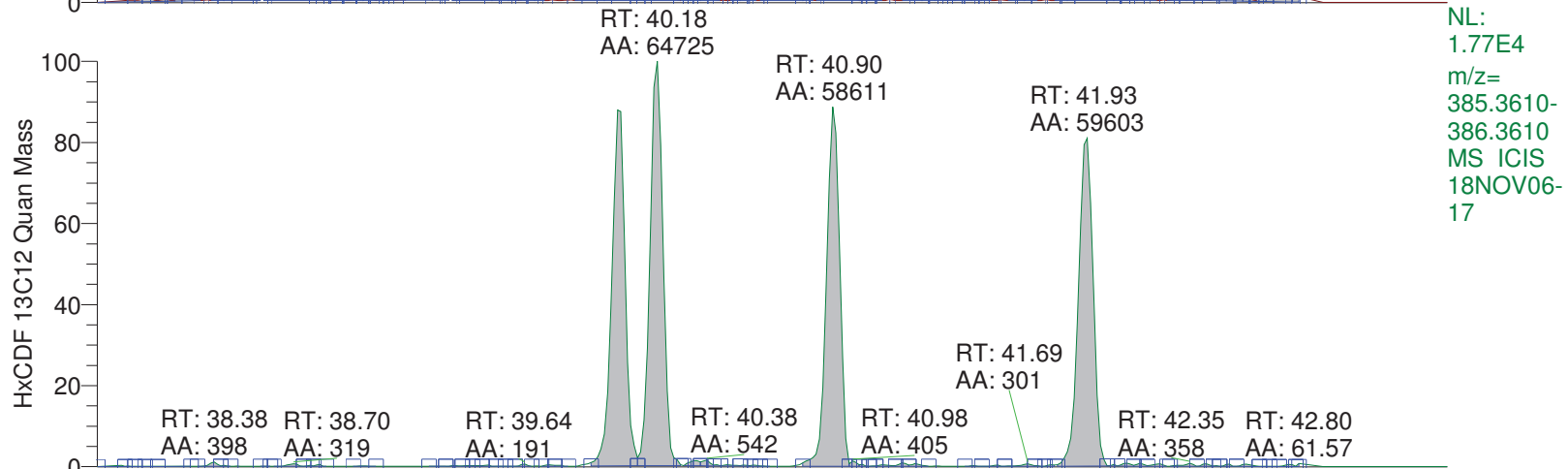
RT: 37.90 - 43.40



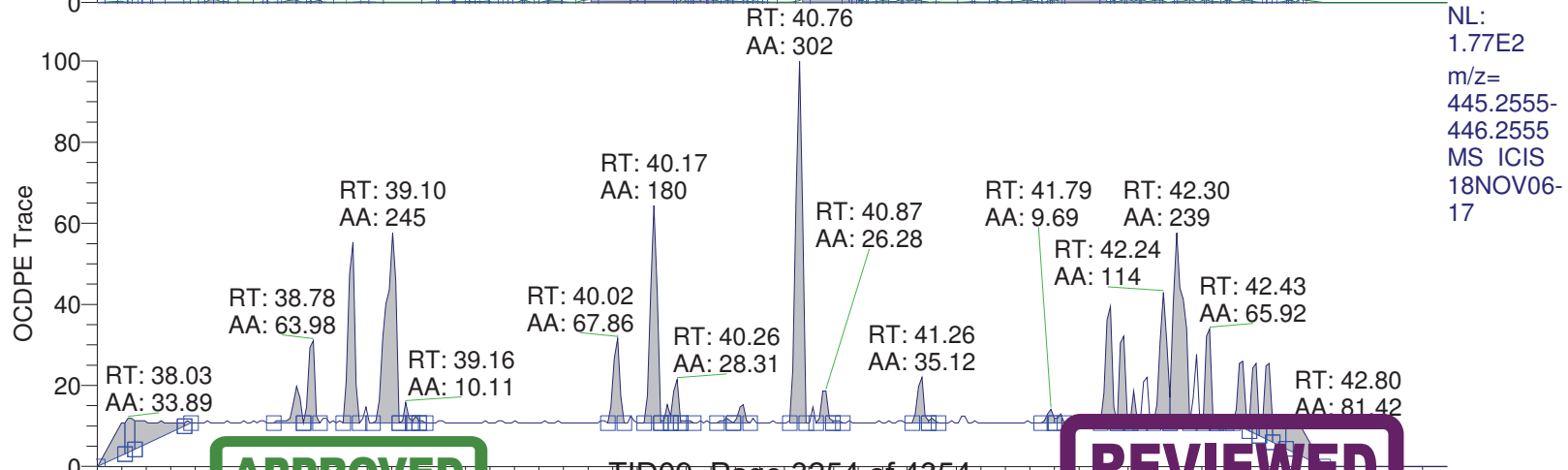
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376.3178  
MS ICIS  
18NOV06-  
17



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4.21E3  
m/z=  
373.3208-  
374.3208  
MS ICIS  
18NOV06-  
17



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1.77E4  
m/z=  
385.3610-  
386.3610  
MS ICIS  
18NOV06-  
17

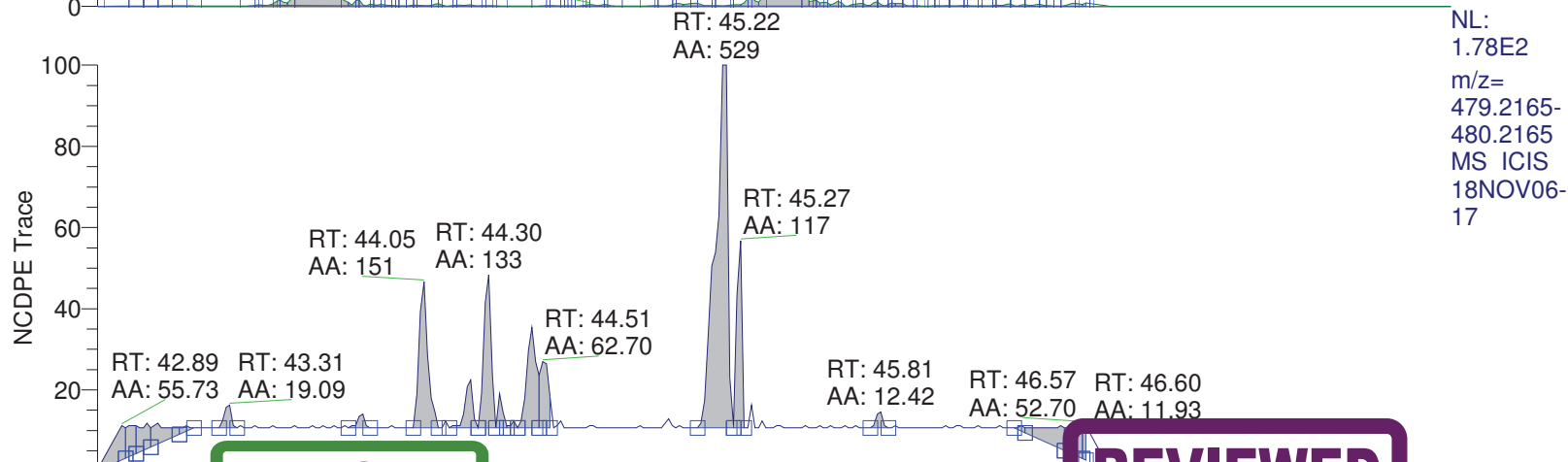
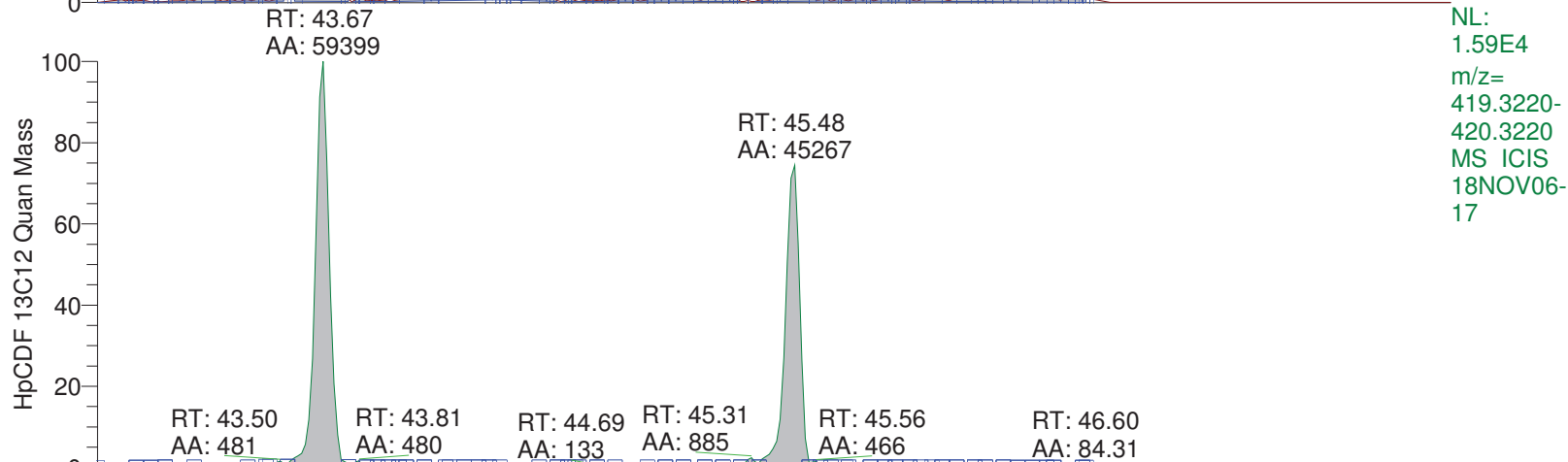
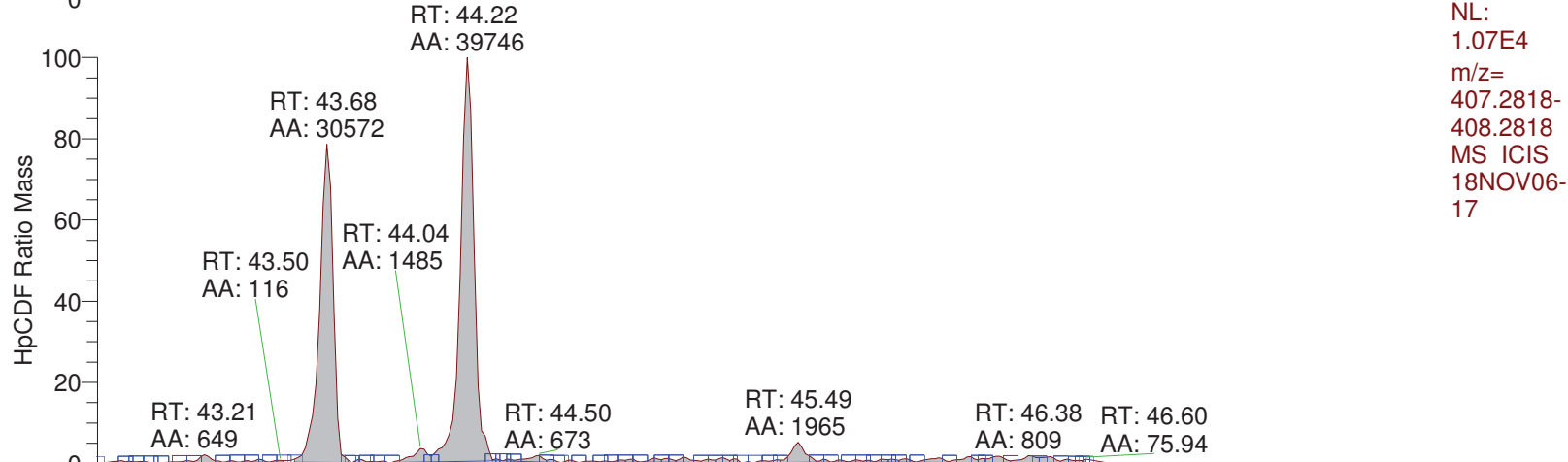
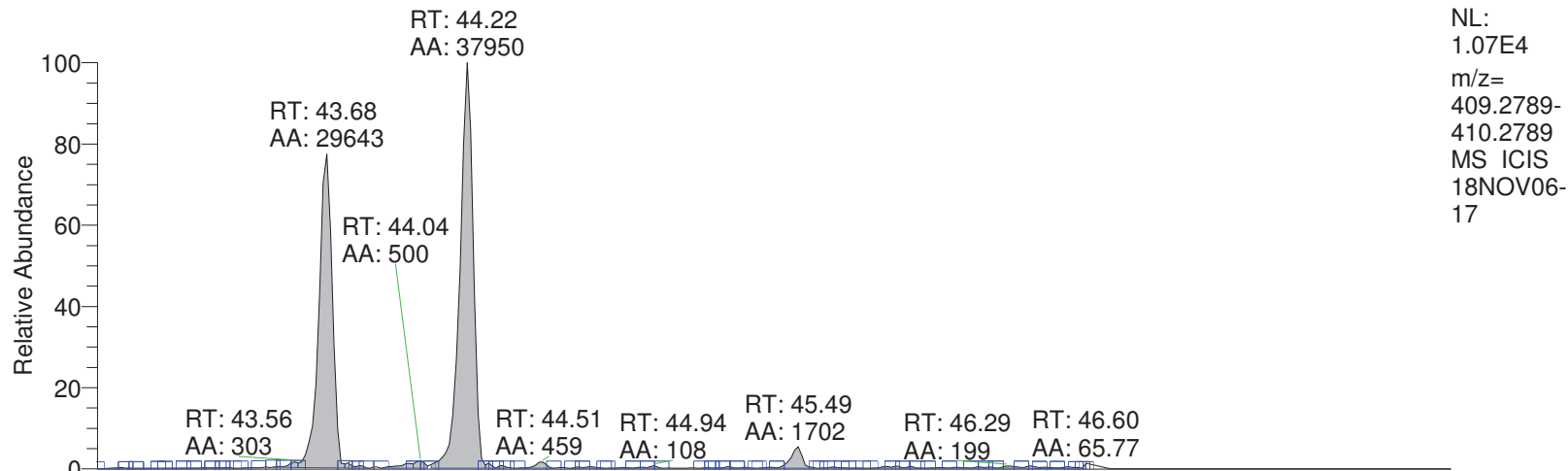


NL:  
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m/z=  
445.2555-  
446.2555  
MS ICIS  
18NOV06-  
17

**APPROVED**  
By AQ46 at 3:58 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

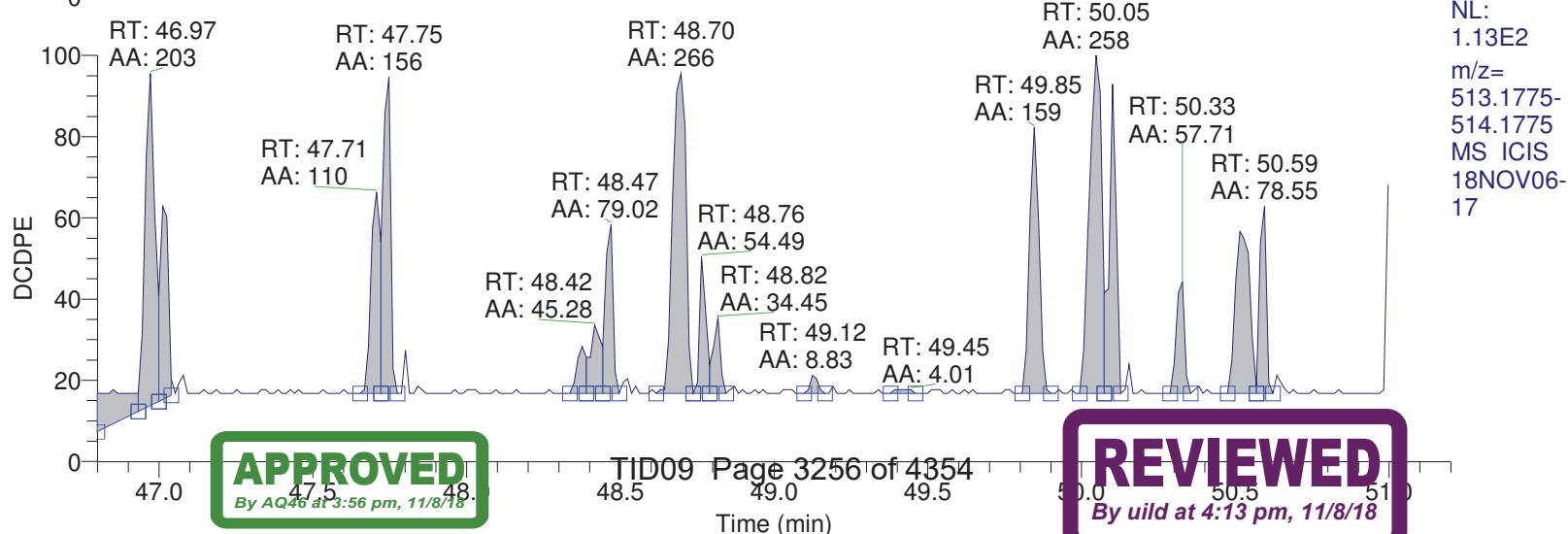
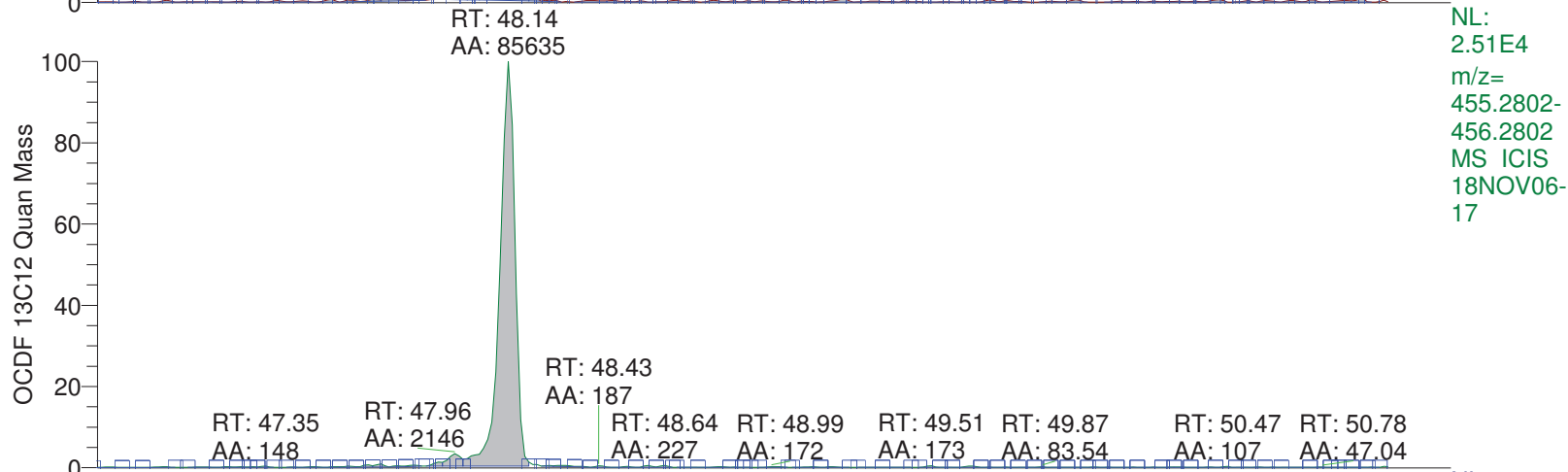
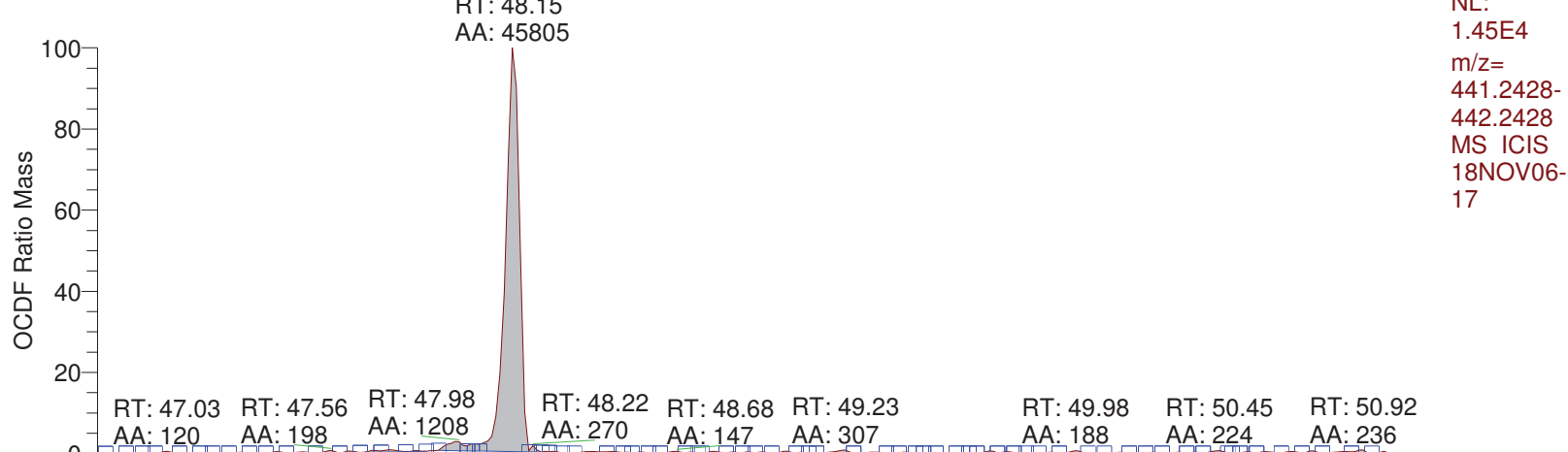
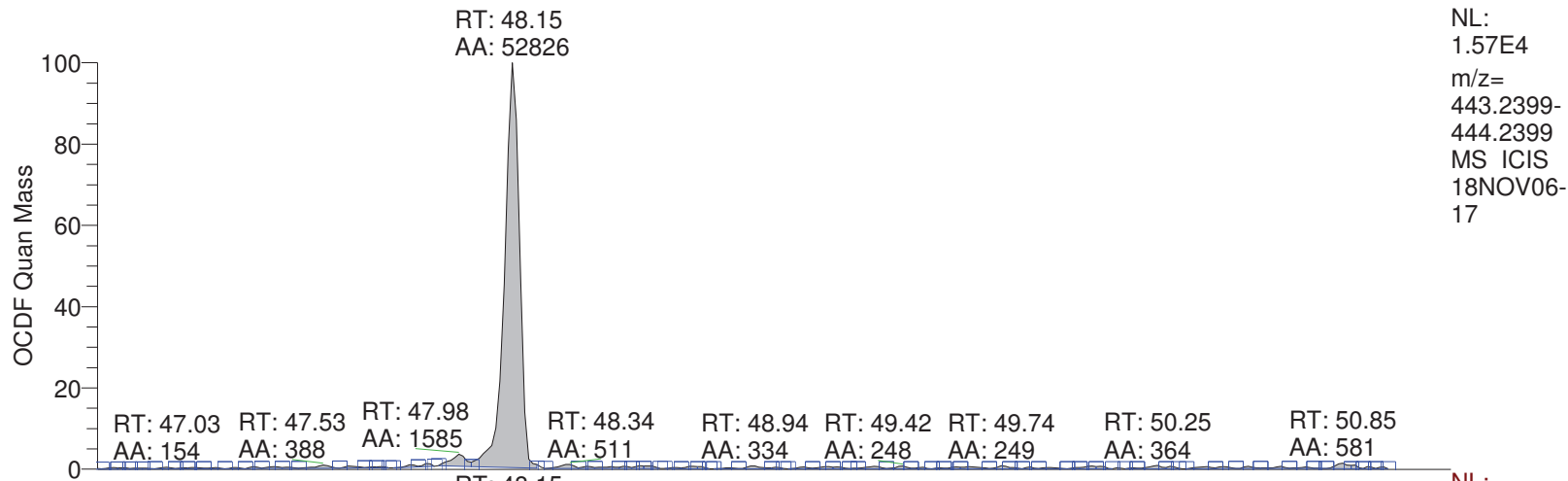
RT: 42.80 - 48.00



**APPROVED**  
By AQZ6 at 3:56 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

RT: 46.80 - 51.20



**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

Time (min)

18NOV06-17

\*\*\* file opened Tue Nov 06 23:09:02 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 23:09:01

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
	Window # 2	292.9819	l	20	1
303.9011			1	1	118
305.8981			1	1	118
315.9413			5	1	23
317.9384			5	1	23
319.8960			1	1	118
321.8930			1	1	118



18NOV06-17

331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes

Page 2



18NOV06-17

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	96.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0184	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1414138.4416	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9822	RELEN	0.0000
RES	12889.9226	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11665.  
MID Time window 2: Resolution is 13106.  
MID Time window 3: Resolution is 12644.  
MID Time window 4: Resolution is 12304.



18NOV06-17

MID Time Window 5: Resolution is 13681.  
MID Time Window 6: Resolution is 12889.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 00:00:03 2018  
\*\*\*



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 08:13  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 92  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 REF-1-SE001 Grab Sediment  
Sample ID 9866462RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan y:\18nov07conf\18nov07-21.quan  
Data y:\18nov07conf\18nov07-21.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.02  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.80	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.70	passed	passed	passed	passed	passed	passed	passed

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 08:13  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 92  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 REF-1-SE001 Grab Sediment  
Sample ID 9866462RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

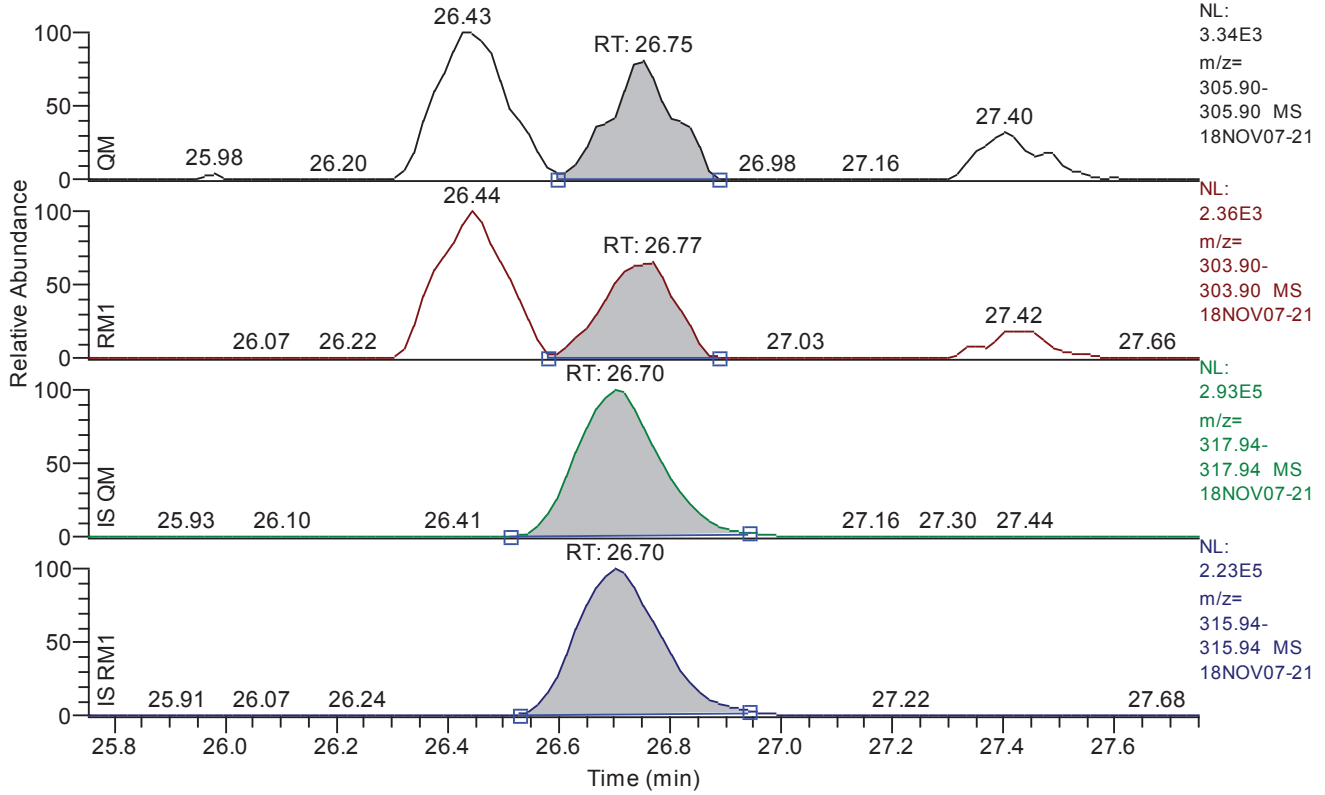
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Data y:\18nov07conf\18nov07-21.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.02  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.75 - 27.75 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.75
QM Area	21649
QM Integration Mode	A
RM1 Area	14015
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0493
Unqualified Amount (A)	1.333889
Adjusted Amount (A)	1.3339
Signal-to-Noise	82
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.75	26.77	26.70	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.80	24.80	24.80	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.70	26.70	26.70	passed	passed

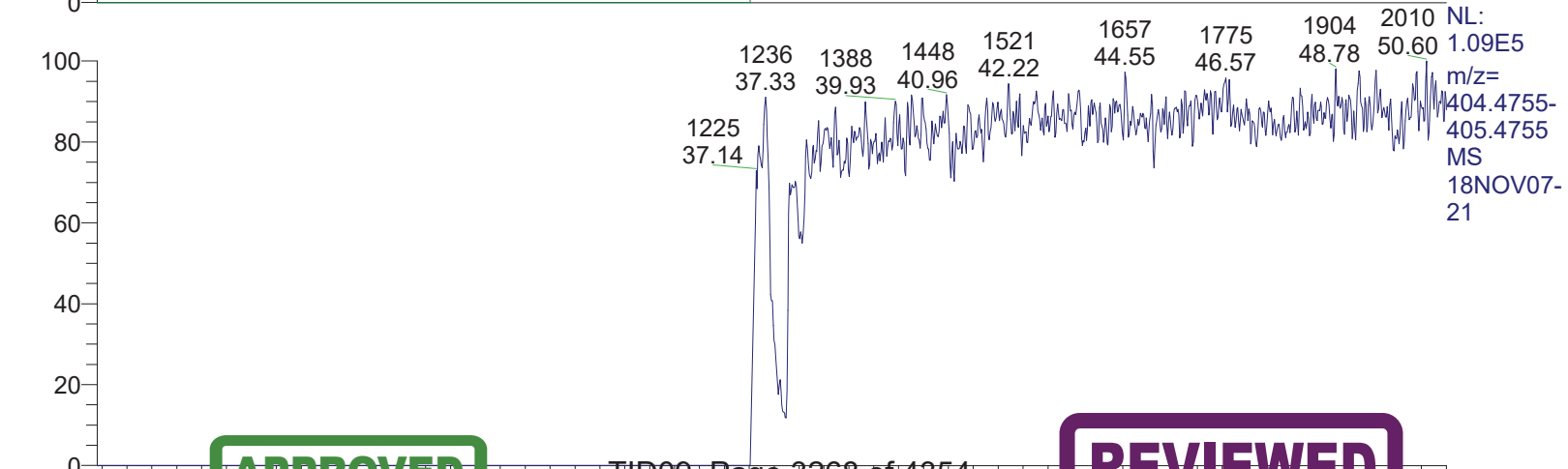
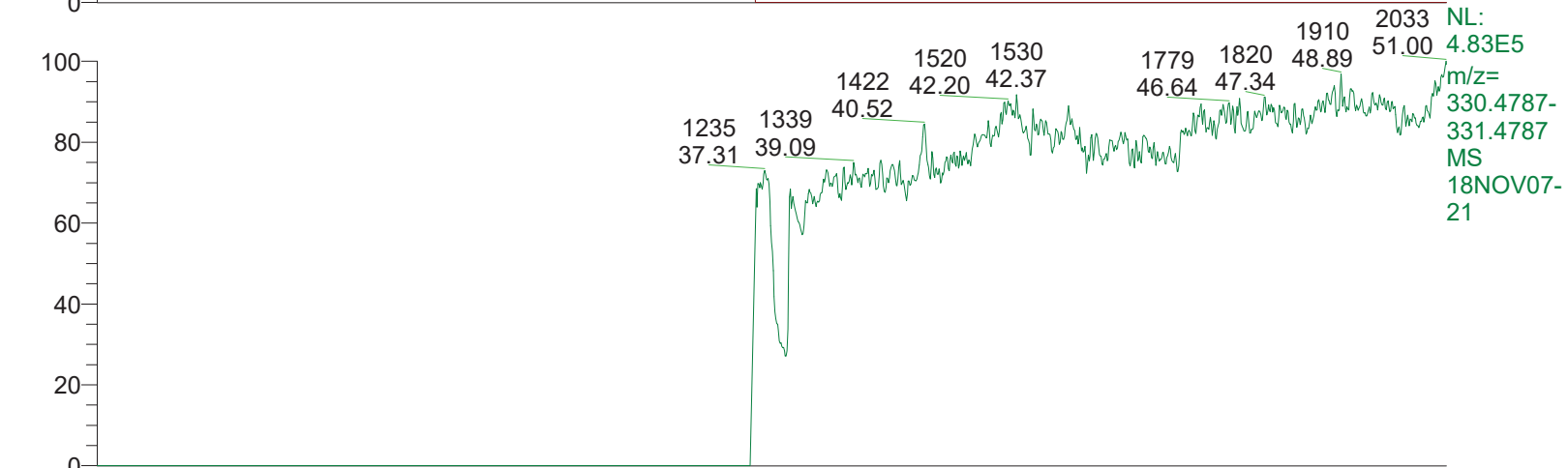
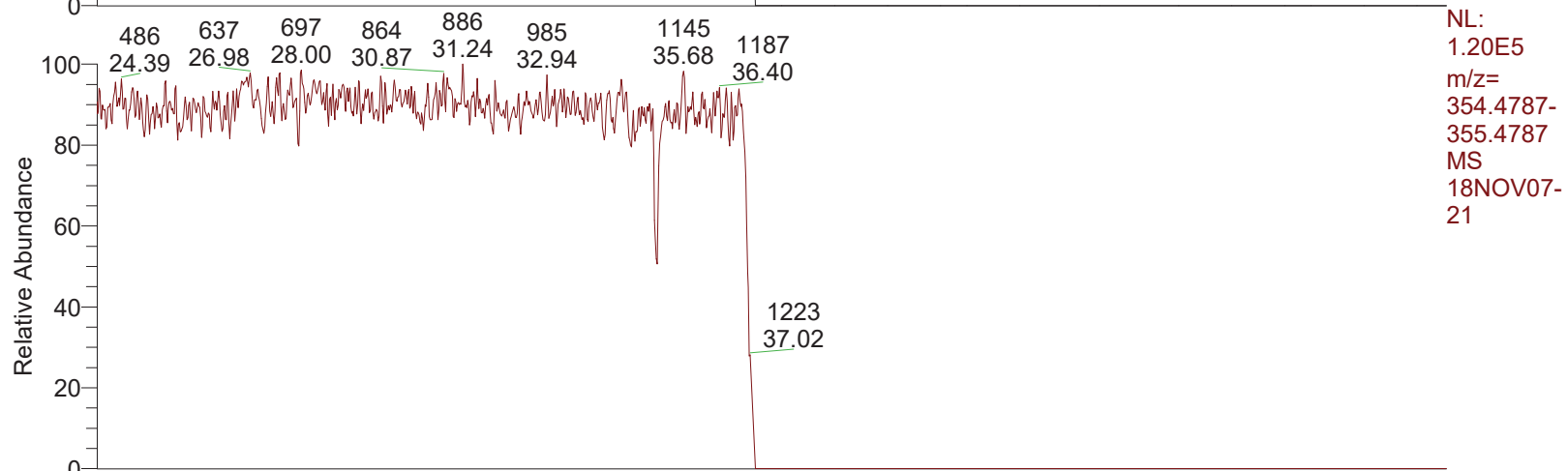
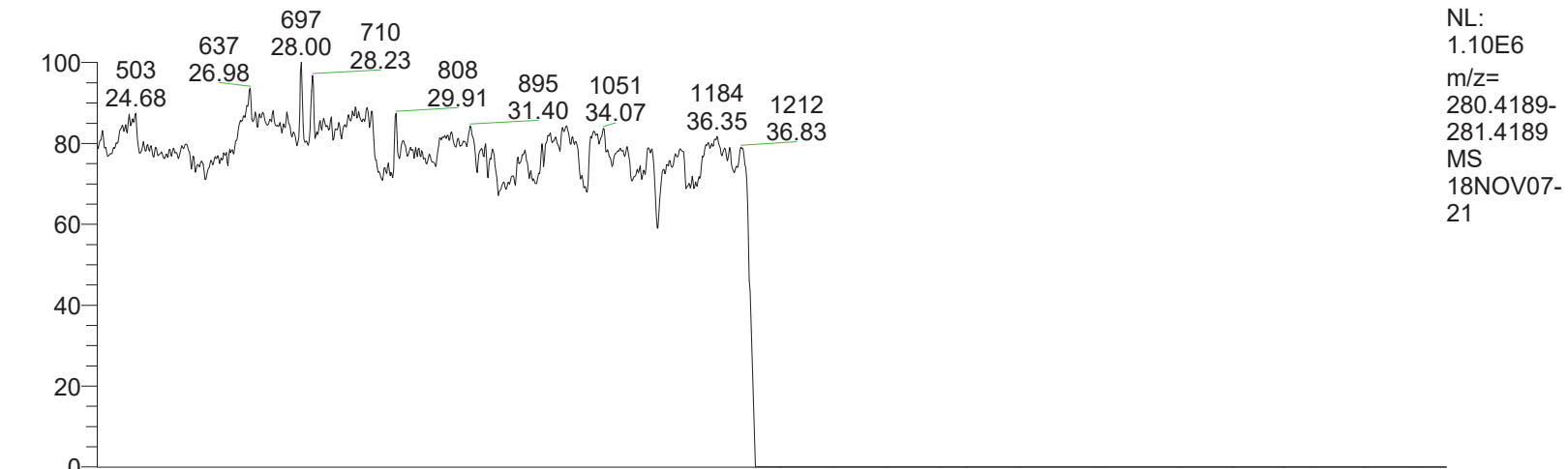
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.75	0.6474	0.6450 - 0.8950	passed	---	0 - 0	passed
2	13C12-1234-TCDD	24.80	0.7957	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.70	0.7703	0.6450 - 0.8950	passed	50.18	40 - 135	passed

**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.75	21649	A	14015	A	0.0493	1.333889	1.3339	0.000000	82	
2	13C12-1234-TCDD	passed	24.80	2854743	A	2271596	A	0.0256	199.600798	199.6008	199.600798	19511	
3	13C12-2378-TCDF	passed	26.70	2960886	A	2280911	A	0.0226	100.151767	100.1518	199.600798	9856	

RT: 23.90 - 51.00



**APPROVED**  
By AQ46 at 5:57 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

18NOV07-21

\*\*\* file opened Thu Nov 08 08:18:11 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 08:18:10

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95





419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0376	FVSR	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	96.5000	LKM	330.9792	MASS	96.5000
MDAC	935999.8554	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9685	RELEN	0.0000
RES	11587.7893	RPUSHER	-15.8168	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.5000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.3e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11974.  
MID Time Window 2: Resolution is 11587.

Amplifier offset: 88.



18NOV07-21  
\*\*\* File closed Thu Nov 08 09:10:43 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 00:00  
Number of Entries 243  
Comment S:11030:12937:17962  
Vial 65  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS007 Grab Soil  
Sample ID 9866463RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-18.quan  
Data w:\18nov06\18nov06-18.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.06  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.83	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.95	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.96	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.97	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.37	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.07	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.91	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.26	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.64	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	passed



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/07 00:00  
Number of Entries 243  
Comment S:11030:12937:17962  
Vial 65  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS007 Grab Soil  
Sample ID 9866463RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

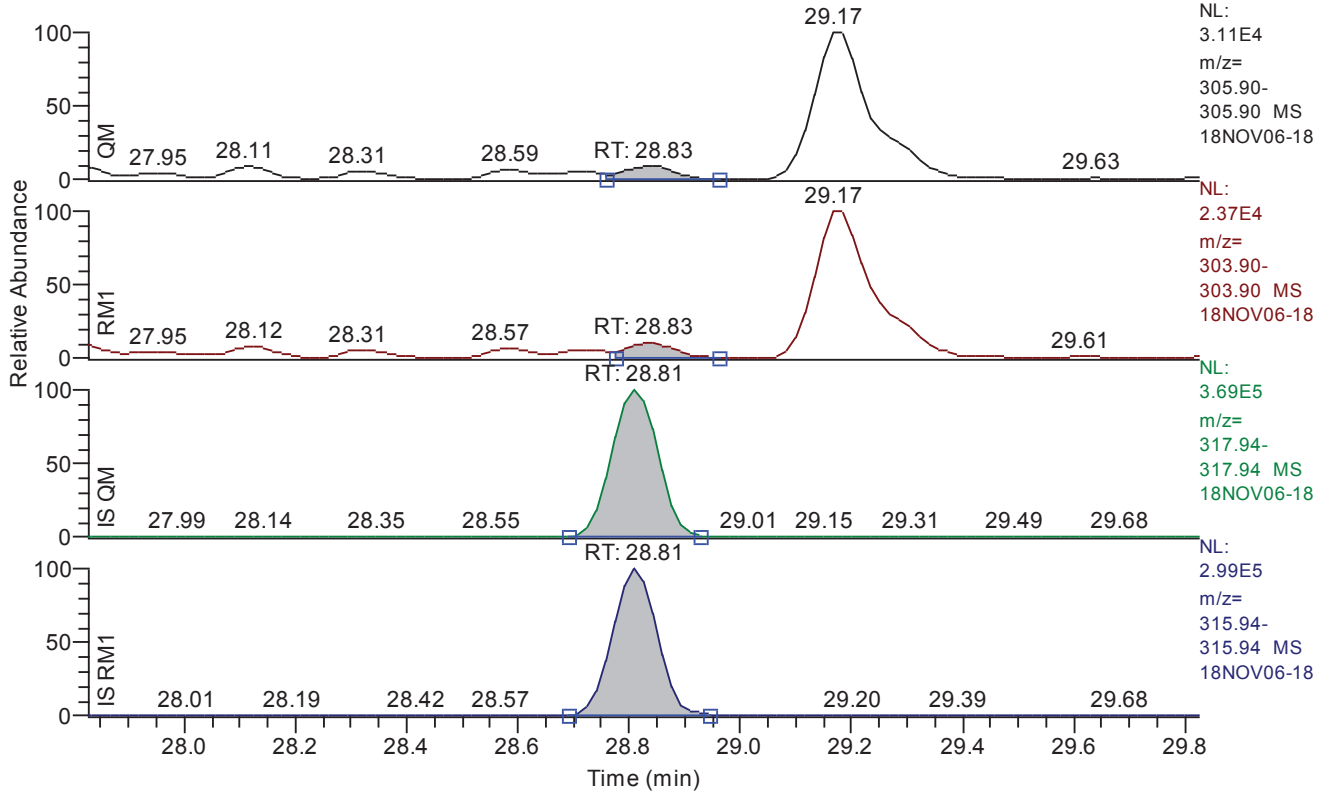
Quan w:\18nov06\18nov06-18.quan  
Data w:\18nov06\18nov06-18.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.06  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.83 - 29.83 SM: 3G

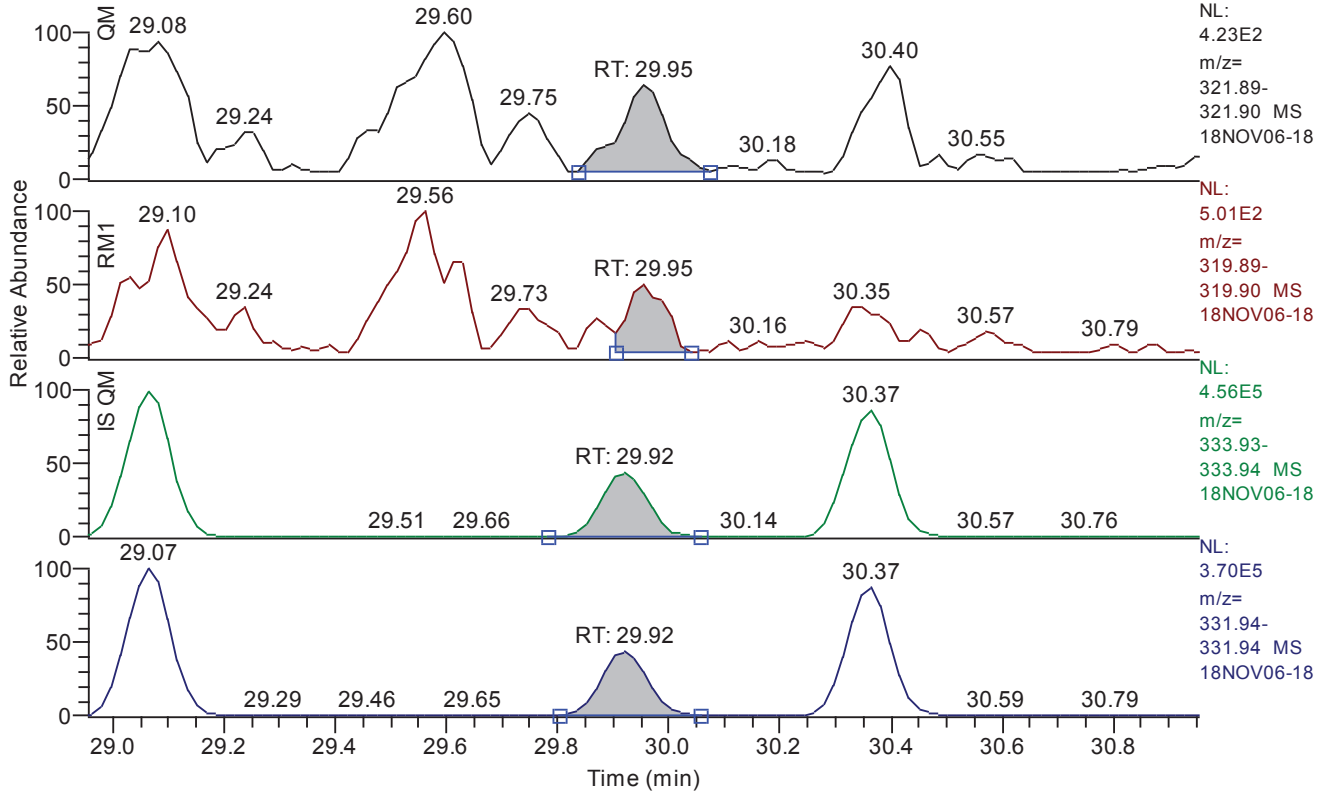


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.83
QM Area	17457
QM Integration Mode	A
RM1 Area	13900
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1525
Unqualified Amount (A)	1.745572
Adjusted Amount (A)	1.7456
Signal-to-Noise	28
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.95 - 30.95 SM: 3G

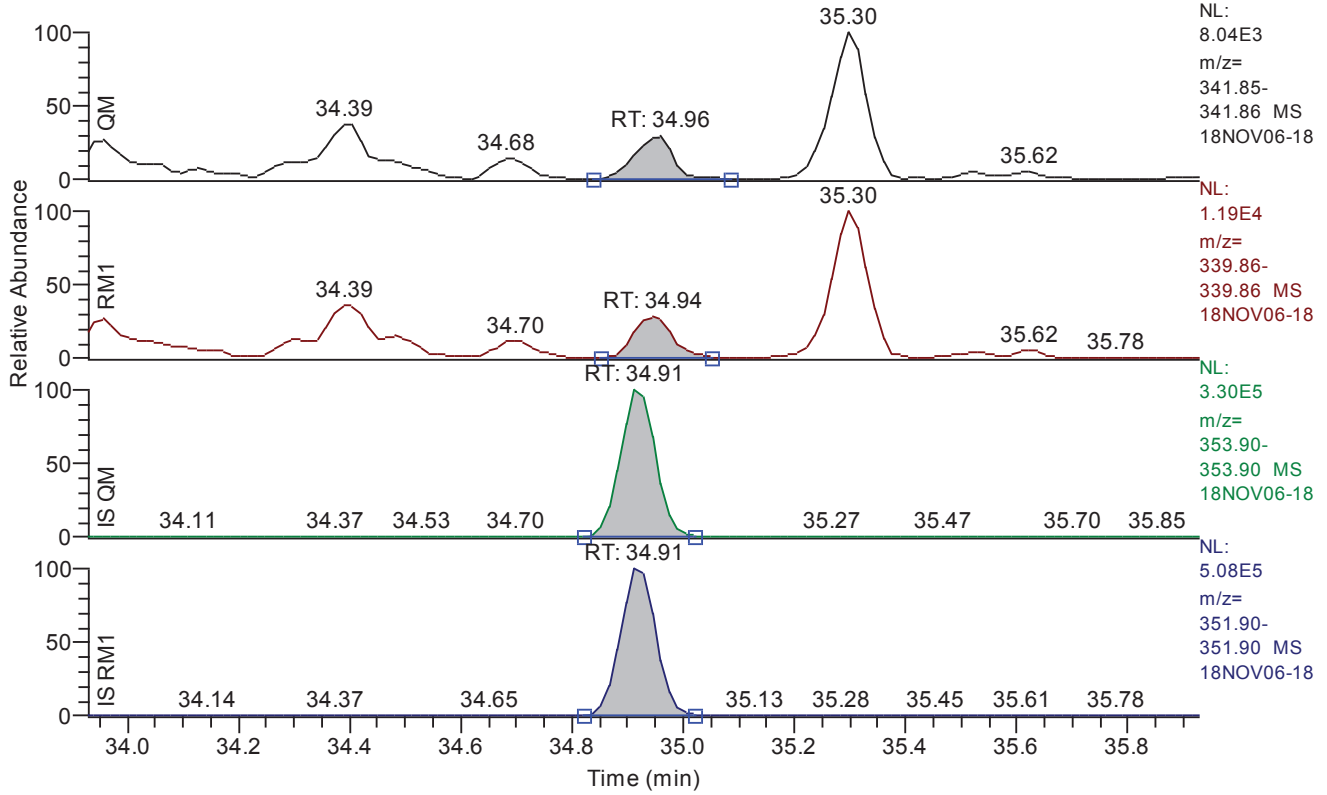


**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	1495
QM Integration Mode	A
RM1 Area	1101
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0390
Unqualified Amount (A)	0.216146
Adjusted Amount (A)	0.2161
Signal-to-Noise	15
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 33.93 - 35.93 SM: 3G



**Entry Parameters**

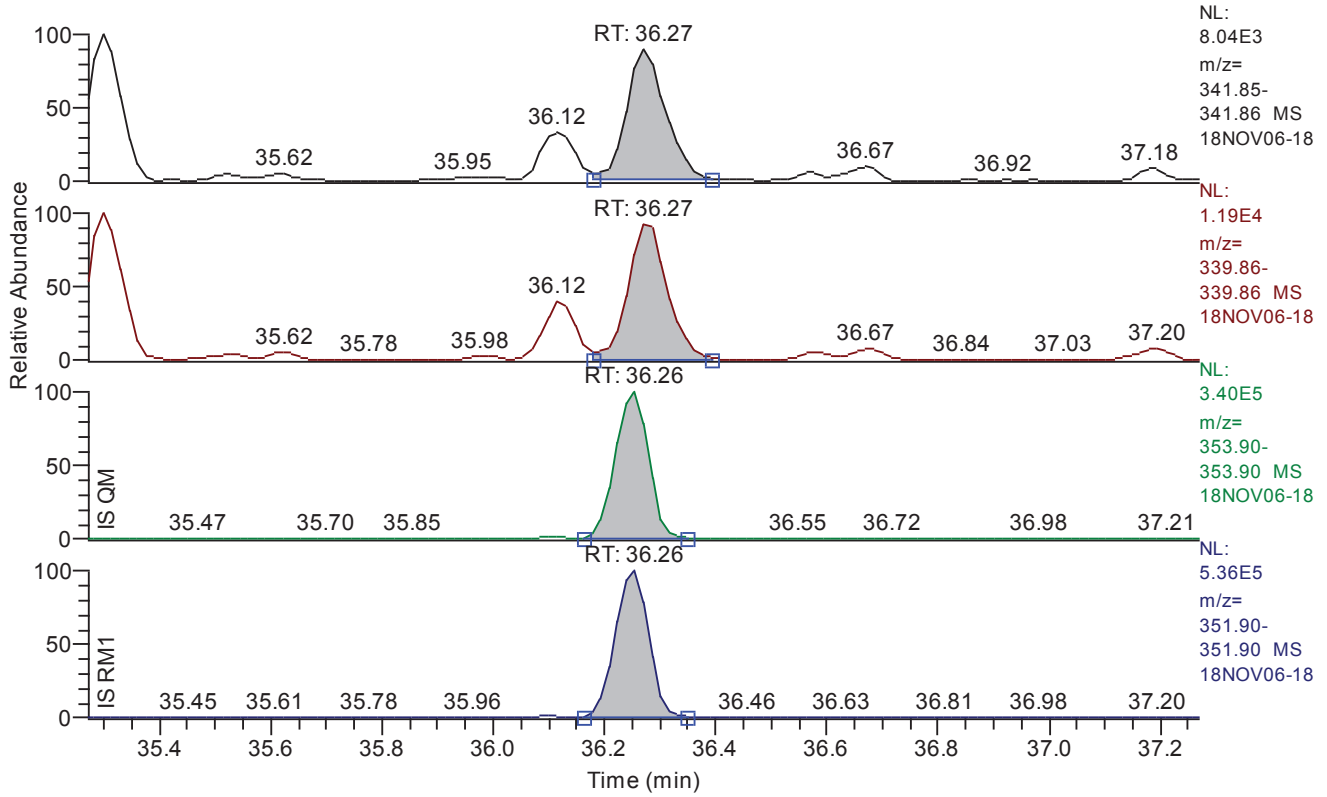
Compound Name	12378-PeCDF
QM Retention Time	34.96
QM Area	11357
QM Integration Mode	A
RM1 Area	15847
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0628
Unqualified Amount (A)	1.709647
Adjusted Amount (A)	1.7096
Signal-to-Noise	64
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 35.27 - 37.27 SM: 3G

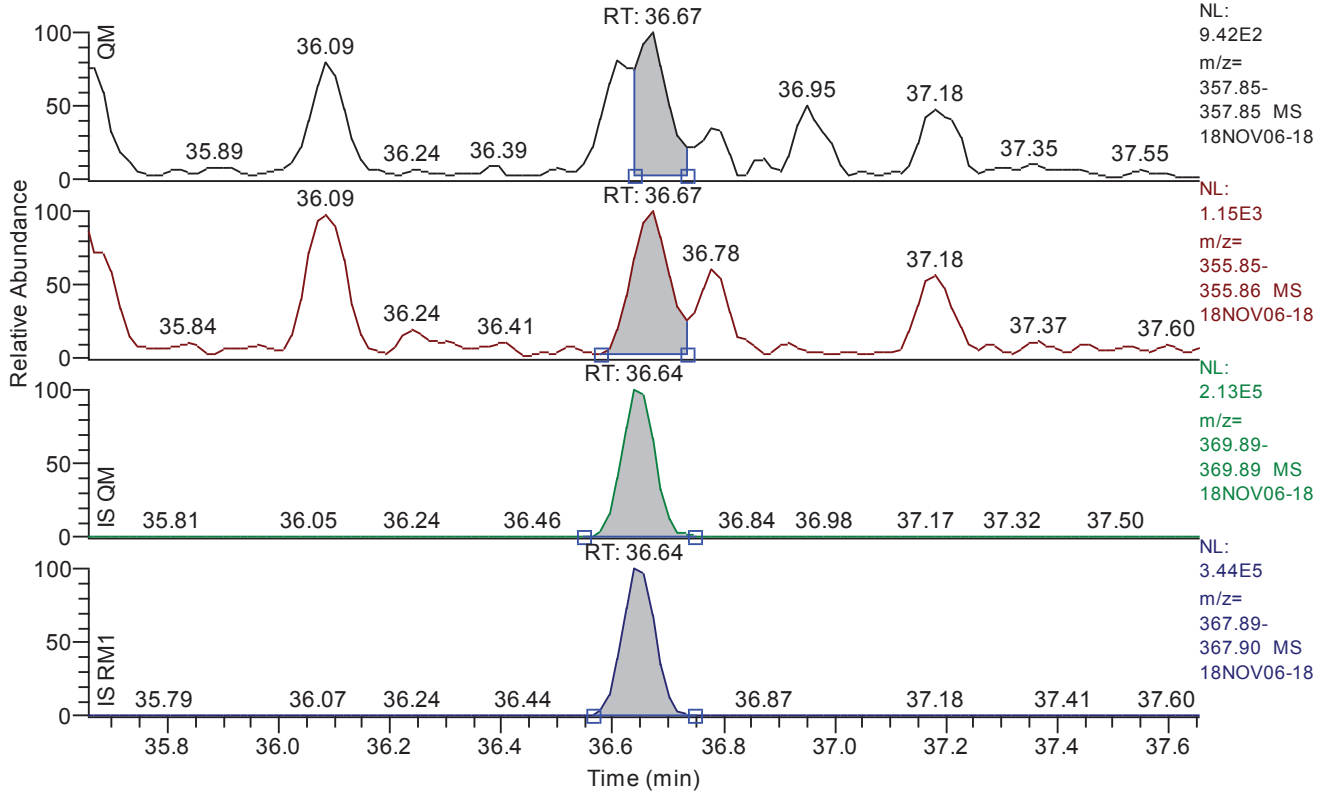


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.27
QM Area	34906
QM Integration Mode	A
RM1 Area	53891
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0538
Unqualified Amount (A)	5.049935
Adjusted Amount (A)	5.0499
Signal-to-Noise	201
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.66 - 37.66 SM: 3G



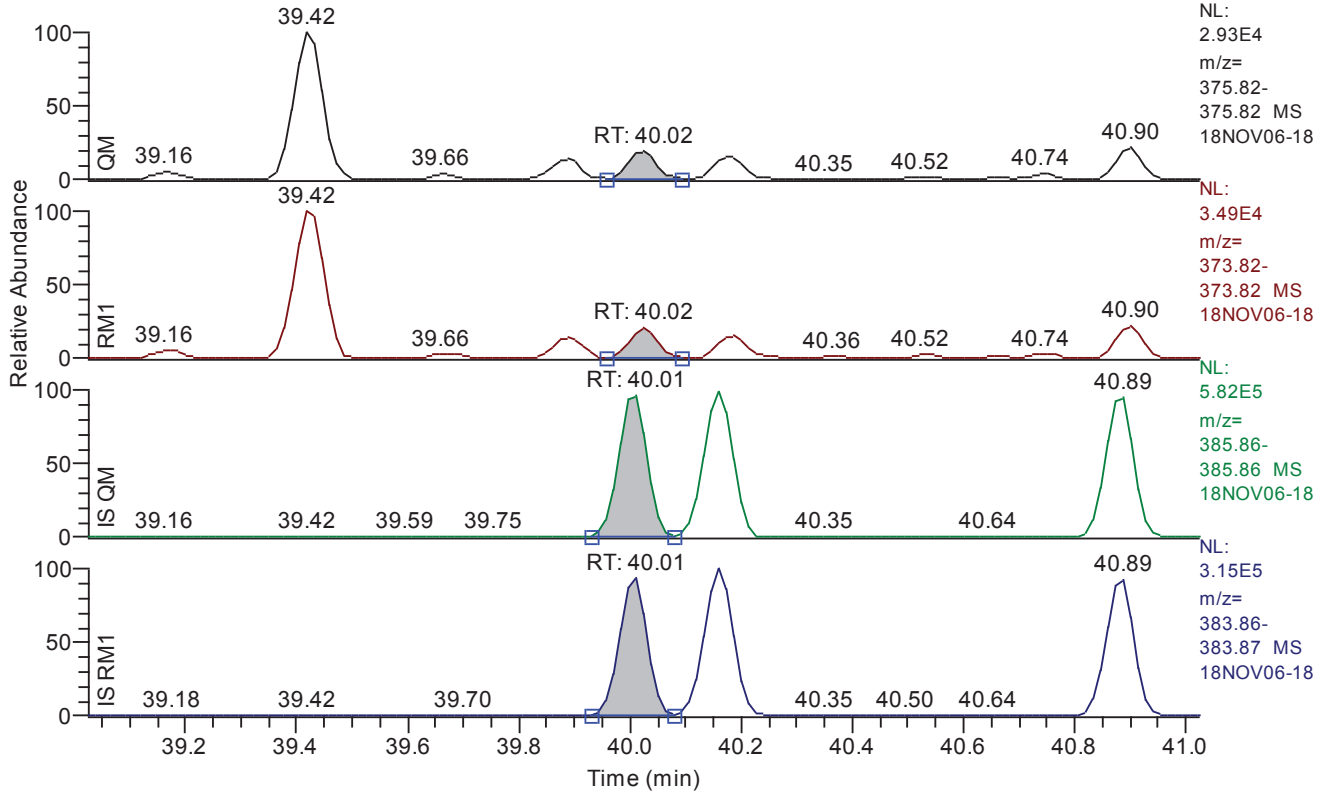
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	3307
QM Integration Mode	A
RM1 Area	5267
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0699
Unqualified Amount (A)	0.820249
Adjusted Amount (A)	0.8202
Signal-to-Noise	29
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.02 - 41.02 SM: 3G

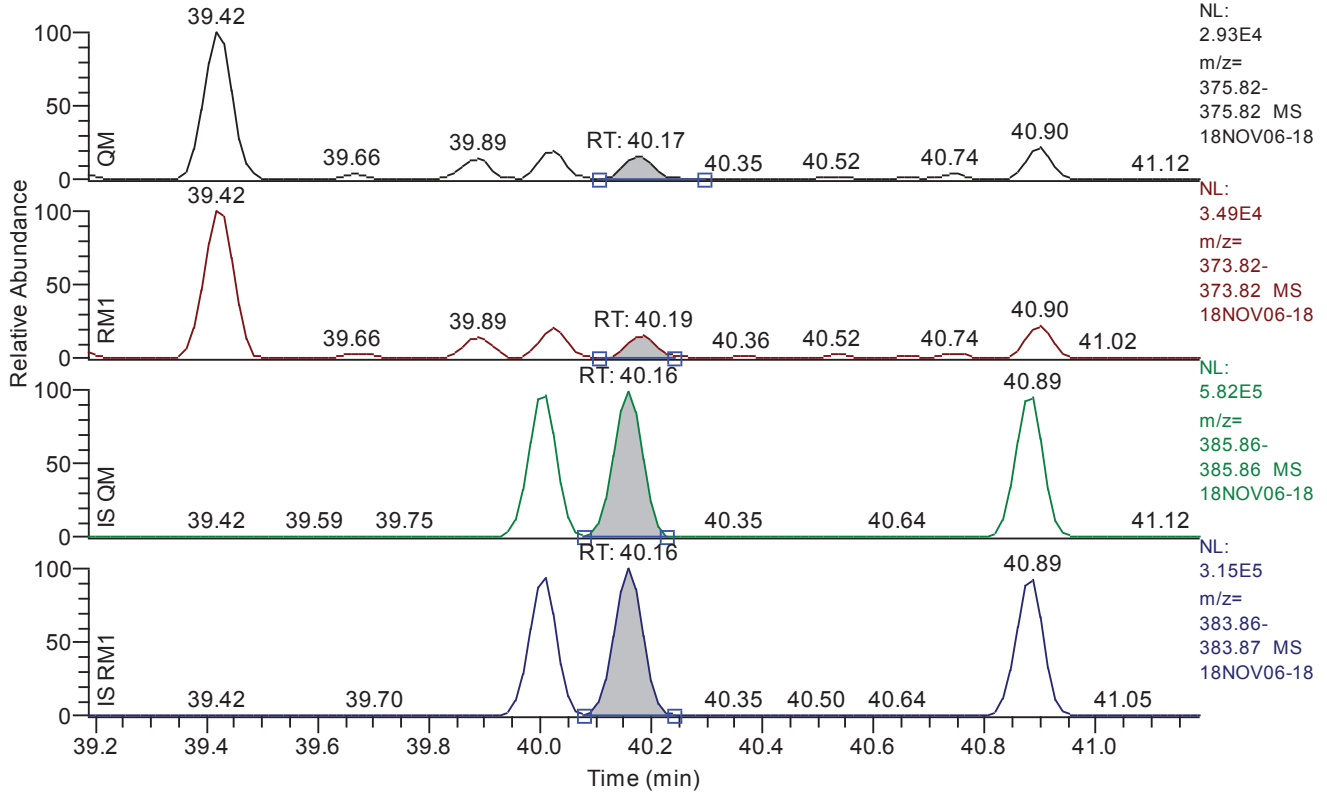


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.02
QM Area	20123
QM Integration Mode	A
RM1 Area	24933
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0483
Unqualified Amount (A)	2.754537
Adjusted Amount (A)	2.7545
Signal-to-Noise	145
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.19 - 41.19 SM: 3G

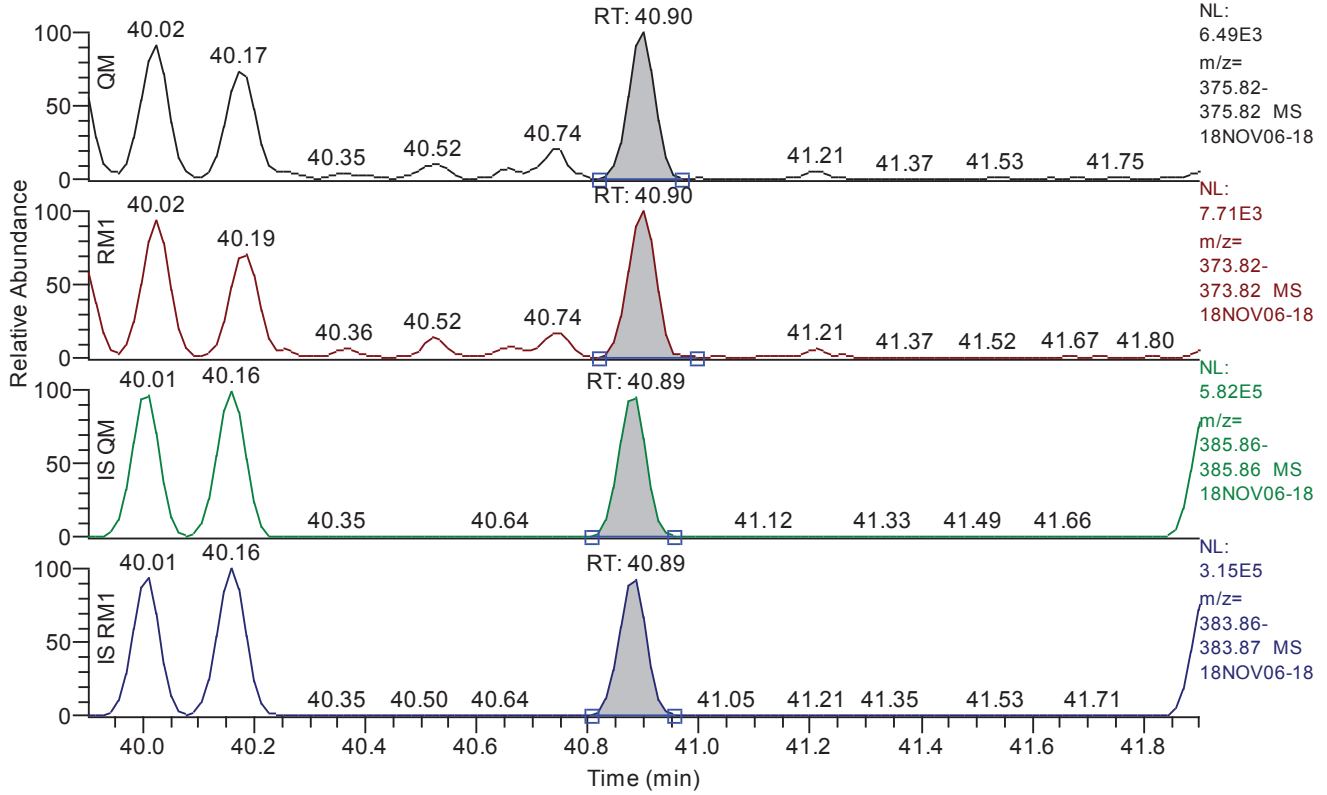


**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.17
QM Area	18046
QM Integration Mode	A
RM1 Area	19955
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0475
Unqualified Amount (A)	2.227366
Adjusted Amount (A)	2.2274
Signal-to-Noise	112
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.90 - 41.90 SM: 3G



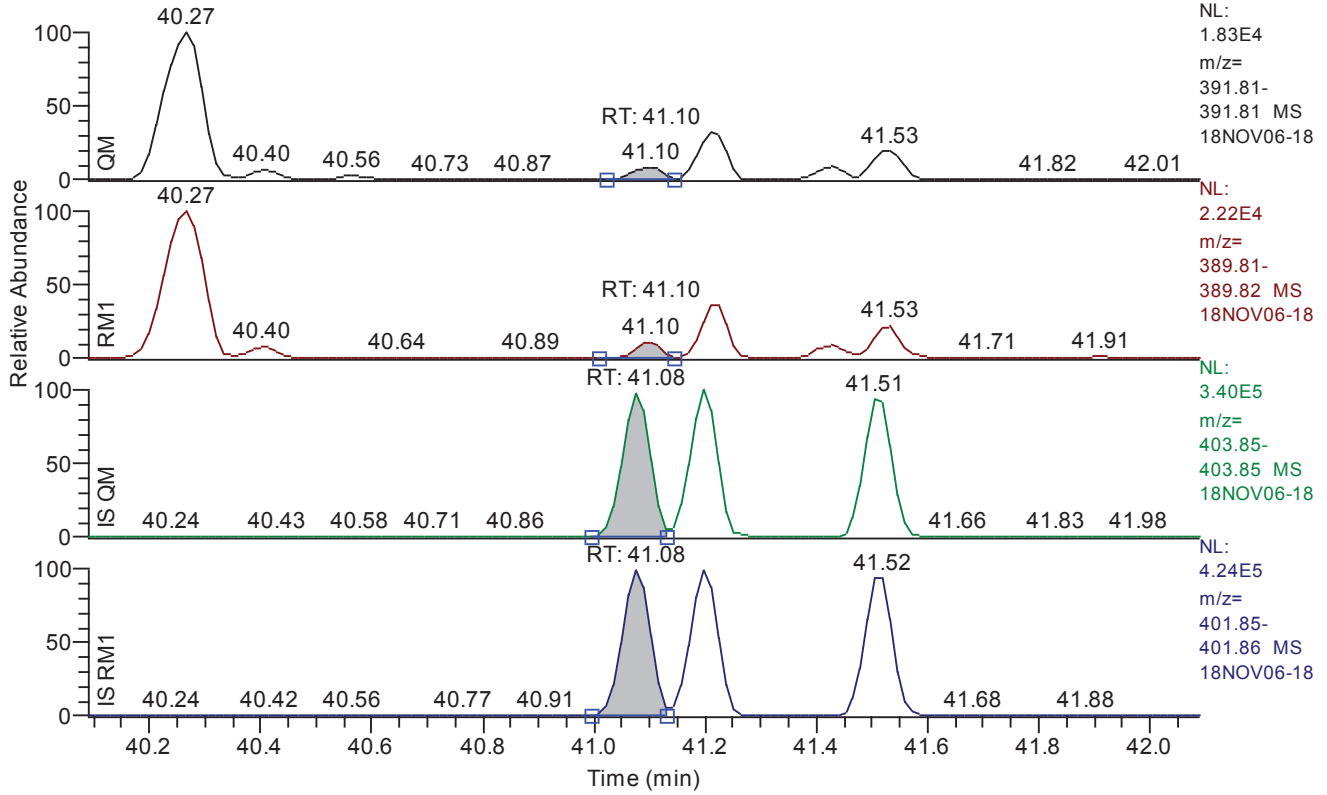
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	21767
QM Integration Mode	A
RM1 Area	27131
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0471
Unqualified Amount (A)	2.918441
Adjusted Amount (A)	2.9184
Signal-to-Noise	158
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.09 - 42.09 SM: 3G

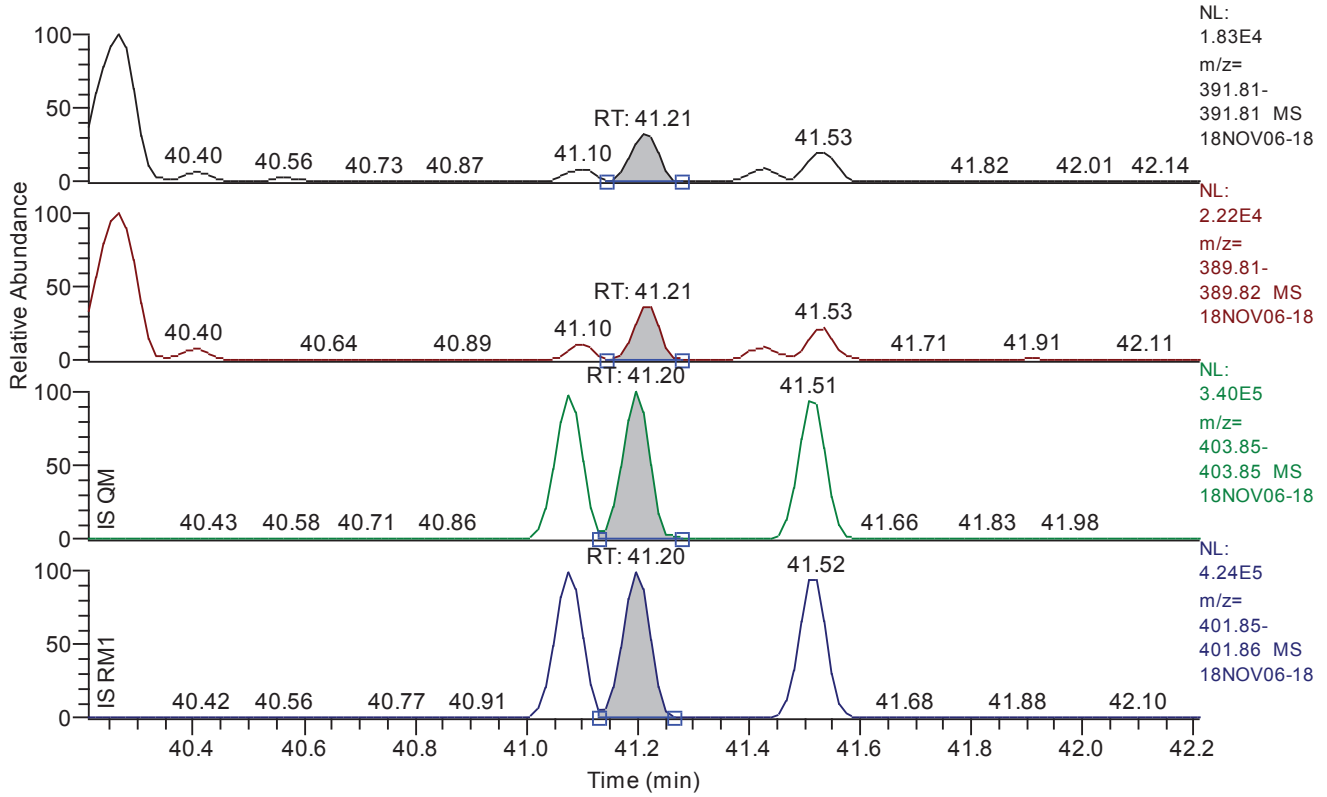


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	5877
QM Integration Mode	A
RM1 Area	7734
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0385
Unqualified Amount (A)	1.132512
Adjusted Amount (A)	1.1325
Signal-to-Noise	75
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.21 - 42.21 SM: 3G



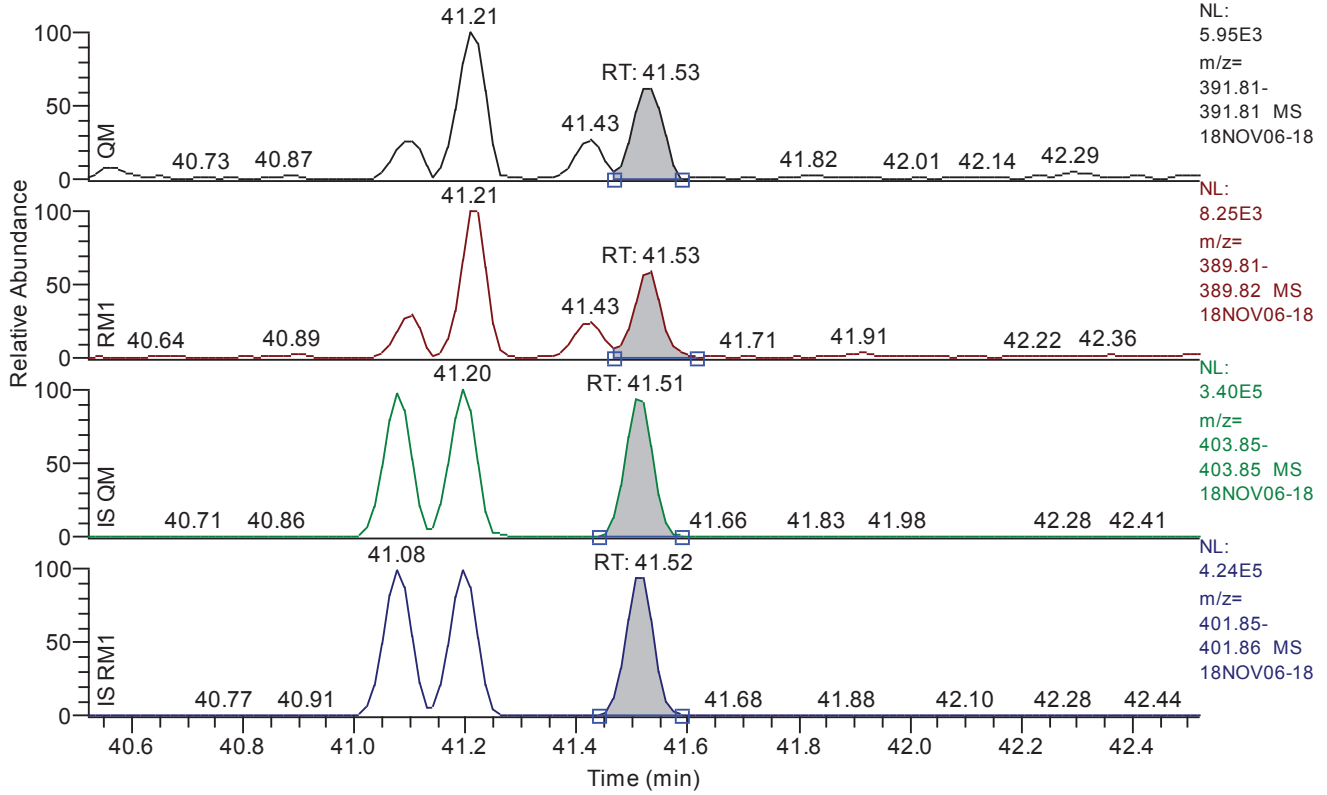
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	21051
QM Integration Mode	A
RM1 Area	26993
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0385
Unqualified Amount (A)	4.031656
Adjusted Amount (A)	4.0317
Signal-to-Noise	265
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.52 - 42.52 SM: 3G



**Entry Parameters**

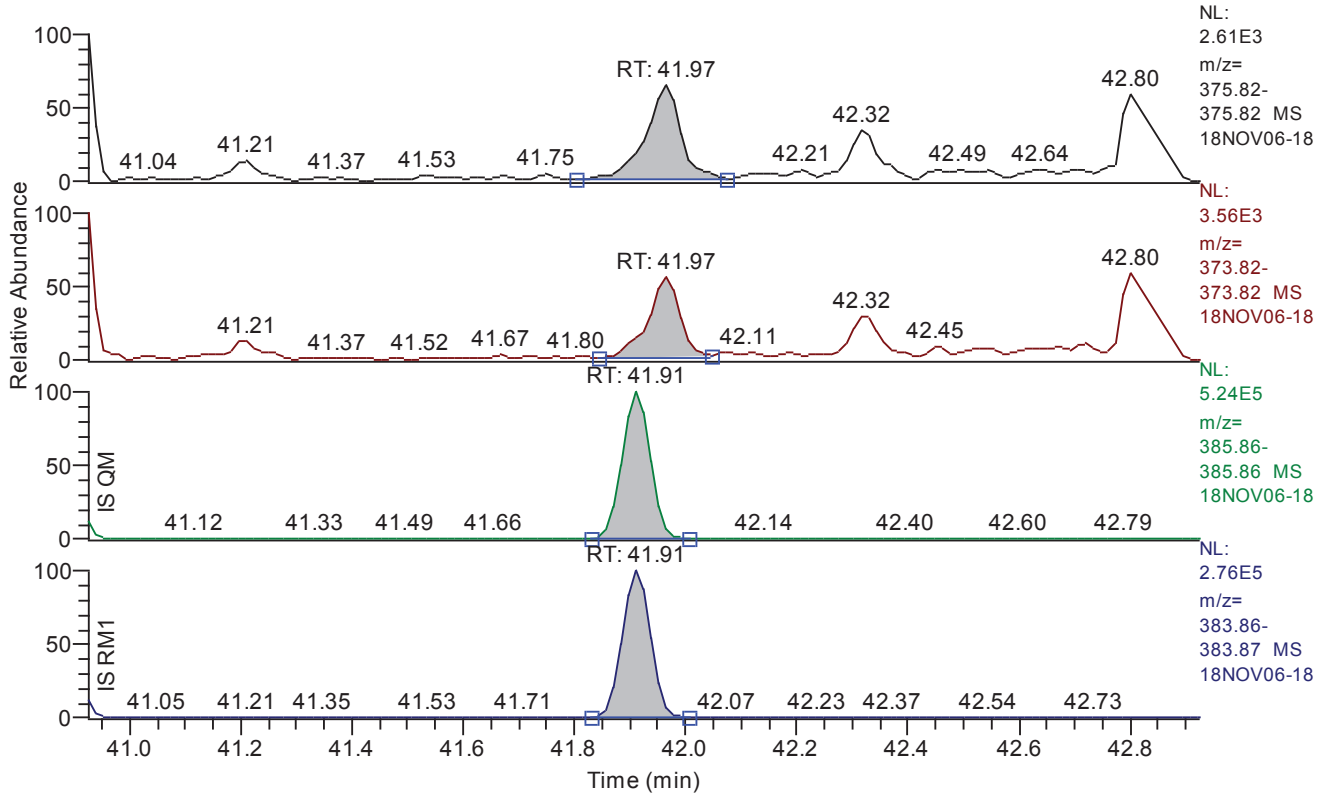
Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	14092
QM Integration Mode	A
RM1 Area	17049
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0385
Unqualified Amount (A)	2.562276
Adjusted Amount (A)	2.5623
Signal-to-Noise	160
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 40.92 - 42.92 SM: 3G

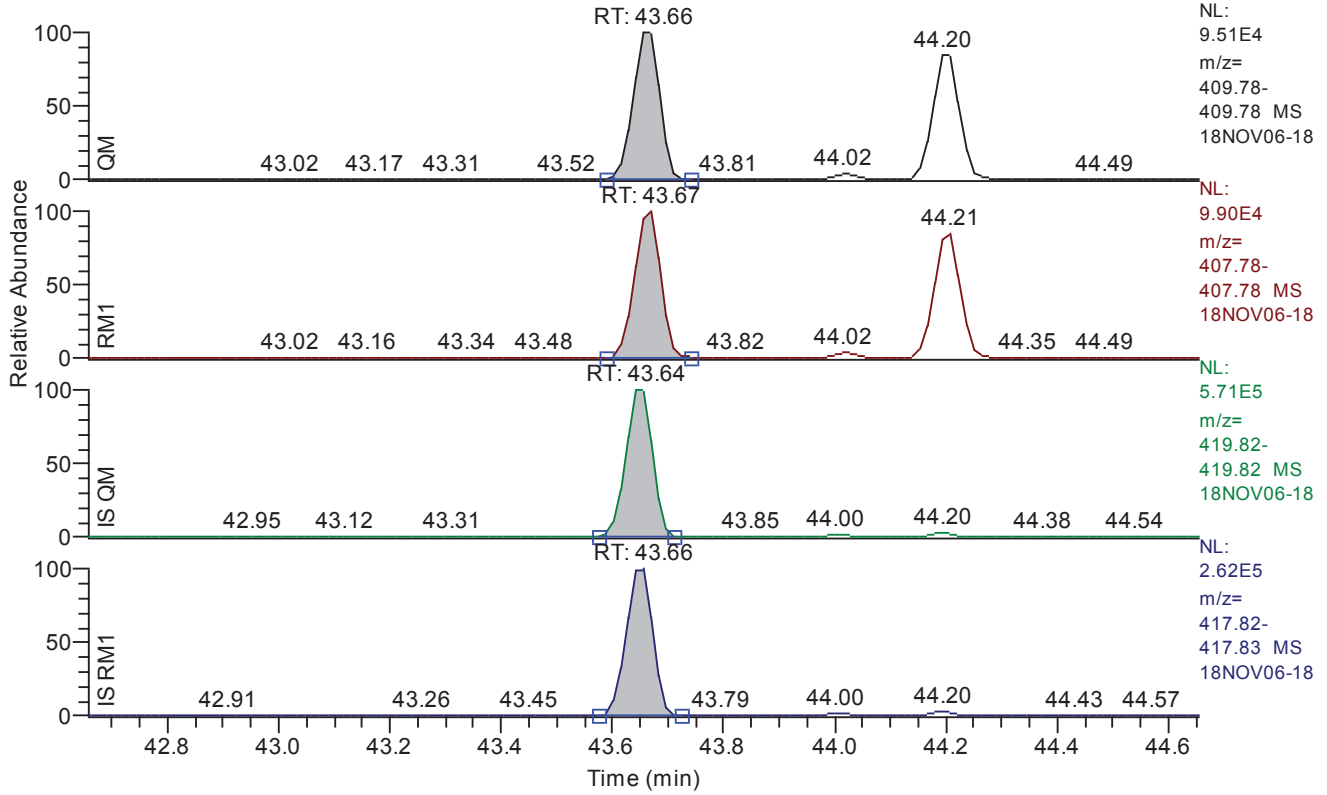


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.97
QM Area	7416
QM Integration Mode	A
RM1 Area	7741
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0545
Unqualified Amount (A)	1.046134
Adjusted Amount (A)	n.d.
Signal-to-Noise	41
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 42.66 - 44.66 SM: 3G



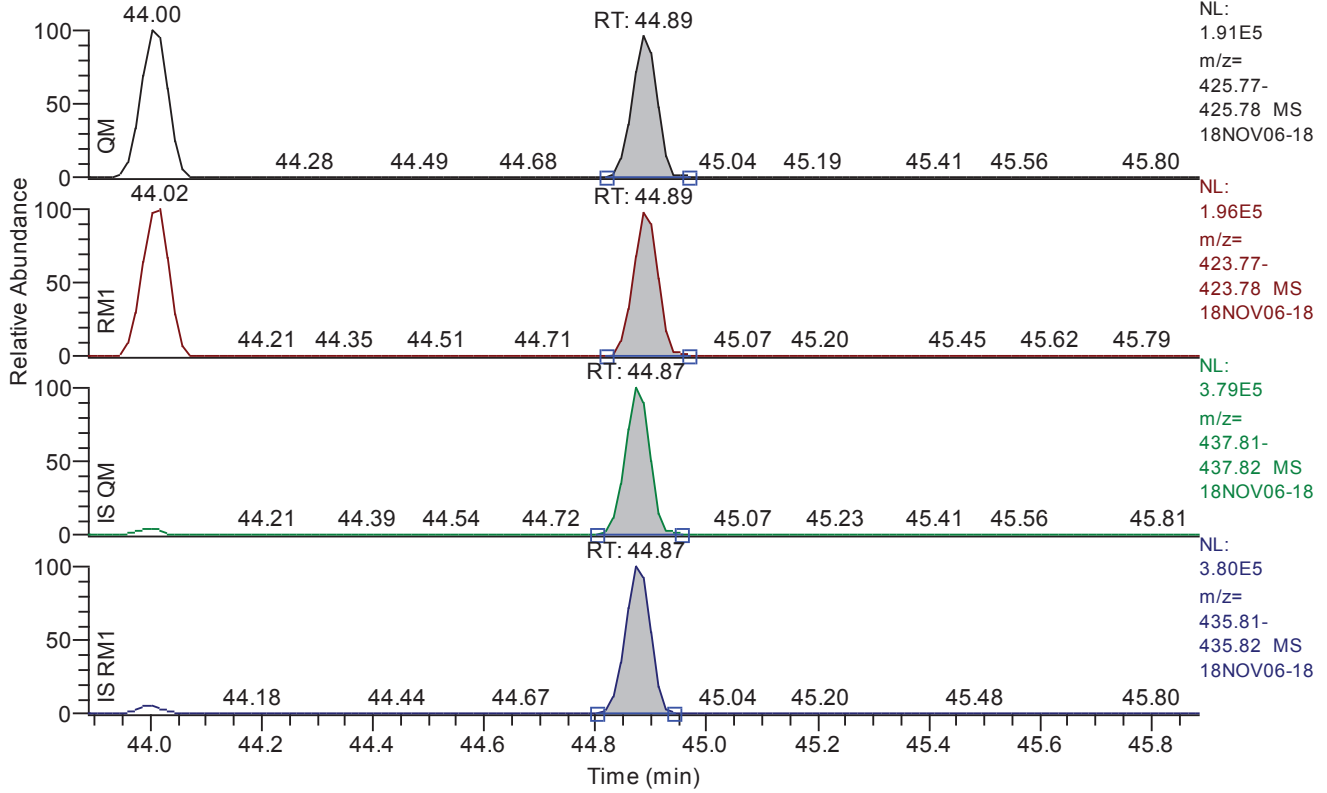
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	324096
QM Integration Mode	A
RM1 Area	333296
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0345
Unqualified Amount (A)	39.885575
Adjusted Amount (A)	39.8856
Signal-to-Noise	2927
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.89 - 45.89 SM: 3G



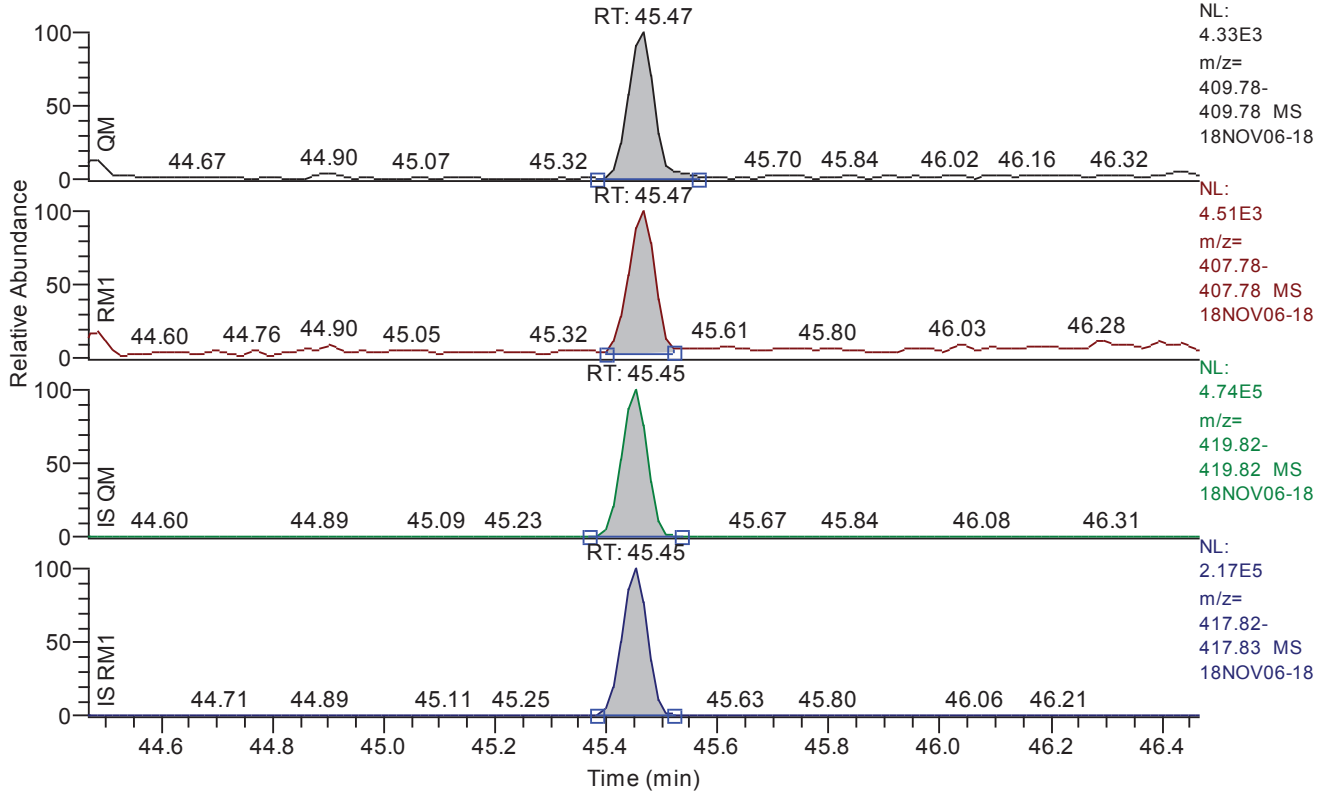
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	586698
QM Integration Mode	A
RM1 Area	612746
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0975
Unqualified Amount (A)	104.135563
Adjusted Amount (A)	104.1356
Signal-to-Noise	2685
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



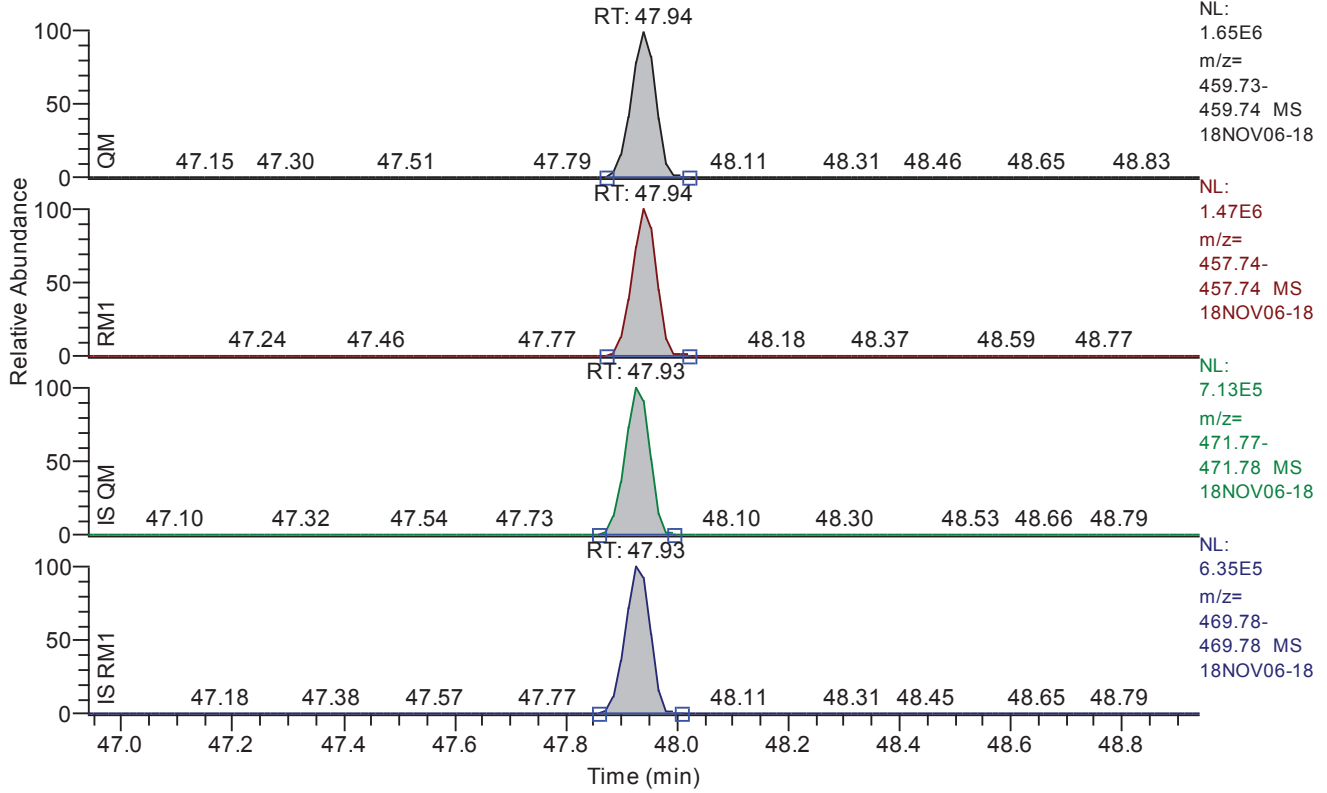
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	14517
QM Integration Mode	A
RM1 Area	14615
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0404
Unqualified Amount (A)	2.168718
Adjusted Amount (A)	2.1687
Signal-to-Noise	130
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.94 - 48.94 SM: 3G

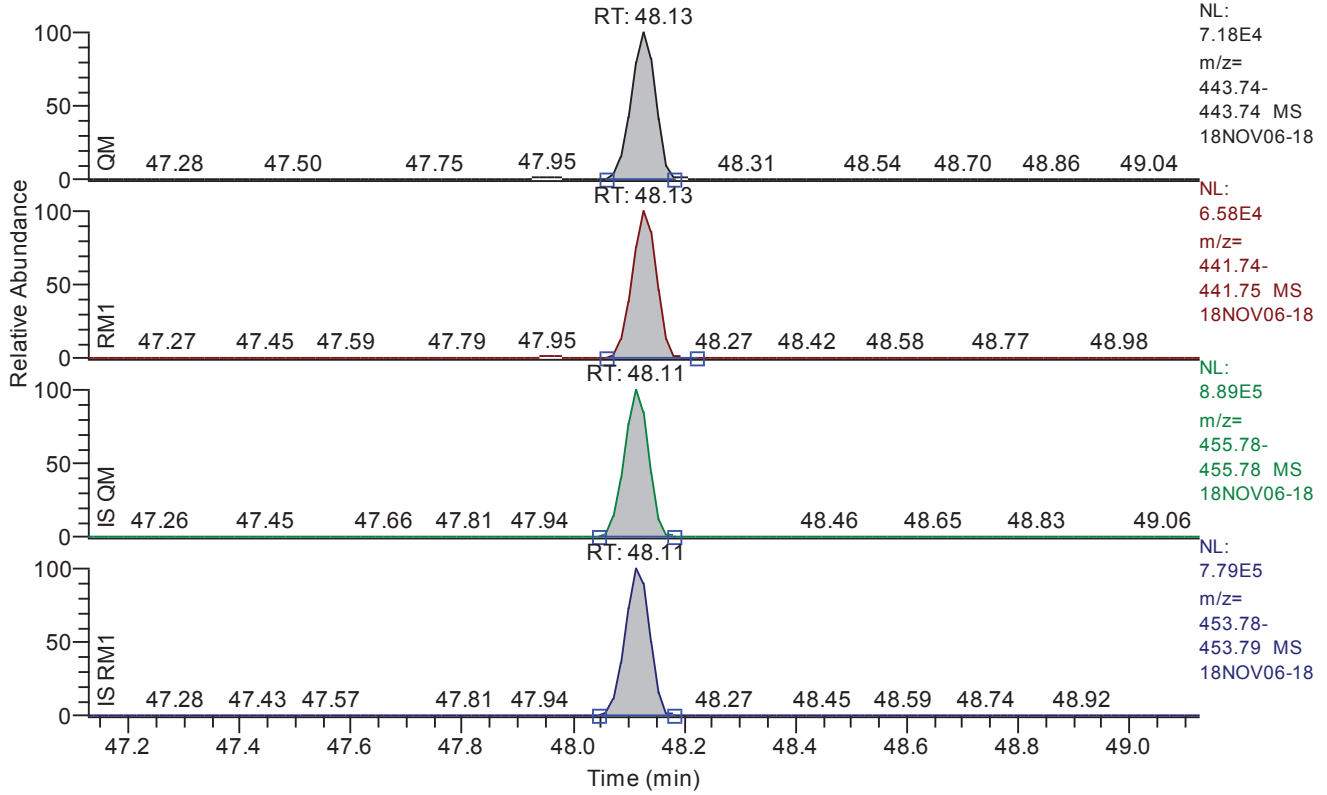


**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	4978398
QM Integration Mode	A
RM1 Area	4464468
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0554
Unqualified Amount (A)	978.525895
Adjusted Amount (A)	978.5259
Signal-to-Noise	45482
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 47.13 - 49.13 SM: 3G

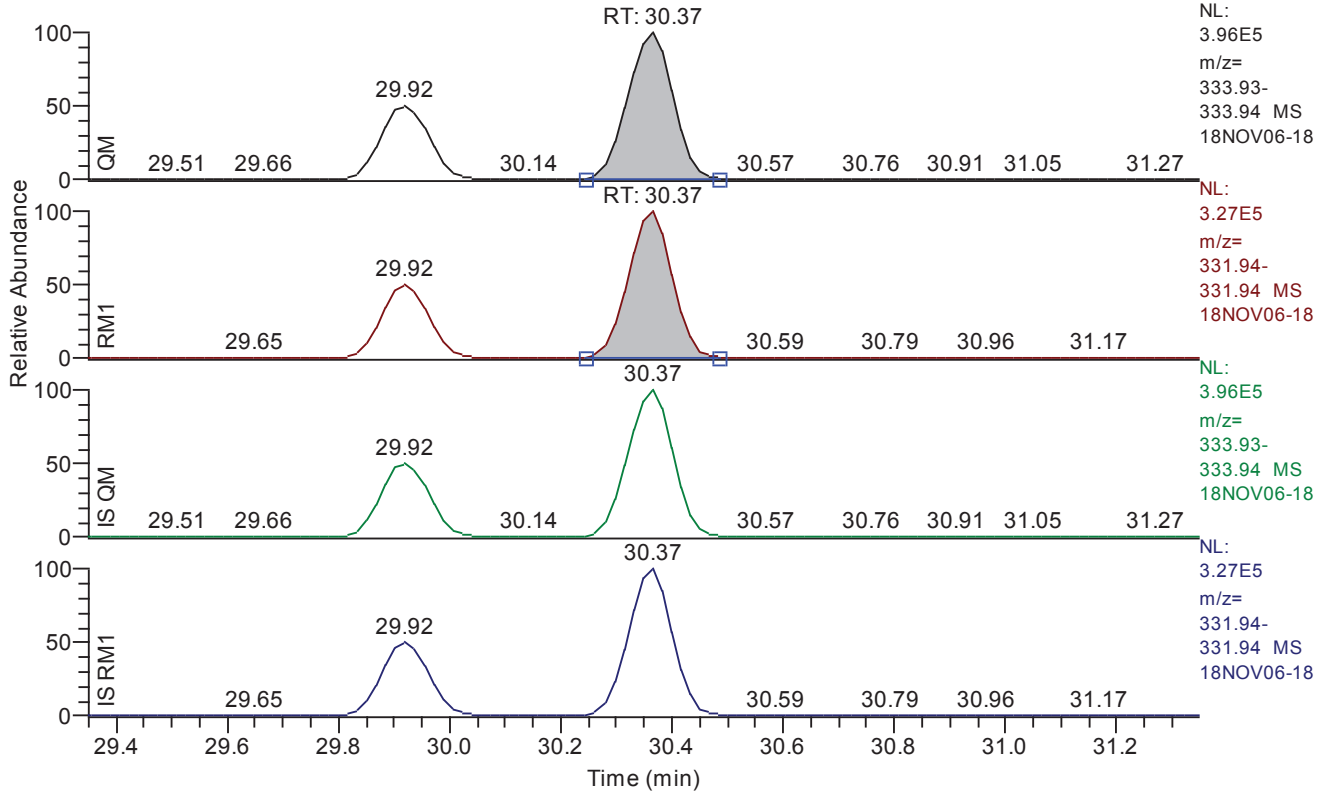


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	217405
QM Integration Mode	A
RM1 Area	202127
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0385
Unqualified Amount (A)	38.529795
Adjusted Amount (A)	38.5298
Signal-to-Noise	2517
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 29.35 - 31.35 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.37
QM Area	2279397
QM Integration Mode	A
RM1 Area	1816946
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0230
Unqualified Amount (A)	168.353528
Adjusted Amount (A)	168.3535
Signal-to-Noise	18251
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.83	28.83	28.81	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.95	29.95	29.92	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.96	34.94	34.91	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.27	36.27	36.26	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.67	36.64	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.02	40.02	40.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.17	40.19	40.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.90	40.90	40.89	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.10	41.10	41.08	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.21	41.21	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.53	41.53	41.51	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.97	41.97	41.91	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.66	43.67	43.64	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.89	44.89	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.47	45.47	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.13	48.13	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.37	30.37	30.37	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.07	29.07	29.07	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.81	28.81	28.81	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.92	29.92	29.92	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.91	34.91	34.85	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.26	36.26	36.26	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.64	36.64	36.64	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.01	40.01	40.09	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.16	40.16	40.17	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.89	40.89	40.87	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.08	41.08	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.51	41.52	41.52	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.91	41.91	41.83	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.64	43.66	43.64	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.45	45.45	45.48	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.11	48.11	48.13	passed	passed





**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.83	0.7963	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.95	0.7366	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	34.96	1.3953	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.27	1.5439	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.5926	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.02	1.2390	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.17	1.1058	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.90	1.2464	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.10	1.3160	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.21	1.2822	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.53	1.2098	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.97	1.0438	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	43.66	1.0284	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0444	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.47	1.0068	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.94	0.8968	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.9297	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.37	0.7971	0.6450 - 0.8950	passed	84.68	35 - 197	passed
19	13C12-1234-TCDD	29.07	0.8046	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2626	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.81	0.7842	0.6450 - 0.8950	passed	46.63	40 - 135	passed
22	13C12-2378-TCDD	29.92	0.8071	0.6450 - 0.8950	passed	47.69	40 - 135	passed
23	13C12-12378-PeCDF	34.91	1.5453	1.3150 - 1.7850	passed	48.67	40 - 135	passed
24	13C12-23478-PeCDF	36.26	1.5745	1.3150 - 1.7850	passed	48.04	40 - 135	passed
25	13C12-12378-PeCDD	36.64	1.6119	1.3150 - 1.7850	passed	50.78	40 - 135	passed
26	13C12-123478-HxCDF	40.01	0.5114	0.4250 - 0.5950	passed	48.24	40 - 135	passed
27	13C12-123678-HxCDF	40.16	0.5423	0.4250 - 0.5950	passed	48.79	40 - 135	passed
28	13C12-234678-HxCDF	40.89	0.5234	0.4250 - 0.5950	passed	48.74	40 - 135	passed
29	13C12-123478-HxCDD	41.08	1.2674	1.0450 - 1.4350	passed	53.20	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2583	1.0450 - 1.4350	passed	51.77	40 - 135	passed
31	13C12-123789-HxCDD	41.51	1.2546	1.0450 - 1.4350	passed	52.79	40 - 135	passed
32	13C12-123789-HxCDF	41.91	0.5273	0.4250 - 0.5950	passed	50.39	40 - 135	passed
33	13C12-1234678-HpCDF	43.64	0.4615	0.3650 - 0.5150	passed	49.17	40 - 135	passed
34	13C12-1234678-HpCDD	44.87	1.0274	0.8750 - 1.2050	passed	50.59	40 - 135	passed
35	13C12-1234789-HpCDF	45.45	0.4503	0.3650 - 0.5150	passed	47.42	40 - 135	passed
36	13C12-OCDD	47.93	0.9046	0.7550 - 1.0250	passed	44.78	40 - 135	passed
37	13C12-OCDF	48.11	0.8876	0.7550 - 1.0250	passed	40.79	40 - 135	passed

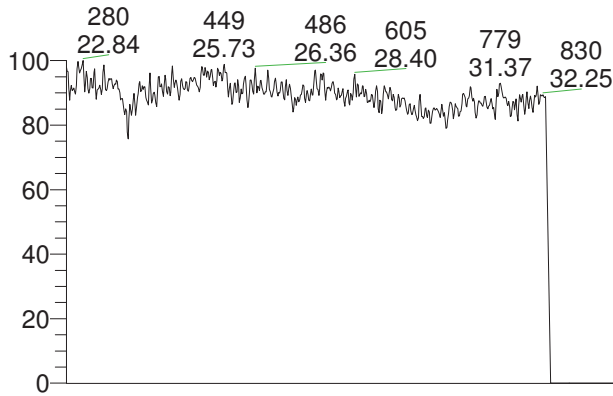


**Entry Parameters**

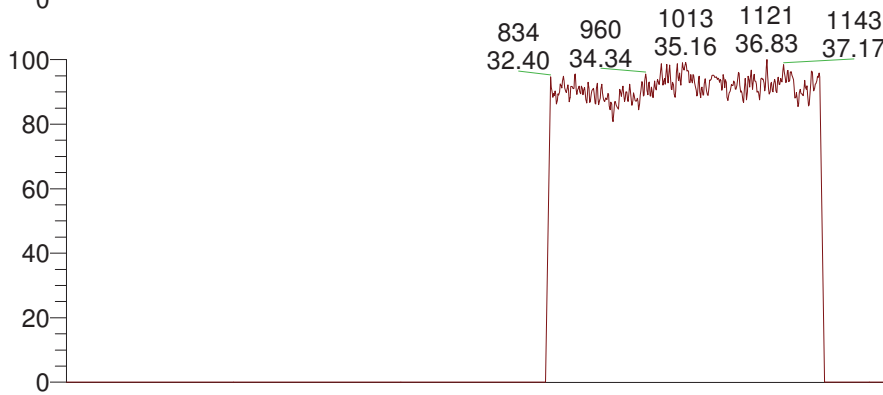
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.83	17457	A	13900	A	0.1525	1.745572	1.7456	0.000000	28	
2	2378-TCDD	passed	29.95	1495	A	1101	A	0.0390	0.216146	0.2161	0.000000	15	
3	12378-PeCDF	passed	34.96	11357	A	15847	A	0.0628	1.709647	1.7096	0.000000	64	
4	23478-PeCDF	passed	36.27	34906	A	53891	A	0.0538	5.049935	5.0499	0.000000	201	
5	12378-PeCDD	passed	36.67	3307	A	5267	A	0.0699	0.820249	0.8202	0.000000	29	
6	123478-HxCDF	passed	40.02	20123	A	24933	A	0.0483	2.754537	2.7545	0.000000	145	
7	123678-HxCDF	passed	40.17	18046	A	19955	A	0.0475	2.227366	2.2274	0.000000	112	
8	234678-HxCDF	passed	40.90	21767	A	27131	A	0.0471	2.918441	2.9184	0.000000	158	
9	123478-HxCDD	passed	41.10	5877	A	7734	A	0.0385	1.132512	1.1325	0.000000	75	
10	123678-HxCDD	passed	41.21	21051	A	26993	A	0.0385	4.031656	4.0317	0.000000	265	
11	123789-HxCDD	passed	41.53	14092	A	17049	A	0.0385	2.562276	2.5623	0.000000	160	
12	123789-HxCDF	failed	41.97	7416	A	7741	A	0.0545	1.046134	n.d.	0.000000	41	
13	1234678-HpCDF	passed	43.66	324096	A	333296	A	0.0345	39.885575	39.8856	0.000000	2927	
14	1234678-HpCDD	passed	44.89	586698	A	612746	A	0.0975	104.135563	104.1356	0.000000	2685	
15	1234789-HpCDF	passed	45.47	14517	A	14615	A	0.0404	2.168718	2.1687	0.000000	130	
16	OCDD	passed	47.94	4978398	A	4464468	A	0.0554	978.525895	978.5259	0.000000	45482	
17	OCDF	passed	48.13	217405	A	202127	A	0.0385	38.529795	38.5298	0.000000	2517	
18	13C12-1278-TCDD (CRS)	passed	30.37	2279397	A	1816946	A	0.0230	168.353528	168.3535	198.807157	18251	
19	13C12-1234-TCDD	passed	29.07	2596288	A	2089094	A	0.0238	198.807157	198.8072	198.807157	20887	
20	13C12-123468-HxCDD	passed	39.92	2203674	A	2782297	A	0.0260	198.807157	198.8072	198.807157	19119	
21	13C12-2378-TCDF	passed	28.81	2167918	A	1700095	A	0.0240	92.710591	92.7106	198.807157	9436	
22	13C12-2378-TCDD	passed	29.92	1207812	A	974834	A	0.0244	94.803735	94.8037	198.807157	9211	
23	13C12-12378-PeCDF	passed	34.91	1462003	A	2259260	A	0.0333	96.749877	96.7499	198.807157	9258	
24	13C12-23478-PeCDF	passed	36.26	1427970	A	2248313	A	0.0333	95.504708	95.5047	198.807157	9669	
25	13C12-12378-PeCDD	passed	36.64	888199	A	1431646	A	0.0289	100.948291	100.9483	198.807157	11867	
26	13C12-123478-HxCDF	passed	40.01	2014678	A	1030295	A	0.0322	95.911553	95.9116	198.807157	7360	
27	13C12-123678-HxCDF	passed	40.16	2106708	A	1142398	A	0.0305	97.007779	97.0078	198.807157	7658	
28	13C12-234678-HxCDF	passed	40.89	1972640	A	1032550	A	0.0330	96.904151	96.9042	198.807157	7266	
29	13C12-123478-HxCDD	passed	41.08	1157157	A	1466600	A	0.0263	105.760387	105.7604	198.807157	10157	
30	13C12-123678-HxCDD	passed	41.20	1160138	A	1459794	A	0.0256	102.930300	102.9303	198.807157	10220	
31	13C12-123789-HxCDD	passed	41.51	1123178	A	1409170	A	0.0270	104.945115	104.9451	198.807157	9694	
32	13C12-123789-HxCDF	passed	41.91	1852984	A	977080	A	0.0362	100.173158	100.1732	198.807157	6843	
33	13C12-1234678-HpCDF	passed	43.64	1953523	A	901506	A	0.0318	97.757027	97.7570	198.807157	7838	
34	13C12-1234678-HpCDD	passed	44.87	1205981	A	1238995	A	0.0337	100.581636	100.5816	198.807157	8096	
35	13C12-1234789-HpCDF	passed	45.45	1558761	A	701979	A	0.0387	94.266001	94.2660	198.807157	6500	
36	13C12-OCDD	passed	47.93	2209050	A	1998265	A	0.0186	178.051044	178.0510	397.614314	26763	
37	13C12-OCDF	passed	48.11	2711346	A	2406626	A	0.0129	162.196930	162.1969	397.614314	35891	



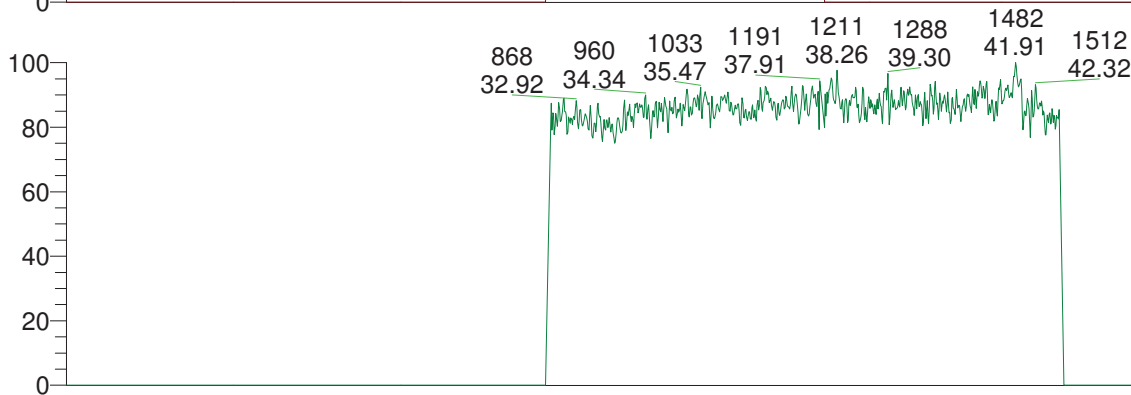
RT: 22.50 - 51.00



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292.9825  
MS  
18NOV06-  
18



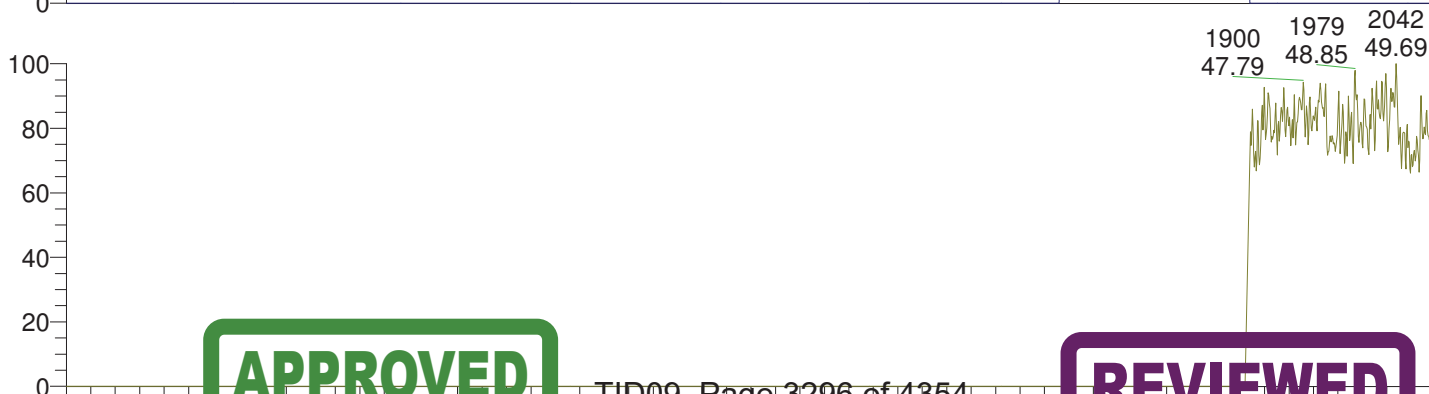
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331.4792  
MS  
18NOV06-  
18



NL:  
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m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
18



NL:  
1.16E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
18

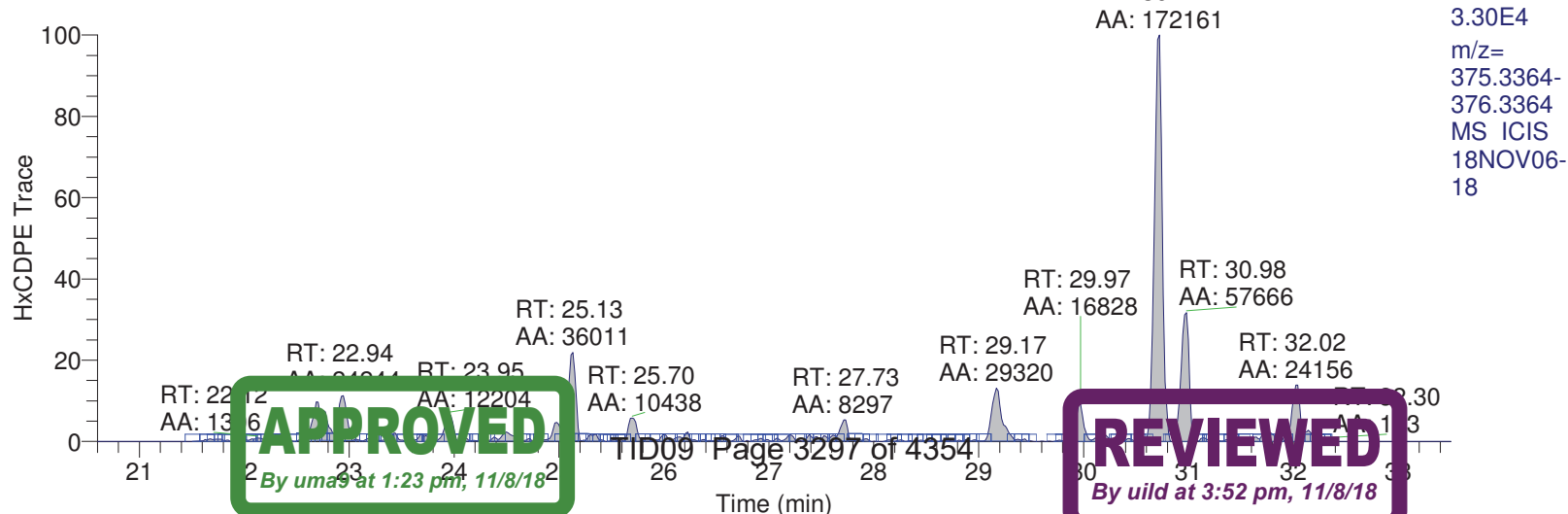
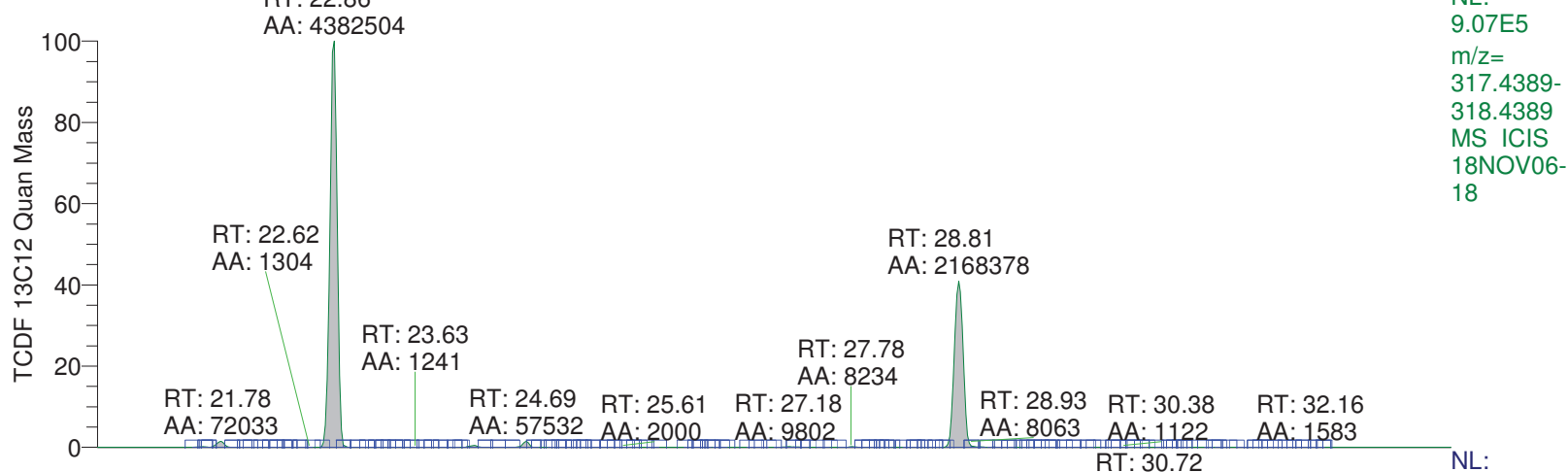
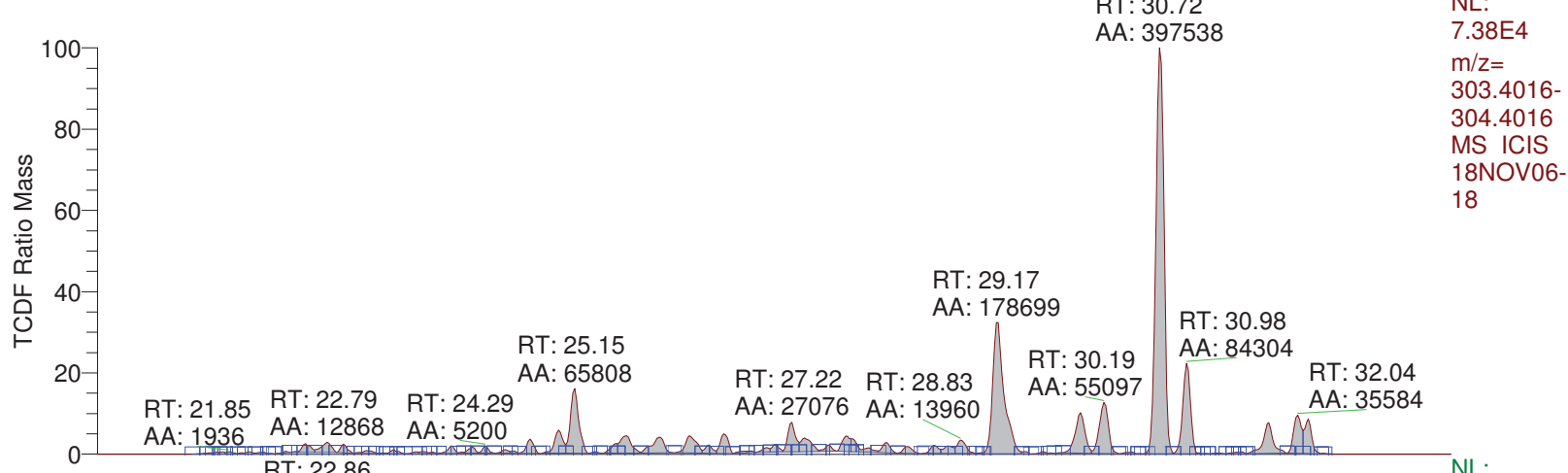
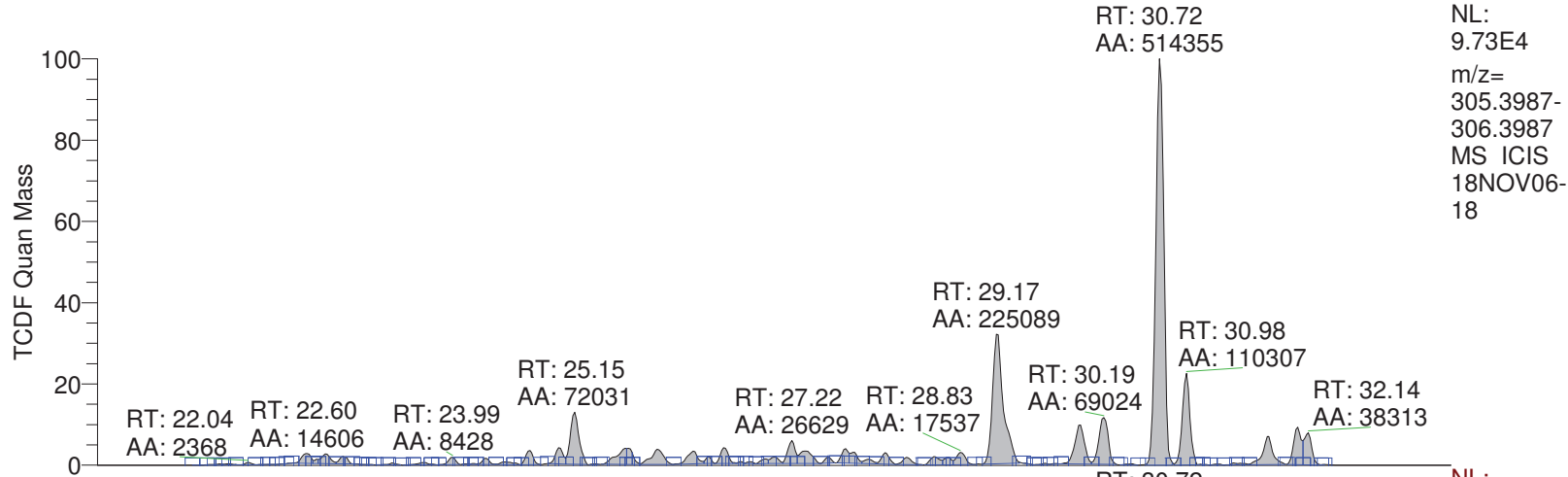


NL:  
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m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
18

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

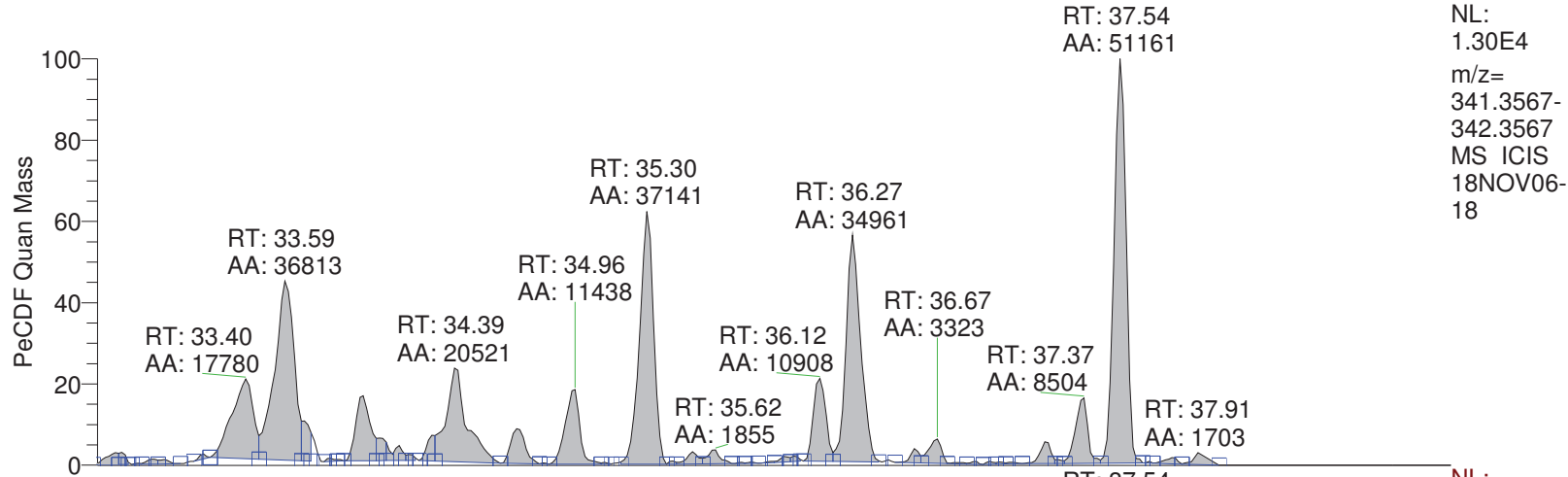
RT: 20.60 - 33.50



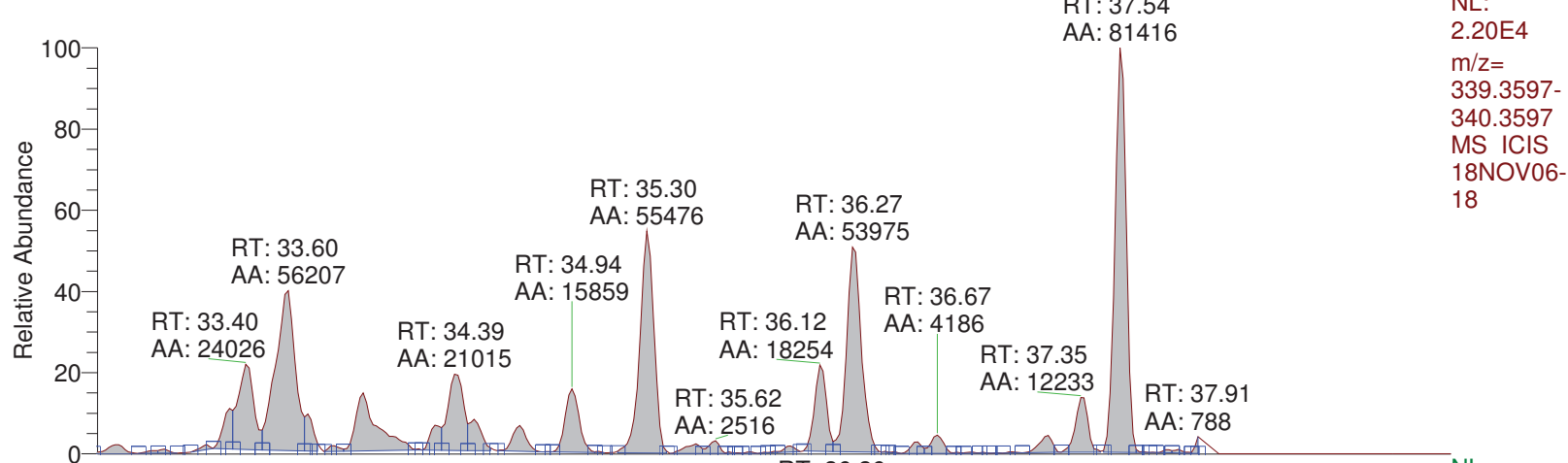
**APPROVED**  
By uma at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

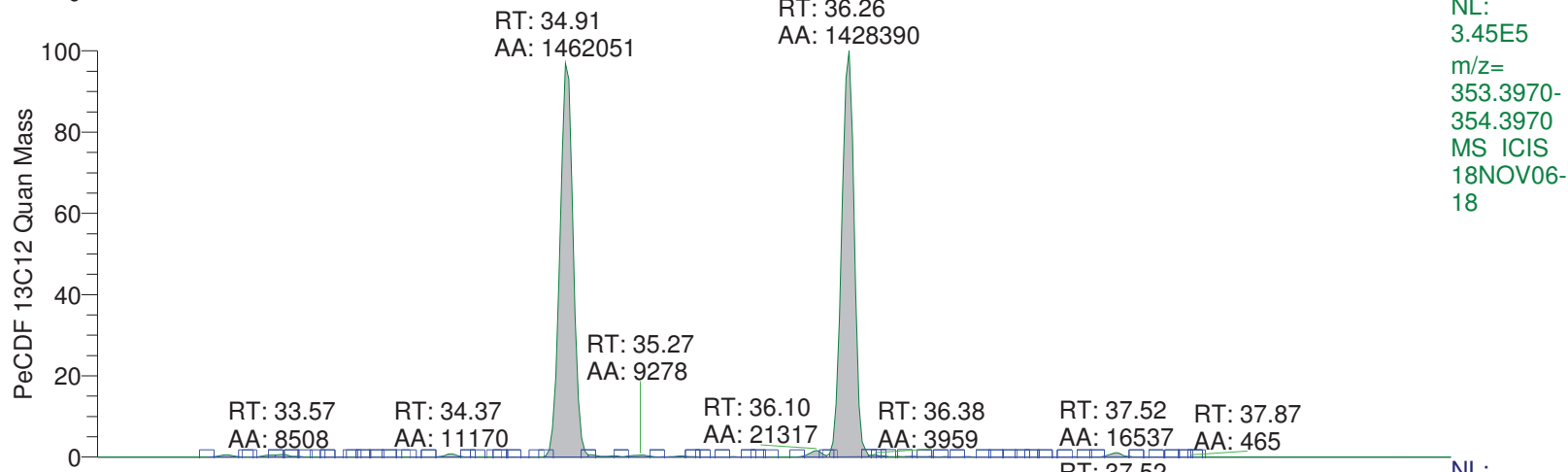
RT: 32.70 - 39.10



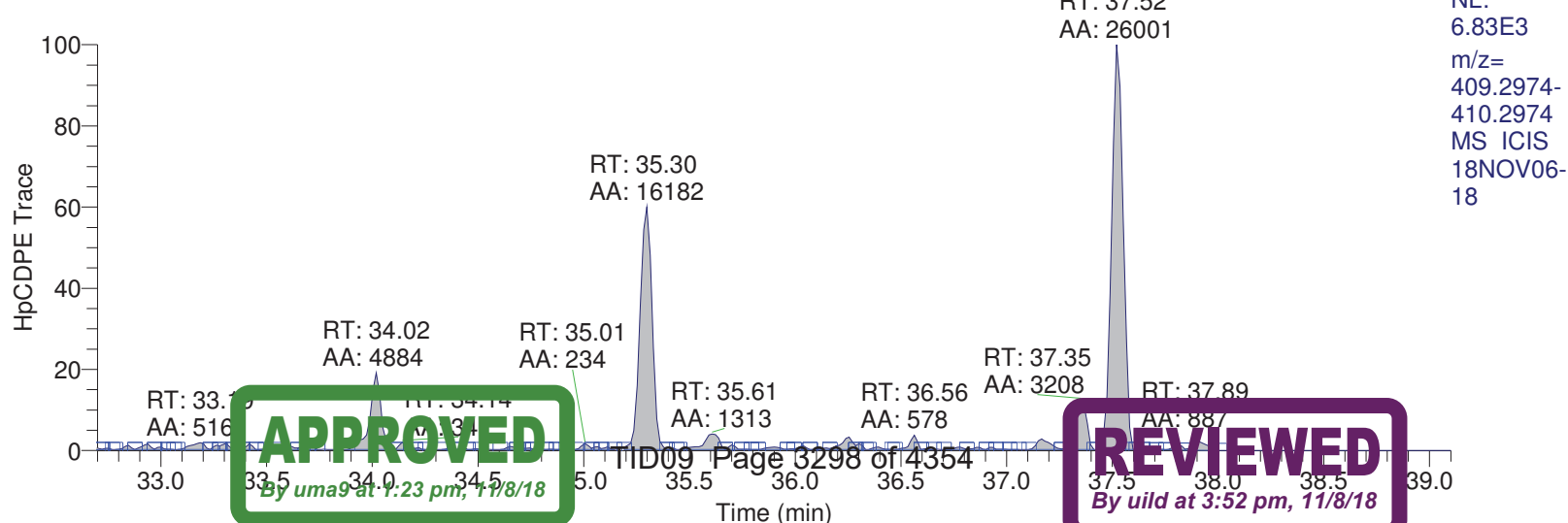
NL: 1.30E4  
m/z= 341.3567-342.3567  
MS ICIS 18NOV06-18



NL: 2.20E4  
m/z= 339.3597-340.3597  
MS ICIS 18NOV06-18



NL: 3.45E5  
m/z= 353.3970-354.3970  
MS ICIS 18NOV06-18

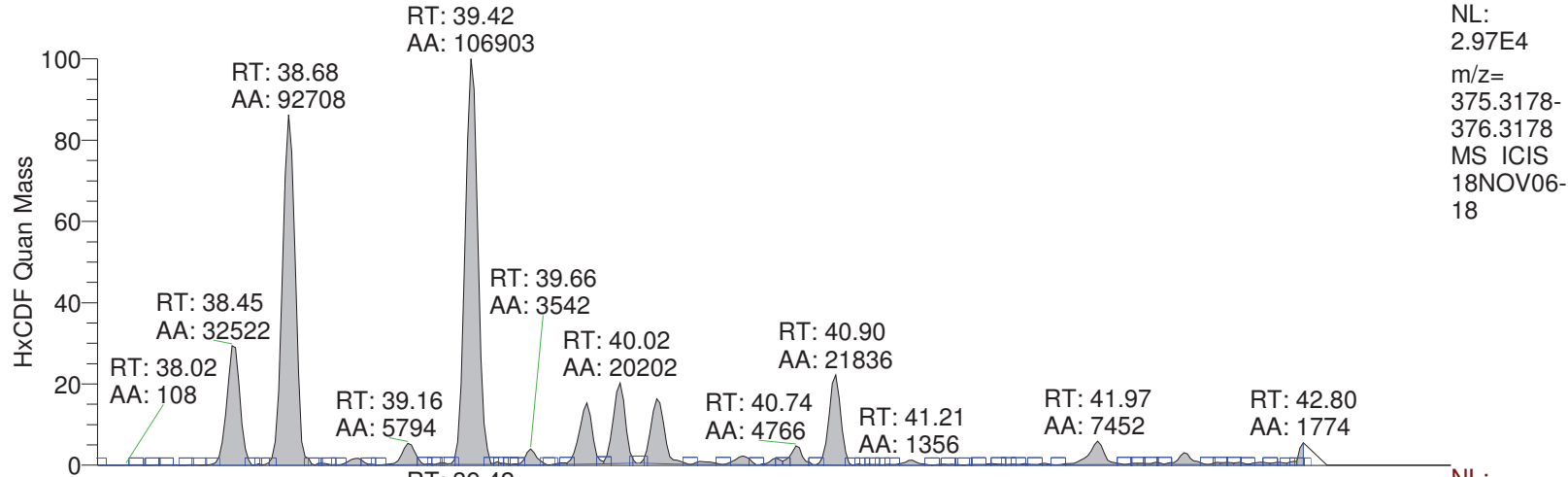


NL: 6.83E3  
m/z= 409.2974-410.2974  
MS ICIS 18NOV06-18

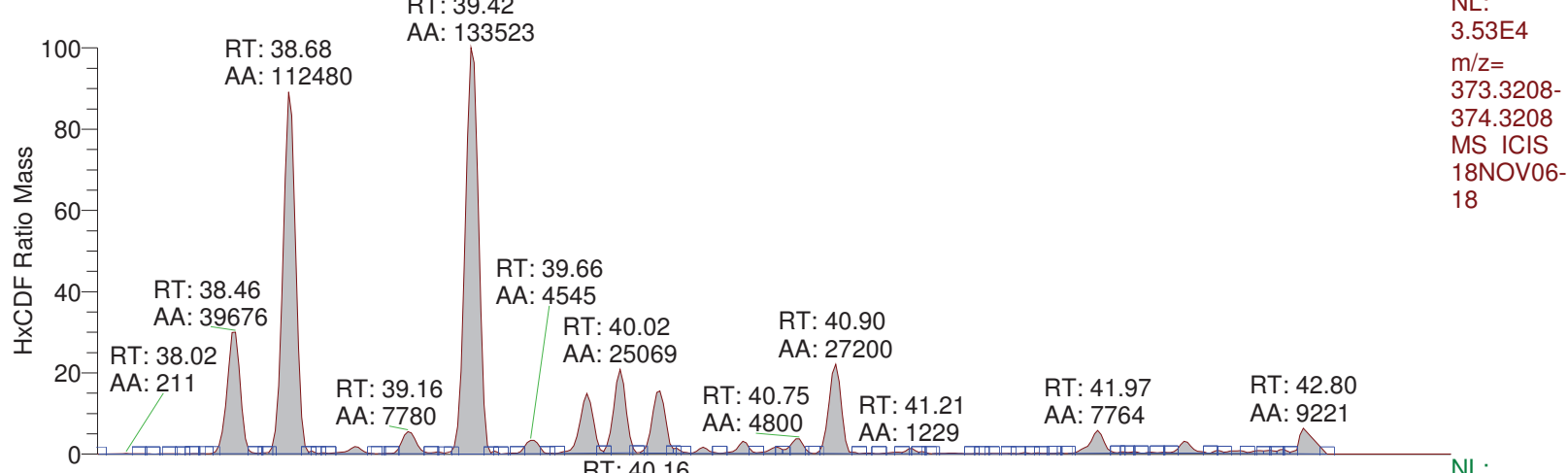
**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

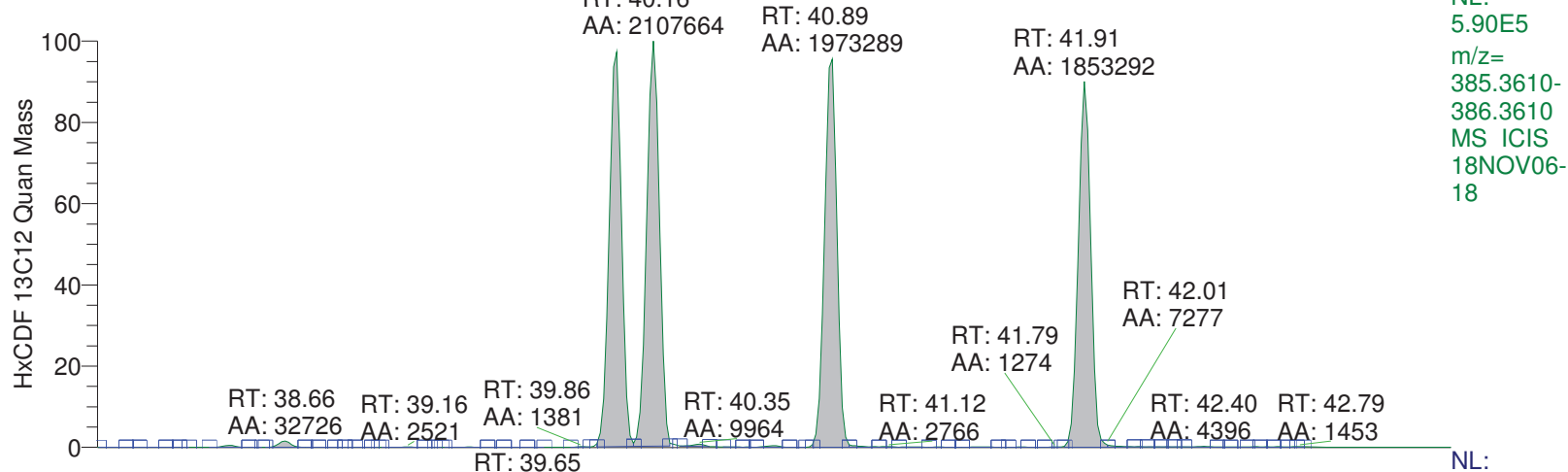
RT: 37.90 - 43.40



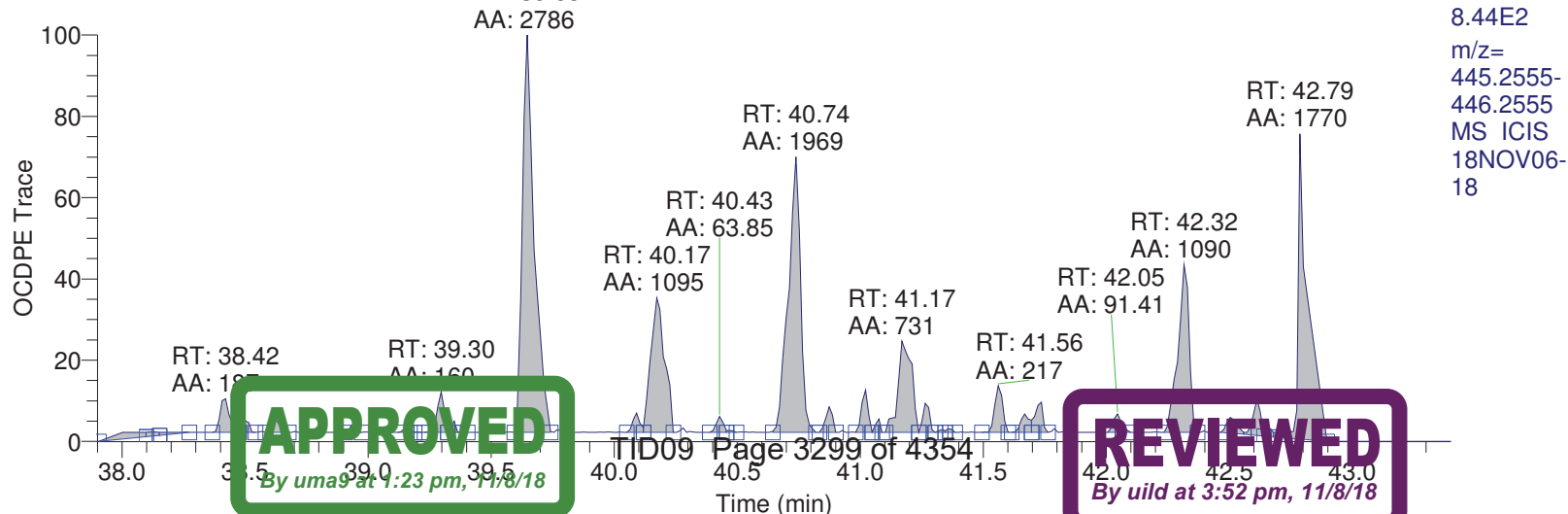
NL: 2.97E4  
m/z= 375.3178-376.3178  
MS ICIS 18NOV06-18



NL: 3.53E4  
m/z= 373.3208-374.3208  
MS ICIS 18NOV06-18



NL: 5.90E5  
m/z= 385.3610-386.3610  
MS ICIS 18NOV06-18

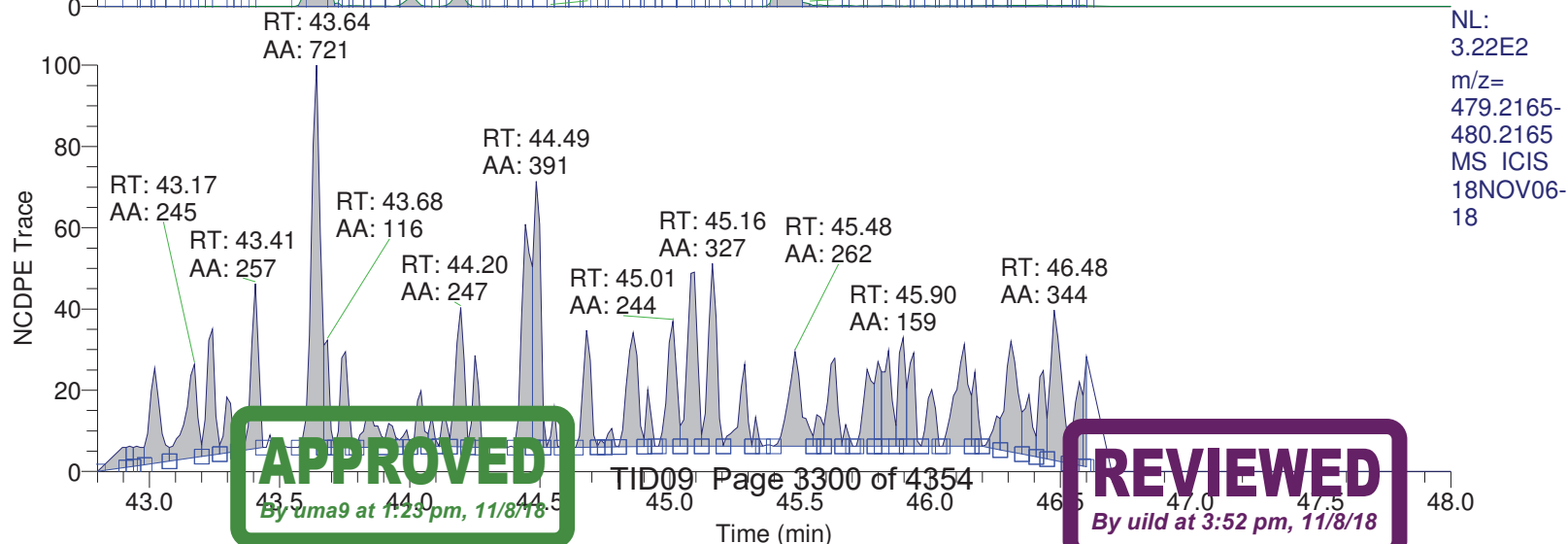
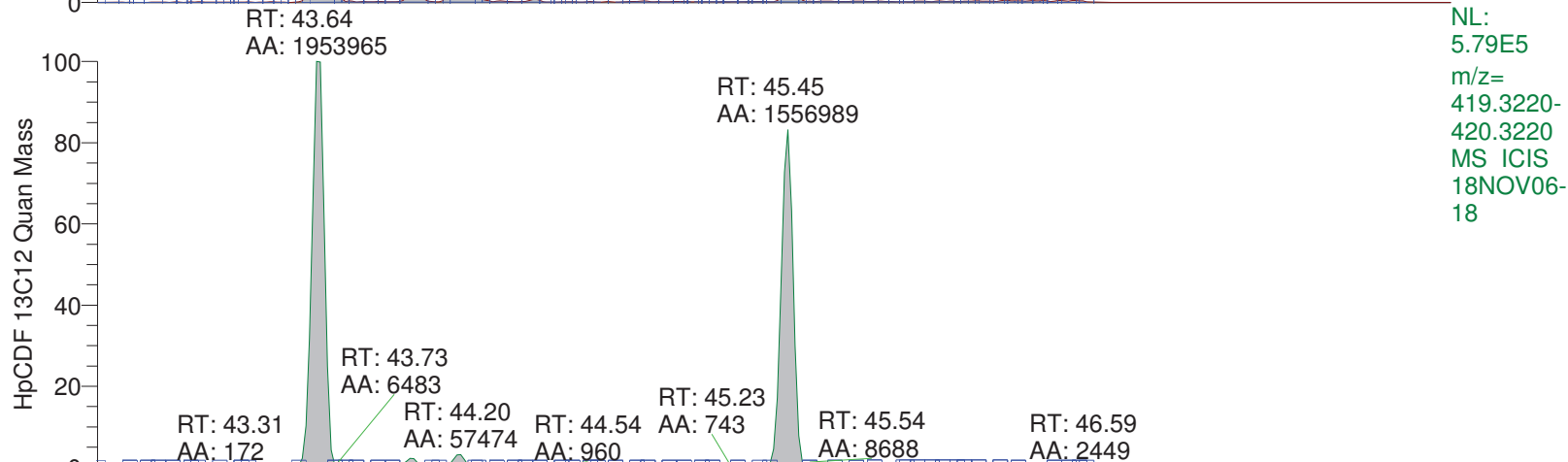
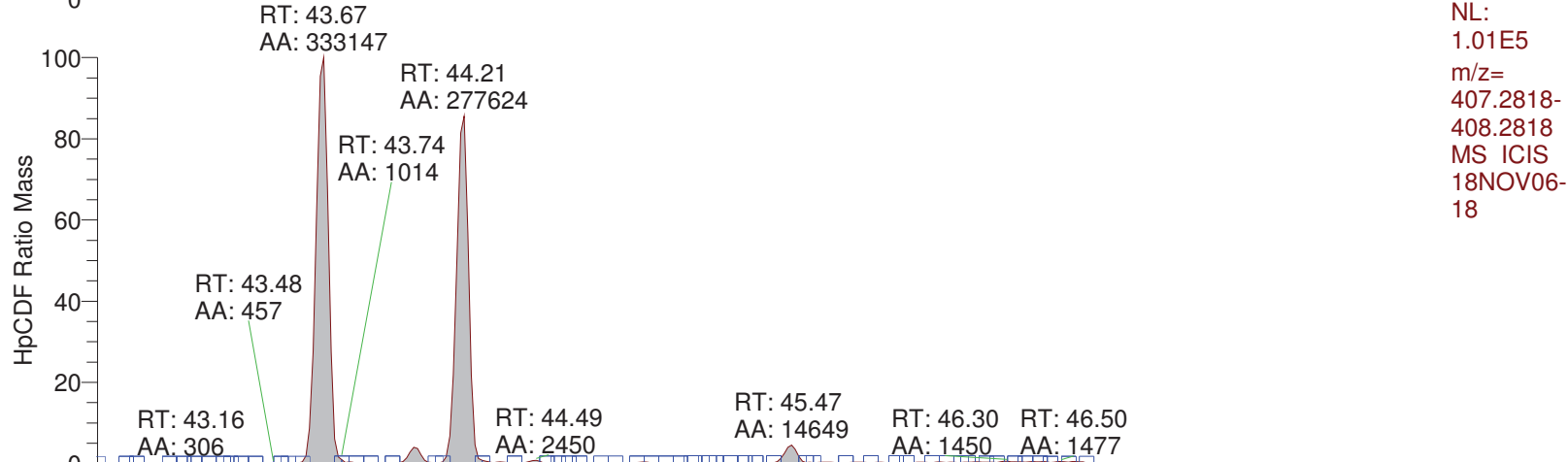
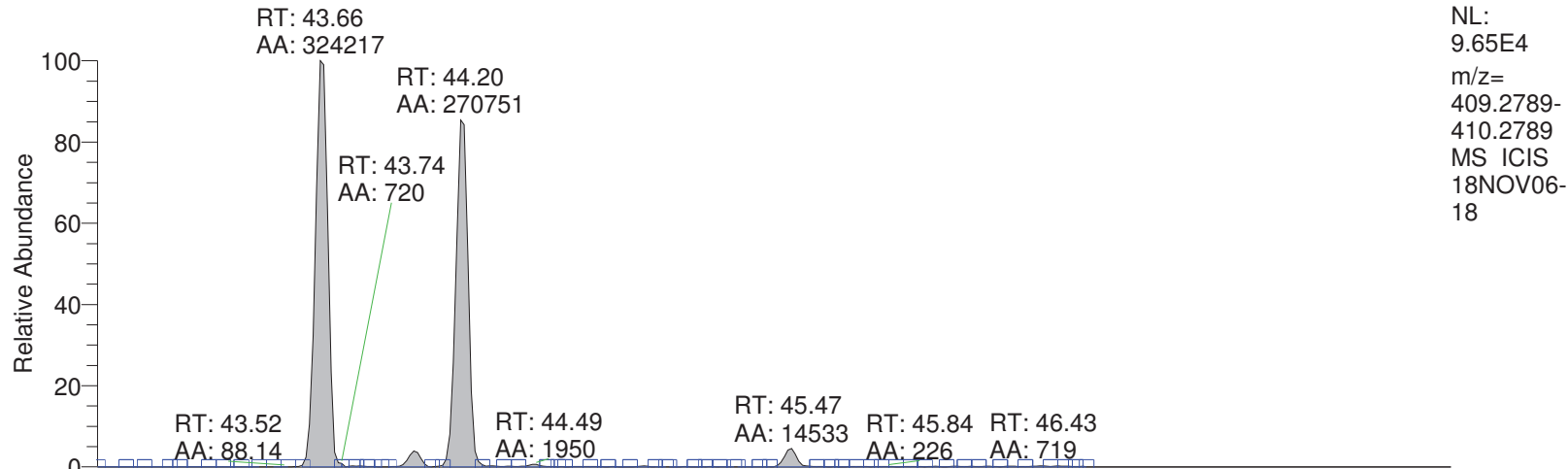


NL: 8.44E2  
m/z= 445.2555-446.2555  
MS ICIS 18NOV06-18

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

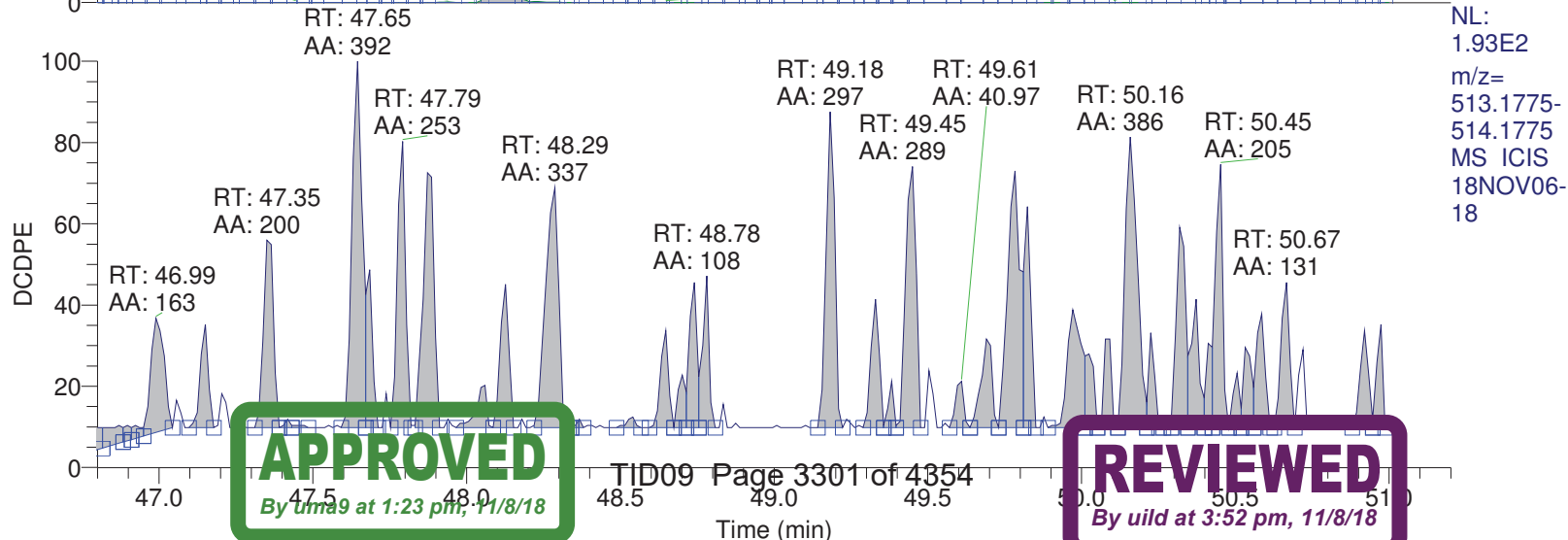
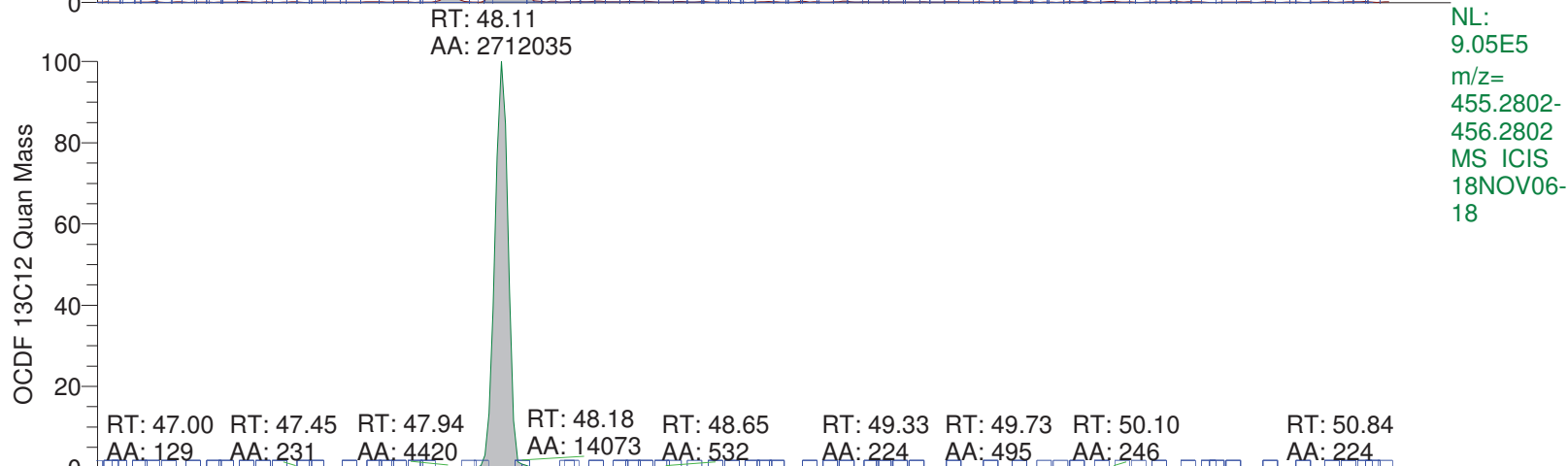
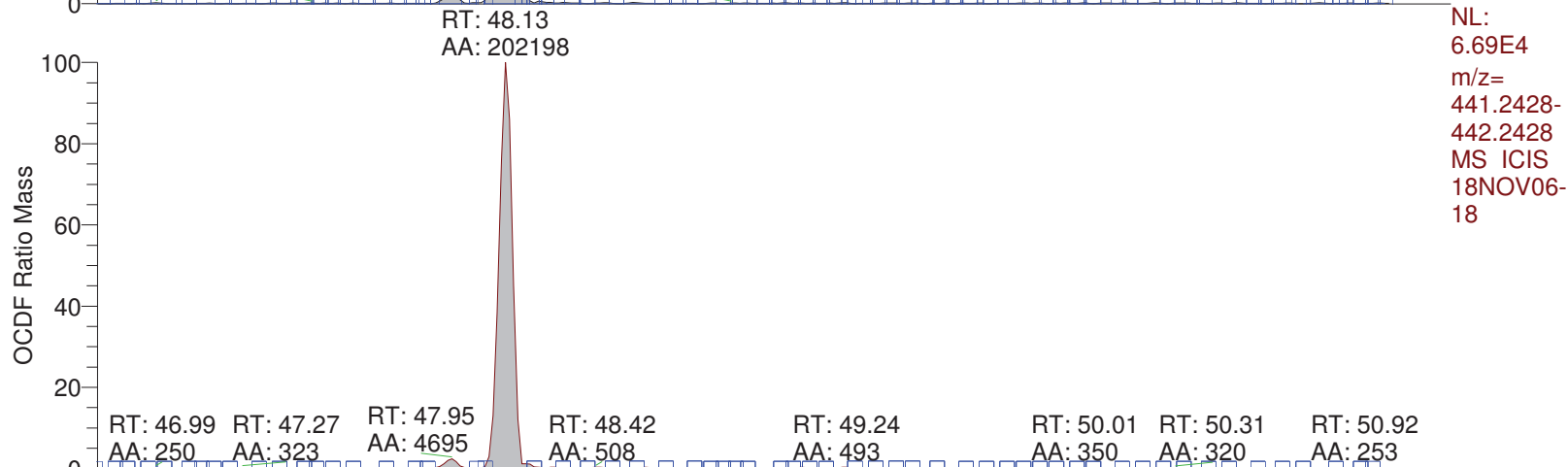
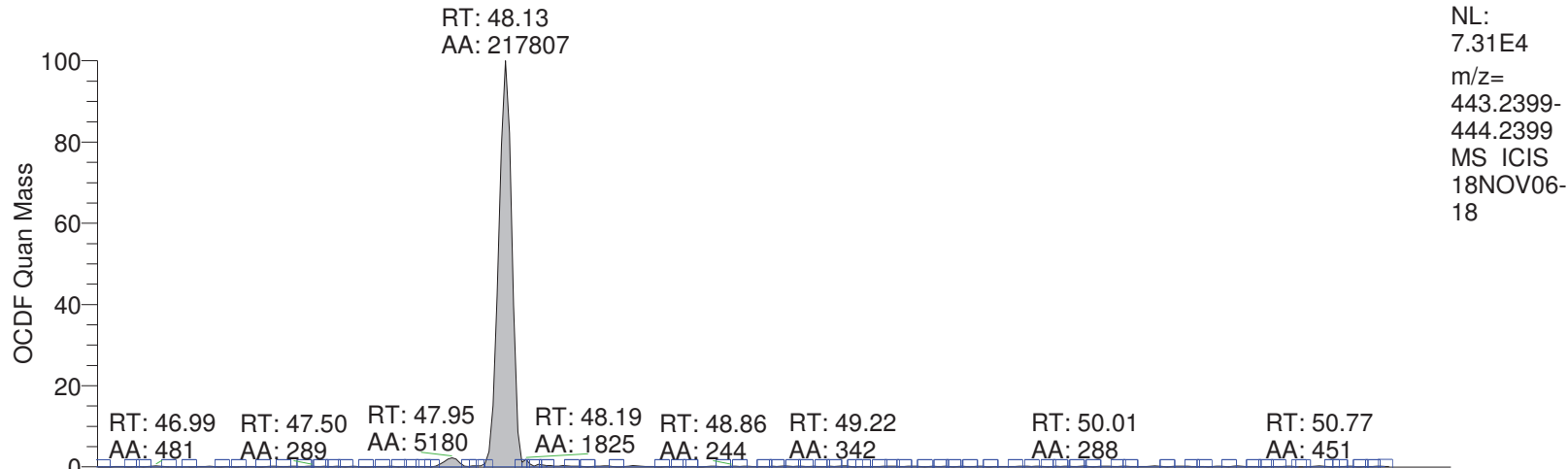
RT: 42.80 - 48.00



**APPROVED**  
By uma9 at 1:25 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

RT: 46.80 - 51.20





\*\*\* file opened wed Nov 07 00:05:51 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 00:05:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



18NOV06-18

331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes

Page 2



TID09 Page 3303 of 4354



18NOV06-18

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	95.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0185	FVINLET	0.0431	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1407807.8555	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9792	RELEN	0.0000
RES	13695.1113	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11772.  
MID Time window 2: Resolution is 12450.  
MID Time window 3: Resolution is 12871.  
MID Time window 4: Resolution is 12100.



18NOV06-18

MID Time Window 5: Resolution is 12916.  
MID Time Window 6: Resolution is 13695.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 00:56:53 2018  
\*\*\*



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 09:16  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 93  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS007 Grab Soil  
Sample ID 9866463RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan y:\18nov07conf\18nov07-22.quan  
Data y:\18nov07conf\18nov07-22.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.06  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.70	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.74	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.64	passed	passed	passed	passed	passed	passed	passed

### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/08 09:16  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 93  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS007 Grab Soil  
Sample ID 9866463RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

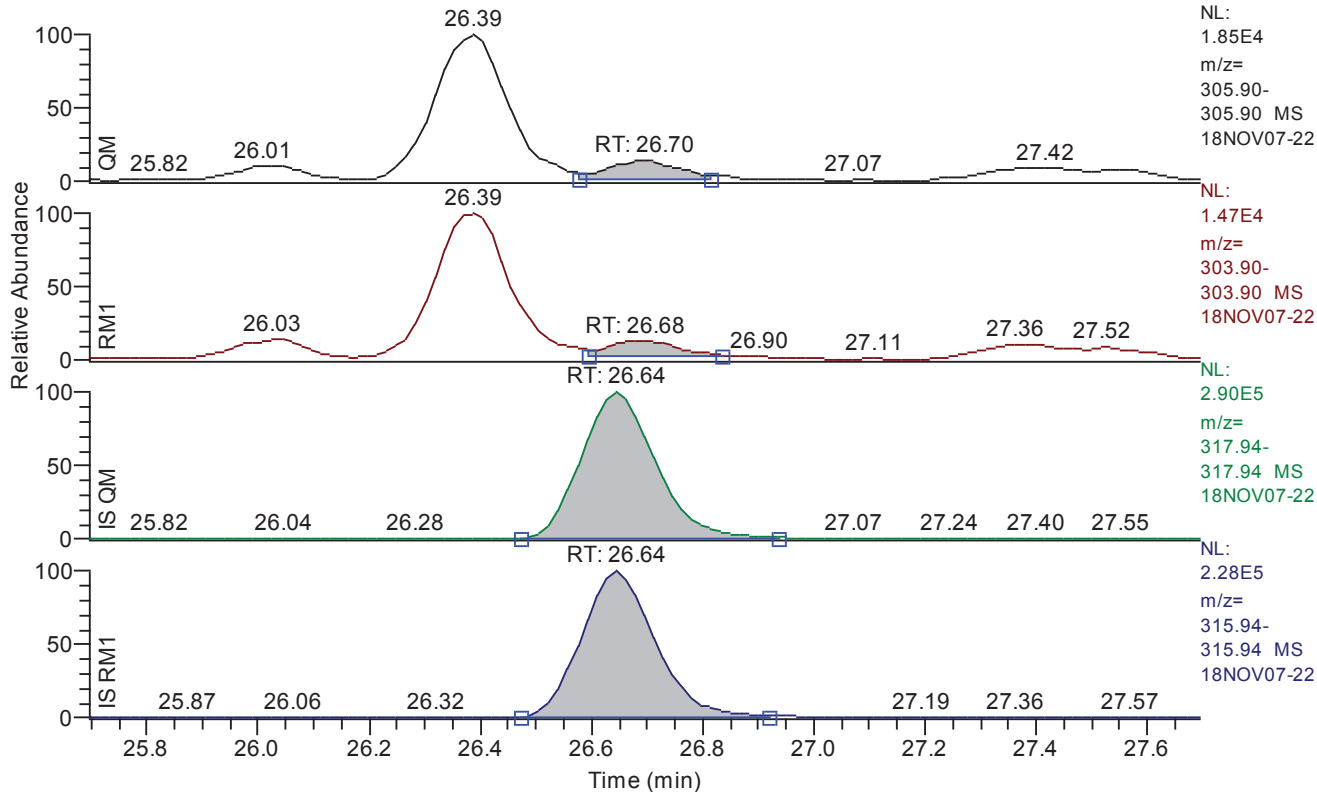
Quan y:\18nov07conf\18nov07-22.quan  
Data y:\18nov07conf\18nov07-22.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.06  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.70 - 27.70 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

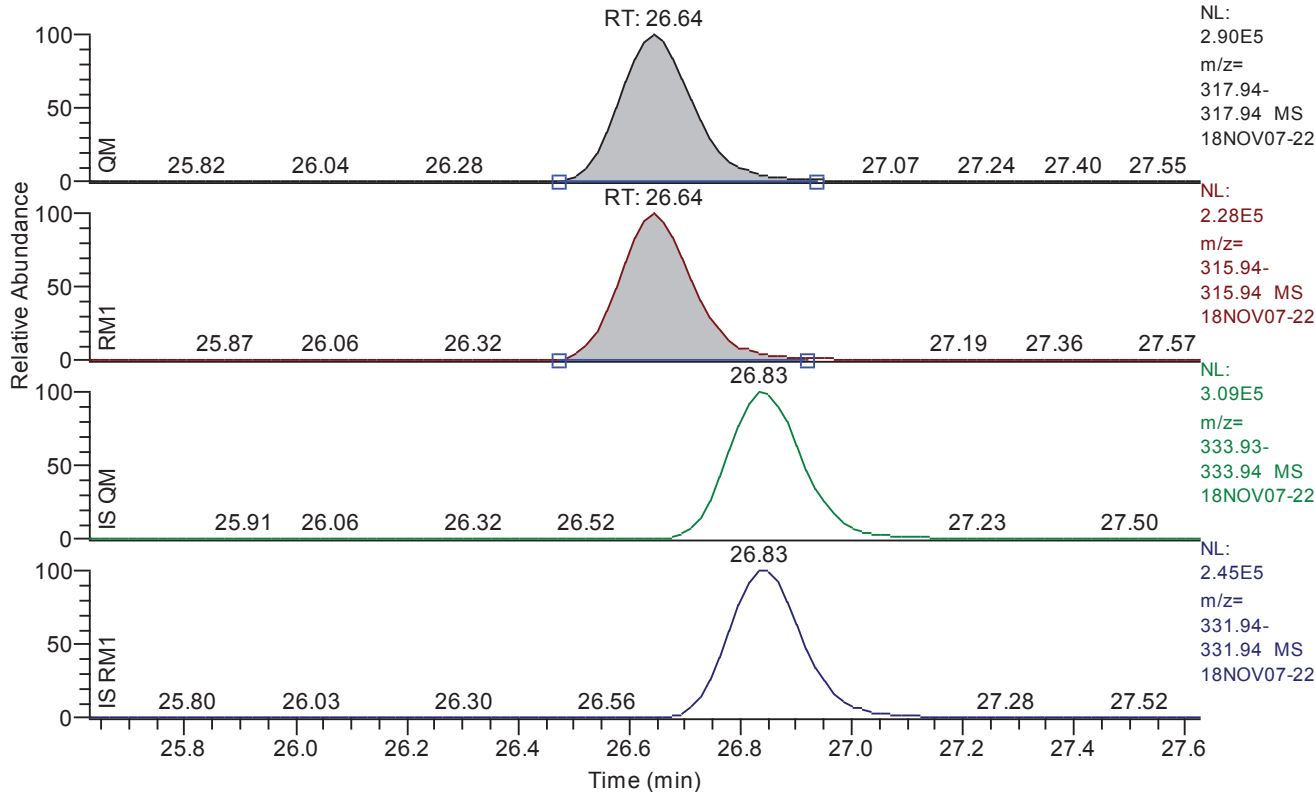
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.70
QM Area	20915
QM Integration Mode	A
RM1 Area	14076
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1646
Unqualified Amount (A)	1.427469
Adjusted Amount (A)	1.4275
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 25.63 - 27.63 SM: 3G



Entry: 13C12-2378-TCDF IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-2378-TCDF
QM Retention Time	26.64
QM Area	2684782
QM Integration Mode	M
RM1 Area	2101799
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0373
Unqualified Amount (A)	79.303311
Adjusted Amount (A)	79.3033
Signal-to-Noise	4809
Client Flags	
Status Overview	passed
Status Info	



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 09:16  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 93  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS007 Grab Soil  
Sample ID 9866463RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

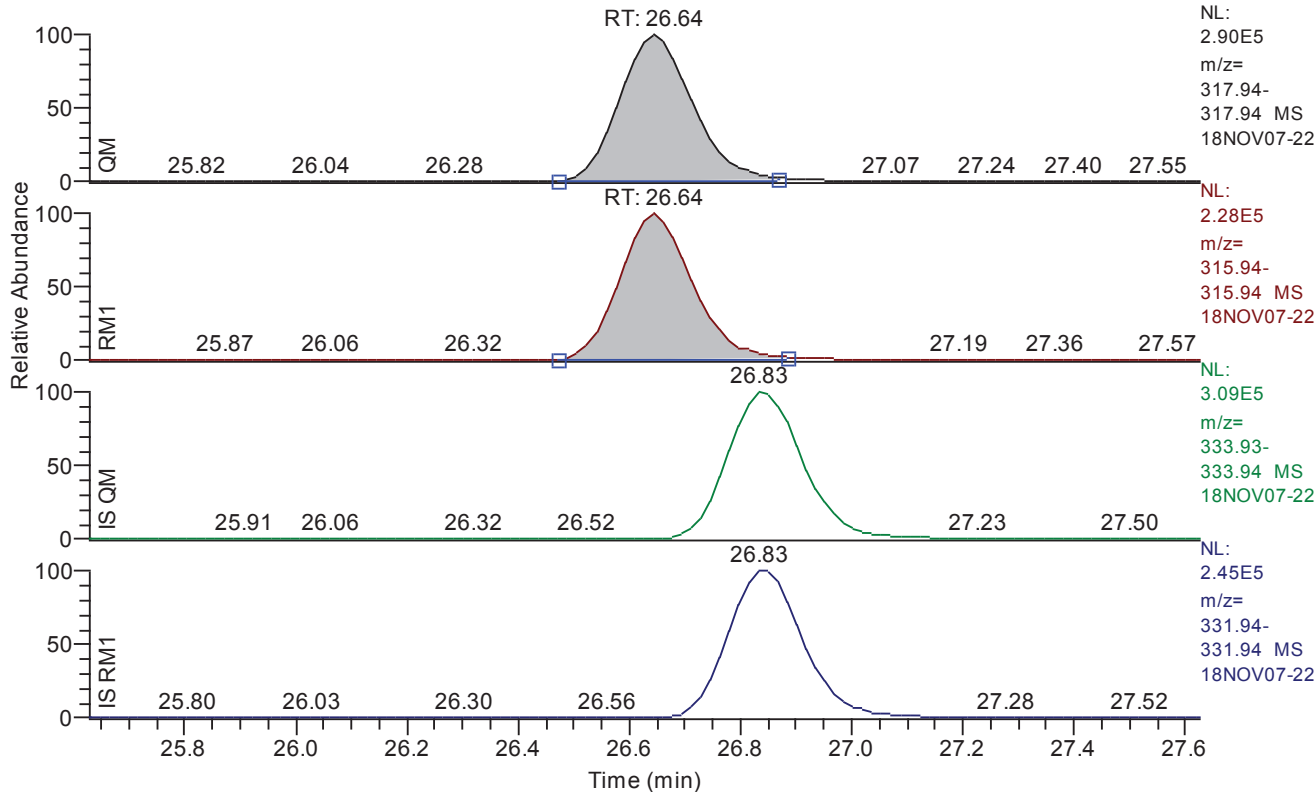
Quan y:\18nov07conf\18nov07-22.quan  
Data y:\18nov07conf\18nov07-22.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.06  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.63 - 27.63 SM: 3G



Entry: 13C12-2378-TCDF IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-2378-TCDF
QM Retention Time	26.64
QM Area	2605291
QM Integration Mode	A
RM1 Area	2054469
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0373
Unqualified Amount (A)	77.202164
Adjusted Amount (A)	n.d.
Signal-to-Noise	4776
Client Flags	
Status Overview	failed
Status Info	Failed on: RecovA

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.70	26.68	26.64	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.74	24.76	24.74	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.64	26.64	26.64	passed	passed

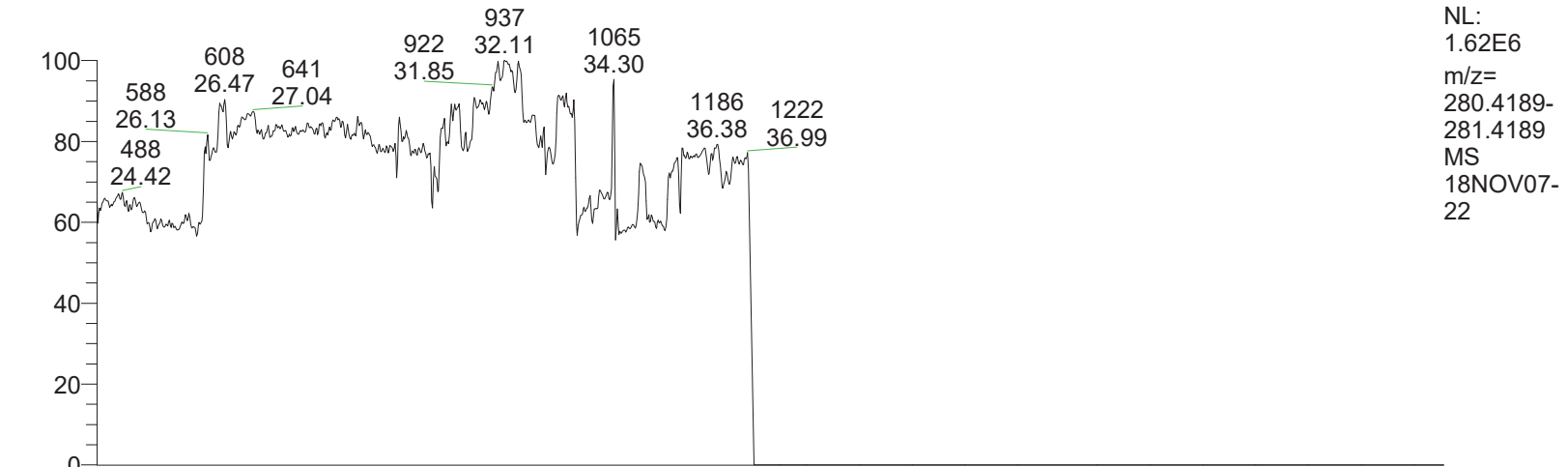
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.70	0.6730	0.6450 - 0.8950	passed	---	0 - 0	passed
2	13C12-1234-TCDD	24.74	0.7947	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.64	0.7829	0.6450 - 0.8950	passed	39.89	40 - 135	passed

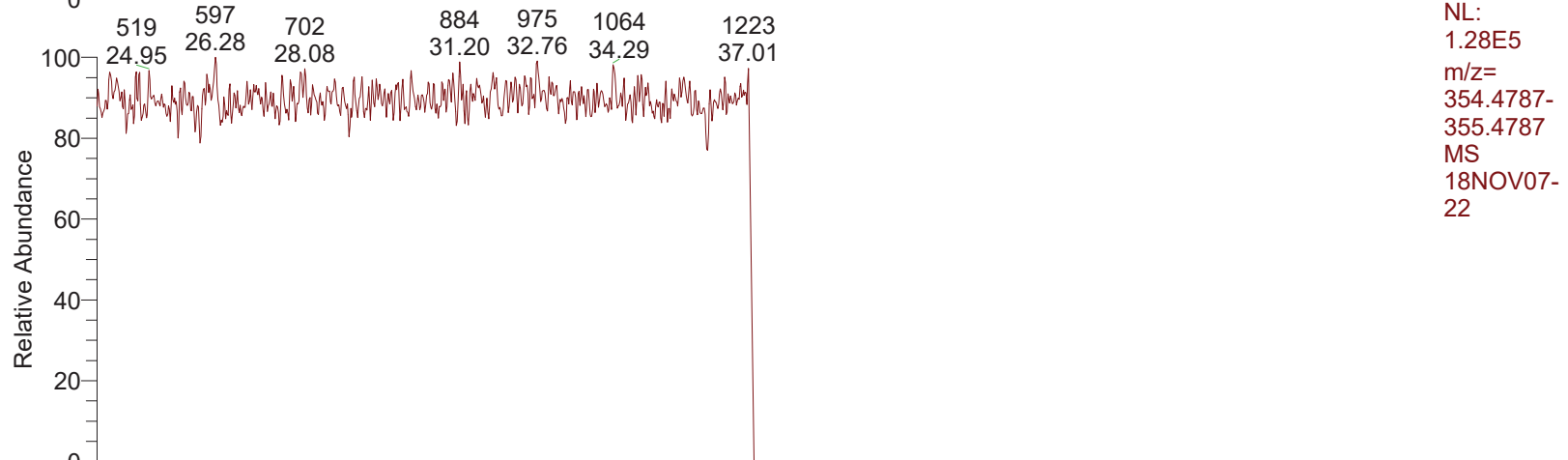
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.70	20915	A	14076	A	0.1646	1.427469	1.4275	0.000000	23	
2	13C12-1234-TCDD	passed	24.74	3280977	A	2607318	A	0.0717	198.807157	198.8072	198.807157	6929	
3	13C12-2378-TCDF	passed	26.64	2684782	M	2101799	M	0.0373	79.303311	79.3033	198.807157	4809	

RT: 23.90 - 51.00



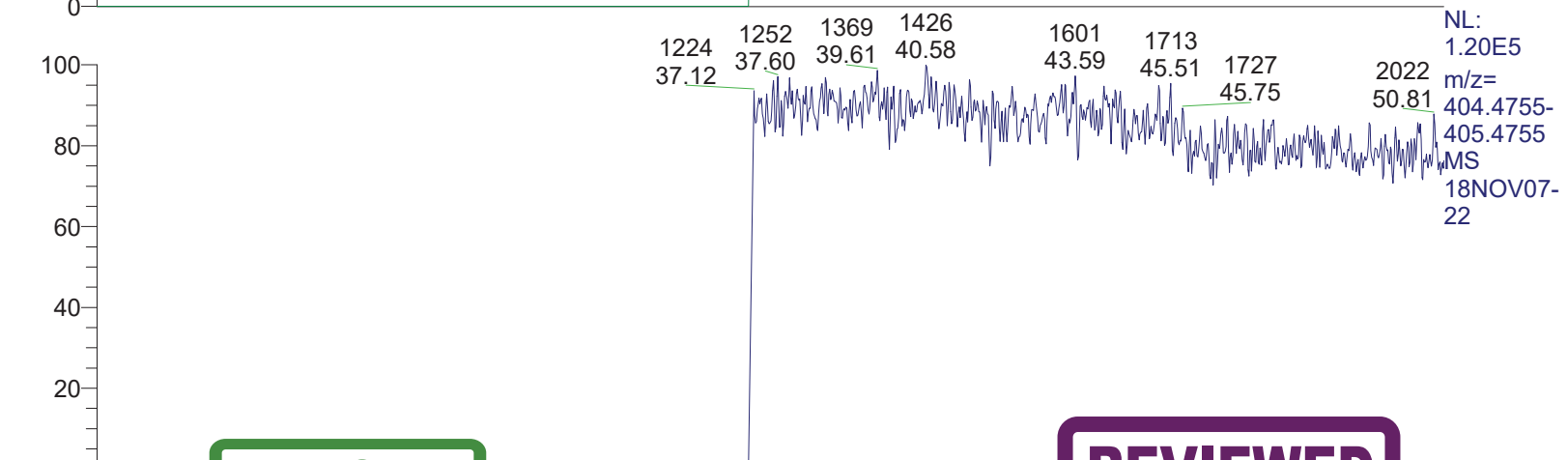
NL:  
1.62E6  
m/z=  
280.4189-  
281.4189  
MS  
18NOV07-  
22



NL:  
1.28E5  
m/z=  
354.4787-  
355.4787  
MS  
18NOV07-  
22



NL:  
7.75E5  
m/z=  
330.4787-  
331.4787  
MS  
18NOV07-  
22



NL:  
1.20E5  
m/z=  
404.4755-  
405.4755  
MS  
18NOV07-  
22

**APPROVED**  
By AQ46 at 5:57 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

18NOV07-22

\*\*\* file opened Thu Nov 08 09:20:55 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 09:20:54

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95





419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0173	FVINLET	0.0379	FVSR	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	96.0000	LKM	330.9792	MASS	96.0000
MDAC	930538.0265	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9670	RELEN	0.0000
RES	12234.5838	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.3e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12748.  
MID Time Window 2: Resolution is 12234.

Amplifier offset: 88.



18NOV07-22  
\*\*\* File closed Thu Nov 08 10:13:27 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 00:56  
Number of Entries 267  
Comment S:11030:12937:17962  
Vial 66  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS003 Grab Soil  
Sample ID 9866464RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-19.quan  
Data w:\18nov06\18nov06-19.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.03  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	29.95	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.30	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.67	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.19	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.91	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.97	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.65	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.12	passed	passed	passed	passed	passed	passed	

### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 00:56  
Number of Entries 267  
Comment S:11030:12937:17962  
Vial 66  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS003 Grab Soil  
Sample ID 9866464RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

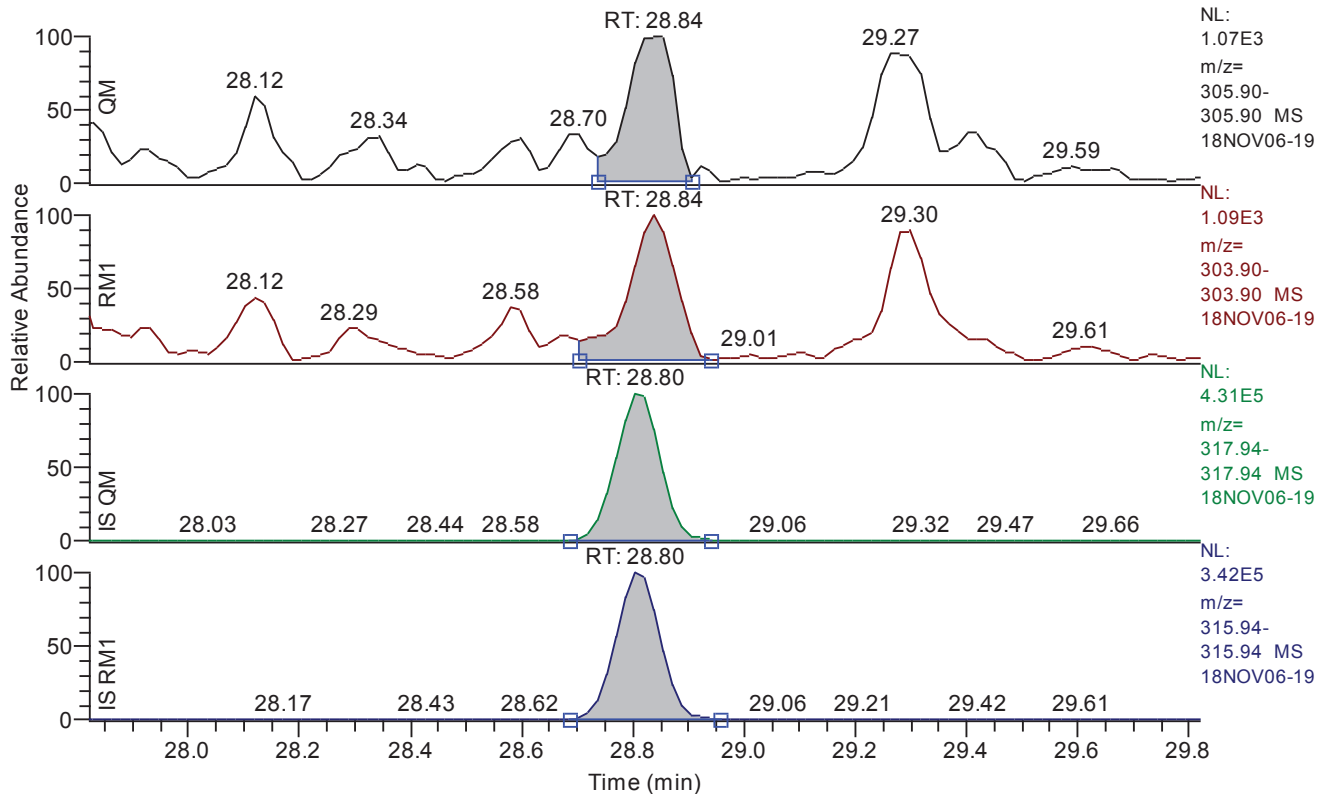
Quan w:\18nov06\18nov06-19.quan  
Data w:\18nov06\18nov06-19.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.03  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.82 - 29.82 SM: 3G

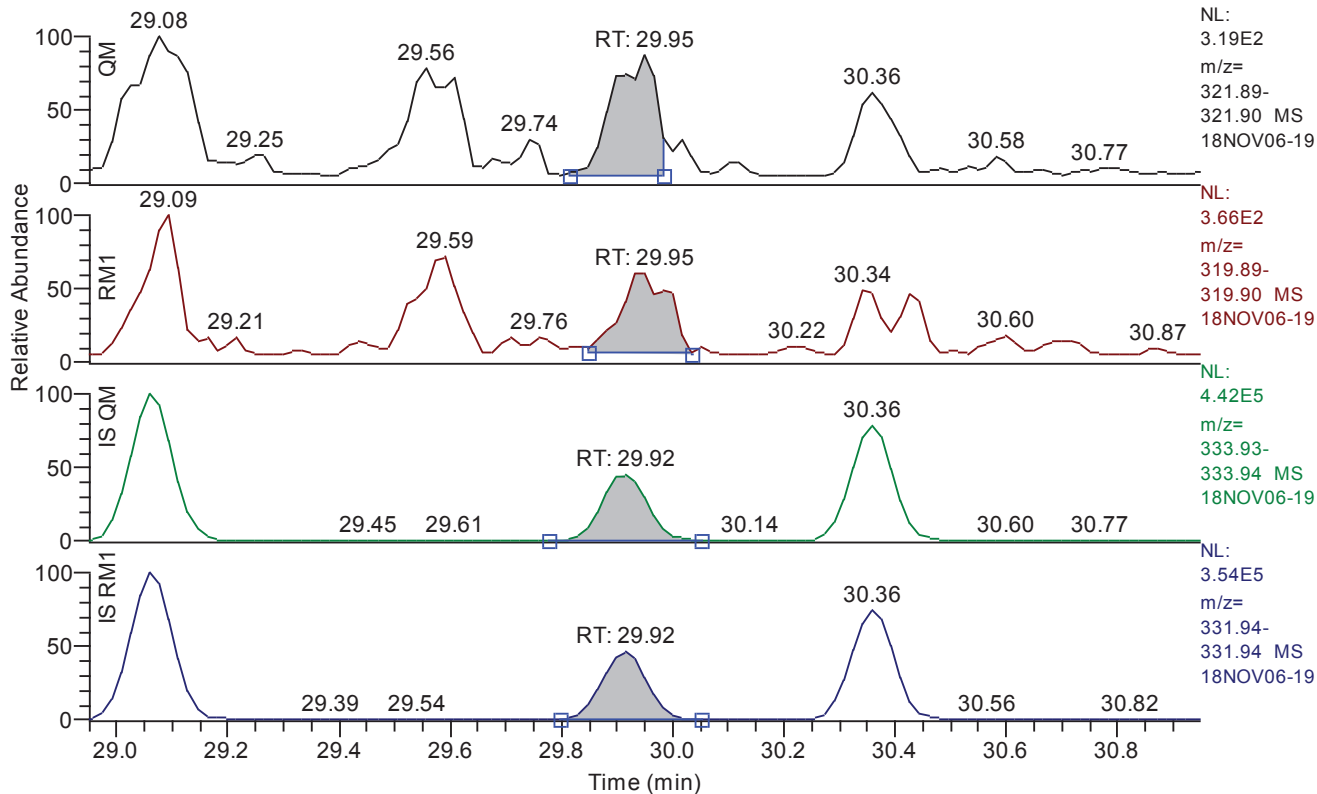


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	6212
QM Integration Mode	A
RM1 Area	6401
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0394
Unqualified Amount (A)	0.623519
Adjusted Amount (A)	n.d.
Signal-to-Noise	37
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 28.95 - 30.95 SM: 3G



NL: 3.19E2  
 m/z= 321.89-321.90 MS  
 18NOV06-19

NL: 3.66E2  
 m/z= 319.89-319.90 MS  
 18NOV06-19

NL: 4.42E5  
 m/z= 333.93-333.94 MS  
 18NOV06-19

NL: 3.54E5  
 m/z= 331.94-331.94 MS  
 18NOV06-19

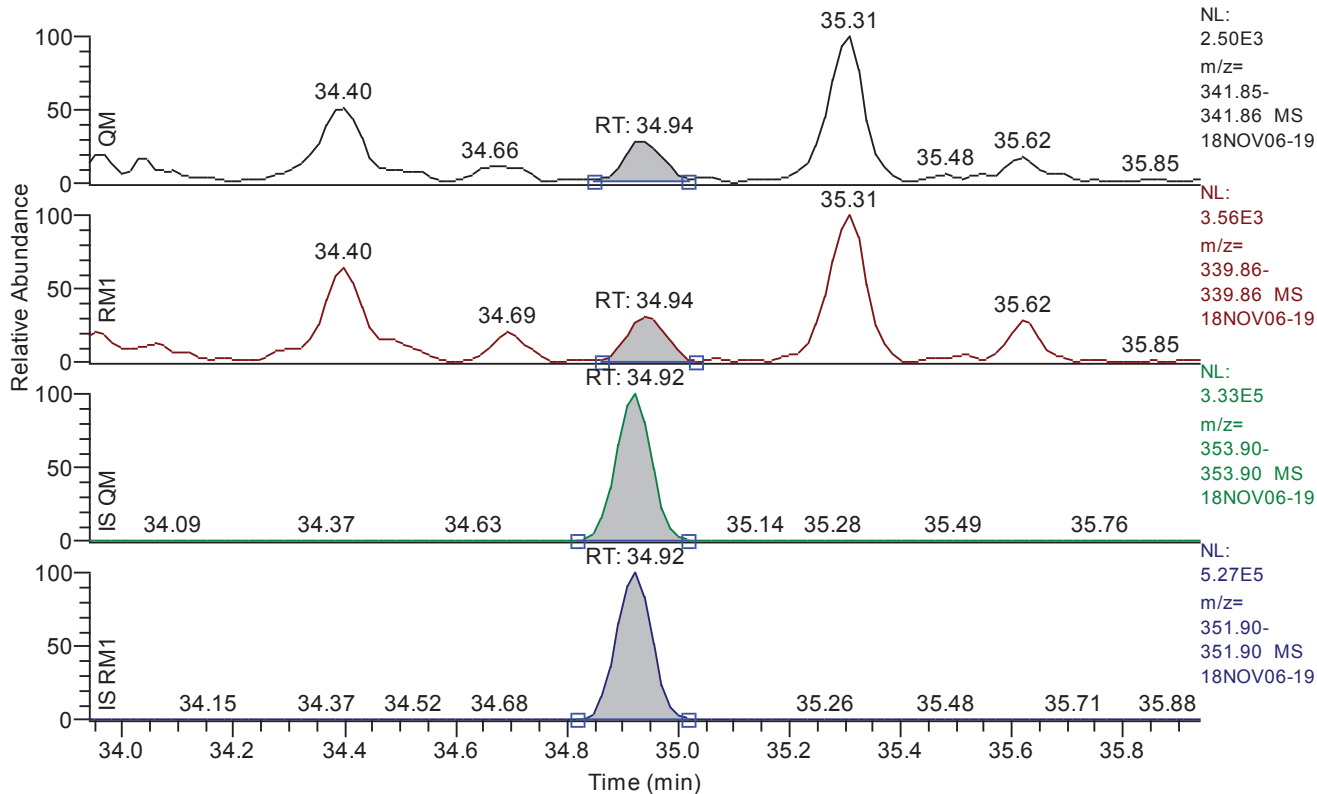
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	1422
QM Integration Mode	M
RM1 Area	1236
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0287
Unqualified Amount (A)	0.226823
Adjusted Amount (A)	0.2268
Signal-to-Noise	20
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.94 - 35.94 SM: 3G



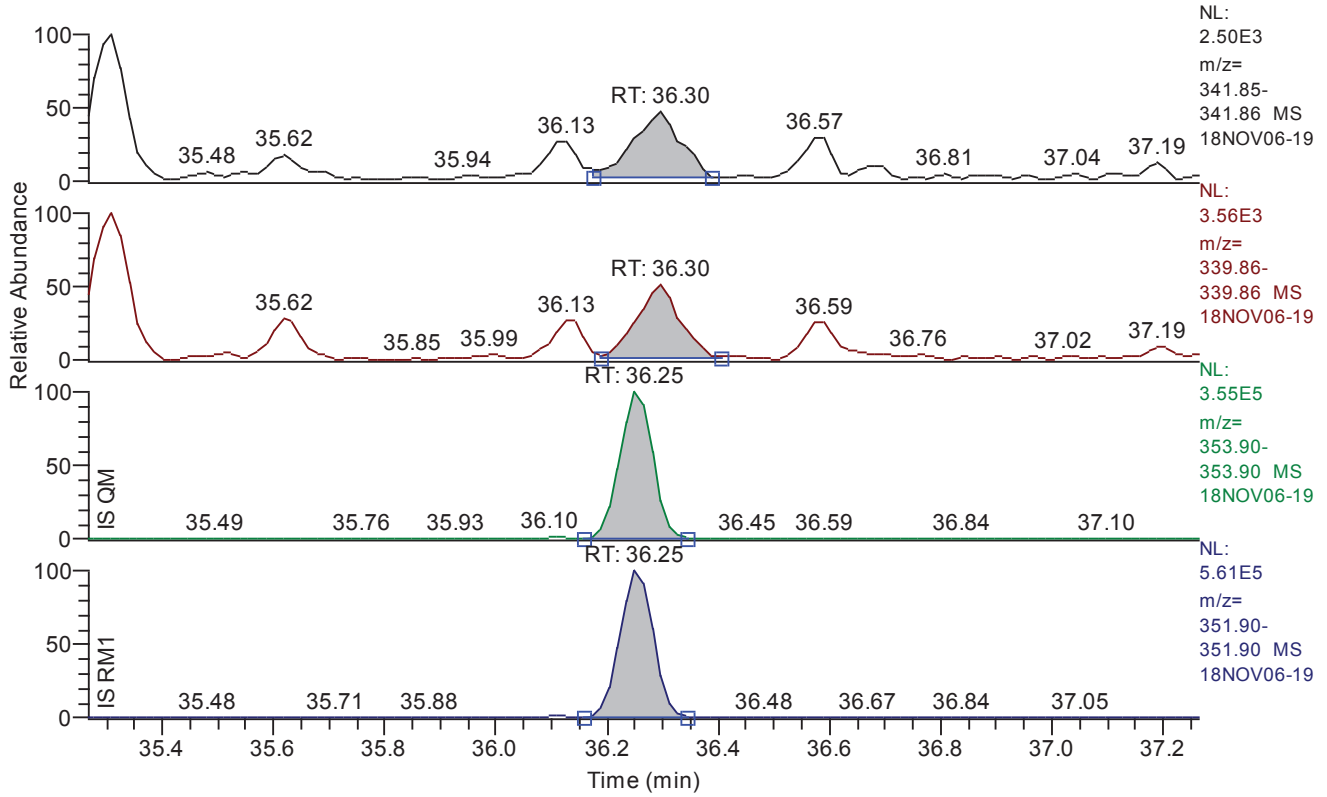
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	3375
QM Integration Mode	A
RM1 Area	5401
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0295
Unqualified Amount (A)	0.532335
Adjusted Amount (A)	0.5323
Signal-to-Noise	41
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.27 - 37.27 SM: 3G

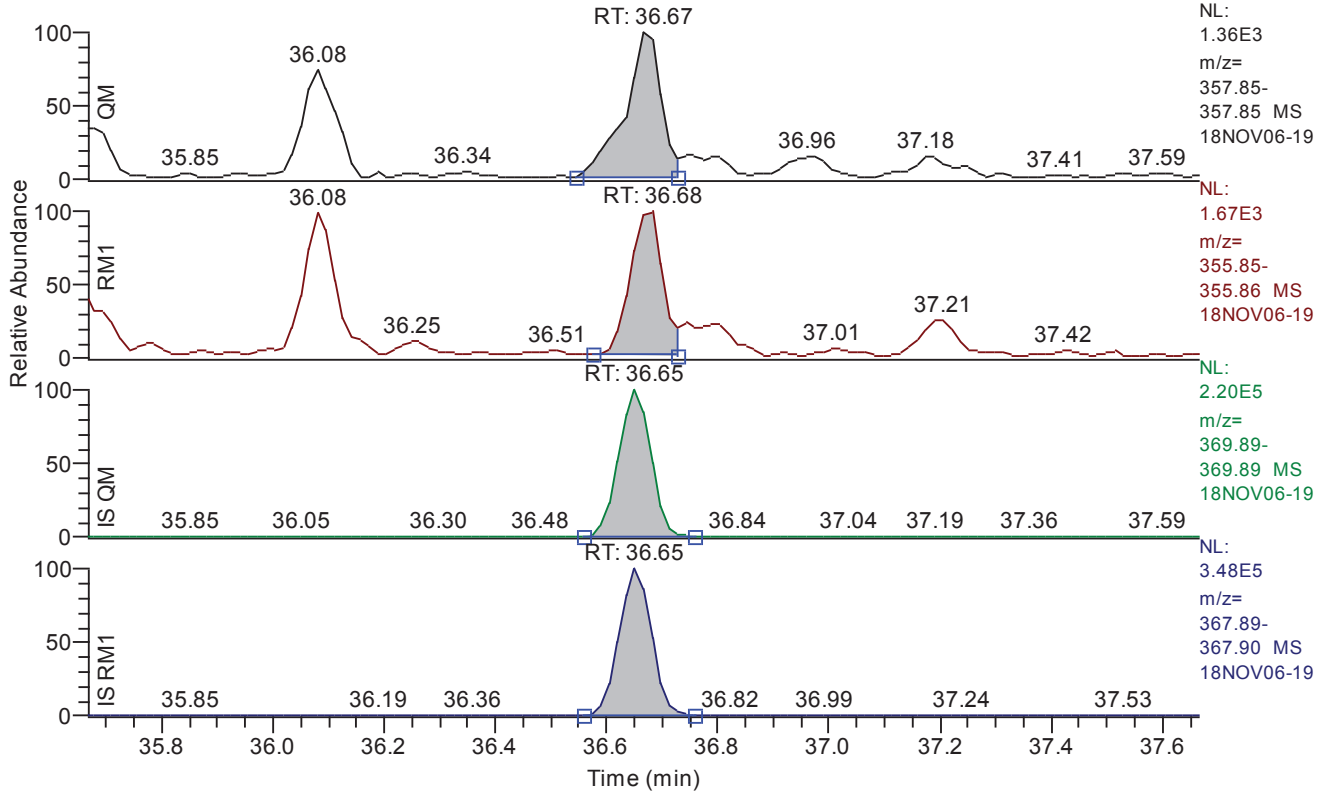


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.30
QM Area	6774
QM Integration Mode	A
RM1 Area	9819
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	0.910430
Adjusted Amount (A)	0.9104
Signal-to-Noise	68
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.67 - 37.67 SM: 3G

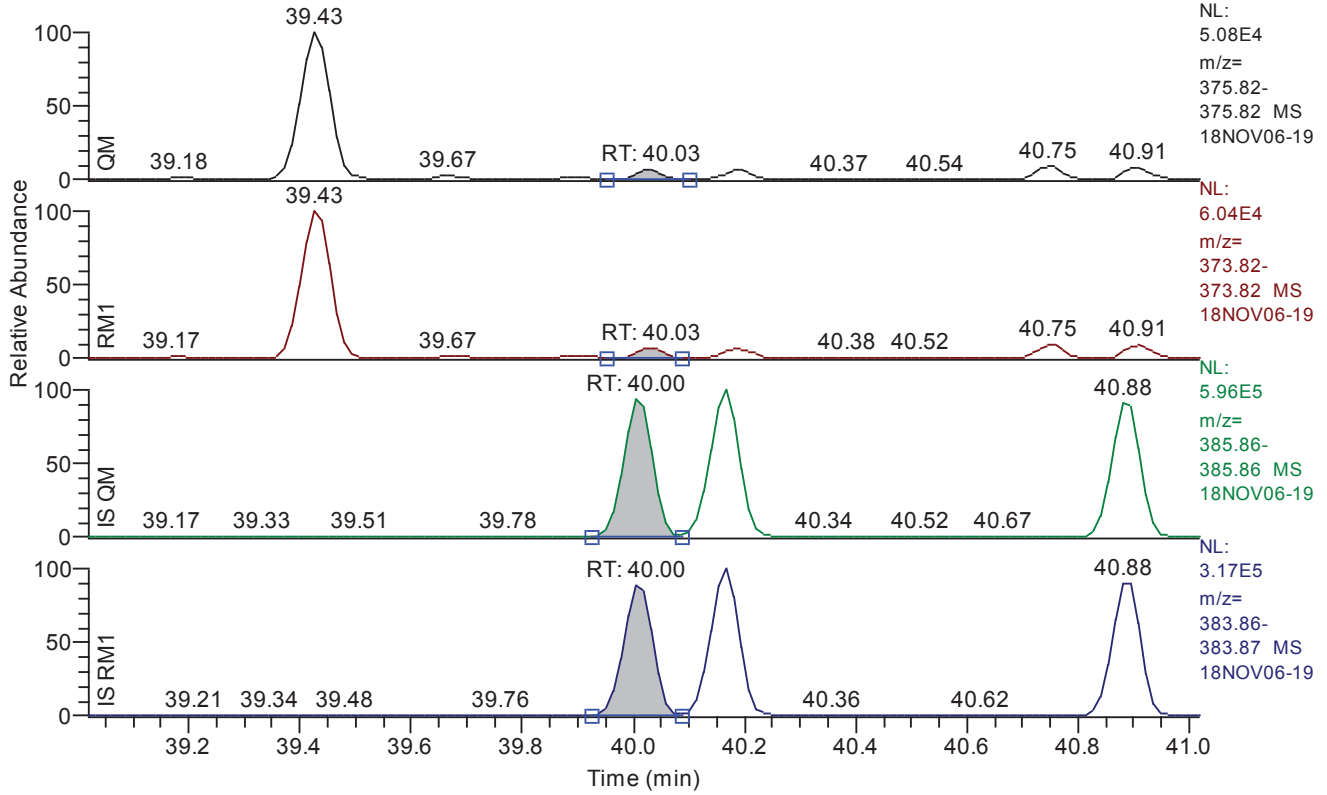


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	6061
QM Integration Mode	A
RM1 Area	6550
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0537
Unqualified Amount (A)	1.216893
Adjusted Amount (A)	n.d.
Signal-to-Noise	54
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.02 - 41.02 SM: 3G

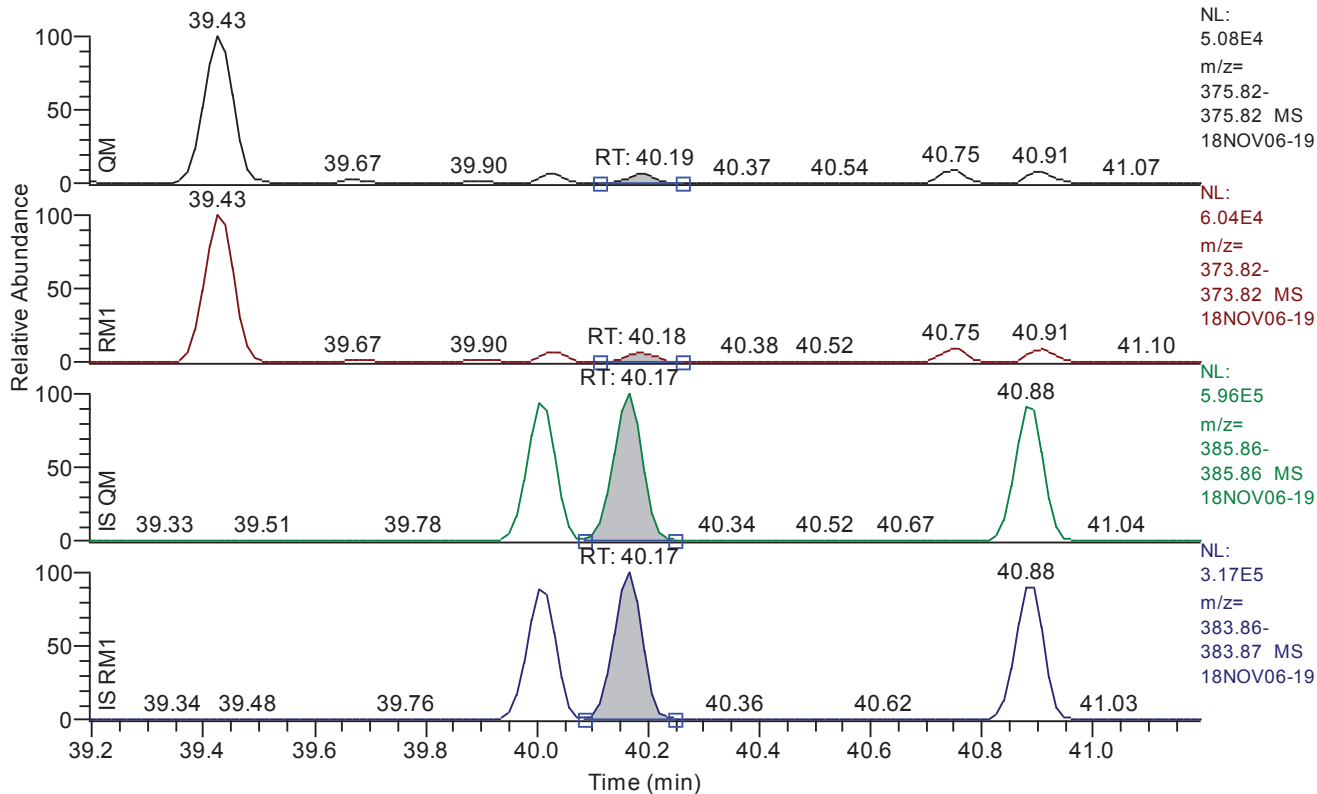


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	11882
QM Integration Mode	A
RM1 Area	14463
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0366
Unqualified Amount (A)	1.602829
Adjusted Amount (A)	1.6028
Signal-to-Noise	116
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.19 - 41.19 SM: 3G

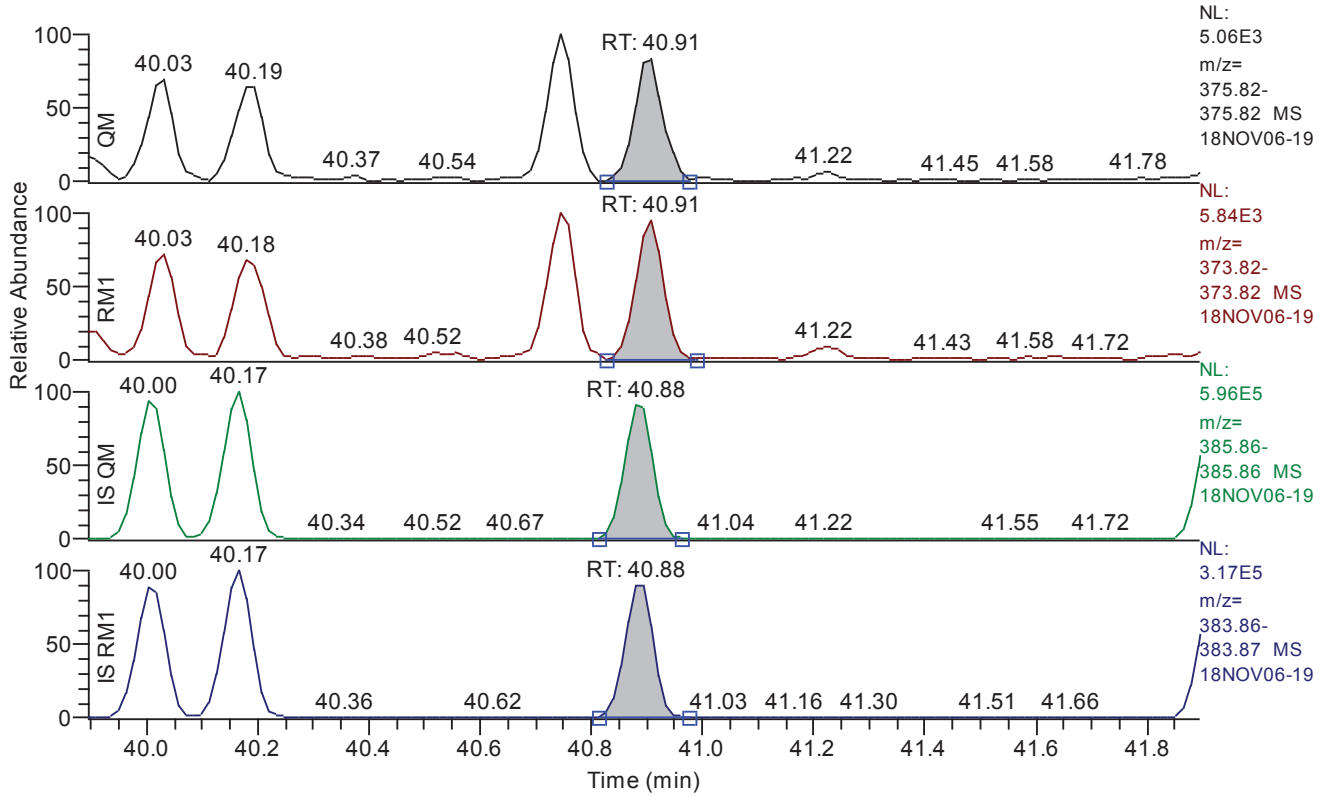


**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.19
QM Area	12001
QM Integration Mode	A
RM1 Area	15362
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0346
Unqualified Amount (A)	1.587179
Adjusted Amount (A)	1.5872
Signal-to-Noise	108
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.89 - 41.89 SM: 3G

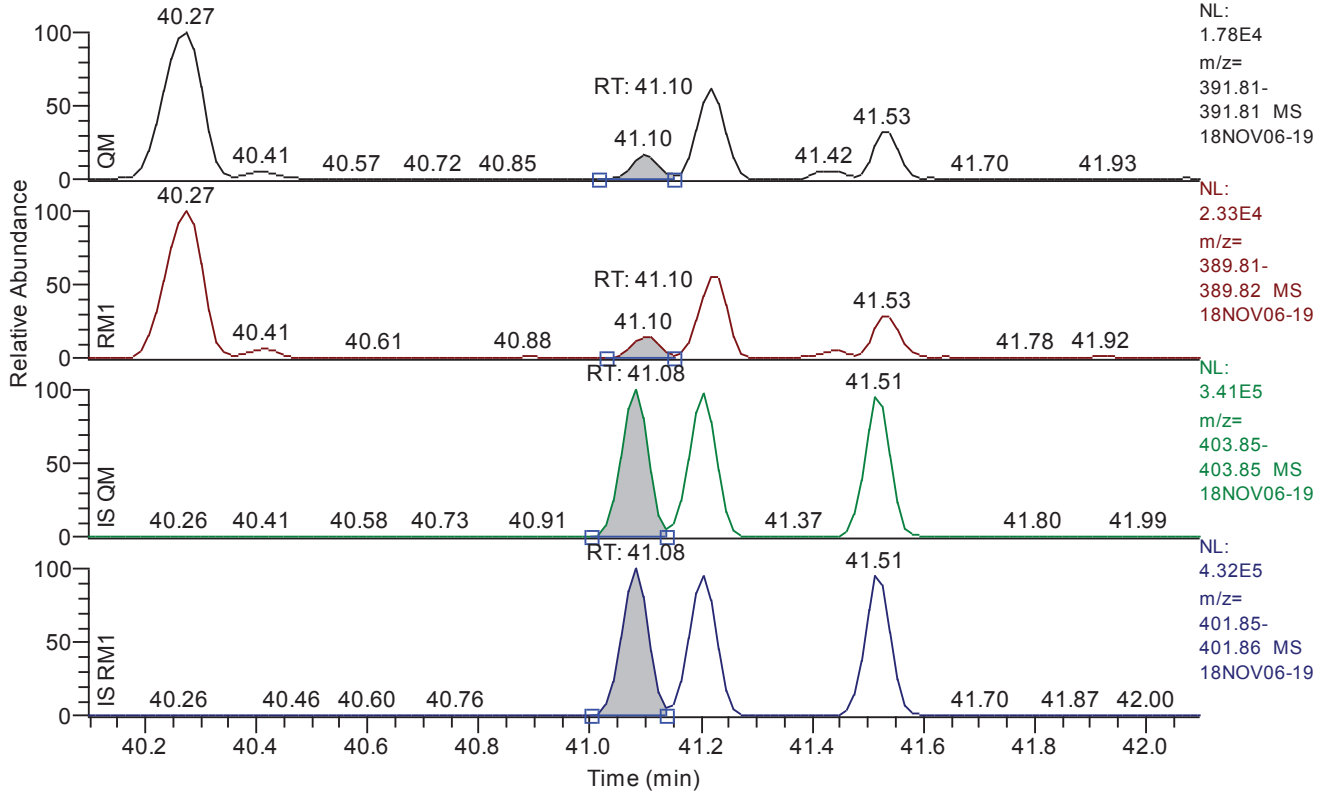


**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.91
QM Area	15175
QM Integration Mode	A
RM1 Area	19244
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0356
Unqualified Amount (A)	2.057279
Adjusted Amount (A)	2.0573
Signal-to-Noise	148
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.10 - 42.10 SM: 3G

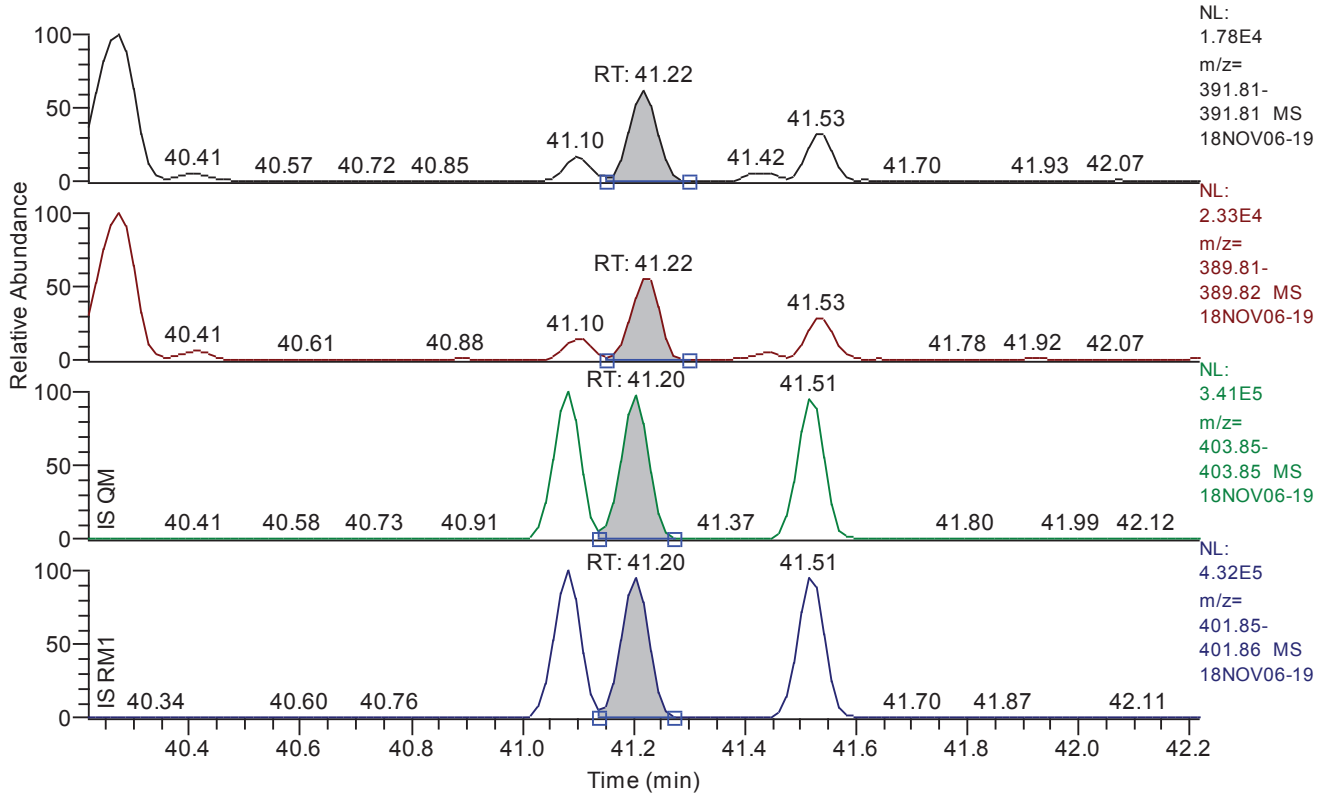


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	10096
QM Integration Mode	A
RM1 Area	12146
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0400
Unqualified Amount (A)	1.868471
Adjusted Amount (A)	1.8685
Signal-to-Noise	114
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.22 - 42.22 SM: 3G

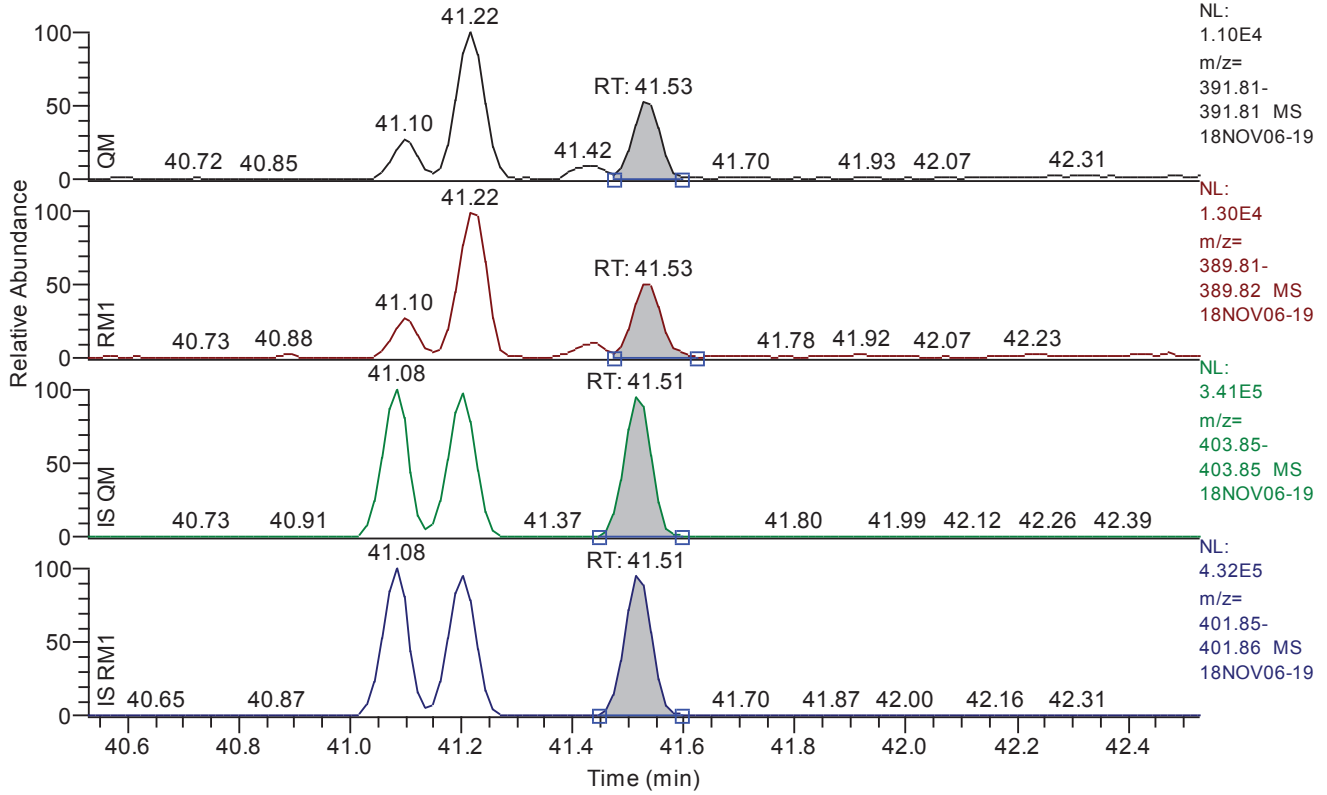


**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	38738
QM Integration Mode	A
RM1 Area	47163
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0418
Unqualified Amount (A)	7.292207
Adjusted Amount (A)	7.2922
Signal-to-Noise	423
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.53 - 42.53 SM: 3G



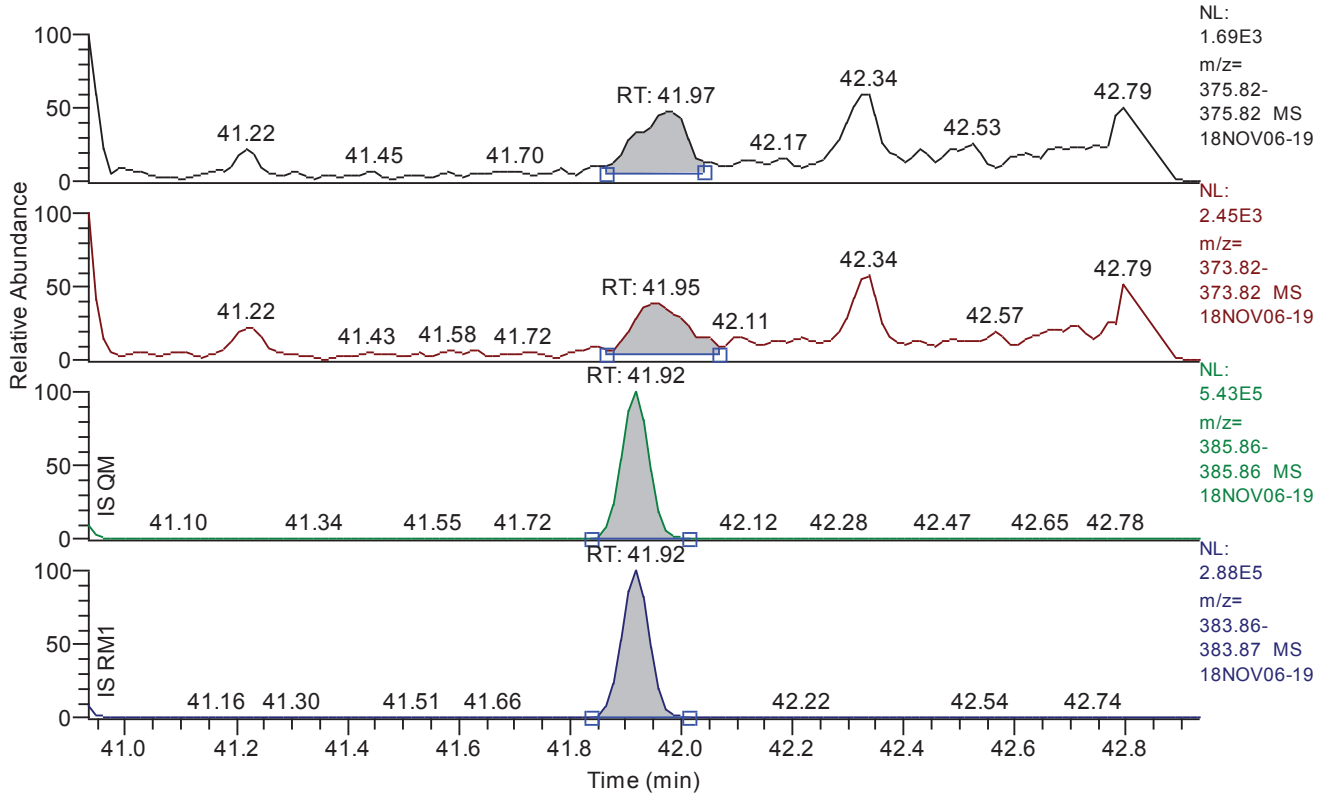
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	19750
QM Integration Mode	A
RM1 Area	23875
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0399
Unqualified Amount (A)	3.611697
Adjusted Amount (A)	3.6117
Signal-to-Noise	216
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.93 - 42.93 SM: 3G

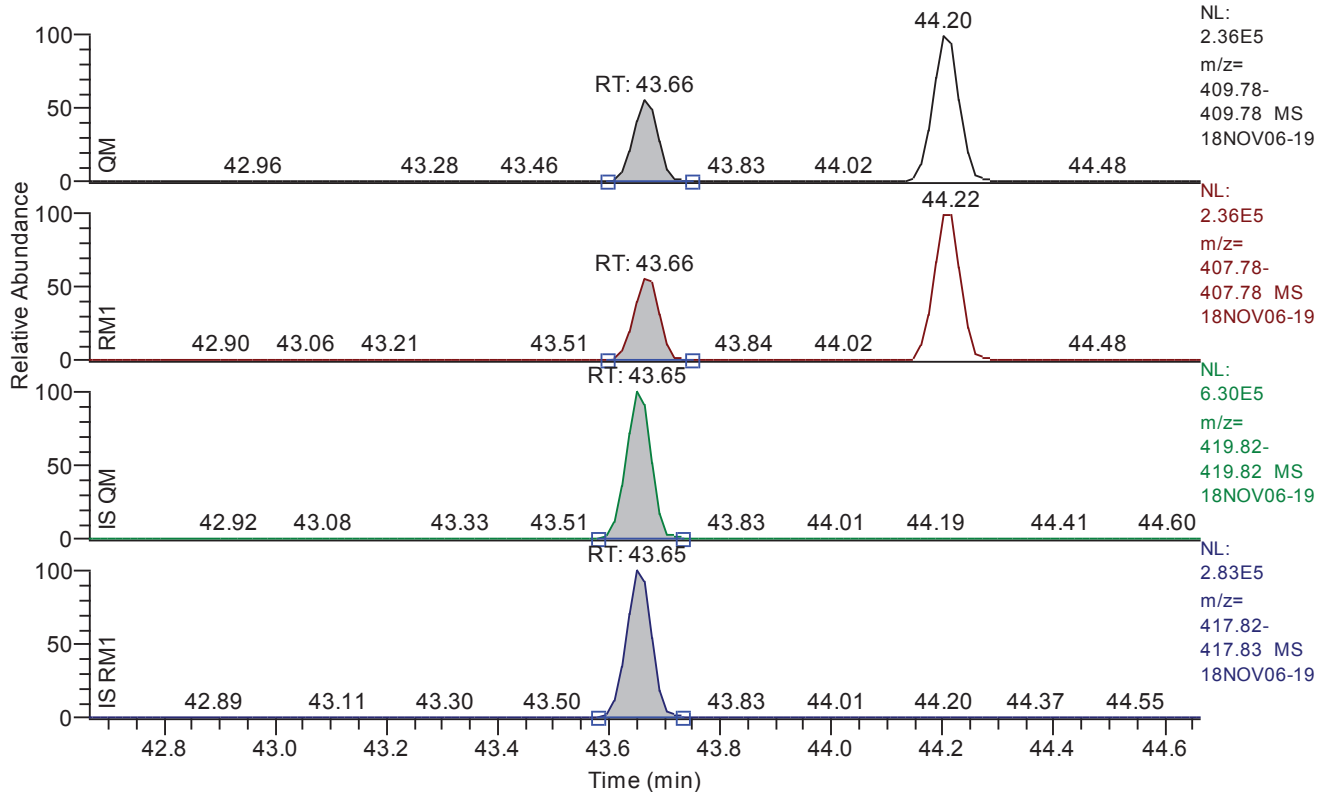


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.97
QM Area	4460
QM Integration Mode	M
RM1 Area	5707
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0390
Unqualified Amount (A)	0.687107
Adjusted Amount (A)	0.6871
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.66 - 44.66 SM: 3G

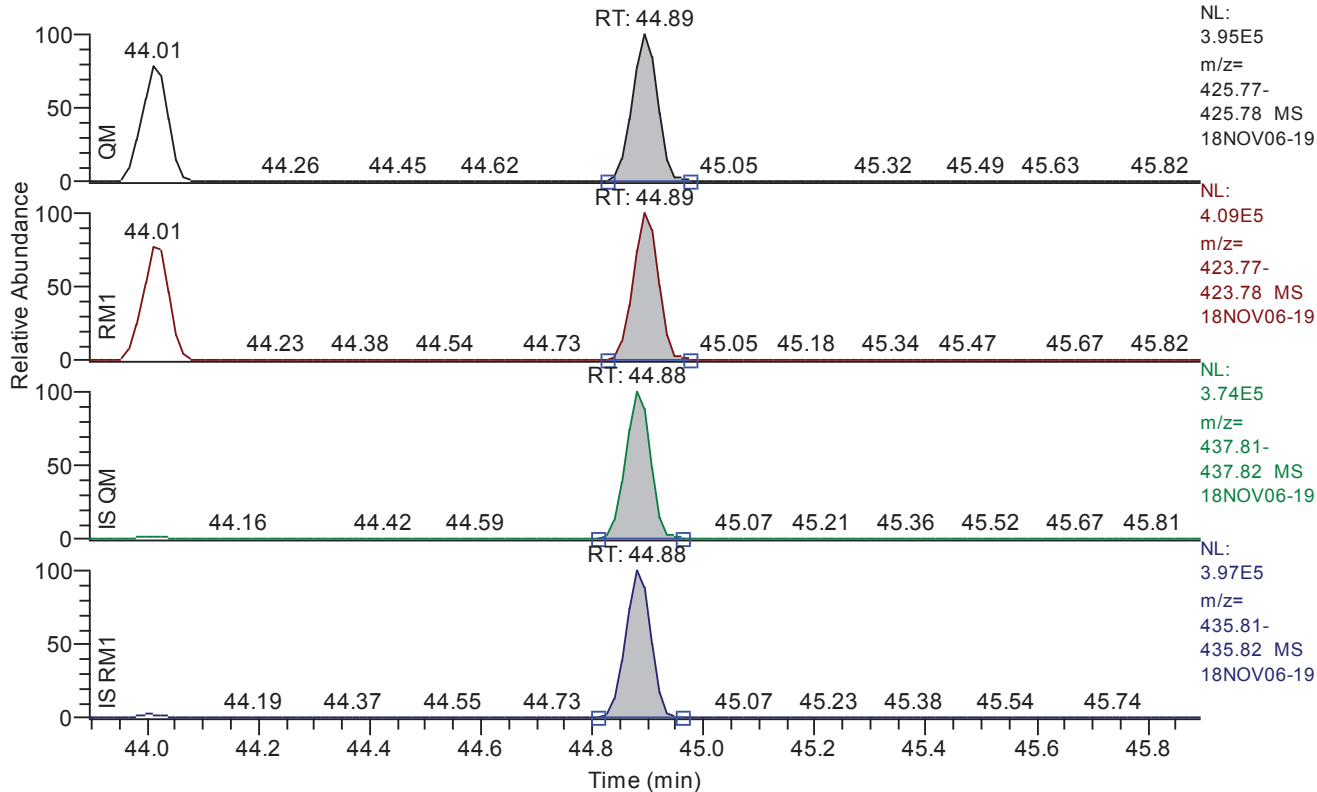


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	424603
QM Integration Mode	A
RM1 Area	437405
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0362
Unqualified Amount (A)	50.386798
Adjusted Amount (A)	50.3868
Signal-to-Noise	3477
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.89 - 45.89 SM: 3G

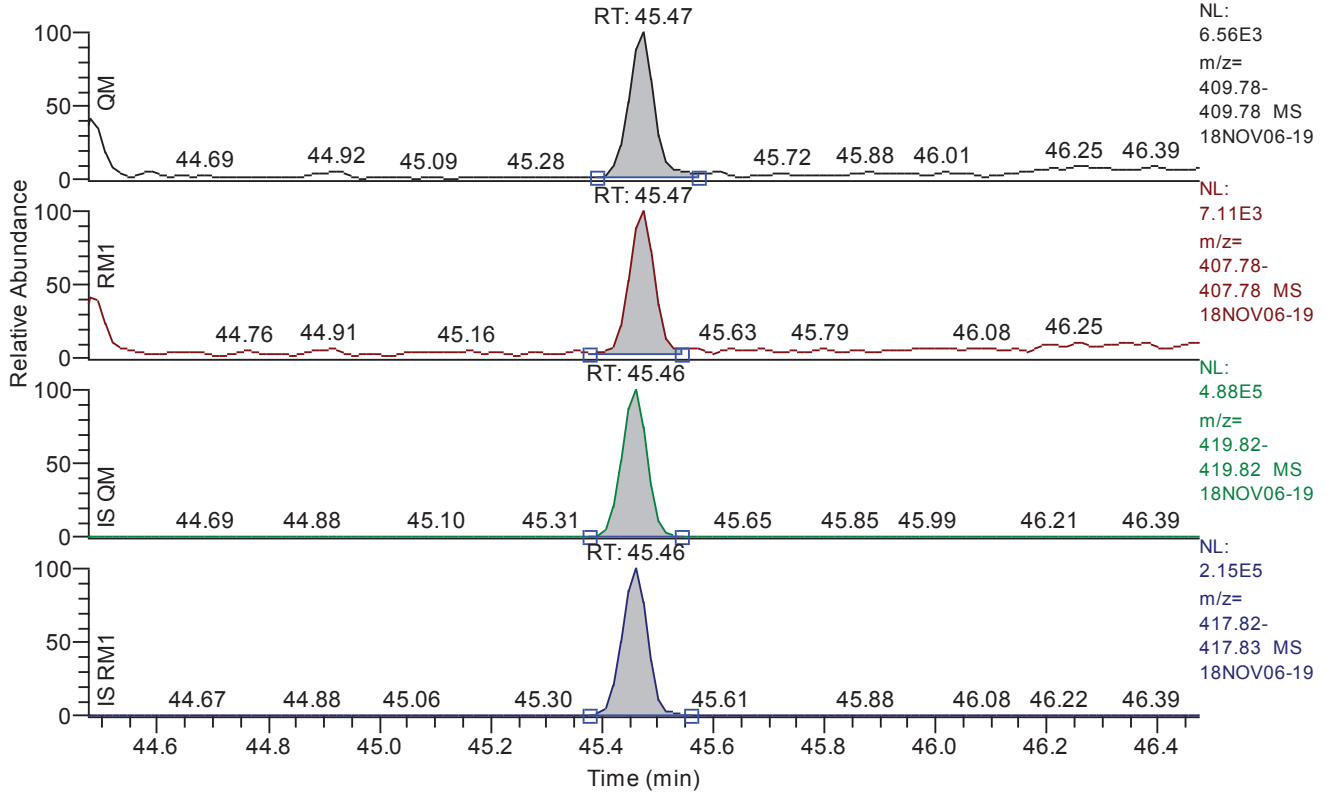


**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	1277096
QM Integration Mode	A
RM1 Area	1326242
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1252
Unqualified Amount (A)	222.848331
Adjusted Amount (A)	222.8483
Signal-to-Noise	4429
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 44.47 - 46.47 SM: 3G

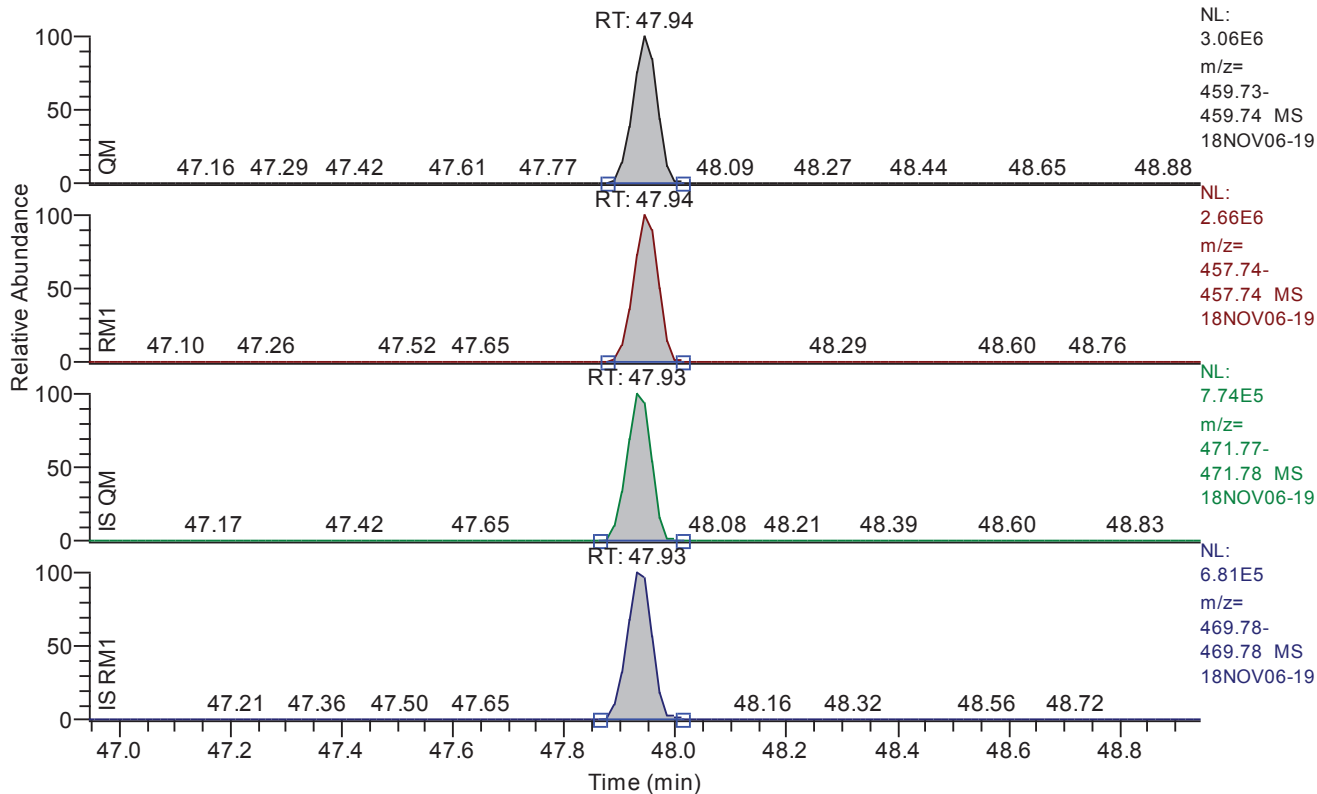


**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	21167
QM Integration Mode	A
RM1 Area	22597
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0457
Unqualified Amount (A)	3.223076
Adjusted Amount (A)	3.2231
Signal-to-Noise	175
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 46.94 - 48.94 SM: 3G

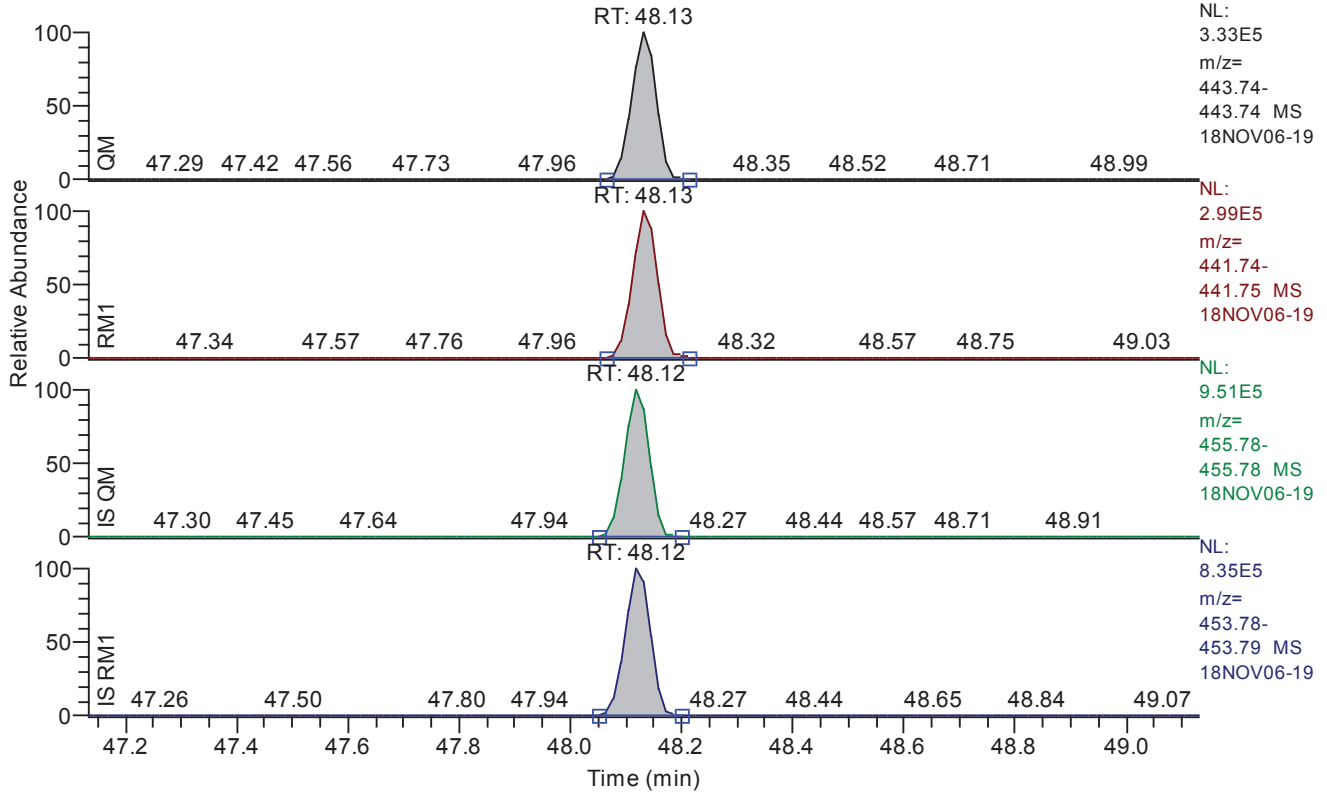


**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	9234881
QM Integration Mode	A
RM1 Area	8154108
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0640
Unqualified Amount (A)	1680.108164
Adjusted Amount (A)	1680.1082
Signal-to-Noise	67104
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 47.13 - 49.13 SM: 3G

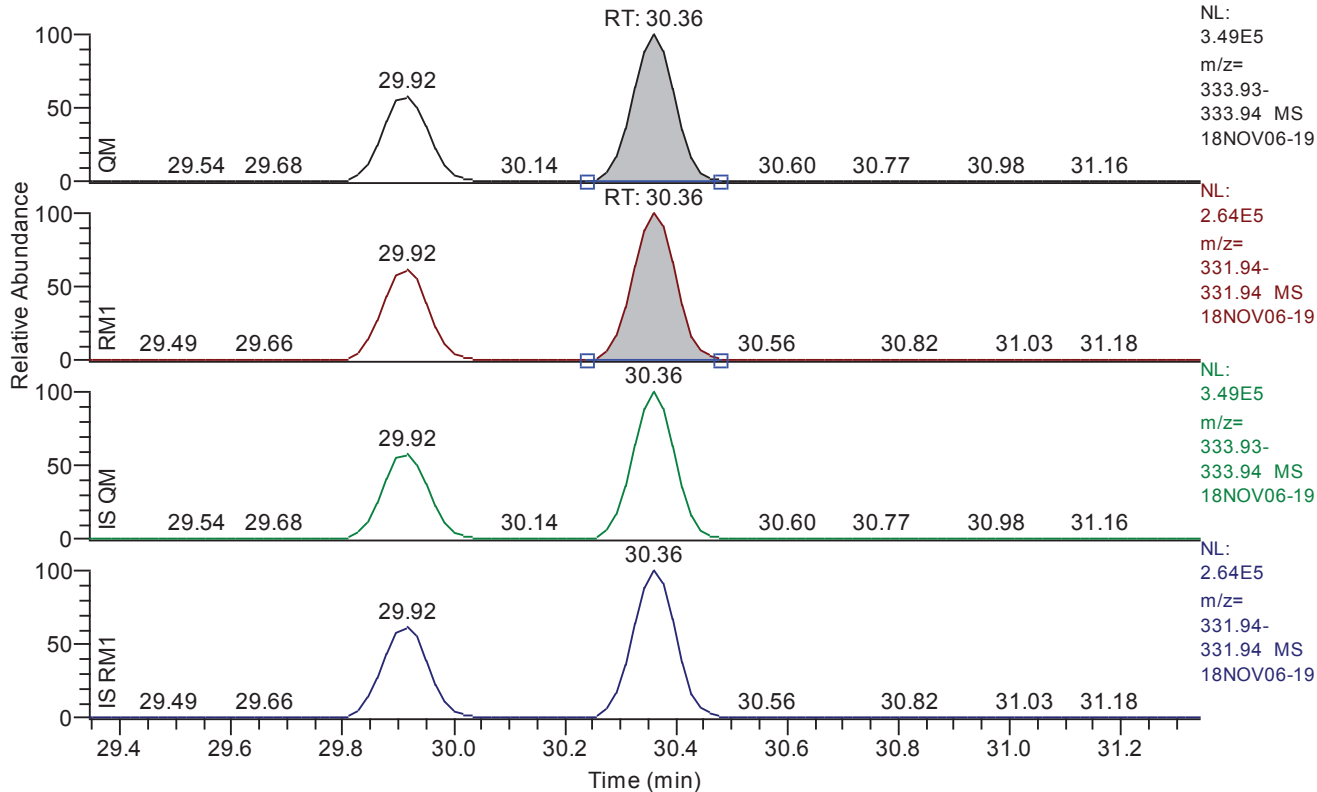


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	1025768
QM Integration Mode	A
RM1 Area	921649
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0415
Unqualified Amount (A)	164.233578
Adjusted Amount (A)	164.2336
Signal-to-Noise	10043
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 29.34 - 31.34 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	1886319
QM Integration Mode	A
RM1 Area	1464489
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0226
Unqualified Amount (A)	148.965990
Adjusted Amount (A)	148.9660
Signal-to-Noise	16447
Client Flags	
Status Overview	passed
Status Info	

**Quantitation Settings**

**Data File Parameter**

Acq. Data 2018/11/07 00:56  
Number of Entries 267  
Comment S:11030:12937:17962  
Vial 66  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS003 Grab Soil  
Sample ID 9866464RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-19.quan  
Data w:\18nov06\18nov06-19.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

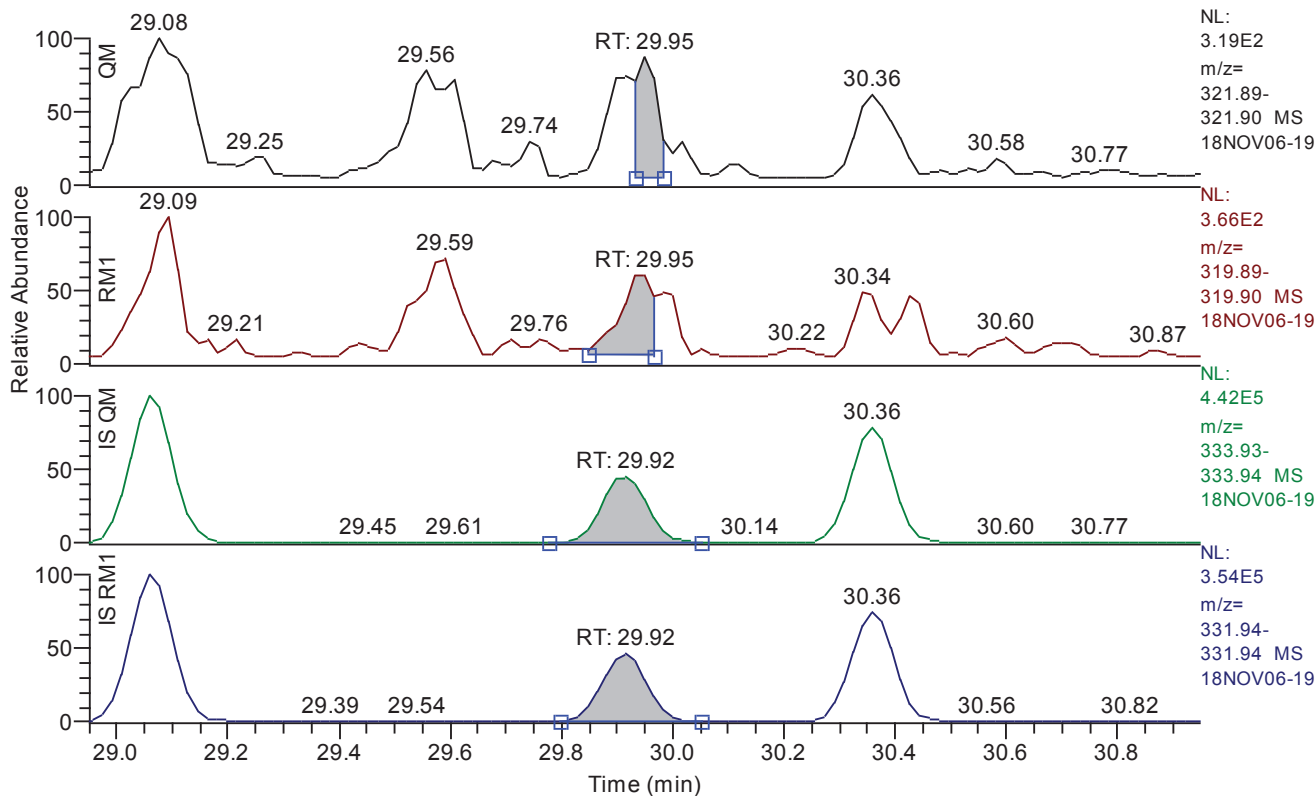
**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.03  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Chromatogram**

RT: 28.95 - 30.95 SM: 3G

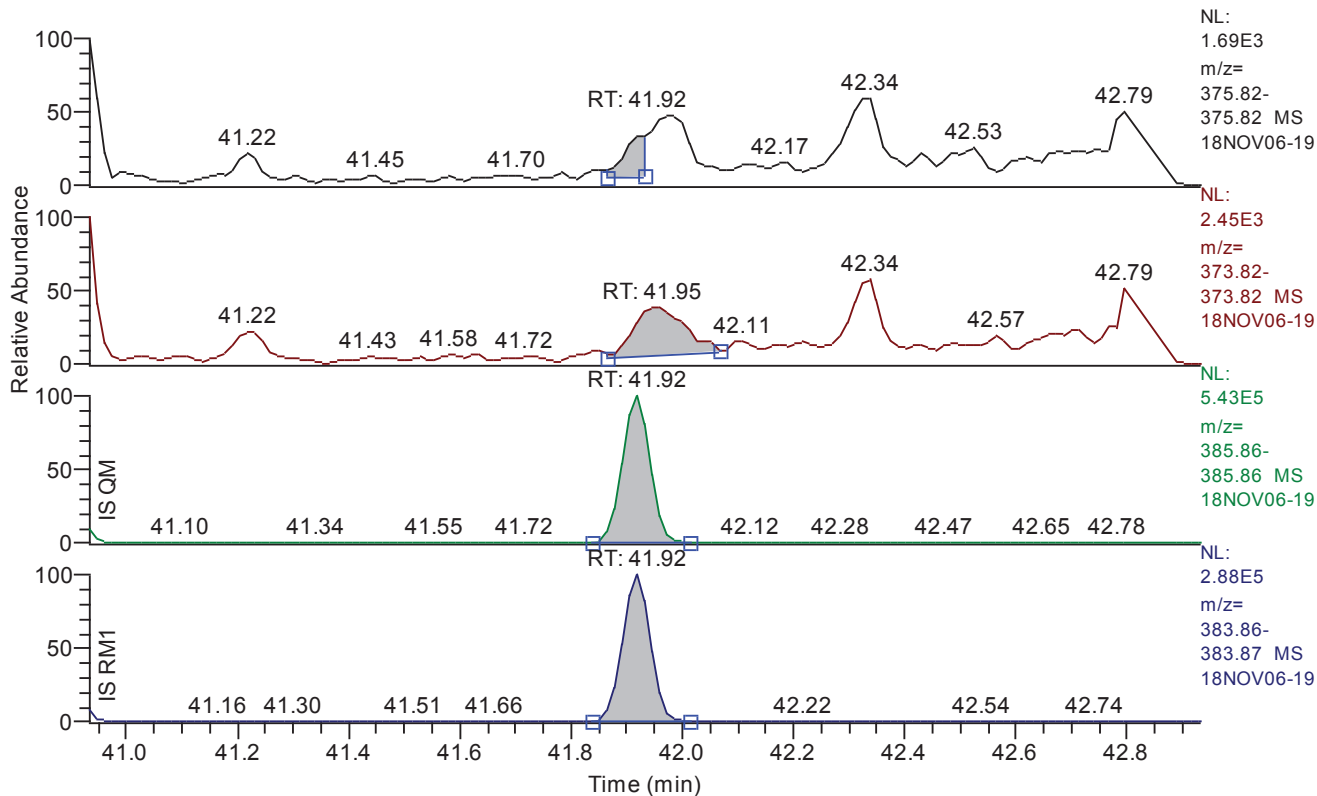


**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	634
QM Integration Mode	A
RM1 Area	802
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0287
Unqualified Amount (A)	0.122551
Adjusted Amount (A)	n.d.
Signal-to-Noise	20
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 40.93 - 42.93 SM: 3G



**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.92
QM Area	1196
QM Integration Mode	A
RM1 Area	5063
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0530
Unqualified Amount (A)	0.423005
Adjusted Amount (A)	n.d.
Signal-to-Noise	14
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.84	28.84	28.80	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.95	29.95	29.92	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	34.92	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.30	36.30	36.25	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.68	36.65	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.03	40.03	40.00	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.19	40.18	40.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.91	40.91	40.88	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.10	41.10	41.08	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.22	41.22	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.53	41.53	41.51	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.97	41.95	41.92	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.66	43.66	43.65	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.89	44.89	44.88	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.47	45.47	45.46	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.13	48.13	48.12	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.36	30.36	30.36	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.80	28.80	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.92	29.92	29.92	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.92	34.92	34.94	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.25	36.25	36.13	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.00	40.00	40.05	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.17	40.17	40.19	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.88	40.88	40.73	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.08	41.08	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.51	41.51	41.51	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.92	41.92	42.00	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.65	43.65	43.66	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.88	44.88	44.88	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.46	45.46	45.36	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.12	48.12	48.12	passed	passed

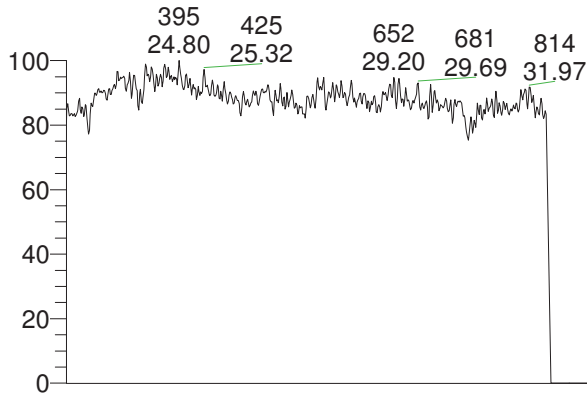
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	1.0305	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	29.95	0.8689	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	34.94	1.6001	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.30	1.4496	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.0808	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.03	1.2172	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.19	1.2801	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.91	1.2682	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.10	1.2030	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.22	1.2175	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.53	1.2089	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.97	1.2794	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.66	1.0302	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0385	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.47	1.0676	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.94	0.8830	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.8985	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.36	0.7764	0.6450 - 0.8950	passed	74.71	35 - 197	passed
19	13C12-1234-TCDD	29.06	0.8075	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2737	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.80	0.7892	0.6450 - 0.8950	passed	56.80	40 - 135	passed
22	13C12-2378-TCDD	29.92	0.8039	0.6450 - 0.8950	passed	50.32	40 - 135	passed
23	13C12-12378-PeCDF	34.92	1.5889	1.3150 - 1.7850	passed	54.54	40 - 135	passed
24	13C12-23478-PeCDF	36.25	1.6014	1.3150 - 1.7850	passed	53.86	40 - 135	passed
25	13C12-12378-PeCDD	36.65	1.5898	1.3150 - 1.7850	passed	54.46	40 - 135	passed
26	13C12-123478-HxCDF	40.00	0.5116	0.4250 - 0.5950	passed	52.60	40 - 135	passed
27	13C12-123678-HxCDF	40.17	0.5247	0.4250 - 0.5950	passed	53.51	40 - 135	passed
28	13C12-234678-HxCDF	40.88	0.5266	0.4250 - 0.5950	passed	52.82	40 - 135	passed
29	13C12-123478-HxCDD	41.08	1.2577	1.0450 - 1.4350	passed	57.18	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2458	1.0450 - 1.4350	passed	55.54	40 - 135	passed
31	13C12-123789-HxCDD	41.51	1.2616	1.0450 - 1.4350	passed	56.93	40 - 135	passed
32	13C12-123789-HxCDF	41.92	0.5301	0.4250 - 0.5950	passed	55.84	40 - 135	passed
33	13C12-1234678-HpCDF	43.65	0.4529	0.3650 - 0.5150	passed	55.38	40 - 135	passed
34	13C12-1234678-HpCDD	44.88	1.0747	0.8750 - 1.2050	passed	55.68	40 - 135	passed
35	13C12-1234789-HpCDF	45.46	0.4453	0.3650 - 0.5150	passed	52.01	40 - 135	passed
36	13C12-OCDD	47.93	0.8937	0.7550 - 1.0250	passed	52.12	40 - 135	passed
37	13C12-OCDF	48.12	0.8918	0.7550 - 1.0250	passed	48.21	40 - 135	passed

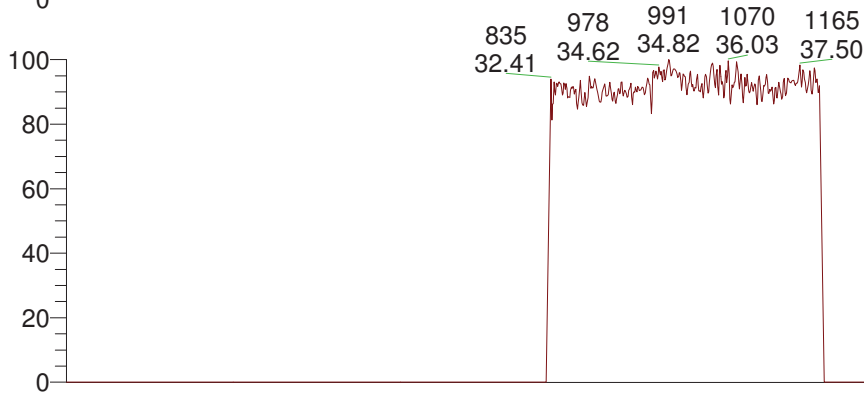
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	28.84	6212	A	6401	A	0.0394	0.623519	n.d.	0.000000	37	
2	2378-TCDD	passed	29.95	1422	M	1236	M	0.0287	0.226823	0.2268	0.000000	20	
3	12378-PeCDF	passed	34.94	3375	A	5401	A	0.0295	0.532335	0.5323	0.000000	41	
4	23478-PeCDF	passed	36.30	6774	A	9819	A	0.0249	0.910430	0.9104	0.000000	68	
5	12378-PeCDD	failed	36.67	6061	A	6550	A	0.0537	1.216893	n.d.	0.000000	54	
6	123478-HxCDF	passed	40.03	11882	A	14463	A	0.0366	1.602829	1.6028	0.000000	116	
7	123678-HxCDF	passed	40.19	12001	A	15362	A	0.0346	1.587179	1.5872	0.000000	108	
8	234678-HxCDF	passed	40.91	15175	A	19244	A	0.0356	2.057279	2.0573	0.000000	148	
9	123478-HxCDD	passed	41.10	10096	A	12146	A	0.0400	1.868471	1.8685	0.000000	114	
10	123678-HxCDD	passed	41.22	38738	A	47163	A	0.0418	7.292207	7.2922	0.000000	423	
11	123789-HxCDD	passed	41.53	19750	A	23875	A	0.0399	3.611697	3.6117	0.000000	216	
12	123789-HxCDF	passed	41.97	4460	M	5707	M	0.0390	0.687107	0.6871	0.000000	23	
13	1234678-HpCDF	passed	43.66	424603	A	437405	A	0.0362	50.386798	50.3868	0.000000	3477	
14	1234678-HpCDD	passed	44.89	1277096	A	1326242	A	0.1252	222.848331	222.8483	0.000000	4429	
15	1234789-HpCDF	passed	45.47	21167	A	22597	A	0.0457	3.223076	3.2231	0.000000	175	
16	OCDD	passed	47.94	9234881	A	8154108	A	0.0640	1680.108164	1680.1082	0.000000	67104	
17	OCDF	passed	48.13	1025768	A	921649	A	0.0415	164.233578	164.2336	0.000000	10043	
18	13C12-1278-TCDD (CRS)	passed	30.36	1886319	A	1464489	A	0.0226	148.965990	148.9660	199.401795	16447	
19	13C12-1234-TCDD	passed	29.06	2403603	A	1940801	A	0.0233	199.401795	199.4018	199.401795	21356	
20	13C12-123468-HxCDD	passed	39.92	2026888	A	2581634	A	0.0357	199.401795	199.4018	199.401795	13972	
21	13C12-2378-TCDF	passed	28.80	2441800	A	1926995	A	0.0155	113.269974	113.2700	199.401795	17635	
22	13C12-2378-TCDD	passed	29.92	1183825	A	951720	A	0.0239	100.337367	100.3374	199.401795	9884	
23	13C12-12378-PeCDF	passed	34.92	1493674	A	2373316	A	0.0393	108.753928	108.7539	199.401795	8413	
24	13C12-23478-PeCDF	passed	36.25	1469177	A	2352722	A	0.0392	107.400608	107.4006	199.401795	8940	
25	13C12-12378-PeCDD	passed	36.65	890756	A	1416123	A	0.0312	108.586741	108.5867	199.401795	11698	
26	13C12-123478-HxCDF	passed	40.00	2030114	A	1038695	A	0.0380	104.891991	104.8920	199.401795	6912	
27	13C12-123678-HxCDF	passed	40.17	2159911	A	1133203	A	0.0360	106.692621	106.6926	199.401795	7468	
28	13C12-234678-HxCDF	passed	40.88	1971520	A	1038273	A	0.0389	105.315415	105.3154	199.401795	6841	
29	13C12-123478-HxCDD	passed	41.08	1154501	A	1452045	A	0.0361	114.011768	114.0118	199.401795	8536	
30	13C12-123678-HxCDD	passed	41.20	1156660	A	1440943	A	0.0352	110.741699	110.7417	199.401795	8241	
31	13C12-123789-HxCDD	passed	41.51	1116190	A	1408139	A	0.0371	113.519303	113.5193	199.401795	8182	
32	13C12-123789-HxCDF	passed	41.92	1894608	A	1004294	A	0.0427	111.345759	111.3458	199.401795	6805	
33	13C12-1234678-HpCDF	passed	43.65	2045835	A	926470	A	0.0422	110.437294	110.4373	199.401795	7328	
34	13C12-1234678-HpCDD	passed	44.88	1198844	A	1288363	A	0.0475	111.030175	111.0302	199.401795	6611	
35	13C12-1234789-HpCDF	passed	45.46	1585879	A	706194	A	0.0514	103.709327	103.7093	199.401795	5642	
36	13C12-OCDD	passed	47.93	2390007	A	2135921	A	0.0260	207.841451	207.8415	398.803589	23435	
37	13C12-OCDF	passed	48.12	2954908	A	2635241	A	0.0158	192.244176	192.2442	398.803589	35359	

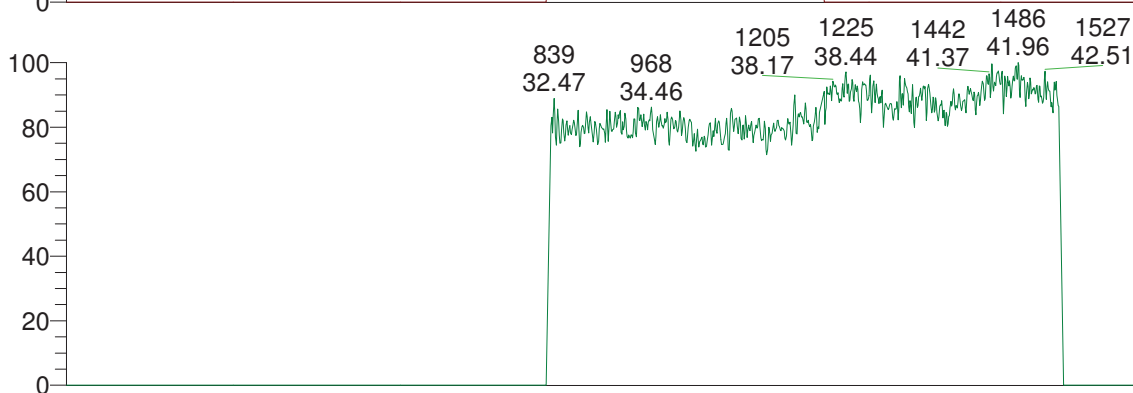
RT: 22.50 - 51.00



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292.9825  
MS  
18NOV06-  
19



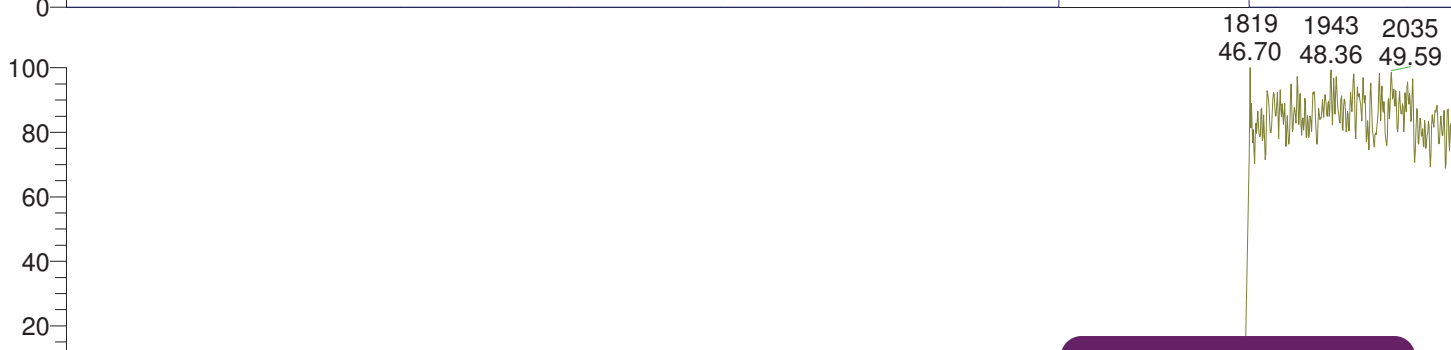
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MS  
18NOV06-  
19



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m/z=  
380.4760-  
381.4760  
MS  
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19



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m/z=  
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MS  
18NOV06-  
19



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m/z=  
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19

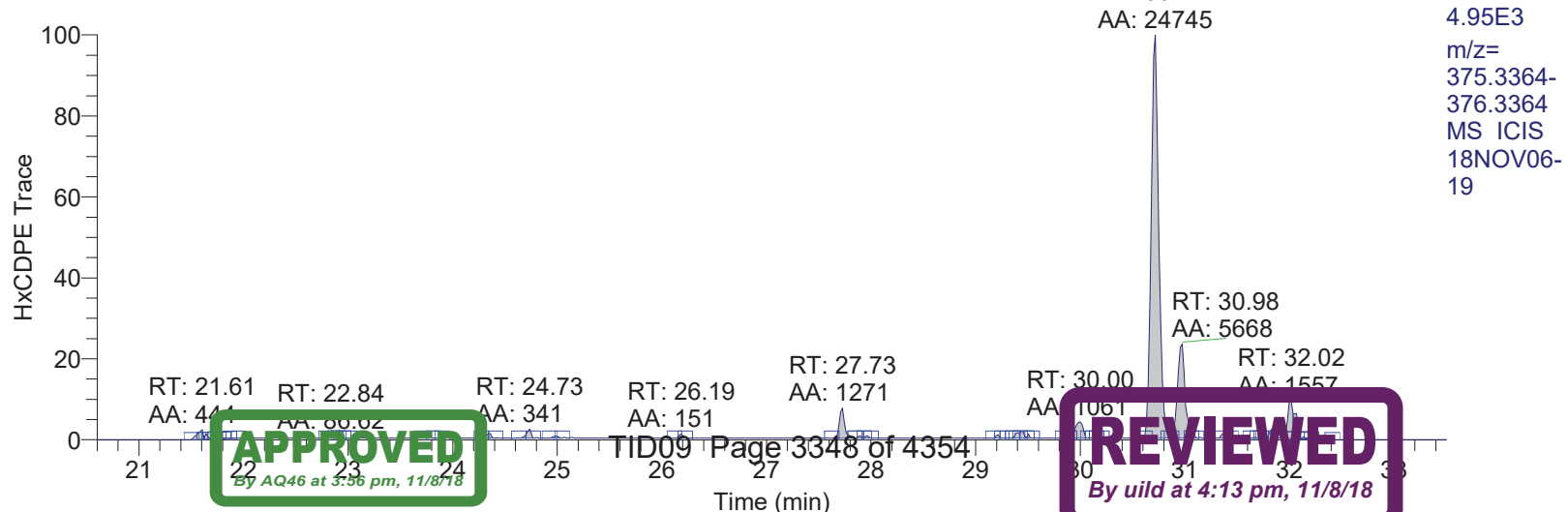
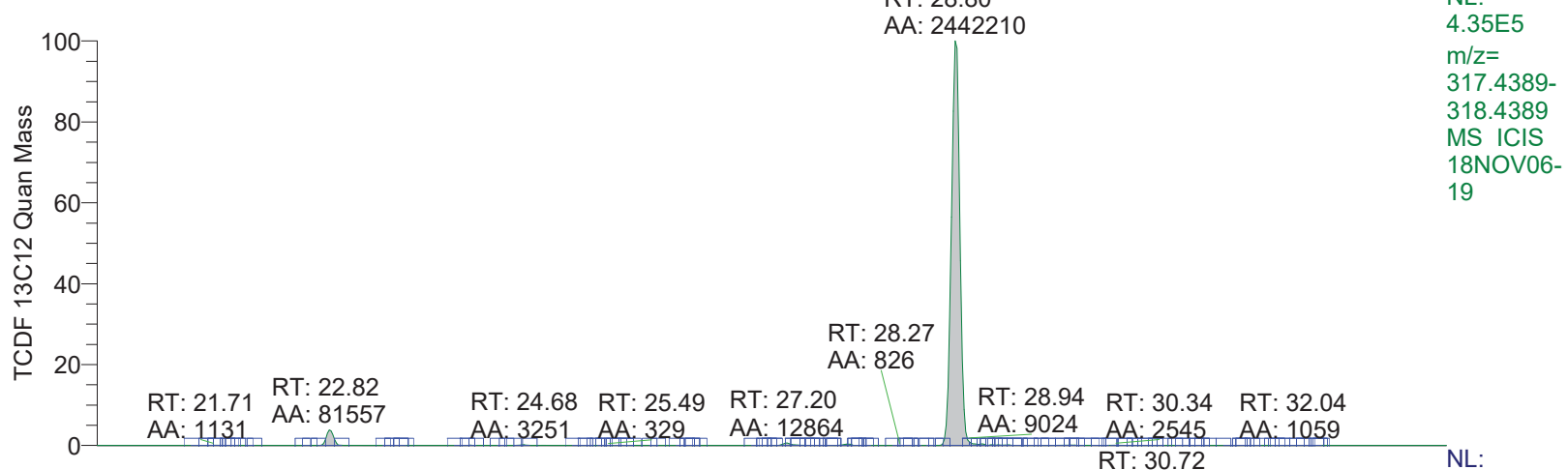
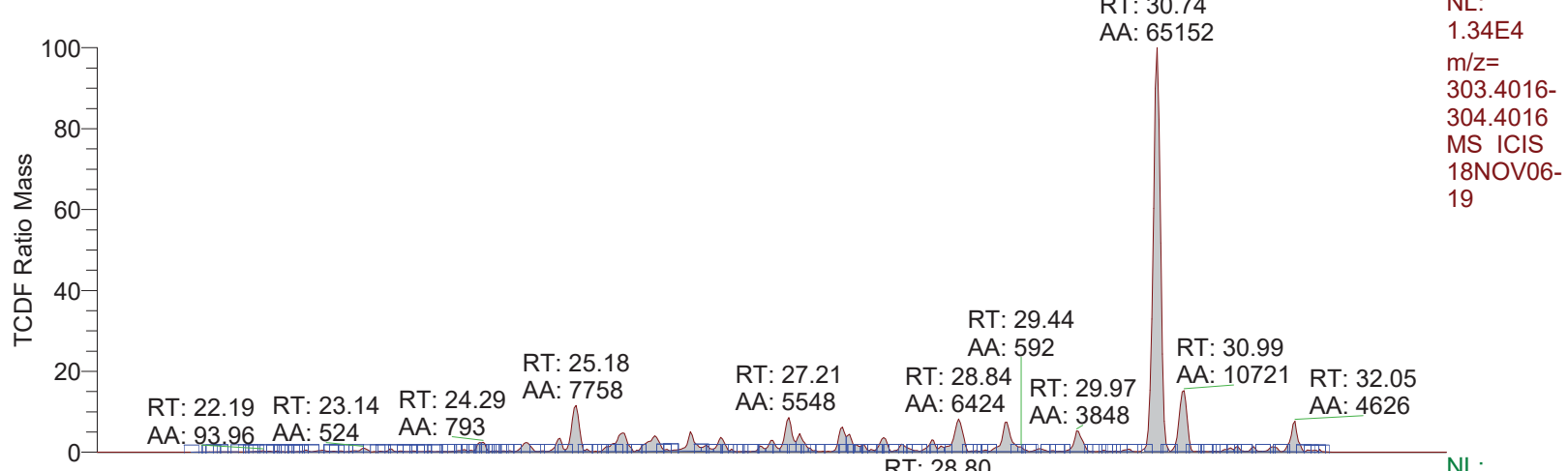
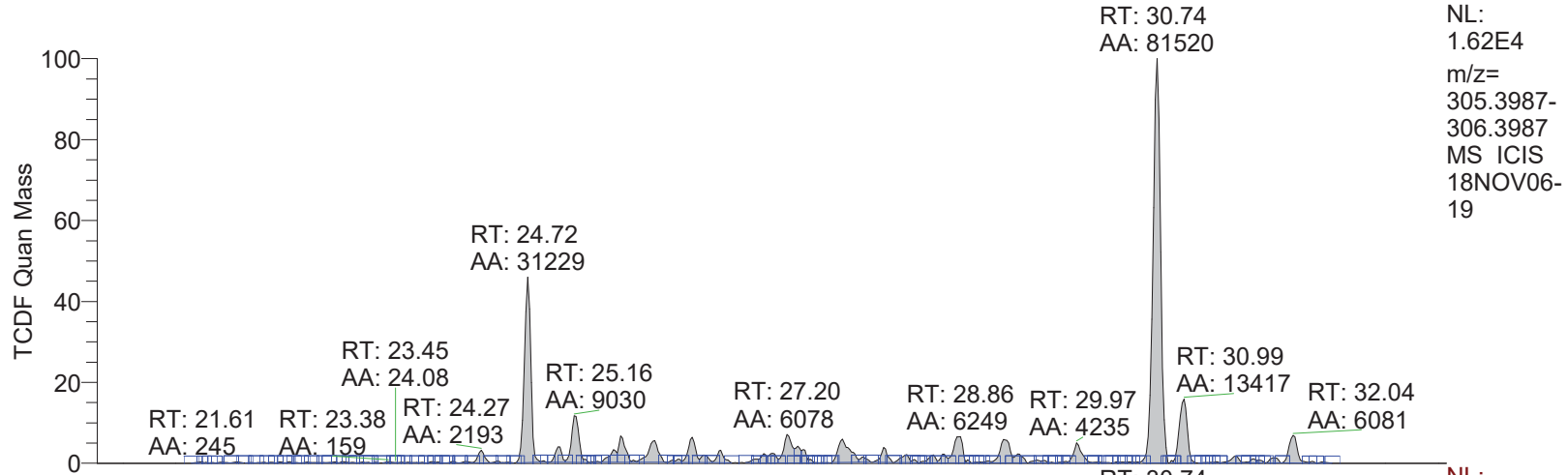
**APPROVED**  
By AQ46 at 3:58 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

24 26 28 30 32 34 36 38 40 42 44 46 48 50

Time (min)

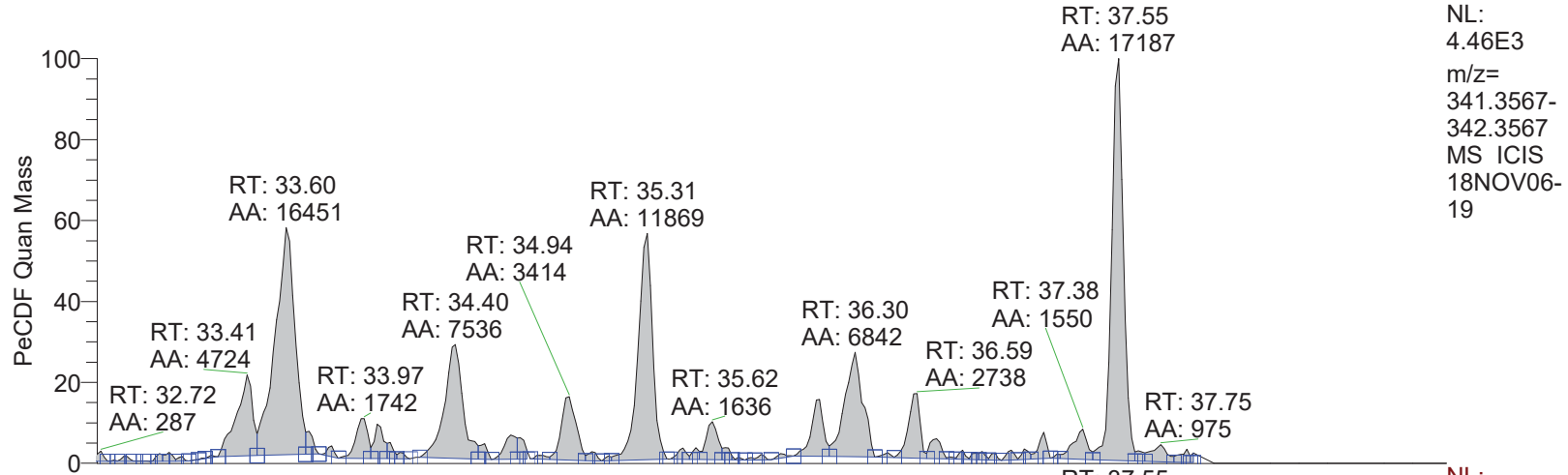
RT: 20.60 - 33.50



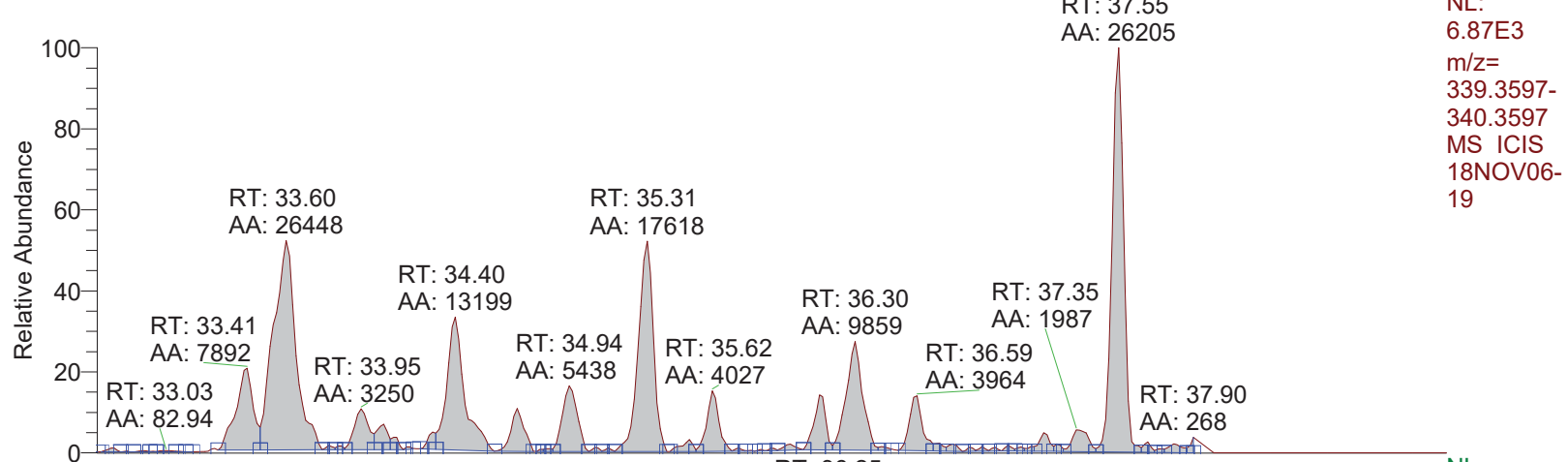
**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

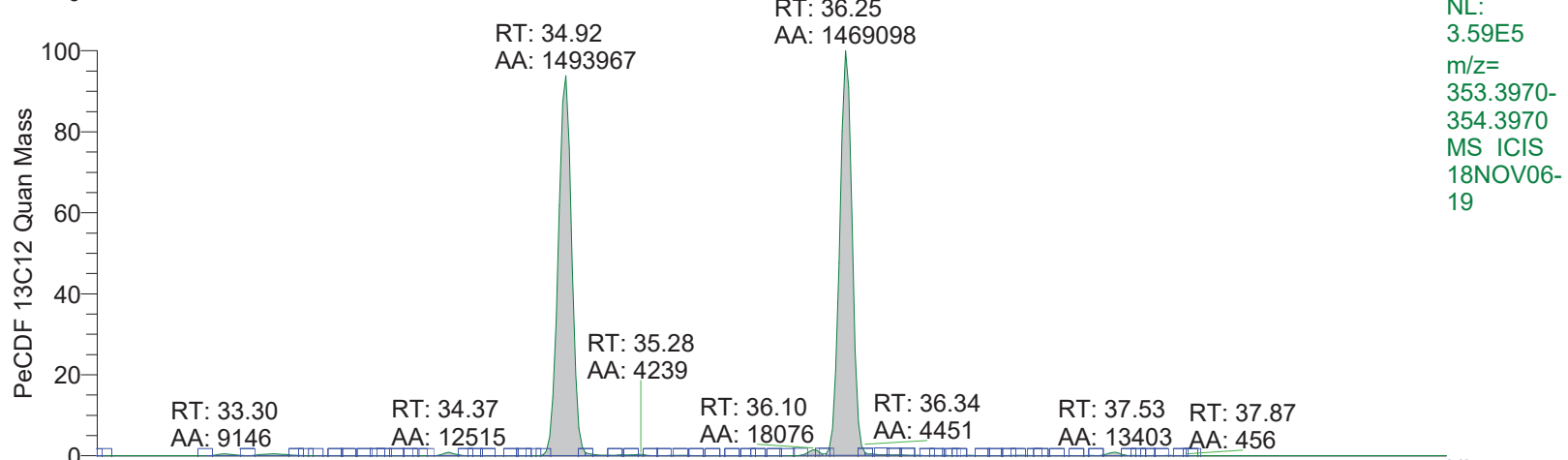
RT: 32.70 - 39.10



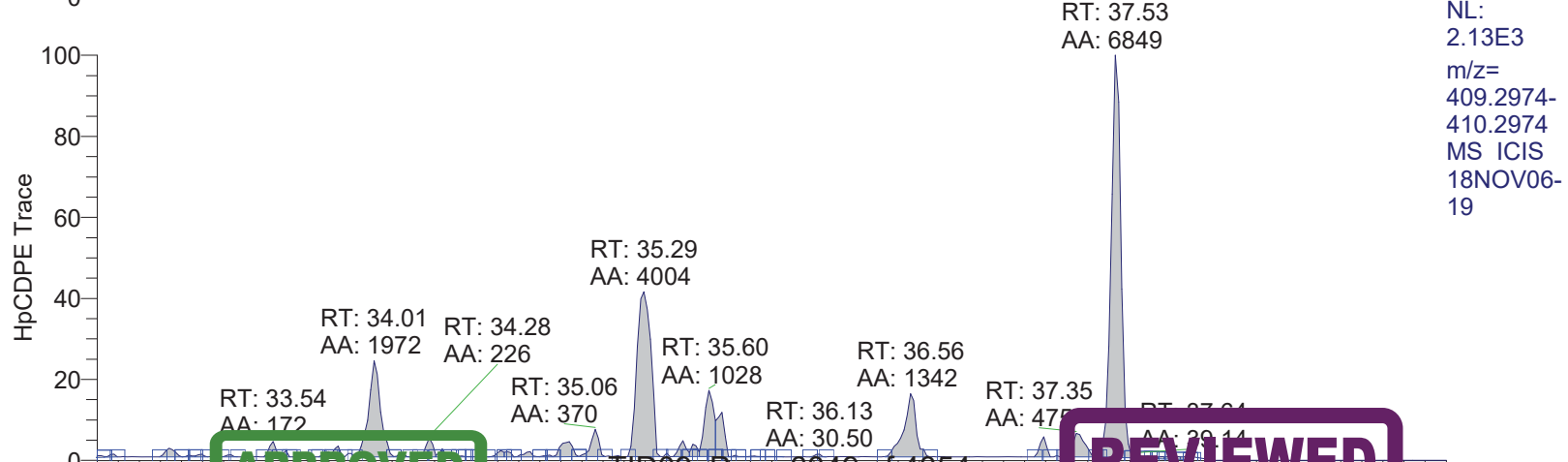
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342.3567  
MS ICIS  
18NOV06-  
19



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m/z=  
339.3597-  
340.3597  
MS ICIS  
18NOV06-  
19



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3.59E5  
m/z=  
353.3970-  
354.3970  
MS ICIS  
18NOV06-  
19



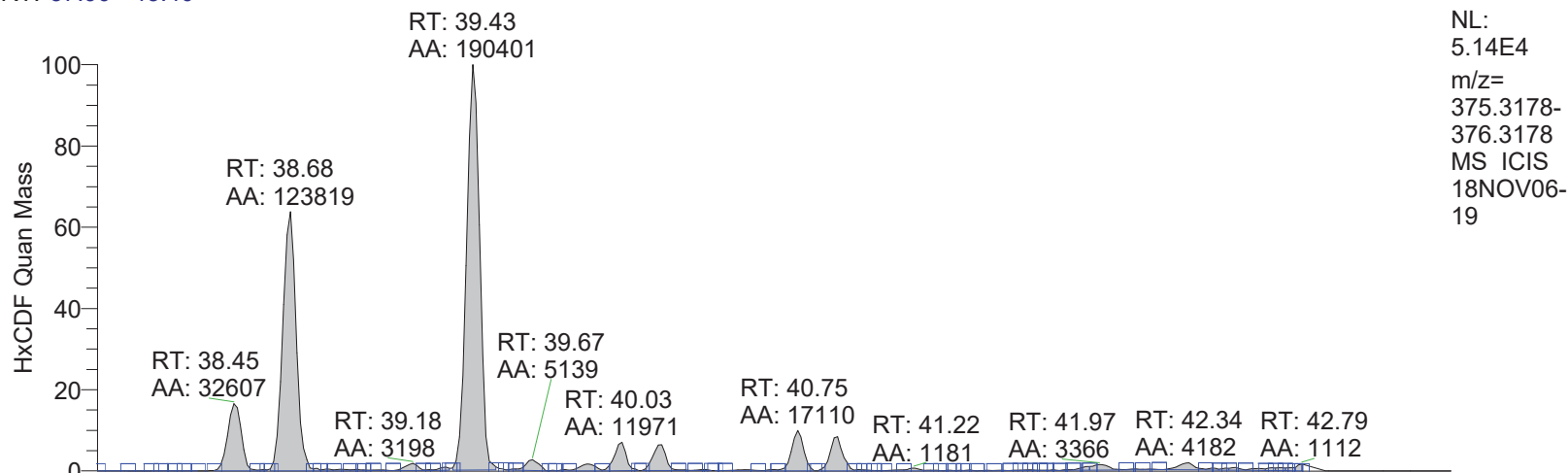
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MS ICIS  
18NOV06-  
19

**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

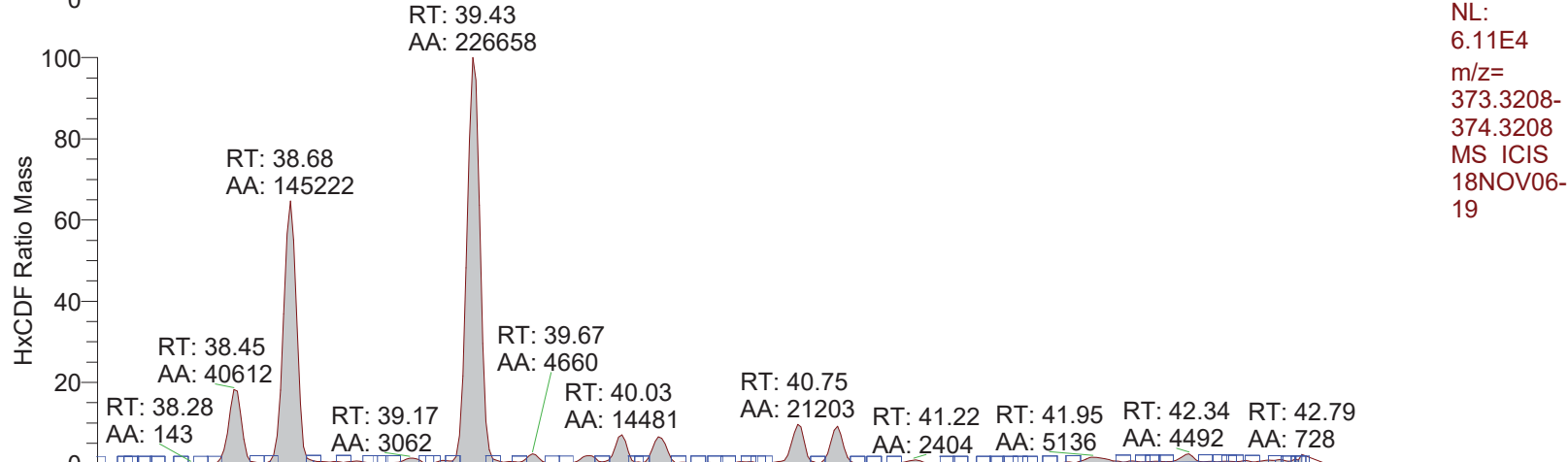
**REVIEWED**  
By uild at 4:13 pm, 11/8/18



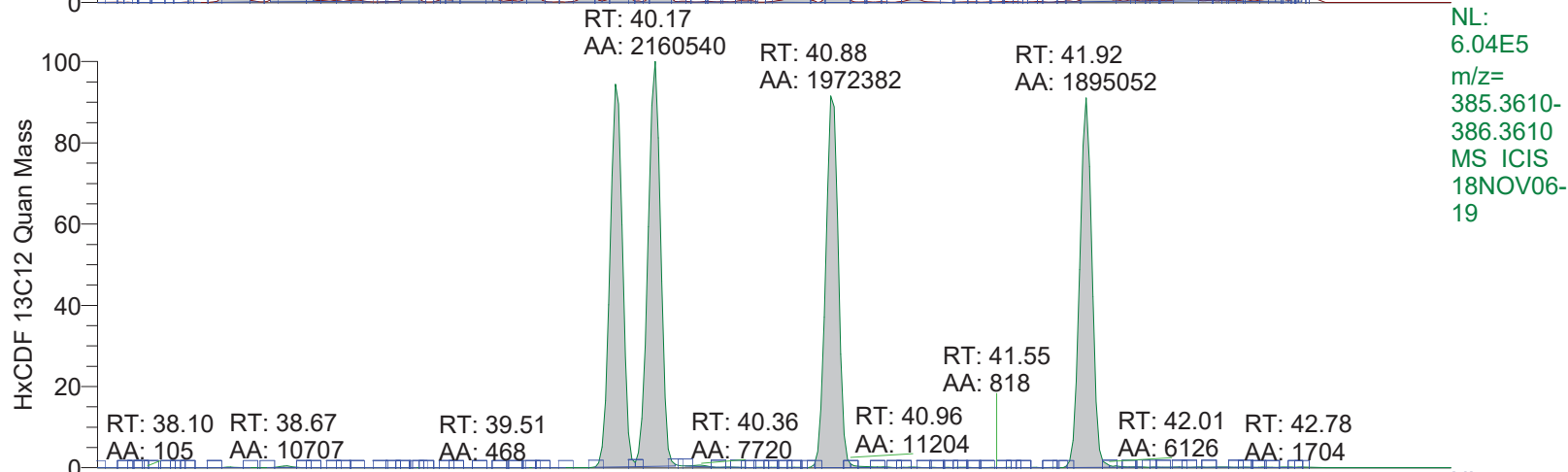
RT: 37.90 - 43.40



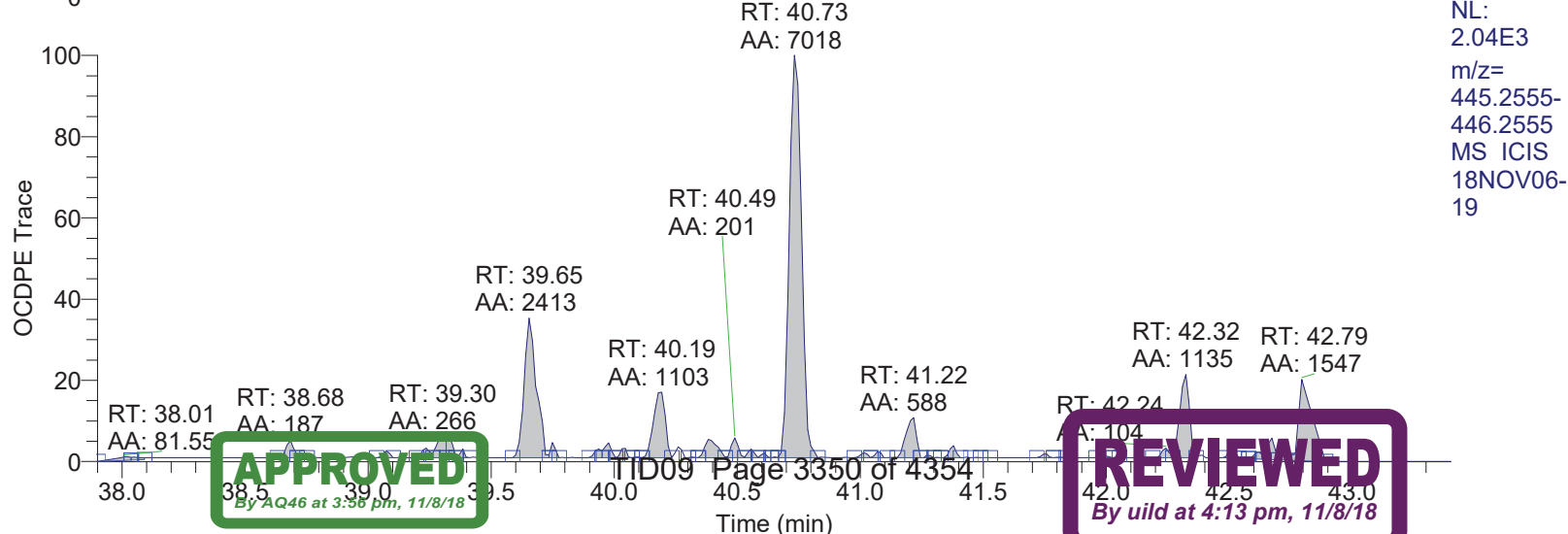
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MS ICIS 18NOV06-19



NL: 6.11E4  
m/z= 373.3208-374.3208  
MS ICIS 18NOV06-19



NL: 6.04E5  
m/z= 385.3610-386.3610  
MS ICIS 18NOV06-19

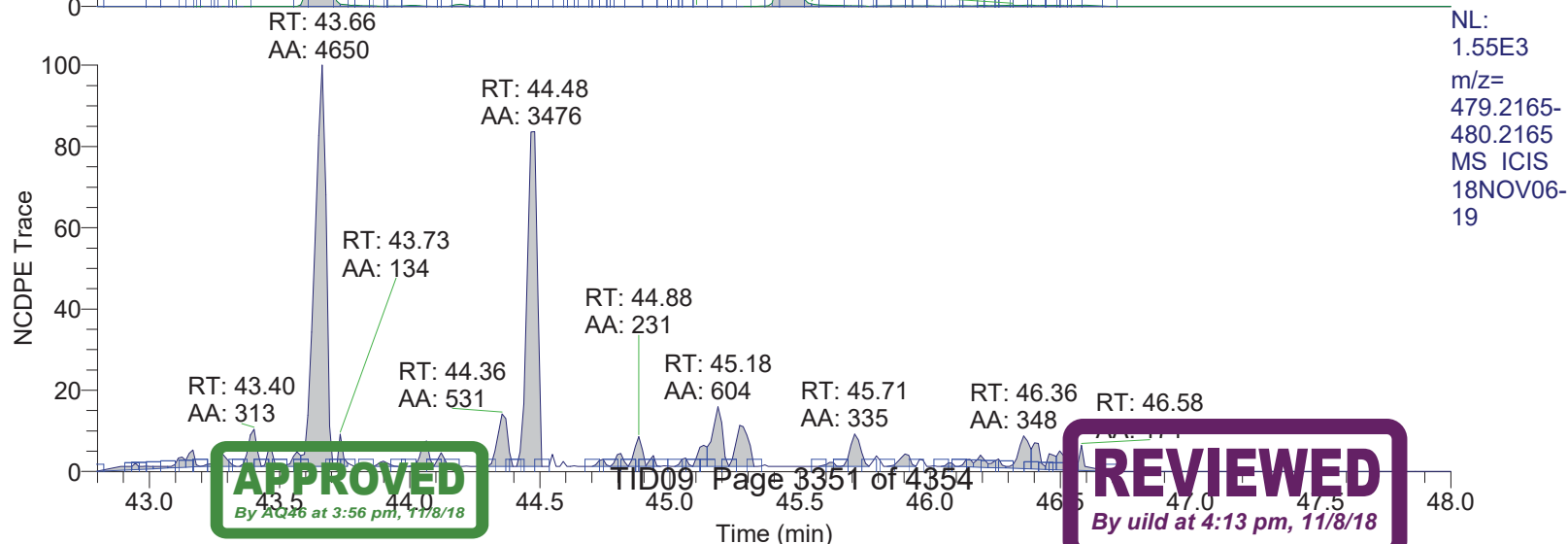
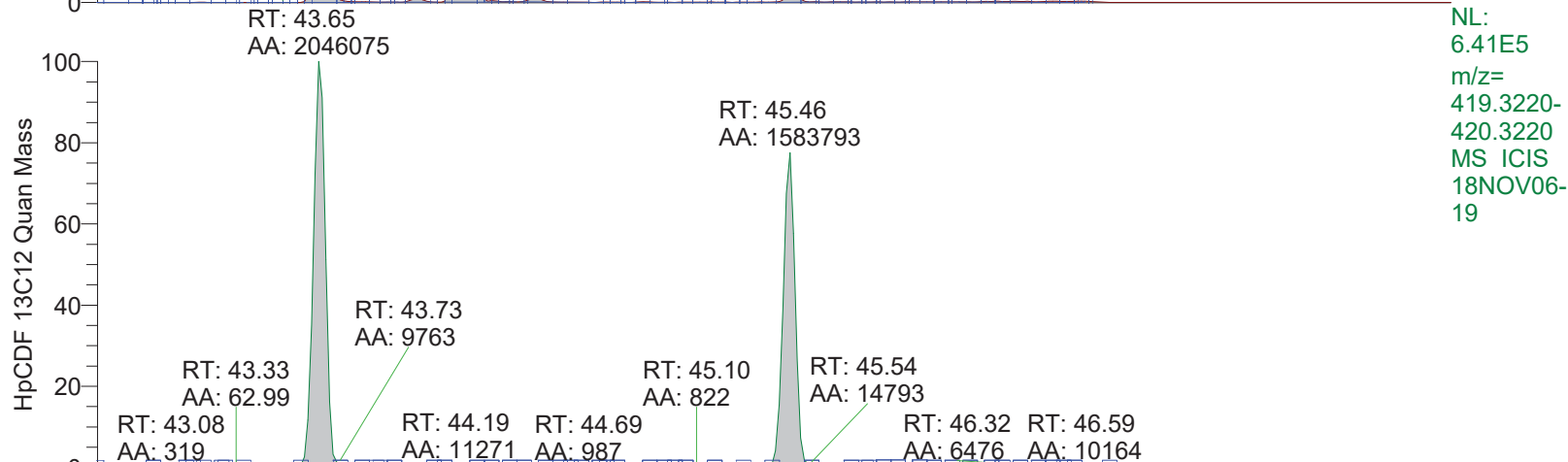
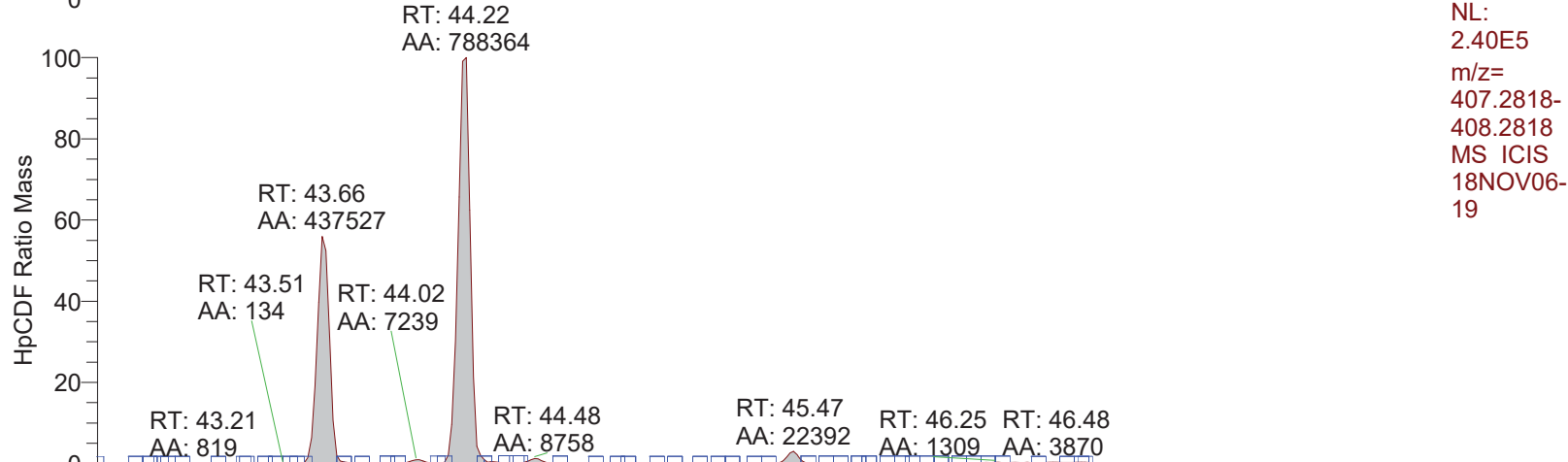
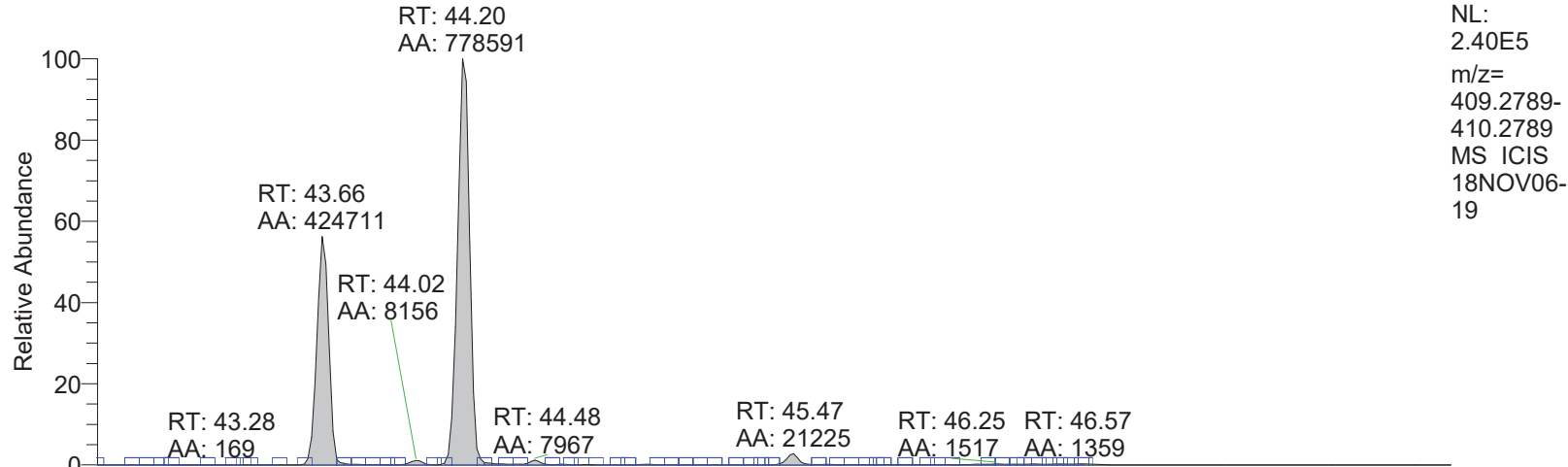


NL: 2.04E3  
m/z= 445.2555-446.2555  
MS ICIS 18NOV06-19

**APPROVED**  
By AQ46 at 3:58 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

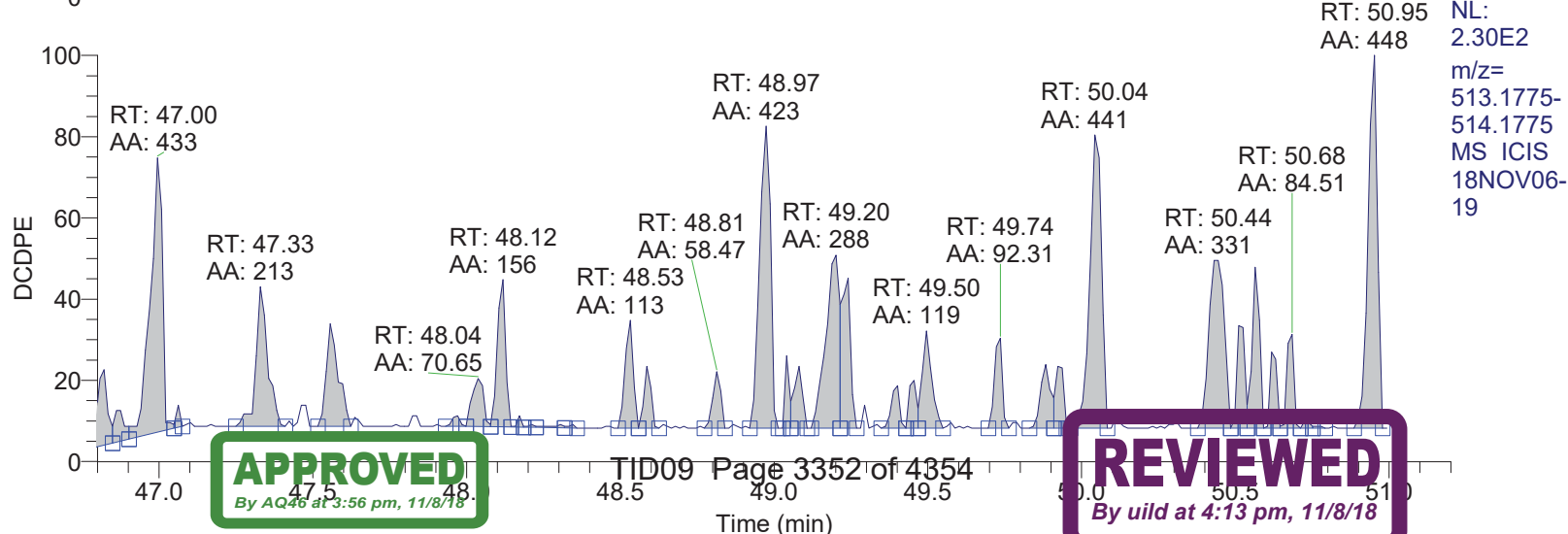
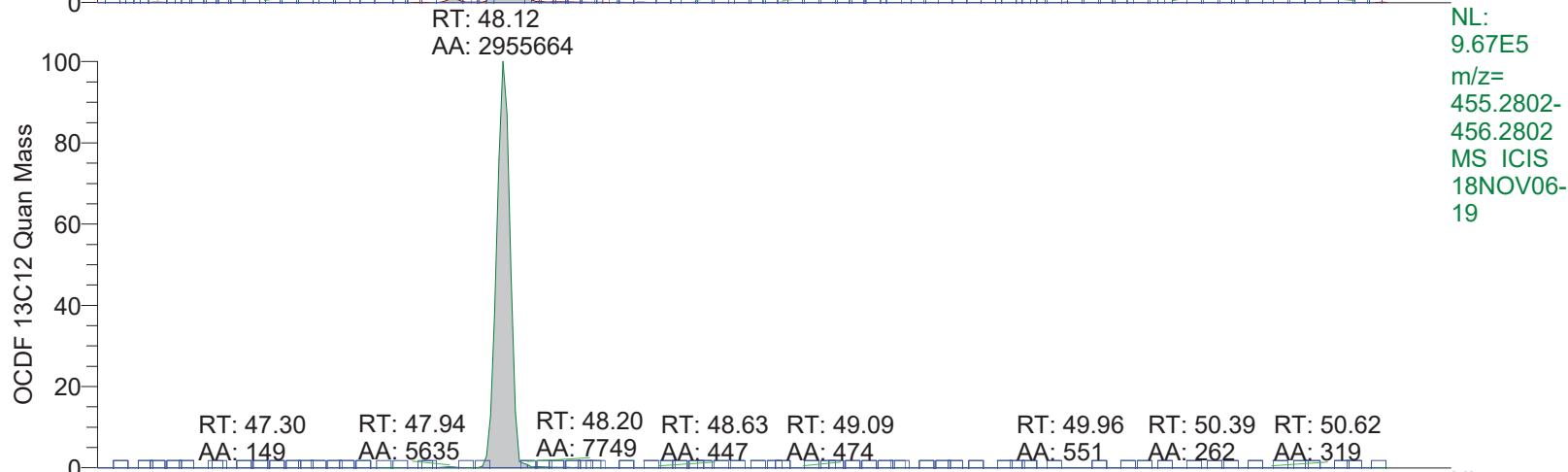
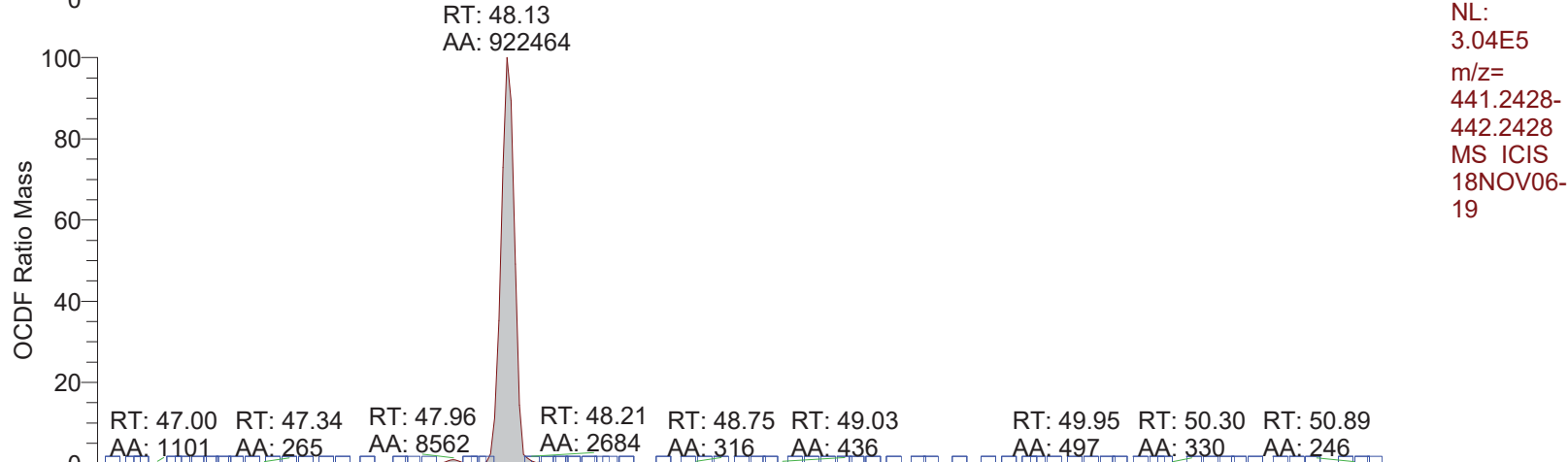
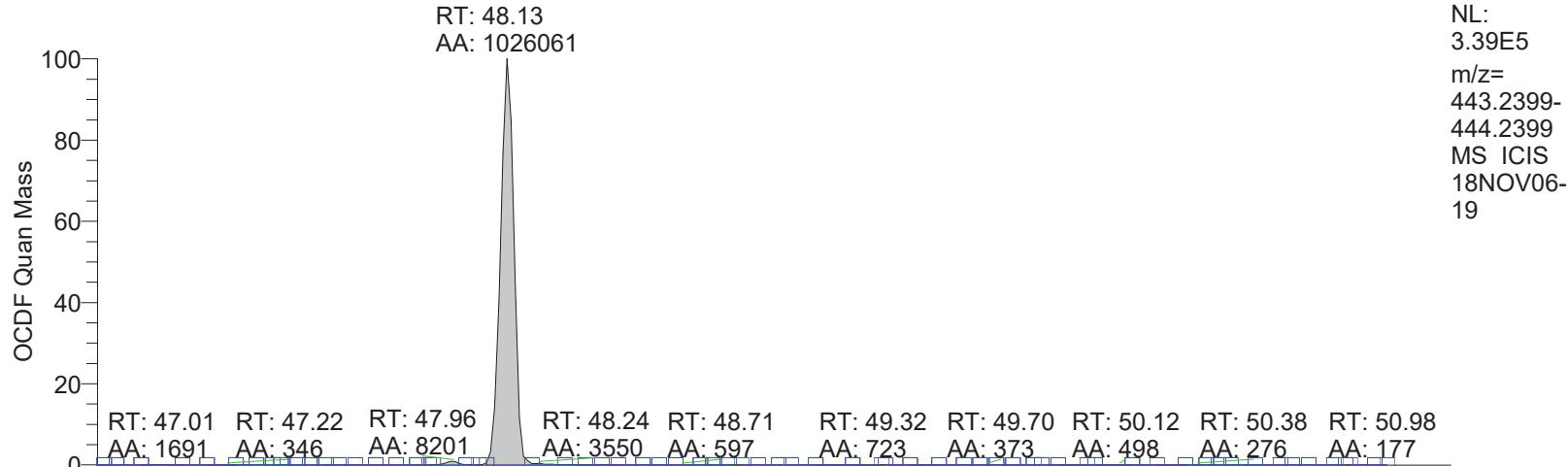
RT: 42.80 - 48.00



**APPROVED**  
By AQ46 at 3:56 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

RT: 46.80 - 51.20



18NOV06-19

\*\*\* file opened wed Nov 07 01:02:44 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 01:02:43

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.300000 minutes

MID window end time was 32.300000 minutes

18NOV06-19

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	95.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0183	FVINLET	0.0426	FVSR	0.0327
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	95.0000	LKM	442.9723	MASS	95.0000
MDAC	1401471.2988	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9807	RELEN	0.0000
RES	12330.3104	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12047.  
MID Time window 2: Resolution is 12617.  
MID Time window 3: Resolution is 12159.  
MID Time window 4: Resolution is 12753.



18NOV06-19

MID Time Window 5: Resolution is 13602.  
MID Time Window 6: Resolution is 12330.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 01:53:45 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 01:53  
Number of Entries 273  
Comment S:11030:12937:17962  
Vial 67  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS001 Grab Soil  
Sample ID 9866465RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-20.quan  
Data w:\18nov06\18nov06-20.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
2	2378-TCDD	29.93	passed	passed	passed	passed	passed	passed	
3	12378-PeCDF	34.96	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.30	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.91	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.11	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.54	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.95	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
13	1234678-HpCDF	43.68	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.90	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.48	passed	passed	passed	passed	passed	passed	
16	OCDD	47.95	passed	passed	passed	passed	passed	passed	
17	OCDF	48.14	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.08	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.93	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.82	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.67	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.94	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.12	passed	passed	passed	passed	passed	passed	



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 01:53  
Number of Entries 273  
Comment S:11030:12937:17962  
Vial 67  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS001 Grab Soil  
Sample ID 9866465RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-20.quan  
Data w:\18nov06\18nov06-20.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

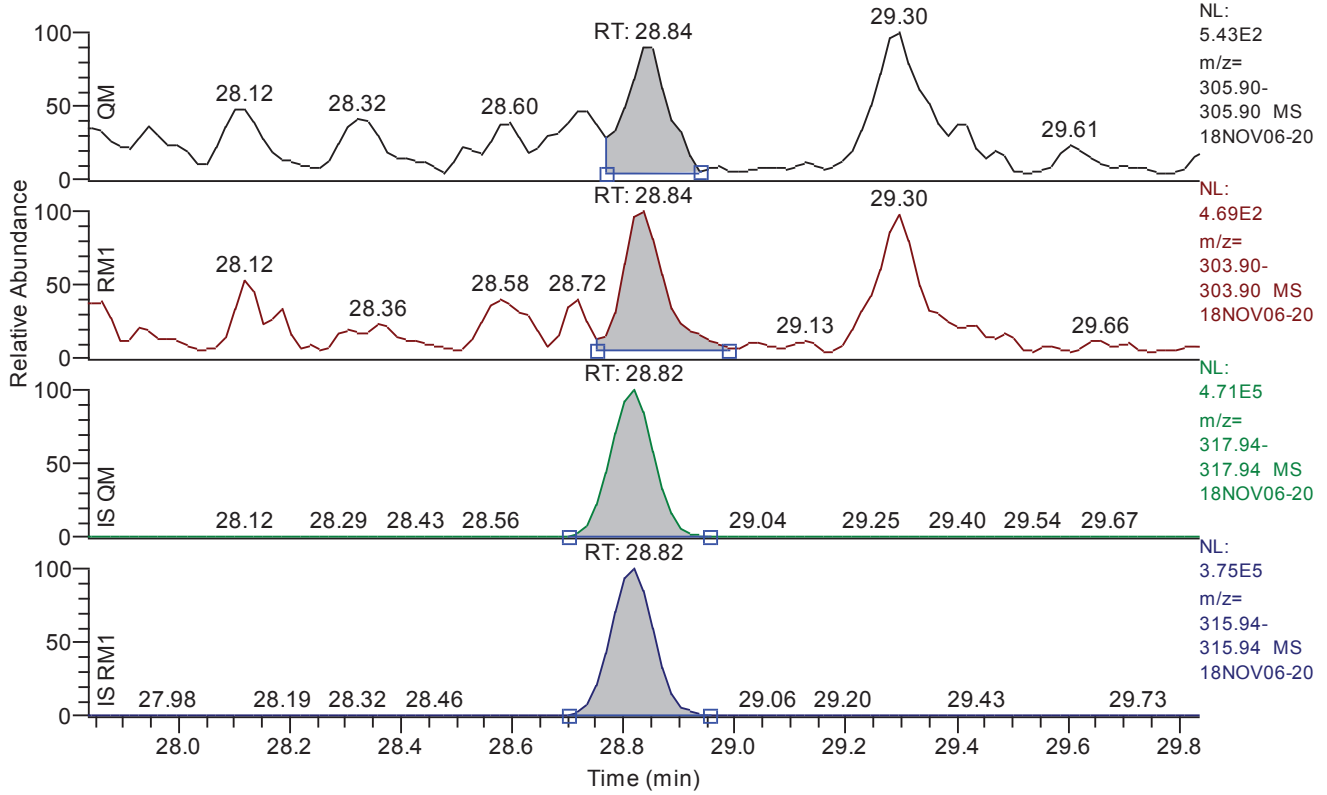
#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Chromatogram**

RT: 27.84 - 29.84 SM: 3G

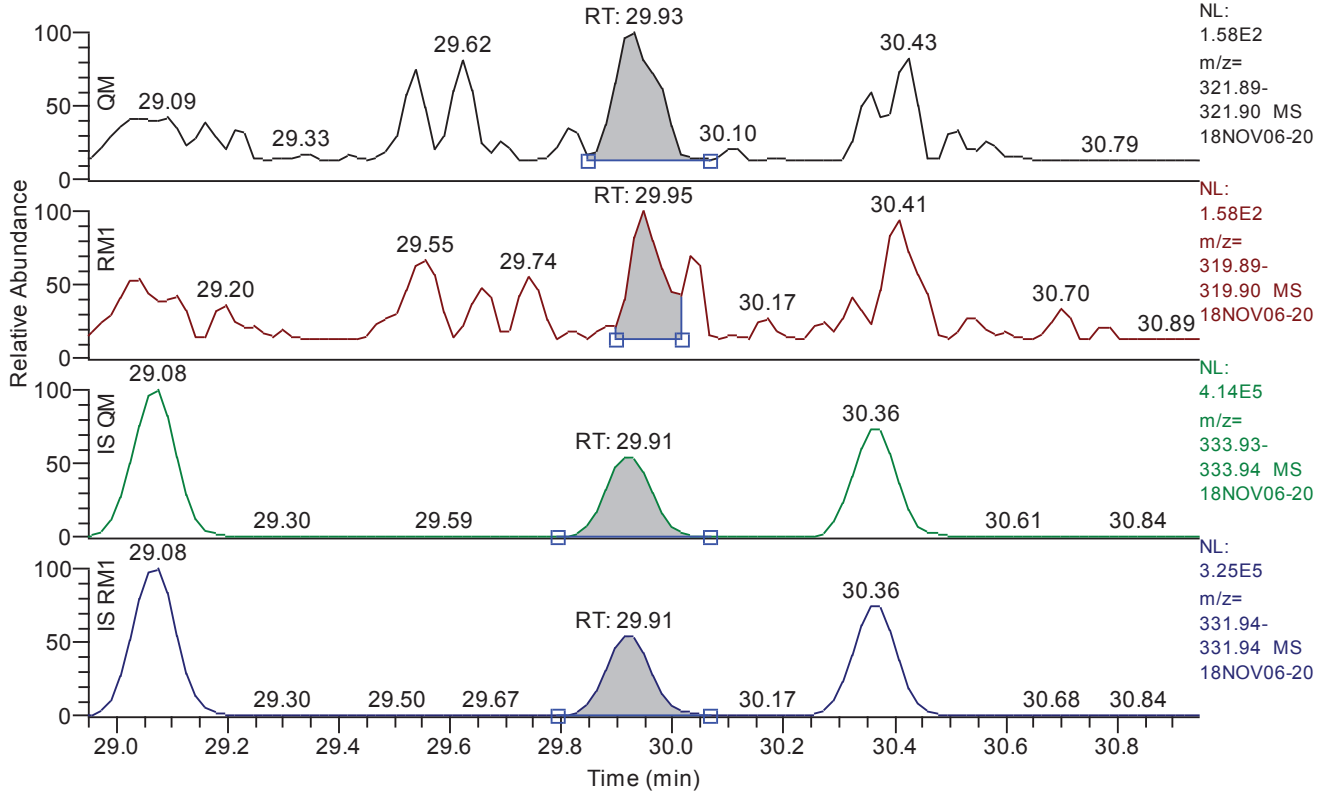


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	2494
QM Integration Mode	A
RM1 Area	2401
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0281
Unqualified Amount (A)	0.224831
Adjusted Amount (A)	n.d.
Signal-to-Noise	21
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 28.95 - 30.95 SM: 3G



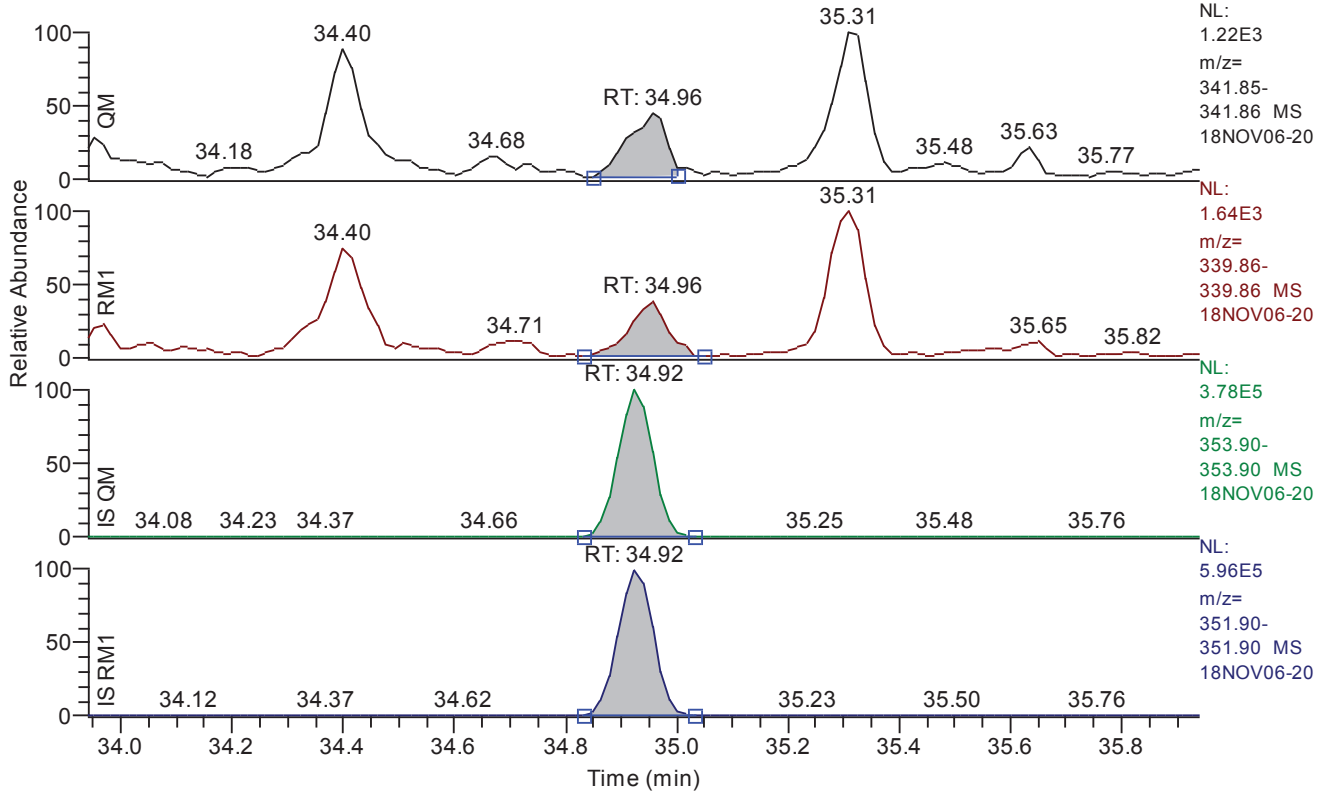
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	749
QM Integration Mode	A
RM1 Area	559
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0186
Unqualified Amount (A)	0.099583
Adjusted Amount (A)	0.0996
Signal-to-Noise	17
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.94 - 35.94 SM: 3G

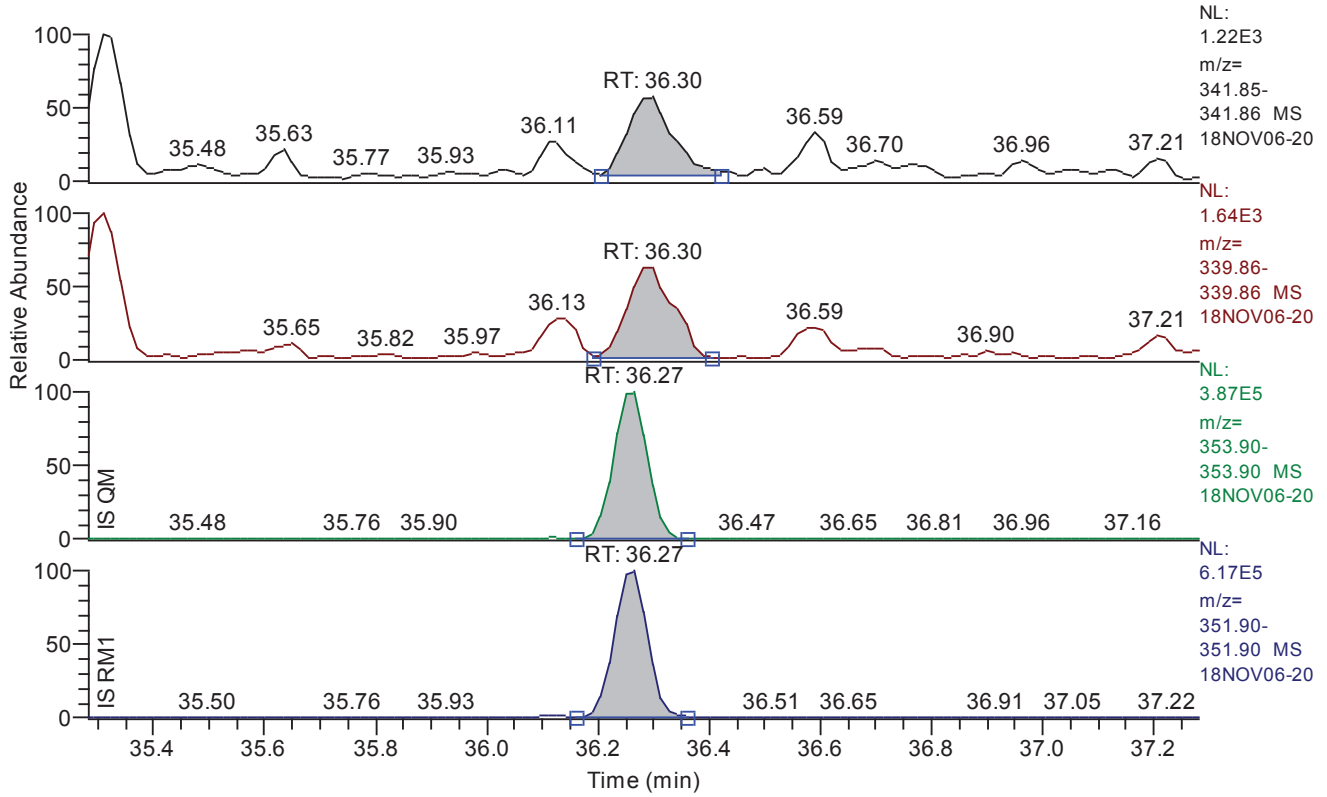


**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.96
QM Area	2491
QM Integration Mode	A
RM1 Area	2999
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0217
Unqualified Amount (A)	0.300737
Adjusted Amount (A)	n.d.
Signal-to-Noise	31
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 35.28 - 37.28 SM: 3G

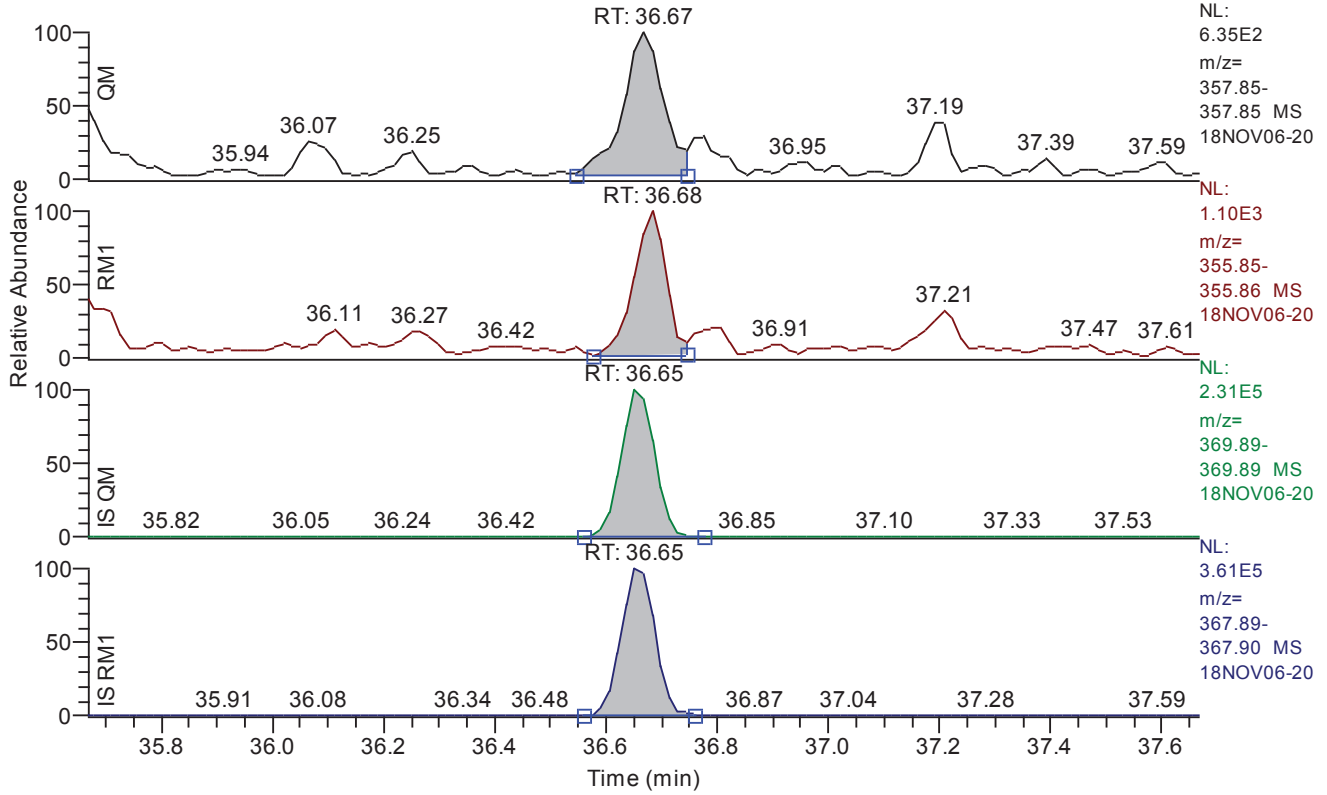


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.30
QM Area	3612
QM Integration Mode	A
RM1 Area	5821
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0188
Unqualified Amount (A)	0.467349
Adjusted Amount (A)	0.4673
Signal-to-Noise	46
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.67 - 37.67 SM: 3G

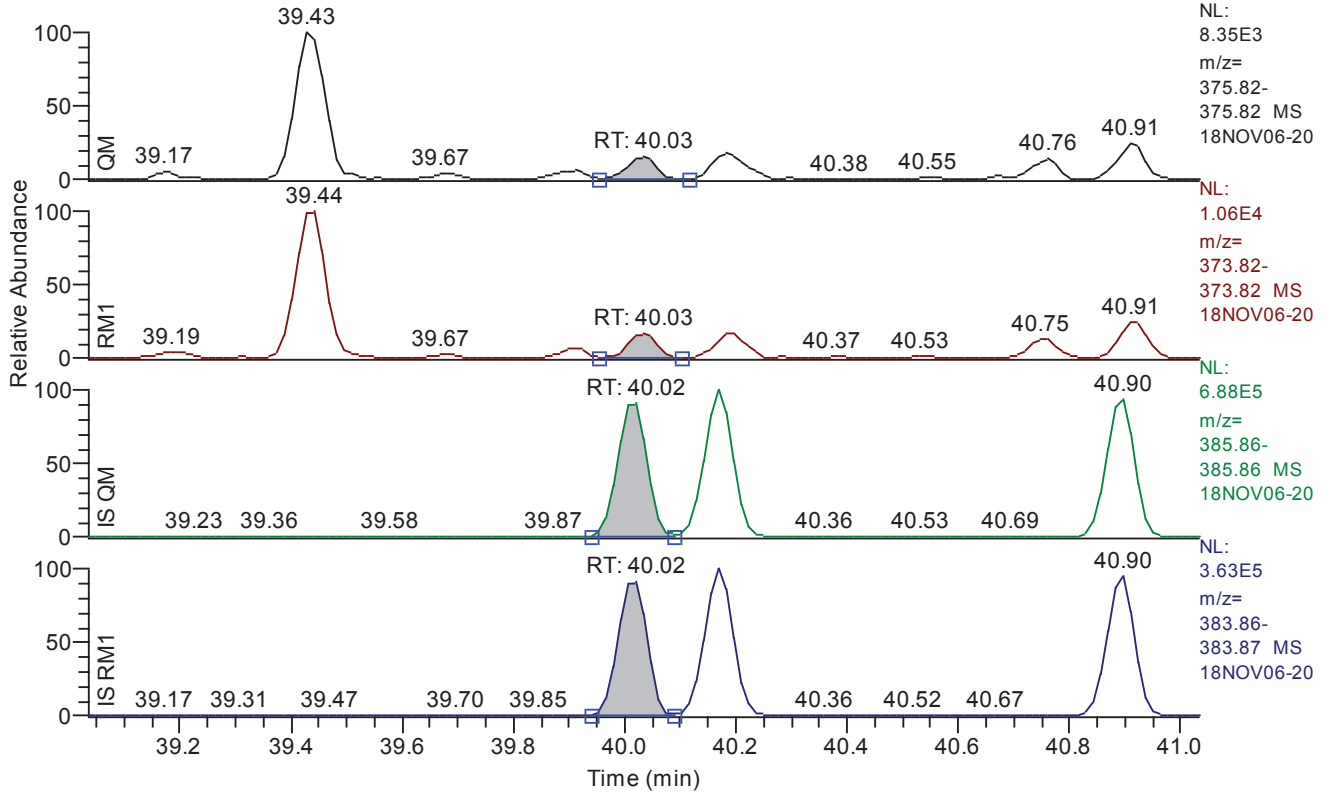


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	3057
QM Integration Mode	A
RM1 Area	4313
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0442
Unqualified Amount (A)	0.655216
Adjusted Amount (A)	0.6552
Signal-to-Noise	36
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.03 - 41.03 SM: 3G



**Entry Parameters**

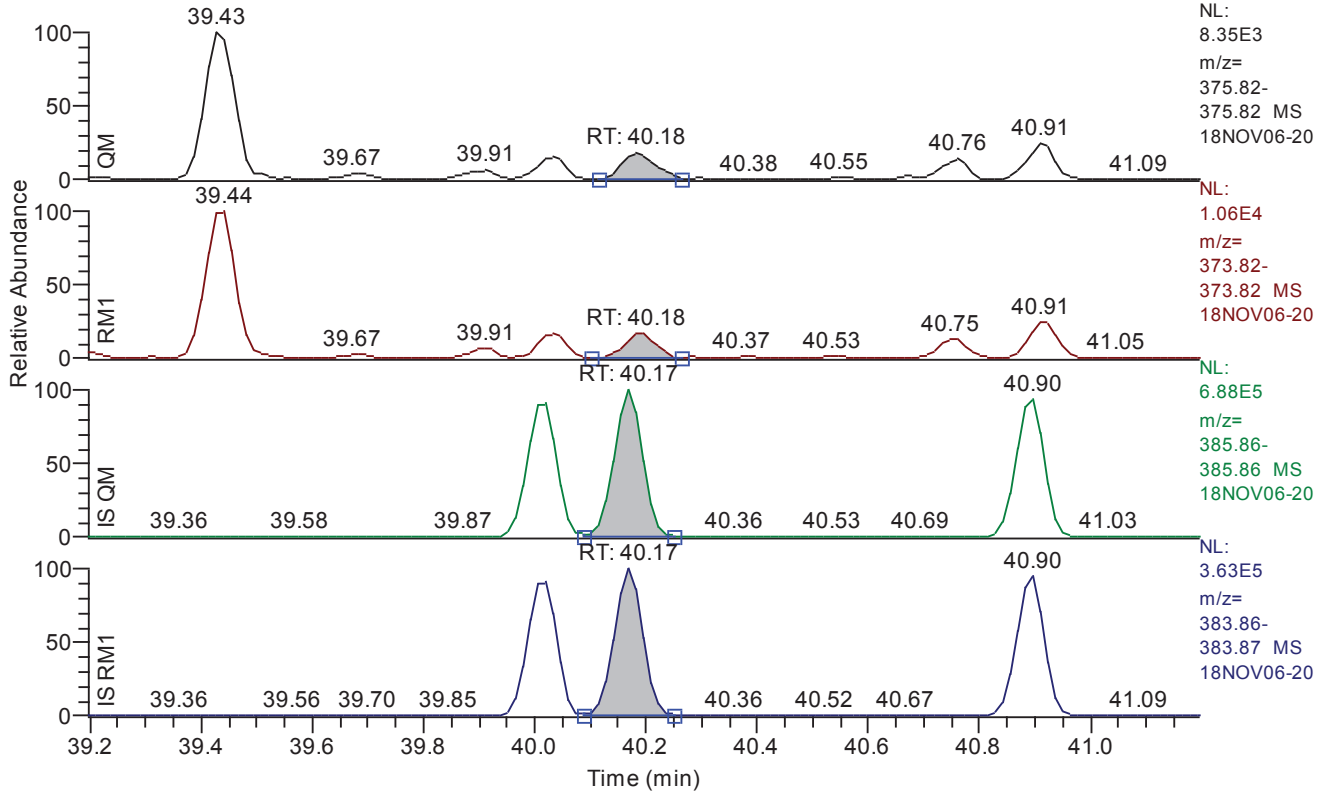
Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	4945
QM Integration Mode	A
RM1 Area	6656
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0212
Unqualified Amount (A)	0.610216
Adjusted Amount (A)	0.6102
Signal-to-Noise	73
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 39.20 - 41.20 SM: 3G



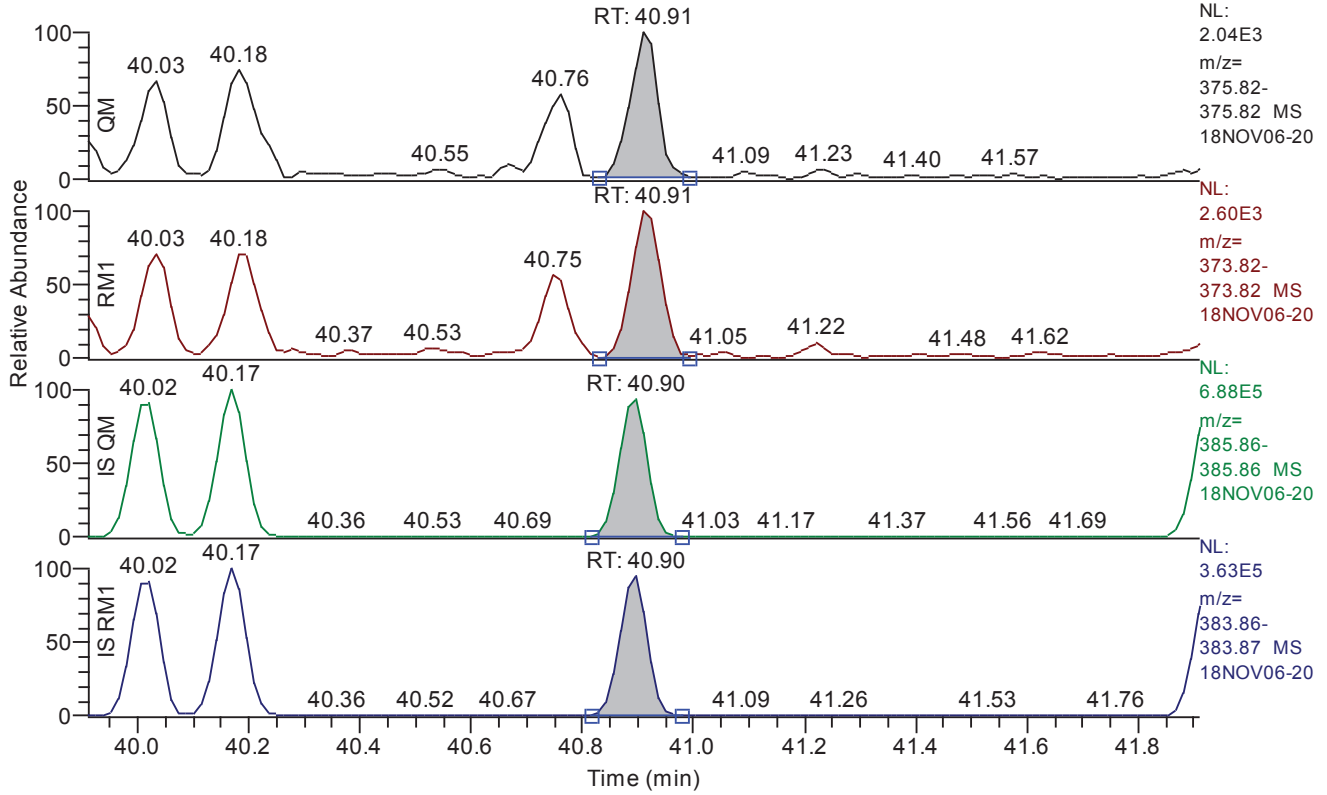
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	6250
QM Integration Mode	A
RM1 Area	7277
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0199
Unqualified Amount (A)	0.694062
Adjusted Amount (A)	0.6941
Signal-to-Noise	76
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.91 - 41.91 SM: 3G



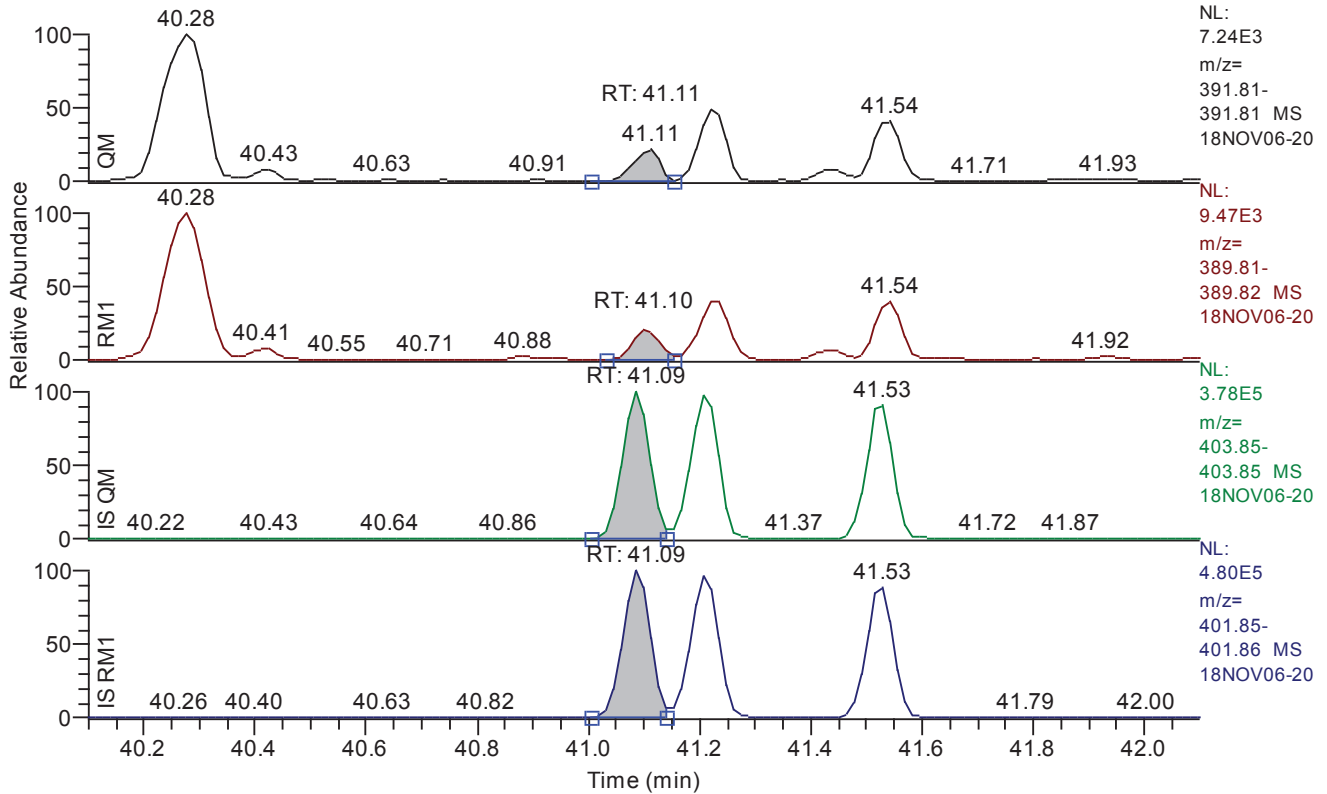
**Entry Parameters**

Compound Name 234678-HxCDF  
 QM Retention Time 40.91  
 QM Area 7008  
 QM Integration Mode A  
 RM1 Area 9593  
 RM1 Integration Mode A  
 ManInt 0  
 Detection Limit (A) 0.0198  
 Unqualified Amount (A) 0.858700  
 Adjusted Amount (A) 0.8587  
 Signal-to-Noise 106  
 Client Flags  
 Status Overview passed  
 Status Info



**Chromatogram**

RT: 40.10 - 42.10 SM: 3G



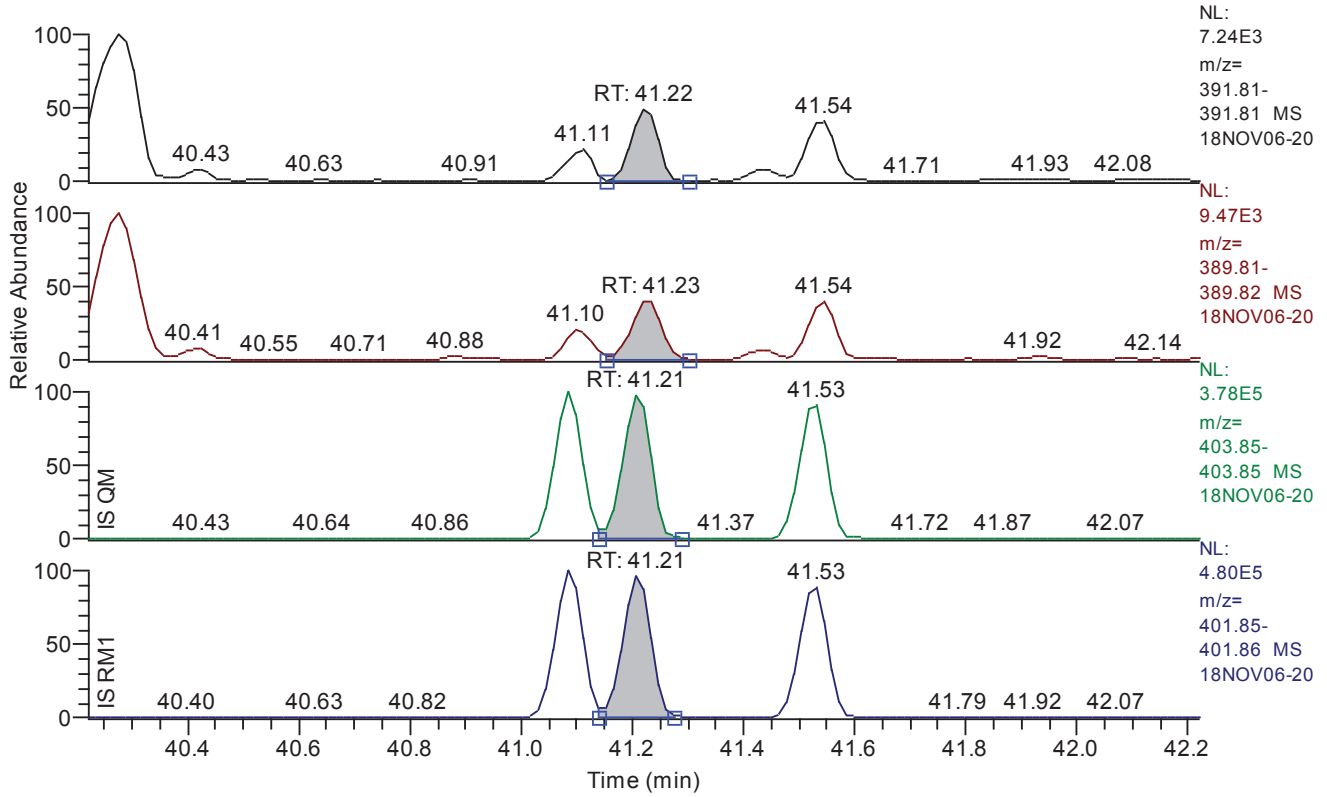
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.11
QM Area	5305
QM Integration Mode	A
RM1 Area	6521
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0342
Unqualified Amount (A)	0.891966
Adjusted Amount (A)	0.8920
Signal-to-Noise	66
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.22 - 42.22 SM: 3G



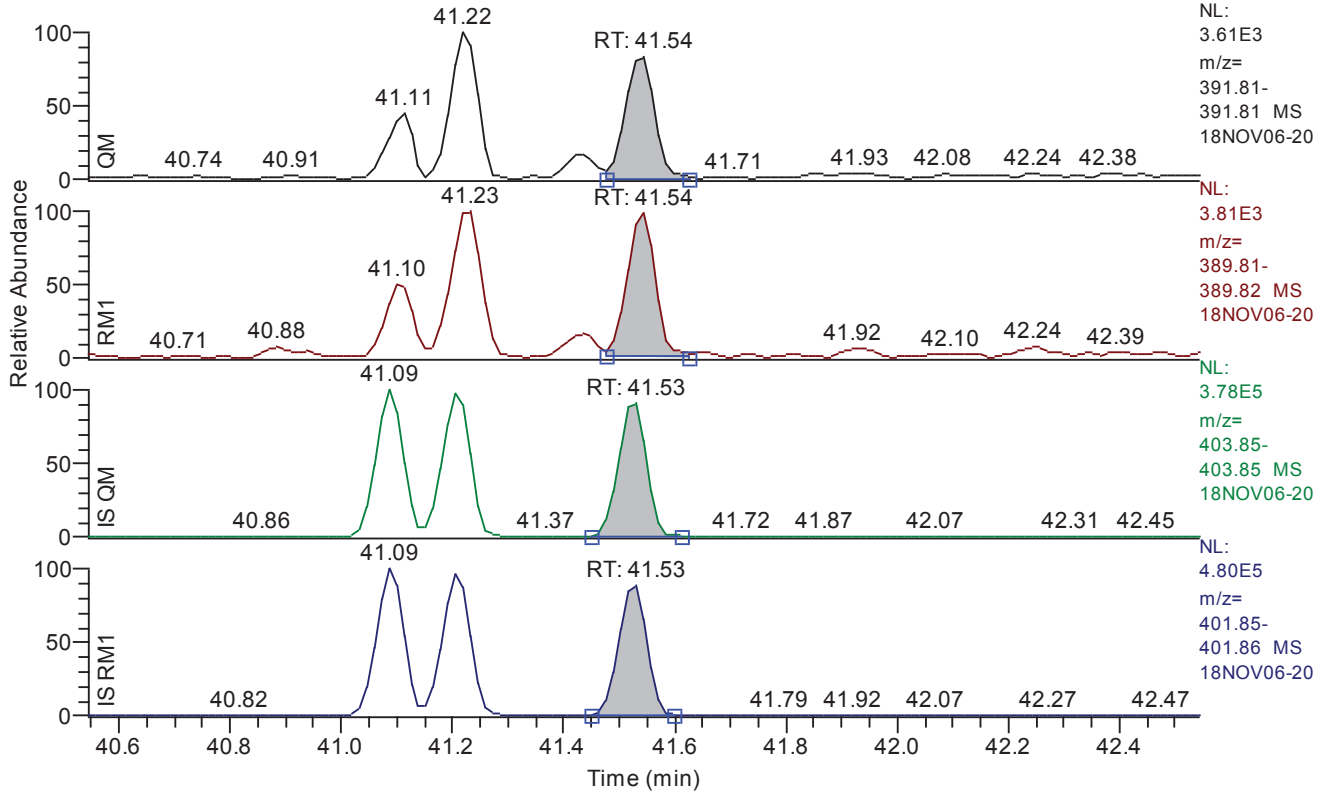
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	12205
QM Integration Mode	A
RM1 Area	14367
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0354
Unqualified Amount (A)	2.005707
Adjusted Amount (A)	2.0057
Signal-to-Noise	137
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.54 - 42.54 SM: 3G



NL:  
 3.61E3  
 m/z=  
 391.81-  
 391.81 MS  
 18NOV06-20

NL:  
 3.81E3  
 m/z=  
 389.81-  
 389.82 MS  
 18NOV06-20

NL:  
 3.78E5  
 m/z=  
 403.85-  
 403.85 MS  
 18NOV06-20

NL:  
 4.80E5  
 m/z=  
 401.85-  
 401.86 MS  
 18NOV06-20

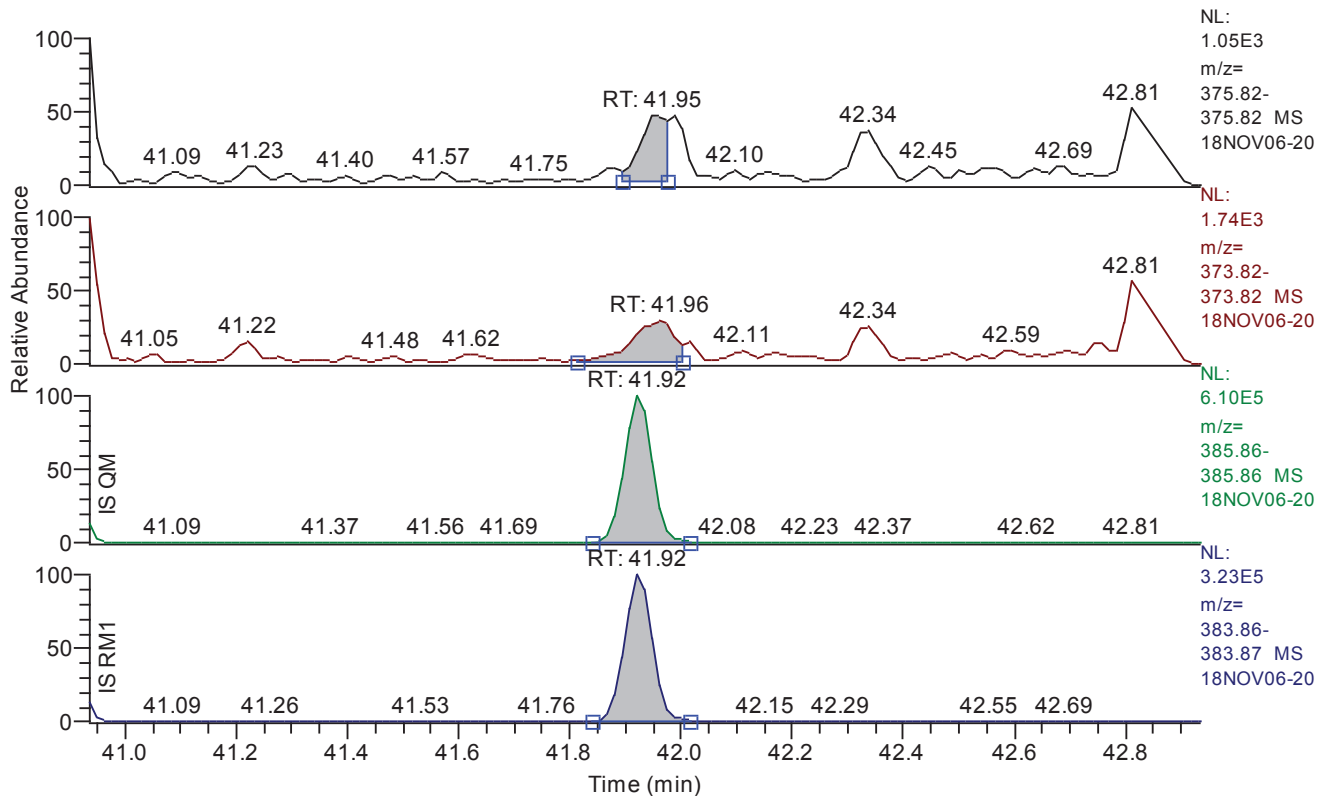
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.54
QM Area	10924
QM Integration Mode	A
RM1 Area	13064
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0361
Unqualified Amount (A)	1.849184
Adjusted Amount (A)	1.8492
Signal-to-Noise	126
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.93 - 42.93 SM: 3G



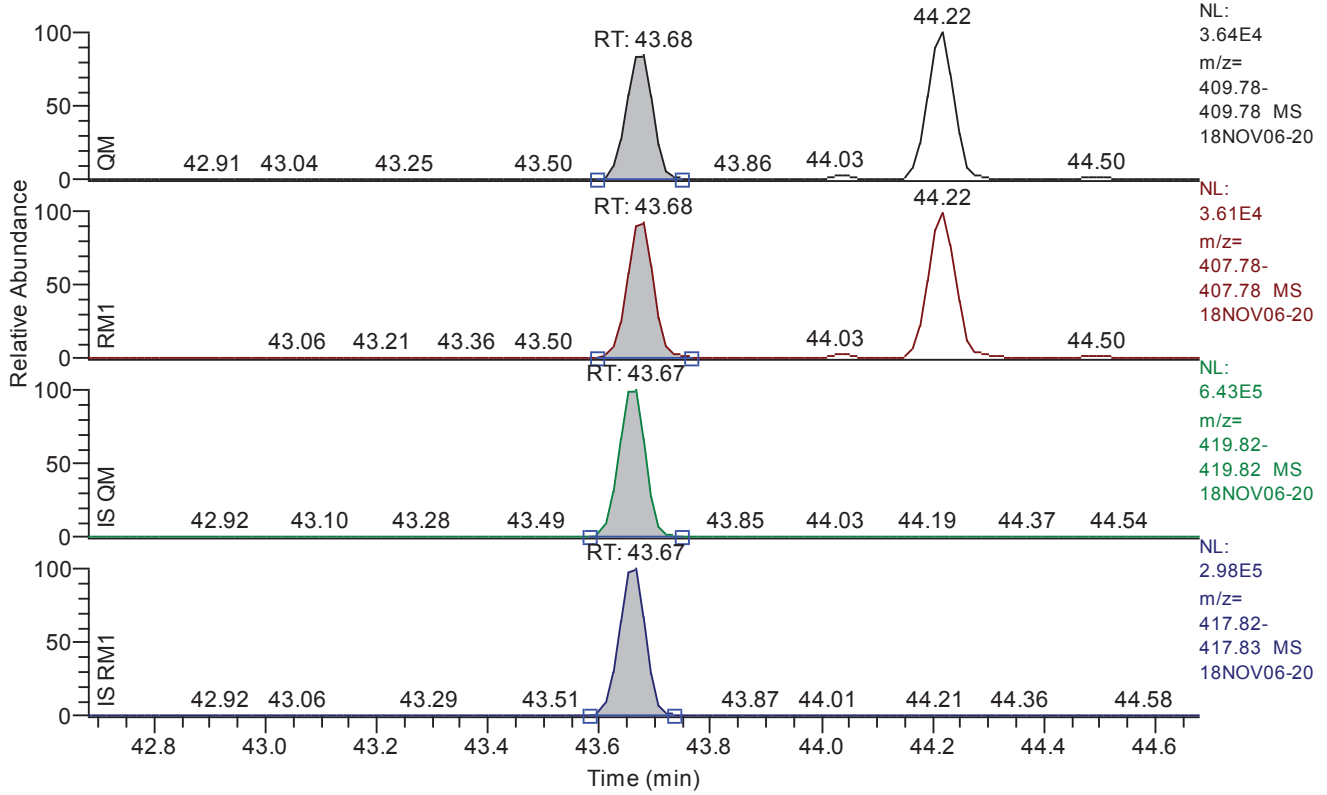
**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.95
QM Area	1507
QM Integration Mode	A
RM1 Area	2602
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0315
Unqualified Amount (A)	0.248068
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Chromatogram**

RT: 42.68 - 44.68 SM: 3G

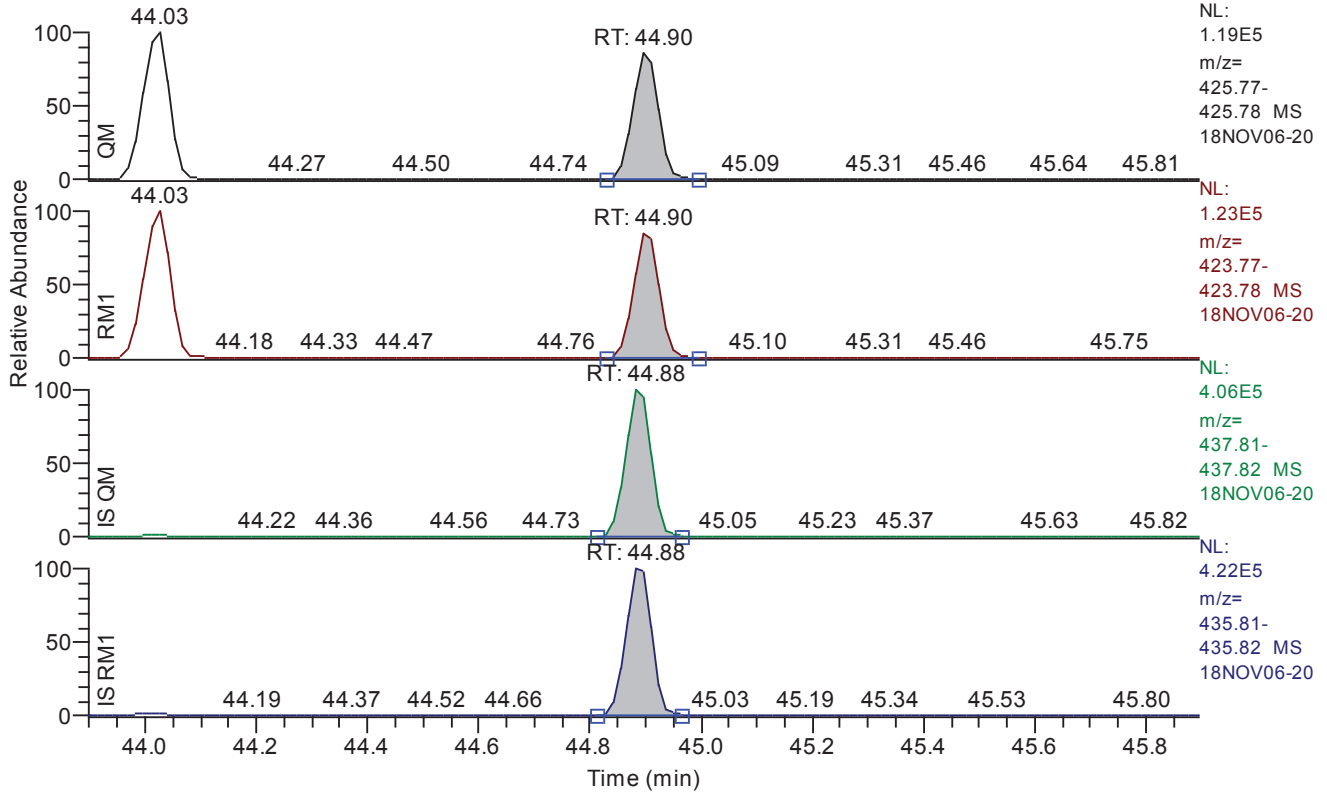


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.68
QM Area	106647
QM Integration Mode	A
RM1 Area	113662
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0251
Unqualified Amount (A)	11.937978
Adjusted Amount (A)	11.9380
Signal-to-Noise	1190
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.90 - 45.90 SM: 3G



**Entry Parameters**

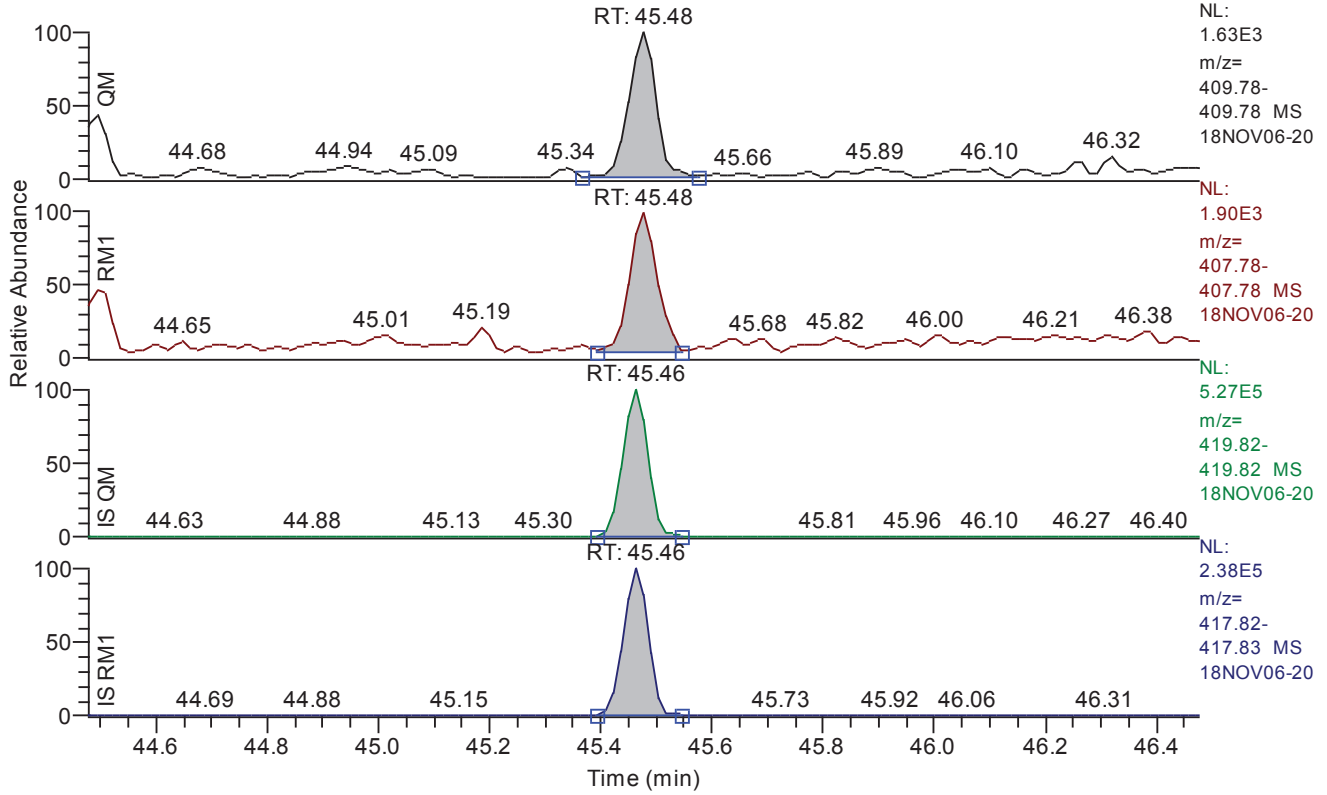
Compound Name	1234678-HpCDD
QM Retention Time	44.90
QM Area	336404
QM Integration Mode	A
RM1 Area	346219
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0747
Unqualified Amount (A)	53.330614
Adjusted Amount (A)	53.3306
Signal-to-Noise	1781
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 44.48 - 46.48 SM: 3G



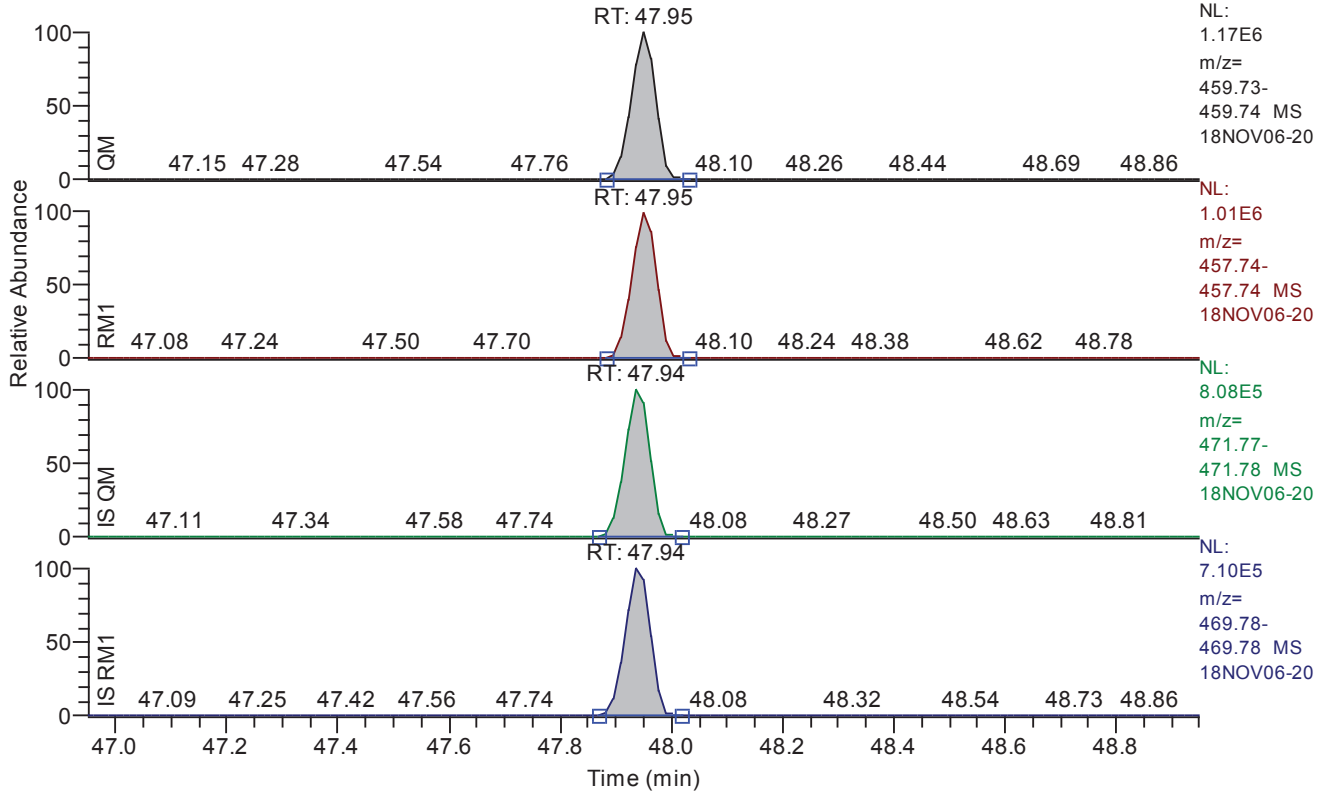
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.48
QM Area	5635
QM Integration Mode	A
RM1 Area	6411
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	0.826201
Adjusted Amount (A)	0.8262
Signal-to-Noise	63
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.95 - 48.95 SM: 3G



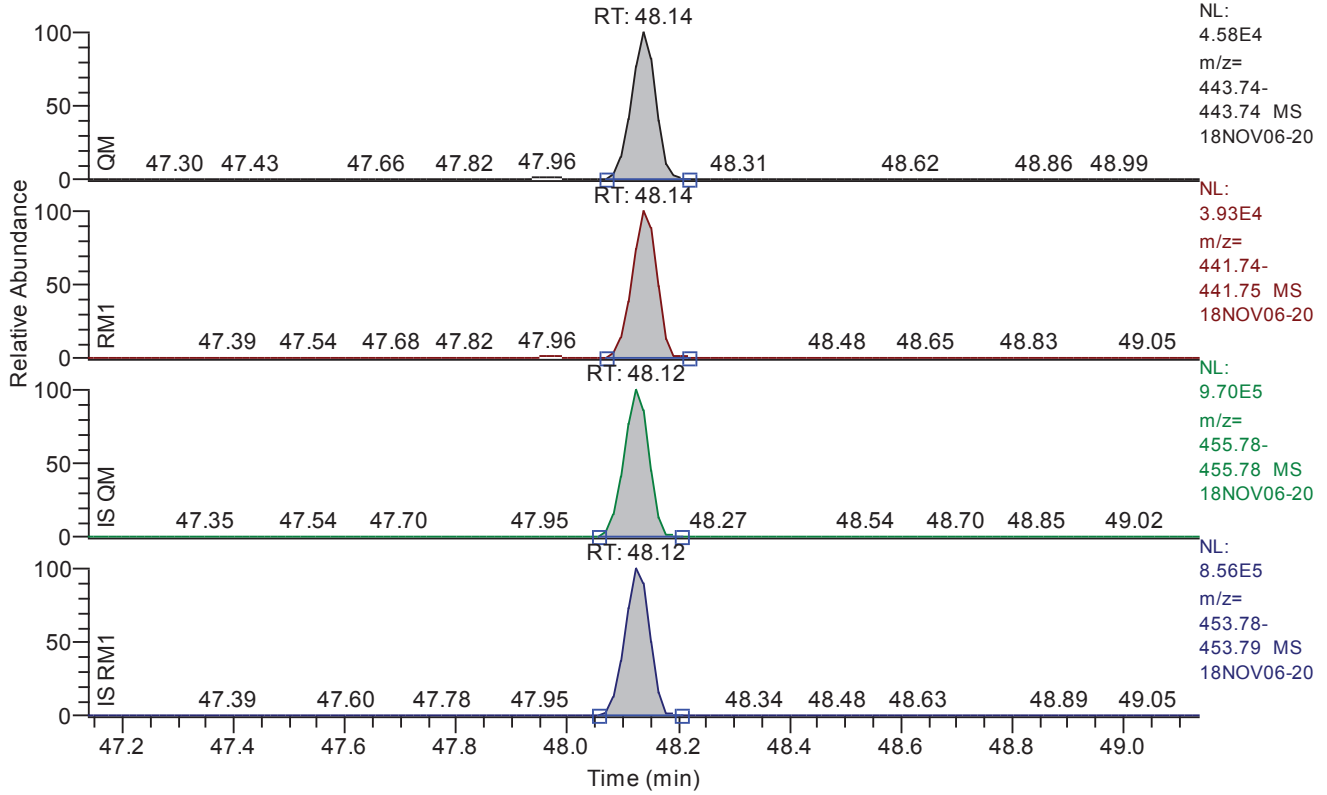
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.95
QM Area	3549514
QM Integration Mode	A
RM1 Area	3118742
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0472
Unqualified Amount (A)	613.772464
Adjusted Amount (A)	613.7725
Signal-to-Noise	33379
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.14 - 49.14 SM: 3G



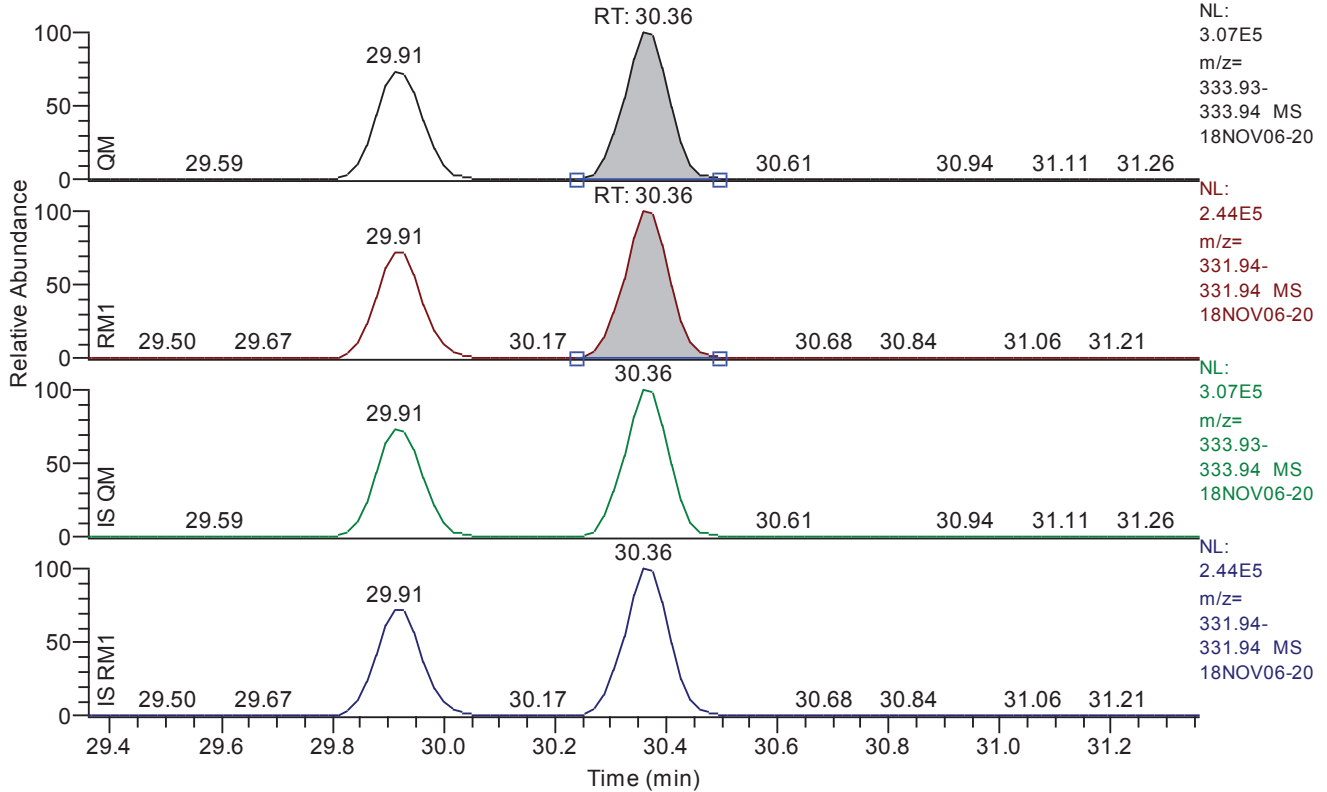
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.14
QM Area	138835
QM Integration Mode	A
RM1 Area	122385
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0327
Unqualified Amount (A)	21.684435
Adjusted Amount (A)	21.6844
Signal-to-Noise	1685
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.36 - 31.36 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	1740163
QM Integration Mode	A
RM1 Area	1395019
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0227
Unqualified Amount (A)	143.512127
Adjusted Amount (A)	143.5121
Signal-to-Noise	15914
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.84	28.84	28.82	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.93	29.95	29.91	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.96	34.96	34.92	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.30	36.30	36.27	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.68	36.65	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.03	40.03	40.02	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.18	40.18	40.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.91	40.91	40.90	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.11	41.10	41.09	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.22	41.23	41.21	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.54	41.54	41.53	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.95	41.96	41.92	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.68	43.68	43.67	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.90	44.90	44.88	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.48	45.48	45.46	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.95	47.95	47.94	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.14	48.14	48.12	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.36	30.36	30.36	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.08	29.08	29.08	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.93	39.93	39.93	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.82	28.82	28.72	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.91	29.91	29.91	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.92	34.92	34.85	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.27	36.27	36.33	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.02	40.02	39.91	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.17	40.17	40.21	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.90	40.90	40.86	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.09	41.09	41.09	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.21	41.21	41.21	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.53	41.53	41.53	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.92	41.92	41.96	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.67	43.67	43.67	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.88	44.88	44.88	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.46	45.46	45.46	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.94	47.94	47.94	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.12	48.12	48.15	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.9628	0.6450 - 0.8950	failed	---	0 - 0	passed
2	2378-TCDD	29.93	0.7466	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	34.96	1.2037	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.30	1.6115	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.4110	1.3150 - 1.7850	passed	---	0 - 0	passed
6	123478-HxCDF	40.03	1.3460	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.18	1.1644	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.91	1.3687	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.11	1.2292	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.22	1.1772	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.54	1.1959	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.95	1.7268	1.0450 - 1.4350	failed	---	0 - 0	passed
13	1234678-HpCDF	43.68	1.0658	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.90	1.0292	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.48	1.1377	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.95	0.8786	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.14	0.8815	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.36	0.8017	0.6450 - 0.8950	passed	71.76	35 - 197	passed
19	13C12-1234-TCDD	29.08	0.7945	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.93	1.2706	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.82	0.8009	0.6450 - 0.8950	passed	62.95	40 - 135	passed
22	13C12-2378-TCDD	29.91	0.7672	0.6450 - 0.8950	passed	58.07	40 - 135	passed
23	13C12-12378-PeCDF	34.92	1.5789	1.3150 - 1.7850	passed	62.18	40 - 135	passed
24	13C12-23478-PeCDF	36.27	1.5705	1.3150 - 1.7850	passed	61.41	40 - 135	passed
25	13C12-12378-PeCDD	36.65	1.5828	1.3150 - 1.7850	passed	60.86	40 - 135	passed
26	13C12-123478-HxCDF	40.02	0.5266	0.4250 - 0.5950	passed	60.41	40 - 135	passed
27	13C12-123678-HxCDF	40.17	0.5294	0.4250 - 0.5950	passed	60.05	40 - 135	passed
28	13C12-234678-HxCDF	40.90	0.5233	0.4250 - 0.5950	passed	60.59	40 - 135	passed
29	13C12-123478-HxCDD	41.09	1.2706	1.0450 - 1.4350	passed	63.22	40 - 135	passed
30	13C12-123678-HxCDD	41.21	1.2421	1.0450 - 1.4350	passed	62.01	40 - 135	passed
31	13C12-123789-HxCDD	41.53	1.2389	1.0450 - 1.4350	passed	60.70	40 - 135	passed
32	13C12-123789-HxCDF	41.92	0.5327	0.4250 - 0.5950	passed	62.05	40 - 135	passed
33	13C12-1234678-HpCDF	43.67	0.4564	0.3650 - 0.5150	passed	59.31	40 - 135	passed
34	13C12-1234678-HpCDD	44.88	1.0452	0.8750 - 1.2050	passed	60.57	40 - 135	passed
35	13C12-1234789-HpCDF	45.46	0.4471	0.3650 - 0.5150	passed	55.44	40 - 135	passed
36	13C12-OCDD	47.94	0.8812	0.7550 - 1.0250	passed	54.31	40 - 135	passed
37	13C12-OCDF	48.12	0.8875	0.7550 - 1.0250	passed	48.62	40 - 135	passed

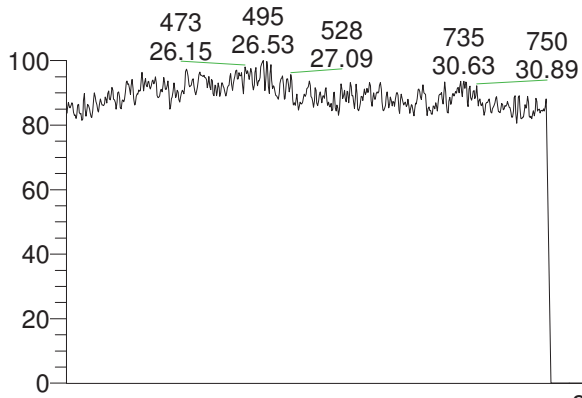


**Entry Parameters**

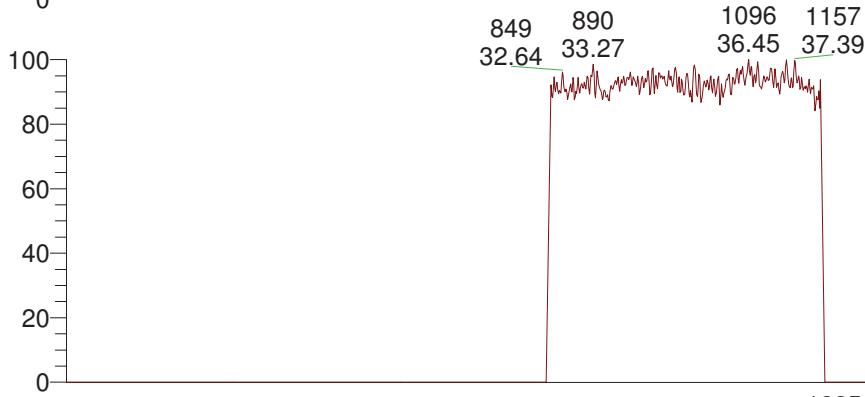
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	28.84	2494	A	2401	A	0.0281	0.224831	n.d.	0.000000		21
2	2378-TCDD	passed	29.93	749	A	559	A	0.0186	0.099583	0.0996	0.000000		17
3	12378-PeCDF	failed	34.96	2491	A	2999	A	0.0217	0.300737	n.d.	0.000000		31
4	23478-PeCDF	passed	36.30	3612	A	5821	A	0.0188	0.467349	0.4673	0.000000		46
5	12378-PeCDD	passed	36.67	3057	A	4313	A	0.0442	0.655216	0.6552	0.000000		36
6	123478-HxCDF	passed	40.03	4945	A	6656	A	0.0212	0.610216	0.6102	0.000000		73
7	123678-HxCDF	passed	40.18	6250	A	7277	A	0.0199	0.694062	0.6941	0.000000		76
8	234678-HxCDF	passed	40.91	7008	A	9593	A	0.0198	0.858700	0.8587	0.000000		106
9	123478-HxCDD	passed	41.11	5305	A	6521	A	0.0342	0.891966	0.8920	0.000000		66
10	123678-HxCDD	passed	41.22	12205	A	14367	A	0.0354	2.005707	2.0057	0.000000		137
11	123789-HxCDD	passed	41.54	10924	A	13064	A	0.0361	1.849184	1.8492	0.000000		126
12	123789-HxCDF	failed	41.95	1507	A	2602	A	0.0315	0.248068	n.d.	0.000000		16
13	1234678-HpCDF	passed	43.68	106647	A	113662	A	0.0251	11.937978	11.9380	0.000000		1190
14	1234678-HpCDD	passed	44.90	336404	A	346219	A	0.0747	53.330614	53.3306	0.000000		1781
15	1234789-HpCDF	passed	45.48	5635	A	6411	A	0.0300	0.826201	0.8262	0.000000		63
16	OCDD	passed	47.95	3549514	A	3118742	A	0.0472	613.772464	613.7725	0.000000		33379
17	OCDF	passed	48.14	138835	A	122385	A	0.0327	21.684435	21.6844	0.000000		1685
18	13C12-1278-TCDD (CRS)	passed	30.36	1740163	A	1395019	A	0.0227	143.512127	143.5121	200.000000		15914
19	13C12-1234-TCDD	passed	29.08	2358349	A	1873624	A	0.0234	200.000000	200.0000	200.000000		21346
20	13C12-123468-HxCDD	passed	39.93	2050554	A	2605429	A	0.0319	200.000000	200.0000	200.000000		15667
21	13C12-2378-TCDF	passed	28.82	2618630	A	2097359	A	0.0200	125.896647	125.8966	200.000000		16177
22	13C12-2378-TCDD	passed	29.91	1358632	A	1042280	A	0.0240	116.149757	116.1498	200.000000		11706
23	13C12-12378-PeCDF	passed	34.92	1665365	A	2629374	A	0.0433	124.364626	124.3646	200.000000		9326
24	13C12-23478-PeCDF	passed	36.27	1651473	A	2593568	A	0.0432	122.828078	122.8281	200.000000		9605
25	13C12-12378-PeCDD	passed	36.65	972317	A	1539018	A	0.0364	121.715190	121.7152	200.000000		11295
26	13C12-123478-HxCDF	passed	40.02	2332277	A	1228108	A	0.0318	120.814992	120.8150	200.000000		9101
27	13C12-123678-HxCDF	passed	40.17	2441460	A	1292501	A	0.0301	120.101557	120.1016	200.000000		9918
28	13C12-234678-HxCDF	passed	40.90	2290048	A	1198371	A	0.0325	121.181220	121.1812	200.000000		9363
29	13C12-123478-HxCDD	passed	41.09	1282330	A	1629270	A	0.0323	126.435040	126.4350	200.000000		10221
30	13C12-123678-HxCDD	passed	41.21	1306880	A	1623292	A	0.0314	124.017464	124.0175	200.000000		9962
31	13C12-123789-HxCDD	passed	41.53	1214458	A	1504646	A	0.0332	121.395025	121.3950	200.000000		9239
32	13C12-123789-HxCDF	passed	41.92	2123141	A	1131072	A	0.0357	124.090185	124.0902	200.000000		8825
33	13C12-1234678-HpCDF	passed	43.67	2208171	A	1007716	A	0.0432	118.624558	118.6246	200.000000		7117
34	13C12-1234678-HpCDD	passed	44.88	1336468	A	1396887	A	0.0434	121.136878	121.1369	200.000000		7486
35	13C12-1234789-HpCDF	passed	45.46	1705745	A	762630	A	0.0525	110.879635	110.8796	200.000000		5785
36	13C12-OCDD	passed	47.94	2533073	A	2232074	A	0.0211	217.246204	217.2462	400.000000		29007
37	13C12-OCDF	passed	48.12	3017896	A	2678314	A	0.0145	194.476496	194.4765	400.000000		38124



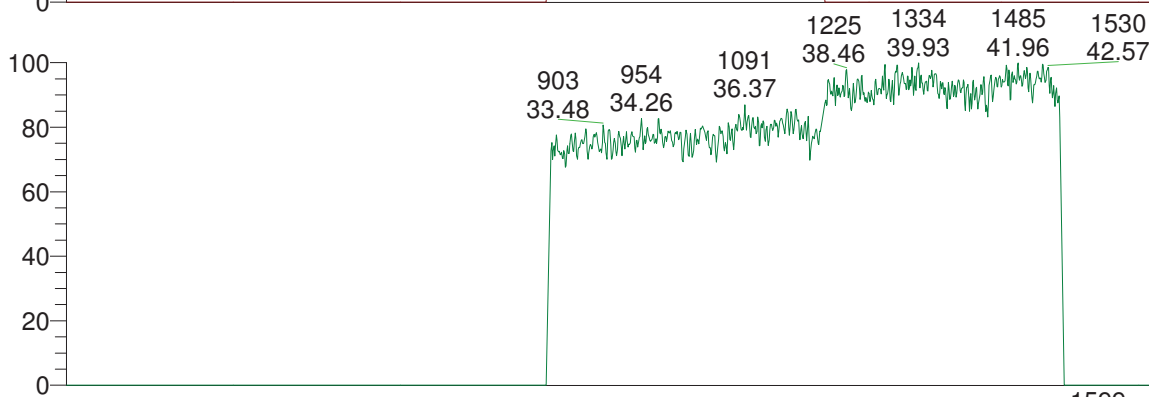
RT: 22.50 - 51.00



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292.9825  
MS  
18NOV06-  
20



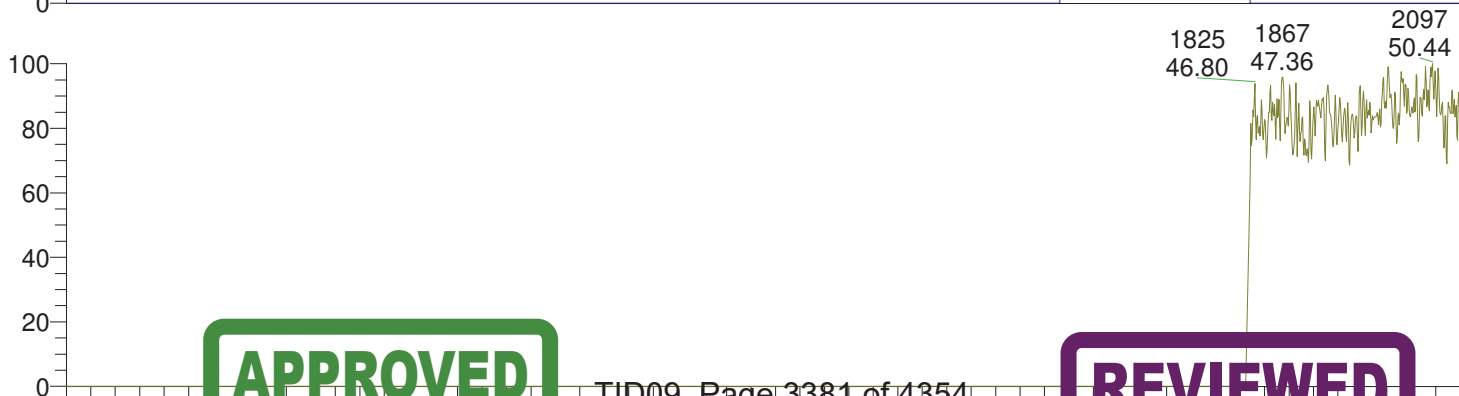
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331.4792  
MS  
18NOV06-  
20



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381.4760  
MS  
18NOV06-  
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405.4760  
MS  
18NOV06-  
20



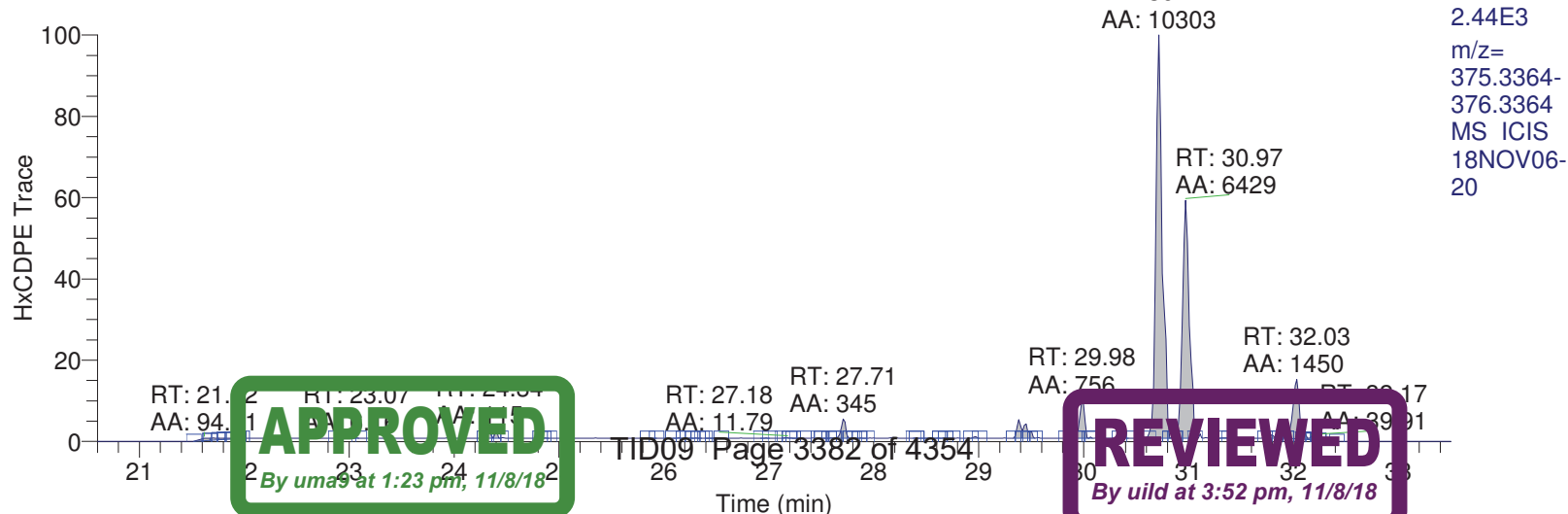
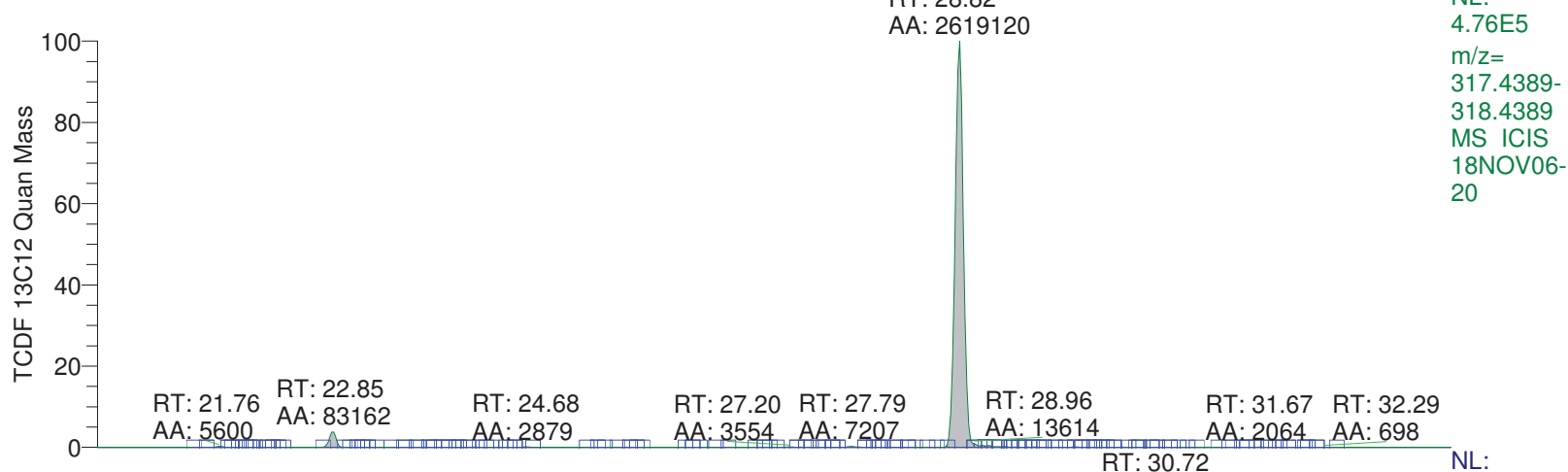
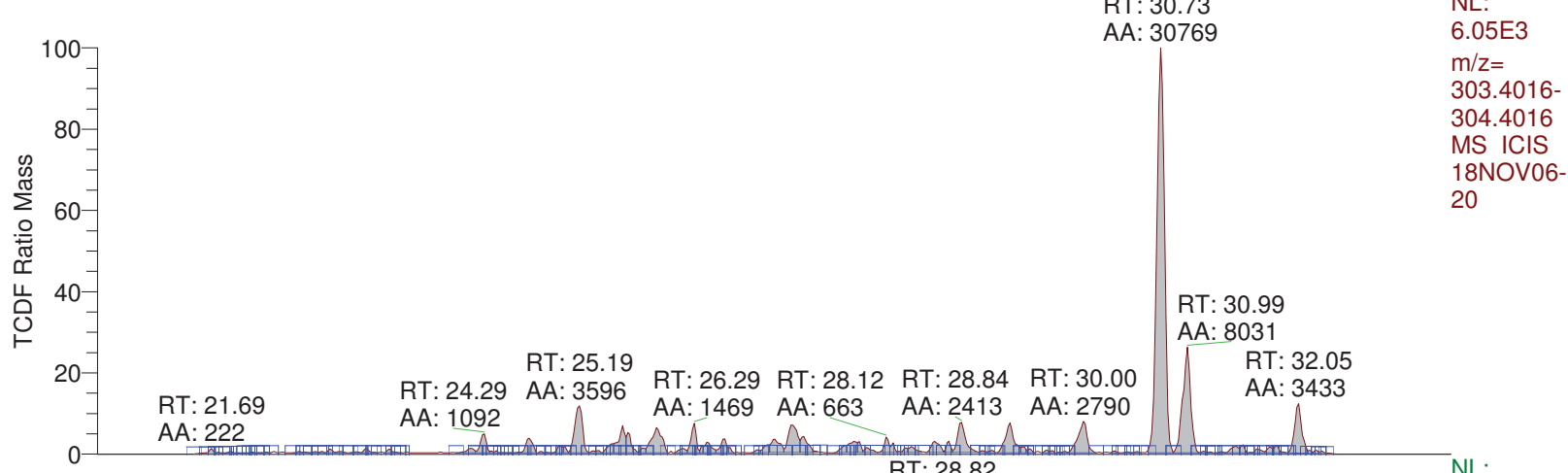
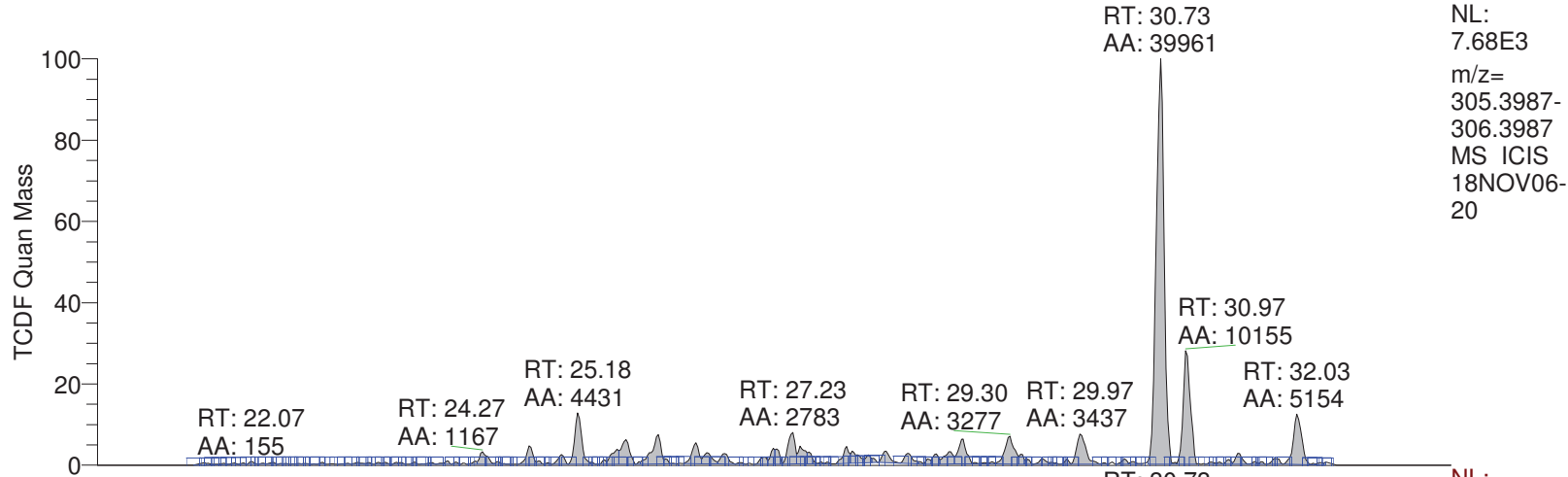
NL:  
1.30E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
20

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18



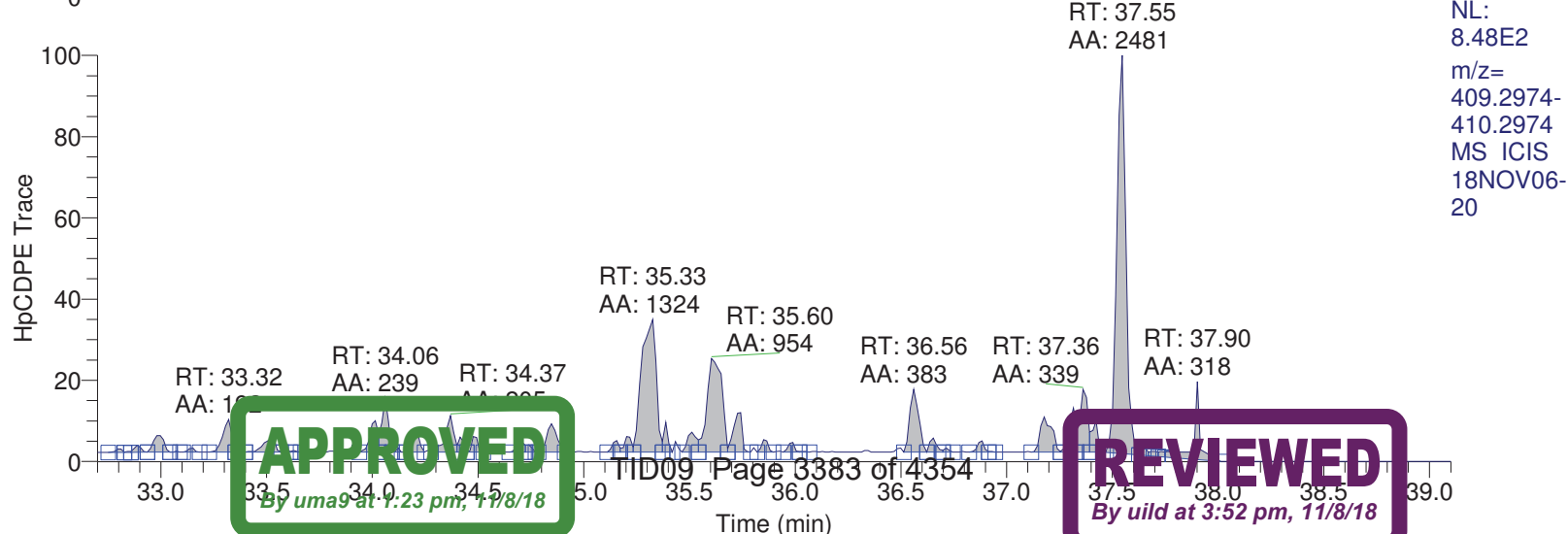
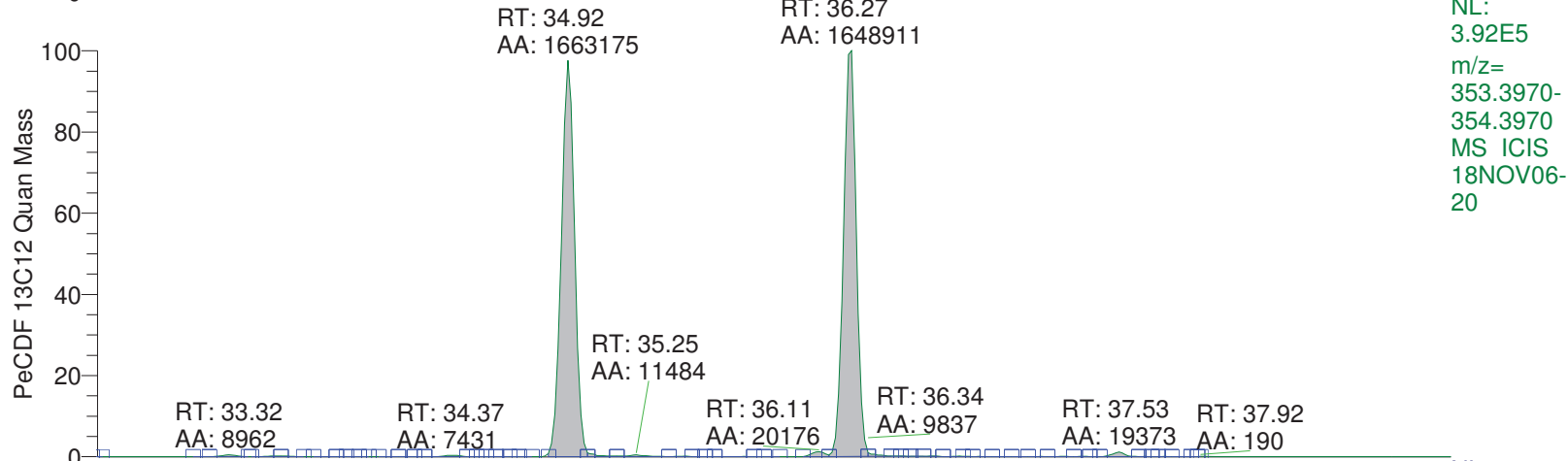
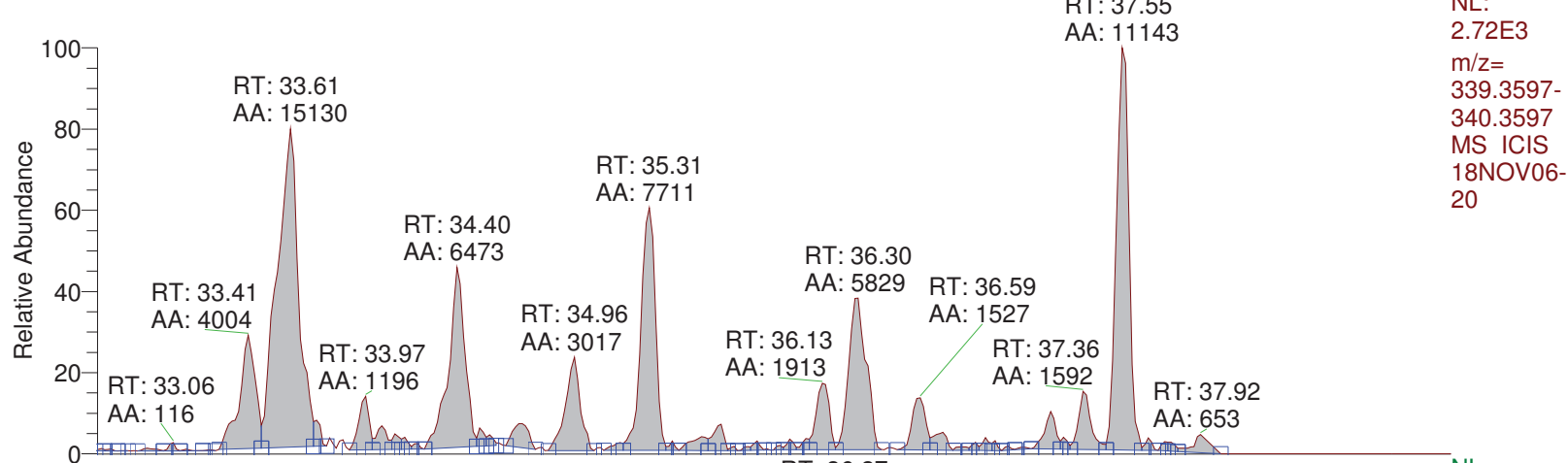
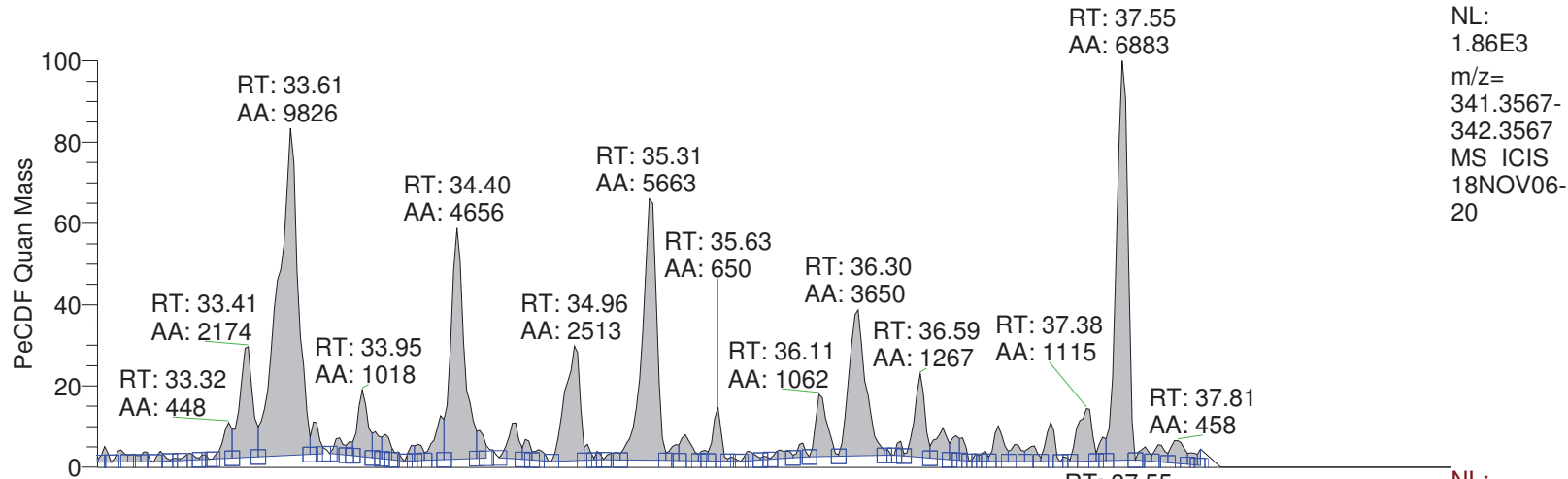
RT: 20.60 - 33.50



**APPROVED**  
By uma at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

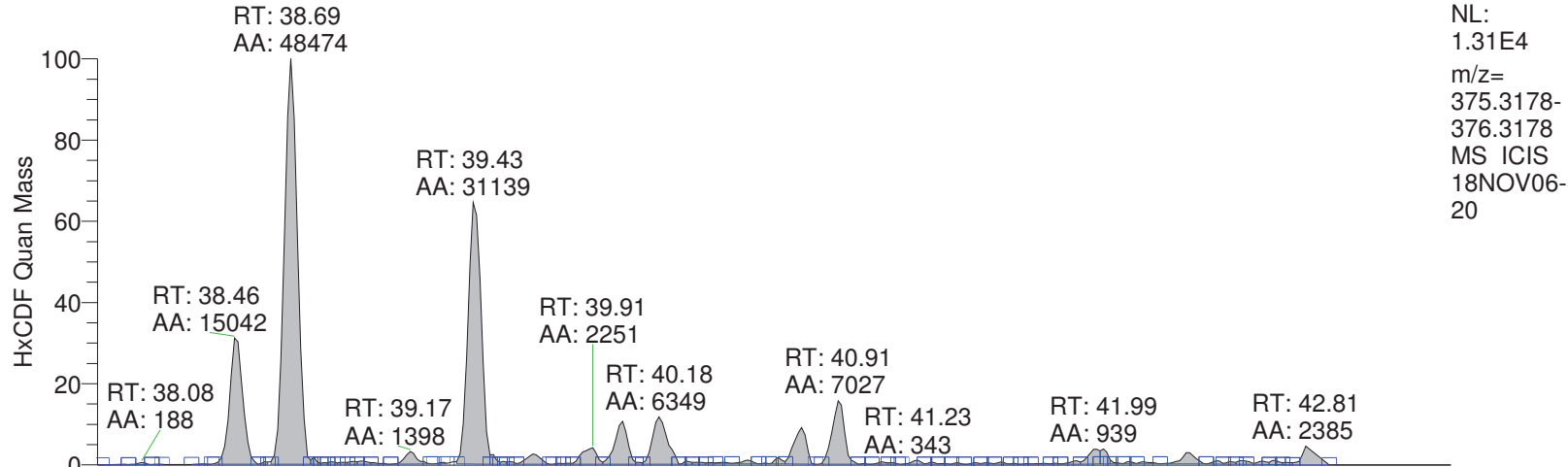
RT: 32.70 - 39.10



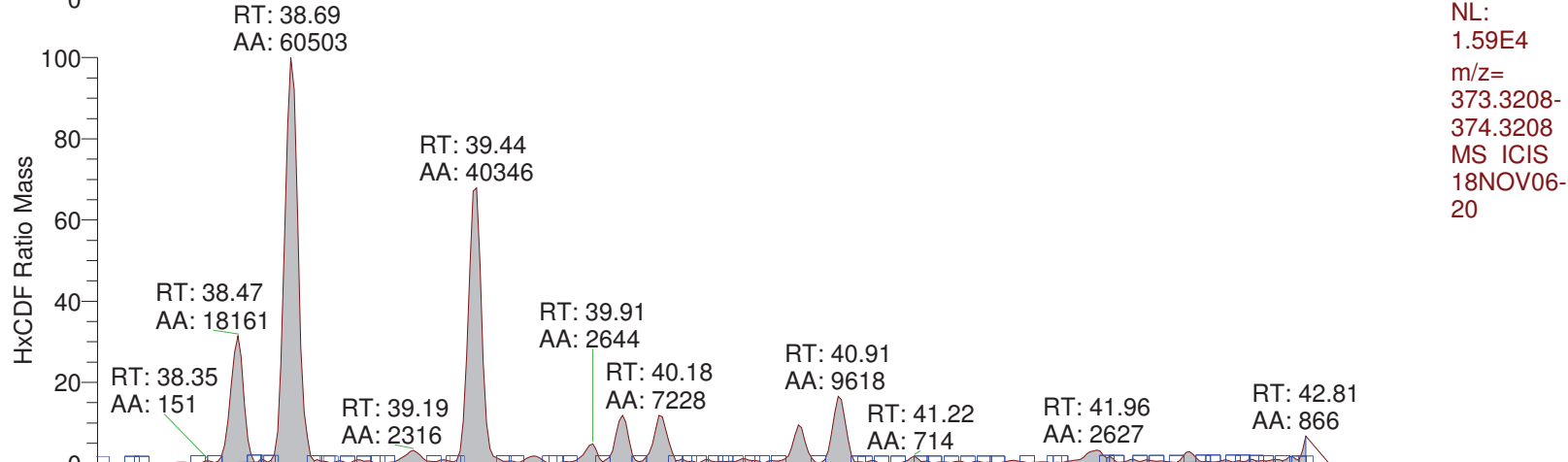
**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

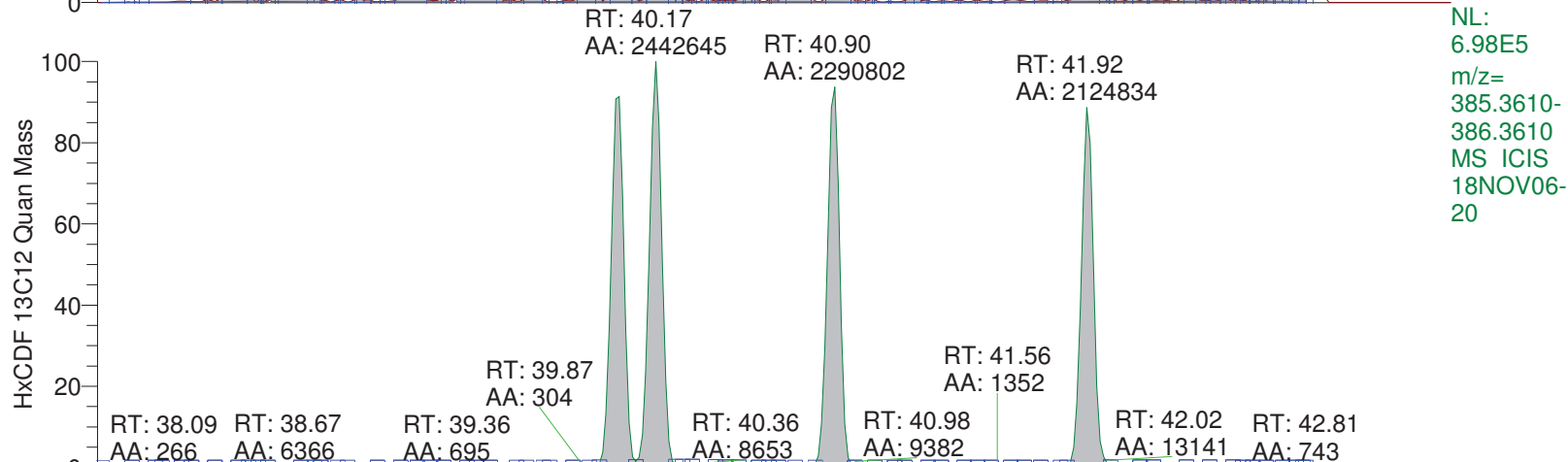
RT: 37.90 - 43.40



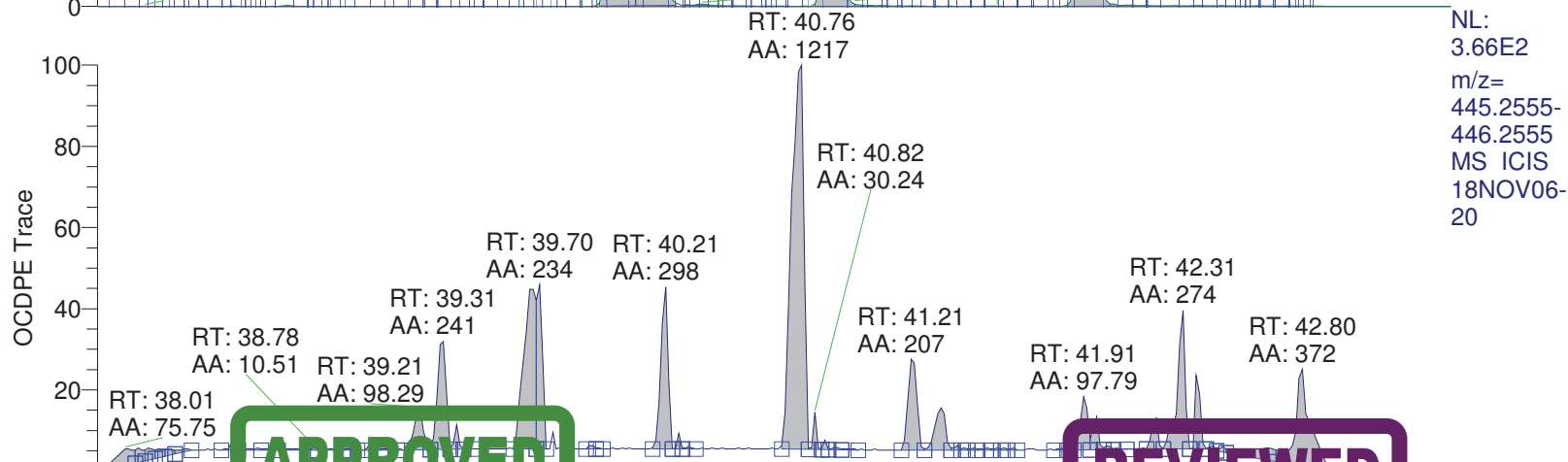
NL:  
1.31E4  
m/z=  
375.3178-  
376.3178  
MS ICIS  
18NOV06-  
20



NL:  
1.59E4  
m/z=  
373.3208-  
374.3208  
MS ICIS  
18NOV06-  
20



NL:  
6.98E5  
m/z=  
385.3610-  
386.3610  
MS ICIS  
18NOV06-  
20

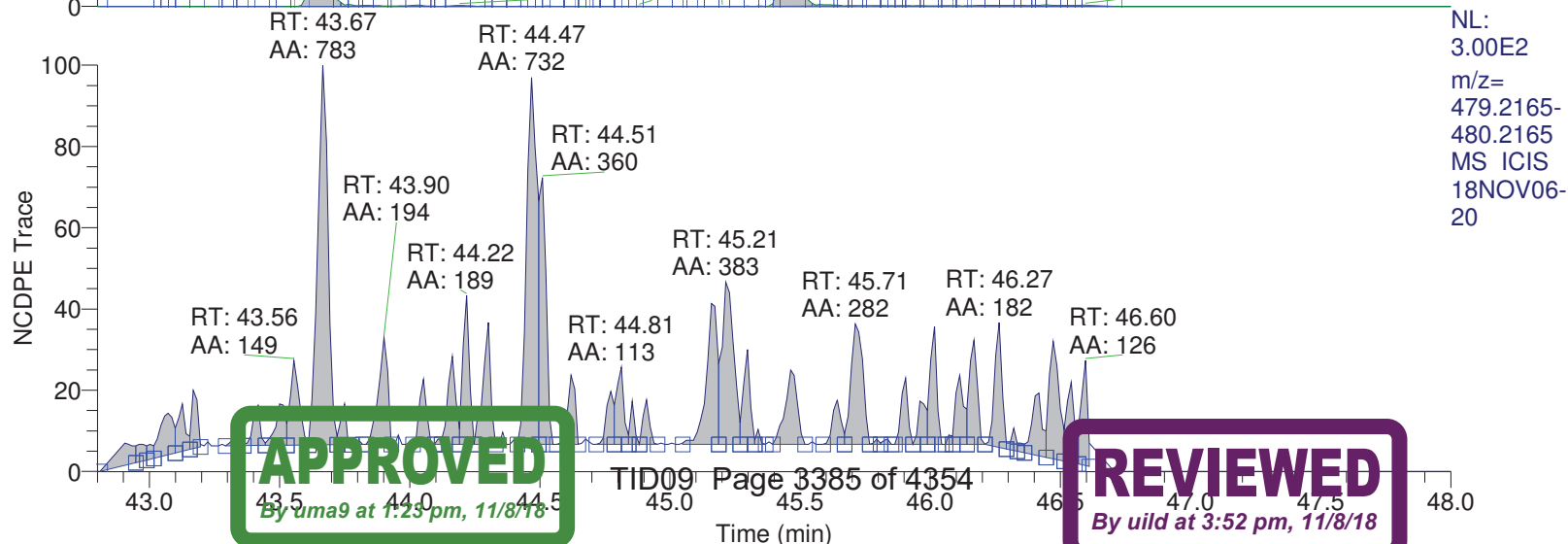
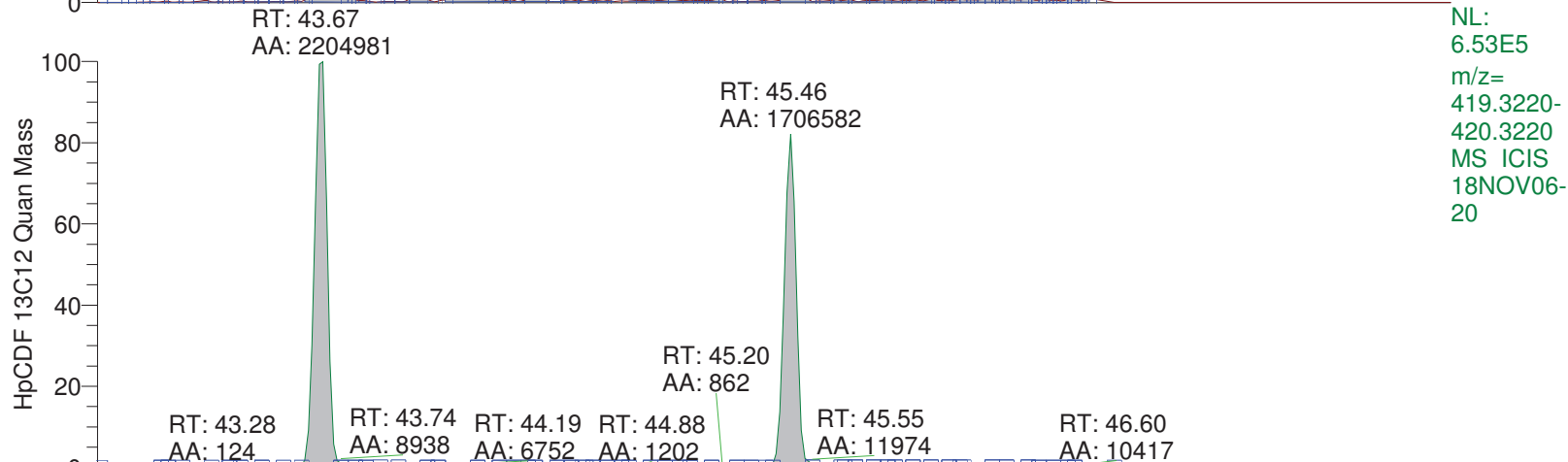
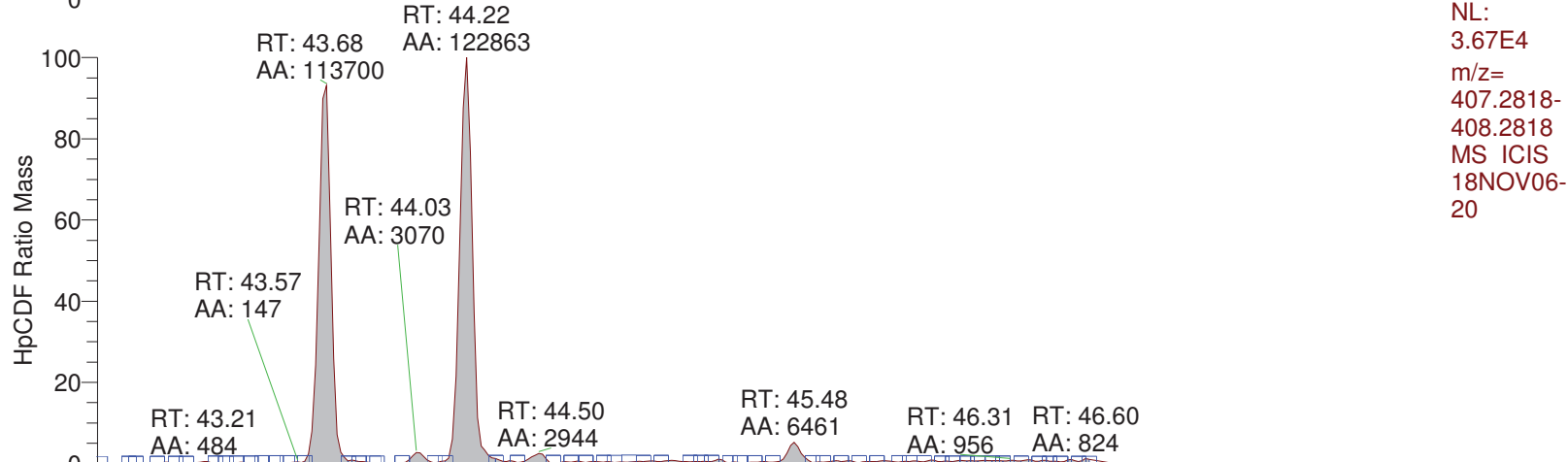
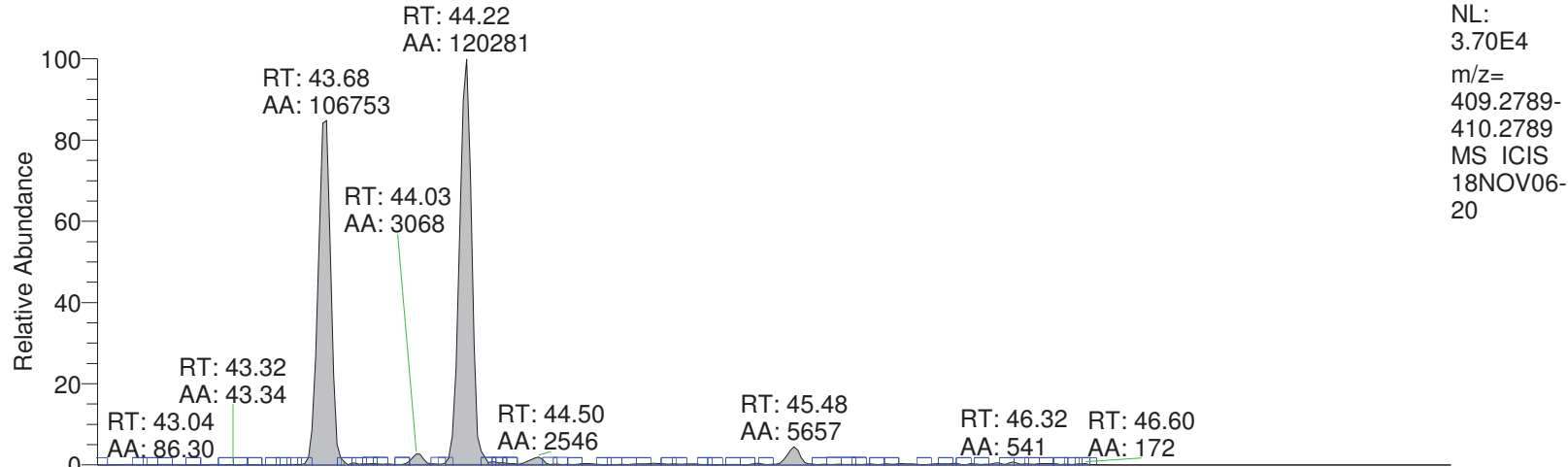


NL:  
3.66E2  
m/z=  
445.2555-  
446.2555  
MS ICIS  
18NOV06-  
20

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

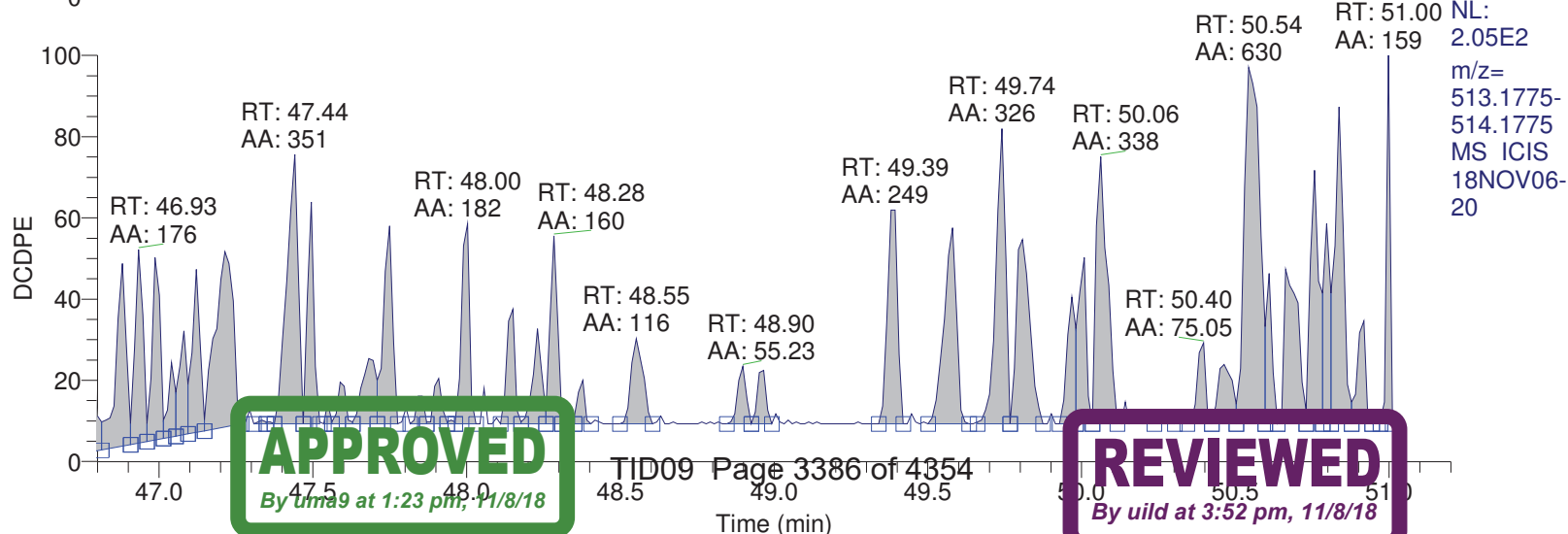
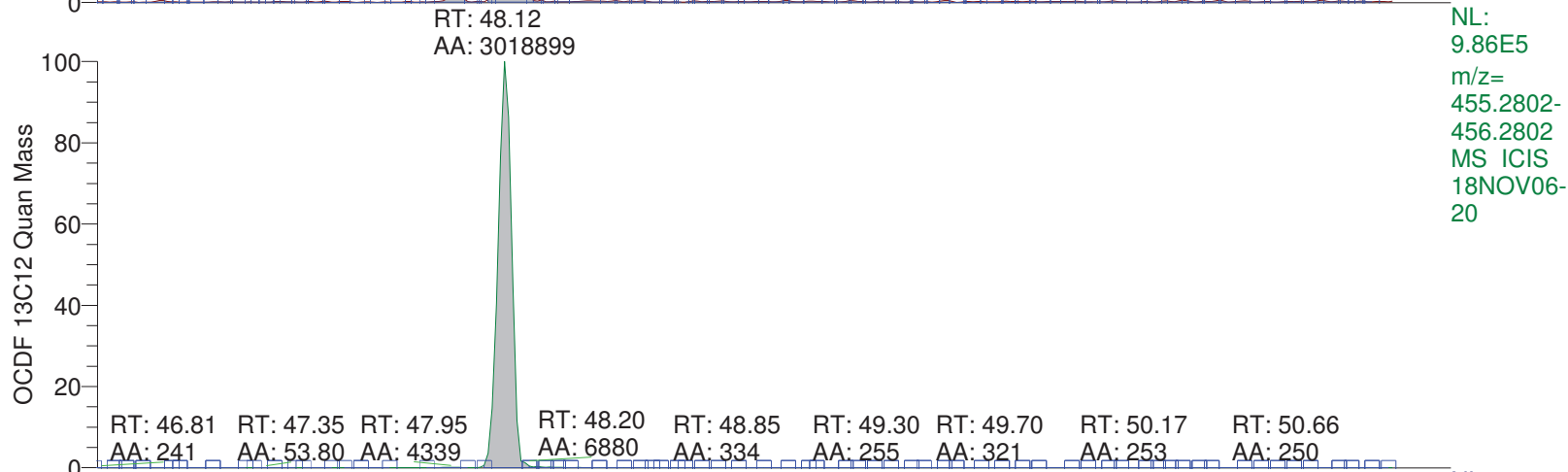
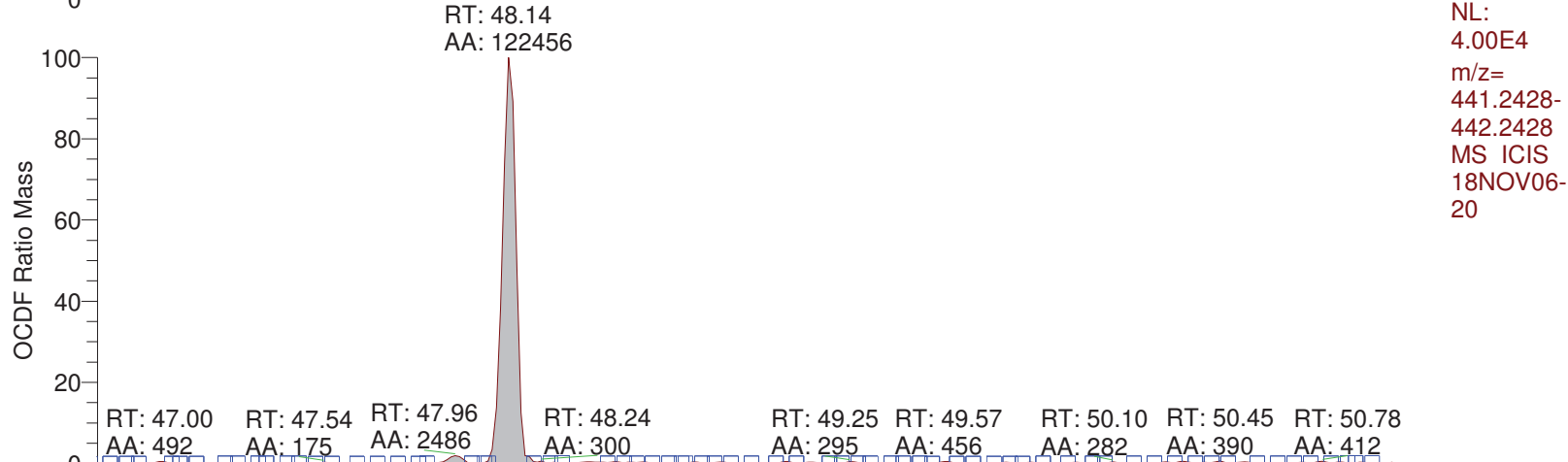
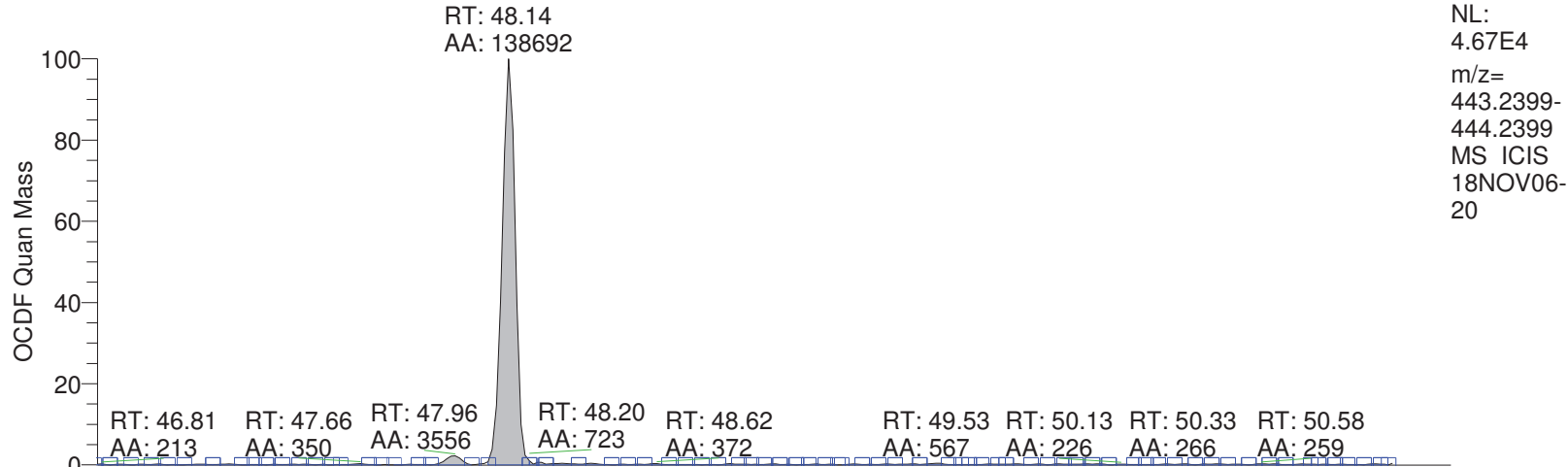
RT: 42.80 - 48.00



**APPROVED**  
By uma9 at 1:25 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

RT: 46.80 - 51.20



\*\*\* file opened wed Nov 07 01:59:33 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 01:59:32

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



18NOV06-20

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	94.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0185	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	94.5000	LKM	442.9723	MASS	94.5000
MDAC	1395128.6998	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9812	RELEN	0.0000
RES	13185.0932	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11958.  
MID Time window 2: Resolution is 12589.  
MID Time window 3: Resolution is 12263.  
MID Time window 4: Resolution is 12543.





18NOV06-20

MID Time Window 5: Resolution is 13008.  
MID Time Window 6: Resolution is 13185.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 02:50:36 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 02:50  
Number of Entries 245  
Comment S:11030:12937:17962  
Vial 68  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005 Grab Soil  
Sample ID 9866466RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-21.quan  
Data w:\18nov06\18nov06-21.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.33  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.83	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.93	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.28	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.67	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.96	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.65	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.93	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.12	passed	passed	passed	passed	passed	passed	passed



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/07 02:50  
Number of Entries 245  
Comment S:11030:12937:17962  
Vial 68  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005 Grab Soil  
Sample ID 9866466RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

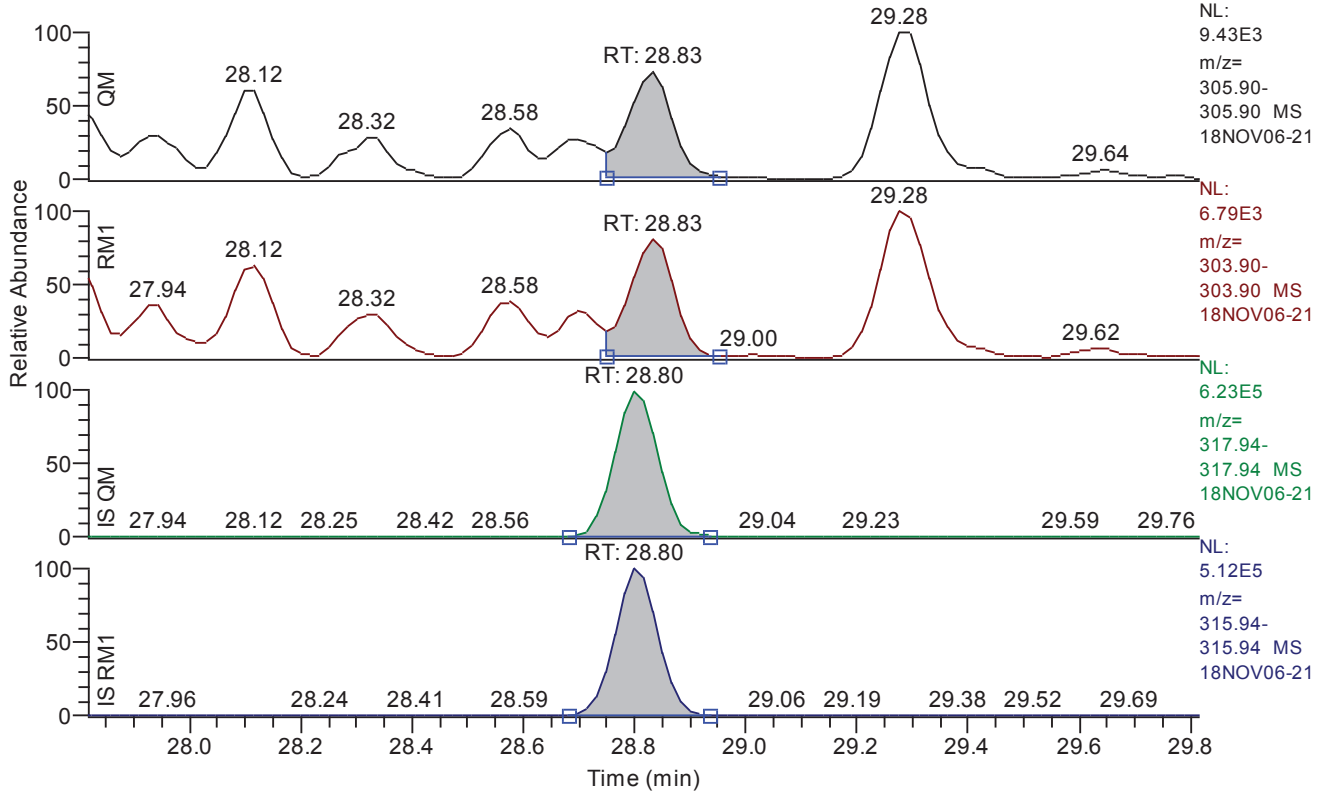
Quan w:\18nov06\18nov06-21.quan  
Data w:\18nov06\18nov06-21.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.33  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.82 - 29.82 SM: 3G



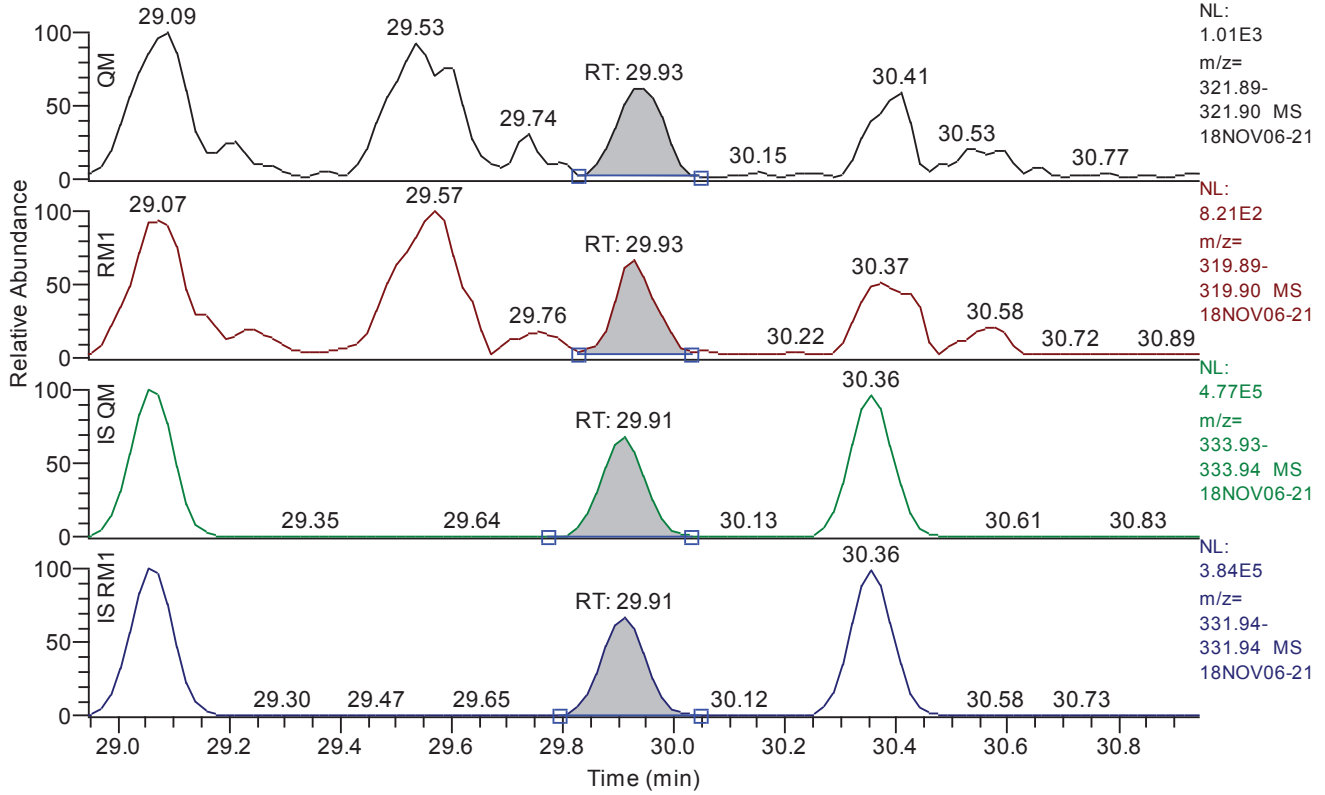
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.83
QM Area	37746
QM Integration Mode	A
RM1 Area	30374
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0588
Unqualified Amount (A)	2.278878
Adjusted Amount (A)	2.2789
Signal-to-Noise	95
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 28.95 - 30.95 SM: 3G



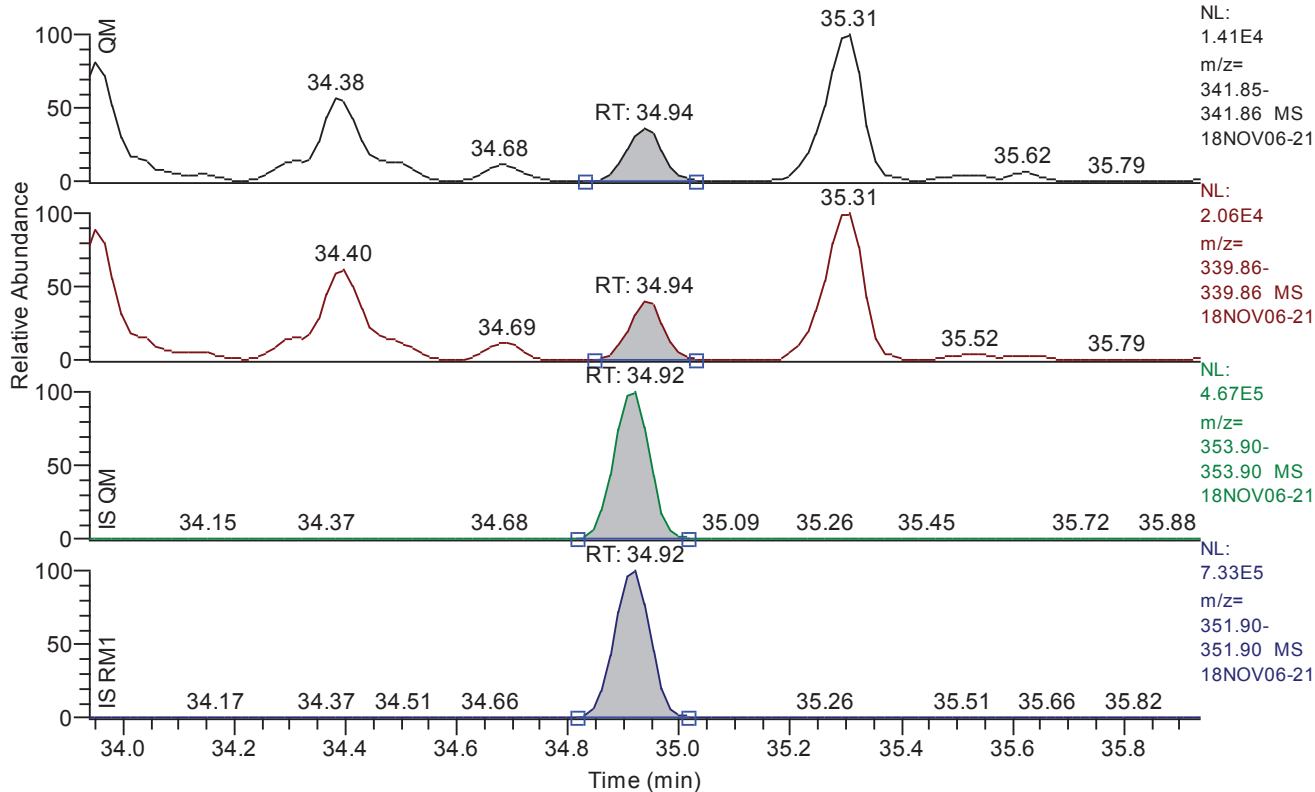
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	3626
QM Integration Mode	A
RM1 Area	2695
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0281
Unqualified Amount (A)	0.334061
Adjusted Amount (A)	0.3341
Signal-to-Noise	30
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.94 - 35.94 SM: 3G



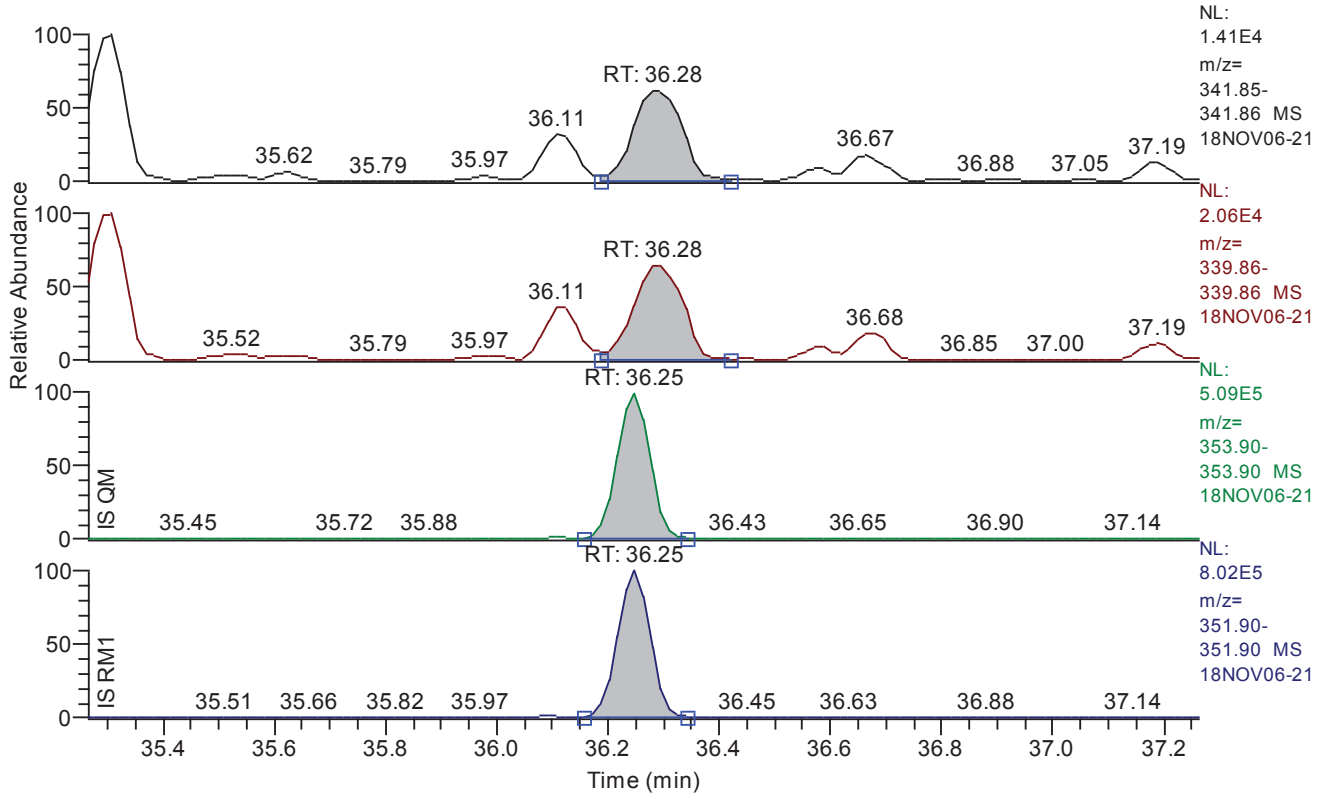
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	23324
QM Integration Mode	A
RM1 Area	35433
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0315
Unqualified Amount (A)	2.460857
Adjusted Amount (A)	2.4609
Signal-to-Noise	202
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.26 - 37.26 SM: 3G



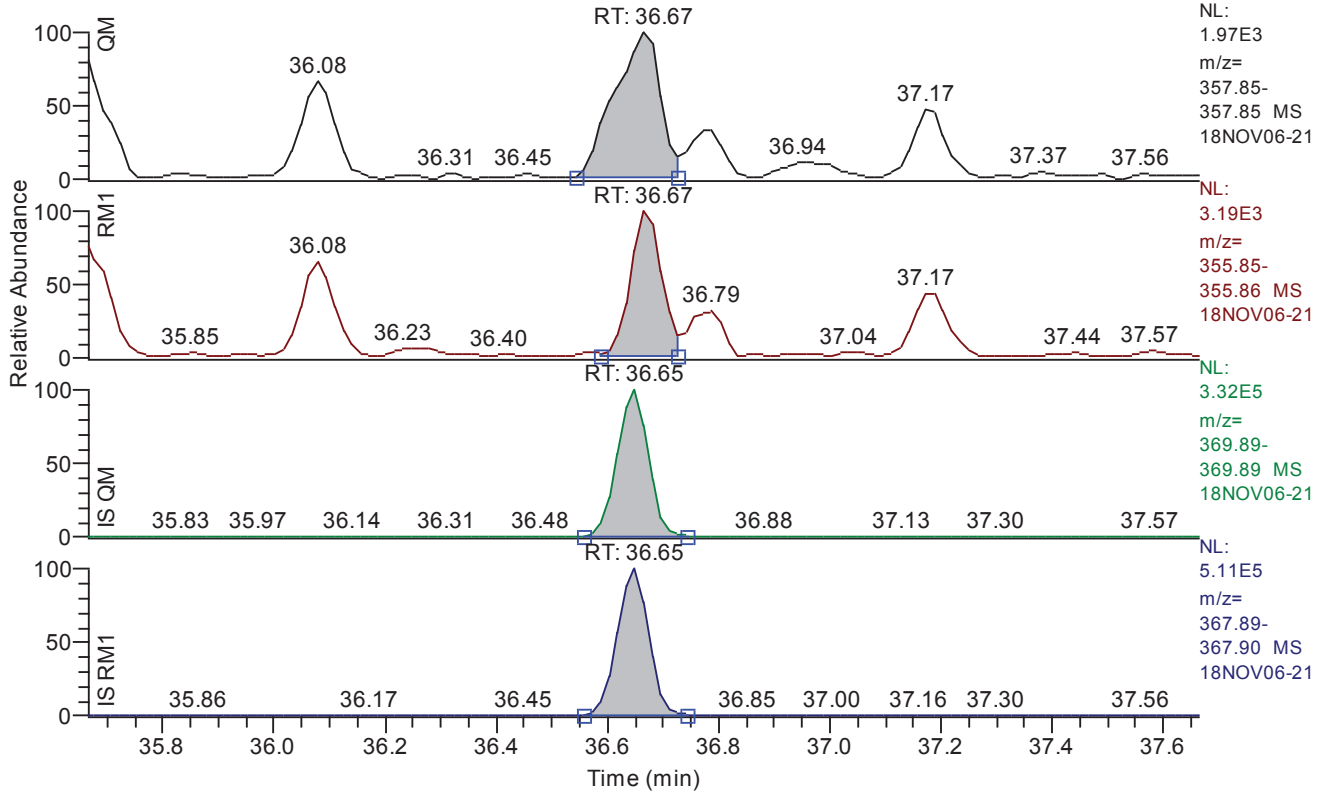
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.28
QM Area	51987
QM Integration Mode	A
RM1 Area	79798
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0258
Unqualified Amount (A)	5.026510
Adjusted Amount (A)	5.0265
Signal-to-Noise	328
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.67 - 37.67 SM: 3G

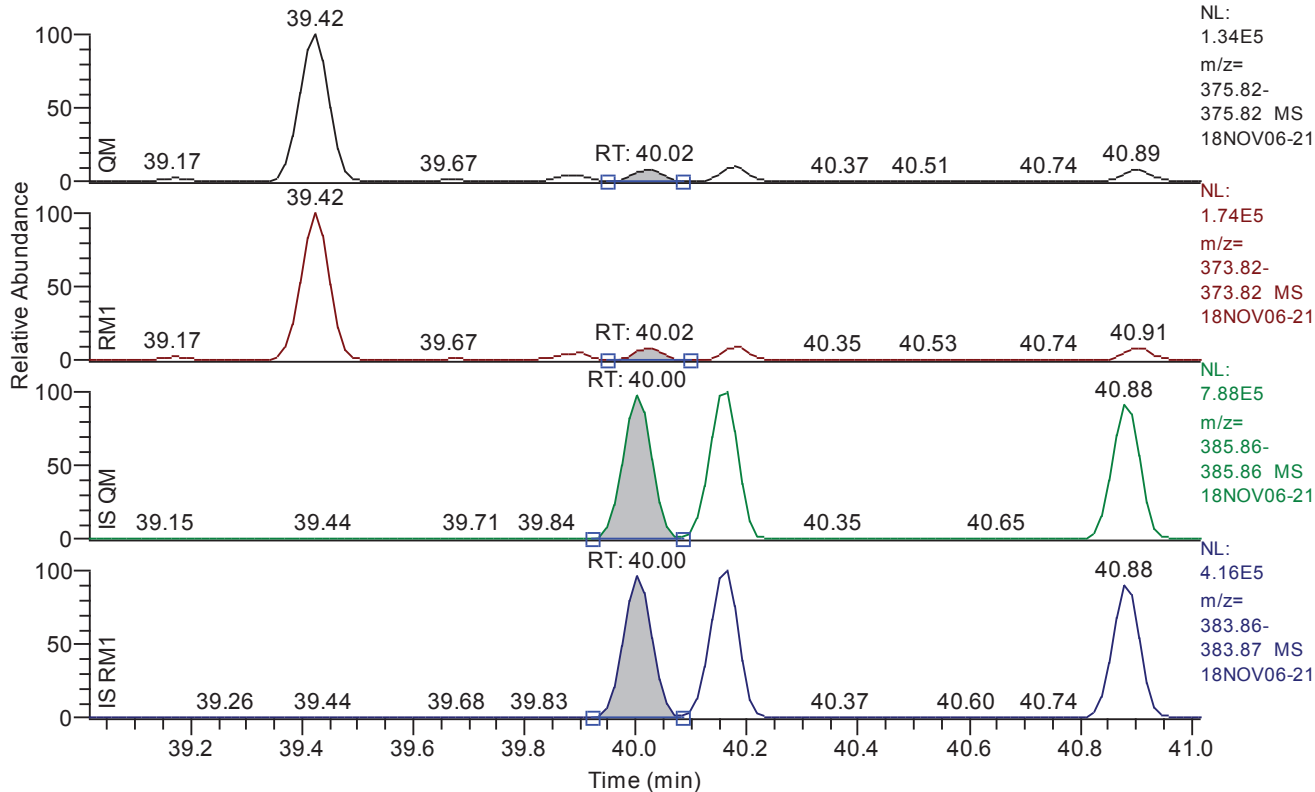


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	11167
QM Integration Mode	A
RM1 Area	12106
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0449
Unqualified Amount (A)	1.519781
Adjusted Amount (A)	n.d.
Signal-to-Noise	73
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.02 - 41.02 SM: 3G



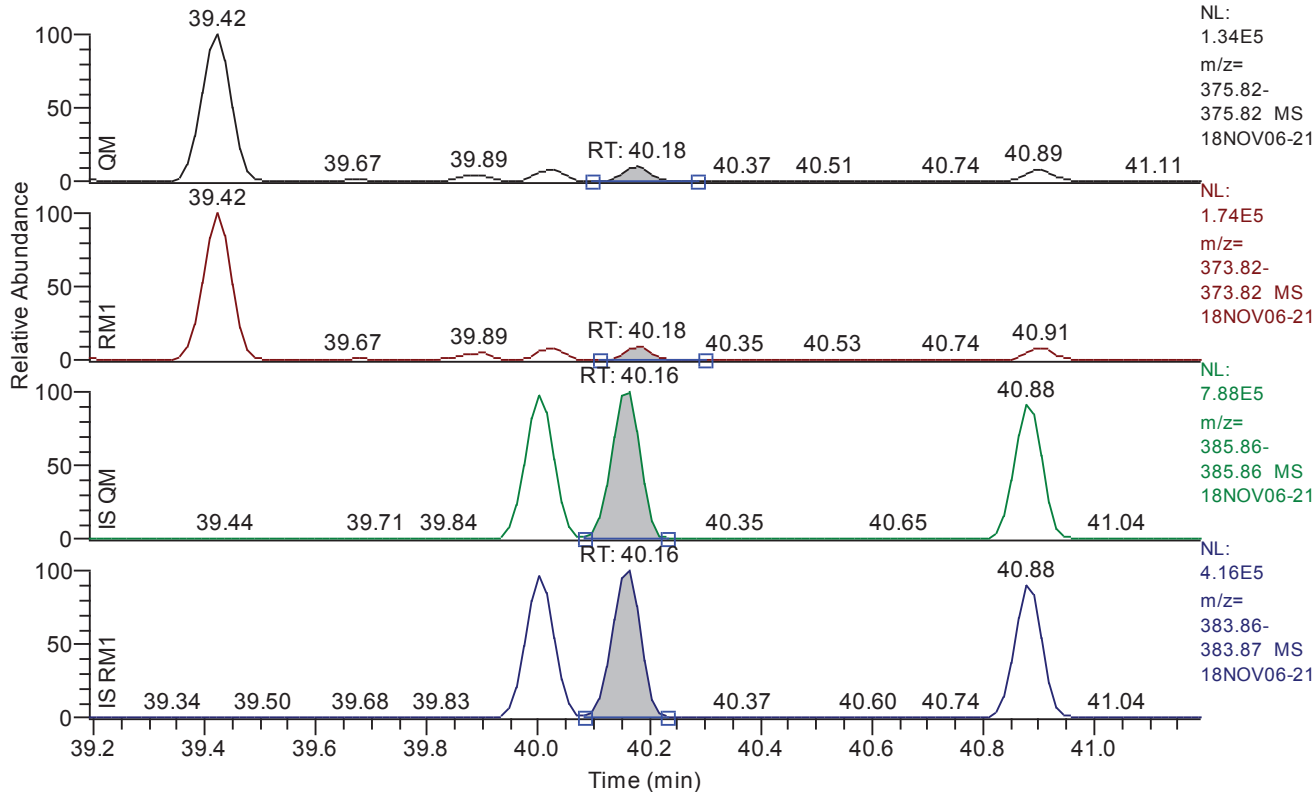
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.02
QM Area	42978
QM Integration Mode	A
RM1 Area	53532
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0369
Unqualified Amount (A)	4.110388
Adjusted Amount (A)	4.1104
Signal-to-Noise	274
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.19 - 41.19 SM: 3G



NL:  
 1.34E5  
 m/z=  
 375.82-  
 375.82 MS  
 18NOV06-21

NL:  
 1.74E5  
 m/z=  
 373.82-  
 373.82 MS  
 18NOV06-21

NL:  
 7.88E5  
 m/z=  
 385.86-  
 385.86 MS  
 18NOV06-21

NL:  
 4.16E5  
 m/z=  
 383.86-  
 383.87 MS  
 18NOV06-21

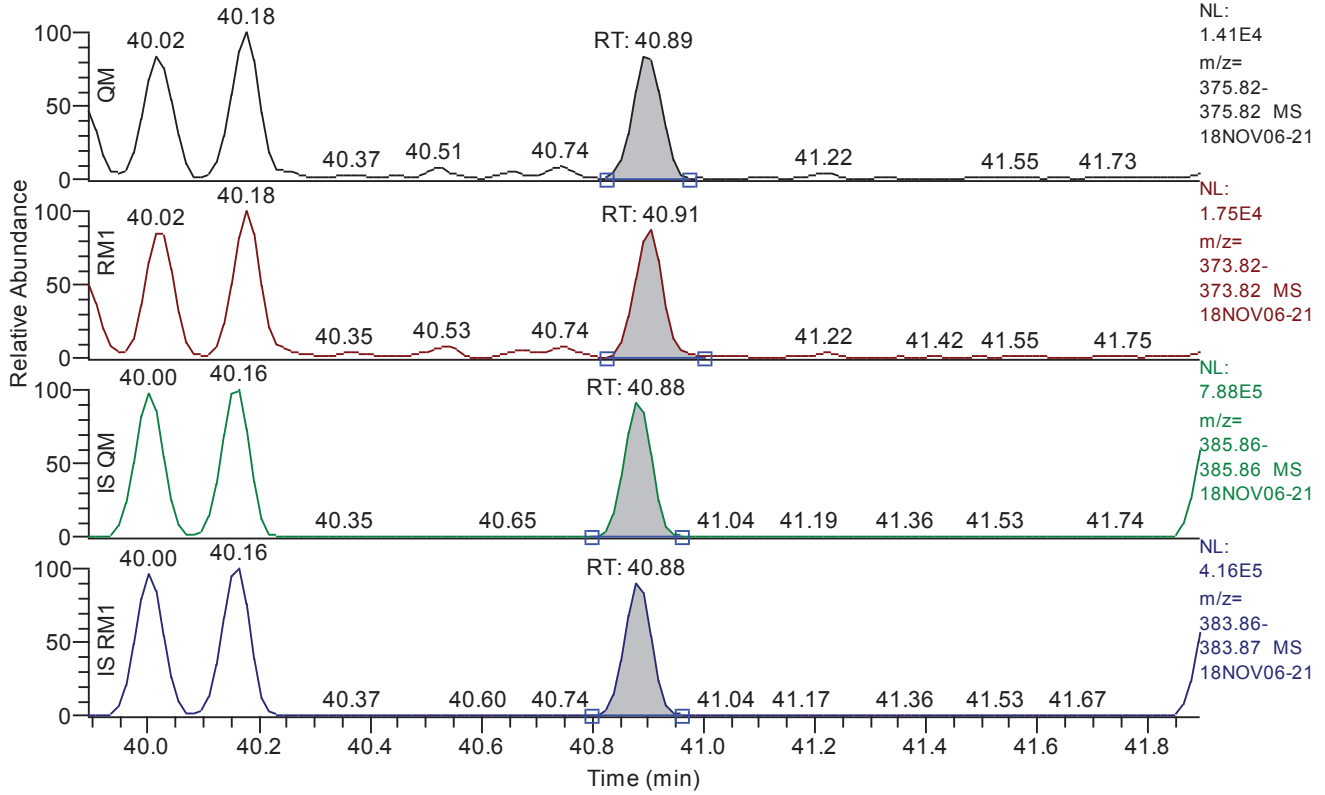
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	49520
QM Integration Mode	A
RM1 Area	59858
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0369
Unqualified Amount (A)	4.660139
Adjusted Amount (A)	4.6601
Signal-to-Noise	324
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.89 - 41.89 SM: 3G



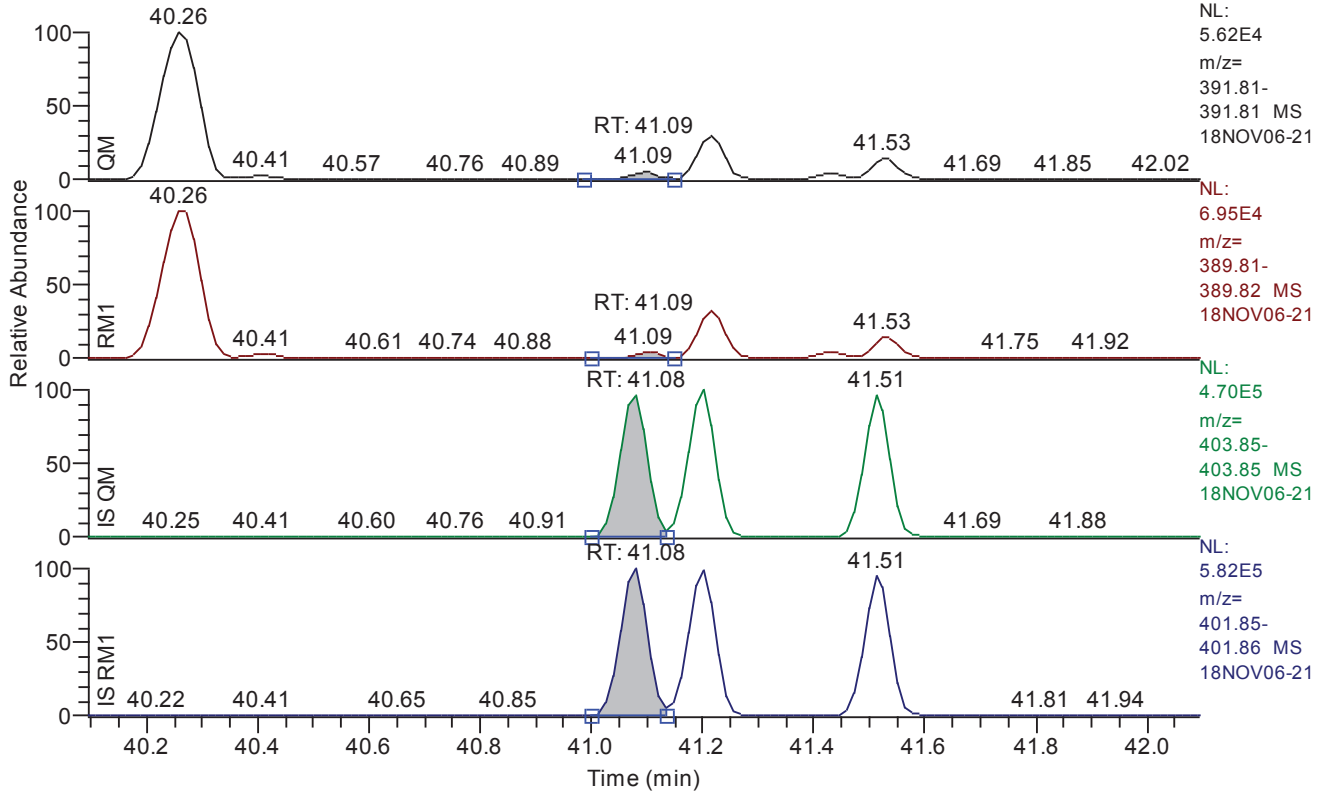
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.89
QM Area	43235
QM Integration Mode	A
RM1 Area	54064
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0382
Unqualified Amount (A)	4.390874
Adjusted Amount (A)	4.3909
Signal-to-Noise	281
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.09 - 42.09 SM: 3G

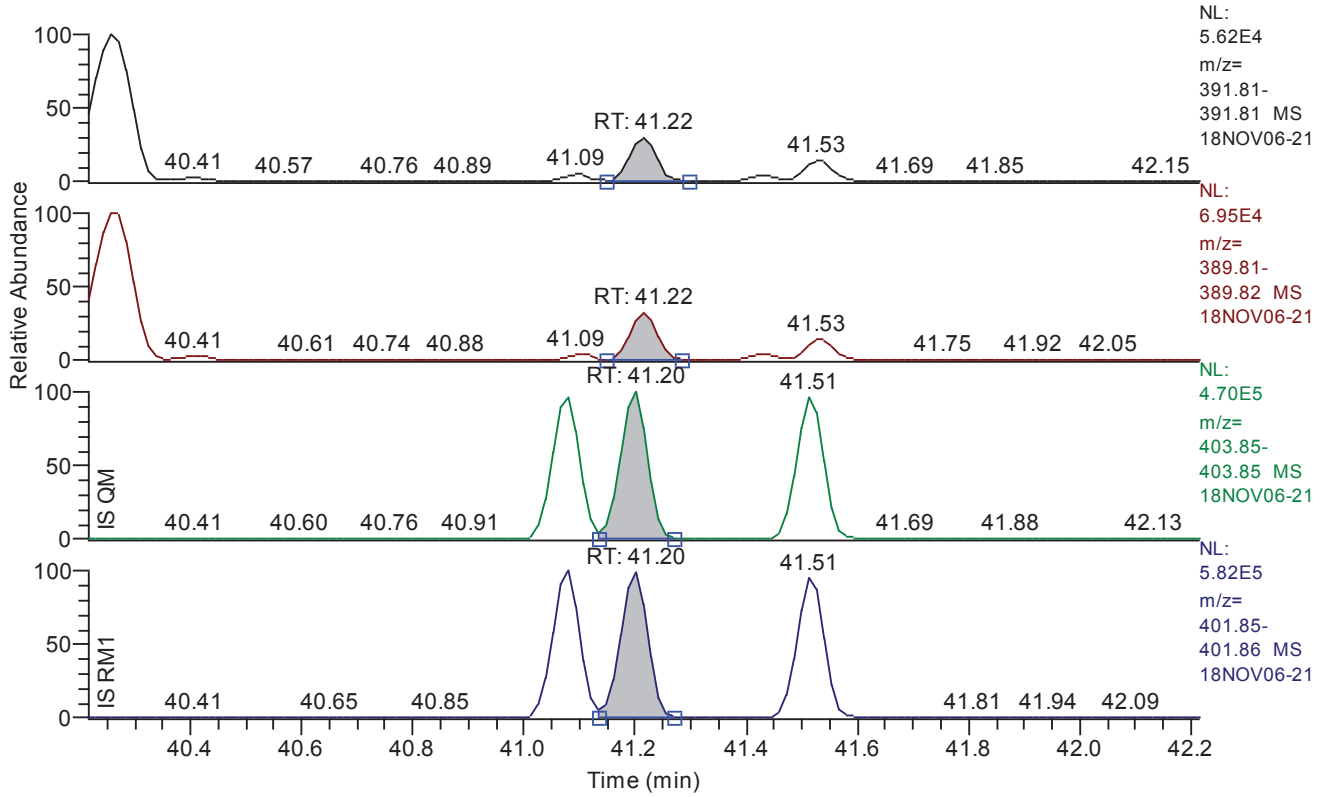


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	10434
QM Integration Mode	A
RM1 Area	11350
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	1.305000
Adjusted Amount (A)	1.3050
Signal-to-Noise	70
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.22 - 42.22 SM: 3G



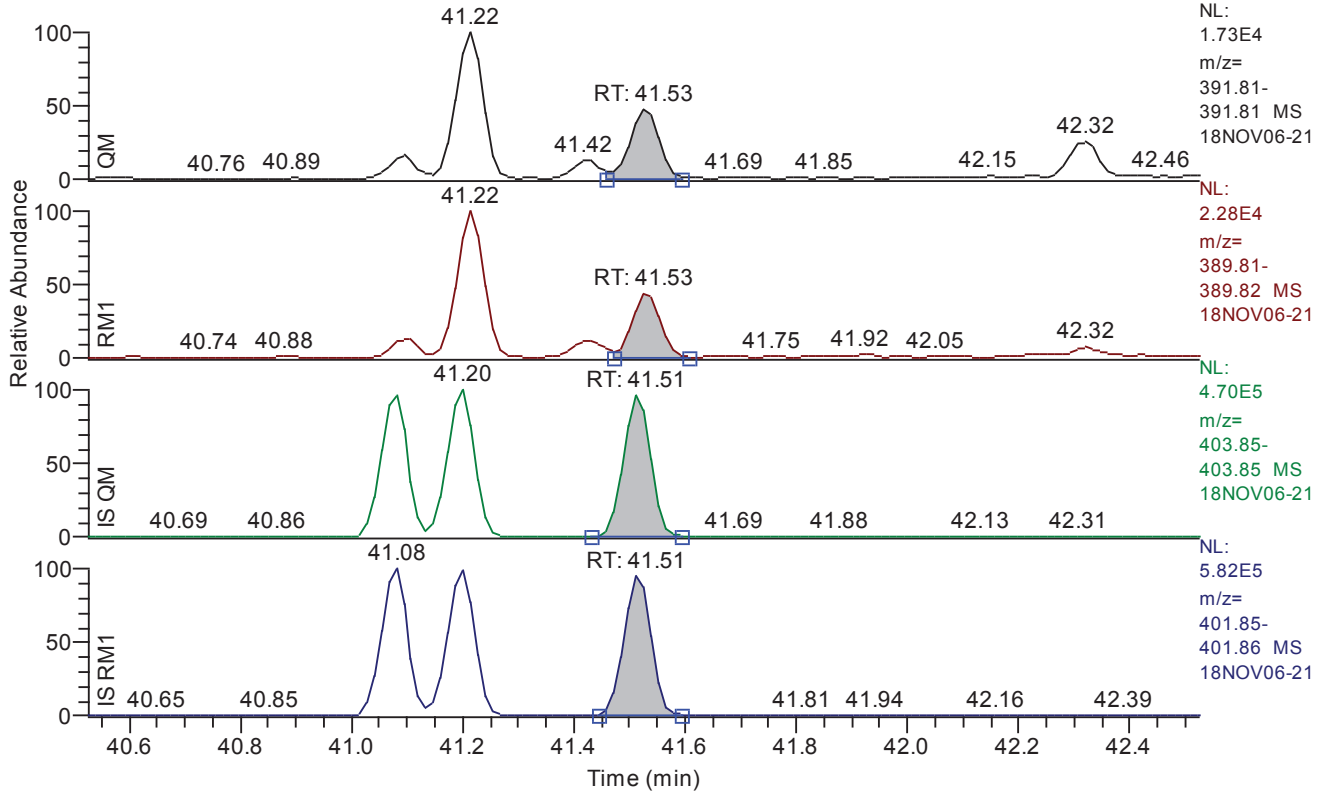
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	58783
QM Integration Mode	A
RM1 Area	76292
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0427
Unqualified Amount (A)	8.103040
Adjusted Amount (A)	8.1030
Signal-to-Noise	476
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.53 - 42.53 SM: 3G



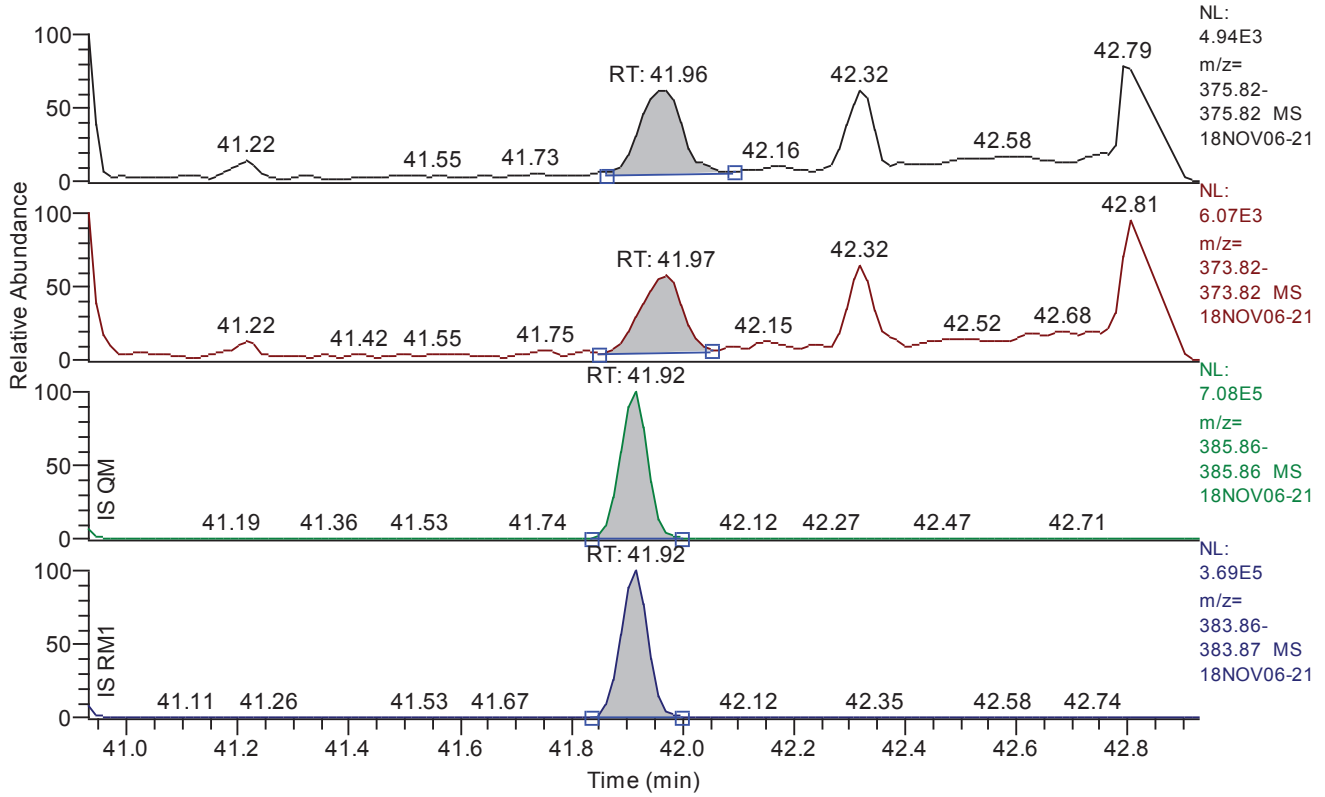
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	29536
QM Integration Mode	A
RM1 Area	34612
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0418
Unqualified Amount (A)	3.785277
Adjusted Amount (A)	3.7853
Signal-to-Noise	214
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.93 - 42.93 SM: 3G



**Entry Parameters**

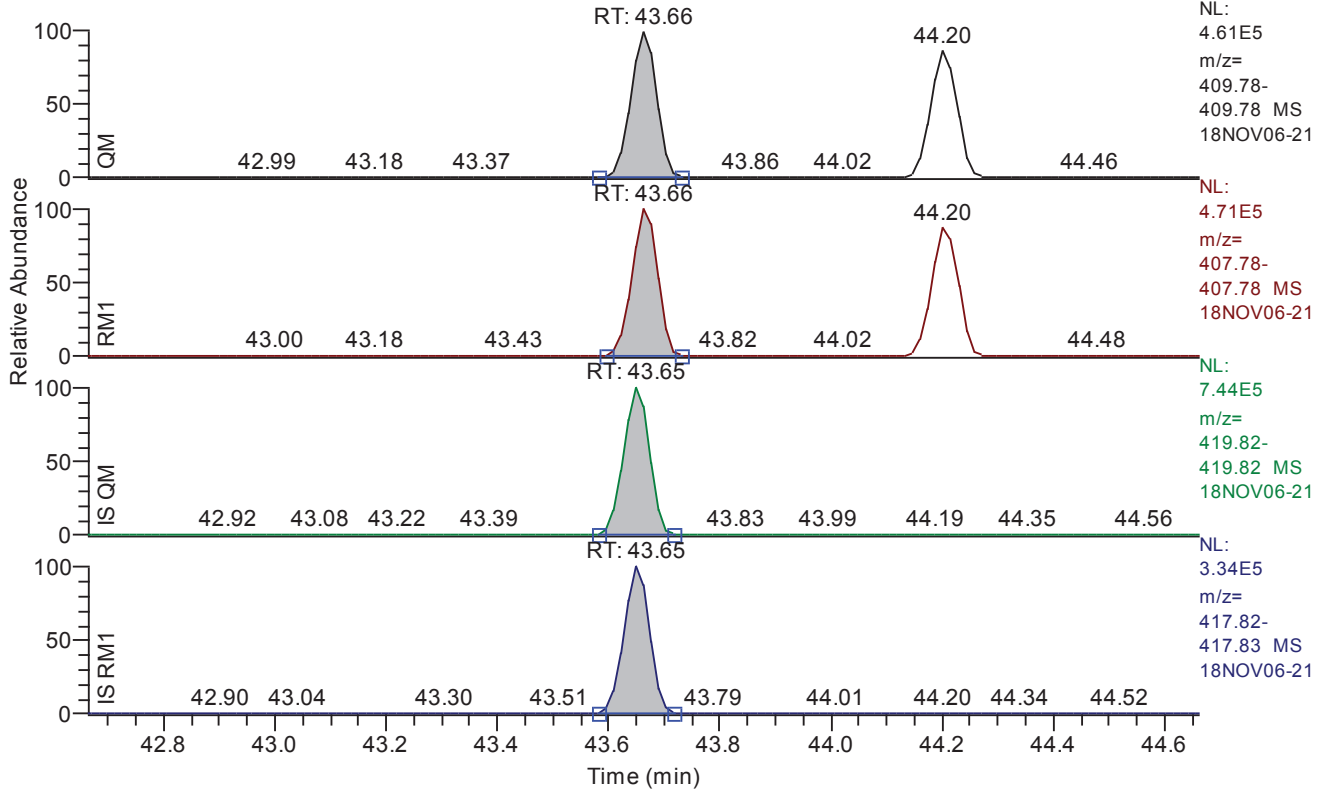
Compound Name	123789-HxCDF
QM Retention Time	41.96
QM Area	15009
QM Integration Mode	A
RM1 Area	16701
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0422
Unqualified Amount (A)	1.628632
Adjusted Amount (A)	1.6286
Signal-to-Noise	63
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 42.66 - 44.66 SM: 3G

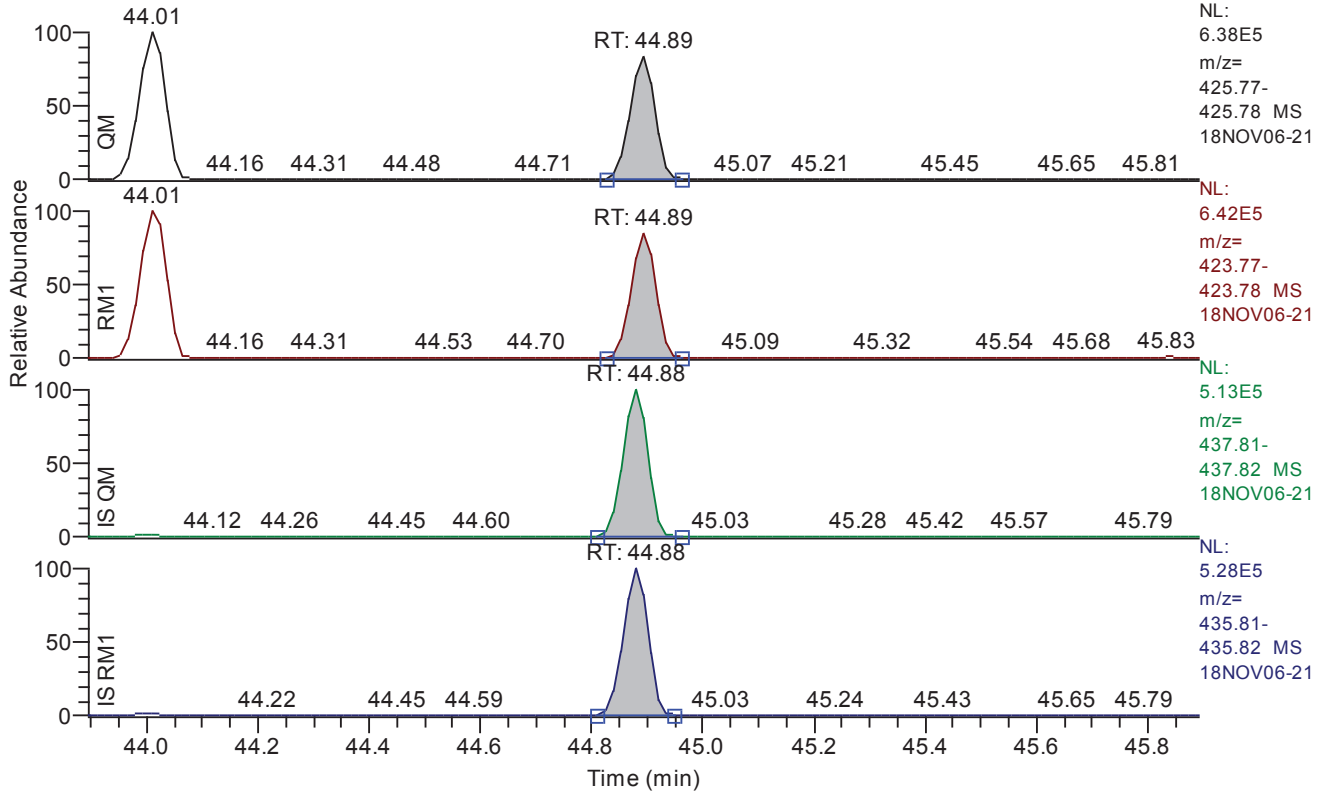


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	1523574
QM Integration Mode	A
RM1 Area	1565753
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0334
Unqualified Amount (A)	145.659448
Adjusted Amount (A)	145.6594
Signal-to-Noise	10914
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.89 - 45.89 SM: 3G



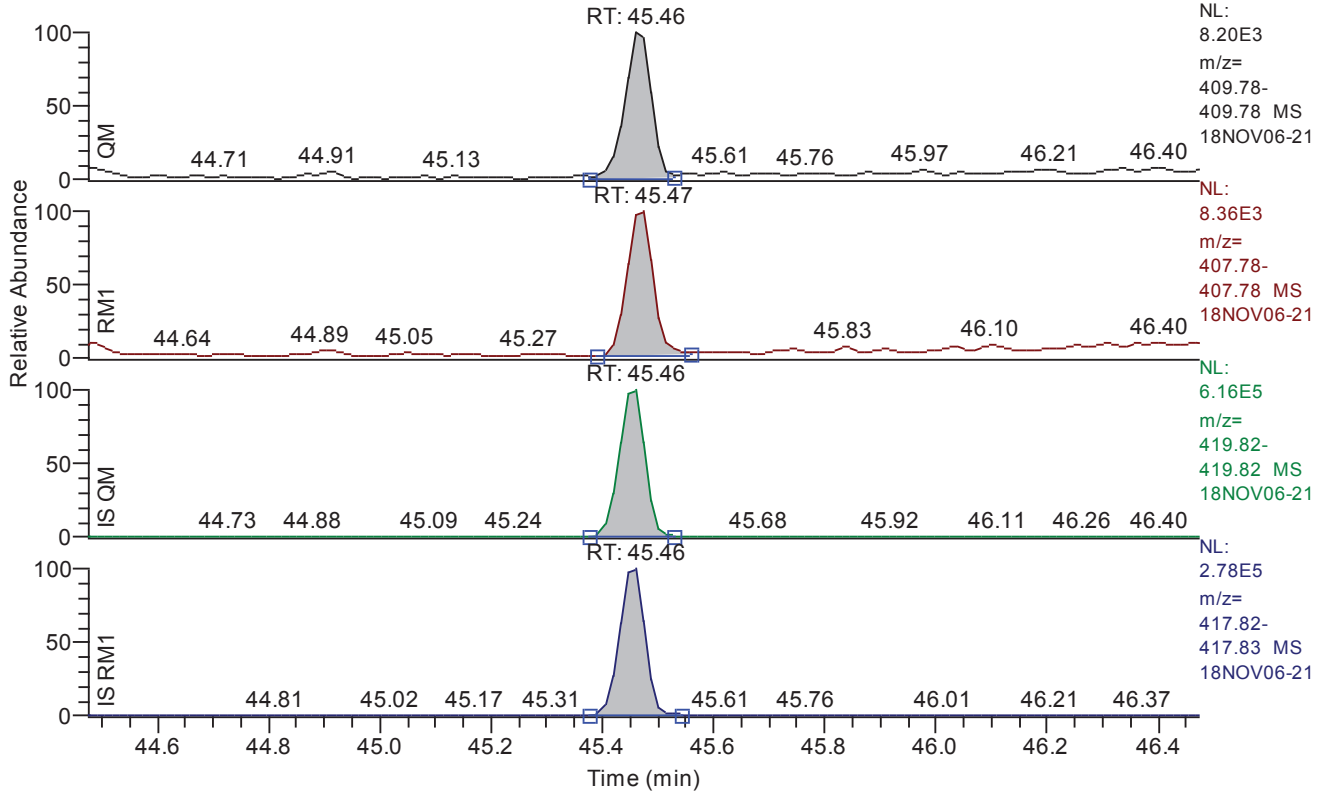
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	1694599
QM Integration Mode	A
RM1 Area	1742018
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1568
Unqualified Amount (A)	214.322086
Adjusted Amount (A)	214.3221
Signal-to-Noise	3430
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



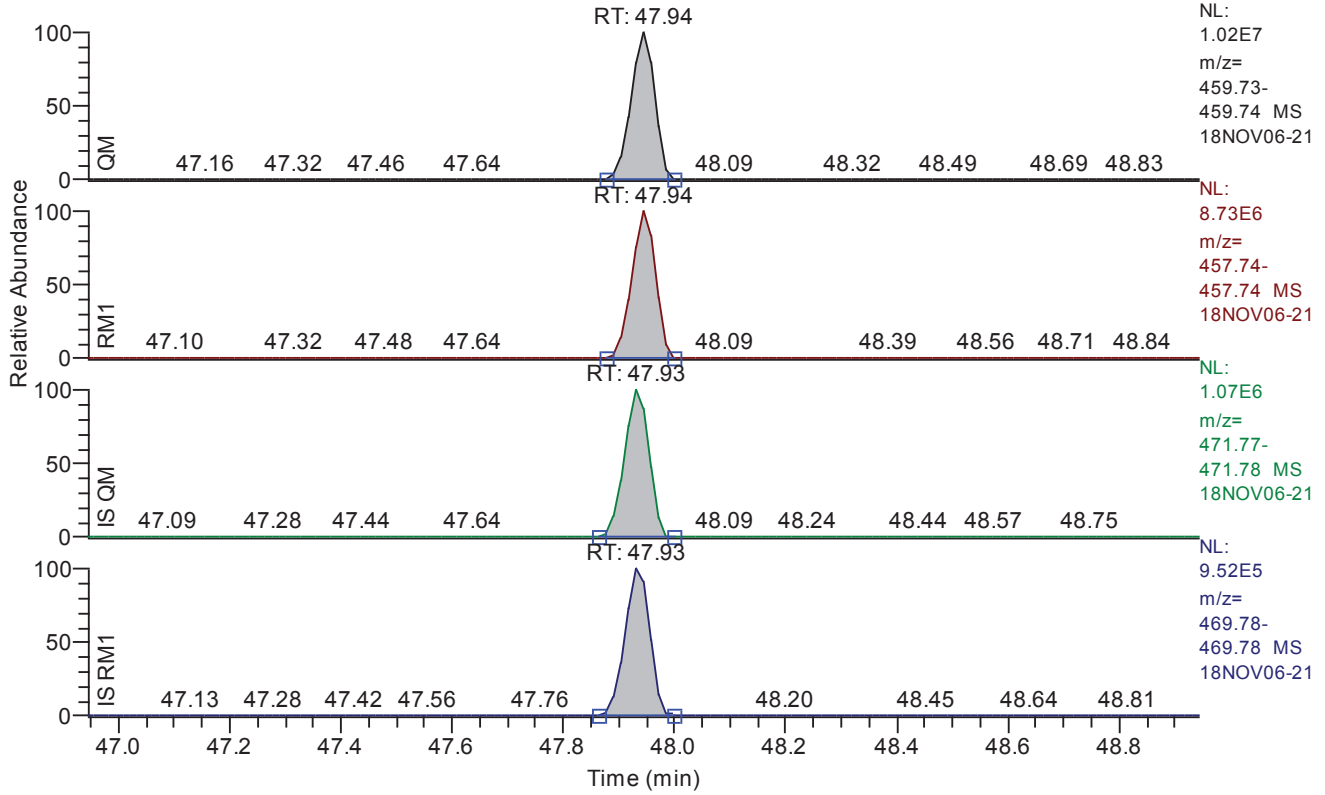
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.46
QM Area	27422
QM Integration Mode	A
RM1 Area	27410
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0391
Unqualified Amount (A)	3.021738
Adjusted Amount (A)	3.0217
Signal-to-Noise	190
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.94 - 48.94 SM: 3G



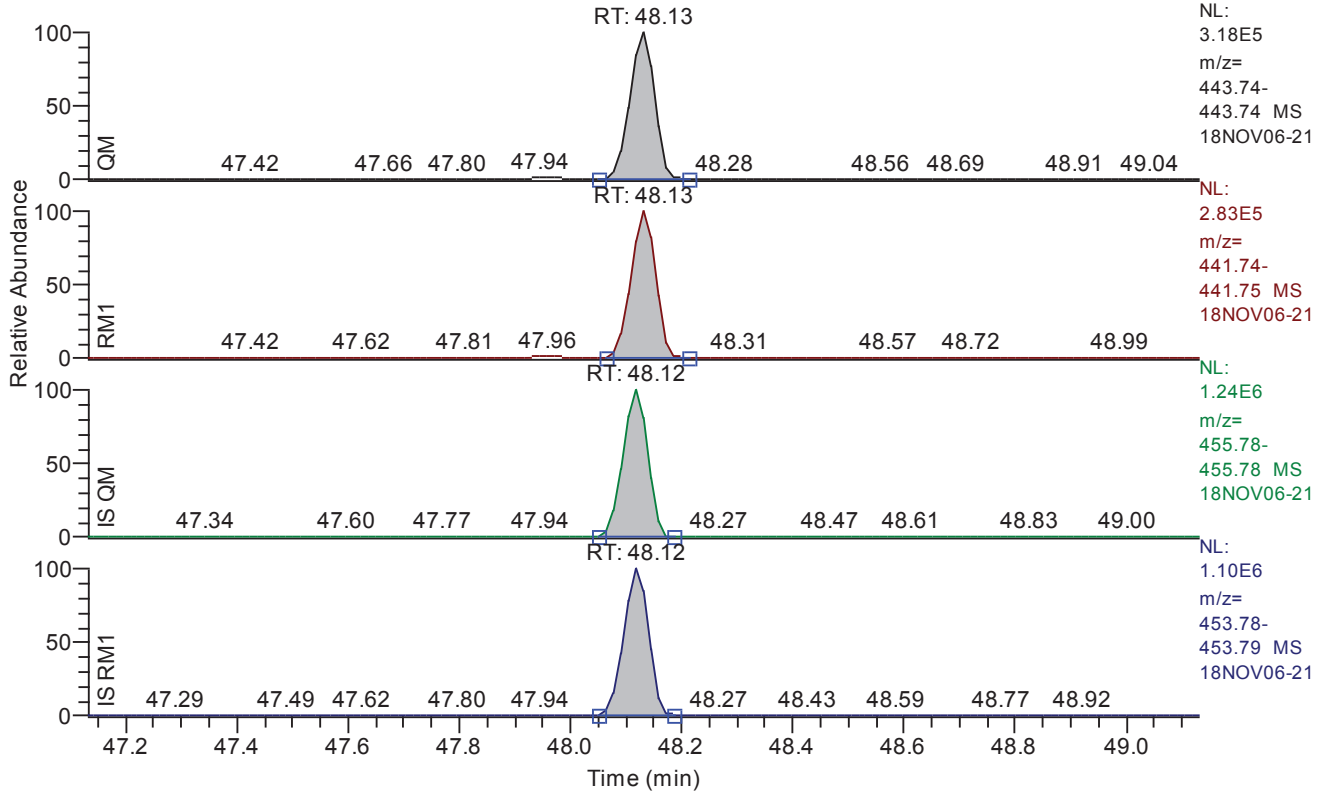
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	30036963
QM Integration Mode	A
RM1 Area	25994869
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0583
Unqualified Amount (A)	3809.040308
Adjusted Amount (A)	3809.0403
Signal-to-Noise	170302
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.13 - 49.13 SM: 3G



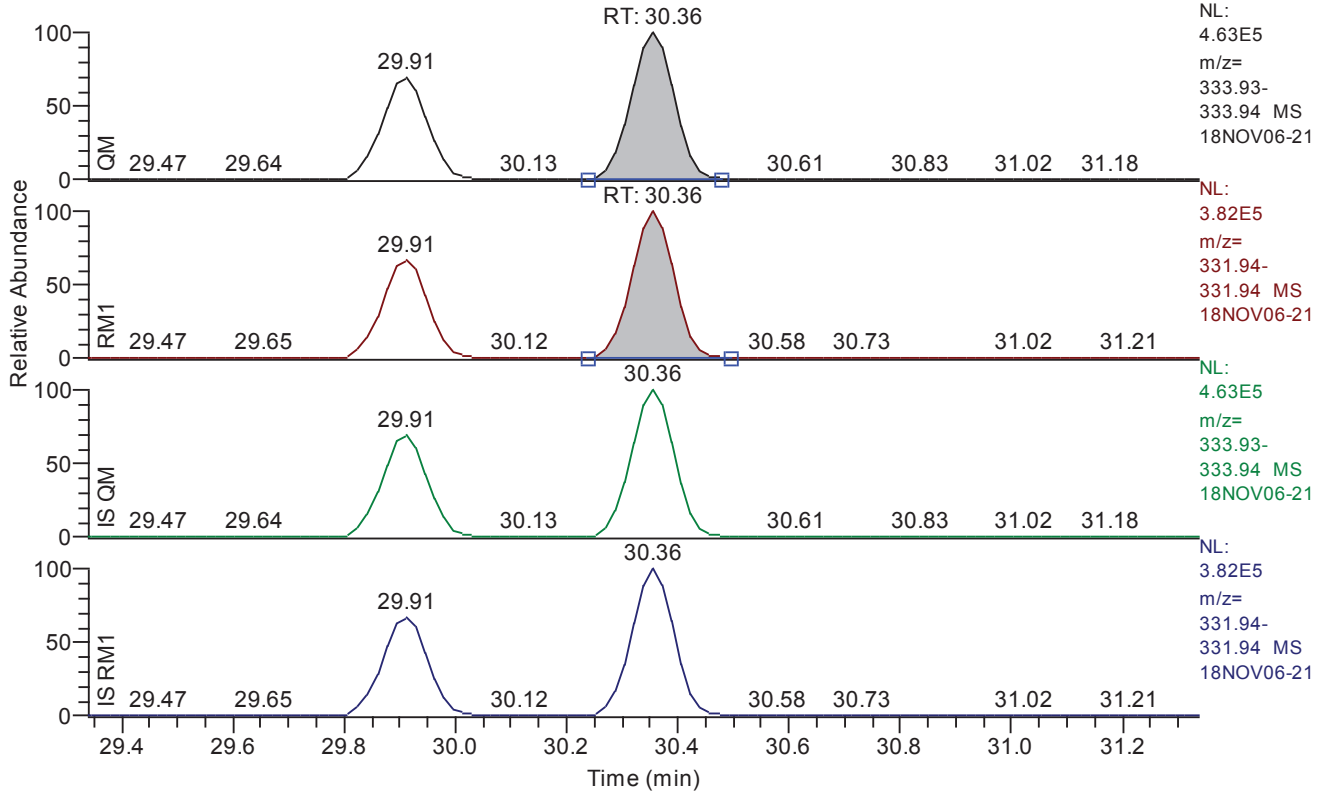
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	989085
QM Integration Mode	A
RM1 Area	874590
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0340
Unqualified Amount (A)	117.867065
Adjusted Amount (A)	117.8671
Signal-to-Noise	8647
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.34 - 31.34 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	2544587
QM Integration Mode	A
RM1 Area	2070038
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0160
Unqualified Amount (A)	176.867370
Adjusted Amount (A)	176.8674
Signal-to-Noise	28753
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.83	28.83	28.80	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.93	29.93	29.91	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	34.92	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.28	36.28	36.25	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.67	36.65	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.02	40.02	40.00	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.18	40.18	40.16	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.89	40.91	40.88	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.09	41.09	41.08	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.22	41.22	41.20	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.53	41.53	41.51	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.96	41.97	41.92	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.66	43.66	43.65	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.89	44.89	44.88	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.46	45.47	45.46	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.93	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.13	48.13	48.12	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.36	30.36	30.36	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.92	39.92	39.92	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.80	28.80	28.82	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.91	29.91	29.91	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.92	34.92	34.92	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.25	36.25	36.25	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.00	40.00	39.96	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.16	40.16	40.19	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.88	40.88	40.73	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.08	41.08	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.51	41.51	41.51	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.92	41.92	41.93	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.65	43.65	43.64	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.88	44.88	44.88	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.46	45.46	45.45	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.93	47.93	47.93	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.12	48.12	48.17	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.83	0.8047	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.93	0.7432	0.6450 - 0.8950	passed	---	0 - 0	passed
3	12378-PeCDF	34.94	1.5191	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.28	1.5350	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.67	1.0841	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.02	1.2455	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.18	1.2088	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.89	1.2504	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.09	1.0878	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.22	1.2979	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.53	1.1719	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.96	1.1127	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.66	1.0277	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.89	1.0280	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.46	0.9996	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.94	0.8654	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.13	0.8842	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.36	0.8135	0.6450 - 0.8950	passed	91.35	35 - 197	passed
19	13C12-1234-TCDD	29.06	0.7998	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2587	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.80	0.8145	0.6450 - 0.8950	passed	72.37	40 - 135	passed
22	13C12-2378-TCDD	29.91	0.8019	0.6450 - 0.8950	passed	70.05	40 - 135	passed
23	13C12-12378-PeCDF	34.92	1.5679	1.3150 - 1.7850	passed	68.10	40 - 135	passed
24	13C12-23478-PeCDF	36.25	1.5697	1.3150 - 1.7850	passed	66.80	40 - 135	passed
25	13C12-12378-PeCDD	36.65	1.5544	1.3150 - 1.7850	passed	69.38	40 - 135	passed
26	13C12-123478-HxCDF	40.00	0.5182	0.4250 - 0.5950	passed	66.32	40 - 135	passed
27	13C12-123678-HxCDF	40.16	0.5213	0.4250 - 0.5950	passed	64.29	40 - 135	passed
28	13C12-234678-HxCDF	40.88	0.5142	0.4250 - 0.5950	passed	61.74	40 - 135	passed
29	13C12-123478-HxCDD	41.08	1.2575	1.0450 - 1.4350	passed	70.76	40 - 135	passed
30	13C12-123678-HxCDD	41.20	1.2429	1.0450 - 1.4350	passed	69.36	40 - 135	passed
31	13C12-123789-HxCDD	41.51	1.2270	1.0450 - 1.4350	passed	70.49	40 - 135	passed
32	13C12-123789-HxCDF	41.92	0.5170	0.4250 - 0.5950	passed	64.84	40 - 135	passed
33	13C12-1234678-HpCDF	43.65	0.4446	0.3650 - 0.5150	passed	60.60	40 - 135	passed
34	13C12-1234678-HpCDD	44.88	1.0327	0.8750 - 1.2050	passed	67.45	40 - 135	passed
35	13C12-1234789-HpCDF	45.46	0.4462	0.3650 - 0.5150	passed	61.34	40 - 135	passed
36	13C12-OCDD	47.93	0.8942	0.7550 - 1.0250	passed	65.37	40 - 135	passed
37	13C12-OCDF	48.12	0.8865	0.7550 - 1.0250	passed	56.73	40 - 135	passed



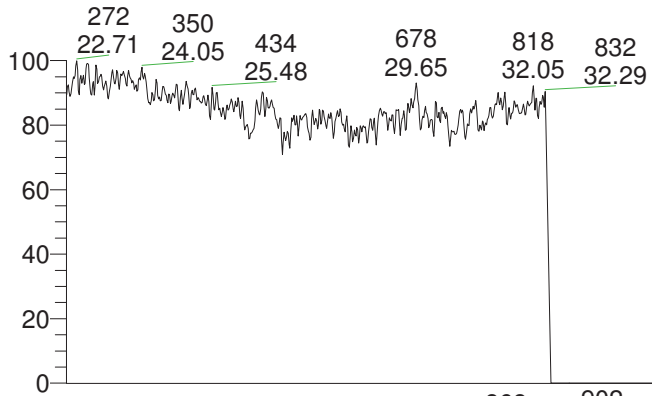


**Entry Parameters**

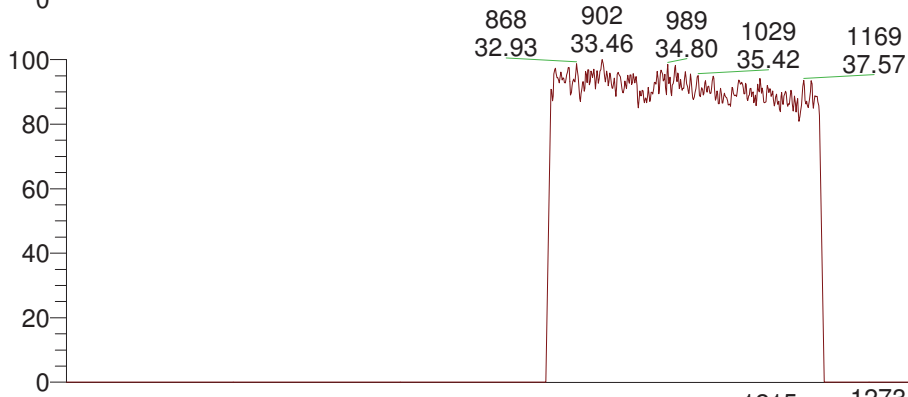
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.83	37746	A	30374	A	0.0588	2.278878	2.2789	0.000000	95	
2	2378-TCDD	passed	29.93	3626	A	2695	A	0.0281	0.334061	0.3341	0.000000	30	
3	12378-PeCDF	passed	34.94	23324	A	35433	A	0.0315	2.460857	2.4609	0.000000	202	
4	23478-PeCDF	passed	36.28	51987	A	79798	A	0.0258	5.026510	5.0265	0.000000	328	
5	12378-PeCDD	failed	36.67	11167	A	12106	A	0.0449	1.519781	n.d.	0.000000	73	
6	123478-HxCDF	passed	40.02	42978	A	53532	A	0.0369	4.110388	4.1104	0.000000	274	
7	123678-HxCDF	passed	40.18	49520	A	59858	A	0.0369	4.660139	4.6601	0.000000	324	
8	234678-HxCDF	passed	40.89	43235	A	54064	A	0.0382	4.390874	4.3909	0.000000	281	
9	123478-HxCDD	passed	41.09	10434	A	11350	A	0.0429	1.305000	1.3050	0.000000	70	
10	123678-HxCDD	passed	41.22	58783	A	76292	A	0.0427	8.103040	8.1030	0.000000	476	
11	123789-HxCDD	passed	41.53	29536	A	34612	A	0.0418	3.785277	3.7853	0.000000	214	
12	123789-HxCDF	passed	41.96	15009	A	16701	A	0.0422	1.628632	1.6286	0.000000	63	
13	1234678-HpCDF	passed	43.66	1523574	A	1565753	A	0.0334	145.659448	145.6594	0.000000	10914	
14	1234678-HpCDD	passed	44.89	1694599	A	1742018	A	0.1568	214.322086	214.3221	0.000000	3430	
15	1234789-HpCDF	passed	45.46	27422	A	27410	A	0.0391	3.021738	3.0217	0.000000	190	
16	OCDD	passed	47.94	30036963	A	25994869	A	0.0583	3809.040308	3809.0403	0.000000	170302	
17	OCDF	passed	48.13	989085	A	874590	A	0.0340	117.867065	117.8671	0.000000	8647	
18	13C12-1278-TCDD (CRS)	passed	30.36	2544587	A	2070038	A	0.0160	176.867370	176.8674	193.610842	28753	
19	13C12-1234-TCDD	passed	29.06	2718506	A	2174292	A	0.0165	193.610842	193.6108	193.610842	29319	
20	13C12-123468-HxCDD	passed	39.92	2244852	A	2825504	A	0.0345	193.610842	193.6108	193.610842	14019	
21	13C12-2378-TCDF	passed	28.80	3454461	A	2813830	A	0.0197	140.112200	140.1122	193.610842	18255	
22	13C12-2378-TCDD	passed	29.91	1858236	A	1490080	A	0.0169	135.629443	135.6294	193.610842	19905	
23	13C12-12378-PeCDF	passed	34.92	2117722	A	3320276	A	0.0291	131.851360	131.8514	193.610842	14212	
24	13C12-23478-PeCDF	passed	36.25	2077337	A	3260823	A	0.0290	129.328057	129.3281	193.610842	15519	
25	13C12-12378-PeCDD	passed	36.65	1295807	A	2014177	A	0.0257	134.323333	134.3233	193.610842	18886	
26	13C12-123478-HxCDF	passed	40.00	2803749	A	1452837	A	0.0320	128.397839	128.3978	193.610842	9986	
27	13C12-123678-HxCDF	passed	40.16	2861493	A	1491558	A	0.0303	124.464423	124.4644	193.610842	10197	
28	13C12-234678-HxCDF	passed	40.88	2556361	A	1314363	A	0.0327	119.528516	119.5285	193.610842	9285	
29	13C12-123478-HxCDD	passed	41.08	1572012	A	1976830	A	0.0349	136.991899	136.9919	193.610842	10327	
30	13C12-123678-HxCDD	passed	41.20	1591286	A	1977835	A	0.0340	134.283755	134.2838	193.610842	10434	
31	13C12-123789-HxCDD	passed	41.51	1544157	A	1894623	A	0.0359	136.474712	136.4747	193.610842	10102	
32	13C12-123789-HxCDF	passed	41.92	2441451	A	1262301	A	0.0359	125.546859	125.5469	193.610842	9145	
33	13C12-1234678-HpCDF	passed	43.65	2476639	A	1101233	A	0.0405	117.319727	117.3197	193.610842	7854	
34	13C12-1234678-HpCDD	passed	44.88	1630699	A	1684088	A	0.0403	130.589601	130.5896	193.610842	9150	
35	13C12-1234789-HpCDF	passed	45.46	2056572	A	917551	A	0.0493	118.760563	118.7606	193.610842	6519	
36	13C12-OCDD	passed	47.93	3297322	A	2948512	A	0.0233	253.127208	253.1272	387.221684	31674	
37	13C12-OCDF	passed	48.12	3836581	A	3401187	A	0.0135	219.663682	219.6637	387.221684	47127	



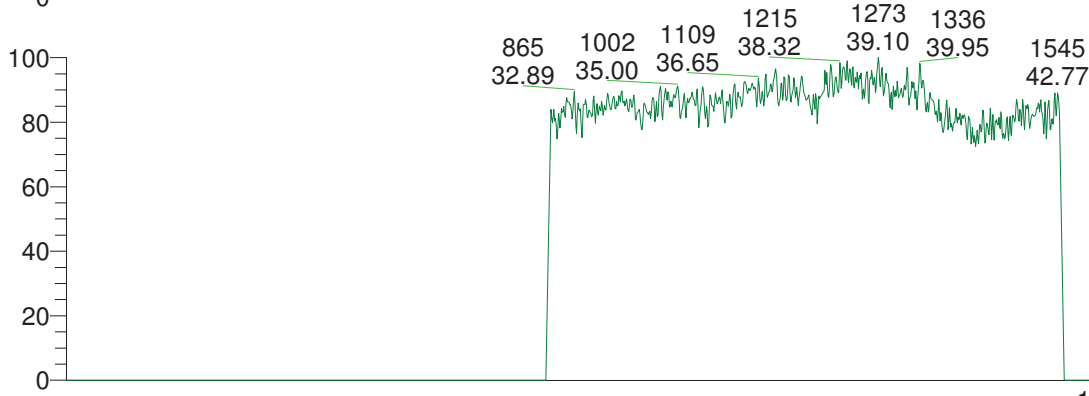
RT: 22.50 - 51.00



NL:  
6.01E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
21



NL:  
4.93E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
21



NL:  
3.43E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
21



NL:  
1.08E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
21

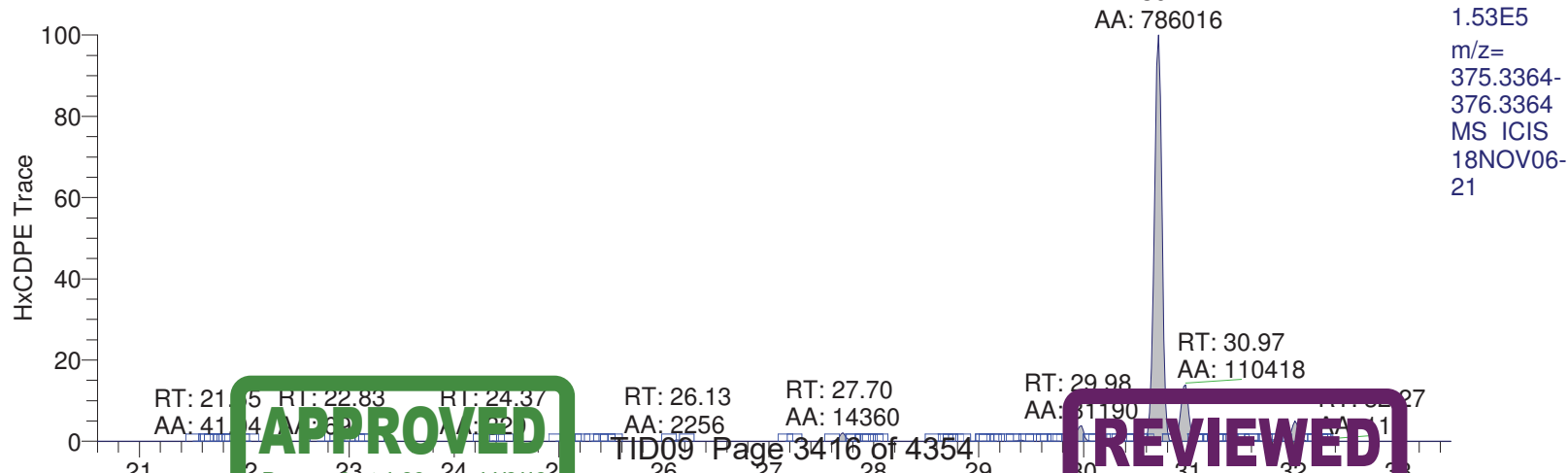
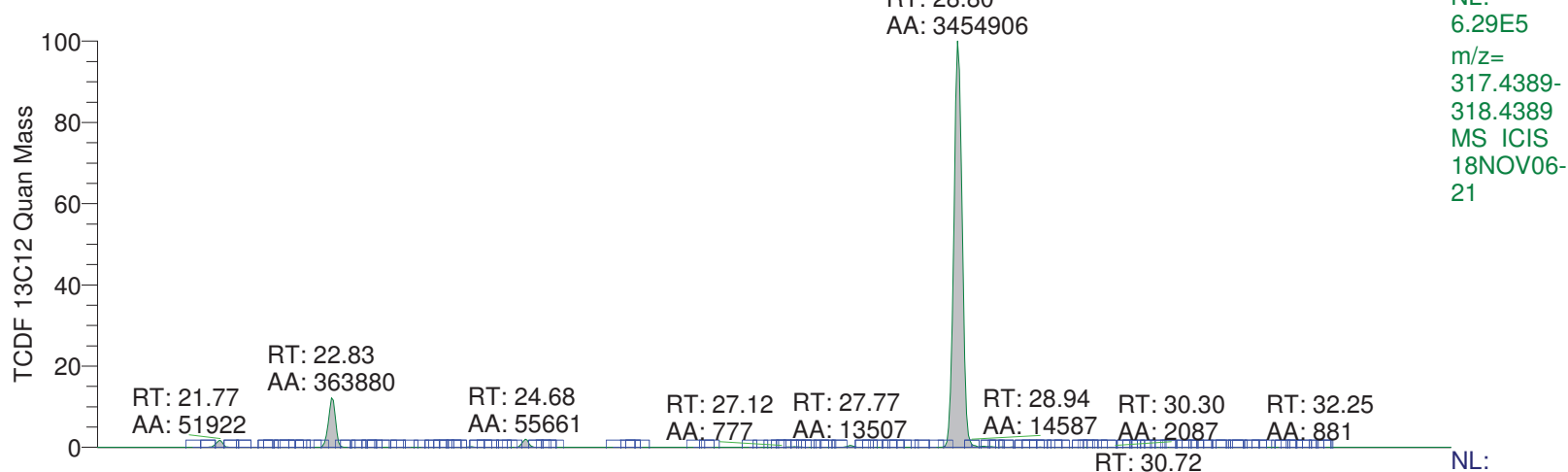
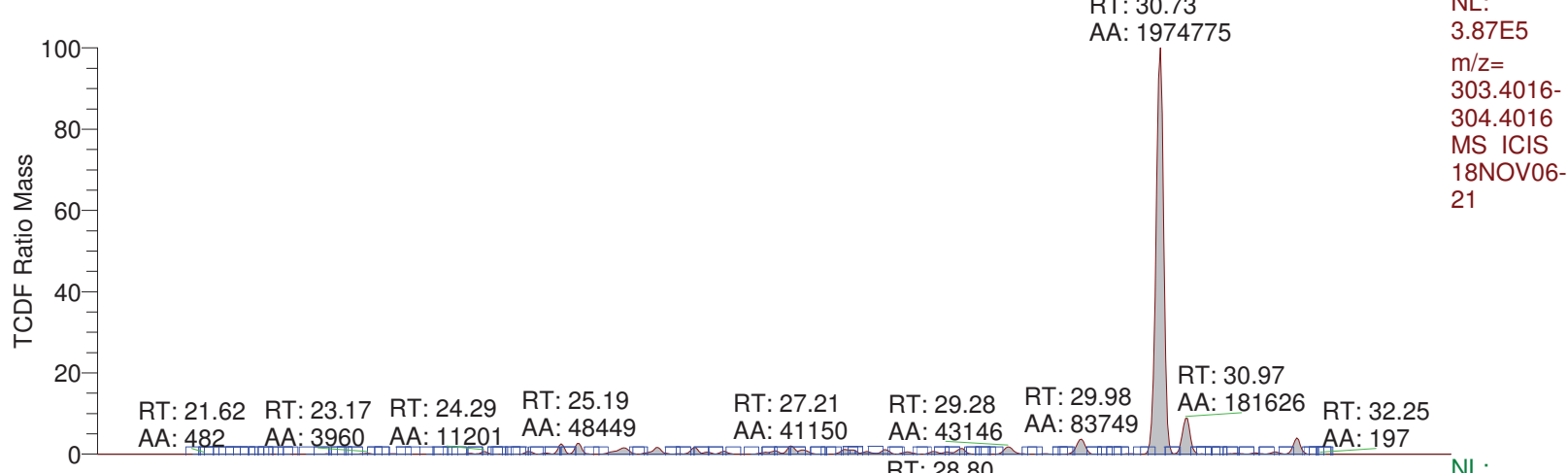
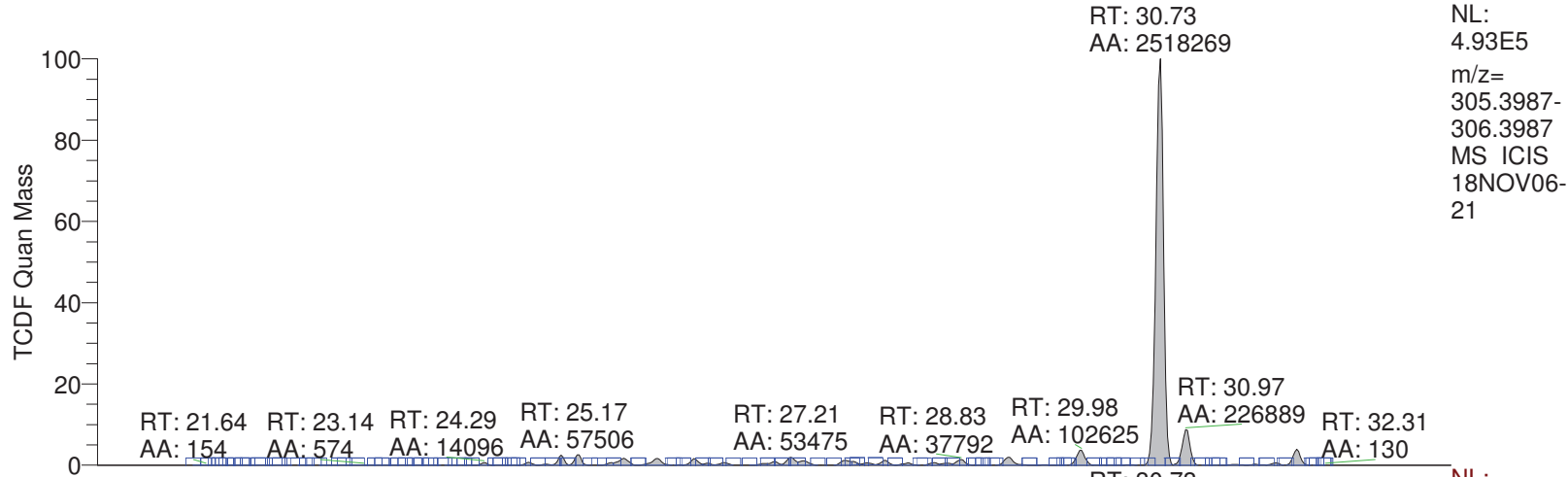


NL:  
1.40E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
21

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

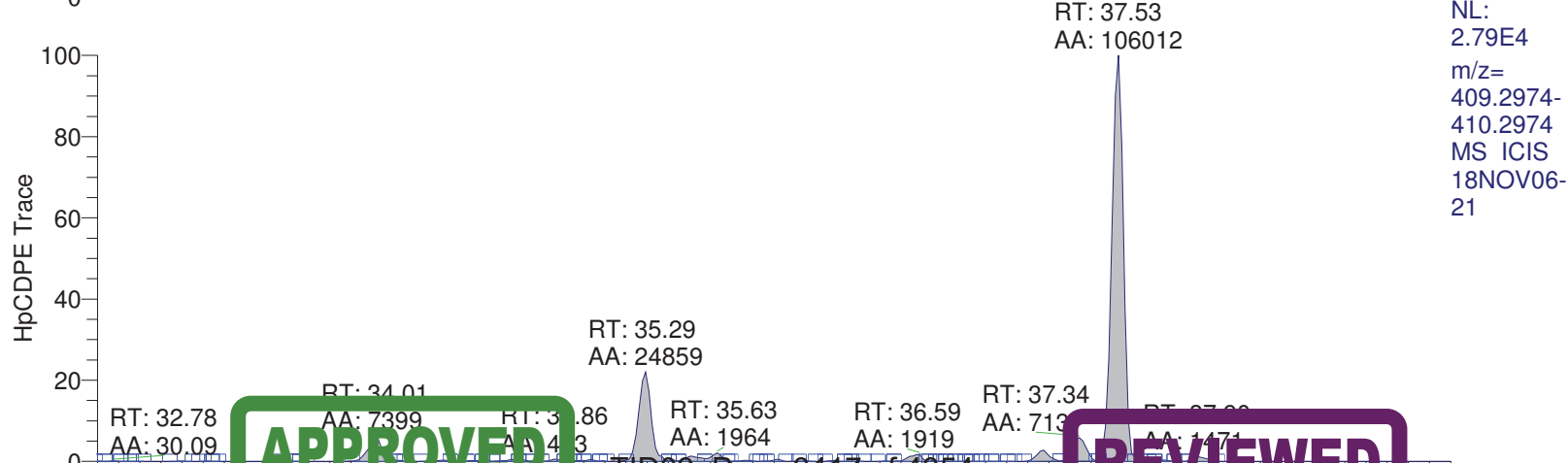
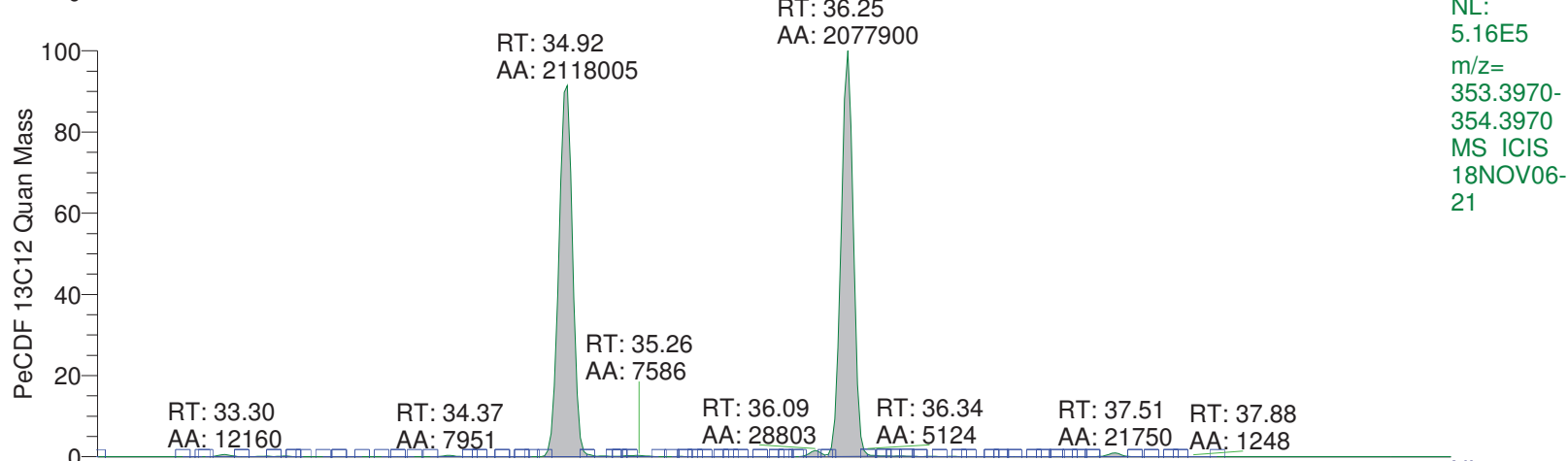
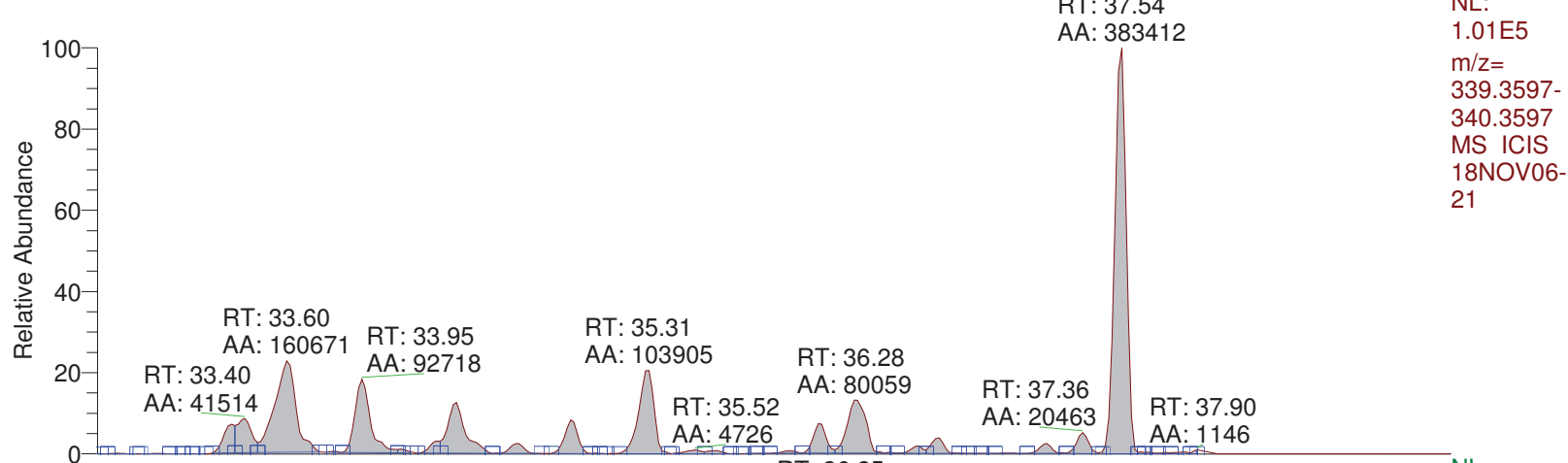
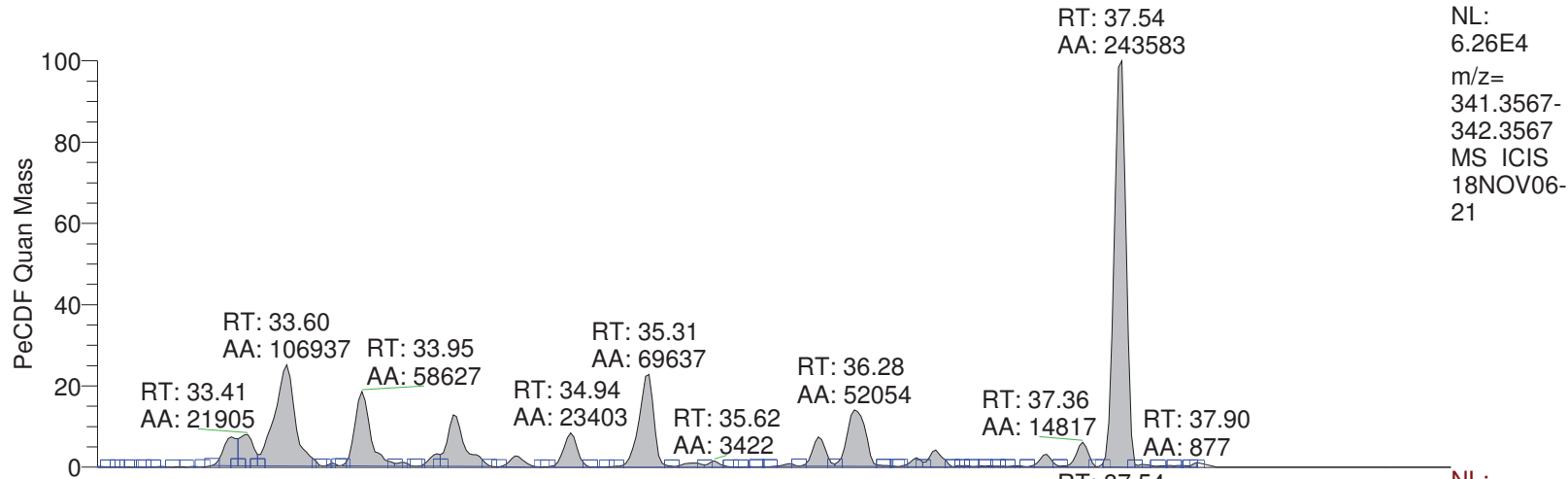
RT: 20.60 - 33.50



**APPROVED**  
By uma at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

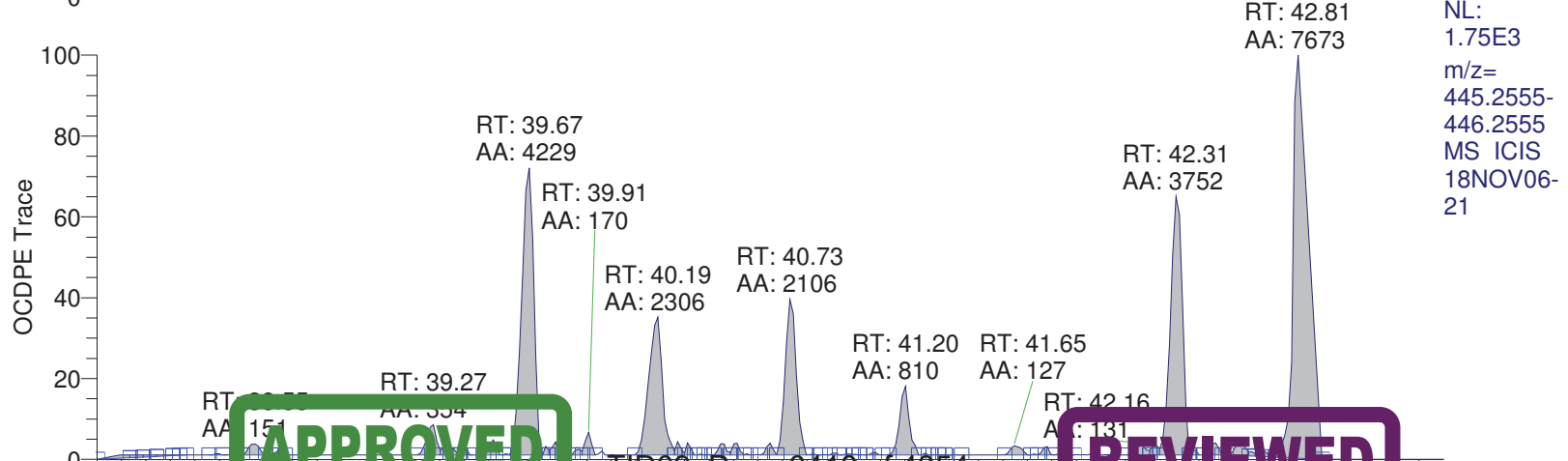
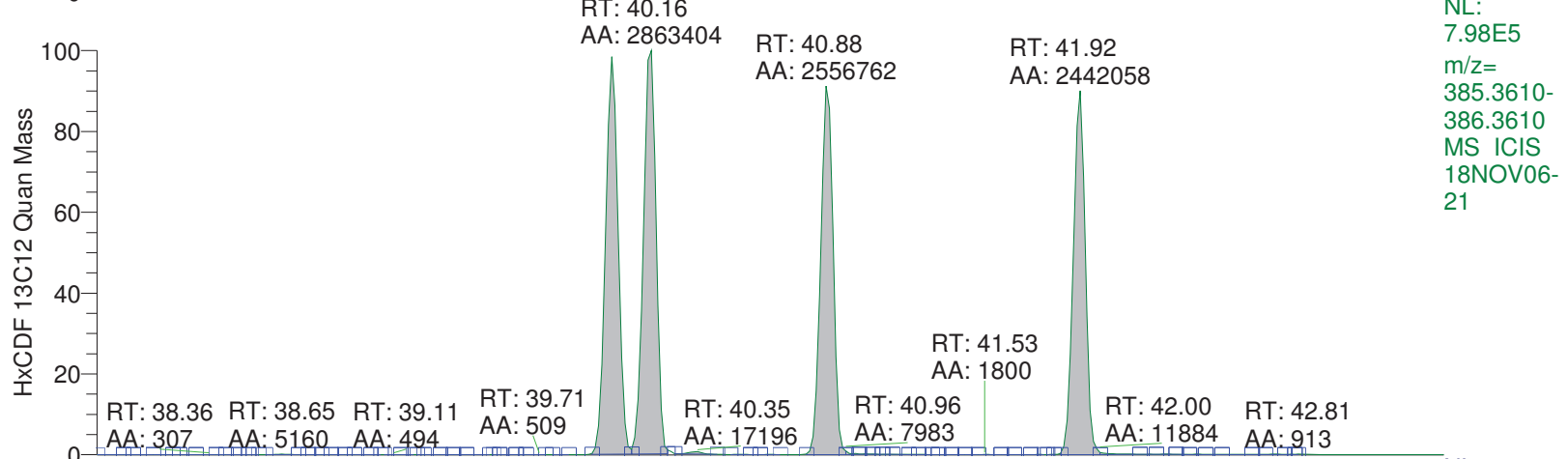
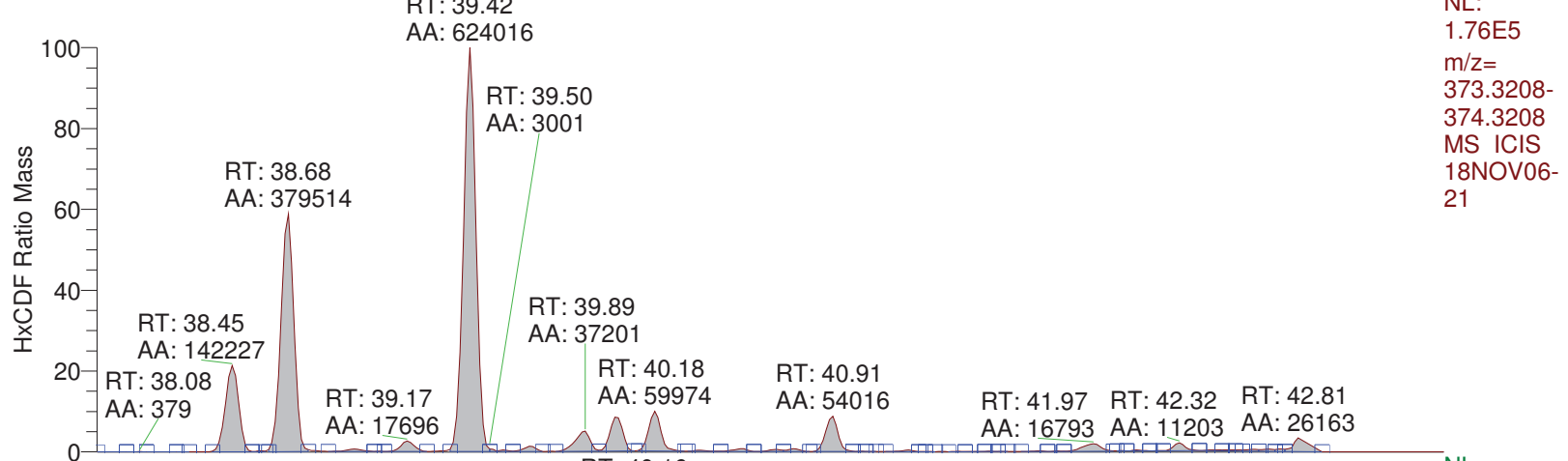
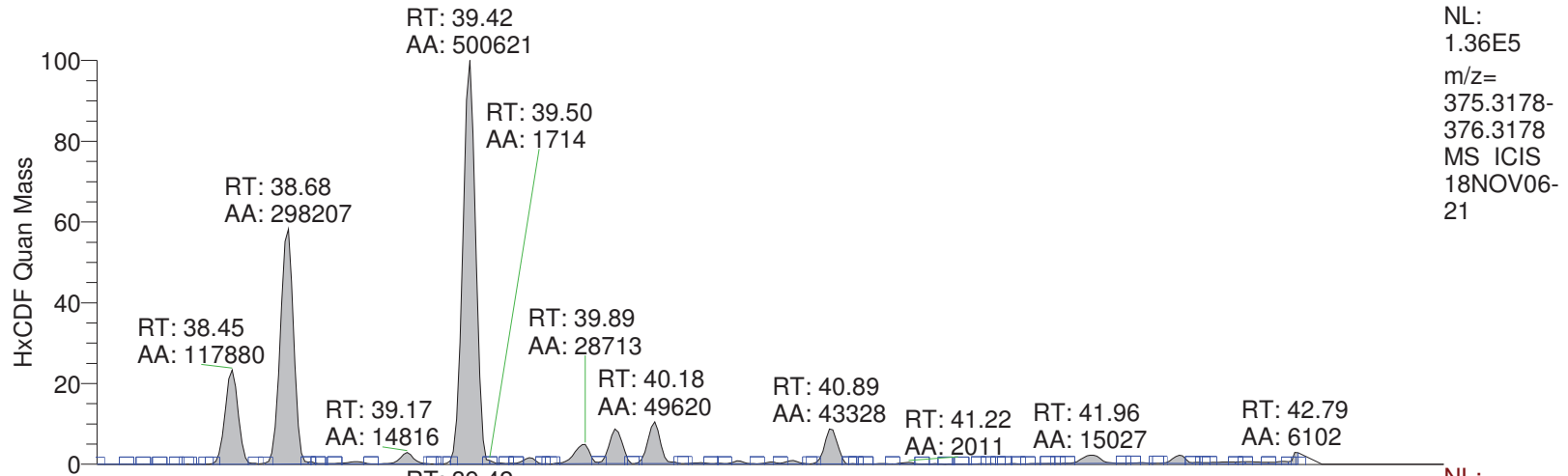
RT: 32.70 - 39.10



**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

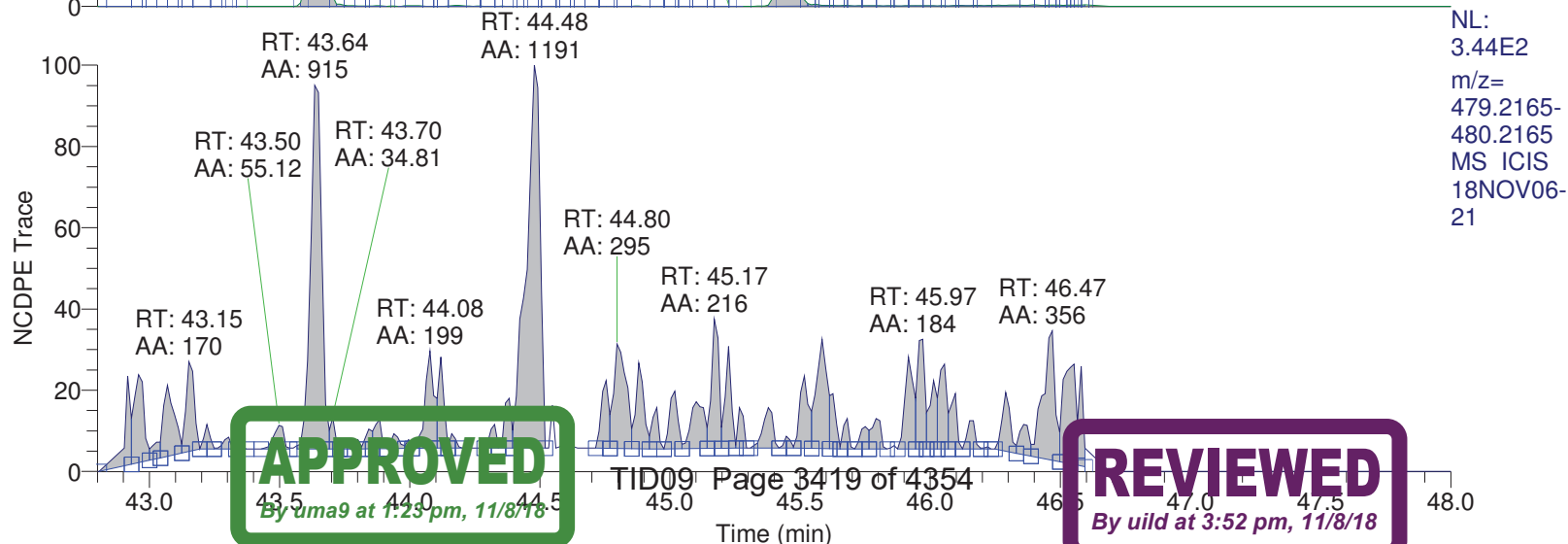
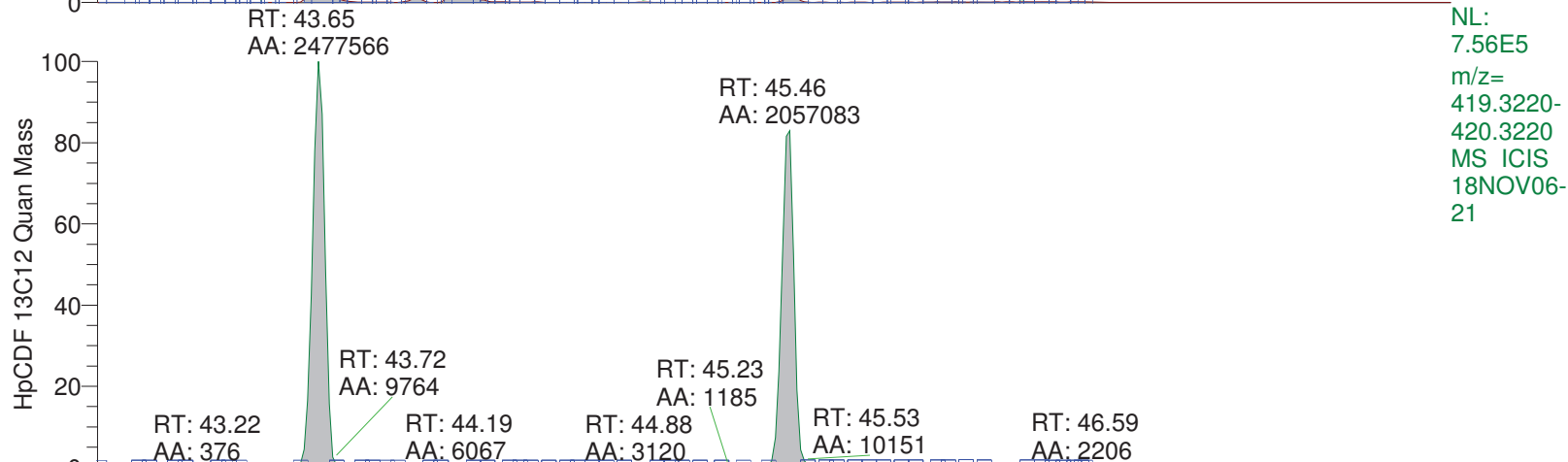
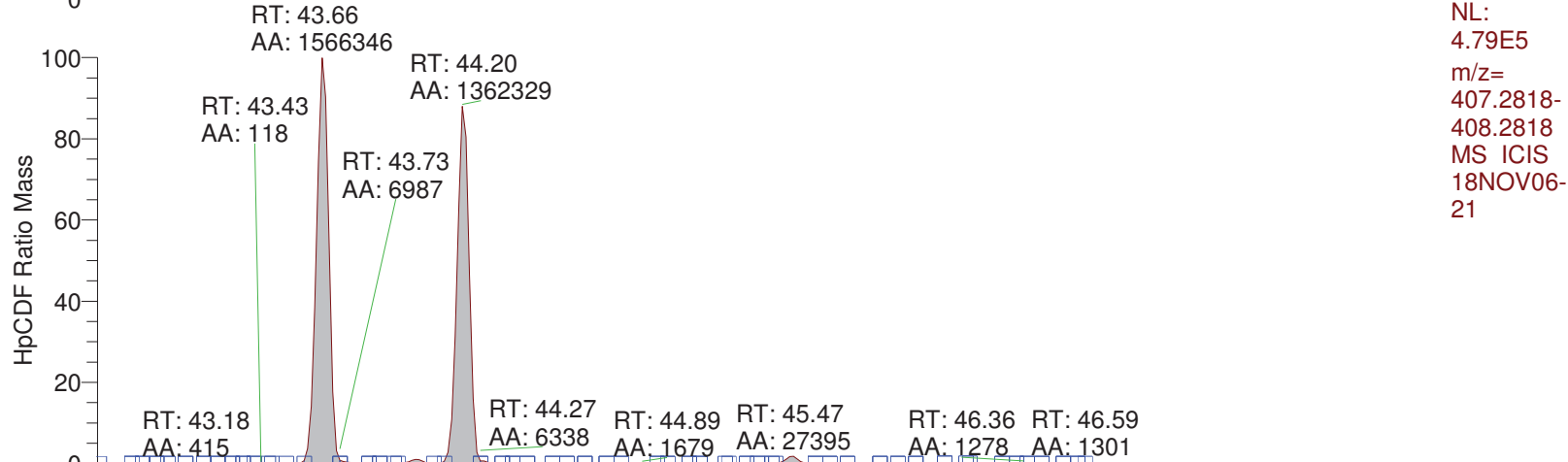
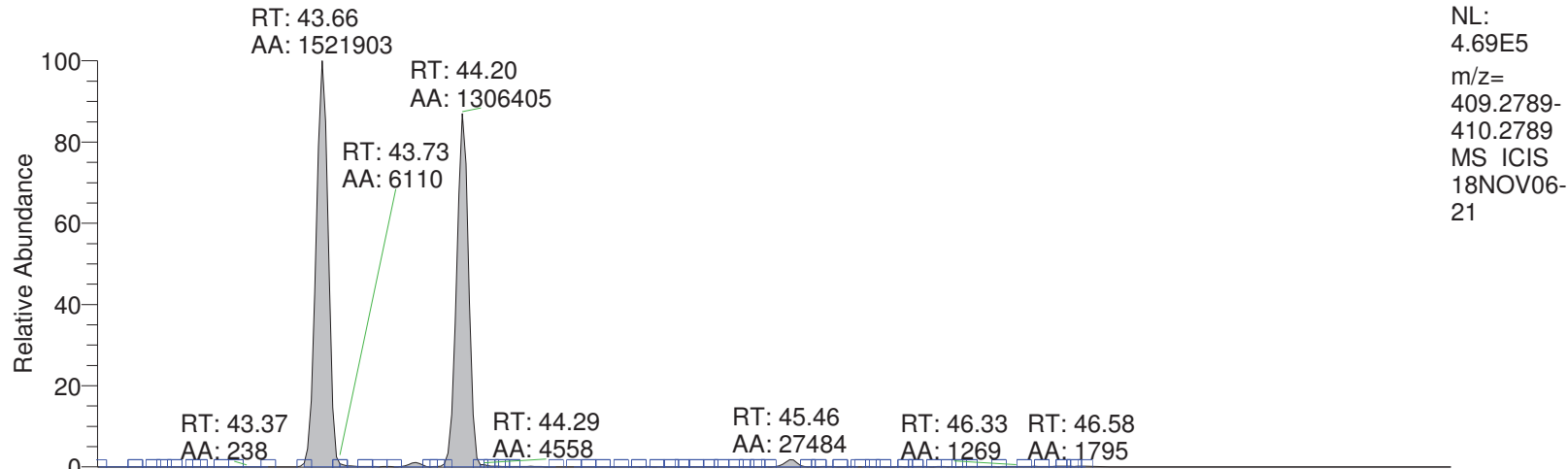
RT: 37.90 - 43.40



**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

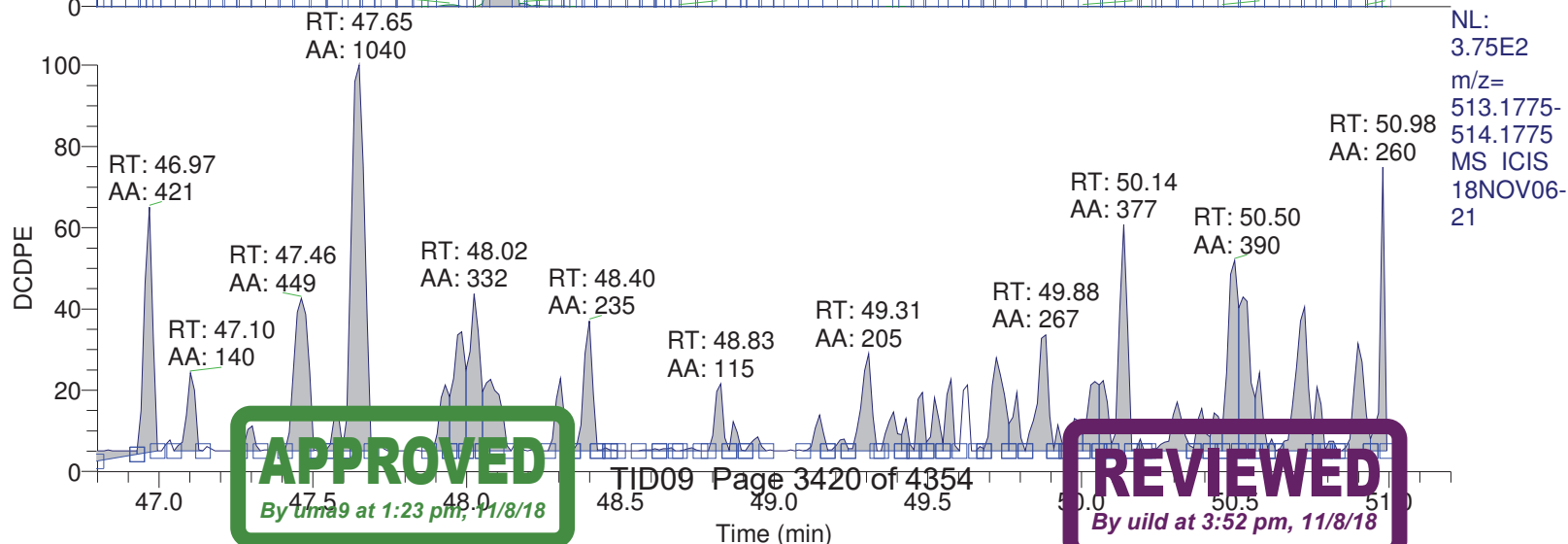
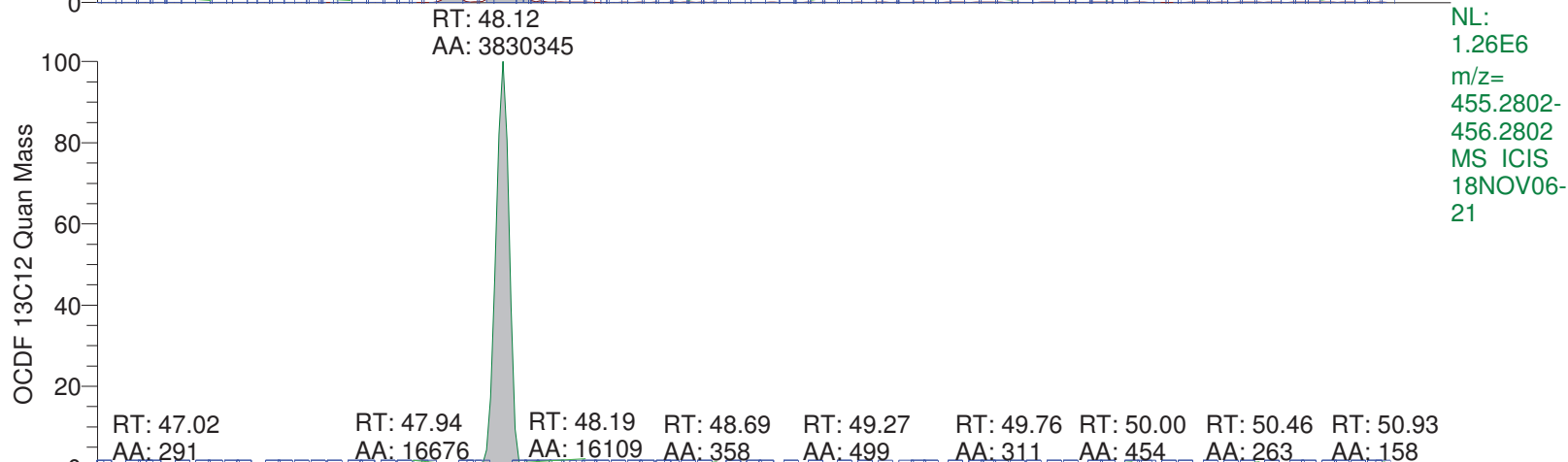
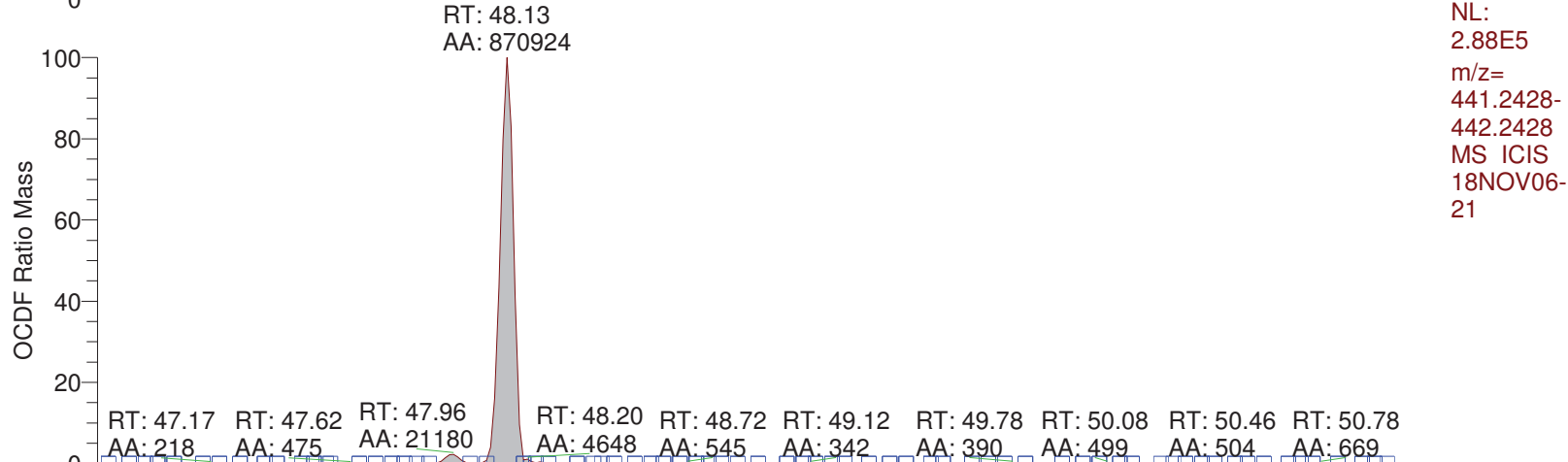
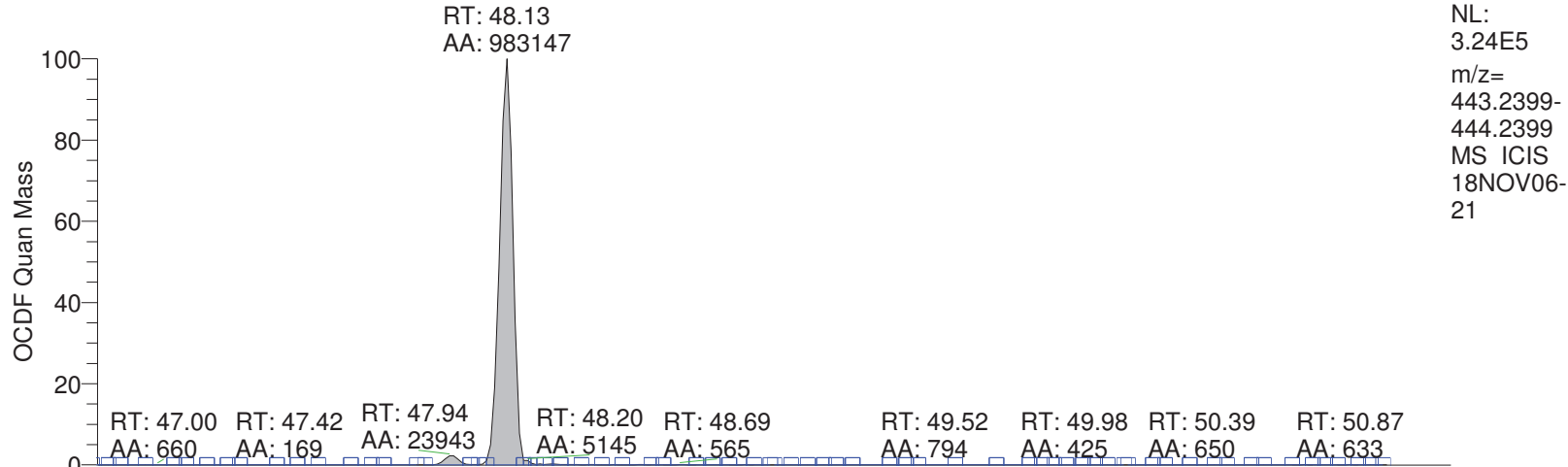
RT: 42.80 - 48.00



**APPROVED**  
By uma9 at 1:25 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

RT: 46.80 - 51.20



**APPROVED**  
By uild at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

\*\*\* file opened wed Nov 07 02:56:24 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 02:56:24

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118





331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



18NOV06-21

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	94.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0185	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	94.0000	LKM	442.9723	MASS	94.0000
MDAC	1388780.0841	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2164.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9827	RELEN	0.0000
RES	13330.8933	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12066.  
MID Time window 2: Resolution is 12670.  
MID Time window 3: Resolution is 12018.  
MID Time window 4: Resolution is 12111.



18NOV06-21

MID Time Window 5: Resolution is 12815.  
MID Time Window 6: Resolution is 13330.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 03:47:26 2018  
\*\*\*



## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 11:22  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 94  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005 Grab Soil  
Sample ID 9866466RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan y:\18nov07conf\18nov07-24.quan  
Data y:\18nov07conf\18nov07-24.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.33  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.73	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.80	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.70	passed	passed	passed	passed	passed	passed	passed

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/08 11:22  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 94  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005 Grab Soil  
Sample ID 9866466RE  
Inst ID DF18471-18NOV07Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

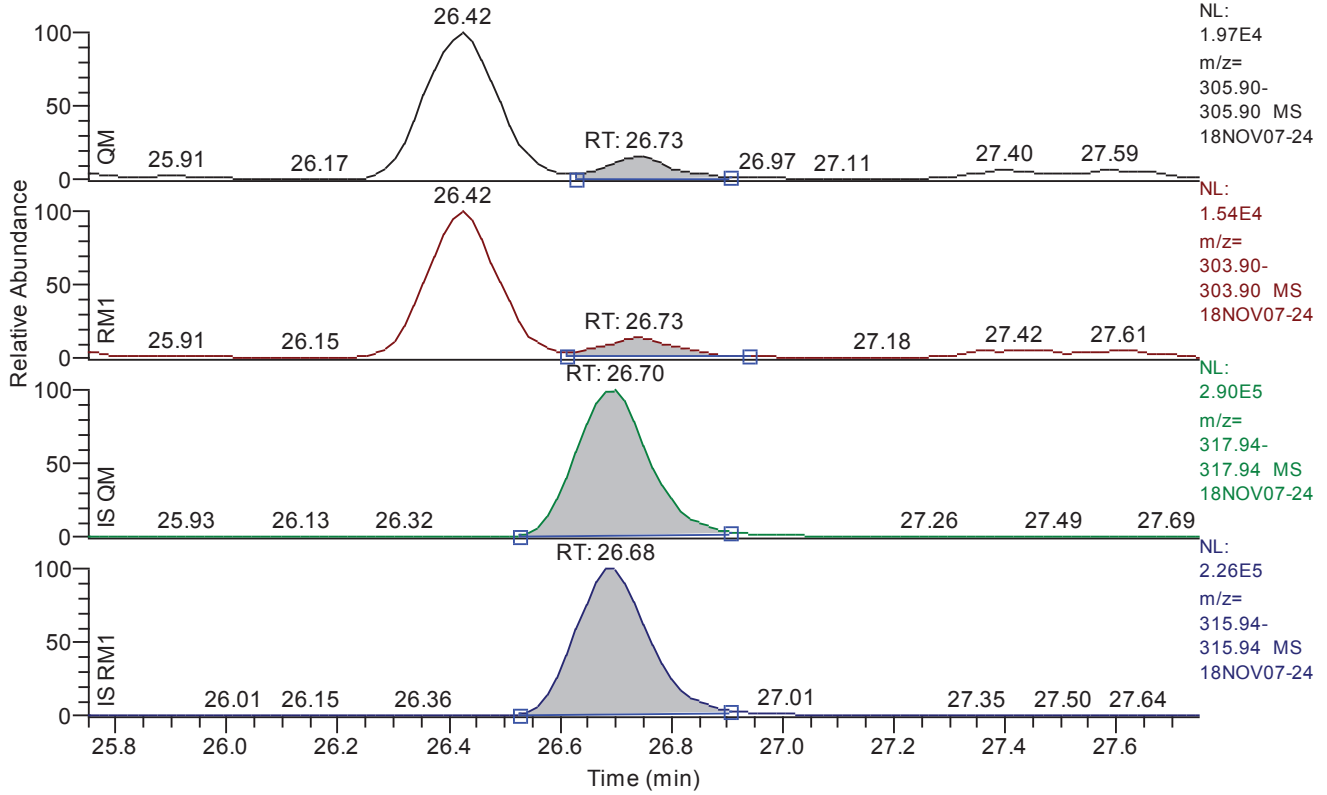
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Data y:\18nov07conf\18nov07-24.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.33  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.75 - 27.75 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.73
QM Area	23213
QM Integration Mode	A
RM1 Area	18098
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1264
Unqualified Amount (A)	1.687360
Adjusted Amount (A)	1.6874
Signal-to-Noise	36
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.73	26.73	26.70	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.80	24.80	24.80	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.70	26.68	26.68	passed	passed



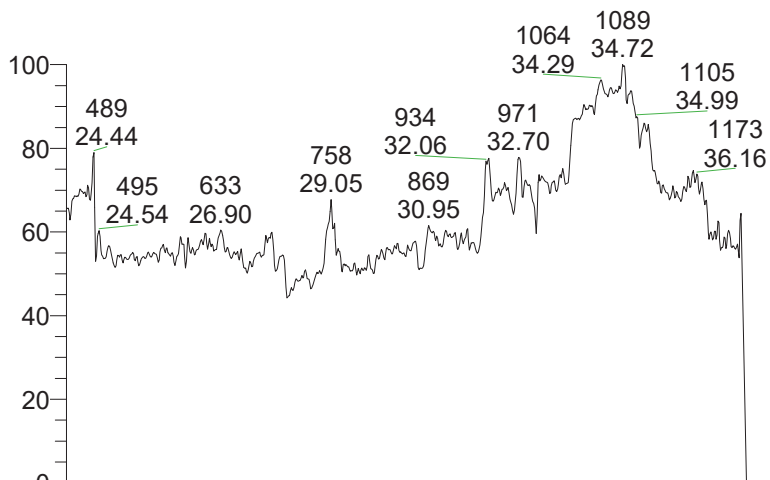
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.73	0.7797	0.6450 - 0.8950	passed	---	0 - 0	passed
2	13C12-1234-TCDD	24.80	0.7890	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.70	0.7753	0.6450 - 0.8950	passed	47.17	40 - 135	passed

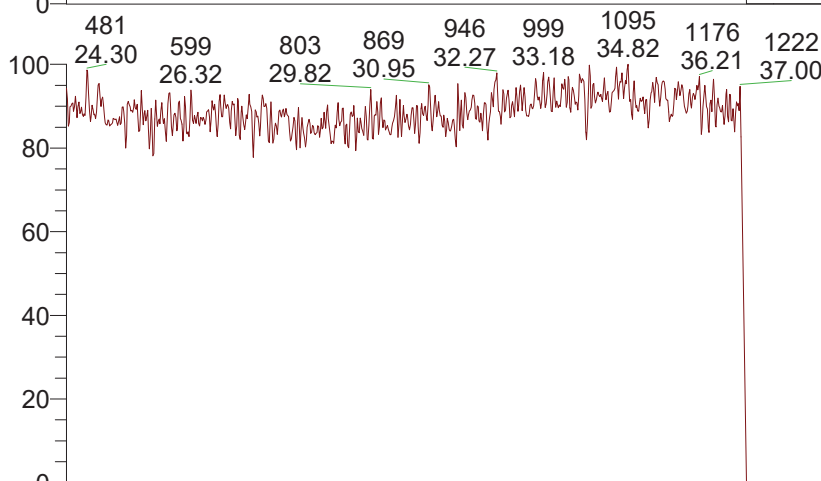
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.73	23213	A	18098	A	0.1264	1.687360	1.6874	0.000000	36	
2	13C12-1234-TCDD	passed	24.80	2707176	A	2135892	A	0.0742	193.610842	193.6108	193.610842	6519	
3	13C12-2378-TCDF	passed	26.70	2622522	A	2033327	A	0.0317	91.333790	91.3338	193.610842	6579	

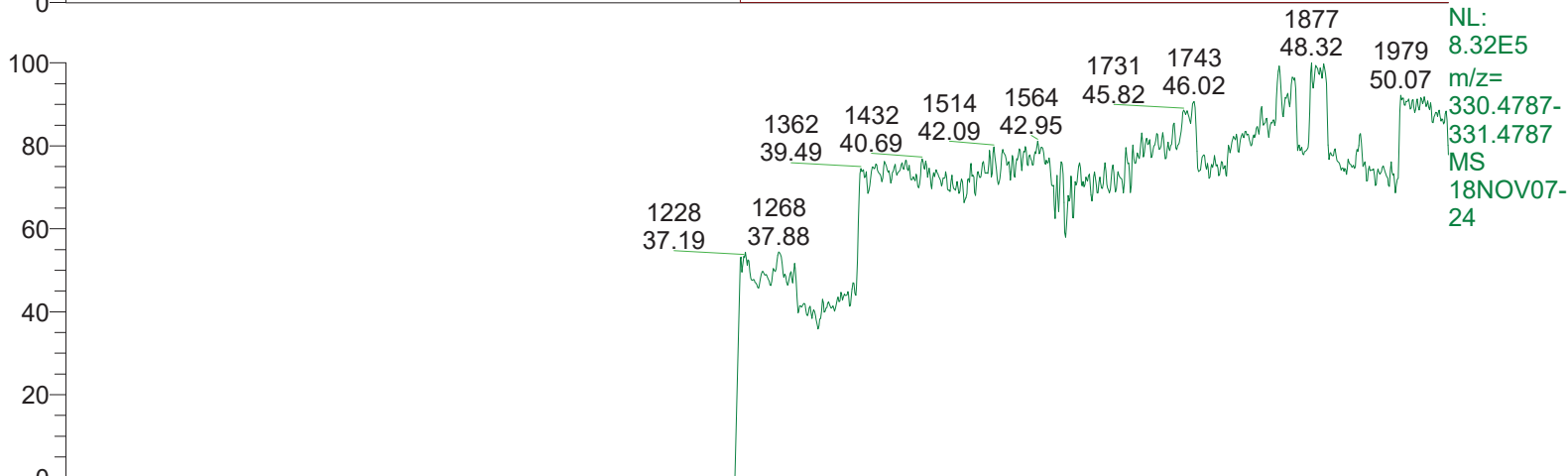
RT: 23.90 - 51.00



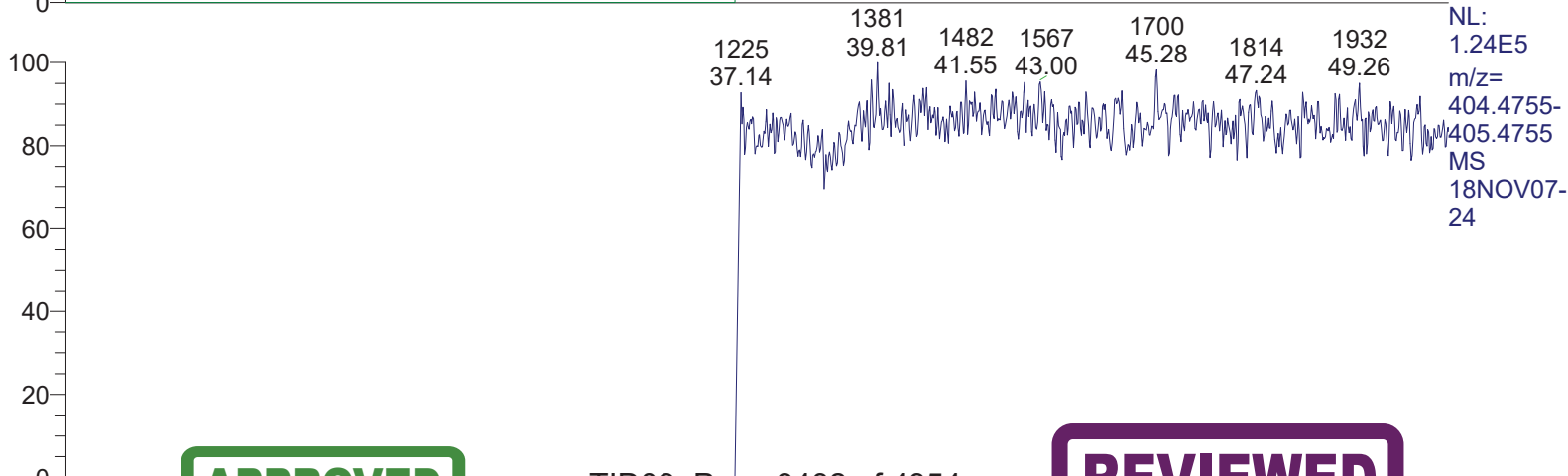
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281.4189  
MS  
18NOV07-  
24



NL:  
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m/z=  
354.4787-  
355.4787  
MS  
18NOV07-  
24



NL:  
8.32E5  
m/z=  
330.4787-  
331.4787  
MS  
18NOV07-  
24



NL:  
1.24E5  
m/z=  
404.4755-  
405.4755  
MS  
18NOV07-  
24

**APPROVED**  
By AQ46 at 5:57 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

\*\*\* file opened Thu Nov 08 11:26:40 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 11:26:39

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : bce4b446-66cb-4726-8420-7cad754e9ebc

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	95.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0372	FVSR	0.0333
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	95.0000	LKM	330.9792	MASS	95.0000
MDAC	919599.5147	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9709	RELEN	0.0000
RES	12578.9065	RPUSHER	-15.7875	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.0000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.3e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11983.  
MID Time Window 2: Resolution is 12578.

Amplifier offset: 88.



18NOV07-24  
\*\*\* File closed Thu Nov 08 12:19:12 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/07 12:35  
Number of Entries 249  
Comment S:11030:12937:17962  
Vial 69  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005-DUP Grab Soil  
Sample ID 9866467RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

#### Files Parameter

Quan w:\18nov06\18nov06-32.quan  
Data w:\18nov06\18nov06-32.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.01  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



Entry Parameters

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.94	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	34.96	passed	passed	passed	passed	passed	passed	
4	23478-PeCDF	36.30	passed	passed	passed	passed	passed	passed	
5	12378-PeCDD	36.69	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	40.04	passed	passed	passed	passed	passed	passed	
7	123678-HxCDF	40.20	passed	passed	passed	passed	passed	passed	
8	234678-HxCDF	40.92	passed	passed	passed	passed	passed	passed	
9	123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	
10	123678-HxCDD	41.24	passed	passed	passed	passed	passed	passed	
11	123789-HxCDD	41.55	passed	passed	passed	passed	passed	passed	
12	123789-HxCDF	41.99	passed	passed	passed	passed	passed	passed	
13	1234678-HpCDF	43.69	passed	passed	passed	passed	passed	passed	
14	1234678-HpCDD	44.90	passed	passed	passed	passed	passed	passed	
15	1234789-HpCDF	45.48	passed	passed	passed	passed	passed	passed	
16	OCDD	47.97	passed	passed	passed	passed	passed	passed	
17	OCDF	48.15	passed	passed	passed	passed	passed	passed	
18	13C12-1278-TCDD (CRS)	30.37	passed	passed	passed	passed	passed	passed	
19	13C12-1234-TCDD	29.07	passed	passed	passed	passed	passed	passed	
20	13C12-123468-HxCDD	39.93	passed	passed	passed	passed	passed	passed	
21	13C12-2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	
22	13C12-2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	
23	13C12-12378-PeCDF	34.93	passed	passed	passed	passed	passed	passed	
24	13C12-23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	
25	13C12-12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	
26	13C12-123478-HxCDF	40.03	passed	passed	passed	passed	passed	passed	
27	13C12-123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	
28	13C12-234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	
29	13C12-123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	
30	13C12-123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	
31	13C12-123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	
32	13C12-123789-HxCDF	41.94	passed	passed	passed	passed	passed	passed	
33	13C12-1234678-HpCDF	43.67	passed	passed	passed	passed	passed	passed	
34	13C12-1234678-HpCDD	44.90	passed	passed	passed	passed	passed	passed	
35	13C12-1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	
36	13C12-OCDD	47.95	passed	passed	passed	passed	passed	passed	
37	13C12-OCDF	48.14	passed	passed	passed	passed	passed	passed	





## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/07 12:35  
Number of Entries 249  
Comment S:11030:12937:17962  
Vial 69  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005-DUP Grab Soil  
Sample ID 9866467RE  
Inst ID DF17280-18NOV06  
Client Tidewater Inc.  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

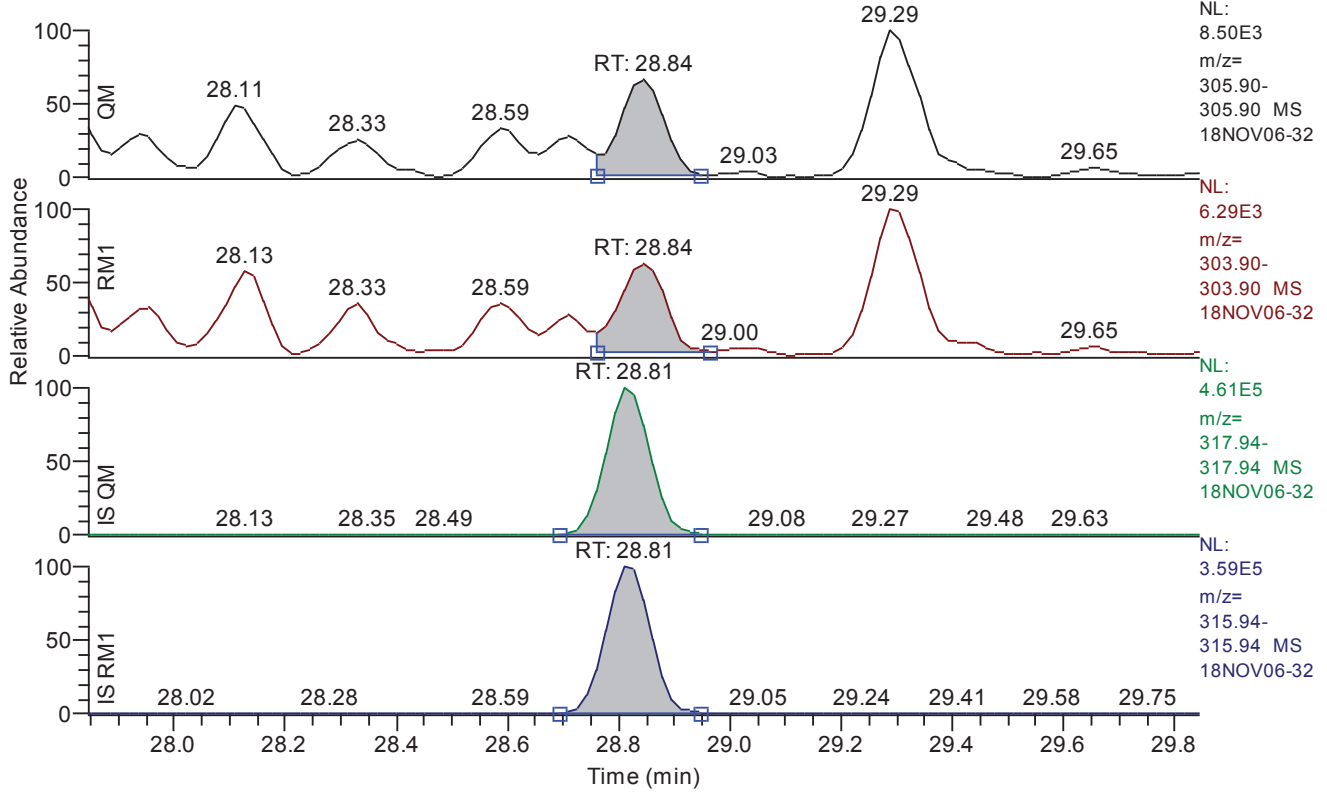
Quan w:\18nov06\18nov06-32.quan  
Data w:\18nov06\18nov06-32.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.01  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.84 - 29.84 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

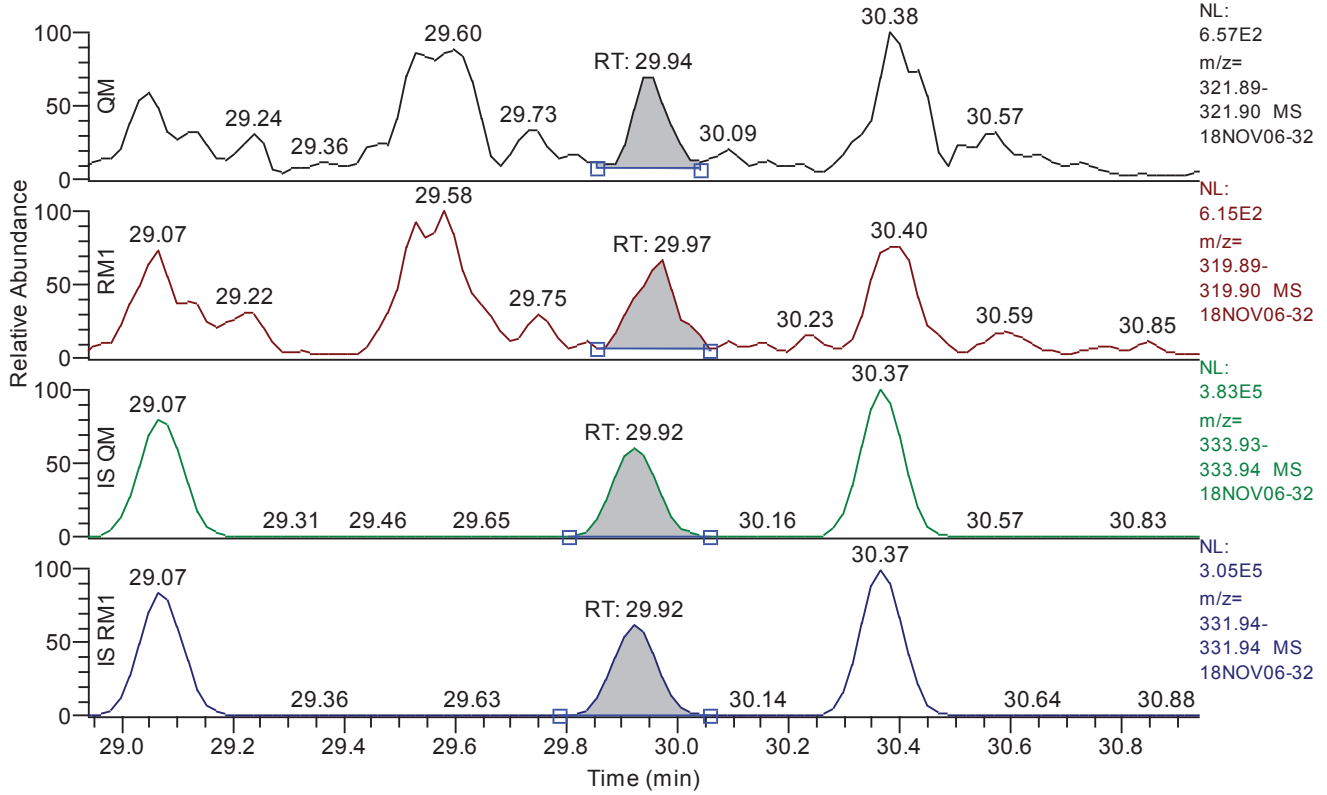
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	31097
QM Integration Mode	A
RM1 Area	22361
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0904
Unqualified Amount (A)	2.501576
Adjusted Amount (A)	2.5016
Signal-to-Noise	69
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 28.94 - 30.94 SM: 3G



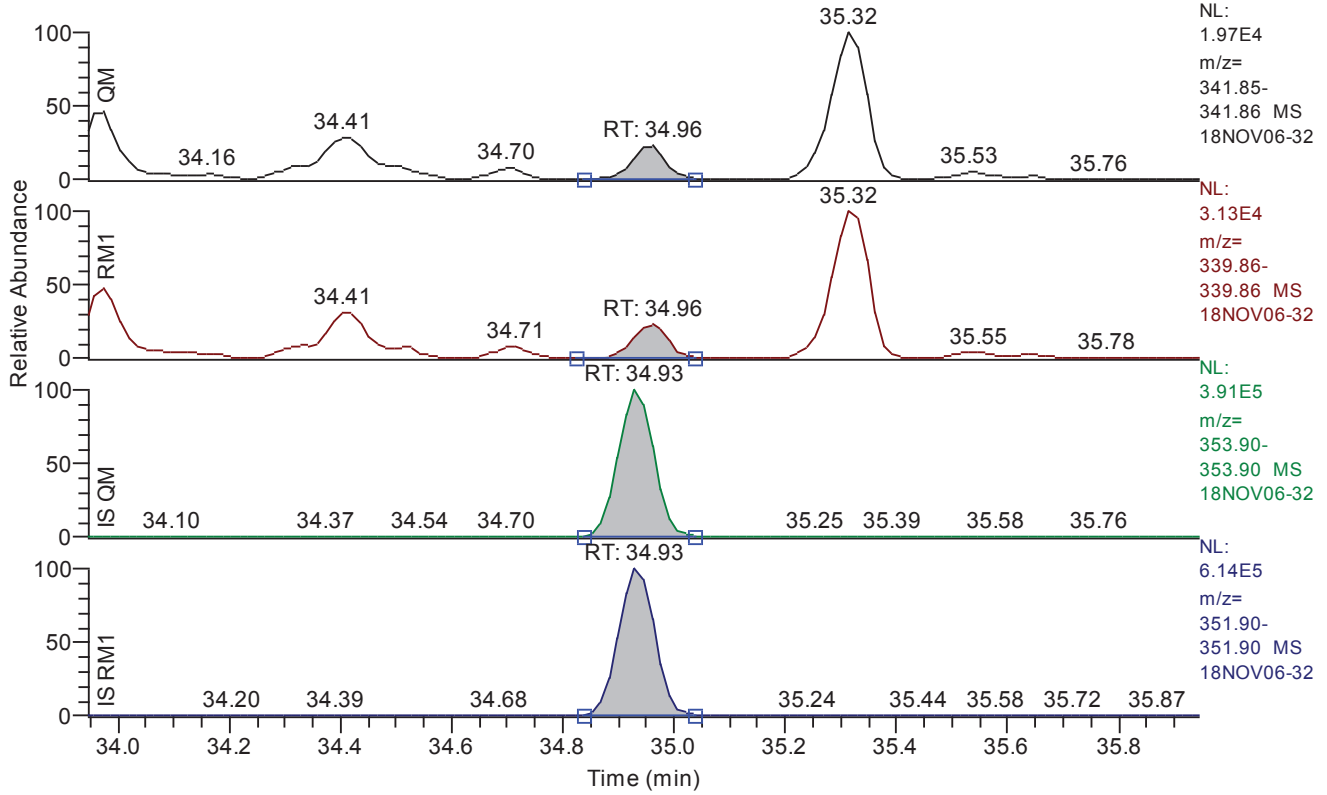
Entry: 2378-tcdd IS: 13C12-2378-TCDD

**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.94
QM Area	1927
QM Integration Mode	A
RM1 Area	2023
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0540
Unqualified Amount (A)	0.292320
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 33.95 - 35.95 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

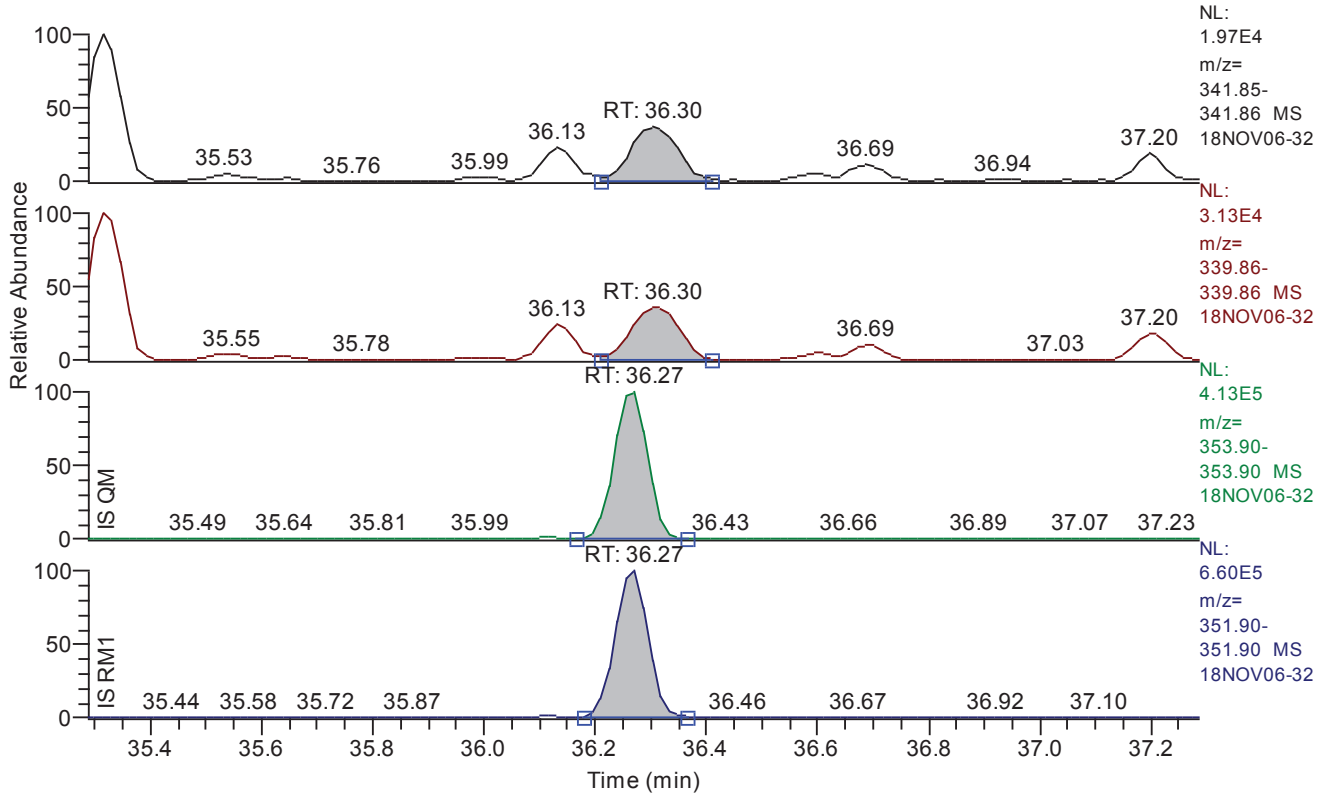
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.96
QM Area	18744
QM Integration Mode	A
RM1 Area	32557
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0419
Unqualified Amount (A)	2.665439
Adjusted Amount (A)	2.6654
Signal-to-Noise	165
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.29 - 37.29 SM: 3G



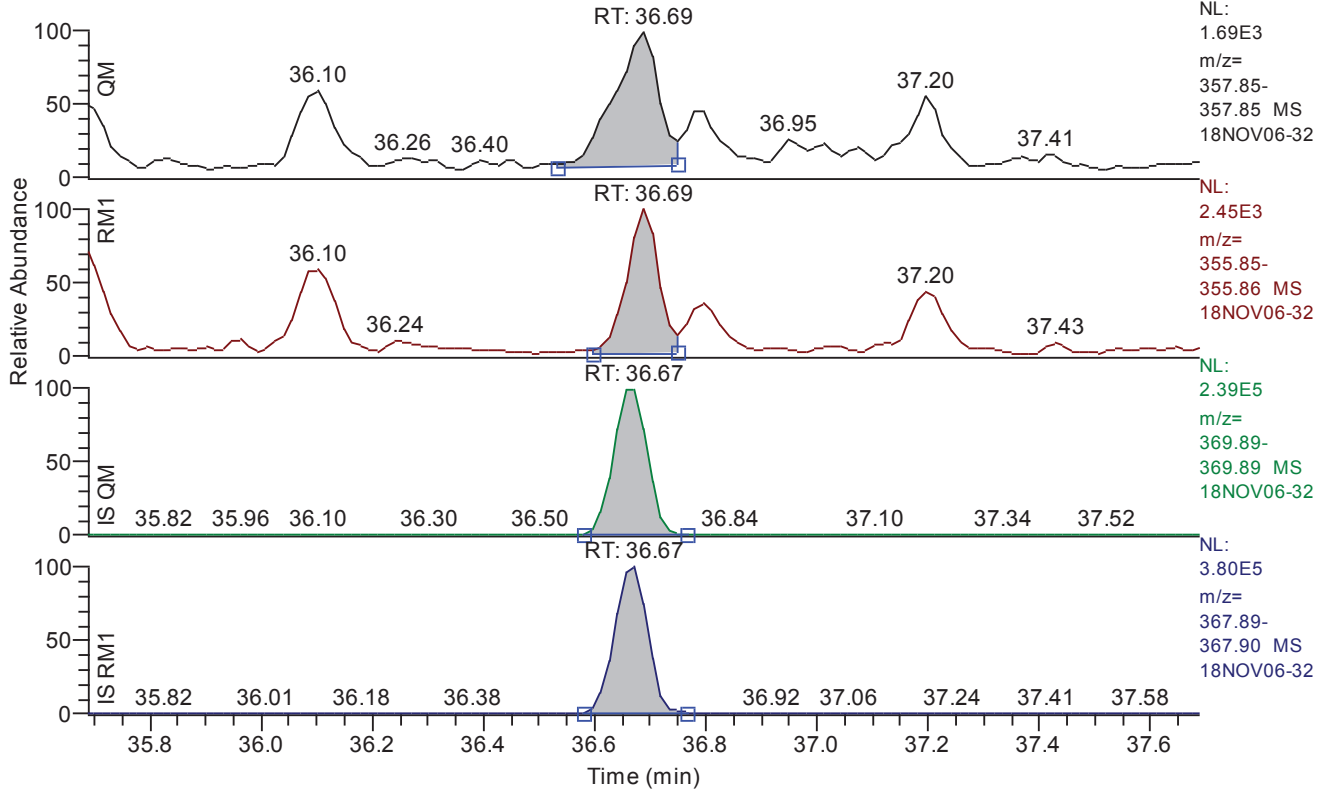
Entry: 23478-pecdf IS: 13C12-23478-PeCDF

**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.30
QM Area	41699
QM Integration Mode	A
RM1 Area	66270
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0351
Unqualified Amount (A)	5.073419
Adjusted Amount (A)	5.0734
Signal-to-Noise	256
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.69 - 37.69 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

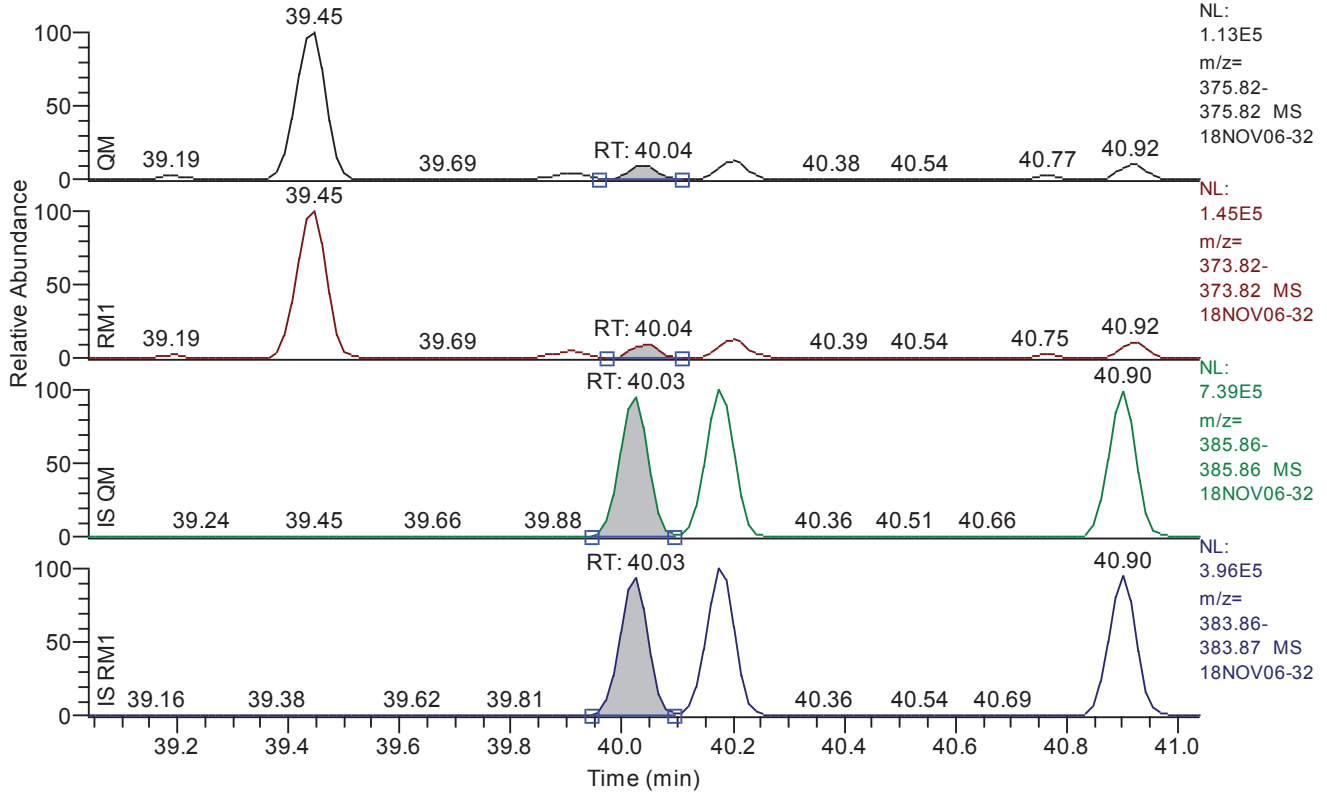
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.69
QM Area	8492
QM Integration Mode	A
RM1 Area	9537
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0814
Unqualified Amount (A)	1.554800
Adjusted Amount (A)	n.d.
Signal-to-Noise	44
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Chromatogram**

RT: 39.04 - 41.04 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

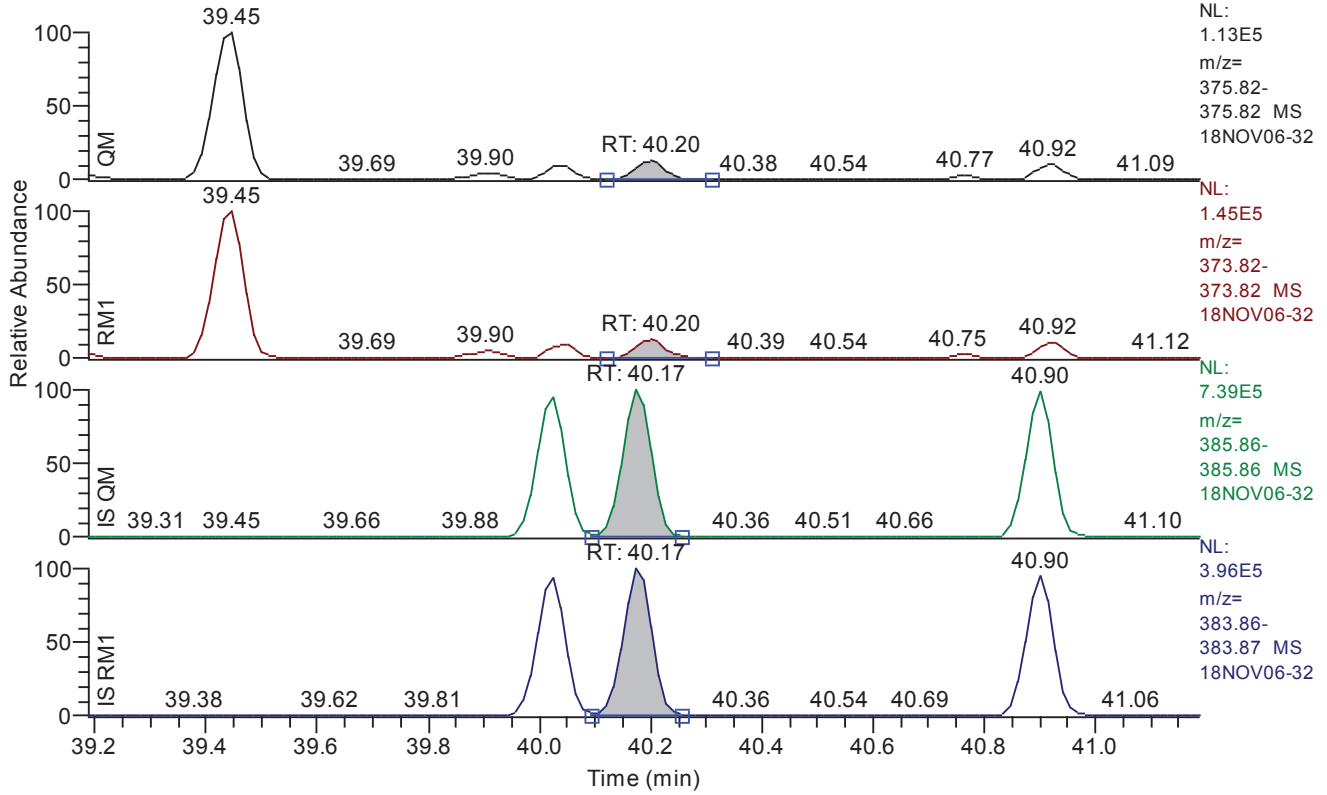
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.04
QM Area	40389
QM Integration Mode	A
RM1 Area	49379
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0442
Unqualified Amount (A)	4.383249
Adjusted Amount (A)	4.3832
Signal-to-Noise	246
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.19 - 41.19 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

**Entry Parameters**

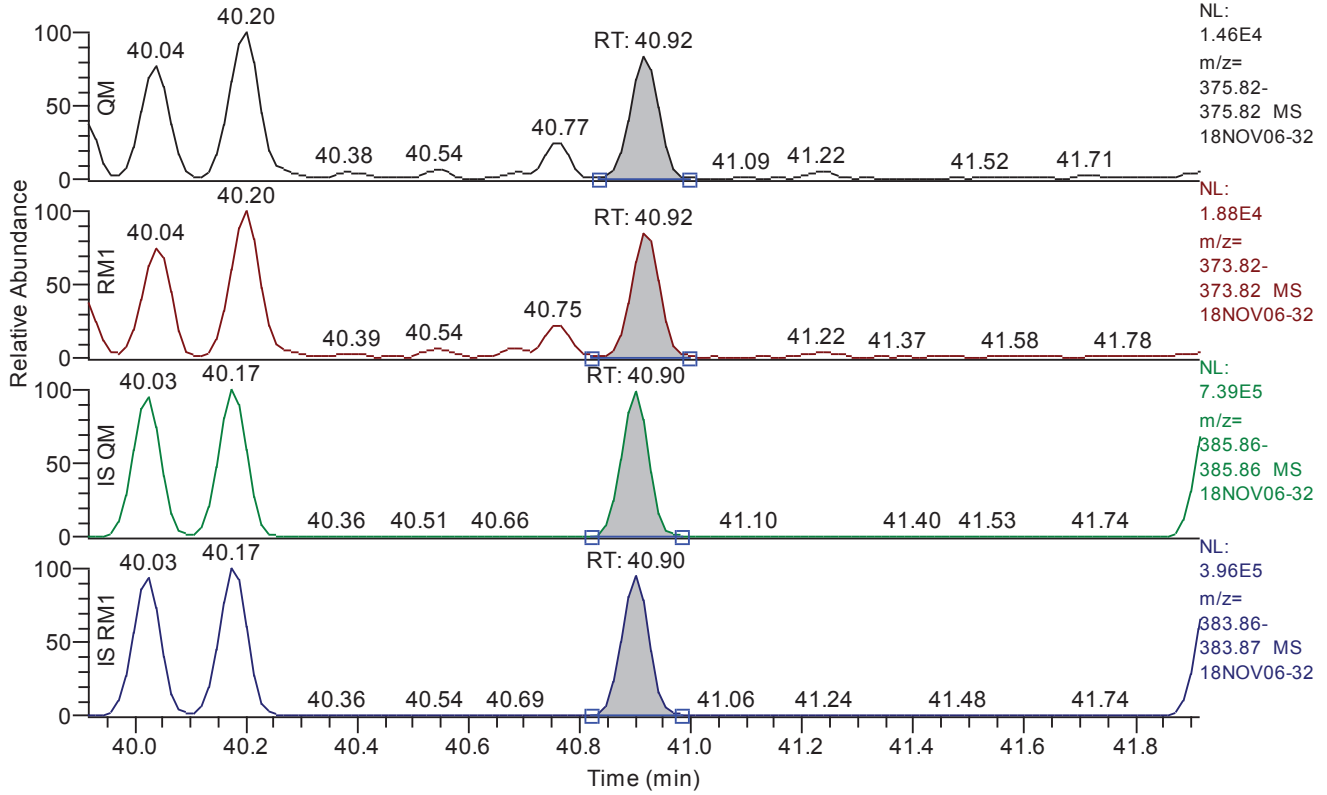
Compound Name	123678-HxCDF
QM Retention Time	40.20
QM Area	55831
QM Integration Mode	A
RM1 Area	68518
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	5.831424
Adjusted Amount (A)	5.8314
Signal-to-Noise	324
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 39.92 - 41.92 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

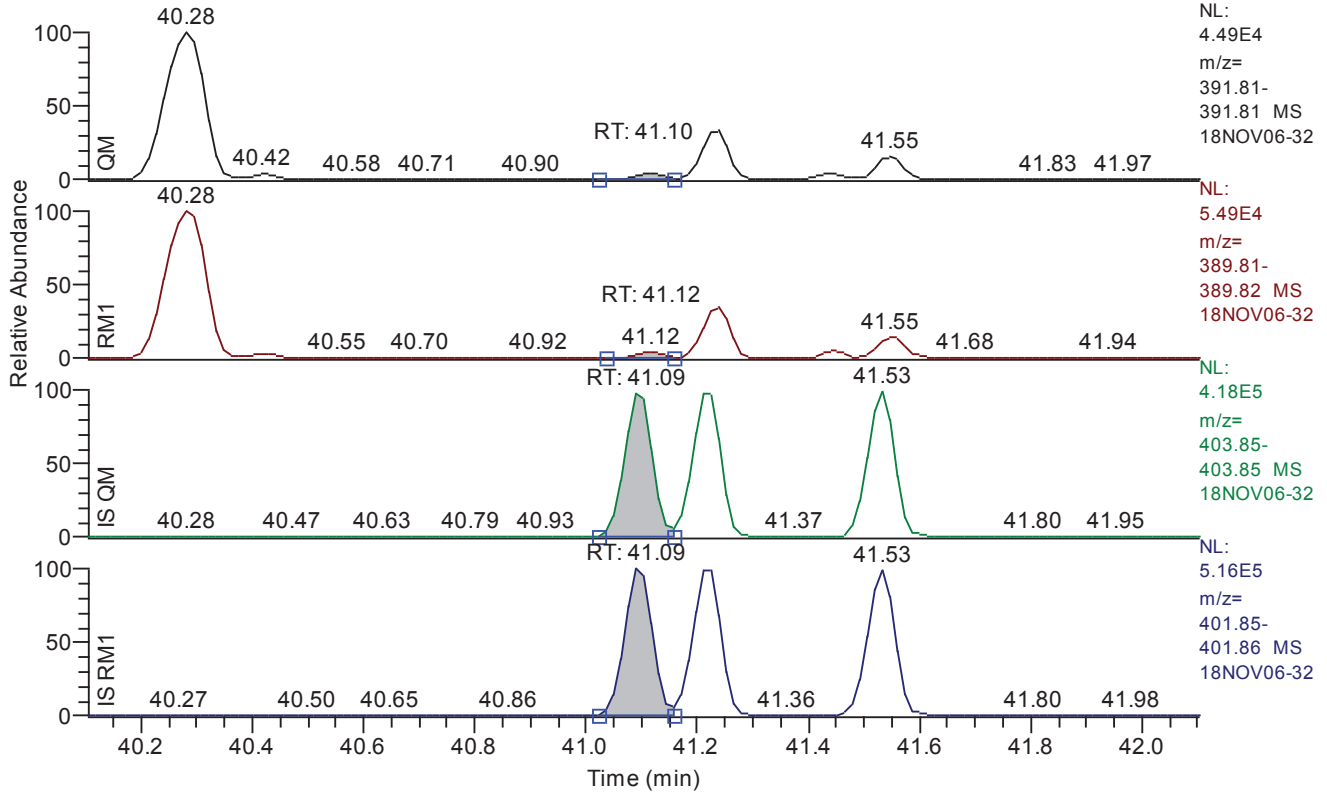
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.92
QM Area	43611
QM Integration Mode	A
RM1 Area	56592
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0412
Unqualified Amount (A)	4.757936
Adjusted Amount (A)	4.7579
Signal-to-Noise	275
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.10 - 42.10 SM: 3G



Entry: 123478-hxcd IS: 13C12-123478-HxCDD

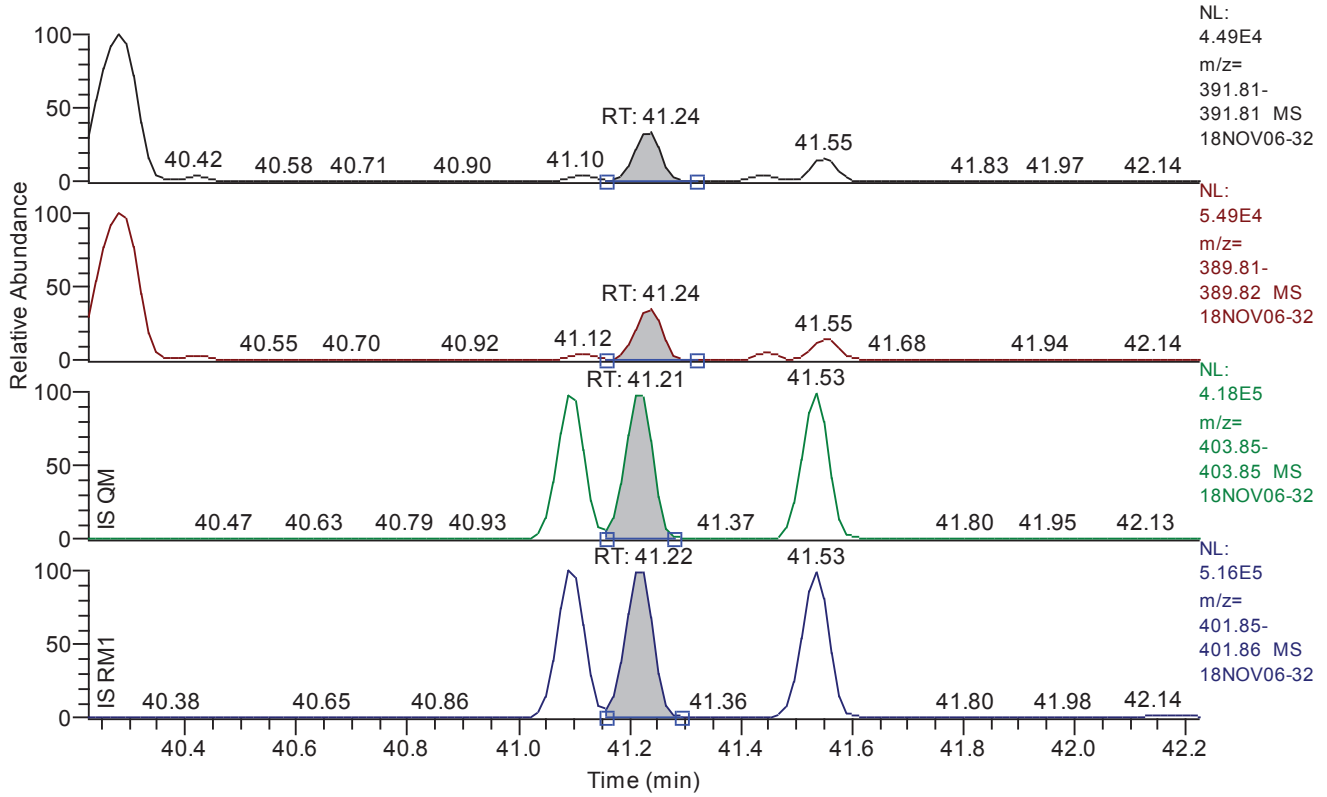
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	6798
QM Integration Mode	A
RM1 Area	8697
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0511
Unqualified Amount (A)	1.055806
Adjusted Amount (A)	1.0558
Signal-to-Noise	52
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.22 - 42.22 SM: 3G



Entry: 123678-hxcd IS: 13C12-123678-HxCDD

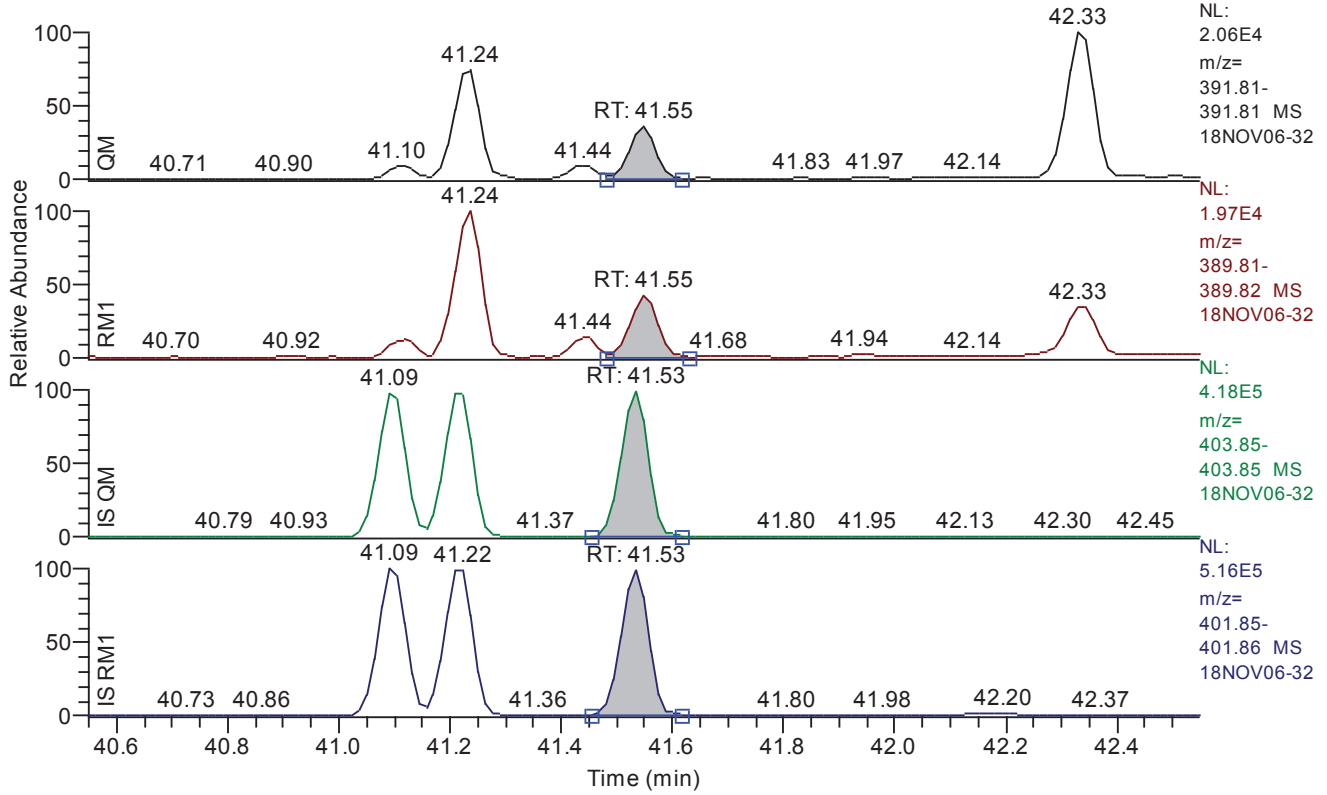
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.24
QM Area	51290
QM Integration Mode	A
RM1 Area	66239
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0518
Unqualified Amount (A)	8.055176
Adjusted Amount (A)	8.0552
Signal-to-Noise	403
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.55 - 42.55 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

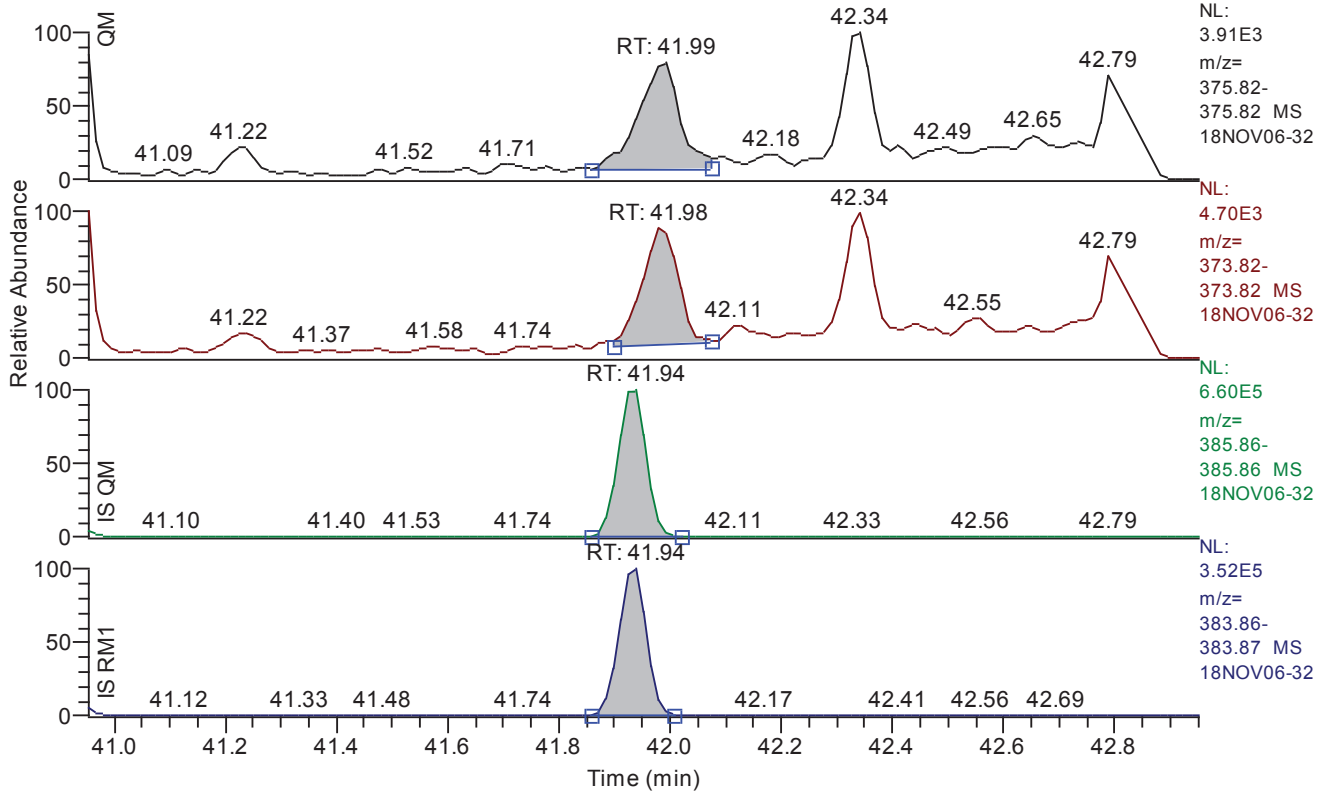
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.55
QM Area	24619
QM Integration Mode	A
RM1 Area	28653
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0486
Unqualified Amount (A)	3.531343
Adjusted Amount (A)	3.5313
Signal-to-Noise	181
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.95 - 42.95 SM: 3G



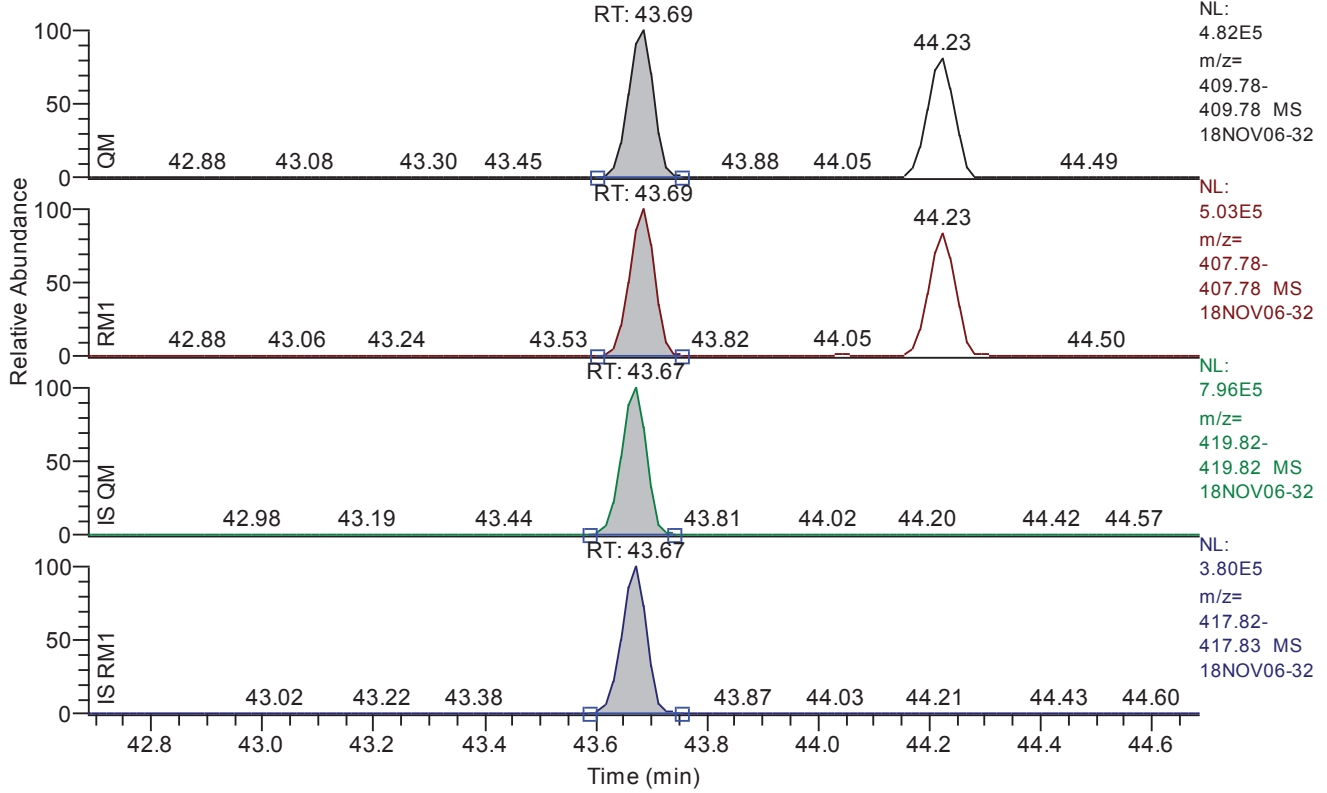
Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.99
QM Area	14575
QM Integration Mode	A
RM1 Area	16581
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0493
Unqualified Amount (A)	1.720065
Adjusted Amount (A)	1.7201
Signal-to-Noise	64
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.69 - 44.69 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

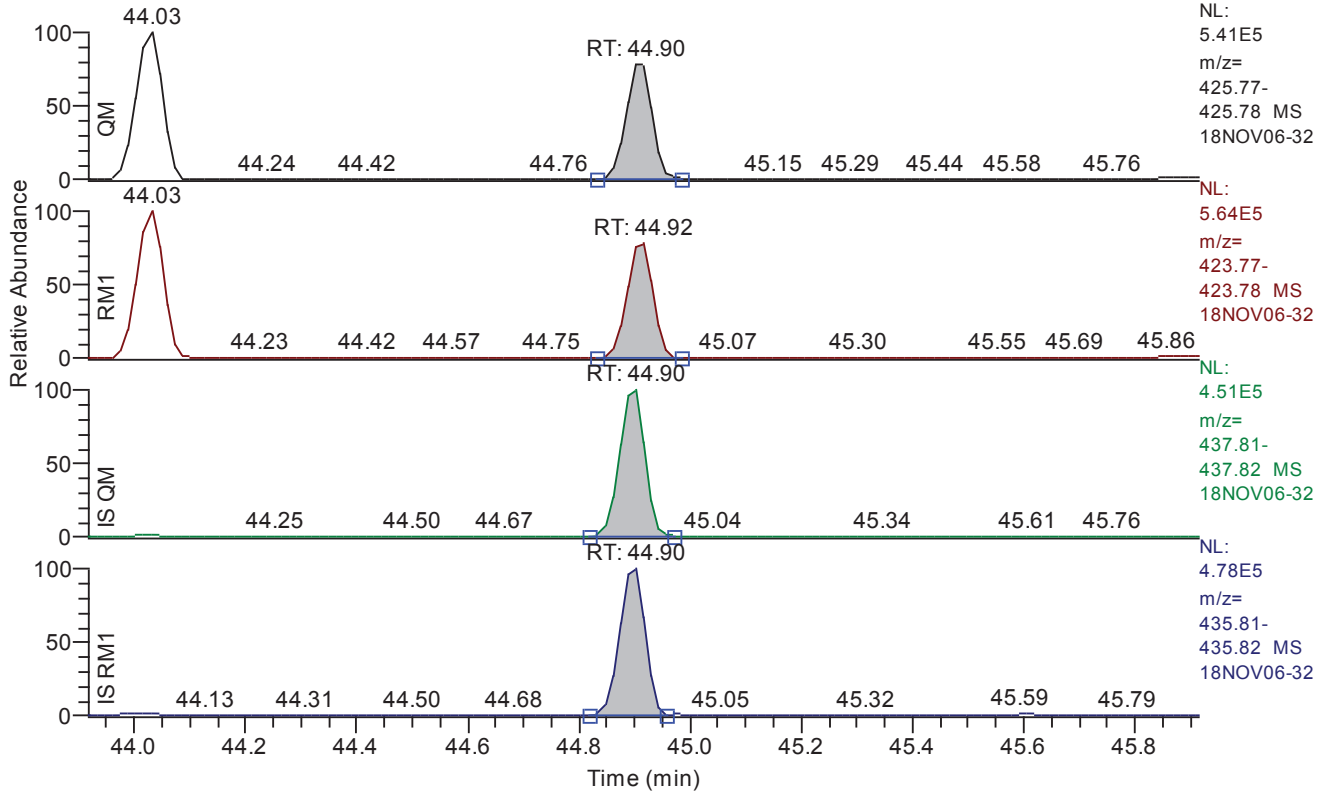
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.69
QM Area	1561516
QM Integration Mode	A
RM1 Area	1610820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0753
Unqualified Amount (A)	145.759735
Adjusted Amount (A)	145.7597
Signal-to-Noise	4831
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.92 - 45.92 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

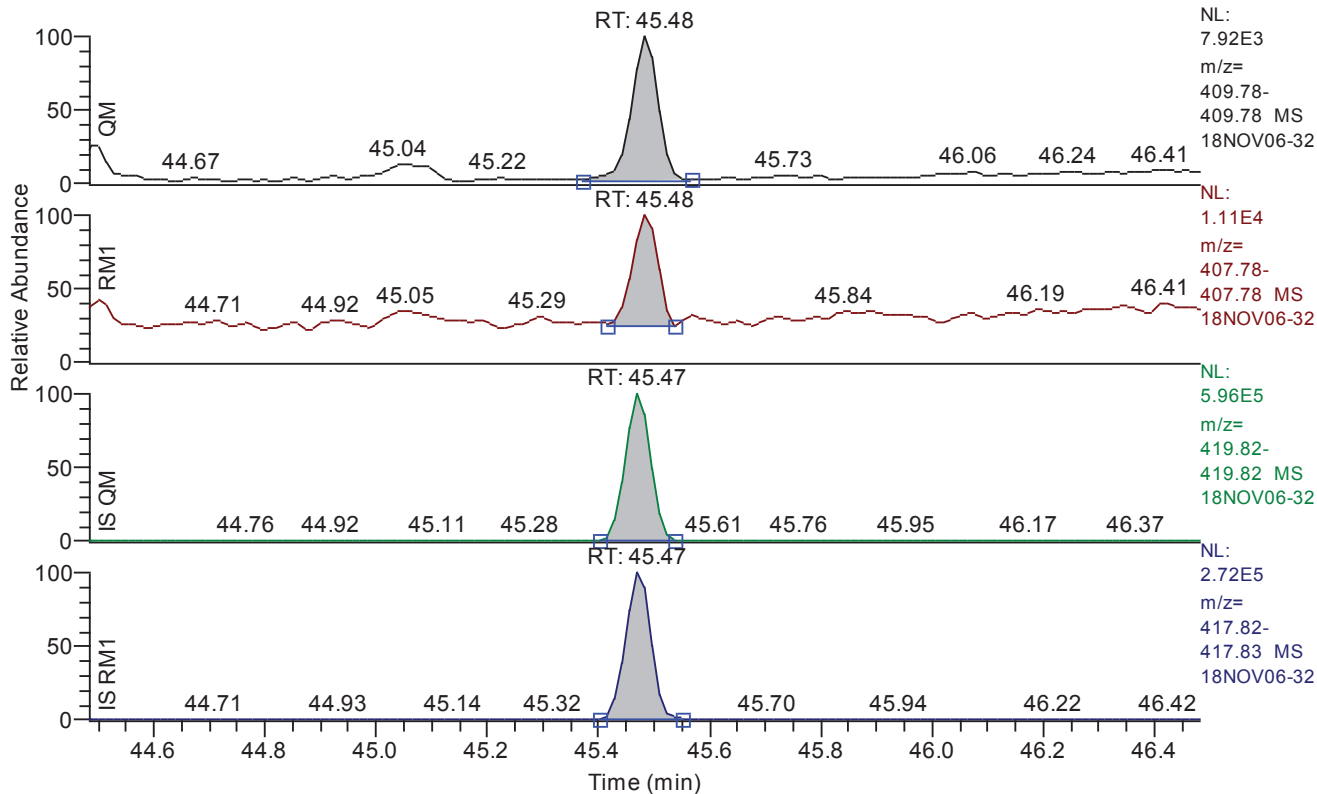
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.90
QM Area	1419420
QM Integration Mode	A
RM1 Area	1473481
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1718
Unqualified Amount (A)	202.231918
Adjusted Amount (A)	202.2319
Signal-to-Noise	2895
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.48 - 46.48 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

**Entry Parameters**

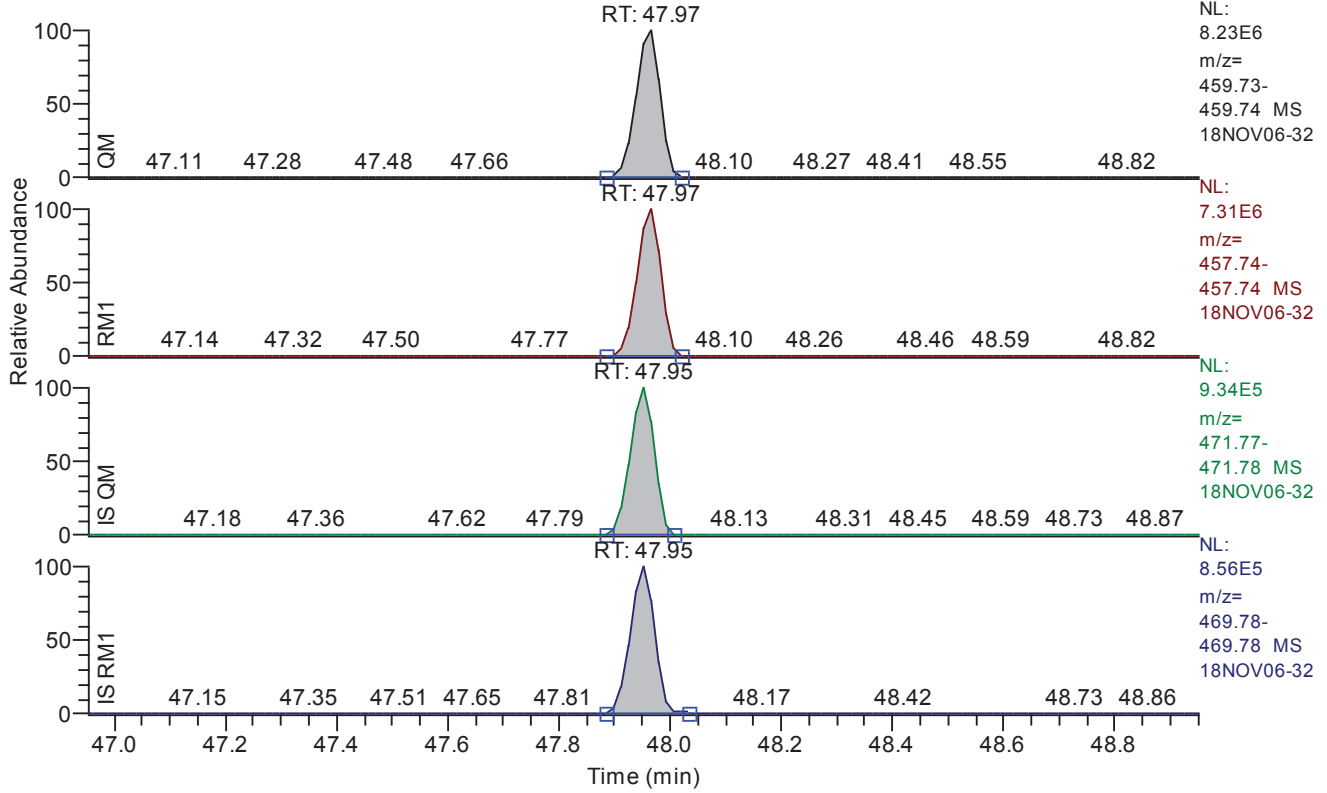
Compound Name	1234789-HpCDF
QM Retention Time	45.48
QM Area	26411
QM Integration Mode	A
RM1 Area	27704
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0992
Unqualified Amount (A)	3.226438
Adjusted Amount (A)	3.2264
Signal-to-Noise	79
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 46.95 - 48.95 SM: 3G



Entry: ocdd IS: 13C12-OCDD

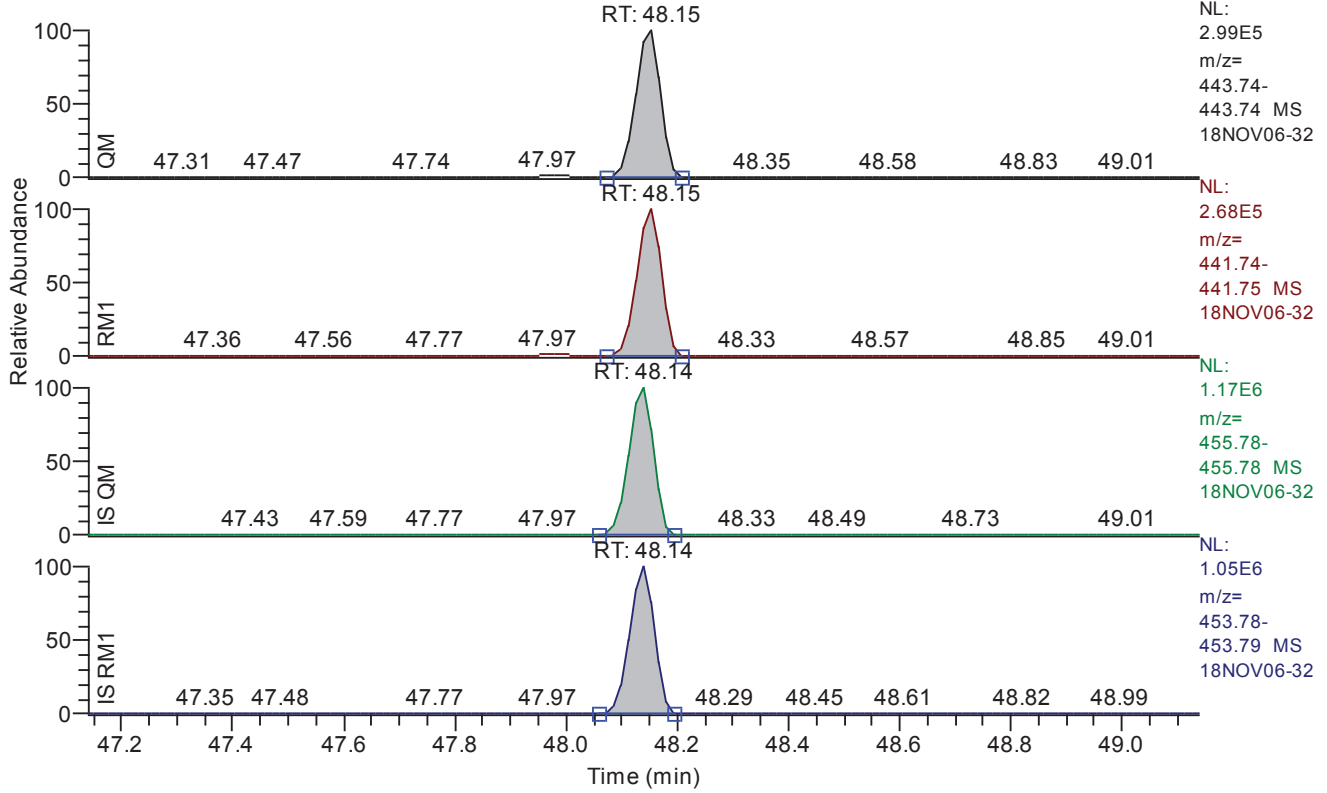
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.97
QM Area	24859799
QM Integration Mode	A
RM1 Area	21877565
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0800
Unqualified Amount (A)	3781.104702
Adjusted Amount (A)	3781.1047
Signal-to-Noise	118940
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.14 - 49.14 SM: 3G



Entry: ocdf IS: 13C12-OCDF

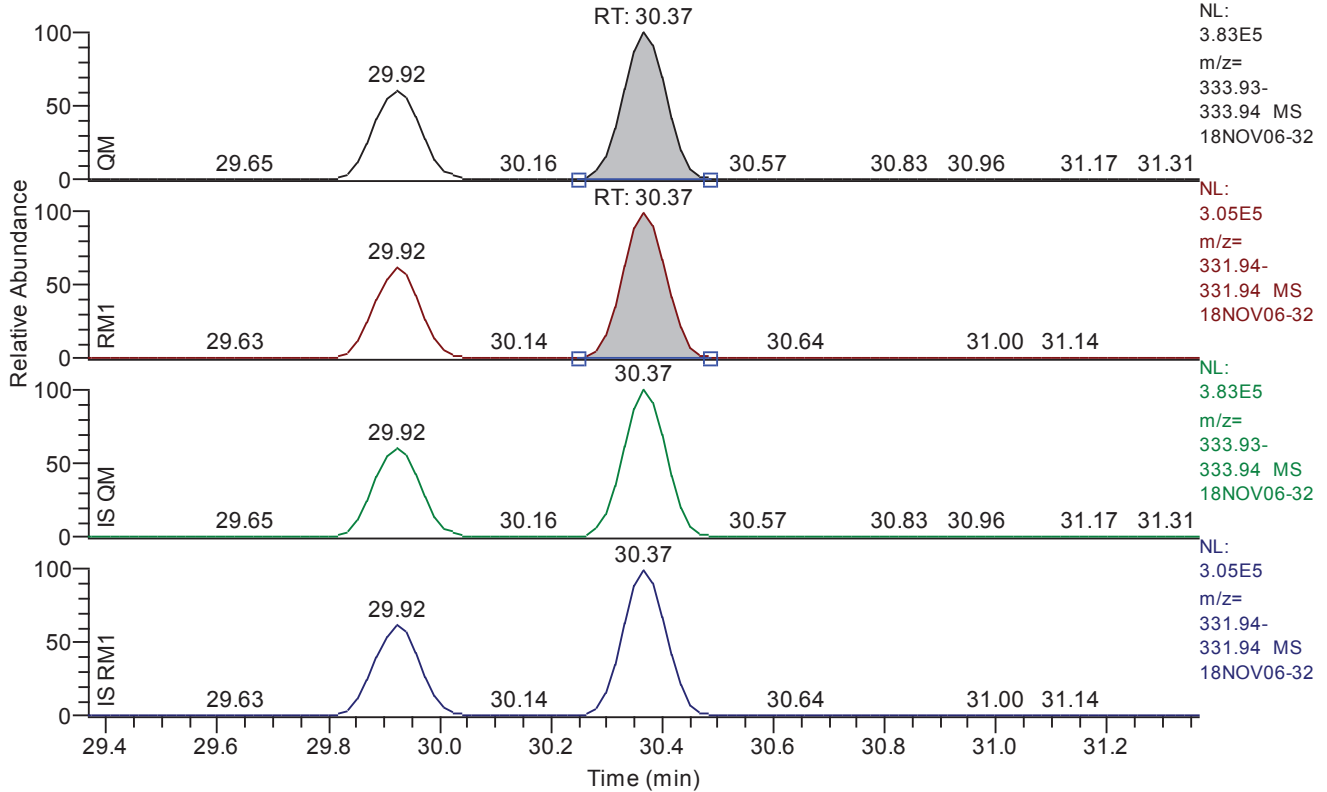
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.15
QM Area	922596
QM Integration Mode	A
RM1 Area	823233
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0537
Unqualified Amount (A)	120.525671
Adjusted Amount (A)	120.5257
Signal-to-Noise	5615
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.37 - 31.37 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.37
QM Area	2132189
QM Integration Mode	A
RM1 Area	1687603
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.1003
Unqualified Amount (A)	232.752489
Adjusted Amount (A)	232.7525
Signal-to-Noise	5890
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.84	28.84	28.84	28.81	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.94	29.97	29.92	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.94	34.96	34.96	34.93	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.27	36.30	36.30	36.27	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.67	36.69	36.69	36.67	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	40.04	40.04	40.03	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.18	40.20	40.20	40.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.90	40.92	40.92	40.90	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.10	41.10	41.12	41.09	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.22	41.24	41.24	41.21	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.53	41.55	41.55	41.53	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.94	41.99	41.98	41.94	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.67	43.69	43.69	43.67	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.90	44.90	44.92	44.90	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.47	45.48	45.48	45.47	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.94	47.97	47.97	47.95	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.13	48.15	48.15	48.14	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.36	30.37	30.37	30.37	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.06	29.07	29.07	29.07	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.93	39.93	39.93	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.80	28.81	28.81	28.90	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.91	29.92	29.92	29.92	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.93	34.93	34.93	34.90	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.25	36.27	36.27	36.26	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.65	36.67	36.67	36.67	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.01	40.03	40.03	40.03	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.17	40.17	40.17	40.20	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.88	40.90	40.90	40.89	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.09	41.09	41.09	41.09	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.21	41.21	41.22	41.22	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.52	41.53	41.53	41.53	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.92	41.94	41.94	41.95	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.66	43.67	43.67	43.69	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.89	44.90	44.90	44.90	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.47	45.47	45.46	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.94	47.95	47.95	47.95	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.13	48.14	48.14	48.17	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.7191	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.94	1.0497	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.96	1.7369	1.3150 - 1.7850	passed	---	0 - 0	passed
4	23478-PeCDF	36.30	1.5893	1.3150 - 1.7850	passed	---	0 - 0	passed
5	12378-PeCDD	36.69	1.1230	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	40.04	1.2226	1.0450 - 1.4350	passed	---	0 - 0	passed
7	123678-HxCDF	40.20	1.2272	1.0450 - 1.4350	passed	---	0 - 0	passed
8	234678-HxCDF	40.92	1.2976	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.10	1.2793	1.0450 - 1.4350	passed	---	0 - 0	passed
10	123678-HxCDD	41.24	1.2915	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.55	1.1639	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.99	1.1376	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.69	1.0316	0.8750 - 1.2050	passed	---	0 - 0	passed
14	1234678-HpCDD	44.90	1.0381	0.8750 - 1.2050	passed	---	0 - 0	passed
15	1234789-HpCDF	45.48	1.0489	0.8750 - 1.2050	passed	---	0 - 0	passed
16	OCDD	47.97	0.8800	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.15	0.8923	0.7550 - 1.0250	passed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.37	0.7915	0.6450 - 0.8950	passed	116.49	35 - 197	passed
19	13C12-1234-TCDD	29.07	0.8125	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.93	1.2765	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.81	0.7938	0.6450 - 0.8950	passed	82.25	40 - 135	passed
22	13C12-2378-TCDD	29.92	0.7936	0.6450 - 0.8950	passed	79.52	40 - 135	passed
23	13C12-12378-PeCDF	34.93	1.5903	1.3150 - 1.7850	passed	87.27	40 - 135	passed
24	13C12-23478-PeCDF	36.27	1.5671	1.3150 - 1.7850	passed	86.20	40 - 135	passed
25	13C12-12378-PeCDD	36.67	1.5656	1.3150 - 1.7850	passed	83.52	40 - 135	passed
26	13C12-123478-HxCDF	40.03	0.5255	0.4250 - 0.5950	passed	70.25	40 - 135	passed
27	13C12-123678-HxCDF	40.17	0.5337	0.4250 - 0.5950	passed	70.93	40 - 135	passed
28	13C12-234678-HxCDF	40.90	0.5230	0.4250 - 0.5950	passed	71.25	40 - 135	passed
29	13C12-123478-HxCDD	41.09	1.2679	1.0450 - 1.4350	passed	75.55	40 - 135	passed
30	13C12-123678-HxCDD	41.21	1.2579	1.0450 - 1.4350	passed	73.72	40 - 135	passed
31	13C12-123789-HxCDD	41.53	1.2586	1.0450 - 1.4350	passed	76.20	40 - 135	passed
32	13C12-123789-HxCDF	41.94	0.5223	0.4250 - 0.5950	passed	73.26	40 - 135	passed
33	13C12-1234678-HpCDF	43.67	0.4712	0.3650 - 0.5150	passed	75.51	40 - 135	passed
34	13C12-1234678-HpCDD	44.90	1.0658	0.8750 - 1.2050	passed	73.07	40 - 135	passed
35	13C12-1234789-HpCDF	45.47	0.4582	0.3650 - 0.5150	passed	68.85	40 - 135	passed
36	13C12-OCDD	47.95	0.9229	0.7550 - 1.0250	passed	66.71	40 - 135	passed
37	13C12-OCDF	48.14	0.8965	0.7550 - 1.0250	passed	63.11	40 - 135	passed

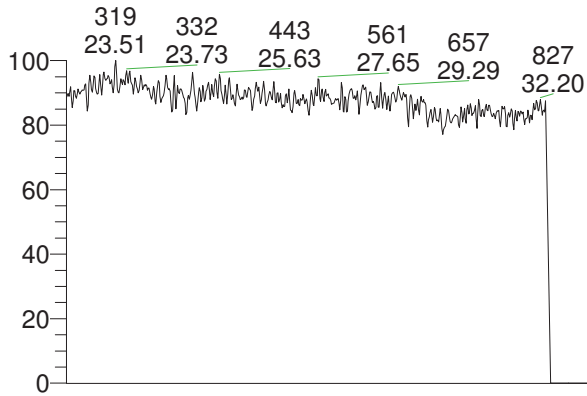


**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	31097	A	22361	A	0.0904	2.501576	2.5016	0.000000	69	
2	2378-TCDD	failed	29.94	1927	A	2023	A	0.0540	0.292320	n.d.	0.000000	16	
3	12378-PeCDF	passed	34.96	18744	A	32557	A	0.0419	2.665439	2.6654	0.000000	165	
4	23478-PeCDF	passed	36.30	41699	A	66270	A	0.0351	5.073419	5.0734	0.000000	256	
5	12378-PeCDD	failed	36.69	8492	A	9537	A	0.0814	1.554800	n.d.	0.000000	44	
6	123478-HxCDF	passed	40.04	40389	A	49379	A	0.0442	4.383249	4.3832	0.000000	246	
7	123678-HxCDF	passed	40.20	55831	A	68518	A	0.0429	5.831424	5.8314	0.000000	324	
8	234678-HxCDF	passed	40.92	43611	A	56592	A	0.0412	4.757936	4.7579	0.000000	275	
9	123478-HxCDD	passed	41.10	6798	A	8697	A	0.0511	1.055806	1.0558	0.000000	52	
10	123678-HxCDD	passed	41.24	51290	A	66239	A	0.0518	8.055176	8.0552	0.000000	403	
11	123789-HxCDD	passed	41.55	24619	A	28653	A	0.0486	3.531343	3.5313	0.000000	181	
12	123789-HxCDF	passed	41.99	14575	A	16581	A	0.0493	1.720065	1.7201	0.000000	64	
13	1234678-HpCDF	passed	43.69	1561516	A	1610820	A	0.0753	145.759735	145.7597	0.000000	4831	
14	1234678-HpCDD	passed	44.90	1419420	A	1473481	A	0.1718	202.231918	202.2319	0.000000	2895	
15	1234789-HpCDF	passed	45.48	26411	A	27704	A	0.0992	3.226438	3.2264	0.000000	79	
16	OCDD	passed	47.97	24859799	A	21877565	A	0.0800	3781.104702	3781.1047	0.000000	118940	
17	OCDF	passed	48.15	922596	A	823233	A	0.0537	120.525671	120.5257	0.000000	5615	
18	13C12-1278-TCDD (CRS)	passed	30.37	2132189	A	1687603	A	0.1003	232.752489	232.7525	199.800200	5890	
19	13C12-1234-TCDD	passed	29.07	1752226	A	1423771	A	0.1035	199.800200	199.8002	199.800200	4824	
20	13C12-123468-HxCDD	passed	39.93	1892620	A	2416001	A	0.0883	199.800200	199.8002	199.800200	5654	
21	13C12-2378-TCDF	passed	28.81	2578052	A	2046405	A	0.0385	164.335316	164.3353	199.800200	10665	
22	13C12-2378-TCDD	passed	29.92	1375655	A	1091664	A	0.1060	158.889907	158.8899	199.800200	3611	
23	13C12-12378-PeCDF	passed	34.93	1746359	A	2777304	A	0.0578	174.372949	174.3729	199.800200	9452	
24	13C12-23478-PeCDF	passed	36.27	1741845	A	2729705	A	0.0578	172.227569	172.2276	199.800200	10091	
25	13C12-12378-PeCDD	passed	36.67	1008138	A	1578300	A	0.0886	166.867161	166.8672	199.800200	6349	
26	13C12-123478-HxCDF	passed	40.03	2511583	A	1319882	A	0.0436	140.354893	140.3549	199.800200	7950	
27	13C12-123678-HxCDF	passed	40.17	2661165	A	1420132	A	0.0413	141.715092	141.7151	199.800200	8374	
28	13C12-234678-HxCDF	passed	40.90	2492661	A	1303677	A	0.0446	142.367376	142.3674	199.800200	8208	
29	13C12-123478-HxCDD	passed	41.09	1419821	A	1800260	A	0.0893	150.952875	150.9529	199.800200	4277	
30	13C12-123678-HxCDD	passed	41.21	1427800	A	1795999	A	0.0870	147.297875	147.2979	199.800200	4250	
31	13C12-123789-HxCDD	passed	41.53	1398648	A	1760366	A	0.0918	152.252931	152.2529	199.800200	4293	
32	13C12-123789-HxCDF	passed	41.94	2335864	A	1219909	A	0.0489	146.374155	146.3742	199.800200	7483	
33	13C12-1234678-HpCDF	passed	43.67	2575417	A	1213432	A	0.0523	150.875948	150.8759	199.800200	7874	
34	13C12-1234678-HpCDD	passed	44.90	1477242	A	1574456	A	0.1422	146.002698	146.0027	199.800200	2746	
35	13C12-1234789-HpCDF	passed	45.47	1945492	A	891419	A	0.0637	137.570544	137.5705	199.800200	5806	
36	13C12-OCDD	passed	47.95	2816562	A	2599492	A	0.0874	266.561688	266.5617	399.600400	8860	
37	13C12-OCDF	passed	48.14	3607878	A	3234629	A	0.0267	252.194318	252.1943	399.600400	26917	



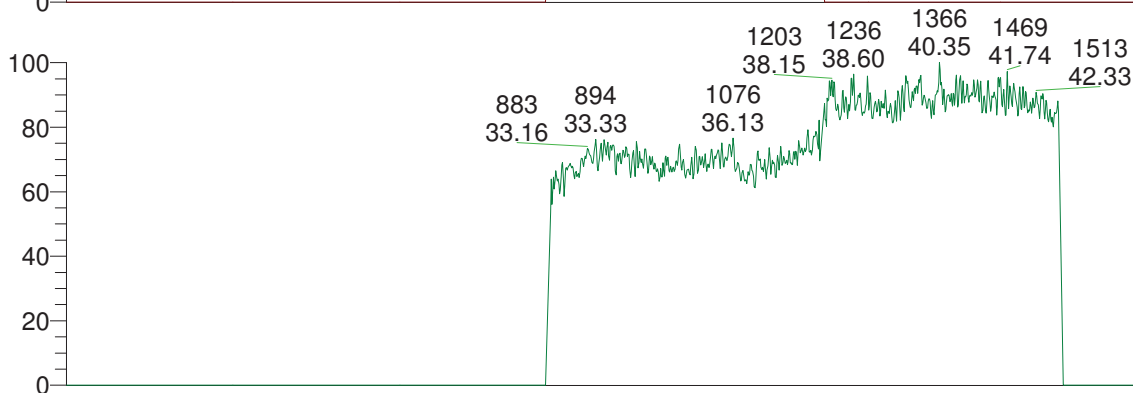
RT: 22.50 - 51.00



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292.9825  
MS  
18NOV06-  
32



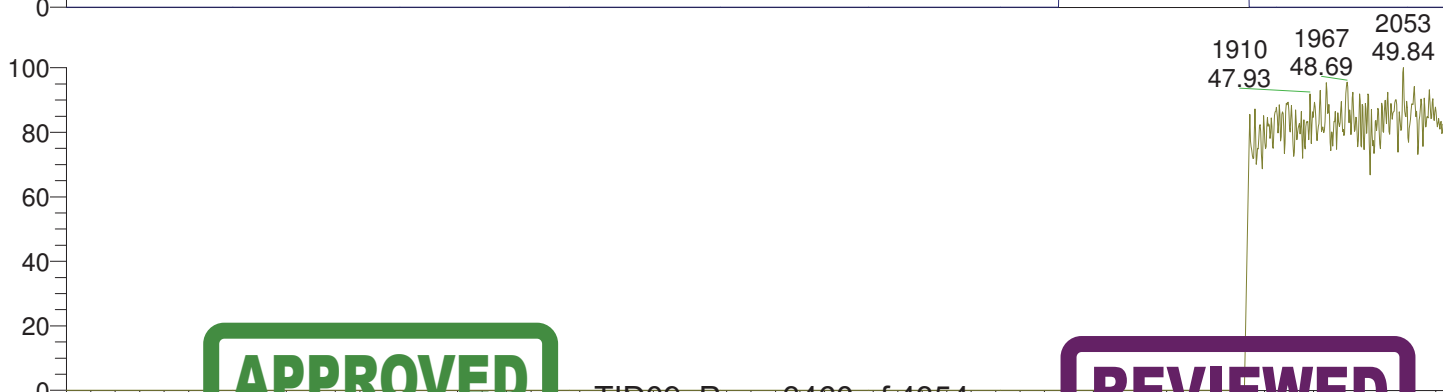
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4.95E5  
m/z=  
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331.4792  
MS  
18NOV06-  
32



NL:  
3.68E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
32



NL:  
1.34E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
32

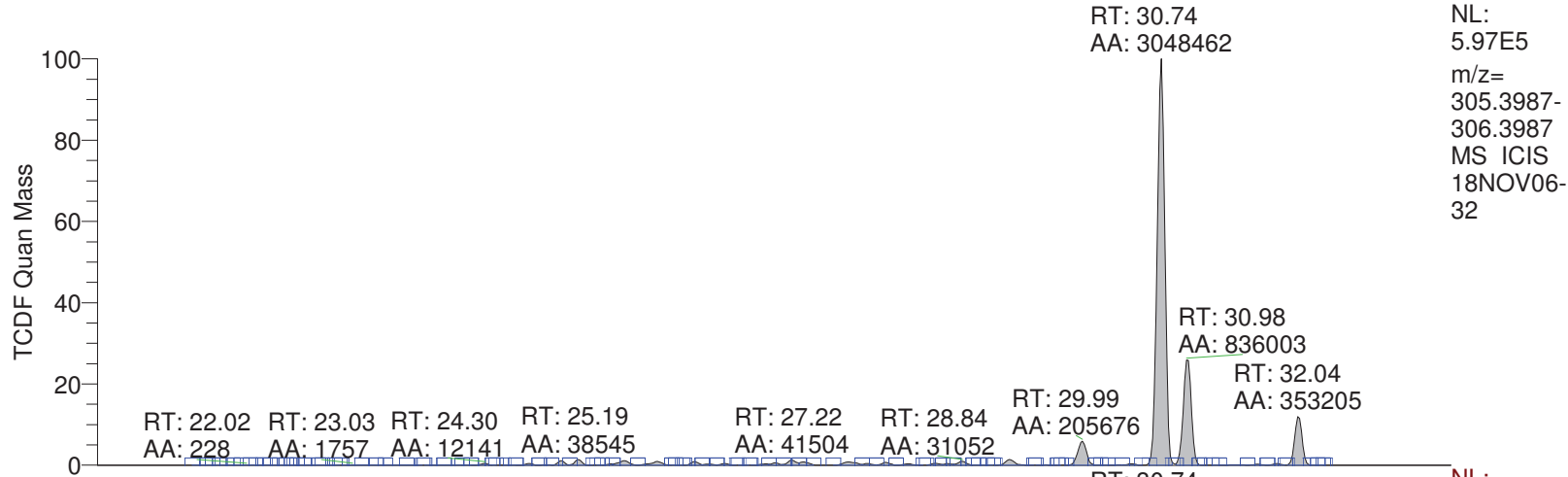


NL:  
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m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
32

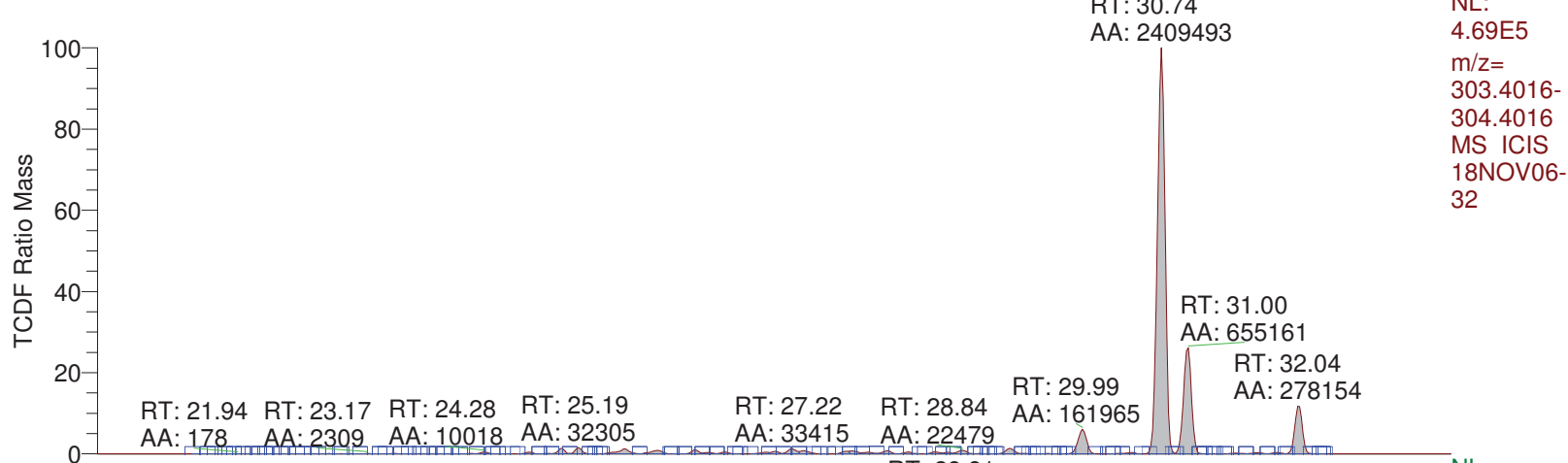
**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

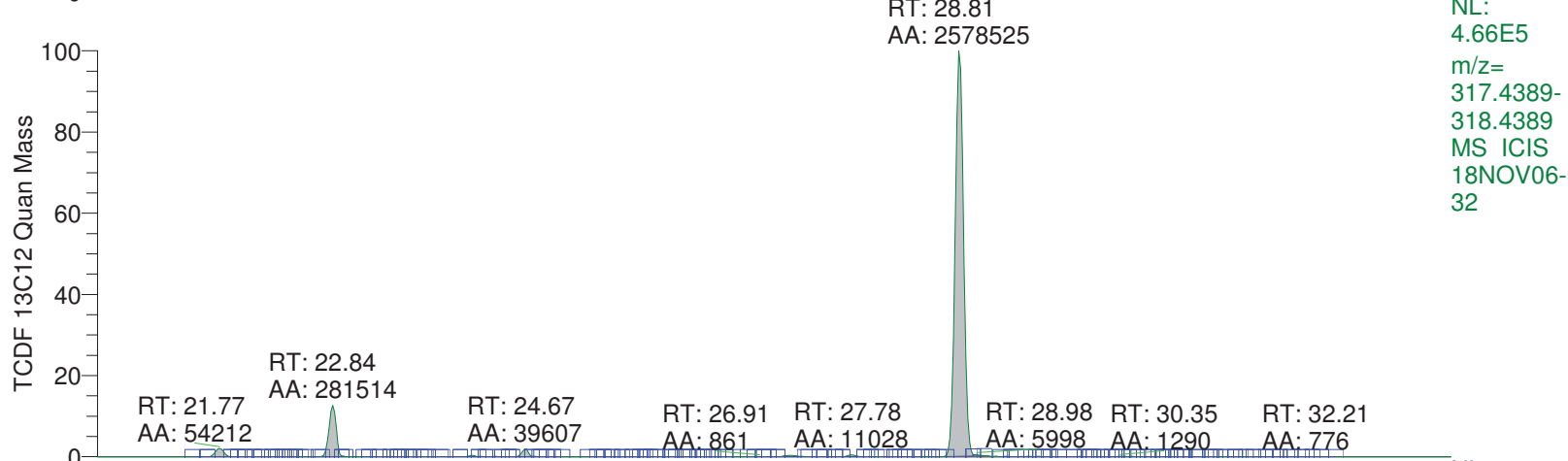
RT: 20.60 - 33.50



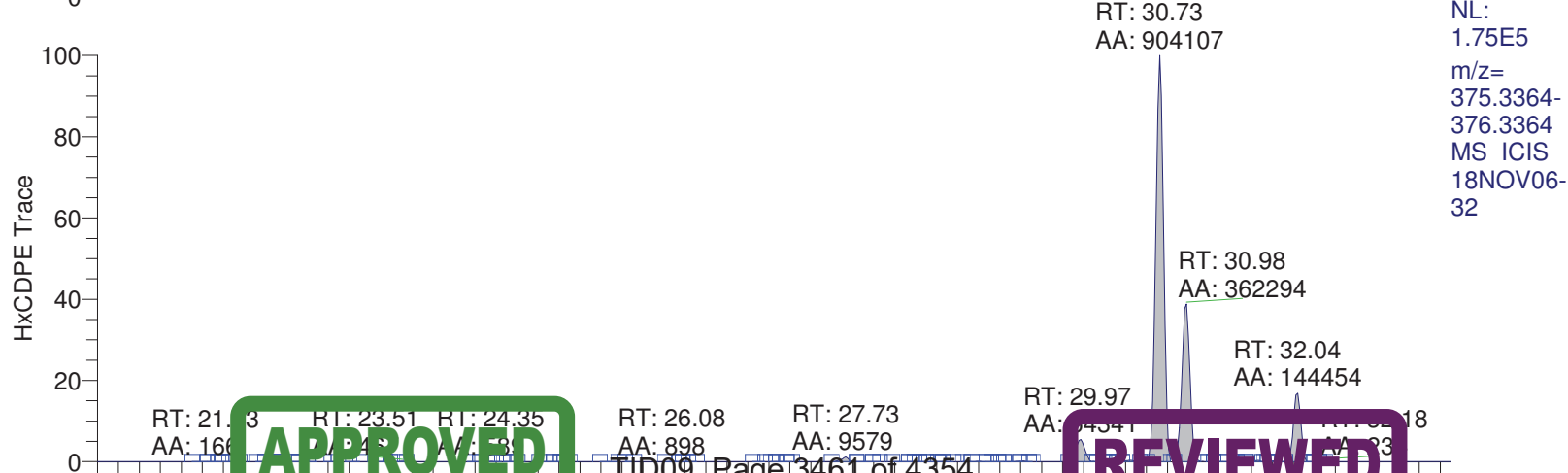
NL: 5.97E5  
m/z= 305.3987-306.3987  
MS ICIS 18NOV06-32



NL: 4.69E5  
m/z= 303.4016-304.4016  
MS ICIS 18NOV06-32



NL: 4.66E5  
m/z= 317.4389-318.4389  
MS ICIS 18NOV06-32



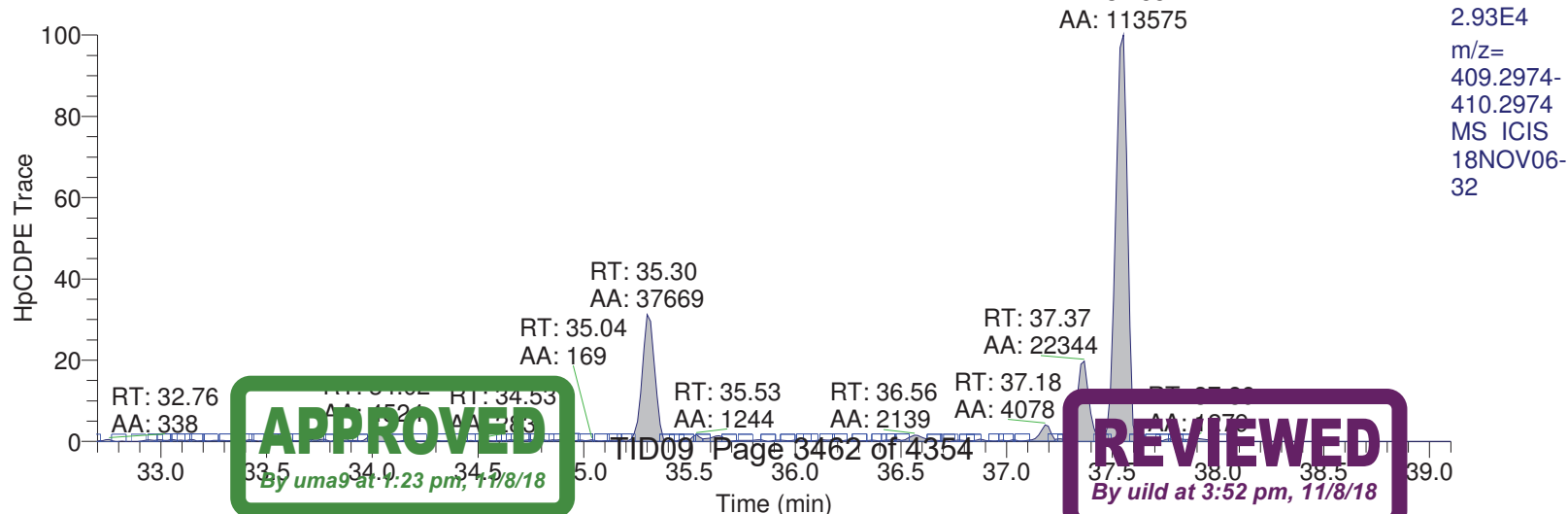
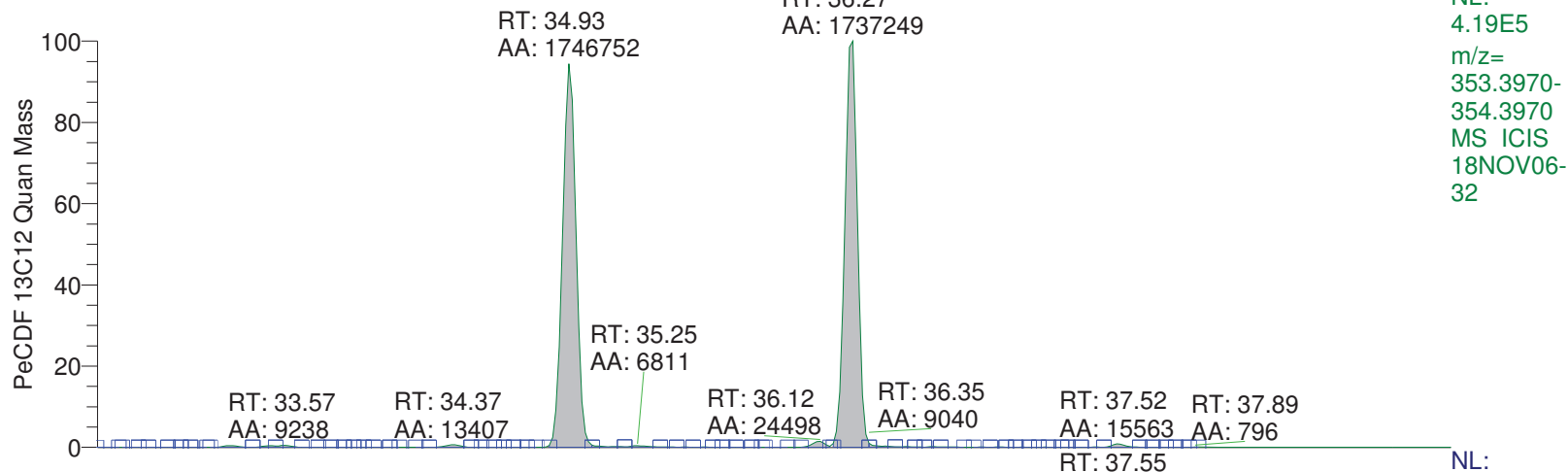
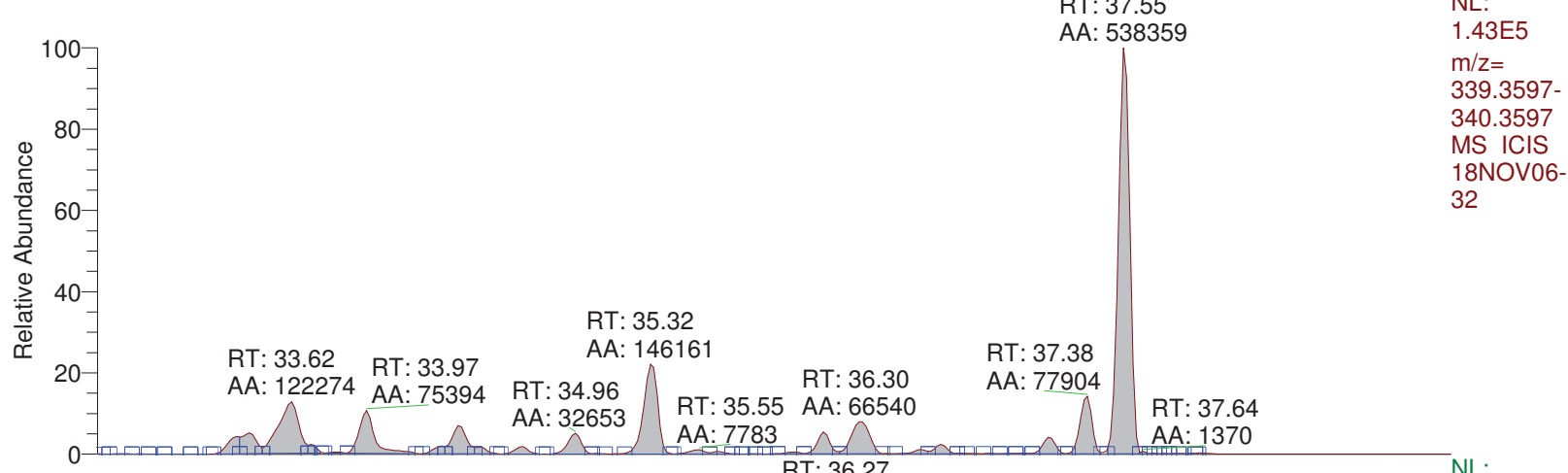
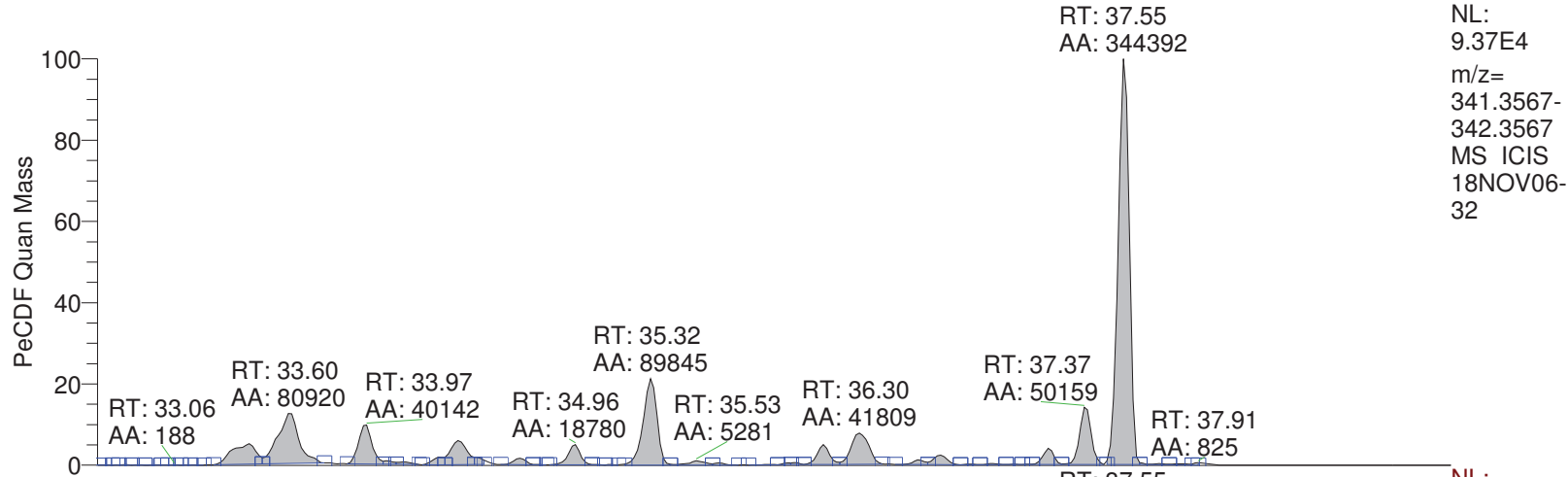
NL: 1.75E5  
m/z= 375.3364-376.3364  
MS ICIS 18NOV06-32

**APPROVED**  
By uma at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18



RT: 32.70 - 39.10

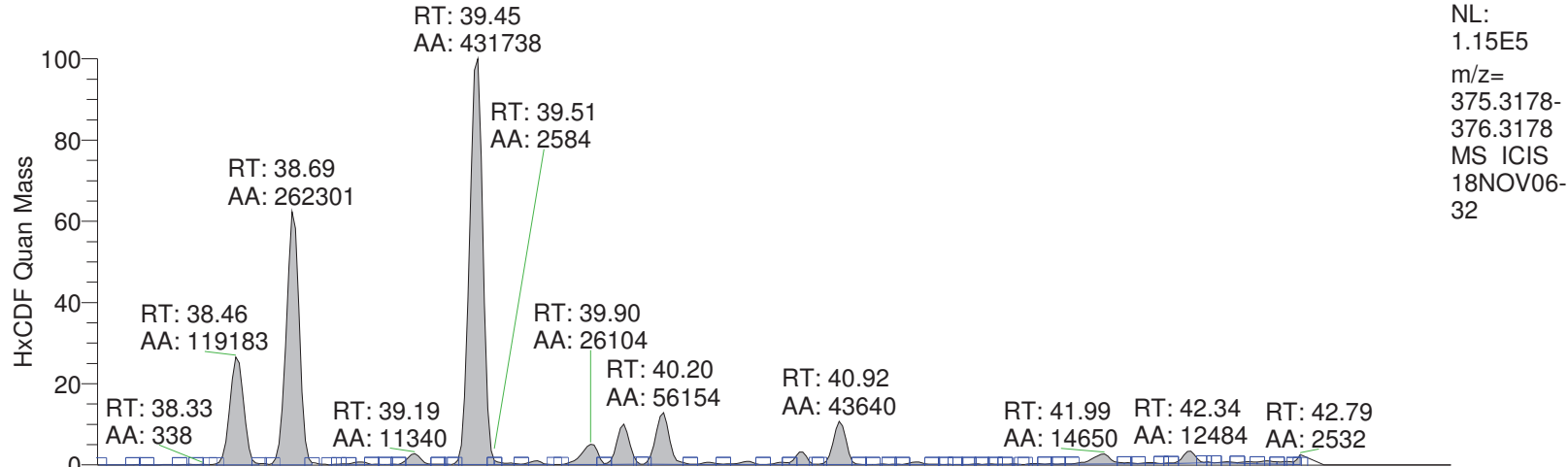


**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

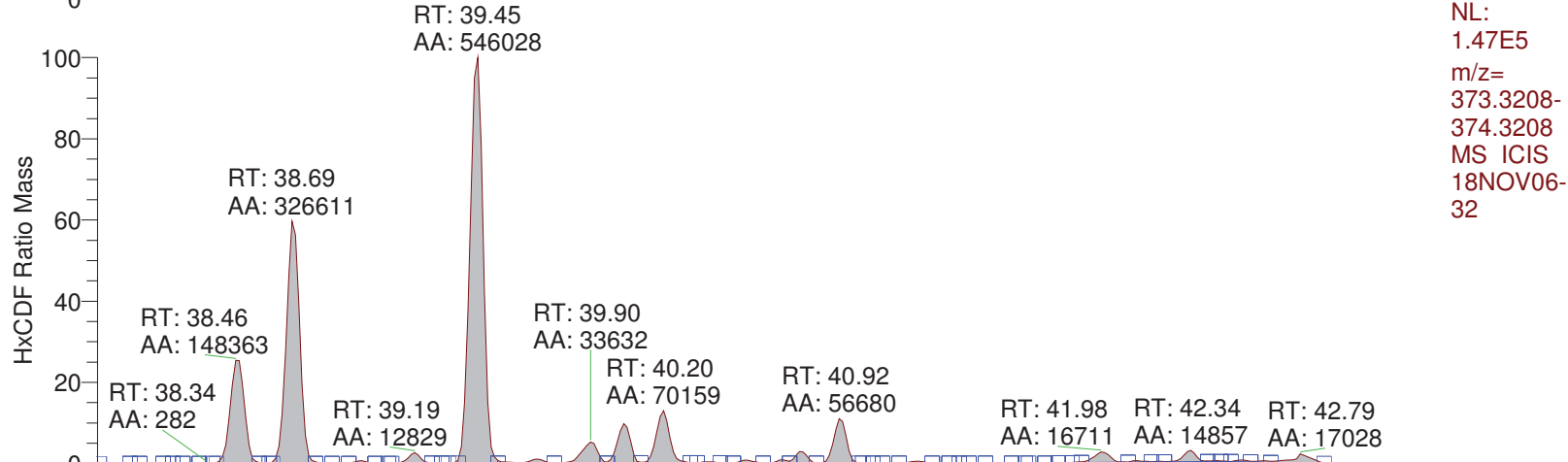
**REVIEWED**  
By uild at 3:52 pm, 11/8/18

Time (min)

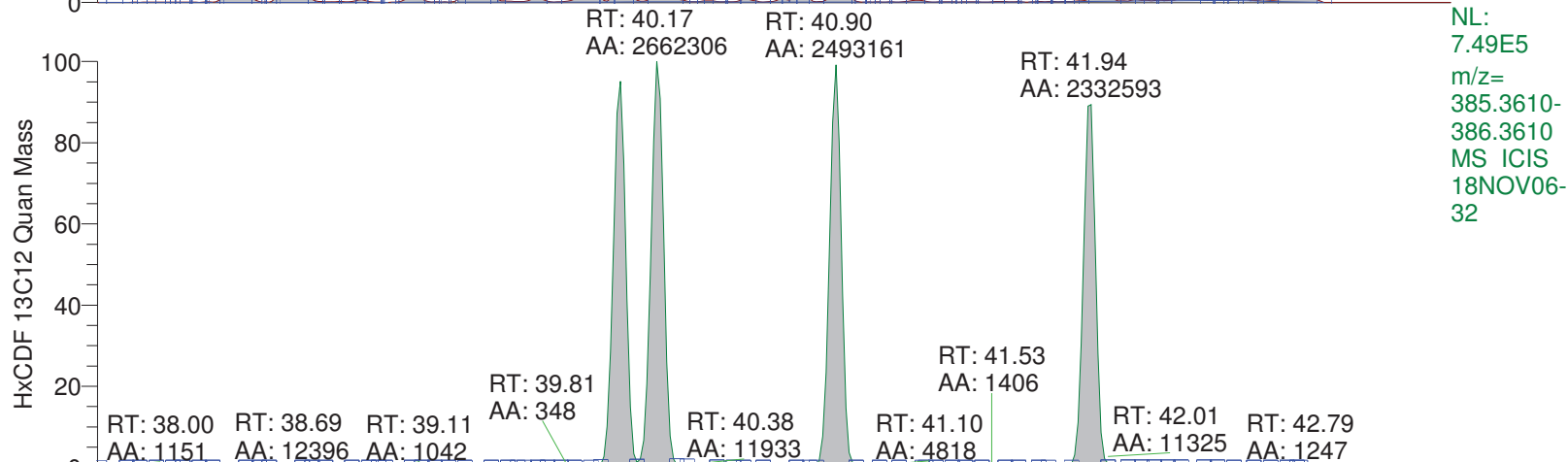
RT: 37.90 - 43.40



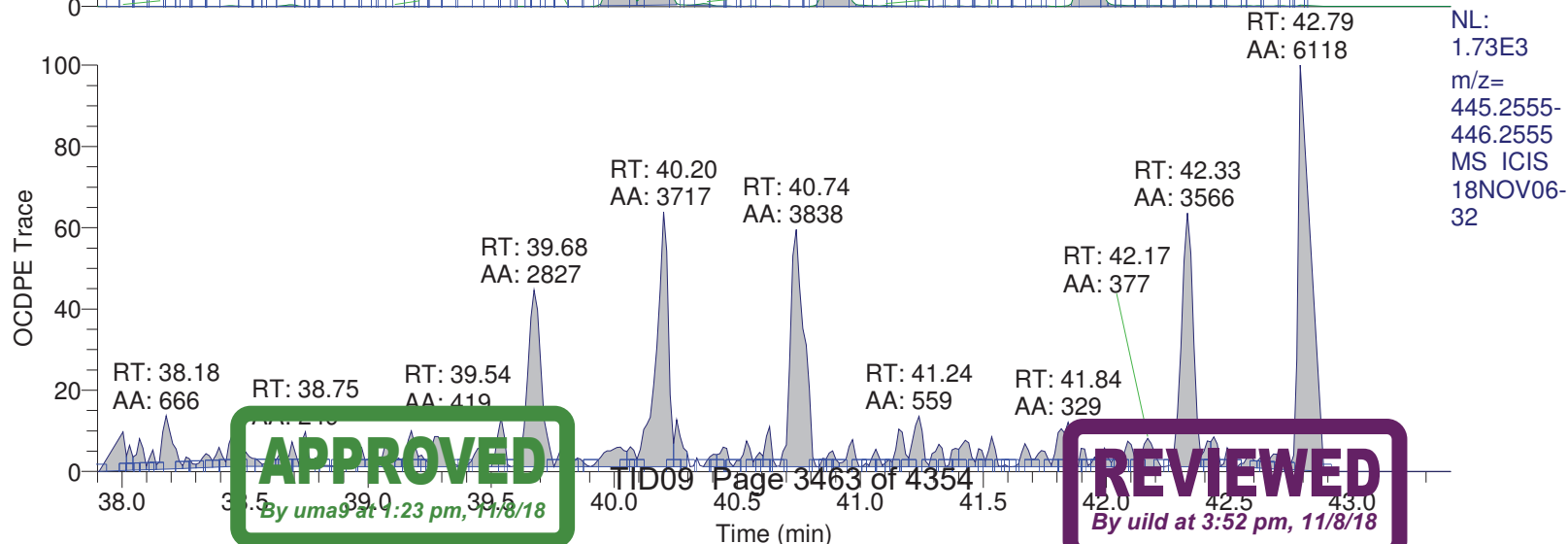
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m/z= 375.3178-376.3178  
MS ICIS 18NOV06-32



NL: 1.47E5  
m/z= 373.3208-374.3208  
MS ICIS 18NOV06-32



NL: 7.49E5  
m/z= 385.3610-386.3610  
MS ICIS 18NOV06-32

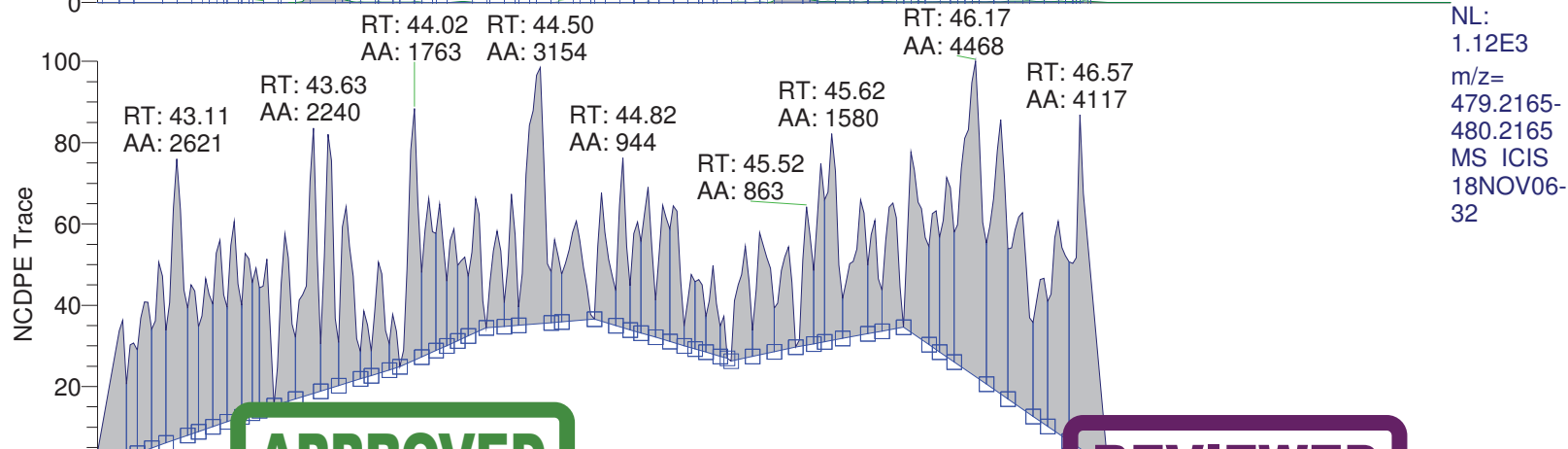
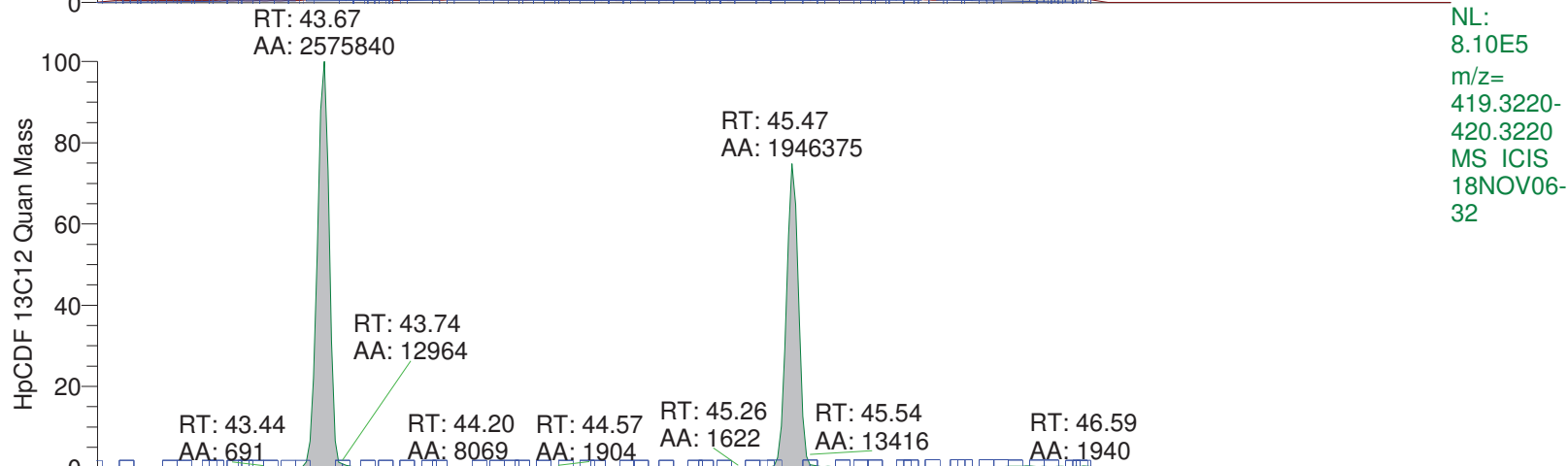
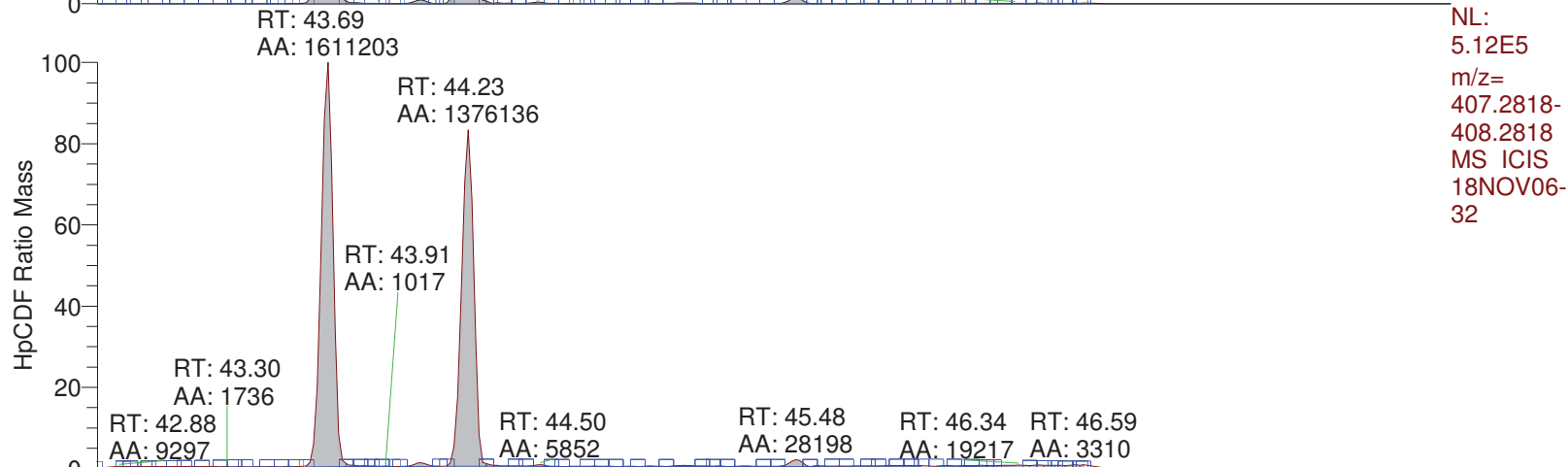
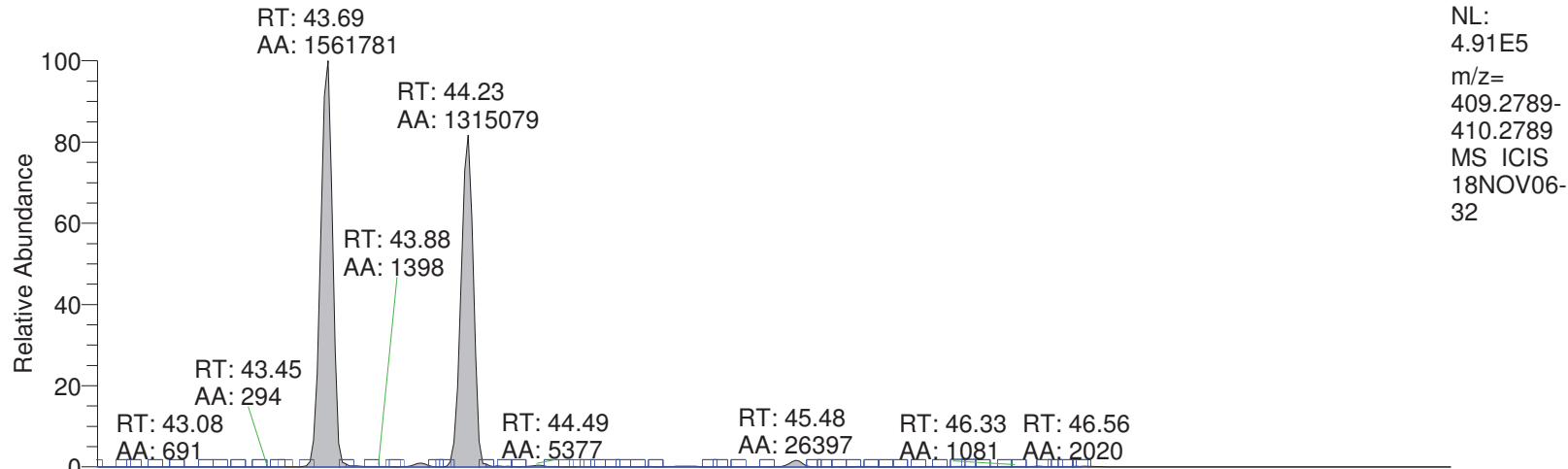


NL: 1.73E3  
m/z= 445.2555-446.2555  
MS ICIS 18NOV06-32

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

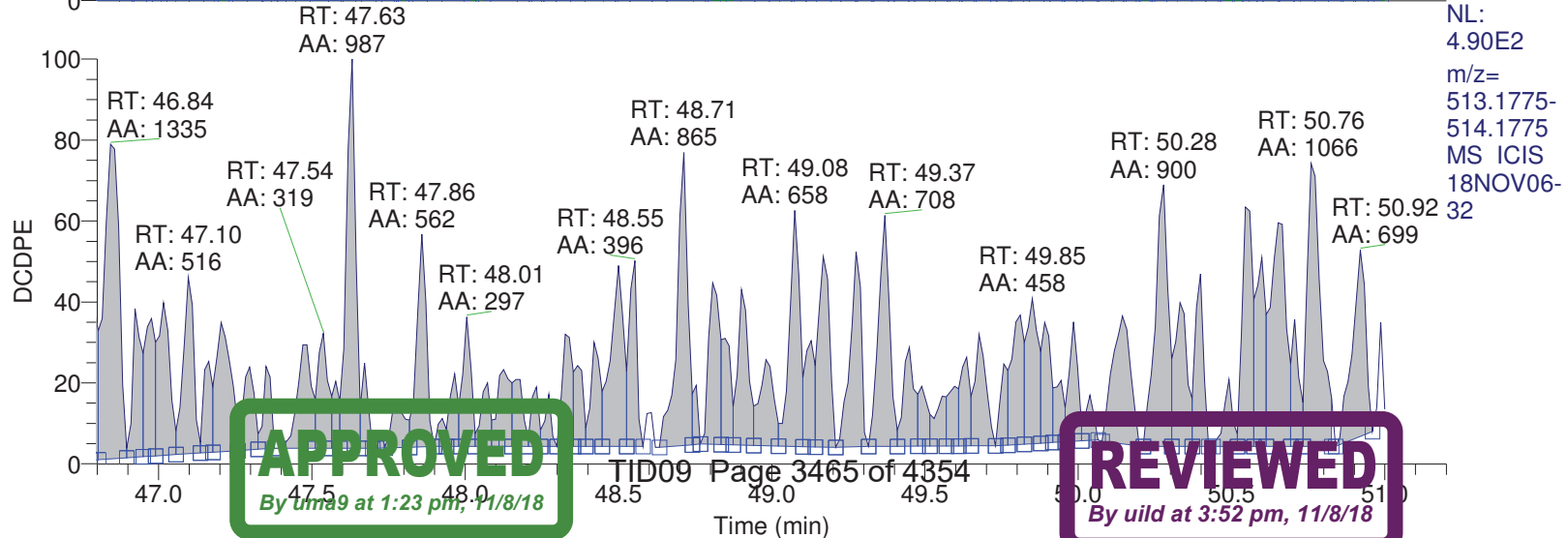
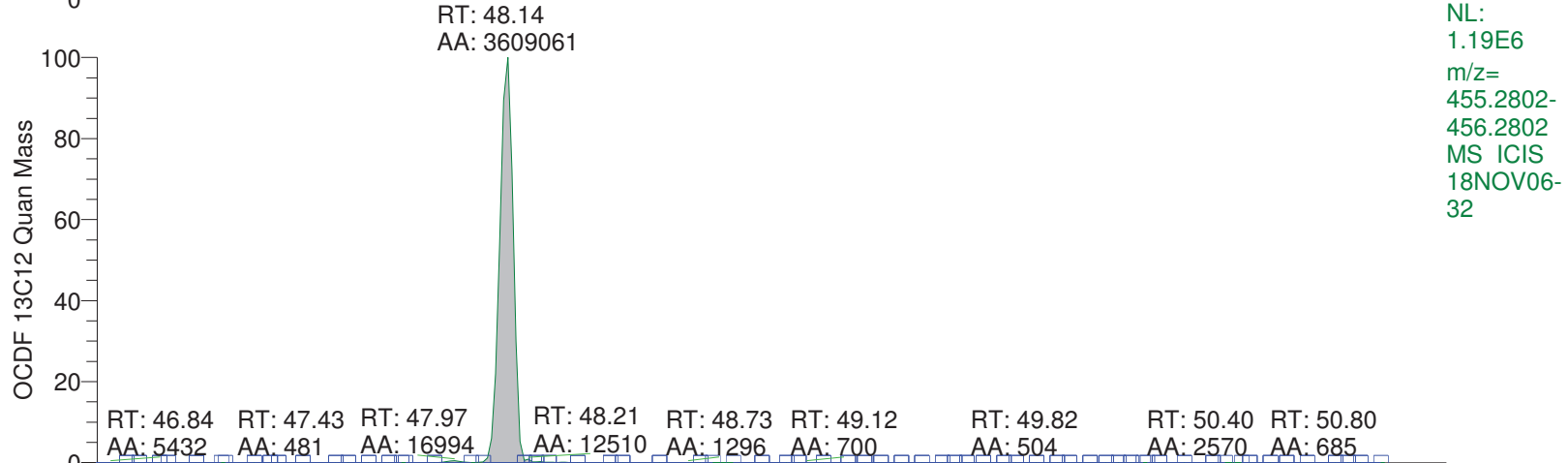
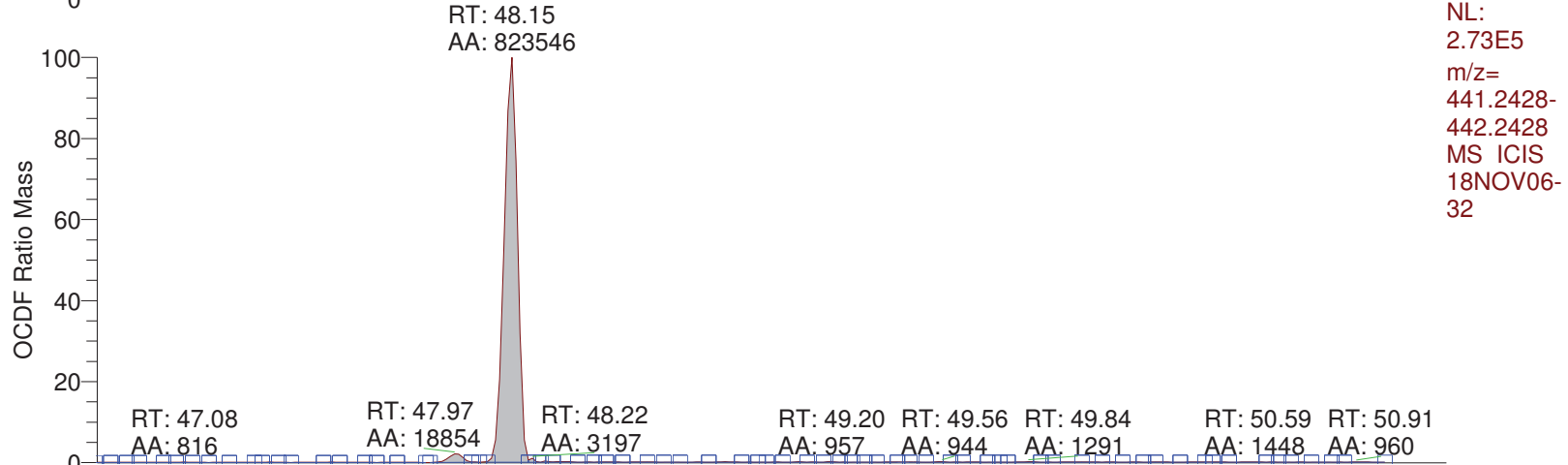
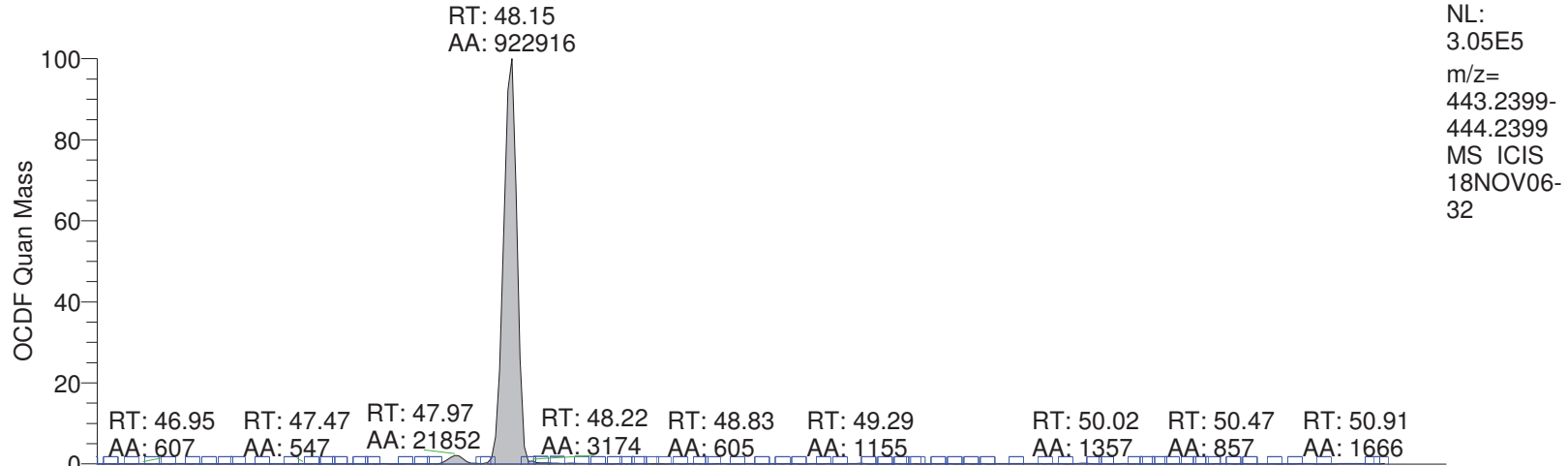
RT: 42.80 - 48.00



**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 3:52 pm, 11/8/18

RT: 46.80 - 51.20



\*\*\* file opened wed Nov 07 12:41:19 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 12:41:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



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MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	95.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1480.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0183	FVINLET	0.0428	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1407807.8555	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9797	RELEN	0.0000
RES	13322.2465	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0196	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11891.  
MID Time window 2: Resolution is 12321.  
MID Time window 3: Resolution is 12265.  
MID Time window 4: Resolution is 11925.



18NOV06-32

MID Time Window 5: Resolution is 13951.  
MID Time Window 6: Resolution is 13322.

Amplifier Offset: 92.

\*\*\* File closed wed Nov 07 13:32:20 2018  
\*\*\*





## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/10 21:07  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 120  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005-DUP Grab Soil  
Sample ID 9866467RE  
Inst ID DF18471-18NOV10Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

Quan y:\18nov10conf\18nov10-07.quan  
Data y:\18nov10conf\18nov10-07.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.01  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.72	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.78	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.67	passed	passed	passed	passed	passed	passed	passed

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

## Quantitation Settings

### Data File Parameter

Acq. Data 2018/11/10 21:07  
Number of Entries 3  
Comment S:11030:12937:17962  
Vial 120  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016 OU2-1-SS005-DUP Grab Soil  
Sample ID 9866467RE  
Inst ID DF18471-18NOV10Conf  
Client Tidewater Inc.  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

### Files Parameter

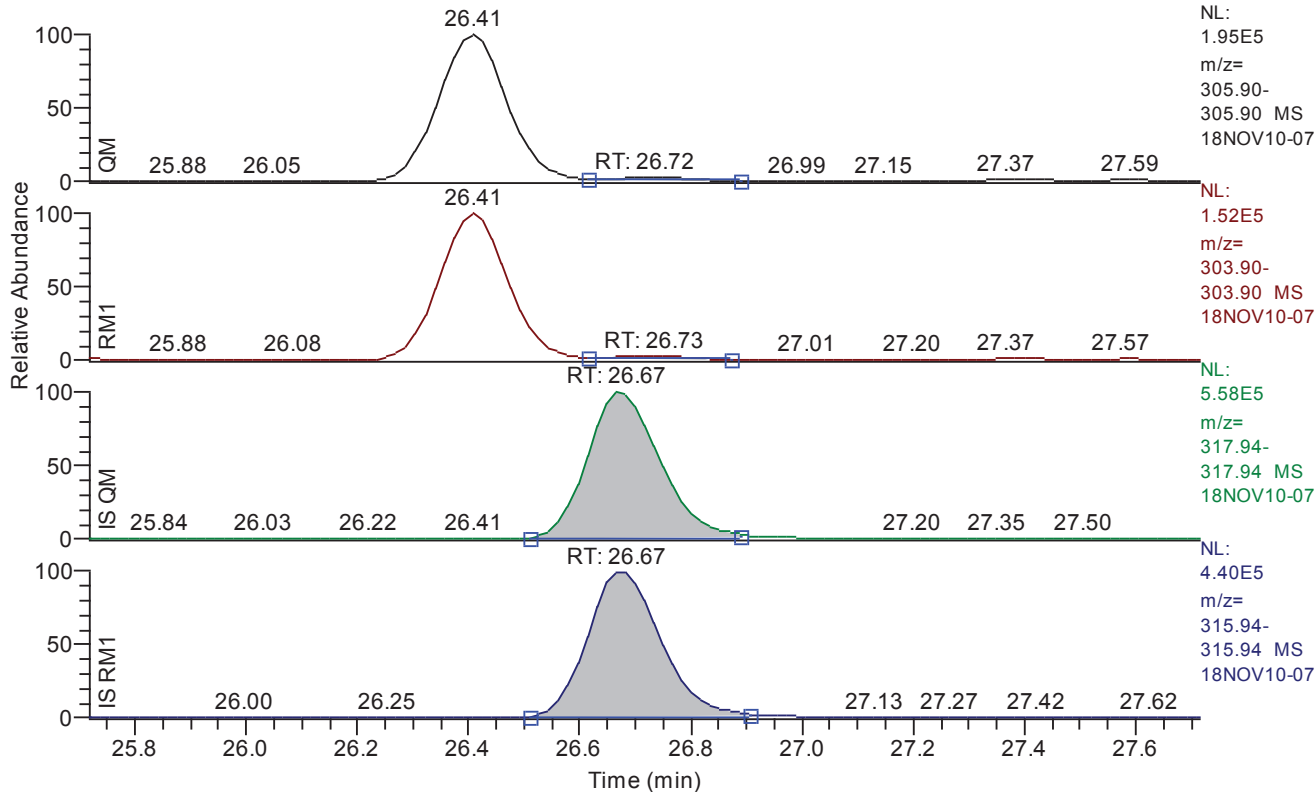
Quan y:\18nov10conf\18nov10-07.quan  
Data y:\18nov10conf\18nov10-07.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.01  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.72 - 27.72 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.72
QM Area	33492
QM Integration Mode	A
RM1 Area	28698
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0959
Unqualified Amount (A)	1.362363
Adjusted Amount (A)	1.3624
Signal-to-Noise	42
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.70	26.72	26.73	26.67	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.75	24.78	24.78	24.78	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.65	26.67	26.67	26.67	passed	passed

**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
 By uild at 3:13 pm, 11/12/18

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.72	0.8569	0.6450 - 0.8950	passed	---	0 - 0	passed
2	13C12-1234-TCDD	24.78	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.67	0.7944	0.6450 - 0.8950	passed	56.97	40 - 135	passed

**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
 By uild at 3:13 pm, 11/12/18

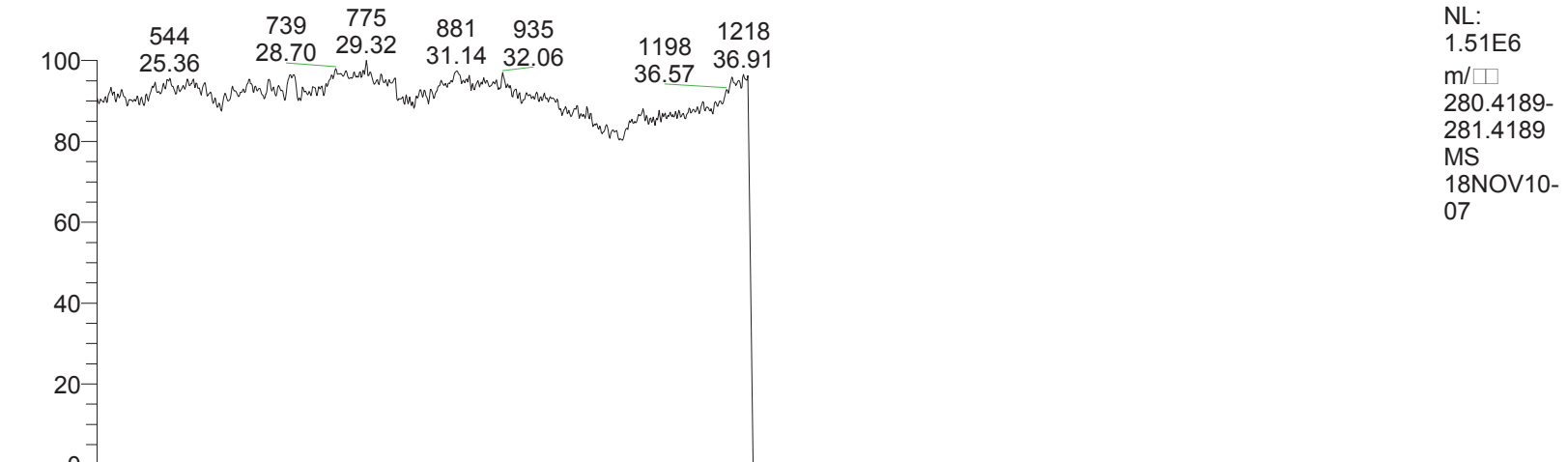
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.72	33492	A	28698	A	0.0959	1.362363	1.3624	0.000000	42	
2	13C12-1234-TCDD	passed	24.78	4284477	A	3431998	A	0.0764	199.800200	199.8002	199.800200	6538	
3	13C12-2378-TCDF	passed	26.67	4992353	A	3966050	A	0.0278	113.823269	113.8233	199.800200	9283	

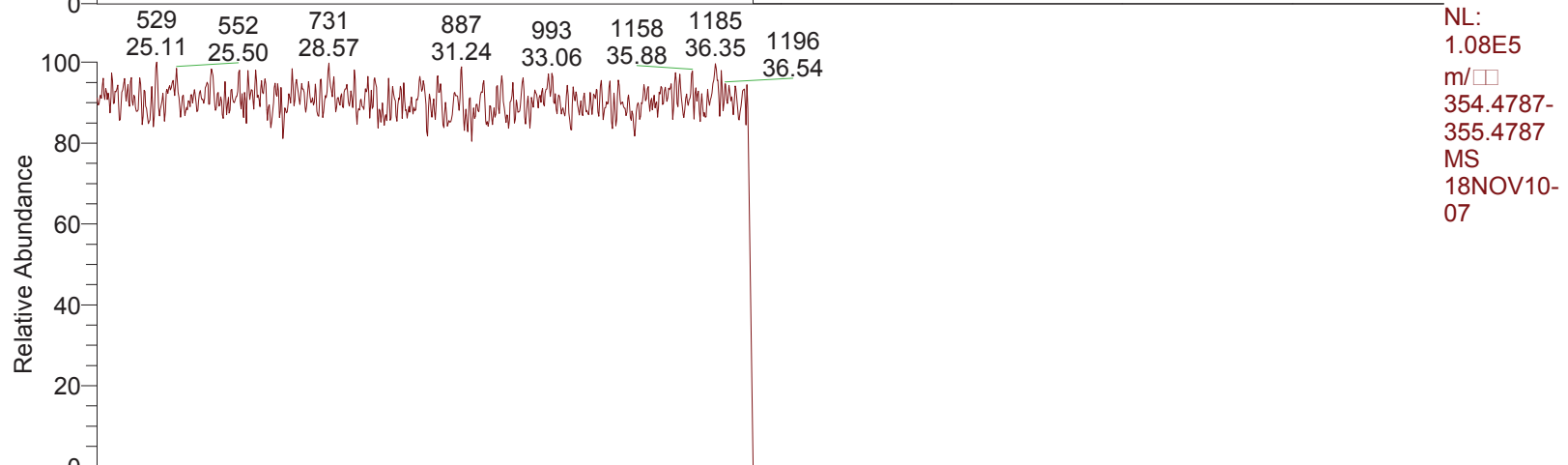
**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
 By uild at 3:13 pm, 11/12/18

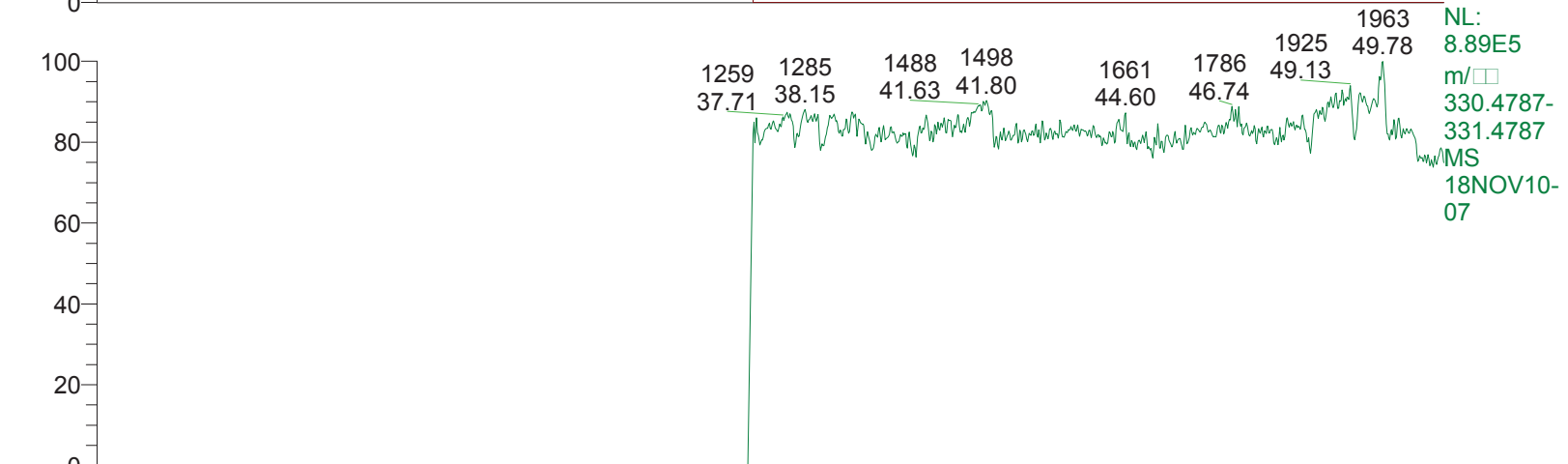
RT: 23.90 - 51.00



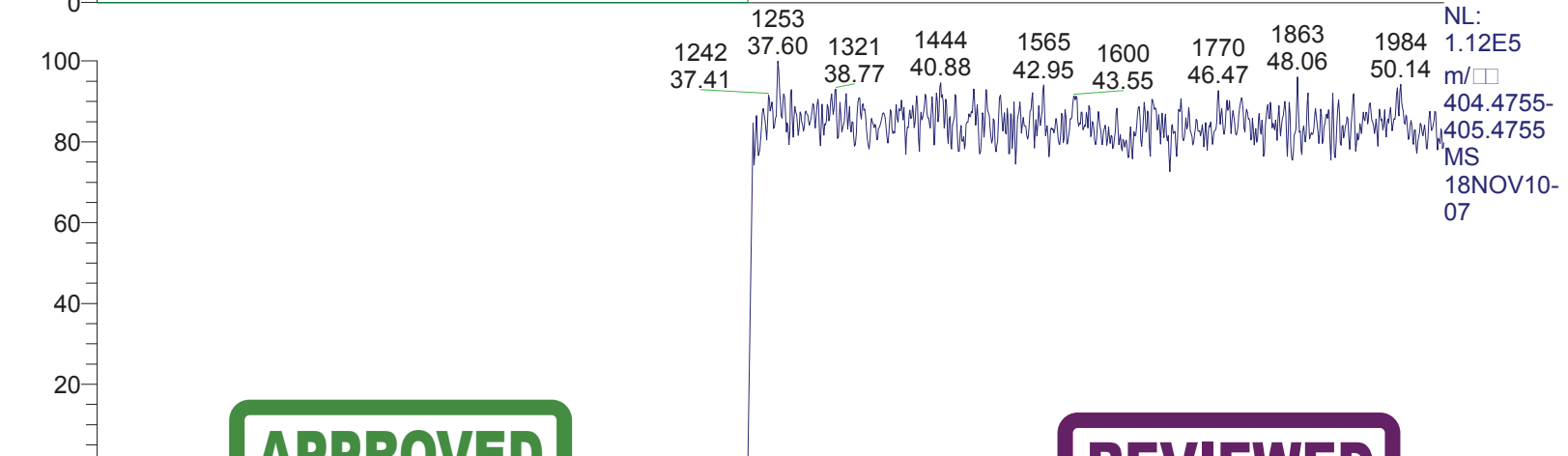
NL:  
1.51E6  
m/□  
280.4189-  
281.4189  
MS  
18NOV10-  
07



NL:  
1.08E5  
m/□  
354.4787-  
355.4787  
MS  
18NOV10-  
07



NL:  
8.89E5  
m/□  
330.4787-  
331.4787  
MS  
18NOV10-  
07



NL:  
1.12E5  
m/□  
404.4755-  
405.4755  
MS  
18NOV10-  
07

**APPROVED**  
By tma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18



18NOV10-07

\*\*\* file opened Sat Nov 10 21:12:21 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 10-Nov-18 21:12:20

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 34833095-402f-4a49-92ba-731aaa215b3e

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-105.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0168	FVINLET	0.0379	FVSR	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	624.0000
LENS_SYM	-4.7500	LM	650.0000	LMII	500.0000
LMASS	96.5000	LKM	330.9792	MASS	96.5000
MDAC	935999.8554	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2131.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-17.0000	RECURR	0.9695	RELEN	0.0000
RES	11767.5739	RPUSHER	-16.8132	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	658.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0176	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.5000	XLENS_POT	934.0000
XLENS_SYM	2.0000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 6.9e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11711.  
MID Time Window 2: Resolution is 11767.

Amplifier offset: 87.



18NOV10-07  
\*\*\* File closed Sat Nov 10 22:04:53 2018  
\*\*\*



**Standards Data**

**Dioxins/Furans by HRMS**

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 09:27  
Number of Entries 26  
Comment  
Vial 2  
Sample Name TDTFWD - ST1828537A  
Sample ID CPS01  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

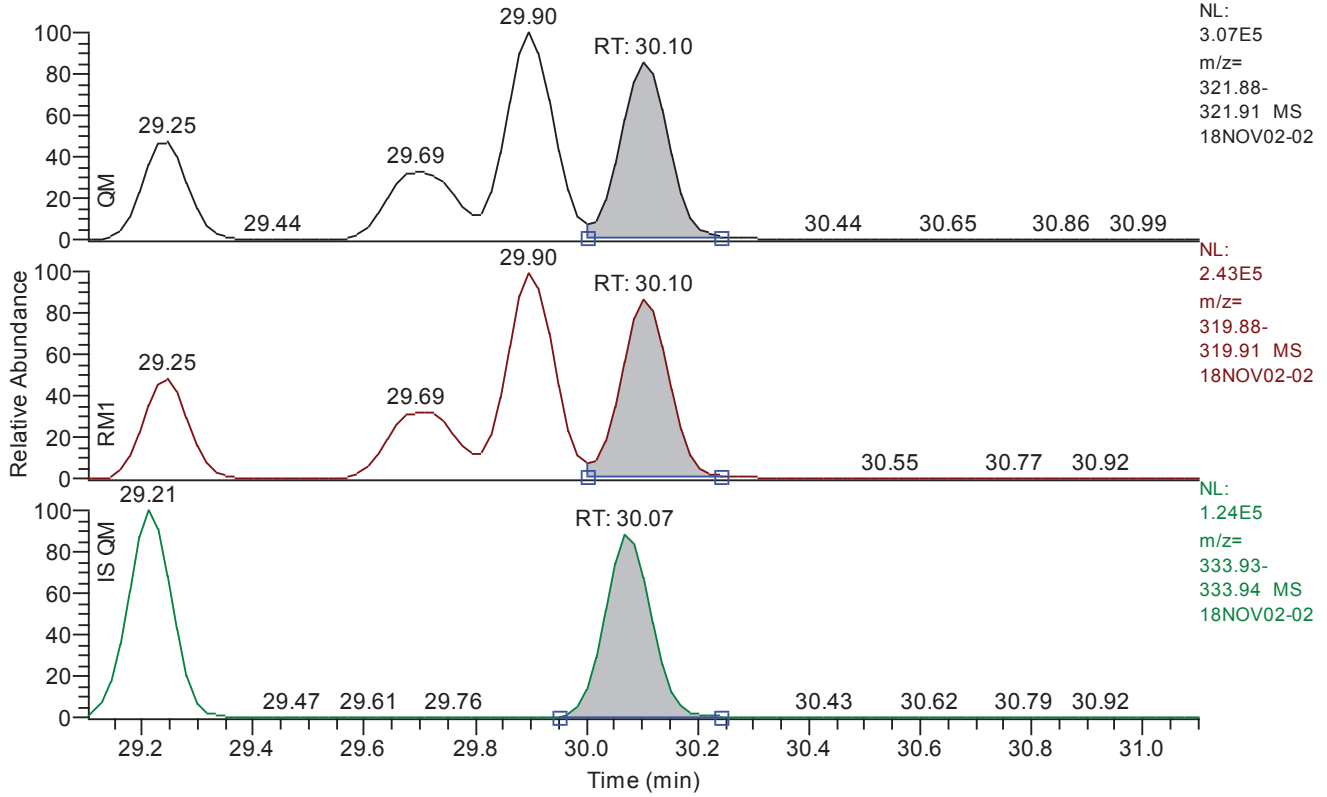
Quan w:\18nov02\18nov02-02.quan  
Data w:\18nov02\18nov02-02.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height No Summation  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 1.0  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 29.10 - 31.10 SM: 3G



Entry: 2378-TCDD IS: 13C12-2378-TCDD

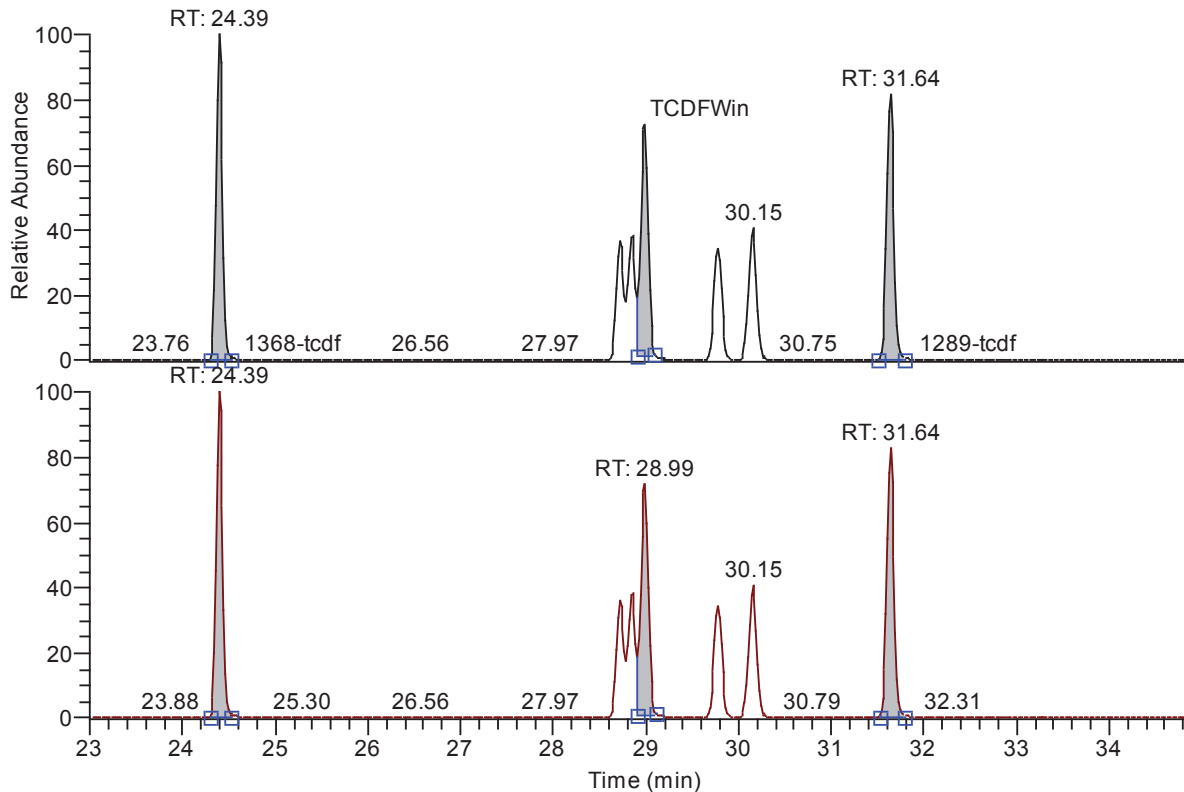
**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	30.10
RM1 Left Baseline Height	2967.36
RM1 Left Height	15368
RM1 Height	208496
GC Res (%) left	7.359587



Chromatogram

RT: 22.99 - 34.99 SM: 3G



NL:  
1.24E6  
m/z=  
305.88-  
305.91  
MS  
18NOV02-  
02

NL:  
9.69E5  
m/z=  
303.89-  
303.92  
MS  
18NOV02-  
02

Entry: TCDFWin Group: 1368-tcdf, 1289-tcdf

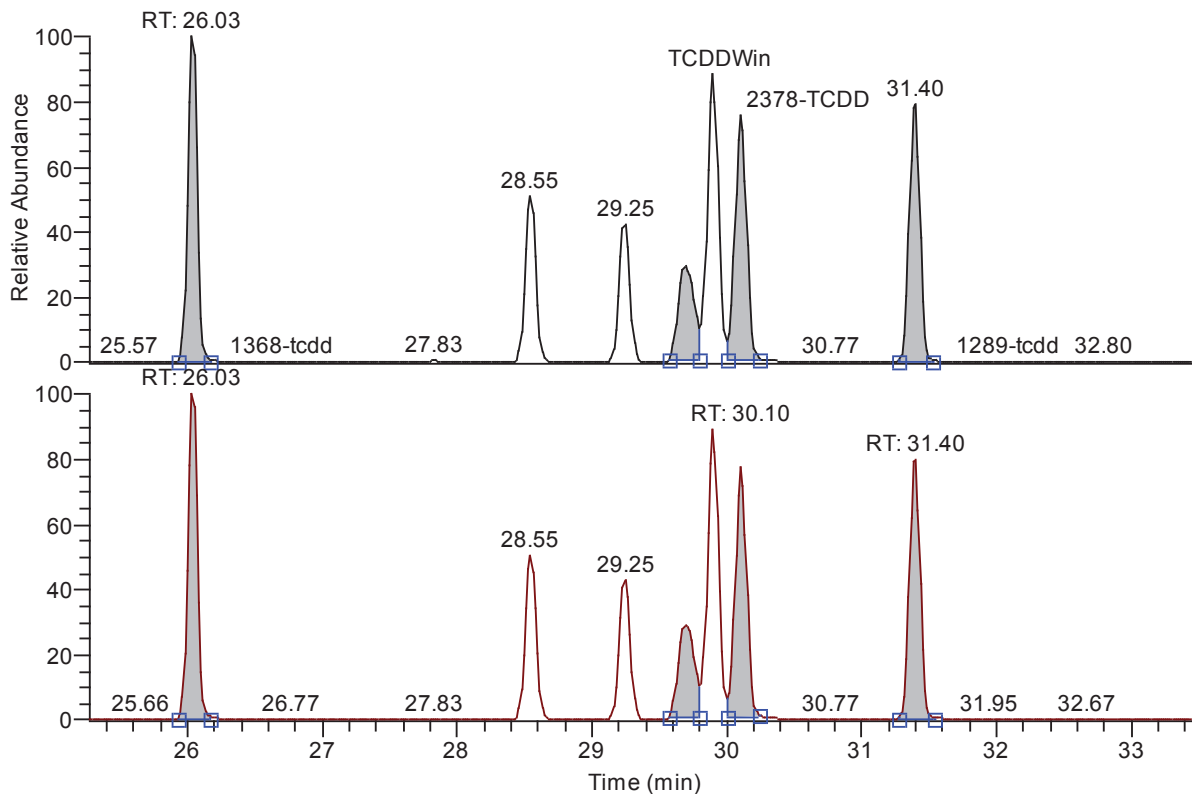
Entry Parameters

Compound Name	TCDF RT Window
Entry Identifier	TCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	28.99
QM Retention Time	28.99



**Chromatogram**

RT: 25.27 - 33.52 SM: 3G



NL:  
 3.47E5  
 m/z=  
 321.88-  
 321.91  
 MS  
 18NOV02-  
 02

NL:  
 2.73E5  
 m/z=  
 319.88-  
 319.91  
 MS  
 18NOV02-  
 02

Entry: TCDDWin Group: 1368-tcdd, 1289-tcdd, 2378-TCDD

**Entry Parameters**

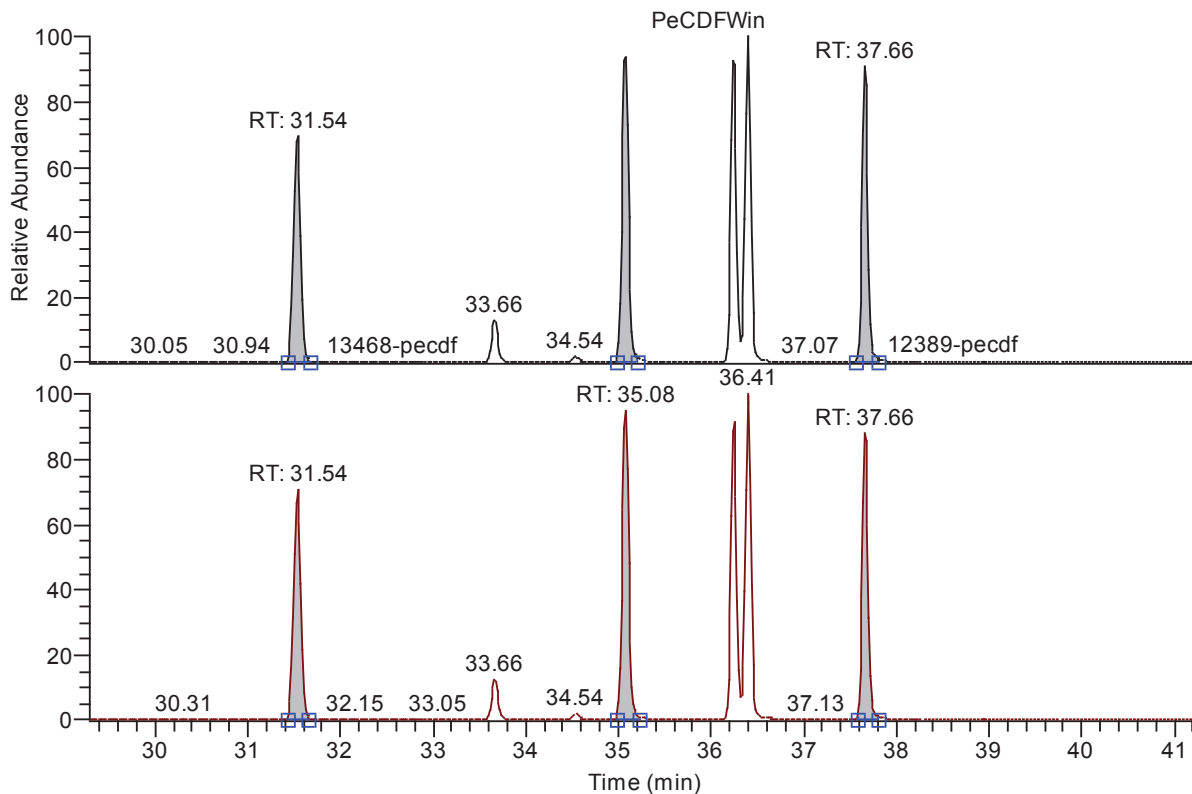
Compound Name	TCDD RT Window
Entry Identifier	TCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	29.69
QM Retention Time	29.69





### Chromatogram

RT: 29.28 - 41.28 SM: 3G



NL:  
3.73E5  
m/z=  
341.84-  
341.87  
MS  
18NOV02-  
02

NL:  
5.86E5  
m/z=  
339.84-  
339.88  
MS  
18NOV02-  
02

Entry: PeCDFWin Group: 13468-pecdf, 12389-pecdf

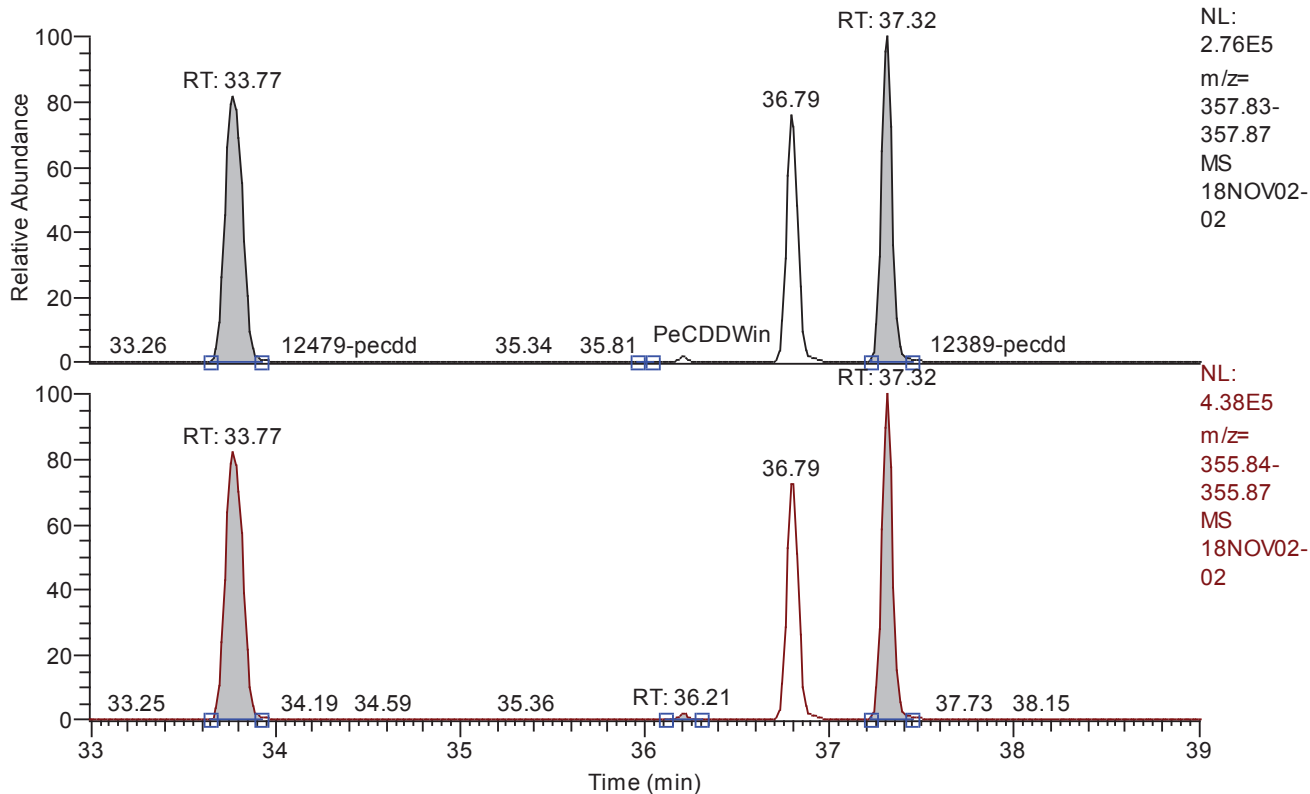
### Entry Parameters

Compound Name	PeCDF RT Window
Entry Identifier	PeCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	35.08
QM Retention Time	35.08



**Chromatogram**

RT: 32.99 - 39.01 SM: 3G



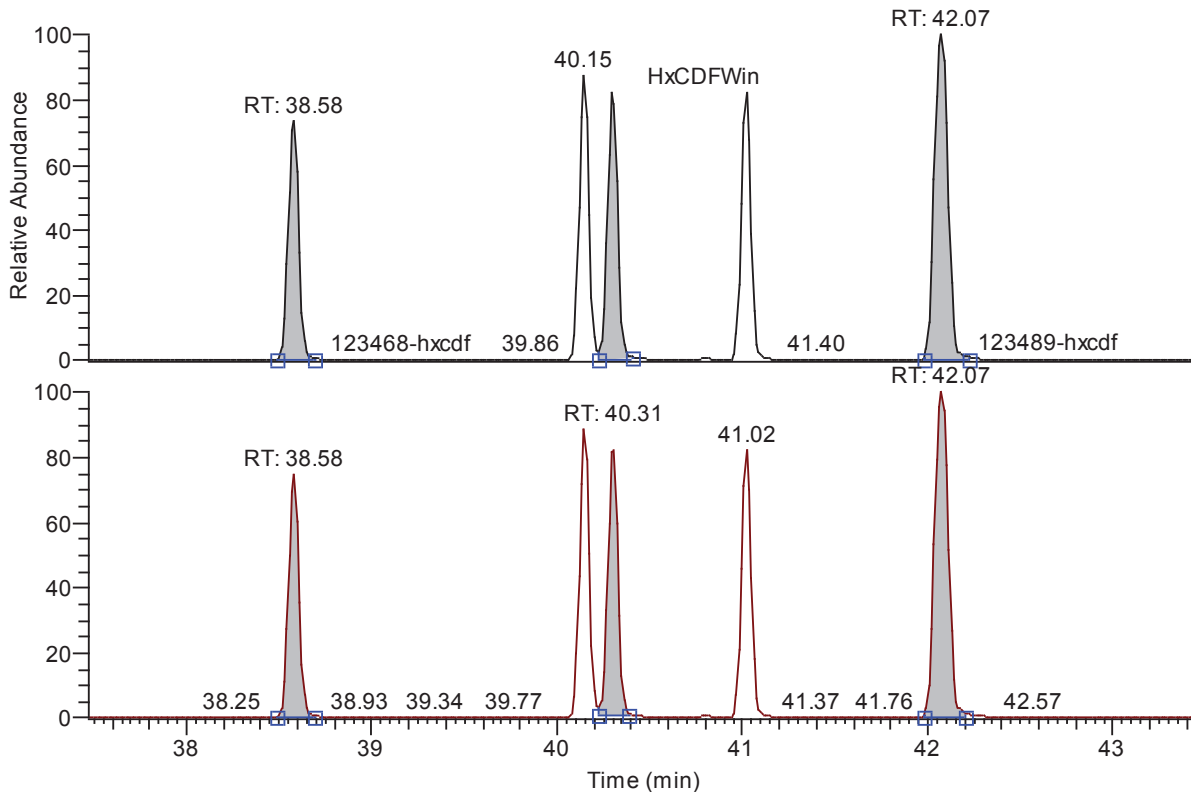
Entry: PeCDDWin Group: 12479-pecdd, 12389-pecdd

**Entry Parameters**

Compound Name	PeCDD RT Window
Entry Identifier	PeCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	36.01
QM Retention Time	36.01

Chromatogram

RT: 37.47 - 43.47 SM: 3G



NL:  
6.10E5  
m/z=  
375.80-  
375.84  
MS  
18NOV02-  
02

NL:  
7.53E5  
m/z=  
373.80-  
373.84  
MS  
18NOV02-  
02

Entry: HxCDFWin Group: 123468-hxcdf, 123489-hxcdf

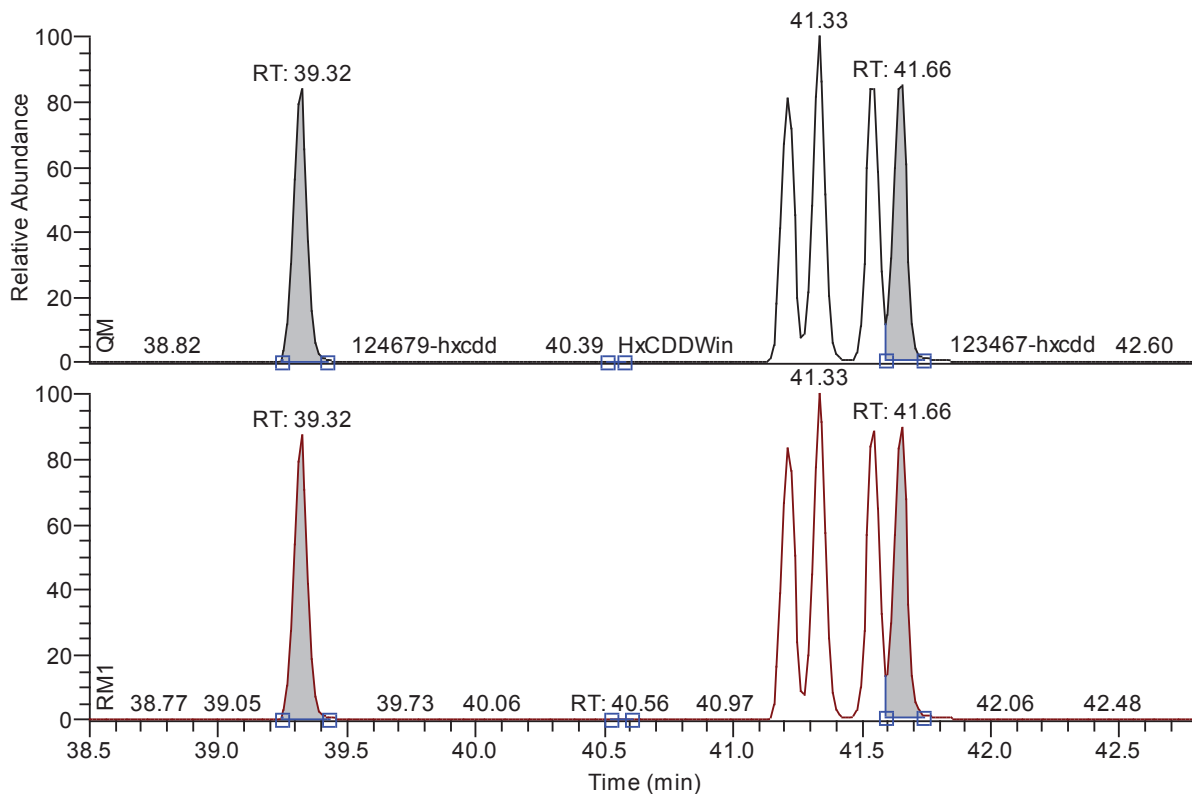
Entry Parameters

Compound Name	HxCDF RT Window
Entry Identifier	HxCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	40.29
QM Retention Time	40.29



**Chromatogram**

RT: 38.50 - 42.81 SM: 3G



NL:  
 3.88E5  
 m/z=  
 391.79-  
 391.83  
 MS  
 18NOV02-  
 02

NL:  
 4.71E5  
 m/z=  
 389.80-  
 389.84  
 MS  
 18NOV02-  
 02

Entry: HxCDDWin Group: 124679-hxcdd, 123467-hxcdd

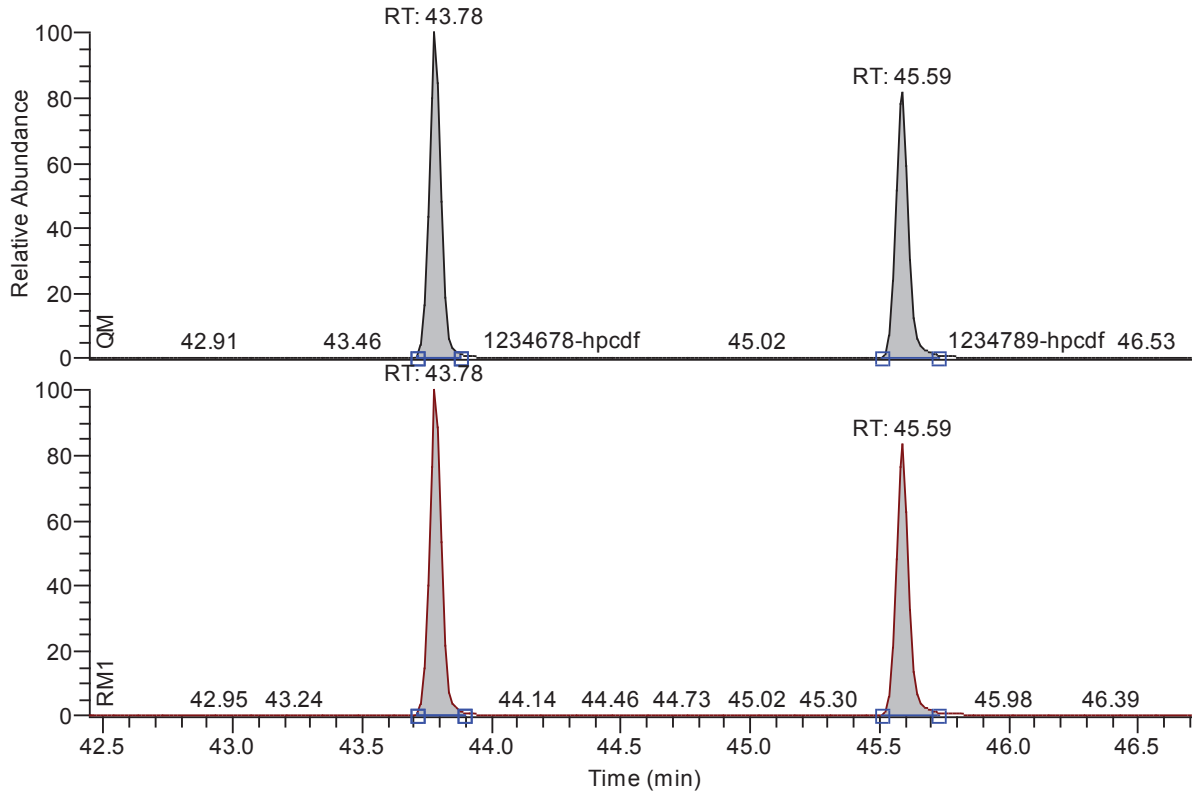
**Entry Parameters**

Compound Name	HxCDD RT Window
Entry Identifier	HxCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	40.54
QM Retention Time	40.54



### Chromatogram

RT: 42.44 - 46.74 SM: 3G



NL:  
5.61E5  
m/z=  
409.76-  
409.80  
MS  
18NOV02-  
02

NL:  
5.81E5  
m/z=  
407.76-  
407.80  
MS  
18NOV02-  
02

Entry: HpCDFWin Group: 1234678-hpcdf, 1234789-hpcdf

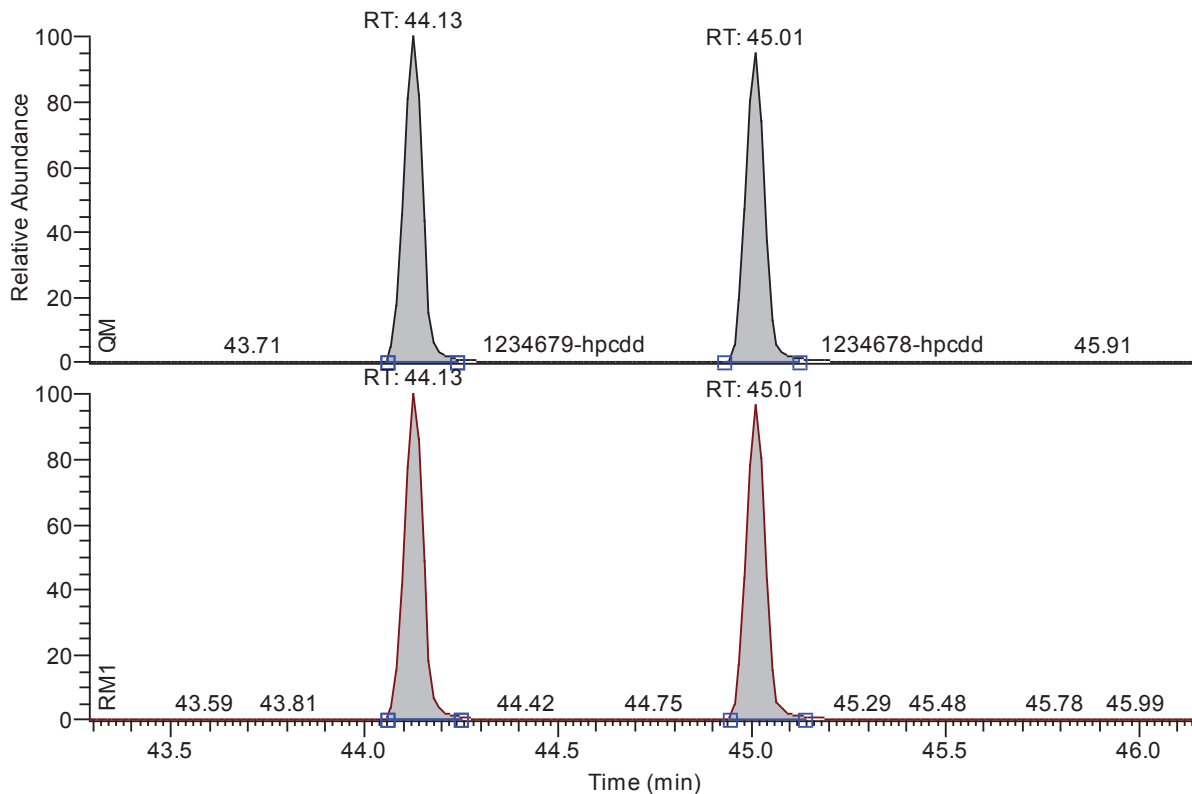
### Entry Parameters

Compound Name	HpCDF RT Window
Entry Identifier	HpCDFWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	43.78
QM Retention Time	43.78



### Chromatogram

RT: 43.29 - 46.16 SM: 3G



NL:  
4.19E5  
m/z=  
425.75-  
425.79  
MS  
18NOV02-  
02

NL:  
4.30E5  
m/z=  
423.76-  
423.80  
MS  
18NOV02-  
02

Entry: HpCDDWin Group: 1234679-hpcdd, 1234678-hpcdd

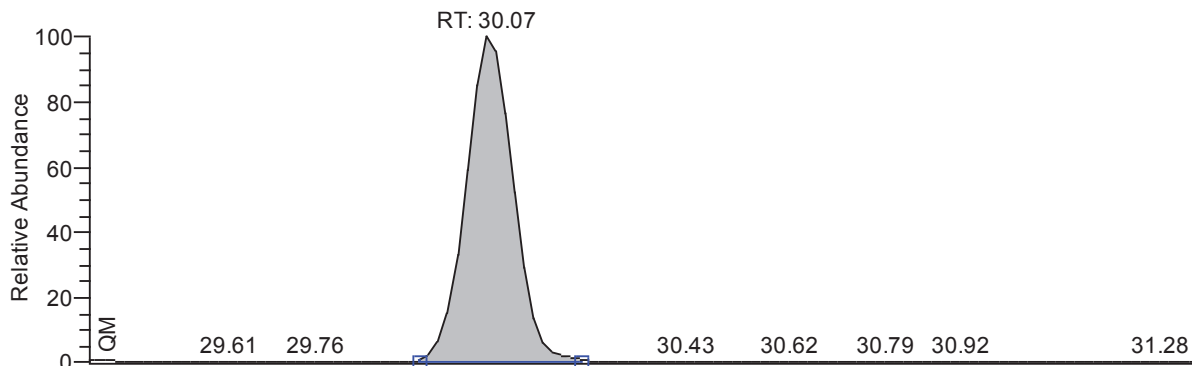
### Entry Parameters

Compound Name	HpCDD RT Window
Entry Identifier	HpCDDWin
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	44.13
QM Retention Time	44.13

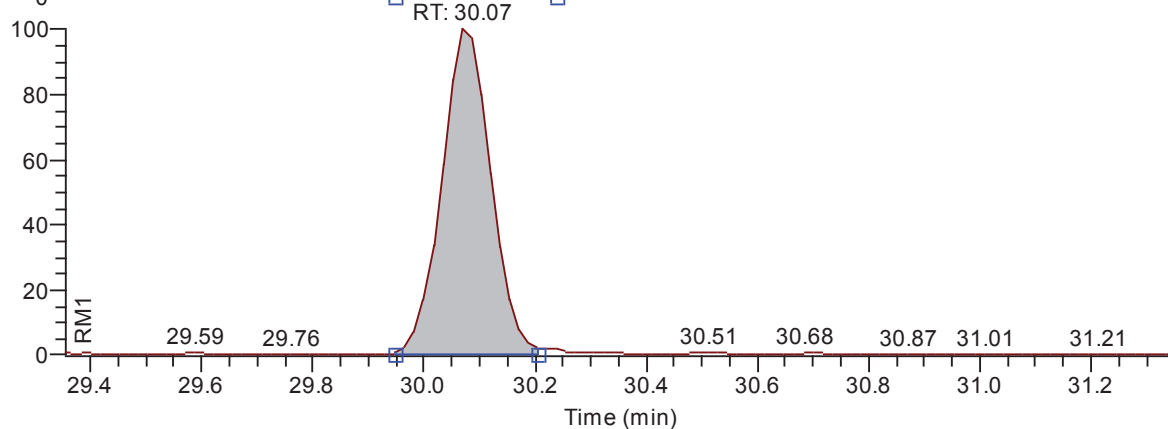


### Chromatogram

RT: 29.35 - 31.35 SM: 3G



NL:  
1.09E5  
m/z=  
333.93-  
333.94  
MS  
18NOV02-  
02



NL:  
8.28E4  
m/z=  
331.94-  
331.94  
MS  
18NOV02-  
02

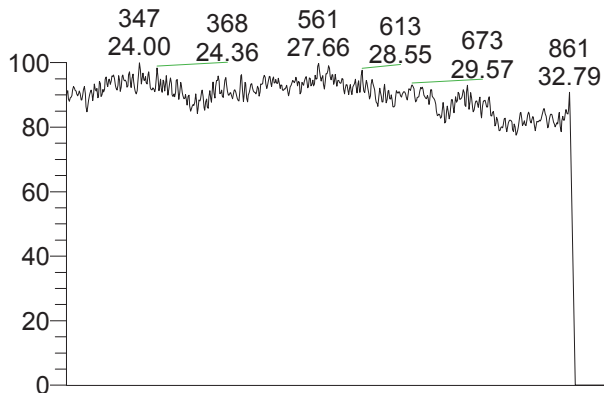
Entry: 13C12-2378-TCDD

### Entry Parameters

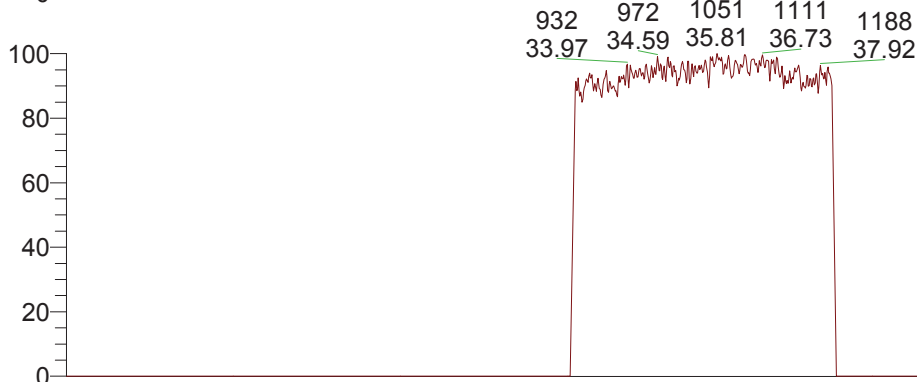
Compound Name	13C12-2378-TCDD
Entry Identifier	13C12-2378-TCDD
RRT Status	passed
RT Window [min]	1.00
Specified RT [min]	30.07
QM Retention Time	30.07



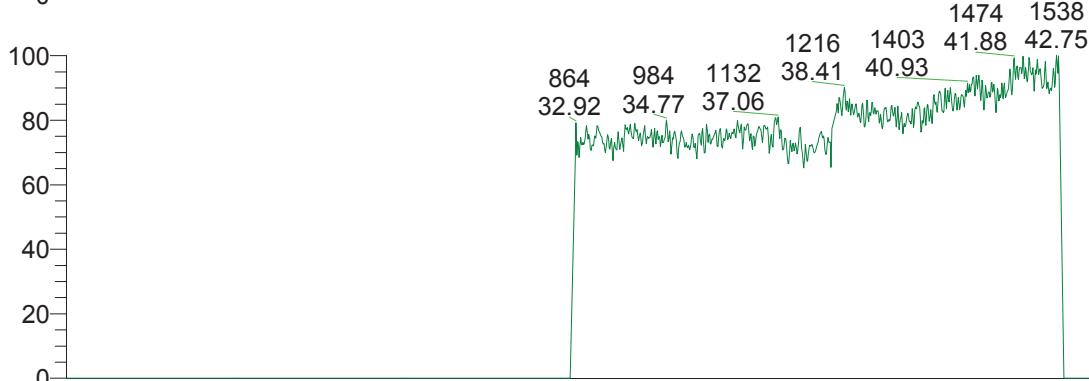
RT: 22.50 - 51.00



NL:  
9.39E5  
m/□  
291.9825-  
292.9825  
MS  
18NOV02-  
02



NL:  
7.78E5  
m/□  
330.4792-  
331.4792  
MS  
18NOV02-  
02



NL:  
5.54E5  
m/□  
380.4760-  
381.4760  
MS  
18NOV02-  
02



NL:  
2.11E5  
m/□  
404.4760-  
405.4760  
MS  
18NOV02-  
02



NL:  
2.26E5  
m/□  
442.4728-  
443.4728  
MS  
18NOV02-  
02

**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18



\*\*\* file opened Fri Nov 02 09:30:00 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 09:30:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 3d07faed-4c82-41ce-8278-6ae052e894c4

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.800000 minutes  
MID window end time was 32.800000 minutes



18NOV02-02

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	99.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	217.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	192.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0180	FVINLET	0.0426	FVSR	0.0327
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1451960.7165	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9817	RELEN	0.0000
RES	10212.6873	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.6e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10283.  
MID Time window 2: Resolution is 10694.  
MID Time window 3: Resolution is 10705.  
MID Time window 4: Resolution is 10695.



18NOV02-02

MID Time Window 5: Resolution is 11018.  
MID Time Window 6: Resolution is 10212.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 10:21:01 2018  
\*\*\*



DF17280-18NOV02DFICAL									
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18NOV02-06	18NOV02-07	18NOV02-08	18NOV02-09	18NOV02-10	18NOV02-11			
2378-TCDF	1.0468	0.9207	0.8678	0.8842	0.9153	0.9050	0.9233	0.0637	6.90
2378-TCDD	1.1500	1.0462	1.0494	1.0694	1.1394	1.1105	1.0942	0.0455	4.16
12378-PeCDF	0.8942	0.8029	0.8203	0.8486	0.8684	0.8661	0.8501	0.0336	3.95
23478-PeCDF	0.9834	0.9119	0.9162	0.9400	0.9691	0.9848	0.9509	0.0328	3.45
12378-PeCDD	0.8974	0.8451	0.8770	0.8990	0.9410	0.9150	0.8957	0.0327	3.65
123478-HxCDF	1.0926	1.0276	1.0333	1.0616	1.0840	1.1087	1.0680	0.0329	3.08
123678-HxCDF	1.1078	1.0214	1.0028	1.0241	1.0527	1.0547	1.0439	0.0370	3.55
234678-HxCDF	1.1431	1.0724	1.0707	1.1002	1.1329	1.1310	1.1084	0.0319	2.88
123478-HxCDD	0.9280	0.8846	0.8846	0.9219	0.9320	0.9129	0.9107	0.0212	2.33
123678-HxCDD	0.9476	0.8508	0.8844	0.9007	0.9310	0.9110	0.9043	0.0344	3.80
123789-HxCDD	0.9179	0.9508	0.9437	0.9539	0.9799	0.9786	0.9541	0.0232	2.43
123789-HxCDF	1.0823	0.9770	0.9737	1.0046	1.0344	1.0348	1.0178	0.0413	4.05
1234678-HpCDF	1.1705	1.0959	1.1021	1.1376	1.1715	1.2087	1.1477	0.0440	3.83
1234678-HpCDD	0.9797	0.8950	0.9018	0.9312	0.9499	0.9617	0.9366	0.0336	3.59
1234789-HpCDF	1.2900	1.1083	1.1349	1.1590	1.1978	1.1976	1.1813	0.0638	5.40
OCDD	0.8862	0.8771	0.8825	0.9157	0.9305	0.9799	0.9120	0.0393	4.31
OCDF	0.8758	0.8259	0.8007	0.8225	0.8329	0.9178	0.8459	0.0429	5.08
13C12-1278-TCDD (CRS)	1.1691	1.0529	0.9801	0.9919	0.9737	1.0270	1.0324	0.0734	7.11
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-123468-HxCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	1.8783	1.7650	1.7520	1.7318	1.7506	1.7440	1.7703	0.0540	3.05
13C12-2378-TCDD	1.0876	0.9995	0.9371	0.9621	0.9157	0.9593	0.9769	0.0610	6.25
13C12-12378-PeCDF	1.8241	1.5987	1.5457	1.5666	1.5993	1.6577	1.6320	0.1014	6.22
13C12-23478-PeCDF	1.8460	1.5650	1.5507	1.5764	1.5890	1.6728	1.6333	0.1127	6.90
13C12-12378-PeCDD	1.0860	0.9302	0.9202	0.9472	0.9437	1.0232	0.9751	0.0654	6.71
13C12-123478-HxCDF	1.2803	1.2588	1.2446	1.2155	1.2617	1.3344	1.2659	0.0399	3.15
13C12-123678-HxCDF	1.3561	1.3195	1.3063	1.2801	1.3211	1.4298	1.3355	0.0524	3.92
13C12-234678-HxCDF	1.2685	1.1989	1.2152	1.1926	1.2202	1.3240	1.2366	0.0505	4.08
13C12-123478-HxCDD	0.9863	0.9592	0.9533	0.9475	0.9956	1.0933	0.9892	0.0544	5.50
13C12-123678-HxCDD	1.0261	0.9821	0.9847	0.9773	1.0135	1.1058	1.0149	0.0486	4.78
13C12-123789-HxCDD	0.9657	0.9341	0.9182	0.9355	0.9729	1.0464	0.9622	0.0462	4.80
13C12-123789-HxCDF	1.1350	1.1049	1.1092	1.0914	1.1122	1.2062	1.1265	0.0415	3.69
13C12-1234678-HpCDF	1.1951	1.1316	1.1427	1.1199	1.1350	1.2628	1.1645	0.0548	4.71
13C12-1234678-HpCDD	0.9917	0.9253	0.9544	0.9336	0.9476	1.0629	0.9693	0.0513	5.30
13C12-1234789-HpCDF	0.9696	0.9052	0.9334	0.9202	0.9269	1.0823	0.9563	0.0654	6.83
13C12-OCDD	0.9559	0.8585	0.8926	0.8918	0.9014	1.1529	0.9422	0.1079	11.46
13C12-OCDF	1.2773	1.1447	1.2023	1.1936	1.2077	1.5235	1.2582	0.1367	10.87
Total TCDF	1.0467	0.9207	0.8678	0.8842	0.9153	0.9050	0.9233	0.0636	6.89
Total TCDD	1.1502	1.0462	1.0494	1.0694	1.1394	1.1105	1.0942	0.0455	4.16
Total PeCDD	0.8974	0.8451	0.8770	0.8990	0.9410	0.9150	0.8957	0.0327	3.65
Total PeCDF	0.9391	0.8568	0.8683	0.8944	0.9186	0.9257	0.9005	0.0330	3.66
Total HpCDD	0.9797	0.8950	0.9018	0.9312	0.9499	0.9617	0.9366	0.0336	3.59
Total HxCDF	1.1071	1.0255	1.0209	1.0482	1.0765	1.0828	1.0602	0.0343	3.23
Total HxCDD	0.9315	0.8946	0.9035	0.9251	0.9473	0.9335	0.9226	0.0198	2.15
Total HpCDF	1.2240	1.1014	1.1169	1.1472	1.1833	1.2036	1.1627	0.0489	4.21



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 14:38  
Number of Entries 64  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-06.quan  
Data w:\18nov02\18nov02-06.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.11	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.77	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.12	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.63	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.95	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.06	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.02	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.35	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.17	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.11	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.77	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.06	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.12	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.63	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.56	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/02 14:38
Number of Entries	64
Comment	
Vial	3
Sample Name	CALDF11837C
Sample ID	CSL01
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	w:\18nov02\18nov02-06.quan
Data	w:\18nov02\18nov02-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

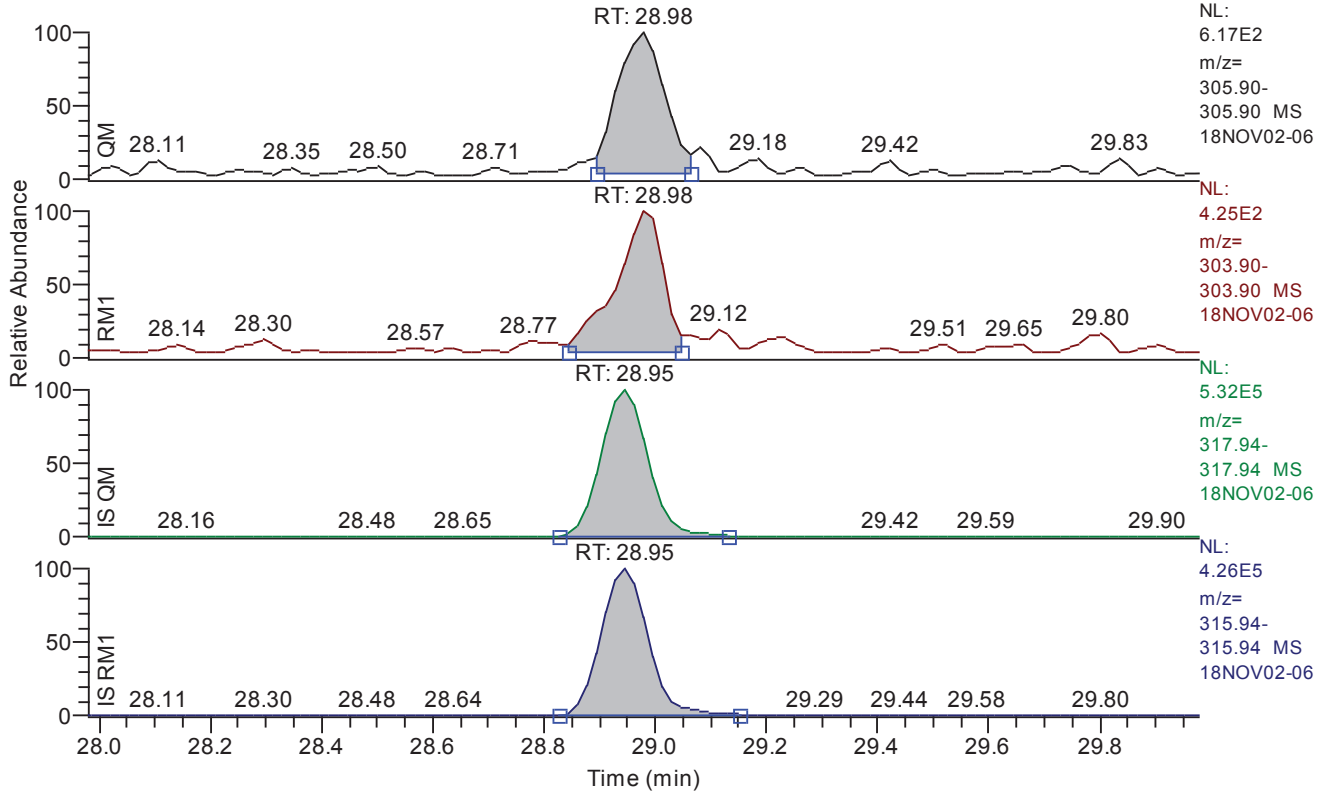
**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0



**Chromatogram**

RT: 27.98 - 29.98 SM: 3G



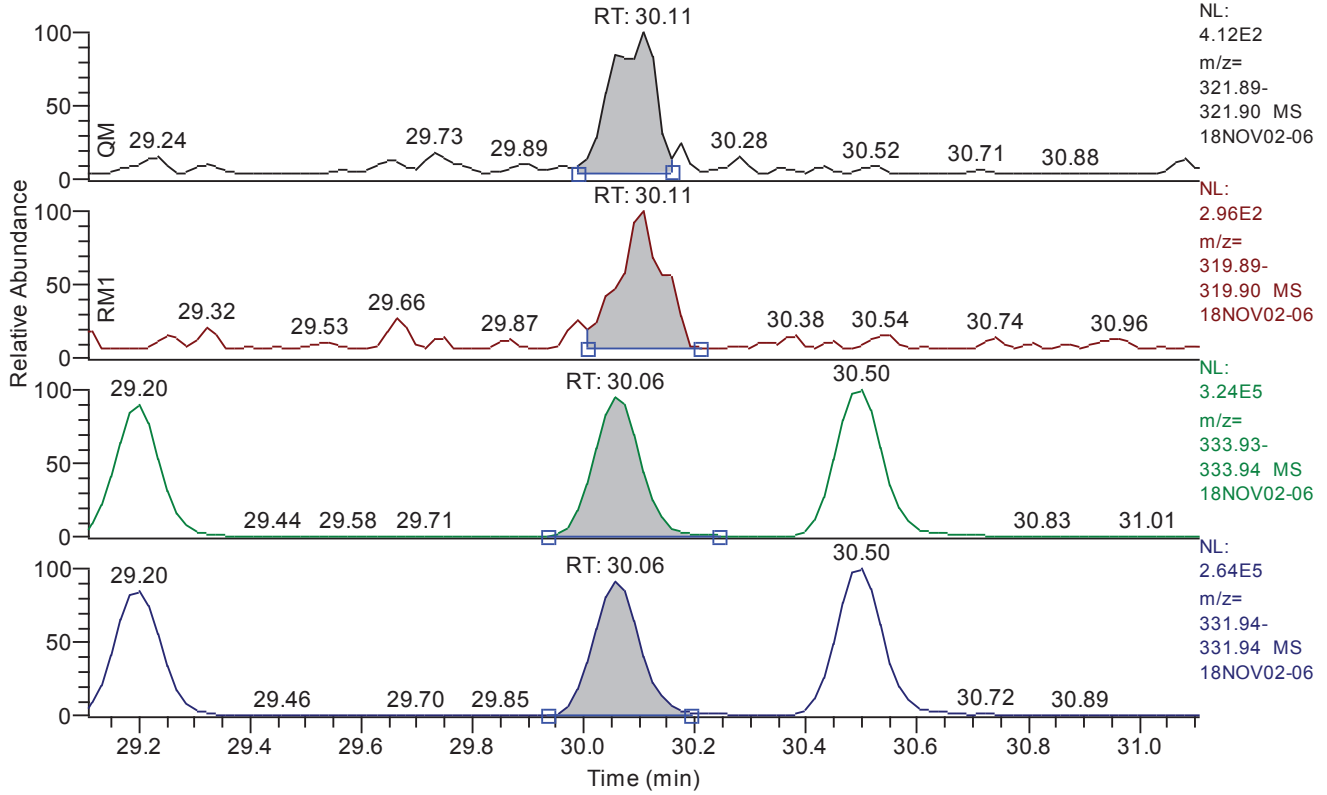
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	3558
QM Integration Mode	M
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	48
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.11 - 31.11 SM: 3G



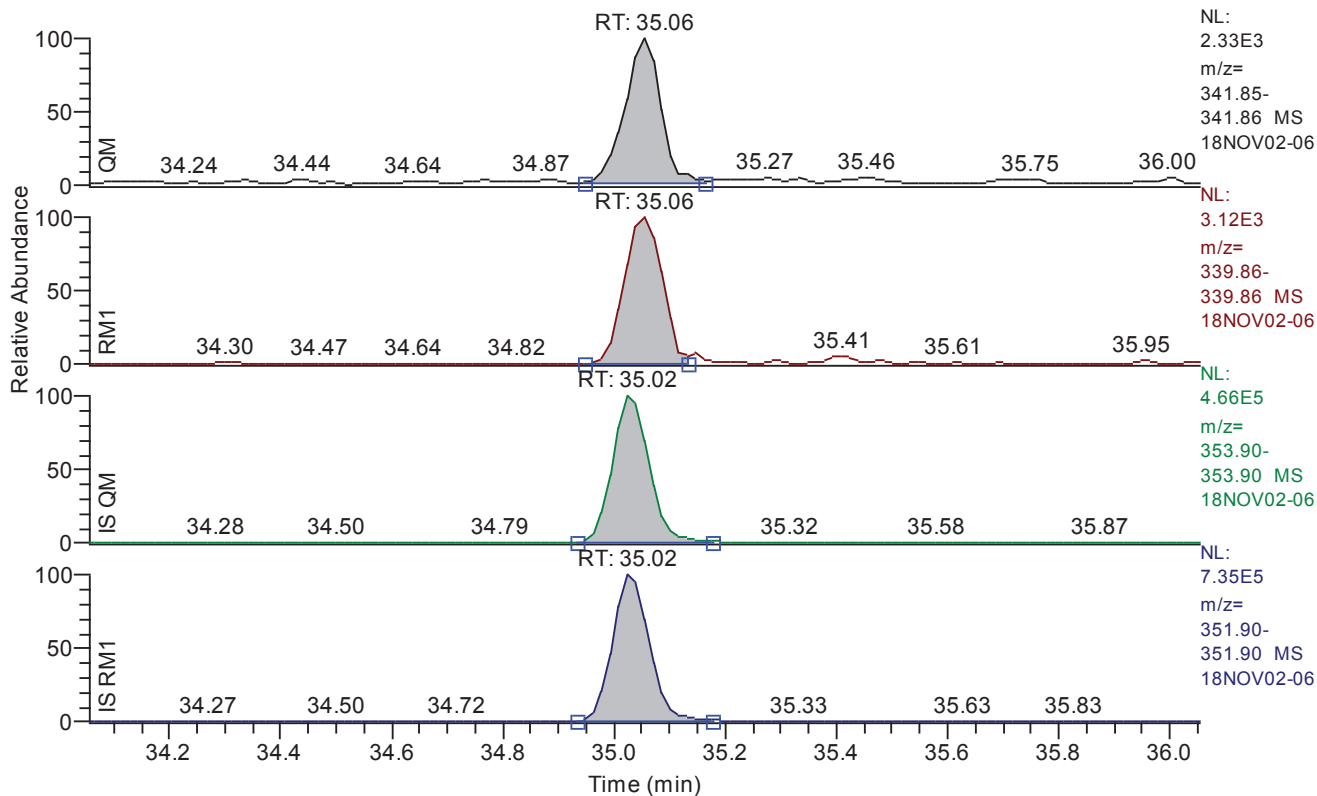
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	2232
QM Integration Mode	M
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	47
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 34.06 - 36.06 SM: 3G



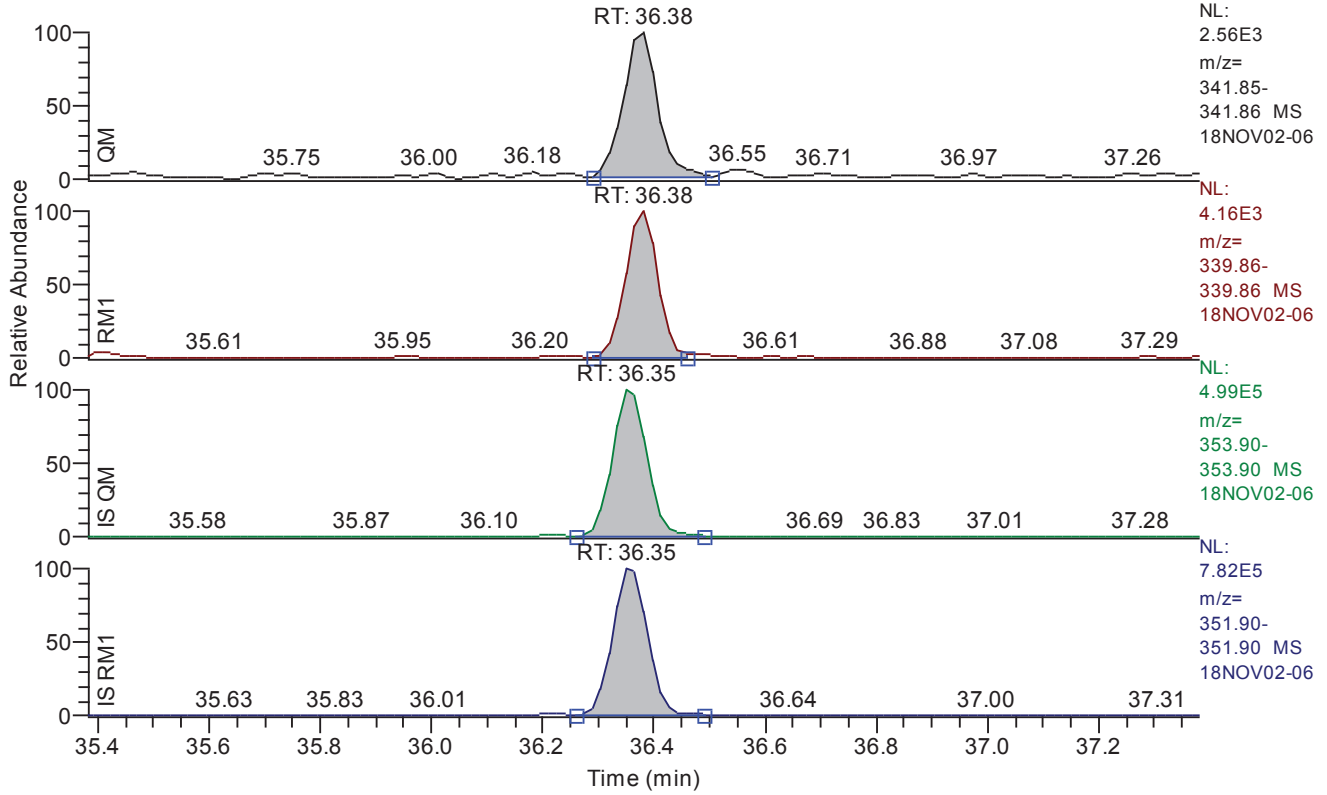
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	10121
QM Integration Mode	A
RM1 Area	14622
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	233
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.38 - 37.38 SM: 3G



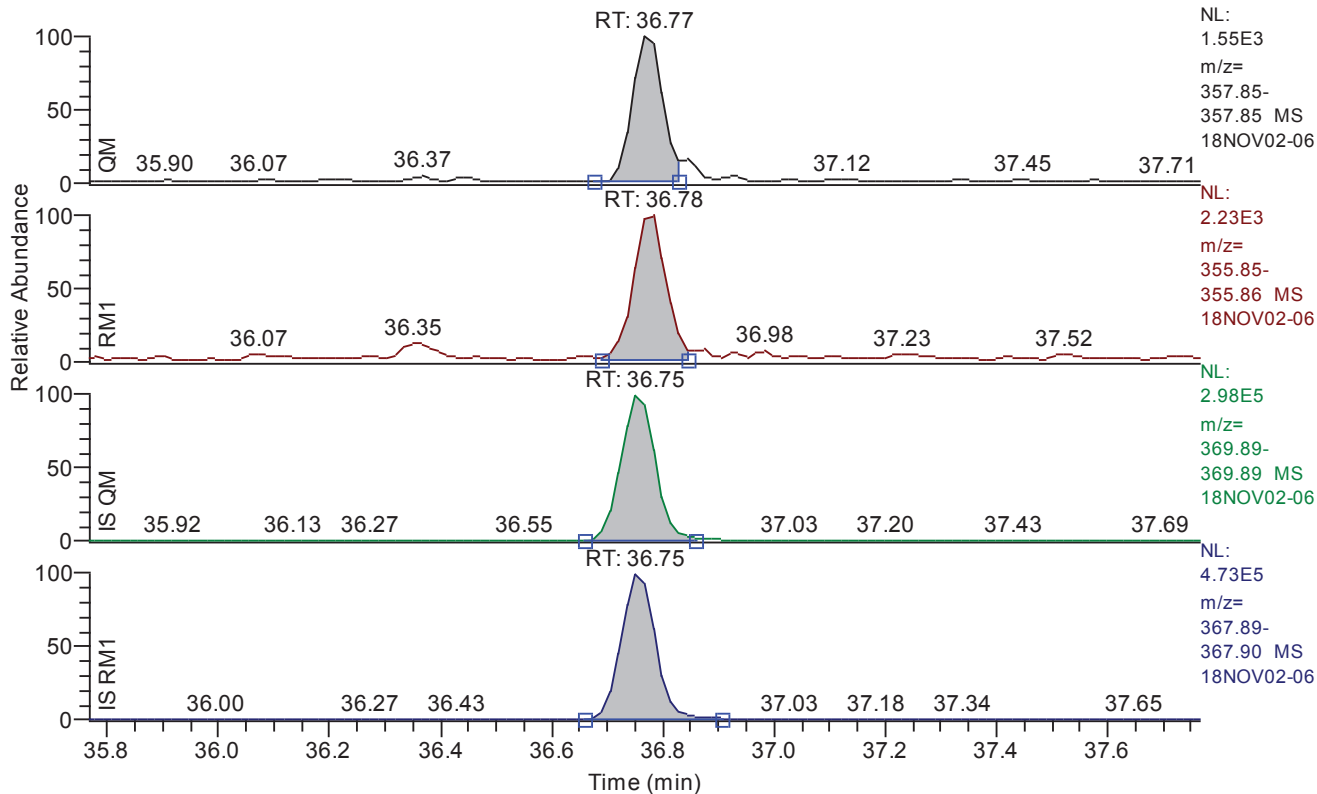
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	10872
QM Integration Mode	A
RM1 Area	16666
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	289
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.77 - 37.77 SM: 3G



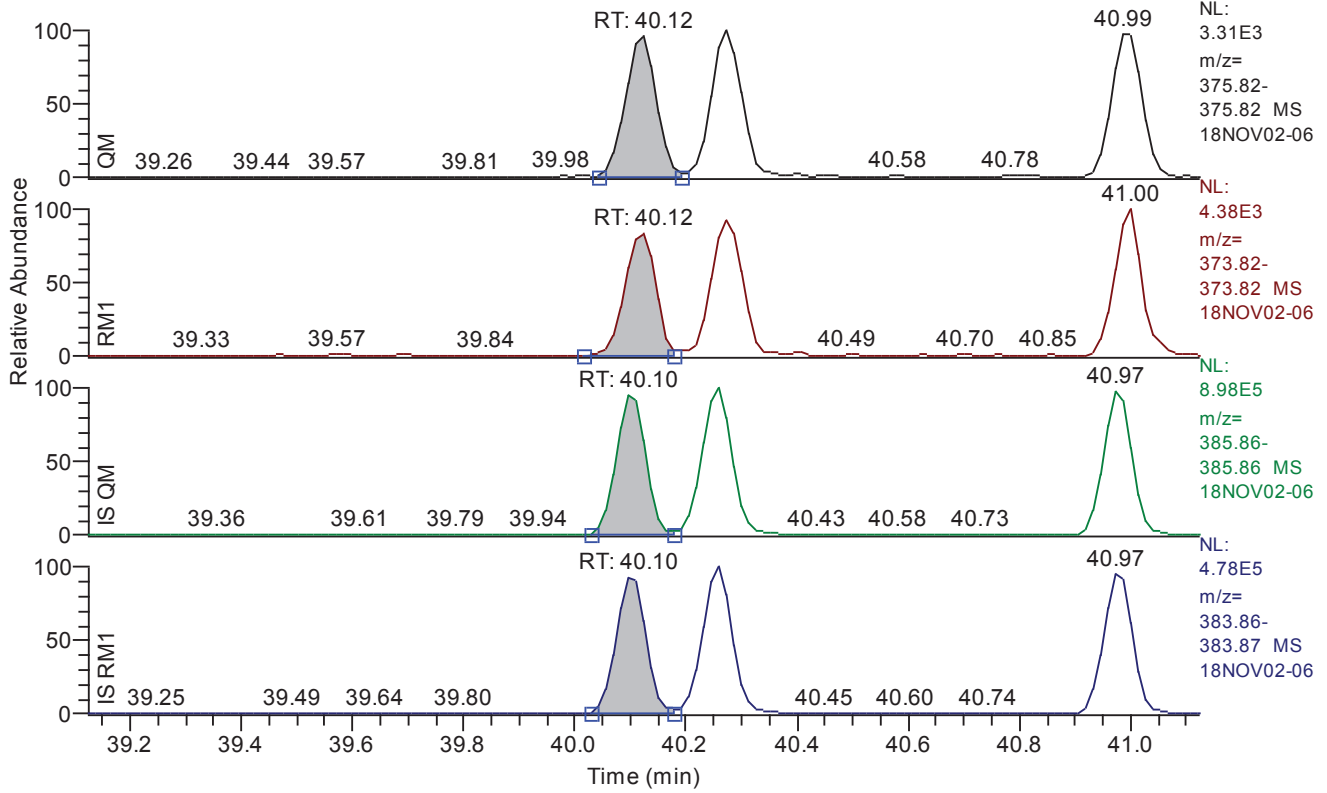
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.77
QM Area	5800
QM Integration Mode	A
RM1 Area	8984
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	124
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.12 - 41.12 SM: 3G

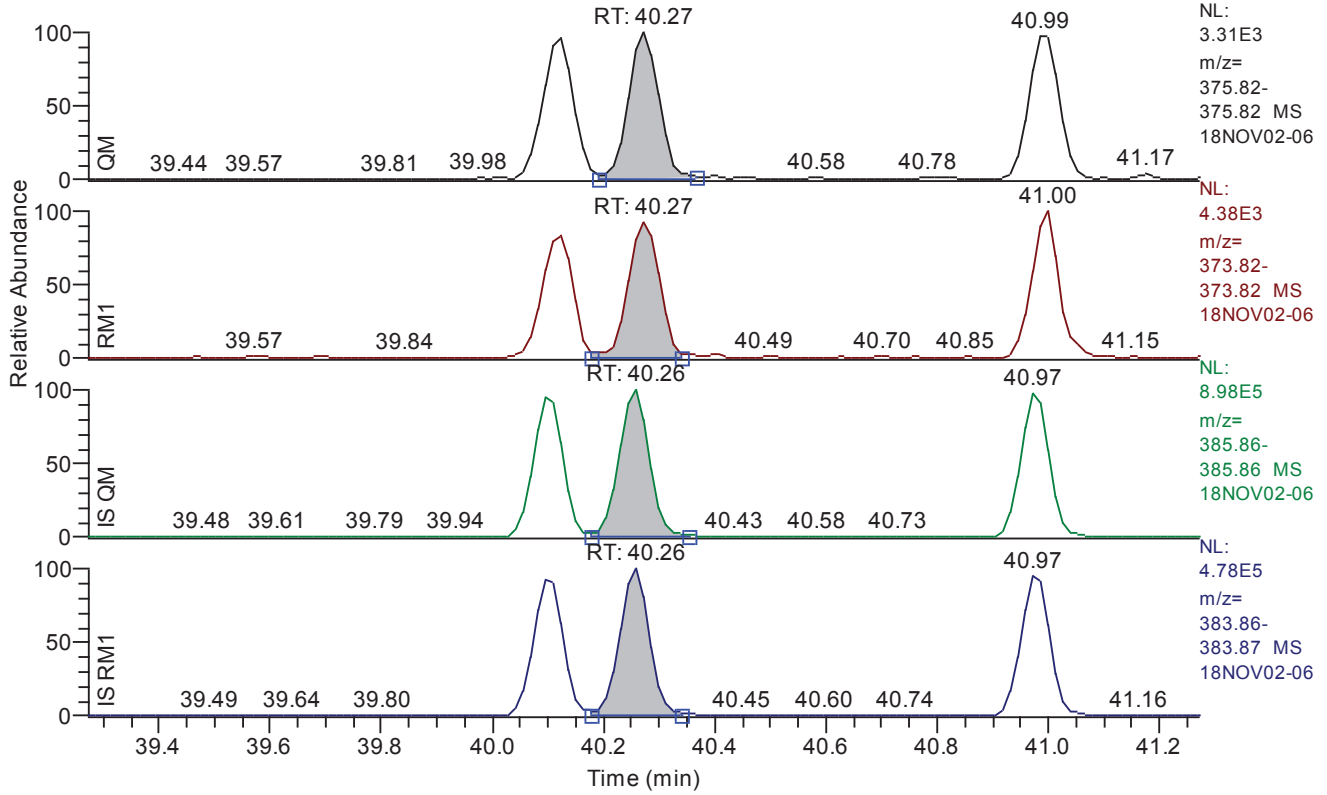


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.12
QM Area	12161
QM Integration Mode	A
RM1 Area	14095
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	246
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



NL: 3.31E3  
m/z= 375.82-375.82 MS  
18NOV02-06

NL: 4.38E3  
m/z= 373.82-373.82 MS  
18NOV02-06

NL: 8.98E5  
m/z= 385.86-385.86 MS  
18NOV02-06

NL: 4.78E5  
m/z= 383.86-383.87 MS  
18NOV02-06

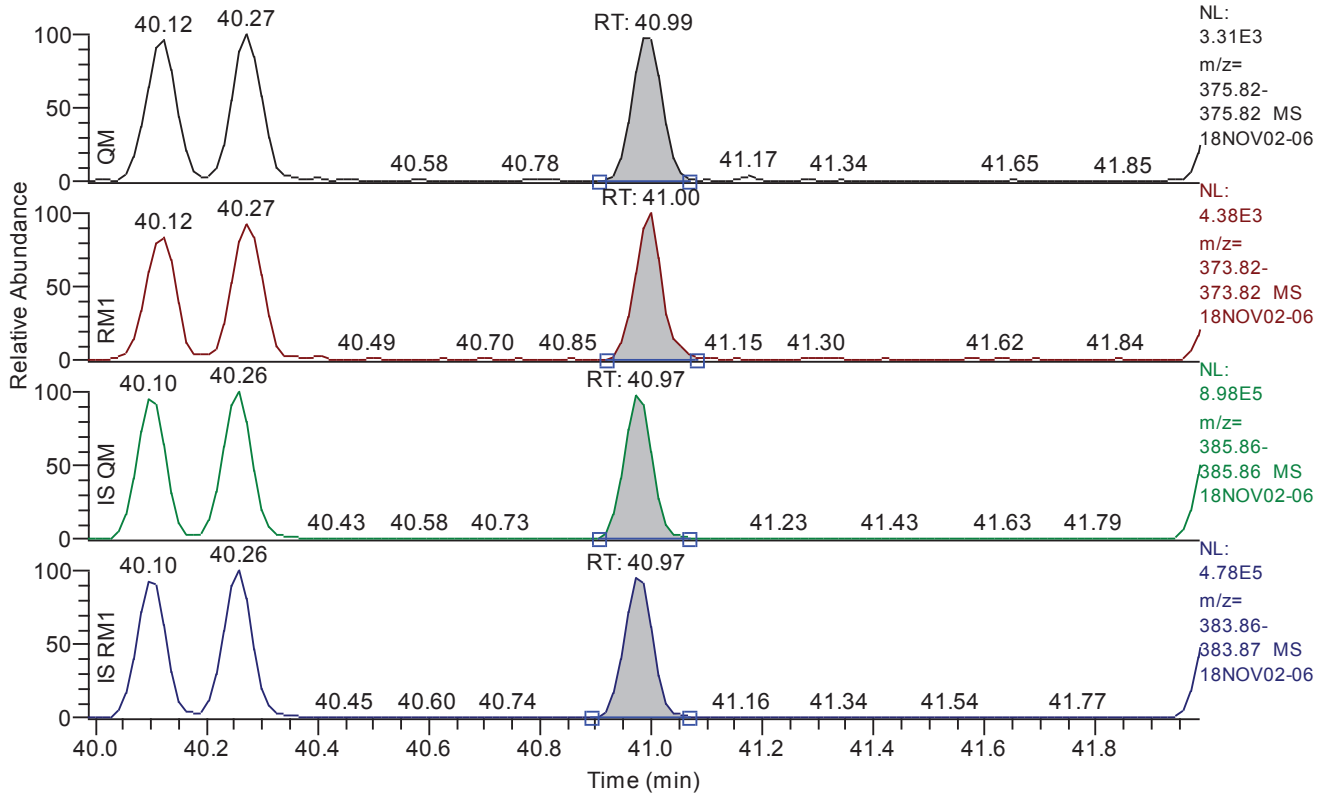
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	12379
QM Integration Mode	A
RM1 Area	15820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	263
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.99 - 41.99 SM: 3G



**Entry Parameters**

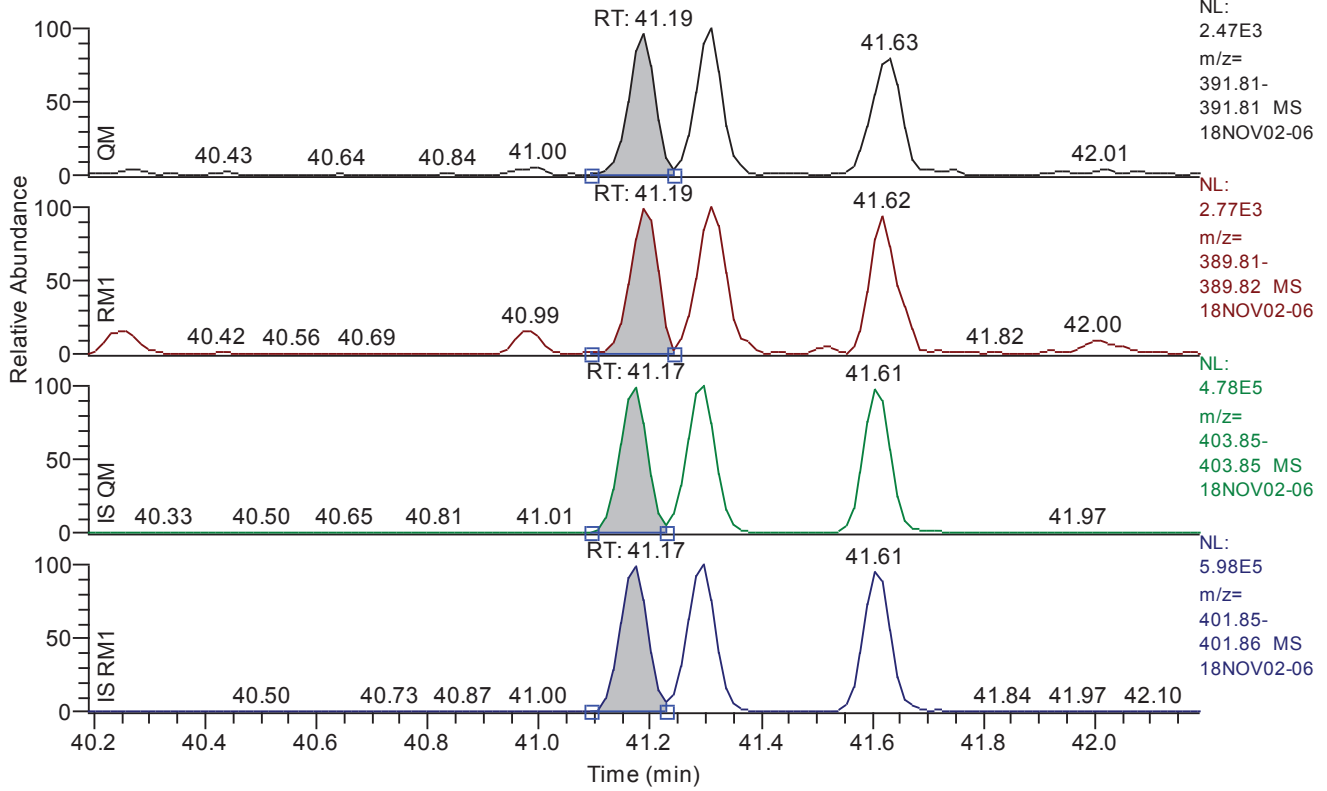
Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	12350
QM Integration Mode	A
RM1 Area	14868
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	272
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 40.19 - 42.19 SM: 3G



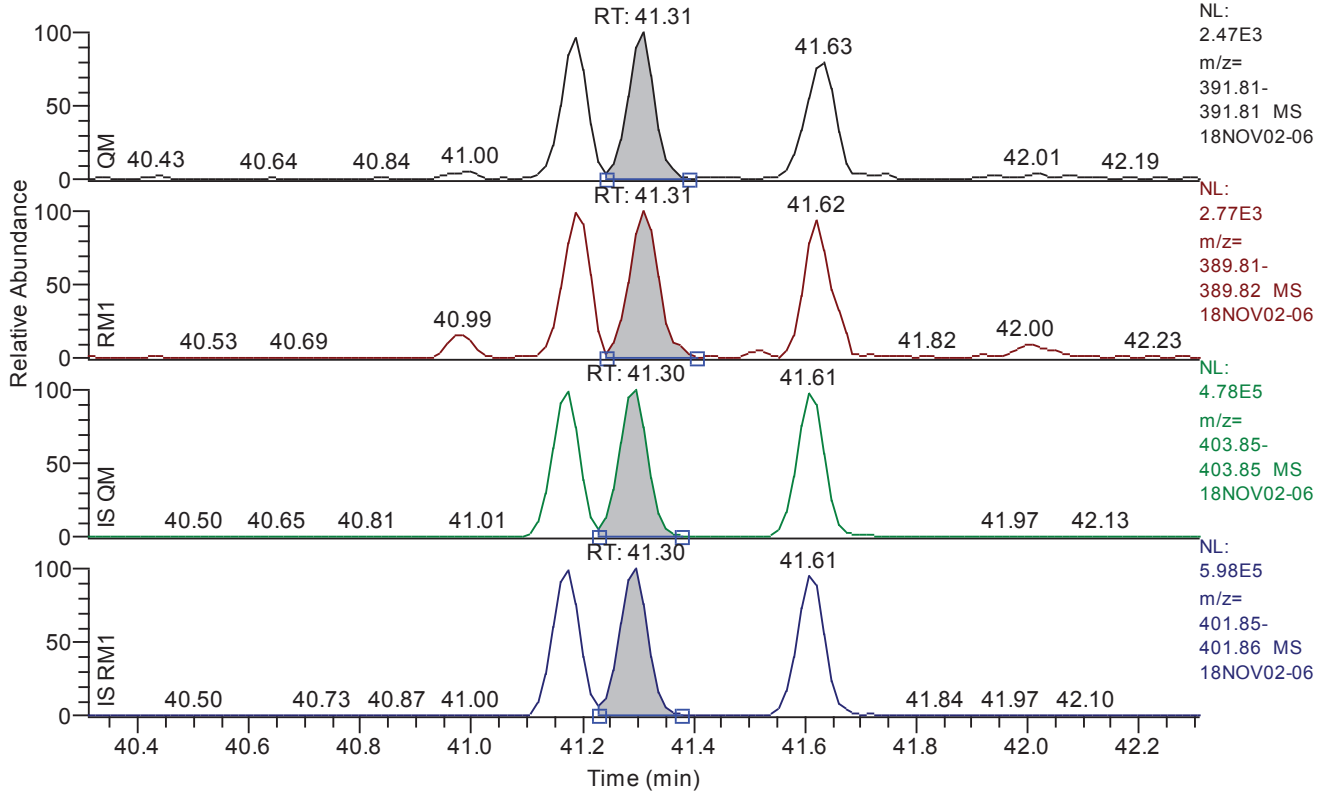
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	7743
QM Integration Mode	A
RM1 Area	9437
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	189
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



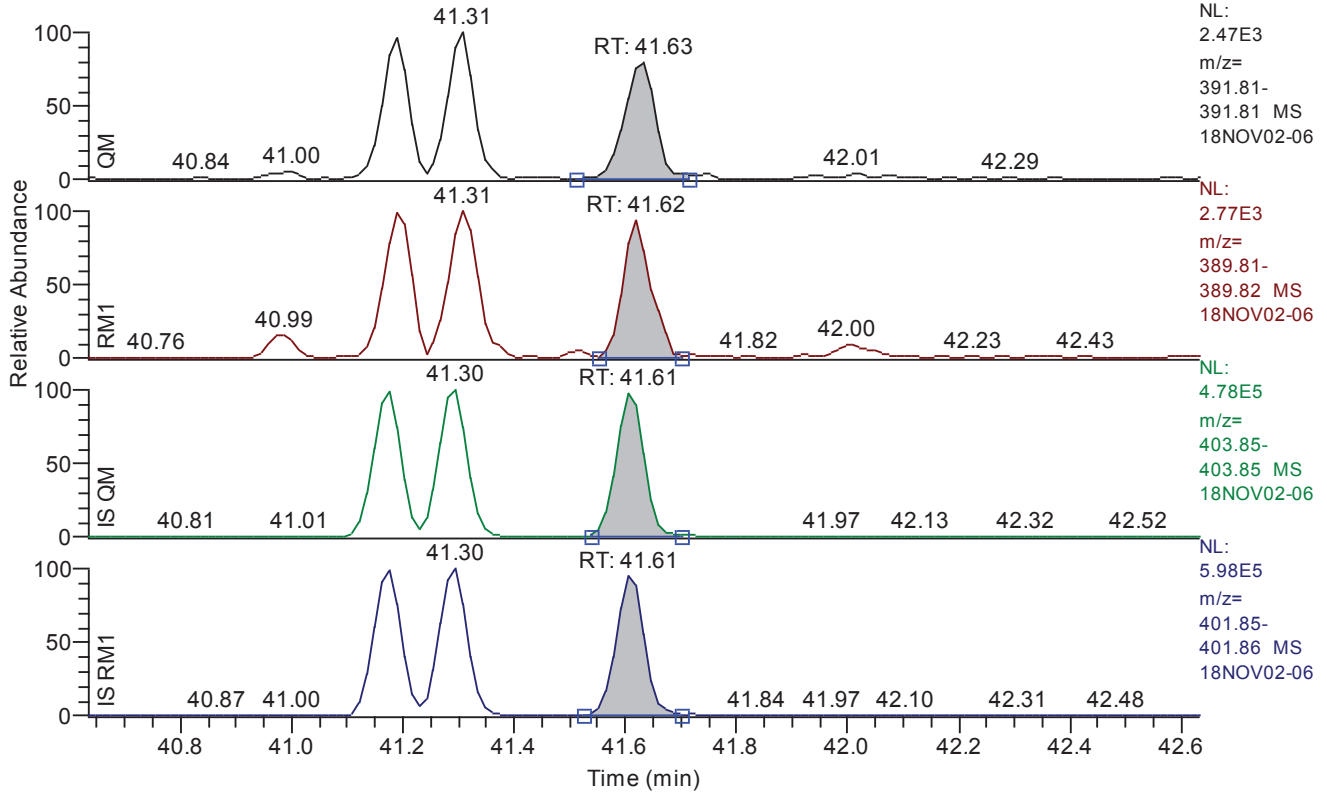
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	8097
QM Integration Mode	A
RM1 Area	10153
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	192
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.63 - 42.63 SM: 3G



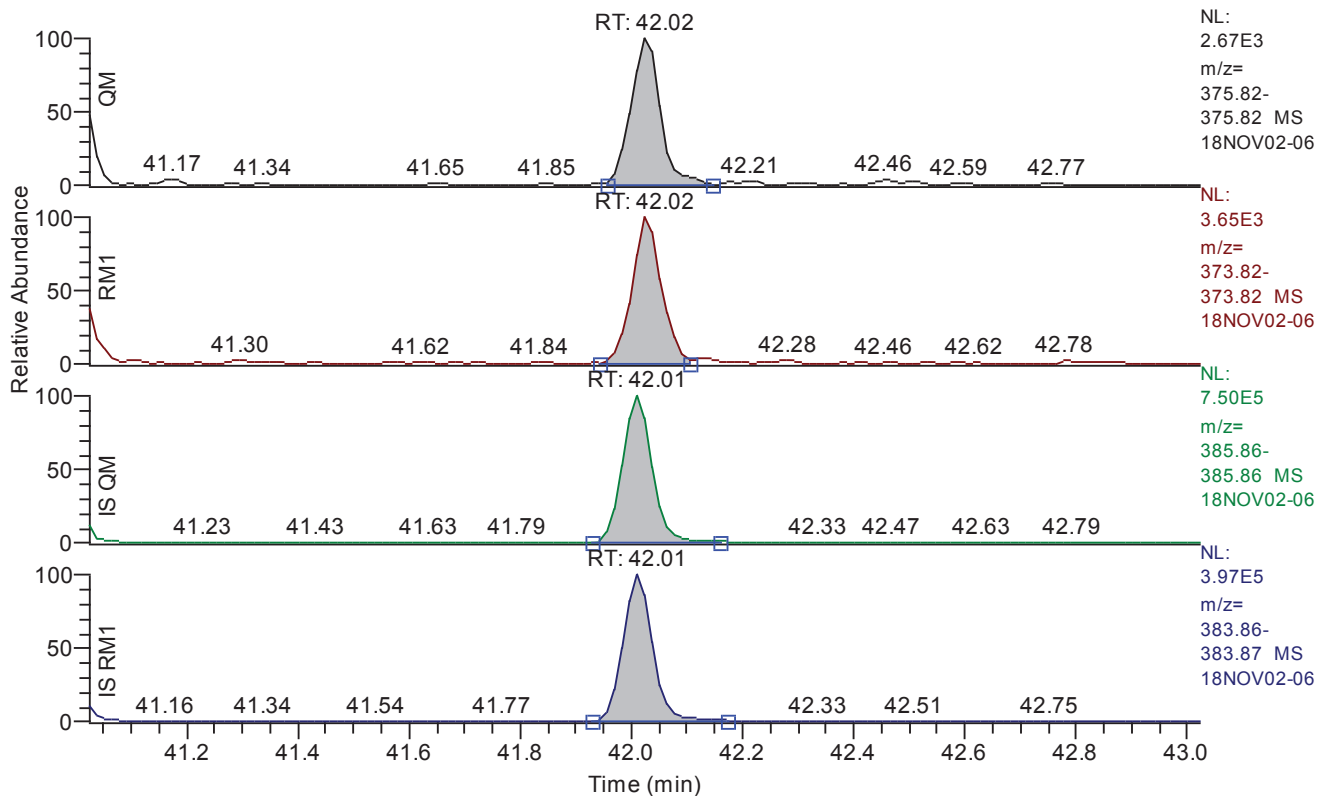
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.63
QM Area	7595
QM Integration Mode	A
RM1 Area	9044
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	168
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.02 - 43.02 SM: 3G



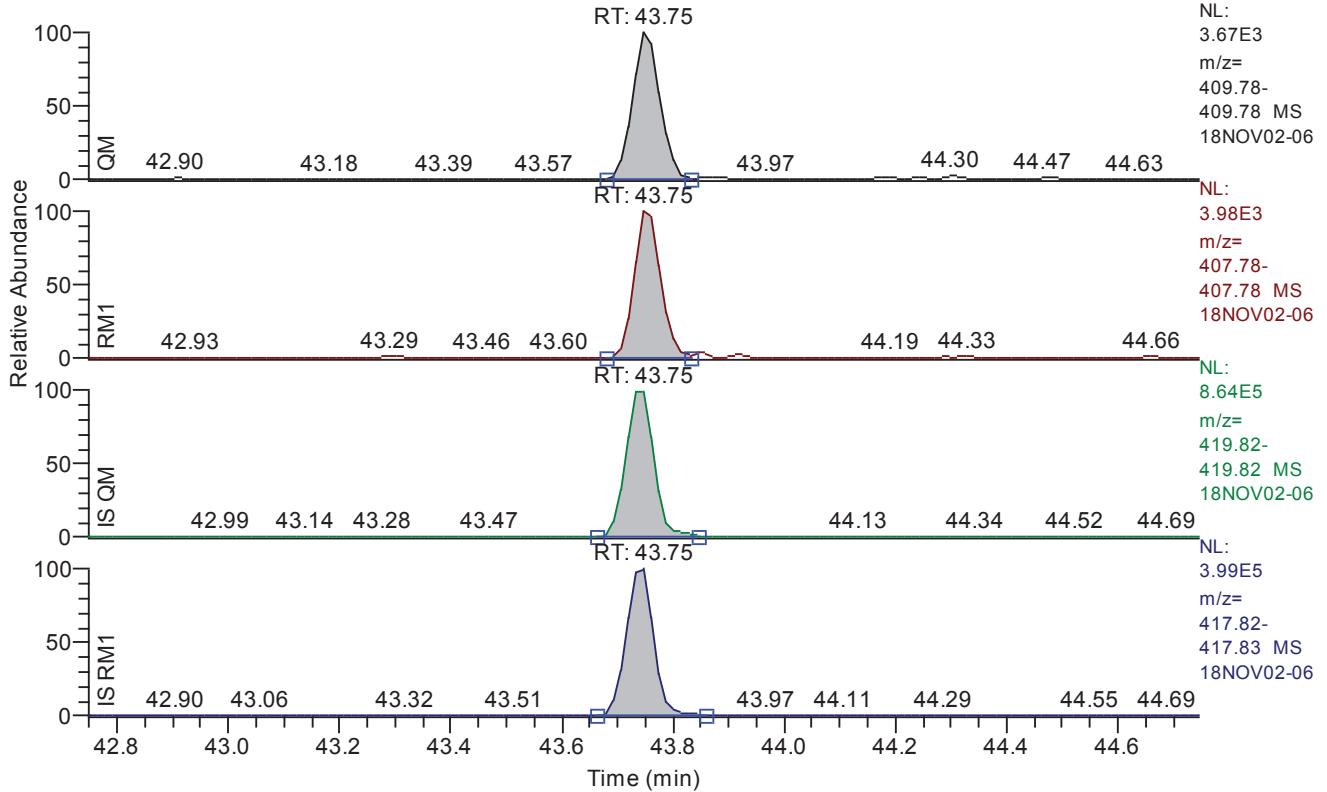
**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	9725
QM Integration Mode	A
RM1 Area	13333
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	225
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 42.75 - 44.75 SM: 3G



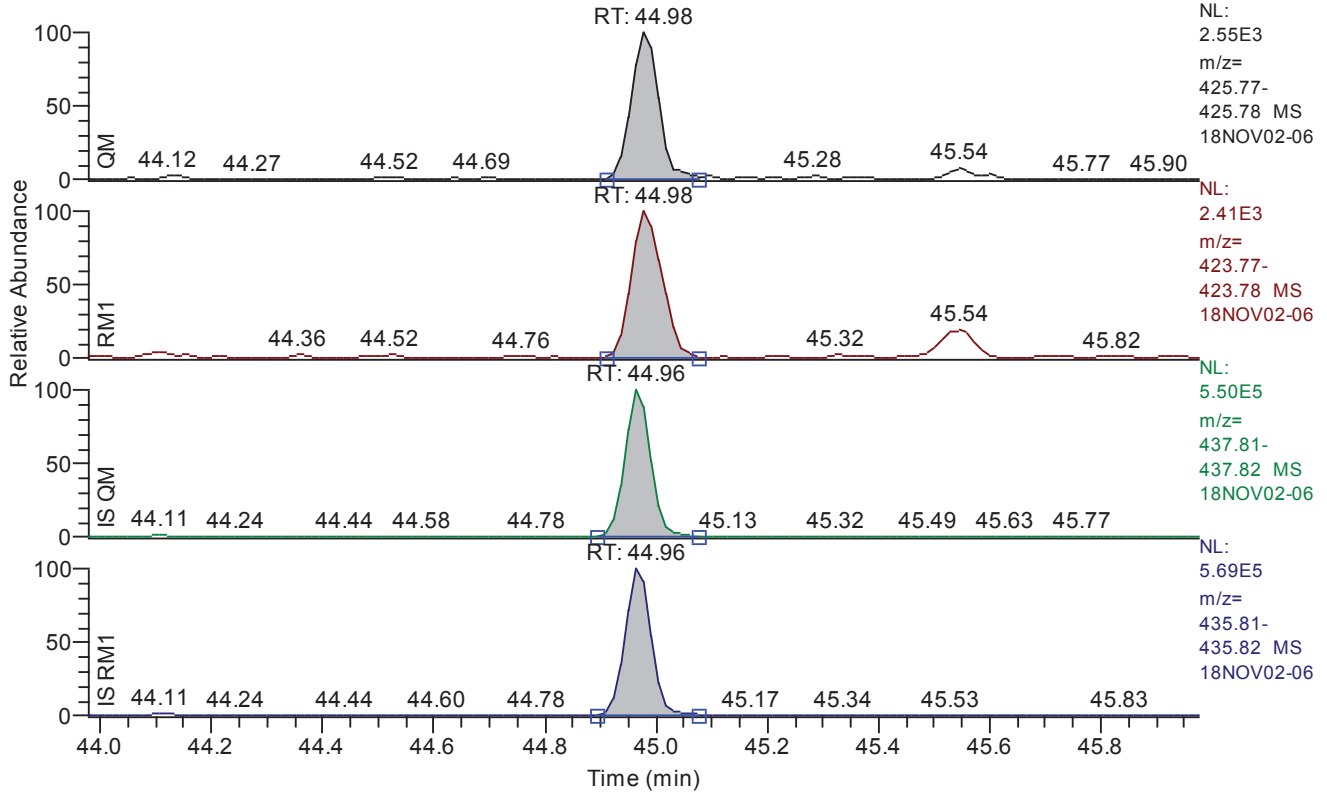
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	12815
QM Integration Mode	A
RM1 Area	13442
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0035
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	365
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 43.98 - 45.98 SM: 3G



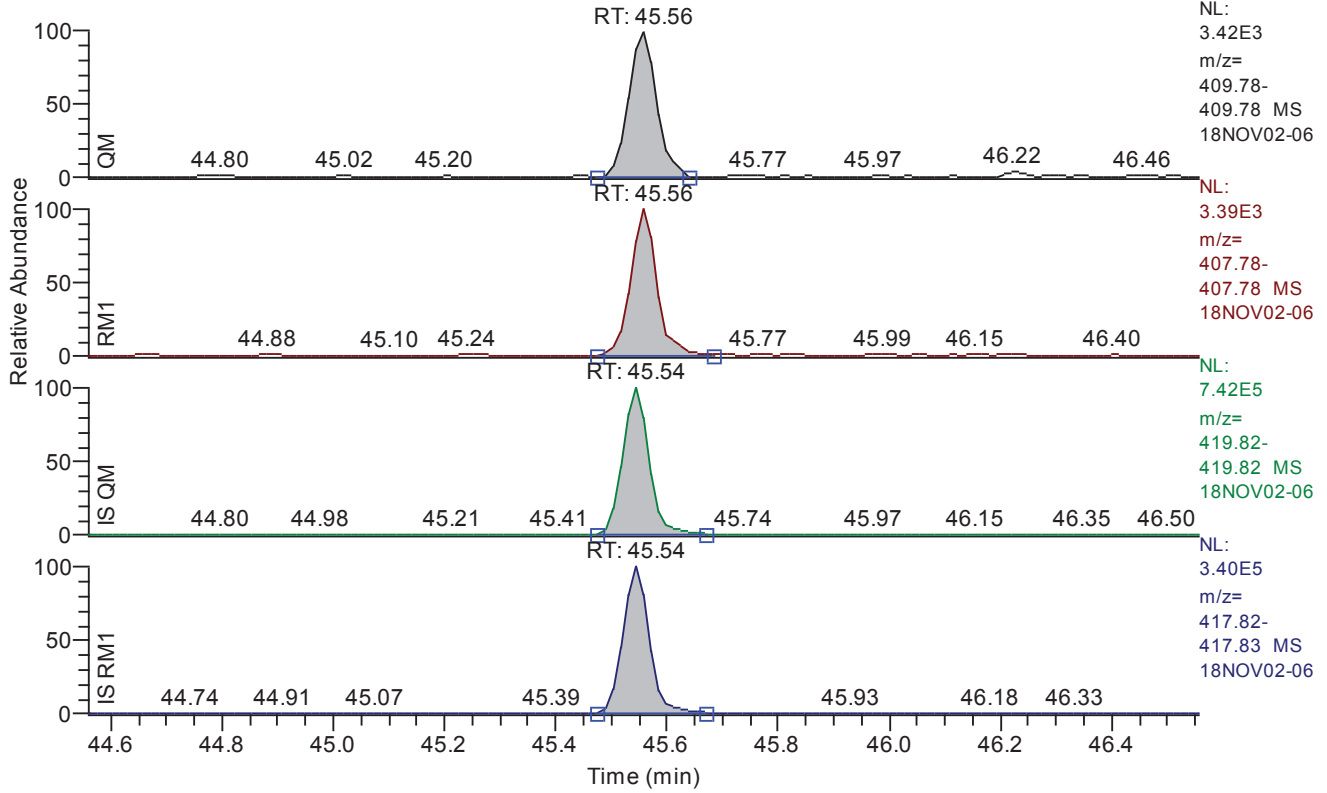
### Entry Parameters

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	8861
QM Integration Mode	A
RM1 Area	9376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	247
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.56 - 46.56 SM: 3G



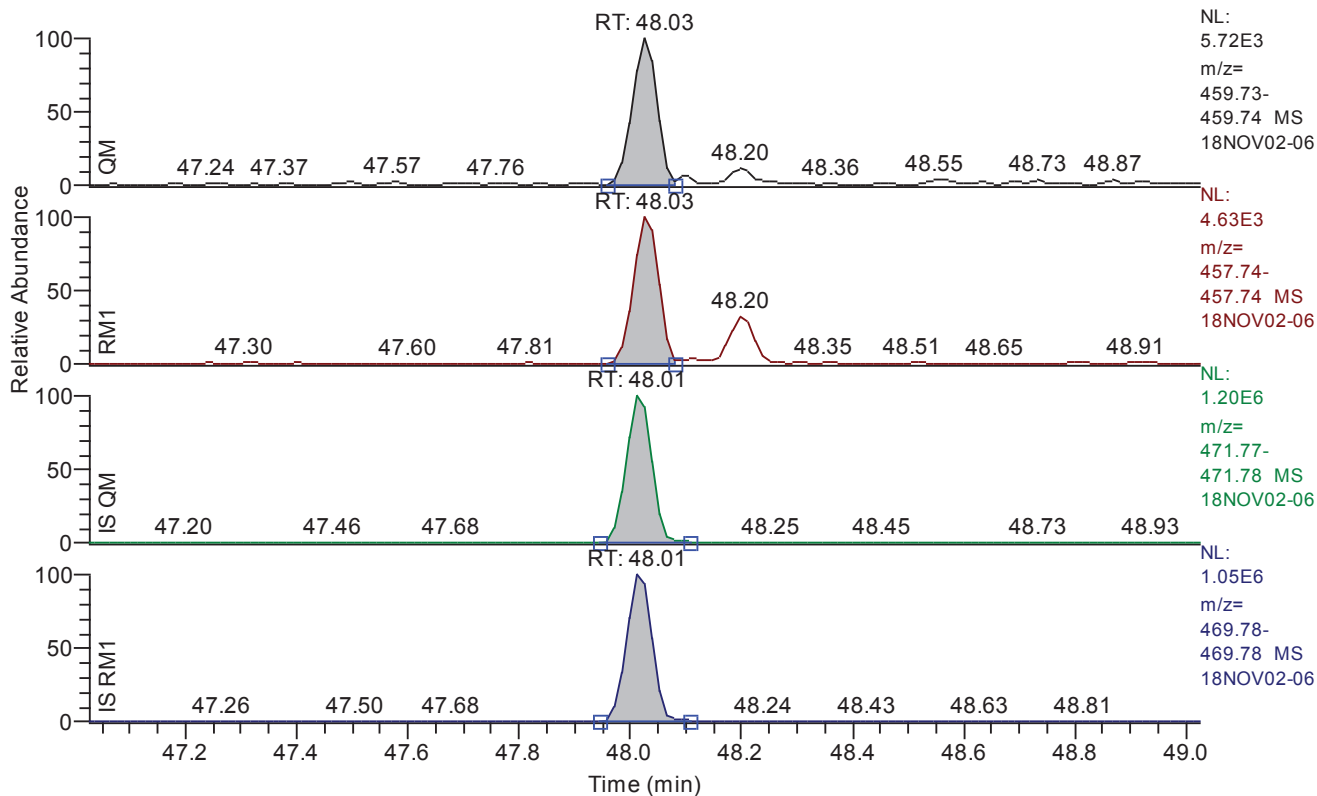
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	12121
QM Integration Mode	A
RM1 Area	11358
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0037
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	325
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.03 - 49.03 SM: 3G



**Entry Parameters**

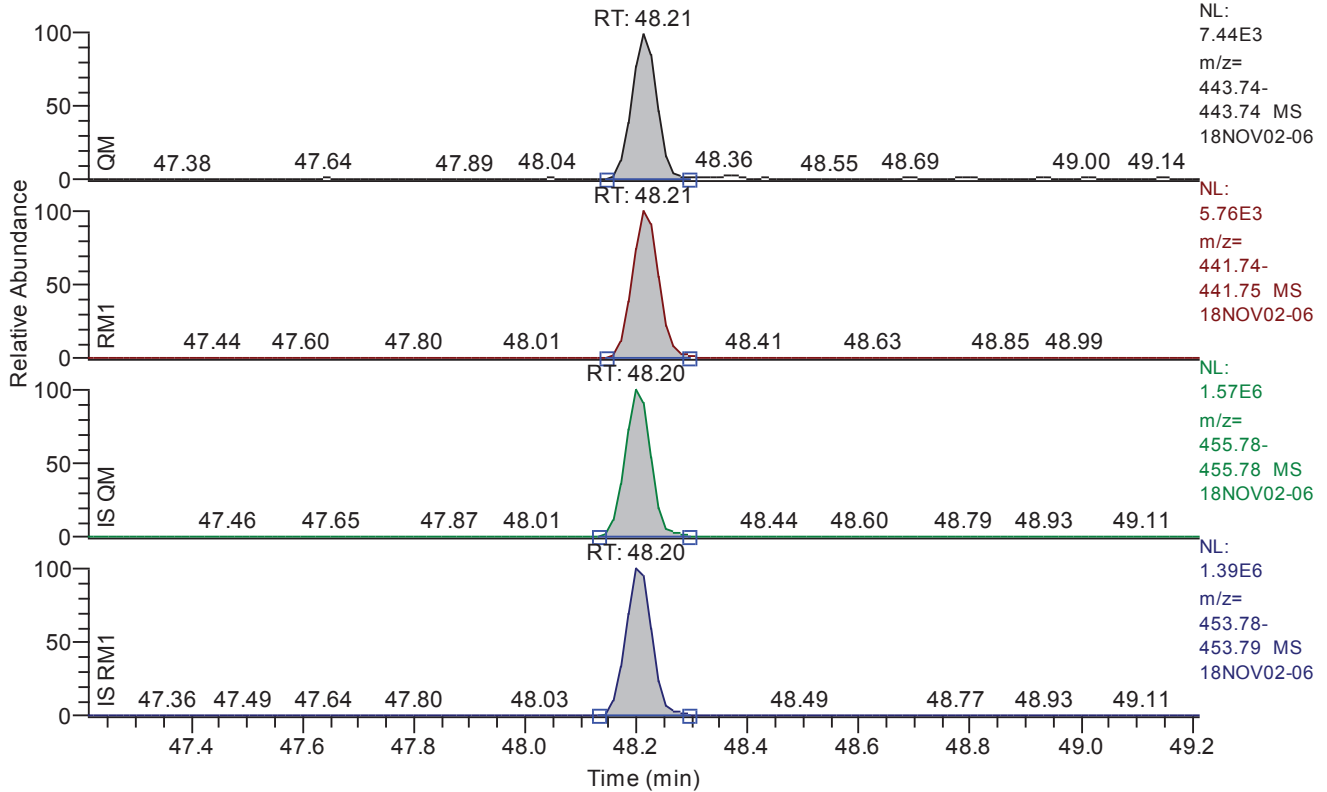
Compound Name	OCDD
QM Retention Time	48.03
QM Area	17489
QM Integration Mode	A
RM1 Area	14313
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	243
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 47.21 - 49.21 SM: 3G



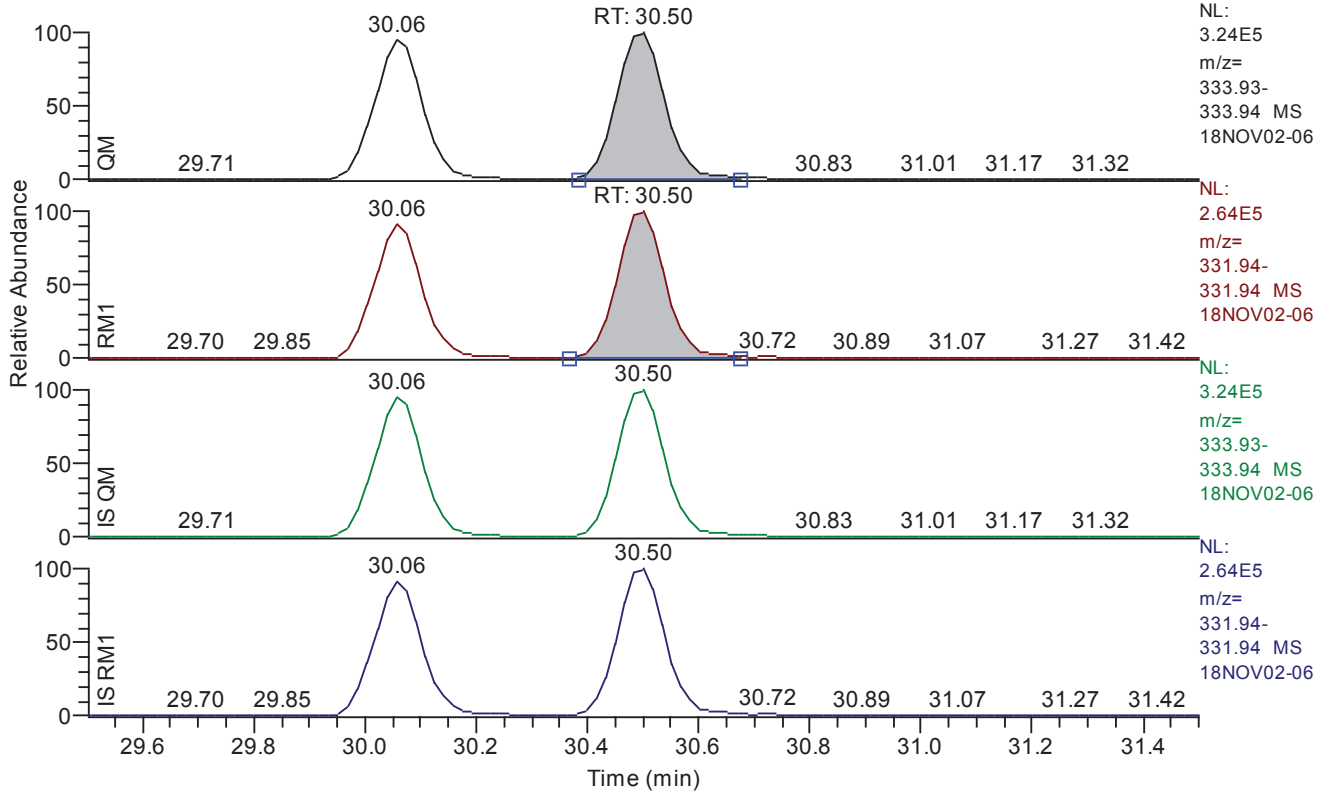
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.21
QM Area	23087
QM Integration Mode	A
RM1 Area	18909
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	1.000000
Adjusted Amount (A)	1.0000
Signal-to-Noise	392
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.50 - 31.50 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	1955316
QM Integration Mode	A
RM1 Area	1591548
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0198
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12183
Client Flags	
Status Overview	passed
Status Info	



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 14:38  
Number of Entries 64  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

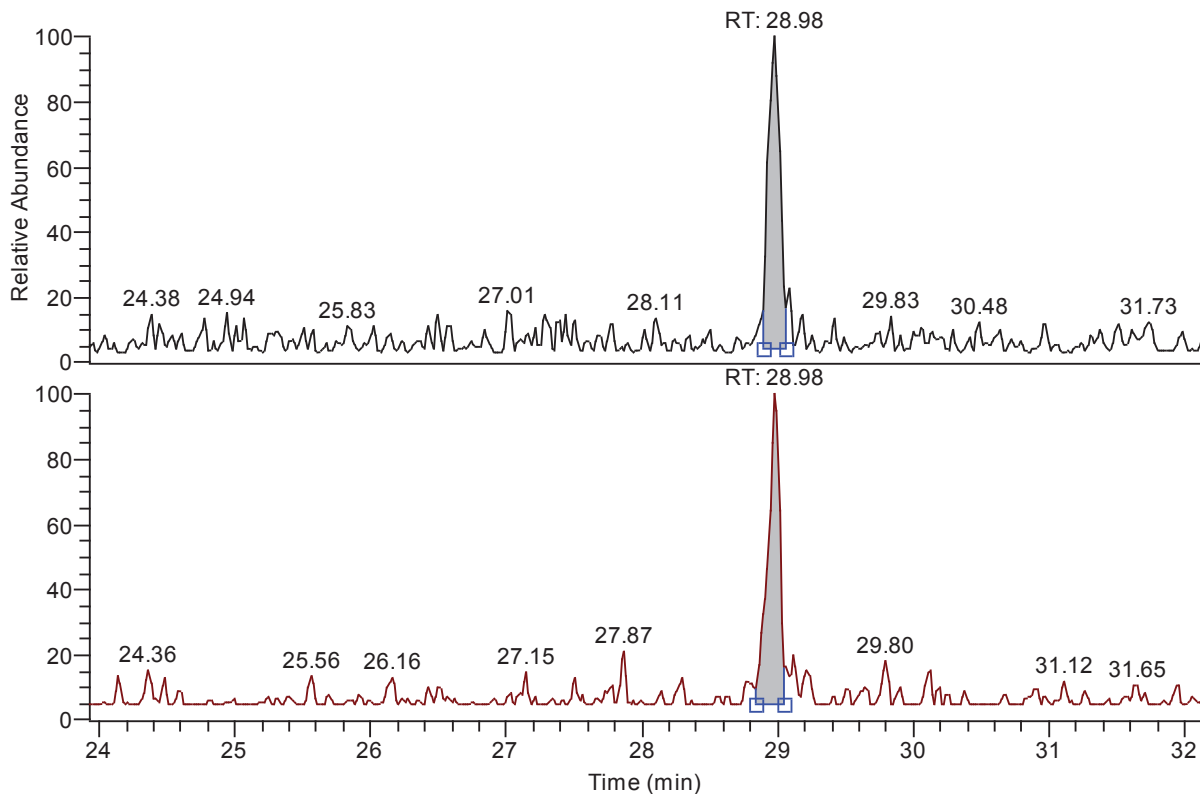
Quan w:\18nov02\18nov02-06.quan  
Data w:\18nov02\18nov02-06.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



NL:  
 6.17E2  
 m/z=  
 305.90-  
 305.90  
 MS  
 18NOV02-  
 06

NL:  
 4.25E2  
 m/z=  
 303.90-  
 303.90  
 MS  
 18NOV02-  
 06

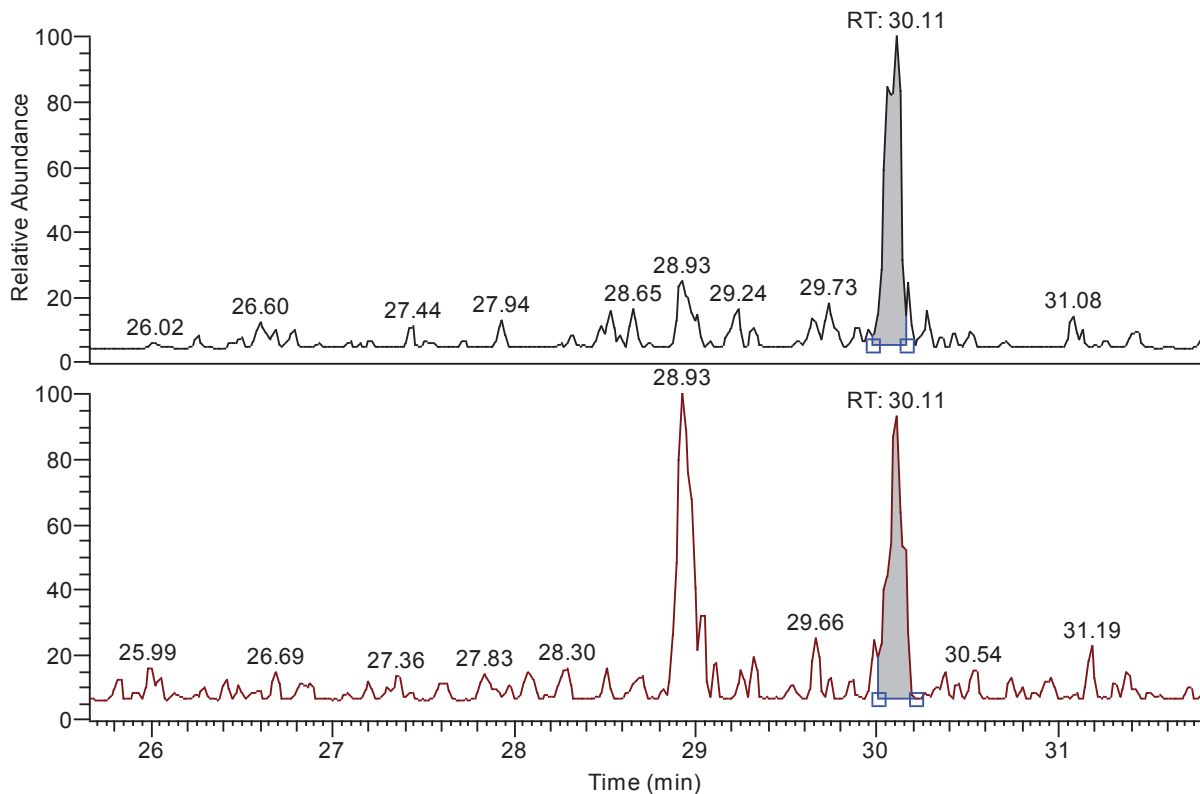
**Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	3558
QM Integration Mode	M
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	48
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



NL:  
 4.12E2  
 m/z=  
 321.89-  
 321.90  
 MS  
 18NOV02-  
 06

NL:  
 3.17E2  
 m/z=  
 319.89-  
 319.90  
 MS  
 18NOV02-  
 06

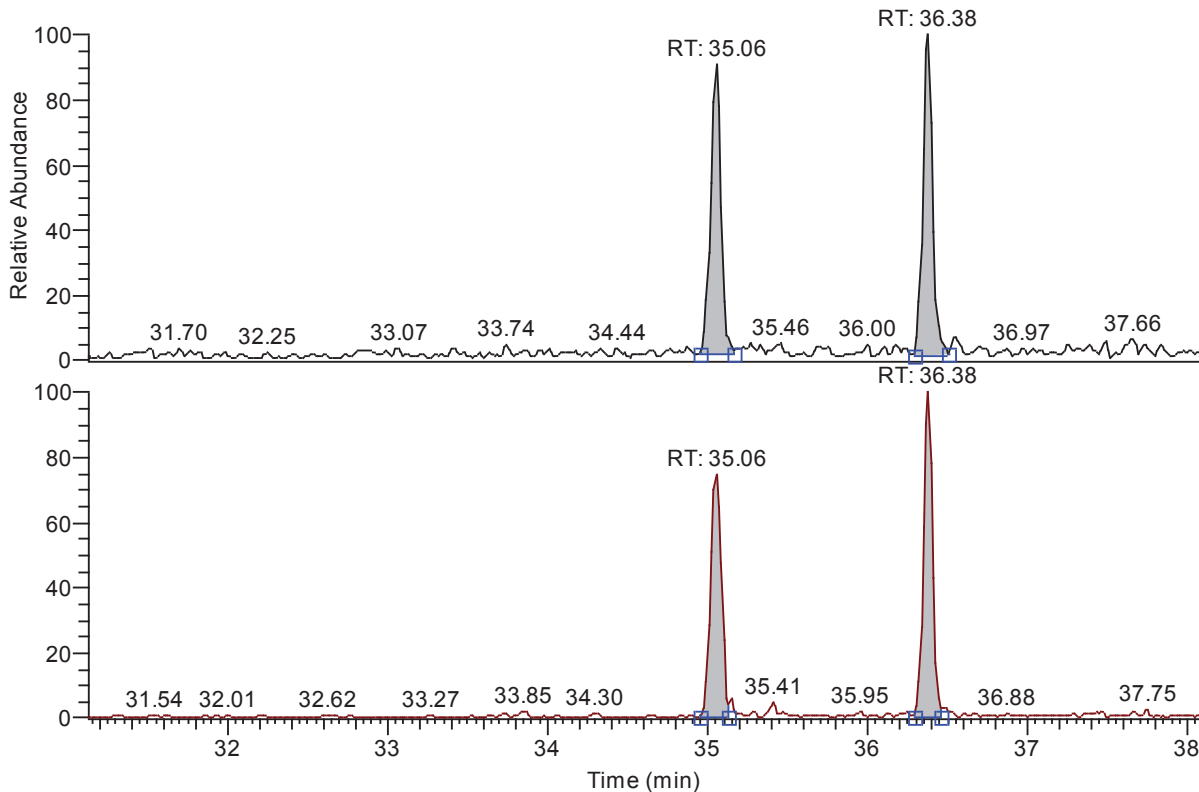
**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	2232
QM Integration Mode	M
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	47
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 31.12 - 38.08 SM: 3G



NL:  
 2.56E3  
 m/z=  
 341.85-  
 341.86  
 MS  
 18NOV02-  
 06

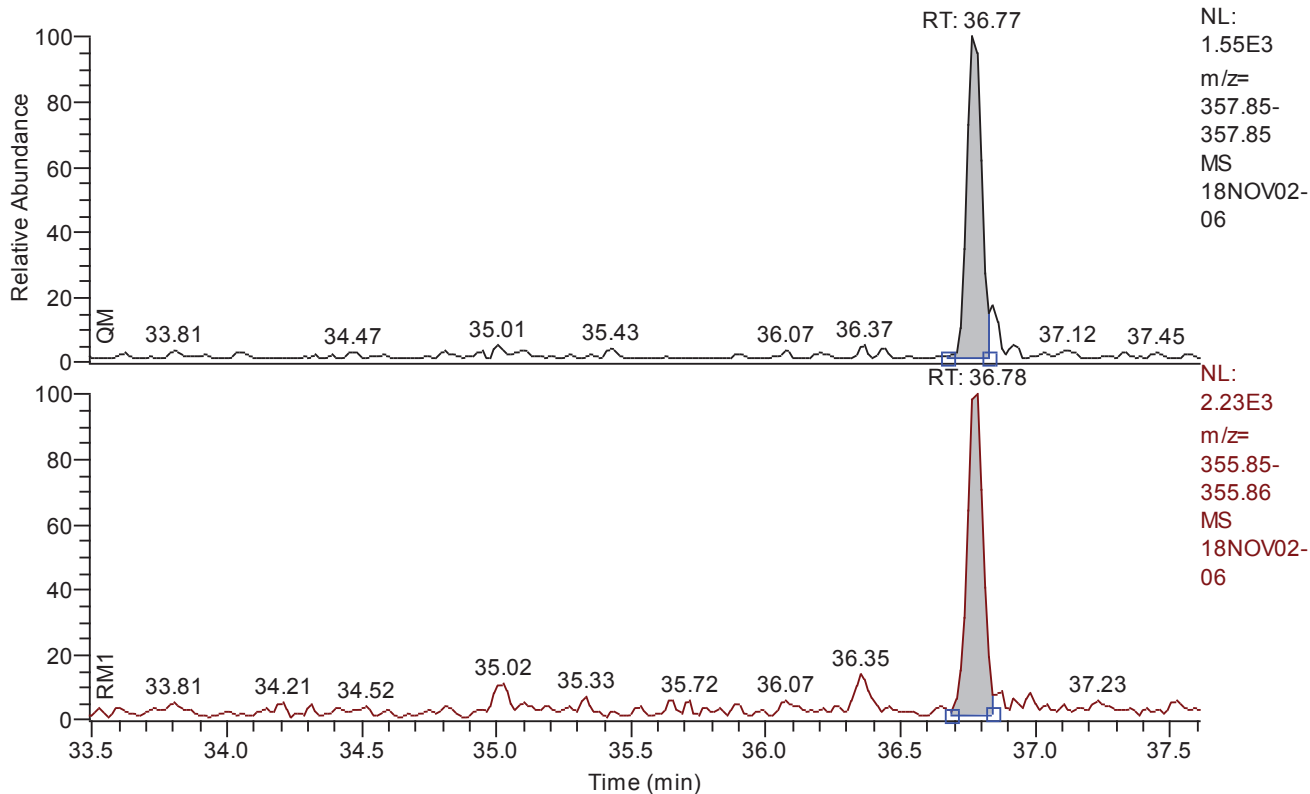
NL:  
 4.16E3  
 m/z=  
 339.86-  
 339.86  
 MS  
 18NOV02-  
 06

**Entry Parameters**

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	20993
QM Integration Mode	A
RM1 Area	31287
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0050
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	261
Client Flags	
Status Overview	passed (2)
Status Info	

**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



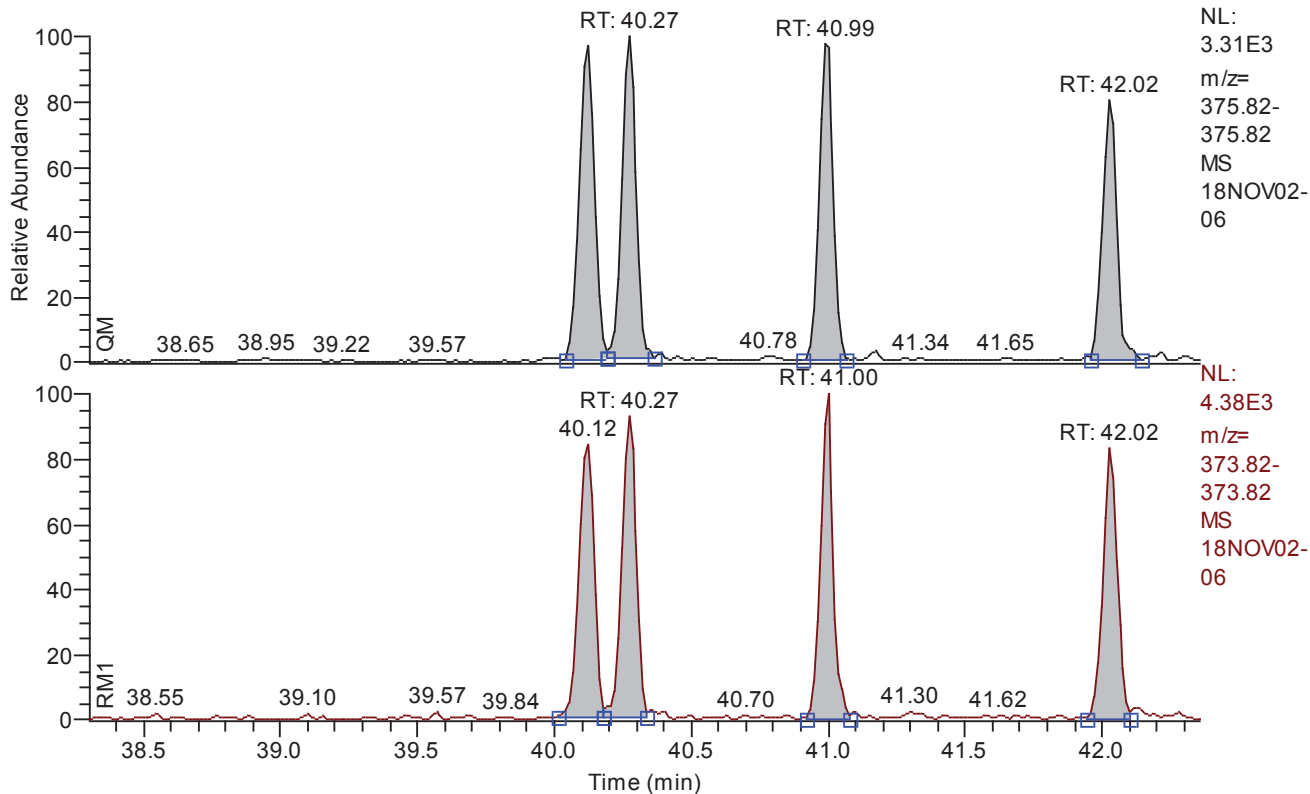
**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	5800
QM Integration Mode	A
RM1 Area	8984
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	124
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



**Entry Parameters**

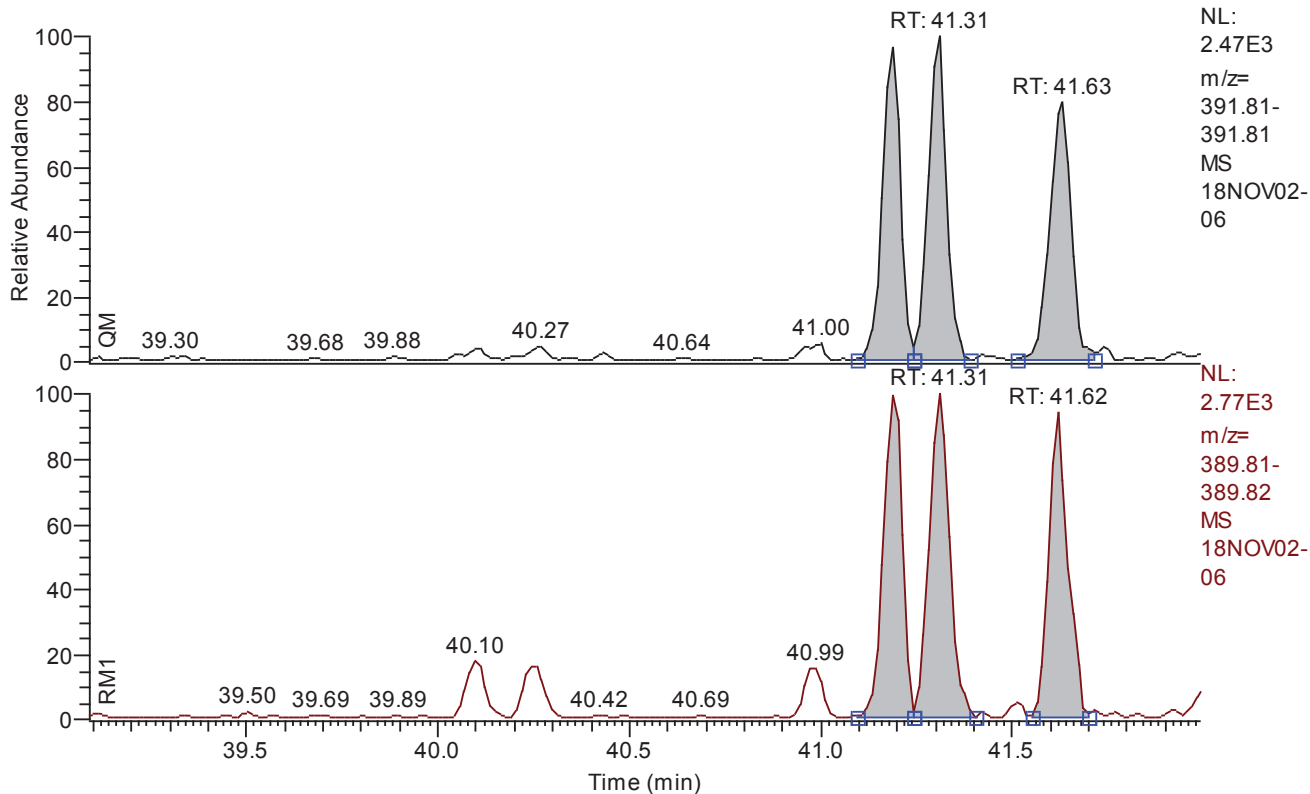
Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	46615
QM Integration Mode	A
RM1 Area	58116
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	2.0000
Signal-to-Noise	252
Client Flags	
Status Overview	passed (4)
Status Info	





**Chromatogram**

RT: 39.09 - 41.99 SM: 3G



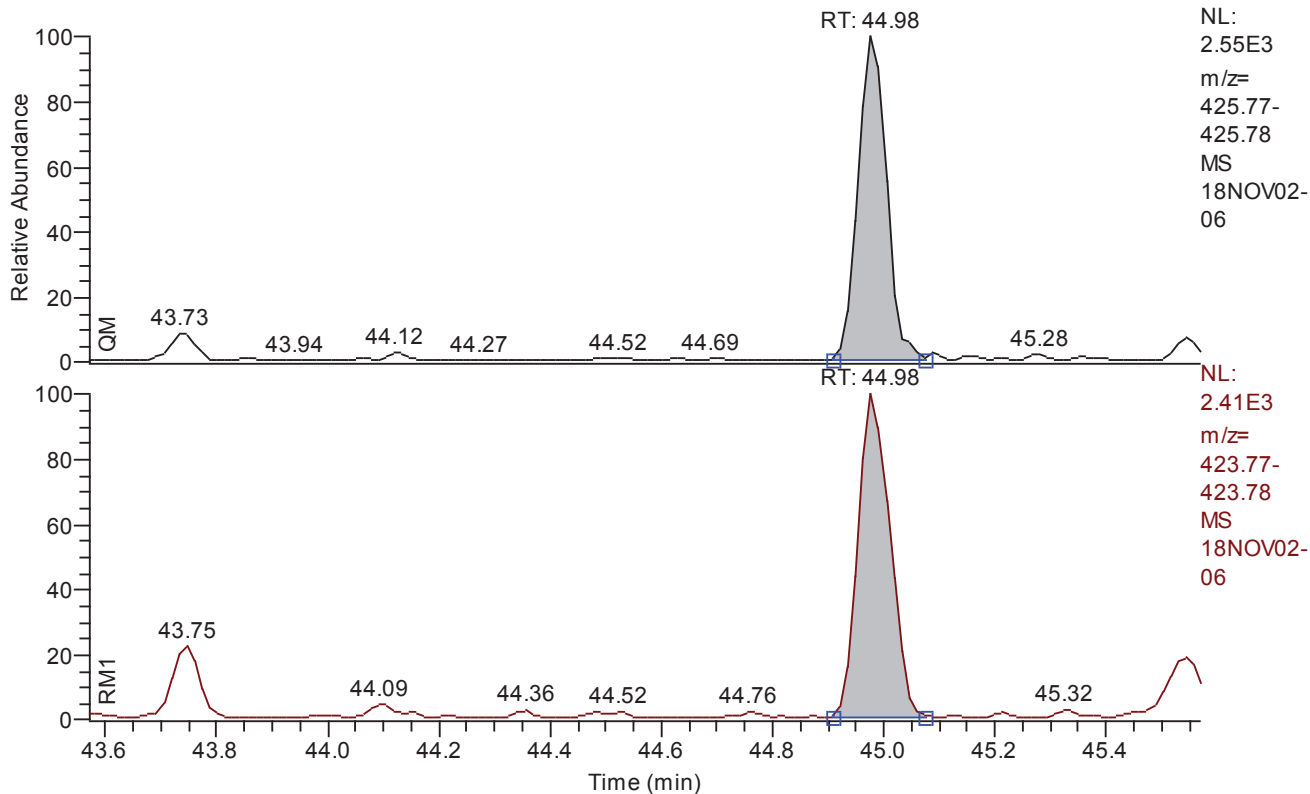
**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	23435
QM Integration Mode	A
RM1 Area	28635
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.5000
Signal-to-Noise	183
Client Flags	
Status Overview	passed (3)
Status Info	



**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



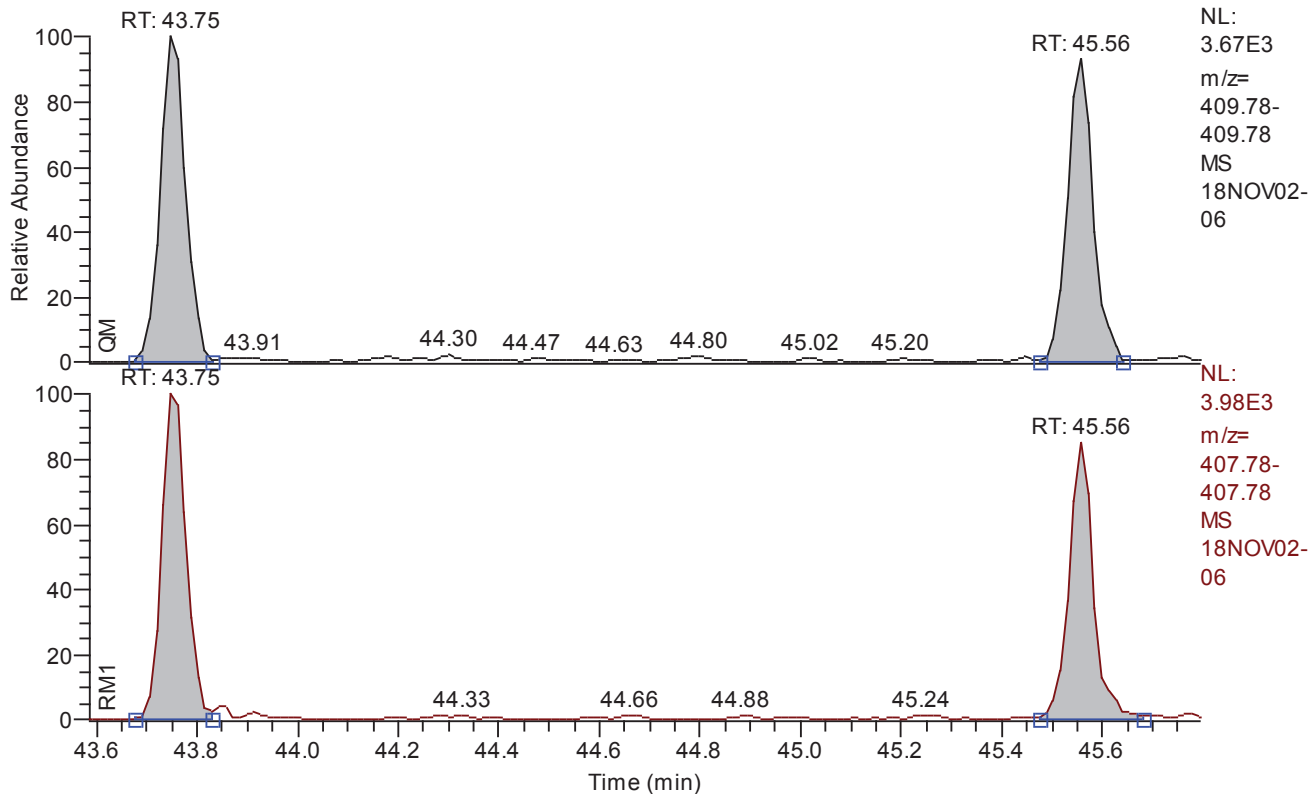
**Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	8861
QM Integration Mode	A
RM1 Area	9376
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0046
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	247
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	24936
QM Integration Mode	A
RM1 Area	24800
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0036
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	1.0000
Signal-to-Noise	345
Client Flags	
Status Overview	passed (2)
Status Info	



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 14:38  
Number of Entries 283  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

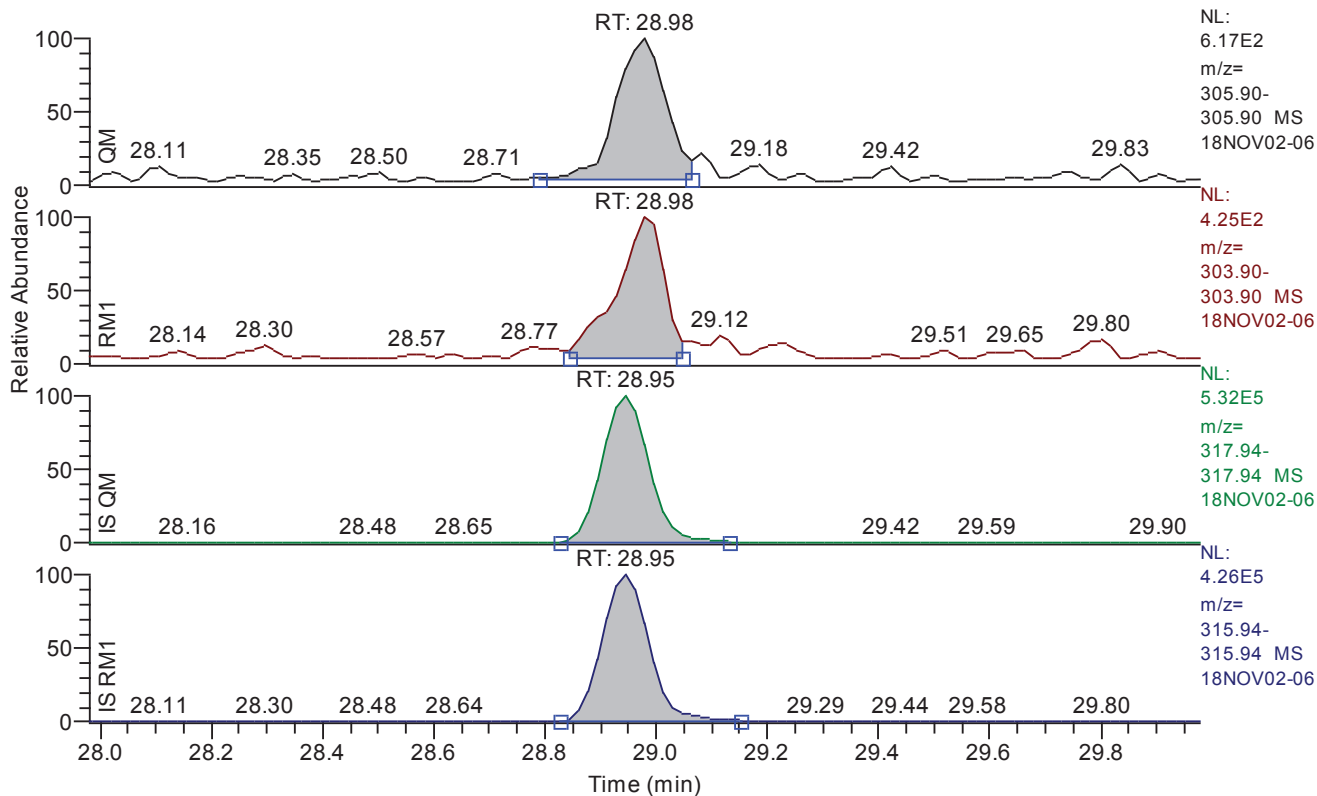
Quan w:\18nov02\18nov02-06.quan  
Data w:\18nov02\18nov02-06.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.98 - 29.98 SM: 3G

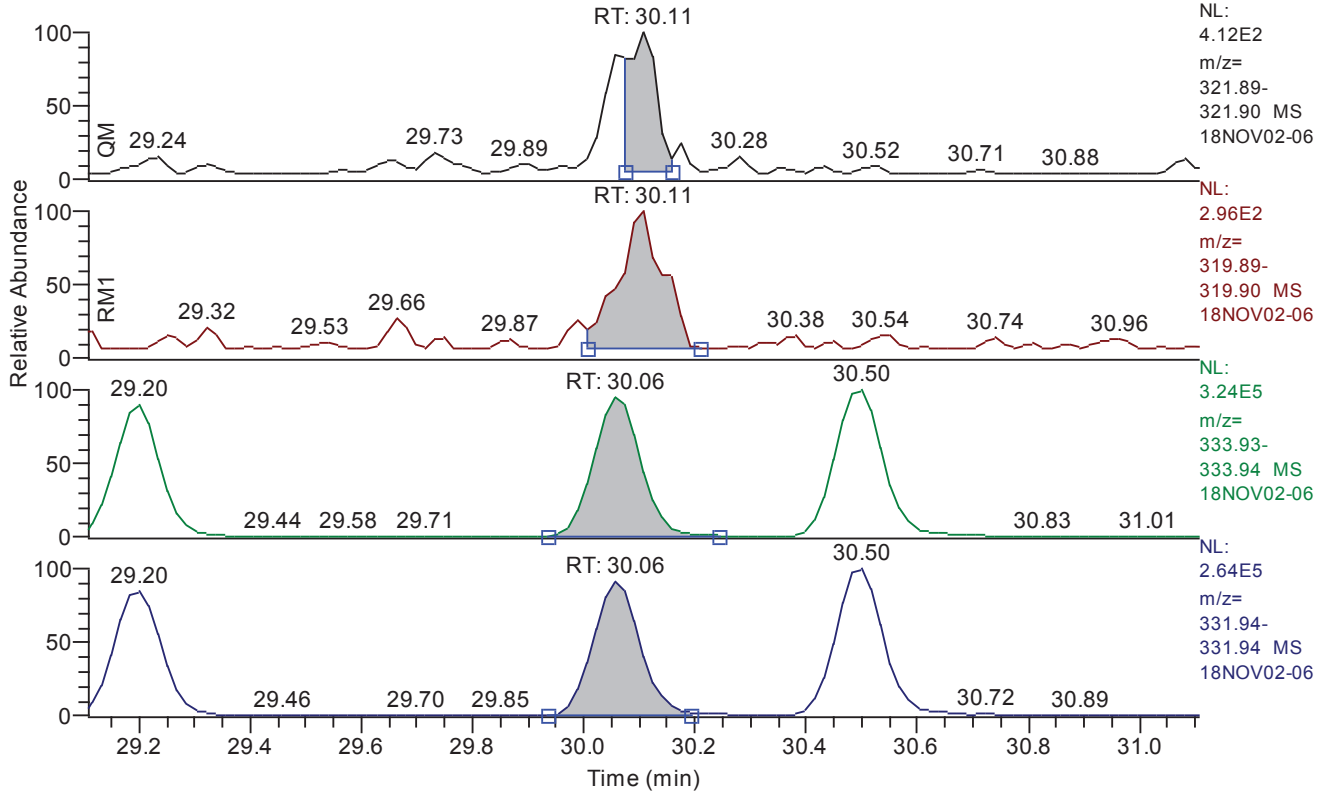


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	3761
QM Integration Mode	A
RM1 Area	2407
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.103398
Adjusted Amount (A)	n.d.
Signal-to-Noise	48
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 29.11 - 31.11 SM: 3G



**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	1351
QM Integration Mode	A
RM1 Area	1563
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.076797
Adjusted Amount (A)	n.d.
Signal-to-Noise	47
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 14:38  
Number of Entries 283  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

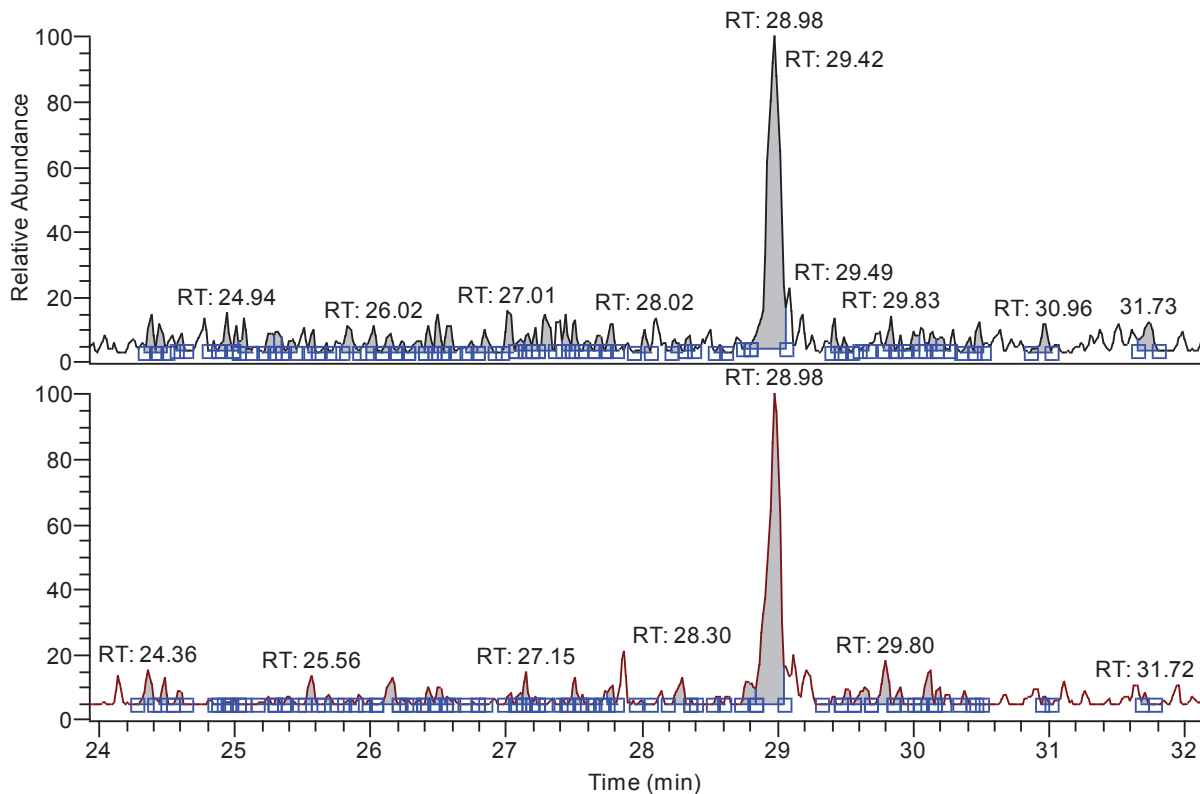
Quan w:\18nov02\18nov02-06.quan  
Data w:\18nov02\18nov02-06.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



NL:  
 6.17E2  
 m/z=  
 305.90-  
 305.90  
 MS  
 18NOV02-  
 06

NL:  
 4.25E2  
 m/z=  
 303.90-  
 303.90  
 MS  
 18NOV02-  
 06

**Entry Parameters**

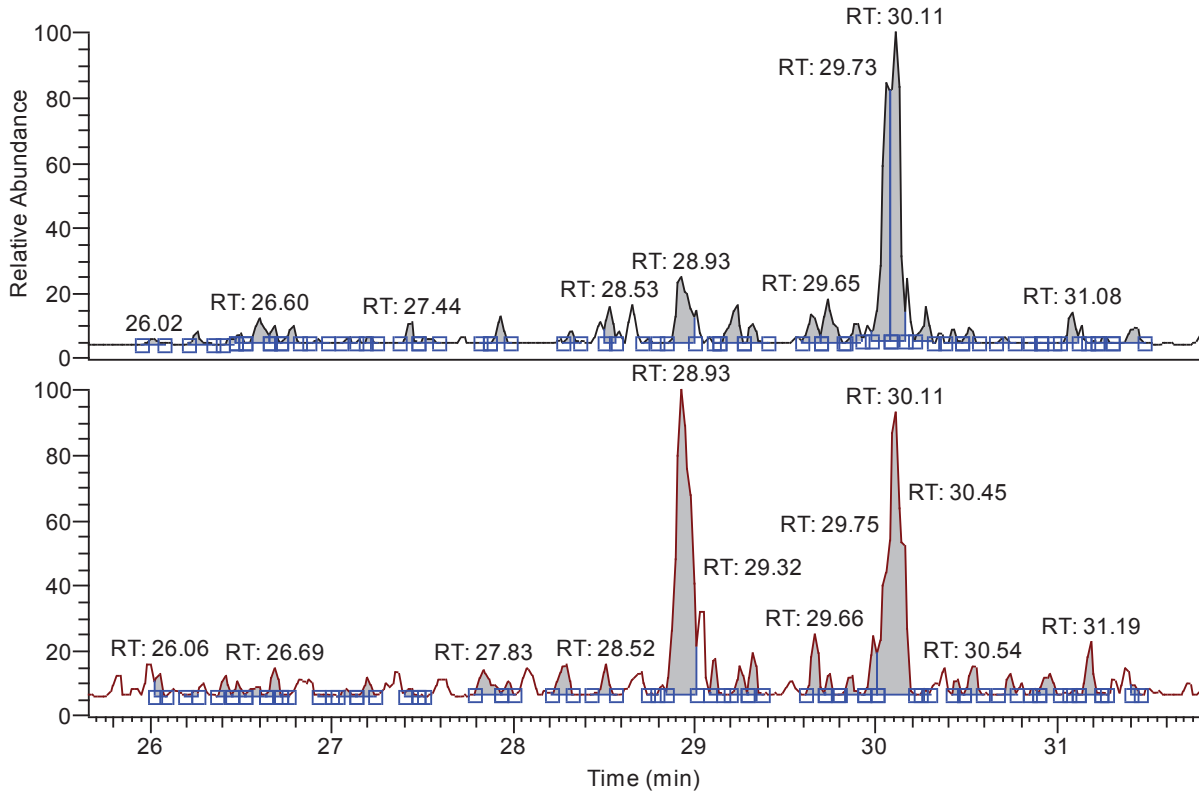
Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	280
QM Integration Mode	A
RM1 Area	212
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0051
Unqualified Amount (A)	0.002751
Adjusted Amount (A)	0.0083
Signal-to-Noise	3
Client Flags	
Status Overview	passed (3)
Status Info	





**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



NL:  
4.12E2  
m/z=  
321.89-  
321.90  
MS  
18NOV02-  
06

NL:  
3.17E2  
m/z=  
319.89-  
319.90  
MS  
18NOV02-  
06

**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	102
QM Integration Mode	A
RM1 Area	76
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0056
Unqualified Amount (A)	0.002337
Adjusted Amount (A)	0.0047
Signal-to-Noise	3
Client Flags	
Status Overview	passed (2)
Status Info	



Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.11	30.11	30.11	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.77	36.77	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.12	40.12	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	41.00	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.63	41.63	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.95	28.95	28.95	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.06	30.06	30.06	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.02	35.02	35.02	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.35	36.35	36.35	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.17	41.17	41.17	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.11	30.11	30.11	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.77	36.77	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.12	40.12	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	41.00	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.63	41.63	41.62	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.6764	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.11	0.7004	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.4448	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5329	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.77	1.5491	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.12	1.1590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2780	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2039	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2188	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2539	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.63	1.1908	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.3711	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0489	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0582	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	0.9371	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8184	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.8190	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.8140	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.8071	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2795	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.95	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.06	0.7785	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.02	1.5727	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.35	1.5789	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5881	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5249	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5229	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5311	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.17	1.2636	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2472	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2305	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5290	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.75	0.4558	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0484	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4560	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8847	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8986	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.6766	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7003	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.4904	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5491	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2467	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2219	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0582	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	0.9946	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.6766	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.11	0.7003	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.77	1.5491	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5329	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.4448	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0582	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.27	1.2780	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.12	1.1590	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.99	1.2039	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.3711	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.31	1.2539	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2188	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.63	1.1908	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0489	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	0.9371	0.8750 - 1.2050	passed	100.00	0 - 0	passed

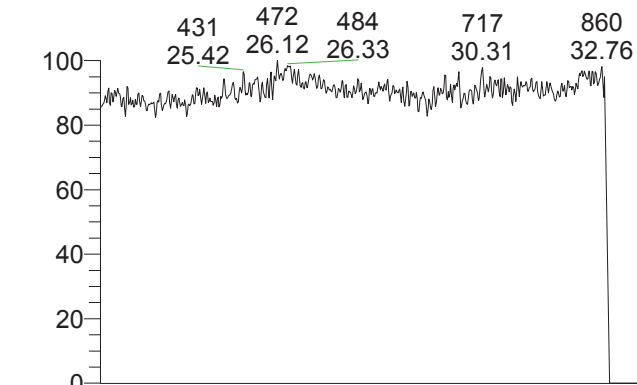


**Entry Parameters**

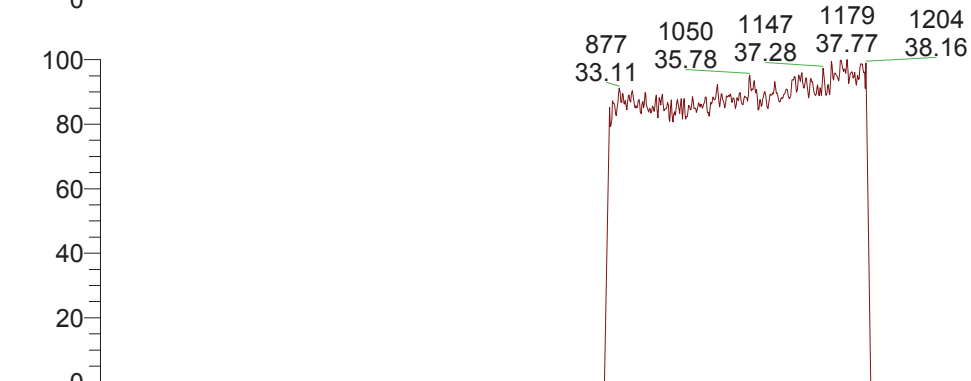
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.98	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
2	2378-TCDD	passed	30.11	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
3	12378-PeCDF	passed	35.06	10121	A	14622	A	0.0054	0.500000	0.5000	0.500000	233	
4	23478-PeCDF	passed	36.38	10872	A	16666	A	0.0046	0.500000	0.5000	0.500000	289	
5	12378-PeCDD	passed	36.77	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
6	123478-HxCDF	passed	40.12	12161	A	14095	A	0.0049	0.500000	0.5000	0.500000	246	
7	123678-HxCDF	passed	40.27	12379	A	15820	A	0.0046	0.500000	0.5000	0.500000	263	
8	234678-HxCDF	passed	40.99	12350	A	14868	A	0.0046	0.500000	0.5000	0.500000	272	
9	123478-HxCDD	passed	41.19	7743	A	9437	A	0.0068	0.500000	0.5000	0.500000	189	
10	123678-HxCDD	passed	41.31	8097	A	10153	A	0.0066	0.500000	0.5000	0.500000	192	
11	123789-HxCDD	passed	41.63	7595	A	9044	A	0.0071	0.500000	0.5000	0.500000	168	
12	123789-HxCDF	passed	42.02	9725	A	13333	A	0.0056	0.500000	0.5000	0.500000	225	
13	1234678-HpCDF	passed	43.75	12815	A	13442	A	0.0035	0.500000	0.5000	0.500000	365	
14	1234678-HpCDD	passed	44.98	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
15	1234789-HpCDF	passed	45.56	12121	A	11358	A	0.0037	0.500000	0.5000	0.500000	325	
16	OCDD	passed	48.03	17489	A	14313	A	0.0106	1.000000	1.0000	1.000000	243	
17	OCDF	passed	48.21	23087	A	18909	A	0.0065	1.000000	1.0000	1.000000	392	
18	13C12-1278-TCDD (CRS)	passed	30.50	1955316	A	1591548	A	0.0198	100.000000	100.0000	100.000000	12183	
19	13C12-1234-TCDD	passed	29.20	1678860	A	1355057	A	0.0232	100.000000	100.0000	100.000000	10782	
20	13C12-123468-HxCDD	passed	40.02	1646873	A	2107146	A	0.0290	100.000000	100.0000	100.000000	8618	
21	13C12-2378-TCDF	passed	28.95	3167304	A	2531286	A	0.0176	100.000000	100.0000	100.000000	13967	
22	13C12-12378-TCDD	passed	30.06	1855395	A	1444354	A	0.0213	100.000000	100.0000	100.000000	11470	
23	13C12-12378-PeCDF	passed	35.02	2151030	A	3383026	A	0.0449	100.000000	100.0000	100.000000	7080	
24	13C12-23478-PeCDF	passed	36.35	2171703	A	3428953	A	0.0443	100.000000	100.0000	100.000000	7551	
25	13C12-12378-PeCDD	passed	36.75	1273101	A	2021801	A	0.0299	100.000000	100.0000	100.000000	11459	
26	13C12-123478-HxCDF	passed	40.10	3151779	A	1654517	A	0.0353	100.000000	100.0000	100.000000	6966	
27	13C12-123678-HxCDF	passed	40.26	3342986	A	1747948	A	0.0333	100.000000	100.0000	100.000000	7333	
28	13C12-234678-HxCDF	passed	40.97	3110169	A	1651953	A	0.0356	100.000000	100.0000	100.000000	7144	
29	13C12-123478-HxCDD	passed	41.17	1635760	A	2066919	A	0.0294	100.000000	100.0000	100.000000	8907	
30	13C12-123678-HxCDD	passed	41.30	1714072	A	2137768	A	0.0283	100.000000	100.0000	100.000000	8966	
31	13C12-123789-HxCDD	passed	41.61	1625336	A	1999990	A	0.0300	100.000000	100.0000	100.000000	8701	
32	13C12-123789-HxCDF	passed	42.01	2786677	A	1474168	A	0.0398	100.000000	100.0000	100.000000	6141	
33	13C12-1234678-HpCDF	passed	43.75	3081851	A	1404641	A	0.0391	100.000000	100.0000	100.000000	6551	
34	13C12-1234678-HpCDD	passed	44.96	1817464	A	1905389	A	0.0328	100.000000	100.0000	100.000000	8333	
35	13C12-1234789-HpCDF	passed	45.54	2500123	A	1139948	A	0.0482	100.000000	100.0000	100.000000	5601	
36	13C12-OCDD	passed	48.01	3808088	A	3369019	A	0.0178	200.000000	200.0000	200.000000	32092	
37	13C12-OCDF	passed	48.20	5051030	A	4539091	A	0.0157	200.000000	200.0000	200.000000	35739	
38	Total TCDF	passed (1)	28.02	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
39	Total TCDD	passed (1)	28.72	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
40	Total PeCDF	passed (2)	34.60	20993	A	31287	A	0.0050	0.500000	0.5000	0.500000	261	
41	Total PeCDD	passed (1)	35.55	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
42	Total HxCDF	passed (4)	40.33	46615	A	58116	A	0.0049	0.500000	0.5000	0.500000	252	
43	Total HxCDD	passed (3)	40.54	23435	A	28635	A	0.0068	0.500000	0.5000	0.500000	183	
44	Total HpCDD	passed (1)	44.57	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
45	Total HpCDF	passed (2)	44.69	24936	A	24800	A	0.0036	0.500000	0.5000	0.500000	345	
46	Single TCDF	passed	28.98	3558	M	2407	A	0.0051	0.100000	0.1000	0.100000	48	
47	Single TCDD	passed	30.11	2232	M	1563	A	0.0056	0.100000	0.1000	0.100000	47	
48	Single PeCDD	passed	36.77	5800	A	8984	A	0.0109	0.500000	0.5000	0.500000	124	
49	Single PeCDF	passed	36.38	10872	A	16666	A	0.0047	0.500000	0.5000	0.500000	289	
50	Single PeCDF	passed	35.06	10121	A	14622	A	0.0052	0.500000	0.5000	0.500000	233	
51	Single HpCDD	passed	44.98	8861	A	9376	A	0.0046	0.500000	0.5000	0.500000	247	
52	Single HxCDF	passed	40.27	12379	A	15820	A	0.0045	0.500000	0.5000	0.500000	263	
53	Single HxCDF	passed	40.12	12161	A	14095	A	0.0049	0.500000	0.5000	0.500000	246	
54	Single HxCDF	passed	40.99	12350	A	14868	A	0.0047	0.500000	0.5000	0.500000	272	
55	Single HxCDF	passed	42.02	9725	A	13333	A	0.0056	0.500000	0.5000	0.500000	225	
56	Single HxCDD	passed	41.31	8097	A	10153	A	0.0065	0.500000	0.5000	0.500000	192	
57	Single HxCDD	passed	41.19	7743	A	9437	A	0.0069	0.500000	0.5000	0.500000	189	
58	Single HxCDD	passed	41.63	7595	A	9044	A	0.0071	0.500000	0.5000	0.500000	168	
59	Single HpCDF	passed	43.75	12815	A	13442	A	0.0034	0.500000	0.5000	0.500000	365	
60	Single HpCDF	passed	45.56	12121	A	11358	A	0.0038	0.500000	0.5000	0.500000	325	



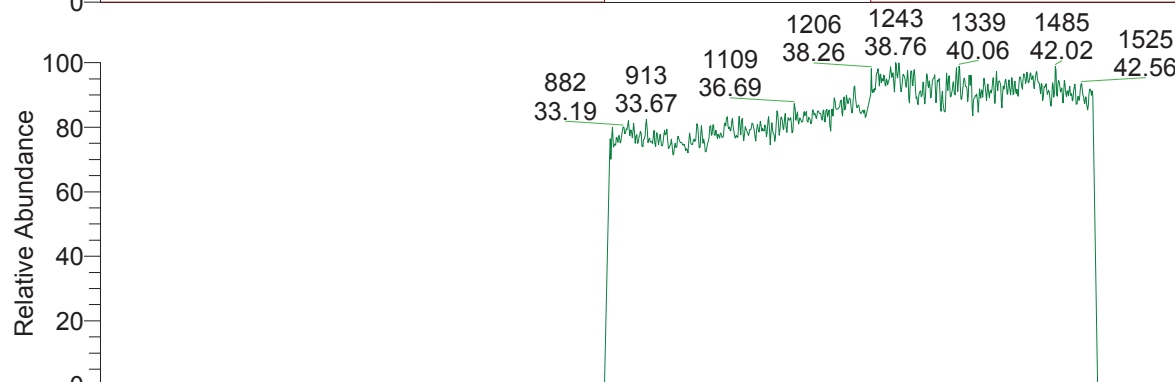
RT: 22.50 - 51.00



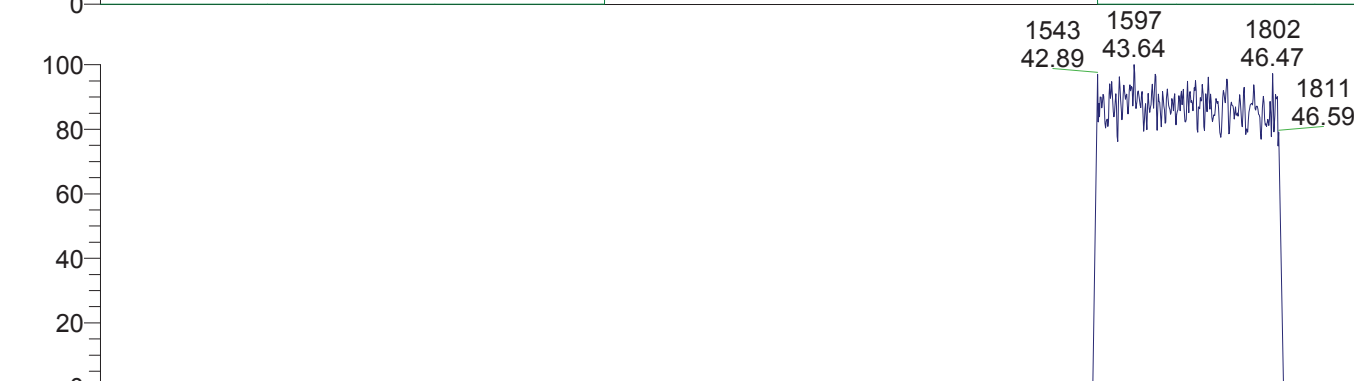
NL:  
7.10E5  
m/□  
291.9825-  
292.9825  
MS  
18NOV02-  
06



NL:  
6.70E5  
m/□  
330.4792-  
331.4792  
MS  
18NOV02-  
06



NL:  
4.53E5  
m/□  
380.4760-  
381.4760  
MS  
18NOV02-  
06



NL:  
1.71E5  
m/□  
404.4760-  
405.4760  
MS  
18NOV02-  
06



NL:  
1.92E5  
m/□  
442.4728-  
443.4728  
MS  
18NOV02-  
06

**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 14:41:34 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 14:41:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 66b58c80-2866-4f97-9343-51e7a865048d

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.800000 minutes  
MID window end time was 32.800000 minutes



18NOV02-06

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	97.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	191.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0181	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	97.0000	LKM	442.9723	MASS	97.0000
MDAC	1426781.7688	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9822	RELEN	0.0000
RES	11457.7460	RPUSHER	-1.1062	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	97.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.6e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10269.  
MID Time window 2: Resolution is 10662.  
MID Time window 3: Resolution is 10870.  
MID Time window 4: Resolution is 10321.





18NOV02-06

MID Time Window 5: Resolution is 11177.  
MID Time Window 6: Resolution is 11457.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 15:32:34 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 15:41  
Number of Entries 64  
Comment  
Vial 4  
Sample Name CALDF21837C  
Sample ID CS101  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-07.quan  
Data w:\18nov02\18nov02-07.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.09	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.76	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.02	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.00	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.02	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.36	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.28	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.73	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.09	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.05	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.11	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.76	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.55	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 15:41  
Number of Entries 64  
Comment  
Vial 4  
Sample Name CALDF21837C  
Sample ID CS101  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

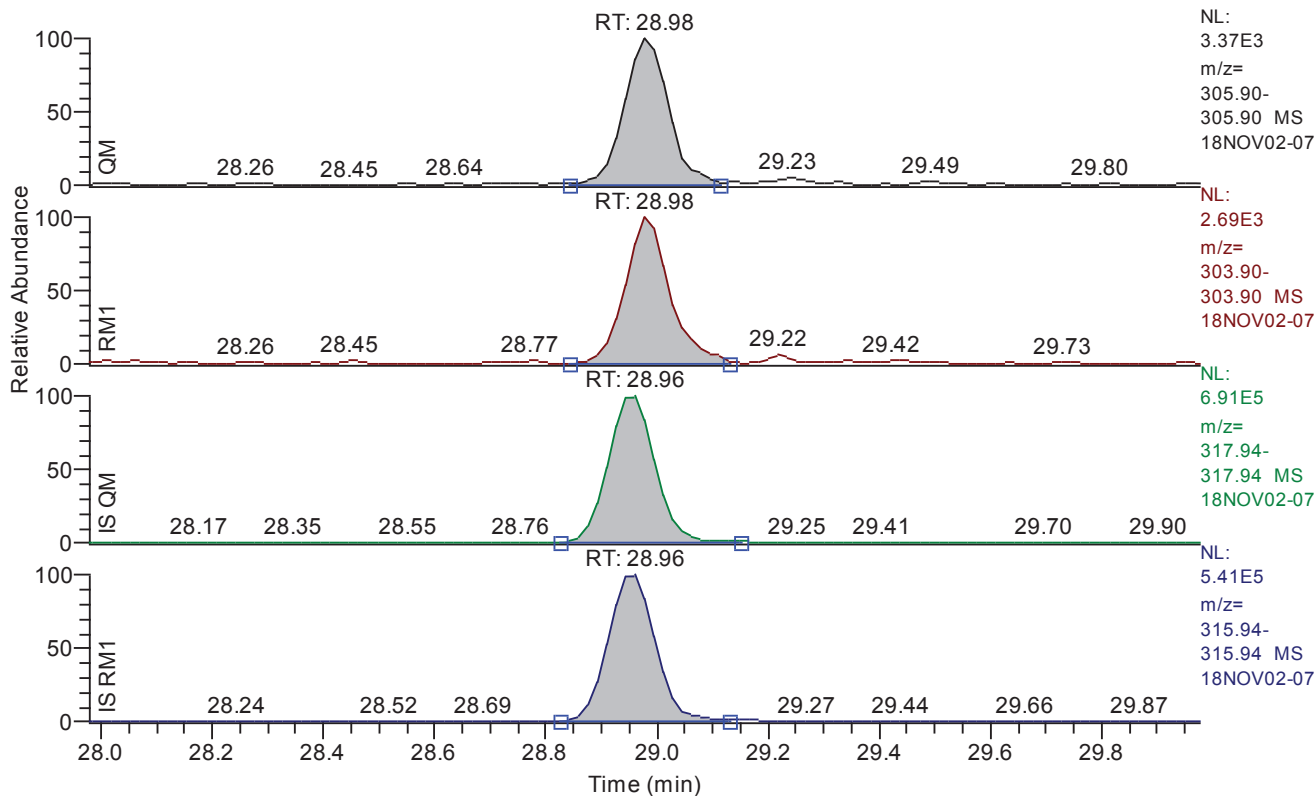
Quan w:\18nov02\18nov02-07.quan  
Data w:\18nov02\18nov02-07.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.98 - 29.98 SM: 3G



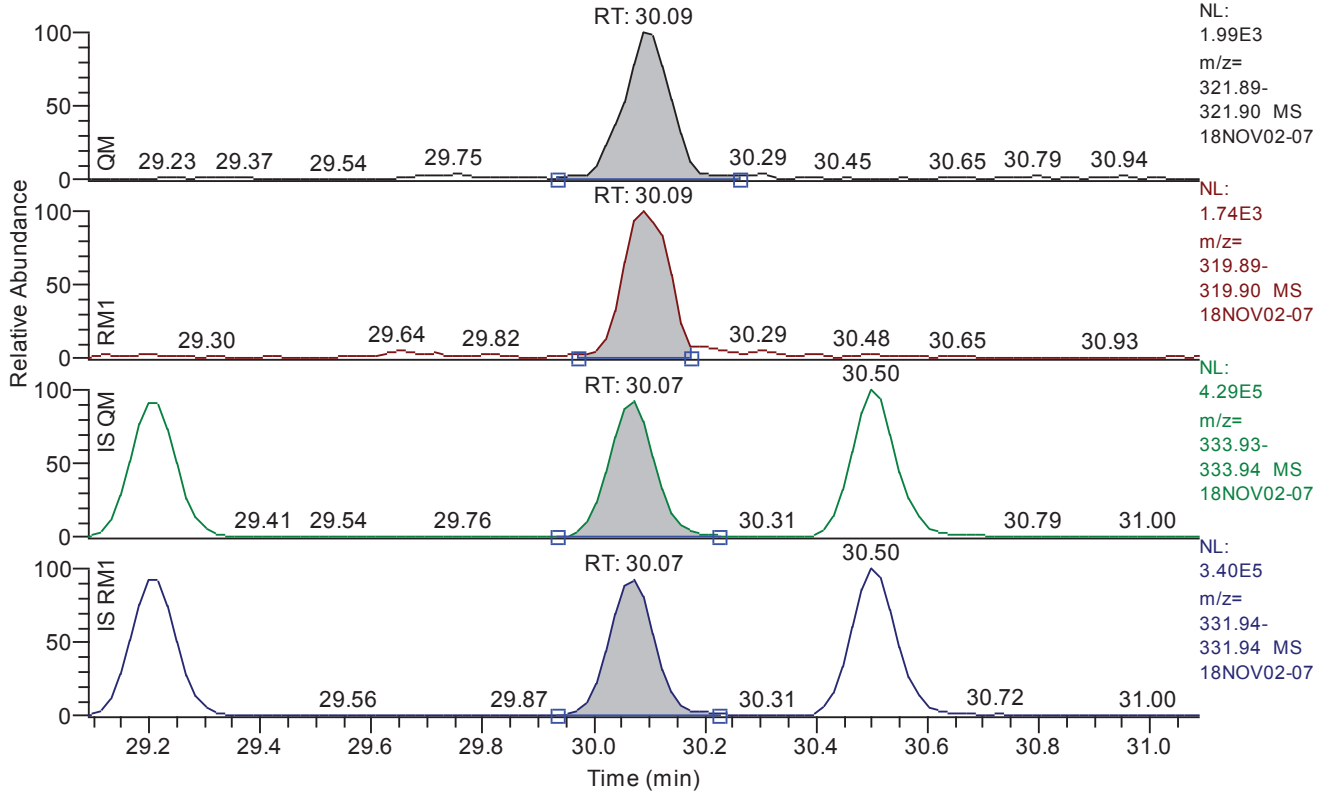
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	18889
QM Integration Mode	A
RM1 Area	15137
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	277
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.09 - 31.09 SM: 3G



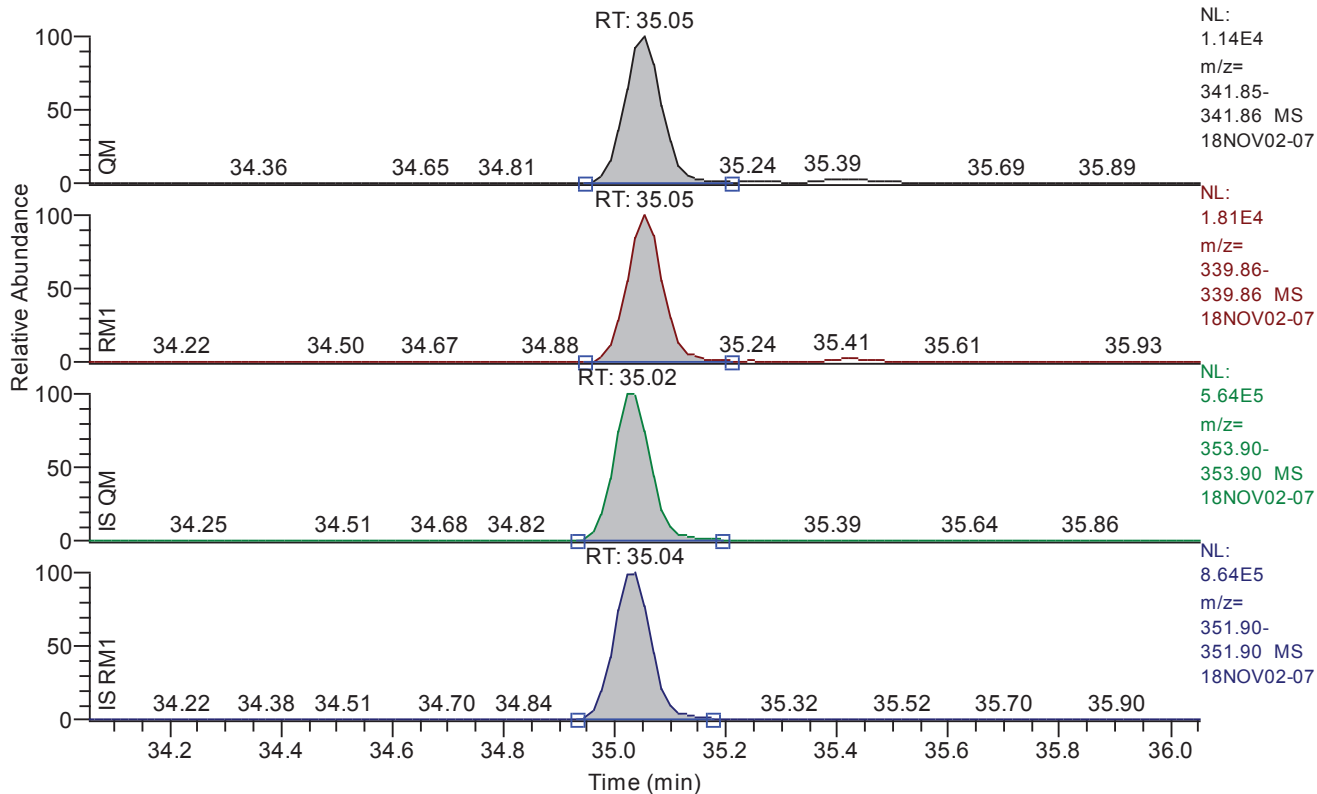
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.09
QM Area	11824
QM Integration Mode	A
RM1 Area	10071
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	259
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 34.05 - 36.05 SM: 3G



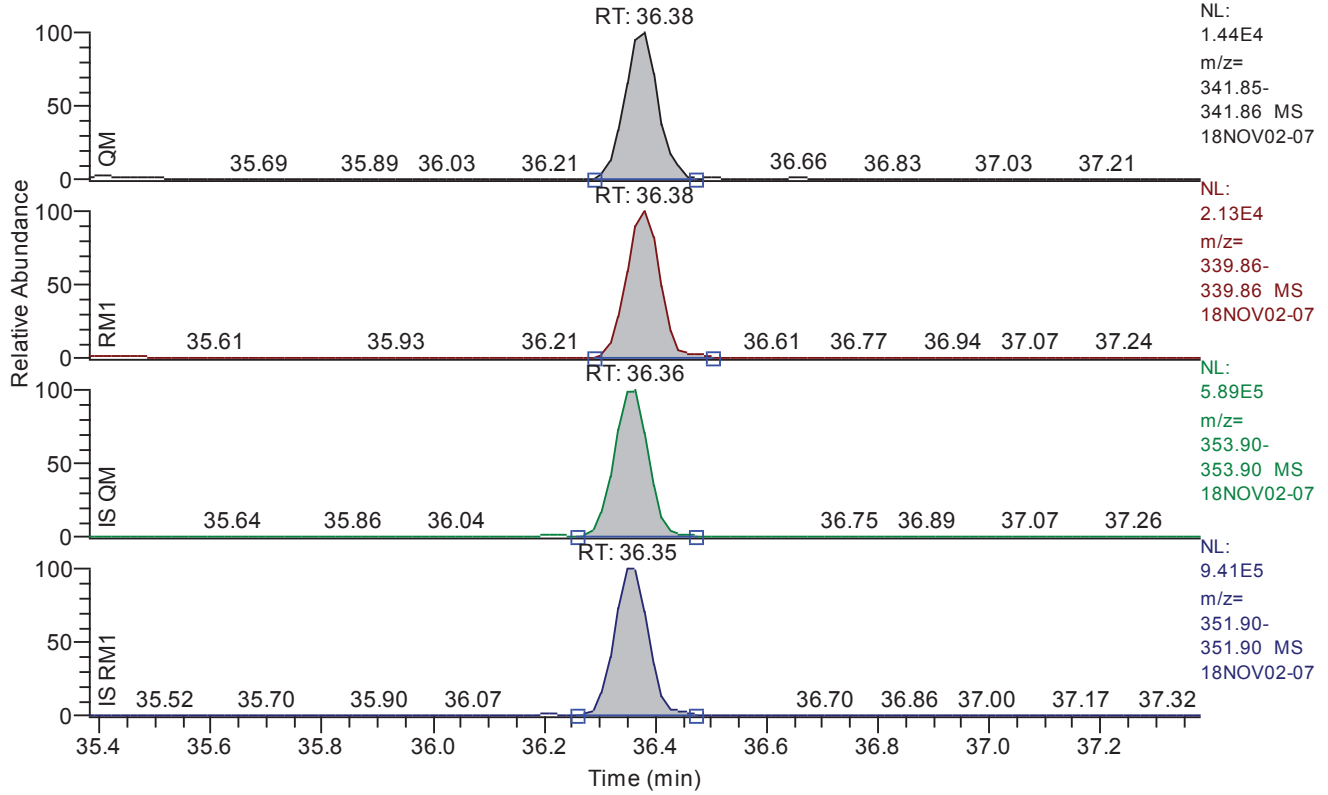
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	53035
QM Integration Mode	A
RM1 Area	81362
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1074
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.38 - 37.38 SM: 3G



**Entry Parameters**

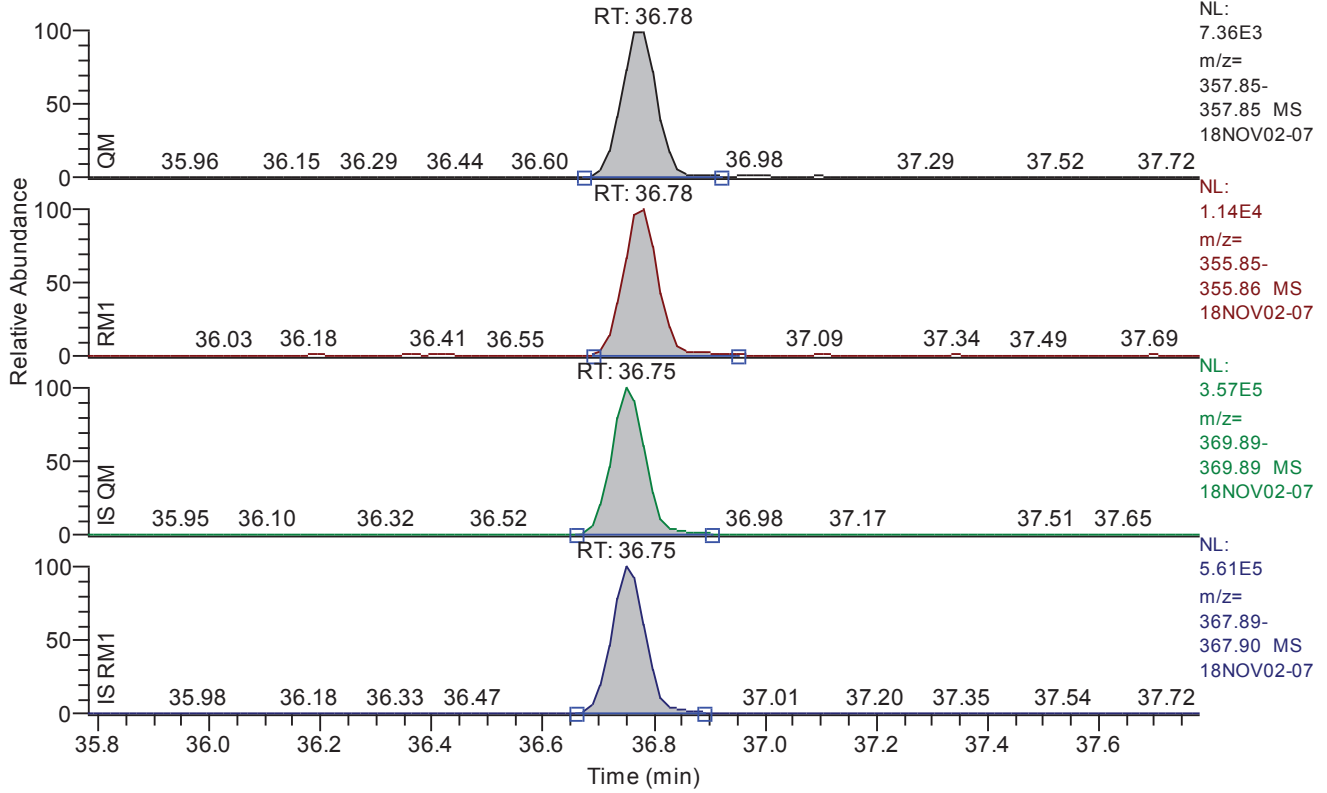
Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	59566
QM Integration Mode	A
RM1 Area	89844
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1298
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 35.78 - 37.78 SM: 3G



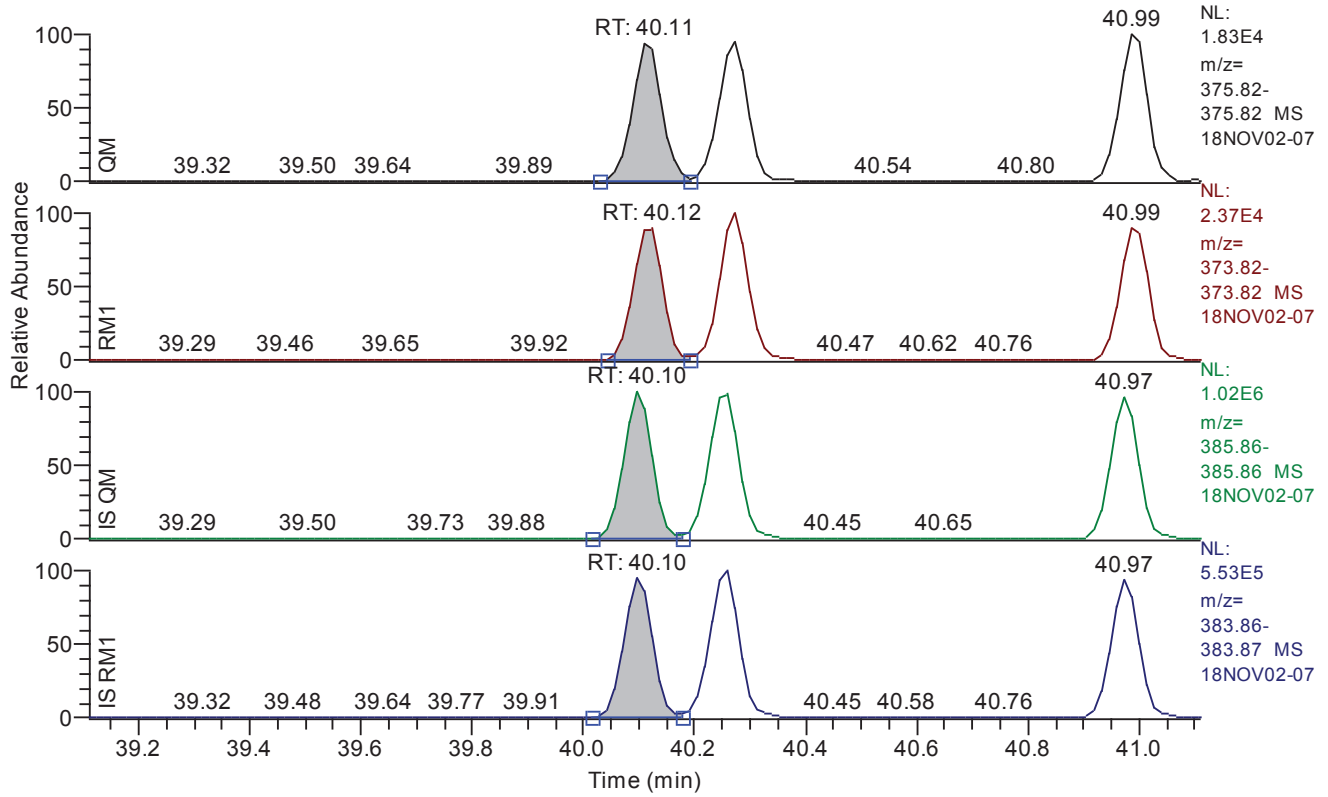
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	32744
QM Integration Mode	A
RM1 Area	49561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	519
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.11 - 41.11 SM: 3G



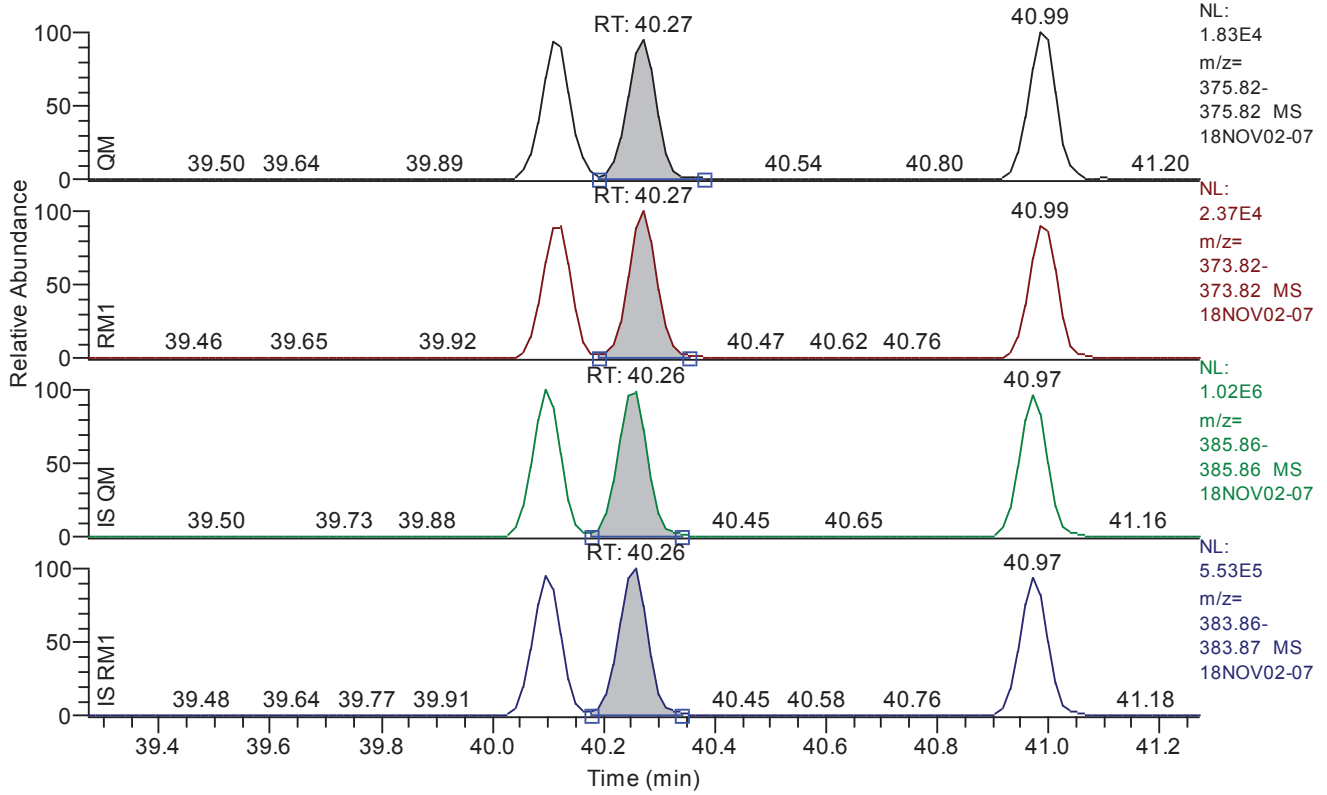
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.11
QM Area	62727
QM Integration Mode	A
RM1 Area	78714
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1009
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



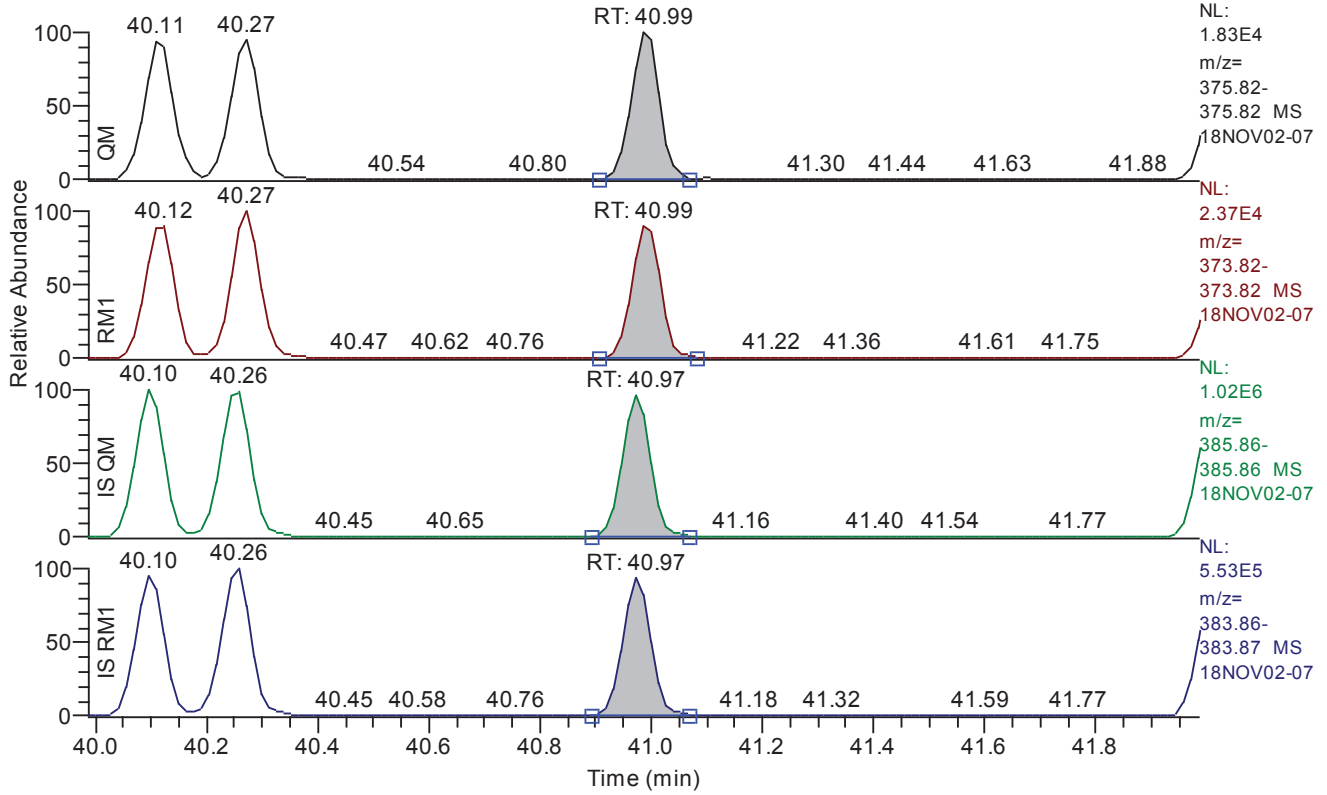
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	63342
QM Integration Mode	A
RM1 Area	84023
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1076
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.99 - 41.99 SM: 3G



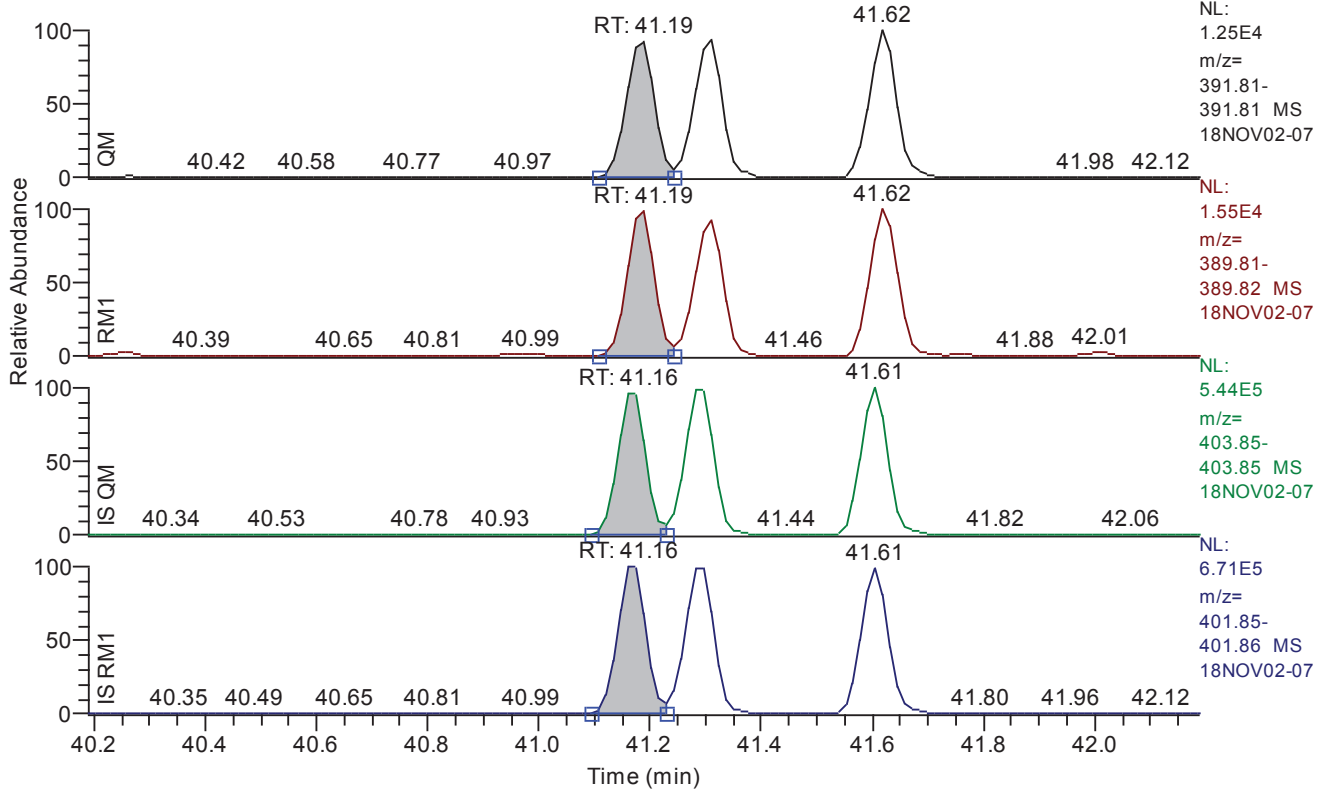
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	64068
QM Integration Mode	A
RM1 Area	76525
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0059
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1037
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.19 - 42.19 SM: 3G



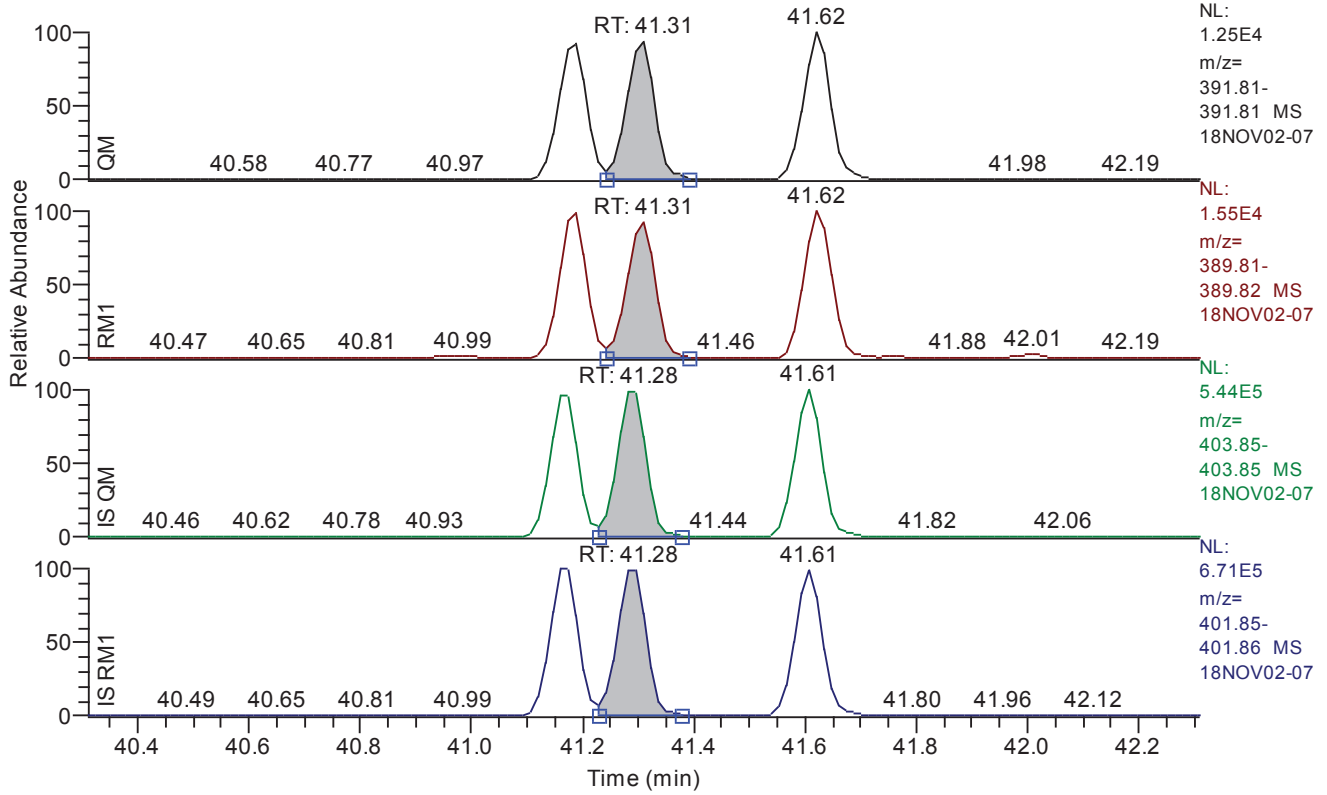
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	40775
QM Integration Mode	A
RM1 Area	52005
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0068
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	933
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



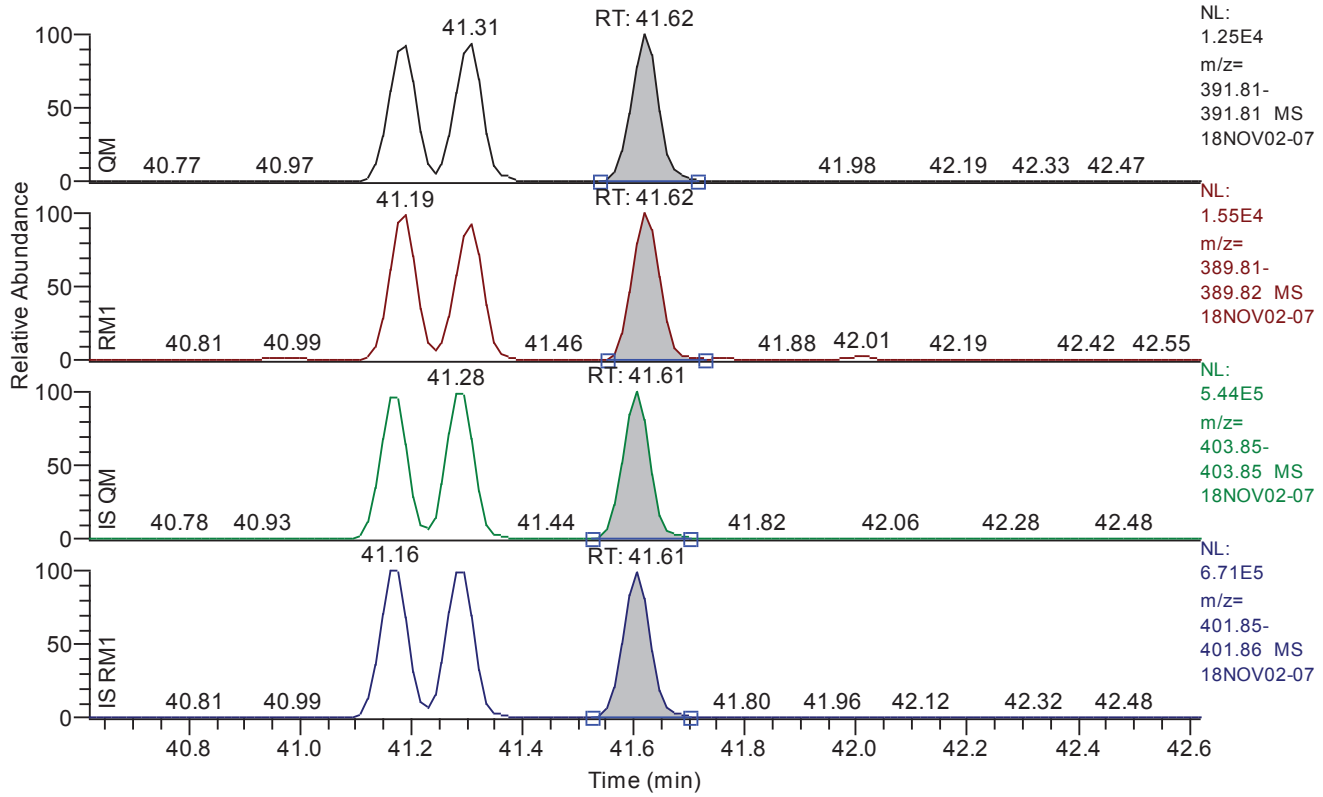
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	40877
QM Integration Mode	A
RM1 Area	50490
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	904
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.62 - 42.62 SM: 3G



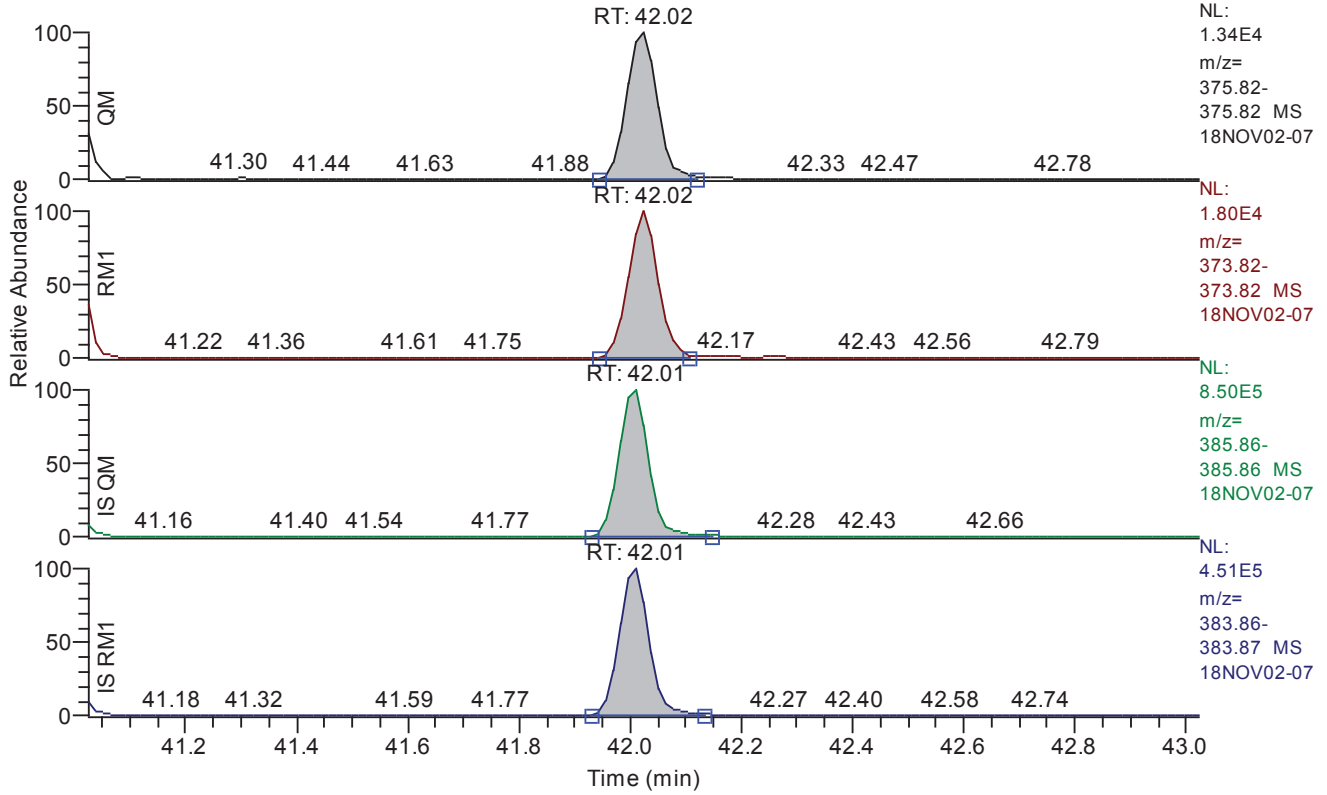
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	42508
QM Integration Mode	A
RM1 Area	54608
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	970
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.02 - 43.02 SM: 3G



**Entry Parameters**

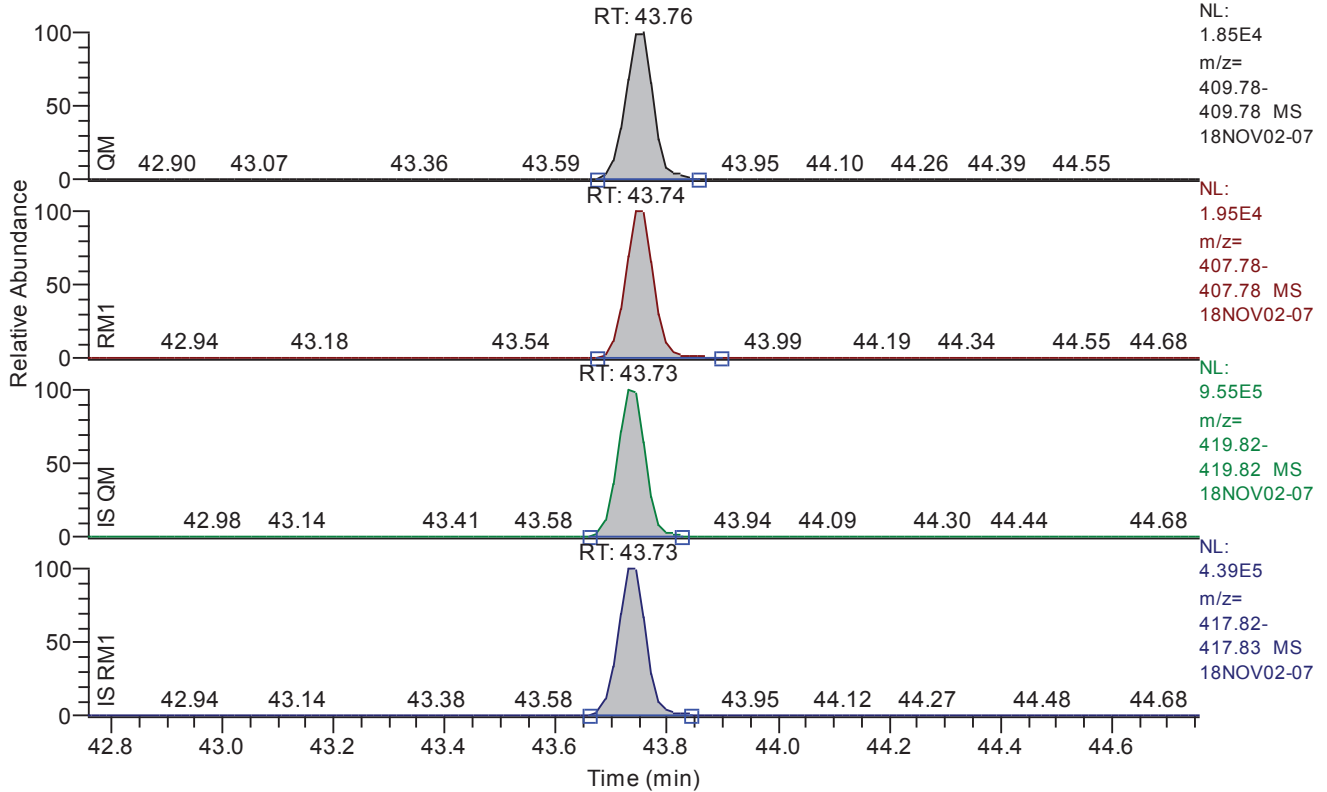
Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	51309
QM Integration Mode	A
RM1 Area	66724
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0075
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	821
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 42.76 - 44.76 SM: 3G



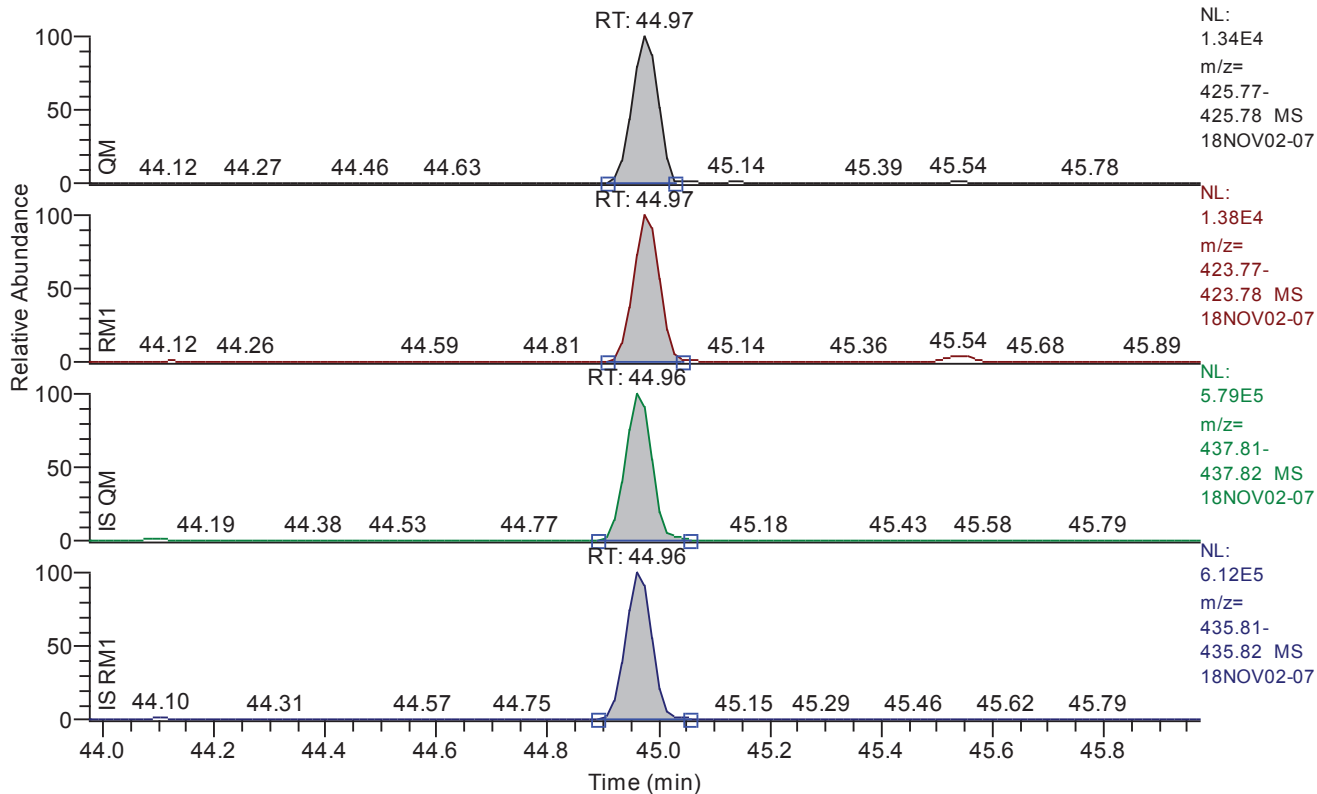
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.76
QM Area	65682
QM Integration Mode	A
RM1 Area	69915
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	1037
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.97 - 45.97 SM: 3G



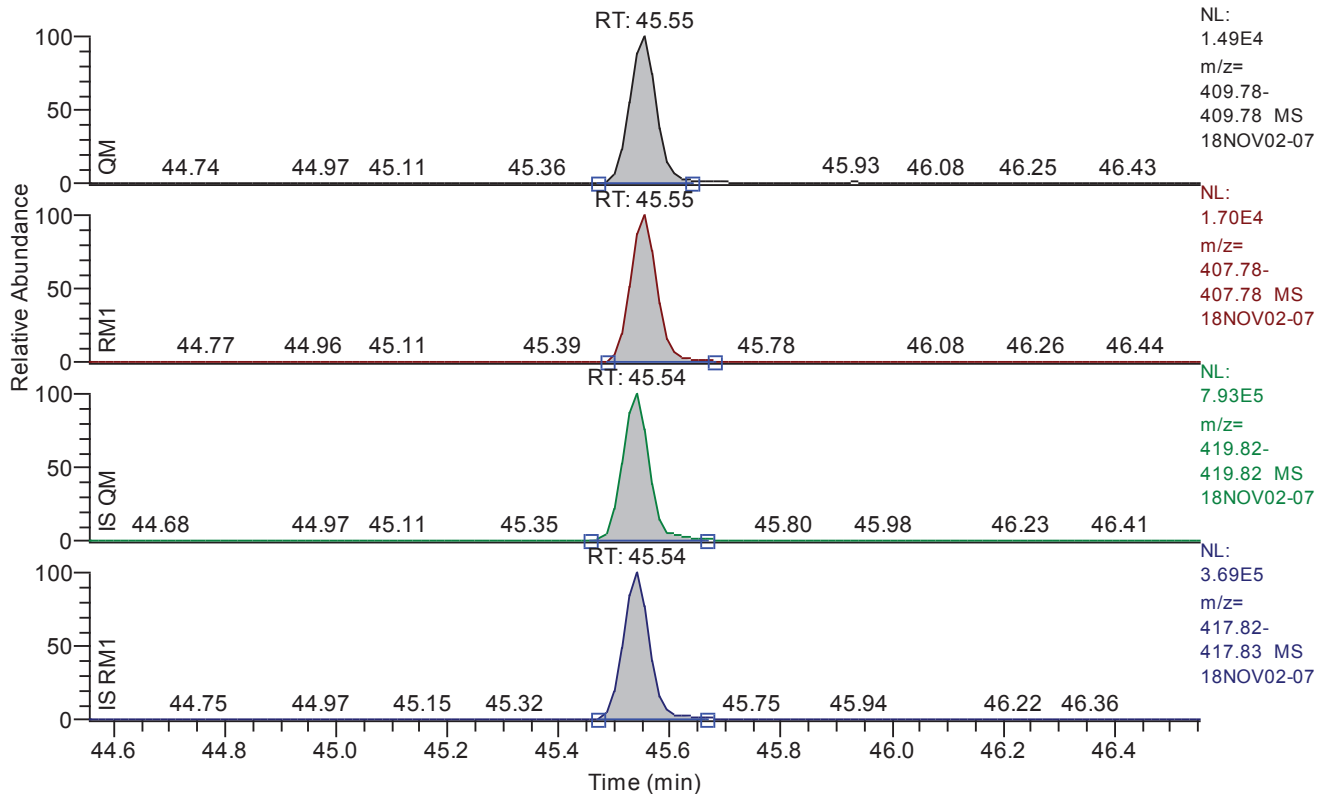
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.97
QM Area	44392
QM Integration Mode	A
RM1 Area	46157
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	912
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.55 - 46.55 SM: 3G



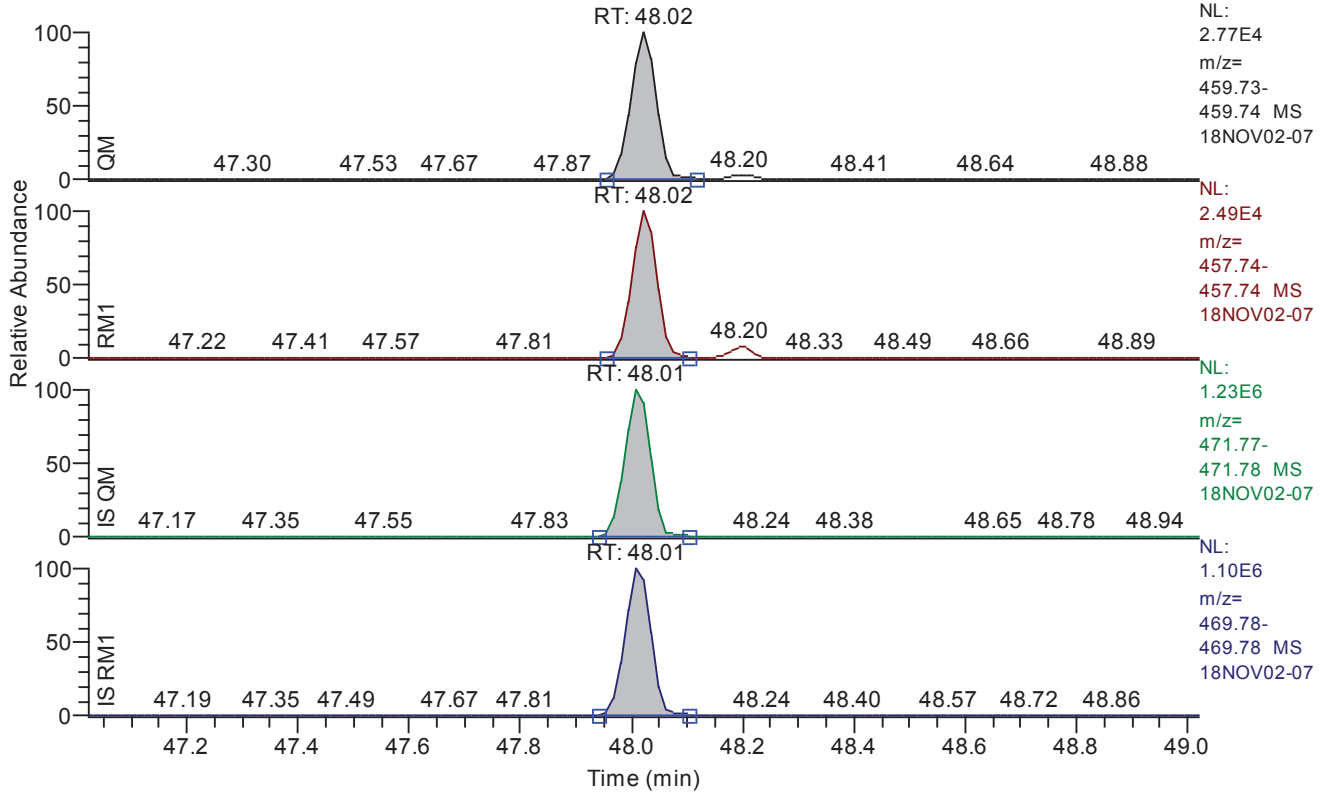
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.55
QM Area	51482
QM Integration Mode	A
RM1 Area	58217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0071
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	873
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.02 - 49.02 SM: 3G



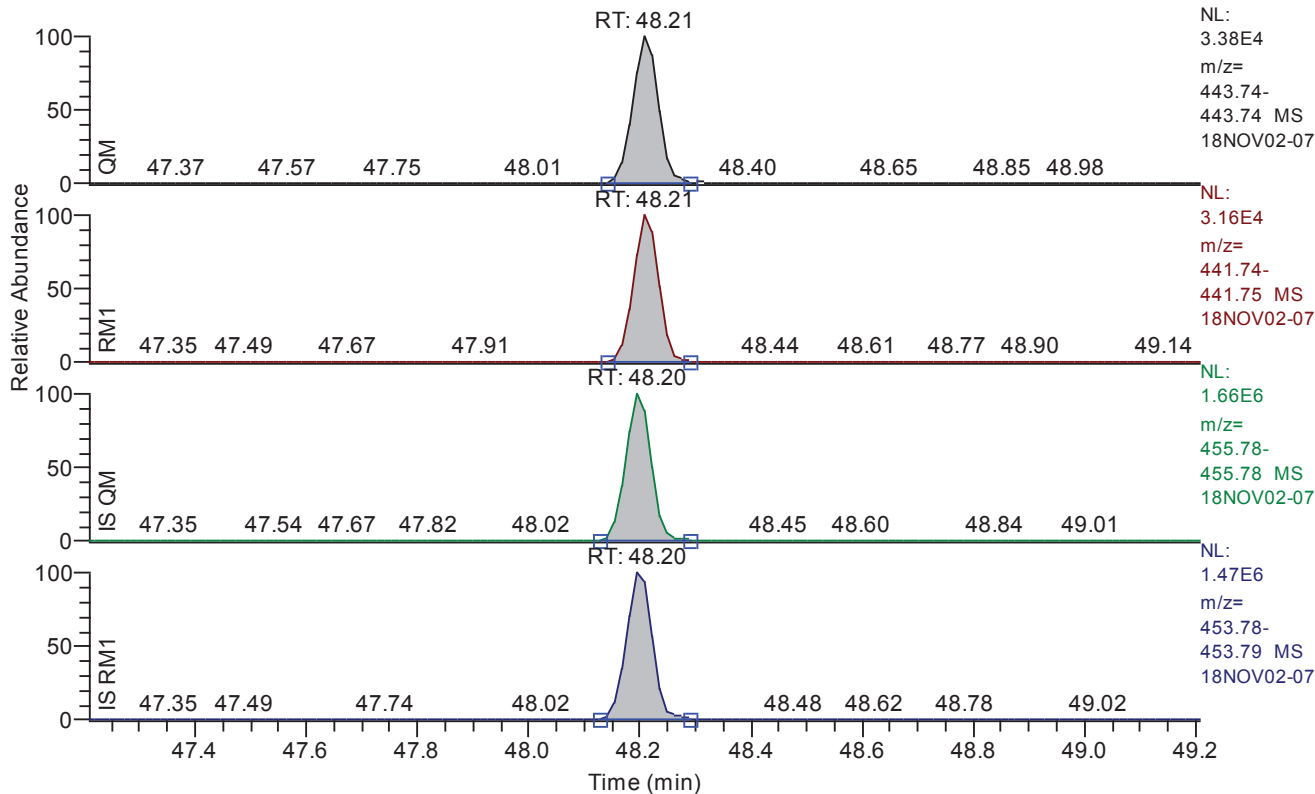
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	48.02
QM Area	87389
QM Integration Mode	A
RM1 Area	77278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0100
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1281
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.21 - 49.21 SM: 3G



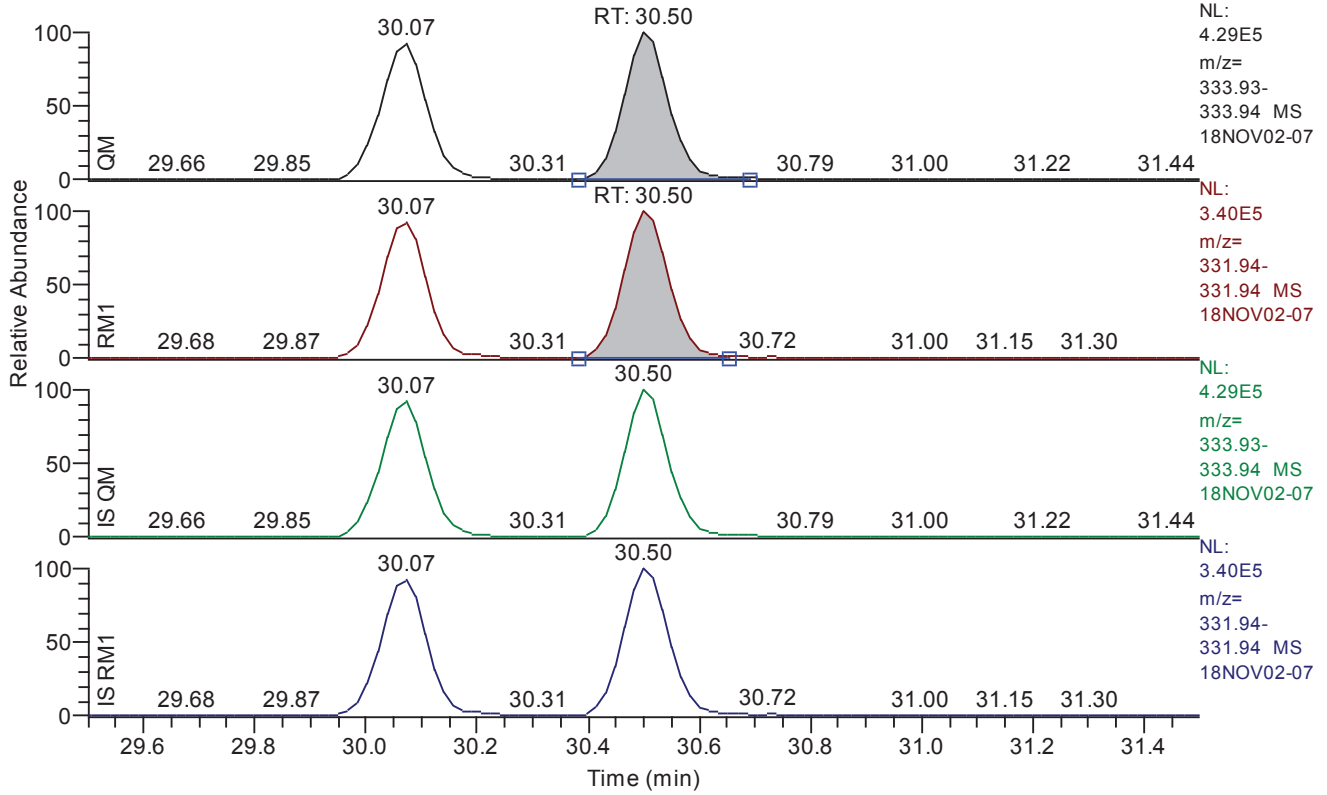
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.21
QM Area	107784
QM Integration Mode	A
RM1 Area	98952
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	5.000000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1921
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.50 - 31.50 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	2447261
QM Integration Mode	A
RM1 Area	1962278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0202
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12733
Client Flags	
Status Overview	passed
Status Info	



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 15:41  
Number of Entries 64  
Comment  
Vial 4  
Sample Name CALDF21837C  
Sample ID CS101  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

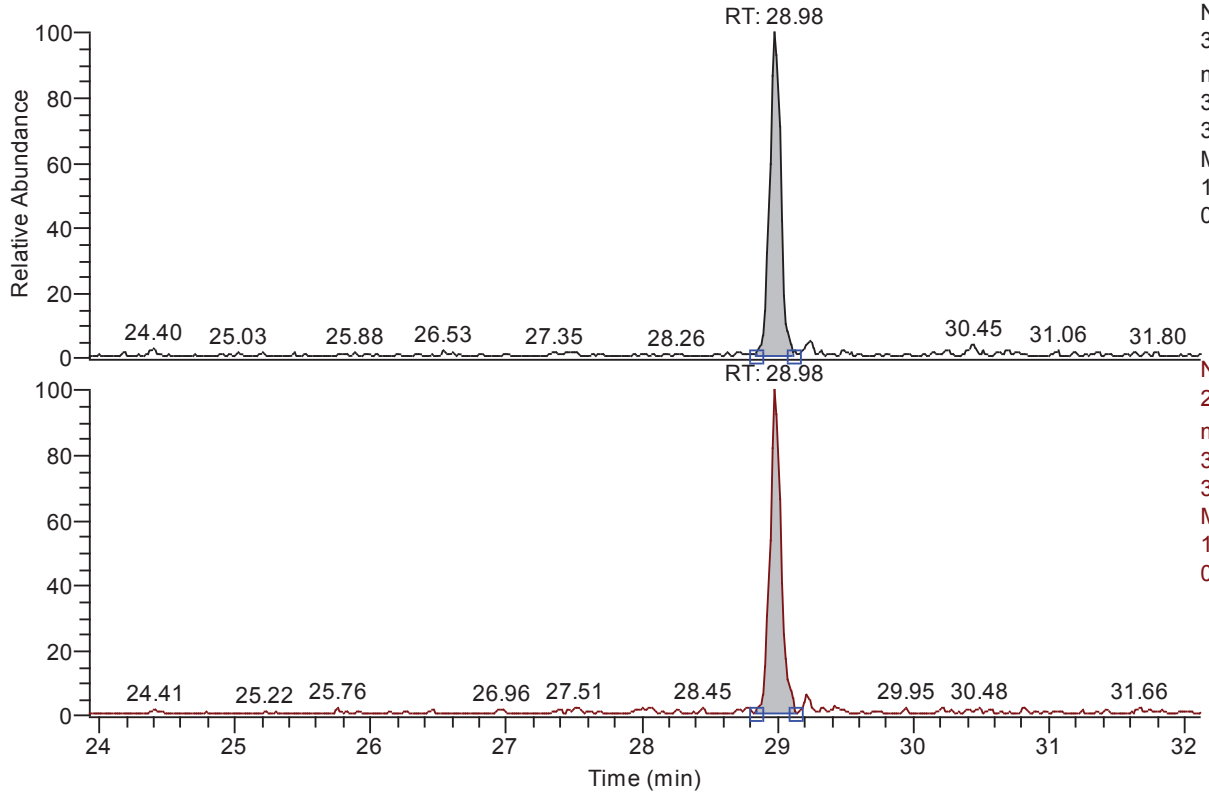
Quan w:\18nov02\18nov02-07.quan  
Data w:\18nov02\18nov02-07.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



NL:  
 3.37E3  
 m/z=  
 305.90-  
 305.90  
 MS  
 18NOV02-  
 07

NL:  
 2.69E3  
 m/z=  
 303.90-  
 303.90  
 MS  
 18NOV02-  
 07

**Entry Parameters**

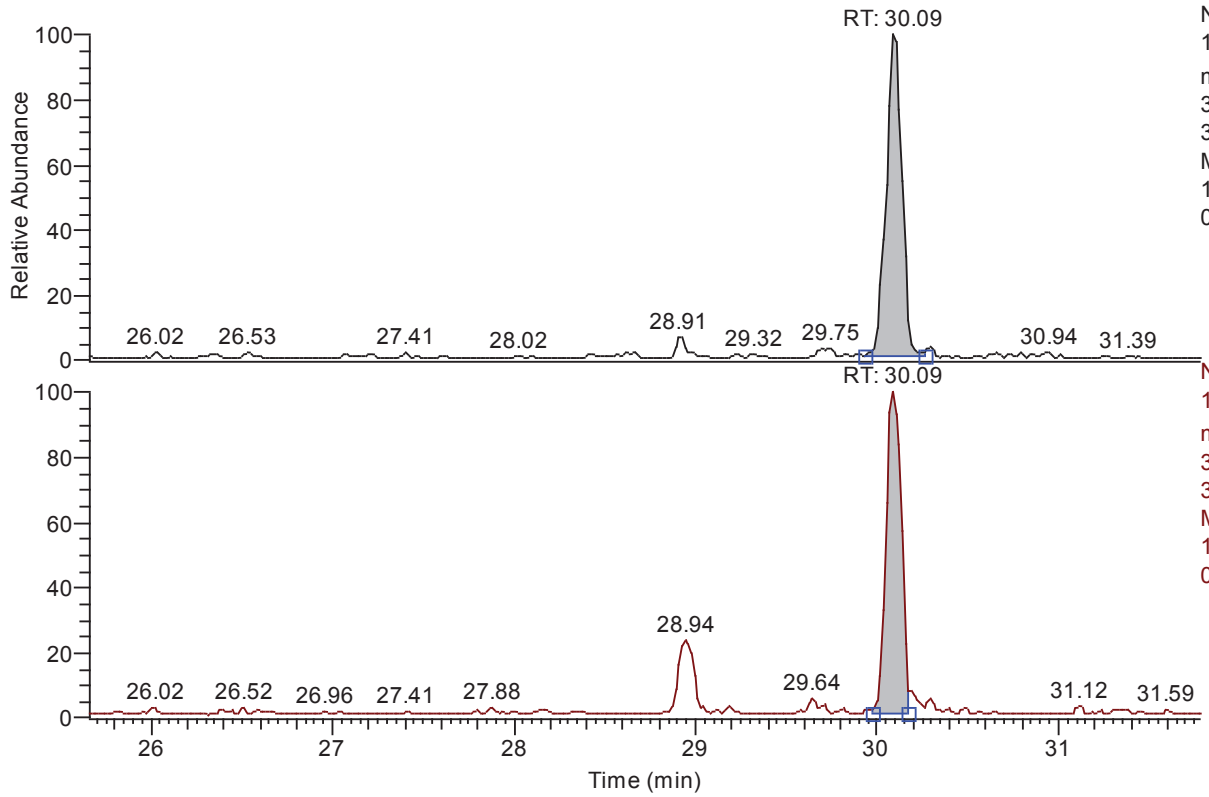
Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	18889
QM Integration Mode	A
RM1 Area	15137
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	277
Client Flags	
Status Overview	passed (1)
Status Info	





**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



NL:  
 1.99E3  
 m/z=  
 321.89-  
 321.90  
 MS  
 18NOV02-  
 07

NL:  
 1.74E3  
 m/z=  
 319.89-  
 319.90  
 MS  
 18NOV02-  
 07

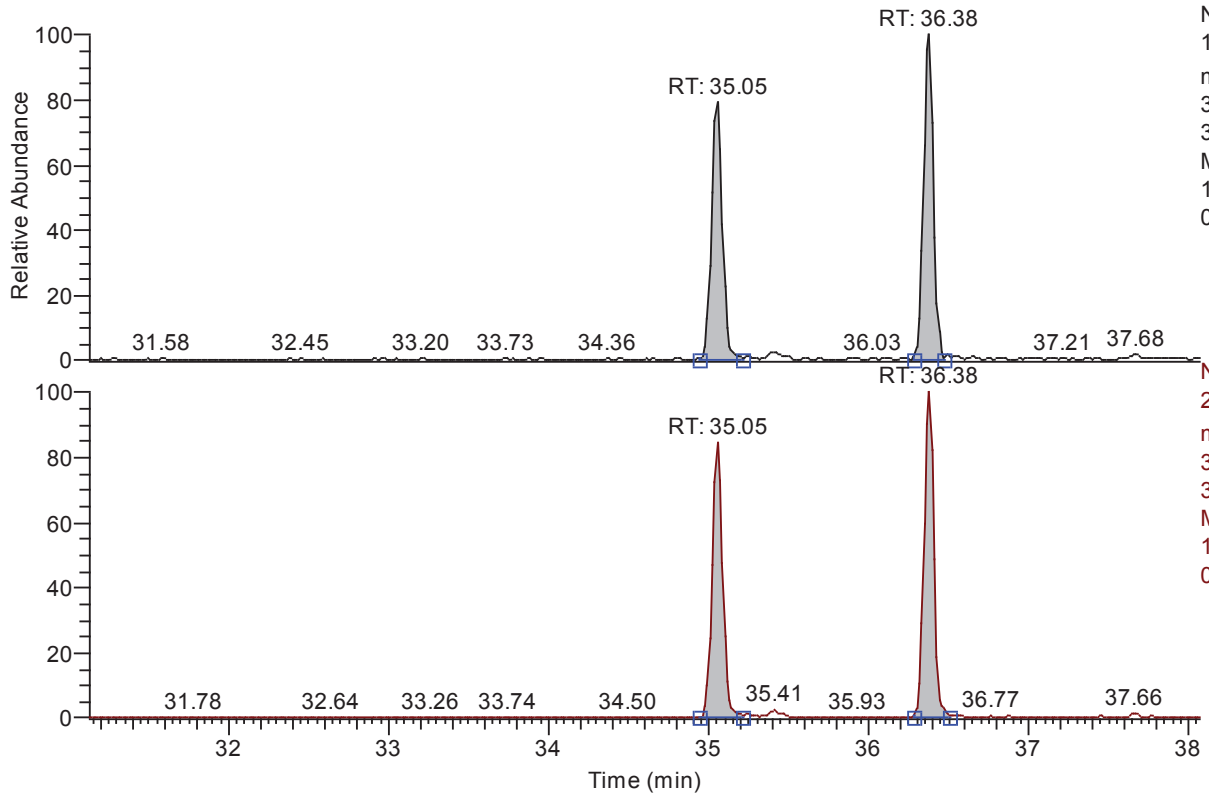
**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	11824
QM Integration Mode	A
RM1 Area	10071
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0048
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	259
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 31.12 - 38.08 SM: 3G



NL:  
 1.44E4  
 m/z=  
 341.85-  
 341.86  
 MS  
 18NOV02-  
 07

NL:  
 2.13E4  
 m/z=  
 339.86-  
 339.86  
 MS  
 18NOV02-  
 07

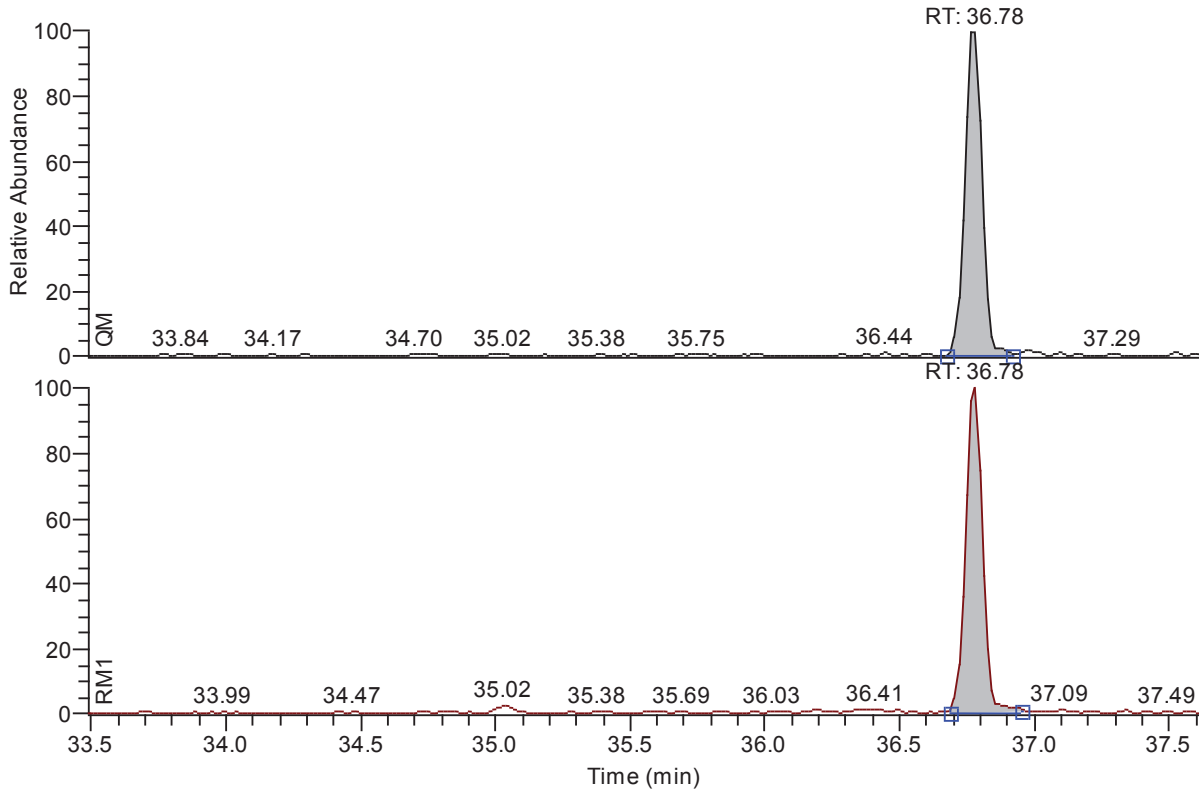
**Entry Parameters**

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	112601
QM Integration Mode	A
RM1 Area	171206
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0054
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	1186
Client Flags	
Status Overview	passed (2)
Status Info	



**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



NL:  
7.36E3  
m/z=  
357.85-  
357.85  
MS  
18NOV02-  
07

NL:  
1.14E4  
m/z=  
355.85-  
355.86  
MS  
18NOV02-  
07

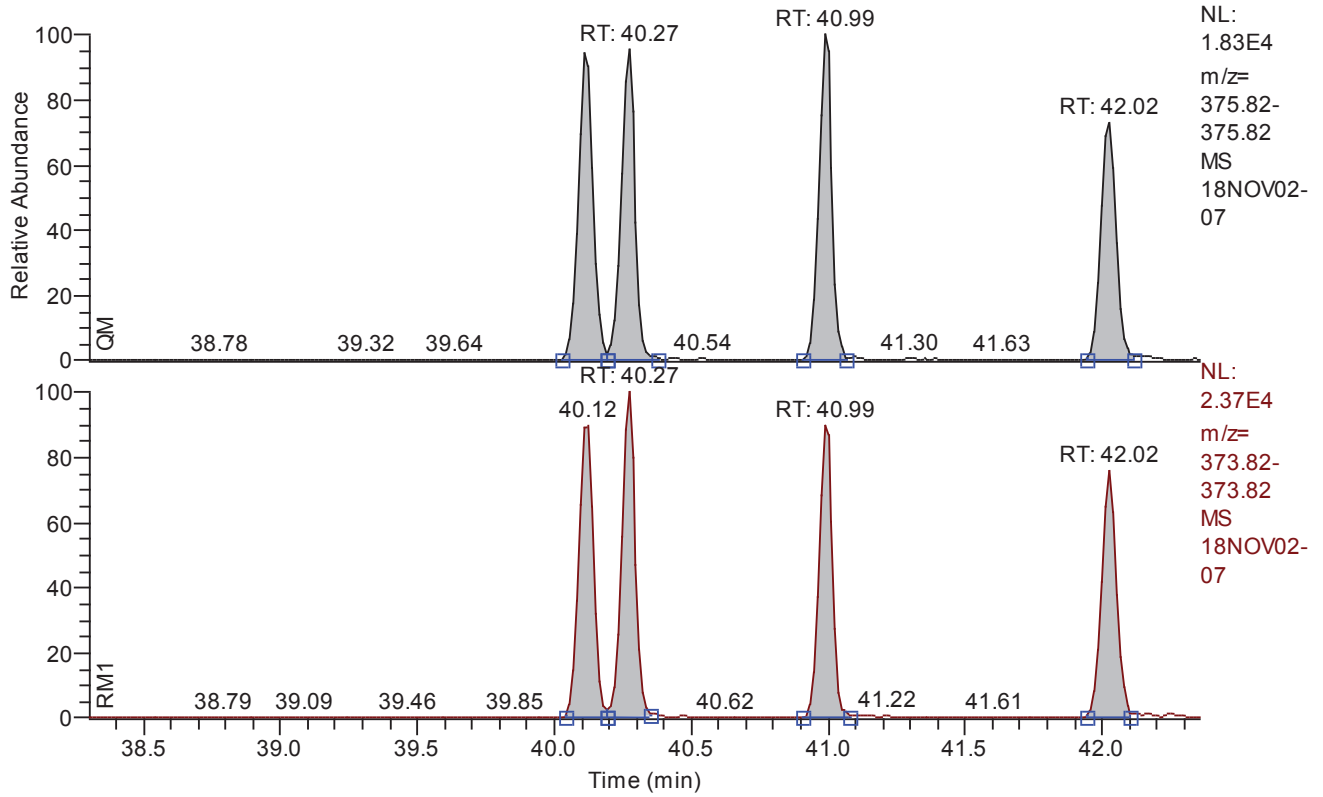
**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	32744
QM Integration Mode	A
RM1 Area	49561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0116
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	519
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



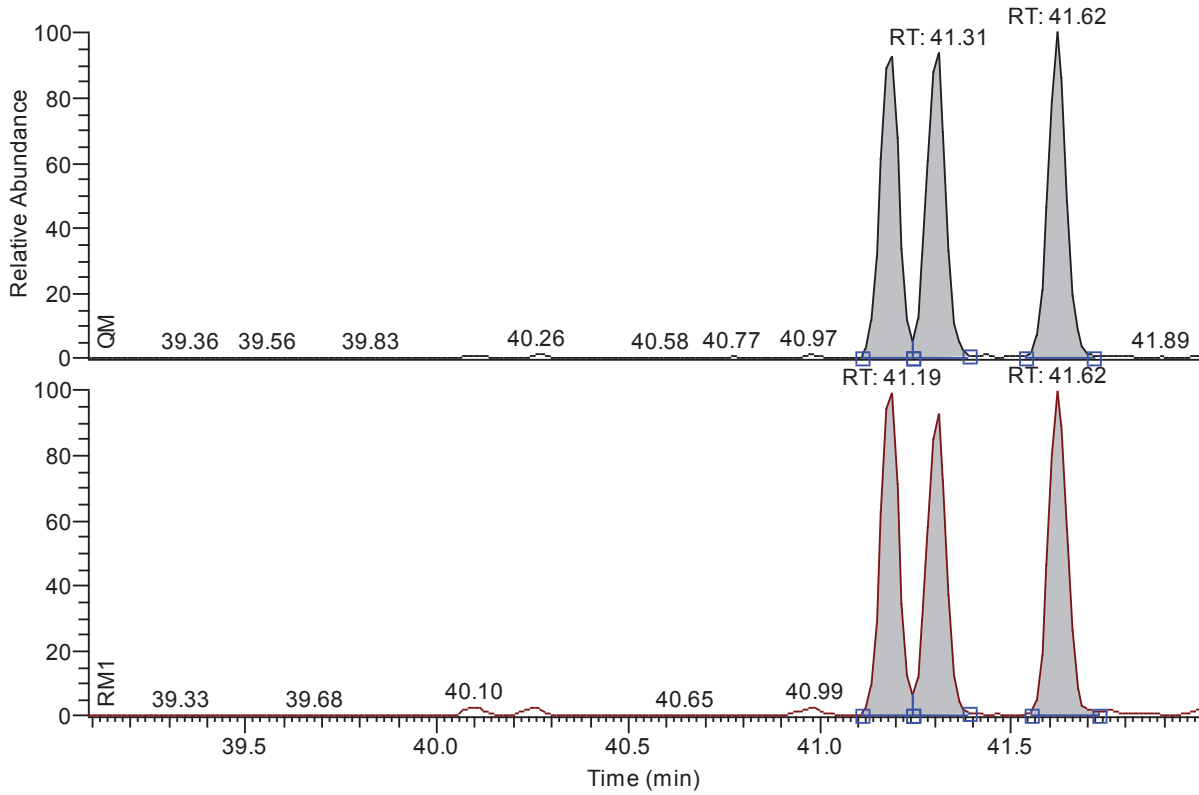
**Entry Parameters**

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	241446
QM Integration Mode	A
RM1 Area	305986
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	10.0000
Signal-to-Noise	986
Client Flags	
Status Overview	passed (4)
Status Info	



**Chromatogram**

RT: 39.09 - 41.99 SM: 3G



NL:  
1.25E4  
m/z=  
391.81-  
391.81  
MS  
18NOV02-  
07

NL:  
1.55E4  
m/z=  
389.81-  
389.82  
MS  
18NOV02-  
07

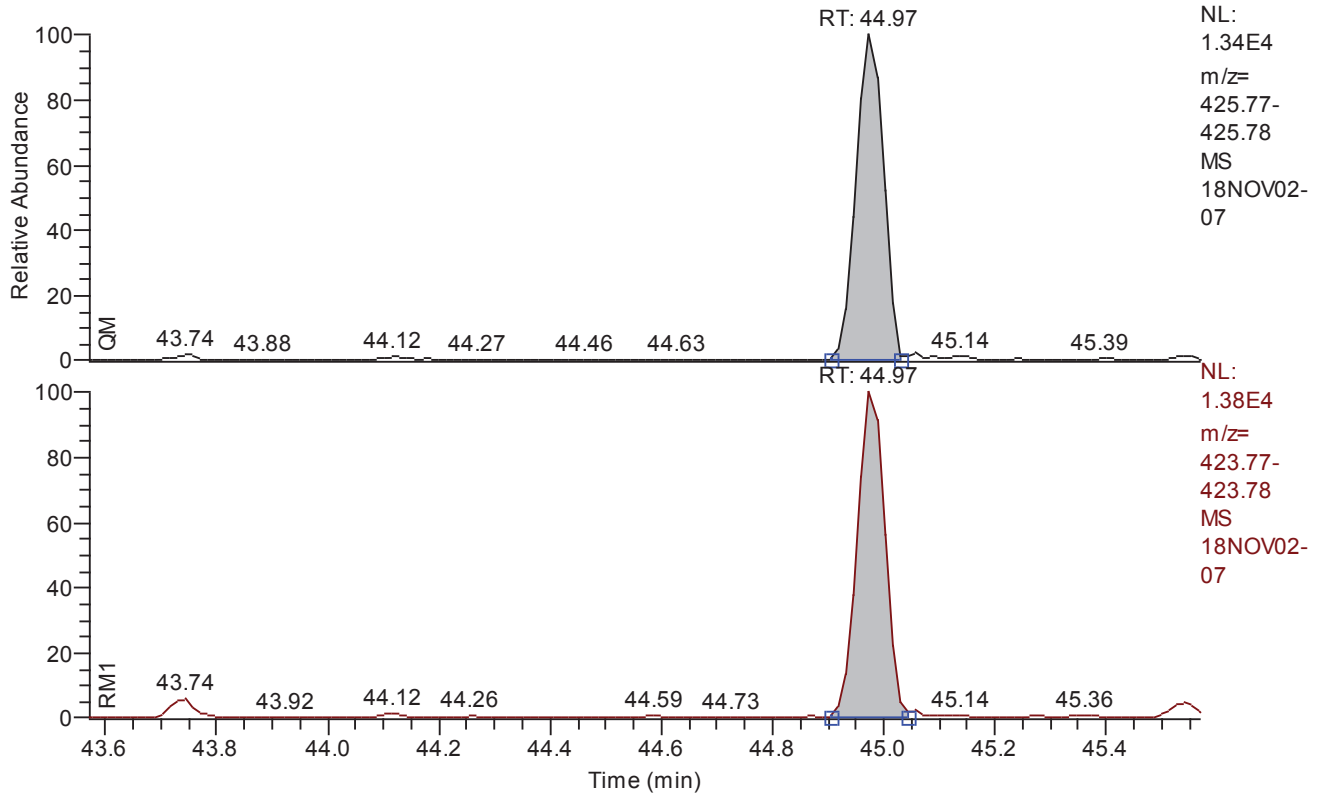
**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	124161
QM Integration Mode	A
RM1 Area	157103
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	7.5000
Signal-to-Noise	935
Client Flags	
Status Overview	passed (3)
Status Info	



**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



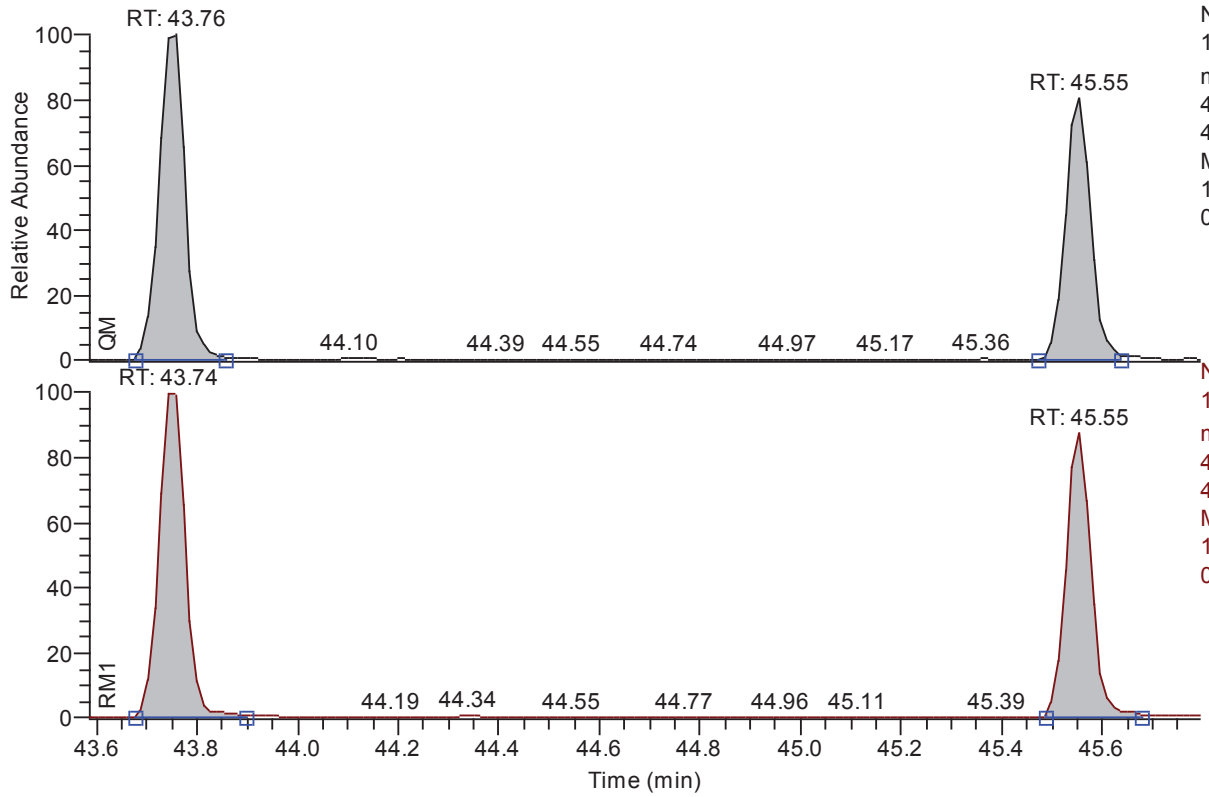
**Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	44392
QM Integration Mode	A
RM1 Area	46157
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	2.5000
Signal-to-Noise	912
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



NL:  
 1.85E4  
 m/z=  
 409.78-  
 409.78  
 MS  
 18NOV02-  
 07

NL:  
 1.95E4  
 m/z=  
 407.78-  
 407.78  
 MS  
 18NOV02-  
 07

**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	117164
QM Integration Mode	A
RM1 Area	128132
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0066
Unqualified Amount (A)	2.500000
Adjusted Amount (A)	5.0000
Signal-to-Noise	955
Client Flags	
Status Overview	passed (2)
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.09	30.09	30.09	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.11	40.11	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.76	43.76	43.74	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.00	40.00	40.00	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.02	35.02	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.36	36.36	36.35	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.28	41.28	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.73	43.73	43.73	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDF	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDD	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.09	30.09	30.09	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.97	44.97	44.97	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.11	40.11	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.76	43.76	43.74	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.55	45.55	45.55	passed	passed





**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.8014	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.09	0.8518	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5341	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5083	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5136	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.11	1.2549	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.3265	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.1944	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2754	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2352	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2846	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.3004	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.76	1.0644	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.97	1.0398	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.55	1.1308	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.02	0.8843	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9181	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.8018	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.7966	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.00	1.2519	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.7984	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.02	1.5464	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.36	1.5945	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5594	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5175	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5351	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5268	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2915	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.28	1.2505	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2295	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5272	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.73	0.4631	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0482	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4583	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8964	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8979	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.8014	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.8518	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5205	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5136	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2673	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2653	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0398	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0936	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.8014	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.09	0.8518	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5136	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5083	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5341	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.97	1.0398	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.1944	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.11	1.2549	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.3265	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.3004	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2846	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2754	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2352	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.76	1.0644	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.55	1.1308	0.8750 - 1.2050	passed	100.00	0 - 0	passed

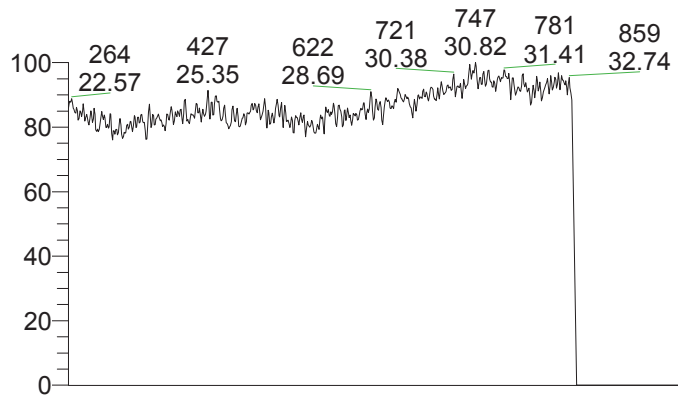


**Entry Parameters**

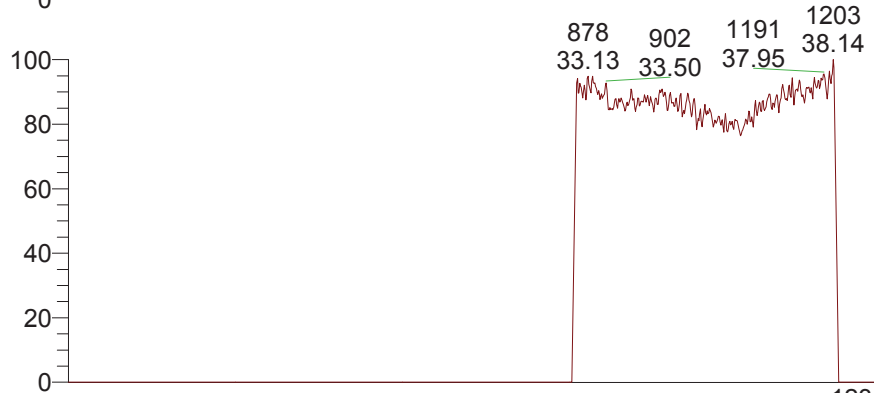
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.98	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
2	2378-TCDD	passed	30.09	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
3	12378-PeCDF	passed	35.05	53035	A	81362	A	0.0060	2.500000	2.5000	2.500000	1074	
4	23478-PeCDF	passed	36.38	59566	A	89844	A	0.0049	2.500000	2.5000	2.500000	1298	
5	12378-PeCDD	passed	36.78	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
6	123478-HxCDF	passed	40.11	62727	A	78714	A	0.0060	2.500000	2.5000	2.500000	1009	
7	123678-HxCDF	passed	40.27	63342	A	84023	A	0.0060	2.500000	2.5000	2.500000	1076	
8	234678-HxCDF	passed	40.99	64068	A	76525	A	0.0059	2.500000	2.5000	2.500000	1037	
9	123478-HxCDD	passed	41.19	40775	A	52005	A	0.0068	2.500000	2.5000	2.500000	933	
10	123678-HxCDD	passed	41.31	40877	A	50490	A	0.0070	2.500000	2.5000	2.500000	904	
11	123789-HxCDD	passed	41.62	42508	A	54608	A	0.0063	2.500000	2.5000	2.500000	970	
12	123789-HxCDF	passed	42.02	51309	A	66724	A	0.0075	2.500000	2.5000	2.500000	821	
13	1234678-HpCDF	passed	43.76	65682	A	69915	A	0.0060	2.500000	2.5000	2.500000	1037	
14	1234678-HpCDD	passed	44.97	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
15	1234789-HpCDF	passed	45.55	51482	A	58217	A	0.0071	2.500000	2.5000	2.500000	873	
16	OCDD	passed	48.02	87389	A	77278	A	0.0100	5.000000	5.0000	5.000000	1281	
17	OCDF	passed	48.21	107784	A	98952	A	0.0066	5.000000	5.0000	5.000000	1921	
18	13C12-1278-TCDD (CRS)	passed	30.50	2447261	A	1962278	A	0.0202	100.000000	100.0000	100.000000	12733	
19	13C12-1234-TCDD	passed	29.20	2330982	A	1856934	A	0.0212	100.000000	100.0000	100.000000	11779	
20	13C12-123468-HxCDD	passed	40.00	1942275	A	2431460	A	0.0258	100.000000	100.0000	100.000000	9696	
21	13C12-2378-TCDF	passed	28.96	4134229	A	3257632	A	0.0166	100.000000	100.0000	100.000000	14799	
22	13C12-2378-TCDD	passed	30.07	2327432	A	1858274	A	0.0212	100.000000	100.0000	100.000000	11875	
23	13C12-12378-PeCDF	passed	35.02	2629287	A	4066047	A	0.0437	100.000000	100.0000	100.000000	7201	
24	13C12-23478-PeCDF	passed	36.36	2526124	A	4027892	A	0.0447	100.000000	100.0000	100.000000	7711	
25	13C12-12378-PeCDD	passed	36.75	1522143	A	2373628	A	0.0314	100.000000	100.0000	100.000000	11088	
26	13C12-123478-HxCDF	passed	40.10	3628222	A	1877624	A	0.0330	100.000000	100.0000	100.000000	7675	
27	13C12-123678-HxCDF	passed	40.26	3759607	A	2011580	A	0.0315	100.000000	100.0000	100.000000	7771	
28	13C12-234678-HxCDF	passed	40.97	3434608	A	1809217	A	0.0347	100.000000	100.0000	100.000000	7524	
29	13C12-123478-HxCDD	passed	41.16	1830771	A	2364526	A	0.0269	100.000000	100.0000	100.000000	9597	
30	13C12-123678-HxCDD	passed	41.28	1908728	A	2386887	A	0.0263	100.000000	100.0000	100.000000	9657	
31	13C12-123789-HxCDD	passed	41.61	1832524	A	2253051	A	0.0276	100.000000	100.0000	100.000000	9700	
32	13C12-123789-HxCDF	passed	42.01	3164370	A	1668297	A	0.0376	100.000000	100.0000	100.000000	6473	
33	13C12-1234678-HpCDF	passed	43.73	3382825	A	1566631	A	0.0343	100.000000	100.0000	100.000000	7451	
34	13C12-1234678-HpCDD	passed	44.96	1975793	A	2071085	A	0.0325	100.000000	100.0000	100.000000	8217	
35	13C12-1234789-HpCDF	passed	45.54	2714998	A	1244199	A	0.0428	100.000000	100.0000	100.000000	6201	
36	13C12-OCDD	passed	48.01	3959976	A	3549864	A	0.0139	200.000000	200.0000	200.000000	40579	
37	13C12-OCDF	passed	48.20	5275766	A	4737265	A	0.0132	200.000000	200.0000	200.000000	42867	
38	Total TCDF	passed (1)	28.02	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
39	Total TCDD	passed (1)	28.72	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
40	Total PeCDF	passed (2)	34.60	112601	A	171206	A	0.0054	2.500000	5.0000	2.500000	1186	
41	Total PeCDD	passed (1)	35.55	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
42	Total HxCDF	passed (4)	40.33	241446	A	305986	A	0.0063	2.500000	10.0000	2.500000	986	
43	Total HxCDD	passed (3)	40.54	124161	A	157103	A	0.0067	2.500000	7.5000	2.500000	935	
44	Total HpCDD	passed (1)	44.57	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
45	Total HpCDF	passed (2)	44.69	117164	A	128132	A	0.0066	2.500000	5.0000	2.500000	955	
46	Single TCDF	passed	28.98	18889	A	15137	A	0.0048	0.500000	0.5000	0.500000	277	
47	Single TCDD	passed	30.09	11824	A	10071	A	0.0048	0.500000	0.5000	0.500000	259	
48	Single PeCDF	passed	36.78	32744	A	49561	A	0.0116	2.500000	2.5000	2.500000	519	
49	Single PeCDD	passed	36.38	59566	A	89844	A	0.0051	2.500000	2.5000	2.500000	1298	
50	Single PeCDF	passed	35.05	53035	A	81362	A	0.0057	2.500000	2.5000	2.500000	1074	
51	Single HpCDD	passed	44.97	44392	A	46157	A	0.0070	2.500000	2.5000	2.500000	912	
52	Single HxCDF	passed	40.99	64068	A	76525	A	0.0061	2.500000	2.5000	2.500000	1037	
53	Single HxCDF	passed	40.11	62727	A	78714	A	0.0061	2.500000	2.5000	2.500000	1009	
54	Single HxCDF	passed	40.27	63342	A	84023	A	0.0058	2.500000	2.5000	2.500000	1076	
55	Single HxCDF	passed	42.02	51309	A	66724	A	0.0073	2.500000	2.5000	2.500000	821	
56	Single HxCDD	passed	41.62	42508	A	54608	A	0.0065	2.500000	2.5000	2.500000	970	
57	Single HxCDD	passed	41.19	40775	A	52005	A	0.0068	2.500000	2.5000	2.500000	933	
58	Single HxCDD	passed	41.31	40877	A	50490	A	0.0069	2.500000	2.5000	2.500000	904	
59	Single HpCDF	passed	43.76	65682	A	69915	A	0.0059	2.500000	2.5000	2.500000	1037	
60	Single HpCDF	passed	45.55	51482	A	58217	A	0.0073	2.500000	2.5000	2.500000	873	



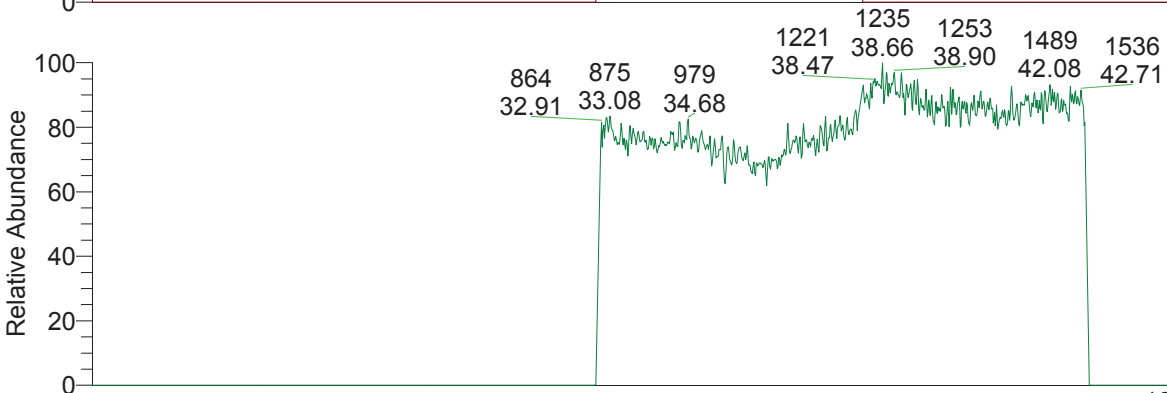
RT: 22.50 - 51.00



NL:  
7.55E5  
m/□  
291.9825-  
292.9825  
MS  
18NOV02-  
07



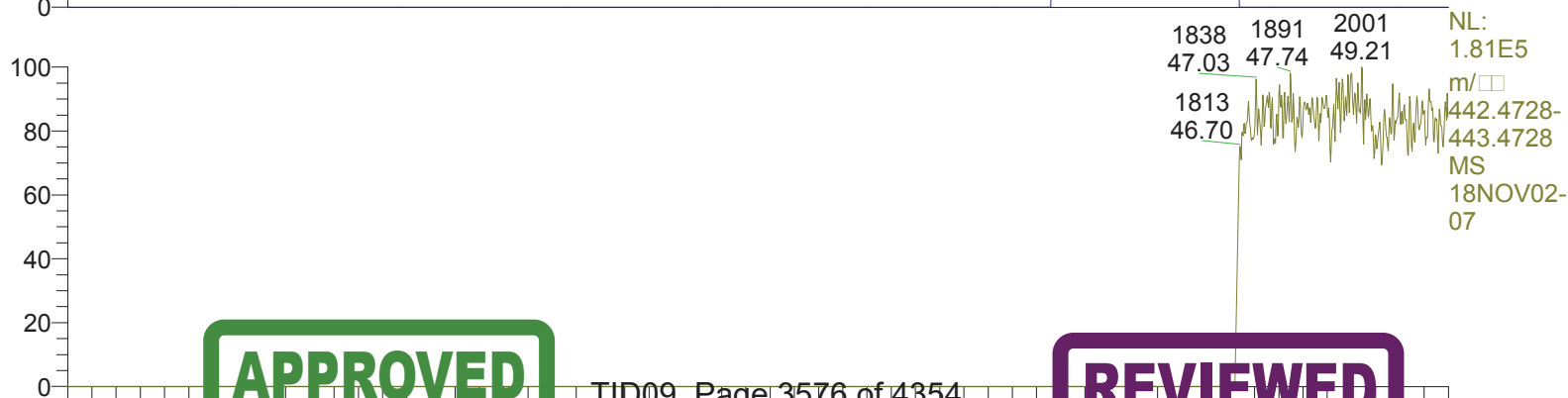
NL:  
5.89E5  
m/□  
330.4792-  
331.4792  
MS  
18NOV02-  
07



NL:  
4.15E5  
m/□  
380.4760-  
381.4760  
MS  
18NOV02-  
07



NL:  
1.57E5  
m/□  
404.4760-  
405.4760  
MS  
18NOV02-  
07



NL:  
1.81E5  
m/□  
442.4728-  
443.4728  
MS  
18NOV02-  
07

**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 15:44:39 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 15:44:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.800000 minutes  
MID window end time was 32.800000 minutes



18NOV02-07

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)\Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	96.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	190.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0181	FVINLET	0.0428	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	96.5000	LKM	442.9723	MASS	96.5000
MDAC	1420463.0737	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9812	RELEN	0.0000
RES	11229.5678	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.6e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10672.  
MID Time window 2: Resolution is 10748.  
MID Time window 3: Resolution is 11120.  
MID Time window 4: Resolution is 10989.



18NOV02-07

MID Time Window 5: Resolution is 11382.  
MID Time Window 6: Resolution is 11229.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 16:35:39 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 16:35  
Number of Entries 64  
Comment  
Vial 5  
Sample Name CALDF31837B  
Sample ID CS201  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-08.quan  
Data w:\18nov02\18nov02-08.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.11	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.13	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	41.00	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.03	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.76	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.50	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.22	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.08	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.37	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.98	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.11	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.06	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.13	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	41.00	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.03	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.76	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDD	45.56	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/02 16:35
Number of Entries	64
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF17280-18NOV02
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

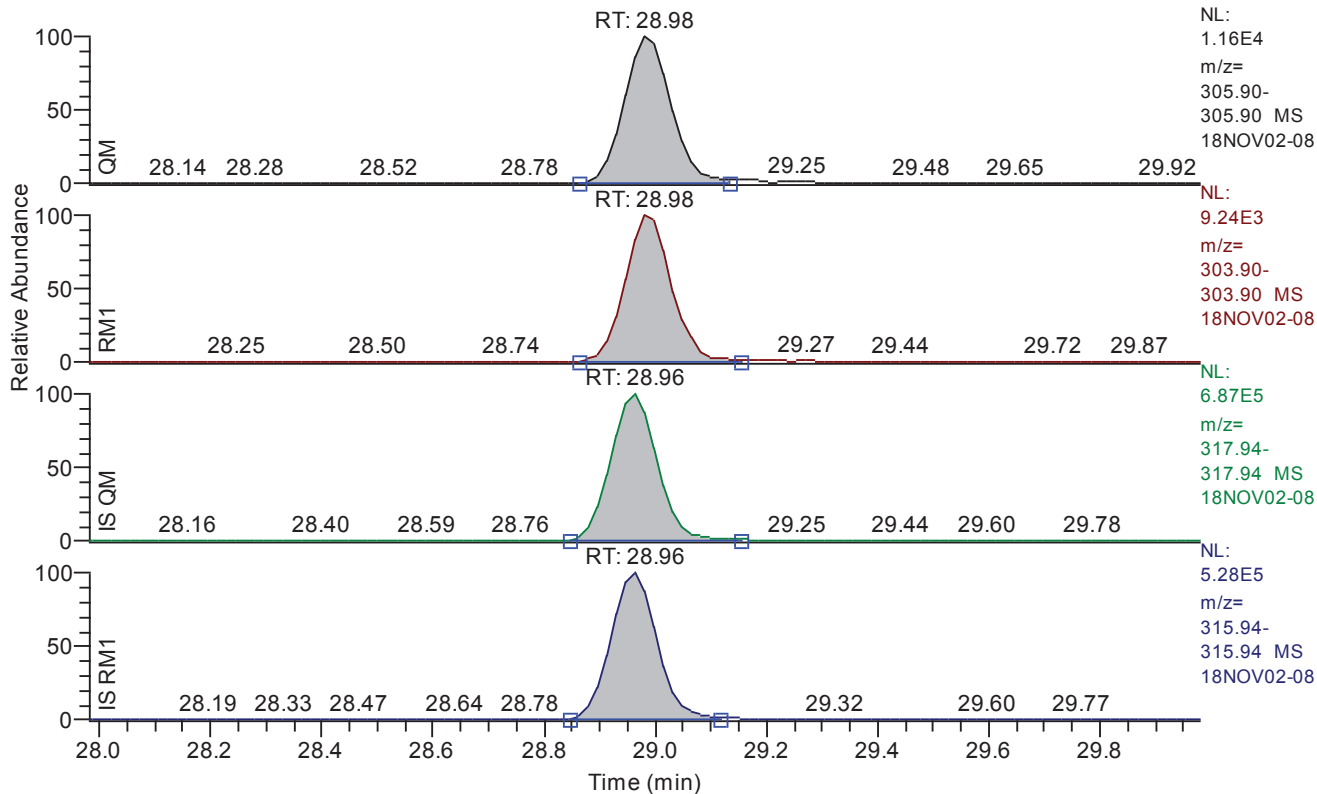
Quan	w:\18nov02\18nov02-08.quan
Data	w:\18nov02\18nov02-08.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Chromatogram**

RT: 27.98 - 29.98 SM: 3G



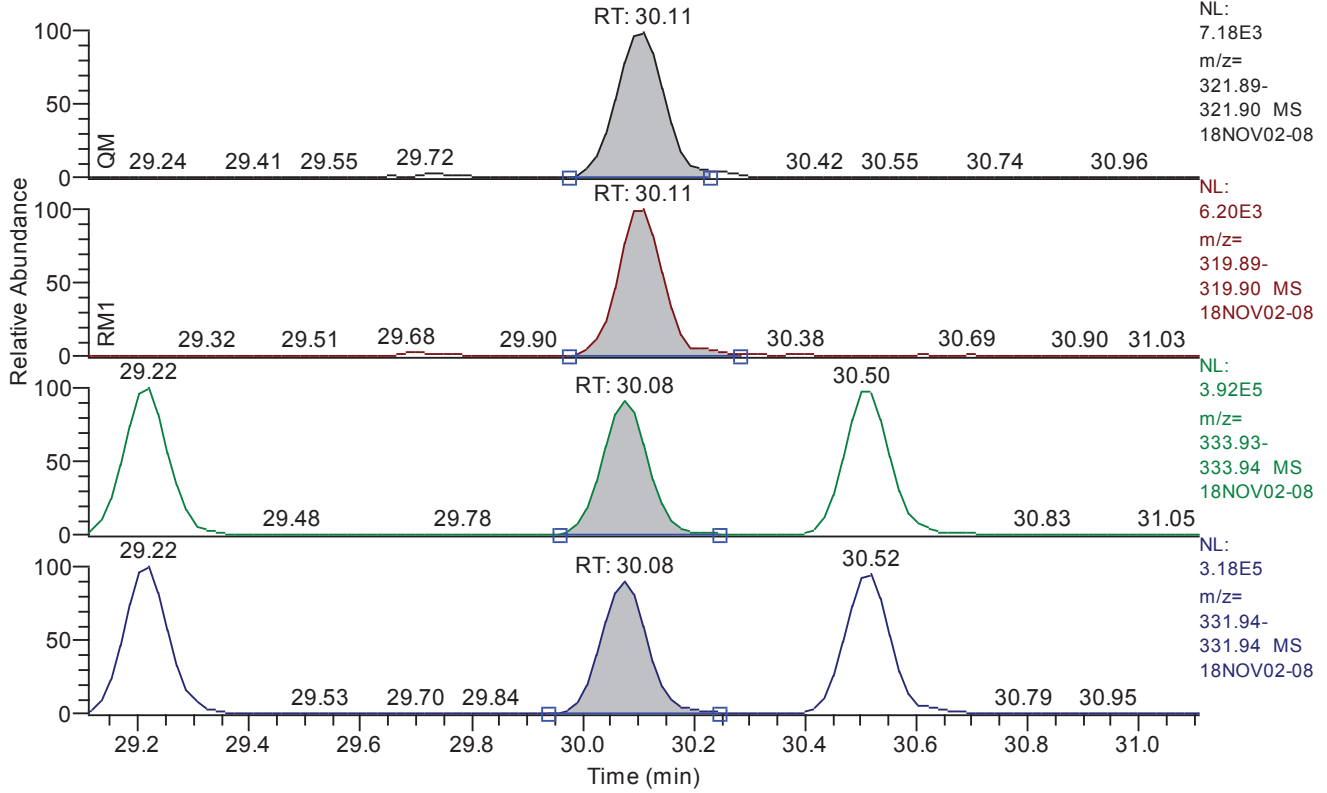
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	69072
QM Integration Mode	A
RM1 Area	54334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	781
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.11 - 31.11 SM: 3G



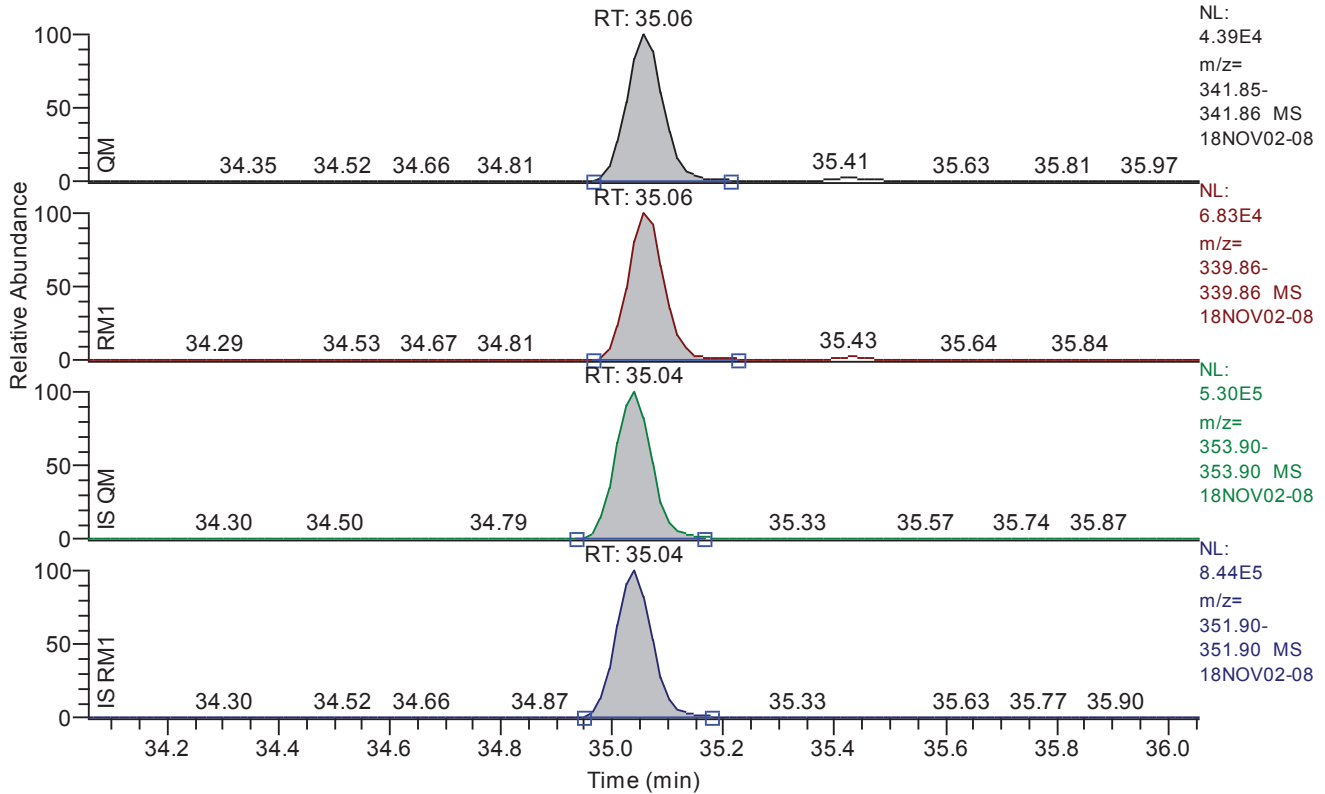
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.11
QM Area	43810
QM Integration Mode	A
RM1 Area	36011
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	766
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 34.06 - 36.06 SM: 3G



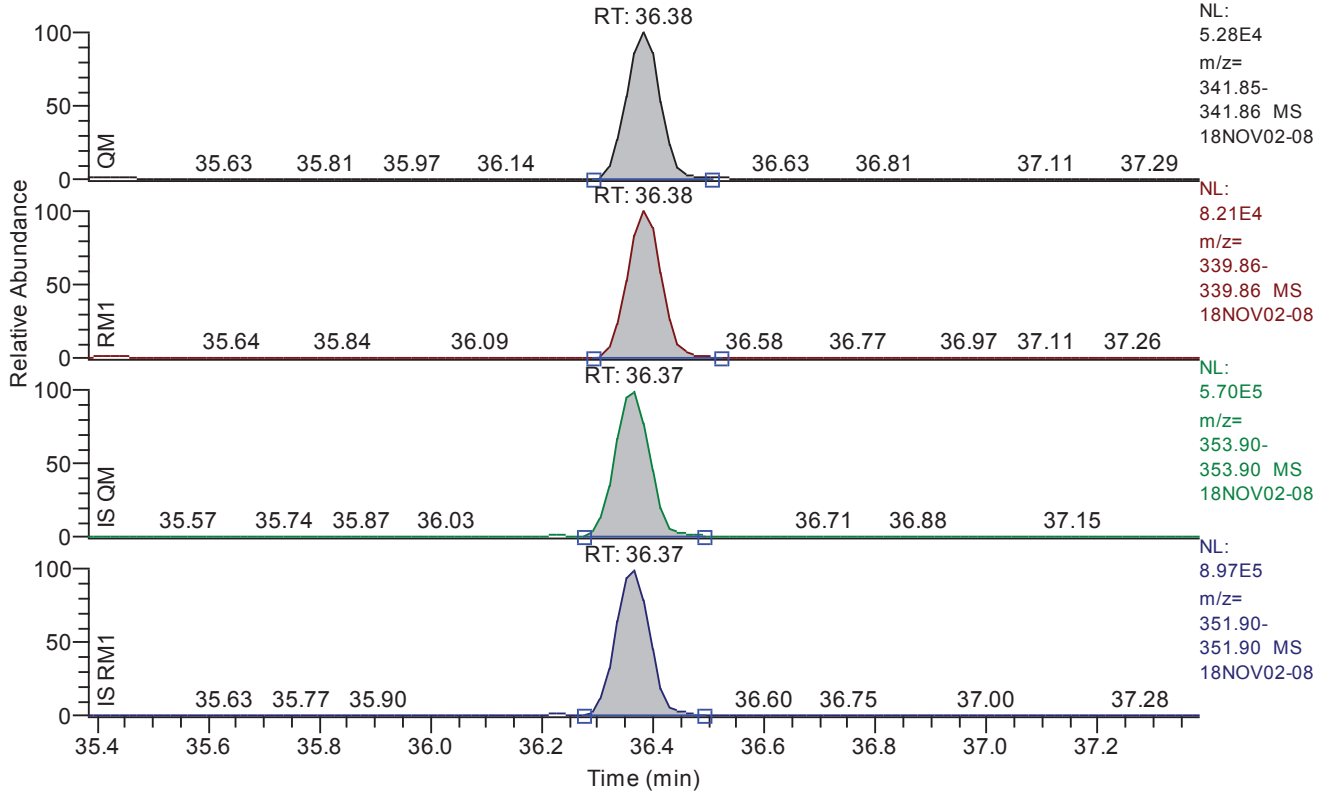
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	201568
QM Integration Mode	A
RM1 Area	313007
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0073
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	3416
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.38 - 37.38 SM: 3G



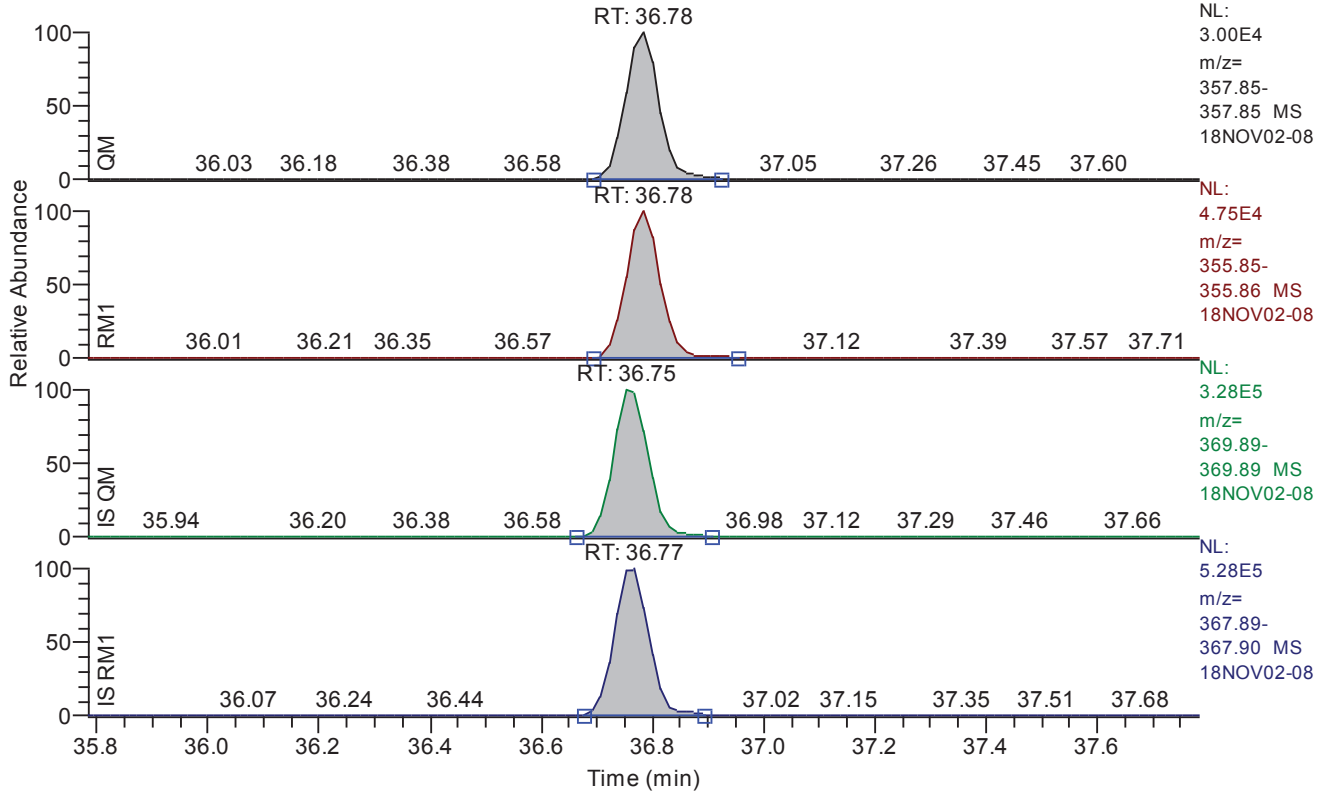
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	225963
QM Integration Mode	A
RM1 Area	350650
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0061
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	4105
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.78 - 37.78 SM: 3G



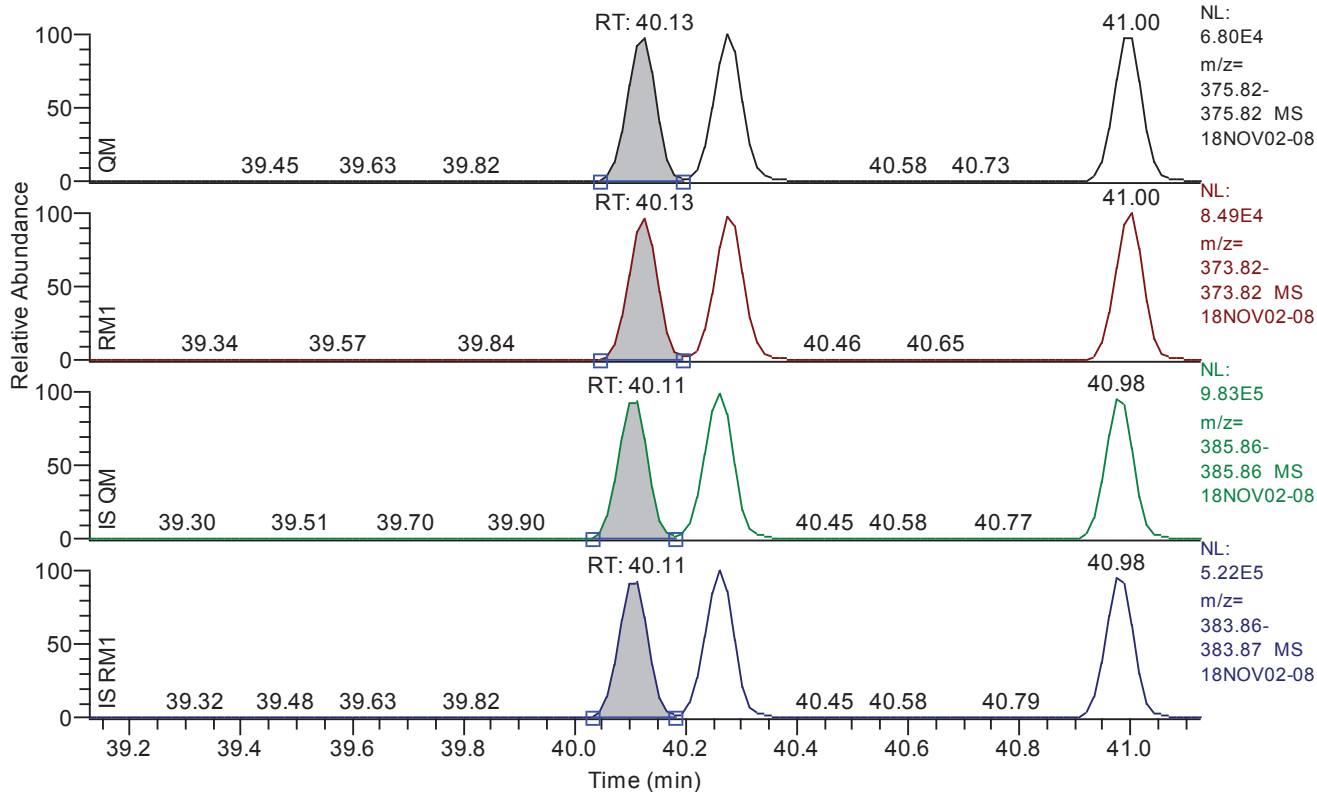
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	125625
QM Integration Mode	A
RM1 Area	201892
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1988
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.13 - 41.13 SM: 3G



**Entry Parameters**

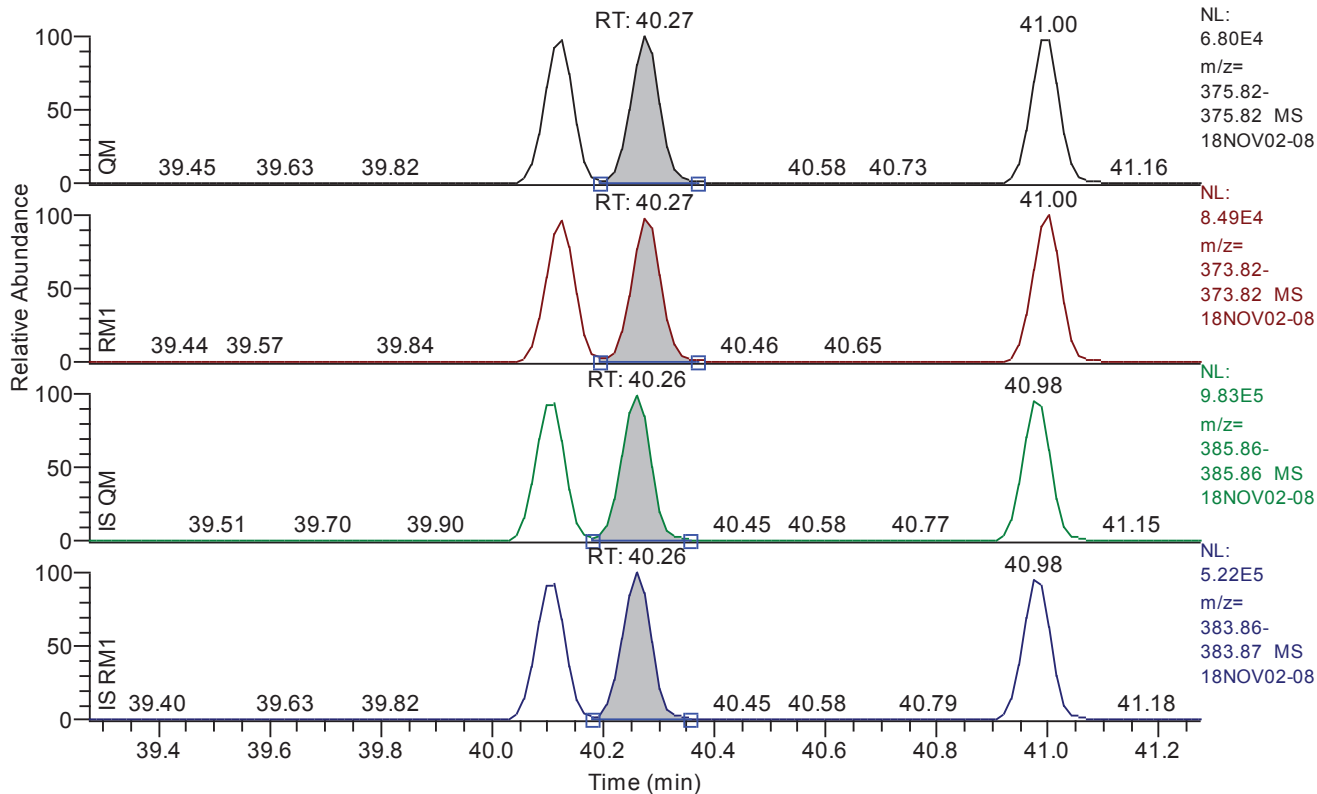
Compound Name	123478-HxCDF
QM Retention Time	40.13
QM Area	242805
QM Integration Mode	A
RM1 Area	299149
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2661
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



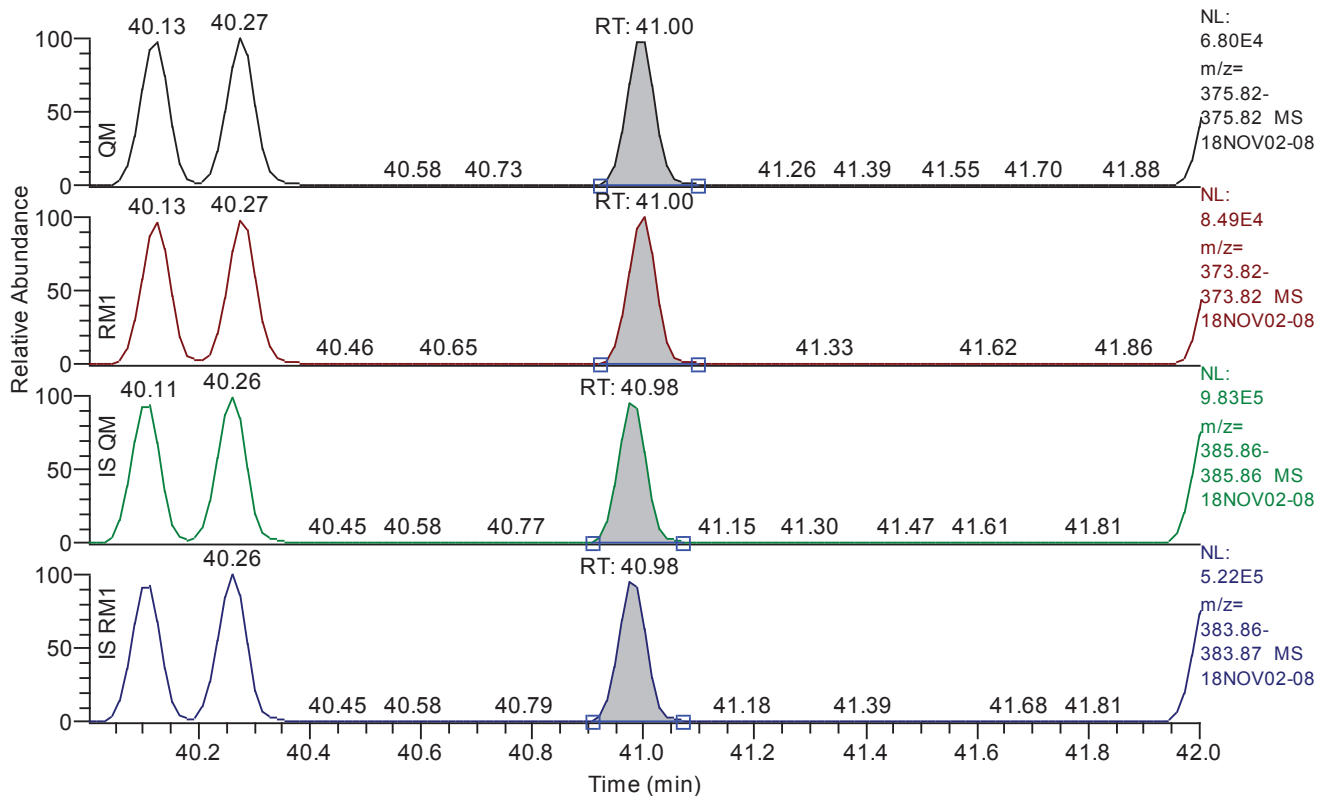
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	246206
QM Integration Mode	A
RM1 Area	305853
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0093
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2702
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.00 - 42.00 SM: 3G

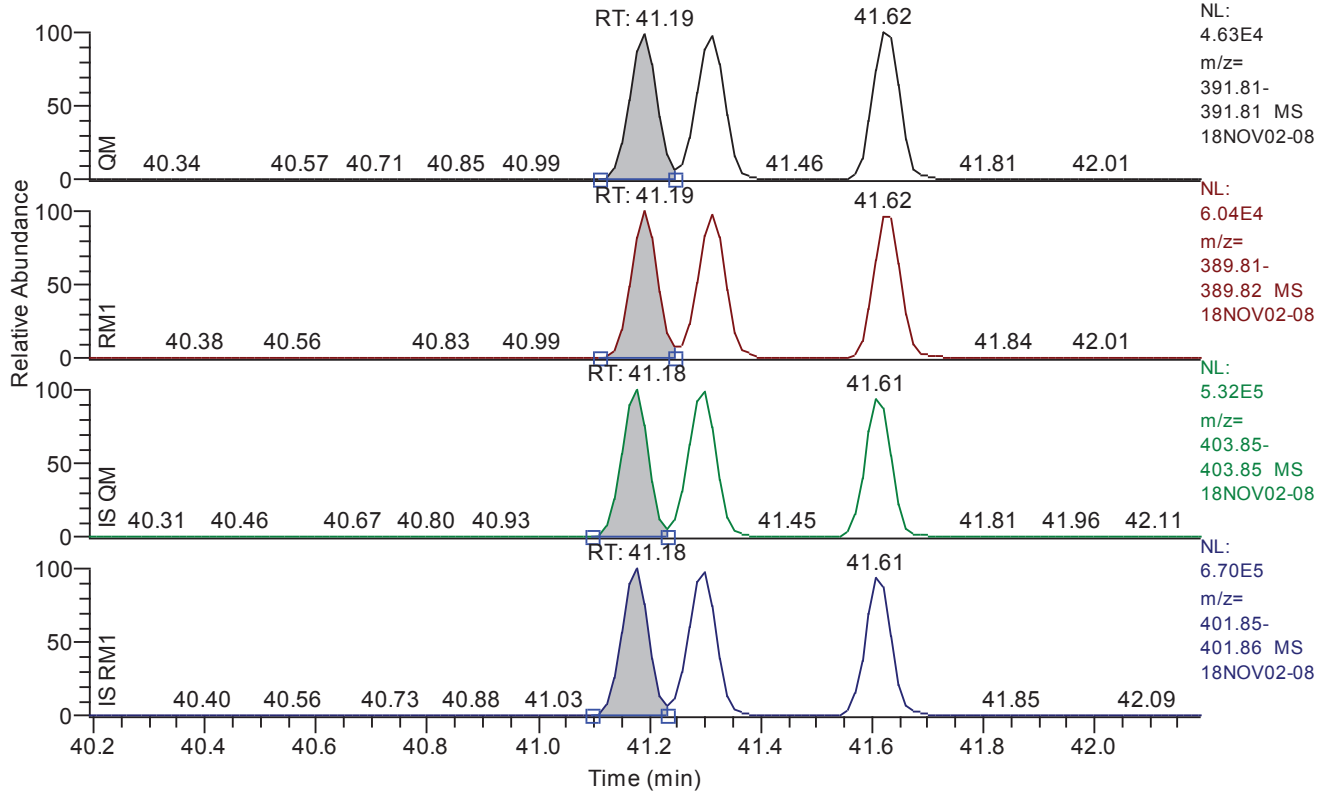


**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	41.00
QM Area	243572
QM Integration Mode	A
RM1 Area	304749
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2710
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.19 - 42.19 SM: 3G



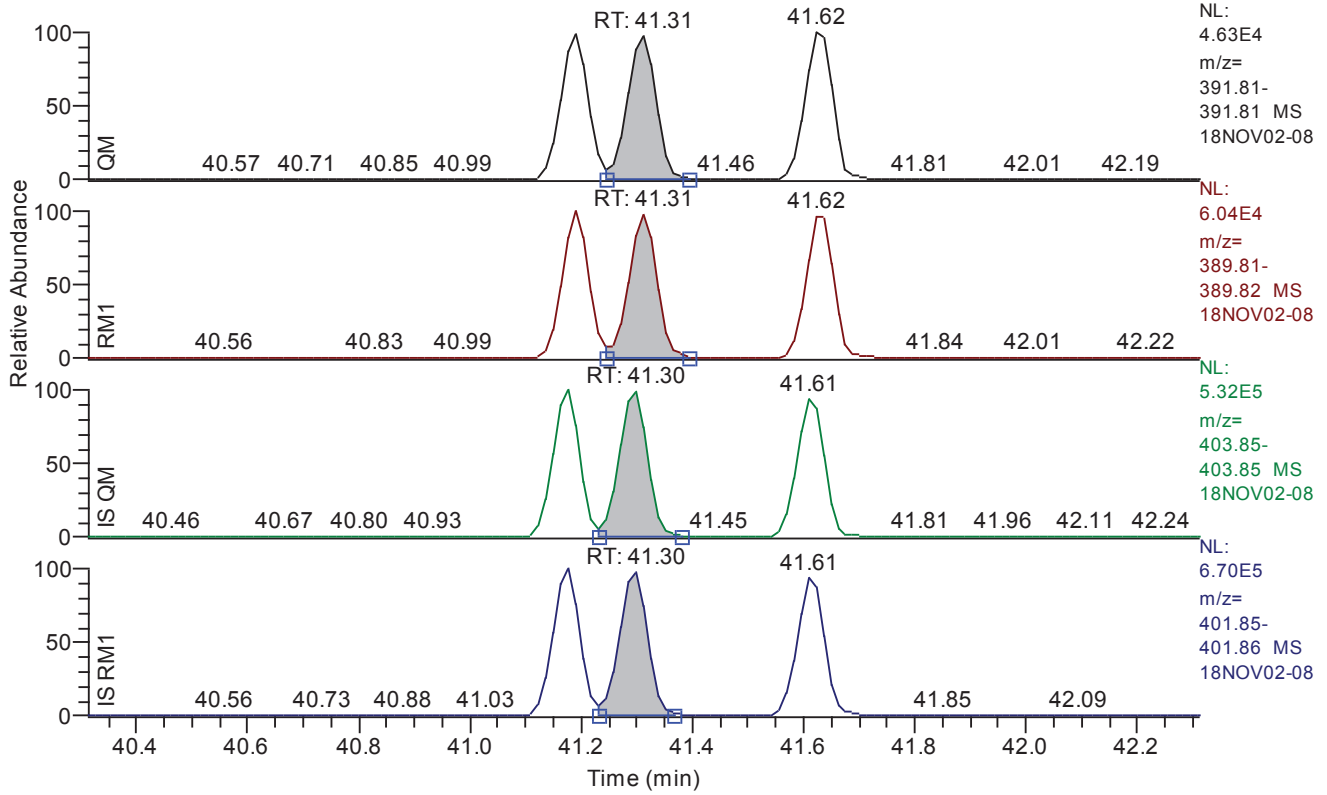
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	156134
QM Integration Mode	A
RM1 Area	199235
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2930
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



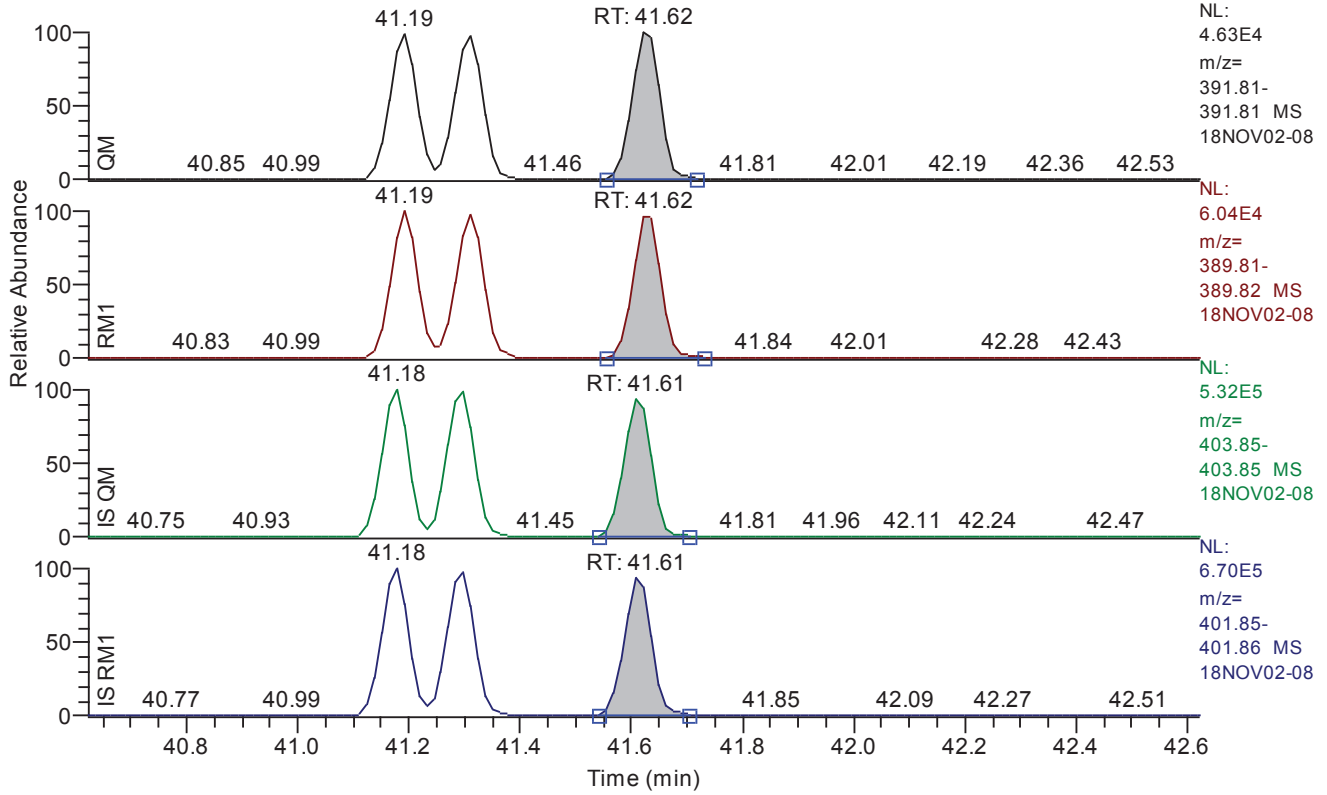
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	160622
QM Integration Mode	A
RM1 Area	206379
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2874
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.62 - 42.62 SM: 3G



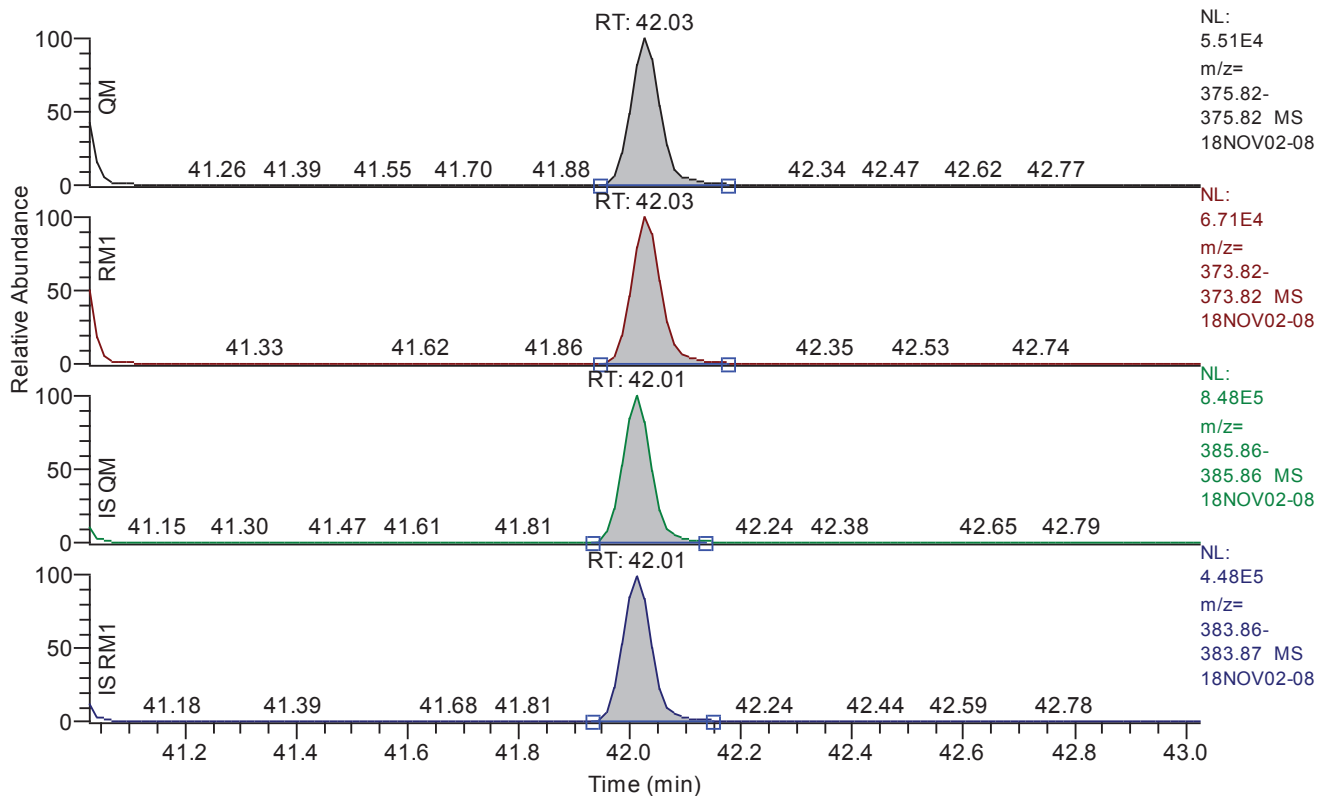
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	161761
QM Integration Mode	A
RM1 Area	203405
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2868
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.03 - 43.03 SM: 3G

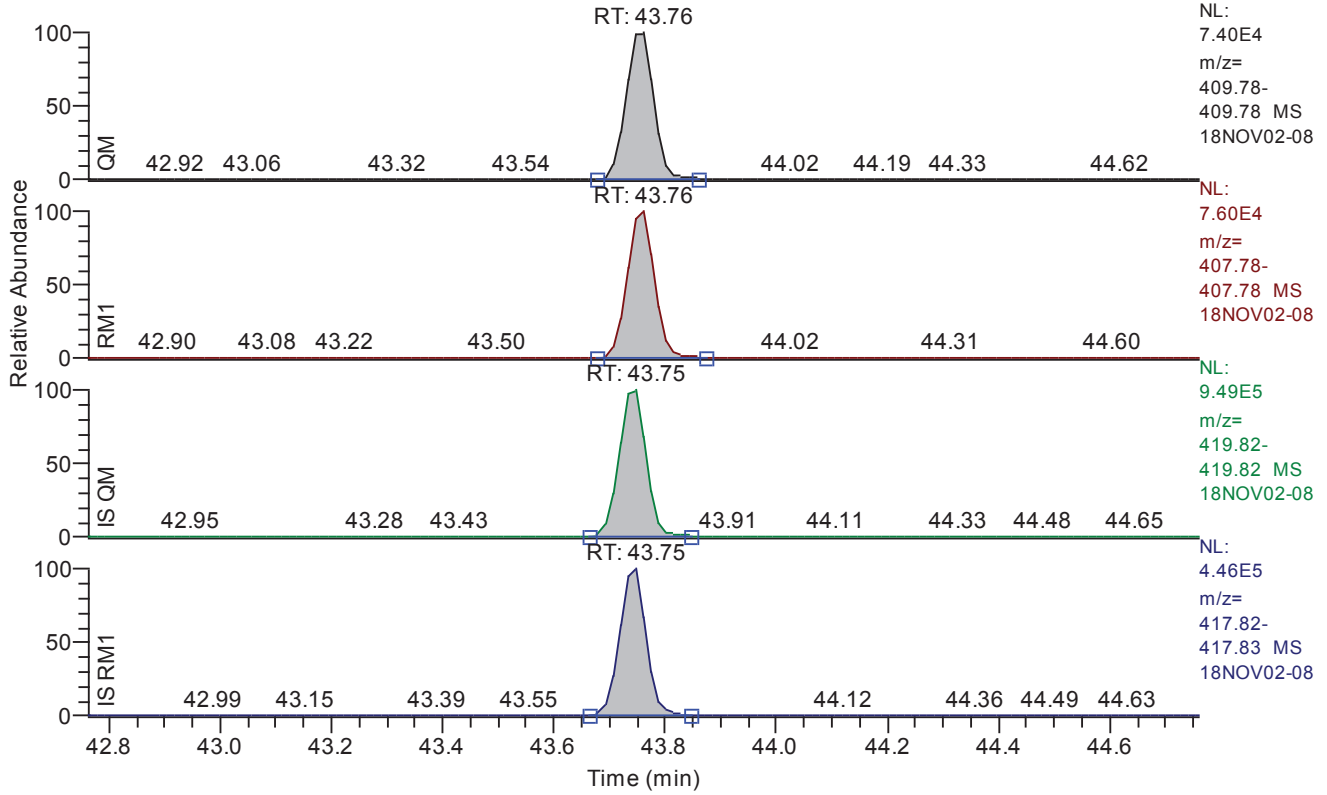


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	42.03
QM Area	203932
QM Integration Mode	A
RM1 Area	251236
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2184
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.76 - 44.76 SM: 3G



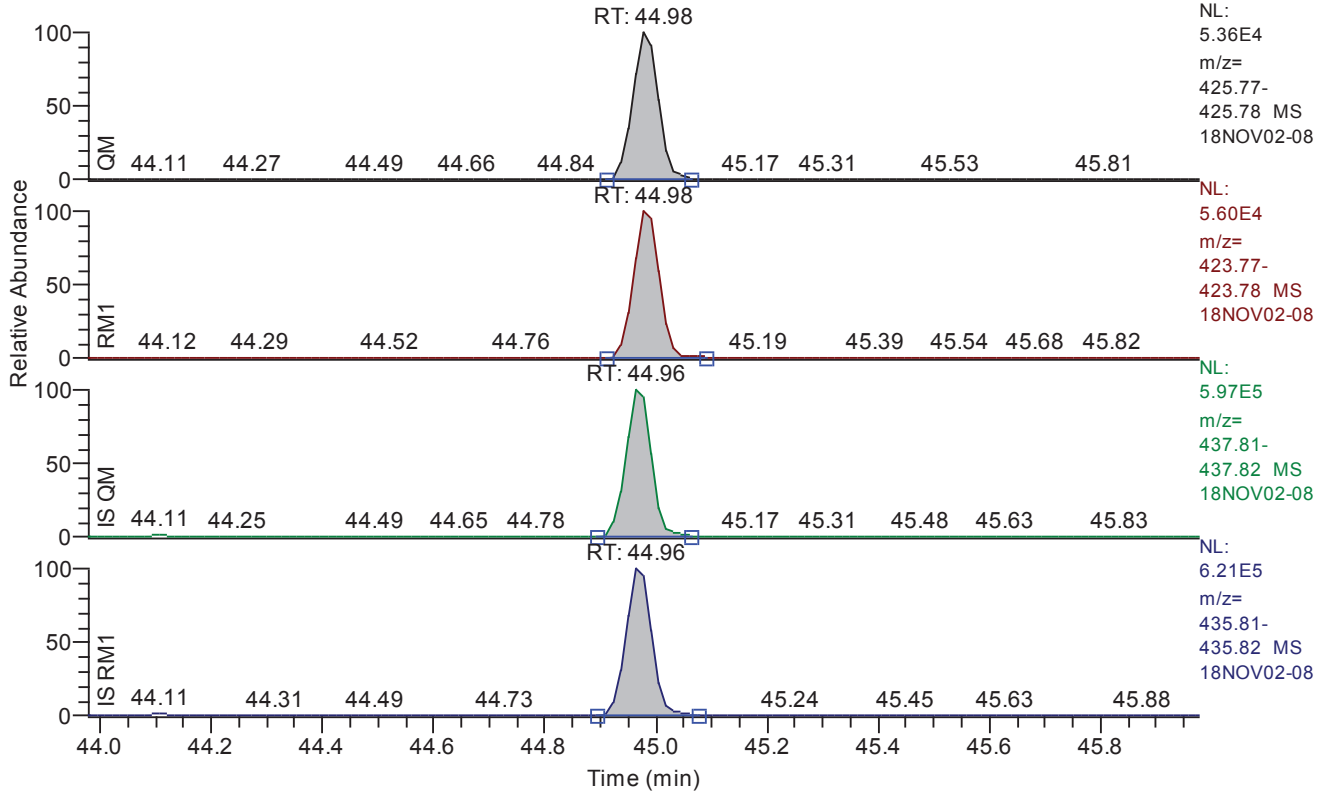
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.76
QM Area	263652
QM Integration Mode	A
RM1 Area	267079
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2247
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 43.98 - 45.98 SM: 3G



### Entry Parameters

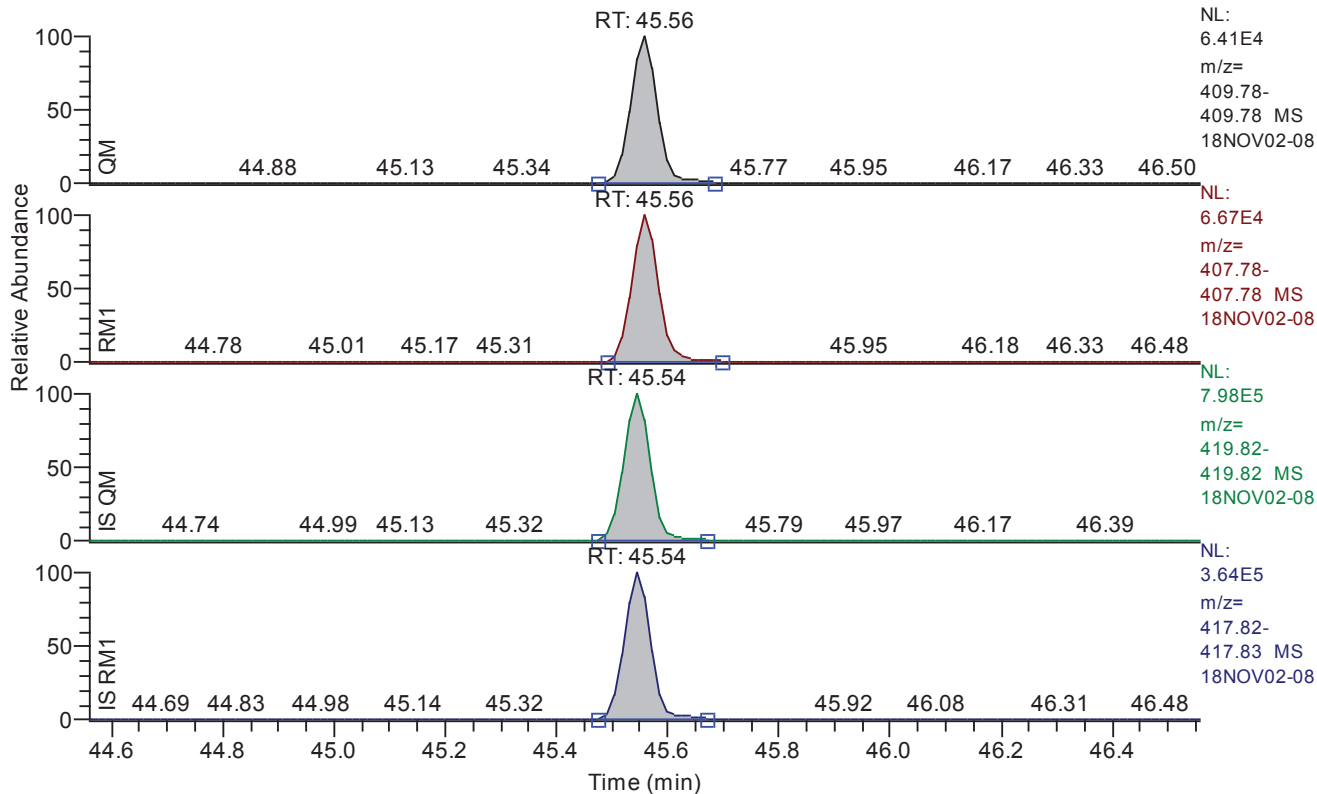
Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	176068
QM Integration Mode	A
RM1 Area	186638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2254
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 44.56 - 46.56 SM: 3G



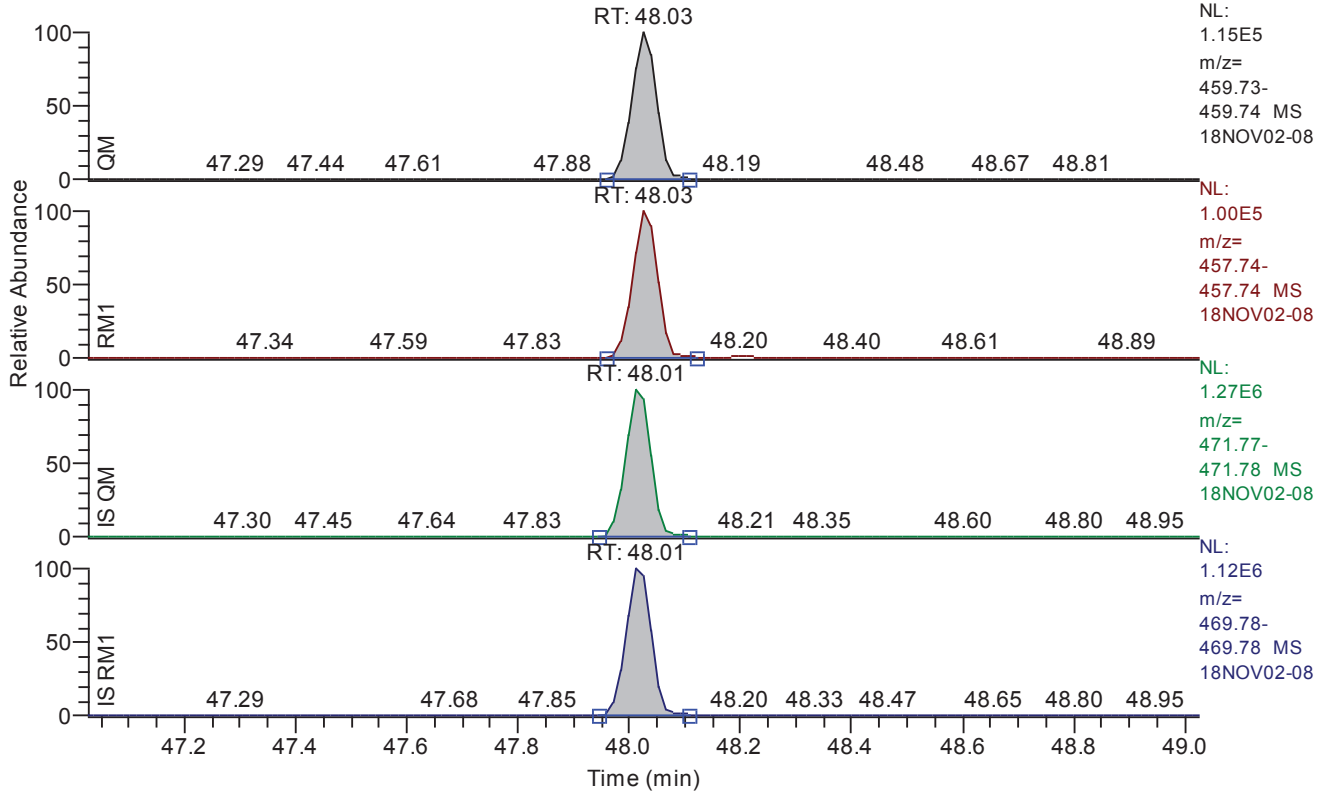
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	218969
QM Integration Mode	A
RM1 Area	227431
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1957
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.03 - 49.03 SM: 3G



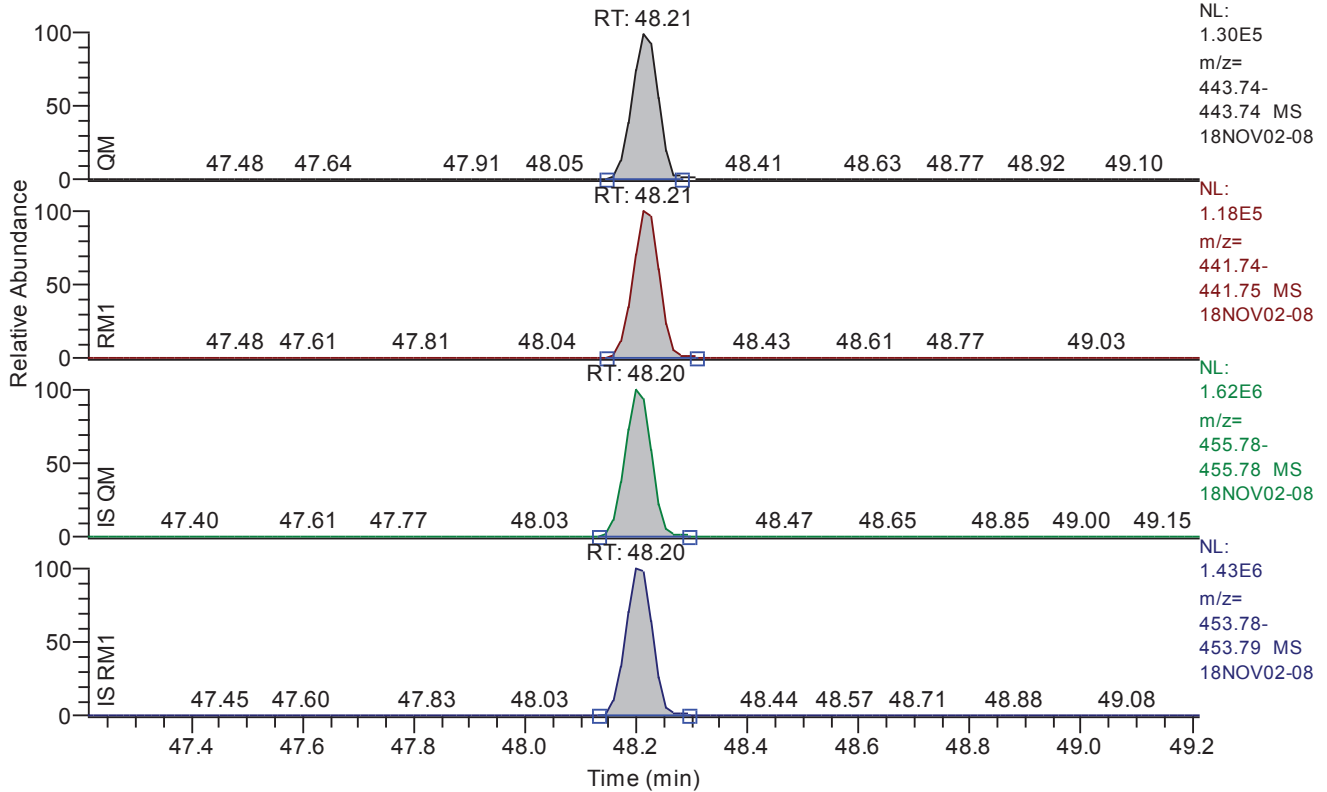
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	48.03
QM Area	351622
QM Integration Mode	A
RM1 Area	312322
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	4488
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.21 - 49.21 SM: 3G



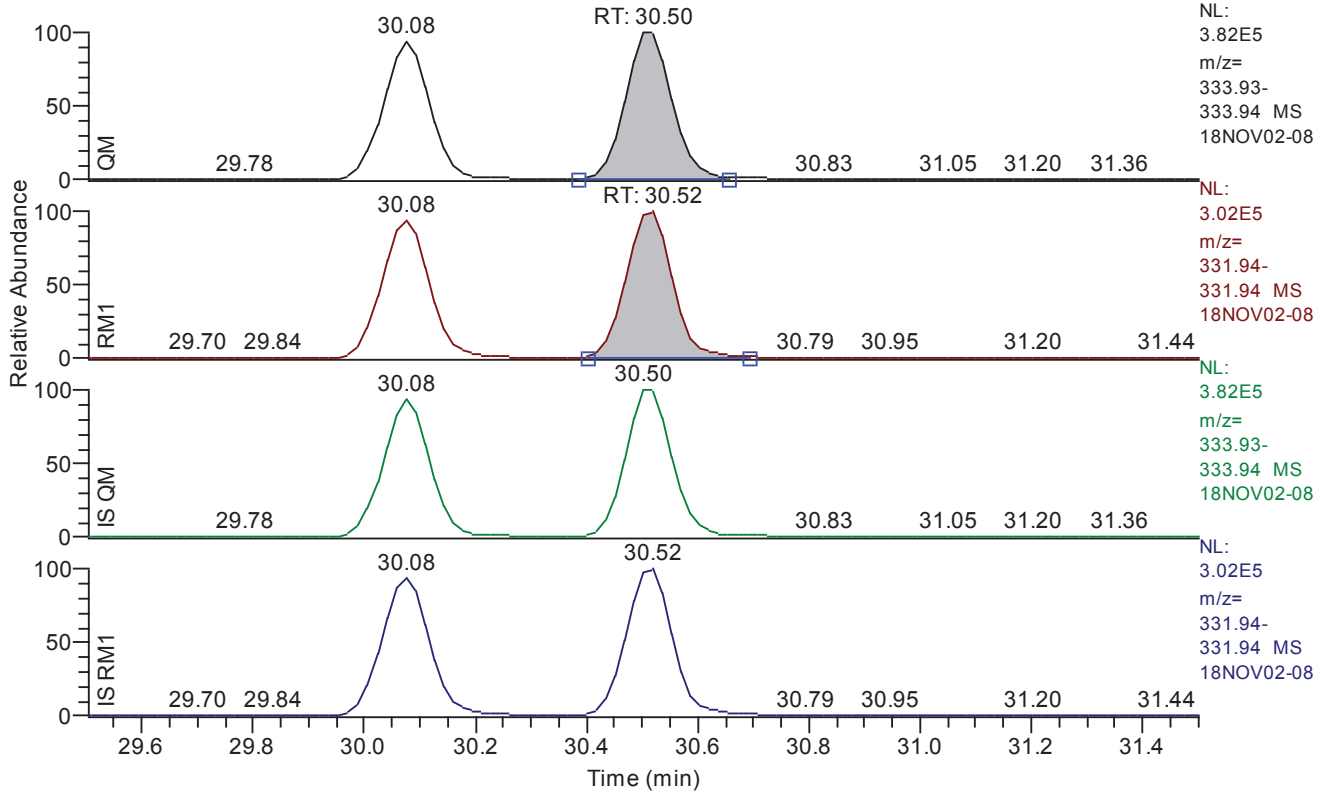
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.21
QM Area	419850
QM Integration Mode	A
RM1 Area	391528
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	20.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	6210
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.50 - 31.50 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.50
QM Area	2230966
QM Integration Mode	A
RM1 Area	1746417
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0203
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	12068
Client Flags	
Status Overview	passed
Status Info	



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 16:35  
Number of Entries 64  
Comment  
Vial 5  
Sample Name CALDF31837B  
Sample ID CS201  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

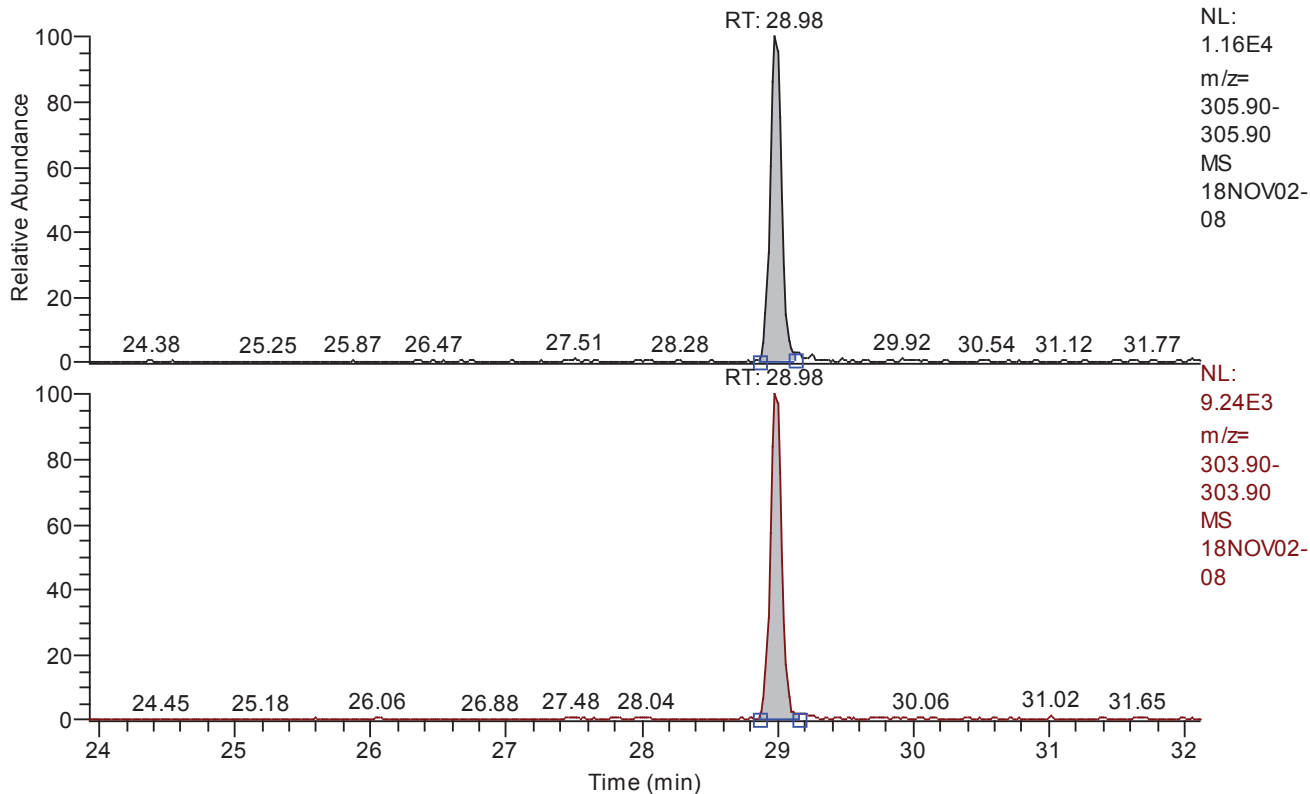
Quan w:\18nov02\18nov02-08.quan  
Data w:\18nov02\18nov02-08.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



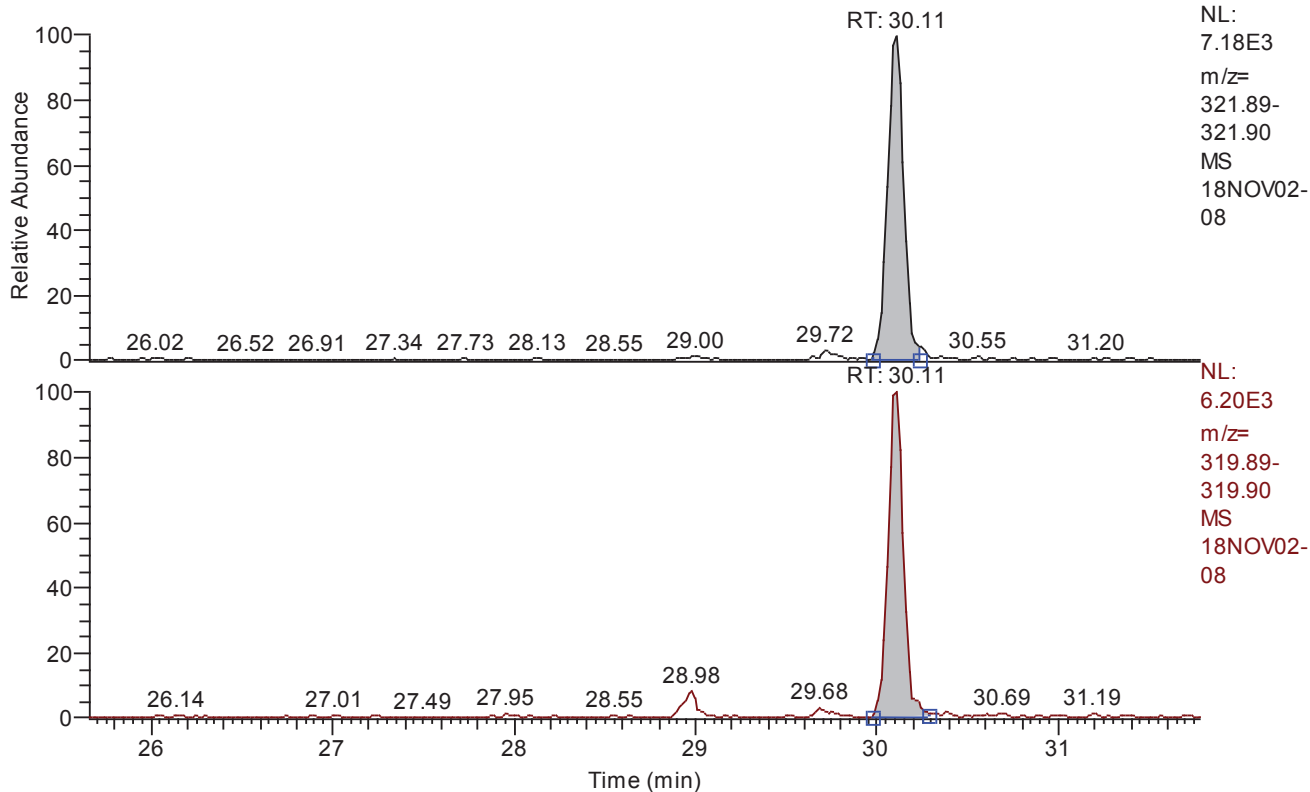
**Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	69072
QM Integration Mode	A
RM1 Area	54334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	781
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



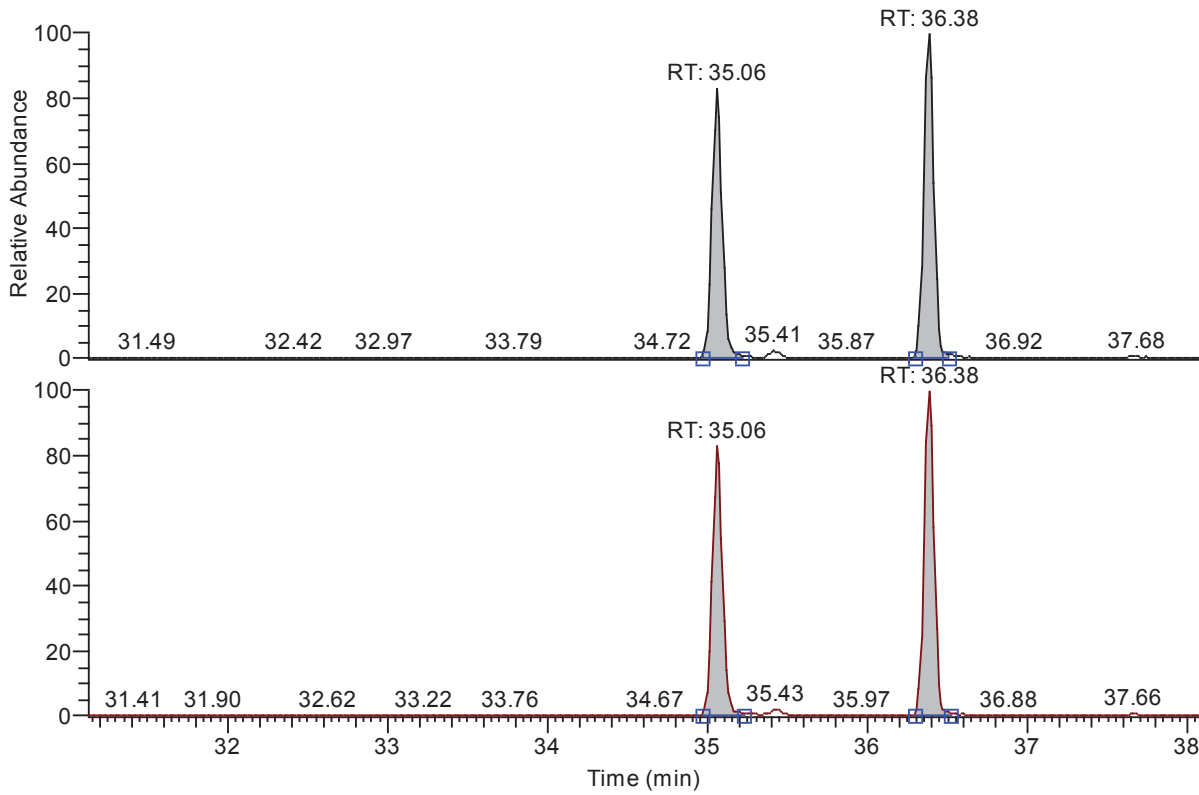
**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	43810
QM Integration Mode	A
RM1 Area	36011
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	766
Client Flags	
Status Overview	passed (1)
Status Info	



### Chromatogram

RT: 31.12 - 38.08 SM: 3G



NL:  
5.28E4  
m/z=  
341.85-  
341.86  
MS  
18NOV02-  
08

NL:  
8.21E4  
m/z=  
339.86-  
339.86  
MS  
18NOV02-  
08

### Entry Parameters

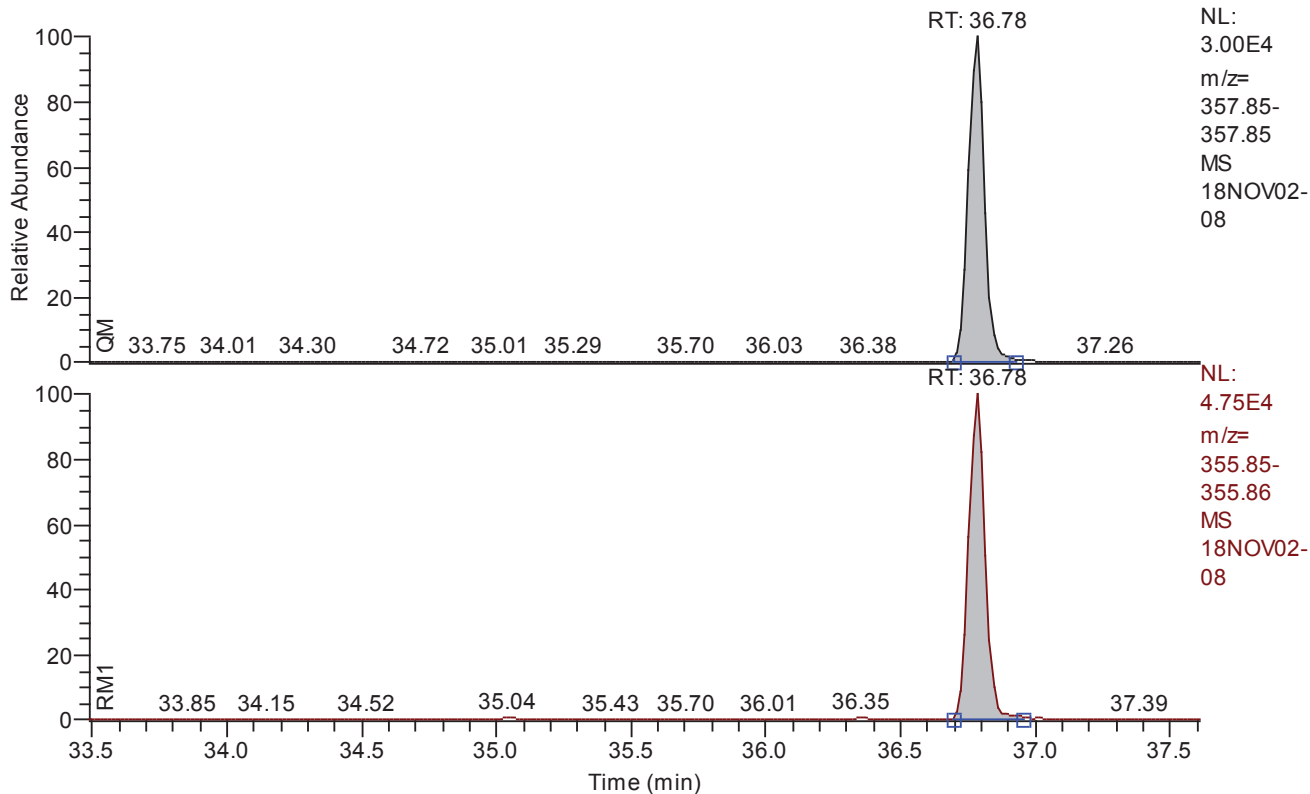
Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	427531
QM Integration Mode	A
RM1 Area	663658
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0067
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	3760
Client Flags	
Status Overview	passed (2)
Status Info	





**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



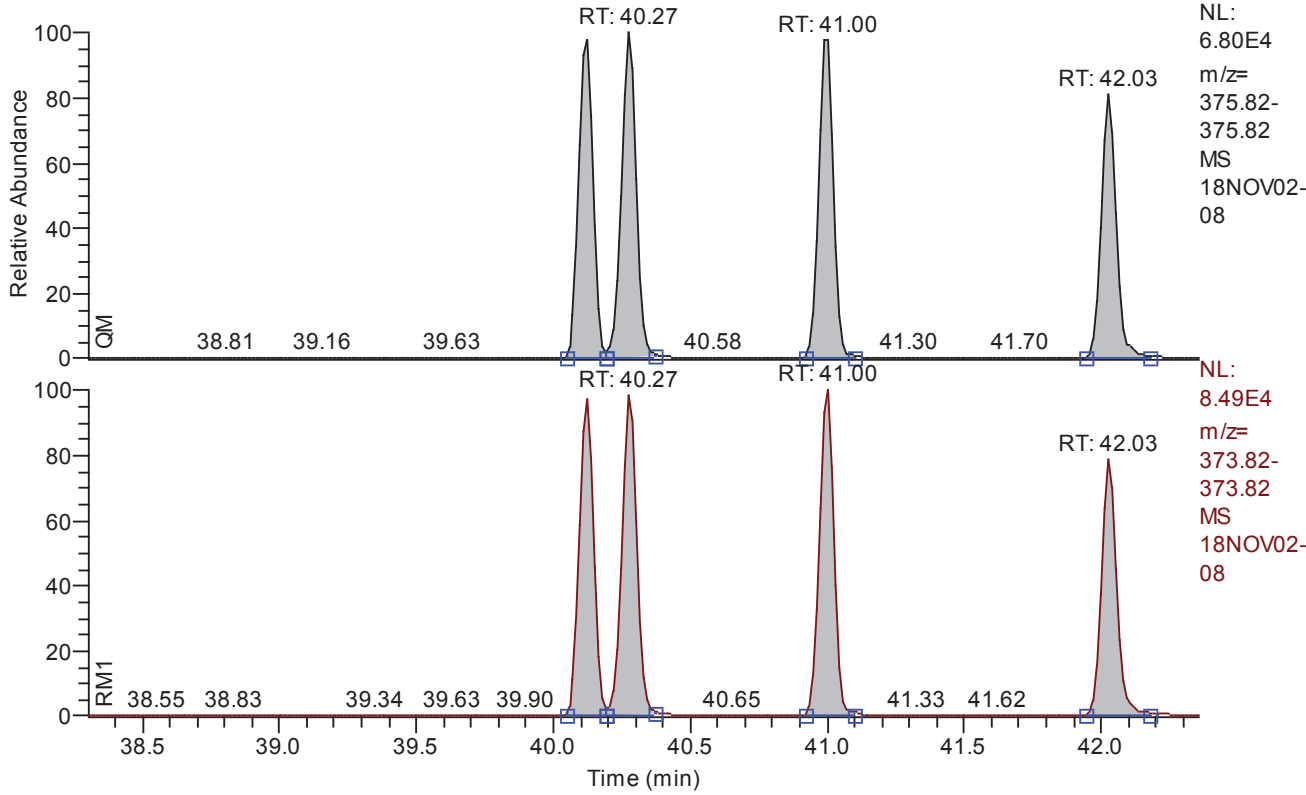
**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	125625
QM Integration Mode	A
RM1 Area	201892
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1988
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



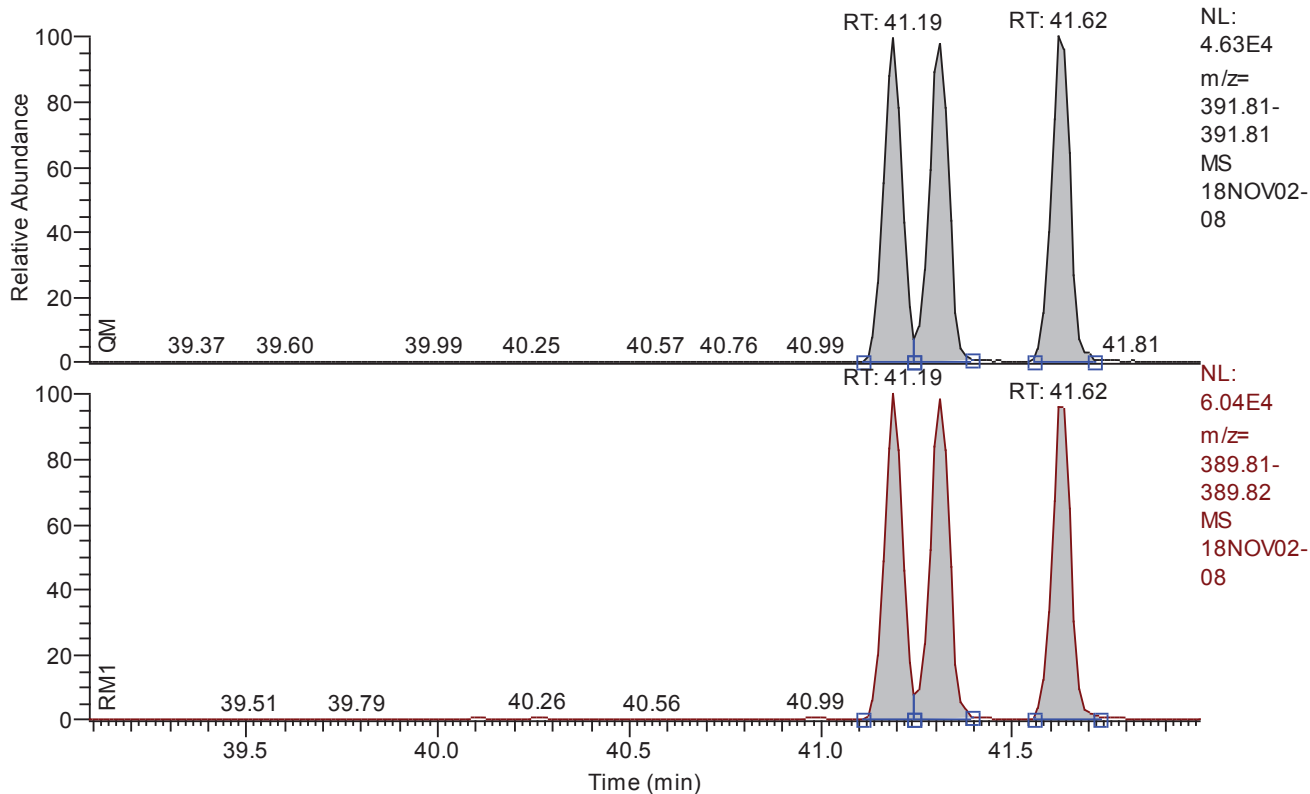
**Entry Parameters**

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	936516
QM Integration Mode	A
RM1 Area	1160986
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	2564
Client Flags	
Status Overview	passed (4)
Status Info	



**Chromatogram**

RT: 39.09 - 41.99 SM: 3G

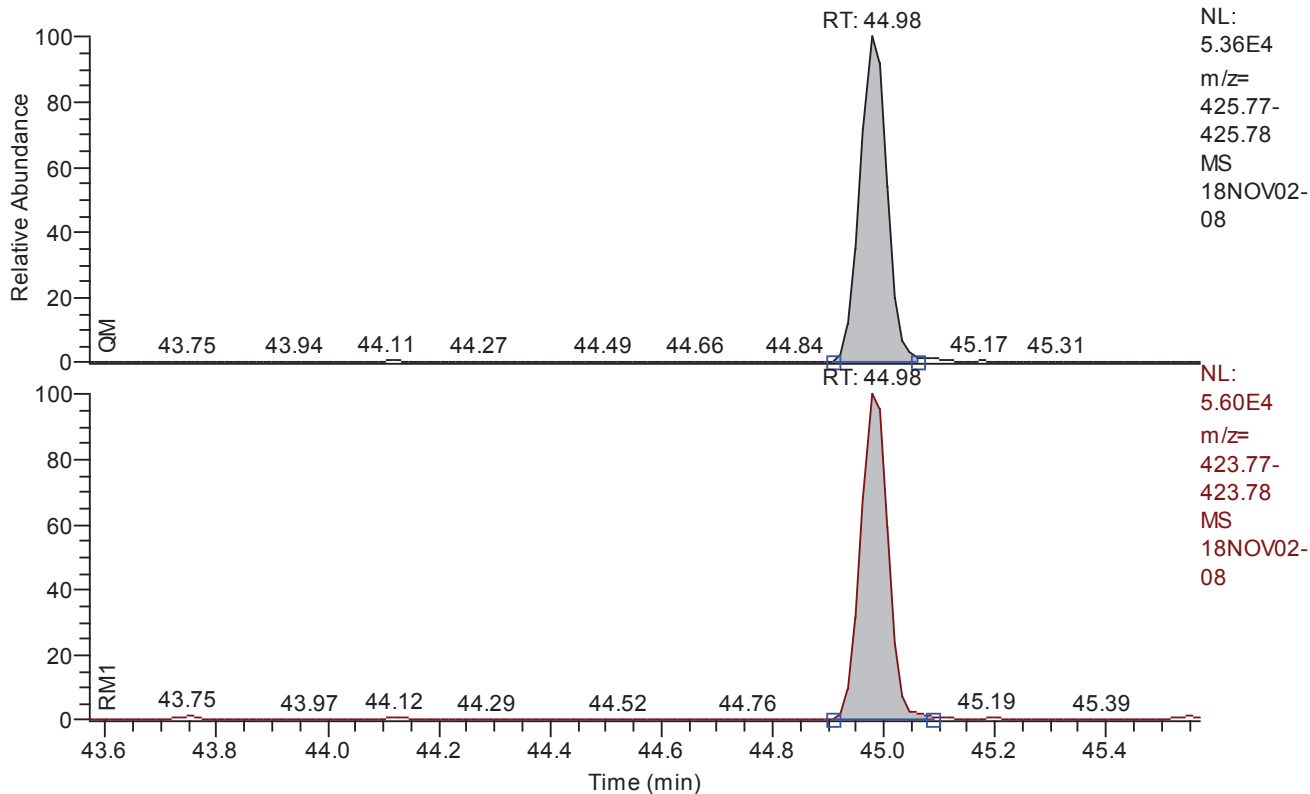


**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	478517
QM Integration Mode	A
RM1 Area	609018
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	30.0000
Signal-to-Noise	2891
Client Flags	
Status Overview	passed (3)
Status Info	

**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



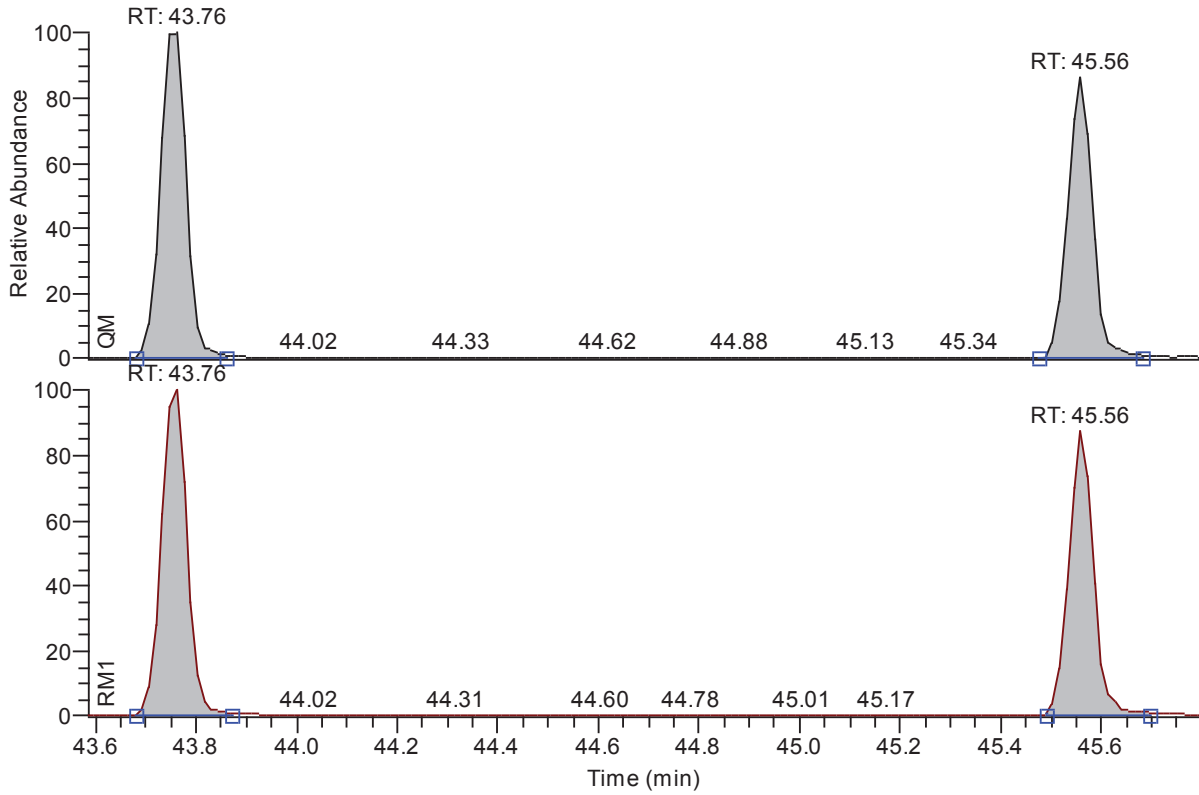
**Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	176068
QM Integration Mode	A
RM1 Area	186638
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2254
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



NL:  
7.40E4  
m/z=  
409.78-  
409.78  
MS  
18NOV02-  
08

NL:  
7.60E4  
m/z=  
407.78-  
407.78  
MS  
18NOV02-  
08

**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	482621
QM Integration Mode	A
RM1 Area	494510
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	20.0000
Signal-to-Noise	2102
Client Flags	
Status Overview	passed (2)
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.11	30.11	30.11	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.13	40.13	40.13	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	41.00	41.00	41.00	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.76	43.76	43.76	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.50	30.50	30.52	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.22	29.22	29.22	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.08	30.08	30.08	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.37	36.37	36.37	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.77	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.11	40.11	40.11	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.98	40.98	40.98	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.11	30.11	30.11	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.13	40.13	40.13	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	41.00	41.00	41.00	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.03	42.03	42.03	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.76	43.76	43.76	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.11	0.8220	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5518	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.6071	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.13	1.2321	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	41.00	1.2512	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2849	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2574	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.03	1.2320	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.76	1.0130	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0600	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	1.0386	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8882	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9325	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.50	0.7828	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.22	0.8032	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2644	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7552	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.08	0.8106	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5874	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.37	1.5516	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5894	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.11	0.5238	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5288	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.98	0.5311	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.18	1.2648	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2295	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2394	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5284	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.75	0.4590	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0538	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.54	0.4507	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8900	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8938	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7866	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.8220	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5523	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.6071	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2397	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2727	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0600	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0246	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.11	0.8220	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.6071	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5518	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0600	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.27	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.13	1.2321	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	41.00	1.2512	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.03	1.2320	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2574	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2761	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2849	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.76	1.0130	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	1.0386	0.8750 - 1.2050	passed	100.00	0 - 0	passed



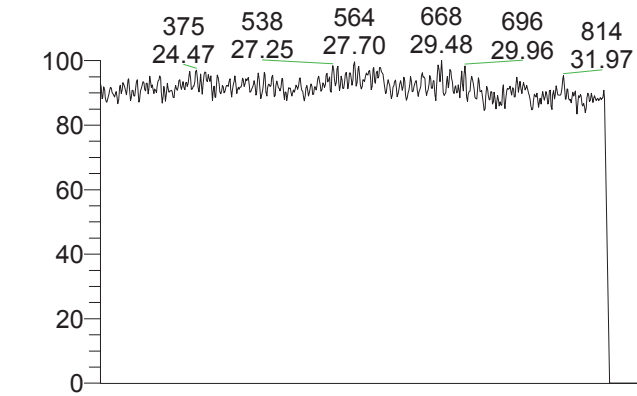
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.98	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
2	2378-TCDD	passed	30.11	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
3	12378-PeCDF	passed	35.06	201568	A	313007	A	0.0073	10.000000	10.0000	10.000000	3416	
4	23478-PeCDF	passed	36.38	225963	A	350650	A	0.0061	10.000000	10.0000	10.000000	4105	
5	12378-PeCDD	passed	36.78	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
6	123478-HxCDF	passed	40.13	242805	A	299149	A	0.0097	10.000000	10.0000	10.000000	2661	
7	123678-HxCDF	passed	40.27	246206	A	305853	A	0.0093	10.000000	10.0000	10.000000	2702	
8	234678-HxCDF	passed	41.00	243572	A	304749	A	0.0091	10.000000	10.0000	10.000000	2710	
9	123478-HxCDD	passed	41.19	156134	A	199235	A	0.0086	10.000000	10.0000	10.000000	2930	
10	123678-HxCDD	passed	41.31	160622	A	206379	A	0.0087	10.000000	10.0000	10.000000	2874	
11	123789-HxCDD	passed	41.62	161761	A	203405	A	0.0085	10.000000	10.0000	10.000000	2868	
12	123789-HxCDF	passed	42.03	203932	A	251236	A	0.0111	10.000000	10.0000	10.000000	2184	
13	1234678-HpCDF	passed	43.76	263652	A	267079	A	0.0109	10.000000	10.0000	10.000000	2247	
14	1234678-HpCDD	passed	44.98	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
15	1234789-HpCDF	passed	45.56	218969	A	227431	A	0.0127	10.000000	10.0000	10.000000	1957	
16	OCDD	passed	48.03	351622	A	312322	A	0.0113	20.000000	20.0000	20.000000	4488	
17	OCDF	passed	48.21	419850	A	391528	A	0.0082	20.000000	20.0000	20.000000	6210	
18	13C12-1278-TCDD (CRS)	passed	30.50	2230966	A	1746417	A	0.0203	100.000000	100.0000	100.000000	12068	
19	13C12-1234-TCDD	passed	29.22	2250576	A	1807747	A	0.0199	100.000000	100.0000	100.000000	12590	
20	13C12-123468-HxCDD	passed	40.02	1861044	A	2353160	A	0.0243	100.000000	100.0000	100.000000	10275	
21	13C12-2378-TCDF	passed	28.96	4050852	A	3059380	A	0.0164	100.000000	100.0000	100.000000	14848	
22	13C12-2378-TCDD	passed	30.08	2100540	A	1702715	A	0.0212	100.000000	100.0000	100.000000	11441	
23	13C12-12378-PeCDF	passed	35.04	2424408	A	3848538	A	0.0424	100.000000	100.0000	100.000000	7369	
24	13C12-23478-PeCDF	passed	36.37	2466410	A	3826881	A	0.0423	100.000000	100.0000	100.000000	7875	
25	13C12-12378-PeCDD	passed	36.75	1442200	A	2292275	A	0.0295	100.000000	100.0000	100.000000	11096	
26	13C12-123478-HxCDF	passed	40.11	3441966	A	1802963	A	0.0274	100.000000	100.0000	100.000000	8722	
27	13C12-123678-HxCDF	passed	40.26	3600758	A	1904151	A	0.0261	100.000000	100.0000	100.000000	9322	
28	13C12-234678-HxCDF	passed	40.98	3344551	A	1776381	A	0.0281	100.000000	100.0000	100.000000	8905	
29	13C12-123478-HxCDD	passed	41.18	1773805	A	2243479	A	0.0255	100.000000	100.0000	100.000000	10474	
30	13C12-123678-HxCDD	passed	41.30	1861251	A	2288457	A	0.0247	100.000000	100.0000	100.000000	10293	
31	13C12-123789-HxCDD	passed	41.61	1727949	A	2141671	A	0.0265	100.000000	100.0000	100.000000	9840	
32	13C12-123789-HxCDF	passed	42.01	3058286	A	1616135	A	0.0308	100.000000	100.0000	100.000000	8050	
33	13C12-1234678-HpCDF	passed	43.75	3300571	A	1514893	A	0.0346	100.000000	100.0000	100.000000	7497	
34	13C12-1234678-HpCDD	passed	44.96	1958345	A	2063631	A	0.0320	100.000000	100.0000	100.000000	8477	
35	13C12-1234789-HpCDF	passed	45.54	2711500	A	1221995	A	0.0423	100.000000	100.0000	100.000000	6231	
36	13C12-OCDD	passed	48.01	3980408	A	3542679	A	0.0129	200.000000	200.0000	200.000000	44081	
37	13C12-OCDF	passed	48.20	5350707	A	4782347	A	0.0126	200.000000	200.0000	200.000000	42959	
38	Total TCDF	passed (1)	28.02	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
39	Total TCDD	passed (1)	28.72	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
40	Total PeCDF	passed (2)	34.60	427531	A	663658	A	0.0067	10.000000	20.0000	10.000000	3760	
41	Total PeCDD	passed (1)	35.55	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
42	Total HxCDF	passed (4)	40.33	936516	A	1160986	A	0.0098	10.000000	40.0000	10.000000	2564	
43	Total HxCDD	passed (3)	40.54	478517	A	609018	A	0.0086	10.000000	30.0000	10.000000	2891	
44	Total HpCDD	passed (1)	44.57	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
45	Total HpCDF	passed (2)	44.69	482621	A	494510	A	0.0118	10.000000	20.0000	10.000000	2102	
46	Single TCDF	passed	28.98	69072	A	54334	A	0.0063	2.000000	2.0000	2.000000	781	
47	Single TCDD	passed	30.11	43810	A	36011	A	0.0064	2.000000	2.0000	2.000000	766	
48	Single PeCDF	passed	36.78	125625	A	201892	A	0.0130	10.000000	10.0000	10.000000	1988	
49	Single PeCDD	passed	36.38	225963	A	350650	A	0.0063	10.000000	10.0000	10.000000	4105	
50	Single PeCDF	passed	35.06	201568	A	313007	A	0.0071	10.000000	10.0000	10.000000	3416	
51	Single HpCDD	passed	44.98	176068	A	186638	A	0.0111	10.000000	10.0000	10.000000	2254	
52	Single HxCDF	passed	40.27	246206	A	305853	A	0.0093	10.000000	10.0000	10.000000	2702	
53	Single HxCDF	passed	40.13	242805	A	299149	A	0.0094	10.000000	10.0000	10.000000	2661	
54	Single HxCDF	passed	41.00	243572	A	304749	A	0.0093	10.000000	10.0000	10.000000	2710	
55	Single HxCDF	passed	42.03	203932	A	251236	A	0.0112	10.000000	10.0000	10.000000	2184	
56	Single HxCDD	passed	41.62	161761	A	203405	A	0.0085	10.000000	10.0000	10.000000	2868	
57	Single HxCDD	passed	41.19	156134	A	199235	A	0.0088	10.000000	10.0000	10.000000	2930	
58	Single HxCDD	passed	41.31	160622	A	206379	A	0.0085	10.000000	10.0000	10.000000	2874	
59	Single HpCDF	passed	43.76	263652	A	267079	A	0.0108	10.000000	10.0000	10.000000	2247	
60	Single HpCDF	passed	45.56	218969	A	227431	A	0.0128	10.000000	10.0000	10.000000	1957	

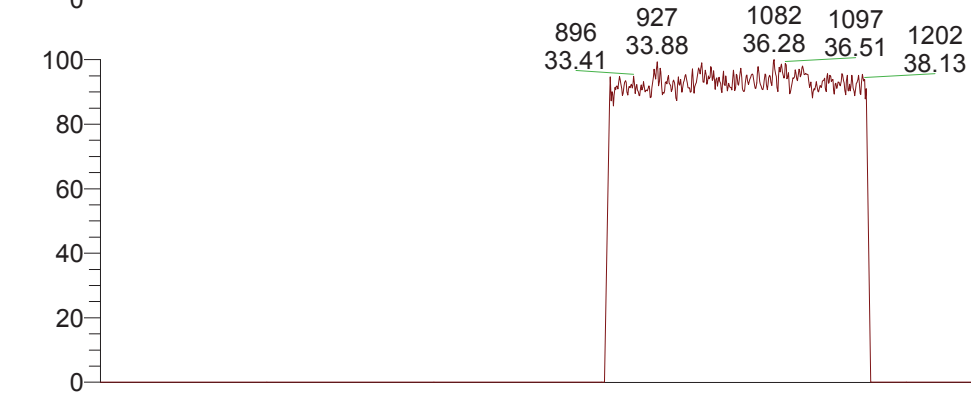




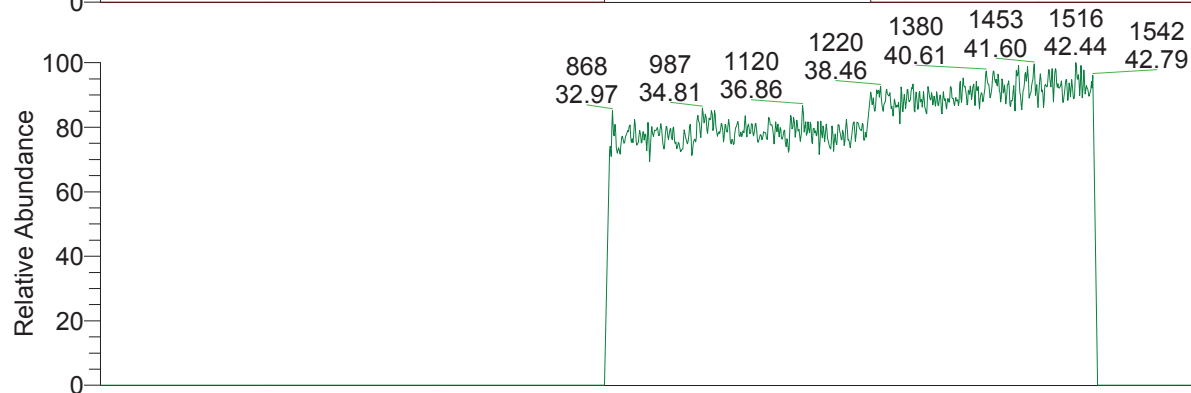
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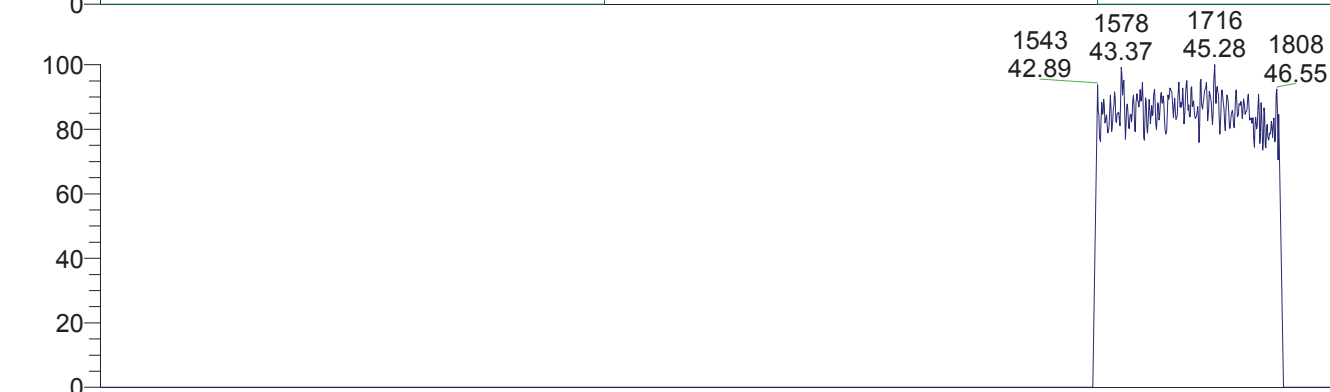
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292.9825  
MS  
18NOV02-  
08



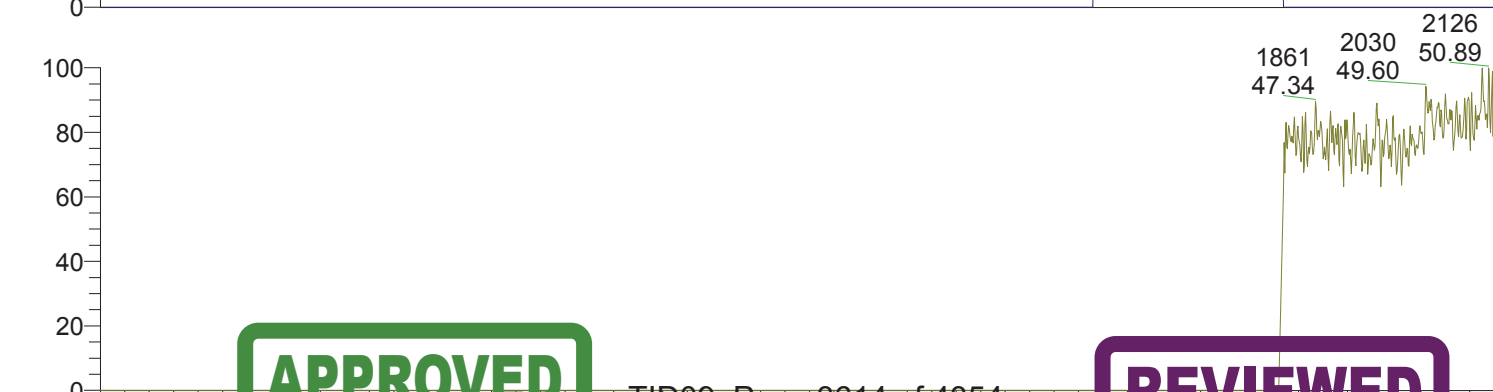
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18NOV02-  
08



NL:  
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m/□  
380.4760-  
381.4760  
MS  
18NOV02-  
08



NL:  
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m/□  
404.4760-  
405.4760  
MS  
18NOV02-  
08



NL:  
1.78E5  
m/□  
442.4728-  
443.4728  
MS  
18NOV02-  
08

**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 16:41:28 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 16:41:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.800000 minutes  
MID window end time was 32.800000 minutes



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MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	96.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	190.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0181	FVINLET	0.0426	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	96.0000	LKM	442.9723	MASS	96.0000
MDAC	1414138.4416	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9788	RELEN	0.0000
RES	11155.0771	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	96.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.7e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10191.  
MID Time window 2: Resolution is 11131.  
MID Time window 3: Resolution is 11166.  
MID Time window 4: Resolution is 10756.



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MID Time Window 5: Resolution is 11100.  
MID Time Window 6: Resolution is 11155.

Amplifier offset: 90.

\*\*\* File closed Fri Nov 02 17:32:29 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 17:32  
Number of Entries 64  
Comment  
Vial 6  
Sample Name CALDF41837H  
Sample ID CS301  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-09.quan  
Data w:\18nov02\18nov02-09.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.09	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.06	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.13	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.03	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.56	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.22	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.52	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.20	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.35	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.02	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.09	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.06	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.13	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.03	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.56	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 17:32  
Number of Entries 64  
Comment  
Vial 6  
Sample Name CALDF41837H  
Sample ID CS301  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-09.quan  
Data w:\18nov02\18nov02-09.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

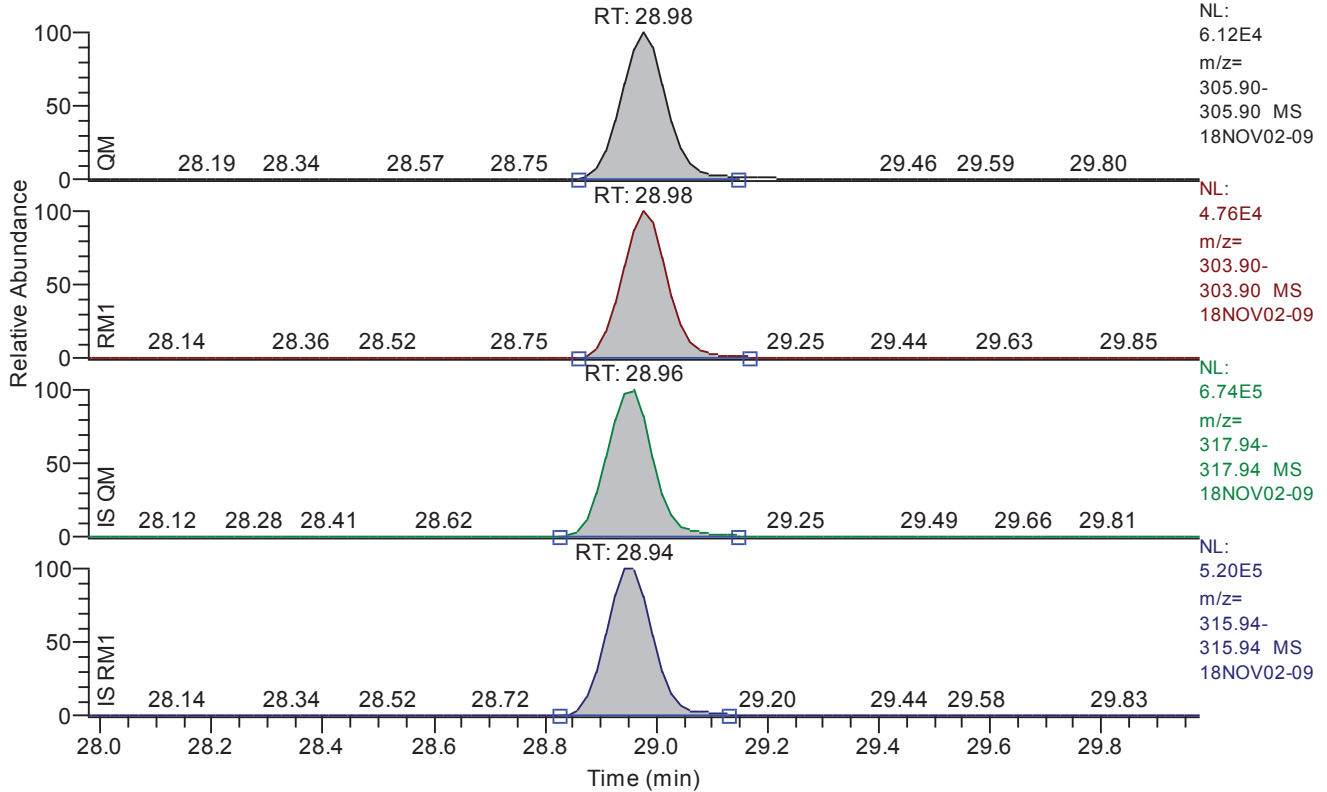
**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Chromatogram**

RT: 27.98 - 29.98 SM: 3G



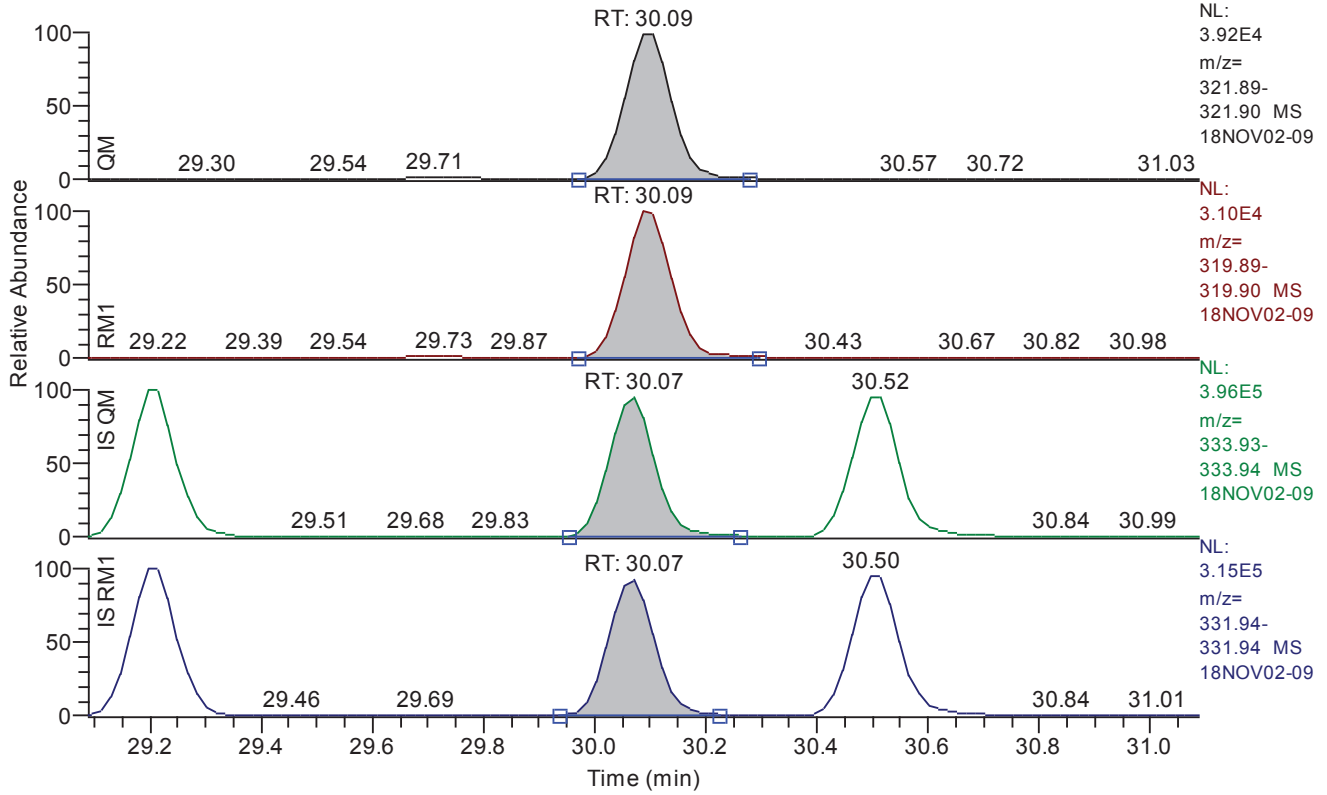
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	351203
QM Integration Mode	A
RM1 Area	275325
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2660
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 29.09 - 31.09 SM: 3G



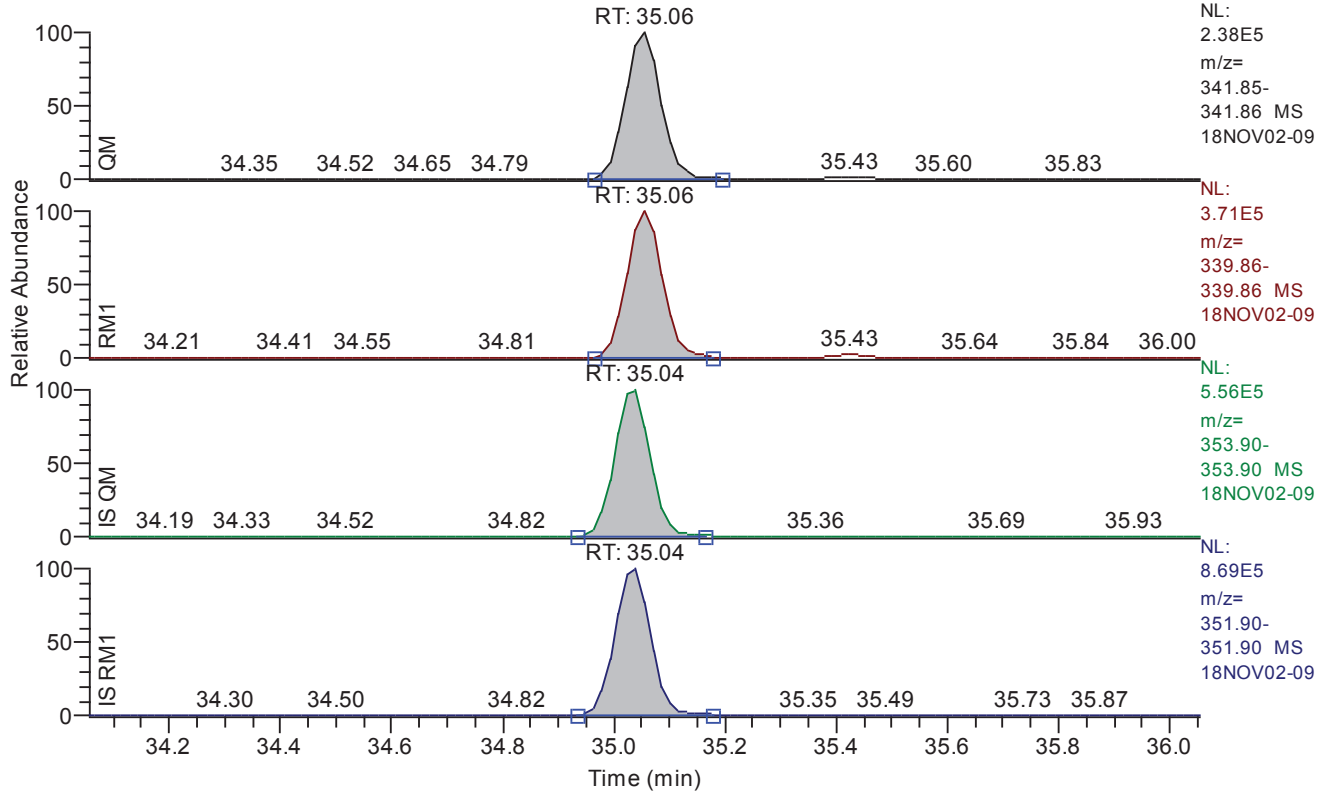
### Entry Parameters

Compound Name	2378-TCDD
QM Retention Time	30.09
QM Area	235178
QM Integration Mode	A
RM1 Area	185823
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2736
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 34.06 - 36.06 SM: 3G



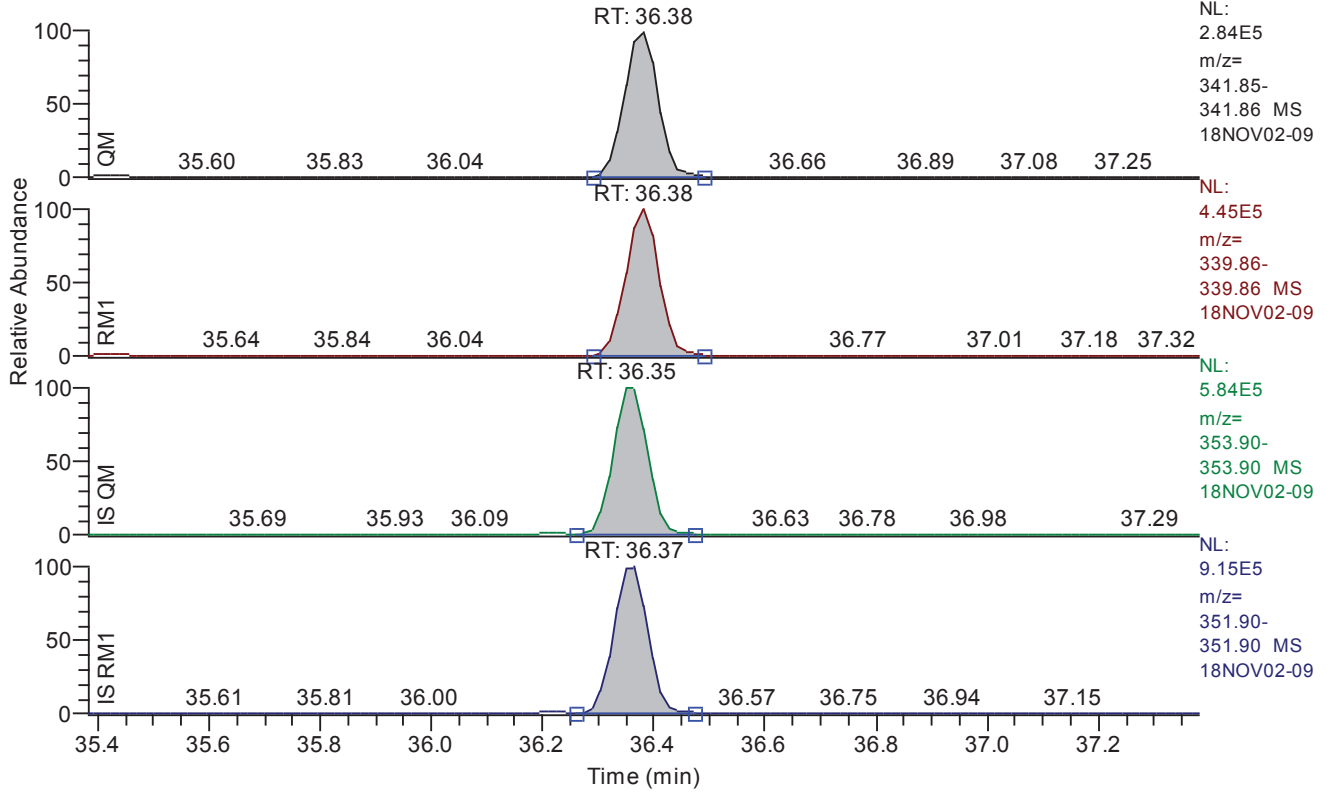
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.06
QM Area	1060834
QM Integration Mode	A
RM1 Area	1658891
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	13446
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.38 - 37.38 SM: 3G



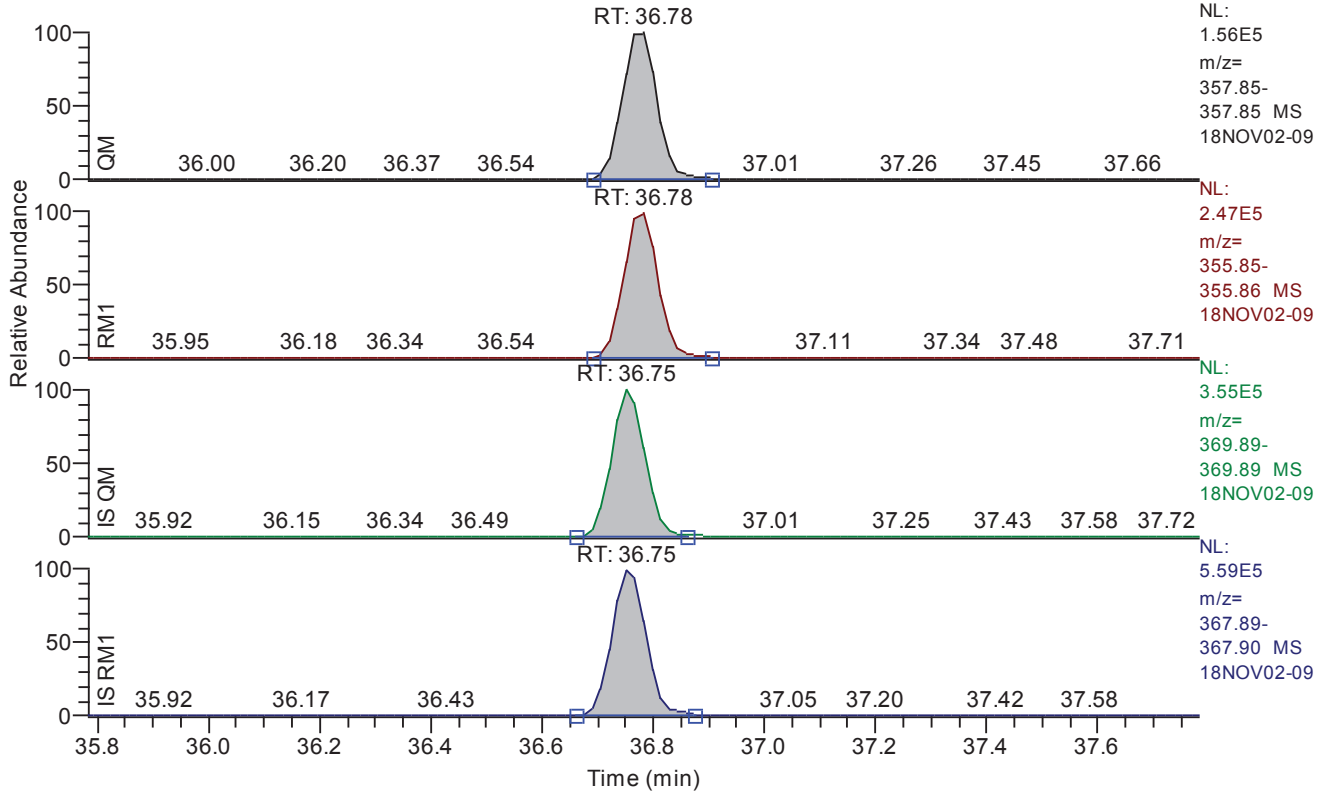
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	1185234
QM Integration Mode	A
RM1 Area	1846165
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	16072
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.78 - 37.78 SM: 3G



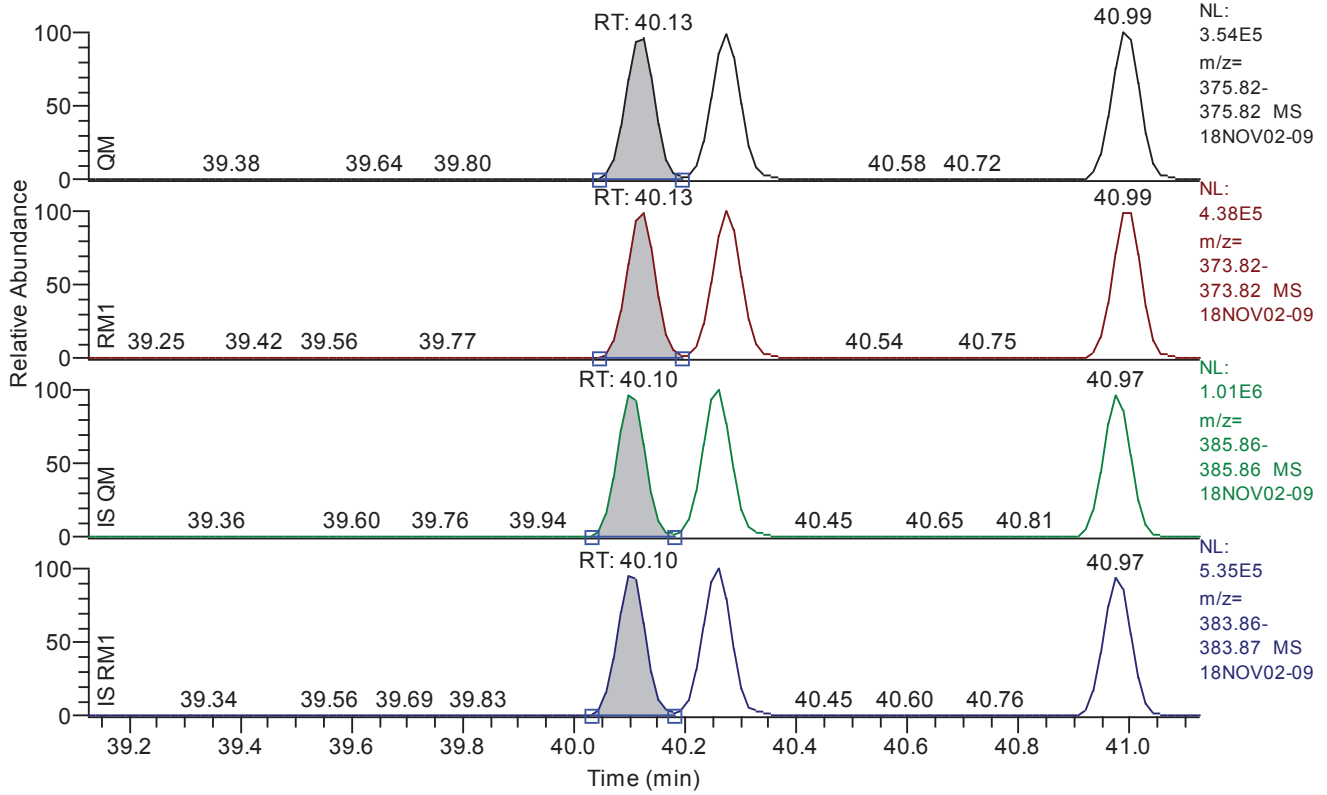
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	680943
QM Integration Mode	A
RM1 Area	1061042
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7751
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.13 - 41.13 SM: 3G



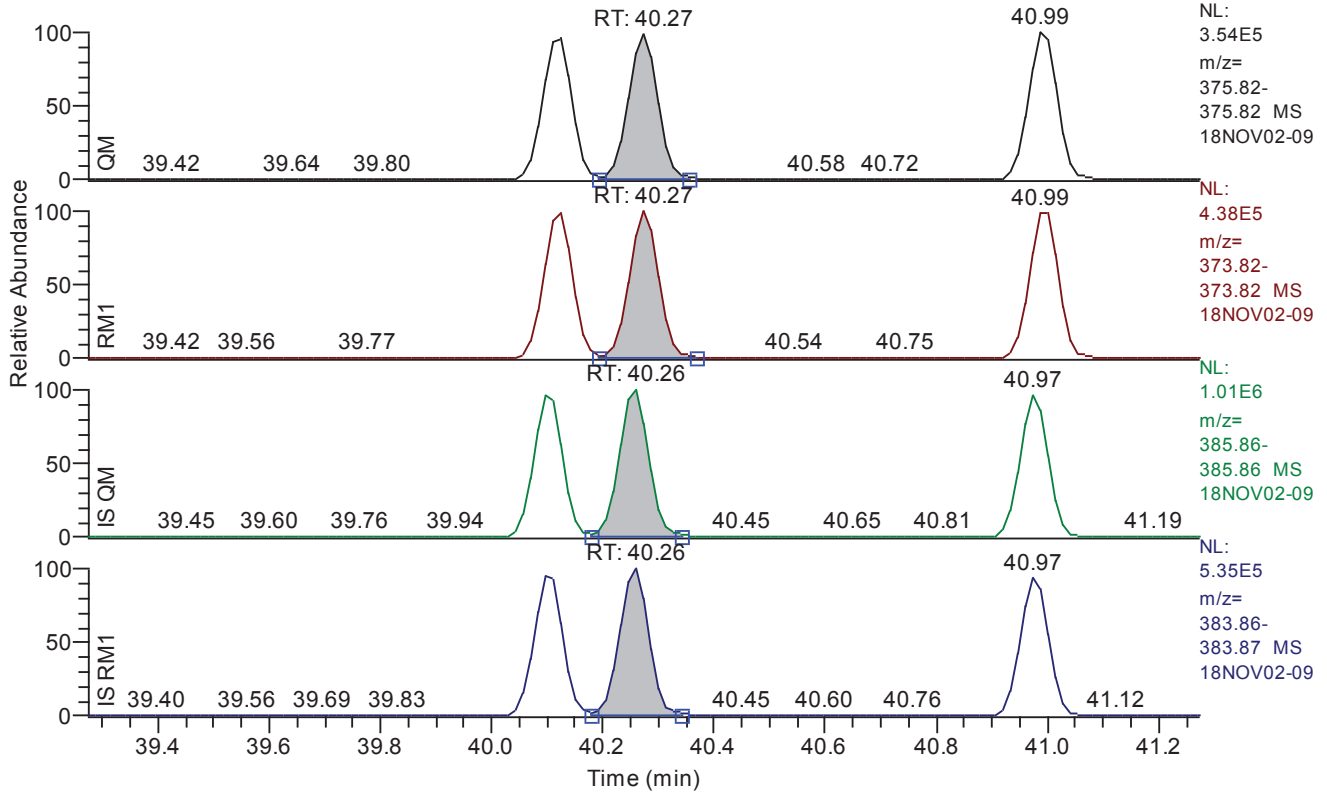
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.13
QM Area	1256395
QM Integration Mode	A
RM1 Area	1579140
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0183
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6726
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



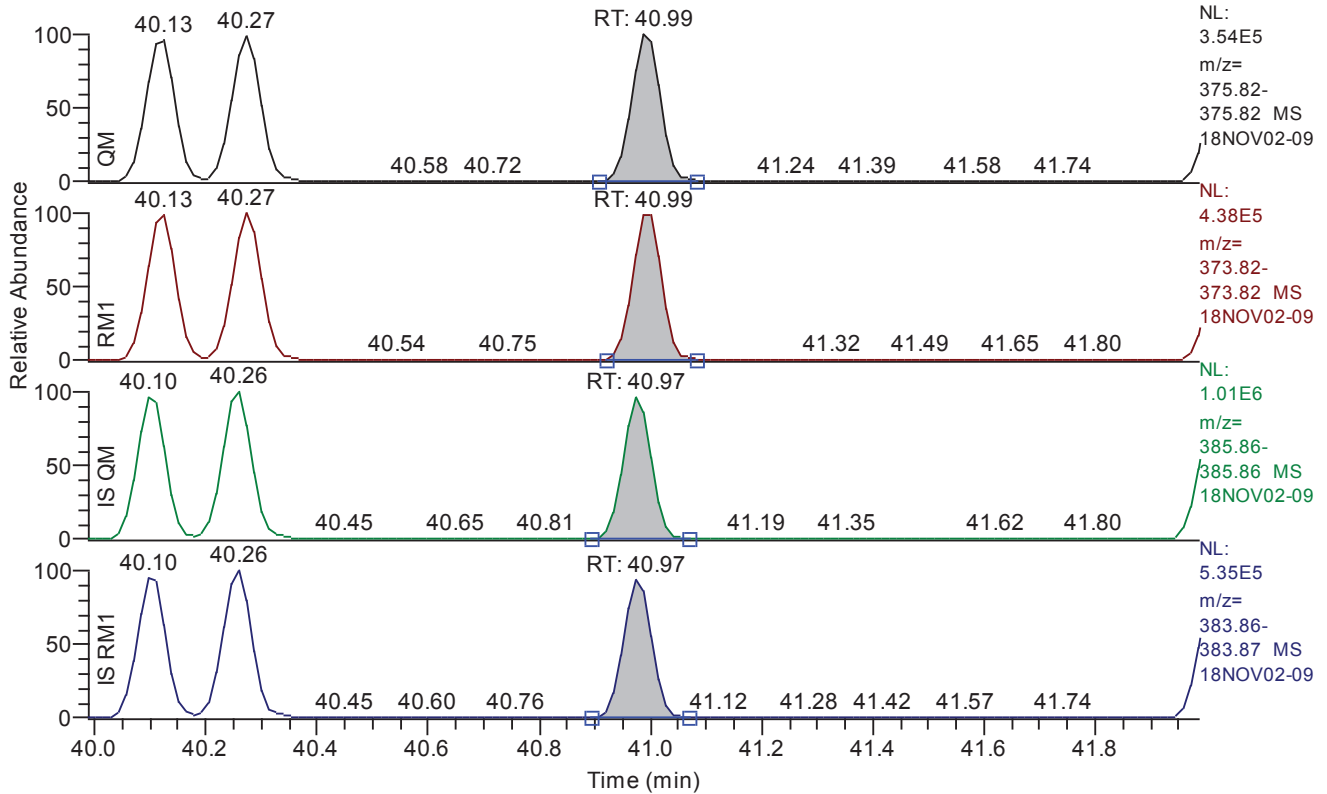
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	1280101
QM Integration Mode	A
RM1 Area	1600508
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0184
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6800
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.99 - 41.99 SM: 3G



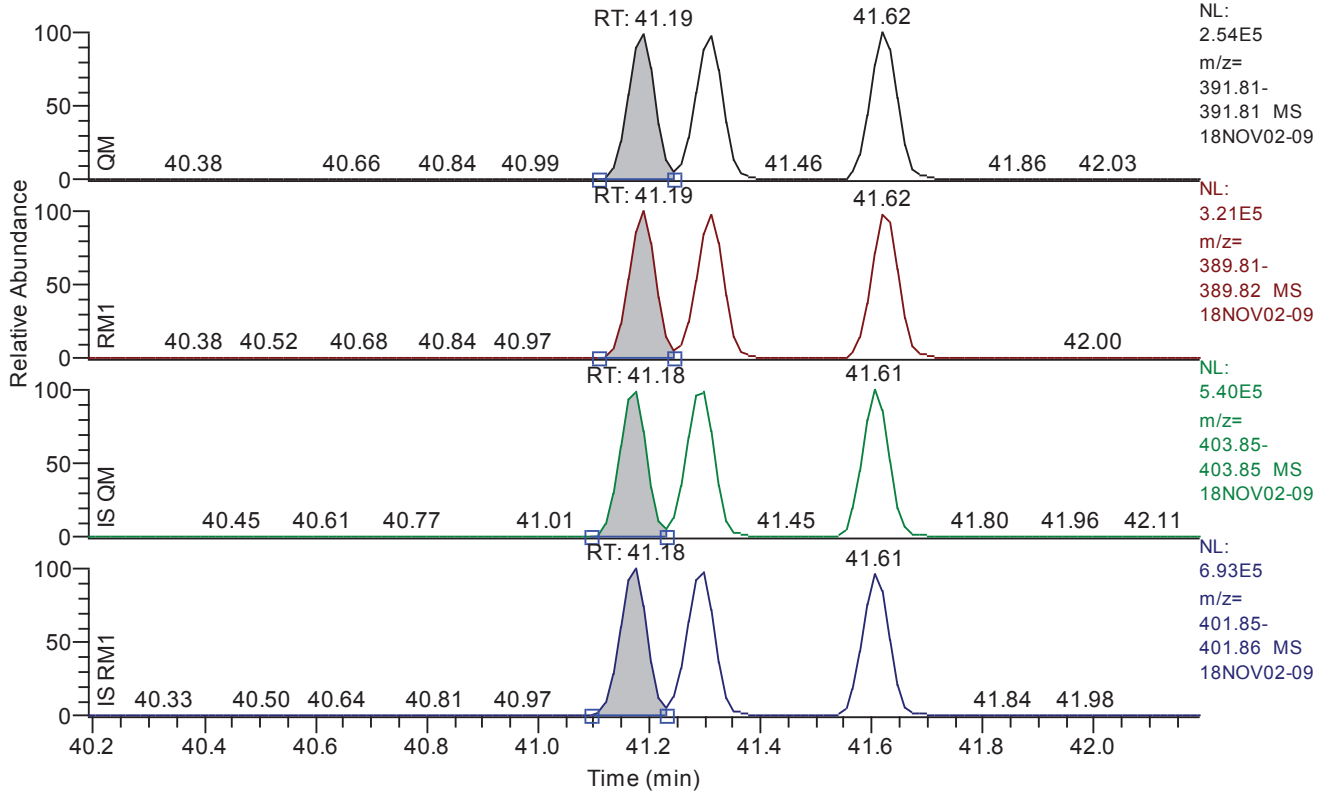
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	1287130
QM Integration Mode	A
RM1 Area	1595967
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0177
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6832
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.19 - 42.19 SM: 3G



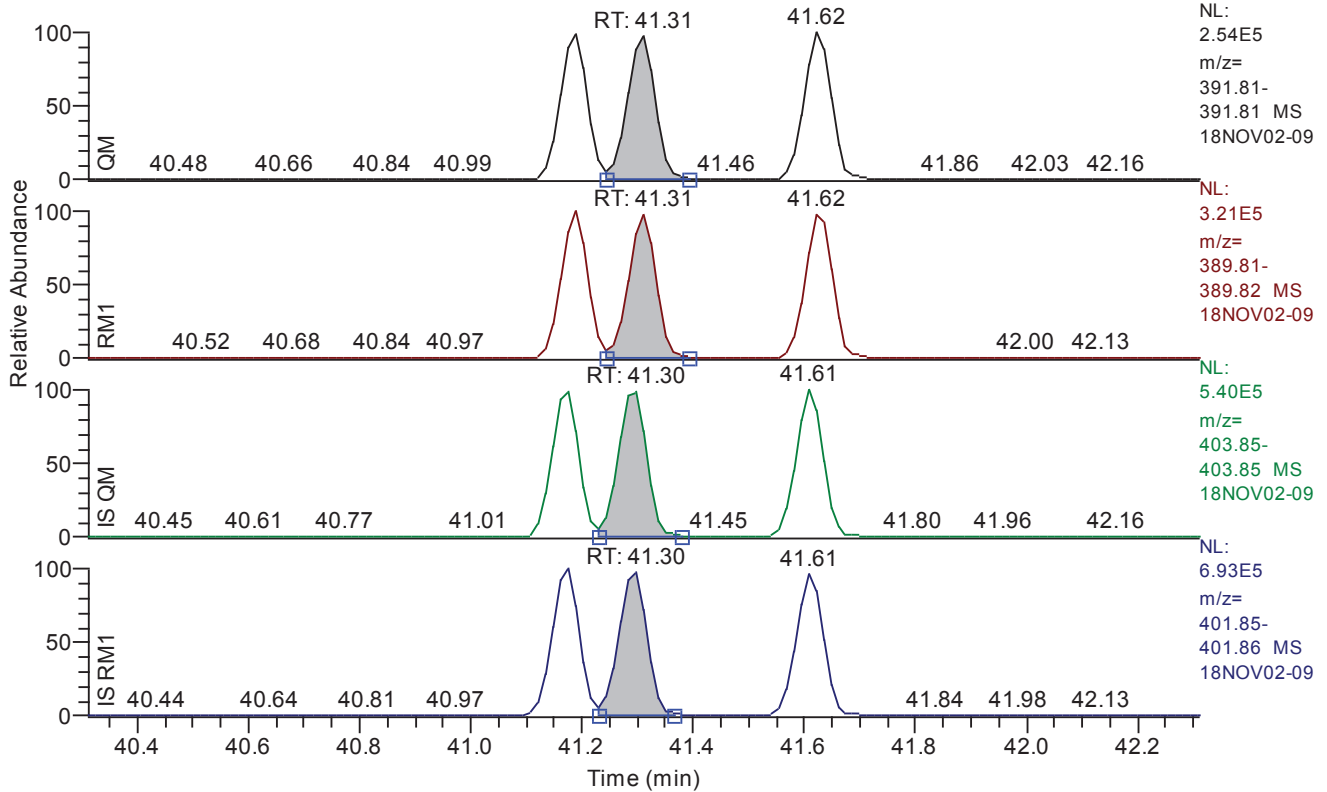
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	853384
QM Integration Mode	A
RM1 Area	1066000
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0114
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11127
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



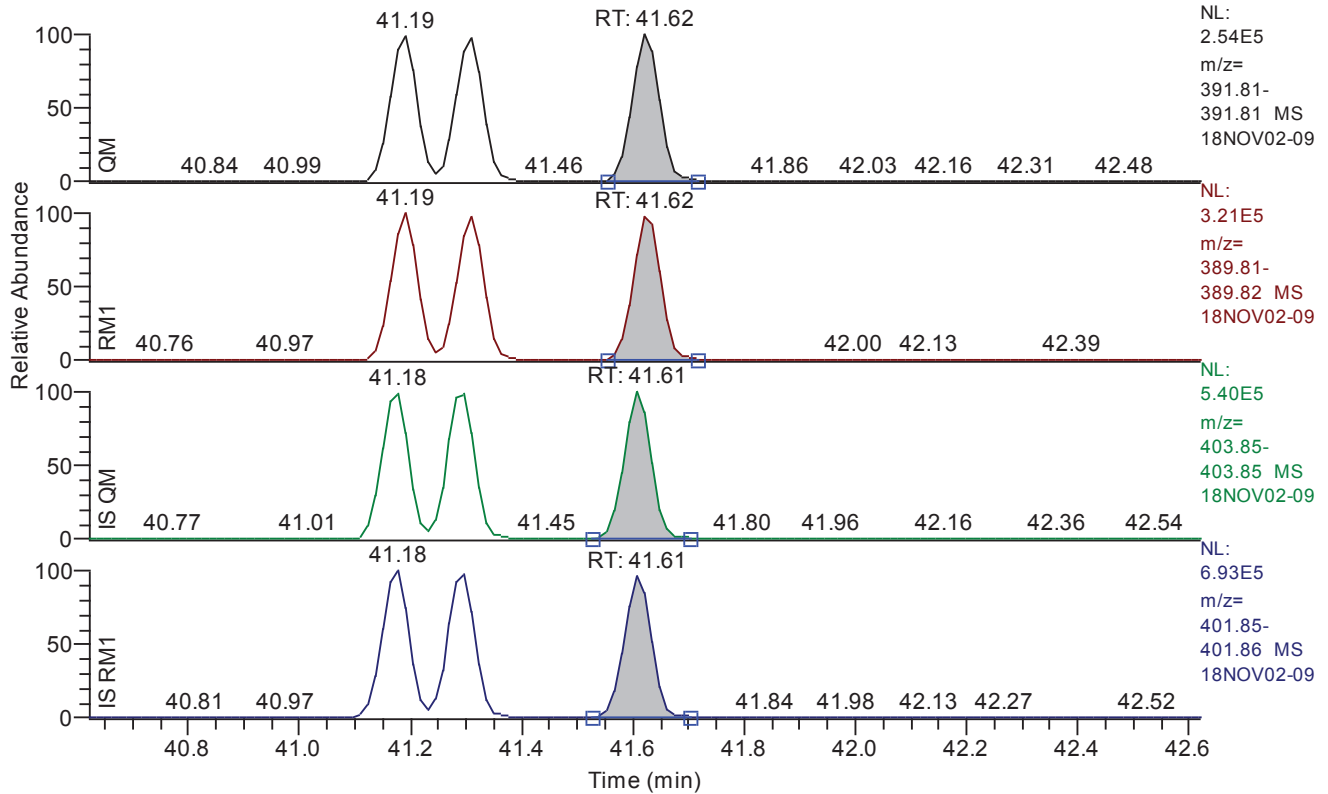
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	860026
QM Integration Mode	A
RM1 Area	1074330
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	10860
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.62 - 42.62 SM: 3G



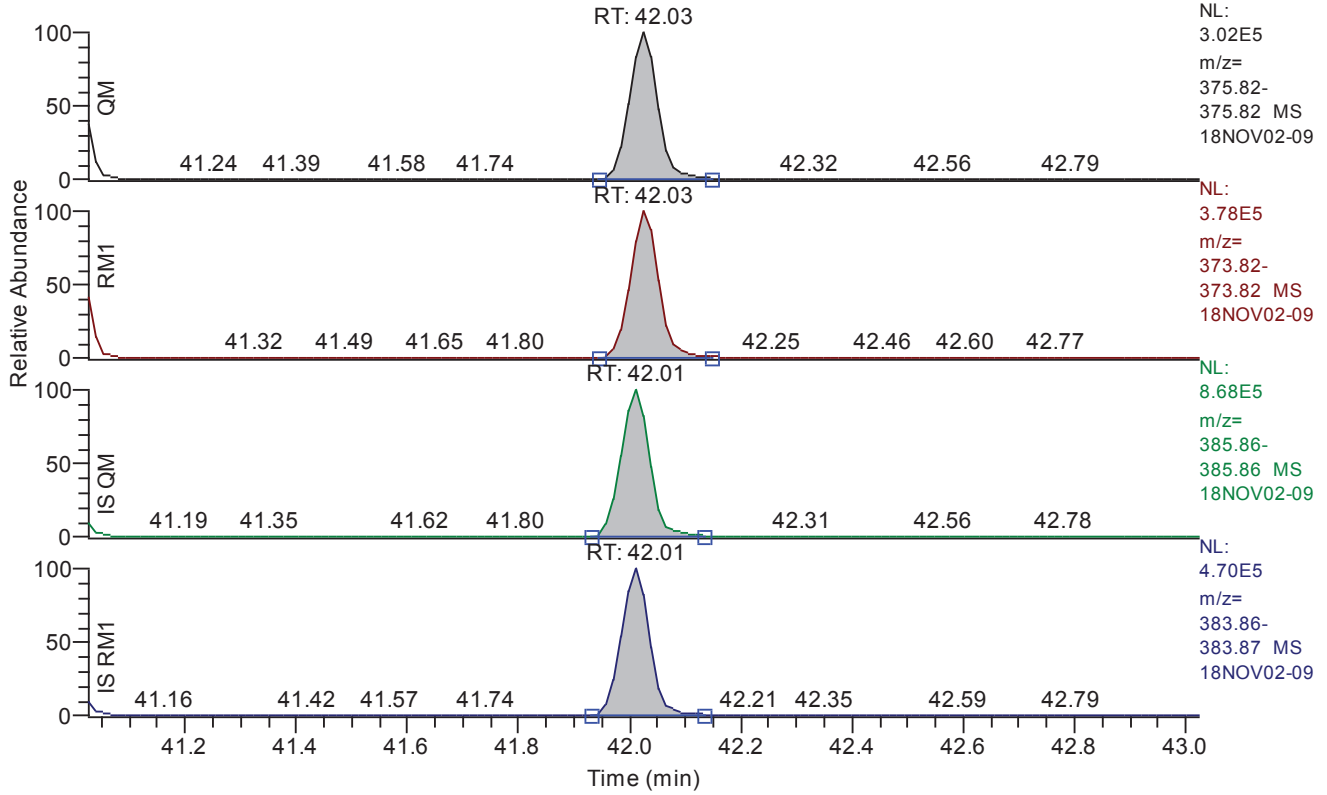
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	871871
QM Integration Mode	A
RM1 Area	1089083
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0112
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	11024
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.03 - 43.03 SM: 3G

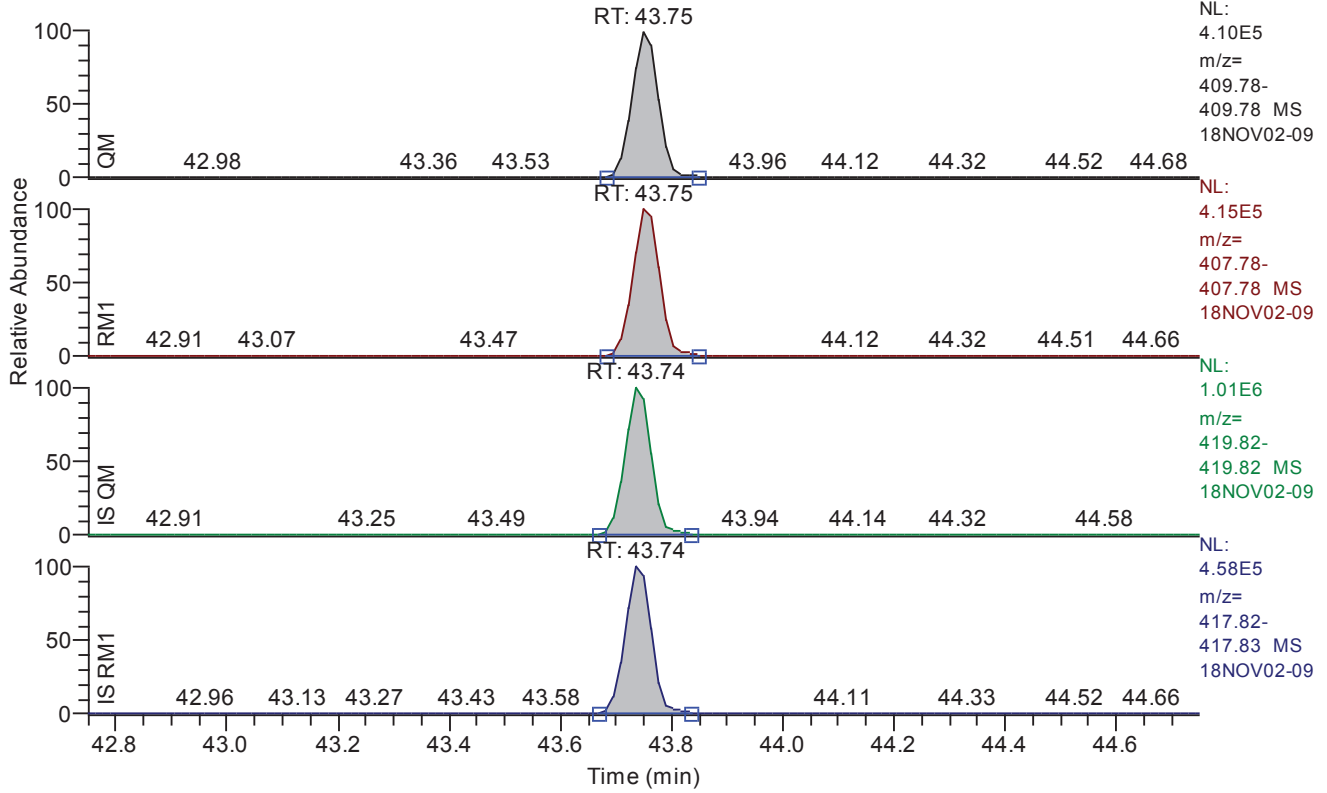


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	42.03
QM Area	1066839
QM Integration Mode	A
RM1 Area	1342470
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0215
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	5882
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.75 - 44.75 SM: 3G



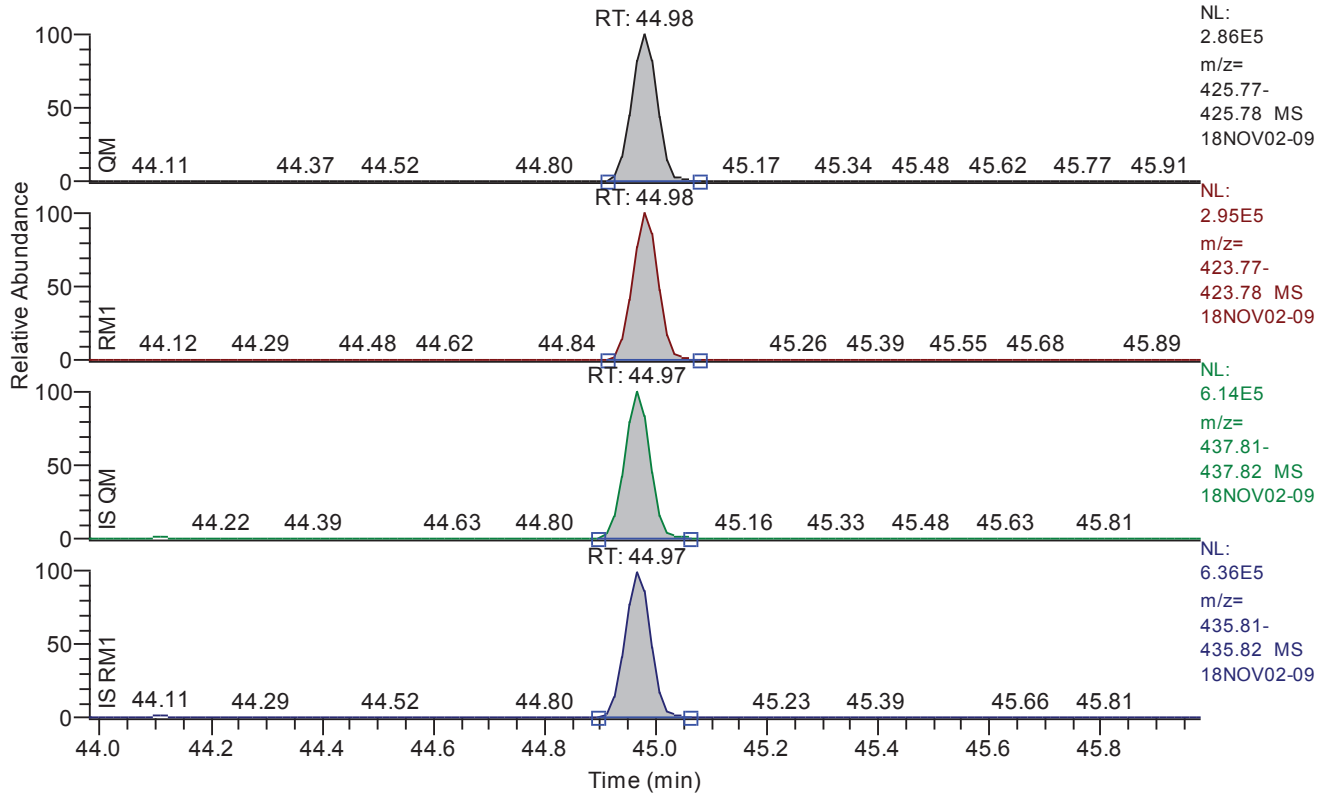
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	1374073
QM Integration Mode	A
RM1 Area	1425342
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0228
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	5436
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.98 - 45.98 SM: 3G



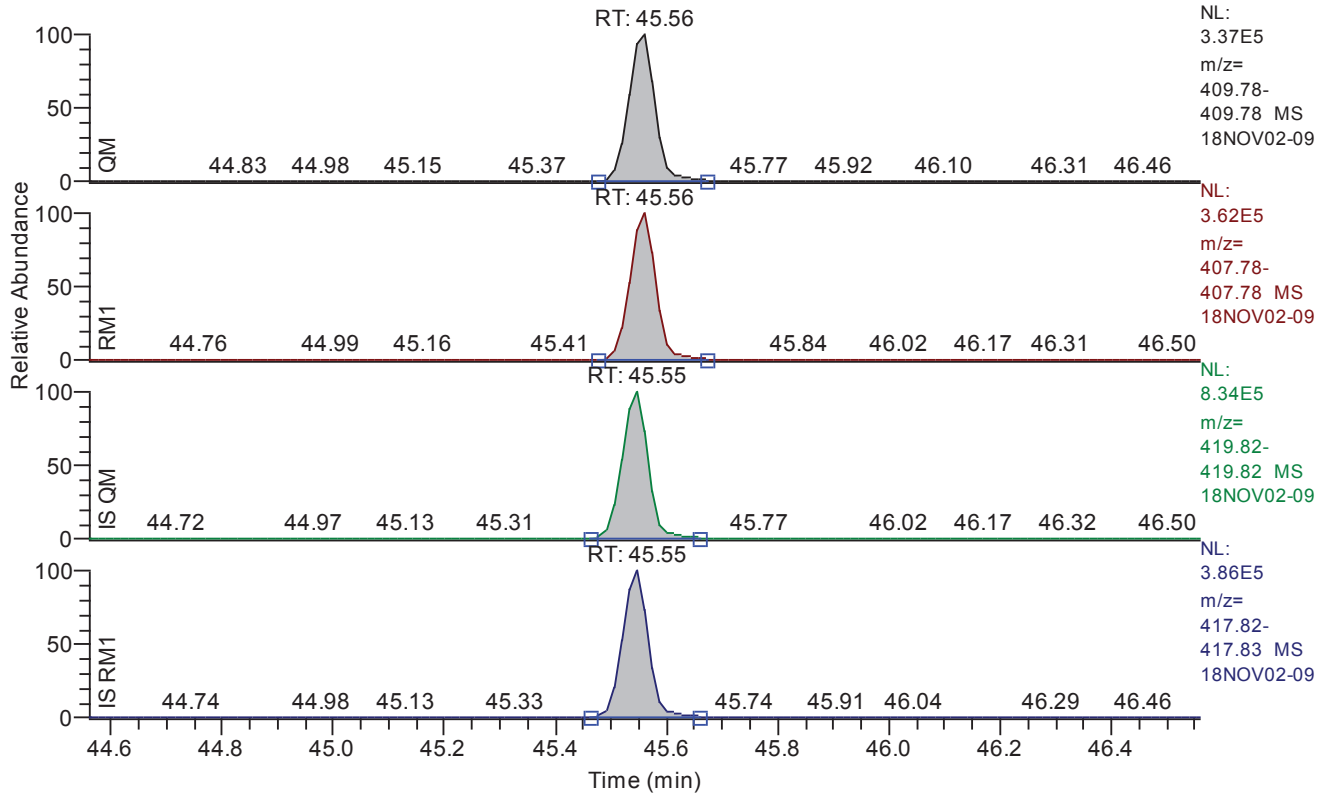
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	941348
QM Integration Mode	A
RM1 Area	969036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0194
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6426
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.56 - 46.56 SM: 3G



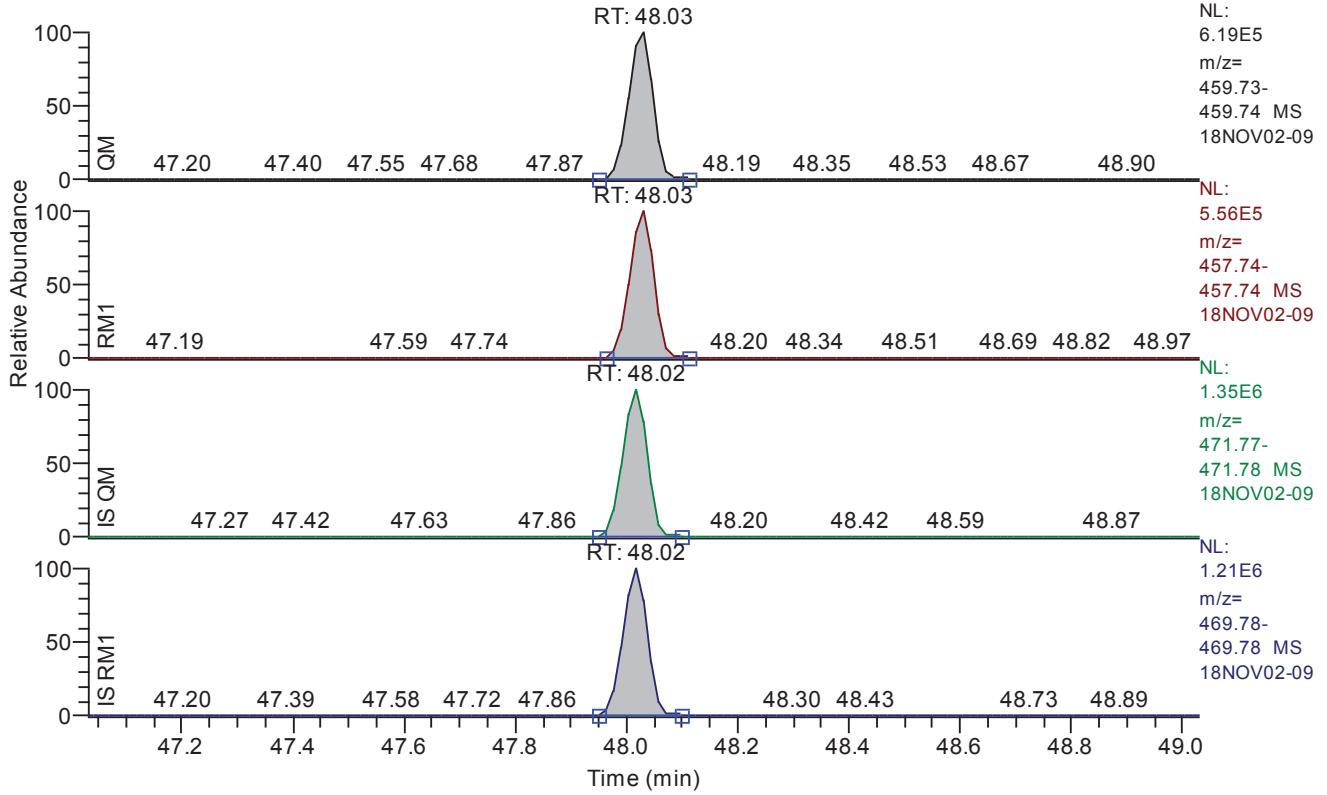
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.56
QM Area	1145118
QM Integration Mode	A
RM1 Area	1198246
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0269
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	4600
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.03 - 49.03 SM: 3G



**Entry Parameters**

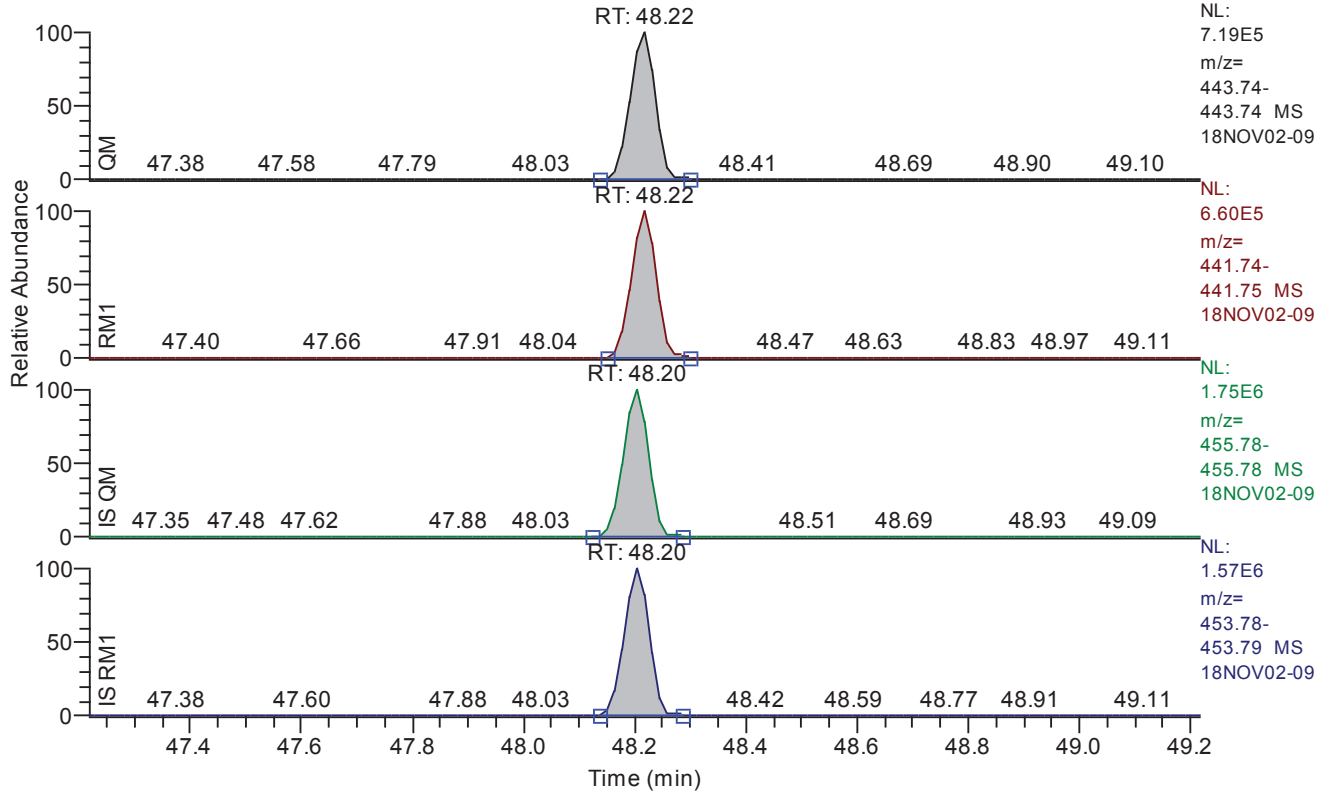
Compound Name	OCDD
QM Retention Time	48.03
QM Area	1902187
QM Integration Mode	A
RM1 Area	1686612
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	18885
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 47.22 - 49.22 SM: 3G



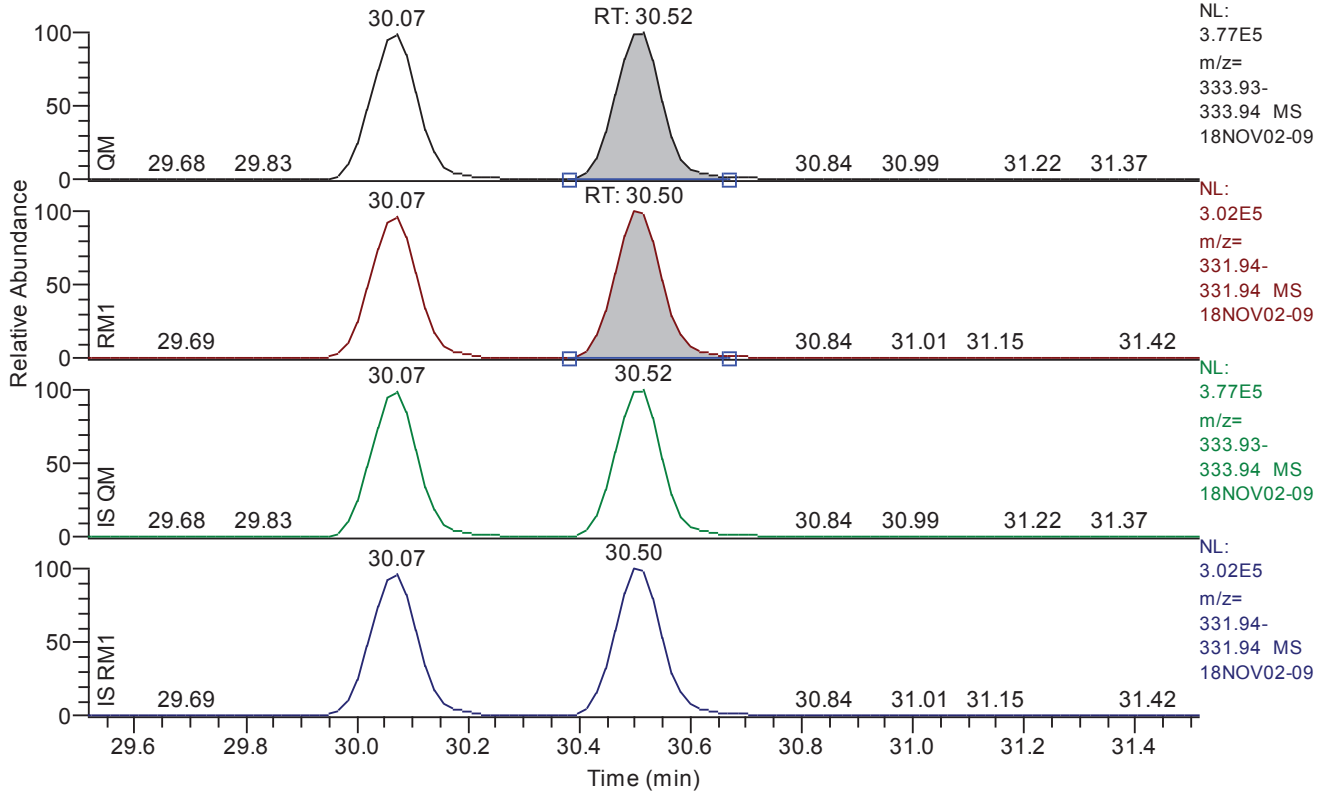
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.22
QM Area	2258276
QM Integration Mode	A
RM1 Area	2056244
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	25896
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.52 - 31.52 SM: 3G



**Entry Parameters**

Compound Name 13C12-1278-TCDD (CRS)  
 QM Retention Time 30.52  
 QM Area 2246029  
 QM Integration Mode A  
 RM1 Area 1812279  
 RM1 Integration Mode A  
 ManInt 0  
 Detection Limit (A) 0.0212  
 Unqualified Amount (A) 100.000000  
 Adjusted Amount (A) 100.0000  
 Signal-to-Noise 11308  
 Client Flags  
 Status Overview passed  
 Status Info



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 17:32  
Number of Entries 64  
Comment  
Vial 6  
Sample Name CALDF41837H  
Sample ID CS301  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

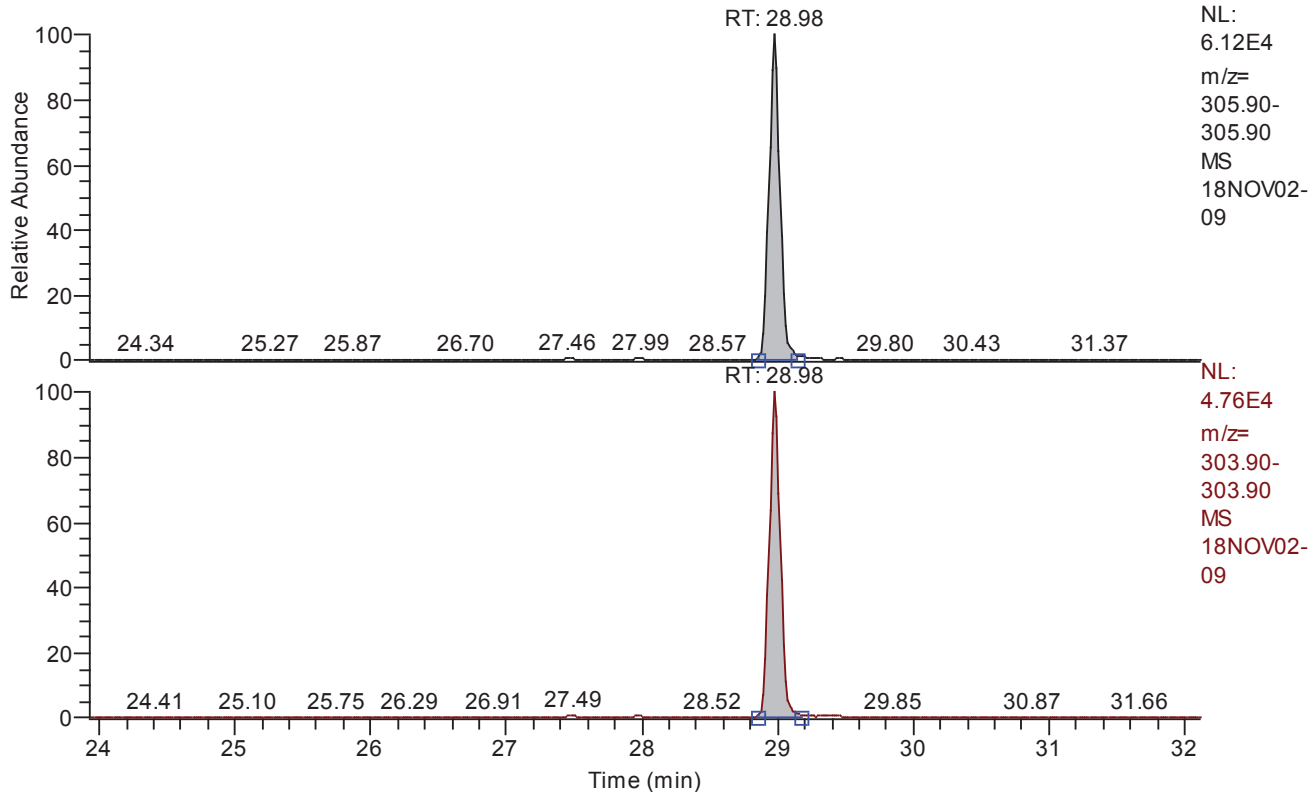
Quan w:\18nov02\18nov02-09.quan  
Data w:\18nov02\18nov02-09.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



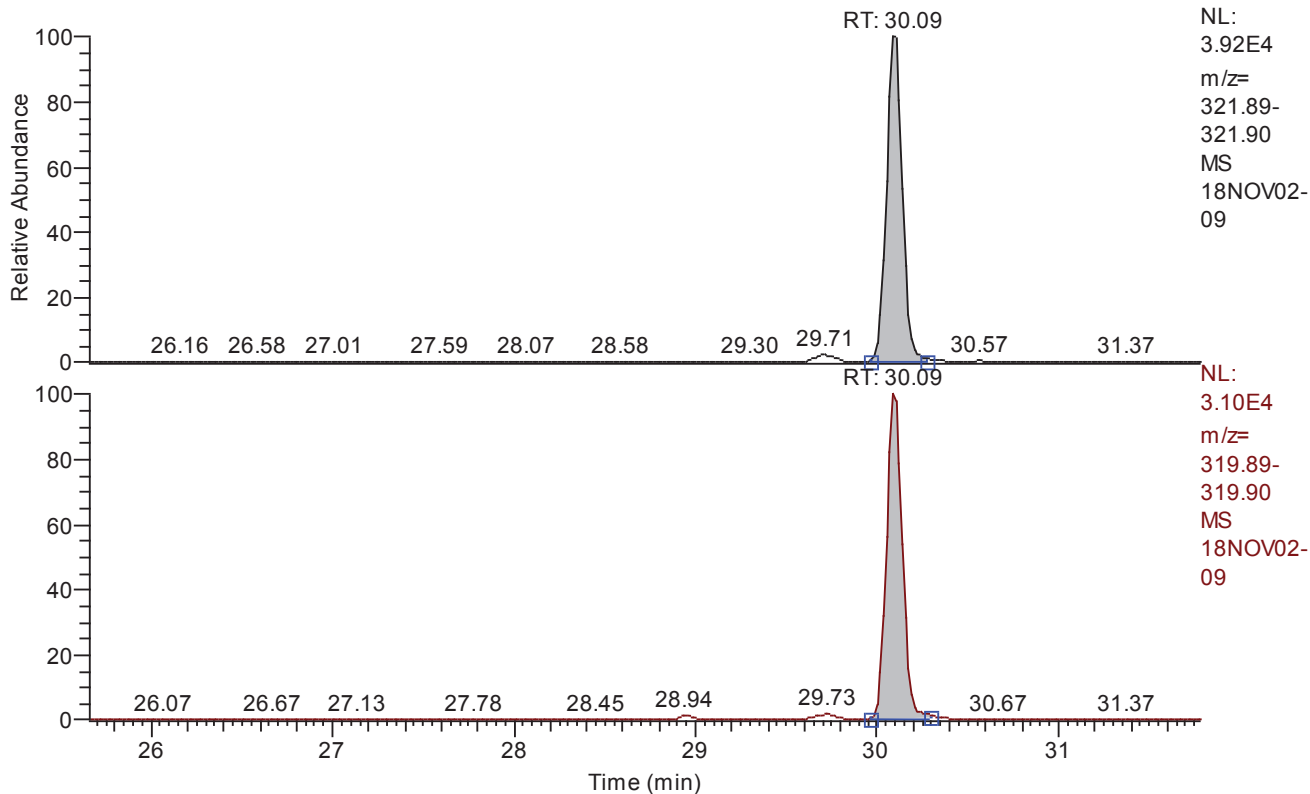
**Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	351203
QM Integration Mode	A
RM1 Area	275325
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2660
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



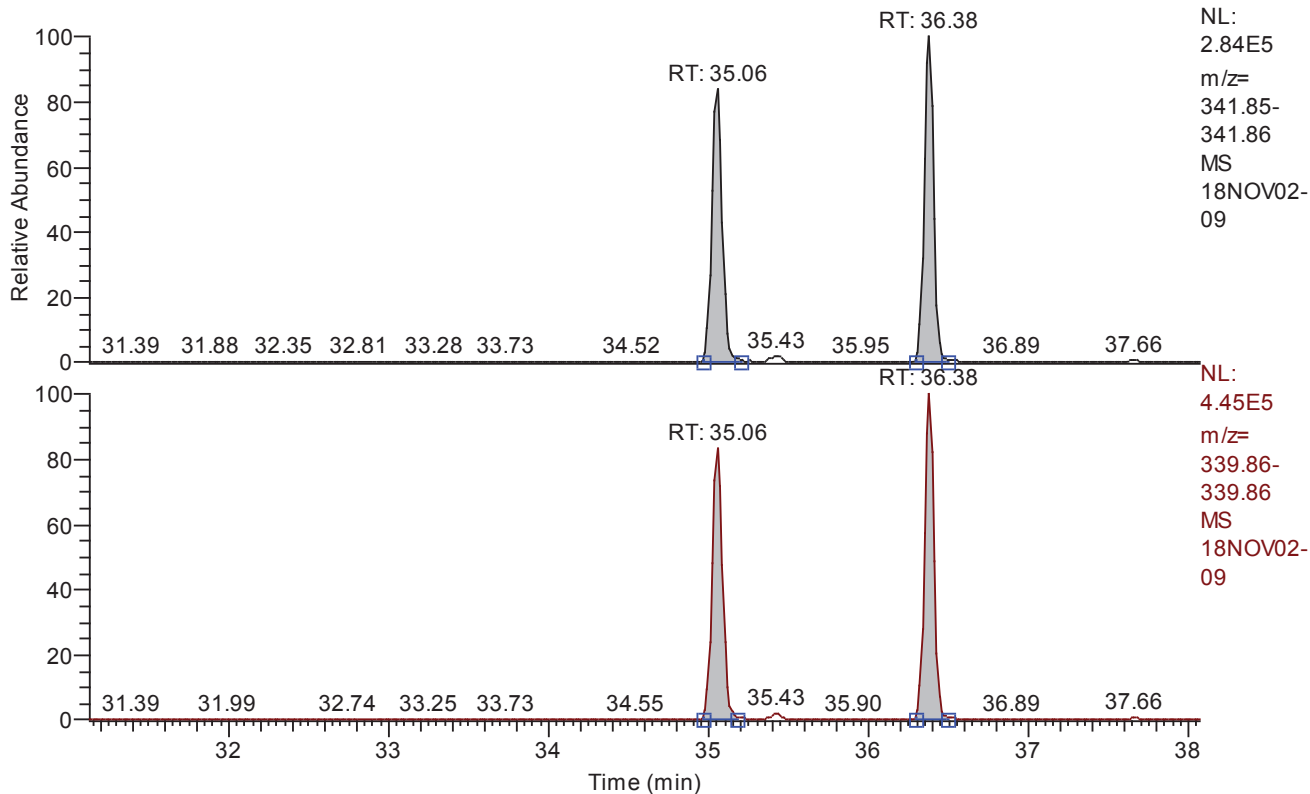
**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	235178
QM Integration Mode	A
RM1 Area	185823
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0090
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	2736
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 31.12 - 38.08 SM: 3G



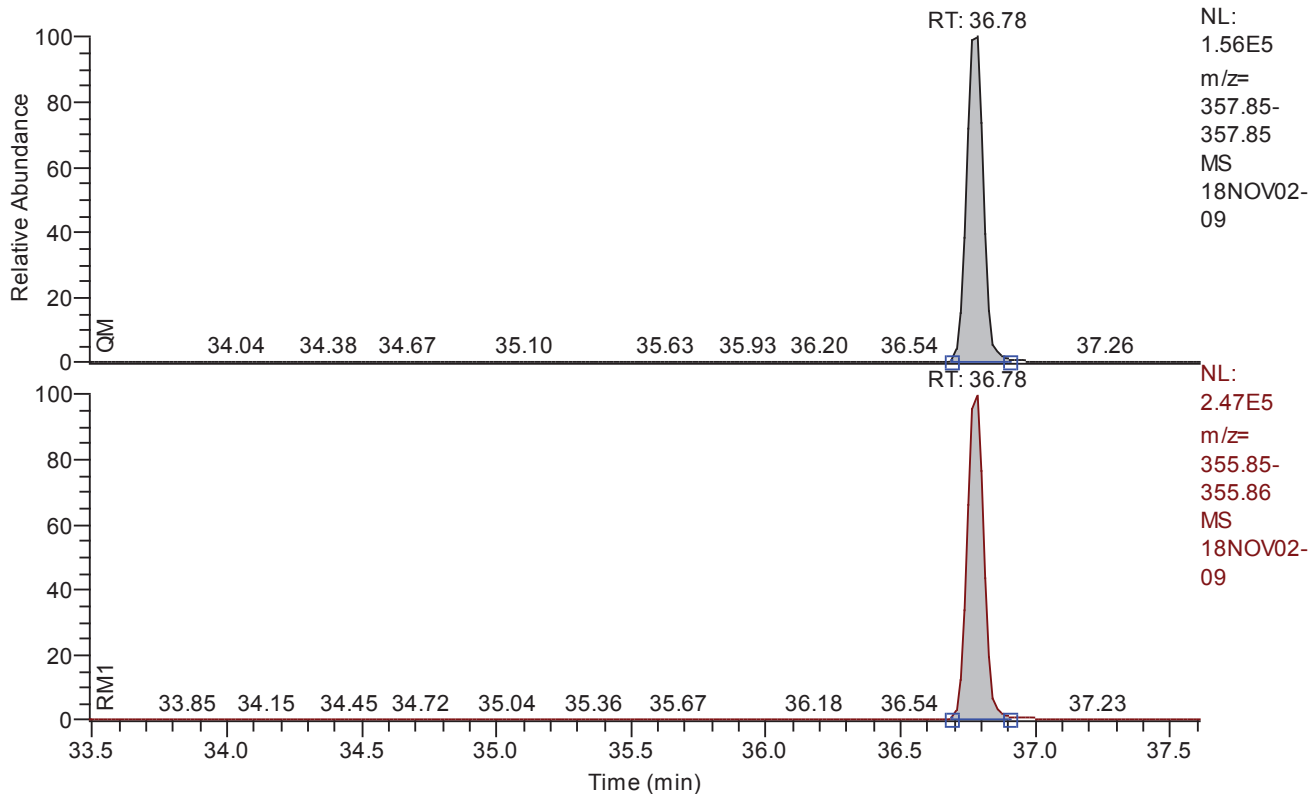
**Entry Parameters**

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	2246069
QM Integration Mode	A
RM1 Area	3505056
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	14759
Client Flags	
Status Overview	passed (2)
Status Info	



**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



NL:  
 1.56E5  
 m/z=  
 357.85-  
 357.85  
 MS  
 18NOV02-  
 09

NL:  
 2.47E5  
 m/z=  
 355.85-  
 355.86  
 MS  
 18NOV02-  
 09

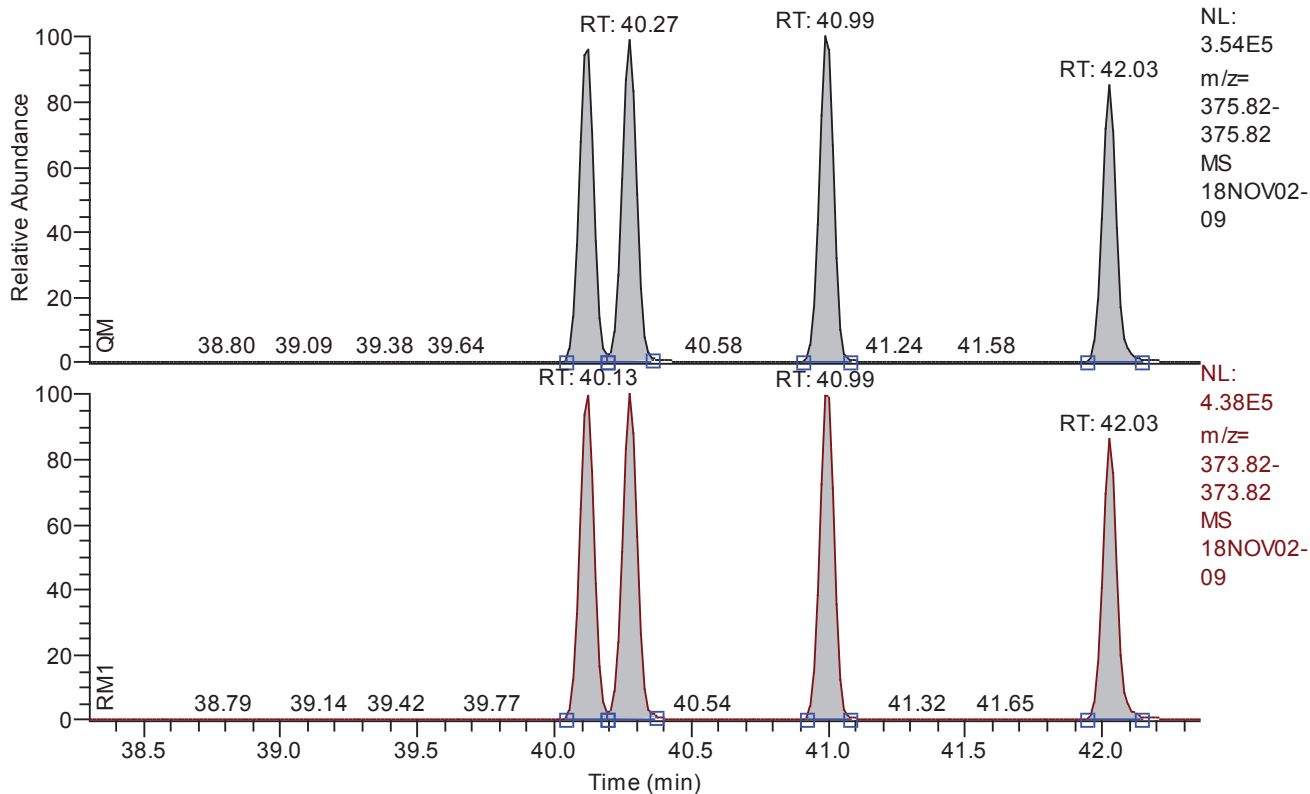
**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	680943
QM Integration Mode	A
RM1 Area	1061042
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	7751
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



**Entry Parameters**

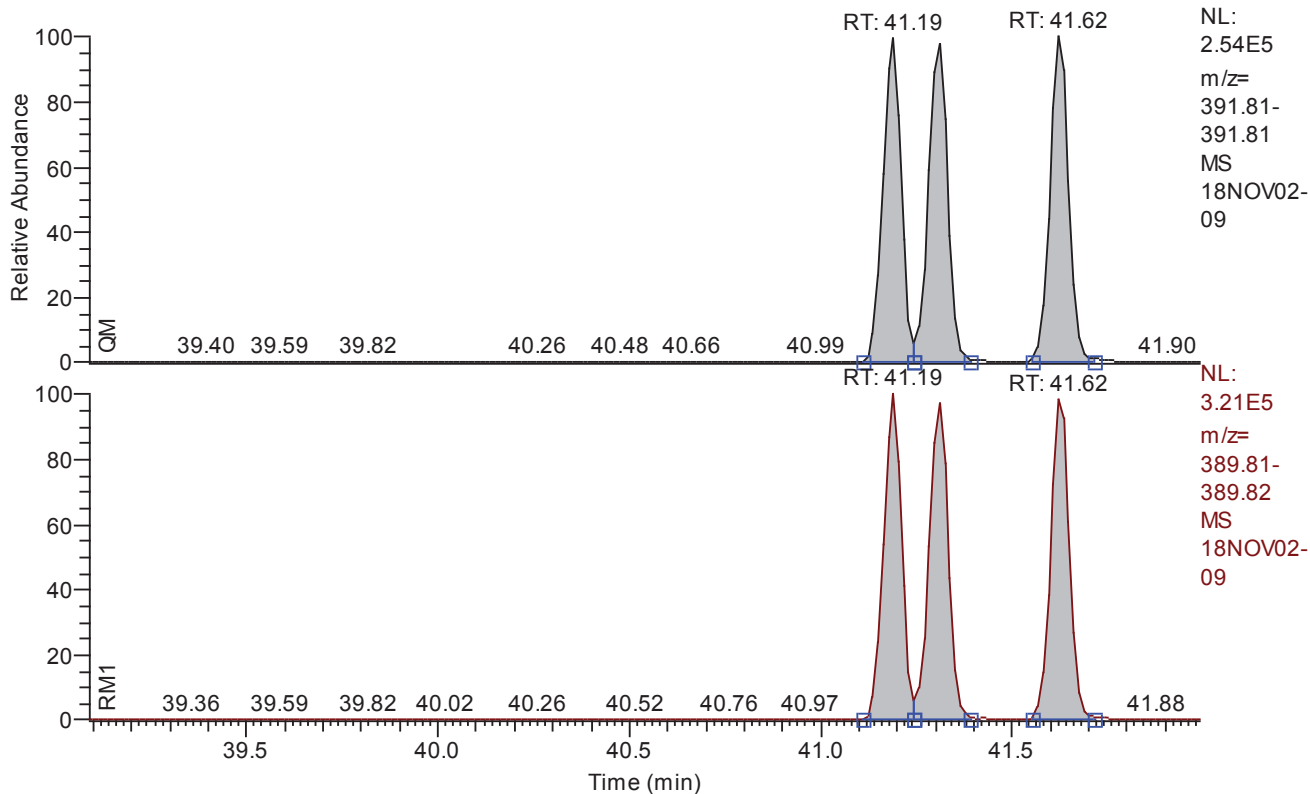
Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	4890464
QM Integration Mode	A
RM1 Area	6118085
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0190
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	6560
Client Flags	
Status Overview	passed (4)
Status Info	





**Chromatogram**

RT: 39.09 - 41.99 SM: 3G



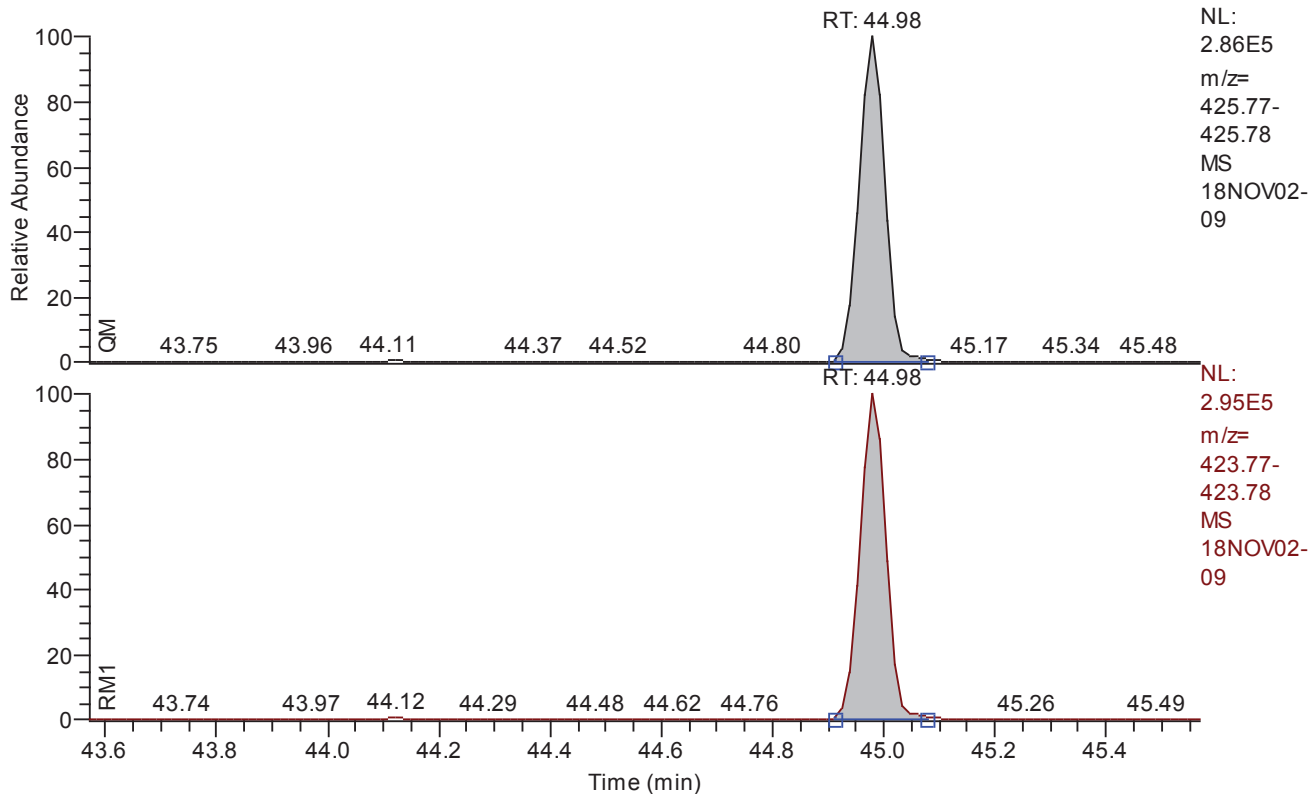
**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	2585280
QM Integration Mode	A
RM1 Area	3229413
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	150.0000
Signal-to-Noise	11004
Client Flags	
Status Overview	passed (3)
Status Info	



**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



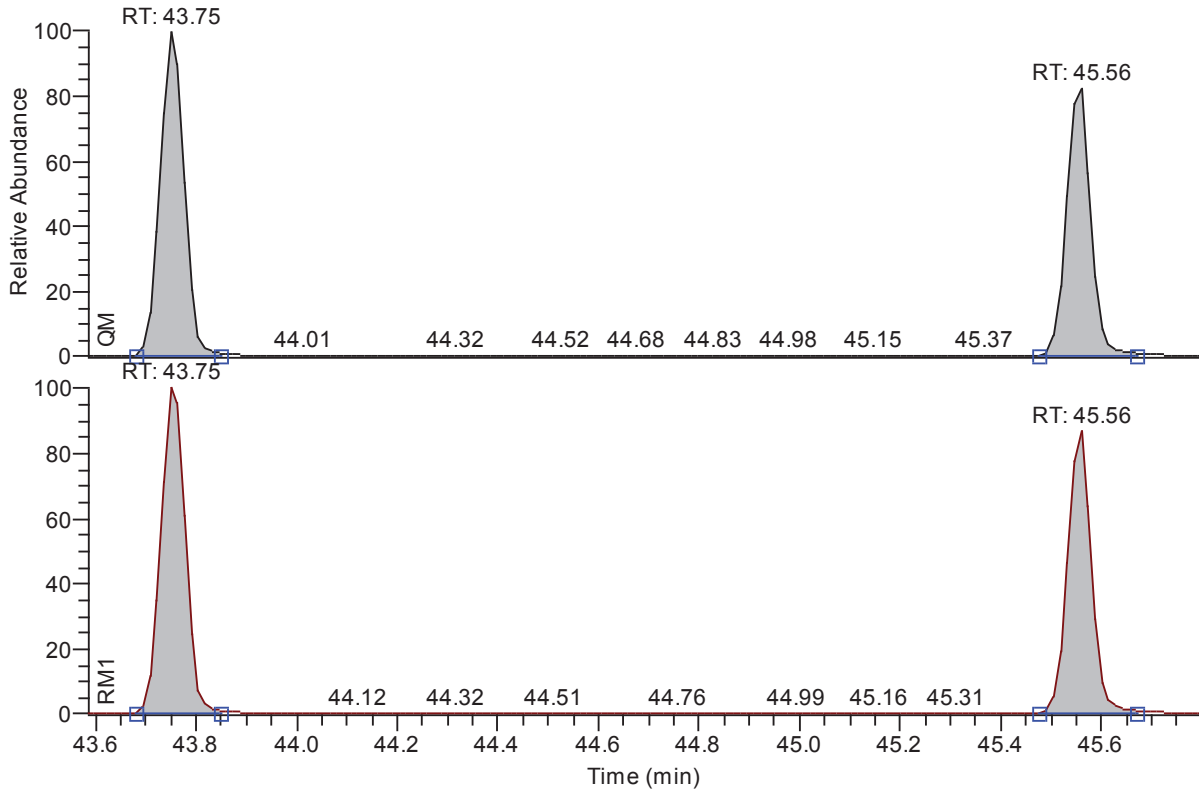
**Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	941348
QM Integration Mode	A
RM1 Area	969036
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0194
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	50.0000
Signal-to-Noise	6426
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



NL:  
4.10E5  
m/z=  
409.78-  
409.78  
MS  
18NOV02-  
09

NL:  
4.15E5  
m/z=  
407.78-  
407.78  
MS  
18NOV02-  
09

**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	2519191
QM Integration Mode	A
RM1 Area	2623588
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0249
Unqualified Amount (A)	50.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	5018
Client Flags	
Status Overview	passed (2)
Status Info	



Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.09	30.09	30.09	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.06	35.06	35.06	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.13	40.13	40.13	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.03	42.03	42.03	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.56	45.56	45.56	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.22	48.22	48.22	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.52	30.52	30.50	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.20	29.20	29.20	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.94	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.35	36.35	36.37	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.30	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.09	30.09	30.09	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.06	35.06	35.06	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.13	40.13	40.13	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.03	42.03	42.03	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.56	45.56	45.56	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7839	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.09	0.7901	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.06	1.5638	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5576	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5582	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.13	1.2569	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2503	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2399	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2492	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.03	1.2584	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0373	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0294	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.56	1.0464	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8867	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.22	0.9105	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.52	0.8069	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.20	0.8061	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2562	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7785	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.7808	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5681	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.35	1.5610	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.6036	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5252	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5283	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5228	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.18	1.2851	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2514	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2470	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5358	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.74	0.4574	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.97	1.0408	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.55	0.4620	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.02	0.8979	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8927	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7839	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7901	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5605	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5582	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2510	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2492	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0294	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0414	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7839	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.09	0.7901	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5582	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5576	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.06	1.5638	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0294	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.2399	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.13	1.2569	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2503	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.03	1.2584	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2491	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2492	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0373	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.56	1.0464	0.8750 - 1.2050	passed	100.00	0 - 0	passed

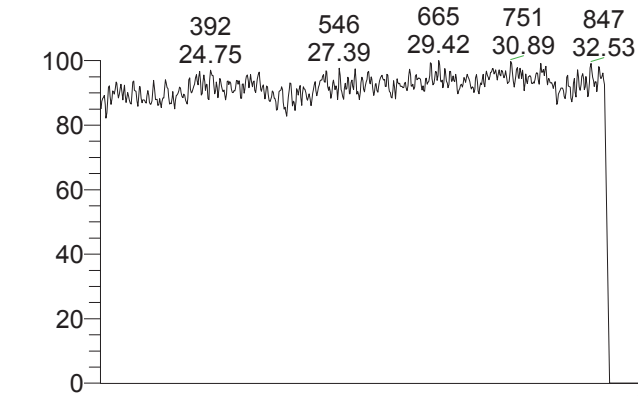


**Entry Parameters**

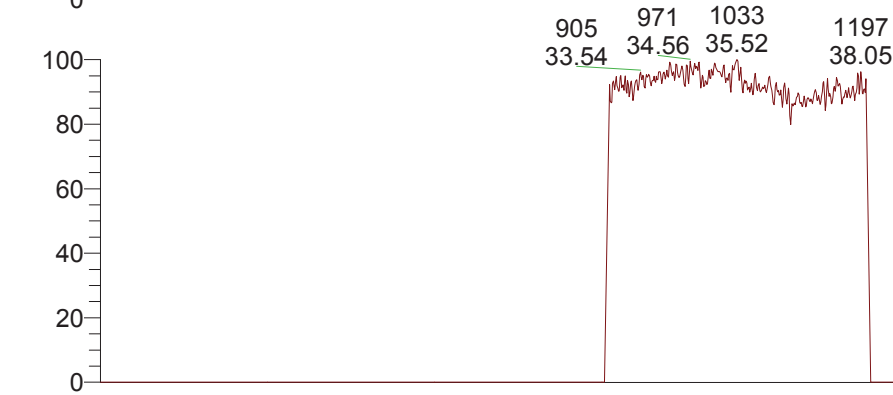
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.98	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
2	2378-TCDD	passed	30.09	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
3	12378-PeCDF	passed	35.06	1060834	A	1658891	A	0.0094	50.000000	50.0000	50.000000	13446	
4	23478-PeCDF	passed	36.38	1185234	A	1846165	A	0.0080	50.000000	50.0000	50.000000	16072	
5	12378-PeCDD	passed	36.78	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
6	123478-HxCDF	passed	40.13	1256395	A	1579140	A	0.0183	50.000000	50.0000	50.000000	6726	
7	123678-HxCDF	passed	40.27	1280101	A	1600508	A	0.0184	50.000000	50.0000	50.000000	6800	
8	234678-HxCDF	passed	40.99	1287130	A	1595967	A	0.0177	50.000000	50.0000	50.000000	6832	
9	123478-HxCDD	passed	41.19	853384	A	1066000	A	0.0114	50.000000	50.0000	50.000000	11127	
10	123678-HxCDD	passed	41.31	860026	A	1074330	A	0.0118	50.000000	50.0000	50.000000	10860	
11	123789-HxCDD	passed	41.62	871871	A	1089083	A	0.0112	50.000000	50.0000	50.000000	11024	
12	123789-HxCDF	passed	42.03	1066839	A	1342470	A	0.0215	50.000000	50.0000	50.000000	5882	
13	1234678-HpCDF	passed	43.75	1374073	A	1425342	A	0.0228	50.000000	50.0000	50.000000	5436	
14	1234678-HpCDD	passed	44.98	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
15	1234789-HpCDF	passed	45.56	1145118	A	1198246	A	0.0269	50.000000	50.0000	50.000000	4600	
16	OCDD	passed	48.03	1902187	A	1686612	A	0.0132	100.000000	100.0000	100.000000	18885	
17	OCDF	passed	48.22	2258276	A	2056244	A	0.0097	100.000000	100.0000	100.000000	25896	
18	13C12-1278-TCDD (CRS)	passed	30.52	2246029	A	1812279	A	0.0212	100.000000	100.0000	100.000000	11308	
19	13C12-1234-TCDD	passed	29.20	2265383	A	1826137	A	0.0210	100.000000	100.0000	100.000000	11915	
20	13C12-123468-HxCDD	passed	40.02	1947853	A	2446919	A	0.0267	100.000000	100.0000	100.000000	9351	
21	13C12-2378-TCDF	passed	28.96	3984234	A	3101544	A	0.0155	100.000000	100.0000	100.000000	15594	
22	13C12-2378-TCDD	passed	30.07	2210645	A	1725968	A	0.0218	100.000000	100.0000	100.000000	11160	
23	13C12-12378-PeCDF	passed	35.04	2495984	A	3913883	A	0.0351	100.000000	100.0000	100.000000	9101	
24	13C12-23478-PeCDF	passed	36.35	2518549	A	3931344	A	0.0349	100.000000	100.0000	100.000000	9566	
25	13C12-12378-PeCDD	passed	36.75	1488522	A	2386983	A	0.0294	100.000000	100.0000	100.000000	11525	
26	13C12-123478-HxCDF	passed	40.10	3502375	A	1839485	A	0.0337	100.000000	100.0000	100.000000	7445	
27	13C12-123678-HxCDF	passed	40.26	3680895	A	1944782	A	0.0320	100.000000	100.0000	100.000000	7667	
28	13C12-234678-HxCDF	passed	40.97	3441741	A	1799273	A	0.0344	100.000000	100.0000	100.000000	7404	
29	13C12-123478-HxCDD	passed	41.18	1822336	A	2341853	A	0.0282	100.000000	100.0000	100.000000	9404	
30	13C12-123678-HxCDD	passed	41.30	1907725	A	2387283	A	0.0274	100.000000	100.0000	100.000000	9261	
31	13C12-123789-HxCDD	passed	41.61	1829664	A	2281573	A	0.0286	100.000000	100.0000	100.000000	9221	
32	13C12-123789-HxCDF	passed	42.01	3123109	A	1673430	A	0.0375	100.000000	100.0000	100.000000	6685	
33	13C12-1234678-HpCDF	passed	43.74	3377117	A	1544542	A	0.0343	100.000000	100.0000	100.000000	7808	
34	13C12-1234678-HpCDD	passed	44.97	2010553	A	2092611	A	0.0299	100.000000	100.0000	100.000000	9181	
35	13C12-1234789-HpCDF	passed	45.55	2765996	A	1277879	A	0.0418	100.000000	100.0000	100.000000	6490	
36	13C12-OCDD	passed	48.02	4130052	A	3708520	A	0.0109	200.000000	200.0000	200.000000	53898	
37	13C12-OCDF	passed	48.20	5543009	A	4948251	A	0.0117	200.000000	200.0000	200.000000	48750	
38	Total TCDF	passed (1)	28.02	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
39	Total TCDD	passed (1)	28.72	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
40	Total PeCDF	passed (2)	34.60	2246069	A	3505056	A	0.0087	50.000000	50.0000	50.000000	14759	
41	Total PeCDD	passed (1)	35.55	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
42	Total HxCDF	passed (4)	40.33	4890464	A	6118085	A	0.0190	50.000000	200.0000	50.000000	6560	
43	Total HxCDD	passed (3)	40.54	2585280	A	3229413	A	0.0115	50.000000	150.0000	50.000000	11004	
44	Total HpCDD	passed (1)	44.57	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
45	Total HpCDF	passed (2)	44.69	2519191	A	2623588	A	0.0249	50.000000	100.0000	50.000000	5018	
46	Single TCDF	passed	28.98	351203	A	275325	A	0.0097	10.000000	10.0000	10.000000	2660	
47	Single TCDD	passed	30.09	235178	A	185823	A	0.0090	10.000000	10.0000	10.000000	2736	
48	Single PeCDD	passed	36.78	680943	A	1061042	A	0.0159	50.000000	50.0000	50.000000	7751	
49	Single PeCDF	passed	36.38	1185234	A	1846165	A	0.0082	50.000000	50.0000	50.000000	16072	
50	Single PeCDF	passed	35.06	1060834	A	1658891	A	0.0092	50.000000	50.0000	50.000000	13446	
51	Single HpCDD	passed	44.98	941348	A	969036	A	0.0194	50.000000	50.0000	50.000000	6426	
52	Single HxCDF	passed	40.99	1287130	A	1595967	A	0.0180	50.000000	50.0000	50.000000	6832	
53	Single HxCDF	passed	40.13	1256395	A	1579140	A	0.0183	50.000000	50.0000	50.000000	6726	
54	Single HxCDF	passed	40.27	1280101	A	1600508	A	0.0180	50.000000	50.0000	50.000000	6800	
55	Single HxCDF	passed	42.03	1066839	A	1342470	A	0.0215	50.000000	50.0000	50.000000	5882	
56	Single HxCDD	passed	41.62	871871	A	1089083	A	0.0113	50.000000	50.0000	50.000000	11024	
57	Single HxCDD	passed	41.19	853384	A	1066000	A	0.0116	50.000000	50.0000	50.000000	11127	
58	Single HxCDD	passed	41.31	860026	A	1074330	A	0.0115	50.000000	50.0000	50.000000	10860	
59	Single HpCDF	passed	43.75	1374073	A	1425342	A	0.0226	50.000000	50.0000	50.000000	5436	
60	Single HpCDF	passed	45.56	1145118	A	1198246	A	0.0271	50.000000	50.0000	50.000000	4600	



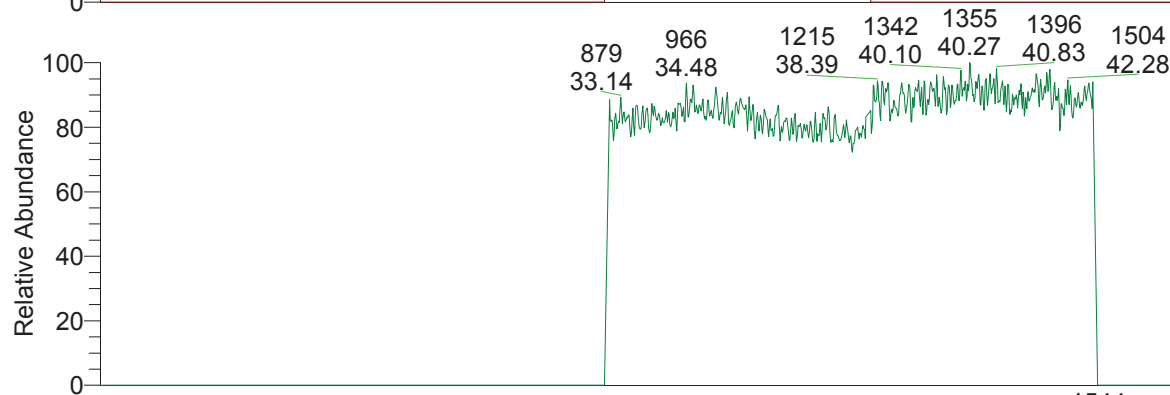
RT: 22.50 - 51.00



NL:  
6.89E5  
m/□  
291.9825-  
292.9825  
MS  
18NOV02-  
09



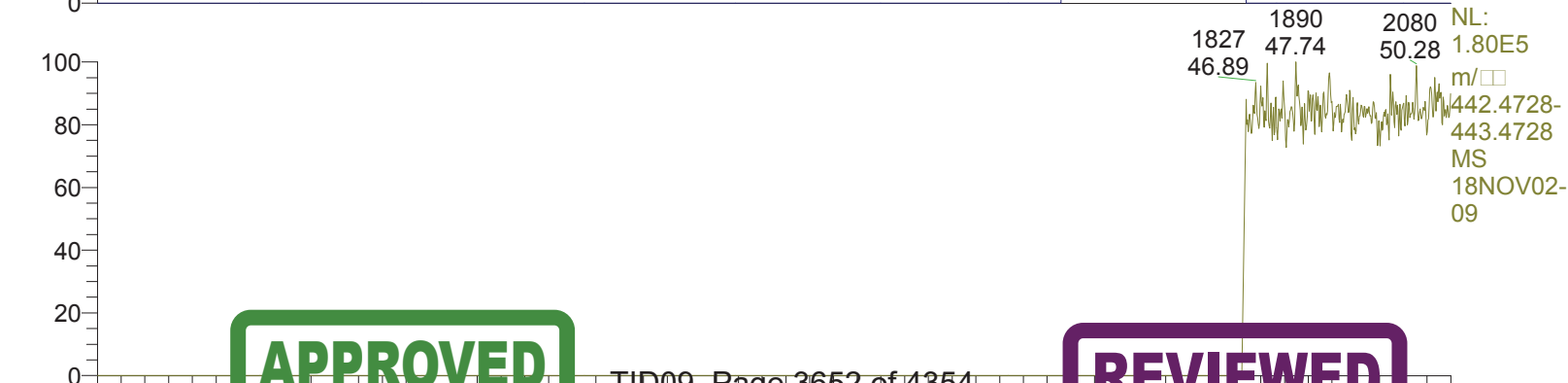
NL:  
5.78E5  
m/□  
330.4792-  
331.4792  
MS  
18NOV02-  
09



NL:  
4.06E5  
m/□  
380.4760-  
381.4760  
MS  
18NOV02-  
09



NL:  
1.65E5  
m/□  
404.4760-  
405.4760  
MS  
18NOV02-  
09



NL:  
1.80E5  
m/□  
442.4728-  
443.4728  
MS  
18NOV02-  
09

**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 17:38:19 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 17:38:18

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118





331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.800000 minutes  
MID window end time was 32.800000 minutes



18NOV02-09

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	95.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	190.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0184	FVINLET	0.0426	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	95.5000	LKM	442.9723	MASS	95.5000
MDAC	1407807.8555	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9807	RELEN	0.0000
RES	11575.3163	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.7e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.2e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10533.  
MID Time window 2: Resolution is 10765.  
MID Time window 3: Resolution is 11341.  
MID Time window 4: Resolution is 11117.



18NOV02-09

MID Time Window 5: Resolution is 11299.  
MID Time Window 6: Resolution is 11575.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 18:29:20 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 18:29  
Number of Entries 64  
Comment  
Vial 7  
Sample Name CALDF51837B  
Sample ID CS401  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-10.quan  
Data w:\18nov02\18nov02-10.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.10	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.12	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.03	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.51	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.22	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.02	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.96	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.07	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.04	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.36	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.75	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.10	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.26	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.30	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.61	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	42.01	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.55	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.98	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.10	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.78	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.38	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.05	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.98	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.99	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.12	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.75	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDD	45.55	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 18:29  
Number of Entries 64  
Comment  
Vial 7  
Sample Name CALDF51837B  
Sample ID CS401  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

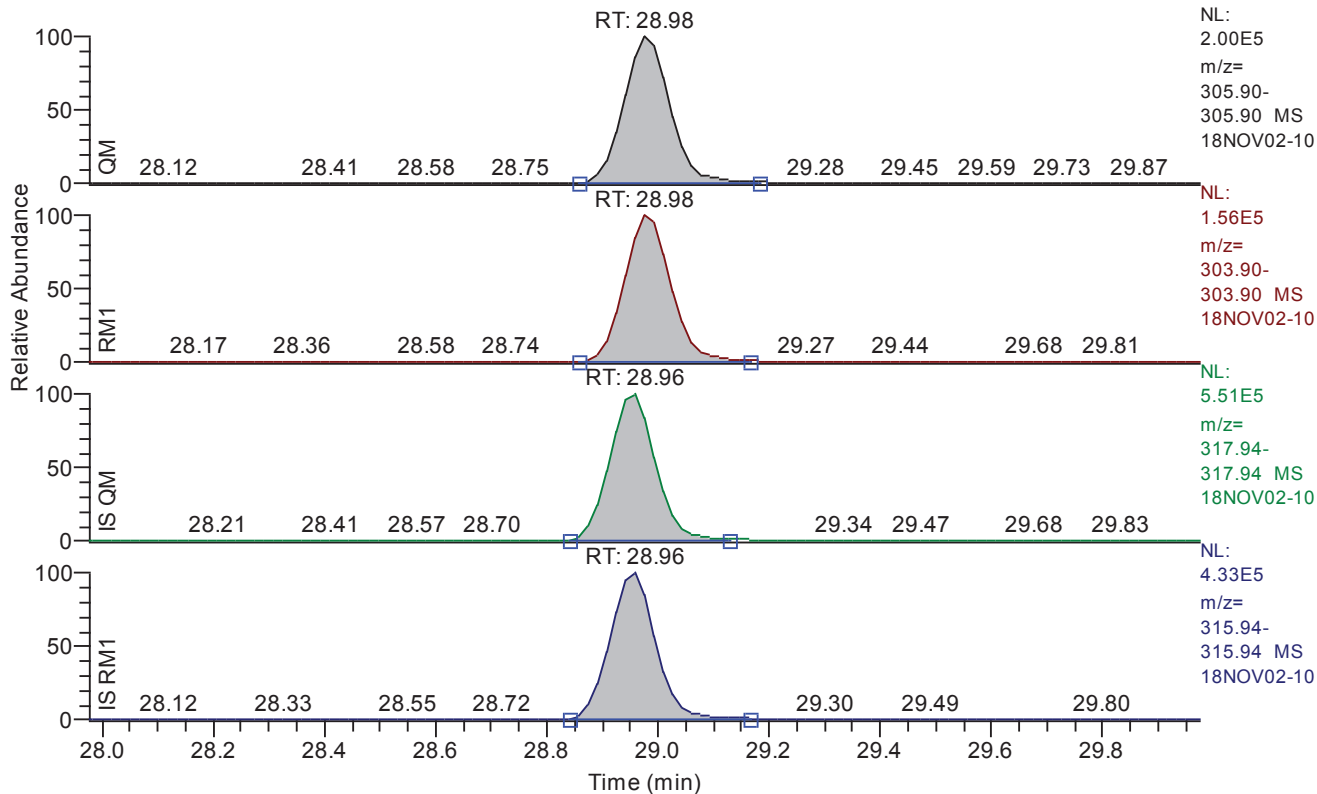
Quan w:\18nov02\18nov02-10.quan  
Data w:\18nov02\18nov02-10.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.98 - 29.98 SM: 3G



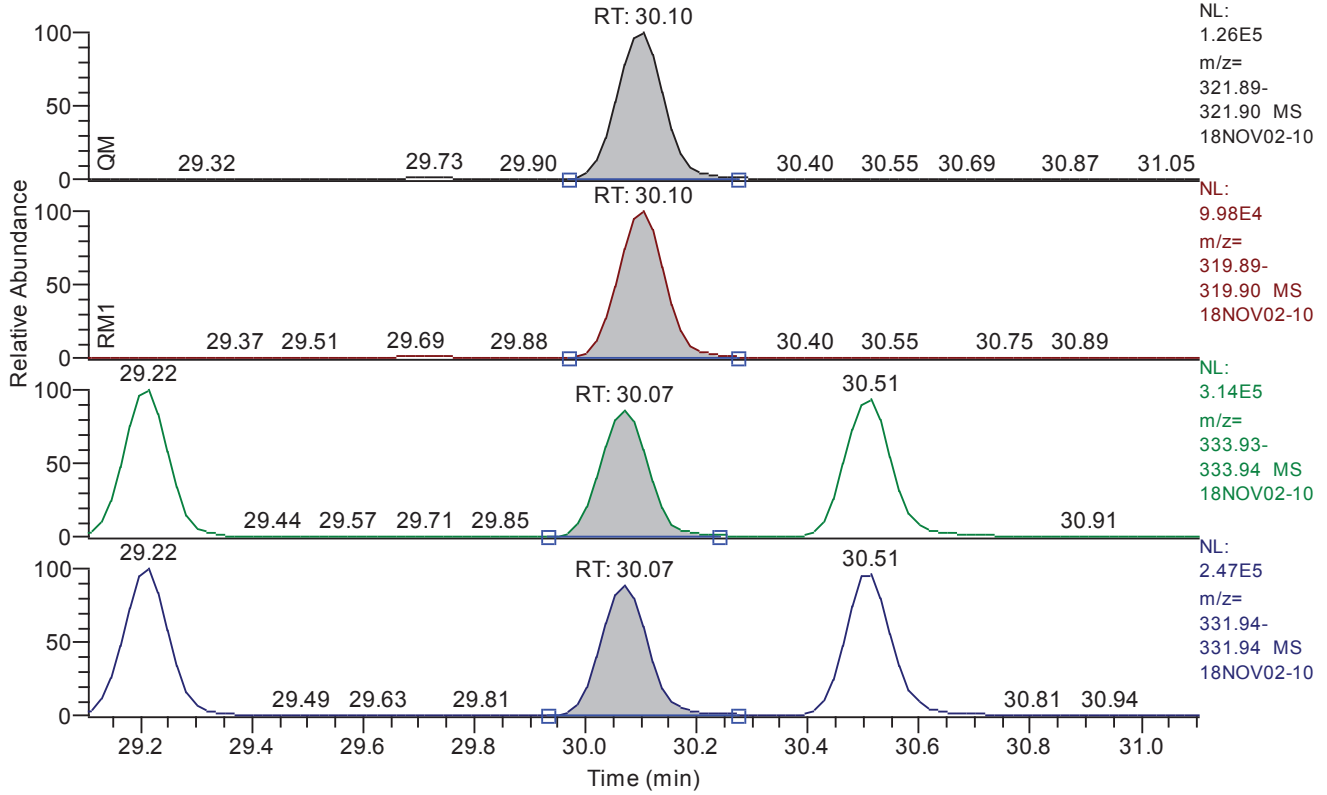
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.98
QM Area	1176218
QM Integration Mode	A
RM1 Area	915332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0169
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	5852
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.10 - 31.10 SM: 3G



**Entry Parameters**

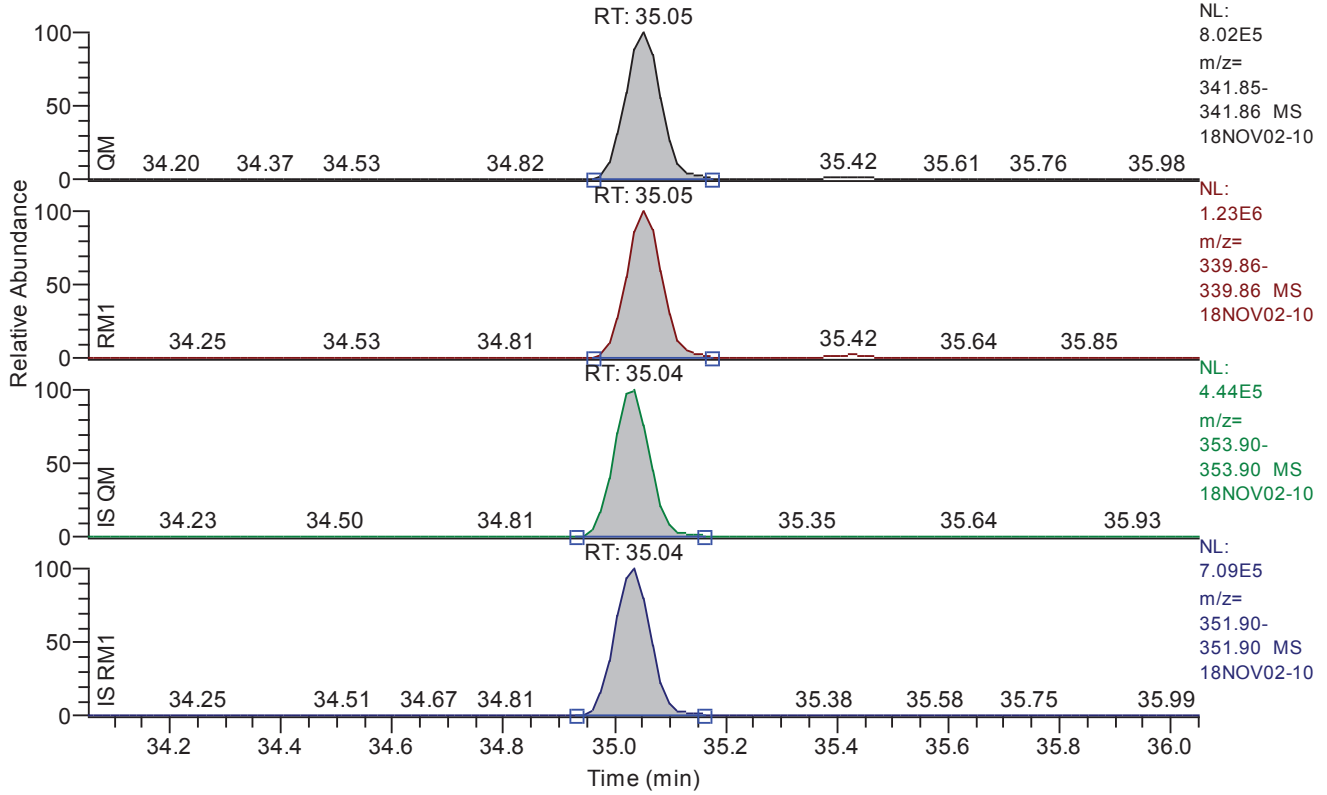
Compound Name	2378-TCDD
QM Retention Time	30.10
QM Area	762400
QM Integration Mode	A
RM1 Area	599584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0142
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	7106
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 34.05 - 36.05 SM: 3G



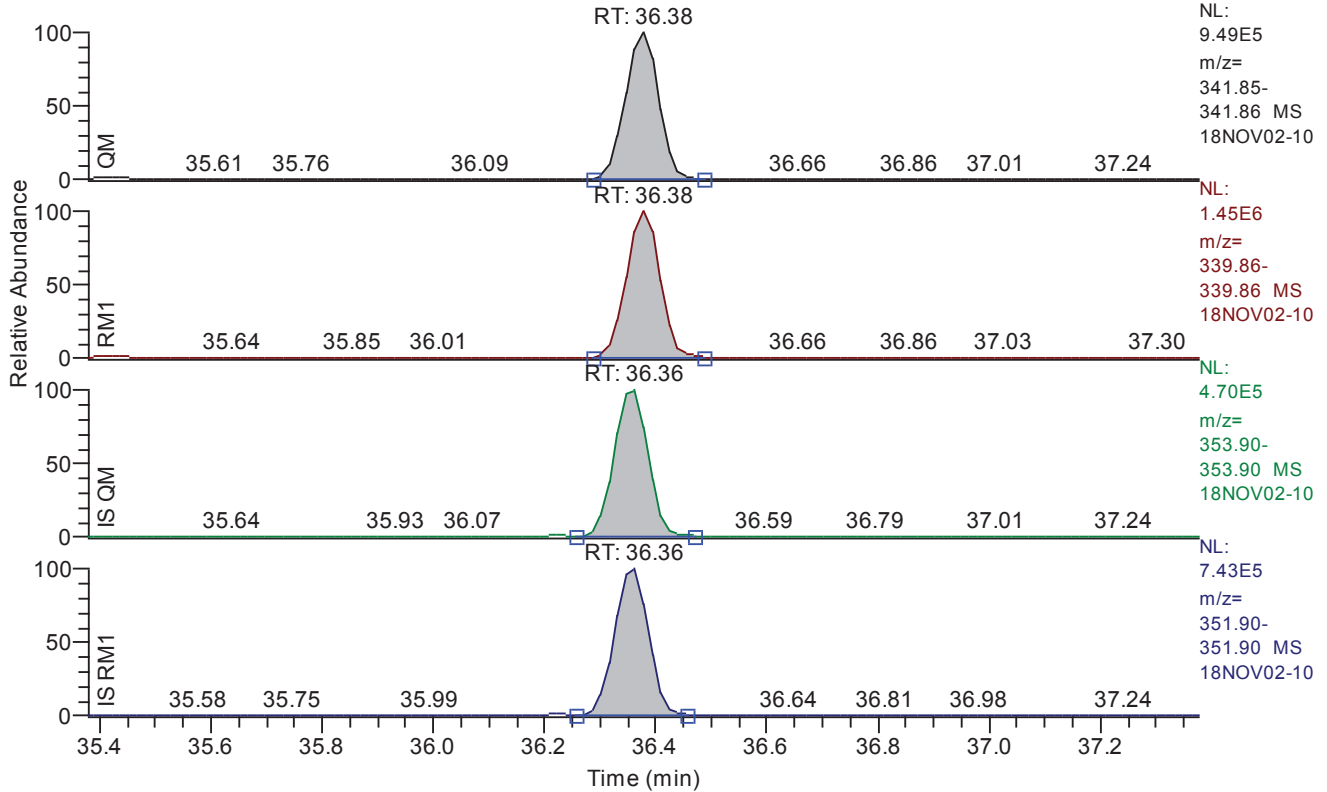
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	3571308
QM Integration Mode	A
RM1 Area	5494053
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0173
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	29442
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.38 - 37.38 SM: 3G



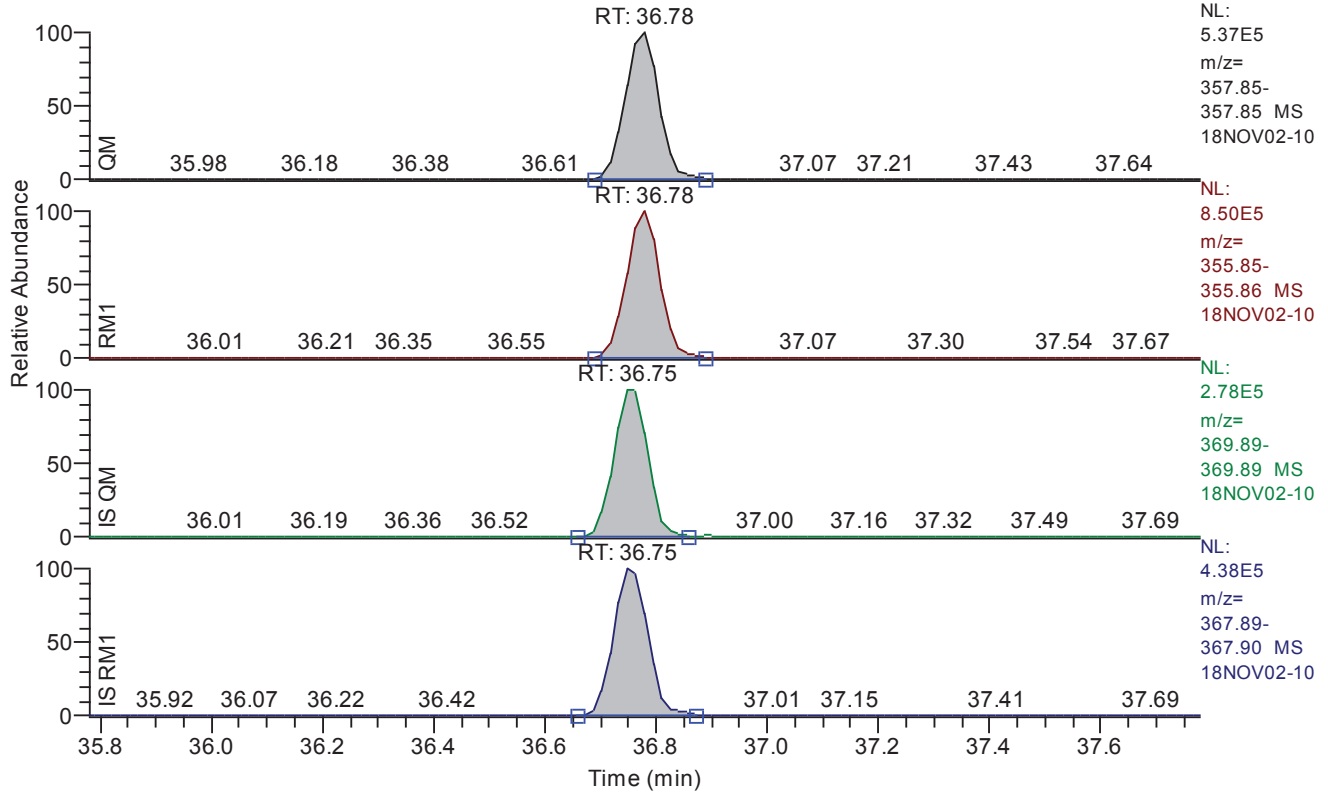
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.38
QM Area	3957071
QM Integration Mode	A
RM1 Area	6094680
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0147
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	34773
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.78 - 37.78 SM: 3G



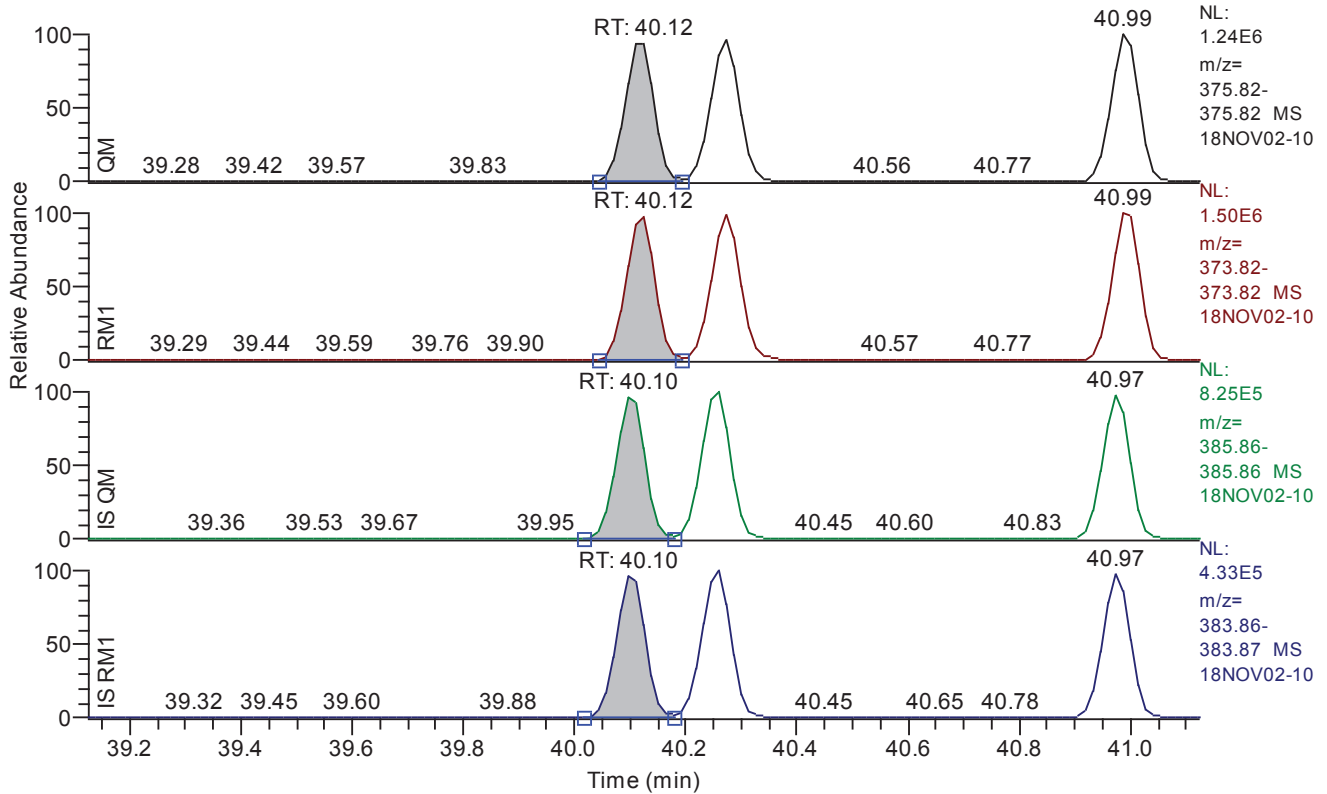
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.78
QM Area	2261182
QM Integration Mode	A
RM1 Area	3534515
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15372
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.12 - 41.12 SM: 3G



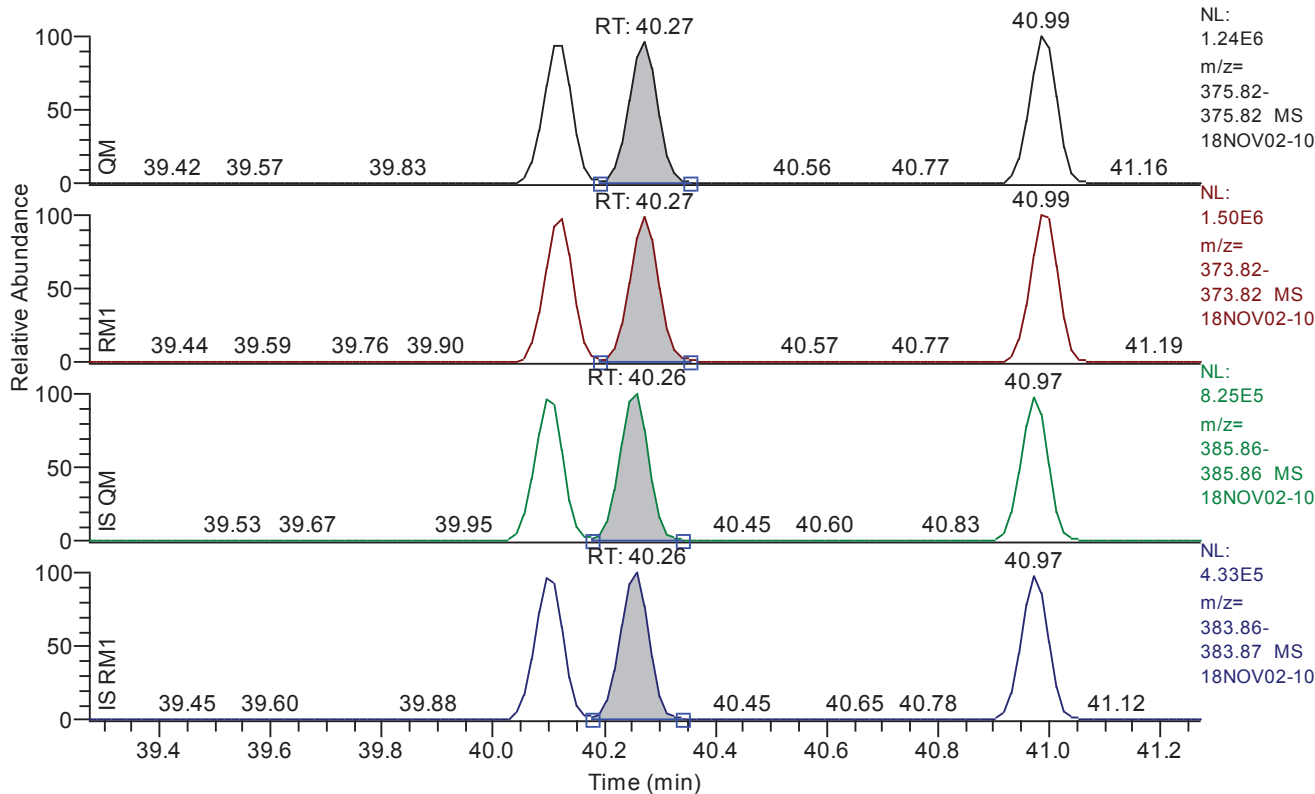
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.12
QM Area	4252556
QM Integration Mode	A
RM1 Area	5251384
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0404
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12400
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



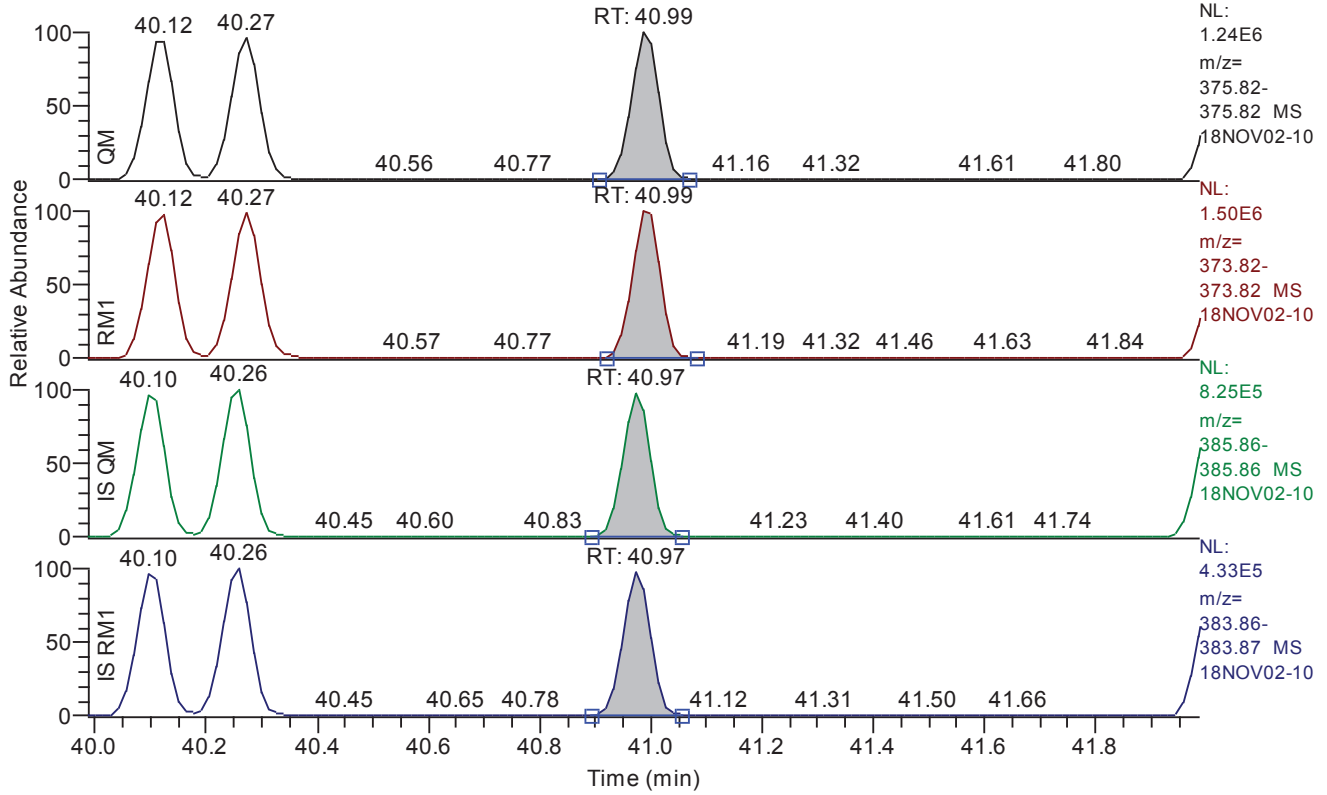
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	4312133
QM Integration Mode	A
RM1 Area	5351650
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0402
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12617
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.99 - 41.99 SM: 3G



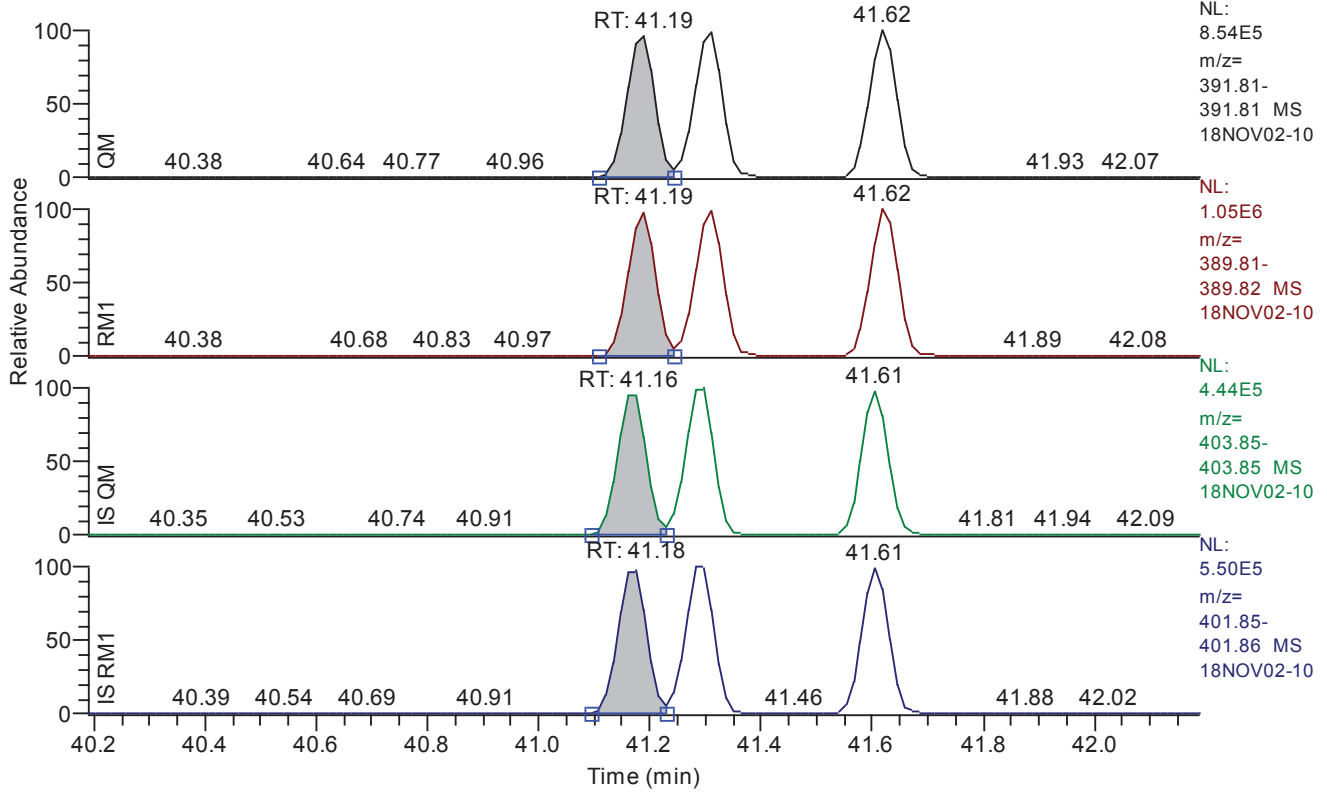
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.99
QM Area	4290959
QM Integration Mode	A
RM1 Area	5314175
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0379
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12884
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.19 - 42.19 SM: 3G



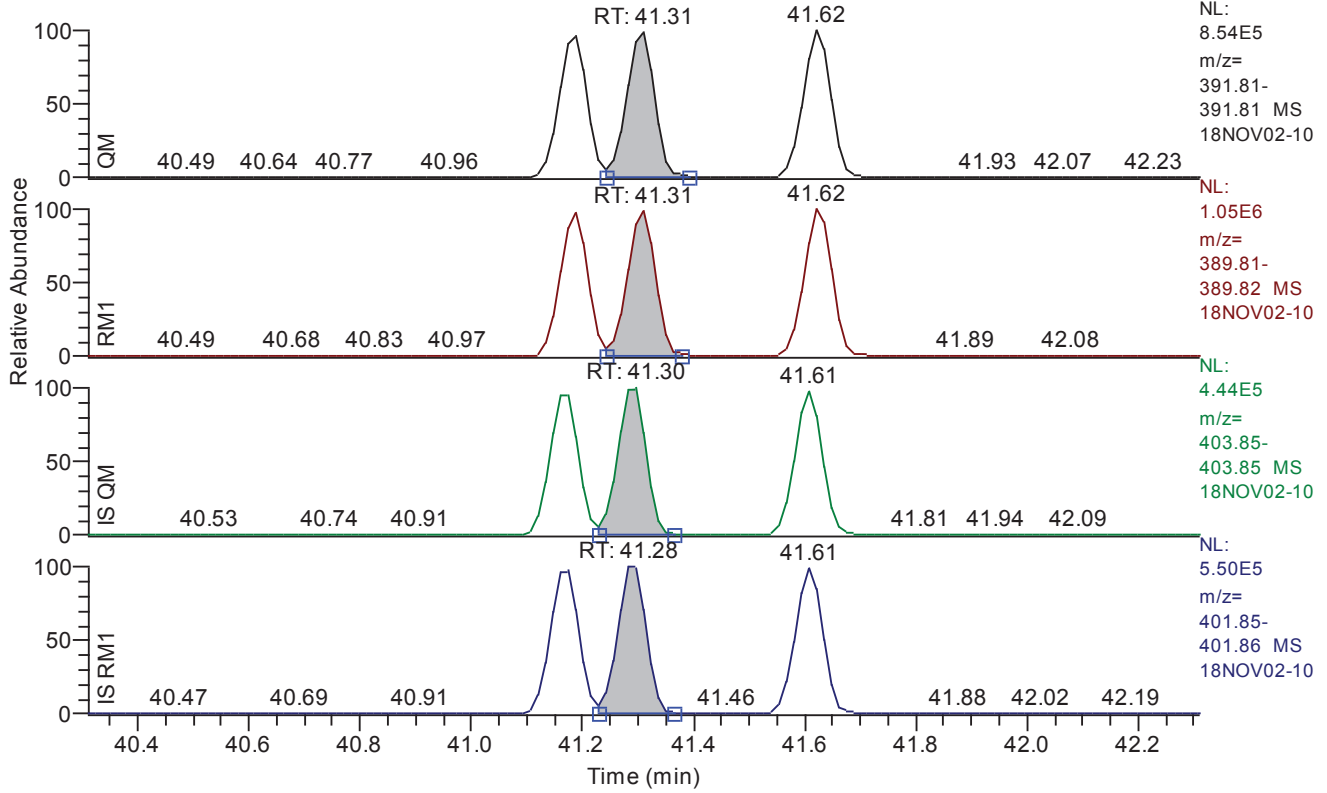
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.19
QM Area	2886570
QM Integration Mode	A
RM1 Area	3561339
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0212
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24322
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



NL: 8.54E5  
m/z= 391.81-391.81 MS  
18NOV02-10

NL: 1.05E6  
m/z= 389.81-389.82 MS  
18NOV02-10

NL: 4.44E5  
m/z= 403.85-403.85 MS  
18NOV02-10

NL: 5.50E5  
m/z= 401.85-401.86 MS  
18NOV02-10

**Entry Parameters**

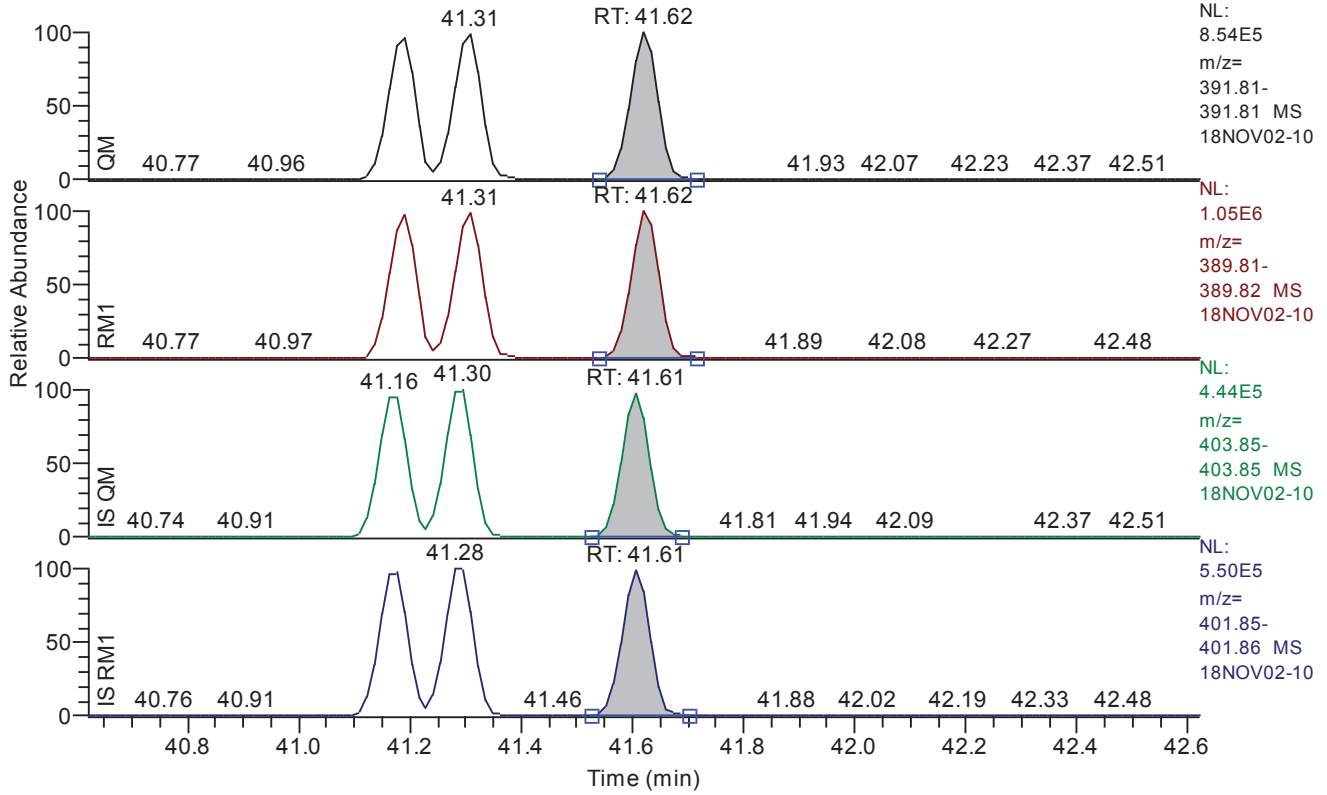
Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	2933470
QM Integration Mode	A
RM1 Area	3623089
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0207
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24713
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 40.62 - 42.62 SM: 3G



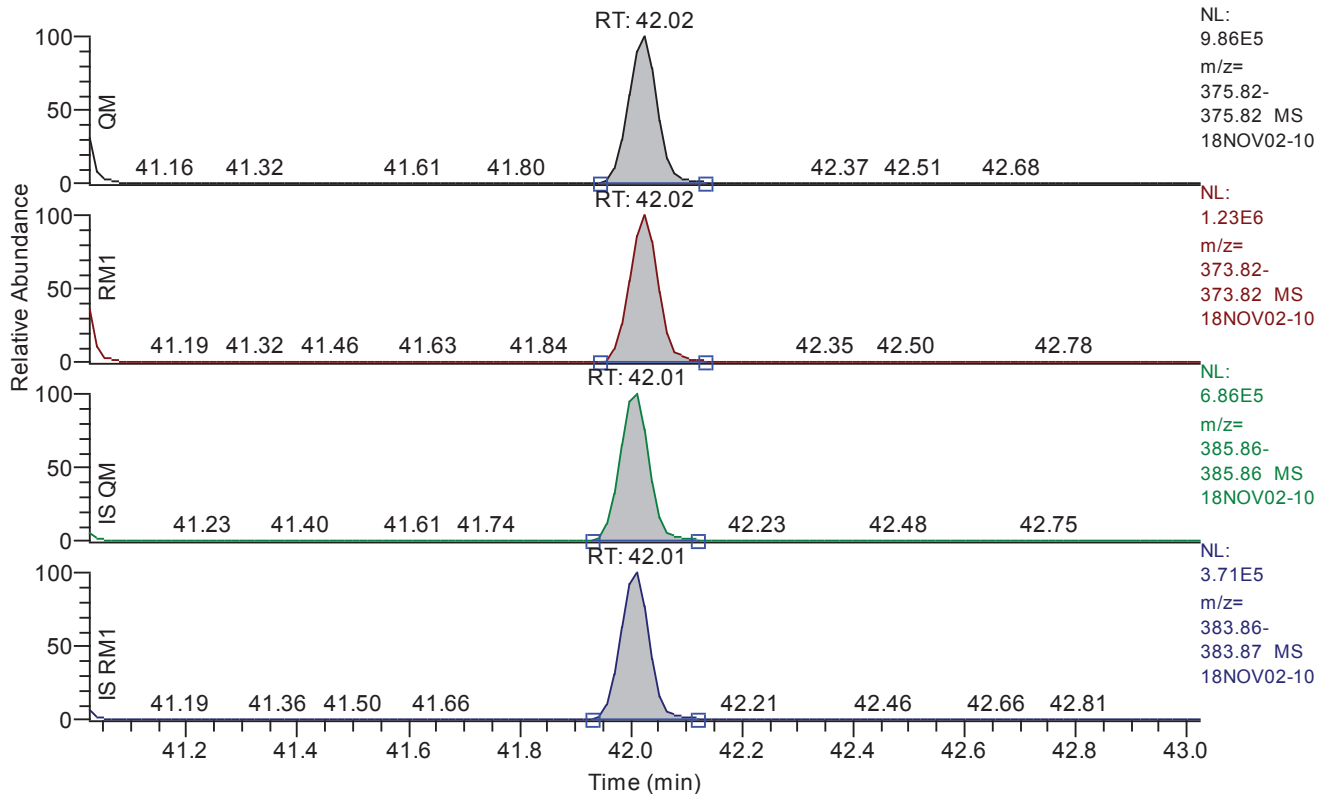
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	2949610
QM Integration Mode	A
RM1 Area	3674825
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0198
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	24958
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.02 - 43.02 SM: 3G



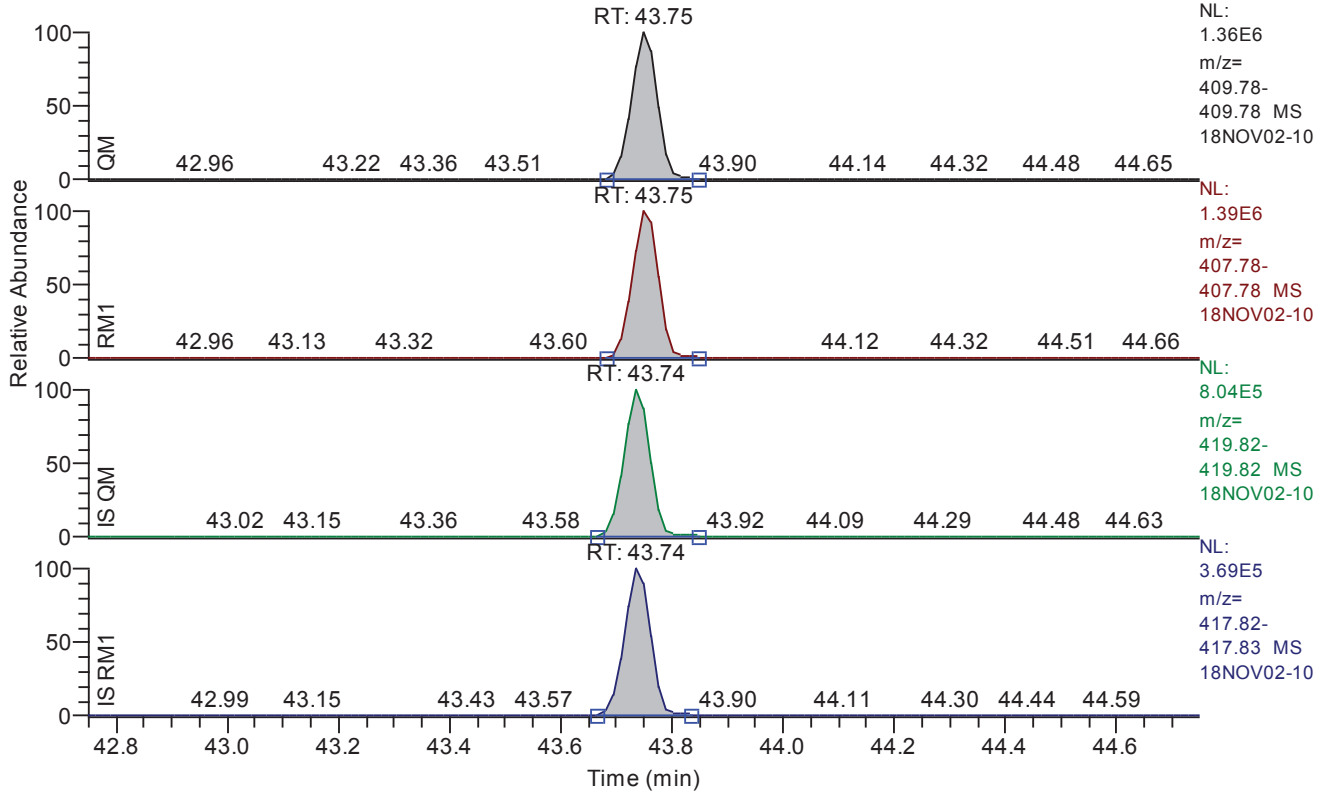
**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	3553962
QM Integration Mode	A
RM1 Area	4440521
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0485
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	10432
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 42.75 - 44.75 SM: 3G



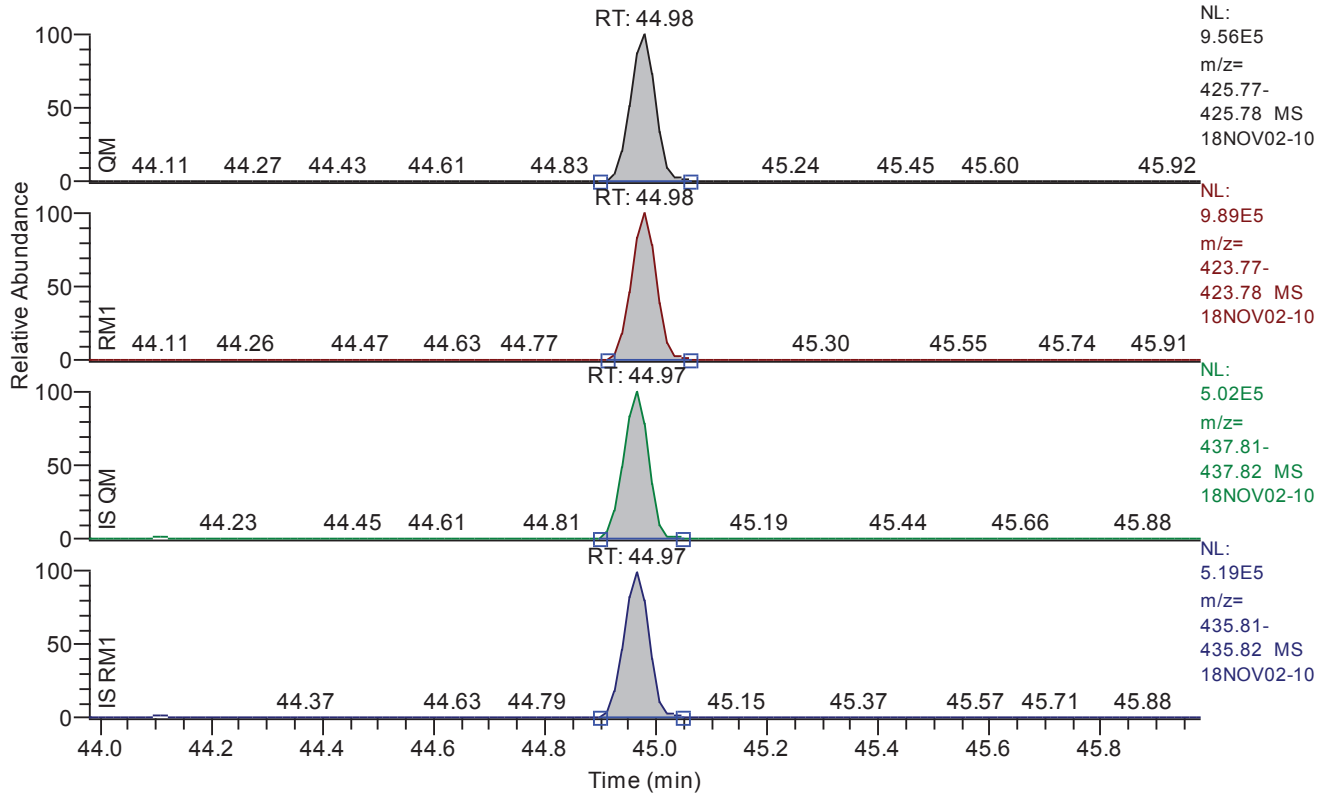
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.75
QM Area	4529063
QM Integration Mode	A
RM1 Area	4709794
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0389
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12851
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.98 - 45.98 SM: 3G



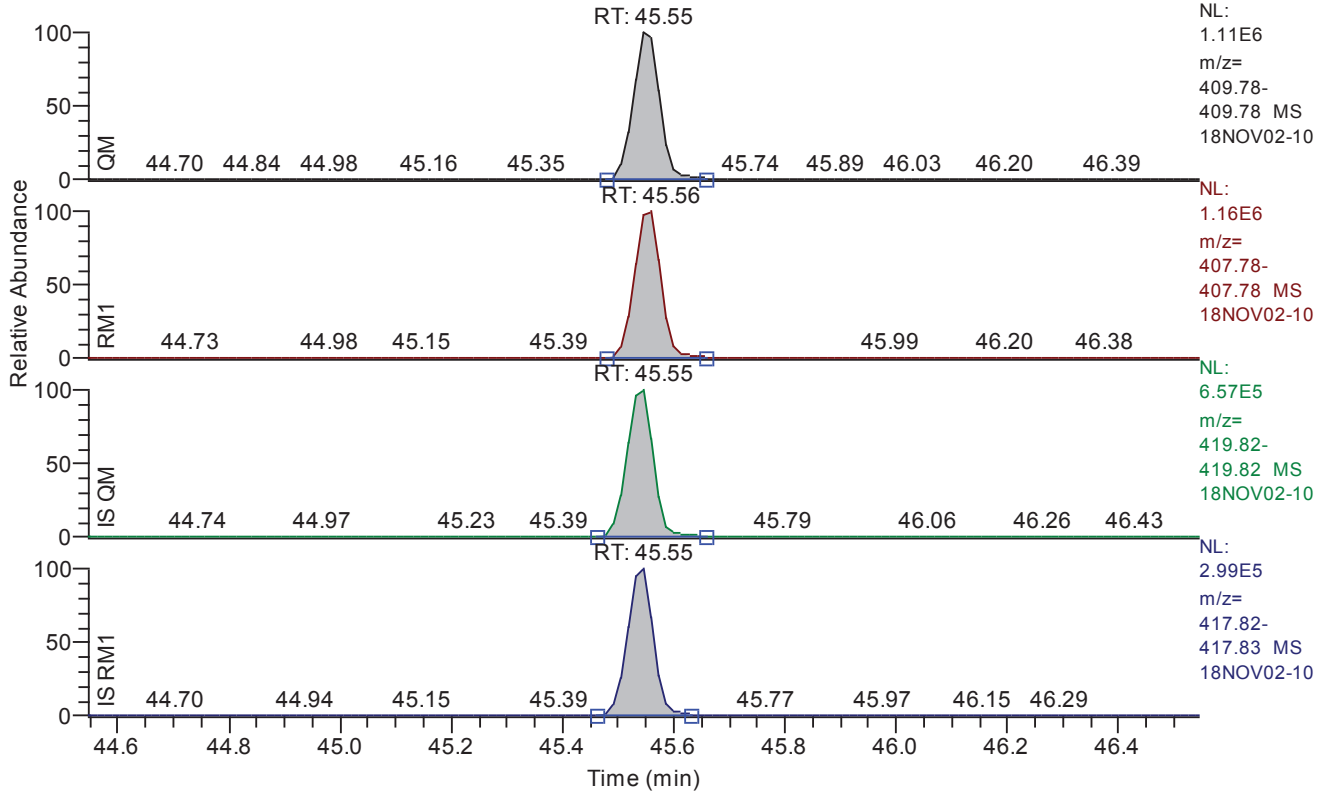
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.98
QM Area	3074744
QM Integration Mode	A
RM1 Area	3180412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0392
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12781
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.55 - 46.55 SM: 3G



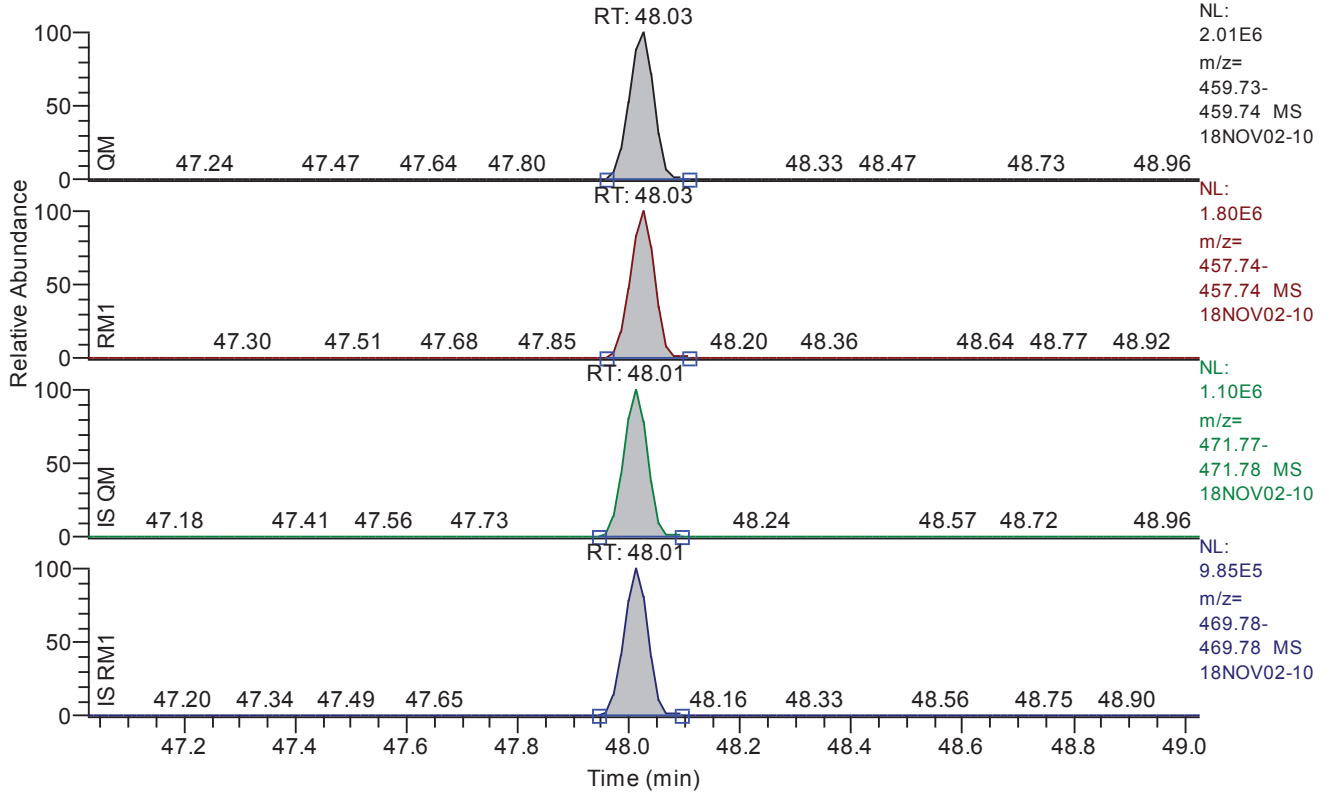
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.55
QM Area	3760061
QM Integration Mode	A
RM1 Area	3954859
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0468
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	10601
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.03 - 49.03 SM: 3G

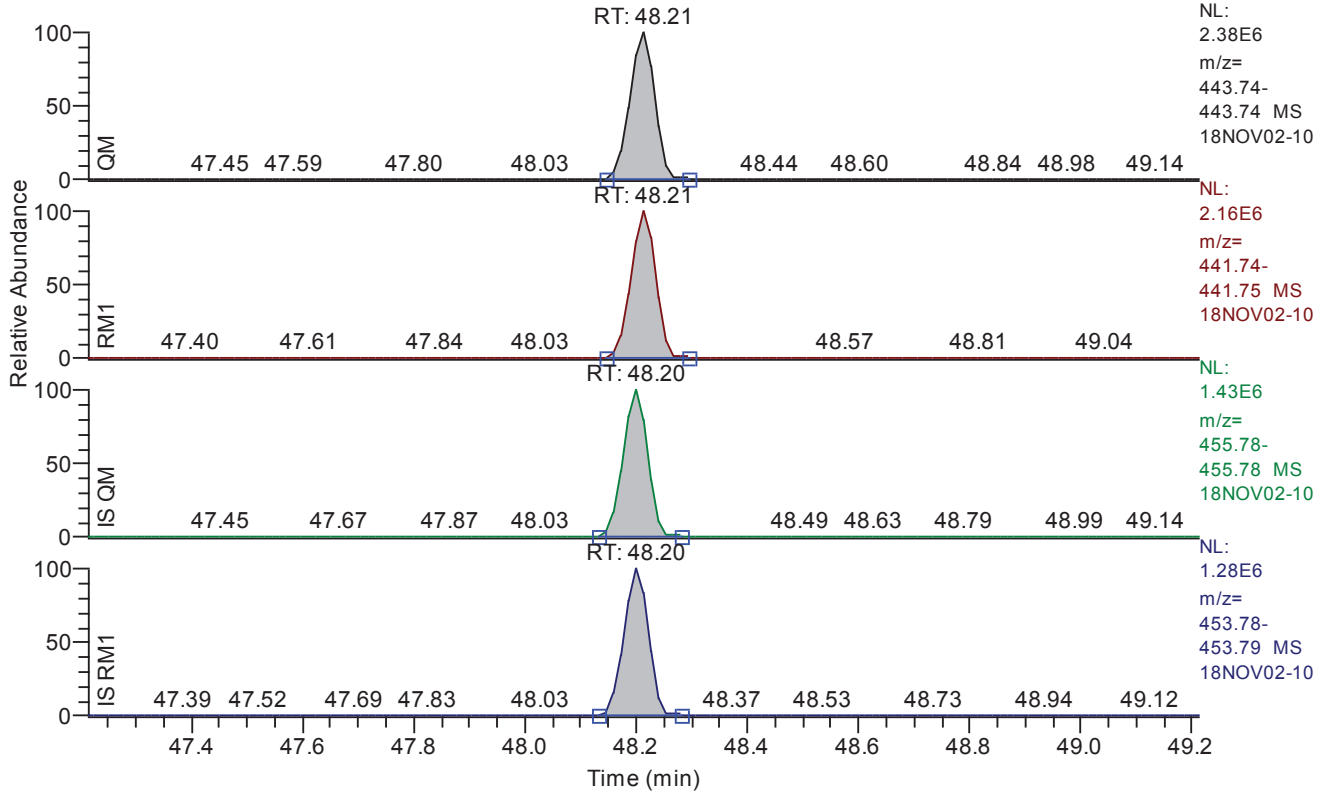


**Entry Parameters**

Compound Name	OCDD
QM Retention Time	48.03
QM Area	6184184
QM Integration Mode	A
RM1 Area	5473610
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0213
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	46183
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 47.21 - 49.21 SM: 3G



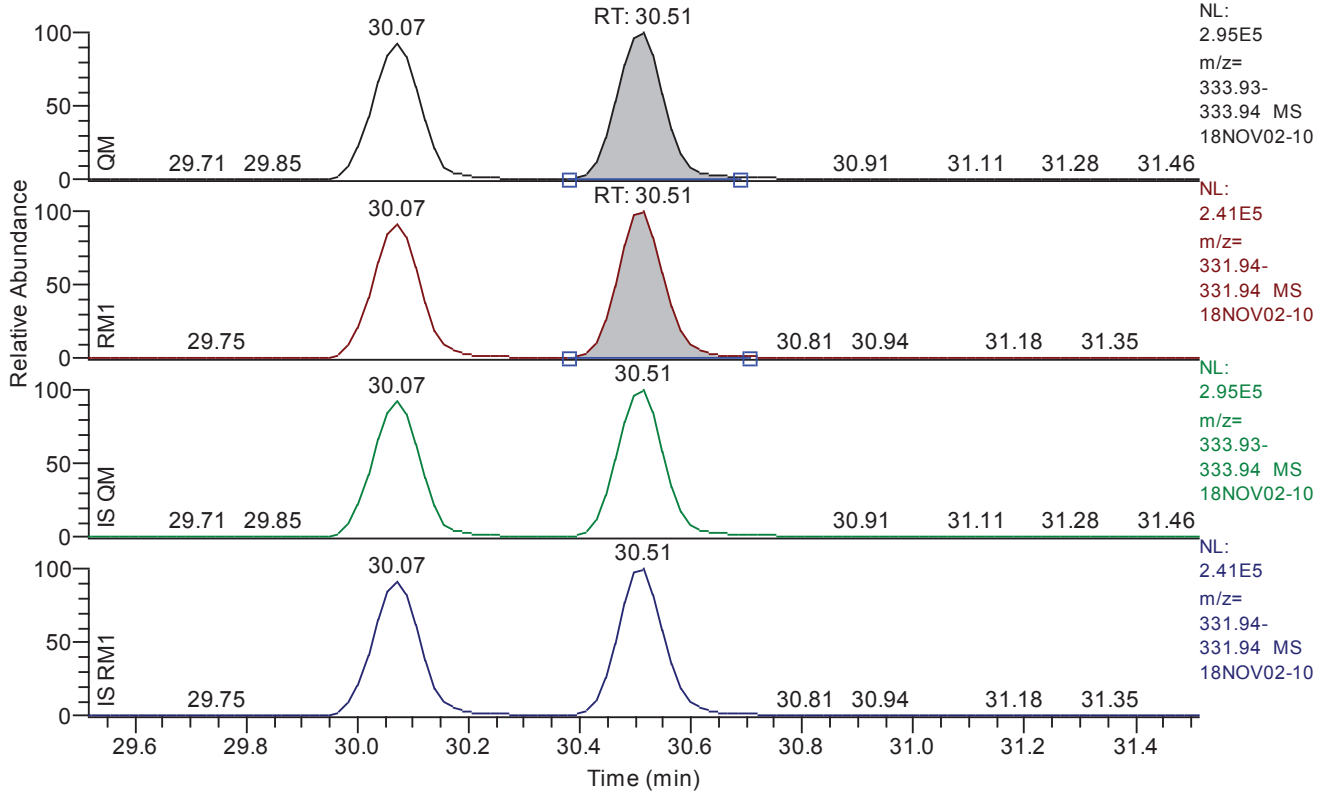
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.21
QM Area	7341388
QM Integration Mode	A
RM1 Area	6637277
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0186
Unqualified Amount (A)	400.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	53915
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.51 - 31.51 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.51
QM Area	1750847
QM Integration Mode	A
RM1 Area	1426756
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0267
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	9130
Client Flags	
Status Overview	passed
Status Info	





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 18:29  
Number of Entries 64  
Comment  
Vial 7  
Sample Name CALDF51837B  
Sample ID CS401  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

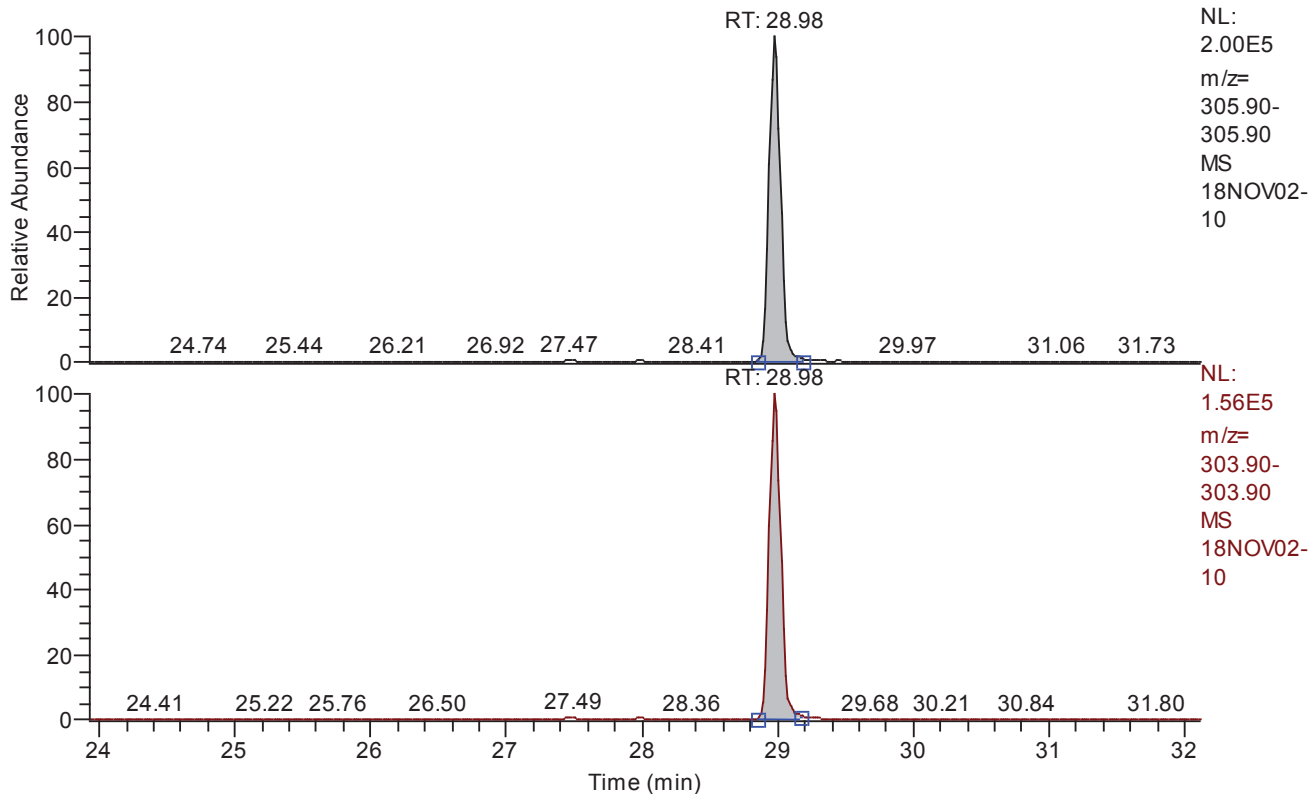
Quan w:\18nov02\18nov02-10.quan  
Data w:\18nov02\18nov02-10.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



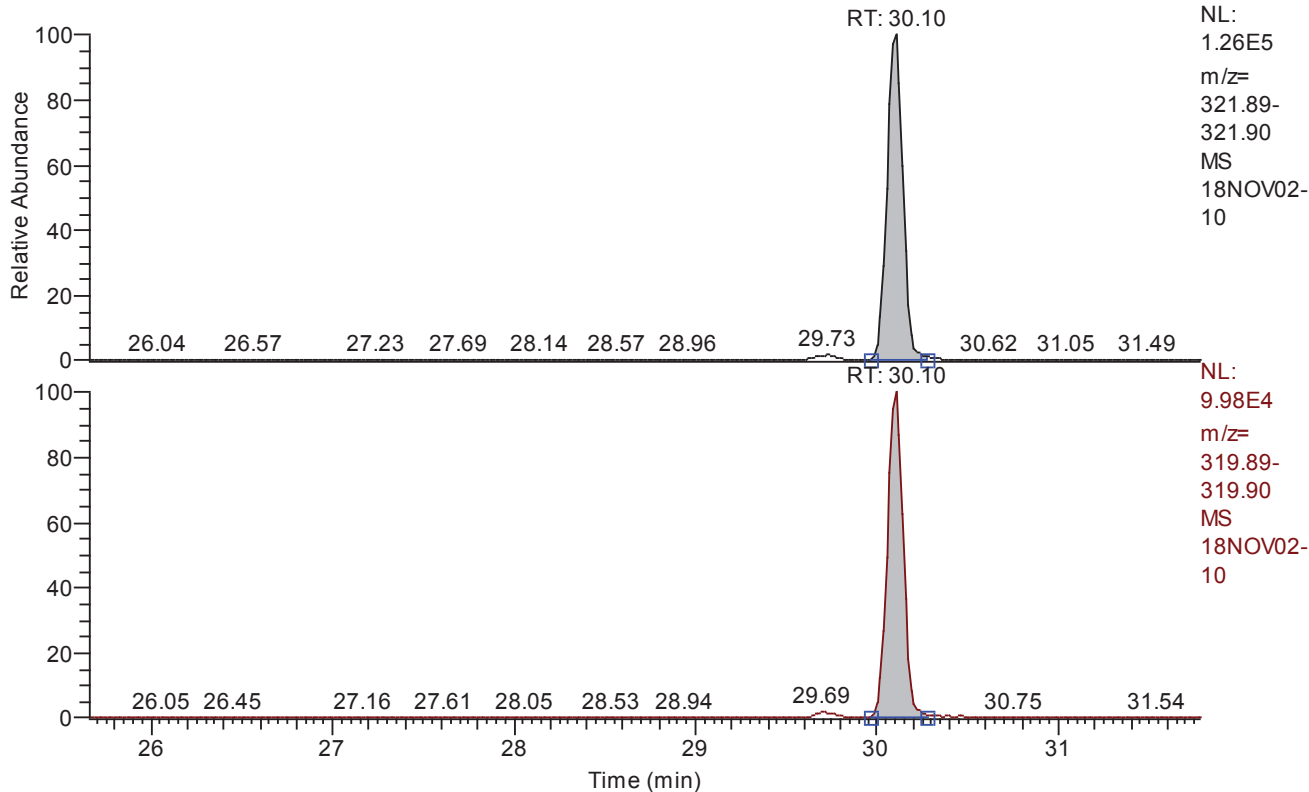
**Entry Parameters**

Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	1176218
QM Integration Mode	A
RM1 Area	915332
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0169
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	5852
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 25.66 - 31.78 SM: 3G



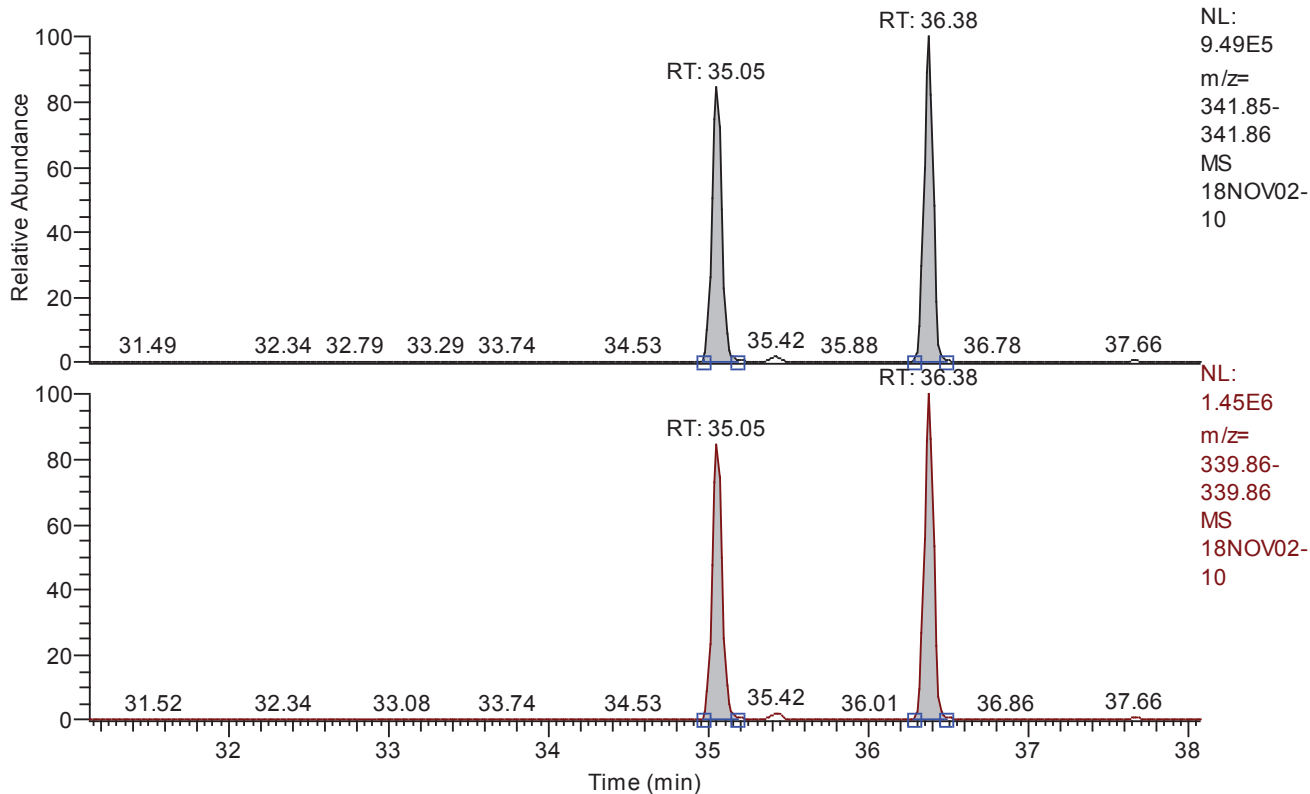
**Entry Parameters**

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	762400
QM Integration Mode	A
RM1 Area	599584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0142
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	7106
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 31.12 - 38.08 SM: 3G



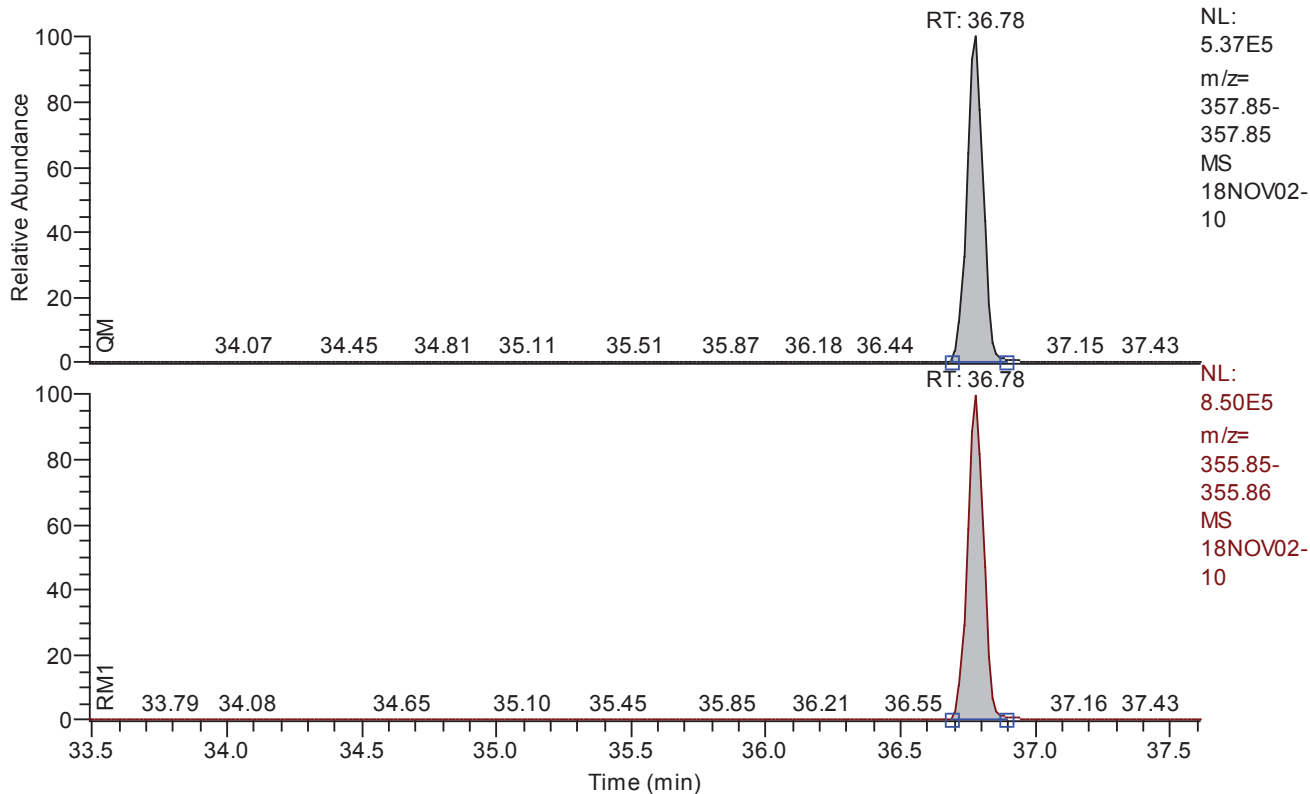
**Entry Parameters**

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	7528379
QM Integration Mode	A
RM1 Area	11588733
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0159
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	32108
Client Flags	
Status Overview	passed (2)
Status Info	



**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



NL:  
 5.37E5  
 m/z=  
 357.85-  
 357.85  
 MS  
 18NOV02-  
 10

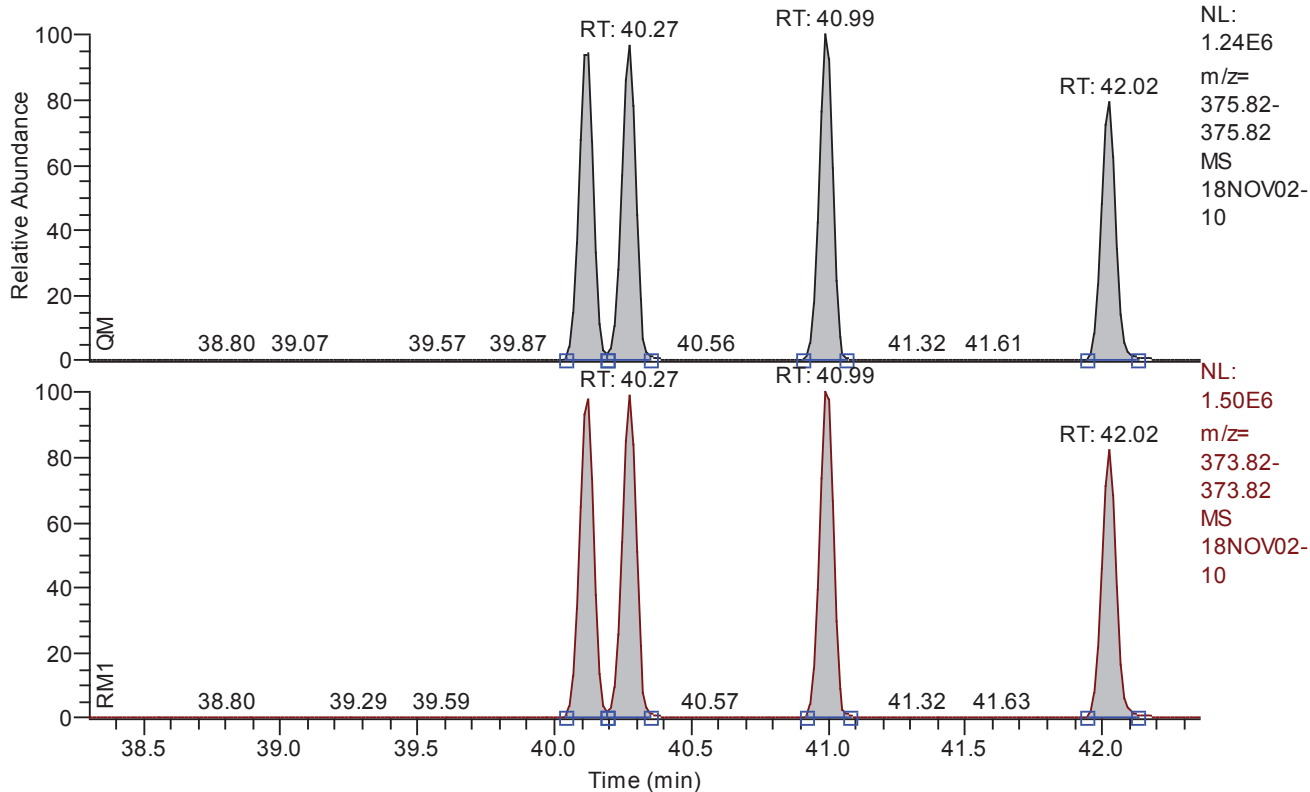
NL:  
 8.50E5  
 m/z=  
 355.85-  
 355.86  
 MS  
 18NOV02-  
 10

**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	2261182
QM Integration Mode	A
RM1 Area	3534515
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0335
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	15372
Client Flags	
Status Overview	passed (1)
Status Info	

**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



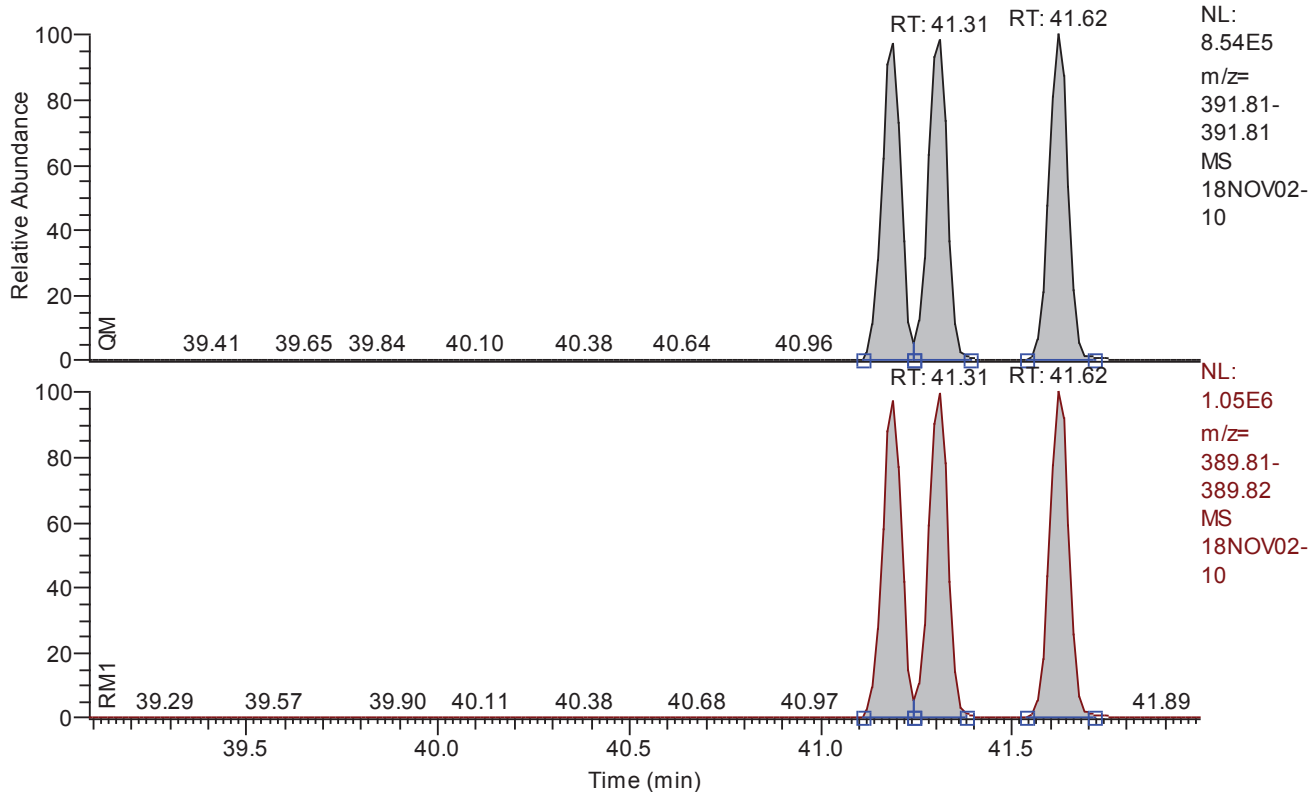
**Entry Parameters**

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	16409610
QM Integration Mode	A
RM1 Area	20357730
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0417
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	800.0000
Signal-to-Noise	12083
Client Flags	
Status Overview	passed (4)
Status Info	



**Chromatogram**

RT: 39.09 - 41.99 SM: 3G



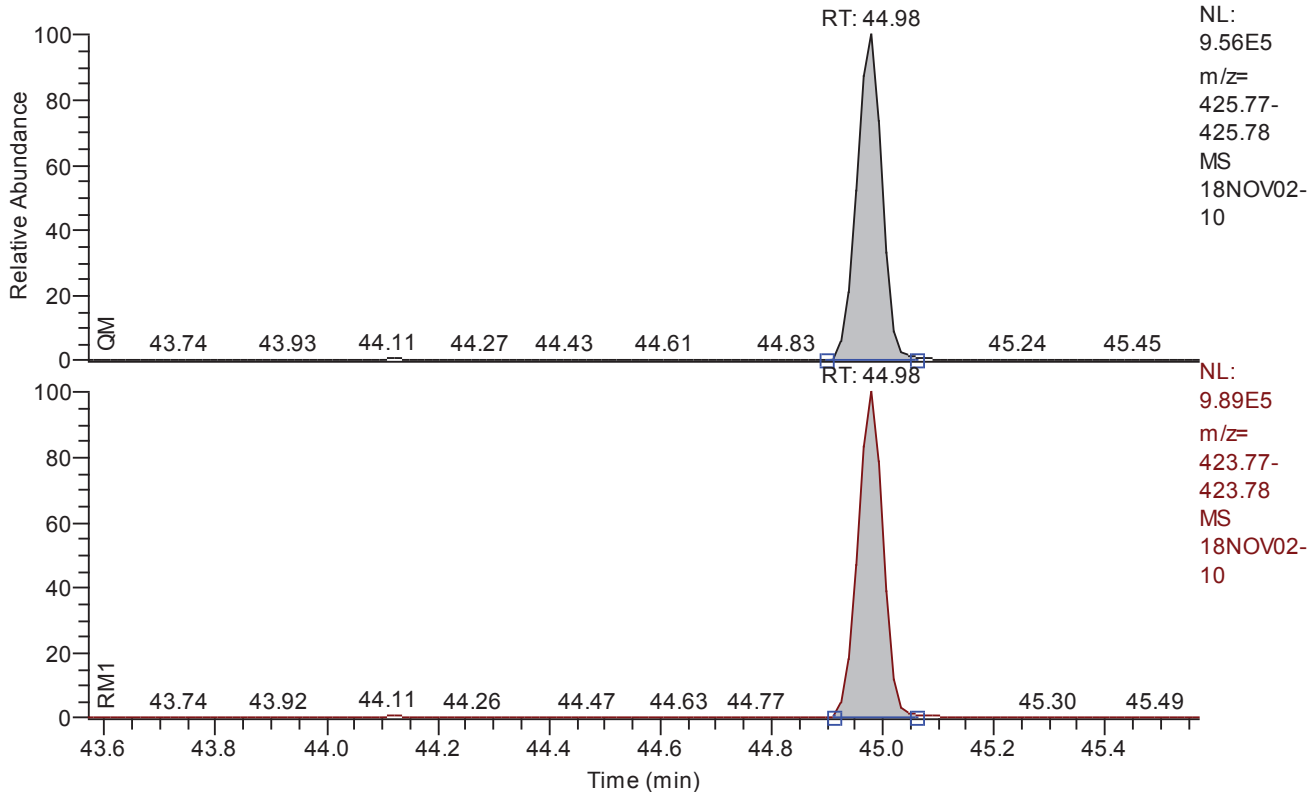
**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	8769649
QM Integration Mode	A
RM1 Area	10859253
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0206
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	600.0000
Signal-to-Noise	24664
Client Flags	
Status Overview	passed (3)
Status Info	



**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



**Entry Parameters**

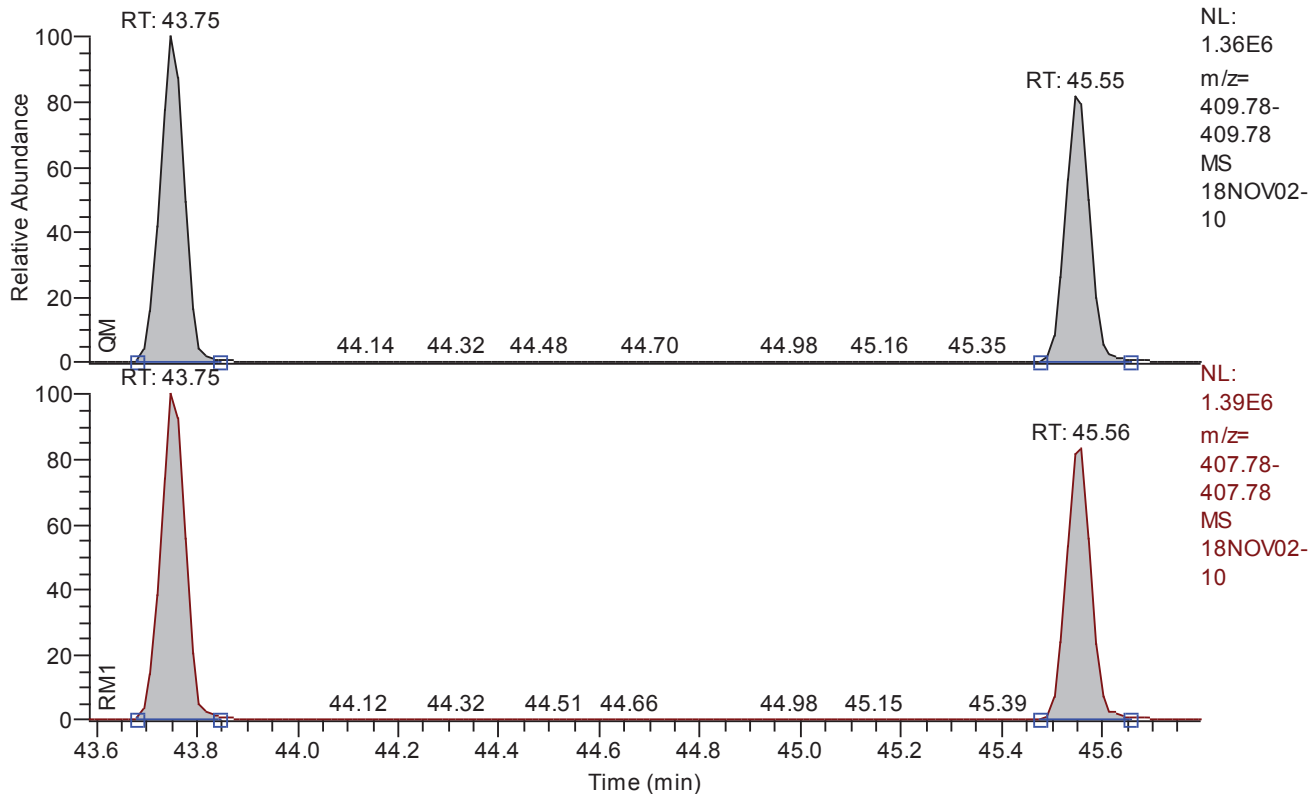
Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	3074744
QM Integration Mode	A
RM1 Area	3180412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0392
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12781
Client Flags	
Status Overview	passed (1)
Status Info	





**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	8289123
QM Integration Mode	A
RM1 Area	8664653
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	400.0000
Signal-to-Noise	11726
Client Flags	
Status Overview	passed (2)
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.98	28.98	28.98	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.10	30.10	30.10	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.38	36.38	36.38	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.78	36.78	36.78	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.12	40.12	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.99	40.99	40.99	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.19	41.19	41.19	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.75	43.75	43.75	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.98	44.98	44.98	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.03	48.03	48.03	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.51	30.51	30.51	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.22	29.22	29.22	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.02	40.02	40.02	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.96	28.96	28.96	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.07	30.07	30.07	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.04	35.04	35.04	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.36	36.36	36.36	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.75	36.75	36.75	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.10	40.10	40.10	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.26	40.26	40.26	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.18	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.30	41.30	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.61	41.61	41.61	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	42.01	42.01	42.01	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.55	45.55	45.55	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.98	28.98	28.98	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.10	30.10	30.10	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.78	36.78	36.78	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.38	36.38	36.38	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.98	44.98	44.98	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.99	40.99	40.99	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.12	40.12	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.19	41.19	41.19	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.75	43.75	43.75	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.55	45.55	45.55	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.98	0.7782	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.10	0.7864	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5384	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.38	1.5402	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.78	1.5631	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.12	1.2349	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2411	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.99	1.2385	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.19	1.2338	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2351	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.2495	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.75	1.0399	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.98	1.0344	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.55	1.0518	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.03	0.8851	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.9041	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.51	0.8149	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.22	0.7867	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.02	1.2522	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.96	0.7926	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.07	0.8024	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.04	1.5936	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.36	1.5709	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.75	1.5848	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.10	0.5236	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.26	0.5171	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5264	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2629	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.30	1.2432	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.61	1.2548	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	42.01	0.5366	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.74	0.4600	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.97	1.0377	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.55	0.4436	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.8971	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.9003	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7782	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7864	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5393	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5631	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2406	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2383	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0344	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0453	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.98	0.7782	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.10	0.7864	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.78	1.5631	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.38	1.5402	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5384	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.98	1.0344	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.99	1.2385	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.12	1.2349	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2411	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.2495	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.19	1.2338	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2351	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.75	1.0399	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.55	1.0518	0.8750 - 1.2050	passed	100.00	0 - 0	passed

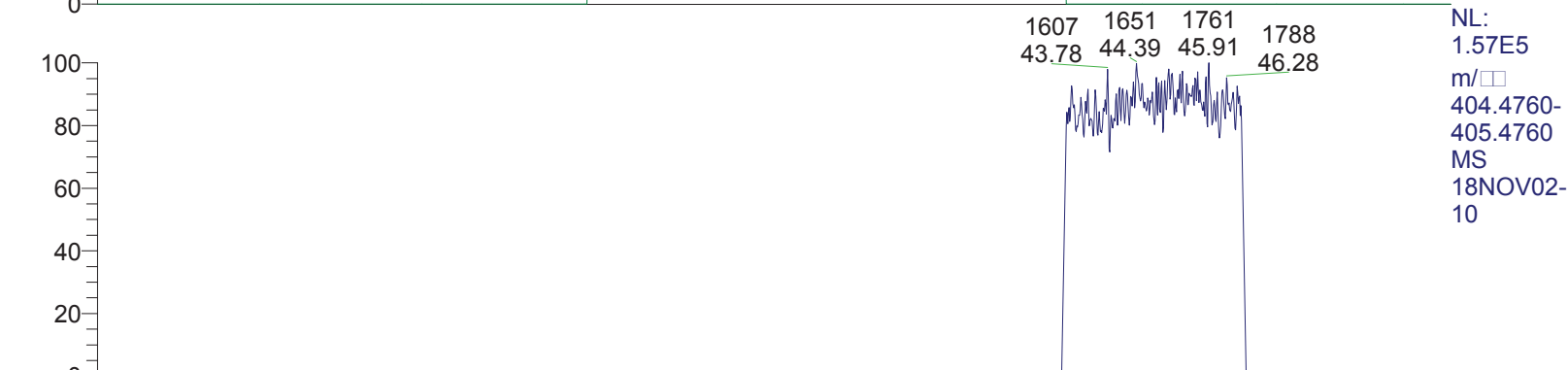
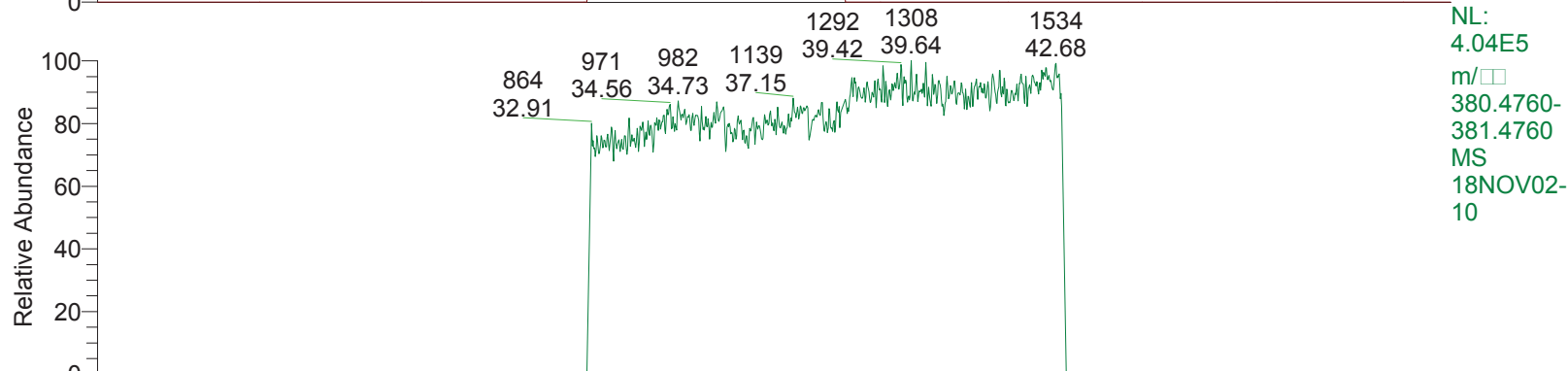
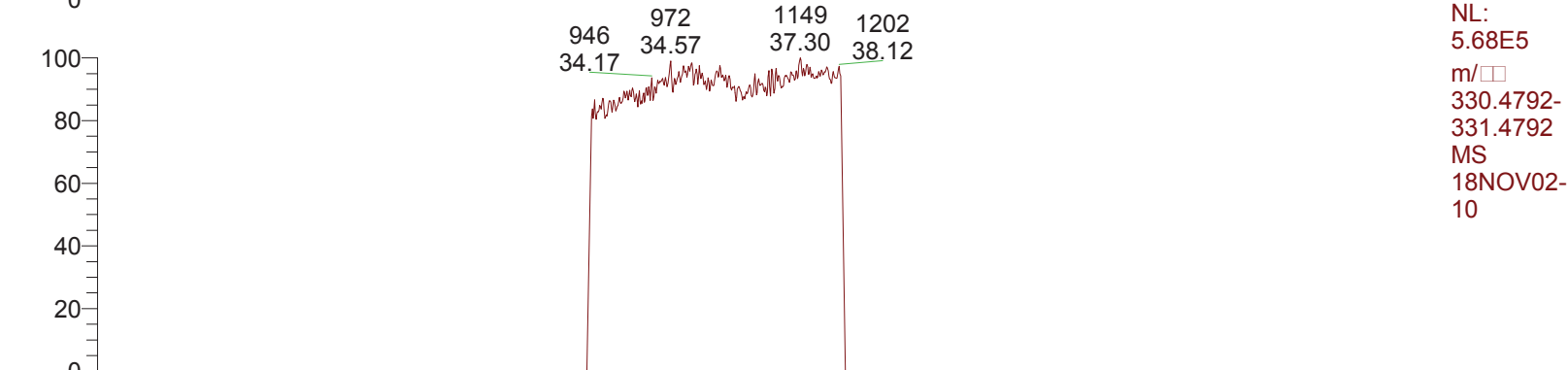


**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.98	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
2	2378-TCDD	passed	30.10	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
3	12378-PeCDF	passed	35.05	3571308	A	5494053	A	0.0173	200.000000	200.0000	200.000000	29442	
4	23478-PeCDF	passed	36.38	3957071	A	6094680	A	0.0147	200.000000	200.0000	200.000000	34773	
5	12378-PeCDD	passed	36.78	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
6	123478-HxCDF	passed	40.12	4252556	A	5251384	A	0.0404	200.000000	200.0000	200.000000	12400	
7	123678-HxCDF	passed	40.27	4312133	A	5351650	A	0.0402	200.000000	200.0000	200.000000	12617	
8	234678-HxCDF	passed	40.99	4290959	A	5314175	A	0.0379	200.000000	200.0000	200.000000	12884	
9	123478-HxCDD	passed	41.19	2886570	A	3561339	A	0.0212	200.000000	200.0000	200.000000	24322	
10	123678-HxCDD	passed	41.31	2933470	A	3623089	A	0.0207	200.000000	200.0000	200.000000	24713	
11	123789-HxCDD	passed	41.62	2949610	A	3674825	A	0.0198	200.000000	200.0000	200.000000	24958	
12	123789-HxCDF	passed	42.02	3553962	A	4440521	A	0.0485	200.000000	200.0000	200.000000	10432	
13	1234678-HpCDF	passed	43.75	4529063	A	4709794	A	0.0389	200.000000	200.0000	200.000000	12851	
14	1234678-HpCDD	passed	44.98	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
15	1234789-HpCDF	passed	45.55	3760061	A	3954859	A	0.0468	200.000000	200.0000	200.000000	10601	
16	OCDD	passed	48.03	6184184	A	5473610	A	0.0213	400.000000	400.0000	400.000000	46183	
17	OCDF	passed	48.21	7341388	A	6637277	A	0.0186	400.000000	400.0000	400.000000	53915	
18	13C12-1278-TCDD (CRS)	passed	30.51	1750847	A	1426756	A	0.0267	100.000000	100.0000	100.000000	9130	
19	13C12-1234-TCDD	passed	29.22	1826575	A	1436947	A	0.0260	100.000000	100.0000	100.000000	9631	
20	13C12-123468-HxCDD	passed	40.02	1542648	A	1931753	A	0.0274	100.000000	100.0000	100.000000	9119	
21	13C12-2378-TCDF	passed	28.96	3187038	A	2525964	A	0.0184	100.000000	100.0000	100.000000	13559	
22	13C12-2378-TCDD	passed	30.07	1657896	A	1330365	A	0.0283	100.000000	100.0000	100.000000	8421	
23	13C12-12378-PeCDF	passed	35.04	2012362	A	3206998	A	0.0416	100.000000	100.0000	100.000000	7707	
24	13C12-23478-PeCDF	passed	36.36	2017163	A	3168710	A	0.0419	100.000000	100.0000	100.000000	8111	
25	13C12-12378-PeCDD	passed	36.75	1191430	A	1888209	A	0.0270	100.000000	100.0000	100.000000	12542	
26	13C12-123478-HxCDF	passed	40.10	2877199	A	1506403	A	0.0292	100.000000	100.0000	100.000000	8512	
27	13C12-123678-HxCDF	passed	40.26	3025563	A	1564489	A	0.0279	100.000000	100.0000	100.000000	8809	
28	13C12-234678-HxCDF	passed	40.97	2777382	A	1461910	A	0.0302	100.000000	100.0000	100.000000	8697	
29	13C12-123478-HxCDD	passed	41.16	1528602	A	1930433	A	0.0275	100.000000	100.0000	100.000000	9099	
30	13C12-123678-HxCDD	passed	41.30	1569760	A	1951538	A	0.0271	100.000000	100.0000	100.000000	9349	
31	13C12-123789-HxCDD	passed	41.61	1499148	A	1881165	A	0.0282	100.000000	100.0000	100.000000	9287	
32	13C12-123789-HxCDF	passed	42.01	2514701	A	1349492	A	0.0331	100.000000	100.0000	100.000000	7427	
33	13C12-1234678-HpCDF	passed	43.74	2700782	A	1242493	A	0.0327	100.000000	100.0000	100.000000	8182	
34	13C12-1234678-HpCDD	passed	44.97	1615714	A	1676665	A	0.0291	100.000000	100.0000	100.000000	9573	
35	13C12-1234789-HpCDF	passed	45.55	2230786	A	989605	A	0.0401	100.000000	100.0000	100.000000	6655	
36	13C12-OCDD	passed	48.01	3301810	A	2962166	A	0.0124	200.000000	200.0000	200.000000	48145	
37	13C12-OCDF	passed	48.20	4416099	A	3975709	A	0.0138	200.000000	200.0000	200.000000	42068	
38	Total TCDF	passed (1)	28.02	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
39	Total TCDD	passed (1)	28.72	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
40	Total PeCDF	passed (2)	34.60	7528379	A	11588733	A	0.0159	200.000000	400.0000	200.000000	32108	
41	Total PeCDD	passed (1)	35.55	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
42	Total HxCDF	passed (4)	40.33	16409610	A	20357730	A	0.0417	200.000000	800.0000	200.000000	12083	
43	Total HxCDD	passed (3)	40.54	8769649	A	10859253	A	0.0206	200.000000	600.0000	200.000000	24664	
44	Total HpCDF	passed (1)	44.57	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
45	Total HpCDD	passed (2)	44.69	8289123	A	8664653	A	0.0429	200.000000	400.0000	200.000000	11726	
46	Single TCDF	passed	28.98	1176218	A	915332	A	0.0169	40.000000	40.0000	40.000000	5852	
47	Single TCDD	passed	30.10	762400	A	599584	A	0.0142	40.000000	40.0000	40.000000	7106	
48	Single PeCDF	passed	36.78	2261182	A	3534515	A	0.0335	200.000000	200.0000	200.000000	15372	
49	Single PeCDD	passed	36.38	3957071	A	6094680	A	0.0151	200.000000	200.0000	200.000000	34773	
50	Single PeCDF	passed	35.05	3571308	A	5494053	A	0.0168	200.000000	200.0000	200.000000	29442	
51	Single HpCDD	passed	44.98	3074744	A	3180412	A	0.0392	200.000000	200.0000	200.000000	12781	
52	Single HxCDF	passed	40.99	4290959	A	5314175	A	0.0396	200.000000	200.0000	200.000000	12884	
53	Single HxCDF	passed	40.12	4252556	A	5251384	A	0.0401	200.000000	200.0000	200.000000	12400	
54	Single HxCDF	passed	40.27	4312133	A	5351650	A	0.0394	200.000000	200.0000	200.000000	12617	
55	Single HxCDF	passed	42.02	3553962	A	4440521	A	0.0476	200.000000	200.0000	200.000000	10432	
56	Single HxCDD	passed	41.62	2949610	A	3674825	A	0.0203	200.000000	200.0000	200.000000	24958	
57	Single HxCDD	passed	41.19	2886570	A	3561339	A	0.0209	200.000000	200.0000	200.000000	24322	
58	Single HxCDD	passed	41.31	2933470	A	3623089	A	0.0205	200.000000	200.0000	200.000000	24713	
59	Single HpCDF	passed	43.75	4529063	A	4709794	A	0.0390	200.000000	200.0000	200.000000	12851	
60	Single HpCDF	passed	45.55	3760061	A	3954859	A	0.0467	200.000000	200.0000	200.000000	10601	



RT: 22.50 - 51.00



**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 18:35:10 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 18:35:09

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

**APPROVED**

By uma9 at 11:21 am, 11/7/18

**REVIEWED**

By uild at 4:28 pm, 11/7/18

18NOV02-10

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	95.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	190.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0184	FVINLET	0.0426	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	95.0000	LKM	442.9723	MASS	95.0000
MDAC	1401471.2988	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9817	RELEN	0.0000
RES	11044.8880	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	95.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10837.  
MID Time window 2: Resolution is 11151.  
MID Time window 3: Resolution is 10939.  
MID Time window 4: Resolution is 11240.





18NOV02-10

MID Time Window 5: Resolution is 11863.  
MID Time Window 6: Resolution is 11044.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 19:26:11 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 19:26  
Number of Entries 64  
Comment  
Vial 8  
Sample Name CALDF61837B  
Sample ID CS501  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov02\18nov02-11.quan  
Data w:\18nov02\18nov02-11.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT Status	Status Info
1	2378-TCDF	28.97	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	30.08	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	35.05	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.37	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.76	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.11	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.98	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.74	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.54	passed	passed	passed	passed	passed	passed	passed
16	OCDD	48.02	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.21	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.49	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.19	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	40.01	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.93	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	30.05	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	35.03	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.34	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.74	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.09	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.25	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.97	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.16	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.28	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.60	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.99	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.73	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.96	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.53	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	48.01	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.20	passed	passed	passed	passed	passed	passed	passed
38	Total TCDF	28.02	passed (1)	---	---	---	---	---	---
39	Total TCDD	28.72	passed (1)	---	---	---	---	---	---
40	Total PeCDF	34.60	passed (2)	---	---	---	---	---	---
41	Total PeCDD	35.55	passed (1)	---	---	---	---	---	---
42	Total HxCDF	40.33	passed (4)	---	---	---	---	---	---
43	Total HxCDD	40.54	passed (3)	---	---	---	---	---	---
44	Total HpCDD	44.57	passed (1)	---	---	---	---	---	---
45	Total HpCDF	44.69	passed (2)	---	---	---	---	---	---
46	Single TCDF	28.97	passed	passed	passed	passed	passed	passed	passed
47	Single TCDD	30.08	passed	passed	passed	passed	passed	passed	passed
48	Single PeCDD	36.76	passed	passed	passed	passed	passed	passed	passed
49	Single PeCDF	36.37	passed	passed	passed	passed	passed	passed	passed
50	Single PeCDD	35.05	passed	passed	passed	passed	passed	passed	passed
51	Single HpCDD	44.97	passed	passed	passed	passed	passed	passed	passed
52	Single HxCDF	40.98	passed	passed	passed	passed	passed	passed	passed
53	Single HxCDF	40.11	passed	passed	passed	passed	passed	passed	passed
54	Single HxCDF	40.27	passed	passed	passed	passed	passed	passed	passed
55	Single HxCDF	42.02	passed	passed	passed	passed	passed	passed	passed
56	Single HxCDD	41.62	passed	passed	passed	passed	passed	passed	passed
57	Single HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
58	Single HxCDD	41.31	passed	passed	passed	passed	passed	passed	passed
59	Single HpCDF	43.74	passed	passed	passed	passed	passed	passed	passed
60	Single HpCDF	45.54	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 19:26  
Number of Entries 64  
Comment  
Vial 8  
Sample Name CALDF61837B  
Sample ID CS501  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

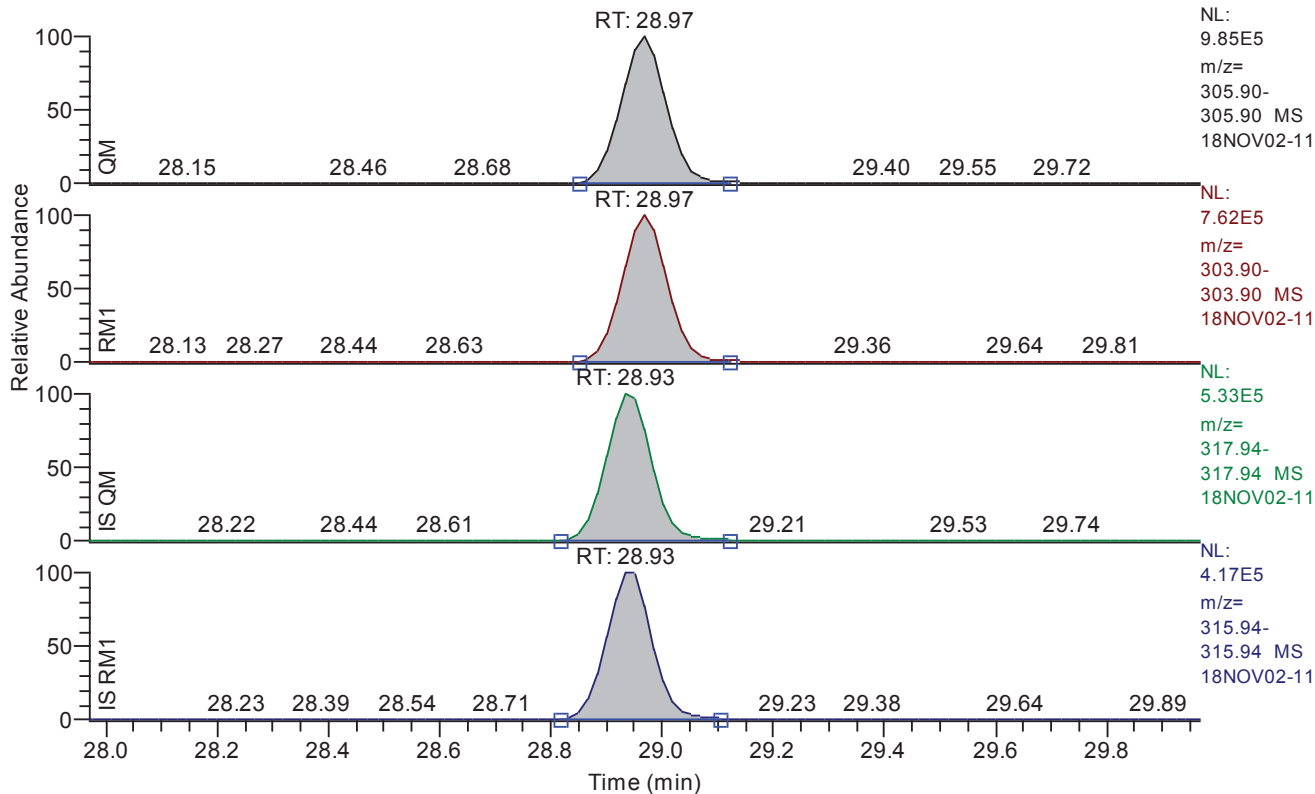
Quan w:\18nov02\18nov02-11.quan  
Data w:\18nov02\18nov02-11.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.97 - 29.97 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

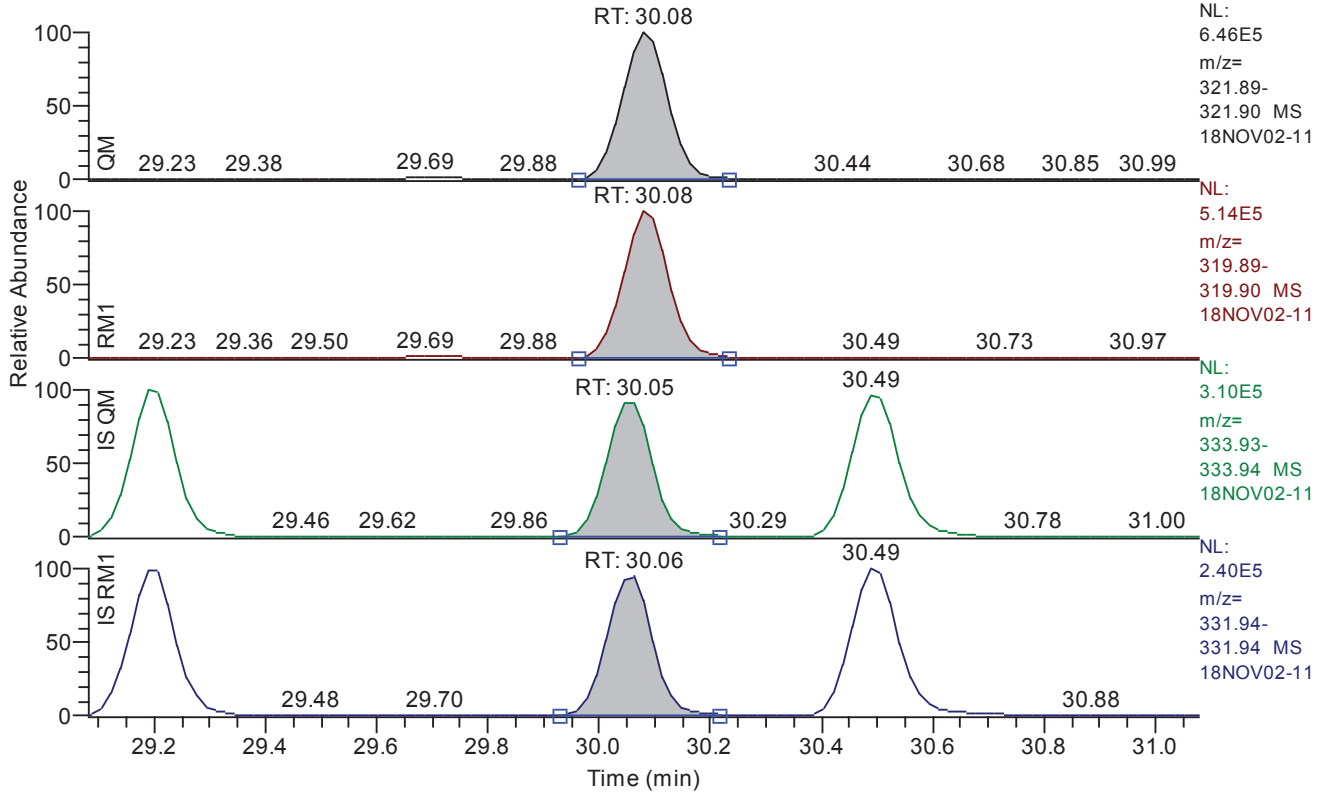
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.97
QM Area	5622941
QM Integration Mode	A
RM1 Area	4356222
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	16896
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.08 - 31.08 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

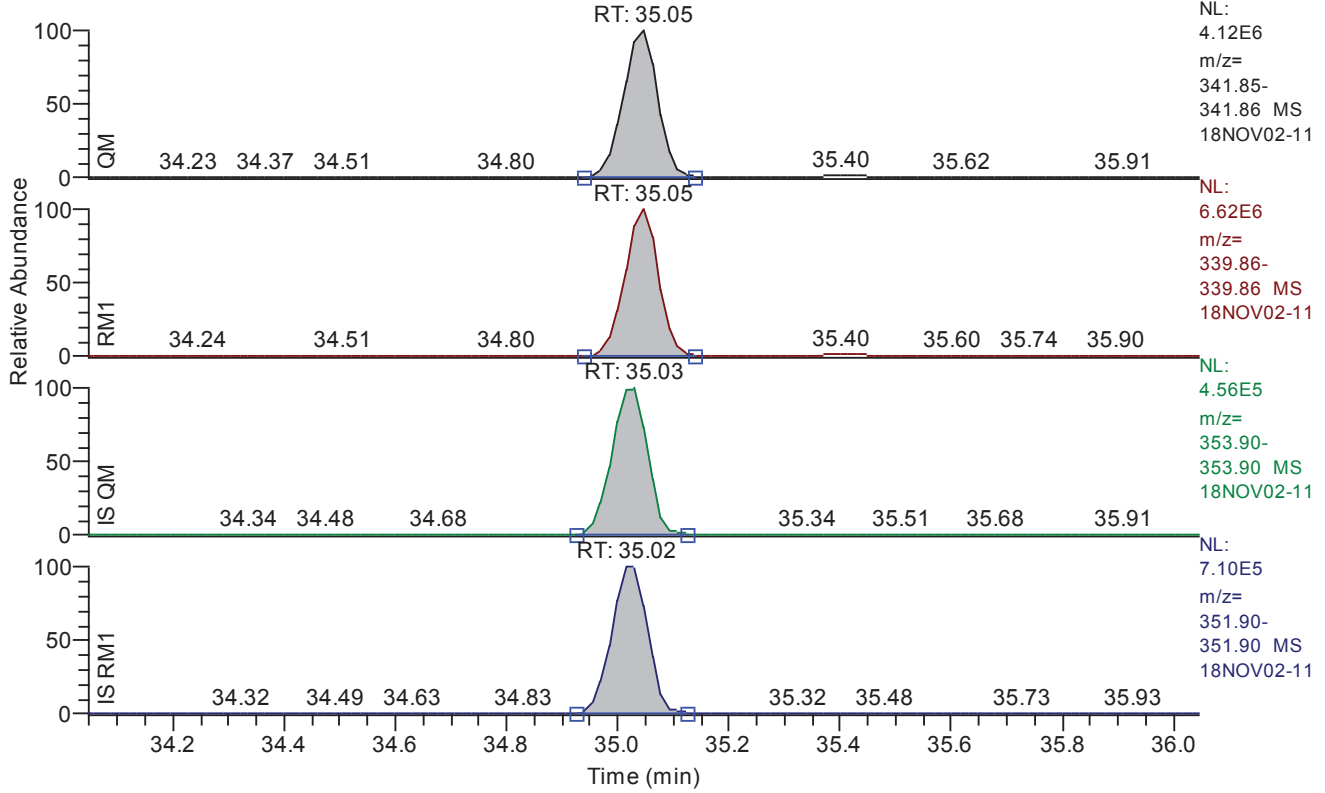
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	30.08
QM Area	3769904
QM Integration Mode	A
RM1 Area	2965472
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0240
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21206
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 34.05 - 36.05 SM: 3G



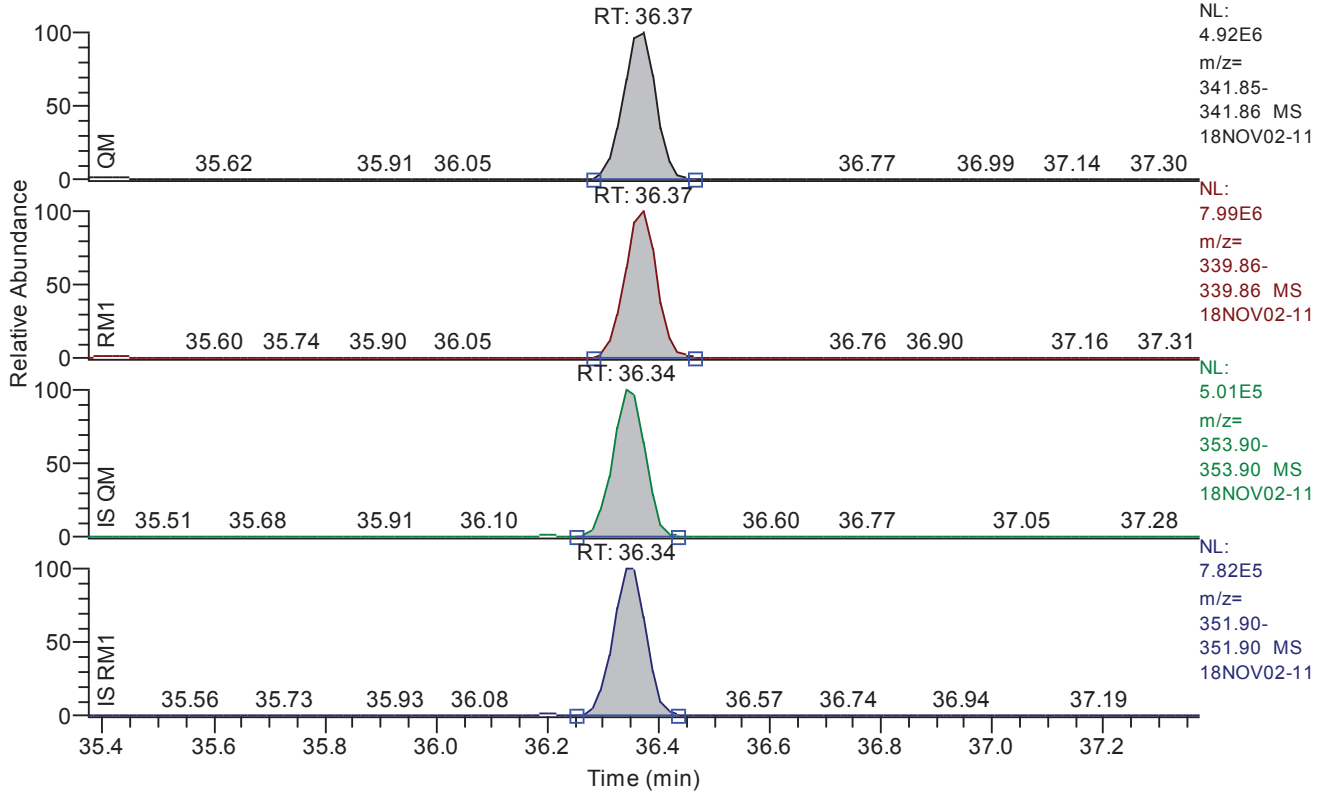
Entry: 12378-pecdf IS: 13C12-12378-PeCDF

**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	35.05
QM Area	17613444
QM Integration Mode	A
RM1 Area	27777412
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0218
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	122095
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.37 - 37.37 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

**Entry Parameters**

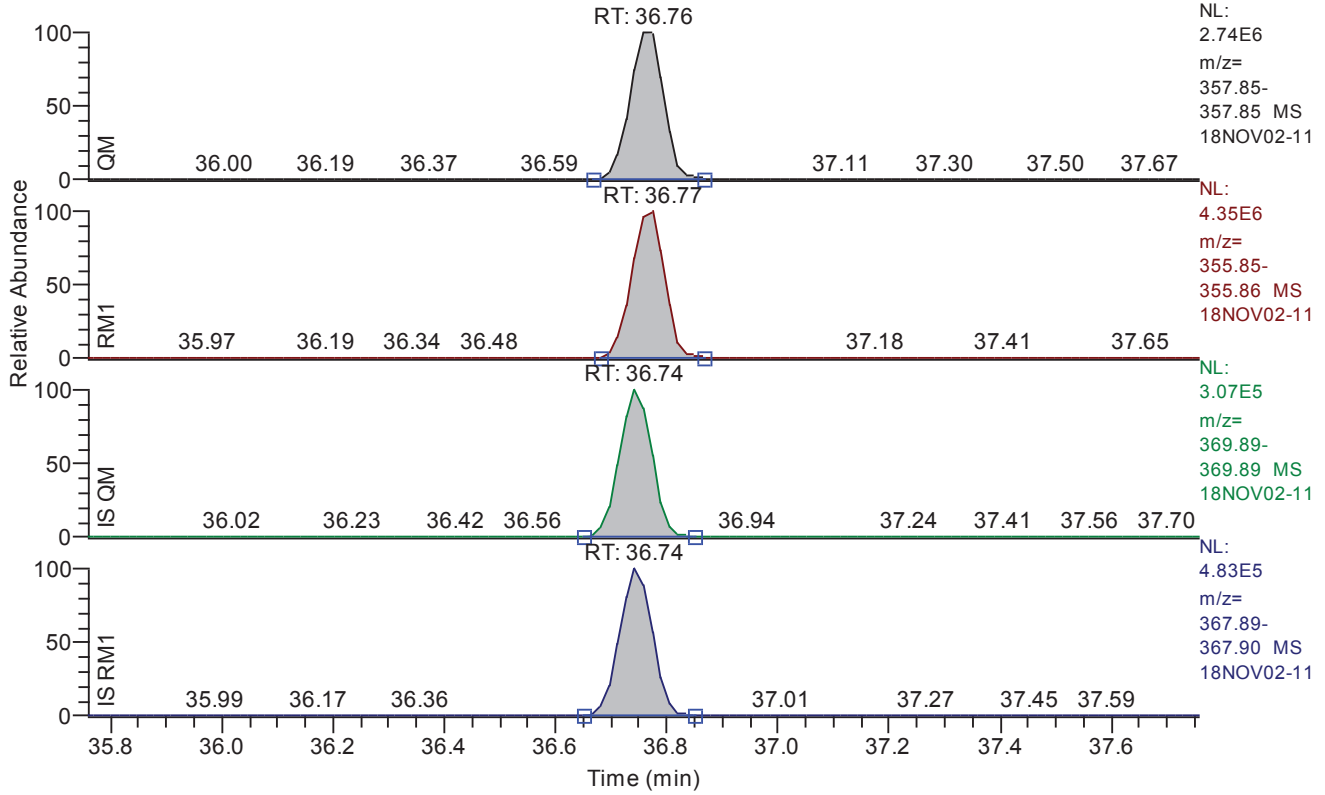
Compound Name	23478-PeCDF
QM Retention Time	36.37
QM Area	20198829
QM Integration Mode	A
RM1 Area	31878890
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0174
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	146843
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 35.76 - 37.76 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

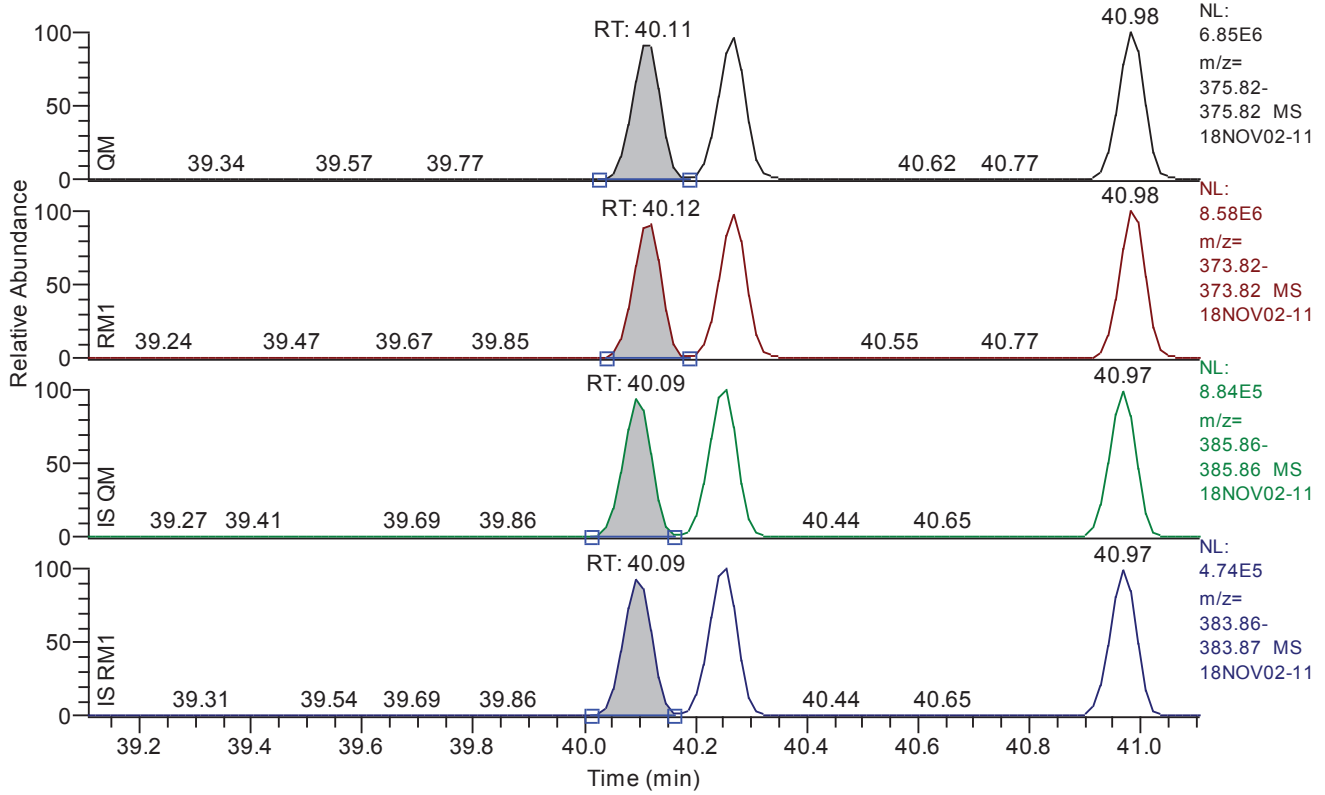
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.76
QM Area	11594688
QM Integration Mode	A
RM1 Area	18005032
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0396
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	61968
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.11 - 41.11 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

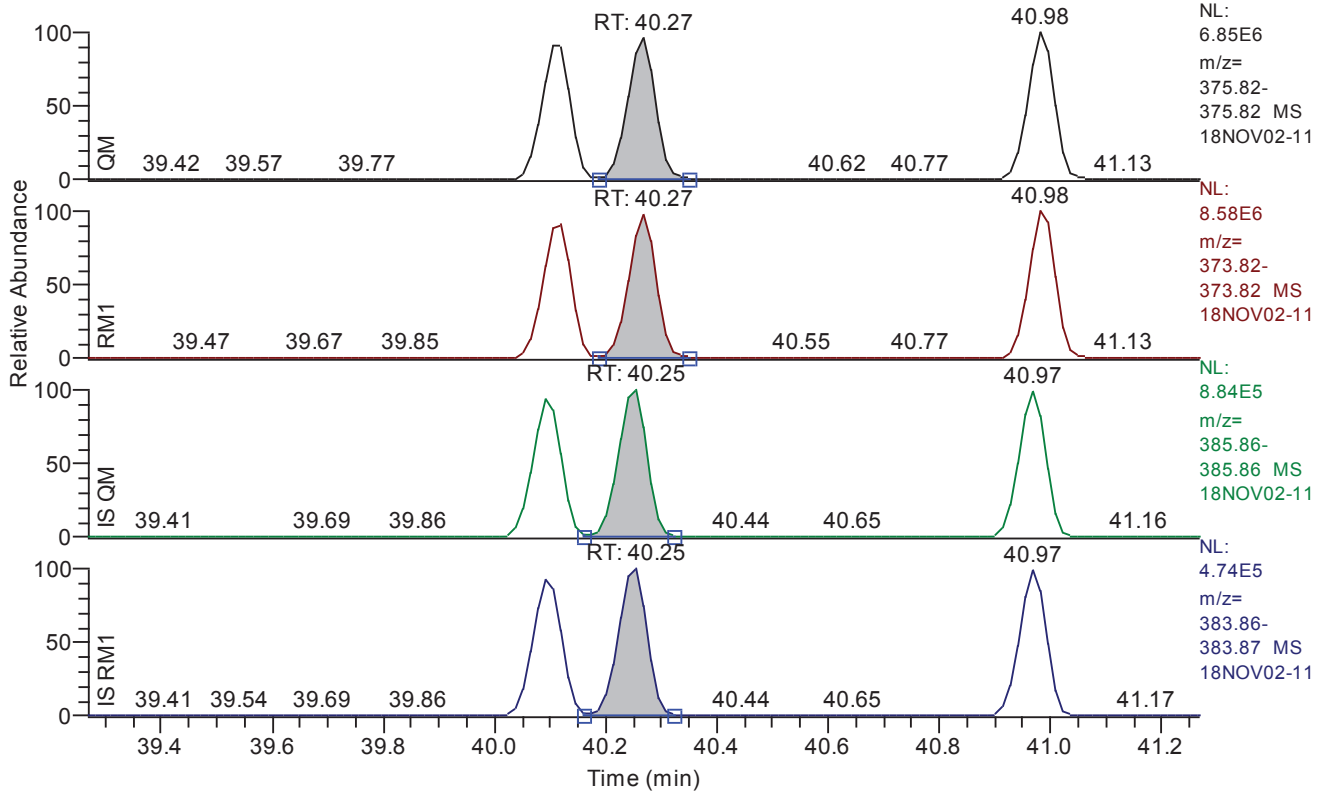
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.11
QM Area	22589684
QM Integration Mode	A
RM1 Area	28106626
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0655
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	38279
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.27 - 41.27 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

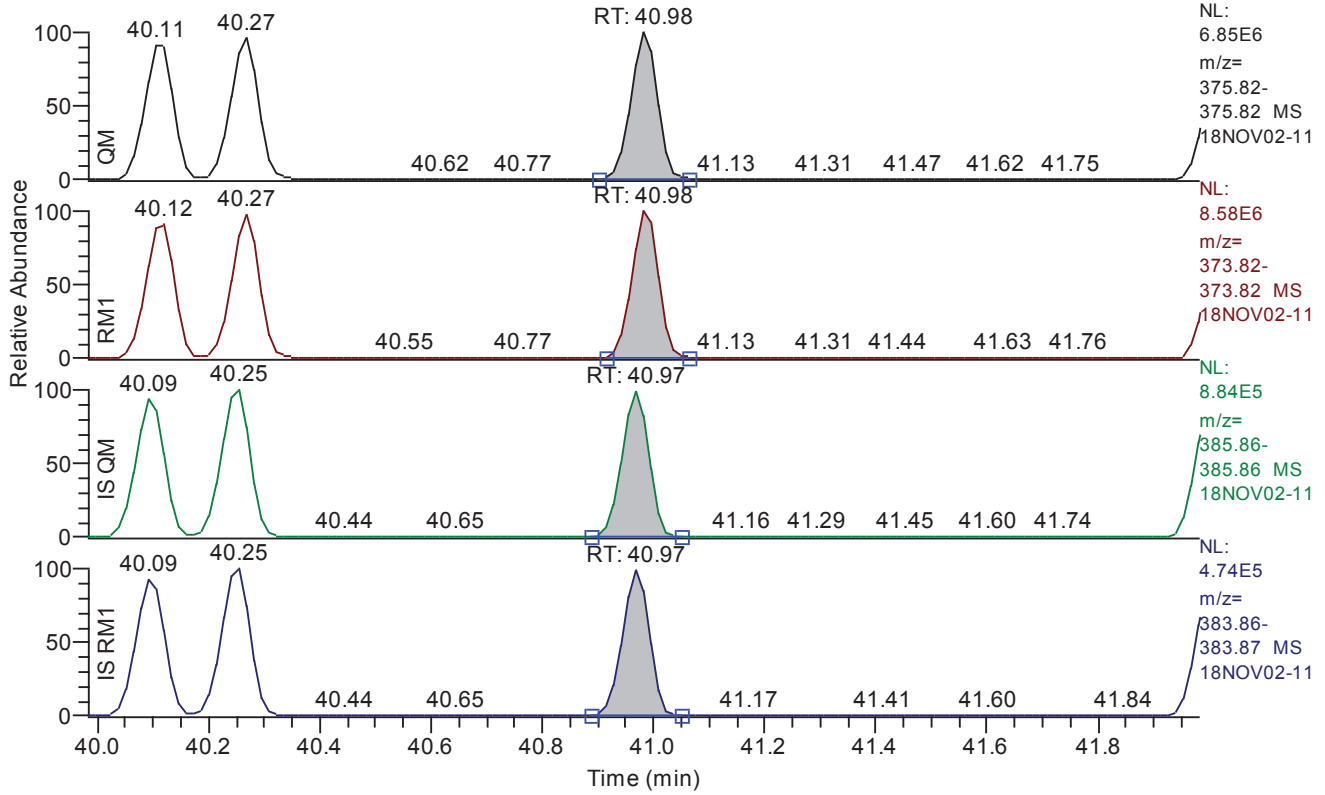
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.27
QM Area	22934090
QM Integration Mode	A
RM1 Area	28739820
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0645
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	40661
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.98 - 41.98 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

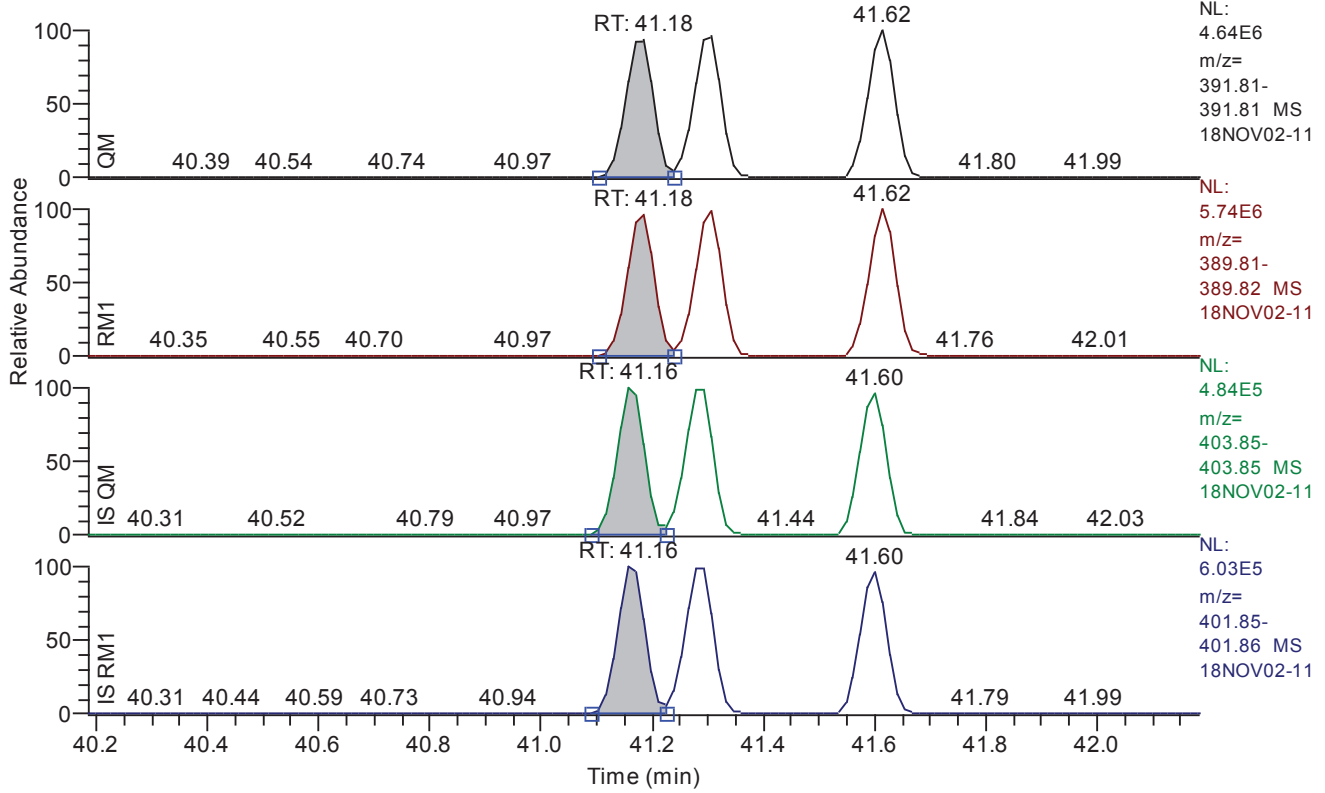
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.98
QM Area	22715121
QM Integration Mode	A
RM1 Area	28594617
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0605
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	41819
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.18 - 42.18 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

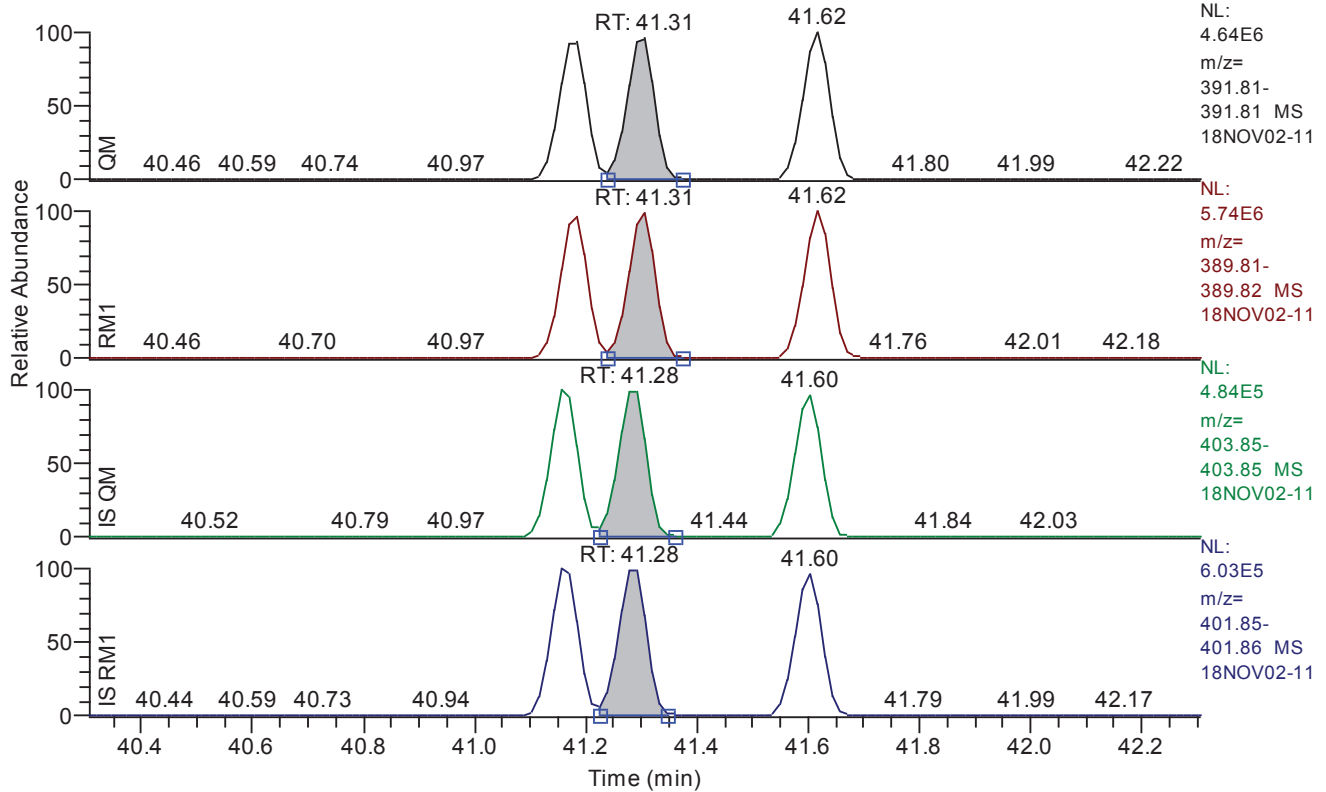
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.18
QM Area	15252639
QM Integration Mode	A
RM1 Area	18948164
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0294
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	85120
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.31 - 42.31 SM: 3G



Entry: 123678-hxcd IS: 13C12-123678-HxCDD

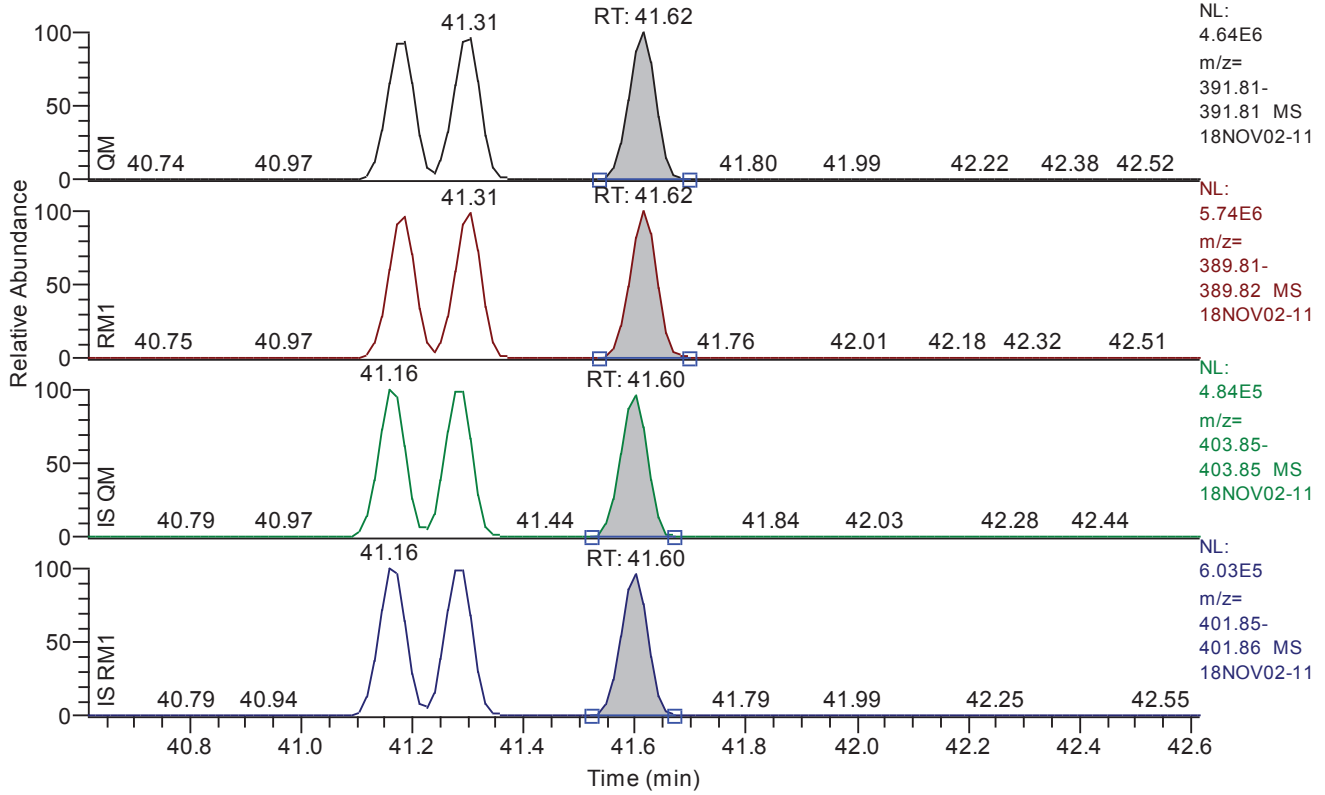
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.31
QM Area	15361094
QM Integration Mode	A
RM1 Area	19159253
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0296
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	87565
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 40.62 - 42.62 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

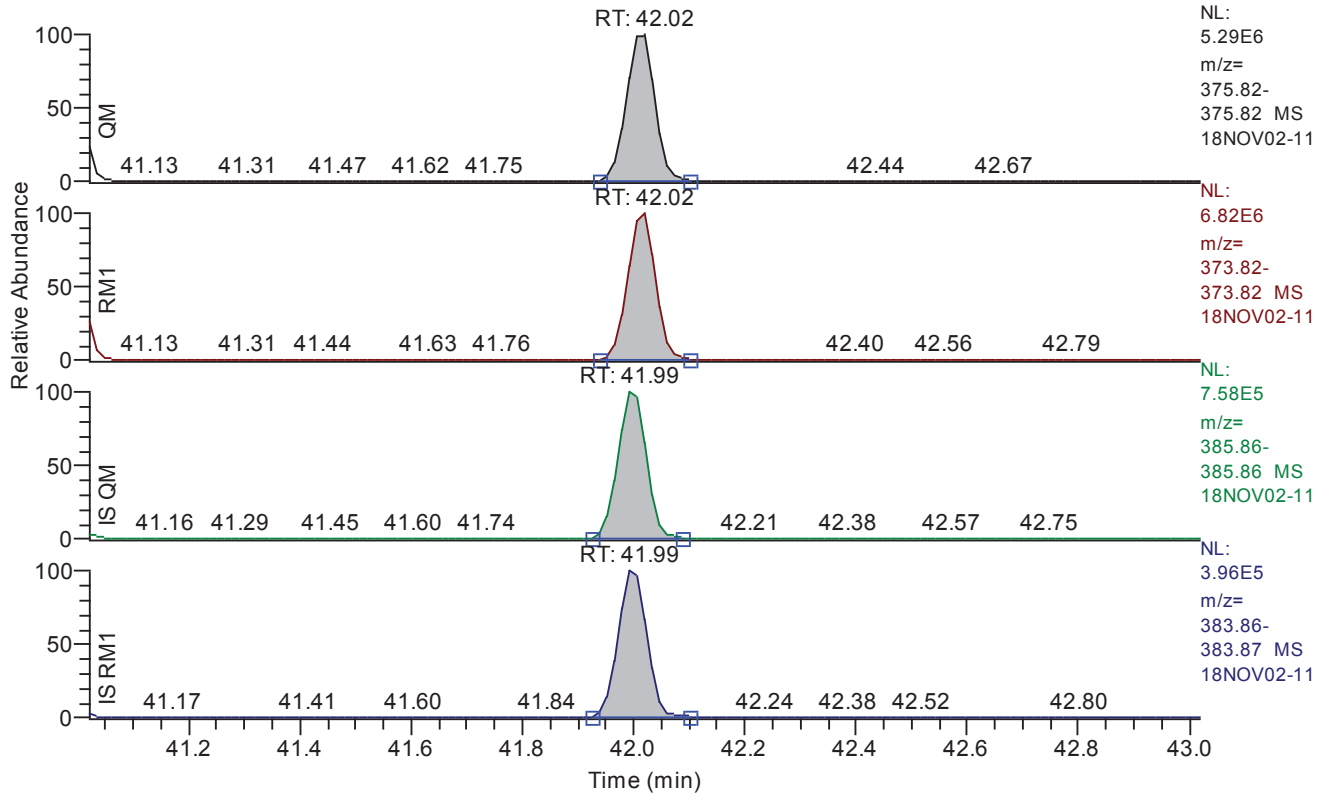
### Entry Parameters

Compound Name	123789-HxCDD
QM Retention Time	41.62
QM Area	15700412
QM Integration Mode	A
RM1 Area	19389530
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0283
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	88926
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 41.02 - 43.02 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

**Entry Parameters**

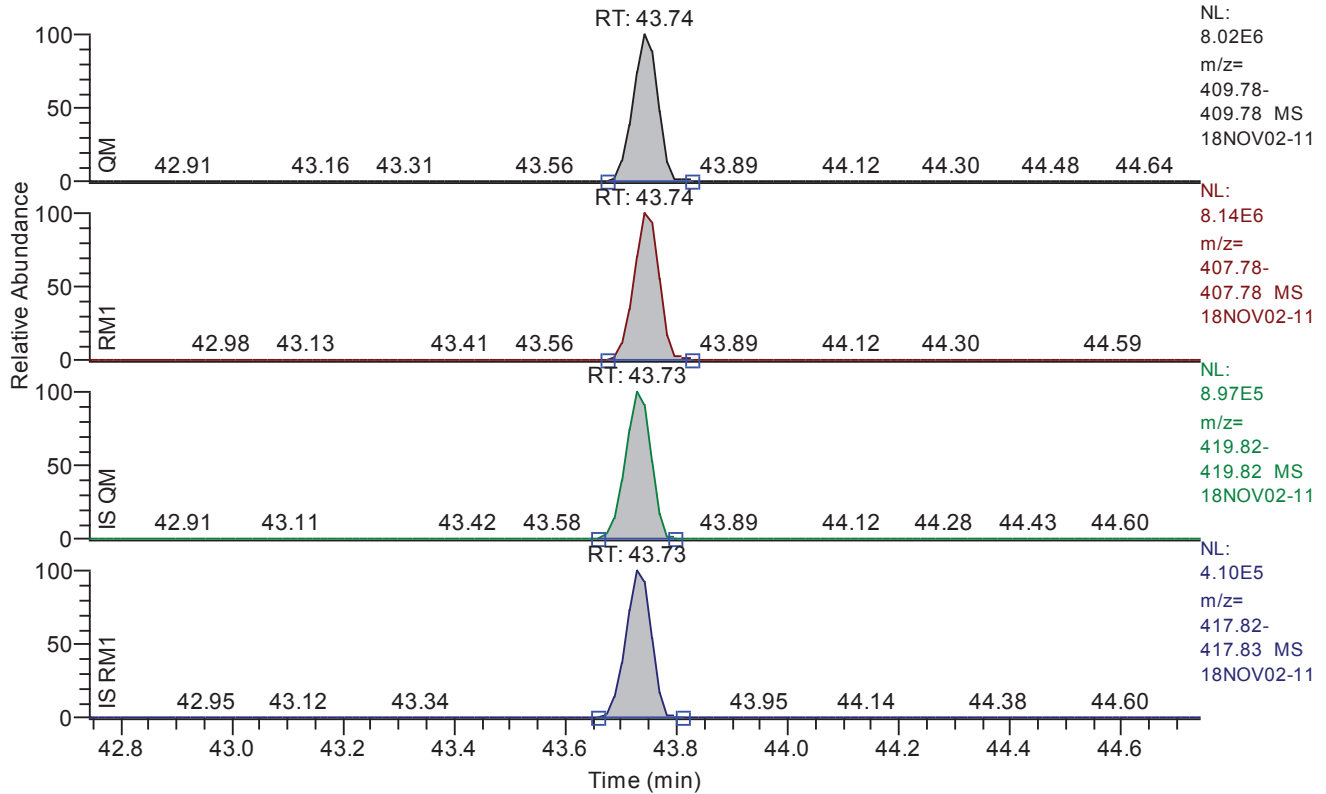
Compound Name	123789-HxCDF
QM Retention Time	42.02
QM Area	18895806
QM Integration Mode	A
RM1 Area	23873284
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0773
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	32791
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 42.74 - 44.74 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

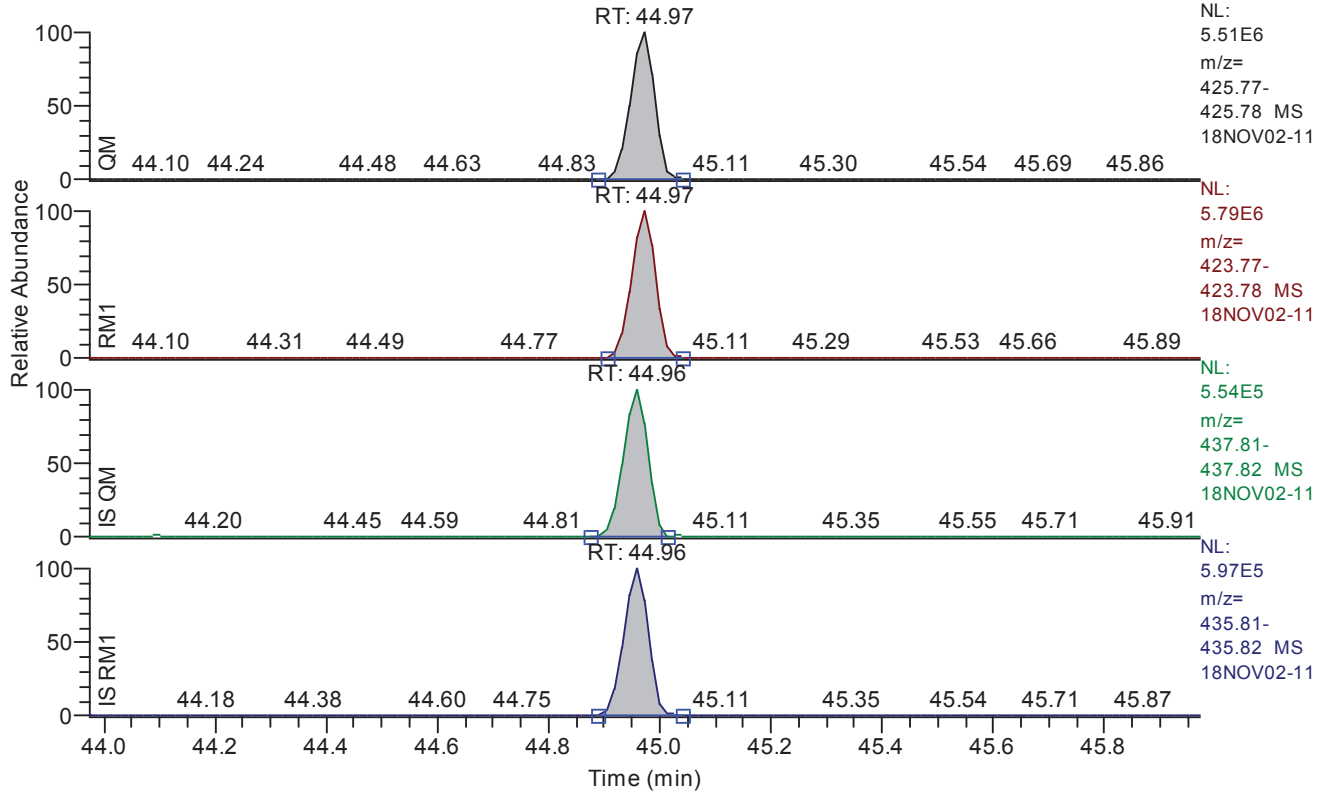
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.74
QM Area	25695083
QM Integration Mode	A
RM1 Area	26607789
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0708
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	36113
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.97 - 45.97 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

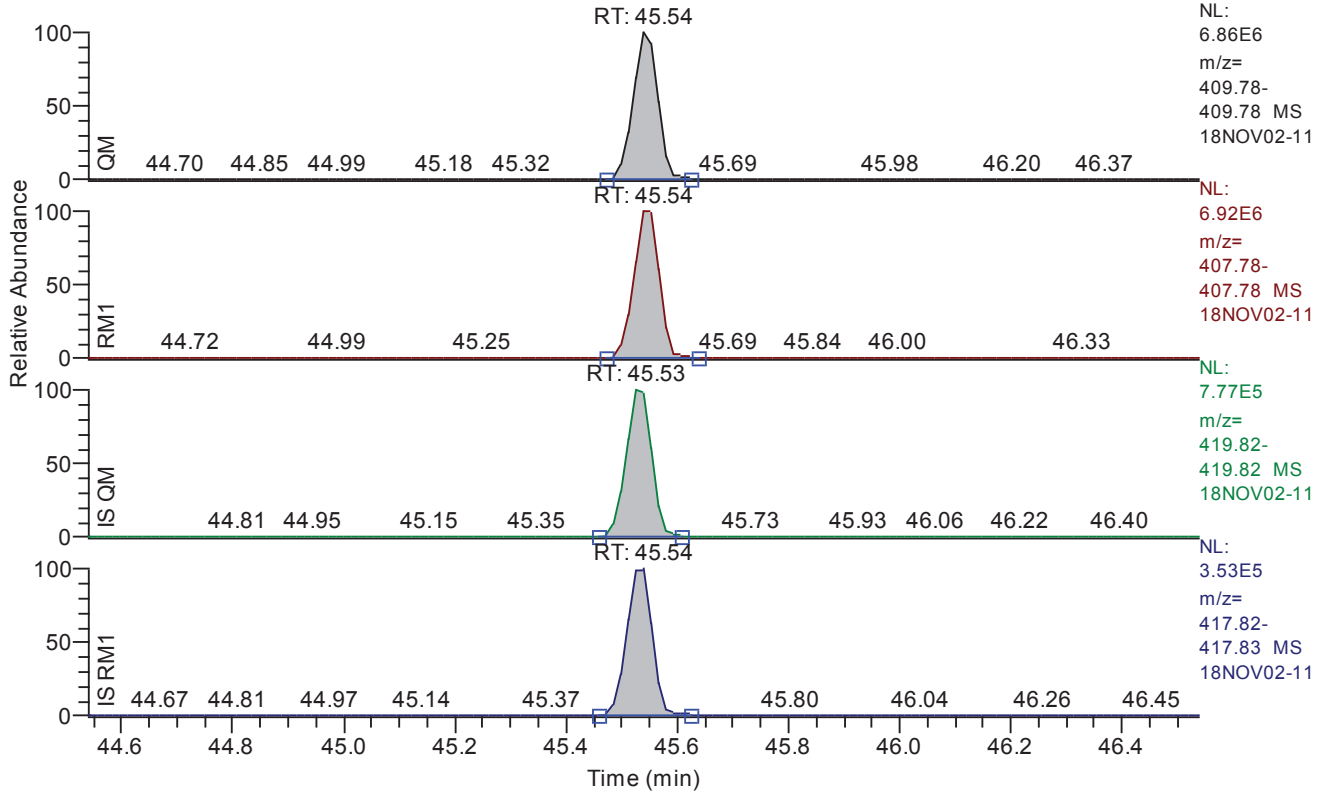
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.97
QM Area	17168738
QM Integration Mode	A
RM1 Area	17860466
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0566
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	45055
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.54 - 46.54 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

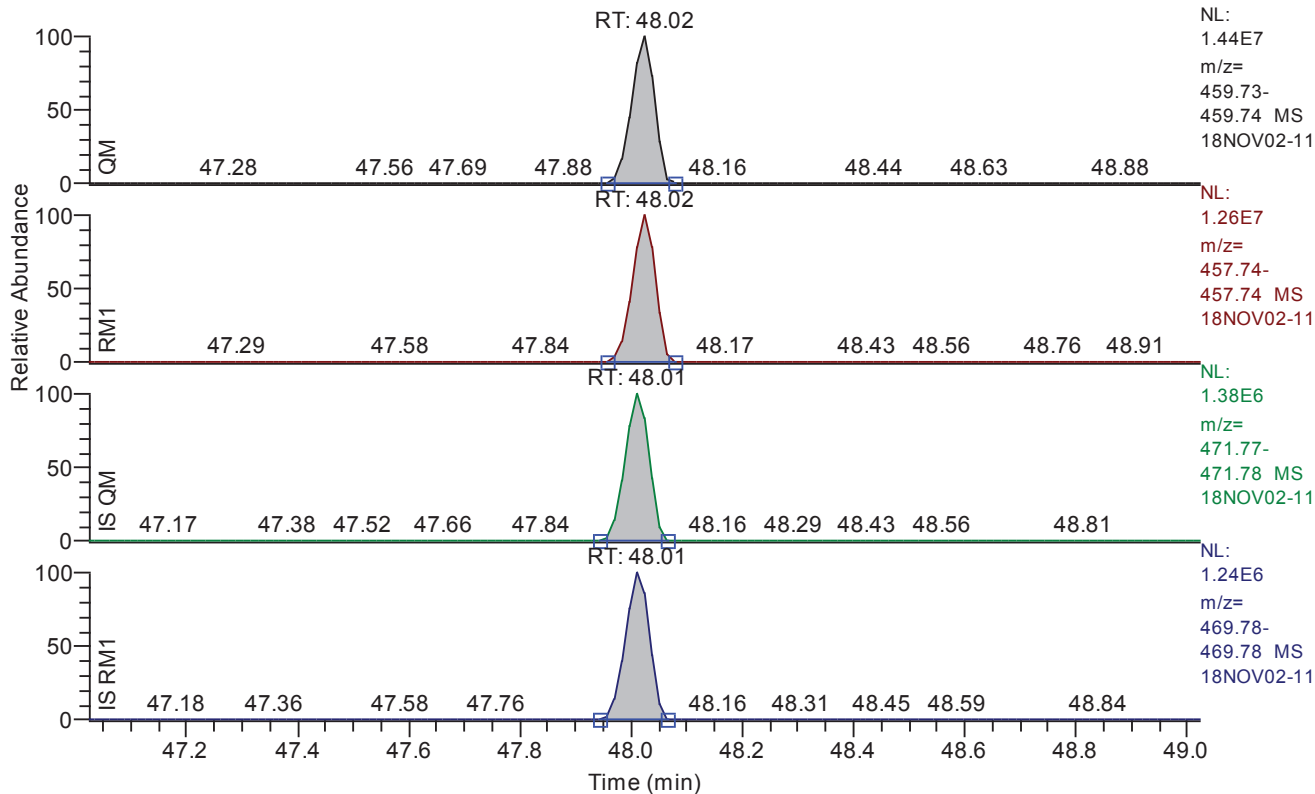
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.54
QM Area	21779112
QM Integration Mode	A
RM1 Area	22635826
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0828
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	30758
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.02 - 49.02 SM: 3G



Entry: ocdd IS: 13C12-OCDD

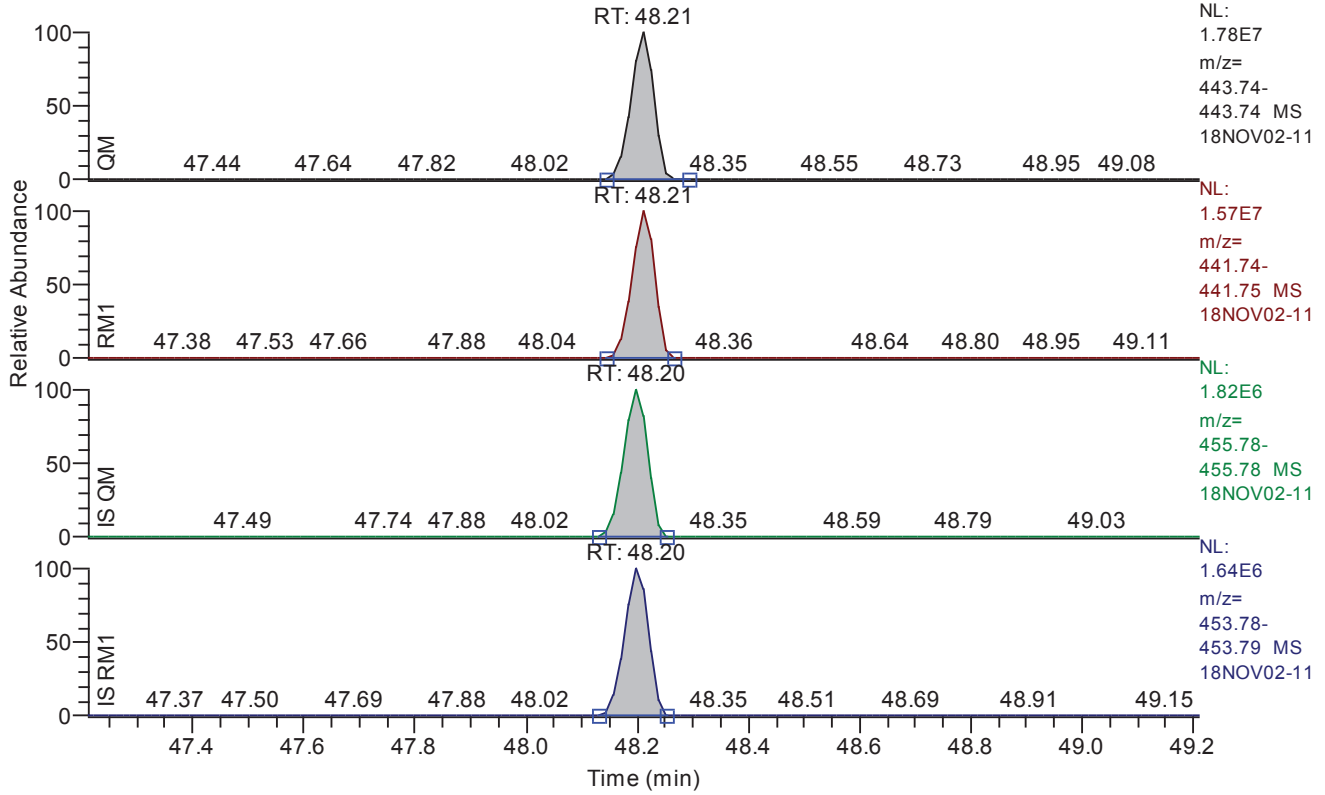
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	48.02
QM Area	41351916
QM Integration Mode	A
RM1 Area	36071568
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0251
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	209286
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.21 - 49.21 SM: 3G



Entry: ocdf IS: 13C12-OCDF

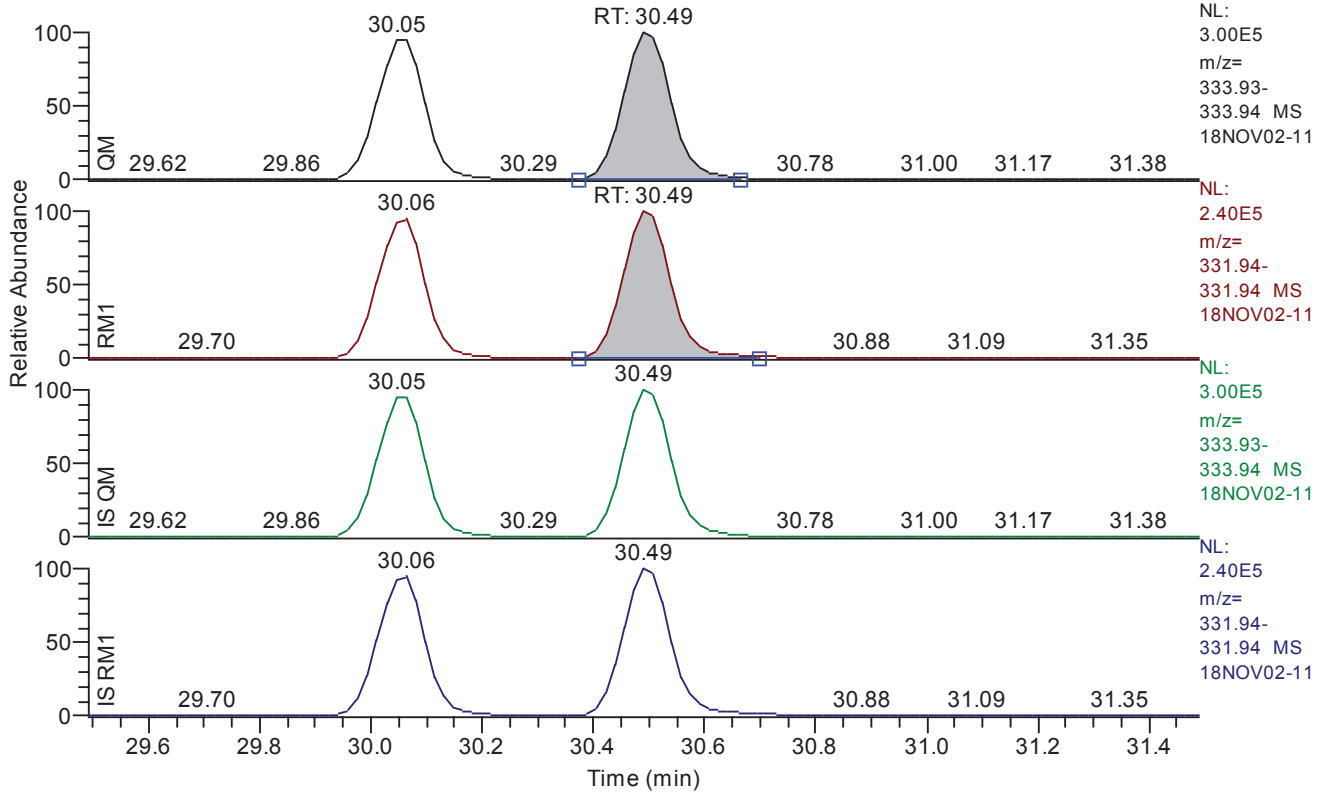
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.21
QM Area	50865312
QM Integration Mode	A
RM1 Area	44958033
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0176
Unqualified Amount (A)	2000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	300340
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 29.49 - 31.49 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

### Entry Parameters

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.49
QM Area	1813102
QM Integration Mode	A
RM1 Area	1433579
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0254
Unqualified Amount (A)	100.000000
Adjusted Amount (A)	100.0000
Signal-to-Noise	9407
Client Flags	
Status Overview	passed
Status Info	



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/02 19:26  
Number of Entries 64  
Comment  
Vial 8  
Sample Name CALDF61837B  
Sample ID CS501  
Inst ID DF17280-18NOV02  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

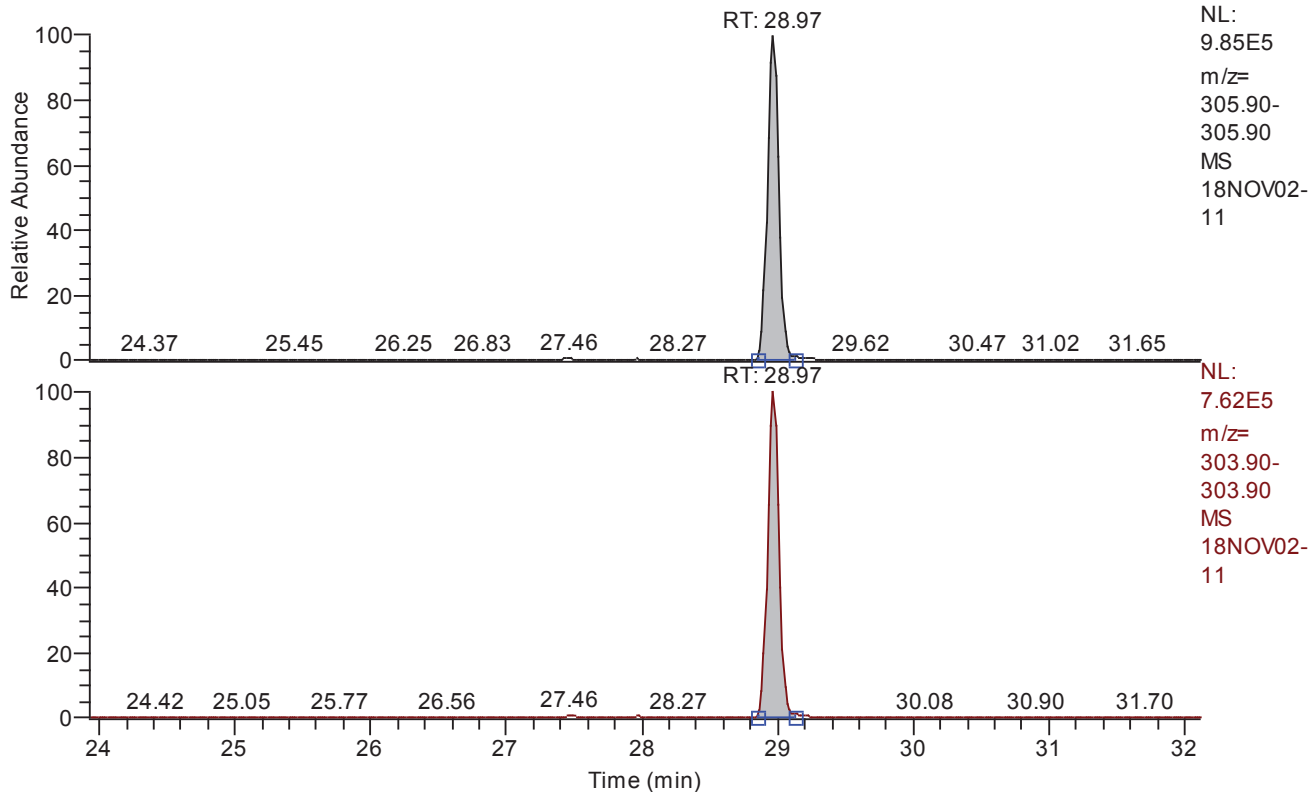
Quan w:\18nov02\18nov02-11.quan  
Data w:\18nov02\18nov02-11.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 23.92 - 32.12 SM: 3G



Entry: total-tcdf IS: 13C12-2378-TCDF

**Entry Parameters**

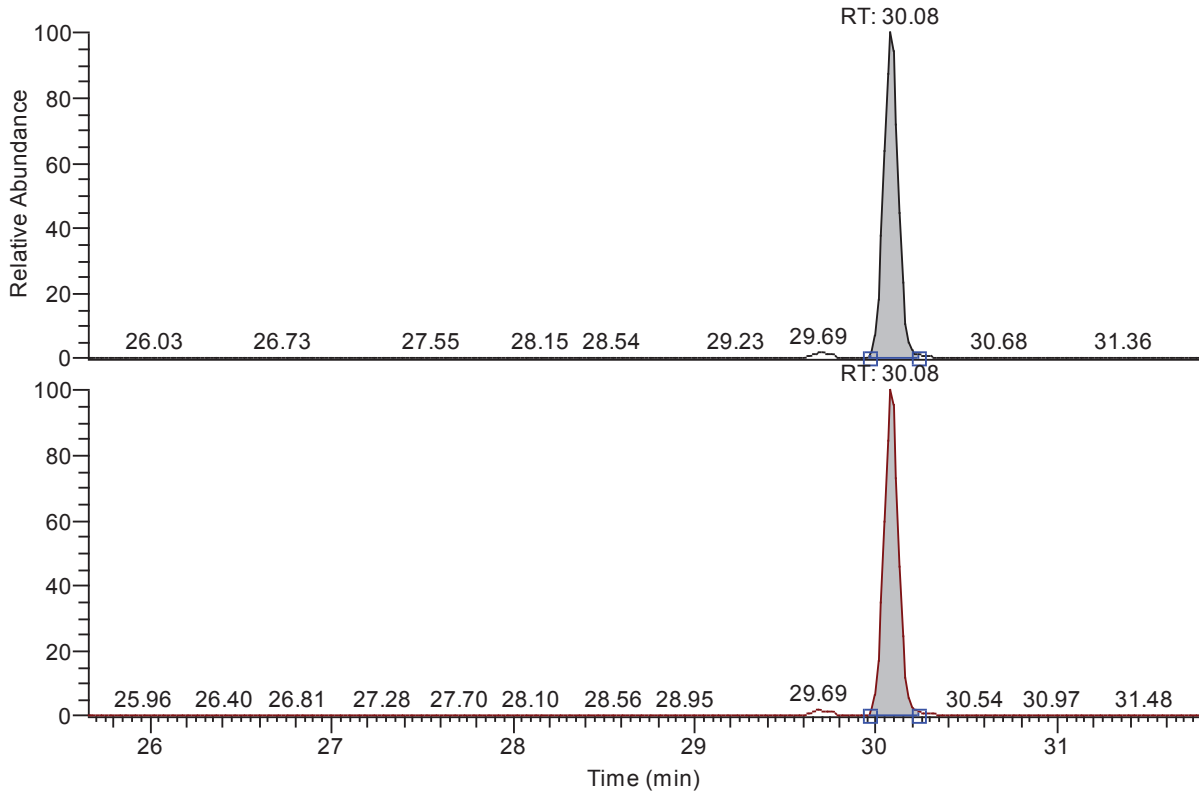
Compound Name	Total TCDF
QM Retention Time	28.02
QM Area	5622941
QM Integration Mode	A
RM1 Area	4356222
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0300
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	16896
Client Flags	
Status Overview	passed (1)
Status Info	





### Chromatogram

RT: 25.66 - 31.78 SM: 3G



NL:  
6.46E5  
m/z=  
321.89-  
321.90  
MS  
18NOV02-  
11

NL:  
5.14E5  
m/z=  
319.89-  
319.90  
MS  
18NOV02-  
11

Entry: total-tcdd IS: 13C12-2378-TCDD

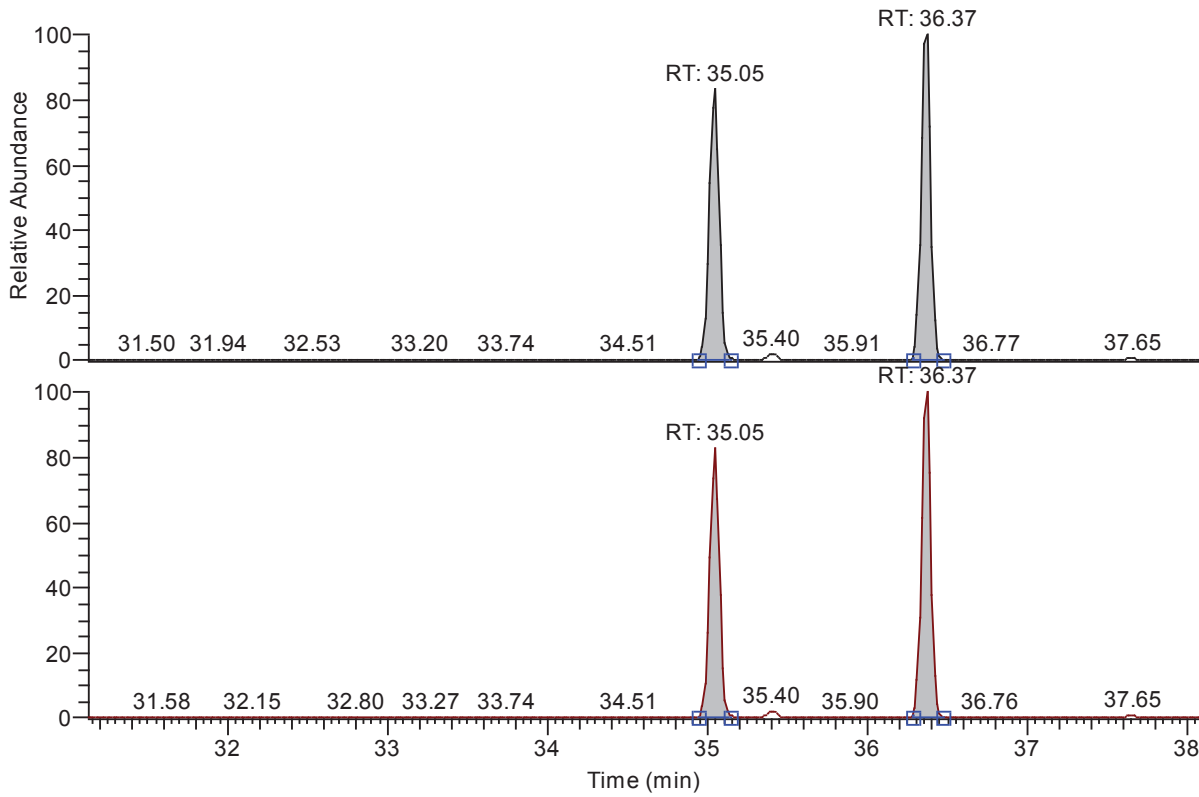
### Entry Parameters

Compound Name	Total TCDD
QM Retention Time	28.72
QM Area	3769904
QM Integration Mode	A
RM1 Area	2965472
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0240
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	21206
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 31.12 - 38.08 SM: 3G



NL:  
4.92E6  
m/z=  
341.85-  
341.86  
MS  
18NOV02-  
11

NL:  
7.99E6  
m/z=  
339.86-  
339.86  
MS  
18NOV02-  
11

Entry: total-pecdf IS: 13C12-PeCDF\_AVG

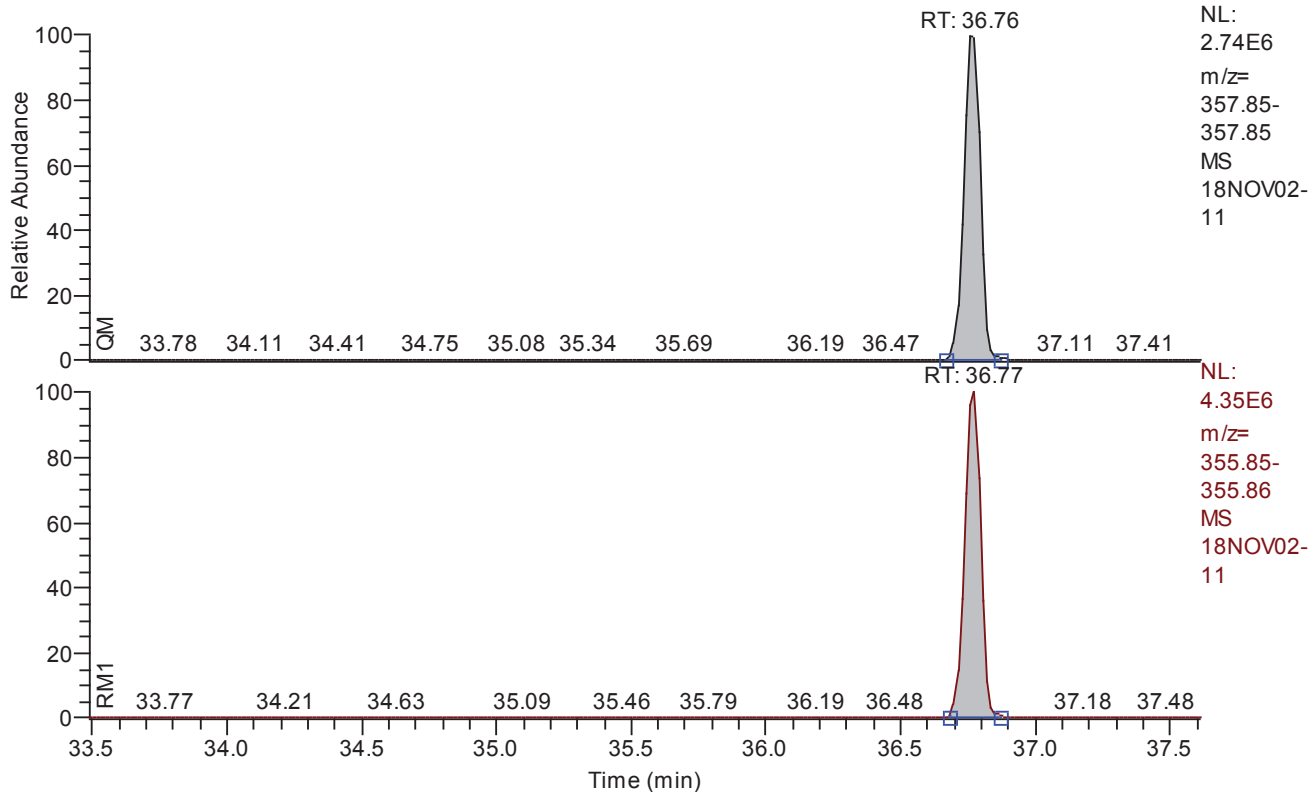
**Entry Parameters**

Compound Name	Total PeCDF
QM Retention Time	34.60
QM Area	37812273
QM Integration Mode	A
RM1 Area	59656302
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0195
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	134469
Client Flags	
Status Overview	passed (2)
Status Info	



**Chromatogram**

RT: 33.49 - 37.61 SM: 3G



NL:  
2.74E6  
m/z=  
357.85-  
357.85  
MS  
18NOV02-  
11

NL:  
4.35E6  
m/z=  
355.85-  
355.86  
MS  
18NOV02-  
11

Entry: total-pecdd IS: 13C12-12378-PeCDD

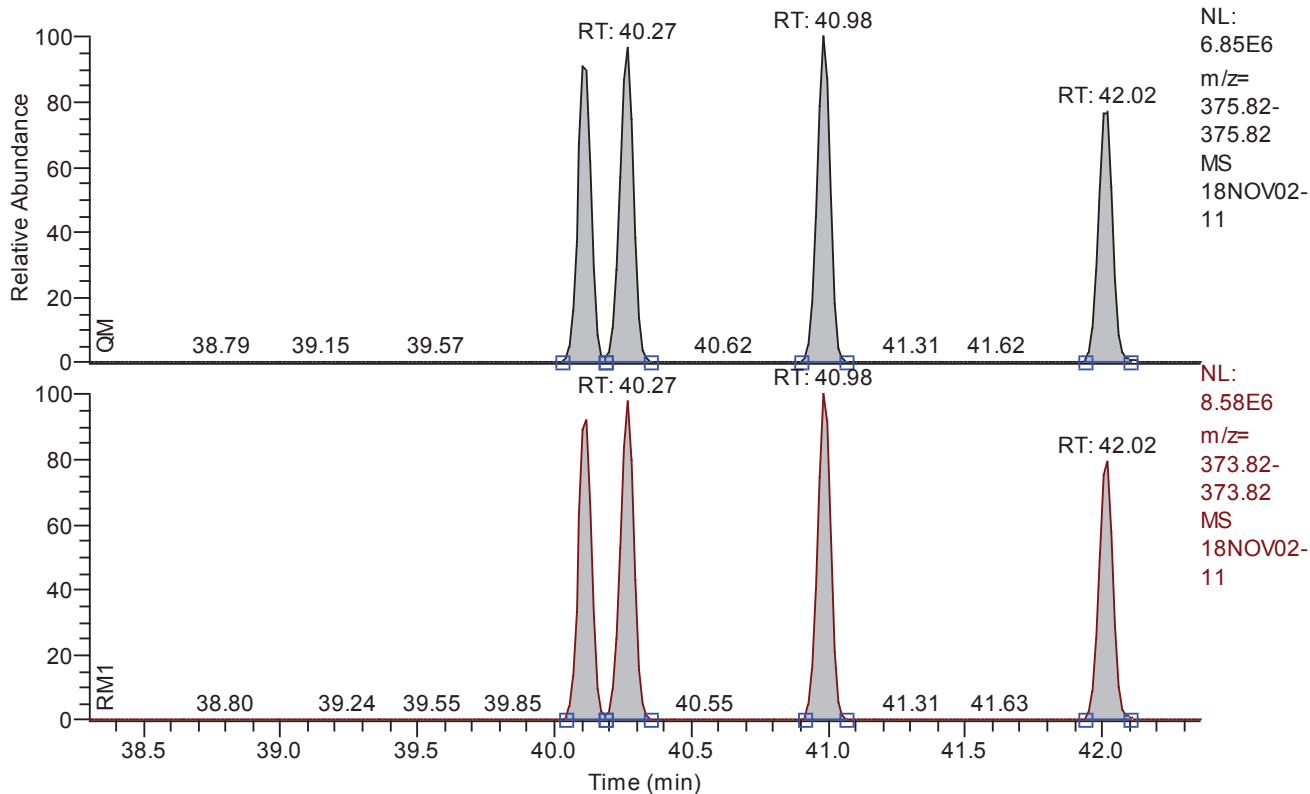
**Entry Parameters**

Compound Name	Total PeCDD
QM Retention Time	35.55
QM Area	11594688
QM Integration Mode	A
RM1 Area	18005032
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0396
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	61968
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 38.30 - 42.36 SM: 3G



Entry: total-hxcdf IS: 13C12-HxCDF\_AVG

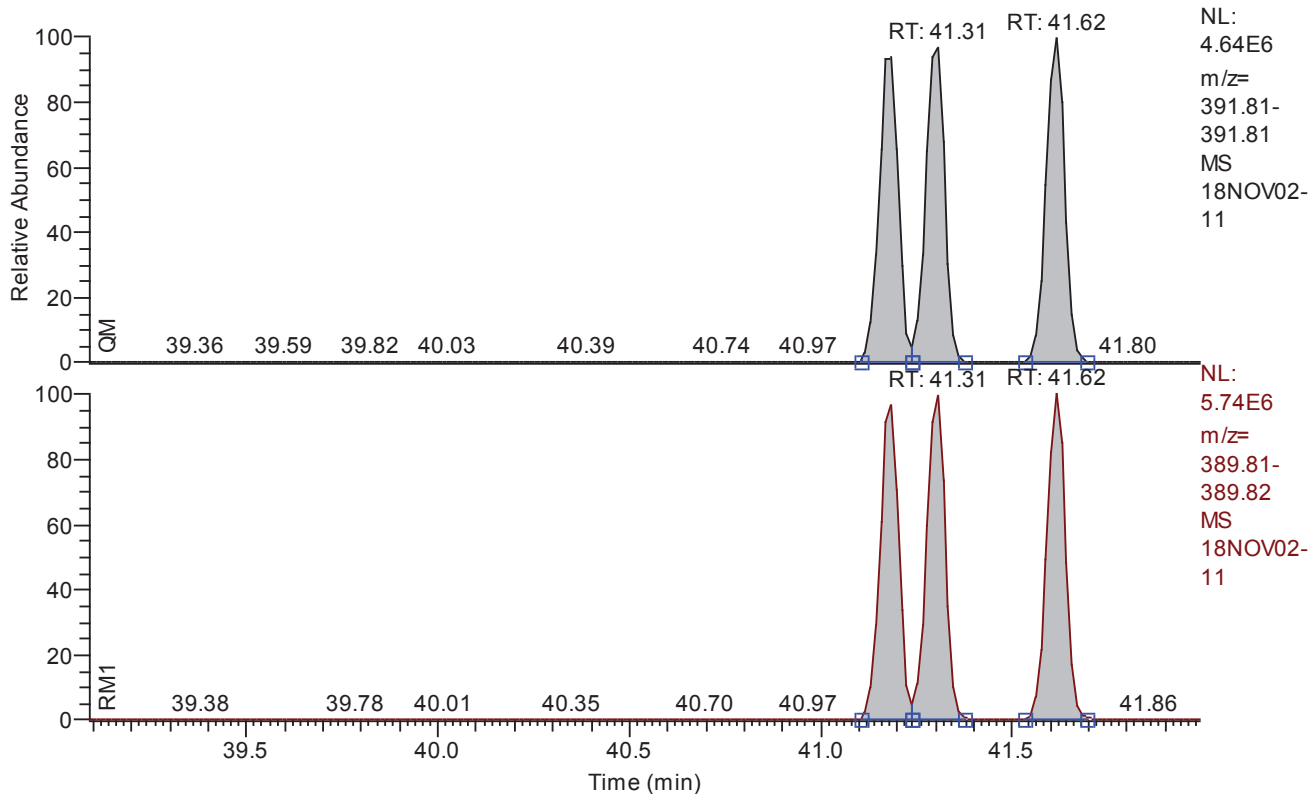
**Entry Parameters**

Compound Name	Total HxCDF
QM Retention Time	40.33
QM Area	87134701
QM Integration Mode	A
RM1 Area	109314346
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0669
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	4000.0000
Signal-to-Noise	38388
Client Flags	
Status Overview	passed (4)
Status Info	



**Chromatogram**

RT: 39.09 - 41.99 SM: 3G



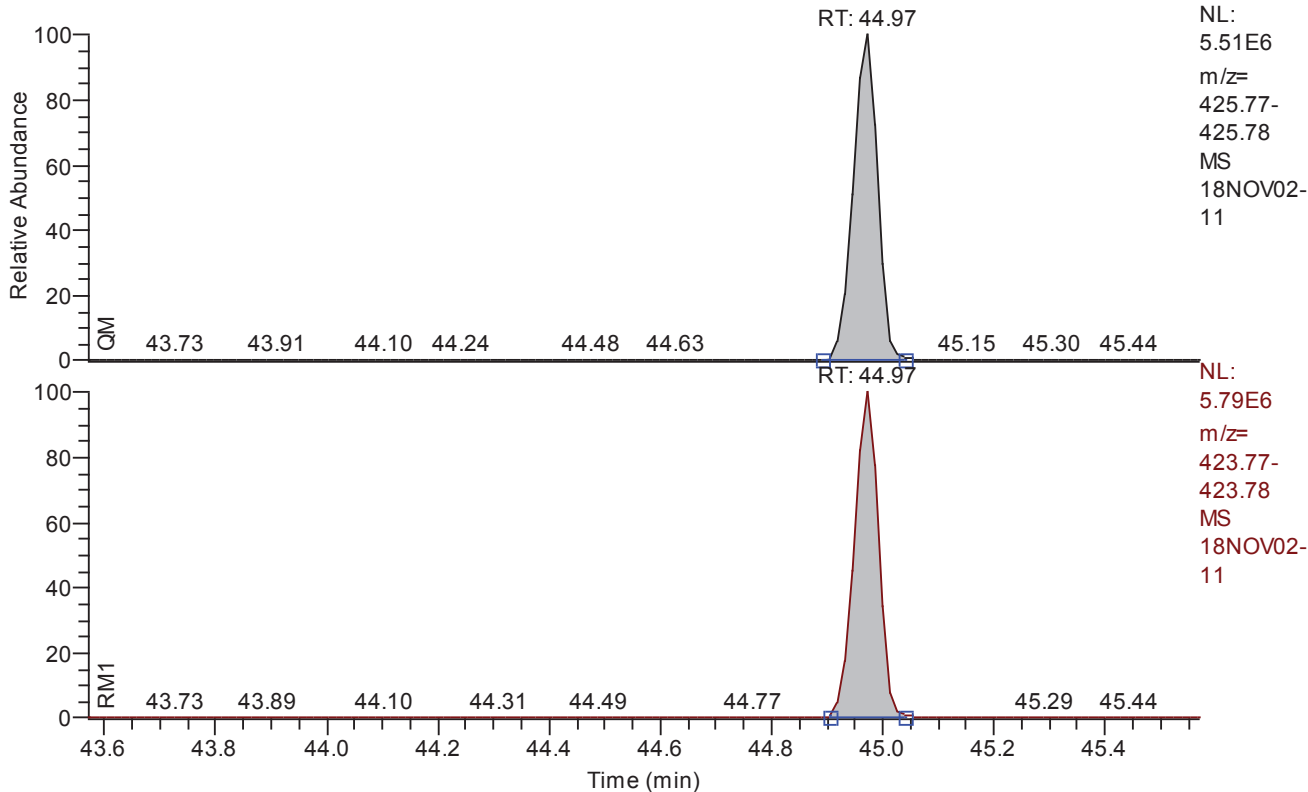
Entry: total-hxcdd IS: 13C12-HxCDD\_AVG

**Entry Parameters**

Compound Name	Total HxCDD
QM Retention Time	40.54
QM Area	46314146
QM Integration Mode	A
RM1 Area	57496946
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0291
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	3000.0000
Signal-to-Noise	87204
Client Flags	
Status Overview	passed (3)
Status Info	

**Chromatogram**

RT: 43.57 - 45.57 SM: 3G



Entry: total-hpcdd IS: 13C12-1234678-HpCDD

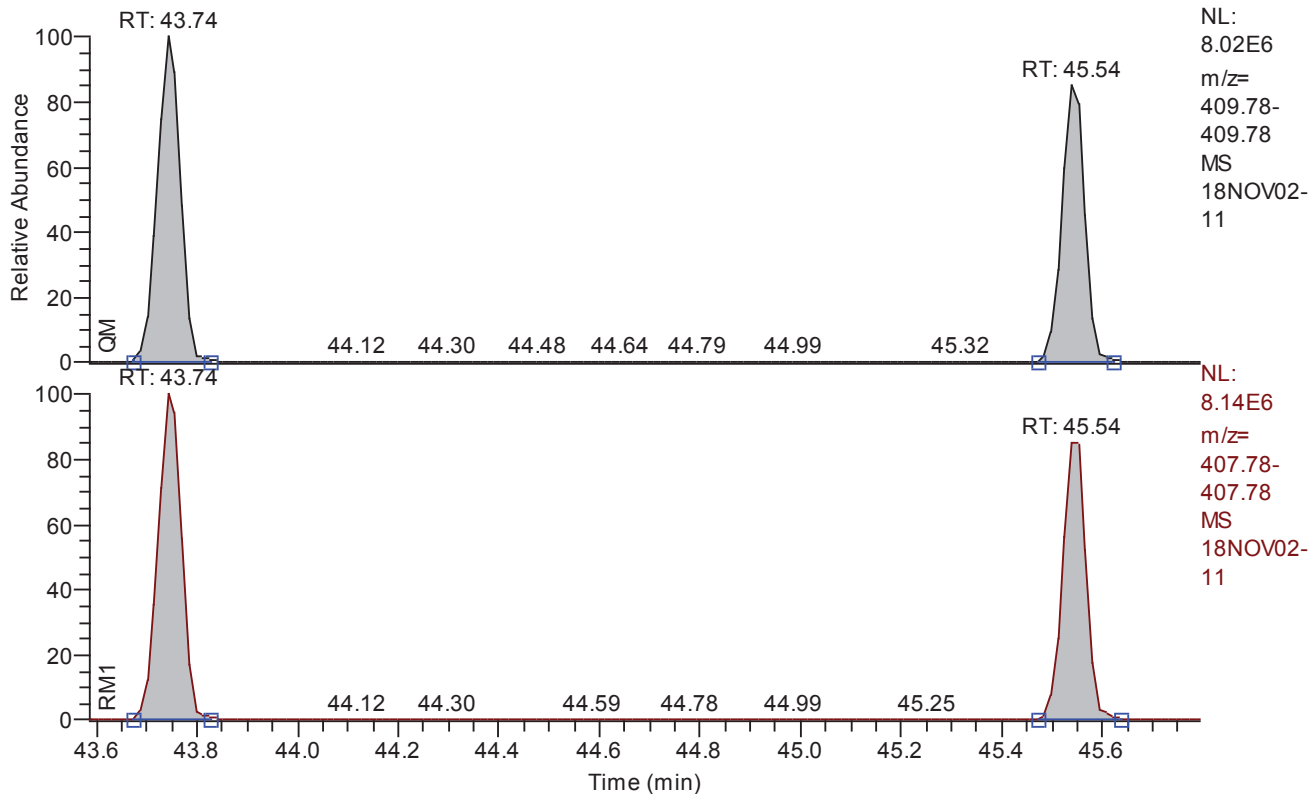
**Entry Parameters**

Compound Name	Total HpCDD
QM Retention Time	44.57
QM Area	17168738
QM Integration Mode	A
RM1 Area	17860466
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0566
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	1000.0000
Signal-to-Noise	45055
Client Flags	
Status Overview	passed (1)
Status Info	



**Chromatogram**

RT: 43.58 - 45.80 SM: 3G



Entry: total-hpcdf IS: 13C12-HpCDF\_AVG

**Entry Parameters**

Compound Name	Total HpCDF
QM Retention Time	44.69
QM Area	47474195
QM Integration Mode	A
RM1 Area	49243615
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0769
Unqualified Amount (A)	1000.000000
Adjusted Amount (A)	2000.0000
Signal-to-Noise	33436
Client Flags	
Status Overview	passed (2)
Status Info	



Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Retention Time	RM1 Retention Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	28.97	28.97	28.97	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	0.67	30.08	30.08	30.08	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	35.05	35.05	35.05	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	0.67	36.37	36.37	36.37	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	0.67	36.76	36.76	36.77	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.11	40.11	40.12	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.27	40.27	40.27	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	40.98	40.98	40.98	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.18	41.18	41.18	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.31	41.31	41.31	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	0.67	41.62	41.62	41.62	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	0.67	42.02	42.02	42.02	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	43.74	43.74	43.74	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	0.67	44.97	44.97	44.97	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	0.67	45.54	45.54	45.54	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	0.67	48.02	48.02	48.02	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	0.67	48.21	48.21	48.21	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	1.00	30.49	30.49	30.49	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	29.19	29.19	29.19	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	1.00	40.01	40.01	40.01	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	28.93	28.93	28.93	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	30.05	30.05	30.06	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	35.03	35.03	35.02	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	0.67	36.34	36.34	36.34	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	0.67	36.74	36.74	36.74	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.09	40.09	40.09	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.25	40.25	40.25	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	40.97	40.97	40.97	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.16	41.16	41.16	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.28	41.28	41.28	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	0.67	41.60	41.60	41.60	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	0.67	41.99	41.99	41.99	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	43.73	43.73	43.73	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	0.67	44.96	44.96	44.96	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	0.67	45.53	45.53	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	0.67	48.01	48.01	48.01	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	1.00	48.20	48.20	48.20	passed	passed
38	Total TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.02	28.02	28.02	---	---
39	Total TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	28.72	28.72	28.72	---	---
40	Total PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	34.60	34.60	34.60	---	---
41	Total PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	35.55	35.55	35.55	---	---
42	Total HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.33	40.33	40.33	---	---
43	Total HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	40.54	40.54	40.54	---	---
44	Total HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.57	44.57	44.57	---	---
45	Total HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	44.69	44.69	44.69	---	---
46	Single TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	7.45	28.97	28.97	28.97	passed	passed
47	Single TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	5.57	30.08	30.08	30.08	passed	passed
48	Single PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	3.75	36.76	36.76	36.77	passed	passed
49	Single PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	36.37	36.37	36.37	passed	passed
50	Single PeCDD	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	6.32	35.05	35.05	35.05	passed	passed
51	Single HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	1.08	44.97	44.97	44.97	passed	passed
52	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.98	40.98	40.98	passed	passed
53	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.11	40.11	40.12	passed	passed
54	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	40.27	40.27	40.27	passed	passed
55	Single HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	3.69	42.02	42.02	42.02	passed	passed
56	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.62	41.62	41.62	passed	passed
57	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.18	41.18	41.18	passed	passed
58	Single HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	2.64	41.31	41.31	41.31	passed	passed
59	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	43.74	43.74	43.74	passed	passed
60	Single HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	2.01	45.54	45.54	45.54	passed	passed





**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.97	0.7747	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	2378-TCDD	30.08	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	12378-PeCDF	35.05	1.5771	1.3150 - 1.7850	passed	100.00	0 - 0	passed
4	23478-PeCDF	36.37	1.5783	1.3150 - 1.7850	passed	100.00	0 - 0	passed
5	12378-PeCDD	36.76	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
6	123478-HxCDF	40.11	1.2442	1.0450 - 1.4350	passed	100.00	0 - 0	passed
7	123678-HxCDF	40.27	1.2531	1.0450 - 1.4350	passed	100.00	0 - 0	passed
8	234678-HxCDF	40.98	1.2588	1.0450 - 1.4350	passed	100.00	0 - 0	passed
9	123478-HxCDD	41.18	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
10	123678-HxCDD	41.31	1.2473	1.0450 - 1.4350	passed	100.00	0 - 0	passed
11	123789-HxCDD	41.62	1.2350	1.0450 - 1.4350	passed	100.00	0 - 0	passed
12	123789-HxCDF	42.02	1.2634	1.0450 - 1.4350	passed	100.00	0 - 0	passed
13	1234678-HpCDF	43.74	1.0355	0.8750 - 1.2050	passed	100.00	0 - 0	passed
14	1234678-HpCDD	44.97	1.0403	0.8750 - 1.2050	passed	100.00	0 - 0	passed
15	1234789-HpCDF	45.54	1.0393	0.8750 - 1.2050	passed	100.00	0 - 0	passed
16	OCDD	48.02	0.8723	0.7550 - 1.0250	passed	100.00	0 - 0	passed
17	OCDF	48.21	0.8839	0.7550 - 1.0250	passed	100.00	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.49	0.7907	0.6450 - 0.8950	passed	100.00	0 - 0	passed
19	13C12-1234-TCDD	29.19	0.7815	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	40.01	1.2776	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.93	0.7807	0.6450 - 0.8950	passed	100.00	0 - 0	passed
22	13C12-2378-TCDD	30.05	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
23	13C12-12378-PeCDF	35.03	1.5608	1.3150 - 1.7850	passed	100.00	0 - 0	passed
24	13C12-23478-PeCDF	36.34	1.5714	1.3150 - 1.7850	passed	100.00	0 - 0	passed
25	13C12-12378-PeCDD	36.74	1.5976	1.3150 - 1.7850	passed	100.00	0 - 0	passed
26	13C12-123478-HxCDF	40.09	0.5359	0.4250 - 0.5950	passed	100.00	0 - 0	passed
27	13C12-123678-HxCDF	40.25	0.5349	0.4250 - 0.5950	passed	100.00	0 - 0	passed
28	13C12-234678-HxCDF	40.97	0.5352	0.4250 - 0.5950	passed	100.00	0 - 0	passed
29	13C12-123478-HxCDD	41.16	1.2575	1.0450 - 1.4350	passed	100.00	0 - 0	passed
30	13C12-123678-HxCDD	41.28	1.2459	1.0450 - 1.4350	passed	100.00	0 - 0	passed
31	13C12-123789-HxCDD	41.80	1.2407	1.0450 - 1.4350	passed	100.00	0 - 0	passed
32	13C12-123789-HxCDF	41.99	0.5290	0.4250 - 0.5950	passed	100.00	0 - 0	passed
33	13C12-1234678-HpCDF	43.73	0.4561	0.3650 - 0.5150	passed	100.00	0 - 0	passed
34	13C12-1234678-HpCDD	44.96	1.0716	0.8750 - 1.2050	passed	100.00	0 - 0	passed
35	13C12-1234789-HpCDF	45.53	0.4559	0.3650 - 0.5150	passed	100.00	0 - 0	passed
36	13C12-OCDD	48.01	0.9023	0.7550 - 1.0250	passed	100.00	0 - 0	passed
37	13C12-OCDF	48.20	0.8991	0.7550 - 1.0250	passed	100.00	0 - 0	passed
38	Total TCDF	28.02	0.7747	0.6450 - 0.8950	---	100.00	0 - 0	---
39	Total TCDD	28.72	0.7866	0.6450 - 0.8950	---	100.00	0 - 0	---
40	Total PeCDF	34.60	1.5777	1.3150 - 1.7850	---	100.00	0 - 0	---
41	Total PeCDD	35.55	1.5529	1.3150 - 1.7850	---	100.00	0 - 0	---
42	Total HxCDF	40.33	1.2545	1.0450 - 1.4350	---	100.00	0 - 0	---
43	Total HxCDD	40.54	1.2415	1.0450 - 1.4350	---	100.00	0 - 0	---
44	Total HpCDD	44.57	1.0403	0.8750 - 1.2050	---	100.00	0 - 0	---
45	Total HpCDF	44.69	1.0373	0.8750 - 1.2050	---	100.00	0 - 0	---
46	Single TCDF	28.97	0.7747	0.6450 - 0.8950	passed	100.00	0 - 0	passed
47	Single TCDD	30.08	0.7866	0.6450 - 0.8950	passed	100.00	0 - 0	passed
48	Single PeCDD	36.76	1.5529	1.3150 - 1.7850	passed	100.00	0 - 0	passed
49	Single PeCDF	36.37	1.5783	1.3150 - 1.7850	passed	100.00	0 - 0	passed
50	Single PeCDF	35.05	1.5771	1.3150 - 1.7850	passed	100.00	0 - 0	passed
51	Single HpCDD	44.97	1.0403	0.8750 - 1.2050	passed	100.00	0 - 0	passed
52	Single HxCDF	40.98	1.2588	1.0450 - 1.4350	passed	100.00	0 - 0	passed
53	Single HxCDF	40.11	1.2442	1.0450 - 1.4350	passed	100.00	0 - 0	passed
54	Single HxCDF	40.27	1.2531	1.0450 - 1.4350	passed	100.00	0 - 0	passed
55	Single HxCDF	42.02	1.2634	1.0450 - 1.4350	passed	100.00	0 - 0	passed
56	Single HxCDD	41.62	1.2350	1.0450 - 1.4350	passed	100.00	0 - 0	passed
57	Single HxCDD	41.18	1.2423	1.0450 - 1.4350	passed	100.00	0 - 0	passed
58	Single HxCDD	41.31	1.2473	1.0450 - 1.4350	passed	100.00	0 - 0	passed
59	Single HpCDF	43.74	1.0355	0.8750 - 1.2050	passed	100.00	0 - 0	passed
60	Single HpCDF	45.54	1.0393	0.8750 - 1.2050	passed	100.00	0 - 0	passed

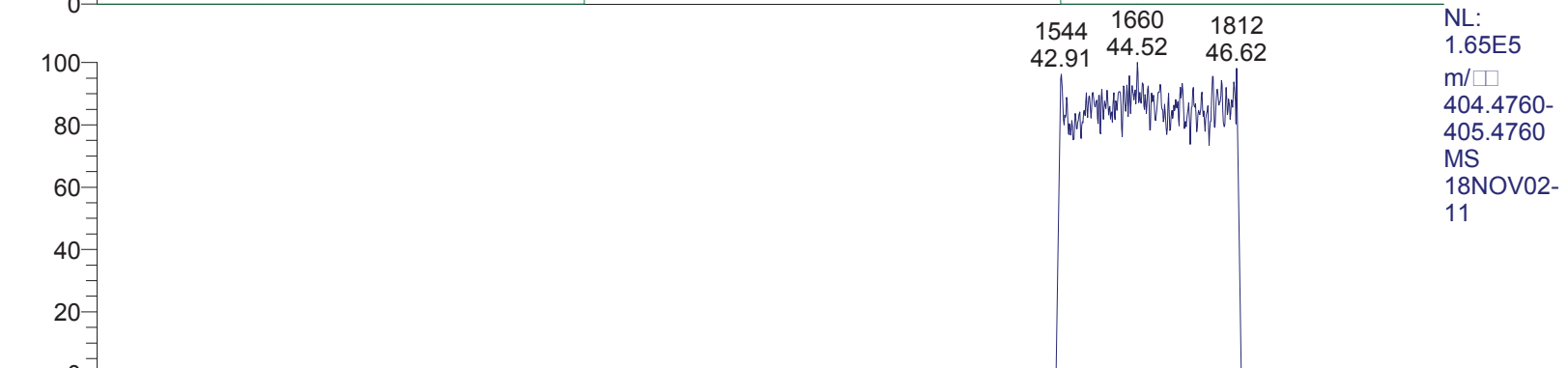
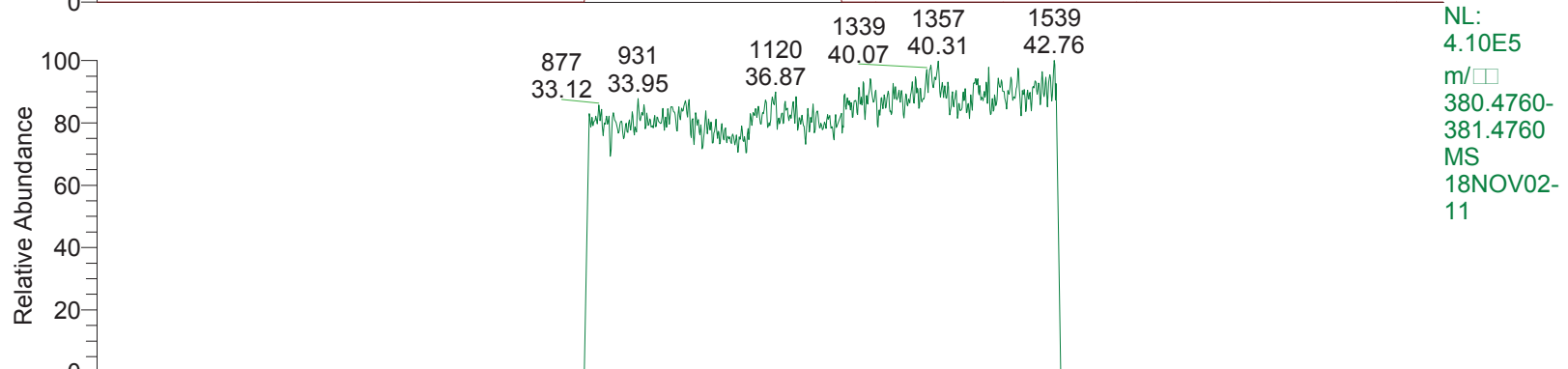
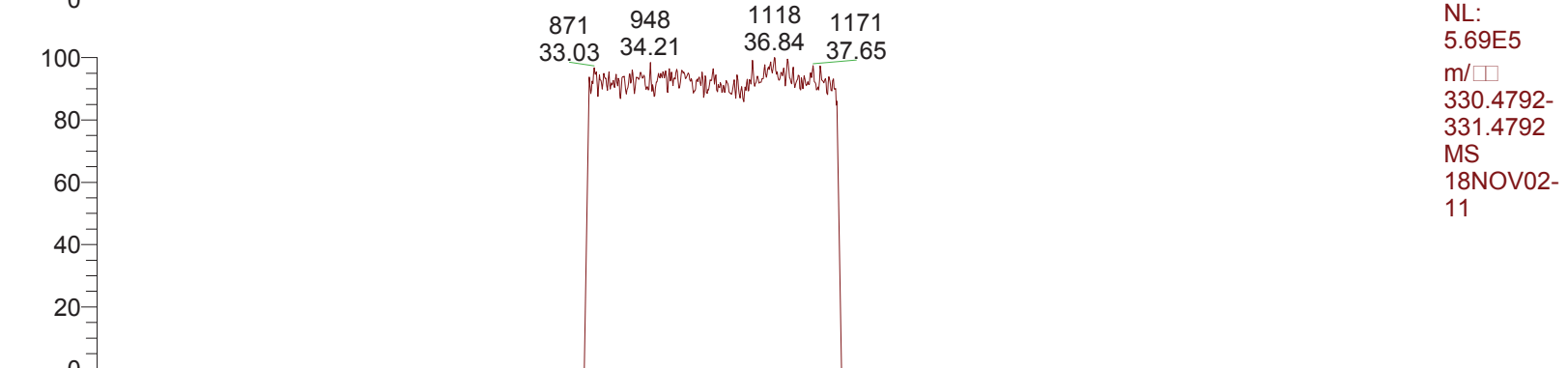
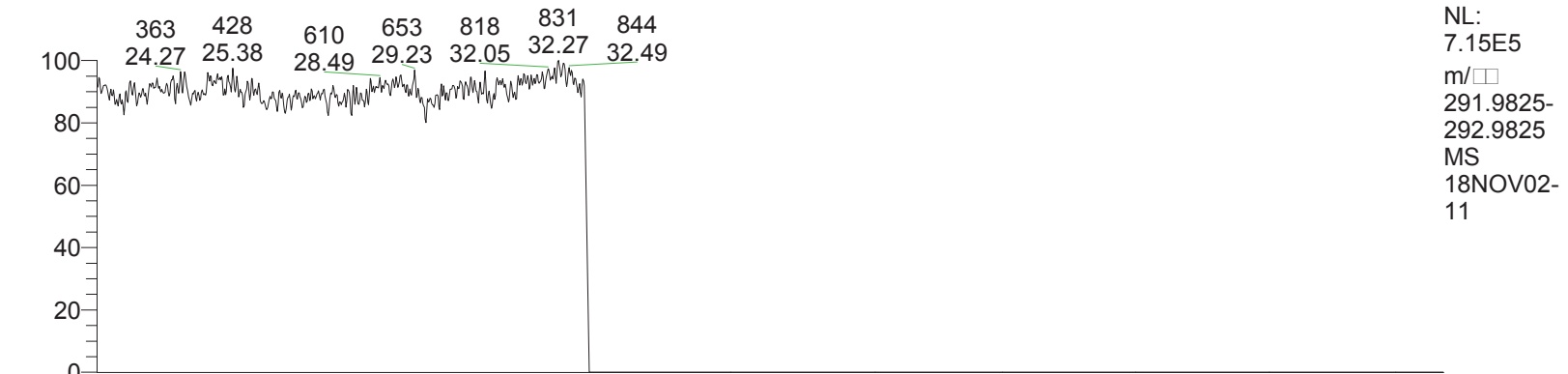


**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.97	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
2	2378-TCDD	passed	30.08	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
3	12378-PeCDF	passed	35.05	17613444	A	27777412	A	0.0218	1000.000000	1000.0000	1000.000000	122095	
4	23478-PeCDF	passed	36.37	20198829	A	31878890	A	0.0174	1000.000000	1000.0000	1000.000000	146843	
5	12378-PeCDD	passed	36.76	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
6	123478-HxCDF	passed	40.11	22589684	A	28106626	A	0.0655	1000.000000	1000.0000	1000.000000	38279	
7	123678-HxCDF	passed	40.27	22934090	A	28739820	A	0.0645	1000.000000	1000.0000	1000.000000	40661	
8	234678-HxCDF	passed	40.98	22715121	A	28594617	A	0.0605	1000.000000	1000.0000	1000.000000	41819	
9	123478-HxCDD	passed	41.18	15252639	A	18948164	A	0.0294	1000.000000	1000.0000	1000.000000	85120	
10	123678-HxCDD	passed	41.31	15361094	A	19159253	A	0.0296	1000.000000	1000.0000	1000.000000	87565	
11	123789-HxCDD	passed	41.62	15700412	A	19389530	A	0.0283	1000.000000	1000.0000	1000.000000	88926	
12	123789-HxCDF	passed	42.02	18895806	A	23873284	A	0.0773	1000.000000	1000.0000	1000.000000	32791	
13	1234678-HpCDF	passed	43.74	25695083	A	26607789	A	0.0708	1000.000000	1000.0000	1000.000000	36113	
14	1234678-HpCDD	passed	44.97	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
15	1234789-HpCDF	passed	45.54	21779112	A	22635826	A	0.0828	1000.000000	1000.0000	1000.000000	30758	
16	OCDD	passed	48.02	41351916	A	36071568	A	0.0251	2000.000000	2000.0000	2000.000000	209286	
17	OCDF	passed	48.21	50865312	A	44958033	A	0.0176	2000.000000	2000.0000	2000.000000	300340	
18	13C12-1278-TCDD (CRS)	passed	30.49	1813102	A	1433579	A	0.0254	100.000000	100.0000	100.000000	9407	
19	13C12-1234-TCDD	passed	29.19	1774541	A	1386829	A	0.0261	100.000000	100.0000	100.000000	9582	
20	13C12-123468-HxCDD	passed	40.01	1504485	A	1922156	A	0.0223	100.000000	100.0000	100.000000	11193	
21	13C12-2378-TCDF	passed	28.93	3096243	A	2417288	A	0.0168	100.000000	100.0000	100.000000	14815	
22	13C12-2378-TCDD	passed	30.05	1696109	A	1336571	A	0.0272	100.000000	100.0000	100.000000	8980	
23	13C12-12378-PeCDF	passed	35.03	2046486	A	3194237	A	0.0331	100.000000	100.0000	100.000000	9713	
24	13C12-23478-PeCDF	passed	36.34	2056557	A	3231663	A	0.0328	100.000000	100.0000	100.000000	10685	
25	13C12-12378-PeCDD	passed	36.74	1245314	A	1989545	A	0.0258	100.000000	100.0000	100.000000	13698	
26	13C12-123478-HxCDF	passed	40.09	2977106	A	1595399	A	0.0229	100.000000	100.0000	100.000000	10995	
27	13C12-123678-HxCDF	passed	40.25	3192081	A	1707397	A	0.0214	100.000000	100.0000	100.000000	11730	
28	13C12-234678-HxCDF	passed	40.97	2955095	A	1581649	A	0.0231	100.000000	100.0000	100.000000	11653	
29	13C12-123478-HxCDD	passed	41.16	1659487	A	2086779	A	0.0204	100.000000	100.0000	100.000000	12868	
30	13C12-123678-HxCDD	passed	41.28	1687111	A	2102039	A	0.0202	100.000000	100.0000	100.000000	12812	
31	13C12-123789-HxCDD	passed	41.60	1600303	A	1985470	A	0.0213	100.000000	100.0000	100.000000	12490	
32	13C12-123789-HxCDF	passed	41.99	2703200	A	1429966	A	0.0254	100.000000	100.0000	100.000000	9973	
33	13C12-1234678-HpCDF	passed	43.73	2971784	A	1355458	A	0.0314	100.000000	100.0000	100.000000	8734	
34	13C12-1234678-HpCDD	passed	44.96	1758192	A	1884070	A	0.0227	100.000000	100.0000	100.000000	12628	
35	13C12-1234789-HpCDF	passed	45.53	2547294	A	1161300	A	0.0366	100.000000	100.0000	100.000000	7546	
36	13C12-OCDD	passed	48.01	4153548	A	3747722	A	0.0079	200.000000	200.0000	200.000000	76067	
37	13C12-OCDF	passed	48.20	5497867	A	4942965	A	0.0084	200.000000	200.0000	200.000000	71237	
38	Total TCDF	passed (1)	28.02	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
39	Total TCDD	passed (1)	28.72	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
40	Total PeCDF	passed (2)	34.60	37812273	A	59656302	A	0.0195	1000.000000	2000.0000	1000.000000	134469	
41	Total PeCDD	passed (1)	35.55	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
42	Total HxCDF	passed (4)	40.33	87134701	A	109314346	A	0.0669	1000.000000	4000.0000	1000.000000	38388	
43	Total HxCDD	passed (3)	40.54	46314146	A	57496946	A	0.0291	1000.000000	3000.0000	1000.000000	87204	
44	Total HpCDF	passed (1)	44.57	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
45	Total HpCDD	passed (2)	44.69	47474195	A	49243615	A	0.0769	1000.000000	2000.0000	1000.000000	33436	
46	Single TCDF	passed	28.97	5622941	A	4356222	A	0.0300	200.000000	200.0000	200.000000	16896	
47	Single TCDD	passed	30.08	3769904	A	2965472	A	0.0240	200.000000	200.0000	200.000000	21206	
48	Single PeCDF	passed	36.76	11594688	A	18005032	A	0.0396	1000.000000	1000.0000	1000.000000	61968	
49	Single PeCDD	passed	36.37	20198829	A	31878890	A	0.0181	1000.000000	1000.0000	1000.000000	146843	
50	Single PeCDF	passed	35.05	17613444	A	27777412	A	0.0208	1000.000000	1000.0000	1000.000000	122095	
51	Single HpCDD	passed	44.97	17168738	A	17860466	A	0.0566	1000.000000	1000.0000	1000.000000	45055	
52	Single HxCDF	passed	40.98	22715121	A	28594617	A	0.0636	1000.000000	1000.0000	1000.000000	41819	
53	Single HxCDF	passed	40.11	22589684	A	28106626	A	0.0644	1000.000000	1000.0000	1000.000000	38279	
54	Single HxCDF	passed	40.27	22934090	A	28739820	A	0.0632	1000.000000	1000.0000	1000.000000	40661	
55	Single HxCDF	passed	42.02	18895806	A	23873284	A	0.0763	1000.000000	1000.0000	1000.000000	32791	
56	Single HxCDD	passed	41.62	15700412	A	19389530	A	0.0287	1000.000000	1000.0000	1000.000000	88926	
57	Single HxCDD	passed	41.18	15252639	A	18948164	A	0.0294	1000.000000	1000.0000	1000.000000	85120	
58	Single HxCDD	passed	41.31	15361094	A	19159253	A	0.0292	1000.000000	1000.0000	1000.000000	87565	
59	Single HpCDF	passed	43.74	25695083	A	26607789	A	0.0706	1000.000000	1000.0000	1000.000000	36113	
60	Single HpCDF	passed	45.54	21779112	A	22635826	A	0.0831	1000.000000	1000.0000	1000.000000	30758	



RT: 22.50 - 51.00



**APPROVED**  
By uma9 at 11:21 am, 11/7/18

**REVIEWED**  
By uild at 4:28 pm, 11/7/18

\*\*\* file opened Fri Nov 02 19:32:01 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 02-Nov-18 19:32:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : da1bee77-98a4-4b29-839b-b6d38288f3e1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)	
Window # 1	218.0129		1	1	95	
	218.9851	l	20	1	4	
	220.0100		1	1	95	
	230.0532		2	1	47	
	232.0502		2	1	47	
	251.9739		1	1	95	
	253.9710		1	1	95	
	264.0142		2	1	47	
	266.0112		2	1	47	
	285.9350		1	1	95	
	287.9320		1	1	95	
	292.9819	c	20	1	4	
	297.9752		2	1	47	
	299.9723		2	1	47	
	Window # 2	292.9819	l	20	1	5
		303.9011		1	1	118
305.8981			1	1	118	
315.9413			5	1	23	
317.9384			5	1	23	
319.8960			1	1	118	
321.8930			1	1	118	



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

**APPROVED**

By uma9 at 11:21 am, 11/7/18

**REVIEWED**

By uild at 4:28 pm, 11/7/18

18NOV02-11

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	94.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0003	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1246.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	216.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	190.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.6000
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0181	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	94.5000	LKM	442.9723	MASS	94.5000
MDAC	1395128.6998	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2159.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9817	RELEN	0.0000
RES	11125.0841	RPUSHER	-1.0916	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0227	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	94.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.7e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 10476.  
MID Time window 2: Resolution is 10998.  
MID Time window 3: Resolution is 11003.  
MID Time window 4: Resolution is 11229.



18NOV02-11

MID Time Window 5: Resolution is 11228.  
MID Time Window 6: Resolution is 11125.

Amplifier Offset: 91.

\*\*\* File closed Fri Nov 02 20:23:03 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/06 13:03
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823737B
Sample ID	CPS02
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	w:\18nov06\18nov06-06.quan
Data	w:\18nov06\18nov06-06.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

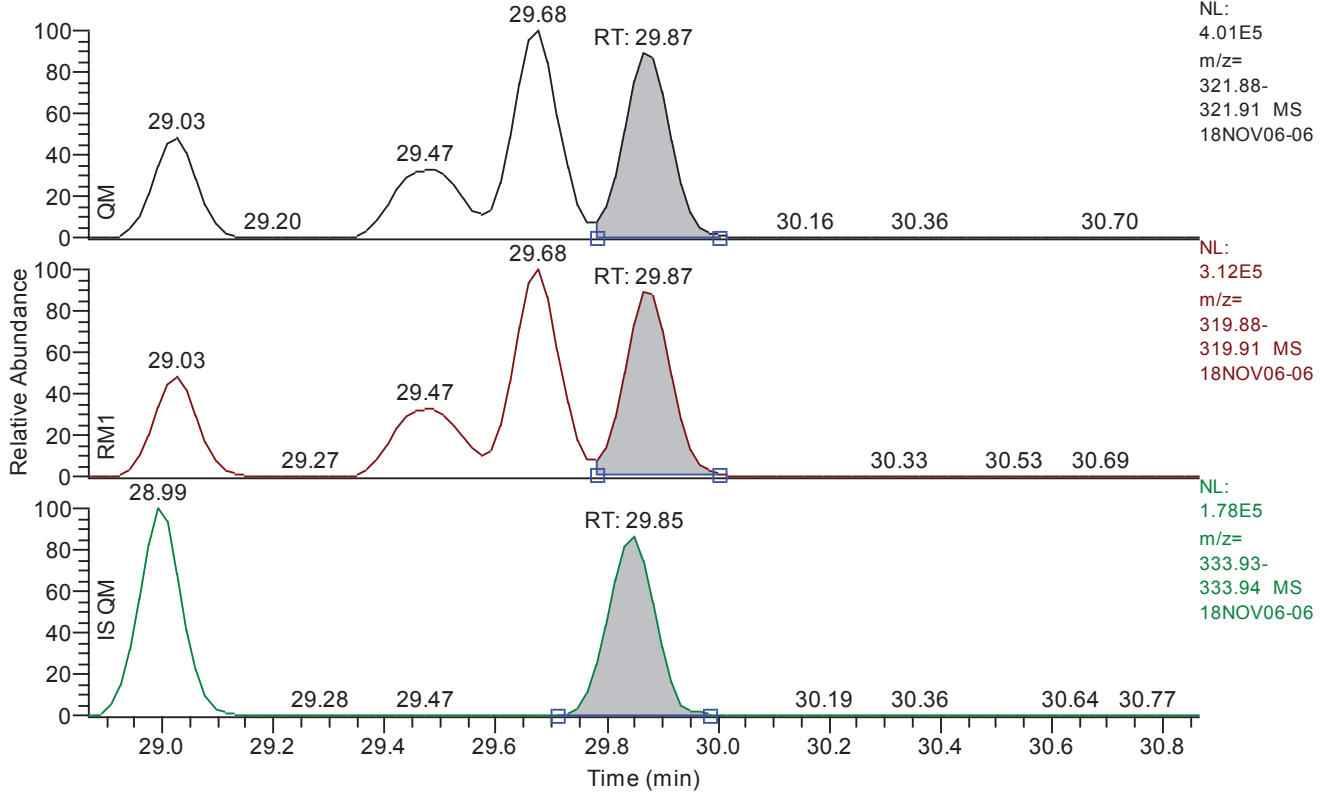
**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0



**Chromatogram**

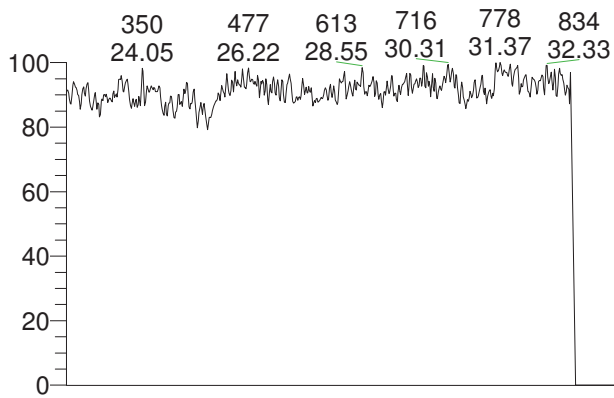
RT: 28.87 - 30.87 SM: 3G



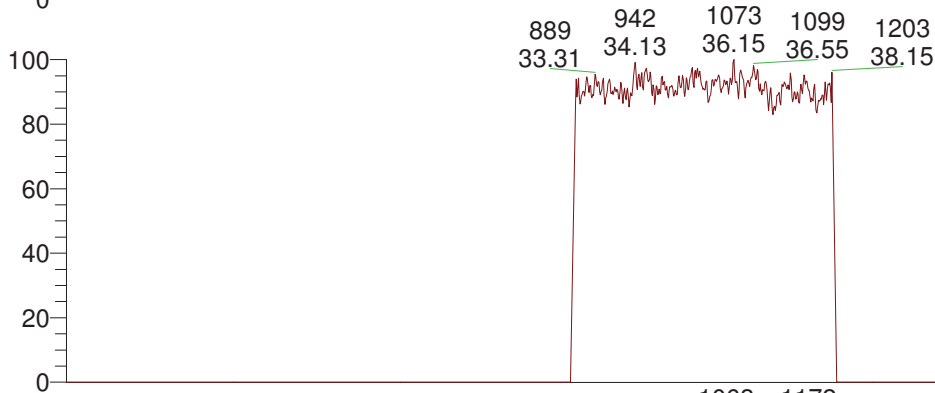
**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	29.87
RM1 Left Baseline Height	3032.11
RM1 Left Height	20515
RM1 Height	275211
GC Res (%) left	7.537173

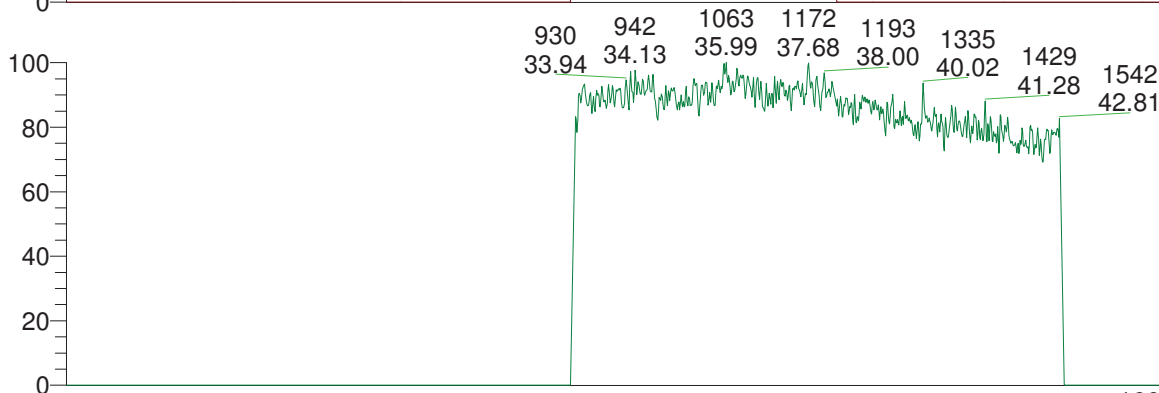
RT: 22.50 - 51.00



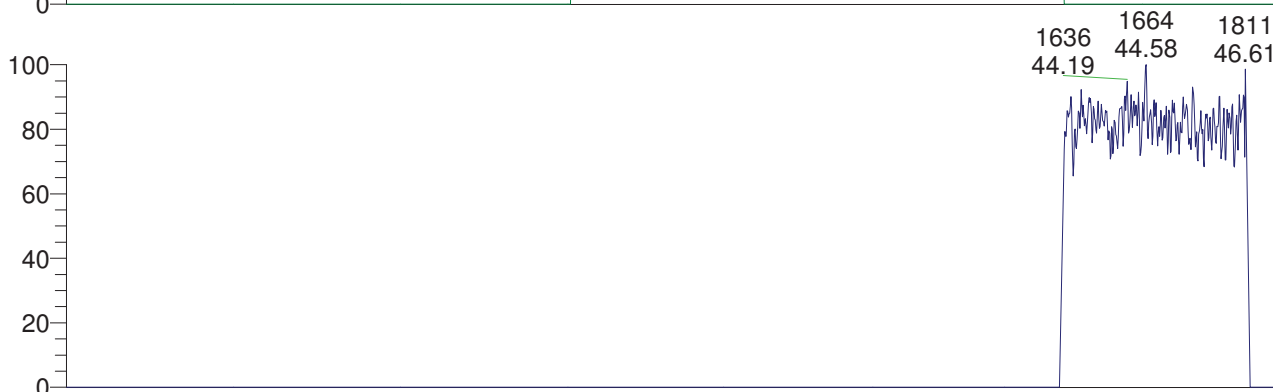
NL:  
6.02E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
06



NL:  
5.46E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
06



NL:  
4.04E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
06



NL:  
1.13E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
06



NL:  
1.32E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
06

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 2:42 pm, 11/8/18

\*\*\* file opened Tue Nov 06 13:06:39 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 13:06:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 8990ed8e-76d1-4e6e-a844-d7145c7a777a

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	11:17 min	32:47 min	1.00 sec
# 3	32:47 min	5:21 min	38:08 min	0.90 sec
# 4	38:08 min	4:38 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.800000 minutes

MID window end time was 32.800000 minutes

**APPROVED**

By uma9 at 1:23 pm, 11/8/18

**REVIEWED**

By uild at 2:42 pm, 11/8/18

18NOV06-06

MID window terminated after 38.150000 minutes  
MID window end time was 38.150000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)\Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	99.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1588.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0184	FVINLET	0.0426	FVSR	0.0327
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1451960.7165	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2158.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9788	RELEN	0.0000
RES	12853.5934	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0199	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11628.  
MID Time window 2: Resolution is 12075.  
MID Time window 3: Resolution is 12231.  
MID Time window 4: Resolution is 12480.



18NOV06-06

MID Time Window 5: Resolution is 13122.  
MID Time Window 6: Resolution is 12853.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 13:57:40 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 14:54  
Number of Entries 260  
Comment  
Vial 9  
Sample Name SSDFX1837C  
Sample ID ICV  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-08.quan  
Data w:\18nov06\18nov06-08.raw  
Response w:\responsefiles\df17280-16aug24dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed		---
2	2378-TCDD	29.95	passed	passed	passed	passed	passed		---
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed		---
4	23478-PeCDF	36.28	passed	passed	passed	passed	passed		---
5	12378-PeCDD	36.68	passed	passed	passed	passed	passed		---
6	123478-HxCDF	40.03	passed	passed	passed	passed	passed		---
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed		---
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed		---
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed		---
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed		---
11	123789-HxCDD	41.54	passed	passed	passed	passed	passed		---
12	123789-HxCDF	41.94	passed	passed	passed	passed	passed		---
13	1234678-HpCDF	43.68	passed	passed	passed	passed	passed		---
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed		---
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed		---
16	OCDD	47.94	passed	passed	passed	passed	passed		---
17	OCDF	48.13	passed	passed	passed	passed	passed		---
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed		---
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed		---
20	13C12-123468-HxCDD	39.92	passed	passed	passed	passed	passed		---
21	13C12-2378-TCDF	28.82	passed	passed	passed	passed	passed		---
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed		---
23	13C12-12378-PeCDF	34.92	passed	passed	passed	passed	passed		---
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed		---
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed		---
26	13C12-123478-HxCDF	40.02	passed	passed	passed	passed	passed		---
27	13C12-123678-HxCDF	40.16	passed	passed	passed	passed	passed		---
28	13C12-234678-HxCDF	40.89	passed	passed	passed	passed	passed		---
29	13C12-123478-HxCDD	41.08	passed	passed	passed	passed	passed		---
30	13C12-123678-HxCDD	41.20	passed	passed	passed	passed	passed		---
31	13C12-123789-HxCDD	41.52	passed	passed	passed	passed	passed		---
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed		---
33	13C12-1234678-HpCDF	43.66	passed	passed	passed	passed	passed		---
34	13C12-1234678-HpCDD	44.89	passed	passed	passed	passed	passed		---
35	13C12-1234789-HpCDF	45.46	passed	passed	passed	passed	passed		---
36	13C12-OCDD	47.94	passed	passed	passed	passed	passed		---
37	13C12-OCDF	48.13	passed	passed	passed	passed	passed		---





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 14:54  
Number of Entries 260  
Comment  
Vial 9  
Sample Name SSDFX1837C  
Sample ID ICV  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

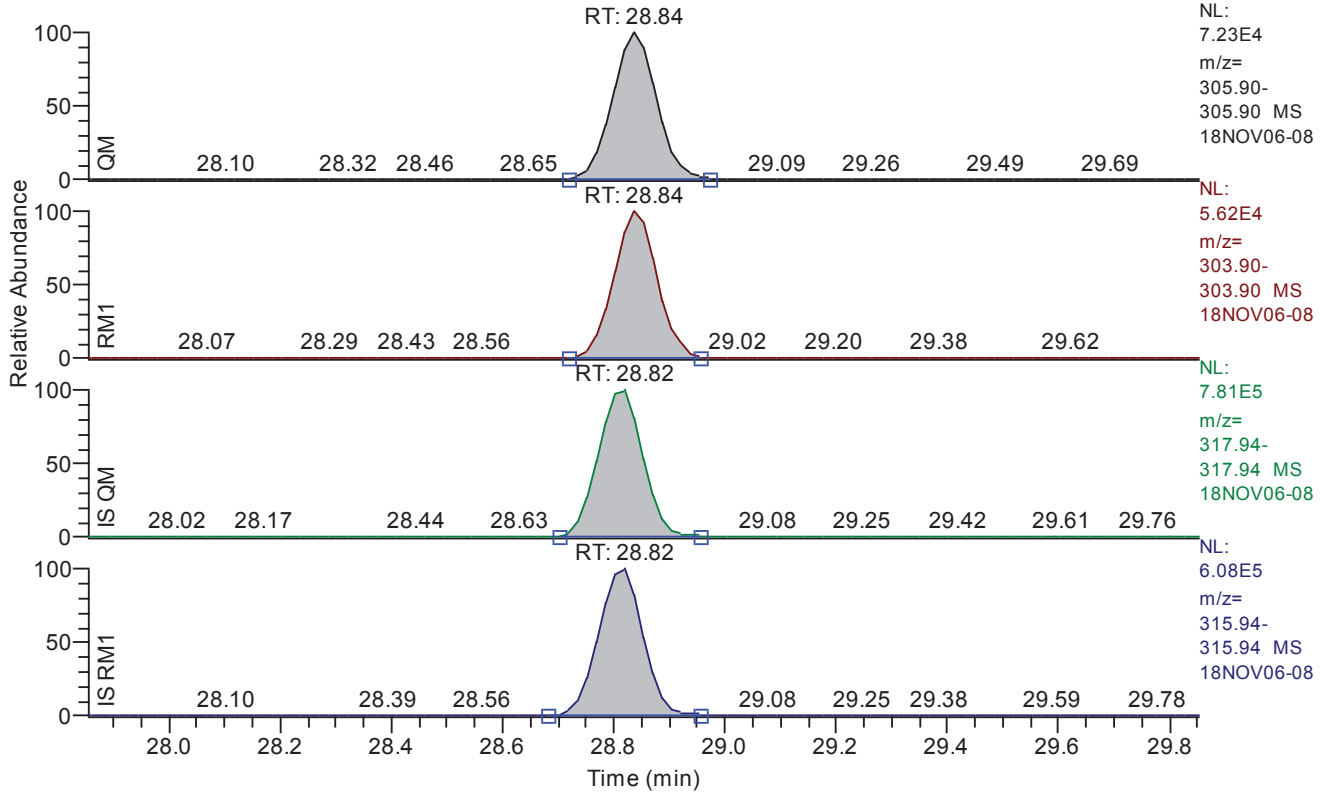
Quan w:\18nov06\18nov06-08.quan  
Data w:\18nov06\18nov06-08.raw  
Response w:\responsefiles\df17280-16aug24dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.85 - 29.85 SM: 3G



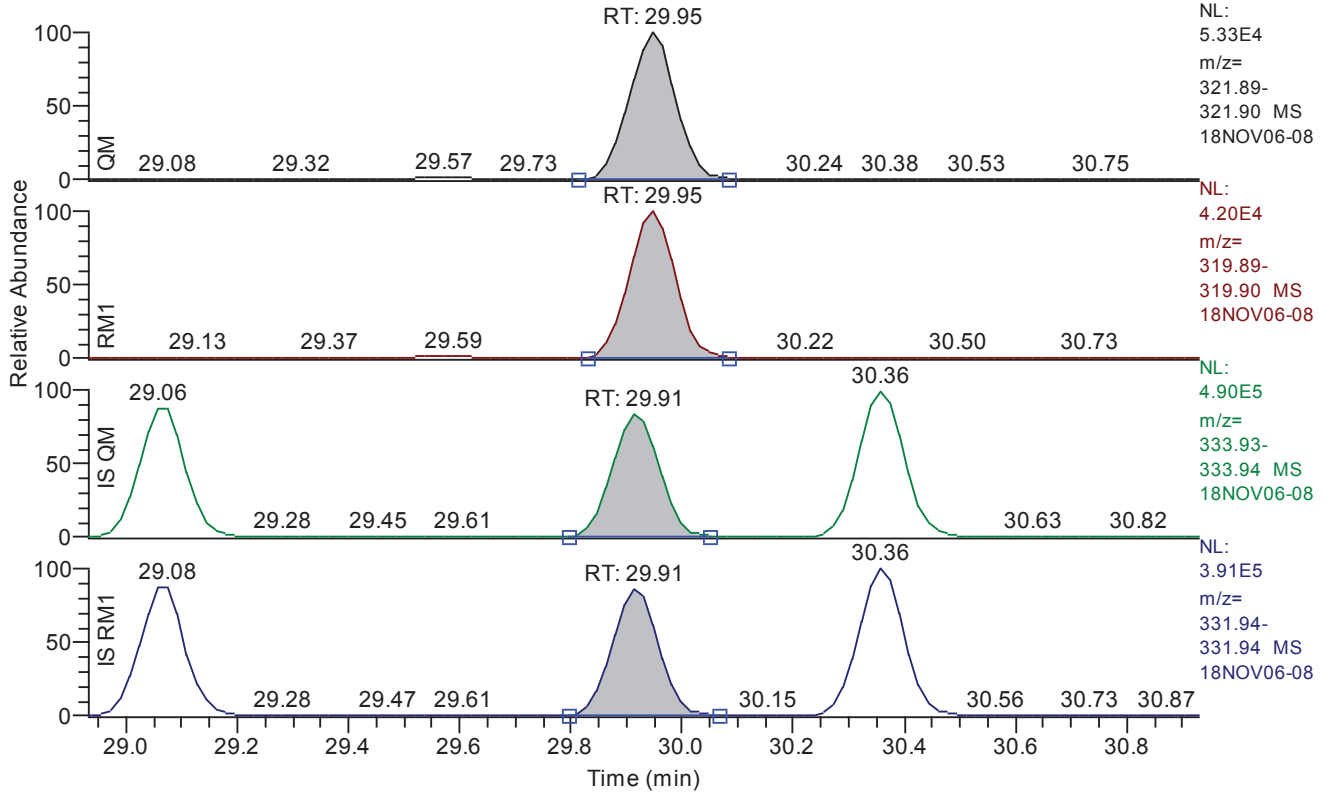
Entry: 2378-tcdf IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	405724
QM Integration Mode	A
RM1 Area	309526
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	9.808612
Adjusted Amount (A)	9.8086
Signal-to-Noise	3903
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.93 - 30.93 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

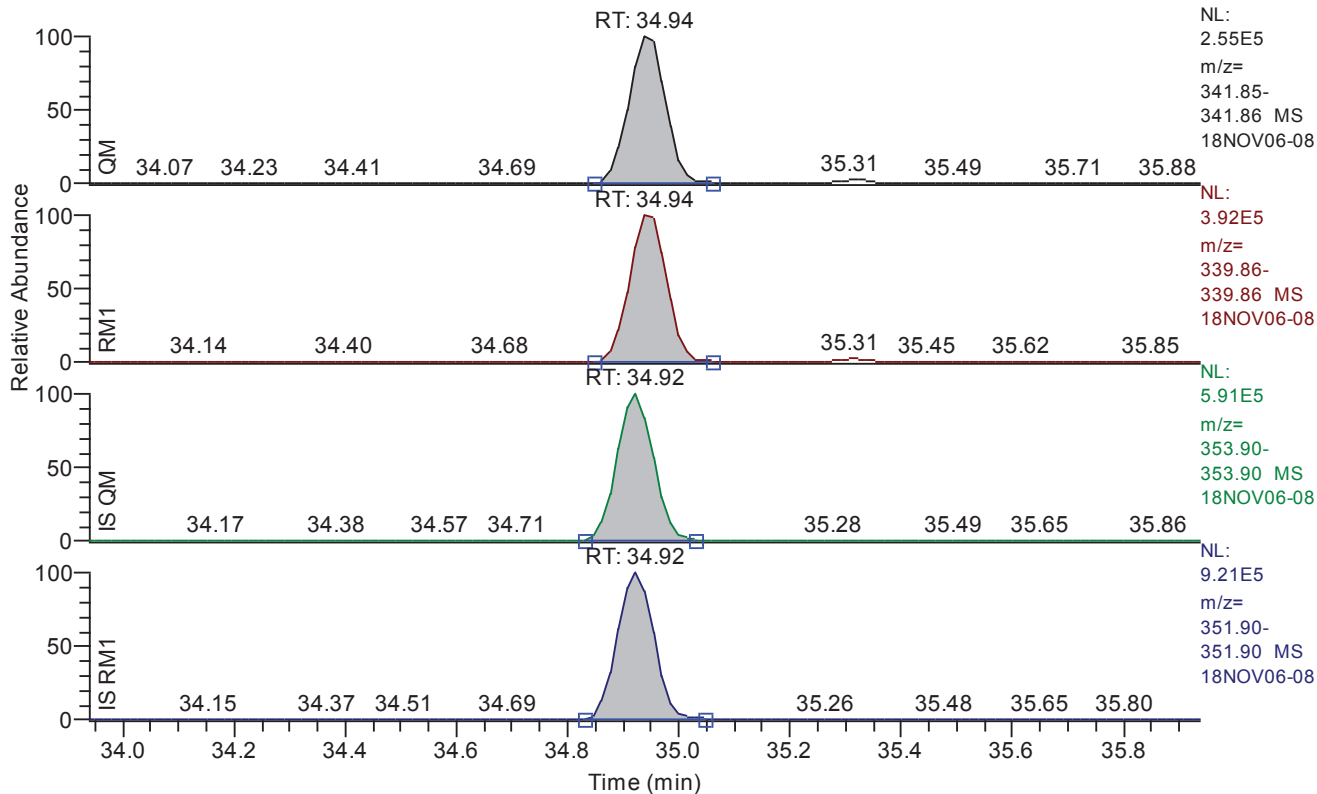
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.95
QM Area	314323
QM Integration Mode	A
RM1 Area	247936
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0064
Unqualified Amount (A)	10.822871
Adjusted Amount (A)	10.8229
Signal-to-Noise	4221
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.94 - 35.94 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

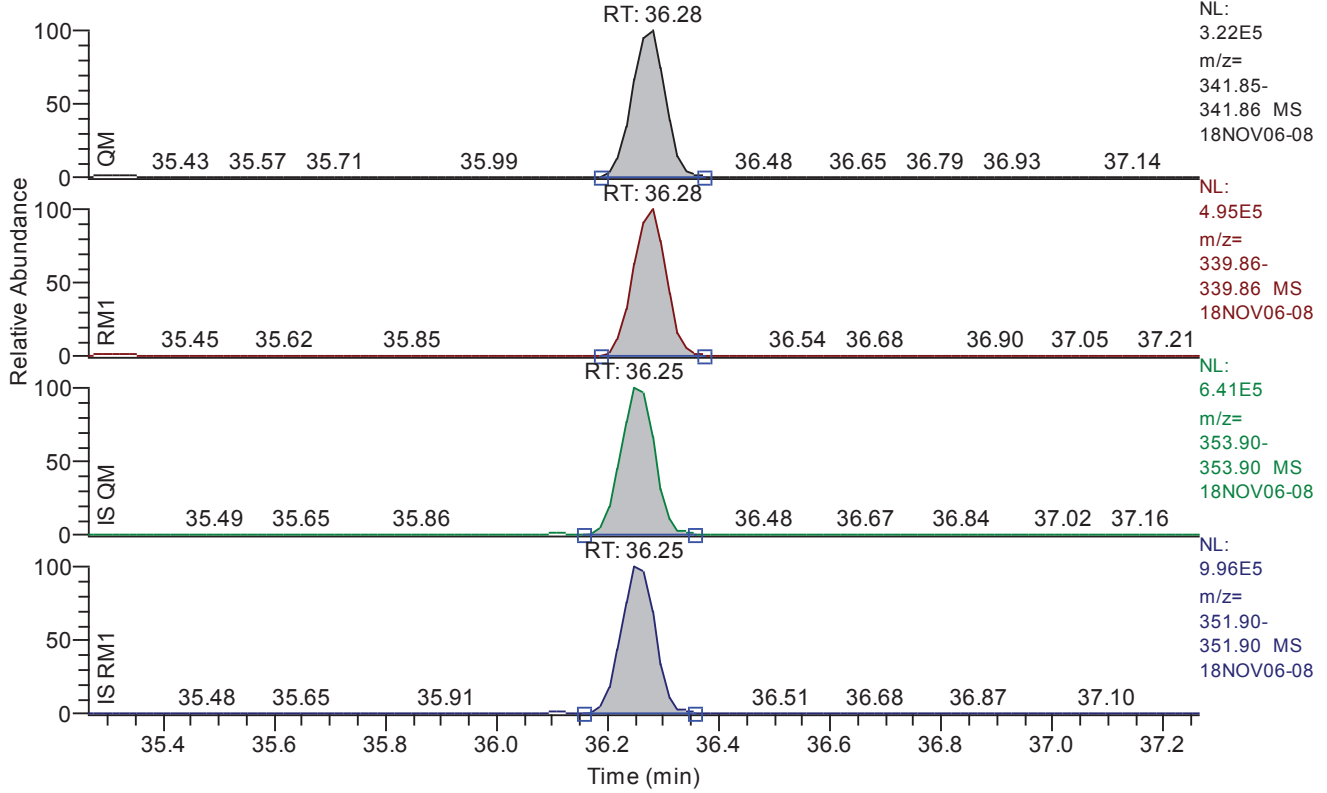
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	1170998
QM Integration Mode	A
RM1 Area	1831063
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0065
Unqualified Amount (A)	44.491242
Adjusted Amount (A)	44.4912
Signal-to-Noise	16986
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 35.26 - 37.26 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

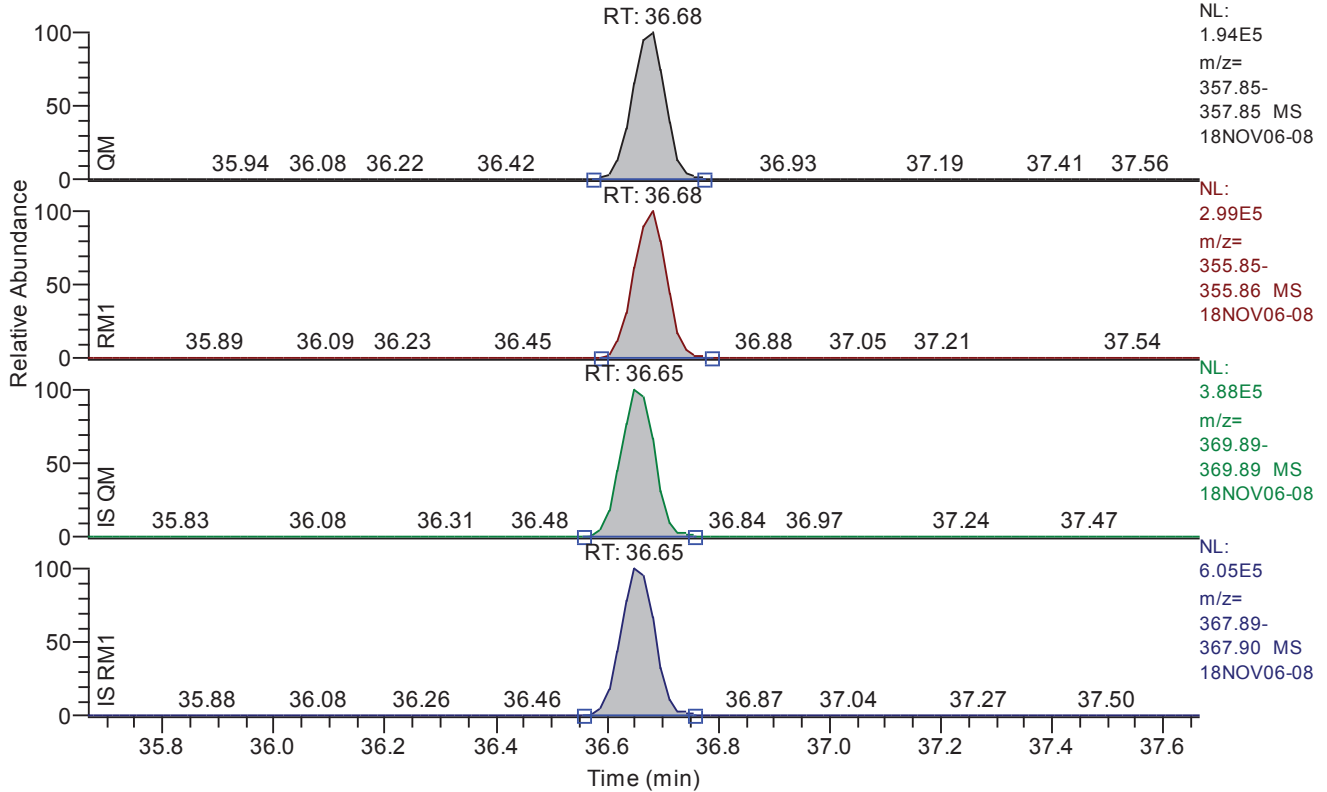
### Entry Parameters

Compound Name	23478-PeCDF
QM Retention Time	36.28
QM Area	1348075
QM Integration Mode	A
RM1 Area	2059081
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	50.169385
Adjusted Amount (A)	50.1694
Signal-to-Noise	21455
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.67 - 37.67 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

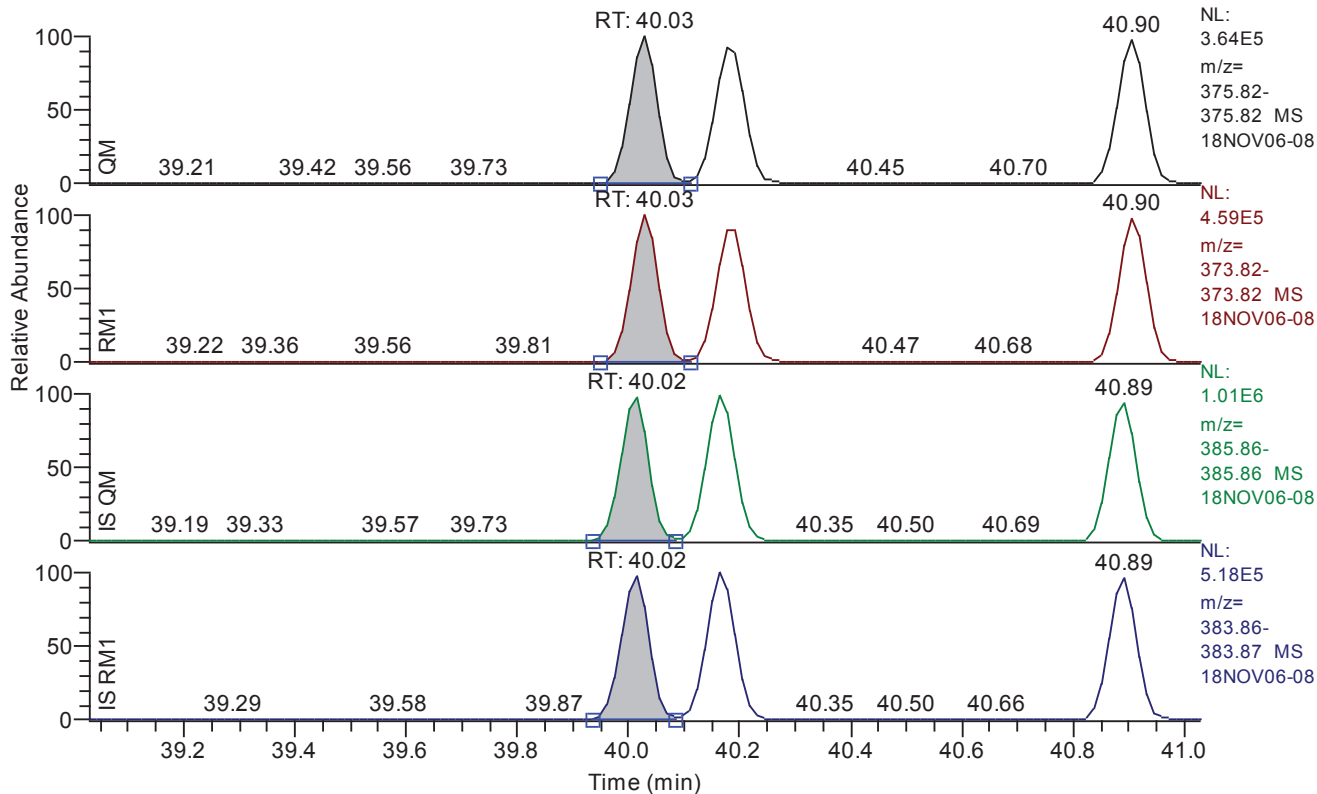
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.68
QM Area	810009
QM Integration Mode	A
RM1 Area	1245523
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0107
Unqualified Amount (A)	50.424465
Adjusted Amount (A)	50.4245
Signal-to-Noise	11964
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.03 - 41.03 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

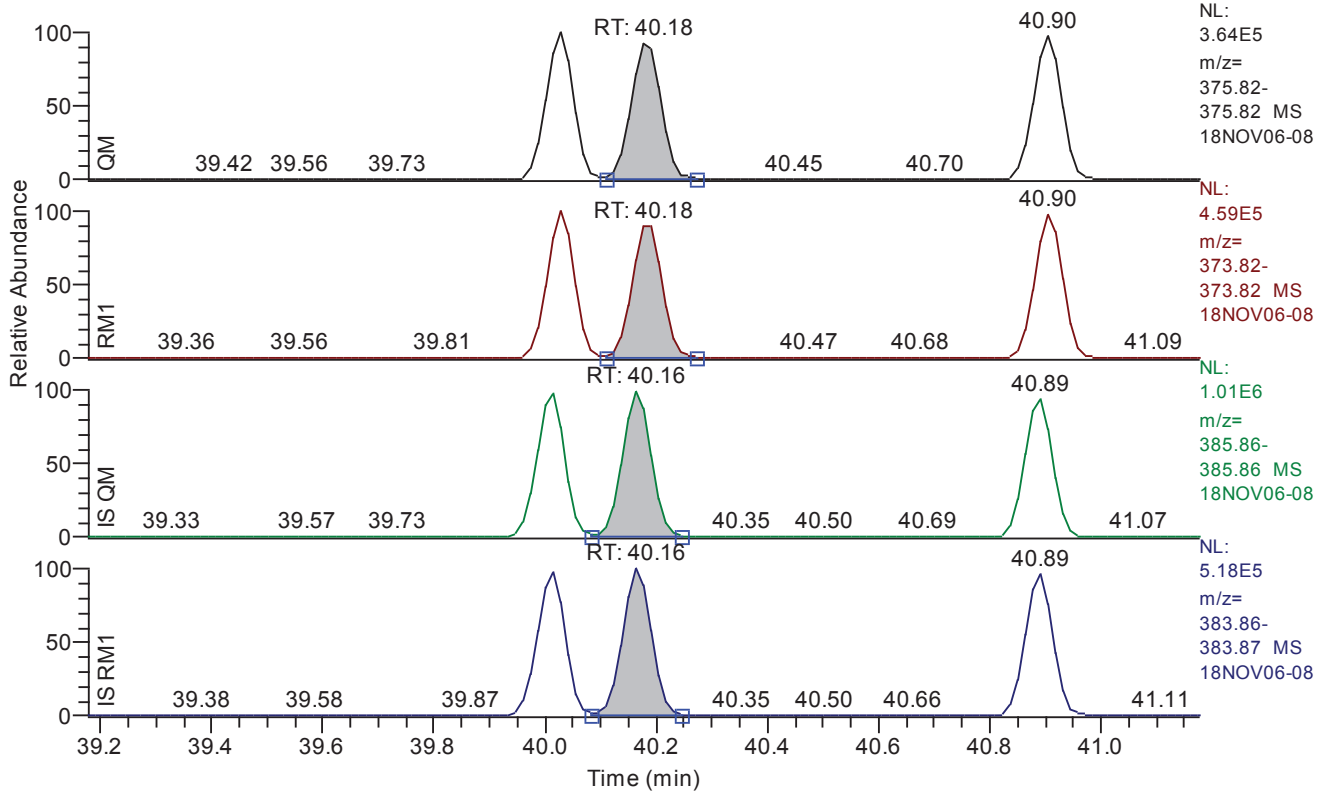
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.03
QM Area	1257838
QM Integration Mode	A
RM1 Area	1568893
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0124
Unqualified Amount (A)	46.323483
Adjusted Amount (A)	46.3235
Signal-to-Noise	9455
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.18 - 41.18 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

**Entry Parameters**

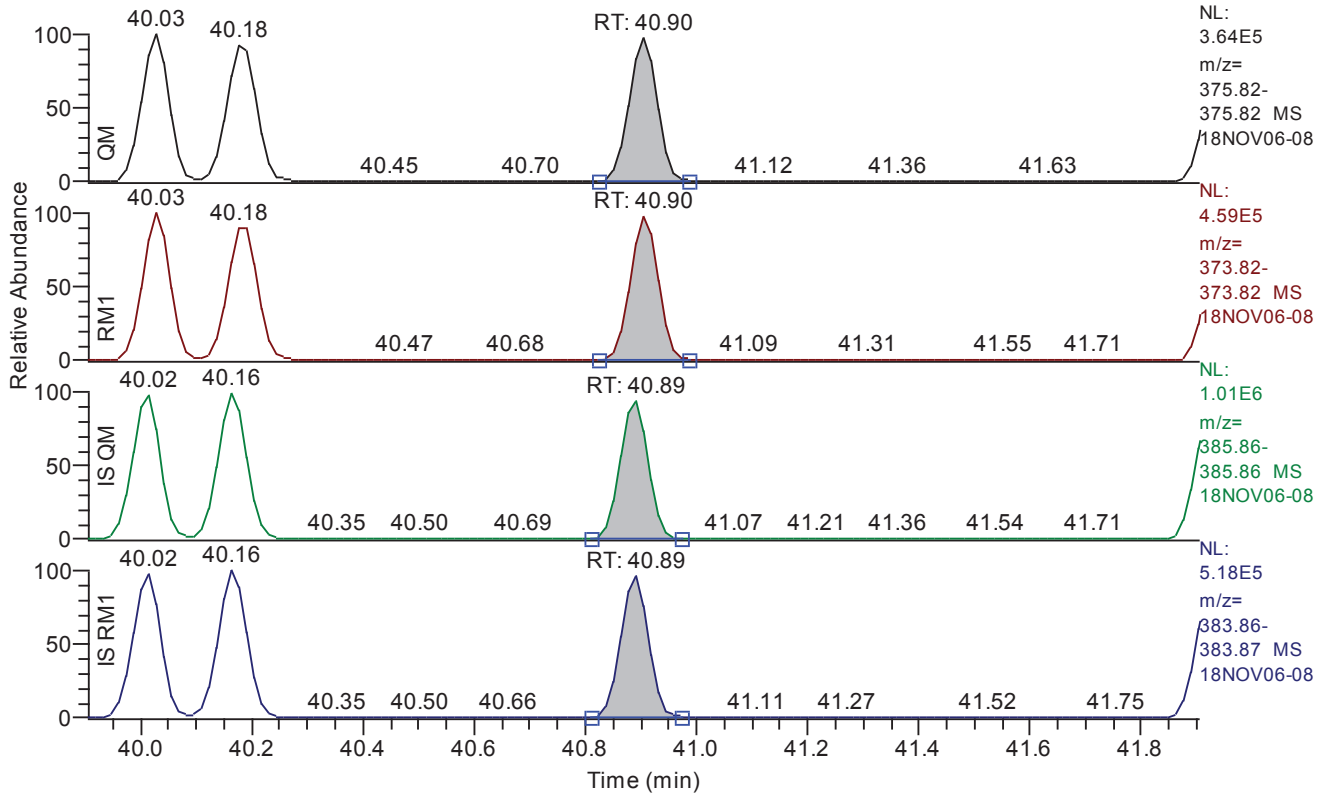
Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	1257404
QM Integration Mode	A
RM1 Area	1571230
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0126
Unqualified Amount (A)	45.529060
Adjusted Amount (A)	45.5291
Signal-to-Noise	8690
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 39.90 - 41.90 SM: 3G



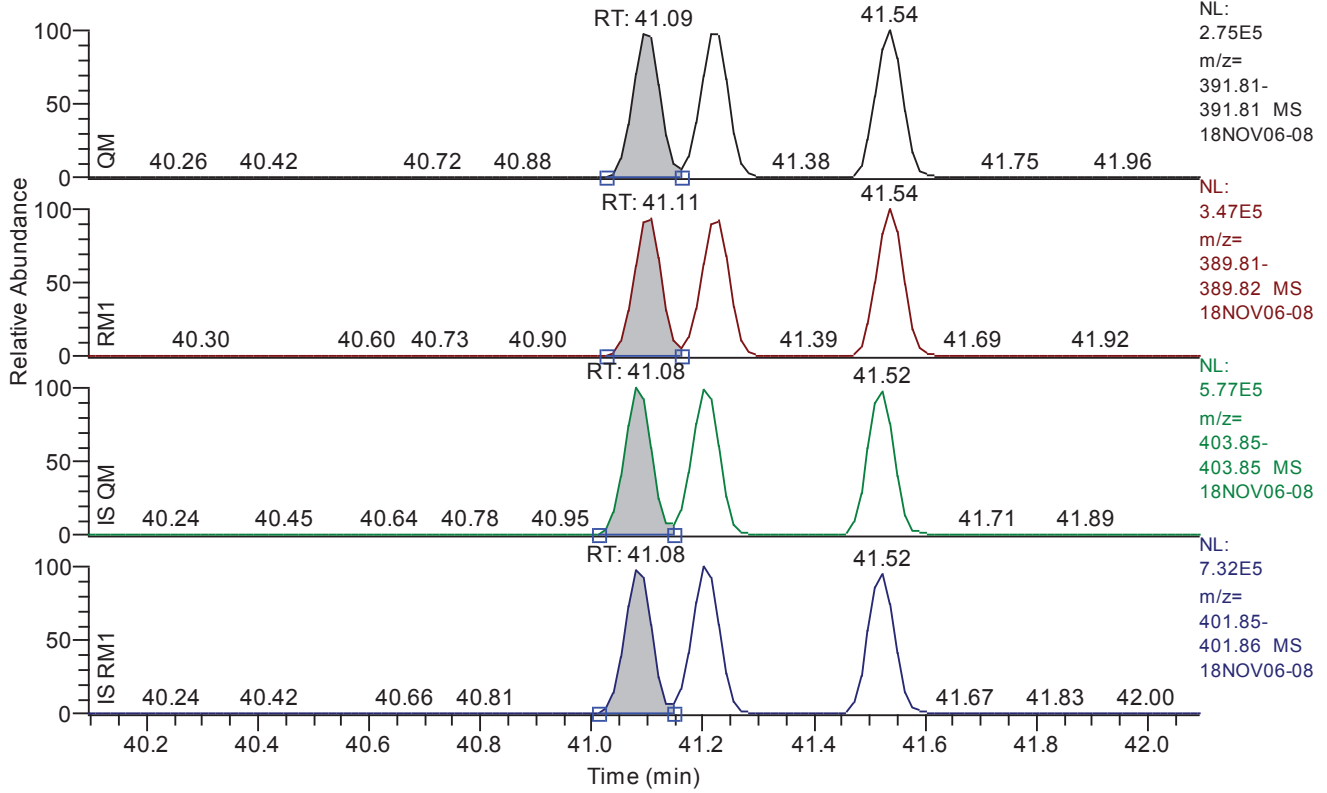
Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	1258628
QM Integration Mode	A
RM1 Area	1582334
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0122
Unqualified Amount (A)	45.388359
Adjusted Amount (A)	45.3884
Signal-to-Noise	9320
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.09 - 42.09 SM: 3G



Entry: 123478-hxcd IS: 13C12-123478-HxCDD

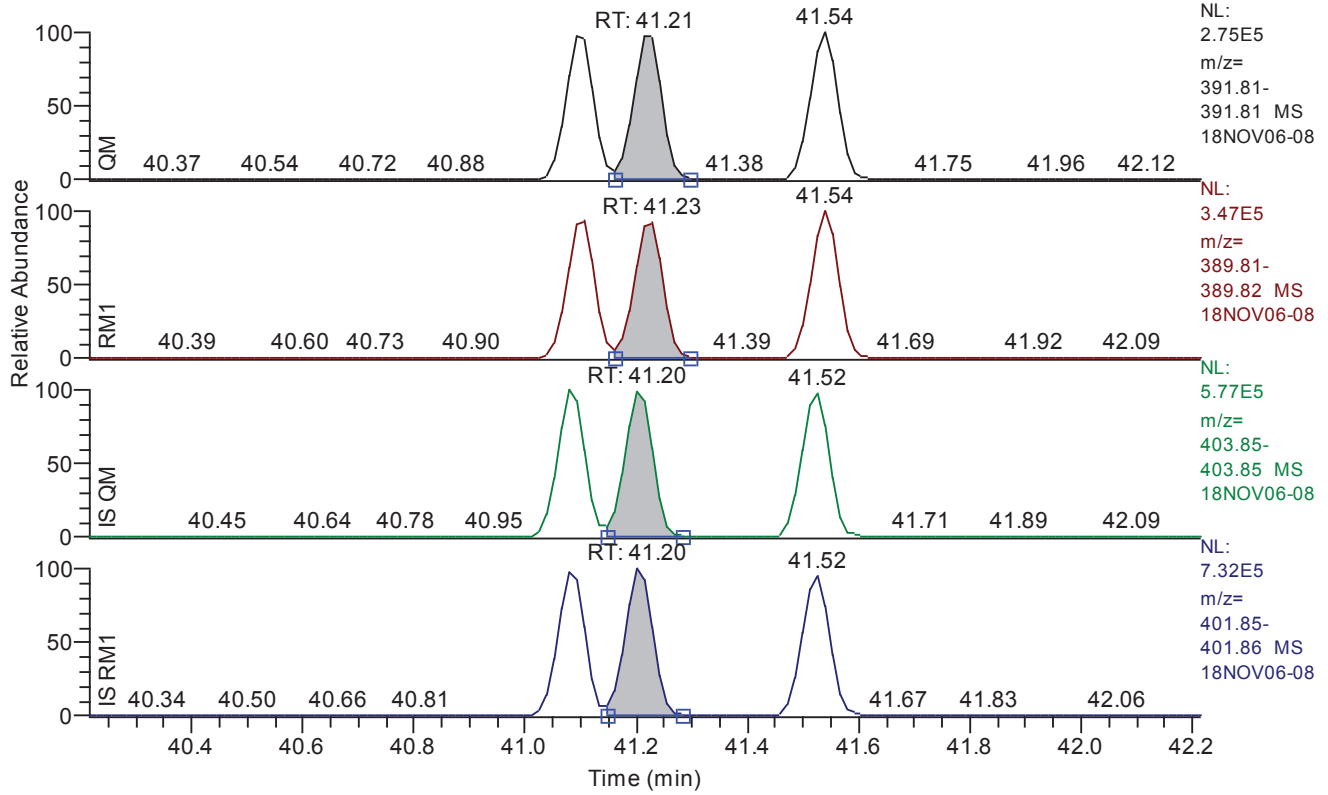
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	939206
QM Integration Mode	A
RM1 Area	1133182
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	45.678944
Adjusted Amount (A)	45.6789
Signal-to-Noise	13772
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.21 - 42.21 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

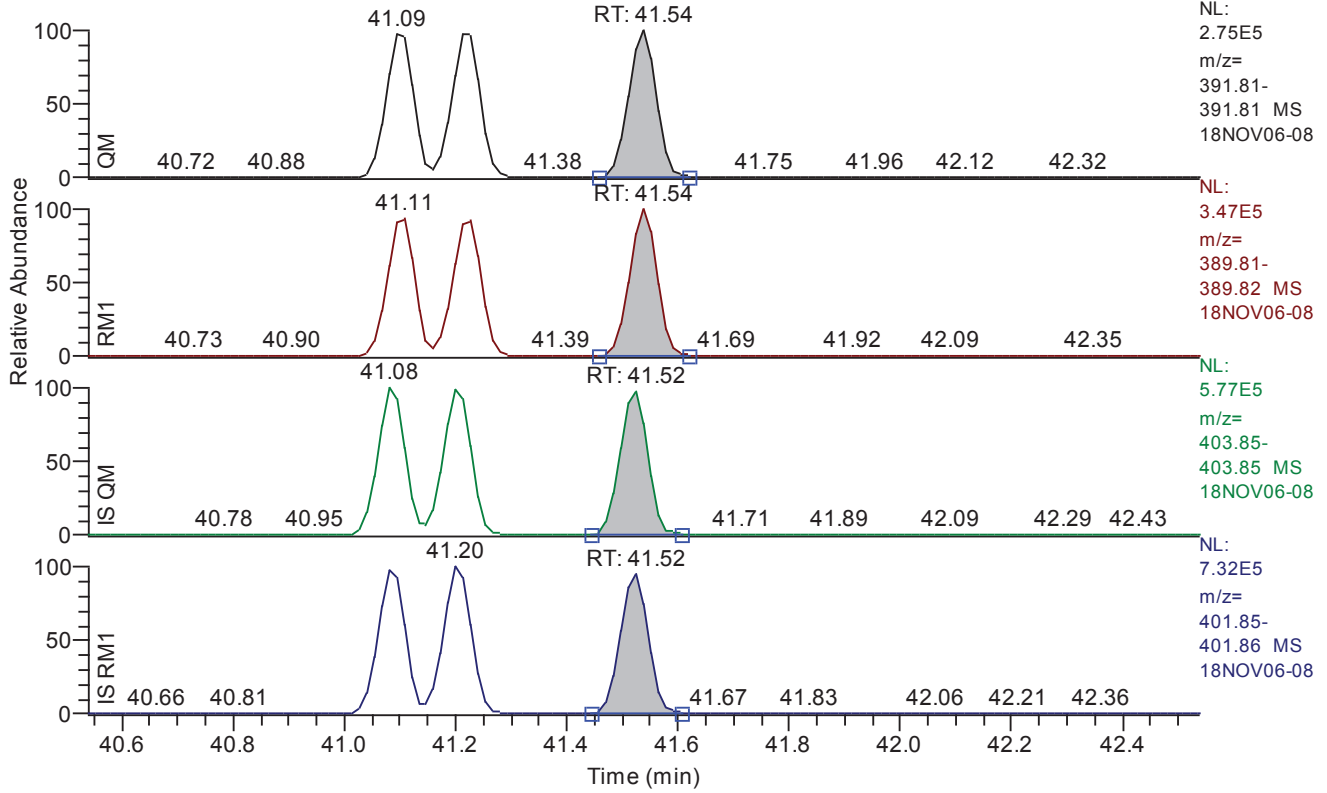
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	949025
QM Integration Mode	A
RM1 Area	1145217
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	47.754563
Adjusted Amount (A)	47.7546
Signal-to-Noise	13609
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.54 - 42.54 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

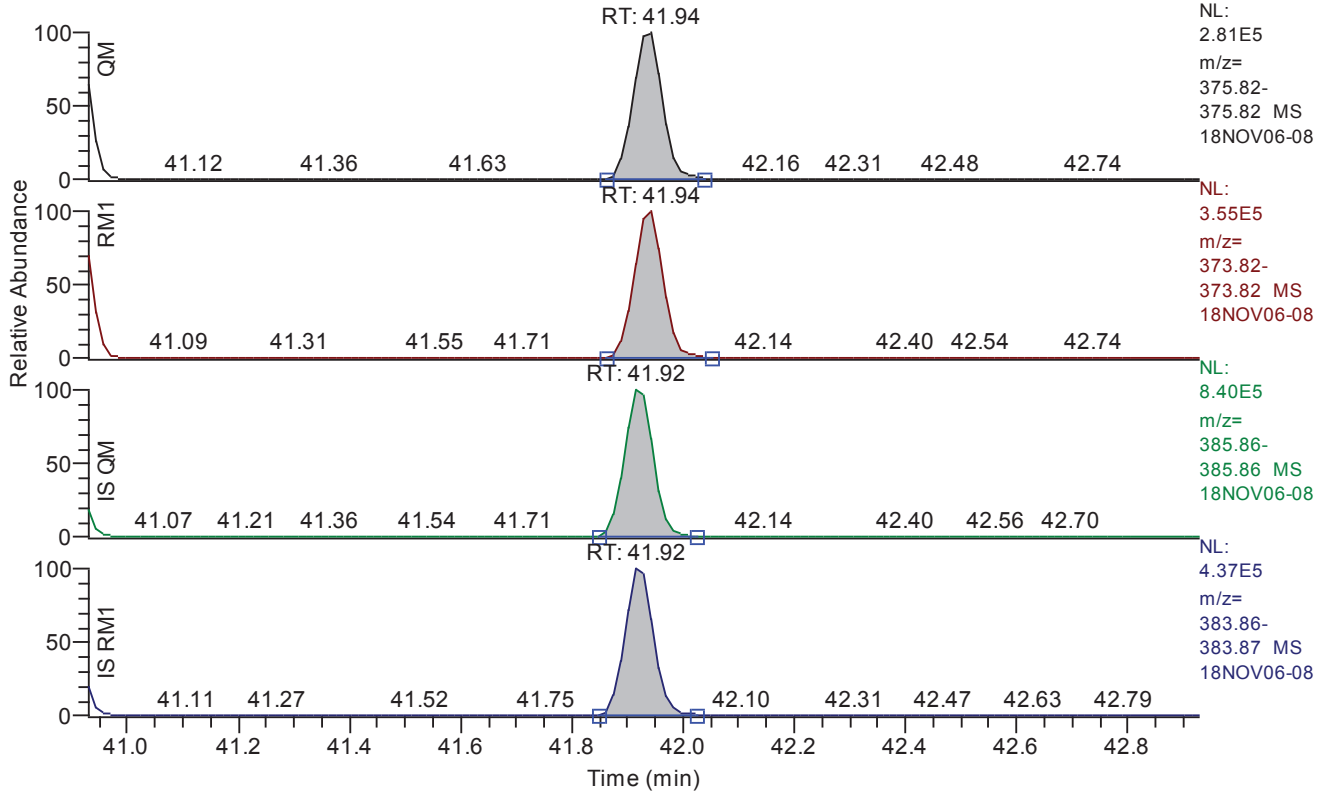
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.54
QM Area	956668
QM Integration Mode	A
RM1 Area	1190479
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0083
Unqualified Amount (A)	47.067204
Adjusted Amount (A)	47.0672
Signal-to-Noise	14338
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.93 - 42.93 SM: 3G



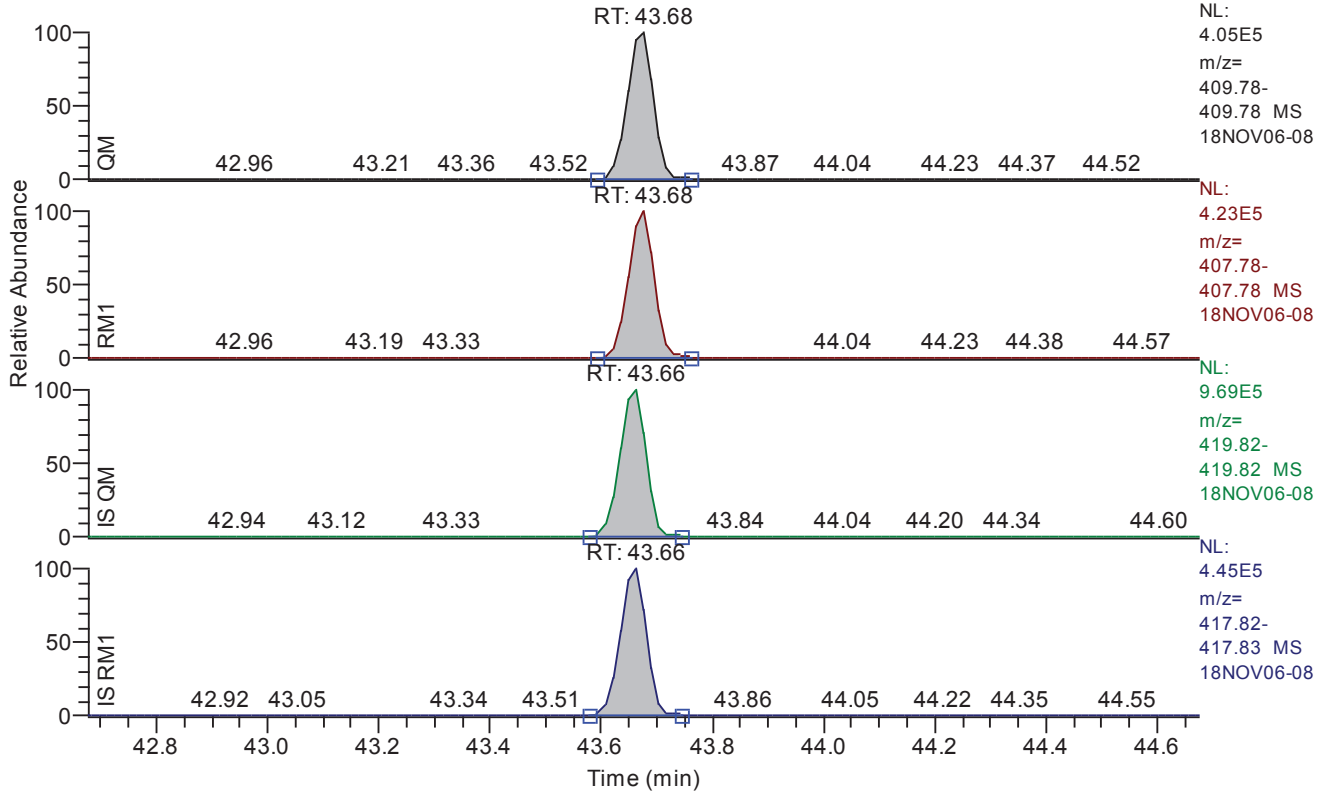
Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.94
QM Area	1038958
QM Integration Mode	A
RM1 Area	1296457
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0145
Unqualified Amount (A)	42.941907
Adjusted Amount (A)	42.9419
Signal-to-Noise	7305
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.68 - 44.68 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

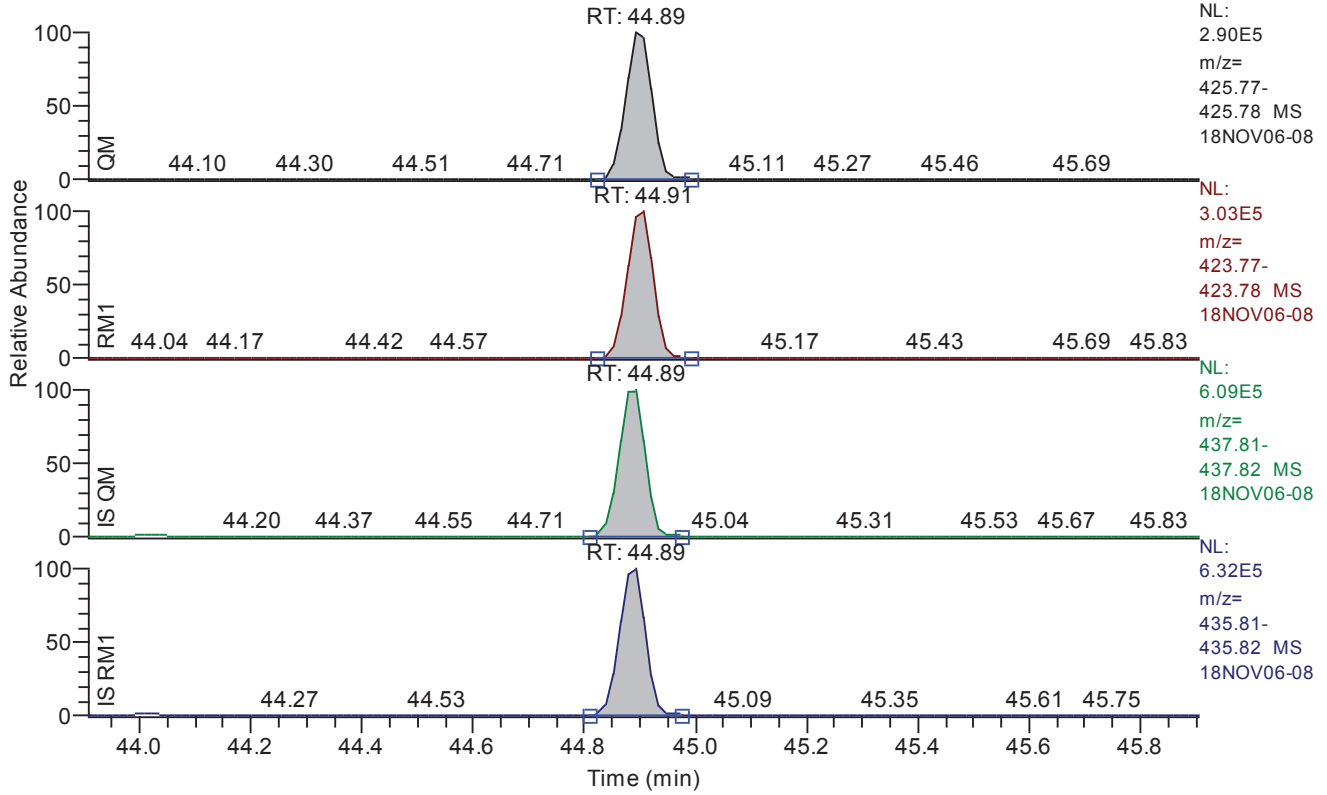
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.68
QM Area	1359859
QM Integration Mode	A
RM1 Area	1396577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	43.302175
Adjusted Amount (A)	43.3022
Signal-to-Noise	7814
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.91 - 45.91 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

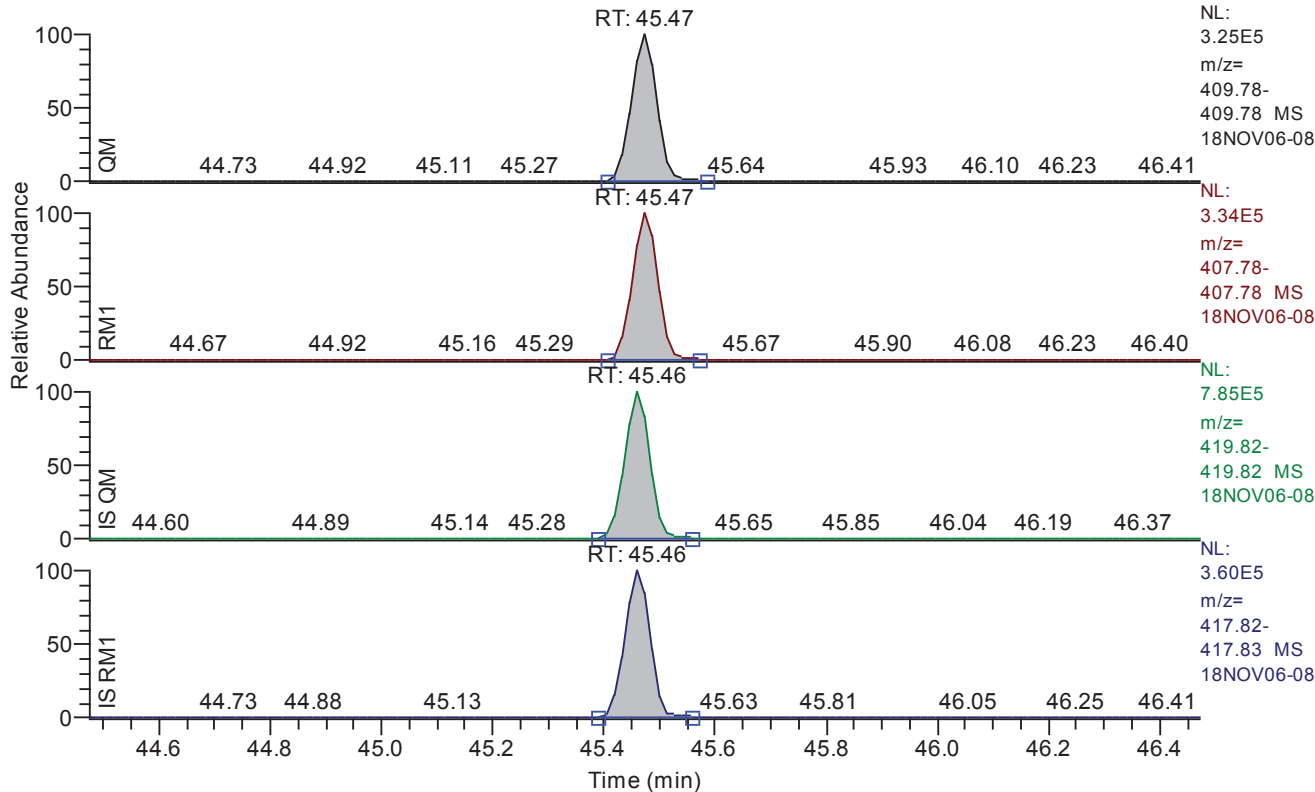
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	986493
QM Integration Mode	A
RM1 Area	1019991
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0139
Unqualified Amount (A)	46.494002
Adjusted Amount (A)	46.4940
Signal-to-Noise	8359
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

**Entry Parameters**

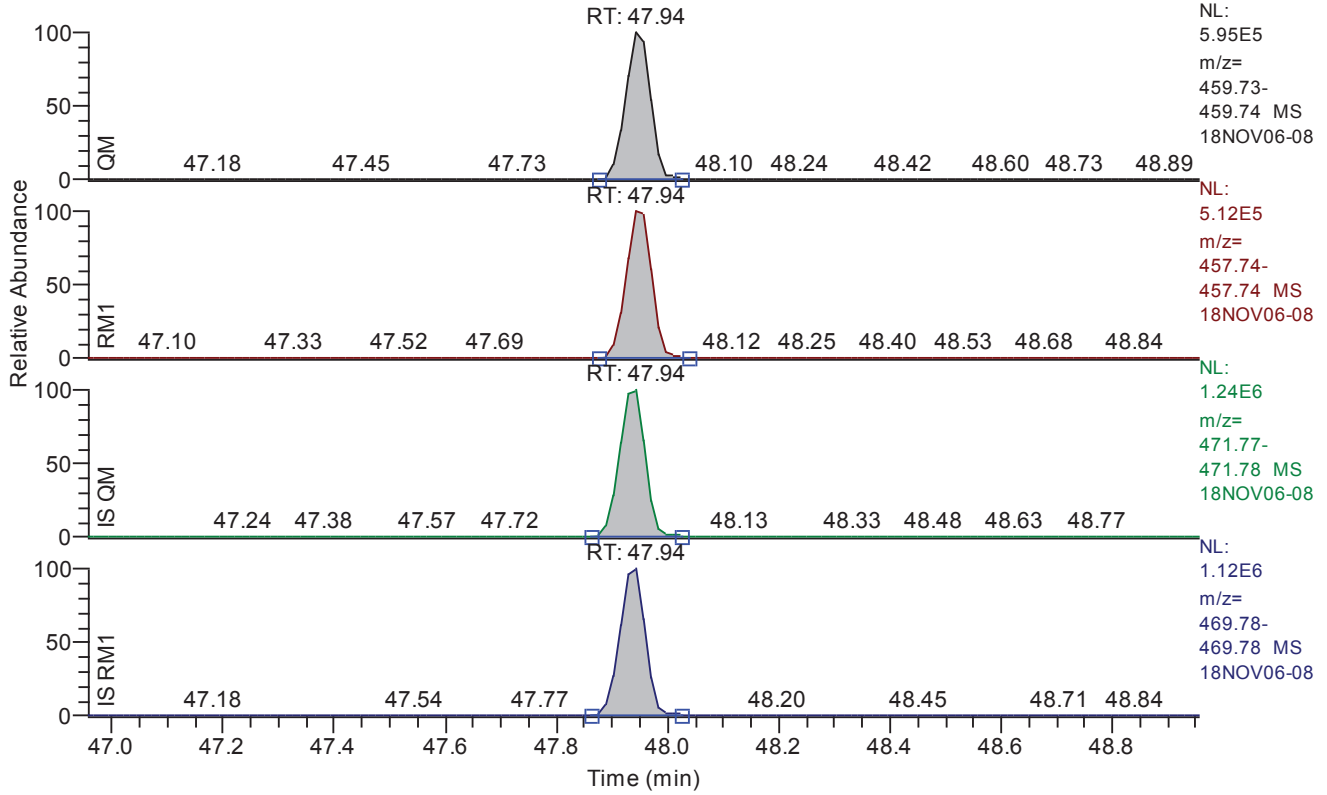
Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	1069245
QM Integration Mode	A
RM1 Area	1100107
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0173
Unqualified Amount (A)	43.411433
Adjusted Amount (A)	43.4114
Signal-to-Noise	6221
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 46.96 - 48.96 SM: 3G



Entry: ocdd IS: 13C12-OCDD

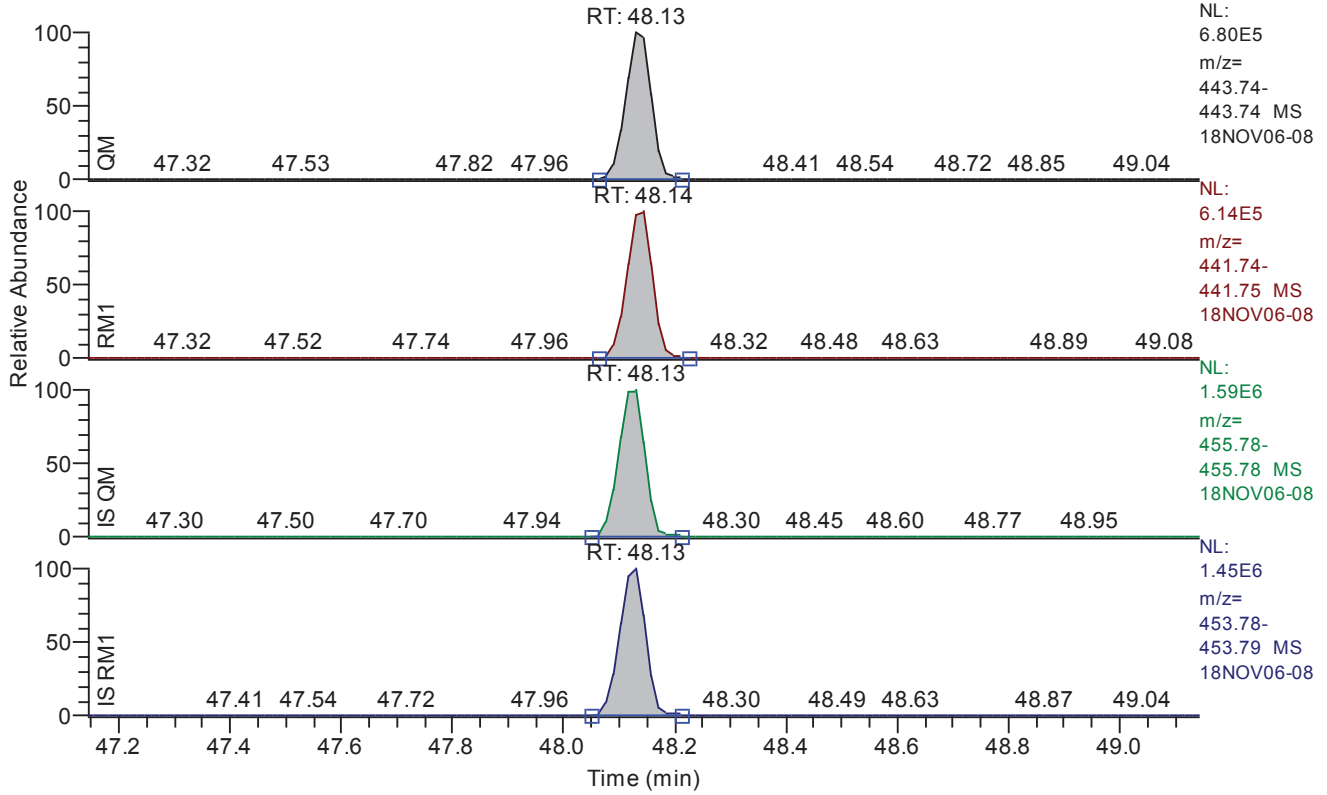
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	1868124
QM Integration Mode	A
RM1 Area	1638720
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	91.374174
Adjusted Amount (A)	91.3742
Signal-to-Noise	20927
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.14 - 49.14 SM: 3G



Entry: ocdf IS: 13C12-OCDF

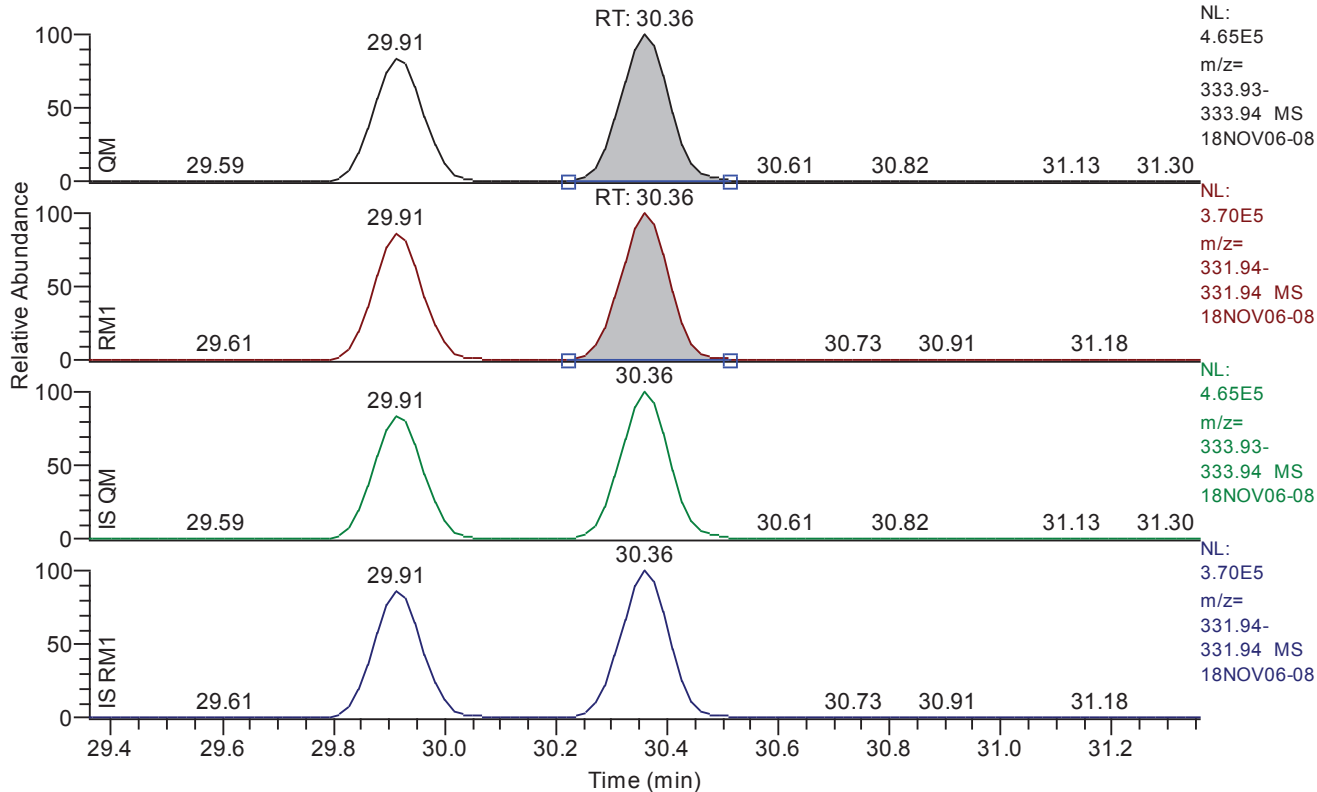
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	2175849
QM Integration Mode	A
RM1 Area	1968391
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	89.301297
Adjusted Amount (A)	89.3013
Signal-to-Noise	25153
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.36 - 31.36 SM: 5G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	2837057
QM Integration Mode	A
RM1 Area	2241770
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0152
Unqualified Amount (A)	104.097215
Adjusted Amount (A)	104.0972
Signal-to-Noise	16162
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.84	28.84	0.00	passed	---
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.91	29.95	29.95	0.00	passed	---
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	0.00	passed	---
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.28	36.28	0.00	passed	---
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.68	36.68	0.00	passed	---
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.03	40.03	0.00	passed	---
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.17	40.18	40.18	0.00	passed	---
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.90	40.90	0.00	passed	---
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.09	41.11	0.00	passed	---
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.21	41.23	0.00	passed	---
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.54	41.54	0.00	passed	---
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.94	41.94	0.00	passed	---
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.68	43.68	0.00	passed	---
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.89	44.91	0.00	passed	---
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.46	45.47	45.47	0.00	passed	---
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	0.00	passed	---
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.12	48.13	48.14	0.00	passed	---
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.34	30.36	30.36	0.00	passed	---
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.04	29.06	29.08	0.00	passed	---
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.90	39.92	39.92	0.00	passed	---
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.82	28.82	0.00	passed	---
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.91	29.91	0.00	passed	---
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.92	34.92	0.00	passed	---
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.25	36.25	0.00	passed	---
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.65	36.65	0.00	passed	---
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.02	40.02	0.00	passed	---
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.15	40.16	40.16	0.00	passed	---
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.87	40.89	40.89	0.00	passed	---
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.07	41.08	41.08	0.00	passed	---
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.20	41.20	0.00	passed	---
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.52	41.52	0.00	passed	---
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.92	41.92	0.00	passed	---
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.66	43.66	0.00	passed	---
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.89	44.89	0.00	passed	---
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.46	45.46	0.00	passed	---
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.94	47.94	0.00	passed	---
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.11	48.13	48.13	0.00	passed	---



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.84	0.7629	0.6450 - 0.8950	passed	98.09	80 - 120	passed
2	2378-TCDD	29.95	0.7888	0.6450 - 0.8950	passed	108.23	80 - 120	passed
3	12378-PeCDF	34.94	1.5637	1.3150 - 1.7850	passed	88.98	80 - 120	passed
4	23478-PeCDF	36.28	1.5274	1.3150 - 1.7850	passed	100.34	80 - 120	passed
5	12378-PeCDD	36.68	1.5377	1.3150 - 1.7850	passed	100.85	80 - 120	passed
6	123478-HxCDF	40.03	1.2473	1.0450 - 1.4350	passed	92.65	80 - 120	passed
7	123678-HxCDF	40.18	1.2496	1.0450 - 1.4350	passed	91.06	80 - 120	passed
8	234678-HxCDF	40.90	1.2572	1.0450 - 1.4350	passed	90.78	80 - 120	passed
9	123478-HxCDD	41.09	1.2065	1.0450 - 1.4350	passed	91.36	80 - 120	passed
10	123678-HxCDD	41.21	1.2067	1.0450 - 1.4350	passed	95.51	80 - 120	passed
11	123789-HxCDD	41.54	1.2444	1.0450 - 1.4350	passed	94.13	80 - 120	passed
12	123789-HxCDF	41.94	1.2478	1.0450 - 1.4350	passed	85.88	80 - 120	passed
13	1234678-HpCDF	43.68	1.0270	0.8750 - 1.2050	passed	86.60	80 - 120	passed
14	1234678-HpCDD	44.89	1.0340	0.8750 - 1.2050	passed	92.99	80 - 120	passed
15	1234789-HpCDF	45.47	1.0289	0.8750 - 1.2050	passed	86.82	80 - 120	passed
16	OCDD	47.94	0.8772	0.7550 - 1.0250	passed	91.37	80 - 120	passed
17	OCDF	48.13	0.9047	0.7550 - 1.0250	passed	89.30	80 - 120	passed
18	13C12-1278-TCDD (CRS)	30.36	0.7902	0.6450 - 0.8950	passed	104.10	80 - 120	passed
19	13C12-1234-TCDD	29.06	0.7880	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.92	1.2551	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.82	0.7734	0.6450 - 0.8950	passed	106.97	80 - 120	passed
22	13C12-2378-TCDD	29.91	0.8091	0.6450 - 0.8950	passed	102.77	80 - 120	passed
23	13C12-12378-PeCDF	34.92	1.5686	1.3150 - 1.7850	passed	108.54	80 - 120	passed
24	13C12-23478-PeCDF	36.25	1.5613	1.3150 - 1.7850	passed	110.56	80 - 120	passed
25	13C12-12378-PeCDD	36.65	1.5632	1.3150 - 1.7850	passed	108.61	80 - 120	passed
26	13C12-123478-HxCDF	40.02	0.5144	0.4250 - 0.5950	passed	89.81	80 - 120	passed
27	13C12-123678-HxCDF	40.16	0.5178	0.4250 - 0.5950	passed	88.31	80 - 120	passed
28	13C12-234678-HxCDF	40.89	0.5204	0.4250 - 0.5950	passed	90.27	80 - 120	passed
29	13C12-123478-HxCDD	41.08	1.2535	1.0450 - 1.4350	passed	101.45	80 - 120	passed
30	13C12-123678-HxCDD	41.20	1.2676	1.0450 - 1.4350	passed	98.73	80 - 120	passed
31	13C12-123789-HxCDD	41.52	1.2369	1.0450 - 1.4350	passed	101.16	80 - 120	passed
32	13C12-123789-HxCDF	41.92	0.5151	0.4250 - 0.5950	passed	87.83	80 - 120	passed
33	13C12-1234678-HpCDF	43.66	0.4562	0.3650 - 0.5150	passed	92.63	80 - 120	passed
34	13C12-1234678-HpCDD	44.89	1.0271	0.8750 - 1.2050	passed	102.07	80 - 120	passed
35	13C12-1234789-HpCDF	45.46	0.4602	0.3650 - 0.5150	passed	87.33	80 - 120	passed
36	13C12-OCDD	47.94	0.8957	0.7550 - 1.0250	passed	97.69	80 - 120	passed
37	13C12-OCDF	48.13	0.8897	0.7550 - 1.0250	passed	91.26	80 - 120	passed

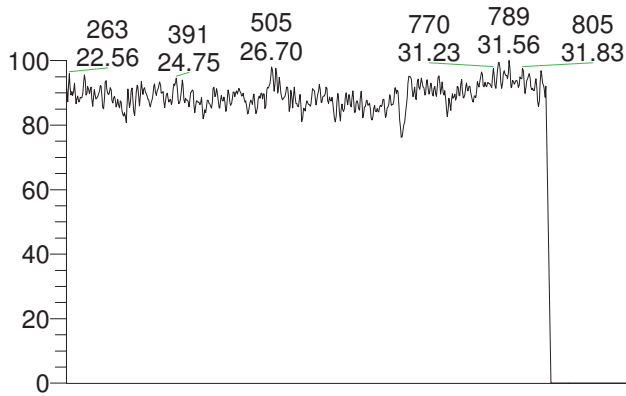


**Entry Parameters**

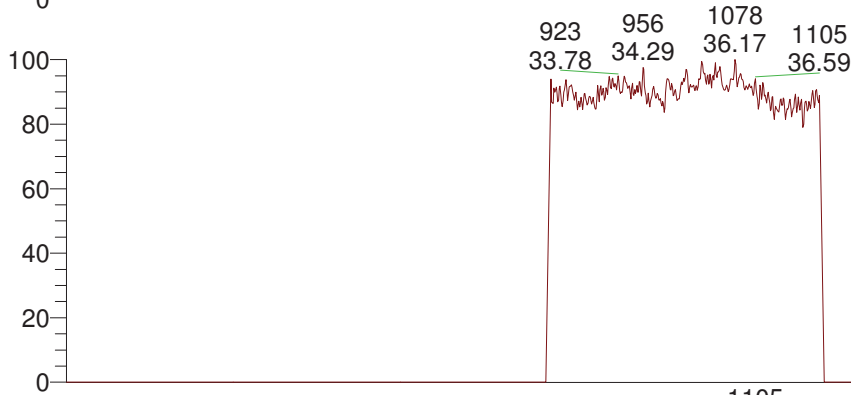
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	405724	A	309526	A	0.0064	9.808612	9.8086	10.000000	3903	
2	2378-TCDD	passed	29.95	314323	A	247936	A	0.0064	10.822871	10.8229	10.000000	4221	
3	12378-PeCDF	passed	34.94	1170998	A	1831063	A	0.0065	44.491242	44.4912	50.000000	16986	
4	23478-PeCDF	passed	36.28	1348075	A	2059081	A	0.0060	50.169385	50.1694	50.000000	21455	
5	12378-PeCDD	passed	36.68	810009	A	1245523	A	0.0107	50.424465	50.4245	50.000000	11964	
6	123478-HxCDF	passed	40.03	1257838	A	1568893	A	0.0124	46.323483	46.3235	50.000000	9455	
7	123678-HxCDF	passed	40.18	1257404	A	1571230	A	0.0126	45.529060	45.5291	50.000000	8690	
8	234678-HxCDF	passed	40.90	1258628	A	1582334	A	0.0122	45.388359	45.3884	50.000000	9320	
9	123478-HxCDD	passed	41.09	939206	A	1133182	A	0.0082	45.678944	45.6789	50.000000	13772	
10	123678-HxCDD	passed	41.21	949025	A	1145217	A	0.0085	47.754563	47.7546	50.000000	13609	
11	123789-HxCDD	passed	41.54	956668	A	1190479	A	0.0083	47.067204	47.0672	50.000000	14338	
12	123789-HxCDF	passed	41.94	1038958	A	1296457	A	0.0145	42.941907	42.9419	50.000000	7305	
13	1234678-HpCDF	passed	43.68	1359859	A	1396577	A	0.0140	43.302175	43.3022	50.000000	7814	
14	1234678-HpCDD	passed	44.89	986493	A	1019991	A	0.0139	46.494002	46.4940	50.000000	8359	
15	1234789-HpCDF	passed	45.47	1069245	A	1100107	A	0.0173	43.411433	43.4114	50.000000	6221	
16	OCDD	passed	47.94	1868124	A	1638720	A	0.0111	91.374174	91.3742	100.000000	20927	
17	OCDF	passed	48.13	2175849	A	1968391	A	0.0091	89.301297	89.3013	100.000000	25153	
18	13C12-1278-TCDD (CRS)	passed	30.36	2837057	A	2241770	A	0.0152	104.097215	104.0972	100.000000	16162	
19	13C12-1234-TCDD	passed	29.06	2494482	A	1965618	A	0.0157	100.000000	100.0000	100.000000	15916	
20	13C12-123468-HxCDD	passed	39.92	2016422	A	2530756	A	0.0177	100.000000	100.0000	100.000000	14123	
21	13C12-2378-TCDF	passed	28.82	4441602	A	3435064	A	0.0104	106.969240	106.9692	100.000000	25884	
22	13C12-2378-TCDD	passed	29.91	2455119	A	1986463	A	0.0162	102.765138	102.7651	100.000000	15315	
23	13C12-12378-PeCDF	passed	34.92	2703290	A	4240314	A	0.0316	108.544461	108.5445	100.000000	10730	
24	13C12-23478-PeCDF	passed	36.25	2722370	A	4250495	A	0.0320	110.558910	110.5589	100.000000	11611	
25	13C12-12378-PeCDD	passed	36.65	1644518	A	2570781	A	0.0190	108.607092	108.6071	100.000000	19341	
26	13C12-123478-HxCDF	passed	40.02	3437938	A	1768611	A	0.0263	89.808967	89.8090	100.000000	8659	
27	13C12-123678-HxCDF	passed	40.16	3606450	A	1867399	A	0.0246	88.311990	88.3120	100.000000	8819	
28	13C12-234678-HxCDF	passed	40.89	3351323	A	1744090	A	0.0270	90.274687	90.2747	100.000000	8414	
29	13C12-123478-HxCDD	passed	41.08	1982282	A	2484832	A	0.0183	101.448069	101.4481	100.000000	14193	
30	13C12-123678-HxCDD	passed	41.20	1990397	A	2523003	A	0.0176	98.732807	98.7328	100.000000	14285	
31	13C12-123789-HxCDD	passed	41.52	1965782	A	2431403	A	0.0185	101.162039	101.1620	100.000000	13784	
32	13C12-123789-HxCDF	passed	41.92	3054427	A	1573219	A	0.0289	87.826391	87.8264	100.000000	7383	
33	13C12-1234678-HpCDF	passed	43.66	3266637	A	1490356	A	0.0290	92.627000	92.6270	100.000000	8367	
34	13C12-1234678-HpCDD	passed	44.89	2077134	A	2133476	A	0.0244	102.072648	102.0726	100.000000	10881	
35	13C12-1234789-HpCDF	passed	45.46	2555509	A	1176023	A	0.0349	87.333609	87.3336	100.000000	6772	
36	13C12-OCDD	passed	47.94	3988450	A	3572486	A	0.0127	195.379002	195.3790	200.000000	42362	
37	13C12-OCDF	passed	48.13	5267806	A	4686775	A	0.0098	182.512342	182.5123	200.000000	50028	



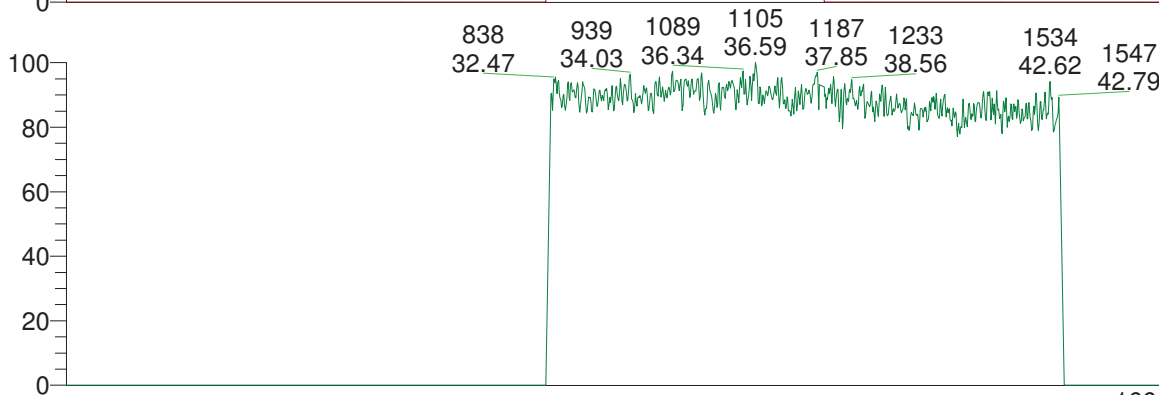
RT: 22.50 - 51.00



NL:  
6.11E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
08



NL:  
5.65E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
08



NL:  
3.93E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
08



NL:  
1.19E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
08



NL:  
1.40E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
08

**APPROVED**  
By uma9 at 3:24 pm, 11/8/18

**REVIEWED**  
By uild at 3:50 pm, 11/8/18

\*\*\* file opened Tue Nov 06 15:00:17 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 15:00:17

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 8990ed8e-76d1-4e6e-a844-d7145c7a777a

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118





331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.300000 minutes

MID window end time was 32.300000 minutes

**APPROVED**

By uma9 at 3:24 pm, 11/8/18

**REVIEWED**

By uild at 3:50 pm, 11/8/18

18NOV06-08

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	98.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1588.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0185	FVINLET	0.0426	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1439390.1347	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9827	RELEN	0.0000
RES	12917.6312	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0199	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12029.  
MID Time window 2: Resolution is 12420.  
MID Time window 3: Resolution is 12510.  
MID Time window 4: Resolution is 12055.



18NOV06-08

MID Time Window 5: Resolution is 13349.  
MID Time Window 6: Resolution is 12917.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 15:51:19 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 17:12  
Number of Entries 26  
Comment  
Vial 2  
Sample Name TDTFWD - ST1823737B  
Sample ID CPS02  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

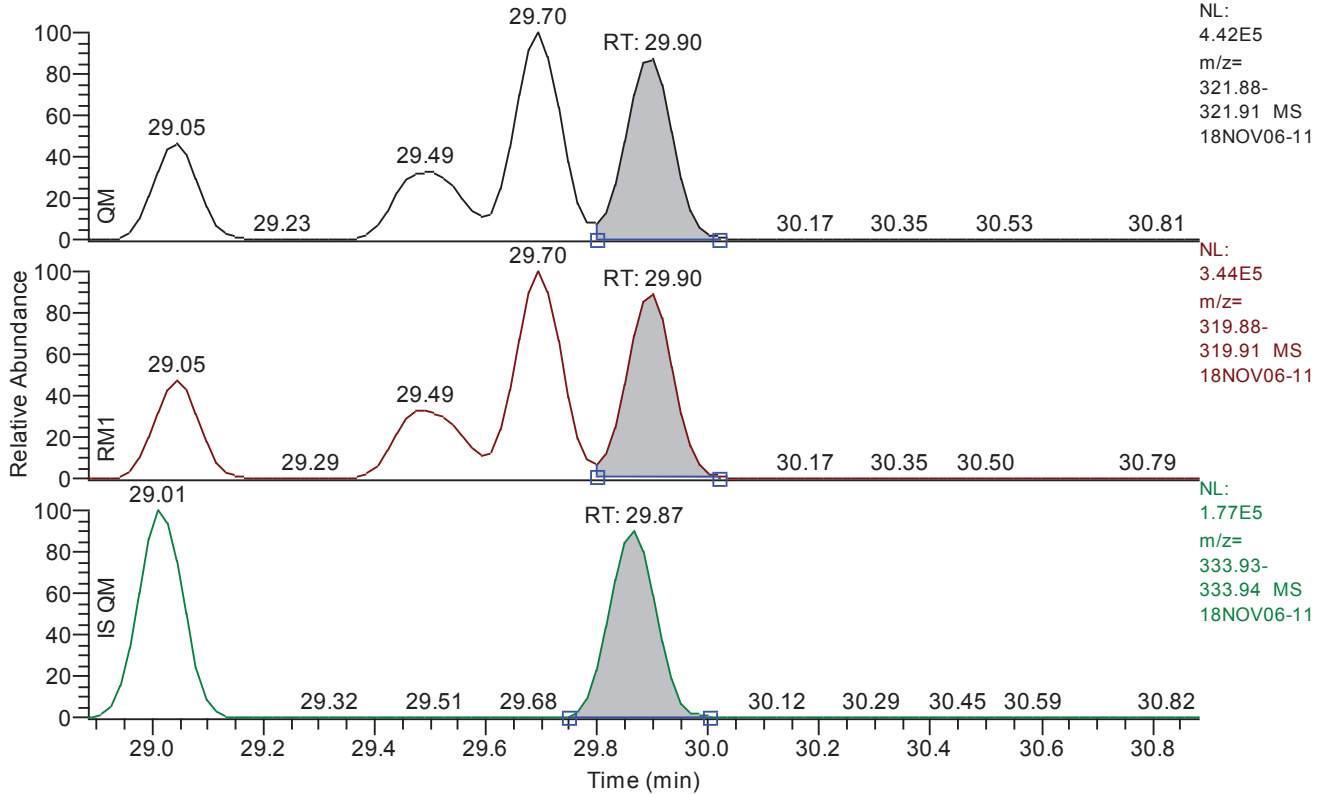
Quan w:\18nov06\18nov06-11.quan  
Data w:\18nov06\18nov06-11.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height No Summation  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 1.0  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

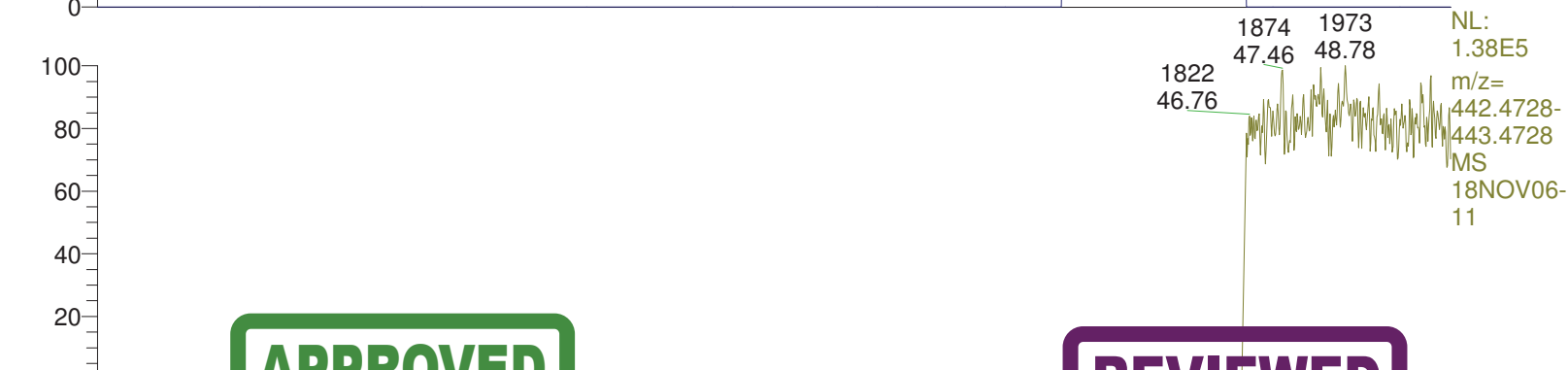
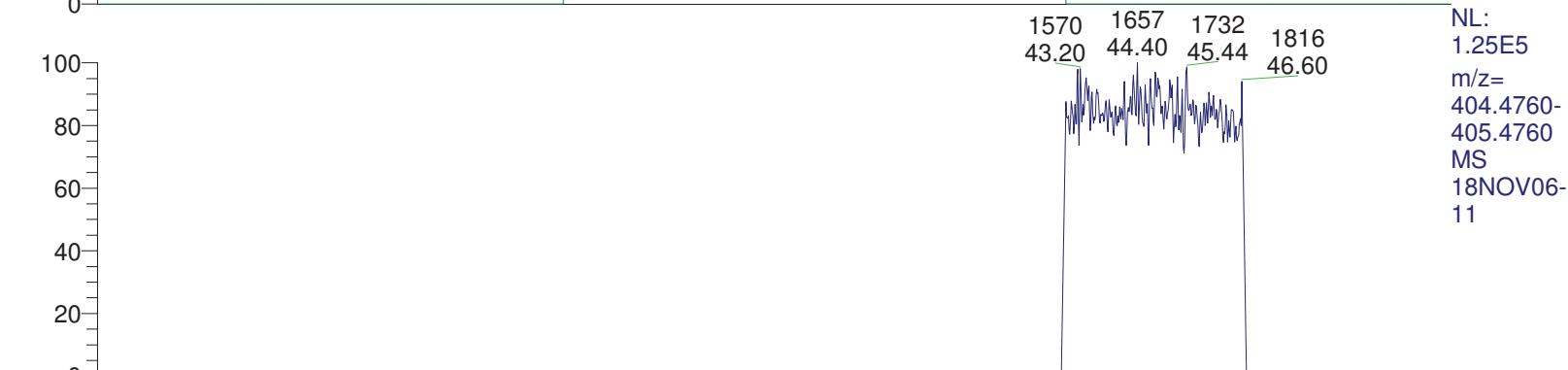
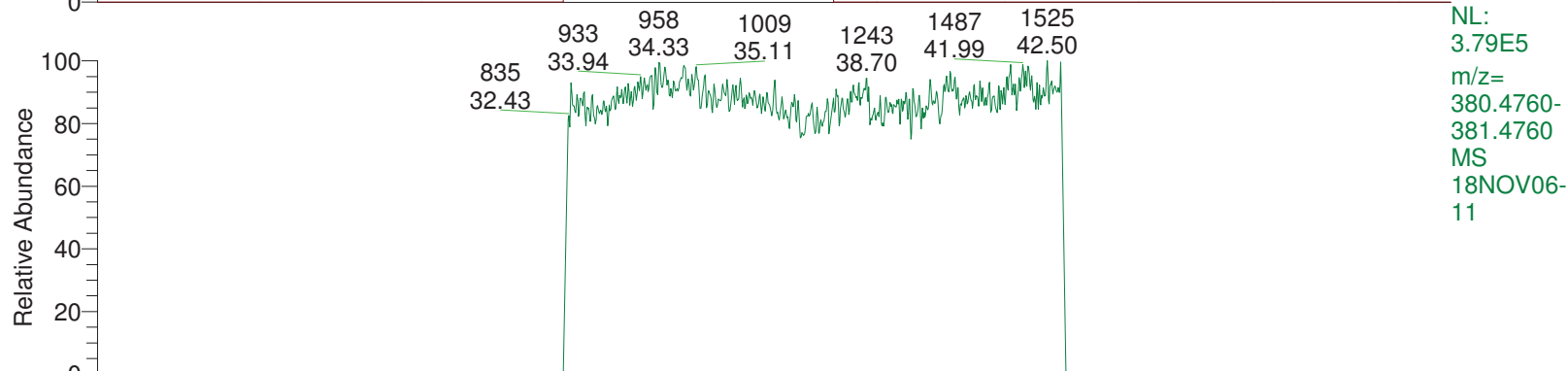
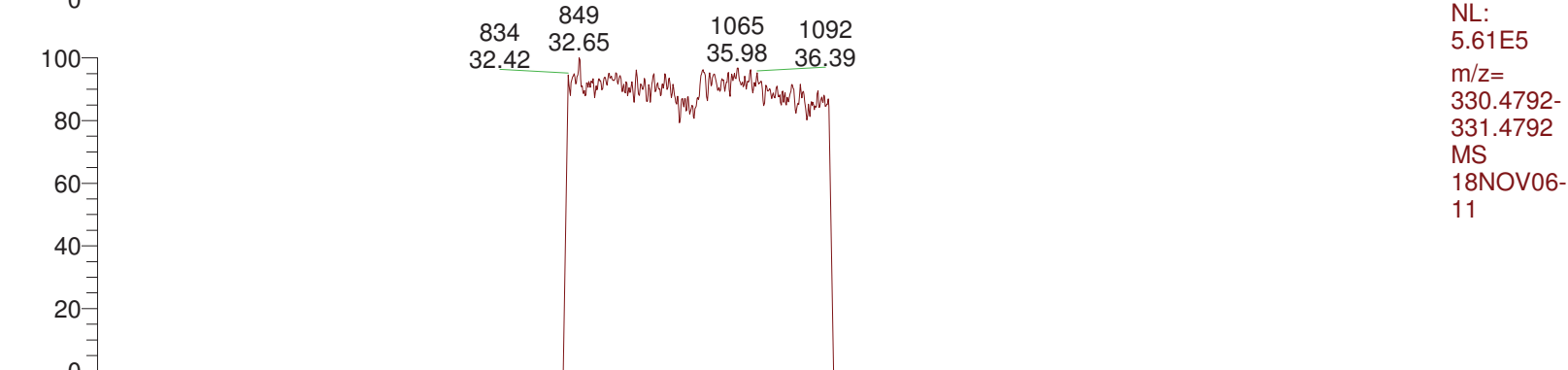
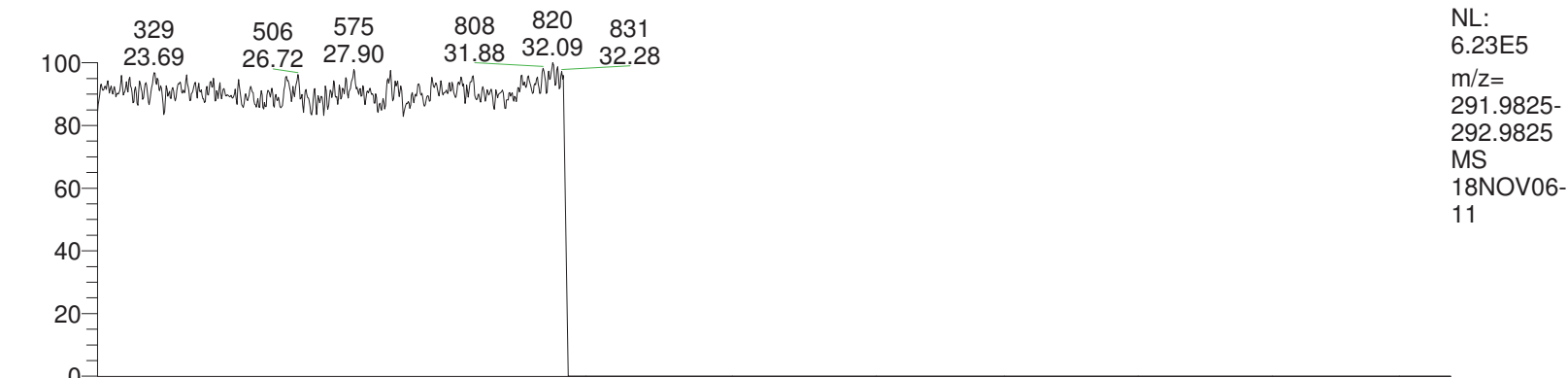
RT: 28.88 - 30.88 SM: 3G



**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	29.90
RM1 Left Baseline Height	3131.95
RM1 Left Height	21673
RM1 Height	305510
GC Res (%) left	7.761370

RT: 22.50 - 51.00



**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 2:42 pm, 11/8/18

\*\*\* file opened Tue Nov 06 17:15:21 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 17:15:21

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f47a1299-4cfa-47aa-bc24-79dbd06cd1d0

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes





18NOV06-11

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)\Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	99.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0184	FVINLET	0.0426	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1451960.7165	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9807	RELEN	0.0000
RES	12564.1488	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11793.  
MID Time window 2: Resolution is 12812.  
MID Time window 3: Resolution is 12784.  
MID Time window 4: Resolution is 13256.



18NOV06-11

MID Time Window 5: Resolution is 12343.  
MID Time Window 6: Resolution is 12564.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 18:06:23 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/06 18:06
Number of Entries	62
Comment	
Vial	6
Sample Name	VER-CALDF41837H
Sample ID	CS3CC02
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	w:\18nov06\18nov06-12.quan
Data	w:\18nov06\18nov06-12.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.24	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.64	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.16	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.44	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.93	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.11	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.33	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.05	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.89	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.79	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.89	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.90	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.23	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.63	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	39.99	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.13	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.86	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.06	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.90	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.63	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.86	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.43	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.91	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.10	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 18:06  
Number of Entries 62  
Comment  
Vial 6  
Sample Name VER-CALDF41837H  
Sample ID CS3CC02  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

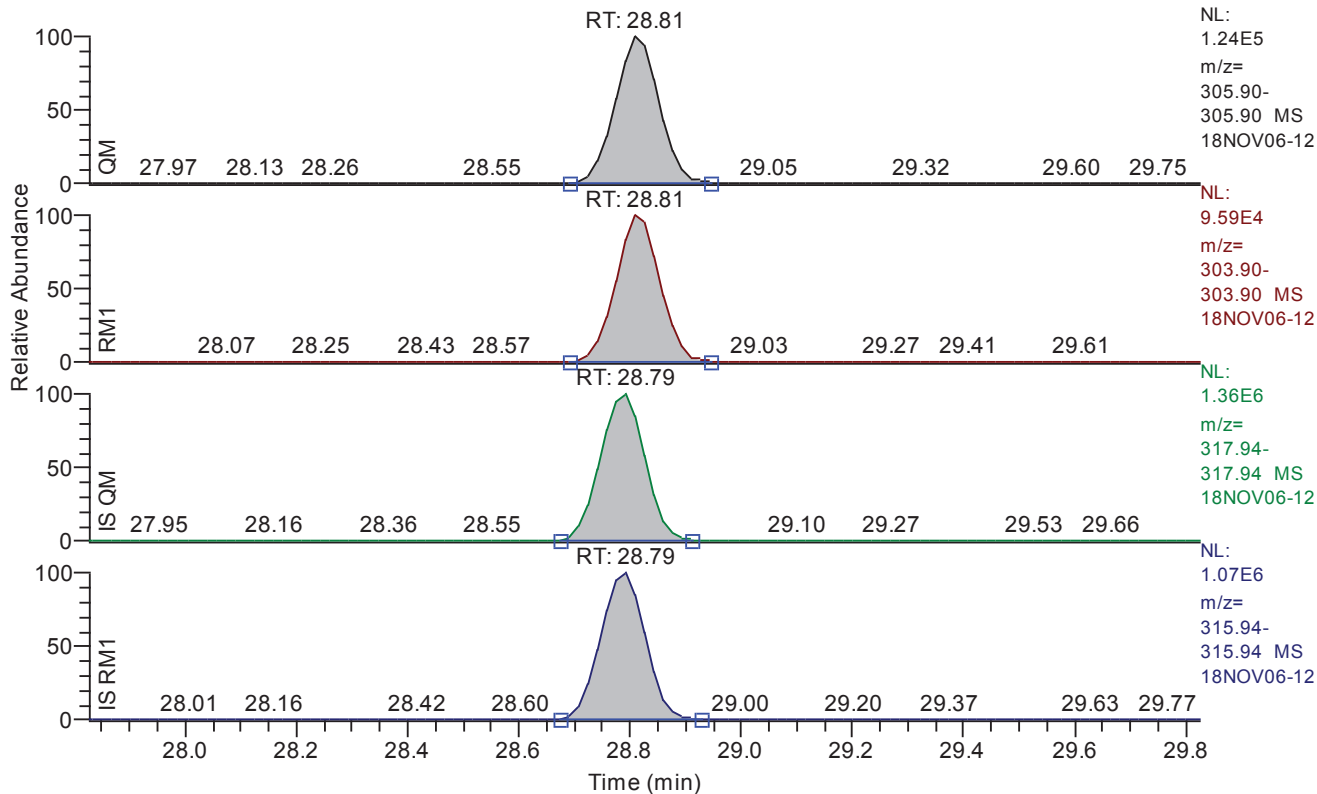
Quan w:\18nov06\18nov06-12.quan  
Data w:\18nov06\18nov06-12.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.83 - 29.83 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

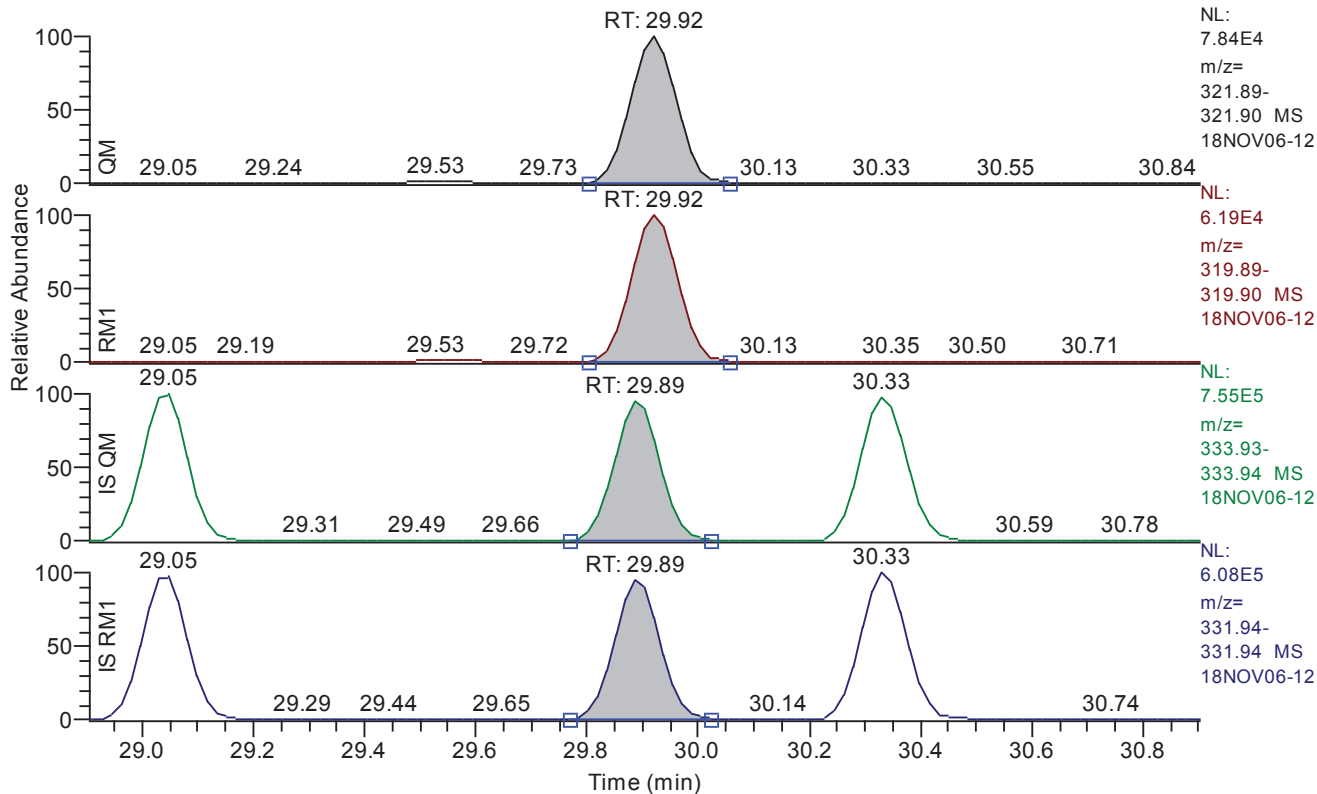
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.81
QM Area	685229
QM Integration Mode	A
RM1 Area	536871
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0060
Unqualified Amount (A)	9.537388
Adjusted Amount (A)	9.5374
Signal-to-Noise	4097
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 28.90 - 30.90 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

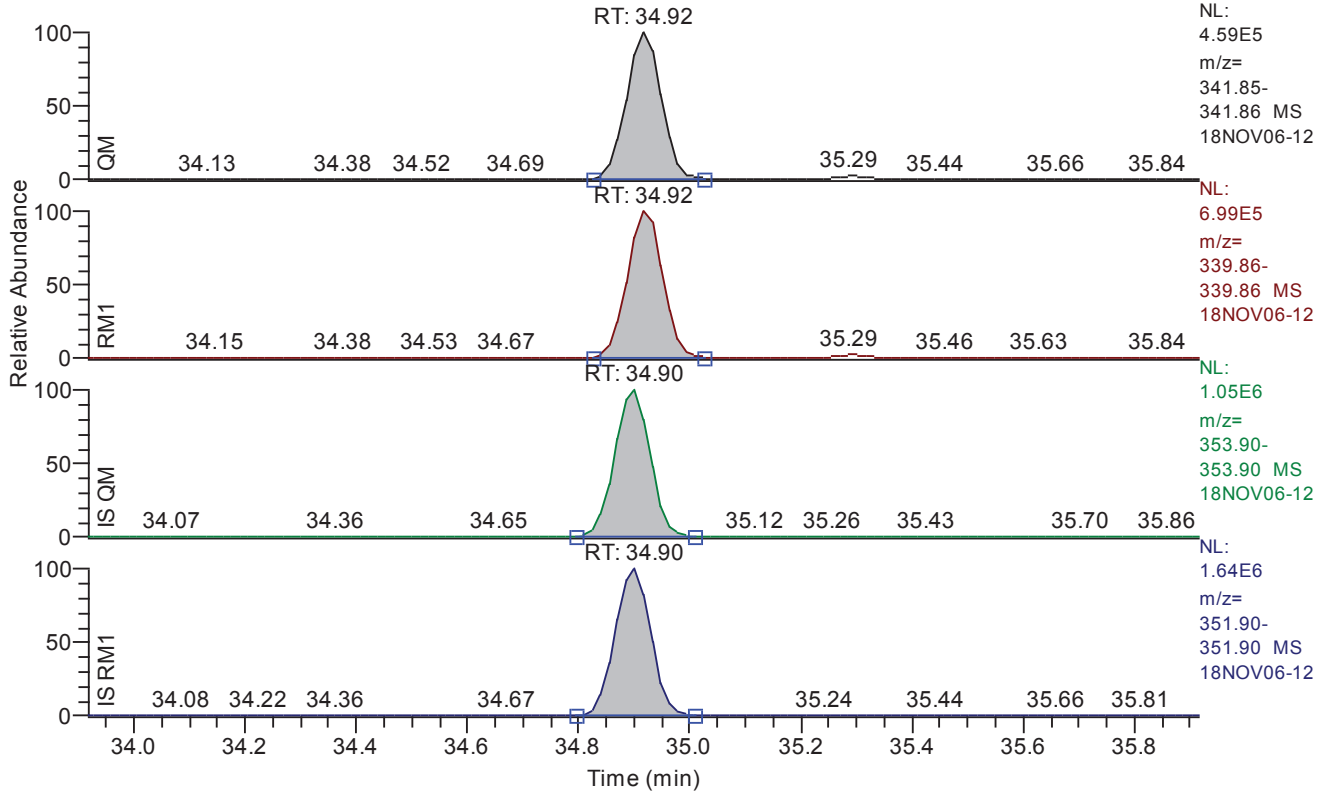
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.92
QM Area	461718
QM Integration Mode	A
RM1 Area	368499
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0047
Unqualified Amount (A)	10.032061
Adjusted Amount (A)	10.0321
Signal-to-Noise	5233
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.92 - 35.92 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

**Entry Parameters**

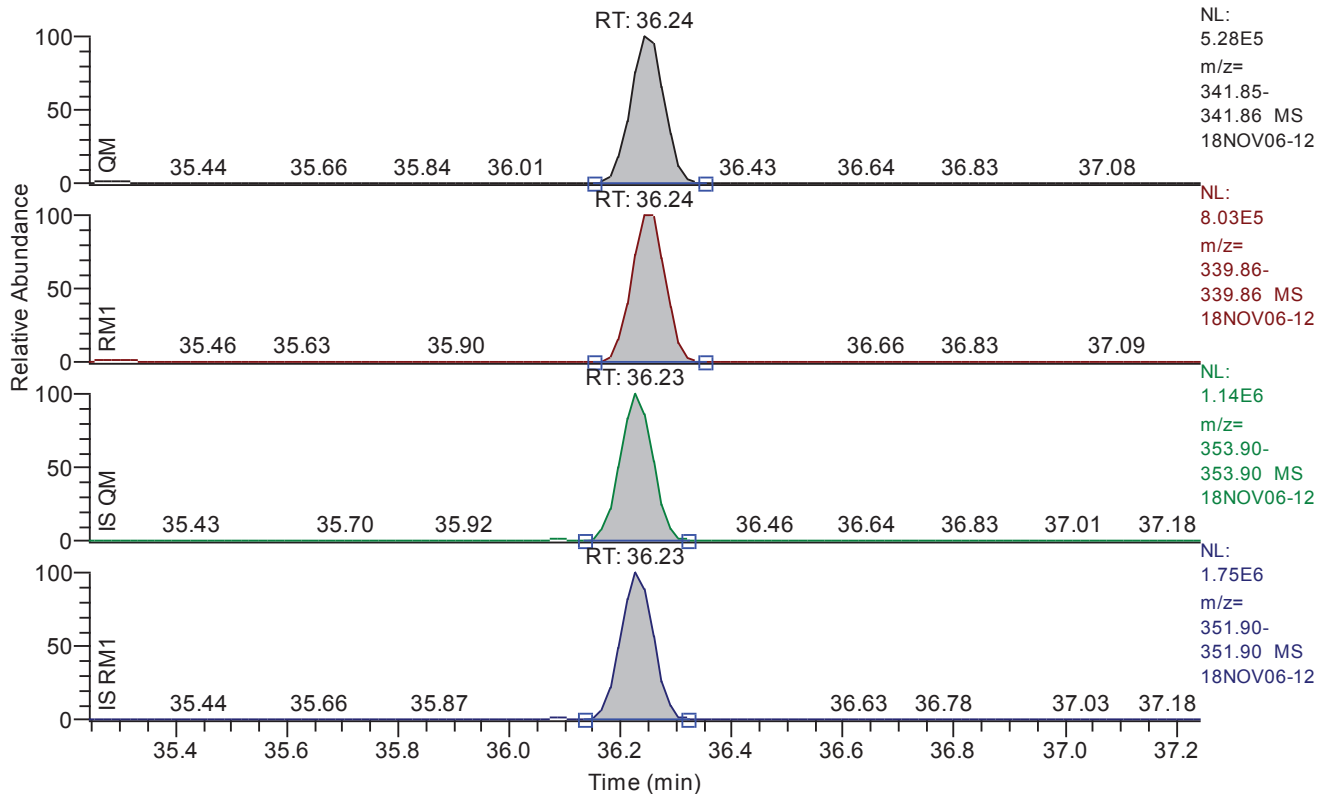
Compound Name	12378-PeCDF
QM Retention Time	34.92
QM Area	1999960
QM Integration Mode	A
RM1 Area	3103472
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0049
Unqualified Amount (A)	49.964319
Adjusted Amount (A)	49.9643
Signal-to-Noise	26076
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 35.24 - 37.24 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

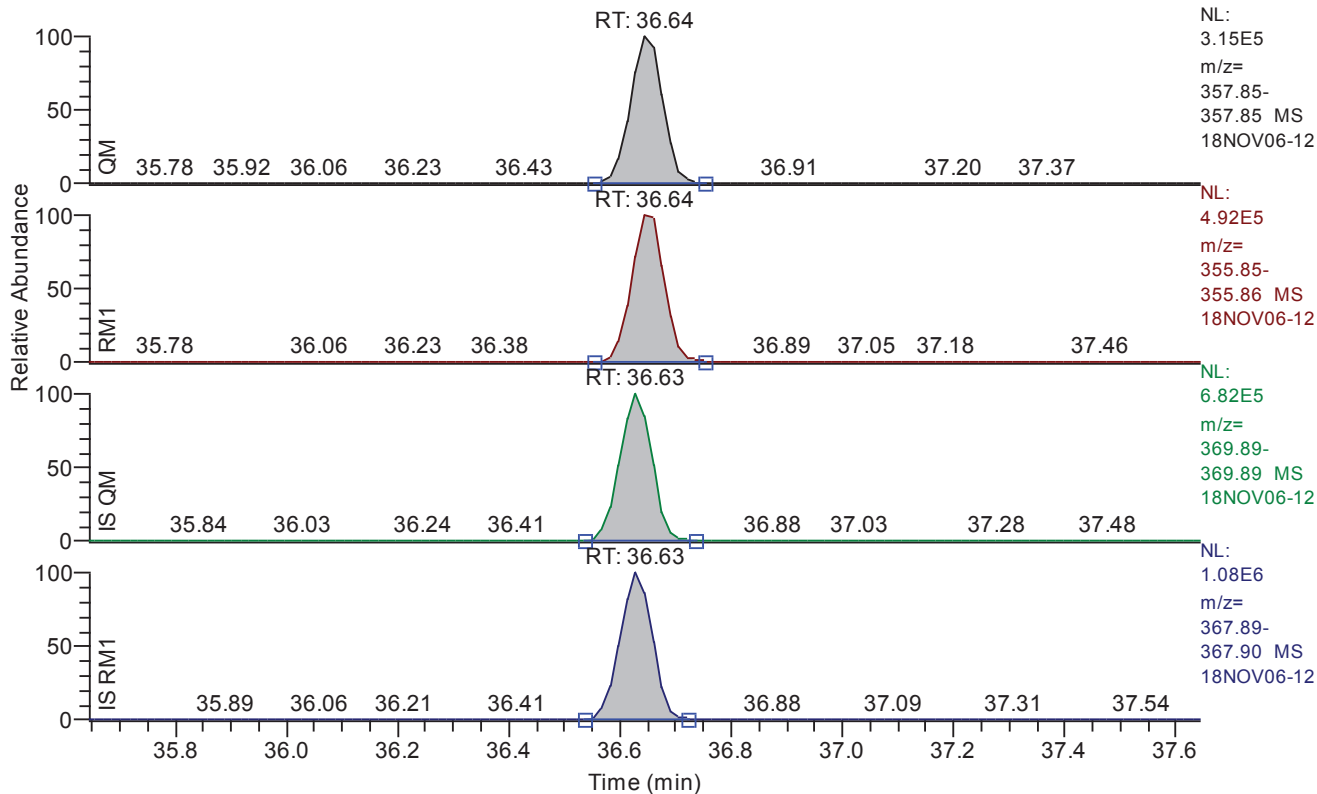
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.24
QM Area	2224403
QM Integration Mode	A
RM1 Area	3441665
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0040
Unqualified Amount (A)	50.154111
Adjusted Amount (A)	50.1541
Signal-to-Noise	29970
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.64 - 37.64 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

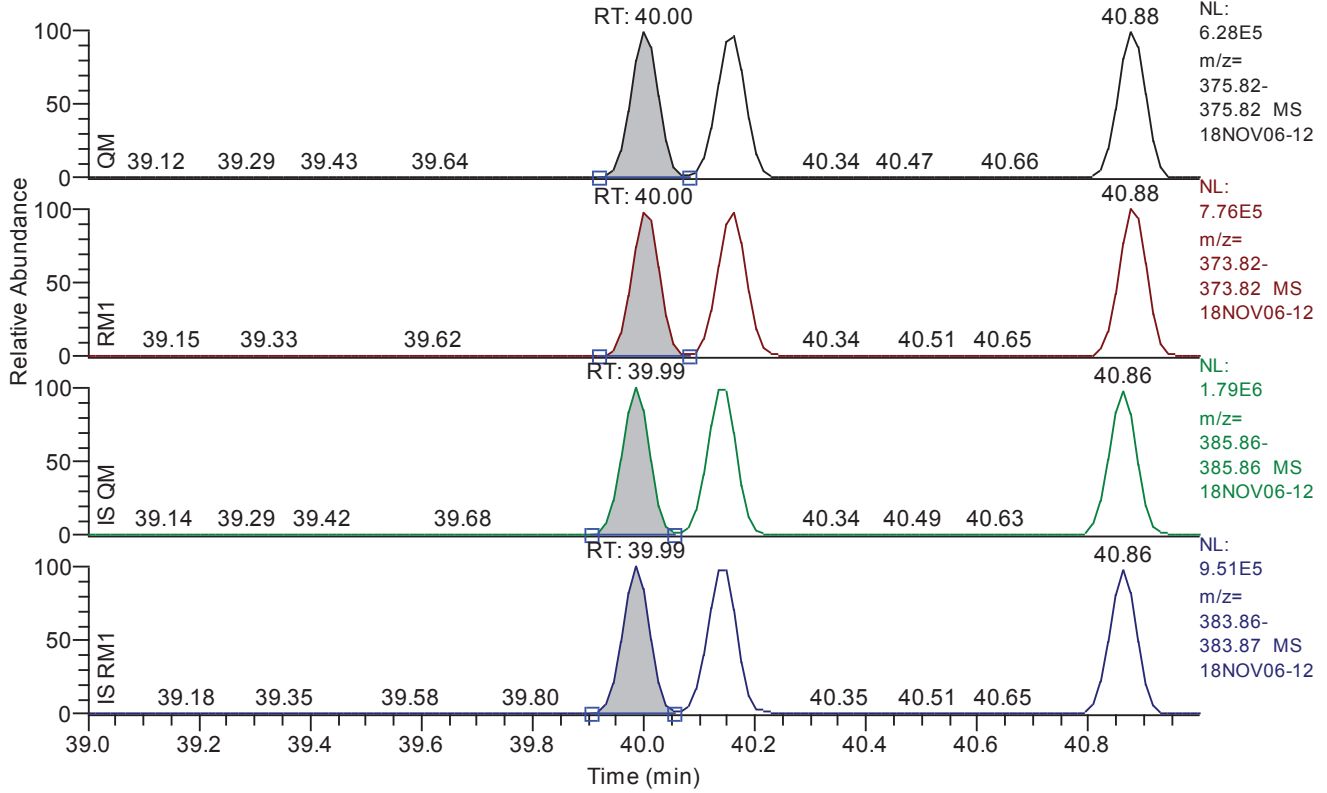
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.64
QM Area	1274401
QM Integration Mode	A
RM1 Area	2015133
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	51.840174
Adjusted Amount (A)	51.8402
Signal-to-Noise	15031
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.00 - 41.00 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

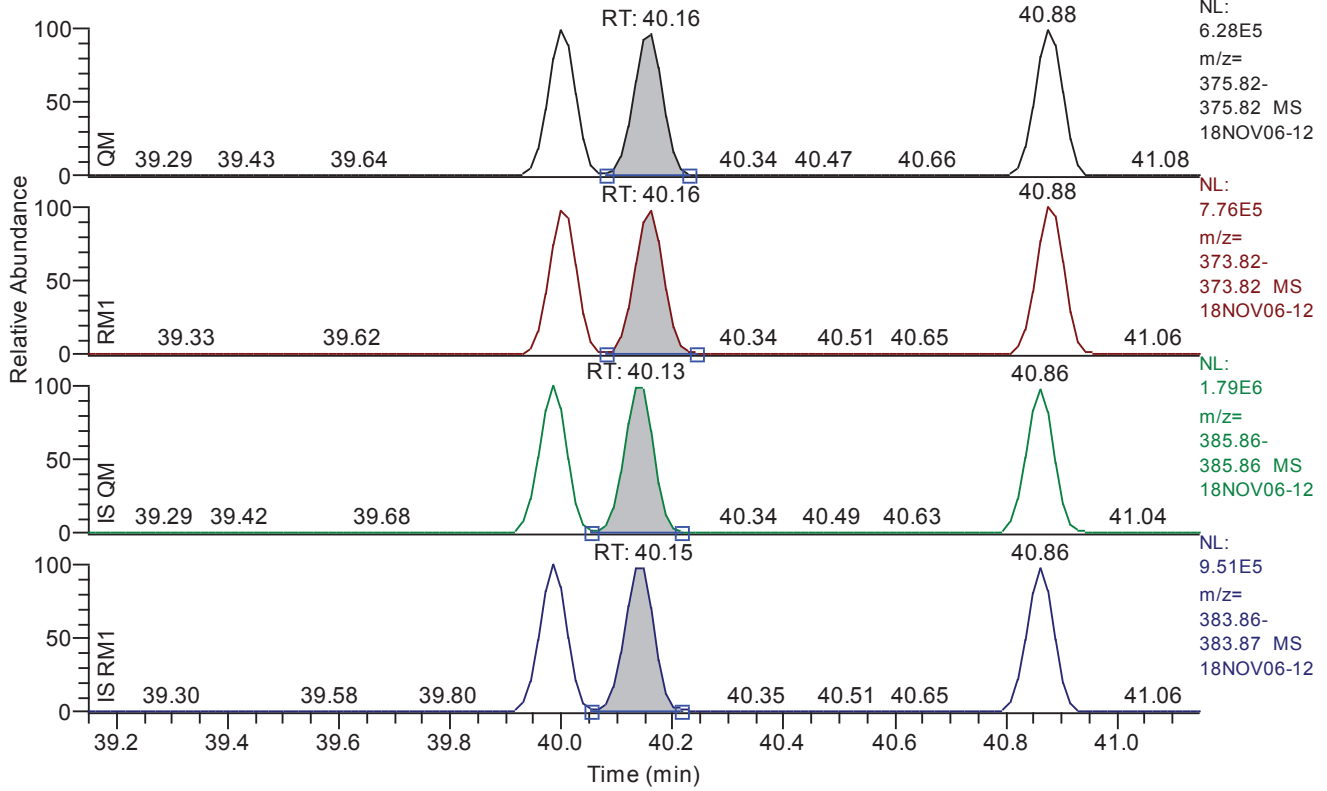
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.00
QM Area	2182530
QM Integration Mode	A
RM1 Area	2692393
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0072
Unqualified Amount (A)	48.100832
Adjusted Amount (A)	48.1008
Signal-to-Noise	16546
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.15 - 41.15 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

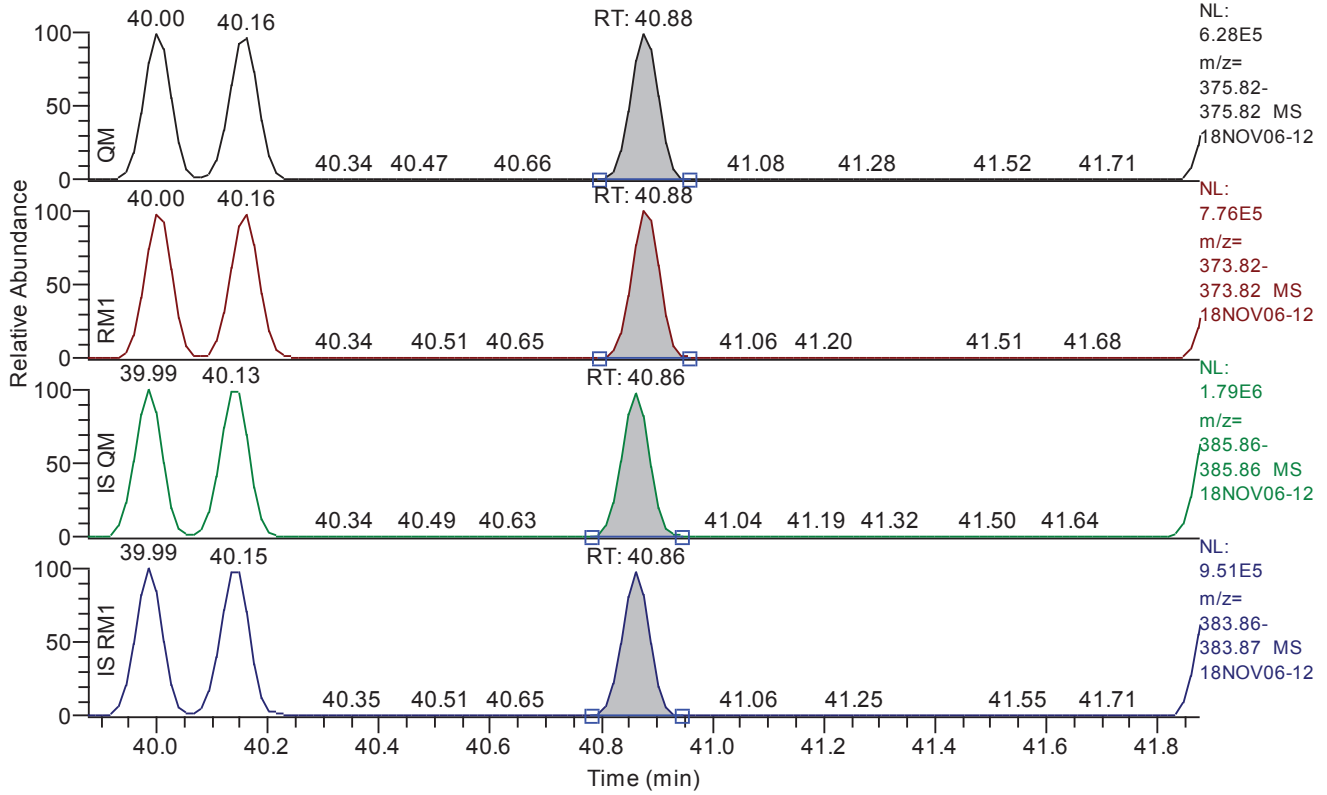
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.16
QM Area	2218078
QM Integration Mode	A
RM1 Area	2764504
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0074
Unqualified Amount (A)	47.348312
Adjusted Amount (A)	47.3483
Signal-to-Noise	16214
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.88 - 41.88 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

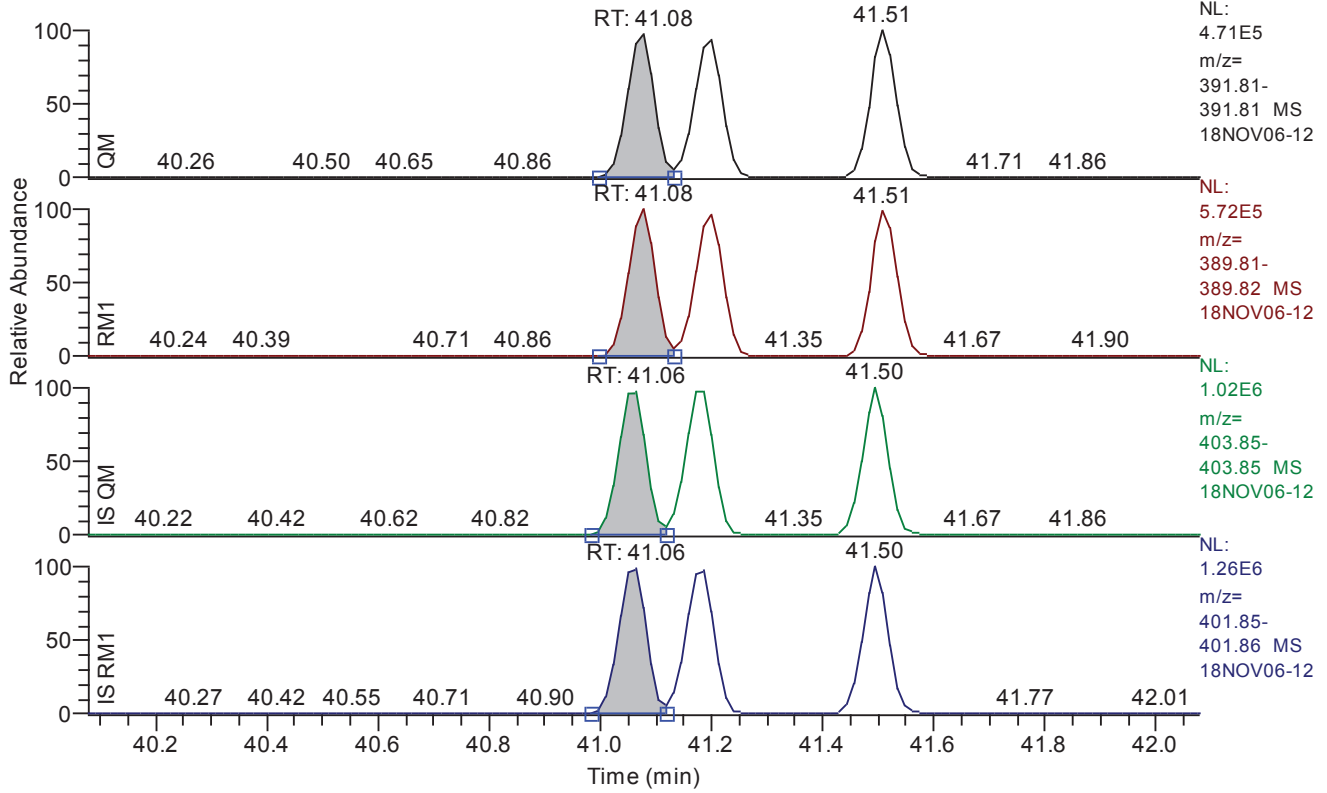
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.88
QM Area	2208825
QM Integration Mode	A
RM1 Area	2757599
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	48.007350
Adjusted Amount (A)	48.0074
Signal-to-Noise	16698
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.08 - 42.08 SM: 3G



Entry: 123478-hxcdd IS: 13C12-123478-HxCDD

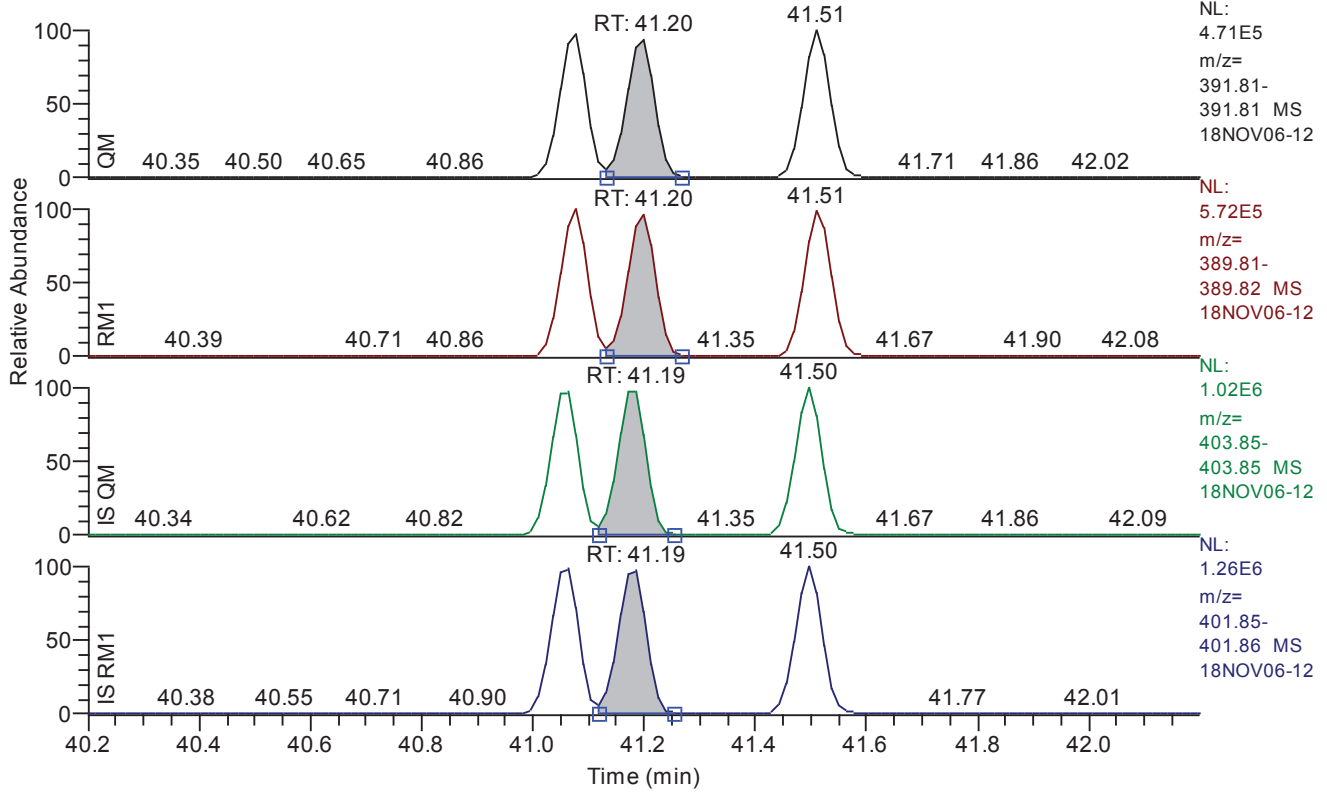
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.08
QM Area	1566717
QM Integration Mode	A
RM1 Area	1926774
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0080
Unqualified Amount (A)	48.824314
Adjusted Amount (A)	48.8243
Signal-to-Noise	15749
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.20 - 42.20 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

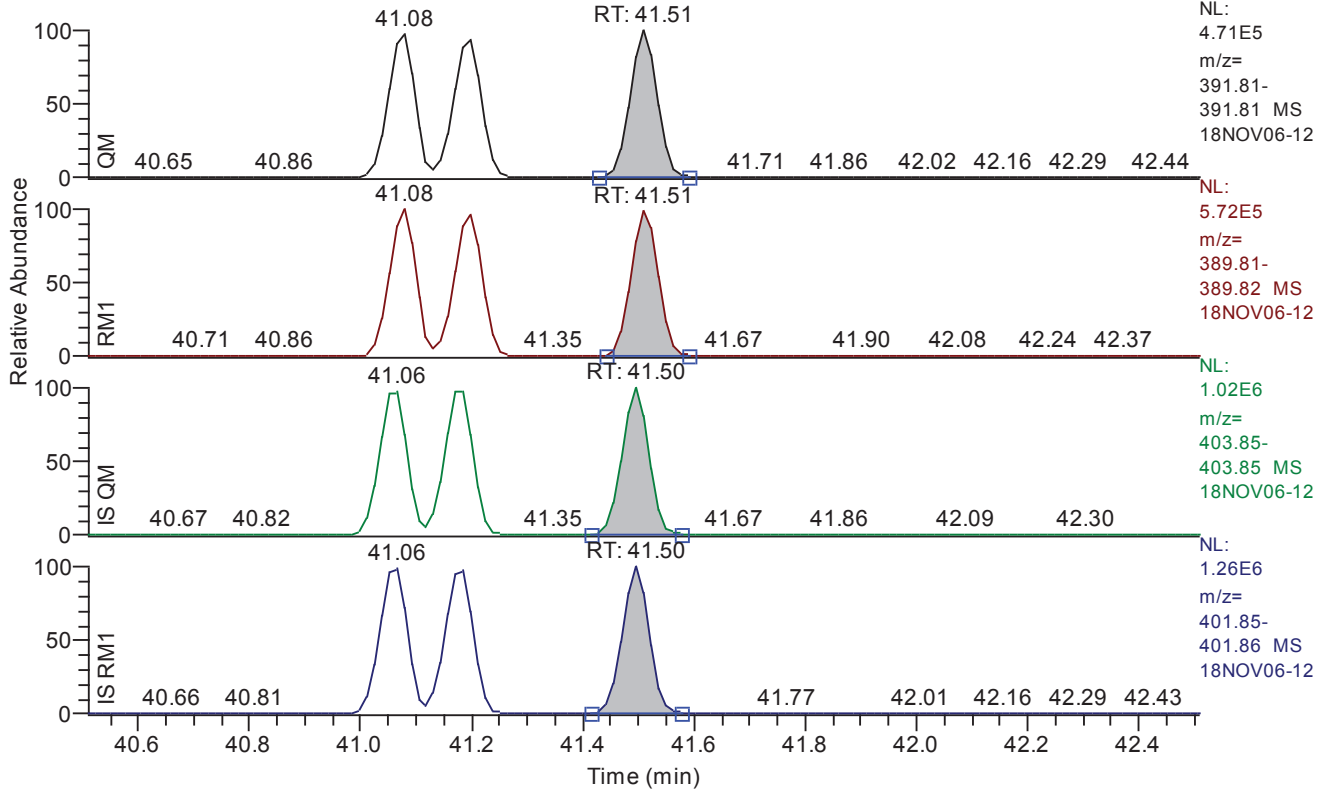
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.20
QM Area	1554095
QM Integration Mode	A
RM1 Area	1932309
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0081
Unqualified Amount (A)	48.616004
Adjusted Amount (A)	48.6160
Signal-to-Noise	15235
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.51 - 42.51 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

**Entry Parameters**

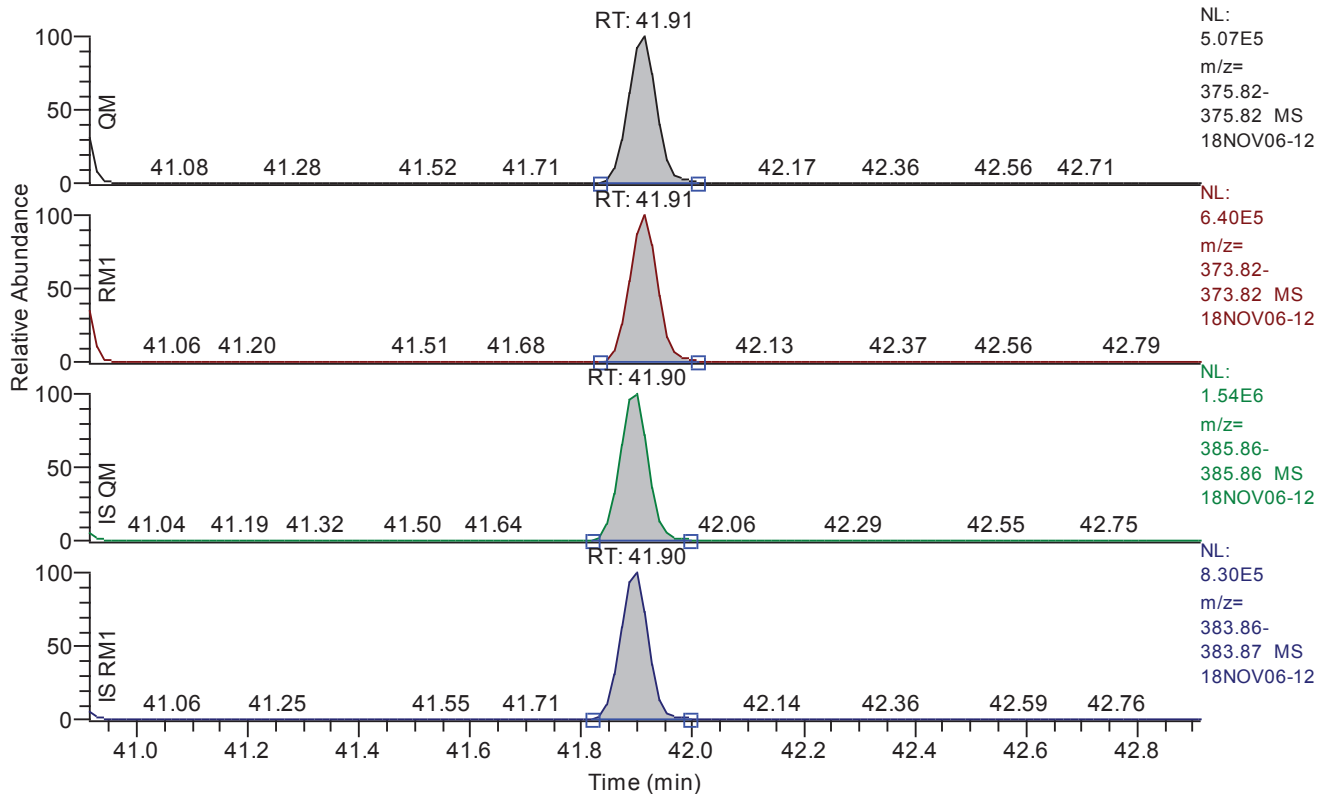
Compound Name	123789-HxCDD
QM Retention Time	41.51
QM Area	1595148
QM Integration Mode	A
RM1 Area	1929127
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0076
Unqualified Amount (A)	48.203942
Adjusted Amount (A)	48.2039
Signal-to-Noise	15818
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 40.91 - 42.91 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

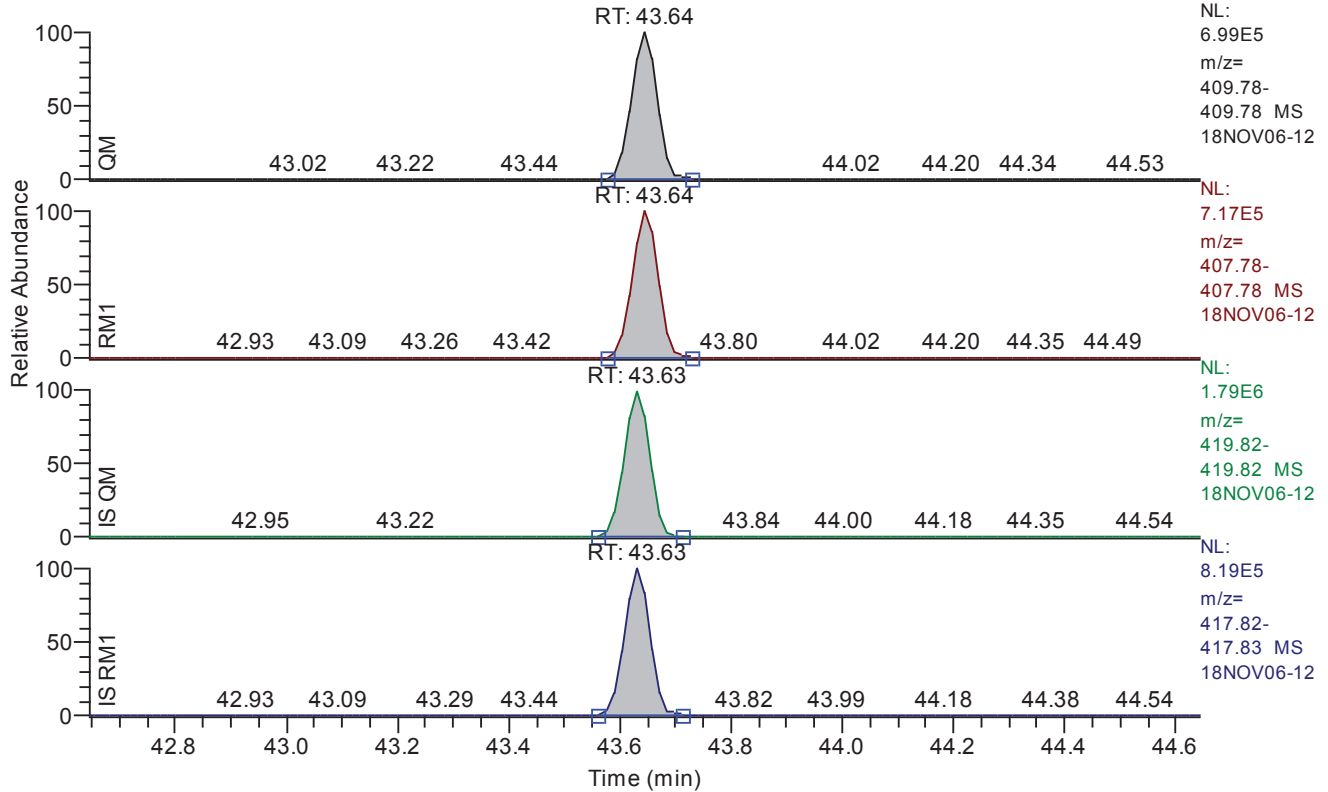
**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.91
QM Area	1799631
QM Integration Mode	A
RM1 Area	2253859
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0087
Unqualified Amount (A)	47.376889
Adjusted Amount (A)	47.3769
Signal-to-Noise	13653
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 42.64 - 44.64 SM: 3G



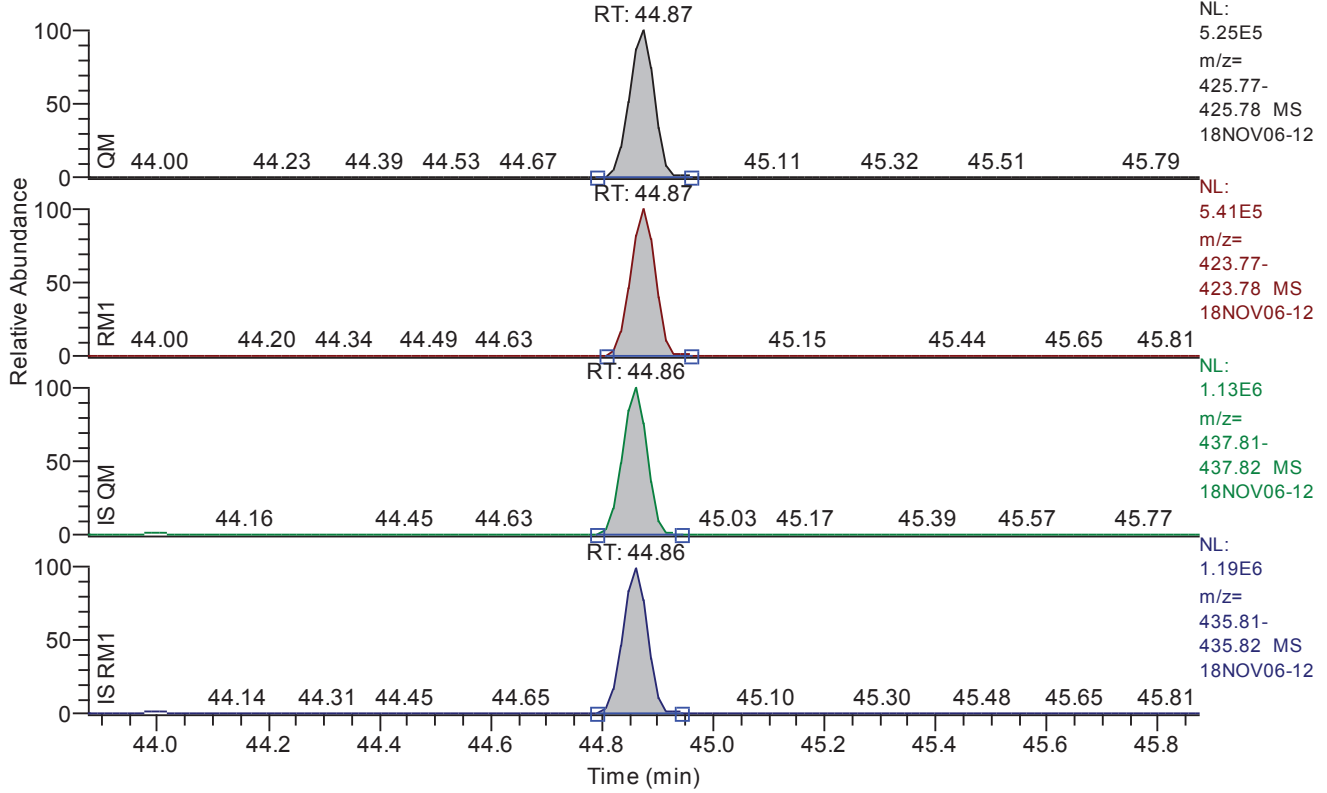
Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.64
QM Area	2304855
QM Integration Mode	A
RM1 Area	2373144
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0091
Unqualified Amount (A)	47.783372
Adjusted Amount (A)	47.7834
Signal-to-Noise	12973
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.87 - 45.87 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

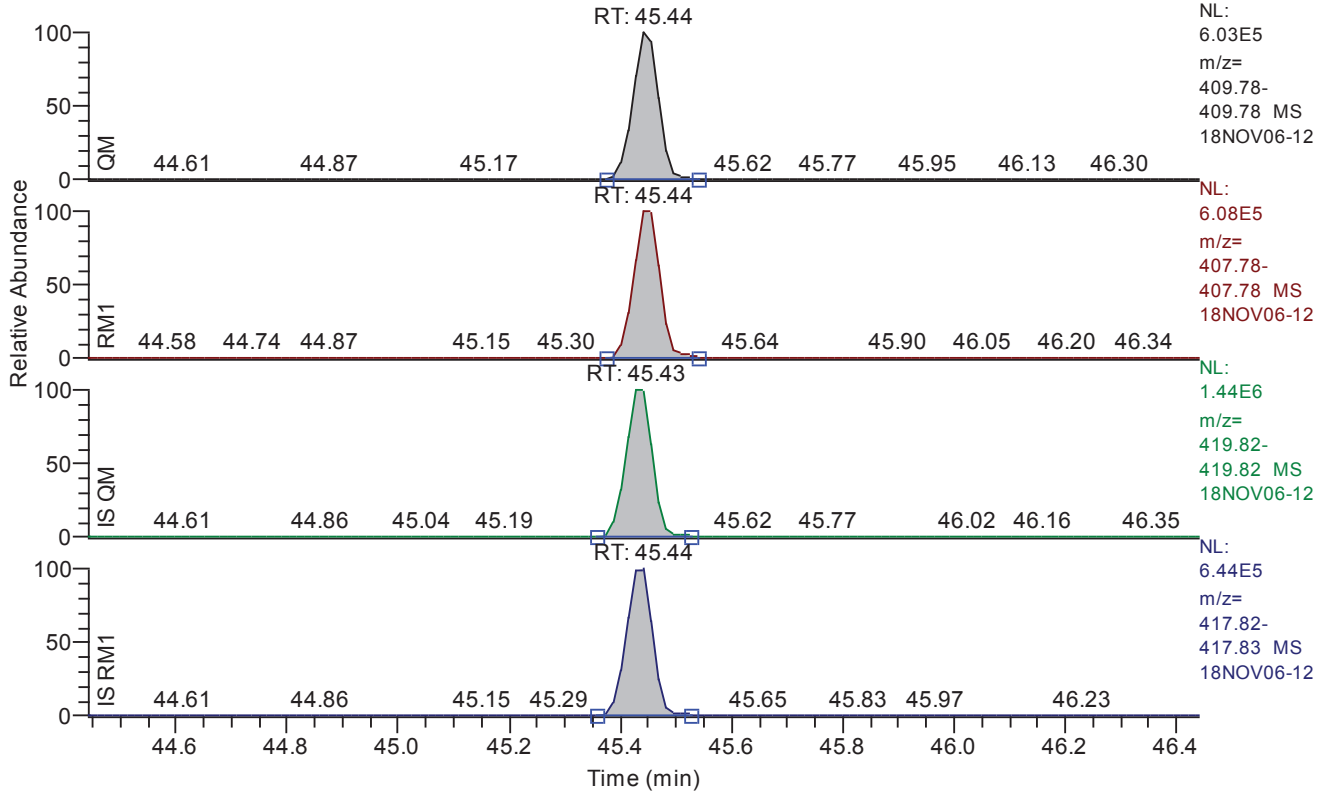
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.87
QM Area	1687574
QM Integration Mode	A
RM1 Area	1734016
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0117
Unqualified Amount (A)	49.441776
Adjusted Amount (A)	49.4418
Signal-to-Noise	10467
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.44 - 46.44 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

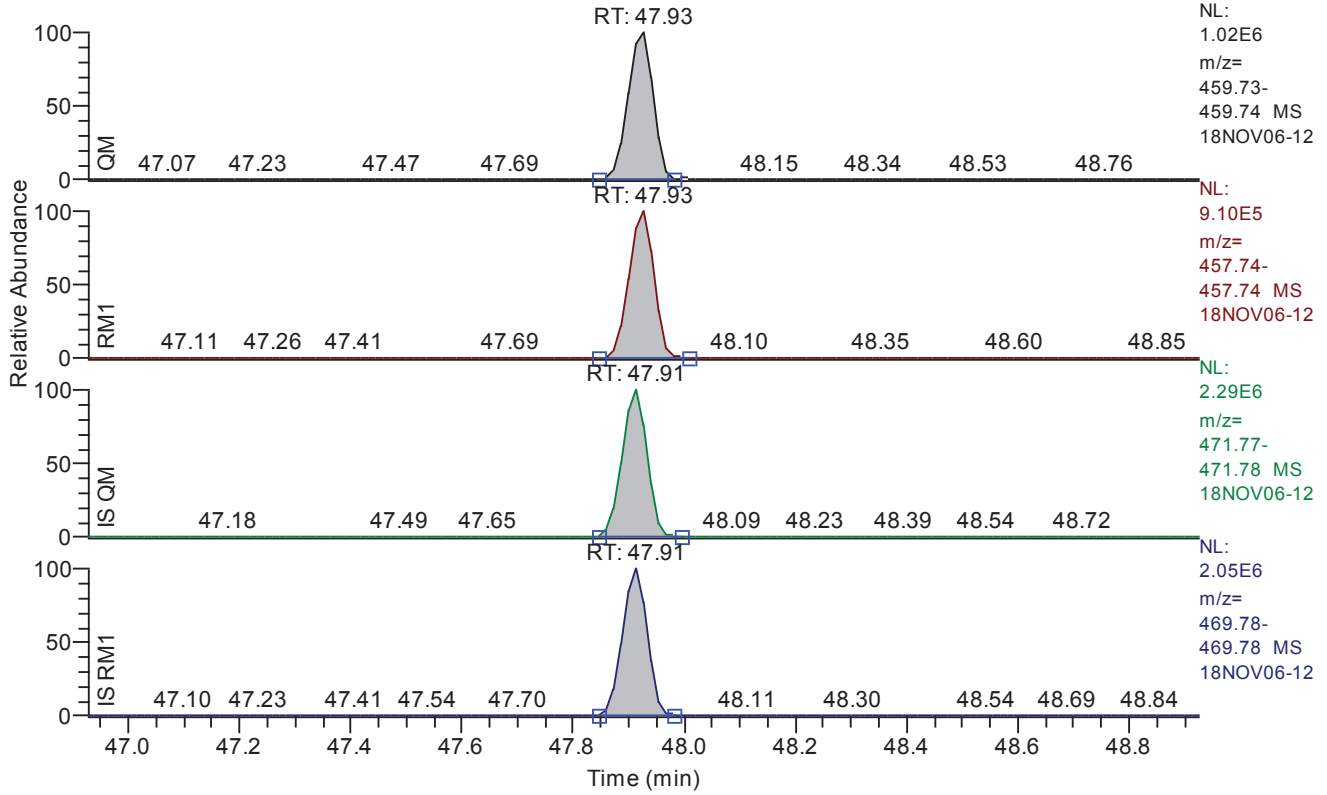
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.44
QM Area	1982050
QM Integration Mode	A
RM1 Area	2056504
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	48.363957
Adjusted Amount (A)	48.3640
Signal-to-Noise	11088
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.93 - 48.93 SM: 3G



Entry: ocdd IS: 13C12-OCDD

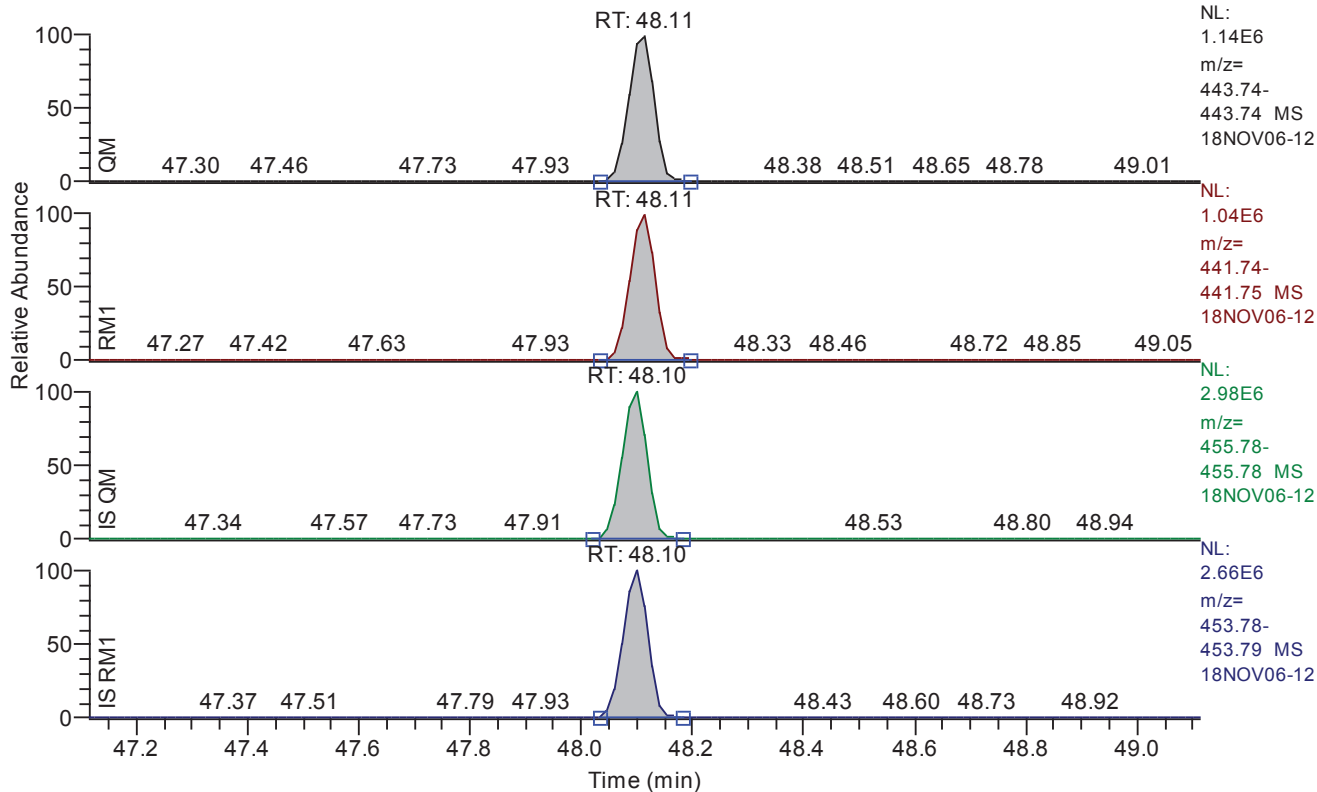
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.93
QM Area	3203468
QM Integration Mode	A
RM1 Area	2842546
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	98.091666
Adjusted Amount (A)	98.0917
Signal-to-Noise	34529
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.11 - 49.11 SM: 3G



Entry: ocdf IS: 13C12-OCDF

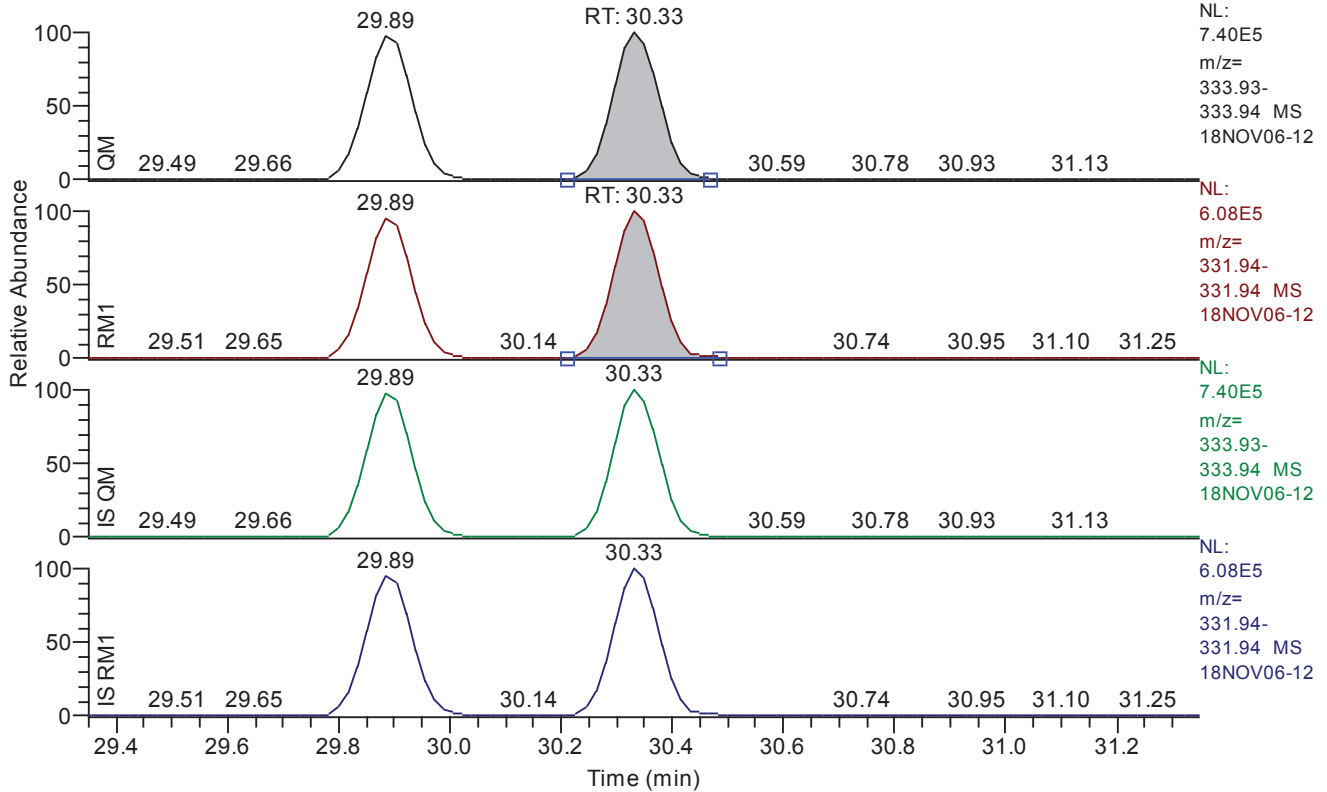
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.11
QM Area	3618837
QM Integration Mode	A
RM1 Area	3251321
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0062
Unqualified Amount (A)	92.596339
Adjusted Amount (A)	92.5963
Signal-to-Noise	36878
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.35 - 31.35 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.33
QM Area	4366770
QM Integration Mode	A
RM1 Area	3566309
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0094
Unqualified Amount (A)	98.815694
Adjusted Amount (A)	98.8157
Signal-to-Noise	25579
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.81	28.81	28.79	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.92	29.92	29.89	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.92	34.92	34.90	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.24	36.24	36.23	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.64	36.64	36.63	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.00	40.00	39.99	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.16	40.16	40.13	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.88	40.88	40.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.08	41.08	41.06	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.20	41.20	41.19	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.51	41.51	41.50	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.91	41.91	41.90	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.64	43.64	43.63	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.87	44.87	44.86	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.44	45.44	45.43	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.93	47.93	47.91	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.11	48.11	48.10	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.05	29.05	29.05	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.89	39.89	39.89	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.79	28.79	28.79	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.89	29.89	29.89	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.90	34.90	35.01	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.23	36.23	36.26	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.63	36.63	36.63	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	39.99	39.99	39.88	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.13	40.15	40.15	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.86	40.86	40.77	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.06	41.06	41.06	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.19	41.19	41.19	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.50	41.50	41.50	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.90	41.90	41.95	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.63	43.63	43.62	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.86	44.86	44.86	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.43	45.44	45.43	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.91	47.91	47.91	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.10	48.10	47.97	passed	passed





**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.81	0.7835	0.6450 - 0.8950	passed	0.8806	0.9233	0.7340 - 1.1126	passed
2	2378-TCDD	29.92	0.7981	0.6450 - 0.8950	passed	1.0977	1.0942	0.8699 - 1.3185	passed
3	12378-PeCDF	34.92	1.5518	1.3150 - 1.7850	passed	0.8495	0.8501	0.6758 - 1.0244	passed
4	23478-PeCDF	36.24	1.5472	1.3150 - 1.7850	passed	0.9538	0.9509	0.7560 - 1.1458	passed
5	123478-PeCDD	36.64	1.5812	1.3150 - 1.7850	passed	0.9287	0.8957	0.7121 - 1.0793	passed
6	123478-HxCDF	40.00	1.2336	1.0450 - 1.4350	passed	1.0274	1.0680	0.8491 - 1.2869	passed
7	123678-HxCDF	40.16	1.2464	1.0450 - 1.4350	passed	0.9886	1.0439	0.8299 - 1.2579	passed
8	234678-HxCDF	40.88	1.2484	1.0450 - 1.4350	passed	1.0642	1.1084	0.8812 - 1.3356	passed
9	123478-HxCDD	41.08	1.2298	1.0450 - 1.4350	passed	0.8893	0.9107	0.7240 - 1.0974	passed
10	123678-HxCDD	41.20	1.2434	1.0450 - 1.4350	passed	0.8792	0.9043	0.7189 - 1.0897	passed
11	123789-HxCDD	41.51	1.2094	1.0450 - 1.4350	passed	0.9199	0.9541	0.7585 - 1.1497	passed
12	123789-HxCDF	41.91	1.2524	1.0450 - 1.4350	passed	0.9644	1.0178	0.8092 - 1.2264	passed
13	1234678-HpCDF	43.64	1.0296	0.8750 - 1.2050	passed	1.0968	1.1477	0.9124 - 1.3830	passed
14	1234678-HpCDD	44.87	1.0275	0.8750 - 1.2050	passed	0.9261	0.9366	0.7446 - 1.1286	passed
15	1234789-HpCDF	45.44	1.0376	0.8750 - 1.2050	passed	1.1426	1.1813	0.9391 - 1.4235	passed
16	OCDD	47.93	0.8873	0.7550 - 1.0250	passed	0.8946	0.9120	0.7250 - 1.0990	passed
17	OCDF	48.11	0.8984	0.7550 - 1.0250	passed	0.7833	0.8459	0.6725 - 1.0193	passed
18	13C12-1278-TCDD (CRS)	30.33	0.8167	0.6450 - 0.8950	passed	1.0202	1.0324	0.7175 - 1.3473	passed
19	13C12-1234-TCDD	29.05	0.7886	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	39.89	1.2460	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	28.79	0.7886	0.6450 - 0.8950	passed	1.7848	1.7703	1.2304 - 2.3102	passed
22	13C12-2378-TCDD	29.89	0.8014	0.6450 - 0.8950	passed	0.9727	0.9769	0.6789 - 1.2749	passed
23	13C12-12378-PeCDF	34.90	1.5669	1.3150 - 1.7850	passed	1.5452	1.6320	1.1342 - 2.1298	passed
24	13C12-23478-PeCDF	36.23	1.5612	1.3150 - 1.7850	passed	1.5279	1.6333	1.1351 - 2.1315	passed
25	13C12-12378-PeCDD	36.63	1.5824	1.3150 - 1.7850	passed	0.9110	0.9751	0.6777 - 1.2725	passed
26	13C12-123478-HxCDF	39.99	0.5246	0.4250 - 0.5950	passed	1.1878	1.2659	0.8798 - 1.6520	passed
27	13C12-123678-HxCDF	40.13	0.5233	0.4250 - 0.5950	passed	1.2618	1.3355	0.9282 - 1.7428	passed
28	13C12-234678-HxCDF	40.86	0.5254	0.4250 - 0.5950	passed	1.1683	1.2366	0.8594 - 1.6138	passed
29	13C12-123478-HxCDD	41.06	1.2554	1.0450 - 1.4350	passed	0.9835	0.9892	0.6875 - 1.2909	passed
30	13C12-123678-HxCDD	41.19	1.2261	1.0450 - 1.4350	passed	0.9927	1.0149	0.7054 - 1.3244	passed
31	13C12-123789-HxCDD	41.50	1.2385	1.0450 - 1.4350	passed	0.9591	0.9622	0.6687 - 1.2557	passed
32	13C12-123789-HxCDF	41.90	0.5319	0.4250 - 0.5950	passed	1.0522	1.1265	0.7829 - 1.4701	passed
33	13C12-1234678-HpCDF	43.63	0.4595	0.3650 - 0.5150	passed	1.0677	1.1645	0.8093 - 1.5197	passed
34	13C12-1234678-HpCDD	44.86	1.0480	0.8750 - 1.2050	passed	0.9249	0.9693	0.6737 - 1.2649	passed
35	13C12-1234789-HpCDF	45.43	0.4481	0.3650 - 0.5150	passed	0.8848	0.9563	0.6646 - 1.2480	passed
36	13C12-OCDD	47.91	0.8869	0.7550 - 1.0250	passed	0.8460	0.9422	0.6548 - 1.2296	passed
37	13C12-OCDF	48.10	0.8807	0.7550 - 1.0250	passed	1.0978	1.2582	0.8744 - 1.6420	passed

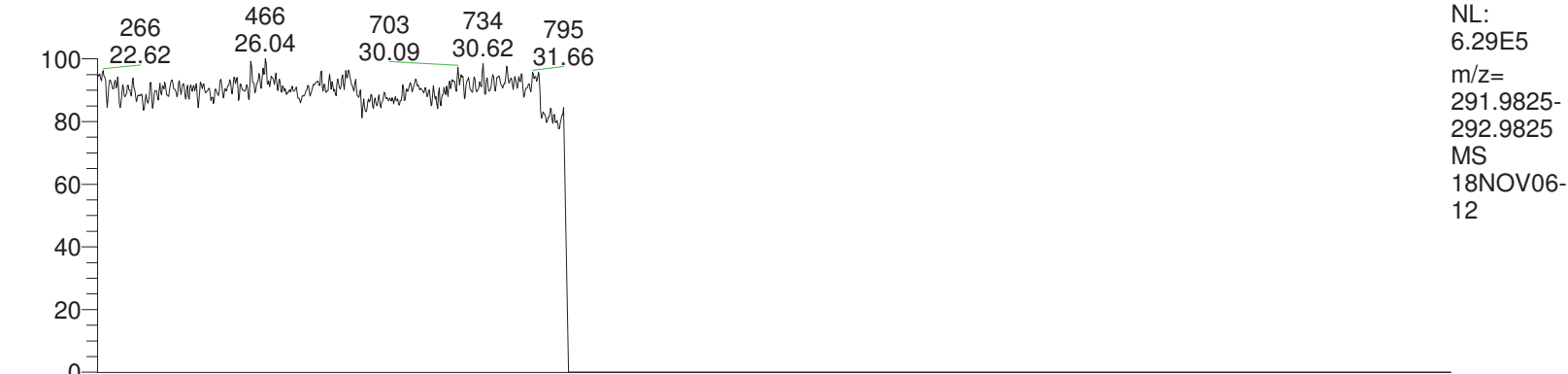


**Entry Parameters**

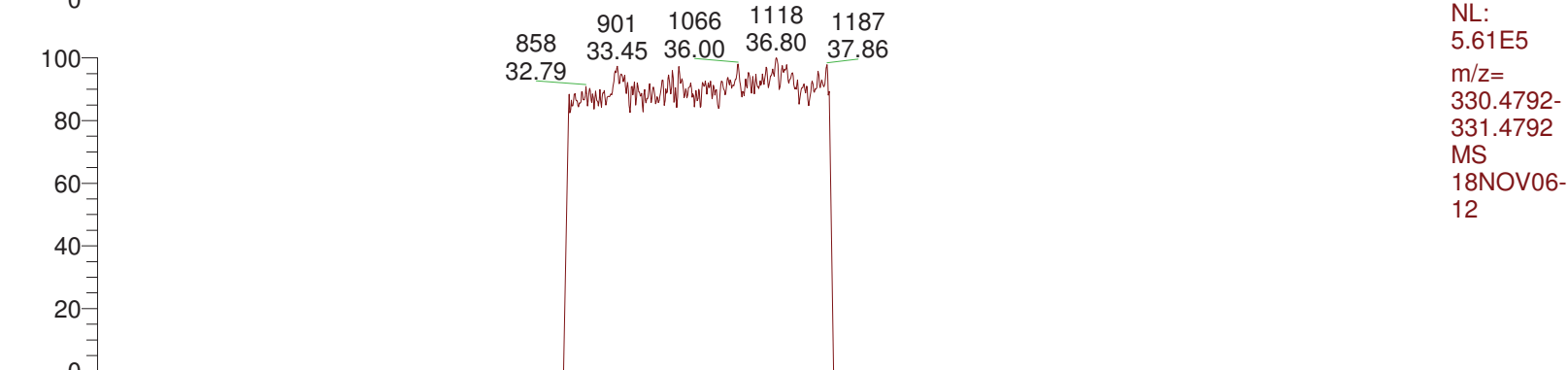
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.81	685229	A	536871	A	0.0060	9.537388	9.5374	10.000000	4097	
2	2378-TCDD	passed	29.92	461718	A	368499	A	0.0047	10.032061	10.0321	10.000000	5233	
3	12378-PeCDF	passed	34.92	1999960	A	3103472	A	0.0049	49.964319	49.9643	50.000000	26076	
4	23478-PeCDF	passed	36.24	2224403	A	3441665	A	0.0040	50.154111	50.1541	50.000000	29970	
5	12378-PeCDD	passed	36.64	1274401	A	2015133	A	0.0085	51.840174	51.8402	50.000000	15031	
6	123478-HxCDF	passed	40.00	2182530	A	2692393	A	0.0072	48.100832	48.1008	50.000000	16546	
7	123678-HxCDF	passed	40.16	2218078	A	2764504	A	0.0074	47.348312	47.3483	50.000000	16214	
8	234678-HxCDF	passed	40.88	2208825	A	2757599	A	0.0070	48.007350	48.0074	50.000000	16698	
9	123478-HxCDD	passed	41.08	1566717	A	1926774	A	0.0080	48.824314	48.8243	50.000000	15749	
10	123678-HxCDD	passed	41.20	1554095	A	1932309	A	0.0081	48.616004	48.6160	50.000000	15235	
11	123789-HxCDD	passed	41.51	1595148	A	1929127	A	0.0076	48.203942	48.2039	50.000000	15818	
12	123789-HxCDF	passed	41.91	1799631	A	2253859	A	0.0087	47.376889	47.3769	50.000000	13653	
13	1234678-HpCDF	passed	43.64	2304855	A	2373144	A	0.0091	47.783372	47.7834	50.000000	12973	
14	1234678-HpCDD	passed	44.87	1687574	A	1734016	A	0.0117	49.441776	49.4418	50.000000	10467	
15	1234789-HpCDF	passed	45.44	1982050	A	2056504	A	0.0111	48.363957	48.3640	50.000000	11088	
16	OCDD	passed	47.93	3203468	A	2842546	A	0.0070	98.091666	98.0917	100.000000	34529	
17	OCDF	passed	48.11	3618837	A	3251321	A	0.0062	92.596339	92.5963	100.000000	36878	
18	13C12-1278-TCDD (CRS)	passed	30.33	4366770	A	3566309	A	0.0094	98.815694	98.8157	100.000000	25579	
19	13C12-1234-TCDD	passed	29.05	4347474	A	3428498	A	0.0097	100.000000	100.0000	100.000000	25708	
20	13C12-123468-HxCDD	passed	39.89	3557001	A	4432131	A	0.0126	100.000000	100.0000	100.000000	19838	
21	13C12-2378-TCDF	passed	28.79	7759617	A	6118876	A	0.0082	100.818917	100.8189	100.000000	30977	
22	13C12-2378-TCDD	passed	29.89	4198763	A	3364713	A	0.0100	99.568477	99.5685	100.000000	24717	
23	13C12-12378-PeCDF	passed	34.90	4680877	A	7334404	A	0.0193	94.678708	94.6787	100.000000	15800	
24	13C12-23478-PeCDF	passed	36.23	4638755	A	7241884	A	0.0193	93.543551	93.5436	100.000000	16959	
25	13C12-12378-PeCDD	passed	36.63	2743190	A	4340947	A	0.0149	93.429773	93.4298	100.000000	22399	
26	13C12-123478-HxCDF	passed	39.99	6224528	A	3265265	A	0.0168	93.834444	93.8344	100.000000	14654	
27	13C12-123678-HxCDF	passed	40.13	6617609	A	3462963	A	0.0159	94.481292	94.4813	100.000000	14498	
28	13C12-234678-HxCDF	passed	40.86	6118650	A	3214774	A	0.0172	94.477733	94.4777	100.000000	14411	
29	13C12-123478-HxCDD	passed	41.06	3483736	A	4373397	A	0.0127	99.421766	99.4218	100.000000	20405	
30	13C12-123678-HxCDD	passed	41.19	3562453	A	4368079	A	0.0124	97.807849	97.8078	100.000000	20154	
31	13C12-123789-HxCDD	passed	41.50	3423164	A	4239446	A	0.0131	99.685872	99.6859	100.000000	20575	
32	13C12-123789-HxCDF	passed	41.90	5487219	A	2918924	A	0.0189	93.404960	93.4050	100.000000	12717	
33	13C12-1234678-HpCDF	passed	43.63	5844552	A	2685530	A	0.0231	91.687201	91.6872	100.000000	11016	
34	13C12-1234678-HpCDD	passed	44.86	3608038	A	3781132	A	0.0183	95.424027	95.4240	100.000000	14897	
35	13C12-1234789-HpCDF	passed	45.43	4881487	A	2187483	A	0.0282	92.529156	92.5292	100.000000	8817	
36	13C12-OCDD	passed	47.91	7163633	A	6353315	A	0.0070	179.570989	179.5710	200.000000	75024	
37	13C12-OCDF	passed	48.10	9326984	A	8214655	A	0.0065	174.515088	174.5151	200.000000	78477	



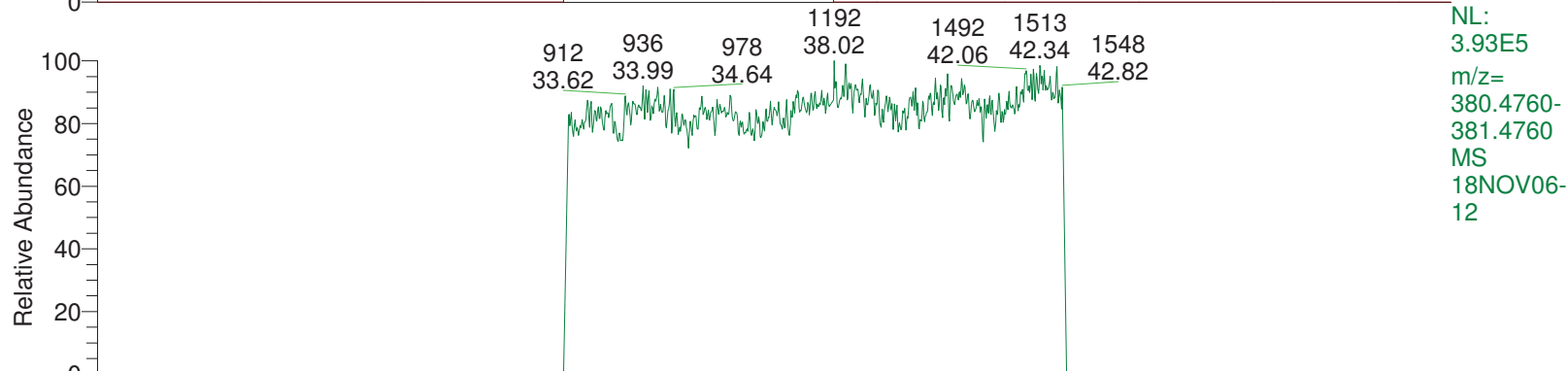
RT: 22.50 - 51.00



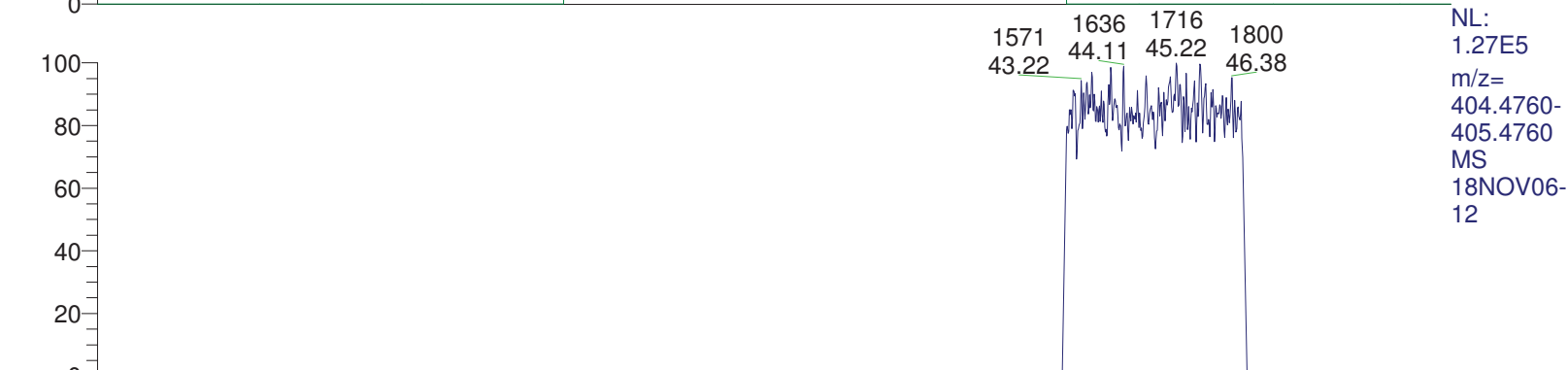
NL:  
6.29E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
12



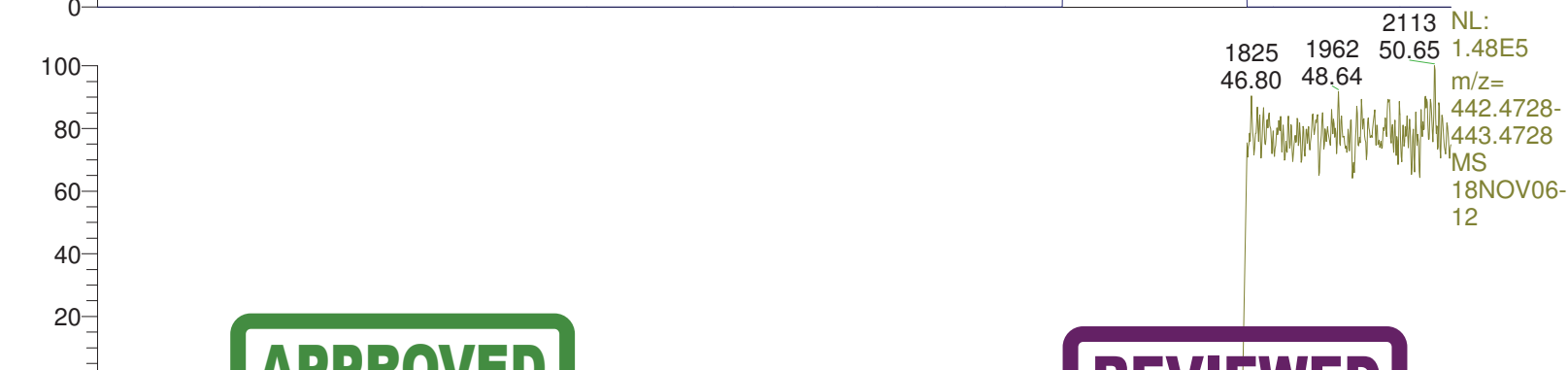
NL:  
5.61E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
12



NL:  
3.93E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
12



NL:  
1.27E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
12



NL:  
1.48E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
12

**APPROVED**  
By uma9 at 3:24 pm, 11/8/18

**REVIEWED**  
By uild at 3:50 pm, 11/8/18

\*\*\* file opened Tue Nov 06 18:12:12 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 18:12:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : f47a1299-4cfa-47aa-bc24-79dbd06cd1d0

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)	
Window # 1	218.0129		1	1	95	
	218.9851	l	20	1	4	
	220.0100		1	1	95	
	230.0532		2	1	47	
	232.0502		2	1	47	
	251.9739		1	1	95	
	253.9710		1	1	95	
	264.0142		2	1	47	
	266.0112		2	1	47	
	285.9350		1	1	95	
	287.9320		1	1	95	
	292.9819	c	20	1	4	
	297.9752		2	1	47	
	299.9723		2	1	47	
	Window # 2	292.9819	l	20	1	5
		303.9011		1	1	118
305.8981			1	1	118	
315.9413			5	1	23	
317.9384			5	1	23	
319.8960			1	1	118	
321.8930			1	1	118	



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



18NOV06-12

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	98.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0185	FVINLET	0.0424	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	98.5000	LKM	442.9723	MASS	98.5000
MDAC	1445679.6411	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9812	RELEN	0.0000
RES	13371.5794	RPUSHER	-1.0769	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12049.  
MID Time window 2: Resolution is 12649.  
MID Time window 3: Resolution is 12622.  
MID Time window 4: Resolution is 12796.



18NOV06-12

MID Time Window 5: Resolution is 12607.  
MID Time Window 6: Resolution is 13371.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 19:03:14 2018  
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**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/07 06:00
Number of Entries	26
Comment	
Vial	2
Sample Name	TDTFWD - ST1823737B
Sample ID	CPS03
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	w:\18nov06\18nov06-25.quan
Data	w:\18nov06\18nov06-25.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	
Mass Ref	

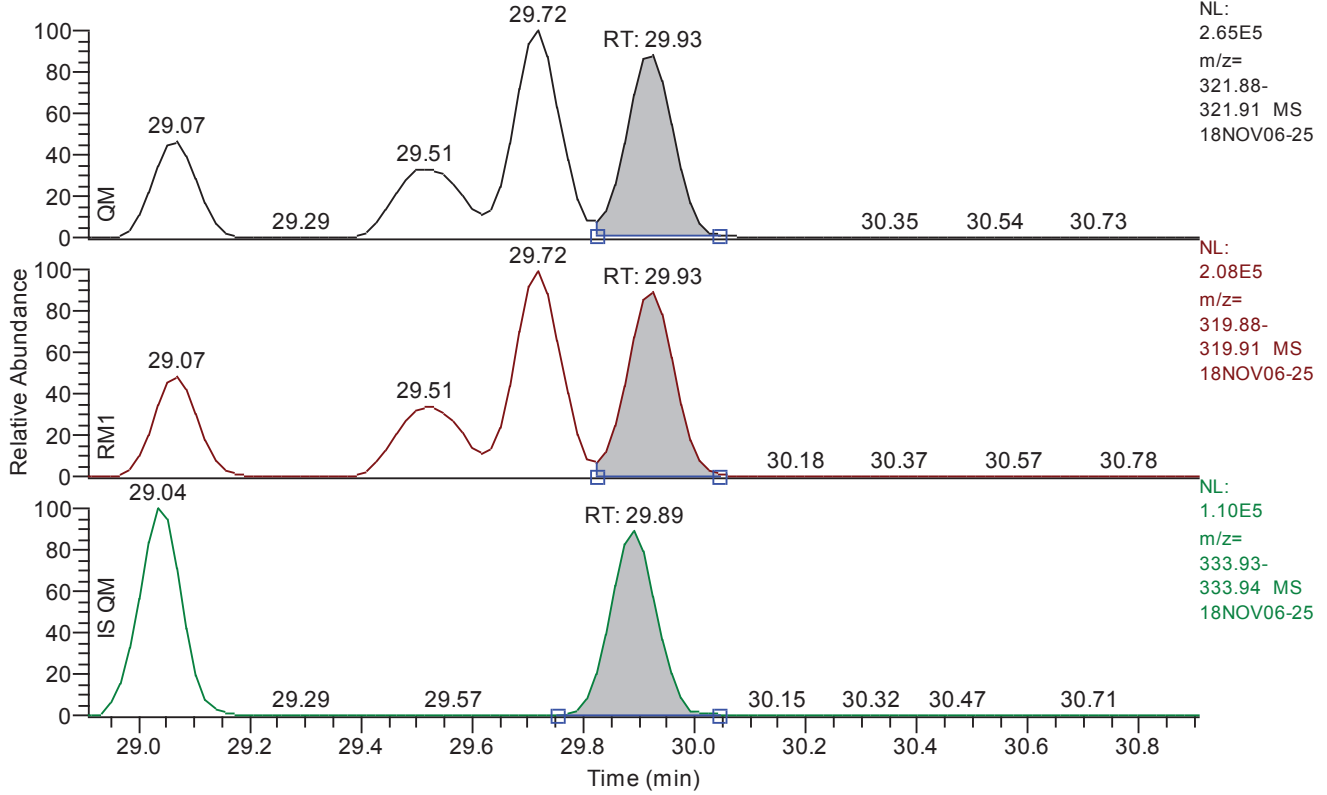
**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	No Summation
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	1.0
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0



**Chromatogram**

RT: 28.91 - 30.91 SM: 3G



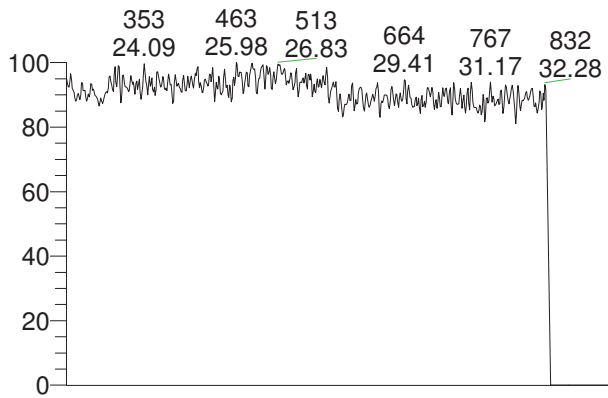
Entry: 2378-TCDD IS: 13C12-2378-TCDD

**Entry Parameters**

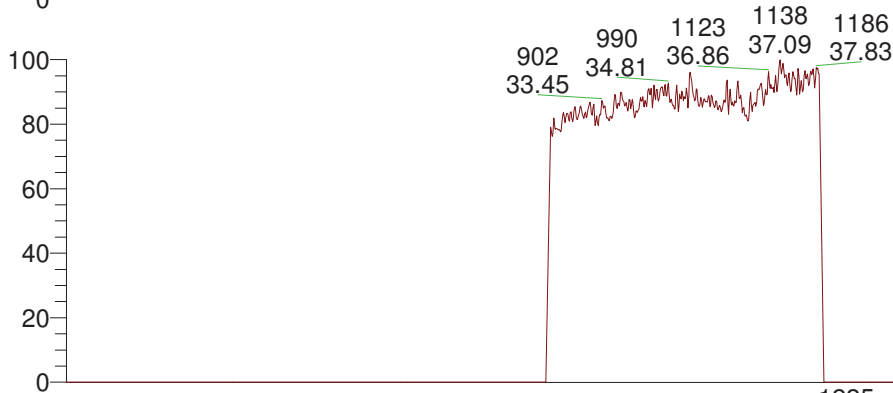
Smoothing Points	3
Compound Name	2378-TCDD
Quan. Mass	321.8936 +/- 50 ppm
QM Integration Mode	A
Ratio Mass 1	319.8965 +/- 50 ppm
RM1 Integration Mode	A
ManInt	0
RM1 Retention Time	29.93
RM1 Left Baseline Height	1506.91
RM1 Left Height	12597
RM1 Height	185356
GC Res (%) left	7.514022



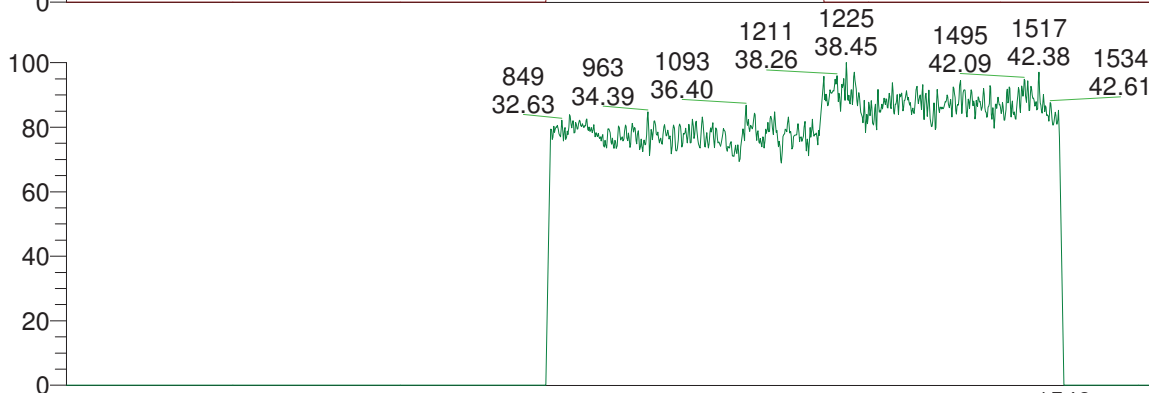
RT: 22.50 - 51.00



NL:  
5.42E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
25



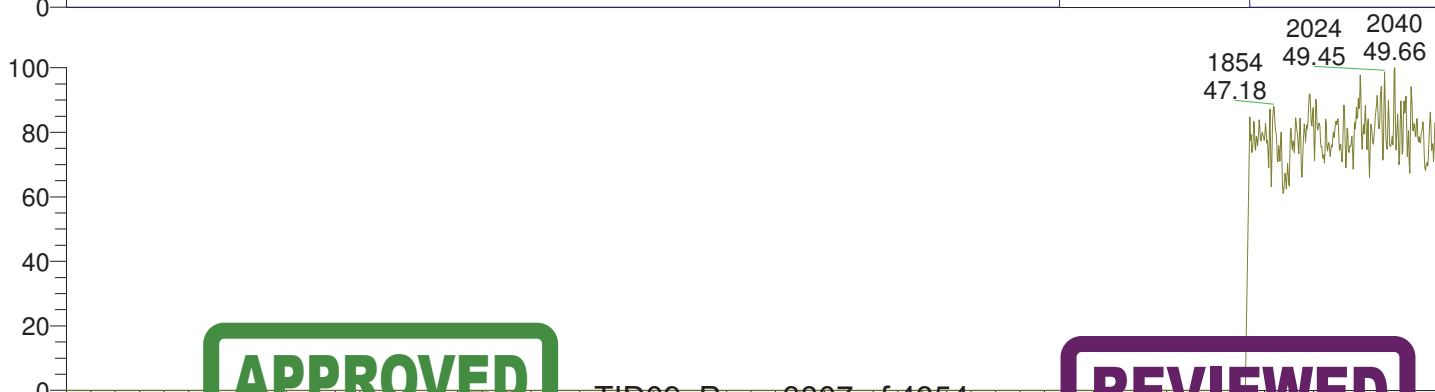
NL:  
5.04E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
25



NL:  
3.72E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
25



NL:  
1.25E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
25



NL:  
1.43E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
25

**APPROVED**  
By uma9 at 1:23 pm, 11/8/18

**REVIEWED**  
By uild at 2:42 pm, 11/8/18

\*\*\* file opened wed Nov 07 06:03:28 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 06:03:27

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



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MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	99.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1480.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0185	FVINLET	0.0433	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1451960.7165	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9802	RELEN	0.0000
RES	13145.8490	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0196	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12030.  
MID Time window 2: Resolution is 12275.  
MID Time window 3: Resolution is 12609.  
MID Time window 4: Resolution is 12577.



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MID Time Window 5: Resolution is 12930.  
MID Time Window 6: Resolution is 13145.

Amplifier offset: 90.

\*\*\* File closed wed Nov 07 06:54:29 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/07 06:54  
Number of Entries 60  
Comment  
Vial 6  
Sample Name VER-CALDF41837H  
Sample ID CS3CC03  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-26.quan  
Data w:\18nov06\18nov06-26.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.84	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.93	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.02	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.18	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.90	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.10	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.22	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.53	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.94	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.67	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.90	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.36	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.06	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.91	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.80	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.91	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.93	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.94	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.13	passed	passed	passed	passed	passed	passed	passed





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/07 06:54  
Number of Entries 60  
Comment  
Vial 6  
Sample Name VER-CALDF41837H  
Sample ID CS3CC03  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

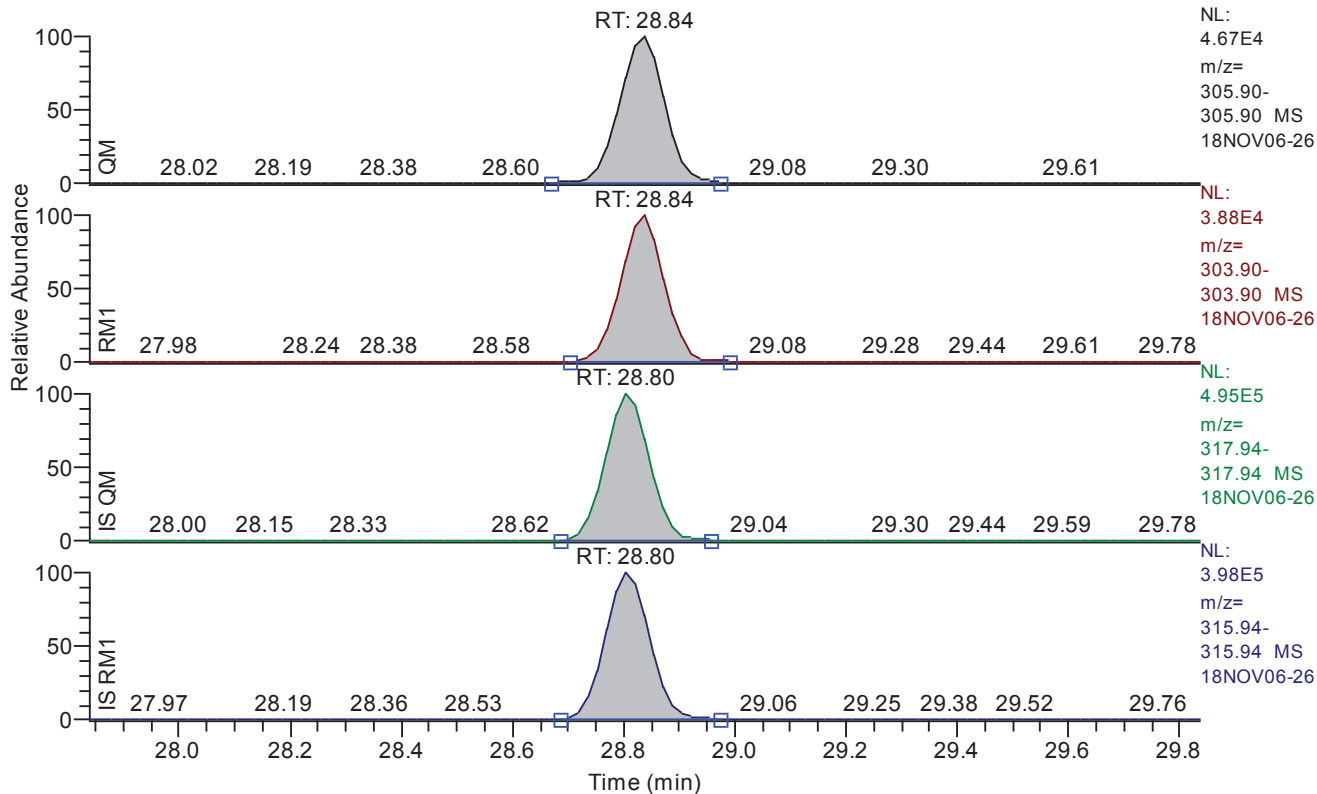
Quan w:\18nov06\18nov06-26.quan  
Data w:\18nov06\18nov06-26.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.84 - 29.84 SM: 3G



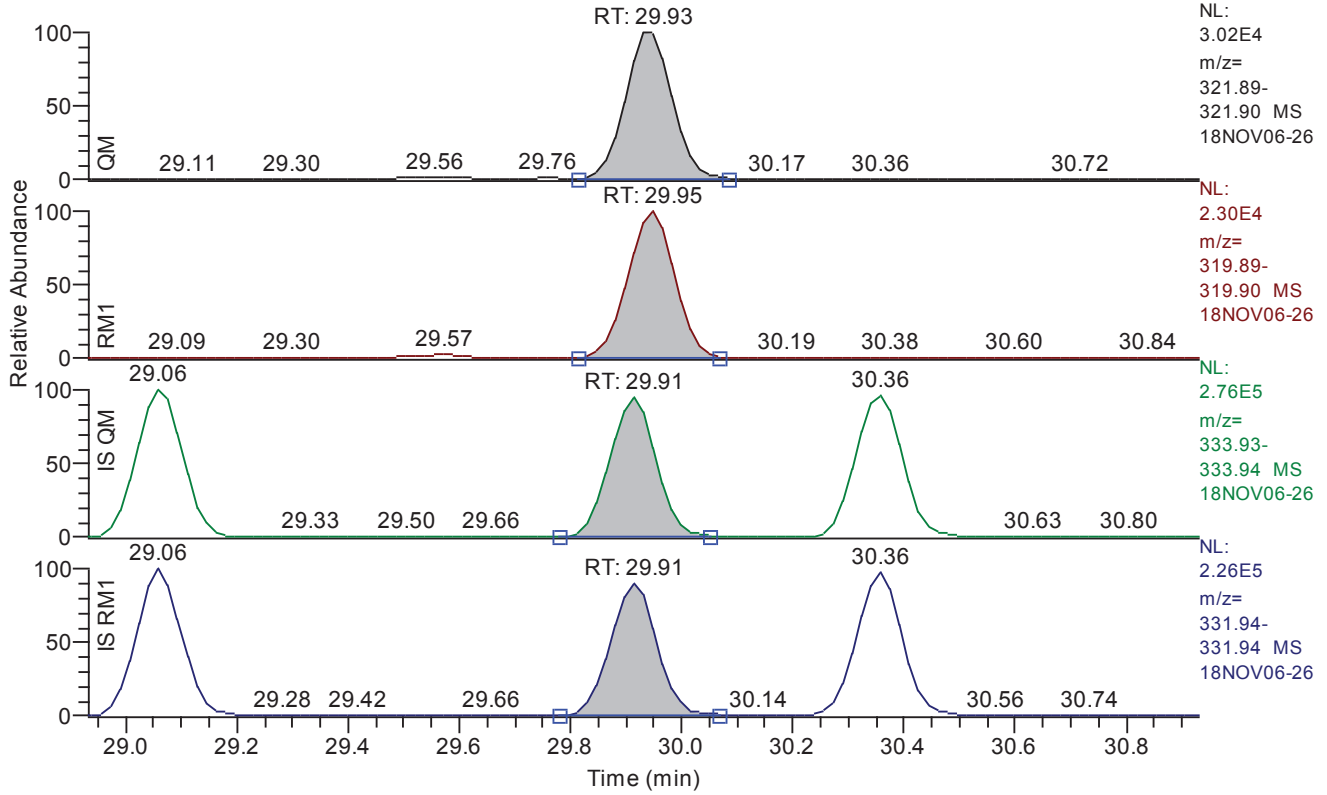
Entry: 2378-tcdf IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.84
QM Area	269015
QM Integration Mode	A
RM1 Area	214455
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0111
Unqualified Amount (A)	10.351983
Adjusted Amount (A)	10.3520
Signal-to-Noise	2341
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.93 - 30.93 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

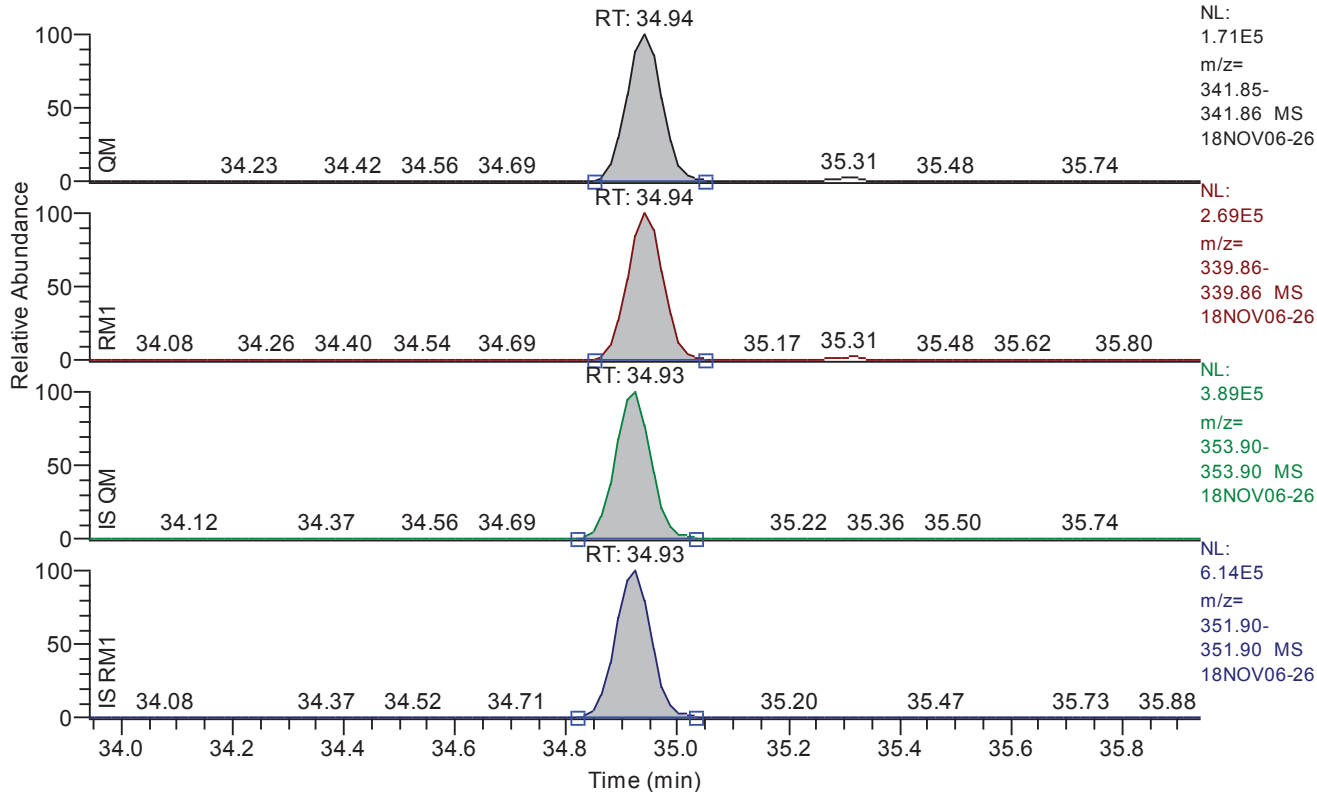
**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	179439
QM Integration Mode	A
RM1 Area	136654
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0109
Unqualified Amount (A)	10.495549
Adjusted Amount (A)	10.4955
Signal-to-Noise	2382
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 33.94 - 35.94 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

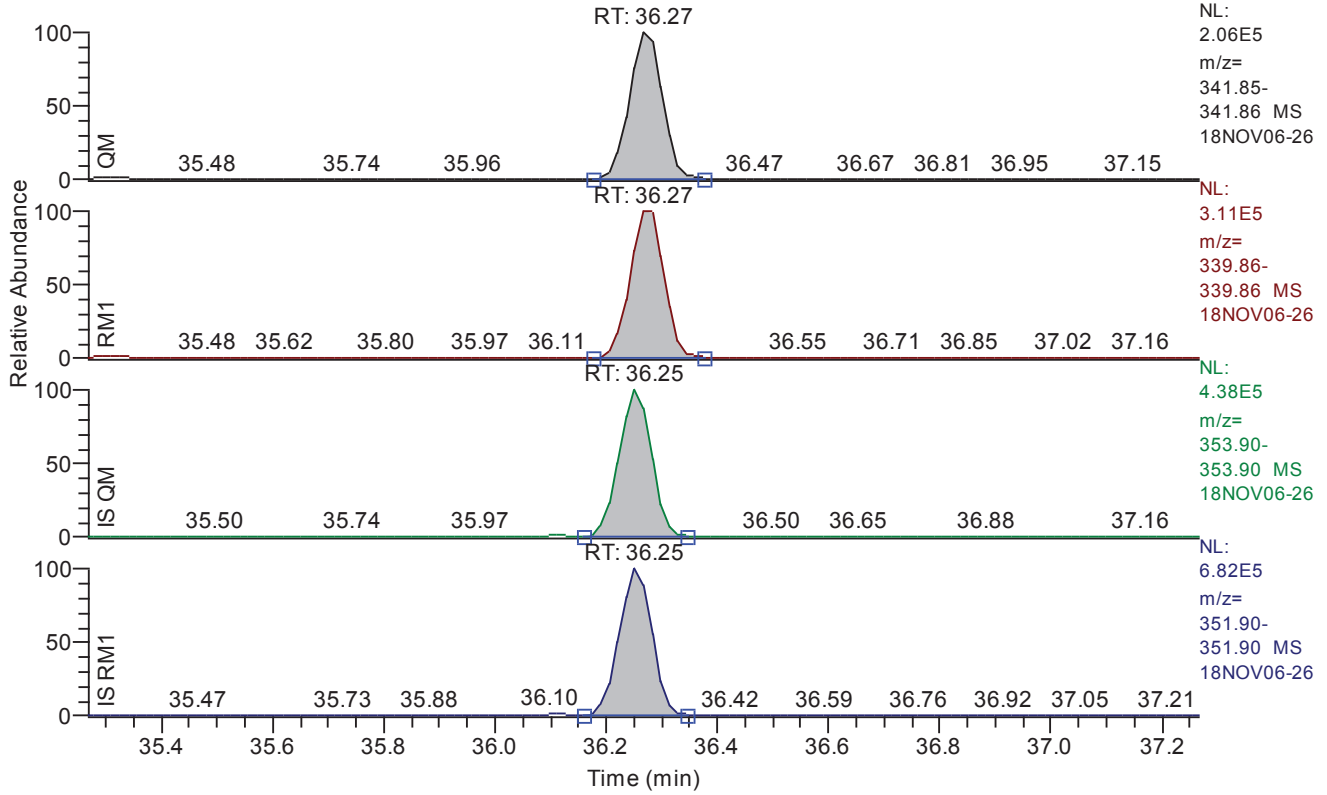
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	761312
QM Integration Mode	A
RM1 Area	1195528
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0118
Unqualified Amount (A)	51.439737
Adjusted Amount (A)	51.4397
Signal-to-Noise	10868
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.27 - 37.27 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

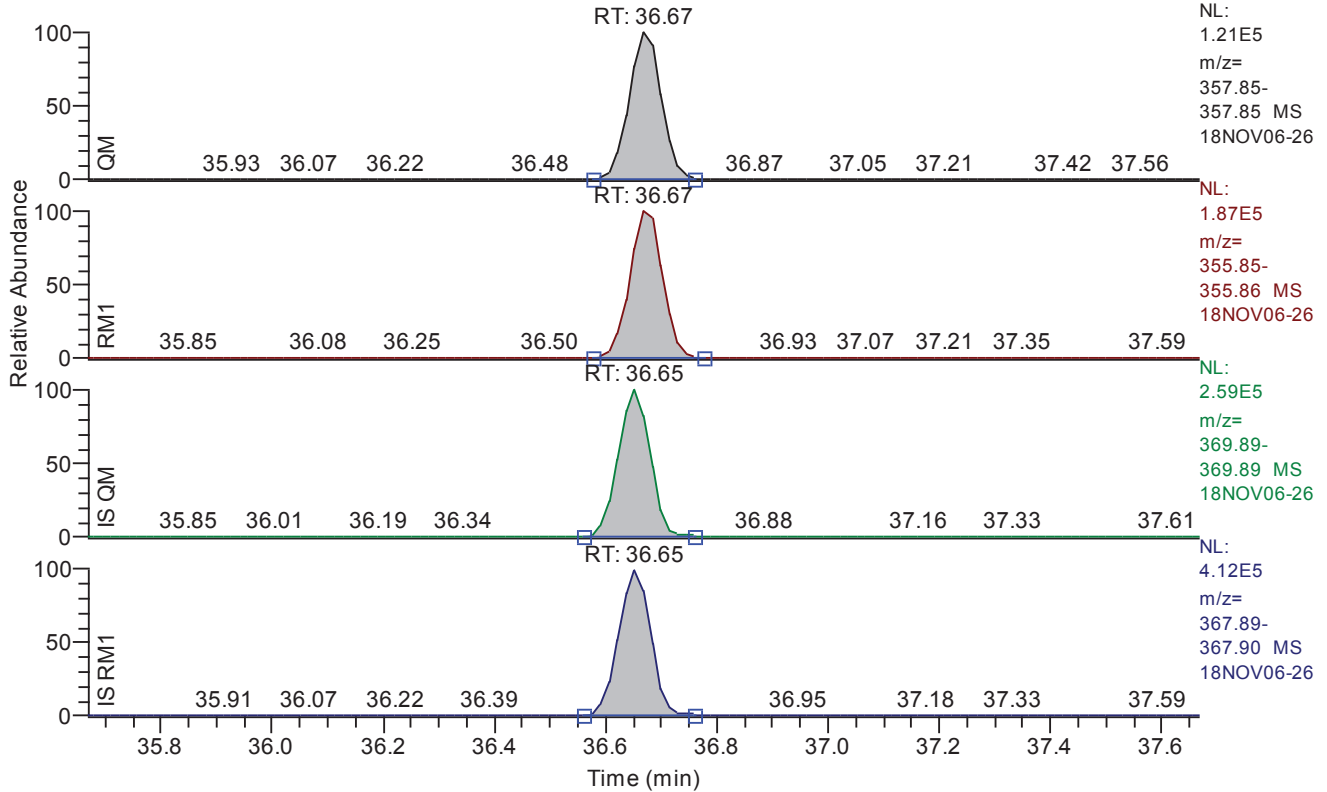
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.27
QM Area	853284
QM Integration Mode	A
RM1 Area	1314026
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	49.917352
Adjusted Amount (A)	49.9174
Signal-to-Noise	12784
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.67 - 37.67 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

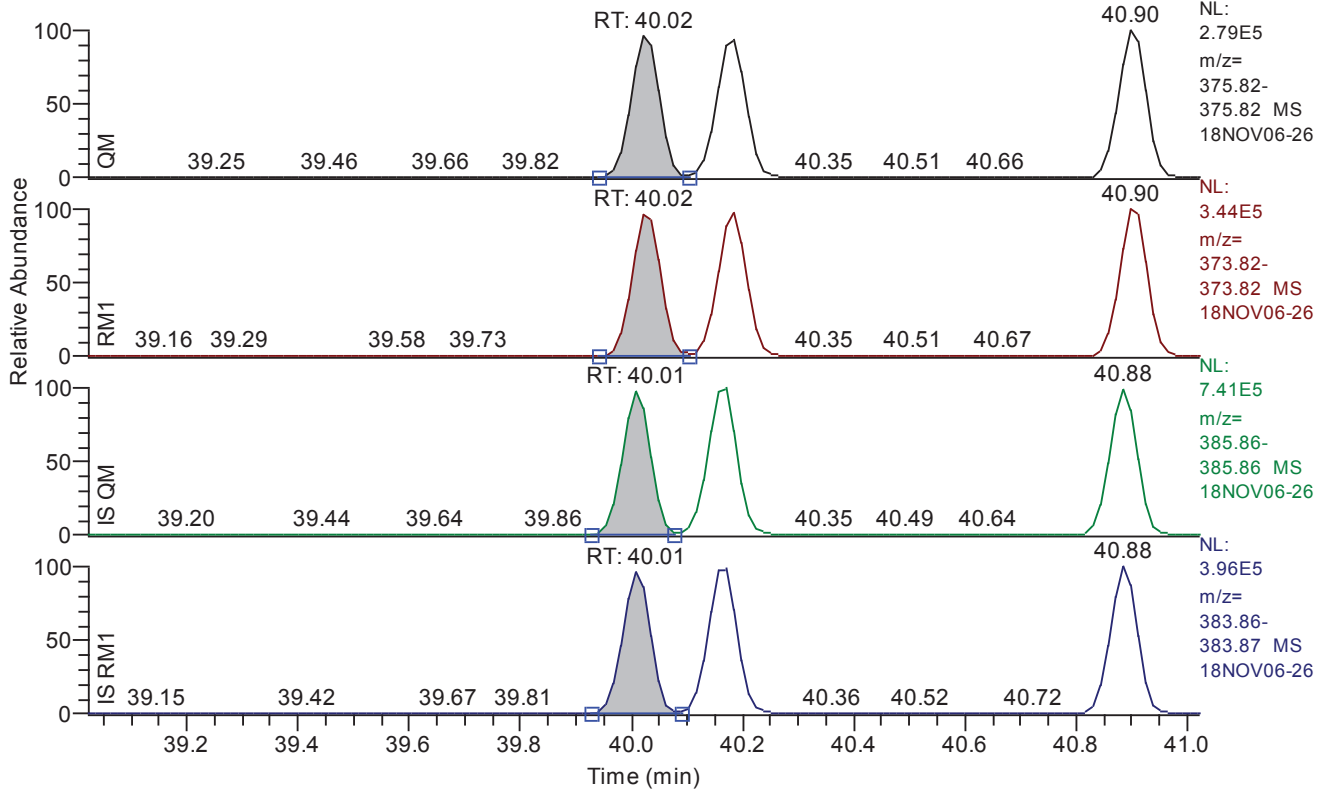
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	490892
QM Integration Mode	A
RM1 Area	766236
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0179
Unqualified Amount (A)	52.118816
Adjusted Amount (A)	52.1188
Signal-to-Noise	7152
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.02 - 41.02 SM: 3G



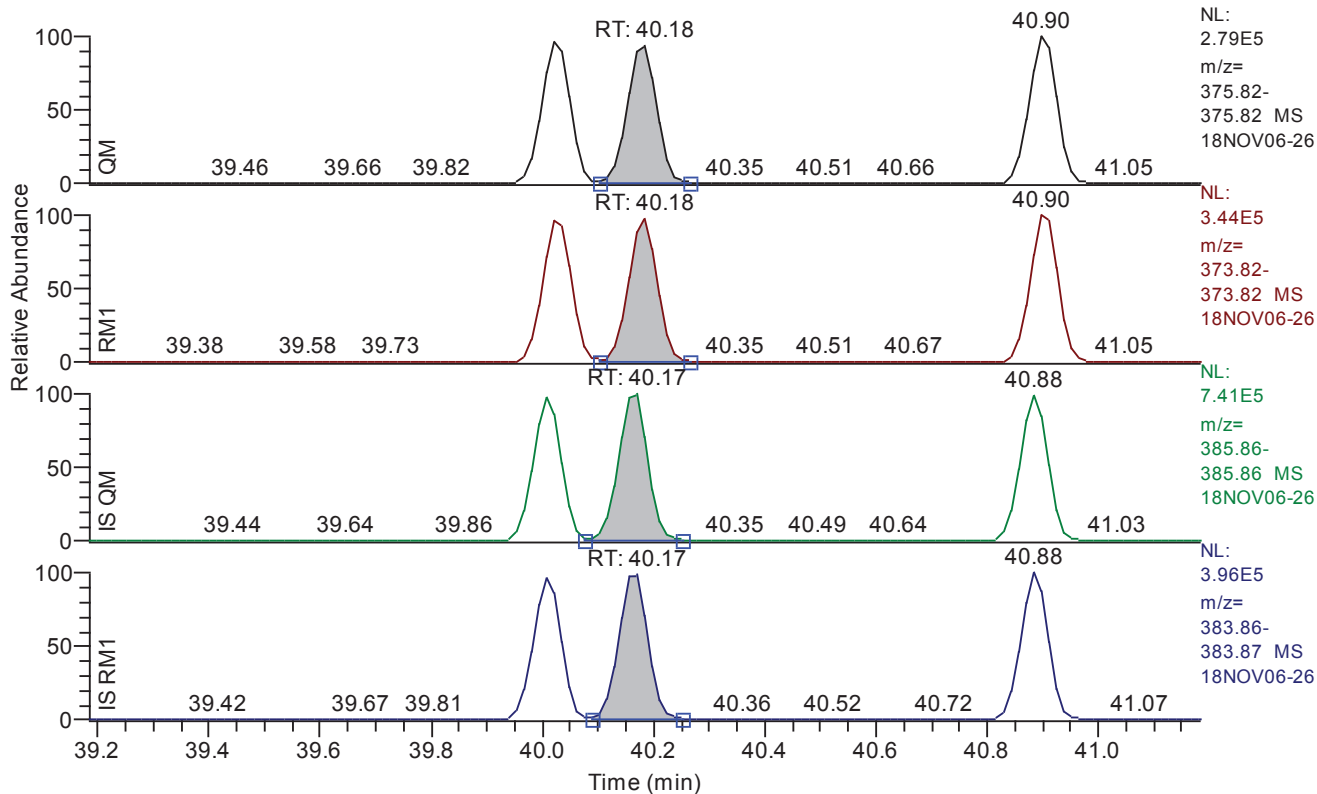
Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

**Entry Parameters**

Compound Name 123478-HxCDF  
 QM Retention Time 40.02  
 QM Area 964554  
 QM Integration Mode A  
 RM1 Area 1204738  
 RM1 Integration Mode A  
 ManInt 0  
 Detection Limit (A) 0.0129  
 Unqualified Amount (A) 51.861474  
 Adjusted Amount (A) 51.8615  
 Signal-to-Noise 9793  
 Client Flags  
 Status Overview passed  
 Status Info

**Chromatogram**

RT: 39.18 - 41.18 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

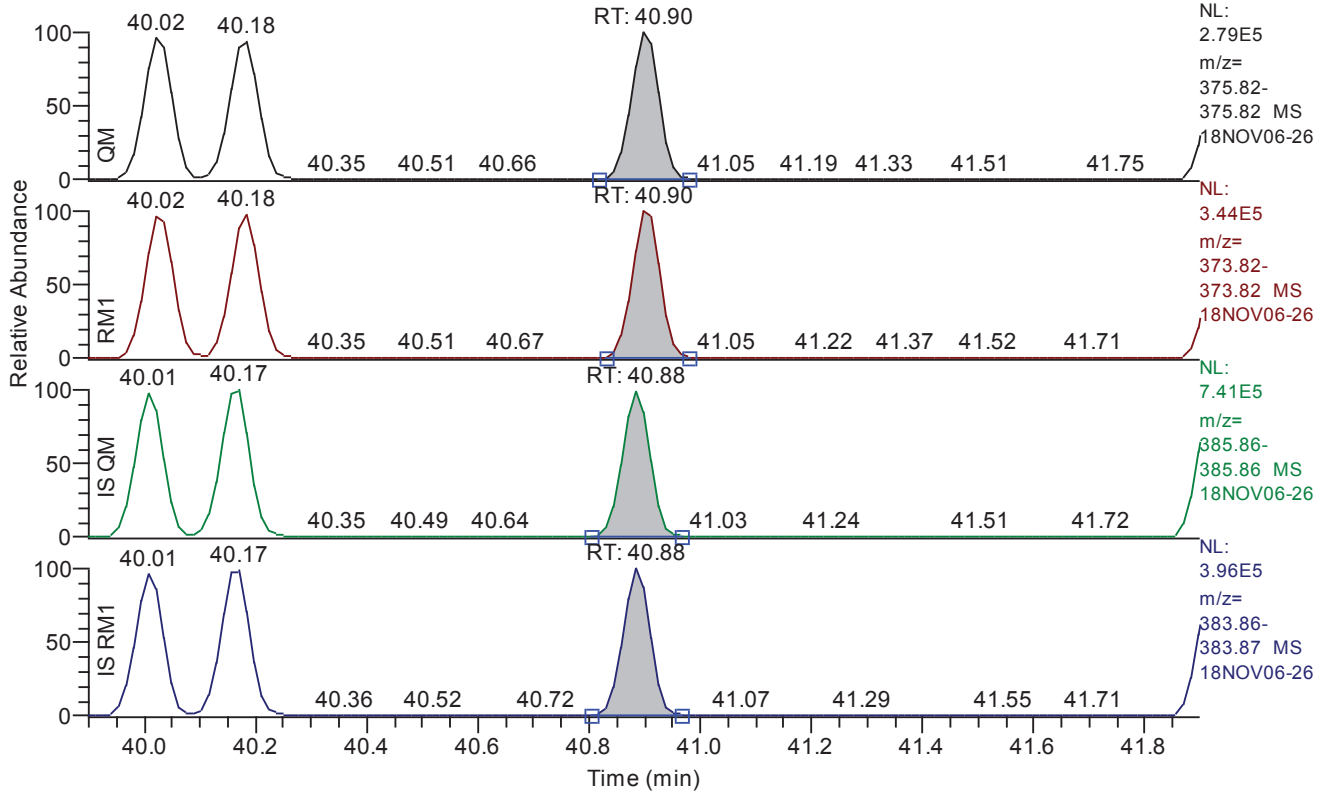
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.18
QM Area	966896
QM Integration Mode	A
RM1 Area	1210699
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	50.141329
Adjusted Amount (A)	50.1413
Signal-to-Noise	9719
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.90 - 41.90 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

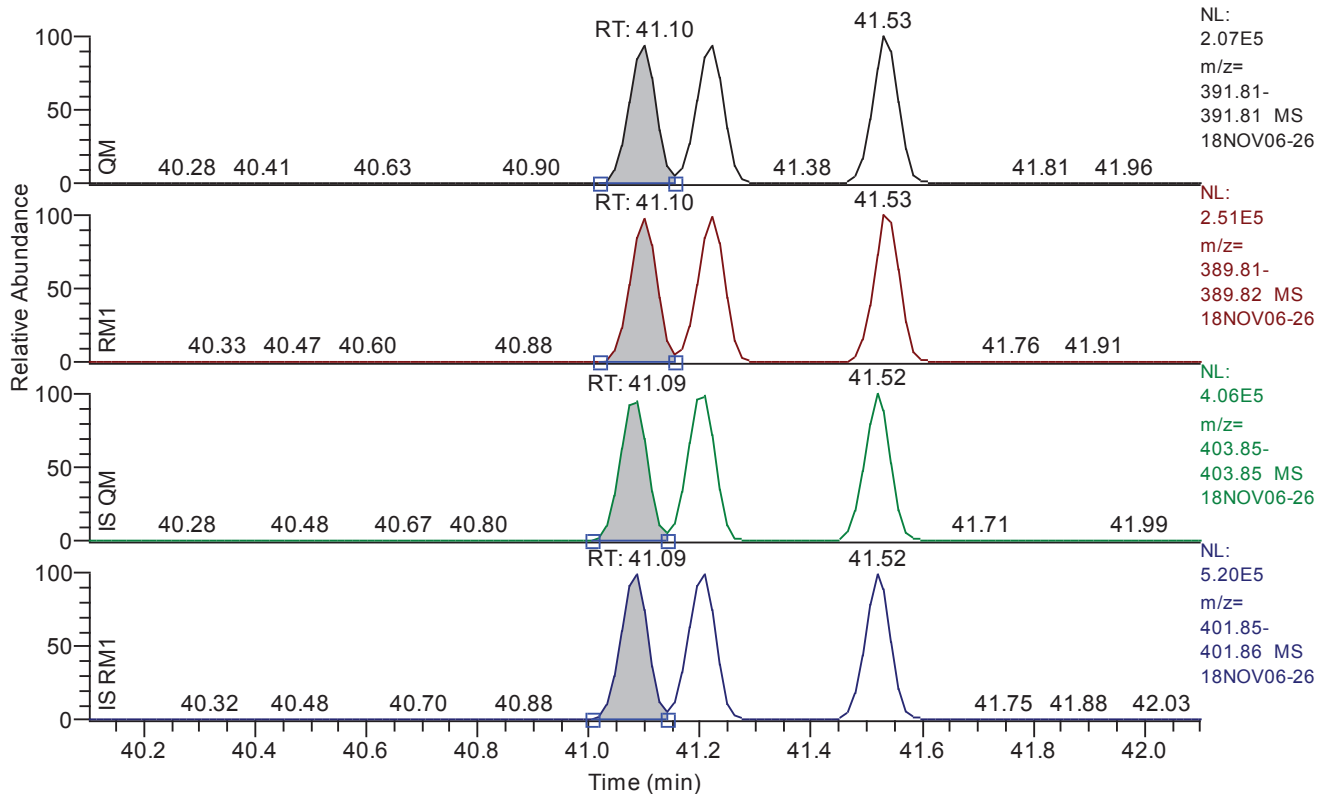
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.90
QM Area	979866
QM Integration Mode	A
RM1 Area	1213647
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	50.659192
Adjusted Amount (A)	50.6592
Signal-to-Noise	10134
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.10 - 42.10 SM: 3G



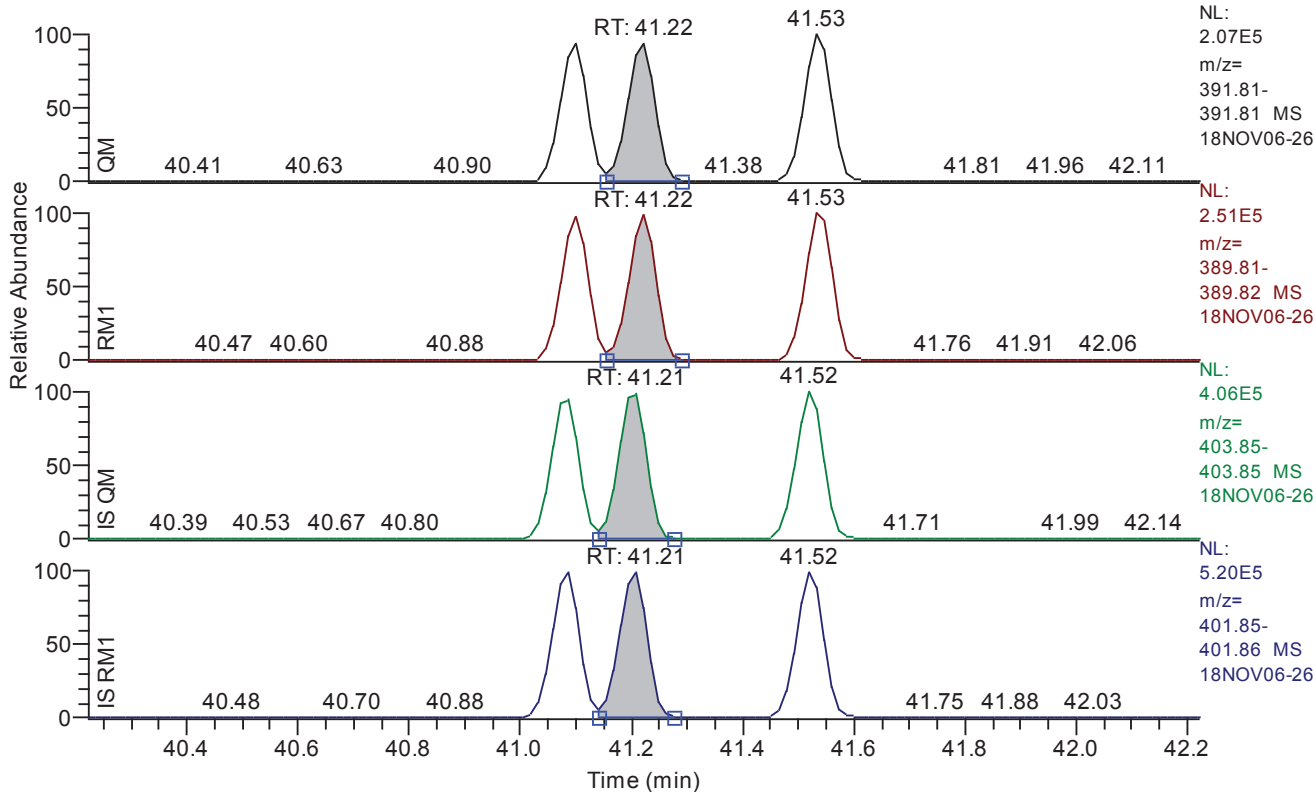
Entry: 123478-hxcd IS: 13C12-123478-HxCDD

**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.10
QM Area	667396
QM Integration Mode	A
RM1 Area	835864
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0141
Unqualified Amount (A)	52.673225
Adjusted Amount (A)	52.6732
Signal-to-Noise	9494
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.22 - 42.22 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

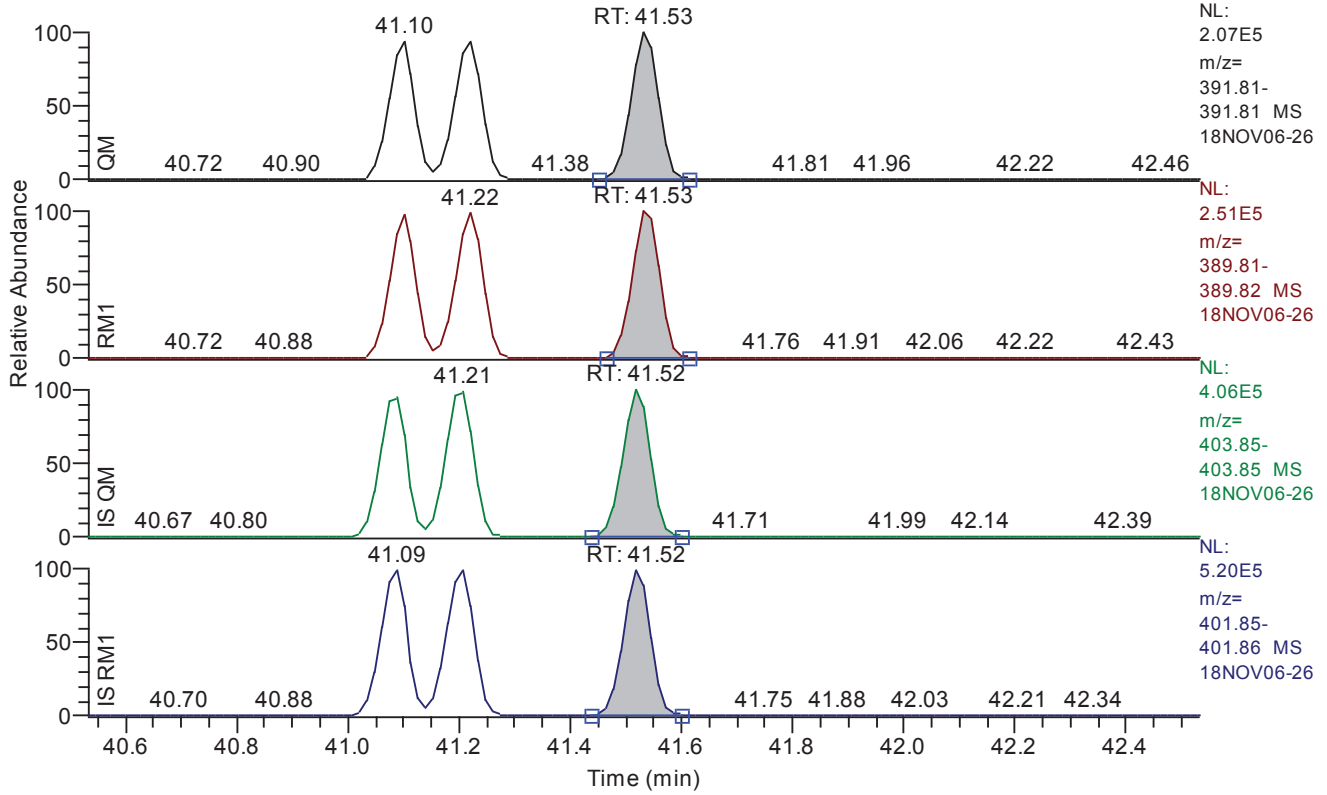
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.22
QM Area	671193
QM Integration Mode	A
RM1 Area	846292
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0141
Unqualified Amount (A)	52.241221
Adjusted Amount (A)	52.2412
Signal-to-Noise	9534
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.53 - 42.53 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

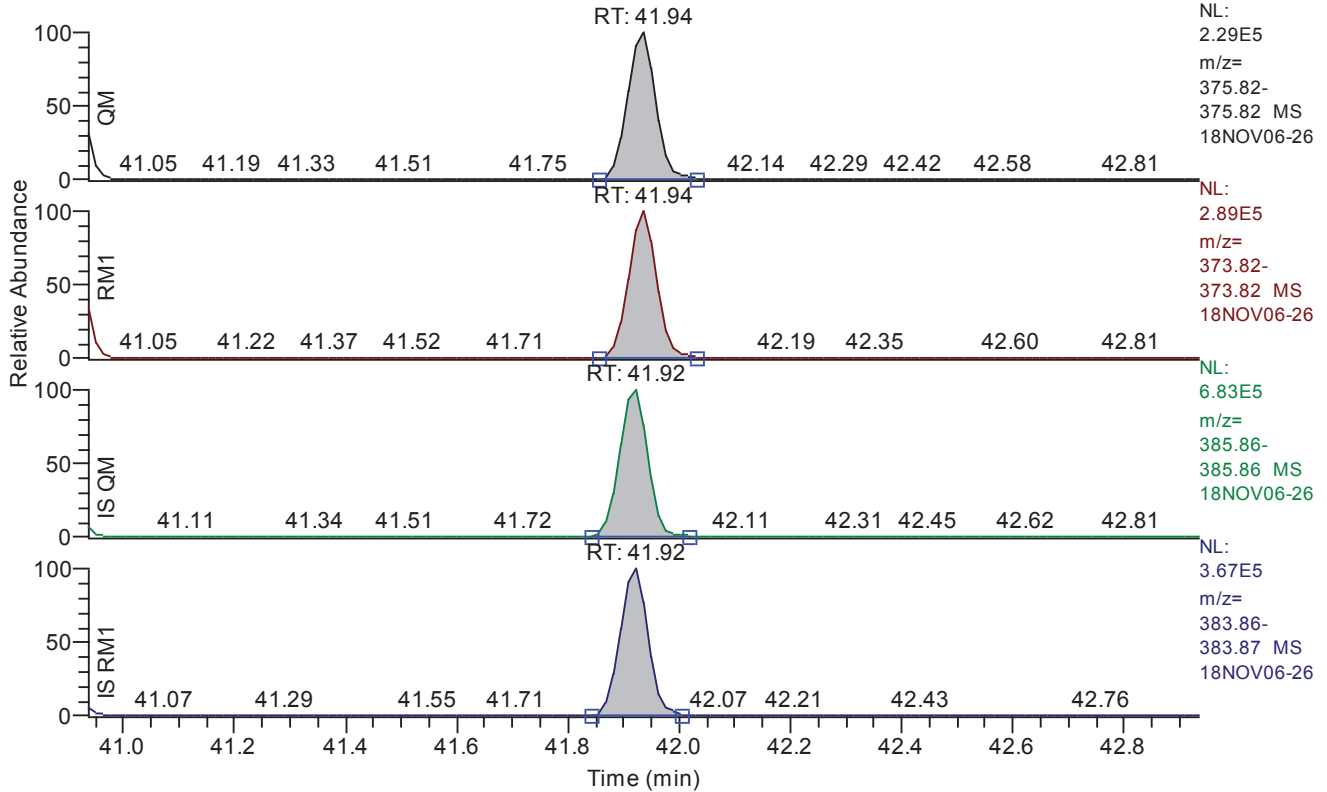
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.53
QM Area	709335
QM Integration Mode	A
RM1 Area	869316
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	52.241429
Adjusted Amount (A)	52.2414
Signal-to-Noise	9803
Client Flags	
Status Overview	passed
Status Info	



### Chromatogram

RT: 40.94 - 42.94 SM: 3G



Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

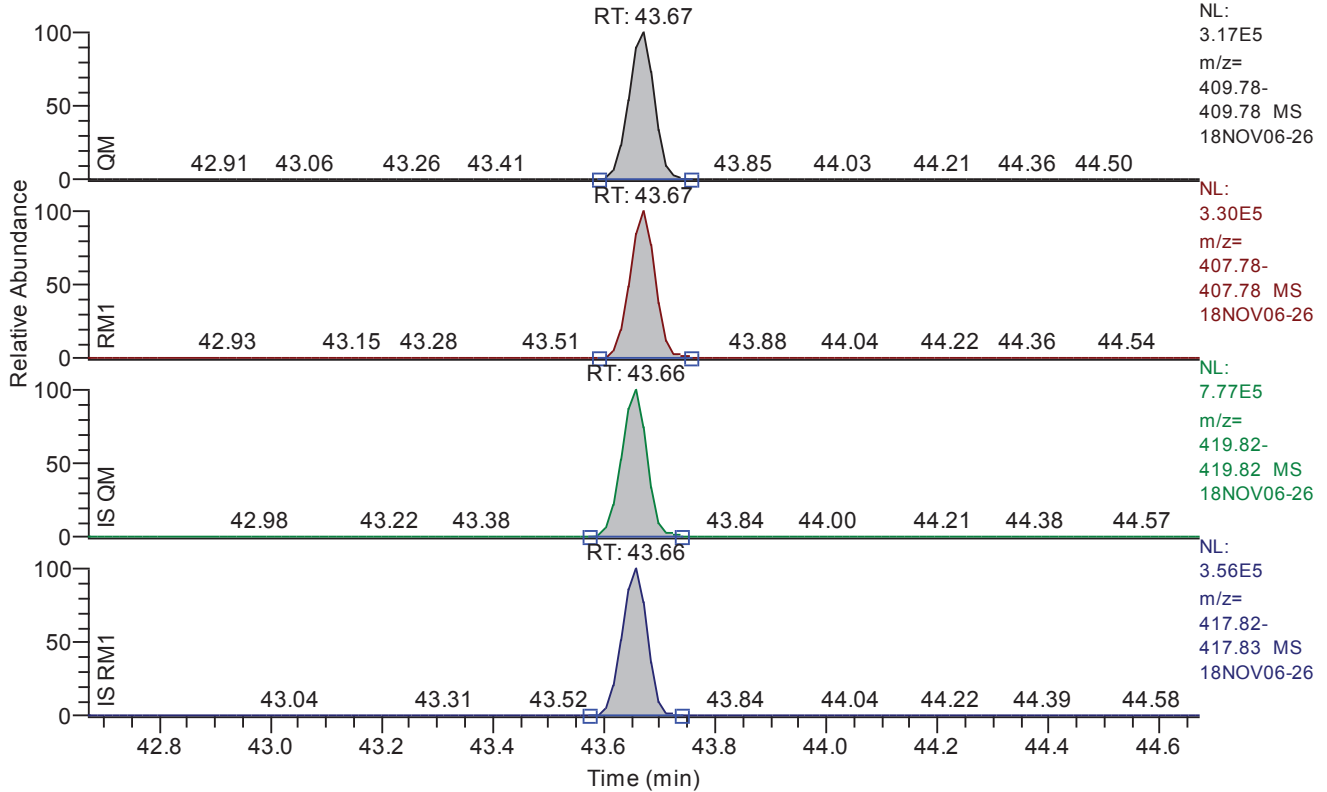
### Entry Parameters

Compound Name	123789-HxCDF
QM Retention Time	41.94
QM Area	811425
QM Integration Mode	A
RM1 Area	1005817
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0144
Unqualified Amount (A)	48.209725
Adjusted Amount (A)	48.2097
Signal-to-Noise	8427
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 42.67 - 44.67 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

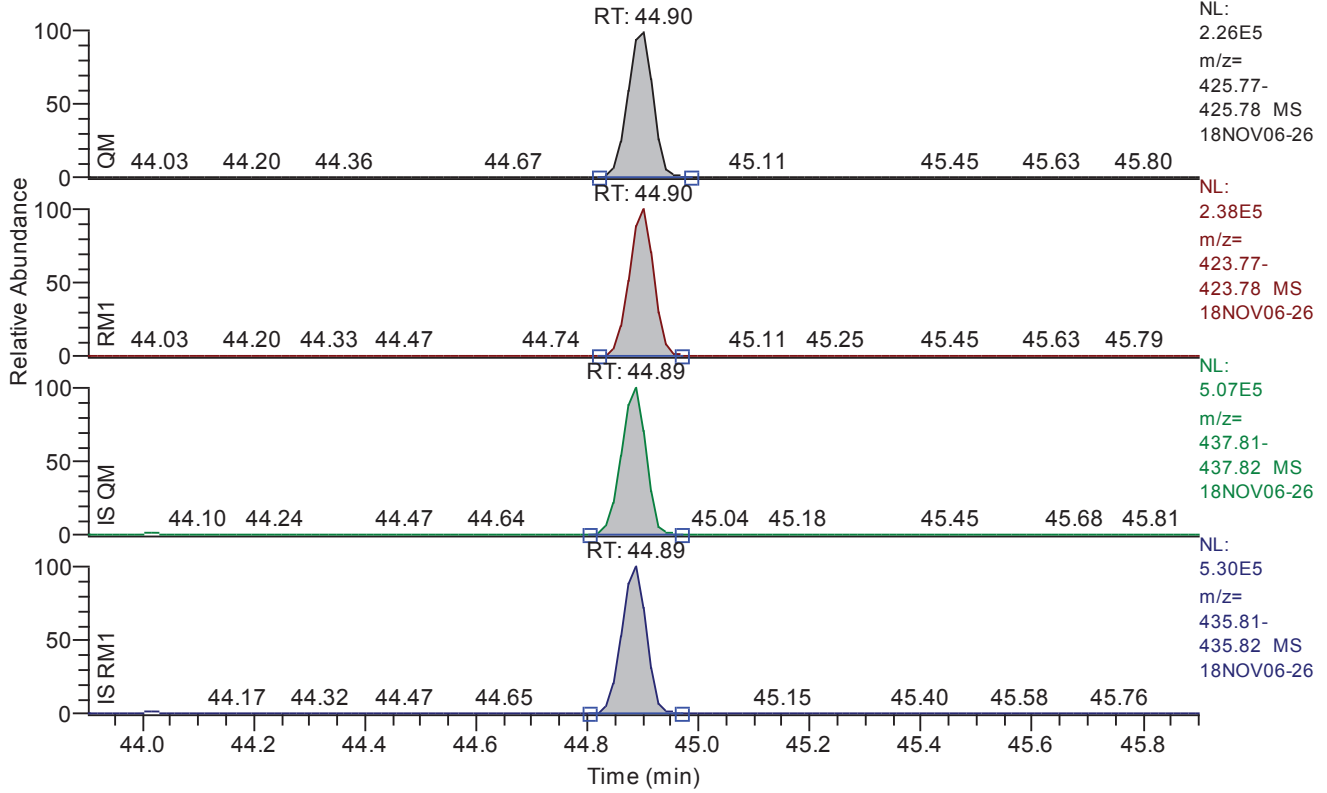
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.67
QM Area	1044888
QM Integration Mode	A
RM1 Area	1078421
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	50.104434
Adjusted Amount (A)	50.1044
Signal-to-Noise	9803
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.90 - 45.90 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

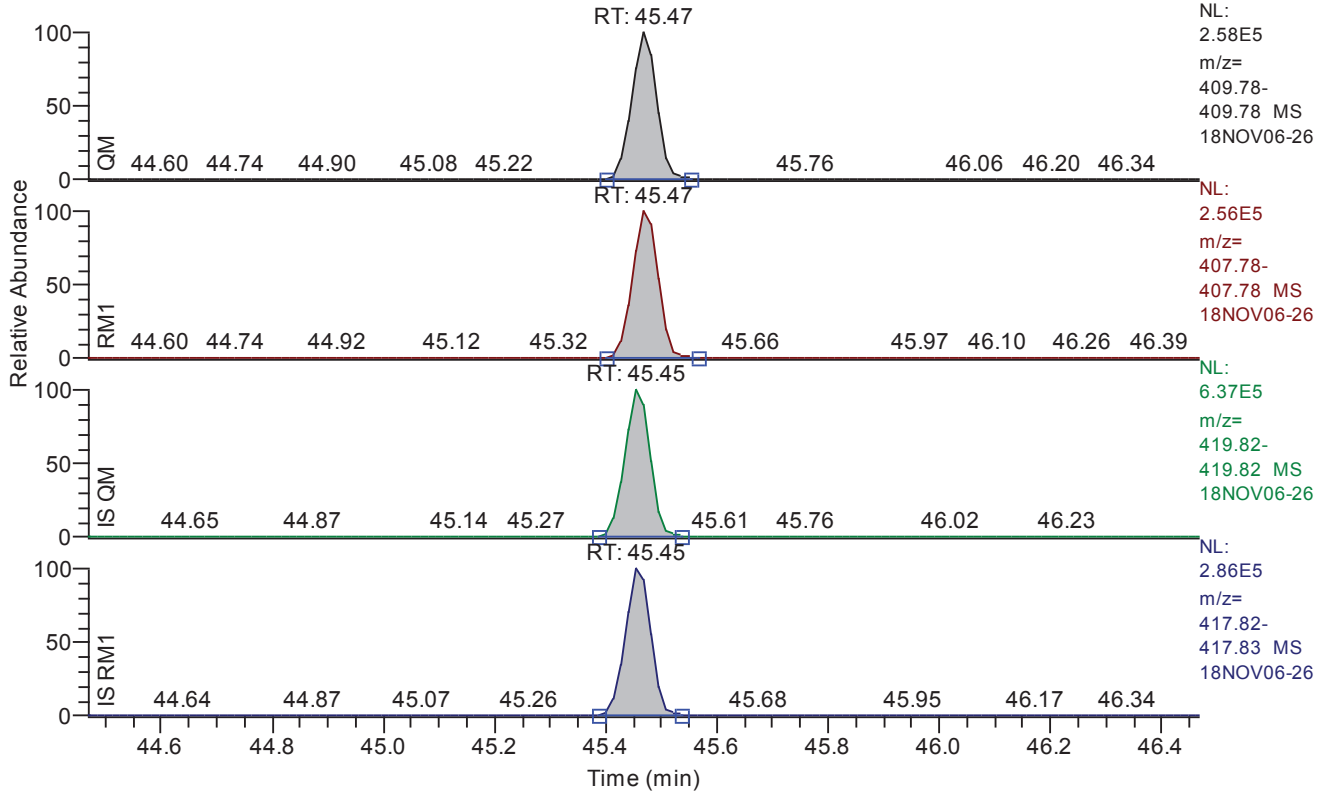
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.90
QM Area	732903
QM Integration Mode	A
RM1 Area	756118
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0179
Unqualified Amount (A)	48.057070
Adjusted Amount (A)	48.0571
Signal-to-Noise	6656
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

**Entry Parameters**

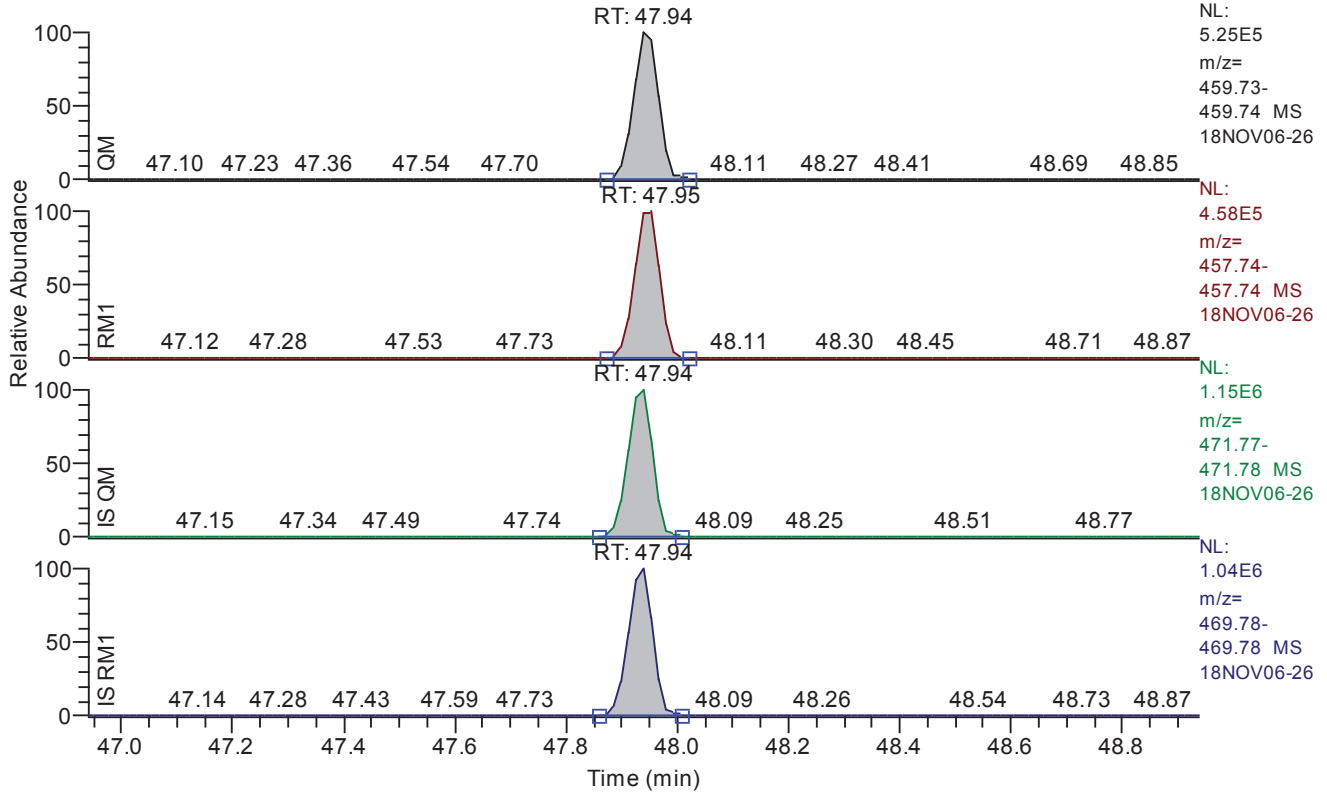
Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	827354
QM Integration Mode	A
RM1 Area	847773
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0151
Unqualified Amount (A)	46.797368
Adjusted Amount (A)	46.7974
Signal-to-Noise	7780
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 46.94 - 48.94 SM: 3G



Entry: ocdd IS: 13C12-OCDD

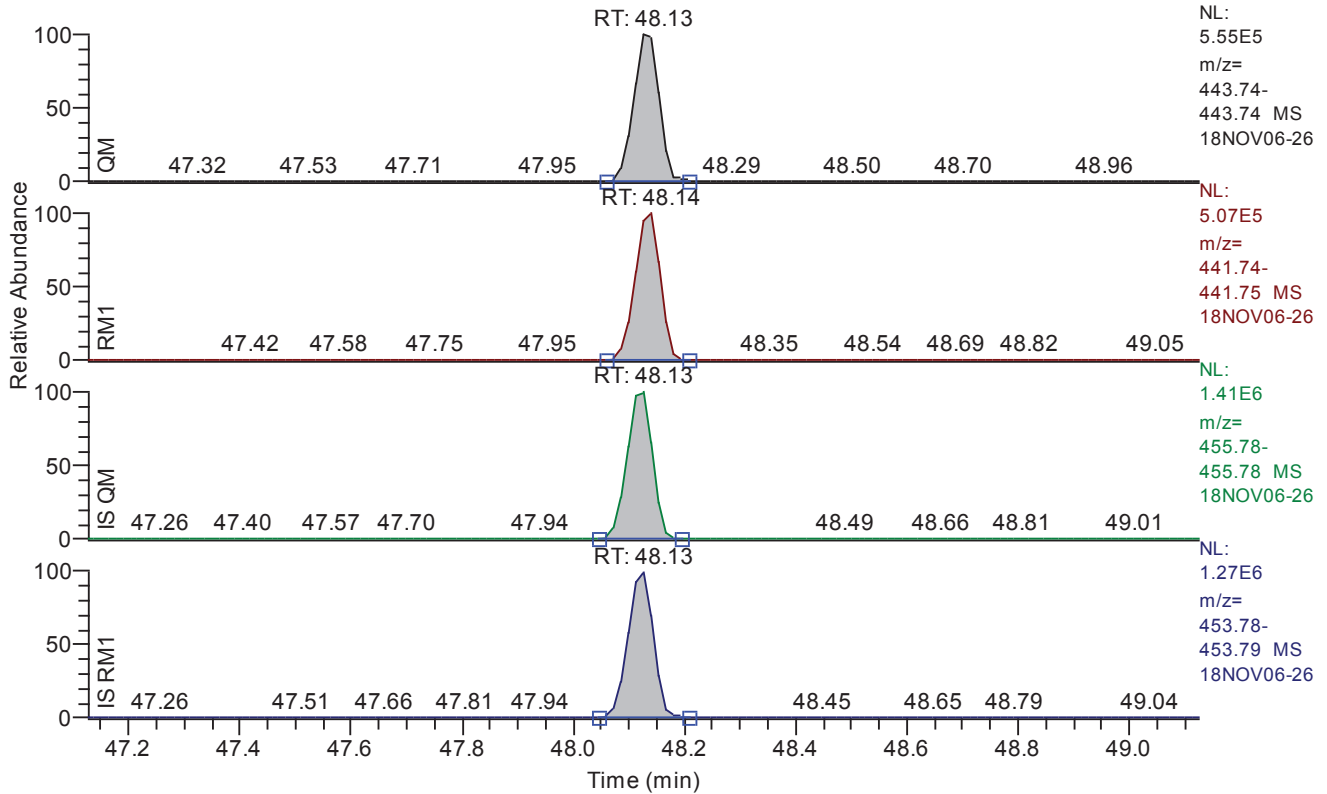
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	1634066
QM Integration Mode	A
RM1 Area	1445911
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0133
Unqualified Amount (A)	100.290482
Adjusted Amount (A)	100.2905
Signal-to-Noise	18565
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.13 - 49.13 SM: 3G



Entry: ocdf IS: 13C12-OCDF

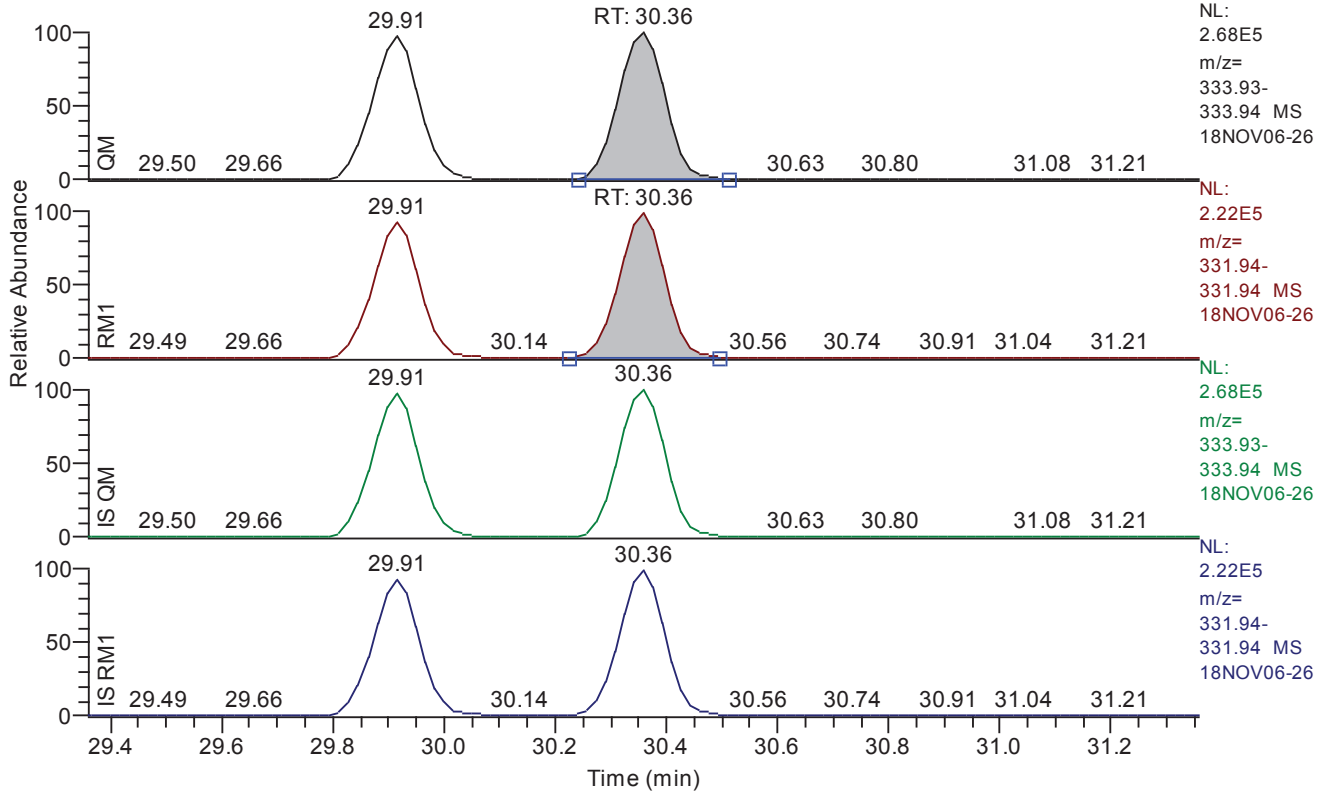
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	1765781
QM Integration Mode	A
RM1 Area	1591296
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	94.006620
Adjusted Amount (A)	94.0066
Signal-to-Noise	20690
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.36 - 31.36 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.36
QM Area	1594656
QM Integration Mode	A
RM1 Area	1272130
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0171
Unqualified Amount (A)	97.022452
Adjusted Amount (A)	97.0225
Signal-to-Noise	13822
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.84	28.84	28.84	28.80	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.93	29.93	29.95	29.91	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.94	34.94	34.94	34.93	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.27	36.27	36.27	36.25	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.67	36.67	36.67	36.65	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.02	40.02	40.02	40.01	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.18	40.18	40.18	40.17	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.90	40.90	40.90	40.88	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.10	41.10	41.10	41.09	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.22	41.22	41.22	41.21	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.53	41.53	41.53	41.52	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.94	41.94	41.94	41.92	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.67	43.67	43.67	43.66	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.90	44.90	44.90	44.89	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.47	45.47	45.47	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.94	47.94	47.95	47.94	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.13	48.13	48.14	48.13	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.36	30.36	30.36	30.36	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.06	29.06	29.06	29.06	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.91	39.91	39.91	39.91	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.80	28.80	28.80	28.85	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.91	29.91	29.91	29.91	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.93	34.93	34.93	34.97	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.25	36.25	36.25	36.27	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.65	36.65	36.65	36.65	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.01	40.01	40.01	40.25	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.17	40.17	40.17	40.25	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.88	40.88	40.88	40.87	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.09	41.09	41.09	41.09	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.21	41.21	41.21	41.21	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.52	41.52	41.52	41.52	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.92	41.92	41.92	41.92	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.66	43.66	43.66	43.81	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.89	44.89	44.89	44.89	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.45	45.45	45.45	45.43	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.94	47.94	47.94	47.94	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.13	48.13	48.13	48.11	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.84	0.7972	0.6450 - 0.8950	passed	0.9558	0.9233	0.7340 - 1.1126	passed
2	2378-TCDD	29.93	0.7616	0.6450 - 0.8950	passed	1.1484	1.0942	0.8699 - 1.3185	passed
3	12378-PeCDF	34.94	1.5704	1.3150 - 1.7850	passed	0.8746	0.8501	0.6758 - 1.0244	passed
4	23478-PeCDF	36.27	1.5400	1.3150 - 1.7850	passed	0.9493	0.9509	0.7560 - 1.1458	passed
5	123478-PeCDD	36.67	1.5609	1.3150 - 1.7850	passed	0.9337	0.8957	0.7121 - 1.0793	passed
6	123478-HxCDF	40.02	1.2490	1.0450 - 1.4350	passed	1.1077	1.0680	0.8491 - 1.2869	passed
7	123678-HxCDF	40.18	1.2521	1.0450 - 1.4350	passed	1.0469	1.0439	0.8299 - 1.2579	passed
8	234678-HxCDF	40.90	1.2386	1.0450 - 1.4350	passed	1.1230	1.1084	0.8812 - 1.3356	passed
9	123478-HxCDD	41.10	1.2524	1.0450 - 1.4350	passed	0.9594	0.9107	0.7240 - 1.0974	passed
10	123678-HxCDD	41.22	1.2609	1.0450 - 1.4350	passed	0.9448	0.9043	0.7189 - 1.0897	passed
11	123789-HxCDD	41.53	1.2255	1.0450 - 1.4350	passed	0.9969	0.9541	0.7585 - 1.1497	passed
12	123789-HxCDF	41.94	1.2396	1.0450 - 1.4350	passed	0.9814	1.0178	0.8092 - 1.2264	passed
13	1234678-HpCDF	43.67	1.0321	0.8750 - 1.2050	passed	1.1501	1.1477	0.9124 - 1.3830	passed
14	1234678-HpCDD	44.90	1.0317	0.8750 - 1.2050	passed	0.9002	0.9366	0.7446 - 1.1286	passed
15	1234789-HpCDF	45.47	1.0247	0.8750 - 1.2050	passed	1.1056	1.1813	0.9391 - 1.4235	passed
16	OCDD	47.94	0.8849	0.7550 - 1.0250	passed	0.9146	0.9120	0.7250 - 1.0990	passed
17	OCDF	48.13	0.9012	0.7550 - 1.0250	passed	0.7952	0.8459	0.6725 - 1.0193	passed
18	13C12-1278-TCDD (CRS)	30.36	0.7977	0.6450 - 0.8950	passed	1.0017	1.0324	0.7175 - 1.3473	passed
19	13C12-1234-TCDD	29.06	0.7979	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	39.91	1.2780	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	28.80	0.8119	0.6450 - 0.8950	passed	1.7675	1.7703	1.2304 - 2.3102	passed
22	13C12-2378-TCDD	29.91	0.7778	0.6450 - 0.8950	passed	0.9618	0.9769	0.6789 - 1.2749	passed
23	13C12-12378-PeCDF	34.93	1.5839	1.3150 - 1.7850	passed	1.5636	1.6320	1.1342 - 2.1298	passed
24	13C12-23478-PeCDF	36.25	1.5616	1.3150 - 1.7850	passed	1.5954	1.6333	1.1351 - 2.1315	passed
25	13C12-12378-PeCDD	36.65	1.5850	1.3150 - 1.7850	passed	0.9409	0.9751	0.6777 - 1.2725	passed
26	13C12-123478-HxCDF	40.01	0.5294	0.4250 - 0.5950	passed	1.2559	1.2659	0.8798 - 1.6520	passed
27	13C12-123678-HxCDF	40.17	0.5281	0.4250 - 0.5950	passed	1.3340	1.3355	0.9282 - 1.7428	passed
28	13C12-234678-HxCDF	40.88	0.5300	0.4250 - 0.5950	passed	1.2527	1.2366	0.8594 - 1.6138	passed
29	13C12-123478-HxCDD	41.09	1.2981	1.0450 - 1.4350	passed	1.0049	0.9892	0.6875 - 1.2909	passed
30	13C12-123678-HxCDD	41.21	1.2583	1.0450 - 1.4350	passed	1.0300	1.0149	0.7054 - 1.3244	passed
31	13C12-123789-HxCDD	41.52	1.2575	1.0450 - 1.4350	passed	1.0156	0.9622	0.6687 - 1.2557	passed
32	13C12-123789-HxCDF	41.92	0.5278	0.4250 - 0.5950	passed	1.1876	1.1265	0.7829 - 1.4701	passed
33	13C12-1234678-HpCDF	43.66	0.4569	0.3650 - 0.5150	passed	1.1840	1.1645	0.8093 - 1.5197	passed
34	13C12-1234678-HpCDD	44.89	1.0479	0.8750 - 1.2050	passed	1.0608	0.9693	0.6737 - 1.2649	passed
35	13C12-1234789-HpCDF	45.45	0.4489	0.3650 - 0.5150	passed	0.9717	0.9563	0.6646 - 1.2480	passed
36	13C12-OCDD	47.94	0.8931	0.7550 - 1.0250	passed	1.0798	0.9422	0.6548 - 1.2296	passed
37	13C12-OCDF	48.13	0.8844	0.7550 - 1.0250	passed	1.3537	1.2582	0.8744 - 1.6420	passed

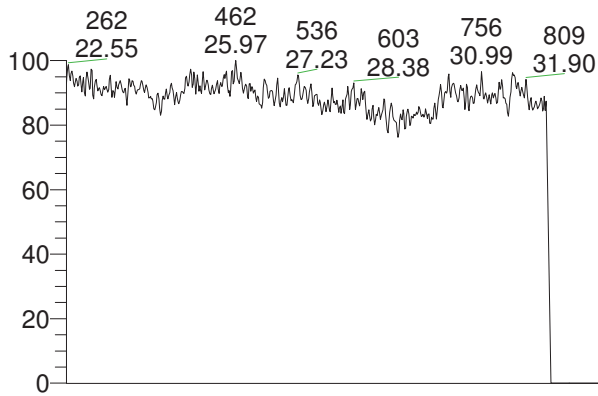


**Entry Parameters**

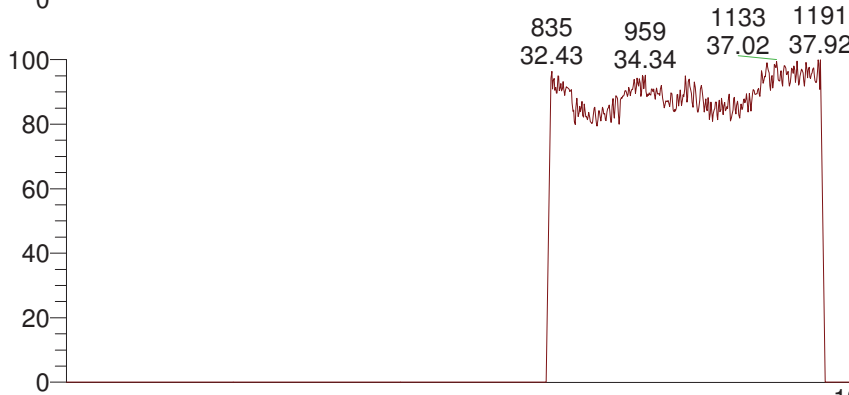
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.84	269015	A	214455	A	0.0111	10.351983	10.3520	10.000000	2341	
2	2378-TCDD	passed	29.93	179439	A	136654	A	0.0109	10.495549	10.4955	10.000000	2382	
3	12378-PeCDF	passed	34.94	761312	A	1195528	A	0.0118	51.439737	51.4397	50.000000	10868	
4	23478-PeCDF	passed	36.27	853284	A	1314026	A	0.0095	49.917352	49.9174	50.000000	12784	
5	12378-PeCDD	passed	36.67	490892	A	766236	A	0.0179	52.118816	52.1188	50.000000	7152	
6	123478-HxCDF	passed	40.02	964554	A	1204738	A	0.0129	51.861474	51.8615	50.000000	9793	
7	123678-HxCDF	passed	40.18	966896	A	1210699	A	0.0130	50.141329	50.1413	50.000000	9719	
8	234678-HxCDF	passed	40.90	979866	A	1213647	A	0.0123	50.659192	50.6592	50.000000	10134	
9	123478-HxCDD	passed	41.10	667396	A	835864	A	0.0141	52.673225	52.6732	50.000000	9494	
10	123678-HxCDD	passed	41.22	671193	A	846292	A	0.0141	52.241221	52.2412	50.000000	9534	
11	123789-HxCDD	passed	41.53	709335	A	869316	A	0.0132	52.241429	52.2414	50.000000	9803	
12	123789-HxCDF	passed	41.94	811425	A	1005817	A	0.0144	48.209725	48.2097	50.000000	8427	
13	1234678-HpCDF	passed	43.67	1044888	A	1078421	A	0.0127	50.104434	50.1044	50.000000	9803	
14	1234678-HpCDD	passed	44.90	732903	A	756118	A	0.0179	48.057070	48.0571	50.000000	6656	
15	1234789-HpCDF	passed	45.47	827354	A	847773	A	0.0151	46.797368	46.7974	50.000000	7780	
16	OCDD	passed	47.94	1634066	A	1445911	A	0.0133	100.290482	100.2905	100.000000	18565	
17	OCDF	passed	48.13	1765781	A	1591296	A	0.0113	94.006620	94.0066	100.000000	20690	
18	13C12-1278-TCDD (CRS)	passed	30.36	1594656	A	1272130	A	0.0171	97.022452	97.0225	100.000000	13822	
19	13C12-1234-TCDD	passed	29.06	1591793	A	1270155	A	0.0176	100.000000	100.0000	100.000000	14196	
20	13C12-123468-HxCDD	passed	39.91	1368979	A	1749599	A	0.0263	100.000000	100.0000	100.000000	9520	
21	13C12-2378-TCDF	passed	28.80	2791738	A	2266643	A	0.0123	99.839916	99.8399	100.000000	20476	
22	13C12-2378-TCDD	passed	29.91	1548304	A	1204206	A	0.0180	98.451510	98.4515	100.000000	13230	
23	13C12-12378-PeCDF	passed	34.93	1731855	A	2743094	A	0.0281	95.807469	95.8075	100.000000	10903	
24	13C12-23478-PeCDF	passed	36.25	1782499	A	2783481	A	0.0280	97.678944	97.6789	100.000000	12153	
25	13C12-12378-PeCDD	passed	36.65	1041700	A	1651099	A	0.0179	96.492878	96.4929	100.000000	19167	
26	13C12-123478-HxCDF	passed	40.01	2560897	A	1355752	A	0.0257	99.211747	99.2117	100.000000	10030	
27	13C12-123678-HxCDF	passed	40.17	2722412	A	1437810	A	0.0244	99.889546	99.8895	100.000000	10193	
28	13C12-234678-HxCDF	passed	40.88	2553342	A	1353148	A	0.0263	101.302021	101.3020	100.000000	10185	
29	13C12-123478-HxCDD	passed	41.09	1363720	A	1770176	A	0.0265	101.588589	101.5886	100.000000	10120	
30	13C12-123678-HxCDD	passed	41.21	1422429	A	1789863	A	0.0259	101.491407	101.4914	100.000000	10256	
31	13C12-123789-HxCDD	passed	41.52	1402910	A	1764181	A	0.0273	105.550527	105.5505	100.000000	10332	
32	13C12-123789-HxCDF	passed	41.92	2424039	A	1279460	A	0.0289	105.421304	105.4213	100.000000	9458	
33	13C12-1234678-HpCDF	passed	43.66	2534381	A	1158003	A	0.0348	101.672910	101.6729	100.000000	8200	
34	13C12-1234678-HpCDD	passed	44.89	1615473	A	1692830	A	0.0316	109.448622	109.4486	100.000000	9931	
35	13C12-1234789-HpCDF	passed	45.45	2091344	A	938905	A	0.0424	101.611695	101.6117	100.000000	6682	
36	13C12-OCDD	passed	47.94	3557673	A	3177199	A	0.0194	229.208064	229.2081	200.000000	35145	
37	13C12-OCDF	passed	48.13	4480407	A	3962658	A	0.0139	215.181974	215.1820	200.000000	44870	



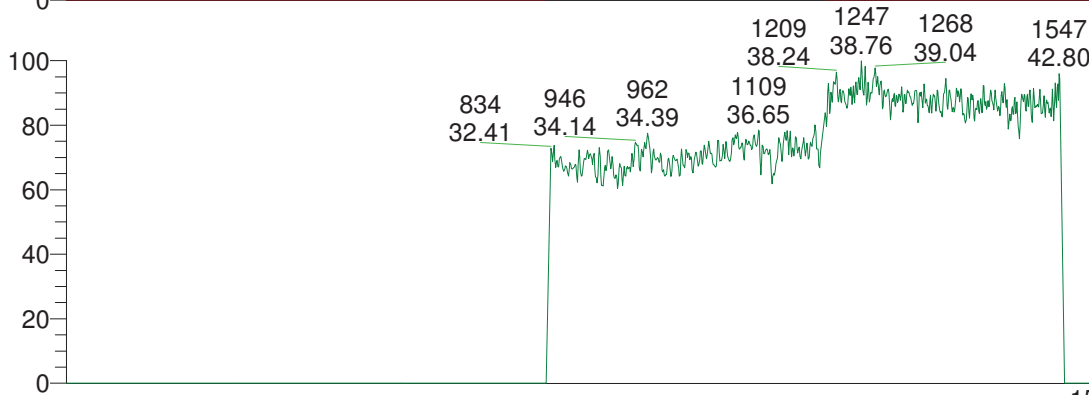
RT: 22.50 - 51.00



NL:  
5.92E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
26



NL:  
4.81E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
26



NL:  
3.73E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
26



NL:  
1.25E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
26



NL:  
1.37E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
26

**APPROVED**  
By uma9 at 3:24 pm, 11/8/18

**REVIEWED**  
By uild at 3:50 pm, 11/8/18

\*\*\* file opened wed Nov 07 07:00:20 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 07:00:19

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118





331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes  
MID window end time was 21.500000 minutes  
MID window terminated after 32.300000 minutes  
MID window end time was 32.300000 minutes



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MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	98.5000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1480.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0185	FVINLET	0.0428	FVSR	0.0329
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	98.5000	LKM	442.9723	MASS	98.5000
MDAC	1445679.6411	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9817	RELEN	0.0000
RES	13072.1860	RPUSHER	-1.0623	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0196	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12199.  
MID Time window 2: Resolution is 12114.  
MID Time window 3: Resolution is 12814.  
MID Time window 4: Resolution is 12327.



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MID Time Window 5: Resolution is 13562.  
MID Time Window 6: Resolution is 13072.

Amplifier offset: 90.

\*\*\* File closed wed Nov 07 07:51:22 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/07 14:48  
Number of Entries 58  
Comment  
Vial 6  
Sample Name VER-CALDF41837H  
Sample ID CS3CC04  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-35.quan  
Data w:\18nov06\18nov06-35.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.92	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.92	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.25	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.65	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.15	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.08	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.20	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.92	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.65	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.88	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.92	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.11	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.33	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.03	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.90	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.78	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.89	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.89	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.23	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.63	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	39.99	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.14	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.87	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.05	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.90	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.43	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.92	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/07 14:48  
Number of Entries 58  
Comment  
Vial 6  
Sample Name VER-CALDF41837H  
Sample ID CS3CC04  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

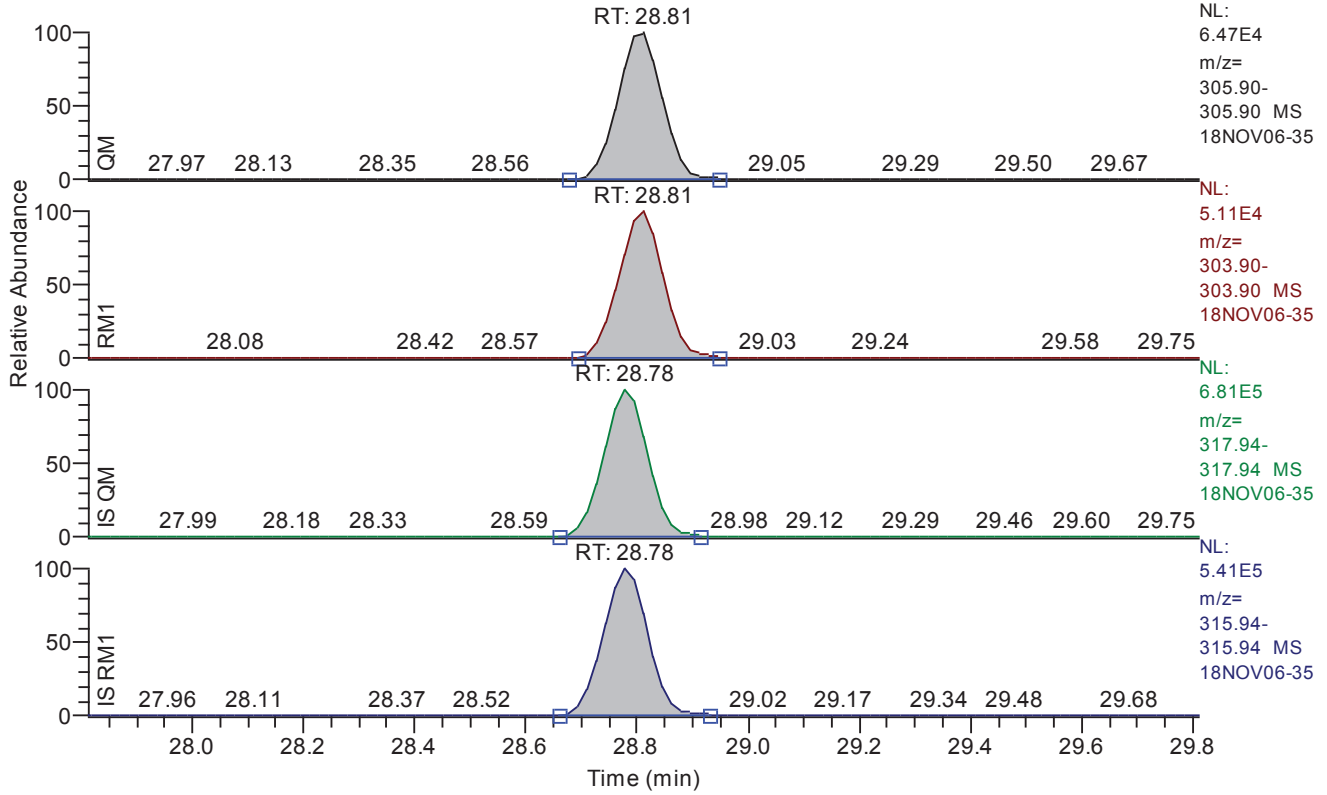
Quan w:\18nov06\18nov06-35.quan  
Data w:\18nov06\18nov06-35.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.81 - 29.81 SM: 3G



Entry: 2378-tcdf IS: 13C12-2378-TCDF

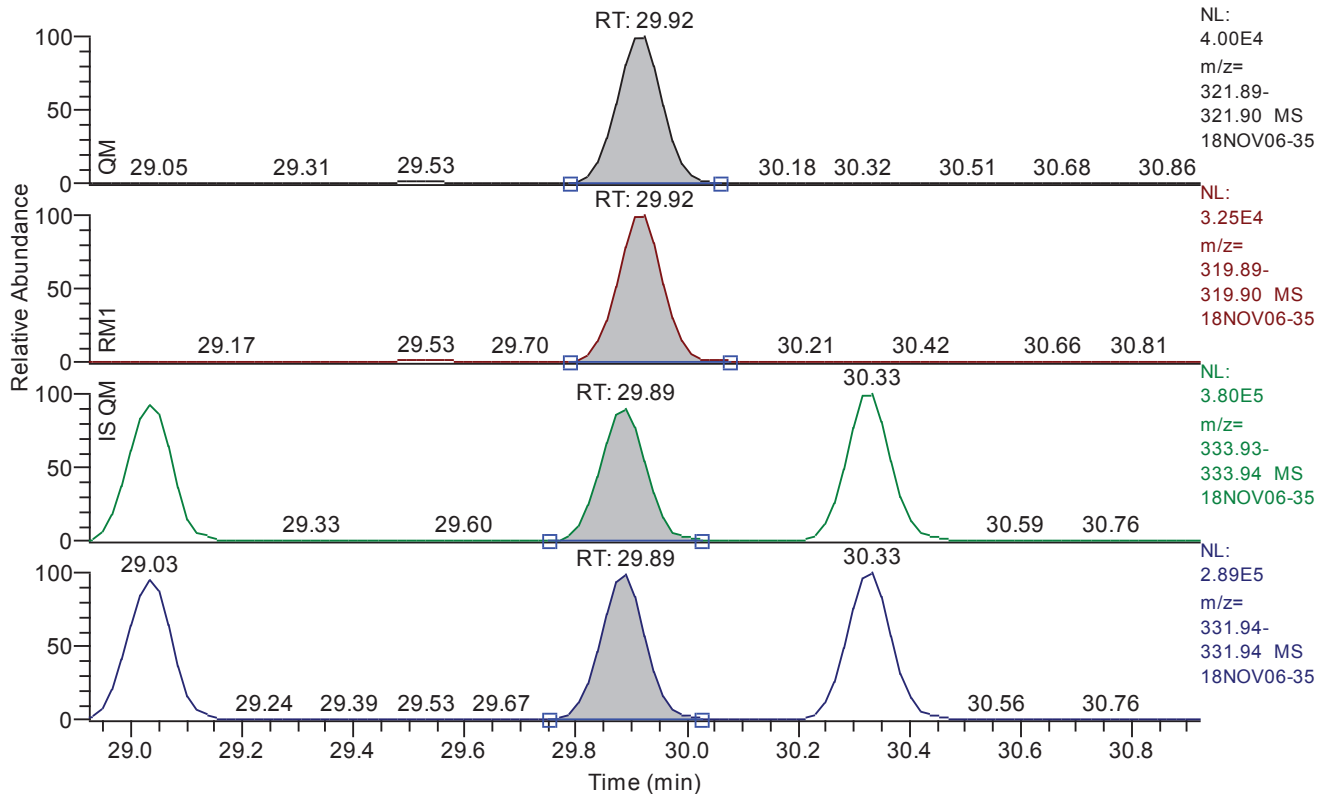
**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.81
QM Area	367078
QM Integration Mode	A
RM1 Area	288842
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0073
Unqualified Amount (A)	10.293723
Adjusted Amount (A)	10.2937
Signal-to-Noise	3510
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 28.92 - 30.92 SM: 3G



Entry: 2378-tcdd IS: 13C12-2378-TCDD

**Entry Parameters**

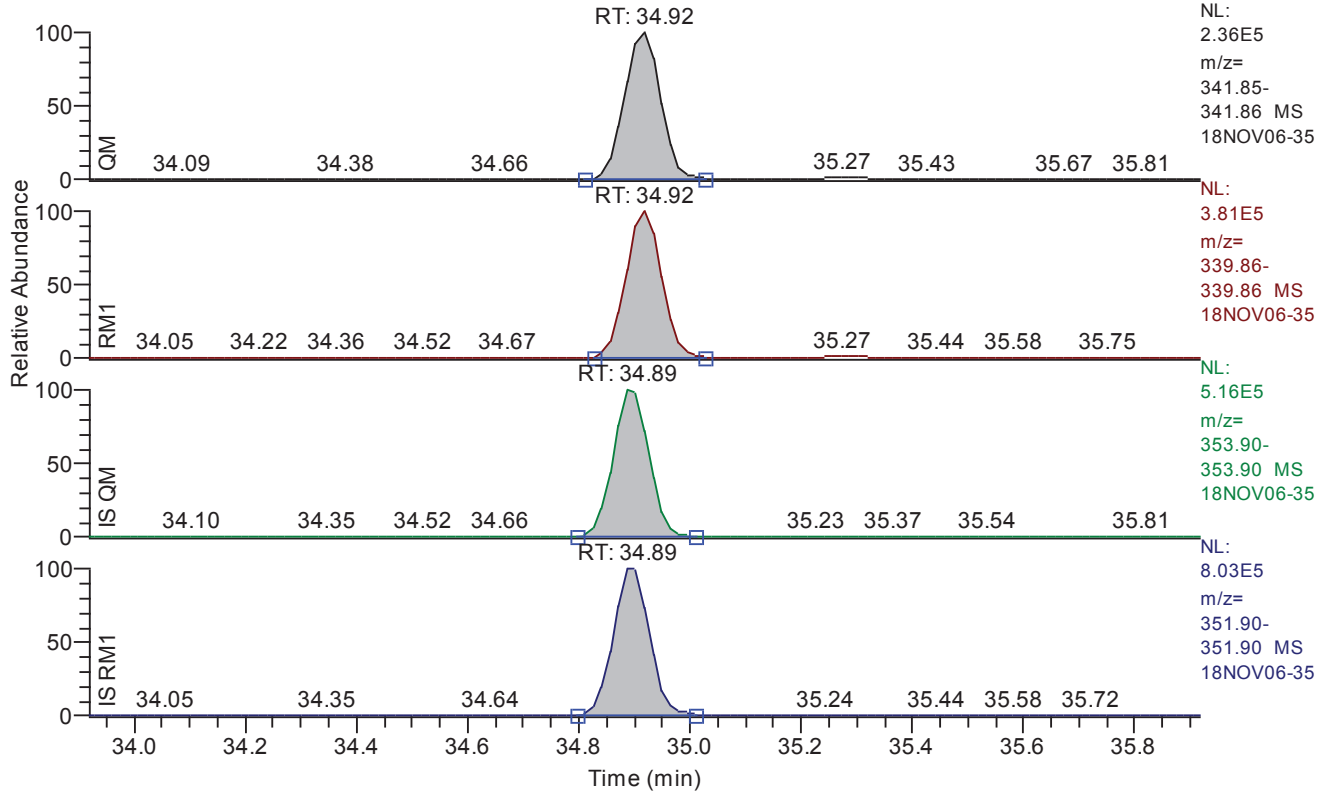
Compound Name	2378-TCDD
QM Retention Time	29.92
QM Area	235846
QM Integration Mode	A
RM1 Area	190684
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0063
Unqualified Amount (A)	10.650643
Adjusted Amount (A)	10.6506
Signal-to-Noise	4146
Client Flags	
Status Overview	passed
Status Info	





**Chromatogram**

RT: 33.92 - 35.92 SM: 3G



Entry: 12378-pecdf IS: 13C12-12378-PeCDF

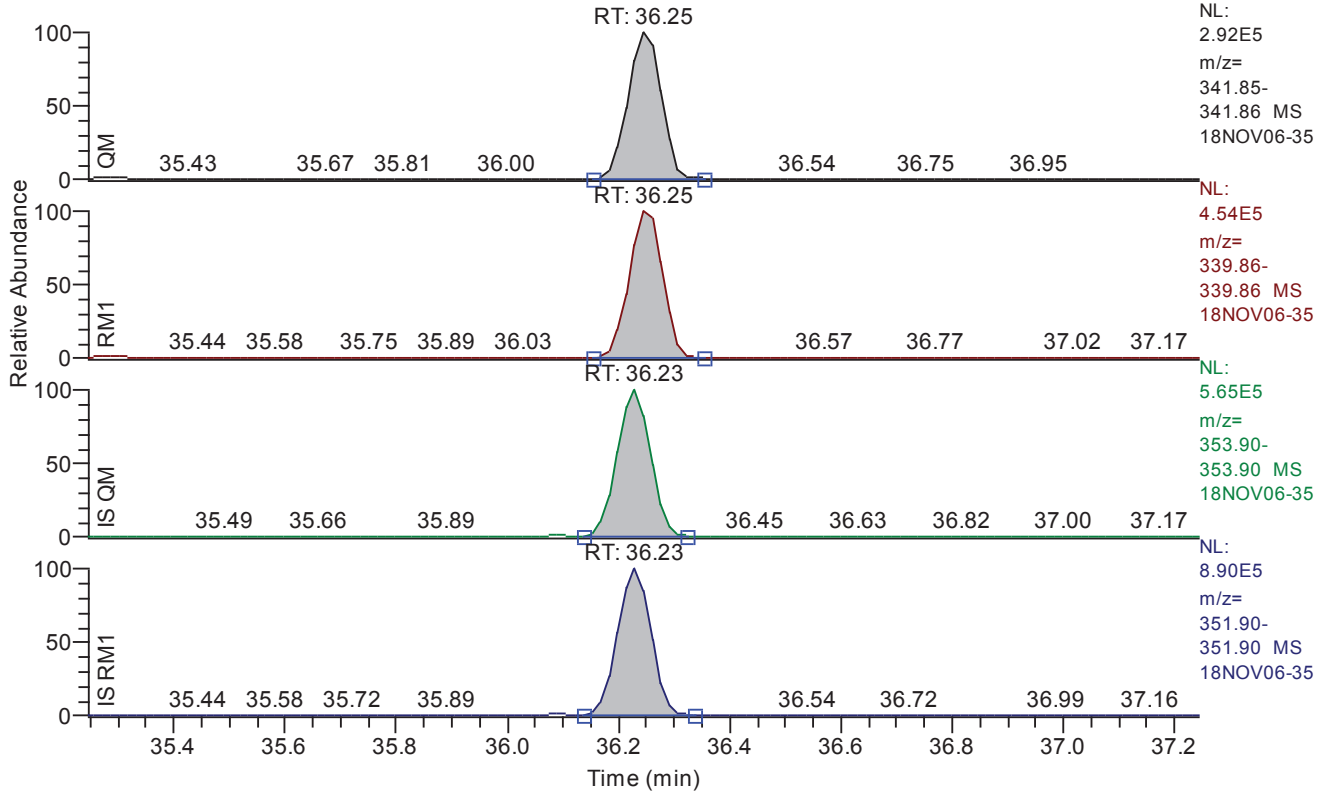
**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.92
QM Area	1066328
QM Integration Mode	A
RM1 Area	1701640
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	54.511046
Adjusted Amount (A)	54.5110
Signal-to-Noise	16109
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.25 - 37.25 SM: 3G



Entry: 23478-pecdf IS: 13C12-23478-PeCDF

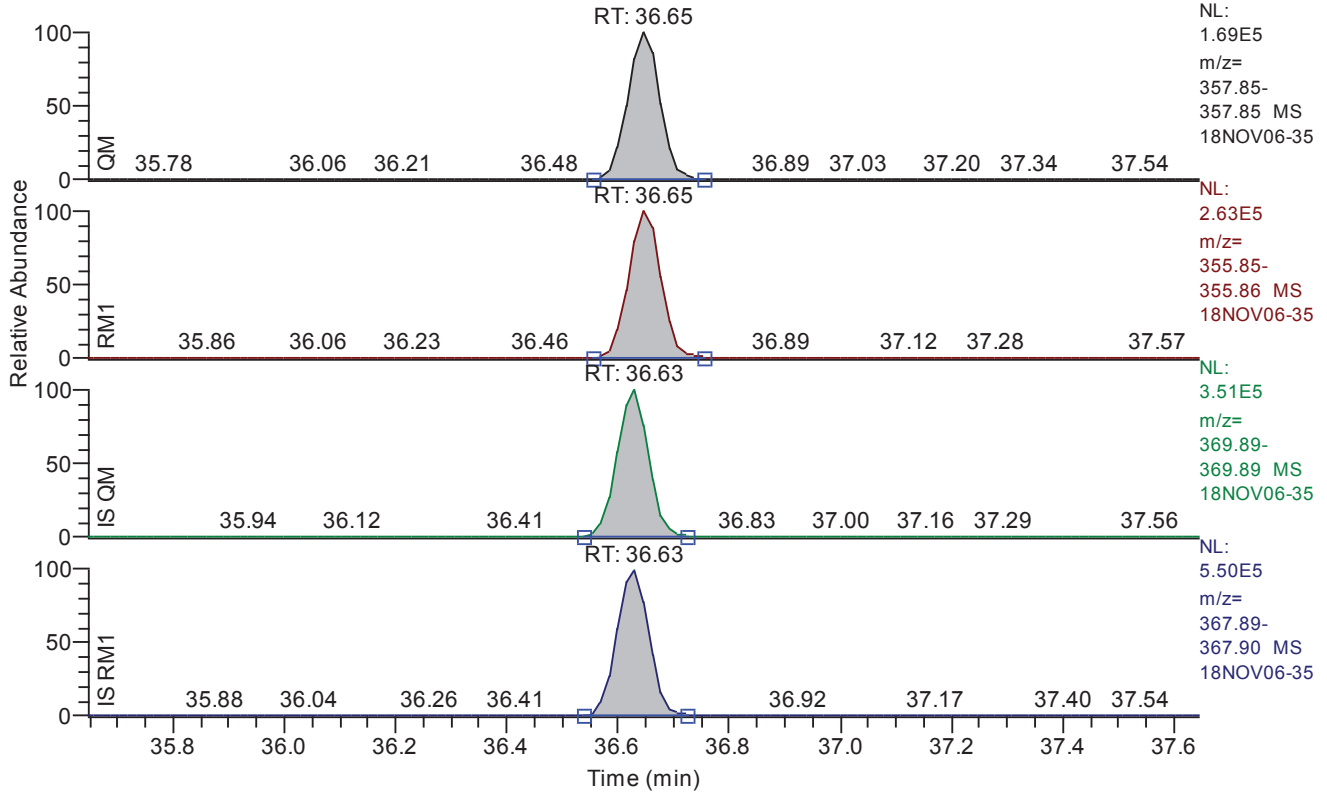
**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.25
QM Area	1218254
QM Integration Mode	A
RM1 Area	1907577
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0069
Unqualified Amount (A)	53.864490
Adjusted Amount (A)	53.8645
Signal-to-Noise	19460
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 35.65 - 37.65 SM: 3G



Entry: 12378-pecdd IS: 13C12-12378-PeCDD

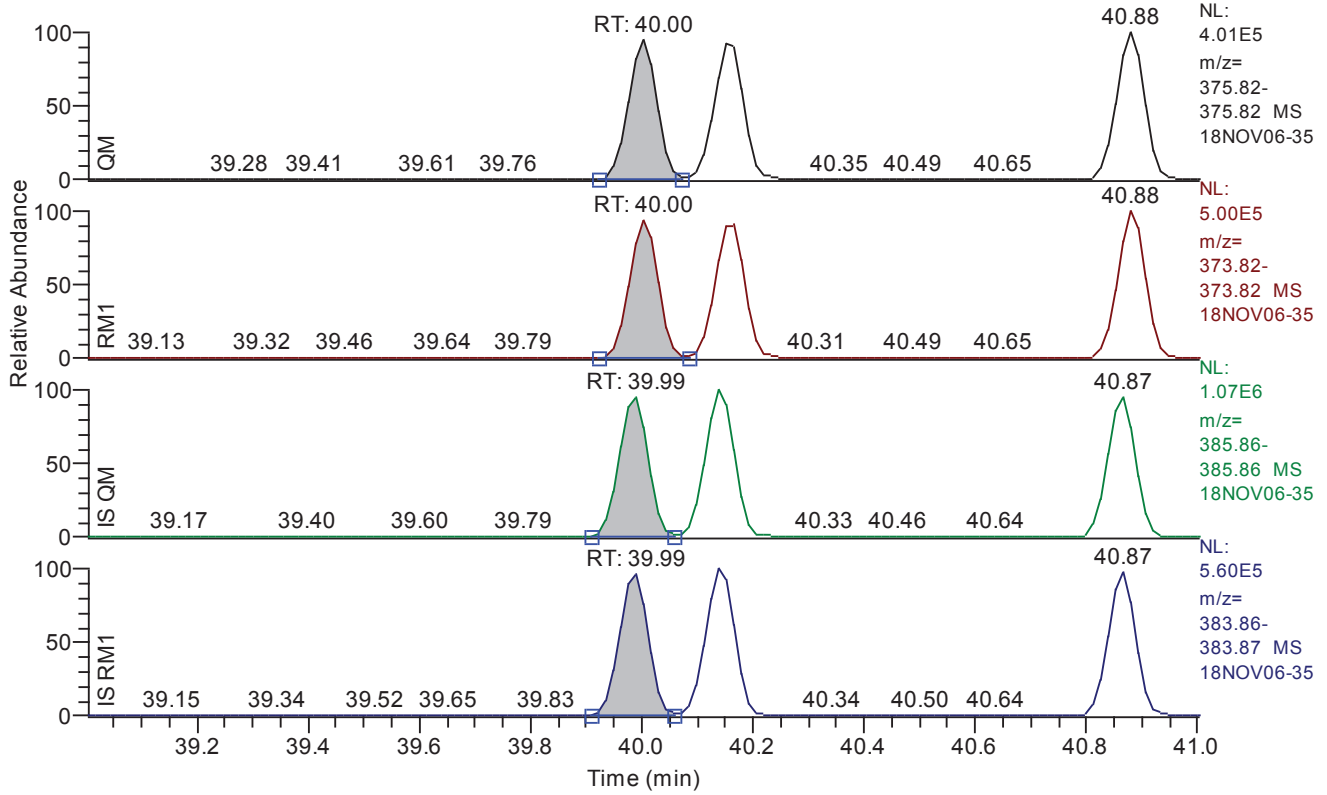
**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.65
QM Area	679852
QM Integration Mode	A
RM1 Area	1059569
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0130
Unqualified Amount (A)	54.074686
Adjusted Amount (A)	54.0747
Signal-to-Noise	10292
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.00 - 41.00 SM: 3G



Entry: 123478-hxcdf IS: 13C12-123478-HxCDF

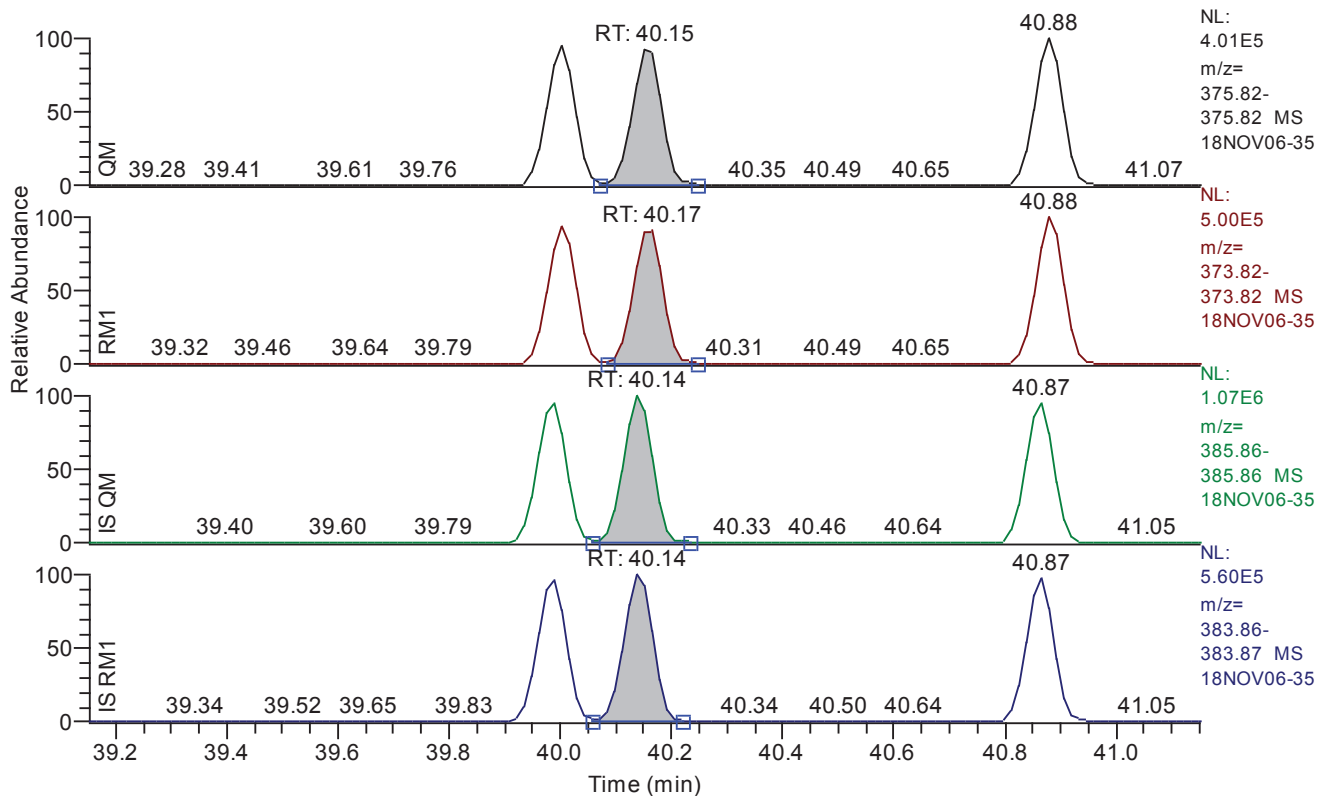
**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.00
QM Area	1353701
QM Integration Mode	A
RM1 Area	1694226
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0097
Unqualified Amount (A)	50.399066
Adjusted Amount (A)	50.3991
Signal-to-Noise	13249
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.15 - 41.15 SM: 3G



Entry: 123678-hxcdf IS: 13C12-123678-HxCDF

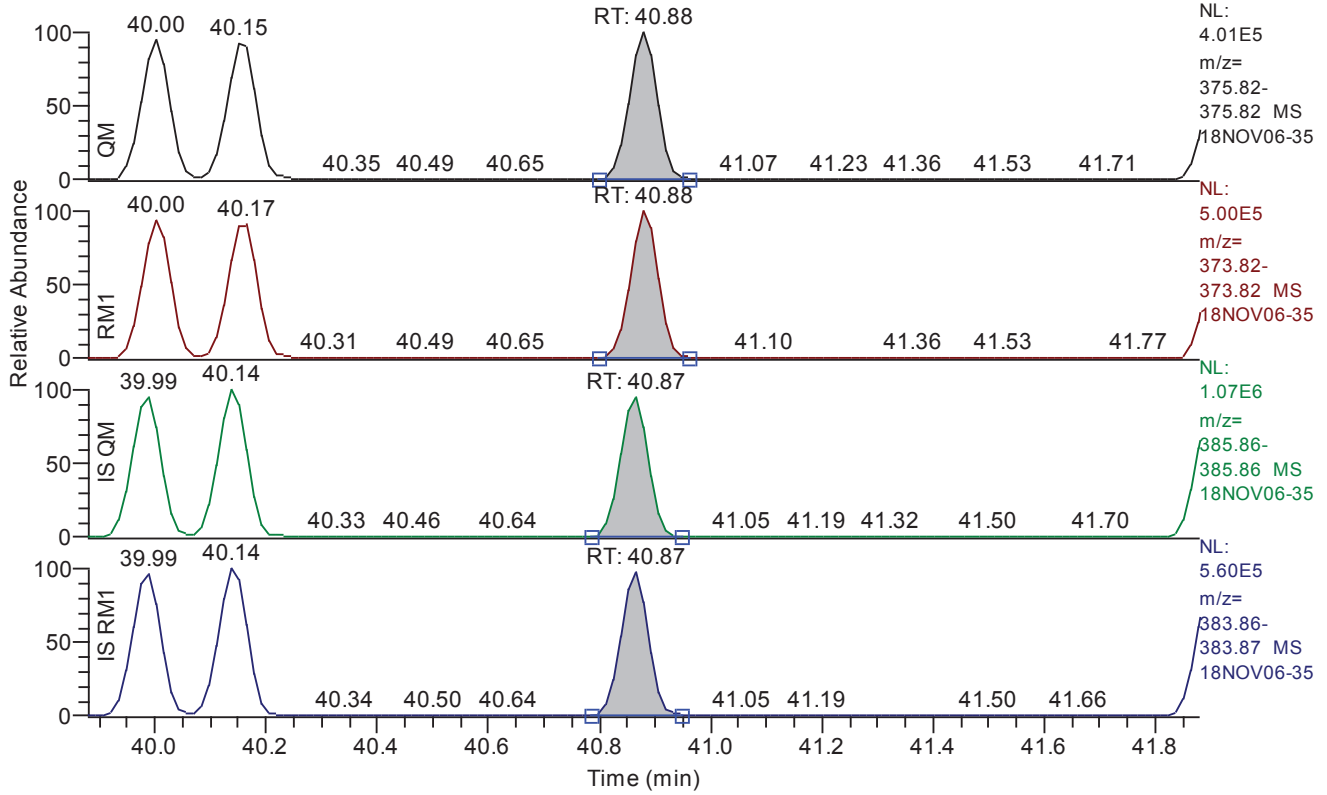
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.15
QM Area	1363825
QM Integration Mode	A
RM1 Area	1703678
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0095
Unqualified Amount (A)	49.738445
Adjusted Amount (A)	49.7384
Signal-to-Noise	12846
Client Flags	
Status Overview	passed
Status Info	



Chromatogram

RT: 39.88 - 41.88 SM: 3G



Entry: 234678-hxcdf IS: 13C12-234678-HxCDF

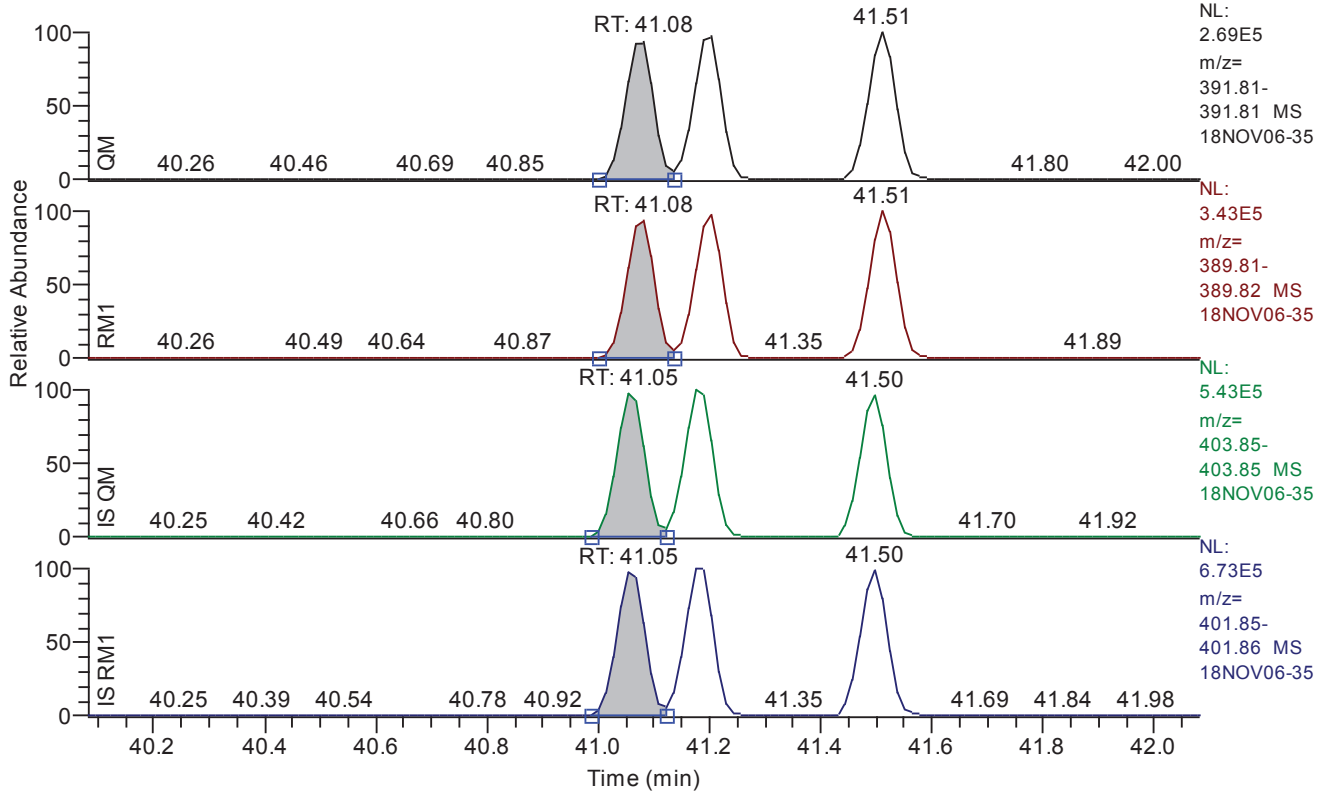
Entry Parameters

Compound Name	234678-HxCDF
QM Retention Time	40.88
QM Area	1399171
QM Integration Mode	A
RM1 Area	1744745
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0092
Unqualified Amount (A)	51.694785
Adjusted Amount (A)	51.6948
Signal-to-Noise	13994
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.08 - 42.08 SM: 3G



Entry: 123478-hxcdc IS: 13C12-123478-HxCDD

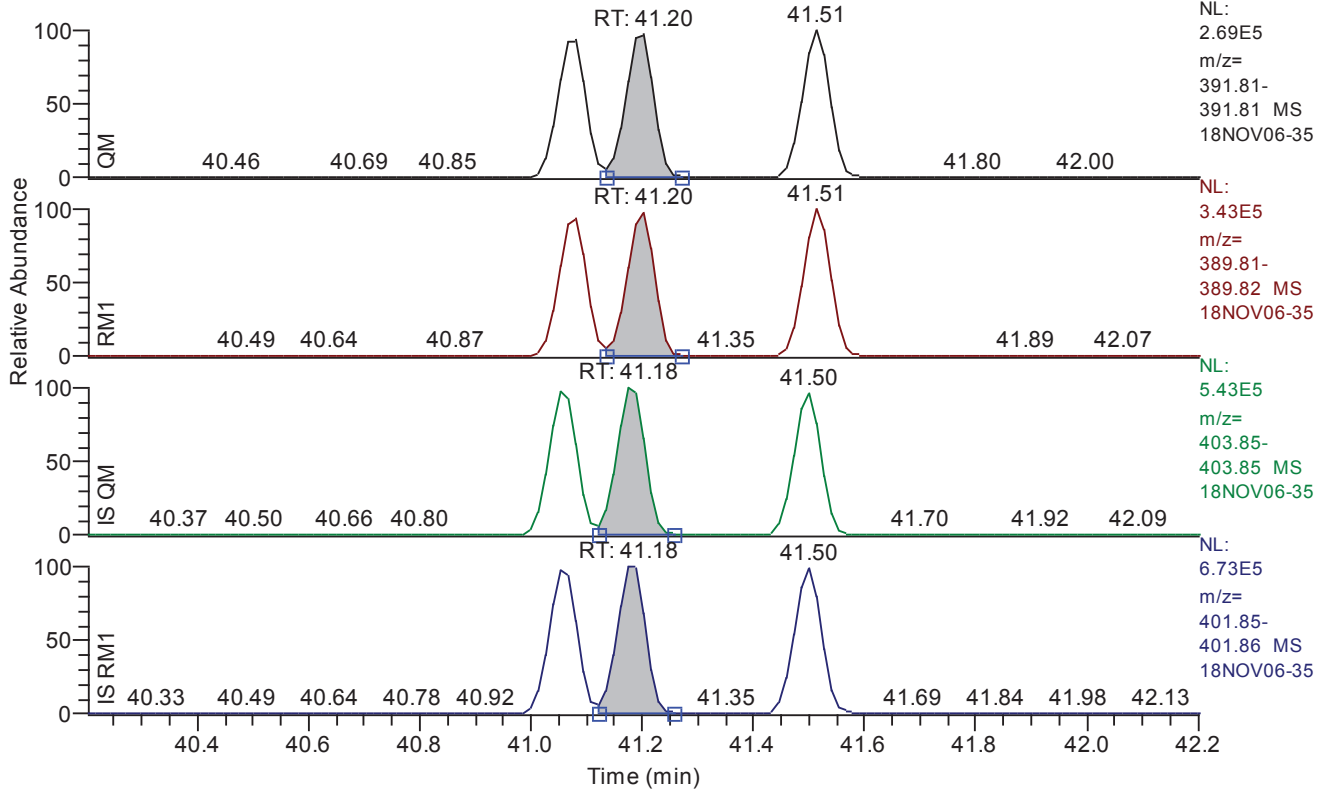
**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.08
QM Area	901289
QM Integration Mode	A
RM1 Area	1136754
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0121
Unqualified Amount (A)	52.852445
Adjusted Amount (A)	52.8524
Signal-to-Noise	10935
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.20 - 42.20 SM: 3G



Entry: 123678-hxcdd IS: 13C12-123678-HxCDD

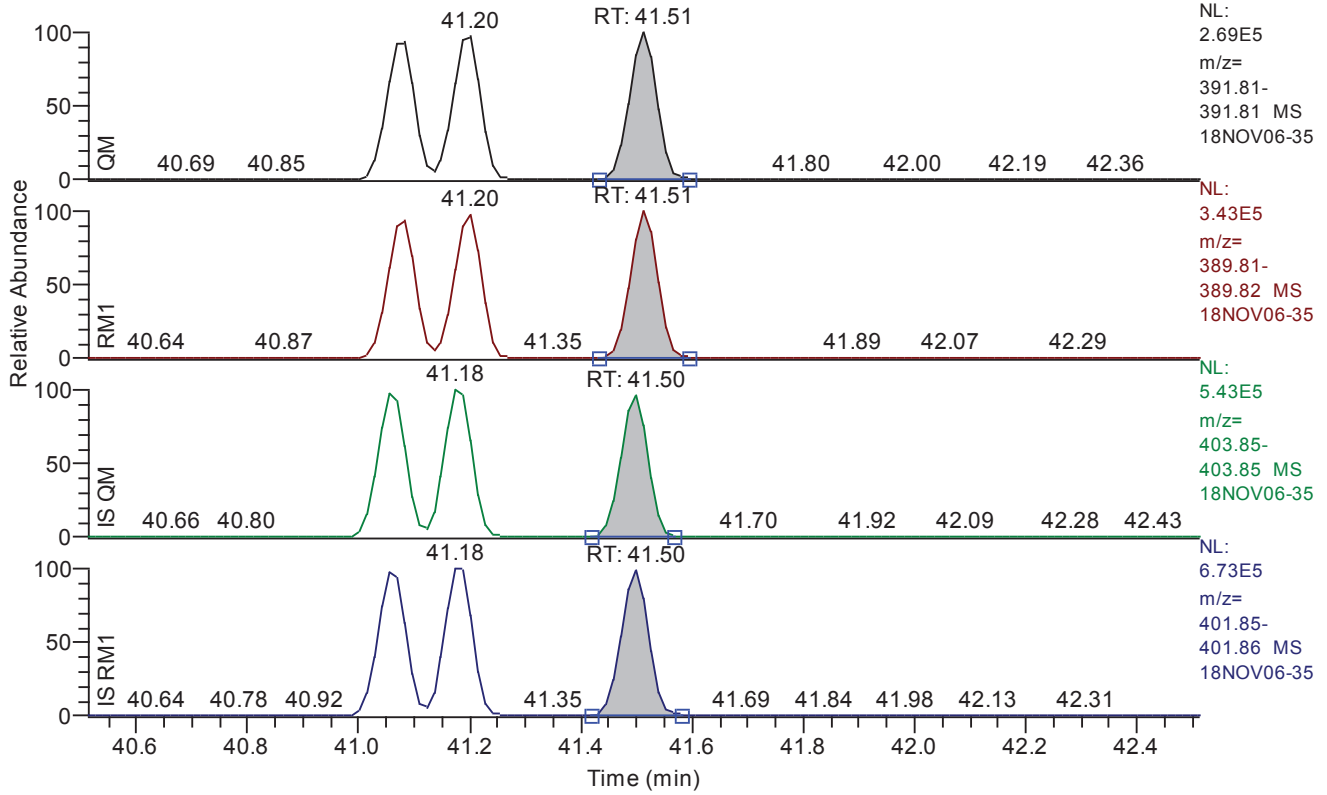
**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.20
QM Area	917894
QM Integration Mode	A
RM1 Area	1151197
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	53.116265
Adjusted Amount (A)	53.1163
Signal-to-Noise	11341
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.51 - 42.51 SM: 3G



Entry: 123789-hxcdd IS: 13C12-123789-HxCDD

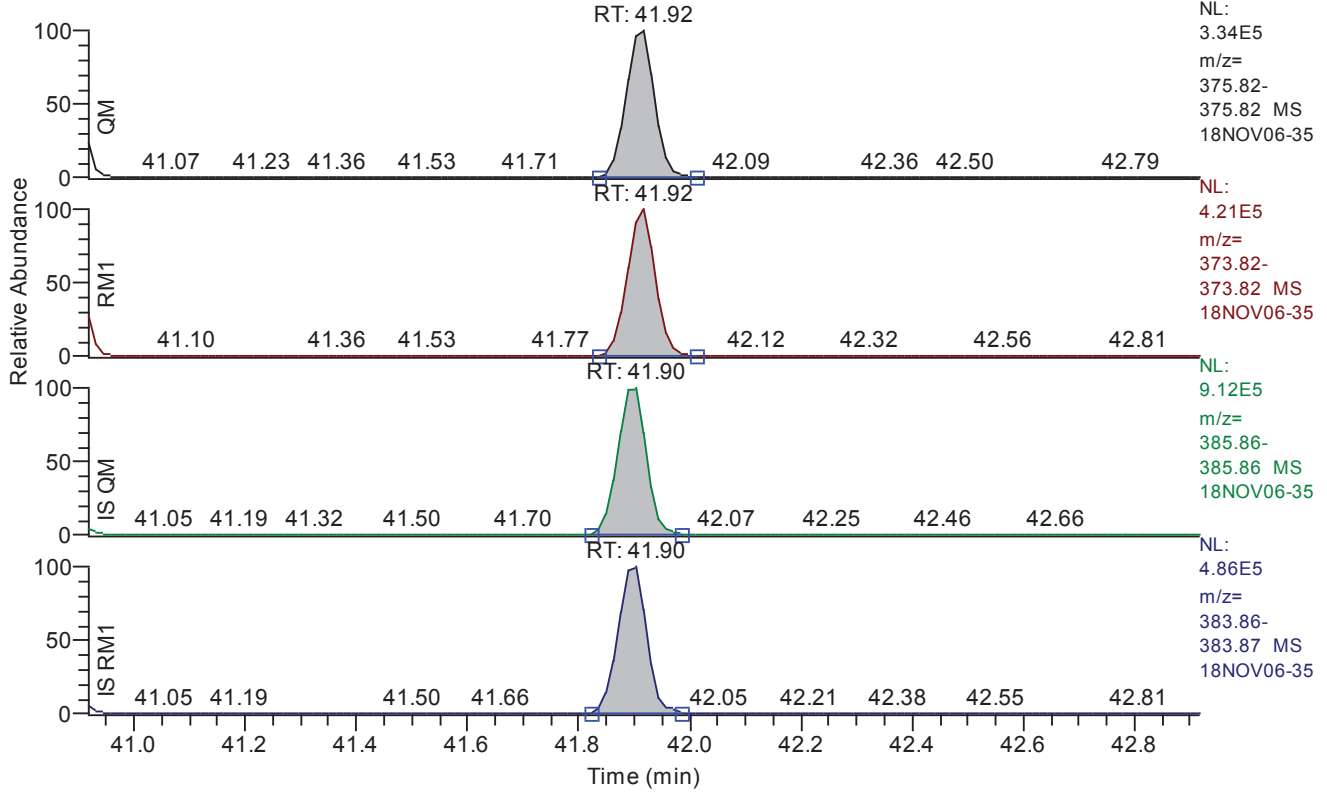
**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.51
QM Area	925070
QM Integration Mode	A
RM1 Area	1172964
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	53.853373
Adjusted Amount (A)	53.8534
Signal-to-Noise	11615
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.92 - 42.92 SM: 3G



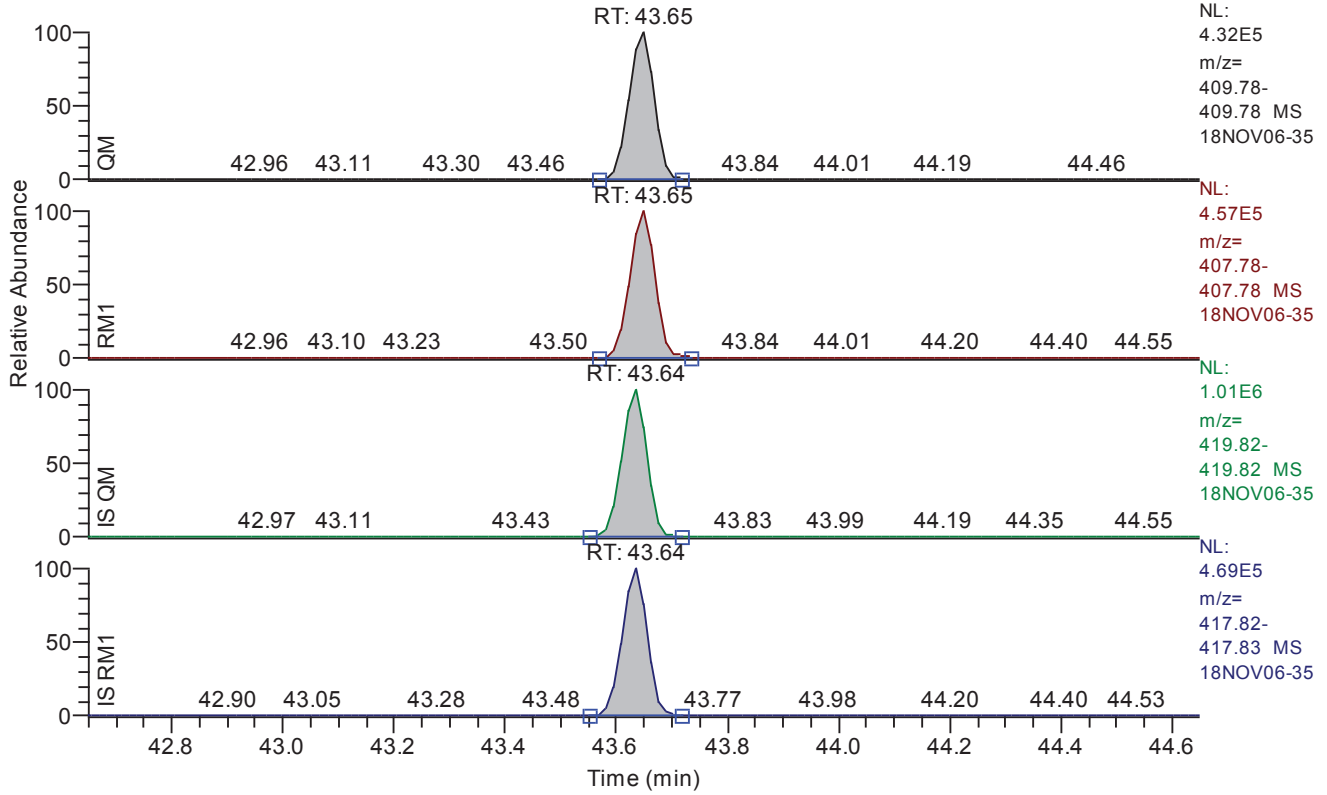
Entry: 123789-hxcdf IS: 13C12-123789-HxCDF

**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.92
QM Area	1193630
QM Integration Mode	A
RM1 Area	1476231
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0113
Unqualified Amount (A)	51.935501
Adjusted Amount (A)	51.9355
Signal-to-Noise	11711
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.65 - 44.65 SM: 3G



Entry: 1234678-hpcdf IS: 13C12-1234678-HpCDF

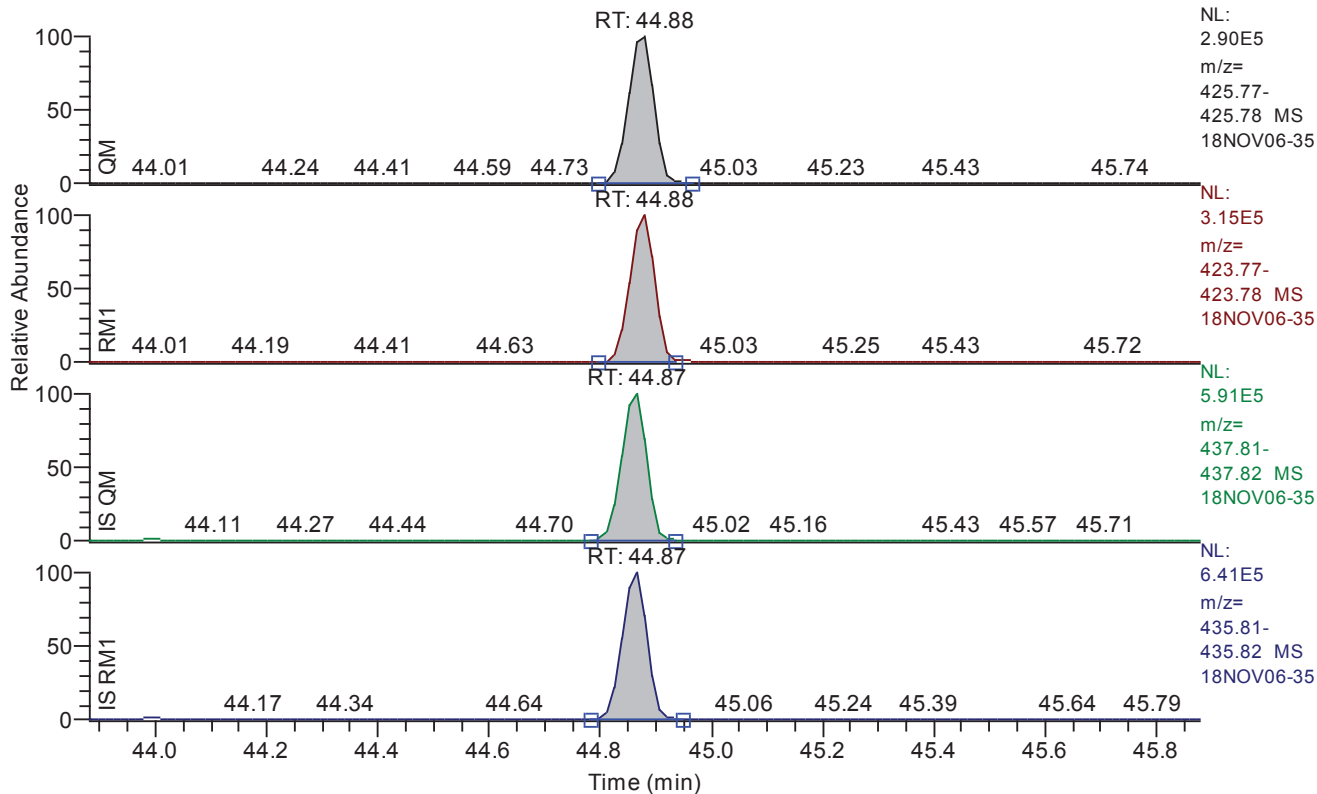
**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.65
QM Area	1405952
QM Integration Mode	A
RM1 Area	1479536
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0125
Unqualified Amount (A)	52.706043
Adjusted Amount (A)	52.7060
Signal-to-Noise	10517
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 43.88 - 45.88 SM: 3G



Entry: 1234678-hpcdd IS: 13C12-1234678-HpCDD

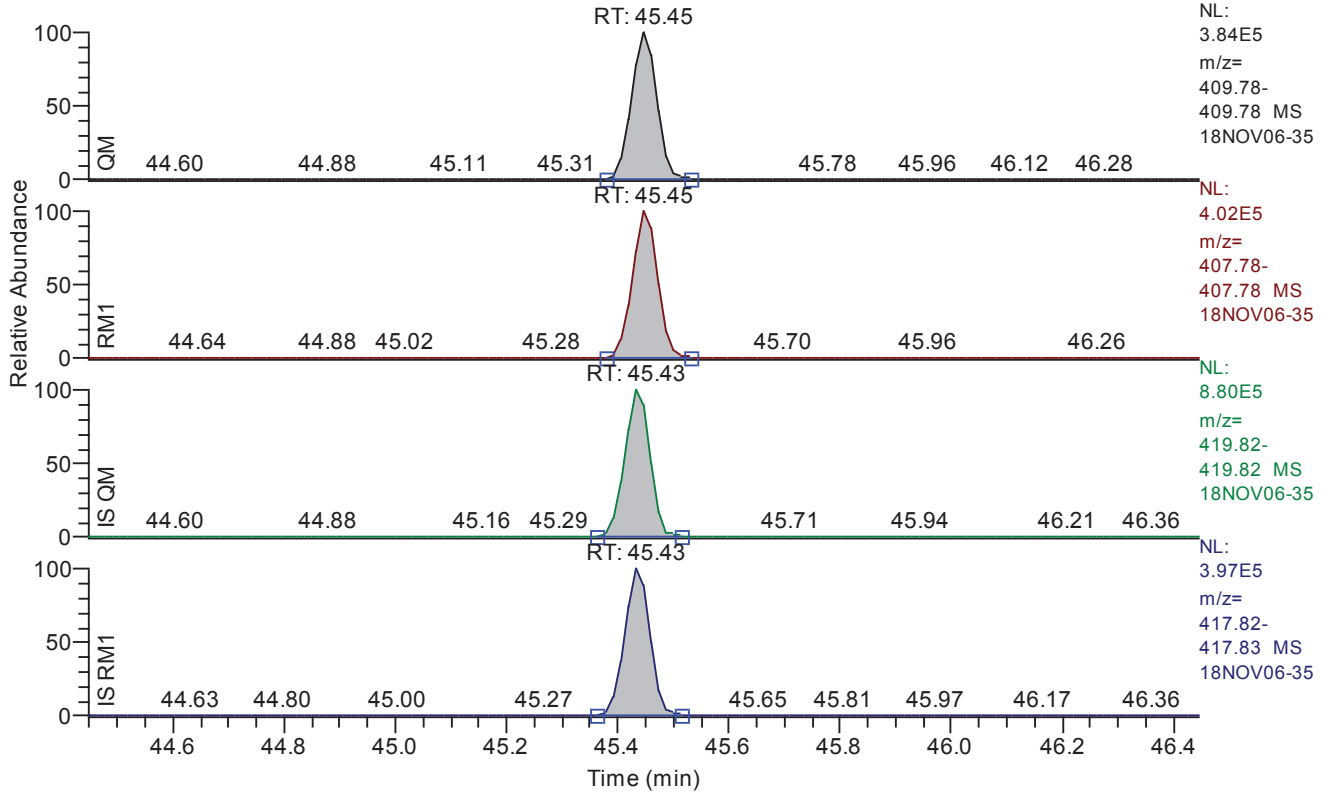
**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.88
QM Area	957298
QM Integration Mode	A
RM1 Area	1004392
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0181
Unqualified Amount (A)	52.881854
Adjusted Amount (A)	52.8819
Signal-to-Noise	7245
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 44.45 - 46.45 SM: 3G



Entry: 1234789-hpcdf IS: 13C12-1234789-HpCDF

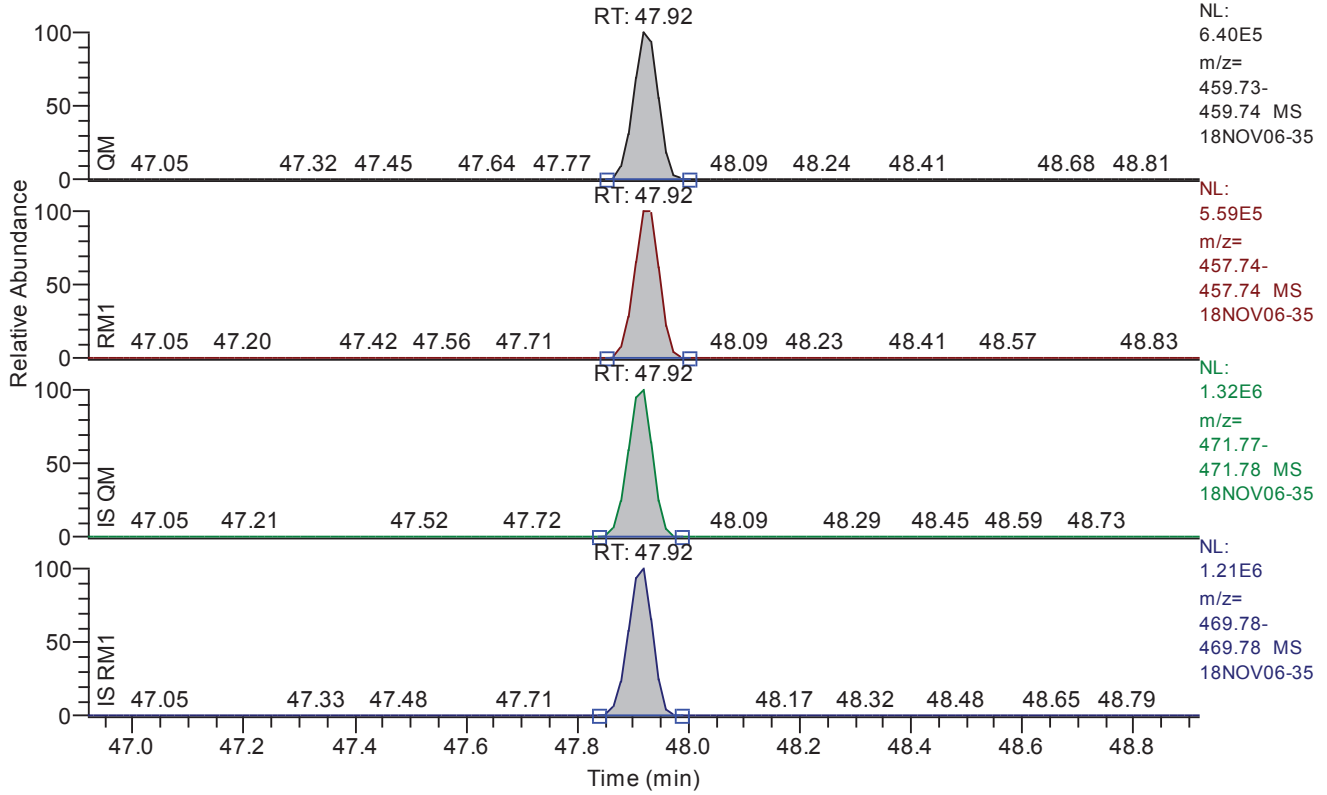
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.45
QM Area	1245574
QM Integration Mode	A
RM1 Area	1306848
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0140
Unqualified Amount (A)	52.100642
Adjusted Amount (A)	52.1006
Signal-to-Noise	9282
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.92 - 48.92 SM: 3G



Entry: ocdd IS: 13C12-OCDD

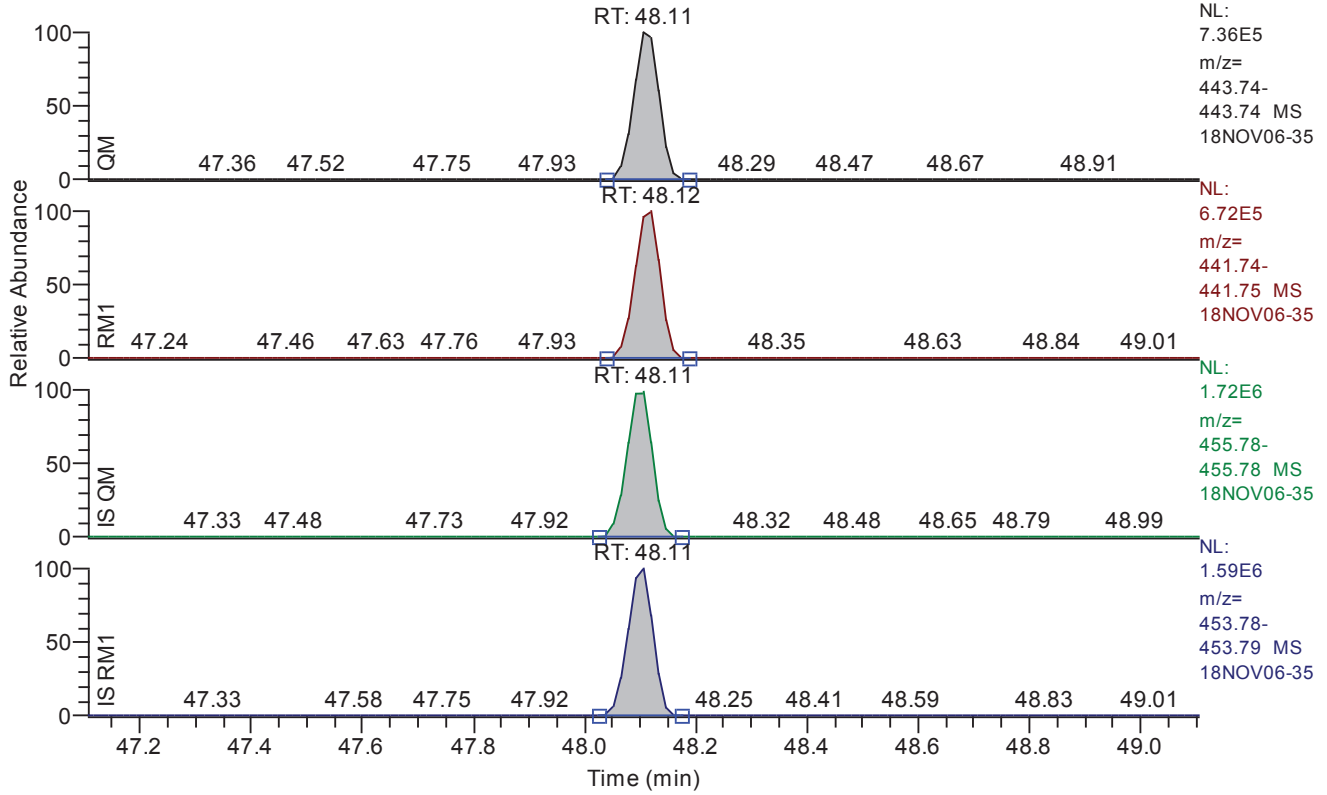
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.92
QM Area	1991287
QM Integration Mode	A
RM1 Area	1774454
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0132
Unqualified Amount (A)	105.639415
Adjusted Amount (A)	105.6394
Signal-to-Noise	19646
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.11 - 49.11 SM: 3G



Entry: ocdf IS: 13C12-OCDF

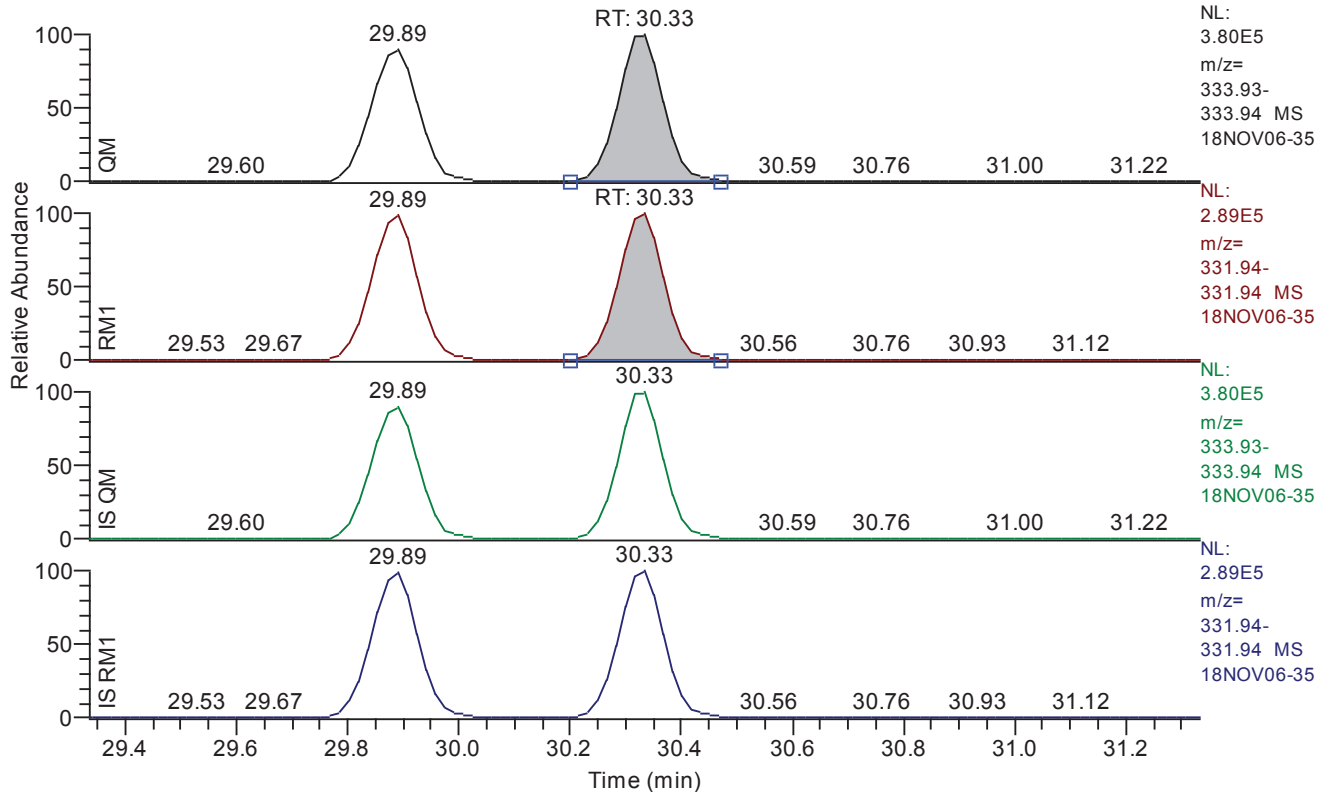
**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.11
QM Area	2355571
QM Integration Mode	A
RM1 Area	2151757
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0115
Unqualified Amount (A)	101.048132
Adjusted Amount (A)	101.0481
Signal-to-Noise	21902
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 29.33 - 31.33 SM: 3G



Entry: 1278-TCDD IS: 13C12-1234-TCDD

**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.33
QM Area	2159747
QM Integration Mode	A
RM1 Area	1667705
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0143
Unqualified Amount (A)	102.959632
Adjusted Amount (A)	102.9596
Signal-to-Noise	18003
Client Flags	
Status Overview	passed
Status Info	





**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.81	28.81	28.78	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.92	29.92	29.89	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.92	34.92	34.89	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.25	36.25	36.25	36.23	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.65	36.65	36.65	36.63	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.00	40.00	39.99	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.15	40.15	40.17	40.14	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.88	40.88	40.87	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.08	41.08	41.05	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.20	41.20	41.18	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.51	41.51	41.50	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.92	41.92	41.92	41.90	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.65	43.65	43.65	43.64	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.88	44.88	44.88	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.45	45.45	45.45	45.43	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.92	47.92	47.92	47.92	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.11	48.12	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.03	29.03	29.03	29.03	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.90	39.90	39.90	39.90	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.78	28.78	28.78	28.88	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.89	29.89	29.89	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.89	34.89	34.89	34.96	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.23	36.23	36.28	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.63	36.63	36.63	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	39.99	39.99	39.87	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.14	40.14	40.14	40.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.87	40.87	40.87	40.88	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.05	41.05	41.05	41.05	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.18	41.18	41.18	41.18	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.50	41.50	41.50	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.90	41.90	41.74	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.64	43.64	43.64	43.64	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.87	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.43	45.43	45.54	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.92	47.92	47.92	47.92	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.11	48.11	48.11	48.13	passed	passed



**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	28.81	0.7869	0.6450 - 0.8950	passed	0.9504	0.9233	0.7340 - 1.1126	passed
2	2378-TCDD	29.92	0.8085	0.6450 - 0.8950	passed	1.1653	1.0942	0.8699 - 1.3185	passed
3	12378-PeCDF	34.92	1.5958	1.3150 - 1.7850	passed	0.9268	0.8501	0.6758 - 1.0244	passed
4	23478-PeCDF	36.25	1.5658	1.3150 - 1.7850	passed	1.0244	0.9509	0.7560 - 1.1458	passed
5	123478-PeCDD	36.65	1.5585	1.3150 - 1.7850	passed	0.9687	0.8957	0.7121 - 1.0793	passed
6	123478-HxCDF	40.00	1.2516	1.0450 - 1.4350	passed	1.0765	1.0680	0.8491 - 1.2869	passed
7	123678-HxCDF	40.15	1.2492	1.0450 - 1.4350	passed	1.0385	1.0439	0.8299 - 1.2579	passed
8	234678-HxCDF	40.88	1.2470	1.0450 - 1.4350	passed	1.1460	1.1084	0.8812 - 1.3356	passed
9	123478-HxCDD	41.08	1.2613	1.0450 - 1.4350	passed	0.9626	0.9107	0.7240 - 1.0974	passed
10	123678-HxCDD	41.20	1.2542	1.0450 - 1.4350	passed	0.9606	0.9043	0.7189 - 1.0897	passed
11	123789-HxCDD	41.51	1.2680	1.0450 - 1.4350	passed	1.0277	0.9541	0.7585 - 1.1497	passed
12	123789-HxCDF	41.92	1.2368	1.0450 - 1.4350	passed	1.0572	1.0178	0.8092 - 1.2264	passed
13	1234678-HpCDF	43.65	1.0523	0.8750 - 1.2050	passed	1.2098	1.1477	0.9124 - 1.3830	passed
14	1234678-HpCDD	44.88	1.0492	0.8750 - 1.2050	passed	0.9905	0.9366	0.7446 - 1.1286	passed
15	1234789-HpCDF	45.45	1.0492	0.8750 - 1.2050	passed	1.2309	1.1813	0.9391 - 1.4235	passed
16	OCDD	47.92	0.8911	0.7550 - 1.0250	passed	0.9634	0.9120	0.7250 - 1.0990	passed
17	OCDF	48.11	0.9135	0.7550 - 1.0250	passed	0.8548	0.8459	0.6725 - 1.0193	passed
18	13C12-1278-TCDD (CRS)	30.33	0.7722	0.6450 - 0.8950	passed	1.0630	1.0324	0.7175 - 1.3473	passed
19	13C12-1234-TCDD	29.03	0.7873	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
20	13C12-123468-HxCDD	39.90	1.2555	1.0450 - 1.4350	passed	1.0000	1.0000	1.0000 - 1.0000	passed
21	13C12-2378-TCDF	28.78	0.8035	0.6450 - 0.8950	passed	1.9167	1.7703	1.2304 - 2.3102	passed
22	13C12-2378-TCDD	29.89	0.8143	0.6450 - 0.8950	passed	1.0165	0.9769	0.6789 - 1.2749	passed
23	13C12-12378-PeCDF	34.89	1.5689	1.3150 - 1.7850	passed	1.6589	1.6320	1.1342 - 2.1298	passed
24	13C12-23478-PeCDF	36.23	1.5845	1.3150 - 1.7850	passed	1.6949	1.6333	1.1351 - 2.1315	passed
25	13C12-12378-PeCDD	36.63	1.5946	1.3150 - 1.7850	passed	0.9974	0.9751	0.6777 - 1.2725	passed
26	13C12-123478-HxCDF	39.99	0.5281	0.4250 - 0.5950	passed	1.2220	1.2659	0.8798 - 1.6520	passed
27	13C12-123678-HxCDF	40.14	0.5260	0.4250 - 0.5950	passed	1.2749	1.3355	0.9282 - 1.7428	passed
28	13C12-234678-HxCDF	40.87	0.5273	0.4250 - 0.5950	passed	1.1841	1.2366	0.8594 - 1.6138	passed
29	13C12-123478-HxCDD	41.05	1.2538	1.0450 - 1.4350	passed	0.9138	0.9892	0.6875 - 1.2909	passed
30	13C12-123678-HxCDD	41.18	1.2540	1.0450 - 1.4350	passed	0.9297	1.0149	0.7054 - 1.3244	passed
31	13C12-123789-HxCDD	41.50	1.2687	1.0450 - 1.4350	passed	0.8812	0.9622	0.6687 - 1.2557	passed
32	13C12-123789-HxCDF	41.90	0.5308	0.4250 - 0.5950	passed	1.0900	1.1265	0.7829 - 1.4701	passed
33	13C12-1234678-HpCDF	43.64	0.4607	0.3650 - 0.5150	passed	1.0294	1.1645	0.8093 - 1.5197	passed
34	13C12-1234678-HpCDD	44.87	1.0720	0.8750 - 1.2050	passed	0.8548	0.9693	0.6737 - 1.2649	passed
35	13C12-1234789-HpCDF	45.43	0.4517	0.3650 - 0.5150	passed	0.8950	0.9563	0.6646 - 1.2480	passed
36	13C12-OCDD	47.92	0.9136	0.7550 - 1.0250	passed	0.8435	0.9422	0.6548 - 1.2296	passed
37	13C12-OCDF	48.11	0.9073	0.7550 - 1.0250	passed	1.1379	1.2582	0.8744 - 1.6420	passed

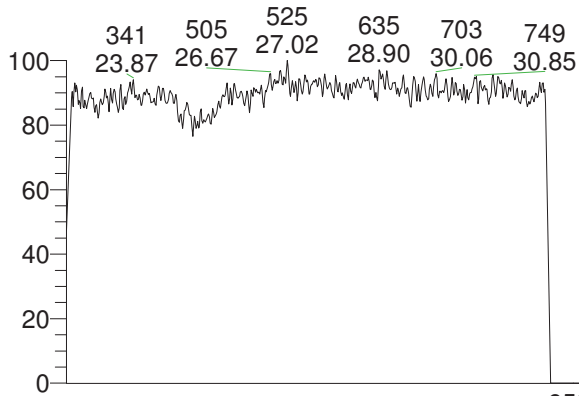


**Entry Parameters**

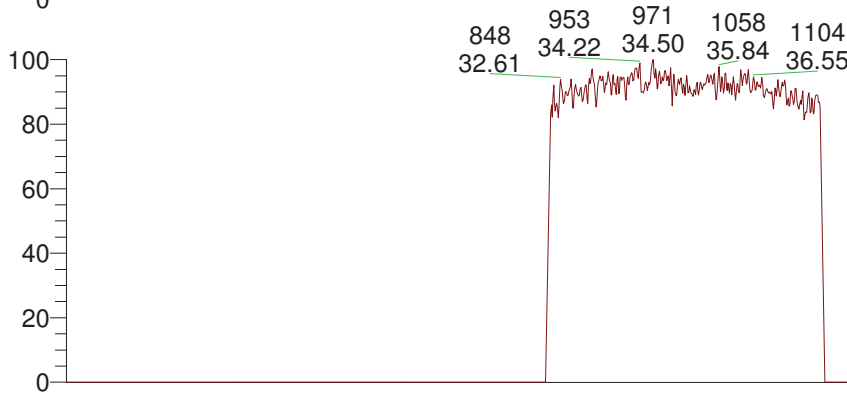
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.81	367078	A	288842	A	0.0073	10.293723	10.2937	10.000000	3510	
2	2378-TCDD	passed	29.92	235846	A	190684	A	0.0063	10.650643	10.6506	10.000000	4146	
3	12378-PeCDF	passed	34.92	1066328	A	1701640	A	0.0085	54.511046	54.5110	50.000000	16109	
4	23478-PeCDF	passed	36.25	1218254	A	1907577	A	0.0069	53.864490	53.8645	50.000000	19460	
5	12378-PeCDD	passed	36.65	679852	A	1059569	A	0.0130	54.074686	54.0747	50.000000	10292	
6	123478-HxCDF	passed	40.00	1353701	A	1694226	A	0.0097	50.399066	50.3991	50.000000	13249	
7	123678-HxCDF	passed	40.15	1363825	A	1703678	A	0.0095	49.738445	49.7384	50.000000	12846	
8	234678-HxCDF	passed	40.88	1399171	A	1744745	A	0.0092	51.694785	51.6948	50.000000	13994	
9	123478-HxCDD	passed	41.08	901289	A	1136754	A	0.0121	52.852445	52.8524	50.000000	10935	
10	123678-HxCDD	passed	41.20	917894	A	1151197	A	0.0120	53.116265	53.1163	50.000000	11341	
11	123789-HxCDD	passed	41.51	925070	A	1172964	A	0.0115	53.853373	53.8534	50.000000	11615	
12	123789-HxCDF	passed	41.92	1193630	A	1476231	A	0.0113	51.935501	51.9355	50.000000	11711	
13	1234678-HpCDF	passed	43.65	1405952	A	1479536	A	0.0125	52.706043	52.7060	50.000000	10517	
14	1234678-HpCDD	passed	44.88	957298	A	1004392	A	0.0181	52.881854	52.8819	50.000000	7245	
15	1234789-HpCDF	passed	45.45	1245574	A	1306848	A	0.0140	52.100642	52.1006	50.000000	9282	
16	OCDD	passed	47.92	1991287	A	1774454	A	0.0132	105.639415	105.6394	100.000000	19646	
17	OCDF	passed	48.11	2355571	A	2151757	A	0.0115	101.048132	101.0481	100.000000	21902	
18	13C12-1278-TCDD (CRS)	passed	30.33	2159747	A	1667705	A	0.0143	102.959632	102.9596	100.000000	18003	
19	13C12-1234-TCDD	passed	29.03	2014628	A	1586027	A	0.0147	100.000000	100.0000	100.000000	16988	
20	13C12-123468-HxCDD	passed	39.90	2054415	A	2579377	A	0.0198	100.000000	100.0000	100.000000	12648	
21	13C12-2378-TCDF	passed	28.78	3826814	A	3074684	A	0.0104	108.272001	108.2720	100.000000	26454	
22	13C12-2378-TCDD	passed	29.89	2017386	A	1642722	A	0.0151	104.056054	104.0561	100.000000	17019	
23	13C12-12378-PeCDF	passed	34.89	2325183	A	3648032	A	0.0295	101.648194	101.6482	100.000000	10885	
24	13C12-23478-PeCDF	passed	36.23	2361330	A	3741449	A	0.0295	103.770702	103.7707	100.000000	12007	
25	13C12-12378-PeCDD	passed	36.63	1384099	A	2207021	A	0.0167	102.282506	102.2825	100.000000	22021	
26	13C12-123478-HxCDF	passed	39.99	3705752	A	1956949	A	0.0187	96.536639	96.5366	100.000000	12748	
27	13C12-123678-HxCDF	passed	40.14	3871395	A	2036435	A	0.0177	95.466652	95.4667	100.000000	13270	
28	13C12-234678-HxCDF	passed	40.87	3592480	A	1894446	A	0.0192	95.759225	95.7592	100.000000	12840	
29	13C12-123478-HxCDD	passed	41.05	1878801	A	2355568	A	0.0200	92.378138	92.3781	100.000000	11717	
30	13C12-123678-HxCDD	passed	41.18	1911163	A	2396643	A	0.0195	91.598948	91.5989	100.000000	11894	
31	13C12-123789-HxCDD	passed	41.50	1799776	A	2283316	A	0.0205	91.581798	91.5818	100.000000	11713	
32	13C12-123789-HxCDF	passed	41.90	3299432	A	1751350	A	0.0210	96.759766	96.7598	100.000000	11425	
33	13C12-1234678-HpCDF	passed	43.64	3265567	A	1504546	A	0.0271	88.398974	88.3990	100.000000	9064	
34	13C12-1234678-HpCDD	passed	44.87	1911568	A	2049256	A	0.0273	88.188249	88.1882	100.000000	9023	
35	13C12-1234789-HpCDF	passed	45.43	2856847	A	1290415	A	0.0330	93.593780	93.5938	100.000000	7822	
36	13C12-OCDD	passed	47.92	4085267	A	3732199	A	0.0115	179.055048	179.0550	200.000000	45122	
37	13C12-OCDF	passed	48.11	5529205	A	5016803	A	0.0128	180.889754	180.8898	200.000000	39765	



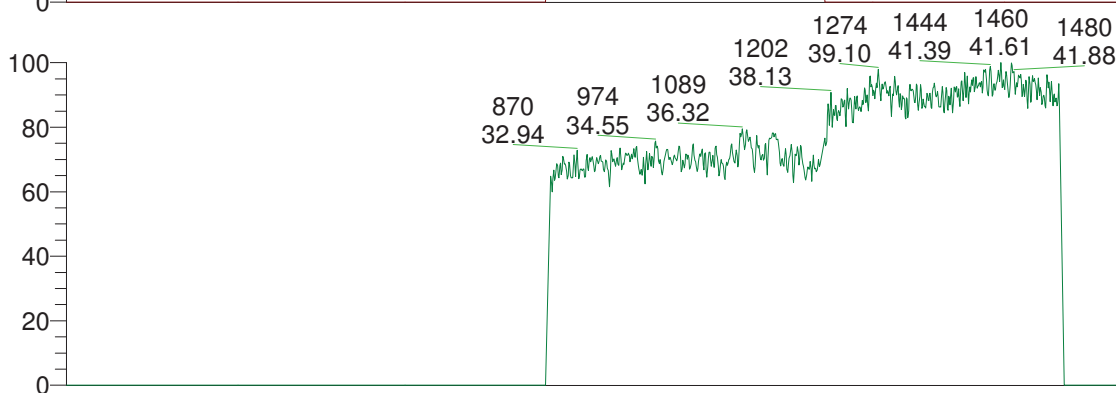
RT: 22.50 - 51.00



NL:  
5.62E5  
m/z=  
291.9825-  
292.9825  
MS  
18NOV06-  
35



NL:  
4.83E5  
m/z=  
330.4792-  
331.4792  
MS  
18NOV06-  
35



NL:  
3.37E5  
m/z=  
380.4760-  
381.4760  
MS  
18NOV06-  
35



NL:  
1.39E5  
m/z=  
404.4760-  
405.4760  
MS  
18NOV06-  
35



NL:  
1.55E5  
m/z=  
442.4728-  
443.4728  
MS  
18NOV06-  
35

**APPROVED**  
By uma9 at 3:24 pm, 11/8/18

**REVIEWED**  
By uild at 3:50 pm, 11/8/18

\*\*\* file opened wed Nov 07 14:52:12 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 07-Nov-18 14:52:11

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : 941af9aa-a548-48f5-bbd2-db83ba1c05a1

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	4:30 min	22:30 min	1.00 sec
# 2	22:30 min	9:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
218.0129		1	1	95
218.9851	l	20	1	4
220.0100		1	1	95
230.0532		2	1	47
232.0502		2	1	47
251.9739		1	1	95
253.9710		1	1	95
264.0142		2	1	47
266.0112		2	1	47
285.9350		1	1	95
287.9320		1	1	95
292.9819	c	20	1	4
297.9752		2	1	47
299.9723		2	1	47

Window # 2

mass	F	int	gr	time (ms)
292.9819	l	20	1	5
303.9011		1	1	118
305.8981		1	1	118
315.9413		5	1	23
317.9384		5	1	23
319.8960		1	1	118
321.8930		1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 22.500000 minutes

MID window end time was 22.500000 minutes

MID window terminated after 32.300000 minutes

MID window end time was 32.300000 minutes

**APPROVED**

By uma9 at 3:24 pm, 11/8/18

**REVIEWED**

By uild at 3:50 pm, 11/8/18

18NOV06-35

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	99.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1409.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0187	FVINLET	0.0431	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	99.0000	LKM	442.9723	MASS	99.0000
MDAC	1451960.7165	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2166.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9788	RELEN	0.0000
RES	12914.1138	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0193	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.9e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 12380.  
MID Time window 2: Resolution is 12874.  
MID Time window 3: Resolution is 12022.  
MID Time window 4: Resolution is 12614.



18NOV06-35

MID Time Window 5: Resolution is 13824.  
MID Time Window 6: Resolution is 12914.

Amplifier Offset: 91.

\*\*\* File closed wed Nov 07 15:43:13 2018  
\*\*\*





**Quantitation Settings**

**Data File Parameter**

Acq. Data 2018/10/18 15:14  
 Number of Entries 3  
 Comment  
 Vial 2  
 Sample Name TDTFWD ST1828537B  
 Sample ID CPS01  
 Inst ID DF18471-18OCT17Conf  
 Client  
 Analyst jda02741  
 GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
 BatchNo  
 Barcode

**Files Parameter**

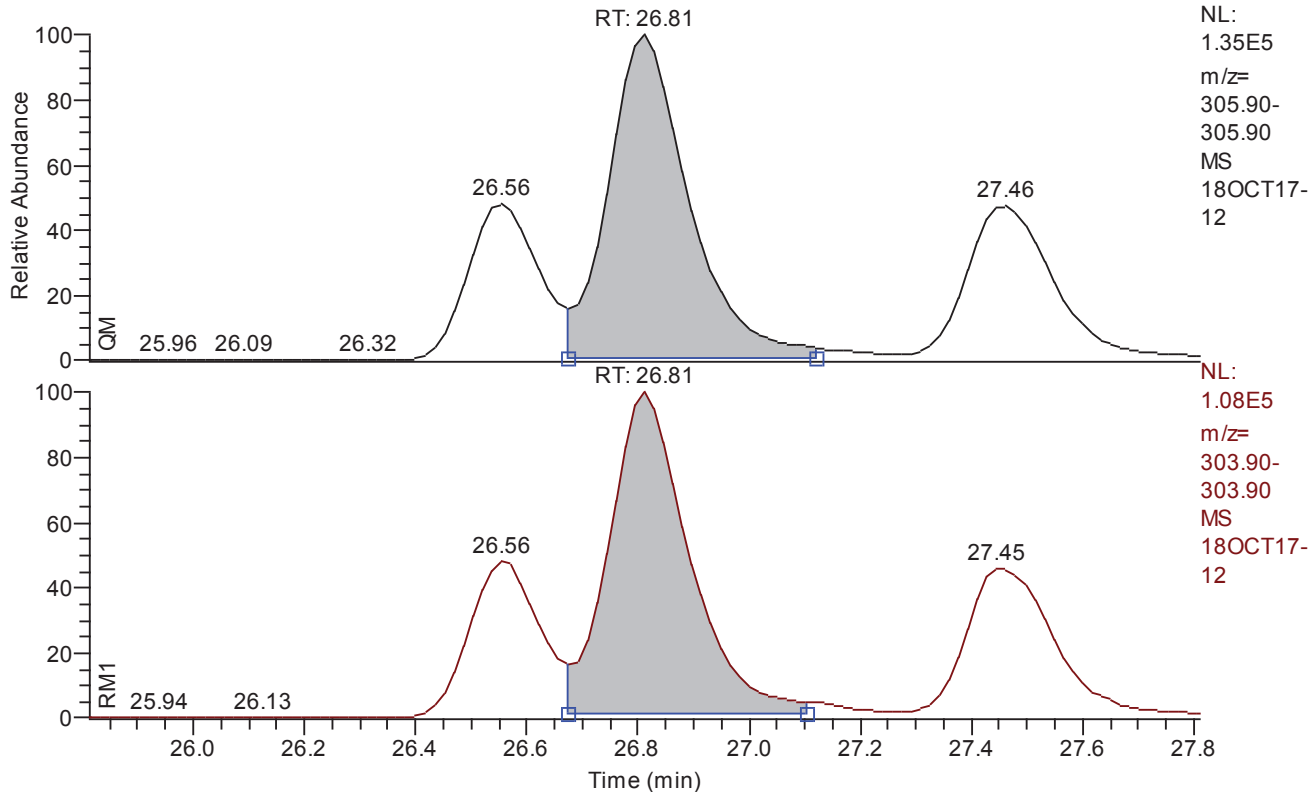
Quan y:\18oct17conf\18oct17-12.quan  
 Data y:\18oct17conf\18oct17-12.raw  
 Response y:\responsefiles\df18471-18oct17confdfical.resp  
 Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
 Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
 Sum Area/Height Sum QM RM1  
 Quantitation Status Depend on Area  
 Injection Volume [hIJV] 1.0  
 Sample Volume [hSV] 1.0  
 Sample Weight [hSWT] 1.0  
 Dilution Factor [hDF] 1.0  
 Det. Limit Factor [hDLF] 2.5  
 Response Factor Mode Average RF  
 Fit Calc. Mode Linear Fit  
 Regression Mode Non weighted Regression  
 Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	M
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	M
ManInt	1
QM Retention Time	26.81
QM Left Baseline Height	1316.65
QM Height	134111
QM Right Height	3795
GC Res (%) left	15.231855

**Quantitation Settings**

**Data File Parameter**

Acq. Data 2018/10/18 15:14  
Number of Entries 3  
Comment  
Vial 2  
Sample Name TDTFWD ST1828537B  
Sample ID CPS01  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

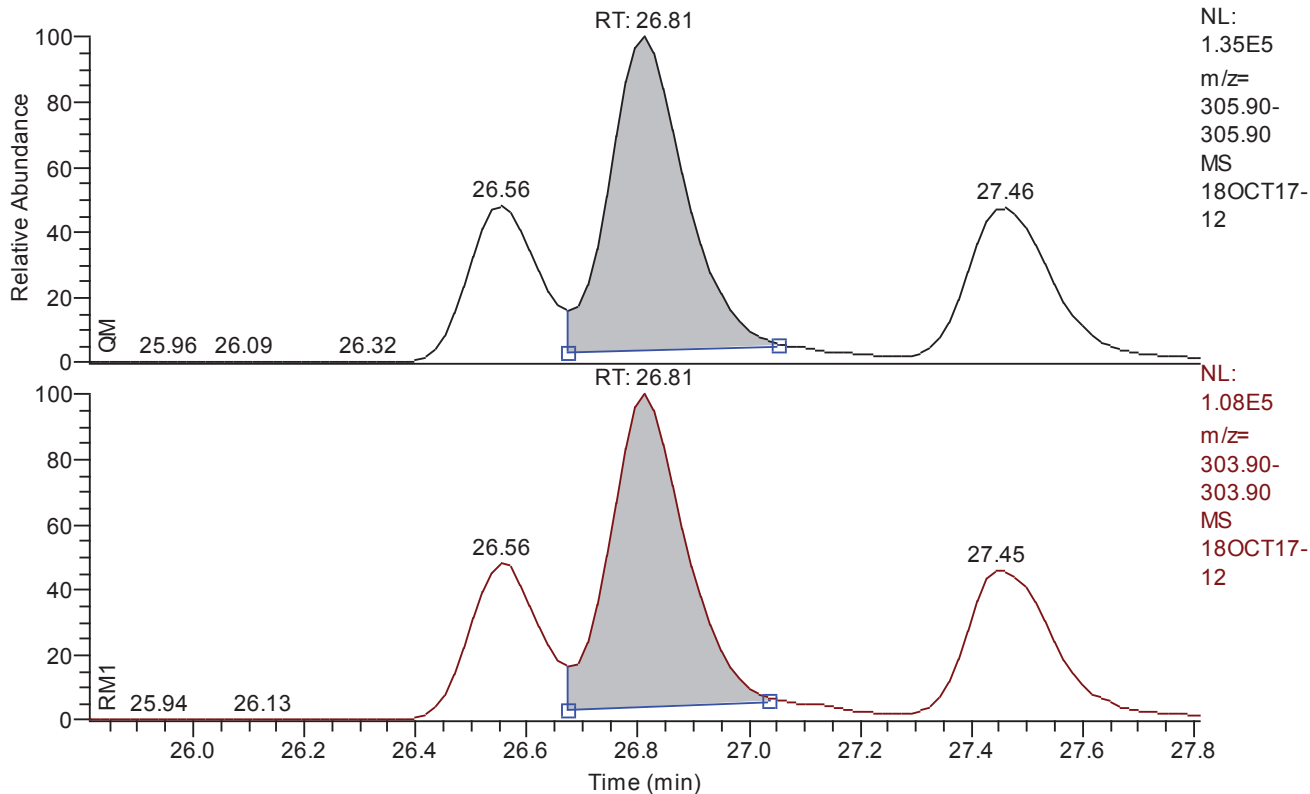
Quan y:\18oct17conf\18oct17-12.quan  
Data y:\18oct17conf\18oct17-12.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

### Chromatogram

RT: 25.81 - 27.81 SM: 3G

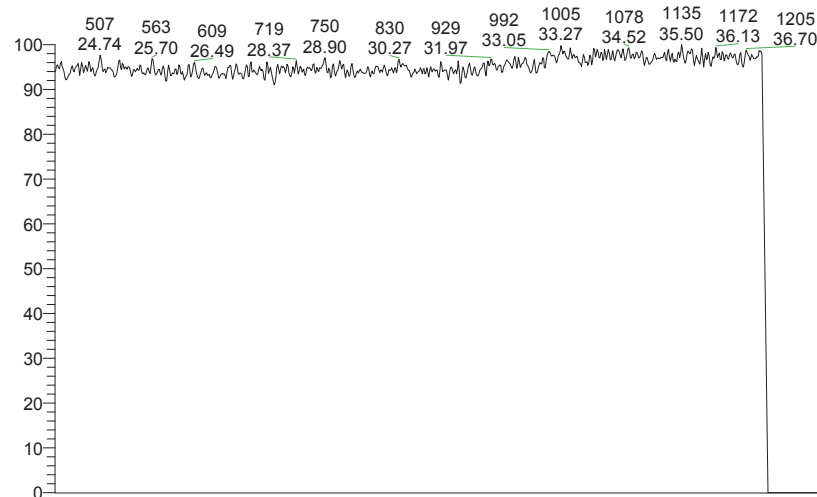


Entry: 2378-TCDF IS: 13C12-2378-TCDF

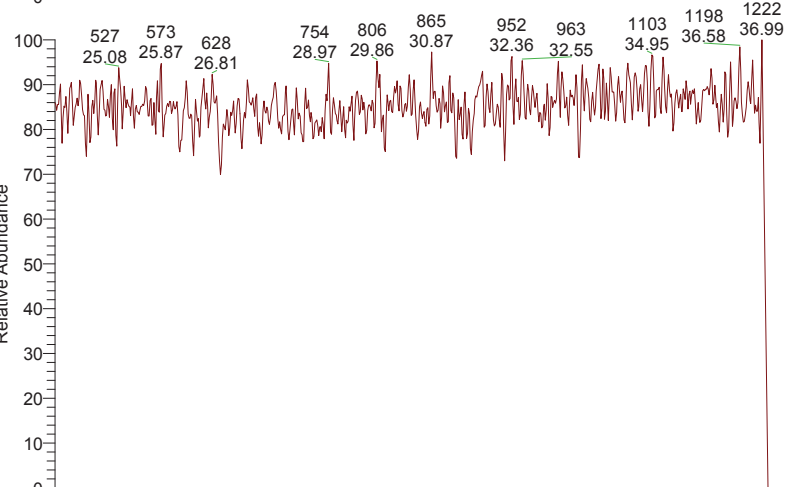
### Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	1
QM Retention Time	26.81
QM Left Baseline Height	3948.84
QM Height	130101
QM Right Height	0
GC Res (%) left	13.678143

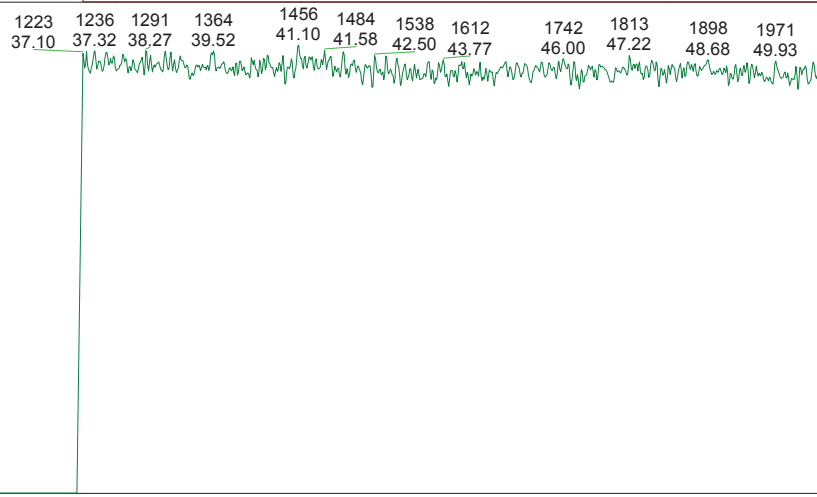
RT: 23.90 - 51.00



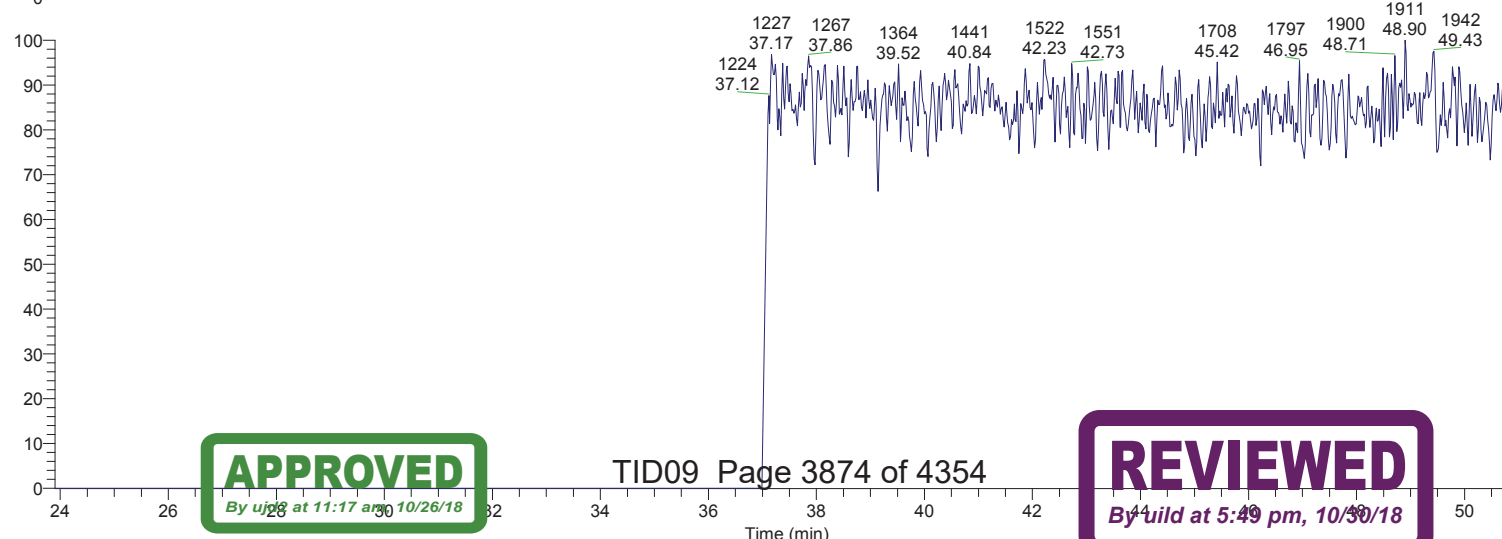
NL:  
8.15E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
12



NL:  
4.56E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
12



NL:  
5.01E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
12



NL:  
4.45E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
12

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:49 pm, 10/30/18

\*\*\* file opened Thu Oct 18 15:19:24 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 15:19:23

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window # 1	mass	F	int	gr	time (ms)
	280.9819	1	10	1	12
	303.9016	1	1	1	122
	305.8987	1	1	1	122
	315.9419	2	1	1	61
	317.9389	2	1	1	61
	331.9368	2	1	1	61
	333.9339	2	1	1	61
	339.8597	1	1	1	122
	341.8567	1	1	1	122
	351.9000	2	1	1	61
	353.8970	2	1	1	61
	354.9792	c	10	1	12
Window # 2					
	330.9792	1	10	1	9
	339.8597	1	1	1	95
	341.8567	1	1	1	95
	351.9000	2	1	1	47
	353.8970	2	1	1	47
	373.8208	1	1	1	95
	375.8178	1	1	1	95
	383.8639	2	1	1	47
	385.8610	2	1	1	47
	401.8559	2	1	1	47
	403.8529	2	1	1	47
	404.9760	c	10	1	9
	417.8253	1	1	1	95
	419.8220	1	1	1	95



18OCT17-12

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	235.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	EXSBR	-0.6000
ENBR	6.5500	ERATIO	1.0000	FLENS	1.0000
ESTIPAR	0.0000	EXS	176.0000	FQUAD	5.3500
FDMA	18000000.0000	FILTER	100.0000	FVSR	36000000.0000
FM	50.0000	FMTI	50.0000	FVSR	0.0322
FOUADGAIN	1.0000	FREQ	0.0336	HVANA	0.0000
FVAL	0.0161	FVINLET	0.0000	ICALL	0.4030
FWIN	0.7000	HCURR	0.0011	IST	0.0000
HVSR	0.0000	ICALO	0.0000	LENS_POT	738.0000
ICAL2	0.5865	IONEN	260.0000	LIMIT	500.0000
ISTC	260.0000	ISTS	330.9792	MASS	99.0000
LENS_SYM	13.3000	LM	1614.4523	NSAM	200.0000
LMASS	99.0000	LKM	8.0000	NSMIN	66.0000
MDCAN	963202.2819	MRANGE	-2.0000	PSAM	10.0000
NSCAN	2130.0000	NSMAX	0.9695	RELEN	0.0000
NPEAK	14.0000	MULT	-15.8168	RDRAW	0.0000
PUSHER	-16.0000	RECURR	2.0000	SCIDLE	0.0000
RES	10605.0684	RPUSHER	0.0000	SHIGH	180.0000
RDRWC	0.0000	RWIN	60.0000	SS	2.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	TCURR	0.0000
SKIM	7.0000	SLOW	33.4574	THRESH	2.0000
SW	0.0196	TANAL	120.0000	TSAM	200.0000
TD	30.0000	TS	0.0000	UROT	0.0000
TIS	0.2000	TREF	150.0000	XLENS_POT	190.0000
TSET	0.0000	TUBEL	99.0000	YLENS_SYM	-1.5000
USERVAR	0.0000	UTQL	724.0000		
UTQ3	80.0000	VMASS			
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.5e-008 mbar  
Pirani Analyze: 1.6e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10285.  
MID Time Window 2: Resolution is 10605.

Amplifier Offset: 88.

\*\*\* File closed Thu Oct 18 16:11:55 2018  
\*\*\*

DF18471-18OCT17ConfICAL									
Compound Name	RF Area	RF Area	RF Area	RF Area	RF Area	RF Area	Average	Std Dev	% RSD
	18OCT17-14	18OCT17-15	18OCT17-16	18OCT17-17	18OCT17-18	18OCT17-19			
2378-TCDF	1.0354	0.9830	1.0027	1.0255	1.0124	1.0497	1.0181	0.0239	2.35
13C12-1234-TCDD	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	0.0000	0.00
13C12-2378-TCDF	2.0584	1.9586	2.0822	1.9822	2.0203	2.1255	2.0379	0.0629	3.08





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 17:20  
Number of Entries 3  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18oct17conf\18oct17-14.quan  
Data y:\18oct17conf\18oct17-14.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.86	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.76	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 17:20  
Number of Entries 3  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

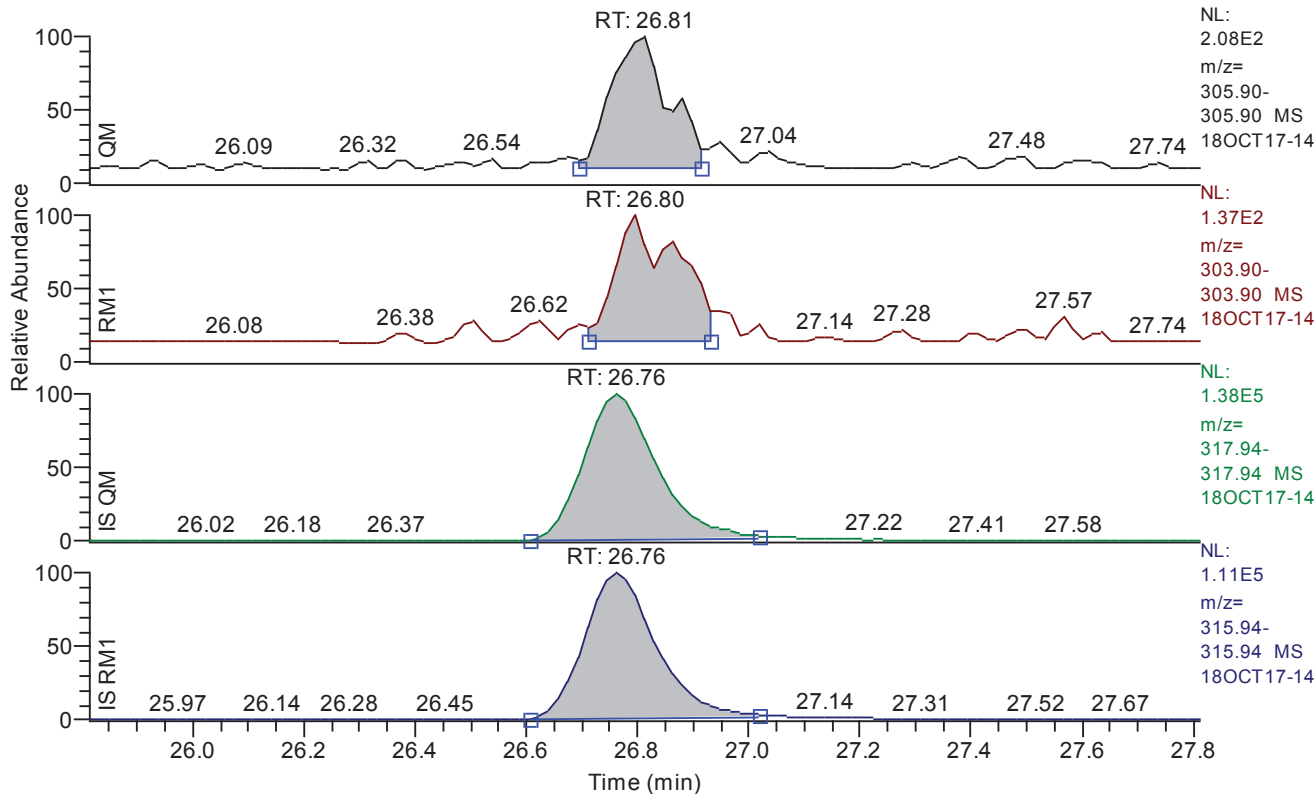
Quan y:\18oct17conf\18oct17-14.quan  
Data y:\18oct17conf\18oct17-14.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	1352
QM Integration Mode	M
RM1 Area	933
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0094
Unqualified Amount (A)	0.100000
Adjusted Amount (A)	0.1000
Signal-to-Noise	32
Client Flags	
Status Overview	passed
Status Info	

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 17:20  
Number of Entries 3  
Comment  
Vial 3  
Sample Name CALDF11837C  
Sample ID CSL01  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

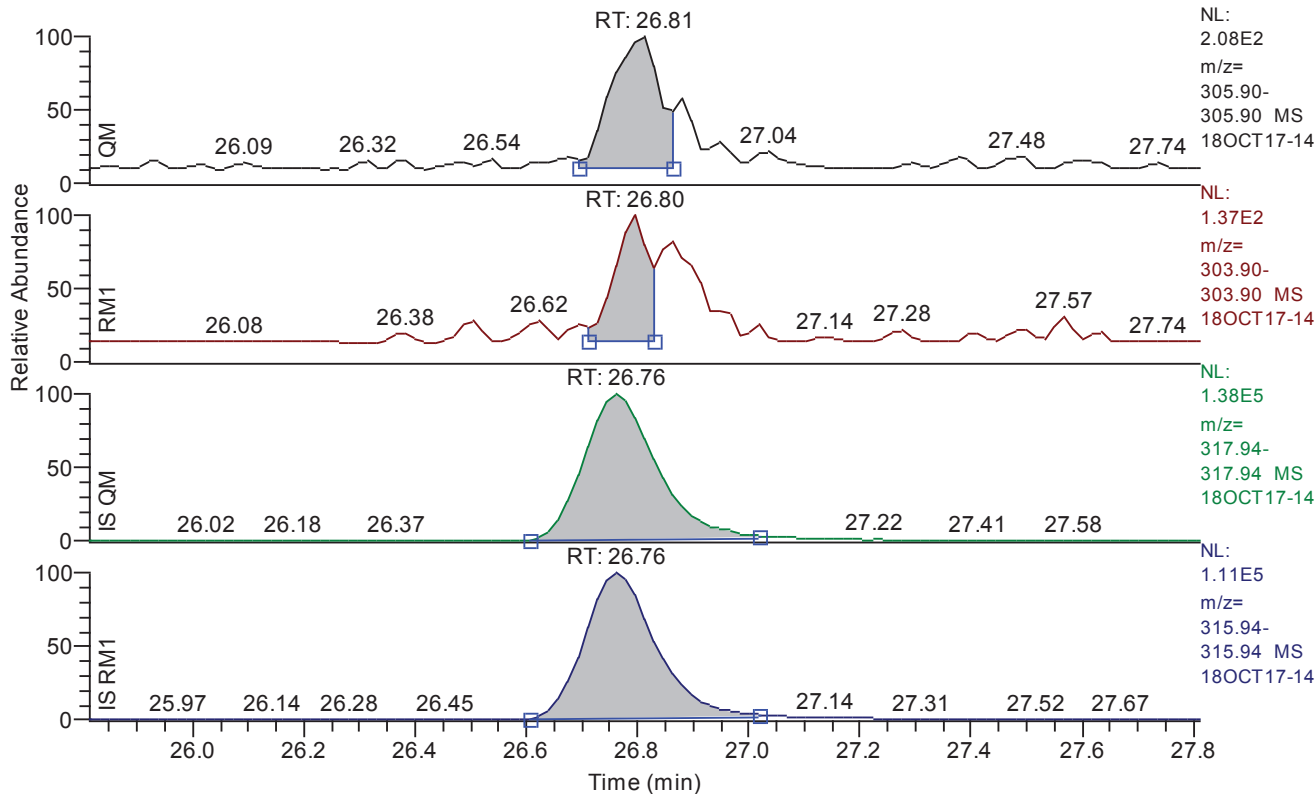
Quan y:\18oct17conf\18oct17-14.quan  
Data y:\18oct17conf\18oct17-14.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	1126
QM Integration Mode	A
RM1 Area	493
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0094
Unqualified Amount (A)	0.070894
Adjusted Amount (A)	n.d.
Signal-to-Noise	32
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.80	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.86	24.86	24.86	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.76	26.76	26.76	passed	passed

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.6900	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.86	0.8010	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.76	0.7946	0.6450 - 0.8950	passed	100.00	0 - 0	passed

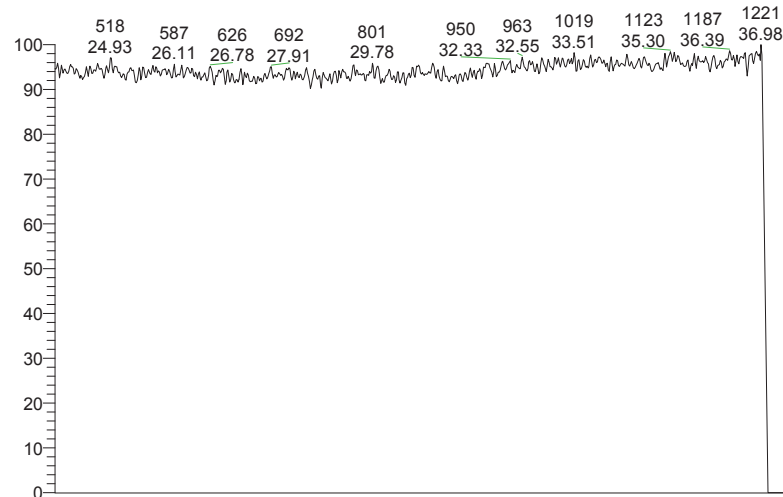


**Entry Parameters**

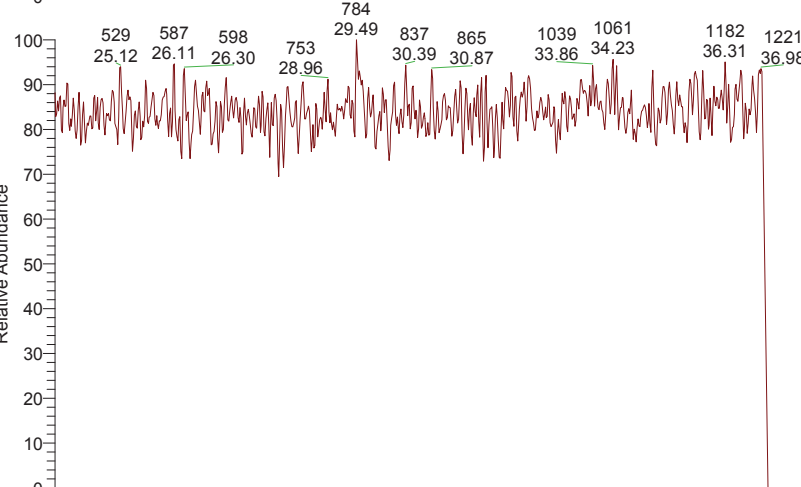
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	1352	M	933	M	0.009423	0.100000	0.1000	0.1	32
2	13C12-1234-TCDD	passed	24.86	595072	A	476656	A	0.116997	100.000000	100.0000	100.0	2137
3	13C12-2378-TCDF	passed	26.76	1229285	A	976795	A	0.042800	100.000000	100.0000	100.0	5373



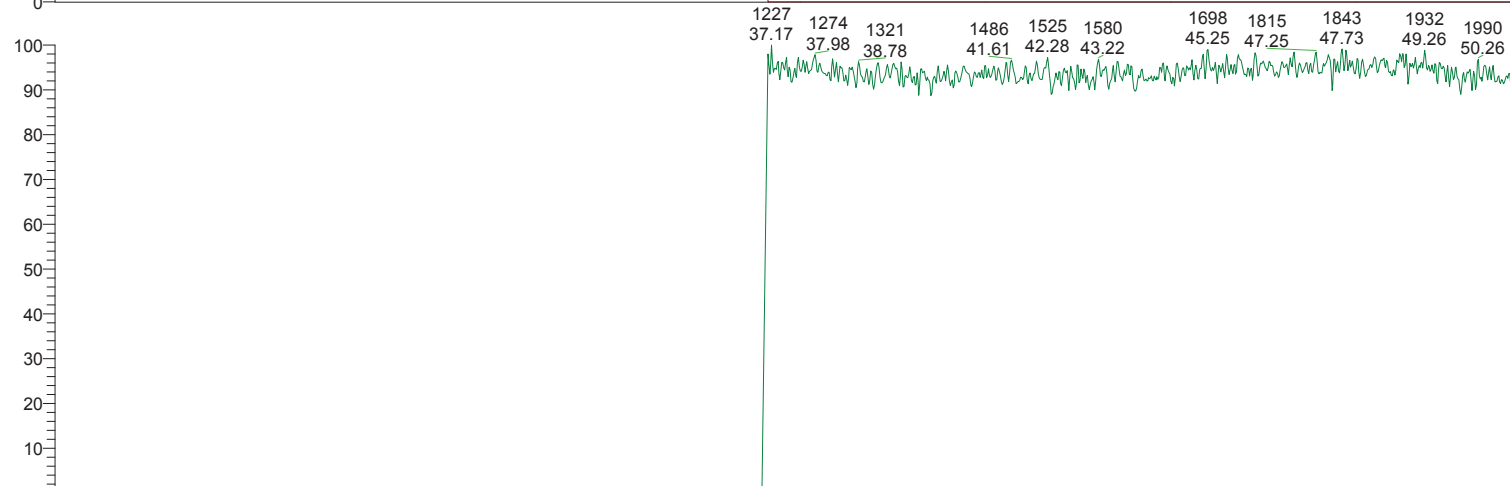
RT: 23.90 - 51.00



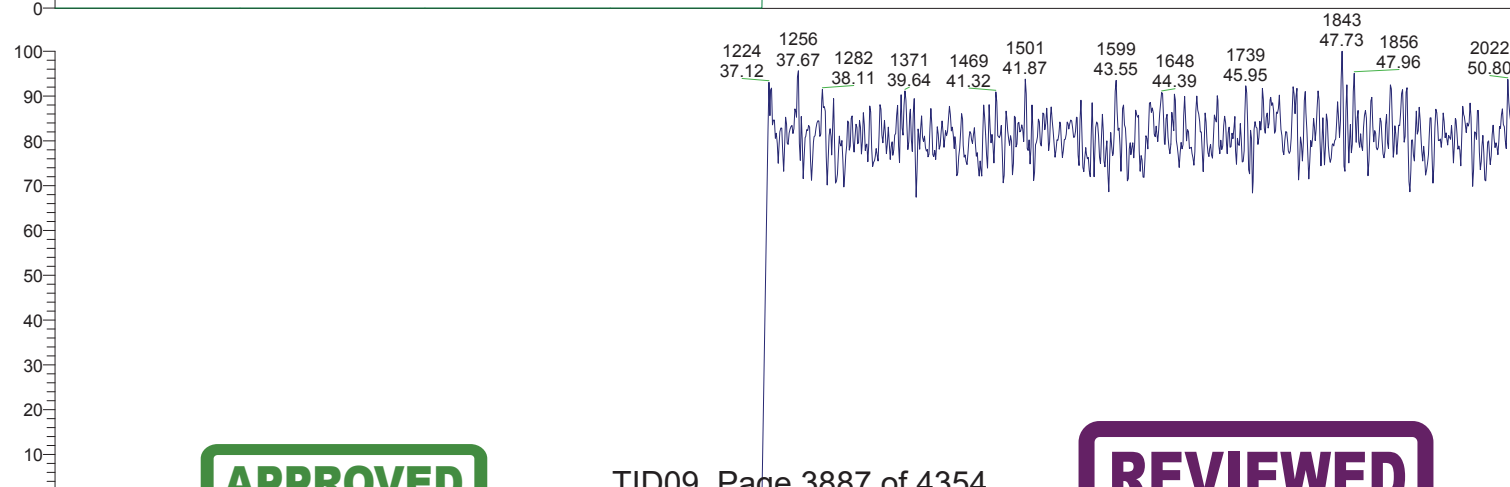
NL:  
7.51E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
14



NL:  
4.19E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
14



NL:  
4.63E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
14



NL:  
4.27E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
14

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:49 pm, 10/30/18

Time (min)

\*\*\* file opened Thu Oct 18 17:25:13 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 17:25:12

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window # 1	mass	F	int	gr	time (ms)
	280.9819	1	10	1	12
	303.9016	1	1	1	122
	305.8987	1	1	1	122
	315.9419	2	1	1	61
	317.9389	2	1	1	61
	331.9368	2	1	1	61
	333.9339	2	1	1	61
	339.8597	1	1	1	122
	341.8567	1	1	1	122
	351.9000	2	1	1	61
	353.8970	2	1	1	61
	354.9792	c	10	1	12
Window # 2					
	330.9792	1	10	1	9
	339.8597	1	1	1	95
	341.8567	1	1	1	95
	351.9000	2	1	1	47
	353.8970	2	1	1	47
	373.8208	1	1	1	95
	375.8178	1	1	1	95
	383.8639	2	1	1	47
	385.8610	2	1	1	47
	401.8559	2	1	1	47
	403.8529	2	1	1	47
	404.9760	c	10	1	9
	417.8253	1	1	1	95
	419.8220	1	1	1	95



18OCT17-14

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	1.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	EDACZ	116.0000
EDAC	7969177.0000	EDACG	1.0000	ENS	234.0000
ELEN	-50.0000	EMULT	1688.0000	ESA	679.0600
ENBR	6.5500	ERATIO	1.0000	EXSBR	-0.6000
ESTIPAR	0.0000	EXS	175.0000	FLENS	1.0000
FDMA	18000000.0000	FILTER	100.0000	FQUAD	5.3500
FM	50.0000	FMTI	50.0000	FSLOPE	36000000.0000
FOUADGAIN	1.0000	FREQ	400.0000	FVSR	0.0320
FVAL	0.0168	FVINLET	0.0335	HVANA	0.0000
FWIN	0.7000	HCURR	0.0000	ICALL	0.4030
HVSR	0.0000	ICALO	0.0011	IST	0.0000
ICAL2	0.5865	IONEN	0.0000	LENS_POT	738.0000
ISTC	260.0000	ISTS	260.0000	LMI	500.0000
LENS_SYM	13.3000	LM	650.0000	MASS	98.0000
LMASS	98.0000	LKM	330.9792	NSAM	200.0000
MDCAN	952350.6733	MRANGE	1614.4523	NSMIN	66.0000
NSCAN	2130.0000	NSMAX	8.0000	PSAM	10.0000
NPEAK	14.0000	MULT	-2.0000	RELEN	0.0000
PUSHER	-16.0000	RECURR	0.9675	RDRAW	0.0000
RES	10973.0305	RPUSHER	-15.7875	SCIDLE	0.0000
RDRWC	0.0000	RWIN	2.0000	SHIGH	180.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	SS	2.0000
SKIM	7.0000	SLOW	60.0000	TCURR	0.0000
SW	0.0196	TANAL	33.4574	THRESH	2.0000
TD	30.0000	TS	120.0000	TSAM	200.0000
TIS	0.2000	TREF	0.0000	UROT	0.0000
TSET	0.0000	TUBEL	150.0000	XLENS_POT	190.0000
USERVAR	0.0000	UTQL	98.0000	YLENS_SYM	-1.5000
UTQ3	80.0000	VMASS	724.0000		
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.6e-008 mbar  
Pirani Analyze: 1.7e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10675.  
MID Time Window 2: Resolution is 10973.

Amplifier Offset: 88.

\*\*\* File closed Thu Oct 18 18:17:44 2018  
\*\*\*

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/10/18 18:23
Number of Entries	3
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	y:\18oct17conf\18oct17-15.quan
Data	y:\18oct17conf\18oct17-15.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.89	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/10/18 18:23
Number of Entries	3
Comment	
Vial	4
Sample Name	CALDF21837C
Sample ID	CS101
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

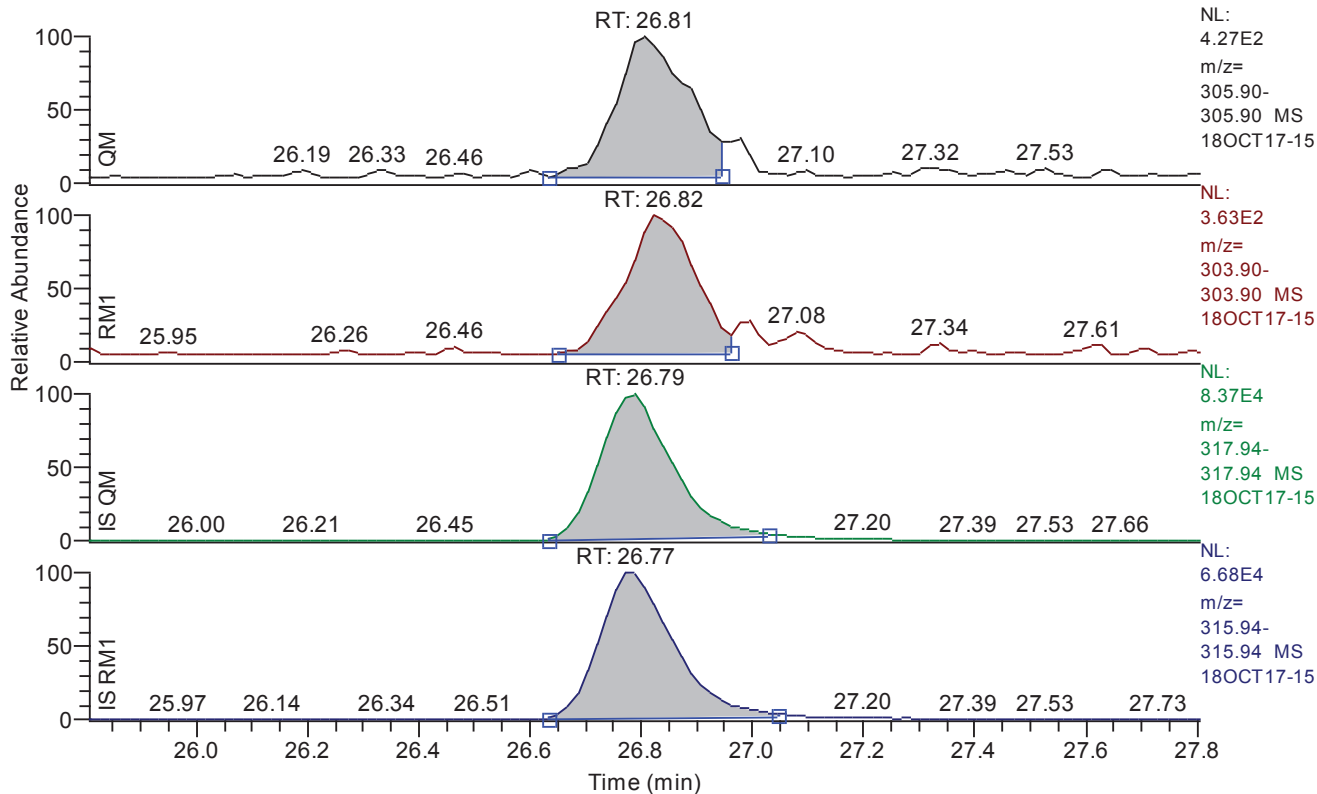
Quan	y:\18oct17conf\18oct17-15.quan
Data	y:\18oct17conf\18oct17-15.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Chromatogram**

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	3673
QM Integration Mode	A
RM1 Area	2995
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0180
Unqualified Amount (A)	0.500000
Adjusted Amount (A)	0.5000
Signal-to-Noise	71
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.82	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.89	24.89	24.87	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.79	26.79	26.77	passed	passed

**Entry Parameters**

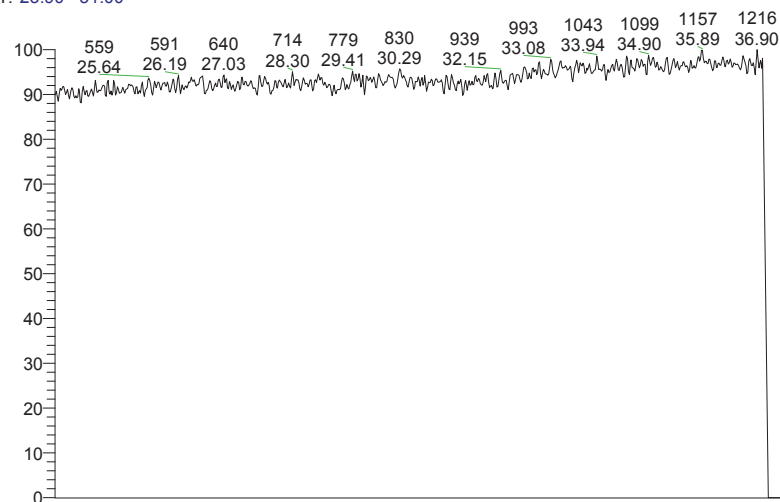
No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.8154	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.89	0.8452	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.79	0.8162	0.6450 - 0.8950	passed	100.00	0 - 0	passed

**Entry Parameters**

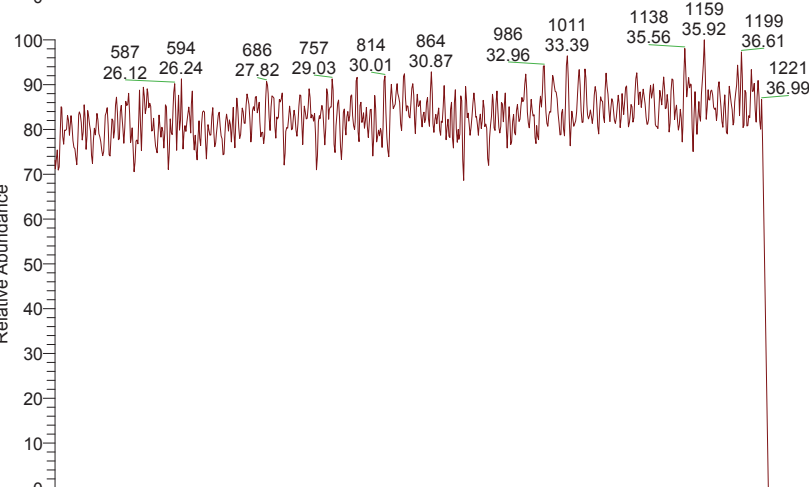
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	3673	A	2995	A	0.018006	0.500000	0.5000	0.5	71
2	13C12-1234-TCDD	passed	24.89	375361	A	317250	A	0.159423	100.000000	100.0000	100.0	1568
3	13C12-2378-TCDF	passed	26.79	746912	A	609621	A	0.074500	100.000000	100.0000	100.0	3100



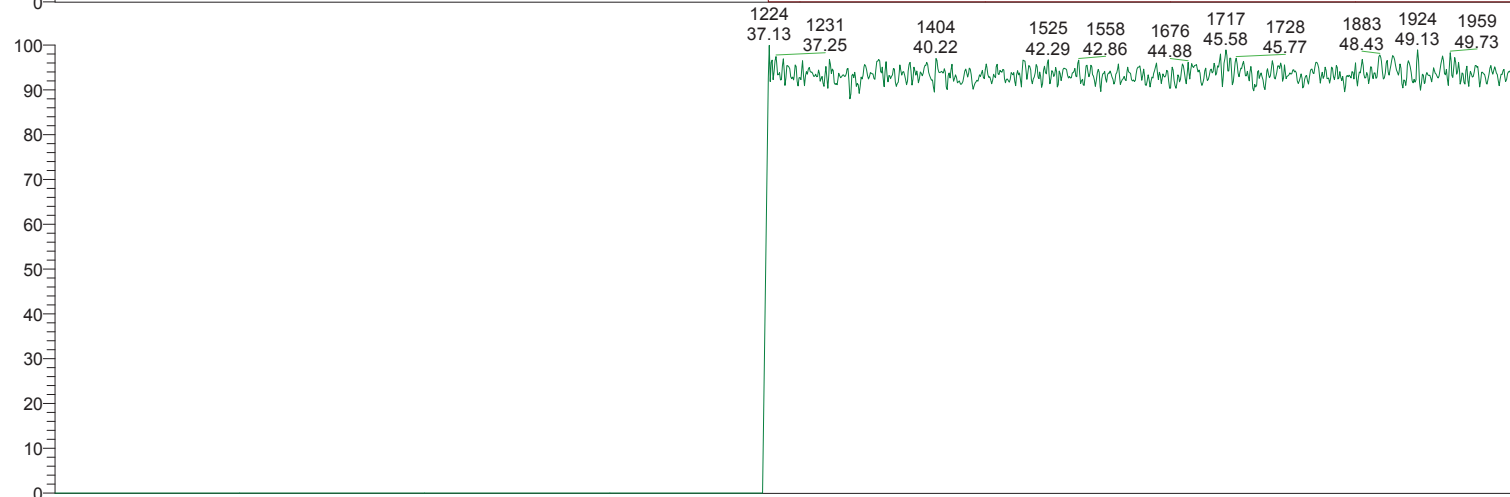
RT: 23.90 - 51.00



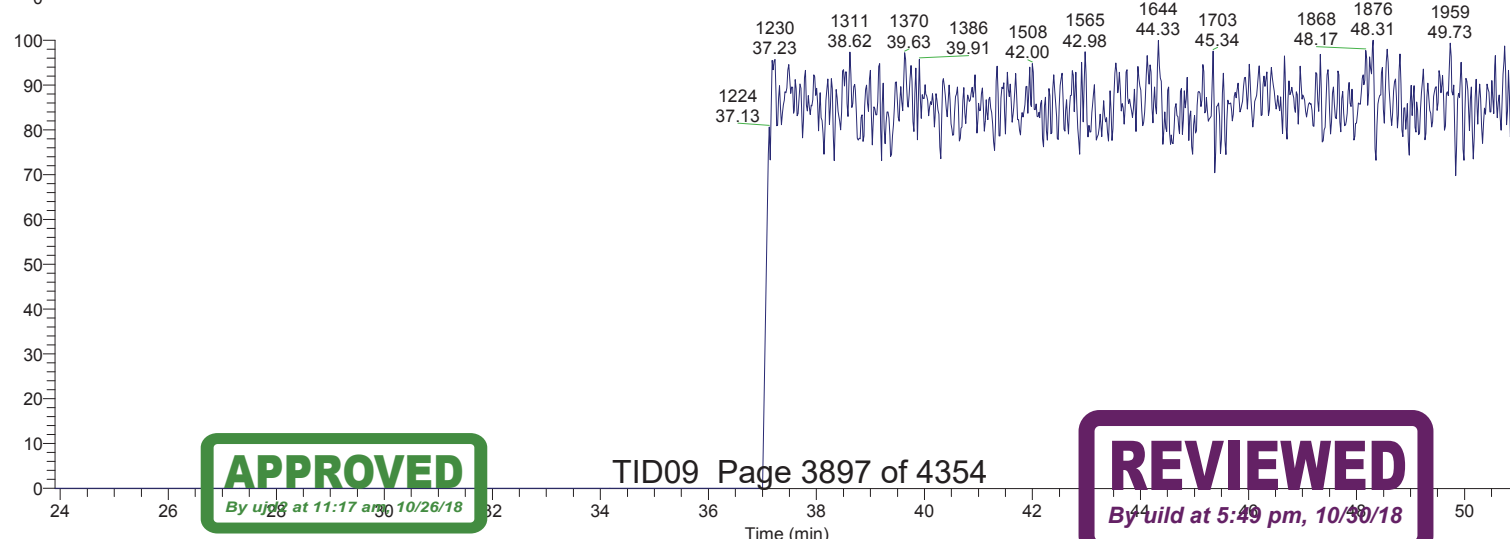
NL:  
7.52E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
15



NL:  
4.20E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
15



NL:  
4.71E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
15



NL:  
4.08E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
15

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:49 pm, 10/30/18

\*\*\* file opened Thu Oct 18 18:27:54 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 18:27:54

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
1	280.9819	1	10	1	12
1	303.9016	1	1	1	122
1	305.8987	1	1	1	122
2	315.9419	2	1	1	61
2	317.9389	2	1	1	61
2	331.9368	2	1	1	61
2	333.9339	2	1	1	61
1	339.8597	1	1	1	122
1	341.8567	1	1	1	122
2	351.9000	2	1	1	61
2	353.8970	2	1	1	61
10	354.9792	c	10	1	12
2	330.9792	F	10	1	9
1	339.8597	1	1	1	95
1	341.8567	1	1	1	95
2	351.9000	2	1	1	47
2	353.8970	2	1	1	47
1	373.8208	1	1	1	95
1	375.8178	1	1	1	95
2	383.8639	2	1	1	47
2	385.8610	2	1	1	47
2	401.8559	2	1	1	47
2	403.8529	2	1	1	47
10	404.9760	c	10	1	9
1	417.8253	1	1	1	95
1	419.8220	1	1	1	95



18OCT17-15

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	97.5000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	234.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	EXSBR	-0.6000
ENBR	6.5500	ERATIO	1.0000	FLENS	1.0000
ESTIPAR	0.0000	EXS	175.0000	FQUAD	5.3500
FDMA	18000000.0000	FILTER	100.0000	FVSR	36000000.0000
FM	50.0000	FMTI	50.0000	FVSR	0.0322
FOUADGAIN	1.0000	FREQ	0.0336	HVANA	0.0000
FVAL	0.0176	FVINLET	0.0000	ICALL	0.4030
FWIN	0.7000	HCURR	0.0011	IST	0.0000
HVSR	0.0000	ICALO	0.0000	LENS_POT	738.0000
ICAL2	0.5865	IONEN	260.0000	LIMIT	500.0000
ISTC	260.0000	ISTS	650.0000	MASS	97.5000
LENS_SYM	13.3000	LM	330.9792	NSAM	200.0000
LMASS	97.5000	LKM	1614.4523	NSMIN	66.0000
MDAC	946908.7264	MRANGE	8.0000	PSAM	10.0000
NSCAN	2130.0000	NSMAX	-2.0000	RELEN	0.0000
NPEAK	14.0000	MULT	0.9714	RDRAW	0.0000
PUSHER	-16.0000	RECURR	-15.8022	SCIDLE	0.0000
RES	10930.4592	RPUSHER	2.0000	SHIGH	180.0000
RDRWC	0.0000	RWIN	0.0000	SS	2.0000
SHIELD_POT	726.0000	SHIELD_SYM	60.0000	TCURR	0.0000
SKIM	7.0000	SLOW	33.4574	THRESH	2.0000
SW	0.0196	TANAL	120.0000	TSAM	200.0000
TD	30.0000	TS	0.0000	UROT	0.0000
TIS	0.2000	TREF	150.0000	XLENS_POT	190.0000
TSET	0.0000	TUBEL	724.0000	YLENS_SYM	-1.5000
USERVAR	0.0000	UTQL			
UTQ3	80.0000	VMASS			
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.6e-008 mbar  
Pirani Analyze: 1.8e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10648.  
MID Time Window 2: Resolution is 10930.

Amplifier Offset: 88.

\*\*\* File closed Thu Oct 18 19:20:26 2018  
\*\*\*

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/10/18 19:26
Number of Entries	3
Comment	
Vial	5
Sample Name	CALDF31837B
Sample ID	CS201
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

Quan	y:\18oct17conf\18oct17-16.quan
Data	y:\18oct17conf\18oct17-16.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.37	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.74	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 19:26  
Number of Entries 3  
Comment  
Vial 5  
Sample Name CALDF31837B  
Sample ID CS201  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

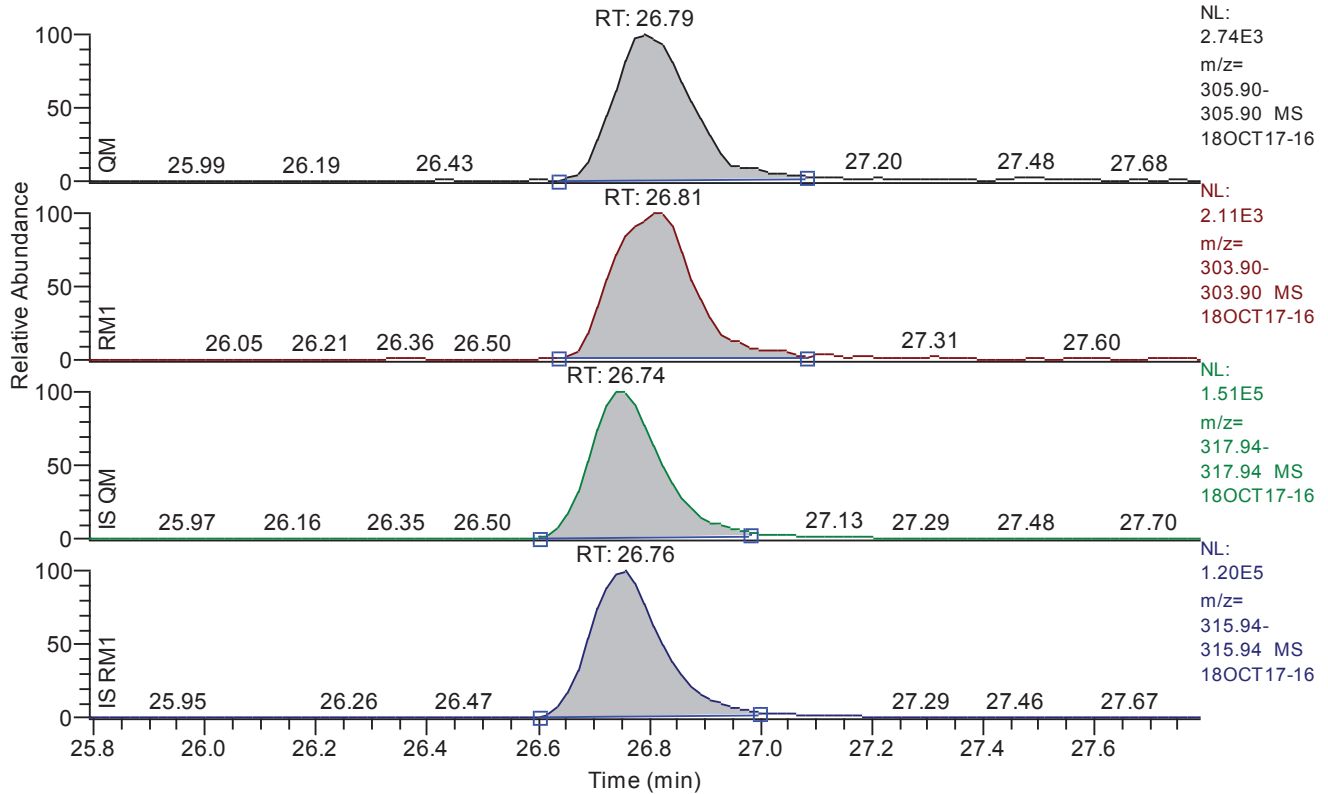
Quan y:\18oct17conf\18oct17-16.quan  
Data y:\18oct17conf\18oct17-16.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.79 - 27.79 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.79
QM Area	26249
QM Integration Mode	A
RM1 Area	21476
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0127
Unqualified Amount (A)	2.000000
Adjusted Amount (A)	2.0000
Signal-to-Noise	350
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.79	26.79	26.81	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.37	24.37	24.37	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.74	26.74	26.76	passed	passed

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.79	0.8182	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.37	0.7816	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.74	0.7968	0.6450 - 0.8950	passed	100.00	0 - 0	passed

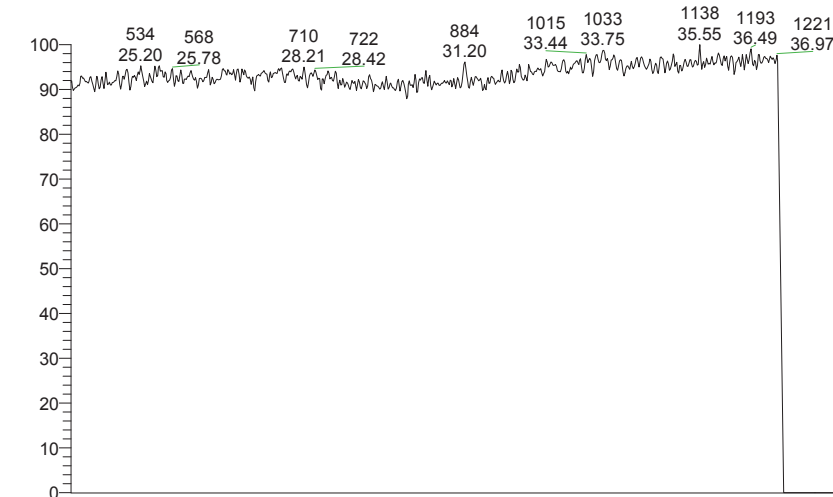
**Entry Parameters**

No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.79	26249	A	21476	A	0.012749	2.000000	2.0000	2.0	350
2	13C12-1234-TCDD	passed	24.37	641529	A	501430	A	0.102481	100.000000	100.0000	100.0	2439
3	13C12-2378-TCDF	passed	26.74	1324524	A	1055320	A	0.045428	100.000000	100.0000	100.0	5099

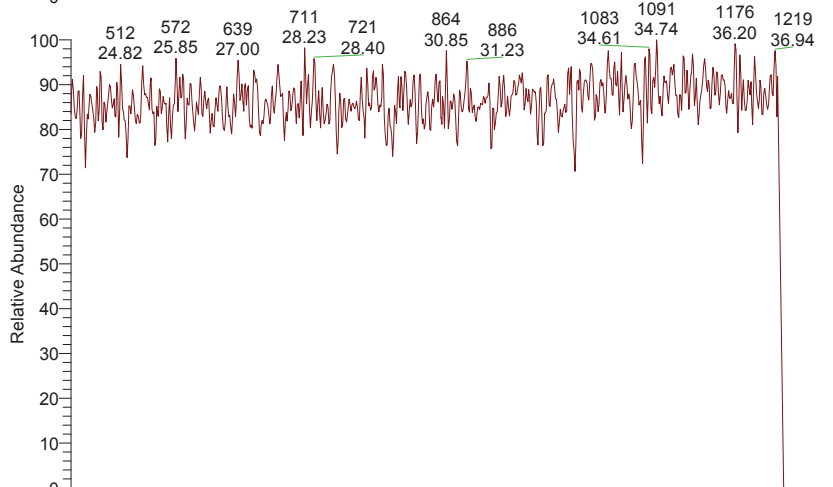


RT: 23.90 - 51.00

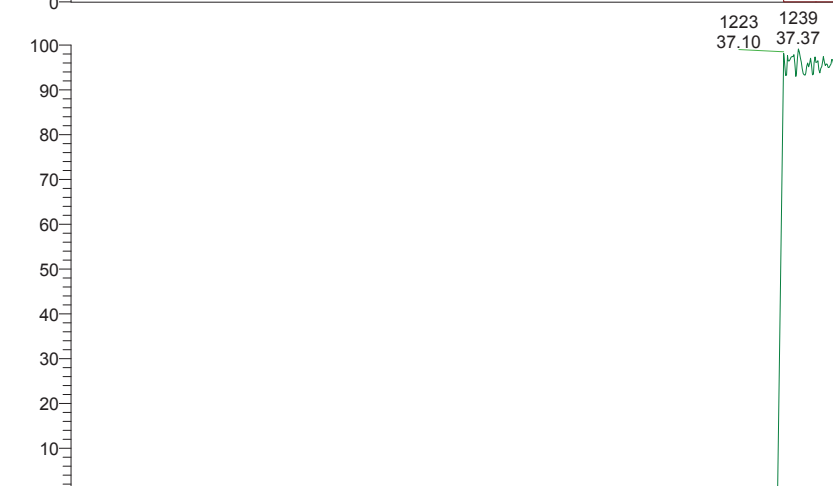
NL:  
7.48E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
16



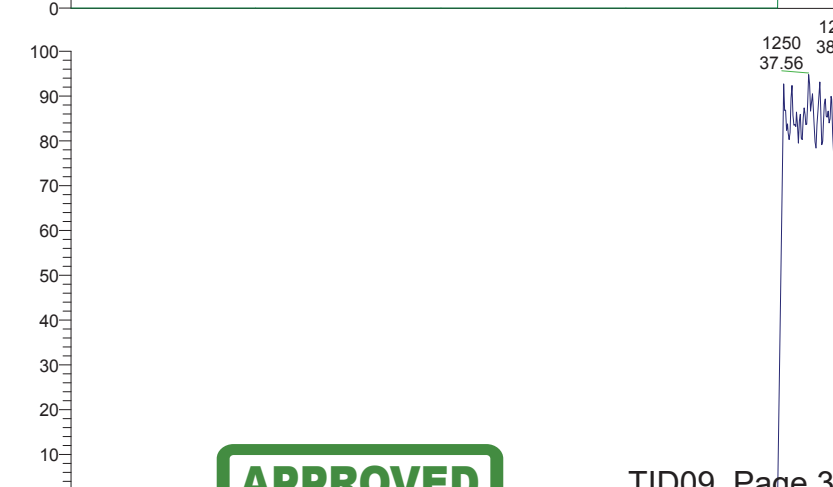
NL:  
4.01E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
16



NL:  
4.55E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
16



NL:  
4.07E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
16



**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By build at 5:49 pm, 10/30/18

Time (min)

18OCT17-16

\*\*\* file opened Thu Oct 18 19:30:39 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 19:30:38

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End Cycles

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window #	1	2
mass	280.9819	330.9792
F	10	10
int	1	1
gr	1	1
time (ms)	12	9
280.9819	1	95
303.9016	1	95
305.8987	1	95
315.9419	2	47
317.9389	2	47
331.9368	2	47
333.9339	2	47
339.8597	1	95
341.8567	1	95
351.9000	2	47
353.8970	2	47
354.9792	c 10	1
Window #	2	
mass	330.9792	403.8529
F	10	10
int	1	1
gr	1	1
time (ms)	9	9
330.9792	1	95
339.8597	1	95
341.8567	2	47
351.9000	2	47
353.8970	2	47
373.8208	1	95
375.8178	1	95
383.8639	2	47
385.8610	2	47
401.8559	2	47
403.8529	2	47
404.9760	c 10	1
417.8253	1	95
419.8220	1	95



18OCT17-16

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	97.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	234.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	FLENS	1.0000
ENBR	6.5500	ERATIO	1.0000	FQUAD	5.3500
ESTIPAR	0.0000	EXS	175.0000	FVSR	36000000.0000
FDMA	18000000.0000	FILTER	100.0000	FVSR	0.0316
FM	50.0000	FMTI	50.0000	HVANA	0.0000
FOUADGAIN	1.0000	FREQ	0.0338	ICALL	0.4030
FVAL	0.0175	FVINLET	0.0000	IST	0.0000
FWIN	0.7000	HCURR	0.0000	LENS_POT	738.0000
HVSR	0.0000	ICALO	0.0011	LMI	500.0000
ICAL2	0.5865	IONEN	0.0000	MASS	97.0000
ISTC	260.0000	ISTS	260.0000	NSAM	200.0000
LENS_SYM	13.3000	LM	650.0000	NSMIN	66.0000
LMASS	97.0000	LKM	330.9792	PSAM	10.0000
MDCAN	941456.7510	MRANGE	1614.4523	RELEN	0.0000
NSCAN	2130.0000	NSMAX	8.0000	RDRAW	0.0000
NPEAK	14.0000	MULT	-2.0000	SCIDLE	0.0000
PUSHER	-16.0000	RECURR	0.9680	SHIGH	180.0000
RES	11080.5089	RPUSHER	-15.8168	SS	2.0000
RDRWC	0.0000	RWIN	2.0000	TCURR	0.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	THRESH	2.0000
SKIM	7.0000	SLOW	60.0000	TSAM	200.0000
SW	0.0196	TANAL	33.4574	UROT	0.0000
TD	30.0000	TS	120.0000	UTQ2	190.0000
TIS	0.2000	TREF	0.0000	XLENS_POT	928.0000
TSET	0.0000	TUBEL	150.0000	YLENS_SYM	-1.5000
USERVAR	0.0000	UTQL	724.0000		
UTQ3	80.0000	VMASS			
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
 Analyzer Penning: 8.5e-008 mbar  
 Pirani Analyze: 1.8e-002 mbar  
 Pirani Source: 3.2e-002 mbar  
 Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10408.  
MID Time Window 2: Resolution is 11080.

Amplifier Offset: 88.

\*\*\* File closed Thu Oct 18 20:23:10 2018  
\*\*\*





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 20:28  
Number of Entries 3  
Comment  
Vial 6  
Sample Name CALDF41837H  
Sample ID CS301  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18oct17conf\18oct17-17.quan  
Data y:\18oct17conf\18oct17-17.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.81	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.85	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 20:28  
Number of Entries 3  
Comment  
Vial 6  
Sample Name CALDF41837H  
Sample ID CS301  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

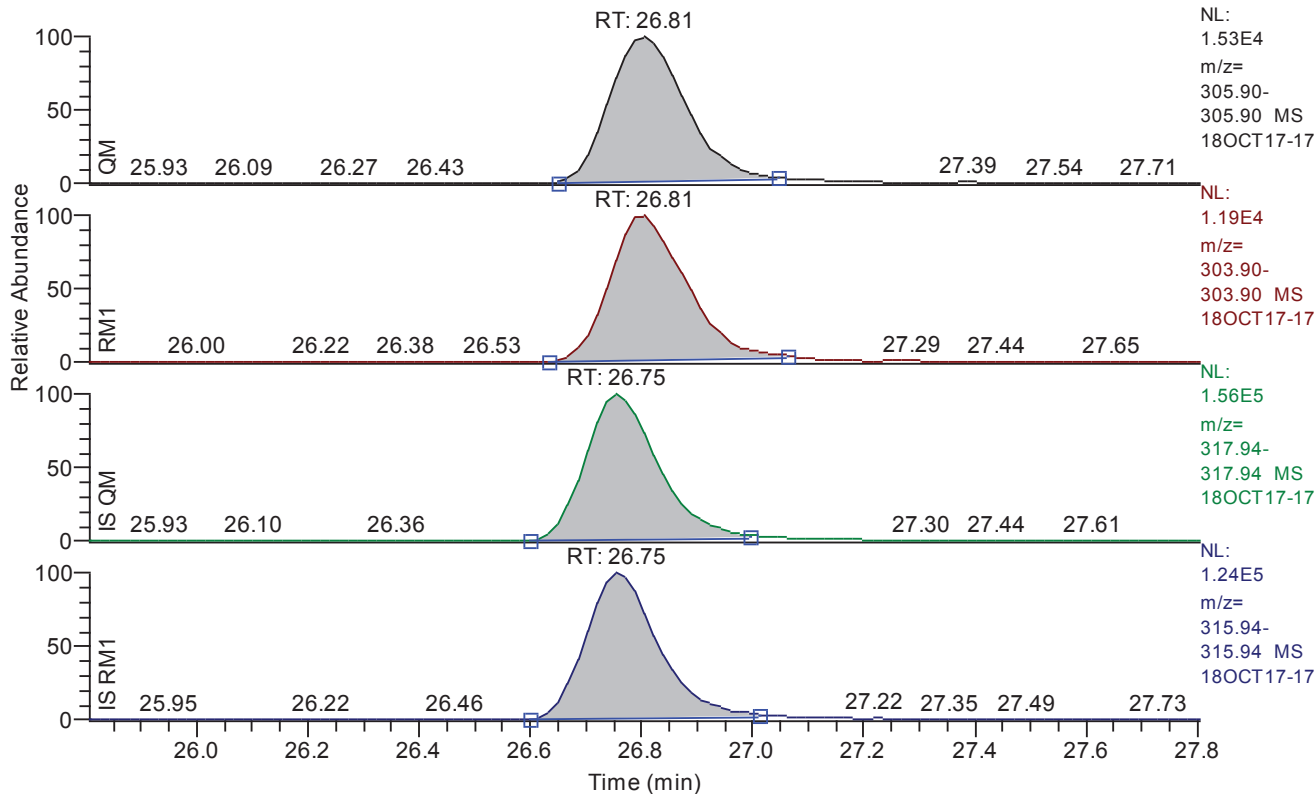
Quan y:\18oct17conf\18oct17-17.quan  
Data y:\18oct17conf\18oct17-17.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.81 - 27.81 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.81
QM Area	143171
QM Integration Mode	A
RM1 Area	111669
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0199
Unqualified Amount (A)	10.000000
Adjusted Amount (A)	10.0000
Signal-to-Noise	1186
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.81	26.81	26.81	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.85	24.85	24.85	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.75	26.75	26.75	passed	passed

**Entry Parameters**

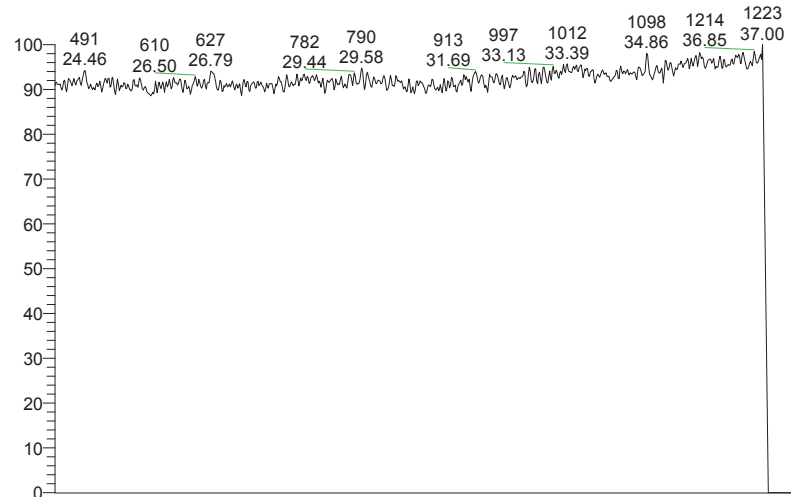
No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.81	0.7800	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.85	0.8103	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.75	0.7872	0.6450 - 0.8950	passed	100.00	0 - 0	passed

**Entry Parameters**

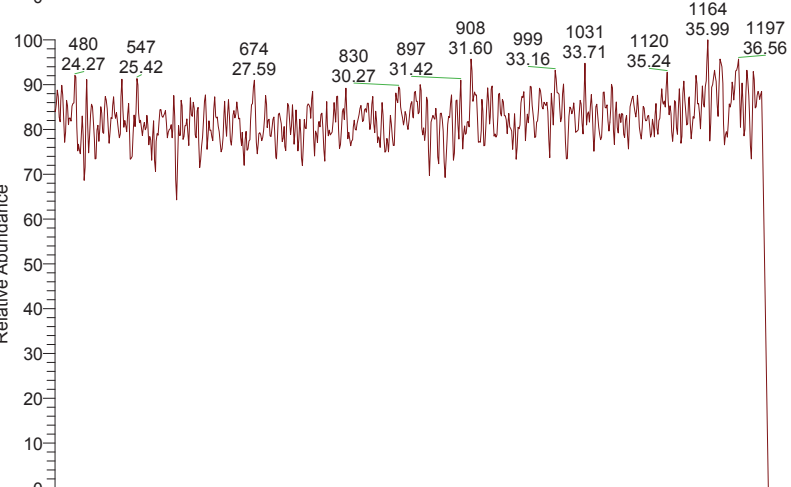
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.81	143171	A	111669	A	0.019885	10.000000	10.0000	10.0	1186
2	13C12-1234-TCDD	passed	24.85	692509	A	561162	A	0.105905	100.000000	100.0000	100.0	2361
3	13C12-2378-TCDF	passed	26.75	1390450	A	1094626	A	0.041227	100.000000	100.0000	100.0	5694



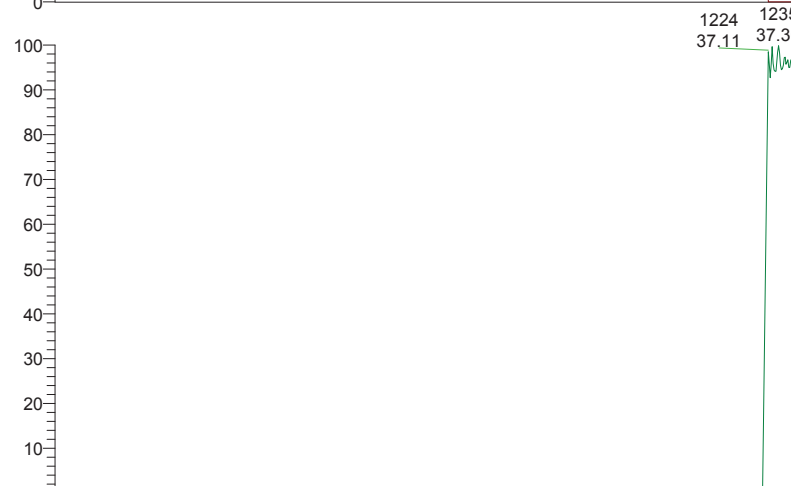
RT: 23.90 - 51.00



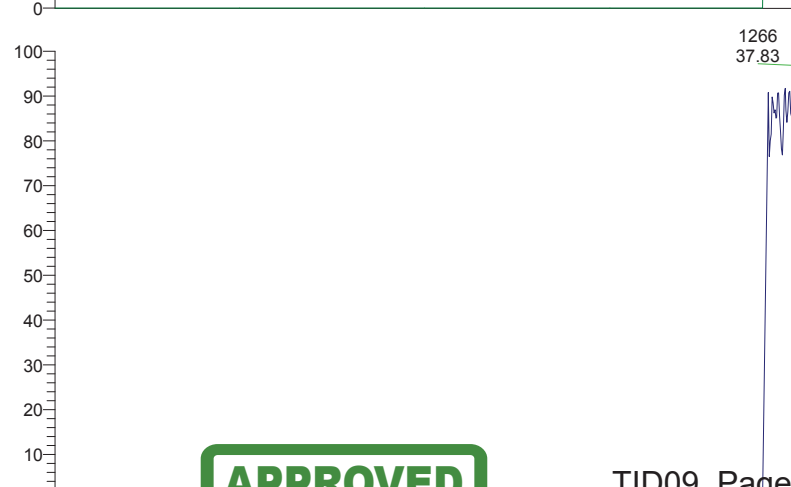
NL:  
7.54E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
17



NL:  
4.20E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
17



NL:  
4.61E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
17



NL:  
4.15E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
17

**APPROVED**  
By uj28 at 11:17 am, 10/26/18

**REVIEWED**  
By build at 5:49 pm, 10/30/18

Time (min)



\*\*\* file opened Thu Oct 18 20:33:32 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 20:33:32

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
280.9819	1	10	1	12	122
303.9016	1	1	1	122	122
305.8987	1	1	1	122	122
315.9419	2	1	1	61	61
317.9389	2	1	1	61	61
331.9368	2	1	1	61	61
333.9339	2	1	1	61	61
339.8597	1	1	1	122	122
341.8567	1	1	1	122	122
351.9000	2	1	1	61	61
353.8970	2	1	1	61	61
354.9792	c	10	1	12	12
Window # 2	mass	F	int	gr	time (ms)
330.9792	1	10	1	9	95
339.8597	1	1	1	95	95
341.8567	1	1	1	95	95
351.9000	2	1	1	47	47
353.8970	2	1	1	47	47
373.8208	1	1	1	95	95
375.8178	1	1	1	95	95
383.8639	2	1	1	47	47
385.8610	2	1	1	47	47
401.8559	2	1	1	47	47
403.8529	2	1	1	47	47
404.9760	c	10	1	9	9
417.8253	1	1	1	95	95
419.8220	1	1	1	95	95



18OCT17-17

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.5000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	234.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	FLENS	1.0000
ENBR	6.5500	ERATIO	1.0000	FQUAD	5.3500
ESTIPAR	0.0000	EXS	175.0000	FVSR	36000000.0000
FDMA	18000000.0000	FILTER	100.0000	FVSR	0.0318
FM	50.0000	FMTI	50.0000	HVANA	0.0000
FOUADGAIN	1.0000	FREQ	0.0338	ICALL	0.4030
FVAL	0.0178	FVINLET	0.0000	IST	0.0000
FWIN	0.7000	HCURR	0.0000	LENS_POT	738.0000
HVSR	0.0000	ICALO	0.0011	LMI	500.0000
ICAL2	0.5865	IONEN	0.0000	MASS	96.5000
ISTC	260.0000	ISTS	260.0000	NSAM	200.0000
LENS_SYM	13.3000	LM	650.0000	NSMIN	66.0000
LMASS	96.5000	LKM	330.9792	PSAM	10.0000
MDCAN	935999.8554	MRANGE	1614.4523	RELEN	0.0000
NSCAN	2130.0000	NSMAX	8.0000	RDRAW	0.0000
NPEAK	14.0000	MULT	-2.0000	SCIDLE	0.0000
PUSHER	-16.0000	RECURR	0.9685	SHIGH	180.0000
RES	10544.5217	RPUsher	-15.8168	SS	2.0000
RDRWC	0.0000	RWIN	2.0000	TCURR	0.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	THRESH	2.0000
SKIM	7.0000	SLOW	60.0000	TSAM	200.0000
SW	0.0196	TANAL	33.4574	UROT	0.0000
TD	30.0000	TS	120.0000	UTQ2	190.0000
TIS	0.2000	TREF	0.0000	XLENS_POT	928.0000
TSET	0.0000	TUBEL	150.0000	YLENS_SYM	-1.5000
USERVAR	0.0000	UTQL	96.5000		
UTQ3	80.0000	VMASS	724.0000		
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.5e-008 mbar  
Pirani Analyze: 1.8e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10542.  
MID Time Window 2: Resolution is 10544.

Amplifier Offset: 87.

\*\*\* File closed Thu Oct 18 21:26:03 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 21:31  
Number of Entries 3  
Comment  
Vial 7  
Sample Name CALDF51837B  
Sample ID CS401  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18oct17conf\18oct17-18.quan  
Data y:\18oct17conf\18oct17-18.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.79	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.84	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.74	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/10/18 21:31
Number of Entries	3
Comment	
Vial	7
Sample Name	CALDF51837B
Sample ID	CS401
Inst ID	DF18471-18OCT17Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	
Barcode	

**Files Parameter**

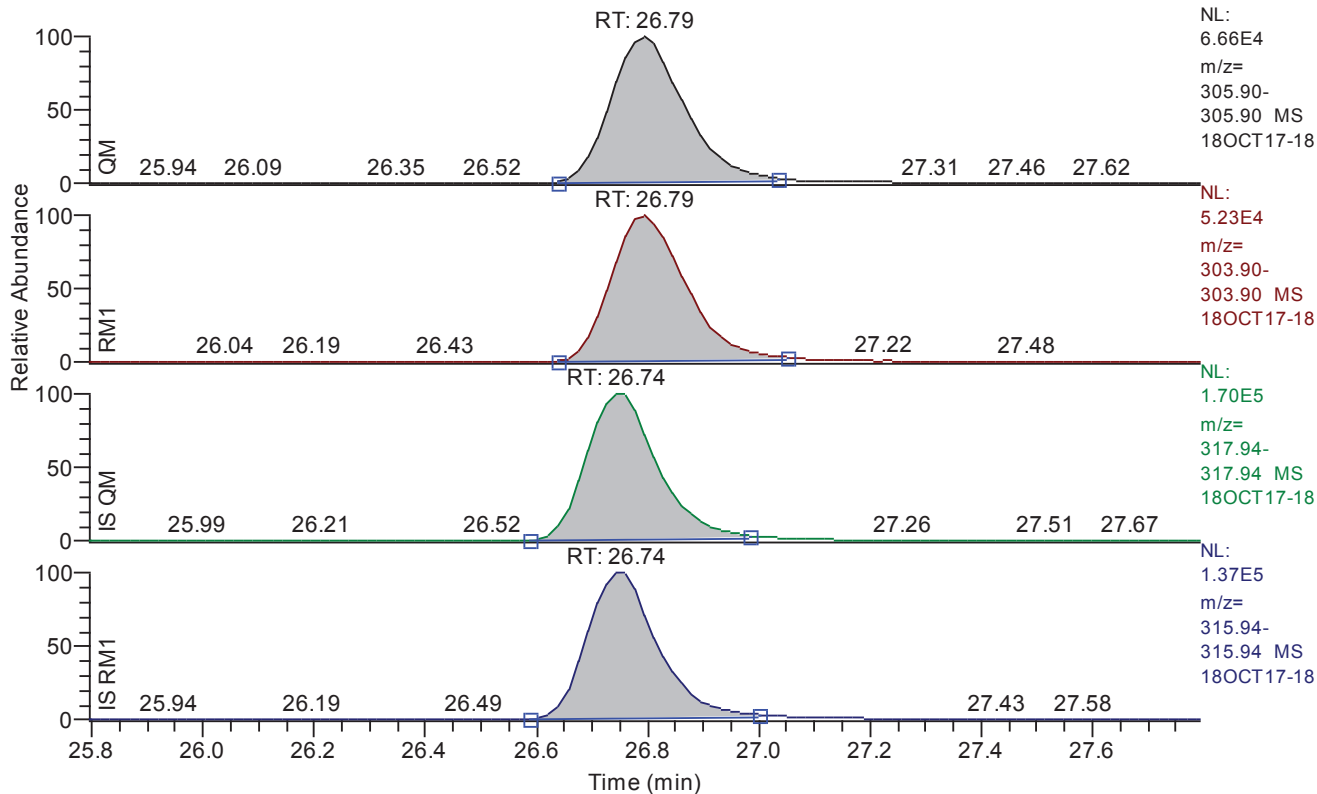
Quan	y:\18oct17conf\18oct17-18.quan
Data	y:\18oct17conf\18oct17-18.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	1.0
Sample Weight [hSWT]	1.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Single Point (Spec. RF)
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Chromatogram**

RT: 25.79 - 27.79 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.79
QM Area	609469
QM Integration Mode	A
RM1 Area	487059
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0305
Unqualified Amount (A)	40.000000
Adjusted Amount (A)	40.0000
Signal-to-Noise	3138
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.79	26.79	26.79	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.84	24.84	24.84	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.74	26.74	26.74	passed	passed

**Entry Parameters**

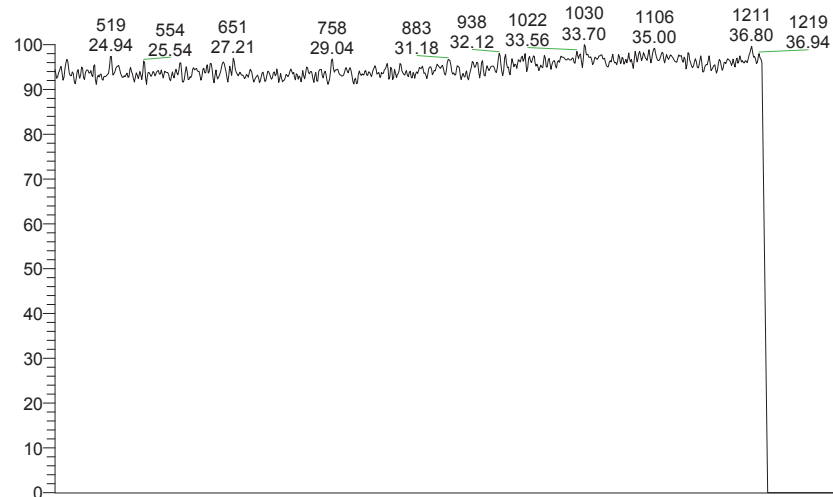
No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.79	0.7992	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.84	0.8023	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.74	0.7957	0.6450 - 0.8950	passed	100.00	0 - 0	passed



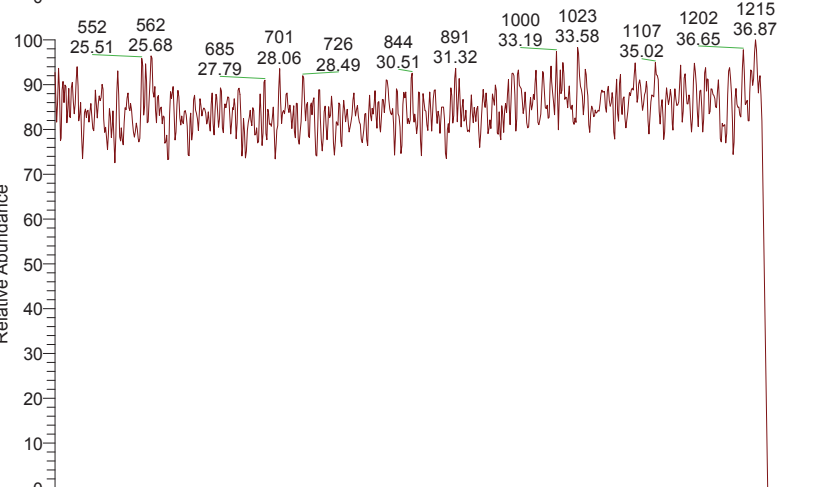
**Entry Parameters**

No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.79	609469	A	487059	A	0.030454	40.000000	40.0000	40.0	3138
2	13C12-1234-TCDD	passed	24.84	743666	A	596628	A	0.102466	100.000000	100.0000	100.0	2440
3	13C12-2378-TCDF	passed	26.74	1507912	A	1199874	A	0.036022	100.000000	100.0000	100.0	6446

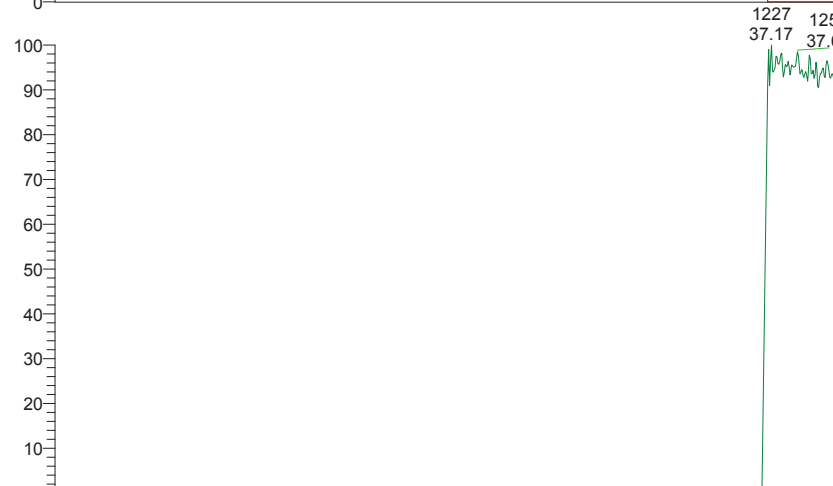
RT: 23.90 - 51.00



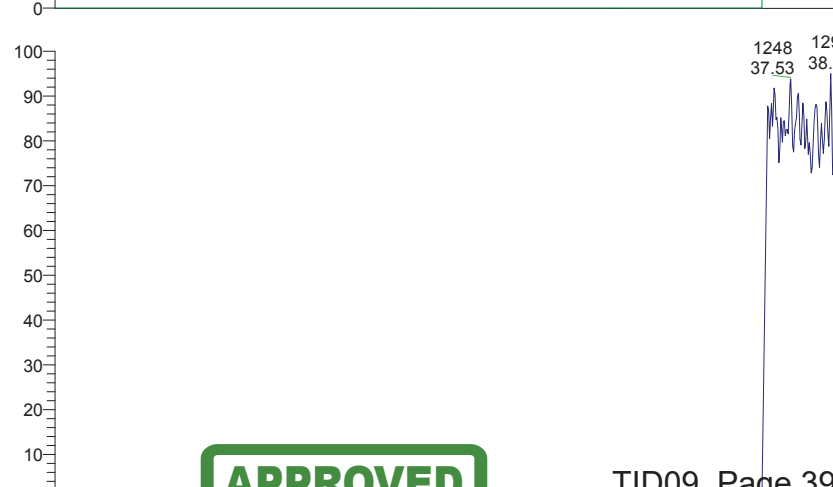
NL:  
7.32E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
18



NL:  
4.05E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
18



NL:  
4.52E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
18



NL:  
4.06E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
18

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:49 pm, 10/30/18

Time (min)

\*\*\* file opened Thu Oct 18 21:36:18 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 21:36:17

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CyclicTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window # 1	mass	F	int	gr	time (ms)
	280.9819	1	10	1	12
	303.9016	1	1	1	122
	305.8987	1	1	1	122
	315.9419	2	1	1	61
	317.9389	2	1	1	61
	331.9368	2	1	1	61
	333.9339	2	1	1	61
	339.8597	1	1	1	122
	341.8567	1	1	1	122
	351.9000	2	1	1	61
	353.8970	2	1	1	61
	354.9792	c	10	1	12
Window # 2					
	330.9792	1	10	1	9
	339.8597	1	1	1	95
	341.8567	1	1	1	95
	351.9000	2	1	1	47
	353.8970	2	1	1	47
	373.8208	1	1	1	95
	375.8178	1	1	1	95
	383.8639	2	1	1	47
	385.8610	2	1	1	47
	401.8559	2	1	1	47
	403.8529	2	1	1	47
	404.9760	c	10	1	9
	417.8253	1	1	1	95
	419.8220	1	1	1	95



18OCT17-18

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	96.0000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWS	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	234.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	FLENS	1.0000
ENBR	6.5500	ERATIO	1.0000	FQUAD	5.3500
ESTIPAR	0.0000	EXS	175.0000	FVSR	36000000.0000
FDMA	18000000.0000	FILTER	100.0000	FVSR	0.0322
FM	50.0000	FMTI	50.0000	HVANA	0.0000
FOUADGAIN	1.0000	FREQ	0.0338	ICALL	0.4030
FVAL	0.0178	FVINLET	0.0000	IST	0.0000
FWIN	0.7000	HCURR	0.0011	LENS_POT	738.0000
HVSR	0.0000	ICALO	0.0000	LIMIT	500.0000
ICAL2	0.5865	IONEN	0.0000	MASS	96.0000
ISTC	260.0000	ISTS	260.0000	NSAM	200.0000
LENS_SYM	13.3000	LM	650.0000	PSAM	10.0000
LMASS	96.0000	LKM	330.9792	RELEN	0.0000
MDCAN	930538.0265	MRANGE	1614.4523	RDRAW	0.0000
NSCAN	2130.0000	NSMAX	8.0000	SCIDLE	0.0000
NPEAK	14.0000	MULT	-2.0000	SHIGH	180.0000
PUSHER	-16.0000	RECURR	0.9665	SS	2.0000
RES	10916.2989	RPUSHER	-15.8022	TCURR	0.0000
RDRWC	0.0000	RWIN	2.0000	THRESH	2.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	TSAM	200.0000
SKIM	7.0000	SLOW	60.0000	UROT	0.0000
SW	0.0196	TANAL	33.4574	UTQ2	190.0000
TD	30.0000	TS	120.0000	XLENS_POT	928.0000
TIS	0.2000	TREF	0.0000	YLENS_SYM	-1.5000
TSET	0.0000	TUBEL	0.0000		
USERVAR	0.0000	UTQL	150.0000		
UTQ3	80.0000	VMASS	96.0000		
XLENS_SYM	0.0000	YLENS_POT	724.0000		

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.7e-008 mbar  
Pirani Analyze: 1.8e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10441.  
MID Time Window 2: Resolution is 10916.

Amplifier Offset: 88.

\*\*\* File closed Thu Oct 18 22:28:49 2018  
\*\*\*

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 22:34  
Number of Entries 3  
Comment  
Vial 8  
Sample Name CALDF61837B  
Sample ID CS501  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18oct17conf\18oct17-19.quan  
Data y:\18oct17conf\18oct17-19.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.78	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.85	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/18 22:34  
Number of Entries 3  
Comment  
Vial 8  
Sample Name CALDF61837B  
Sample ID CS501  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

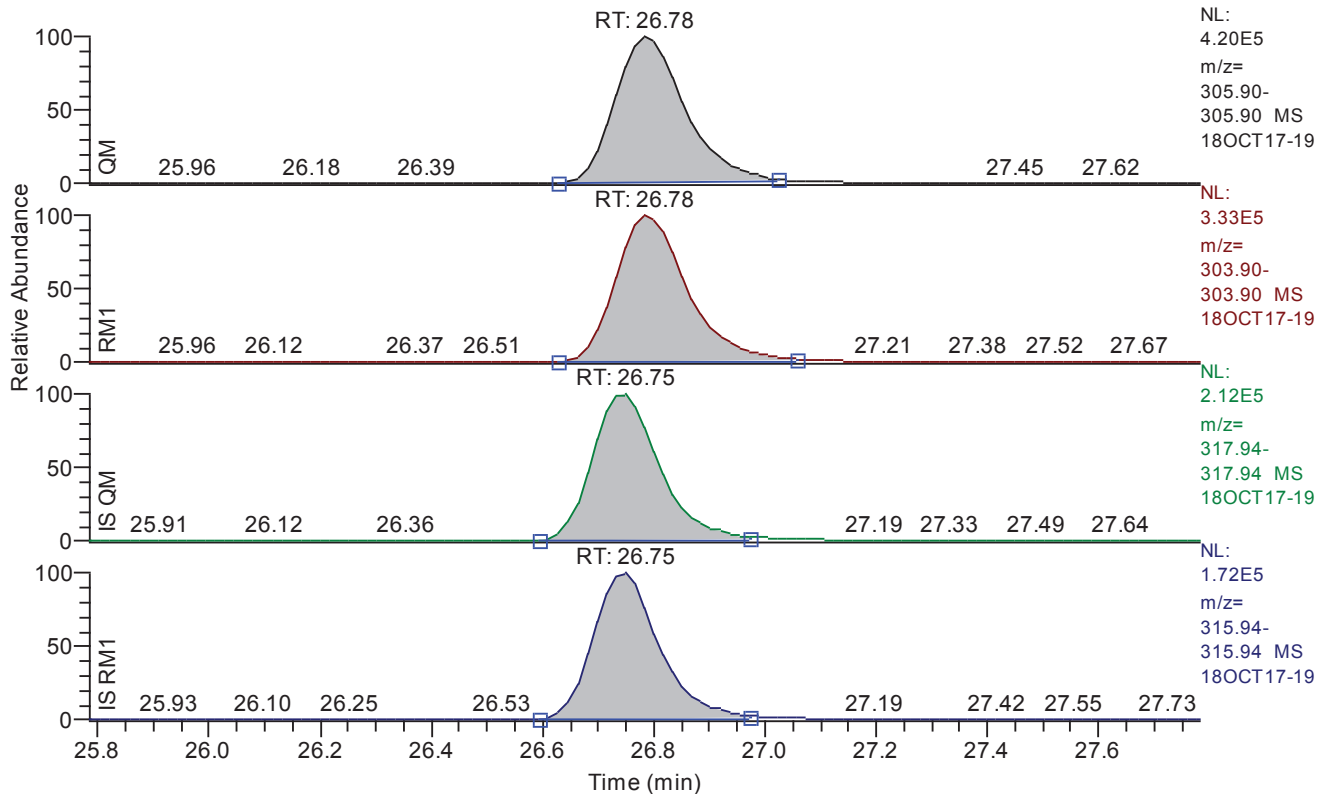
Quan y:\18oct17conf\18oct17-19.quan  
Data y:\18oct17conf\18oct17-19.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Single Point (Spec. RF)  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.78 - 27.78 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.78
QM Area	3661032
QM Integration Mode	A
RM1 Area	2973278
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0373
Unqualified Amount (A)	200.000000
Adjusted Amount (A)	200.0000
Signal-to-Noise	12534
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.78	26.78	26.78	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.85	24.85	24.85	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.75	26.75	26.75	passed	passed

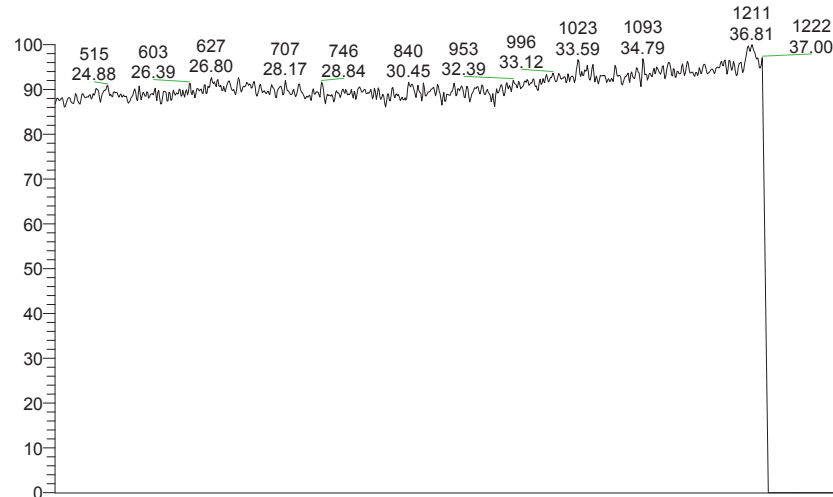
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.78	0.8121	0.6450 - 0.8950	passed	100.00	0 - 0	passed
2	13C12-1234-TCDD	24.85	0.8118	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.75	0.8039	0.6450 - 0.8950	passed	100.00	0 - 0	passed

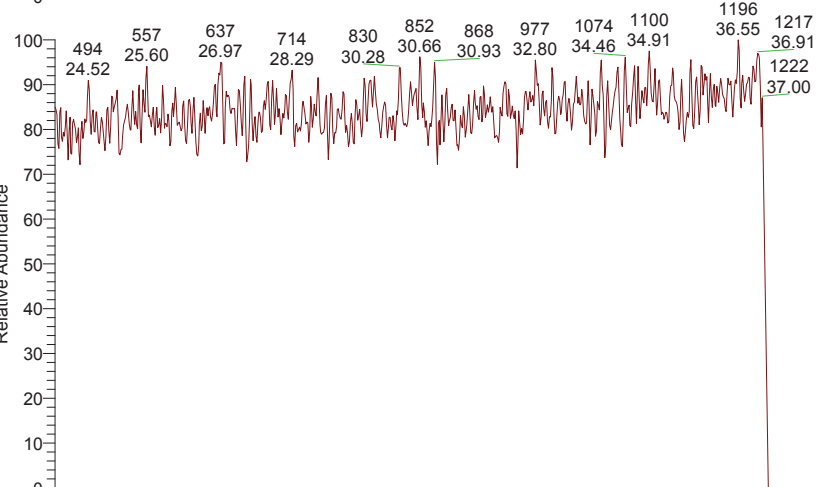
**Entry Parameters**

No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.78	3661032	A	2973278	A	0.037347	200.000000	200.0000	200.0	12534
2	13C12-1234-TCDD	passed	24.85	820599	A	666180	A	0.081925	100.000000	100.0000	100.0	3052
3	13C12-2378-TCDF	passed	26.75	1751840	A	1408311	A	0.030305	100.000000	100.0000	100.0	8099

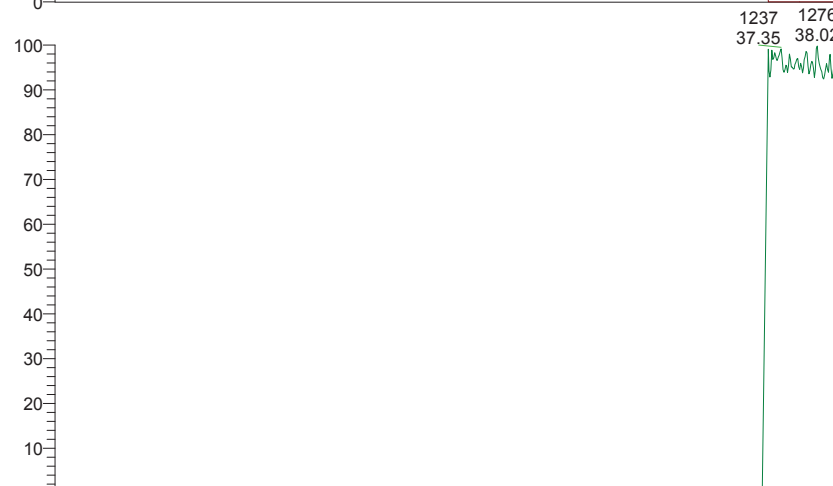
RT: 23.90 - 51.00



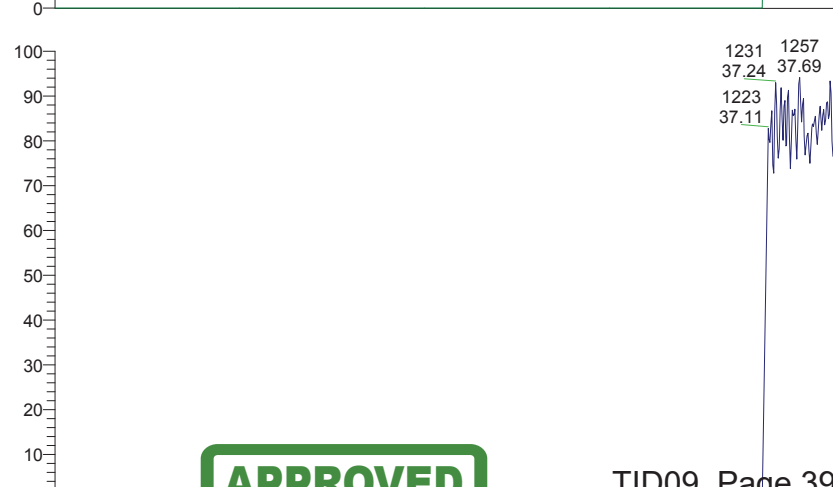
NL:  
7.71E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
19



NL:  
4.10E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
19



NL:  
4.64E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
19



NL:  
4.20E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
19

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:48 pm, 10/30/18

Time (min)

\*\*\* file opened Thu Oct 18 22:39:10 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 18-Oct-18 22:39:08

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window # 1	mass	F	int	gr	time (ms)
	280.9819	1	10	1	12
	303.9016	1	1	1	122
	305.8987	1	1	1	122
	315.9419	2	1	1	61
	317.9389	2	1	1	61
	331.9368	2	1	1	61
	333.9339	2	1	1	61
	339.8597	1	1	1	122
	341.8567	1	1	1	122
	351.9000	2	1	1	61
	353.8970	2	1	1	61
	354.9792	c	10	1	12
Window # 2					
	330.9792	1	10	1	9
	339.8597	1	1	1	95
	341.8567	1	1	1	95
	351.9000	2	1	1	47
	353.8970	2	1	1	47
	373.8208	1	1	1	95
	375.8178	1	1	1	95
	383.8639	2	1	1	47
	385.8610	2	1	1	47
	401.8559	2	1	1	47
	403.8529	2	1	1	47
	404.9760	c	10	1	9
	417.8253	1	1	1	95
	419.8220	1	1	1	95



18OCT17-19

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	95.5000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	1.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	EDACZ	116.0000
EDAC	7969177.0000	EDACG	1.0000	ENS	234.0000
ELEN	-50.0000	EMULT	1688.0000	ESA	679.0600
ENSB	6.5500	ERATIO	1.0000	EXSBR	-0.6000
ESTIPAR	0.0000	EXS	175.0000	FLENS	1.0000
FDMA	18000000.0000	FILTER	100.0000	FQUAD	5.3500
FM	50.0000	FMTI	50.0000	FVSR	36000000.0000
FOUADGAIN	1.0000	FREQ	400.0000	FVSR	0.0318
FVAL	0.0178	FVINLET	0.0335	HVANA	0.0000
FWIN	0.7000	HCURR	0.0000	ICALL	0.4030
HVSR	0.0000	ICALO	0.0011	IST	0.0000
ICAL2	0.5865	IONEN	0.0000	LENS_POT	738.0000
ISTC	260.0000	ISTS	260.0000	LMI	500.0000
LENS_SYM	13.3000	LM	650.0000	MASS	95.5000
LMASS	95.5000	LKM	330.9792	NSAM	200.0000
MDAC	925071.2508	MRANGE	1614.4523	NSMIN	66.0000
NSCAN	2130.0000	NSMAX	8.0000	PSAM	10.0000
NPEAK	14.0000	MULT	-2.0000	RELEN	0.0000
PUSHER	-16.0000	RECURR	0.9680	RDRAW	0.0000
RES	10552.1630	RPUSHER	-15.7729	SCIDLE	0.0000
RDRWC	0.0000	RWIN	2.0000	SHIGH	180.0000
SHIELD_POT	726.0000	SHIELD_SYM	0.0000	SS	2.0000
SKIM	7.0000	SLOW	60.0000	TCURR	0.0000
SW	0.0196	TANAL	33.4574	THRESH	2.0000
TD	30.0000	TS	120.0000	TSAM	200.0000
TIS	0.2000	TREF	0.0000	UROT	0.0000
TSET	0.0000	TUBEL	0.0000	UTQ2	190.0000
USERVAR	0.0000	UTQL	150.0000	XLENS_POT	928.0000
UTQ3	80.0000	VMASS	95.5000	YLENS_SYM	-1.5000
XLENS_SYM	0.0000	YLENS_POT	724.0000		

Source Gauge: 2.0e-005 mbar  
 Analyzer Penning: 8.6e-008 mbar  
 Pirani Analyze: 1.8e-002 mbar  
 Pirani Source: 3.2e-002 mbar  
 Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10382.  
MID Time Window 2: Resolution is 10552.

Amplifier Offset: 87.

\*\*\* File closed Thu Oct 18 23:31:42 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/19 00:40  
Number of Entries 3  
Comment  
Vial 9  
Sample Name SSDFX1837B  
Sample ID ICV  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18oct17conf\18oct17-22.quan  
Data y:\18oct17conf\18oct17-22.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	RRT	Status Info
1	2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.81	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.71	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/10/19 00:40  
Number of Entries 3  
Comment  
Vial 9  
Sample Name SSDFX1837B  
Sample ID ICV  
Inst ID DF18471-18OCT17Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

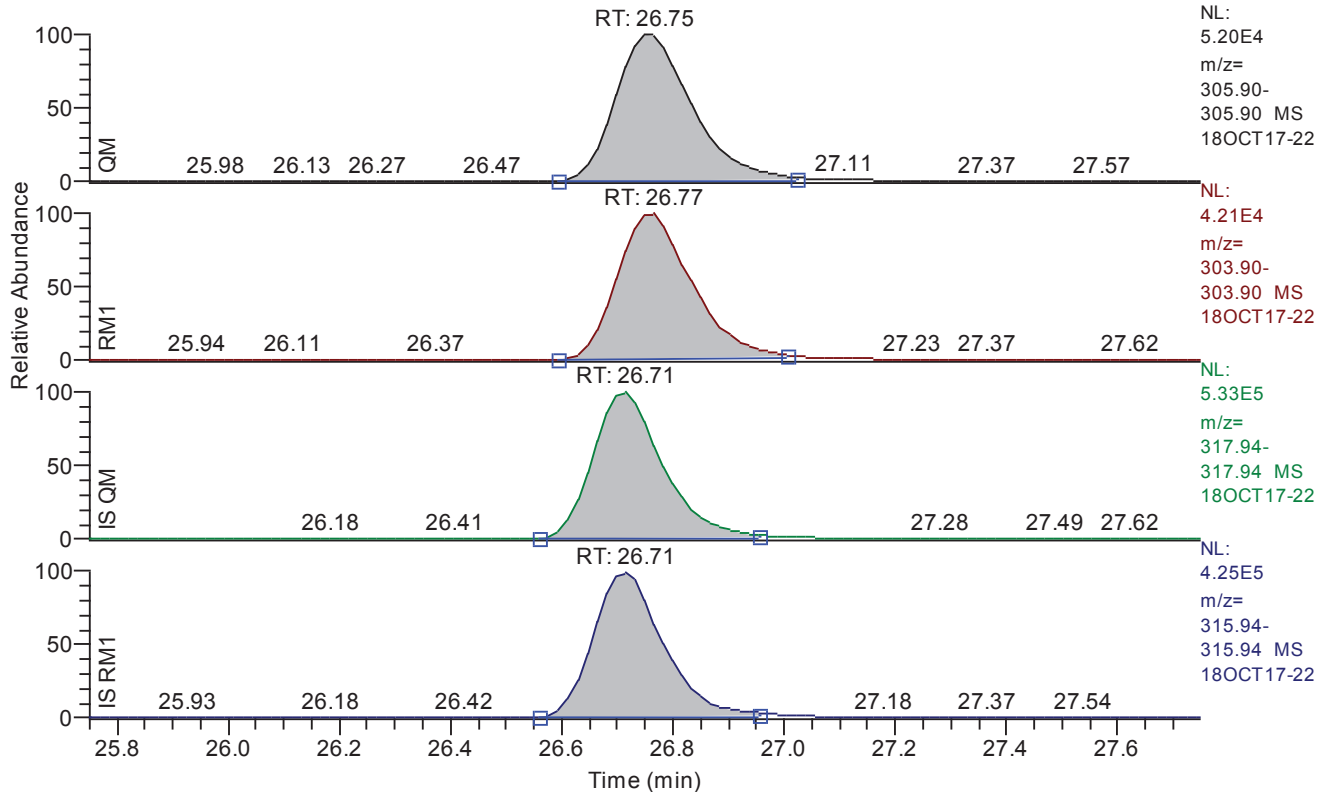
Quan y:\18oct17conf\18oct17-22.quan  
Data y:\18oct17conf\18oct17-22.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.75 - 27.75 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.75
QM Area	496701
QM Integration Mode	A
RM1 Area	388014
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0082
Unqualified Amount (A)	10.573154
Adjusted Amount (A)	10.5732
Signal-to-Noise	2957
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	RT Window [min]	Specified RT [min]	QM Time	RM1 Time	RM1 Time Status	RRT Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	0.67	26.75	26.75	26.77	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	0.67	24.81	24.81	24.81	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	0.67	26.71	26.71	26.71	passed	passed

**Entry Parameters**

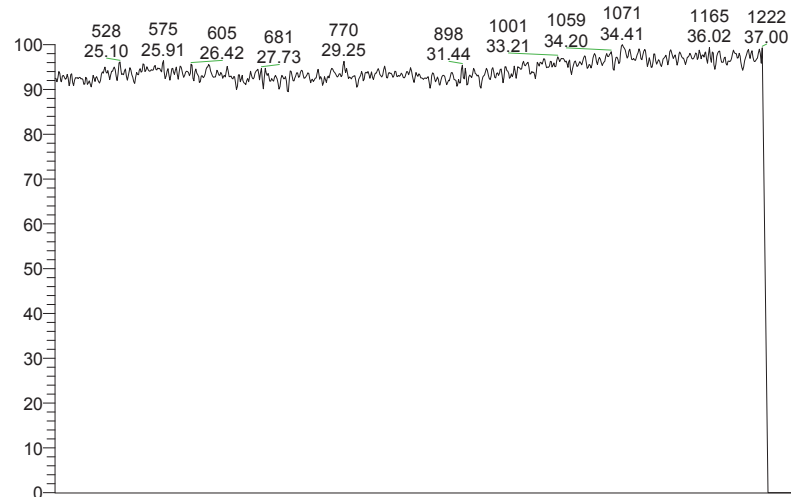
No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.75	0.7812	0.6450 - 0.8950	passed	105.73	80 - 120	passed
2	13C12-1234-TCDD	24.81	0.8066	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.71	0.7892	0.6450 - 0.8950	passed	82.94	80 - 120	passed

**Entry Parameters**

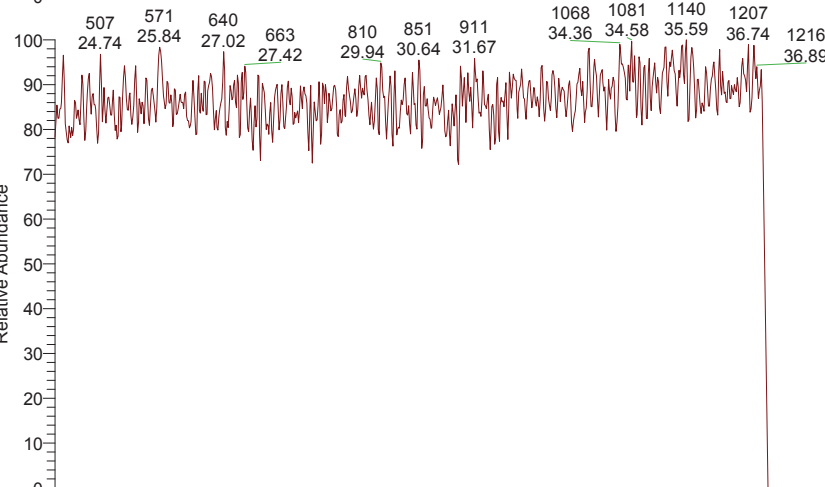
No.	Compound Name	Status Overview	QM Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-N
1	2378-TCDF	passed	26.75	496701	A	388014	A	0.008159	10.573154	10.5732	10.0	2957
2	13C12-1234-TCDD	passed	24.81	2691477	A	2171007	A	0.029032	100.000000	100.0000	100.0	8611
3	13C12-2378-TCDF	passed	26.71	4593523	A	3625257	A	0.013595	82.941647	82.9416	100.0	14364



RT: 23.90 - 51.00



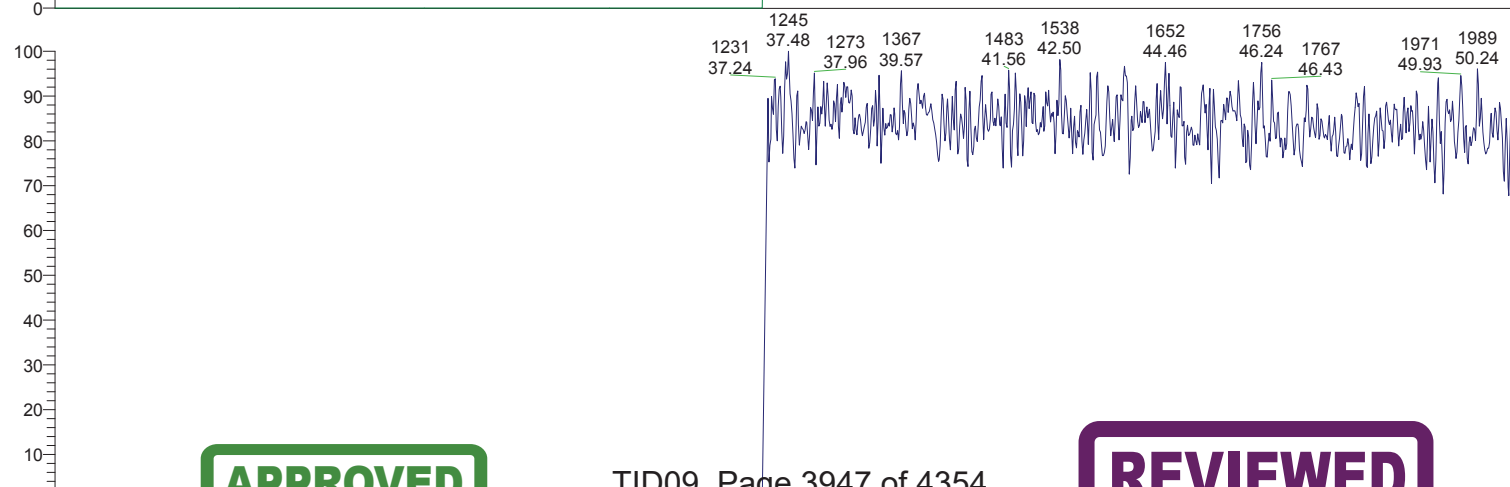
NL:  
7.77E5  
m/z=  
280.4189-  
281.4189  
MS  
18OCT17-  
22



NL:  
4.18E4  
m/z=  
354.4787-  
355.4787  
MS  
18OCT17-  
22



NL:  
4.73E5  
m/z=  
330.4787-  
331.4787  
MS  
18OCT17-  
22



NL:  
4.24E4  
m/z=  
404.4755-  
405.4755  
MS  
18OCT17-  
22

**APPROVED**  
By ujj at 11:17 am, 10/26/18

**REVIEWED**  
By uild at 5:49 pm, 10/30/18

\*\*\* file opened Fri Oct 19 00:44:33 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument mode - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 19-Oct-18 00:44:33

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : b9367d33-0067-487e-b88e-71401e7e3694

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time Windows: Measure End CycleTime

# 1 16:00 min 21:00 min 37:00 min 1.00 sec  
# 2 37:00 min 15:30 min 52:30 min 1.00 sec

Mid Masses:

Window # 1	mass	F	int	gr	time (ms)
	280.9819	1	10	1	12
	303.9016	1	1	1	122
	305.8987	1	1	1	122
	315.9419	2	1	1	61
	317.9389	2	1	1	61
	331.9368	2	1	1	61
	333.9339	2	1	1	61
	339.8597	1	1	1	122
	341.8567	1	1	1	122
	351.9000	2	1	1	61
	353.8970	2	1	1	61
	354.9792	c	10	1	12
Window # 2					
	330.9792	1	10	1	9
	339.8597	1	1	1	95
	341.8567	1	1	1	95
	351.9000	2	1	1	47
	353.8970	2	1	1	47
	373.8208	1	1	1	95
	375.8178	1	1	1	95
	383.8639	2	1	1	47
	385.8610	2	1	1	47
	401.8559	2	1	1	47
	403.8529	2	1	1	47
	404.9760	c	10	1	9
	417.8253	1	1	1	95
	419.8220	1	1	1	95



18OCT17-22

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	94.5000
BQUAD	6.5500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAW	0.0000	EDACS	116.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ENS	234.0000
EDAC	7969177.0000	EDACZ	1.0000	ESA	679.0600
ELEN	-50.0000	EMULT	1688.0000	EXSBR	-0.6000
ENBR	6.5500	ERATIO	1.0000	FLENS	1.0000
ESTIPAR	0.0000	EXS	175.0000	FQUAD	5.3500
FDMA	18000000.0000	FILTER	100.0000	FVSR	36000000.0000
FM	50.0000	FMTI	50.0000	FVSR	0.0318
FOUADGAIN	1.0000	FREQ	0.0336	HVANA	0.0000
FVAL	0.0178	FVINLET	0.0000	ICALL	0.4030
FWIN	0.7000	HCURR	0.0011	IST	0.0000
HVSR	0.0000	ICALO	0.0000	LENS_POT	738.0000
ICAL2	0.5865	IONEN	260.0000	LMI	500.0000
ISTC	260.0000	ISTS	650.0000	MASS	94.5000
LENS_SYM	13.3000	LM	330.9792	NSAM	200.0000
LMASS	94.5000	LKM	1614.4523	NSMIN	66.0000
MDCAN	914124.4195	MRANGE	8.0000	PSAM	10.0000
NSCAN	2130.0000	NSMAX	-2.0000	RELEN	0.0000
NPEAK	14.0000	MULT	0.9685	RDRAW	0.0000
PUSHER	-16.0000	RECURR	-15.7875	SCIDLE	0.0000
RES	10628.7183	RPUSHER	2.0000	SHIGH	180.0000
RDRWC	0.0000	RWIN	0.0000	SS	2.0000
SHIELD_POT	726.0000	SHIELD_SYM	60.0000	TCURR	0.0000
SKIM	7.0000	SLOW	33.4574	THRESH	200.0000
SW	0.0196	TANAL	120.0000	TSAM	0.0000
TD	30.0000	TS	0.0000	UROT	0.0000
TIS	0.2000	TREF	150.0000	XLENS_POT	190.0000
TSET	0.0000	TUBEL	94.5000	YLENS_SYM	-1.5000
USERVAR	0.0000	UTQL	724.0000		
UTQ3	80.0000	VMASS			
XLENS_SYM	0.0000	YLENS_POT			

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 8.5e-008 mbar  
Pirani Analyze: 1.8e-002 mbar  
Pirani Source: 3.2e-002 mbar  
Pirani Inlet System: 3.4e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 10463.  
MID Time Window 2: Resolution is 10628.

Amplifier Offset: 87.

\*\*\* File closed Fri Oct 19 01:37:05 2018  
\*\*\*





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 02:59  
Number of Entries 3  
Comment  
Vial 2  
Sample Name TDTFWD ST1808937C  
Sample ID CPS03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

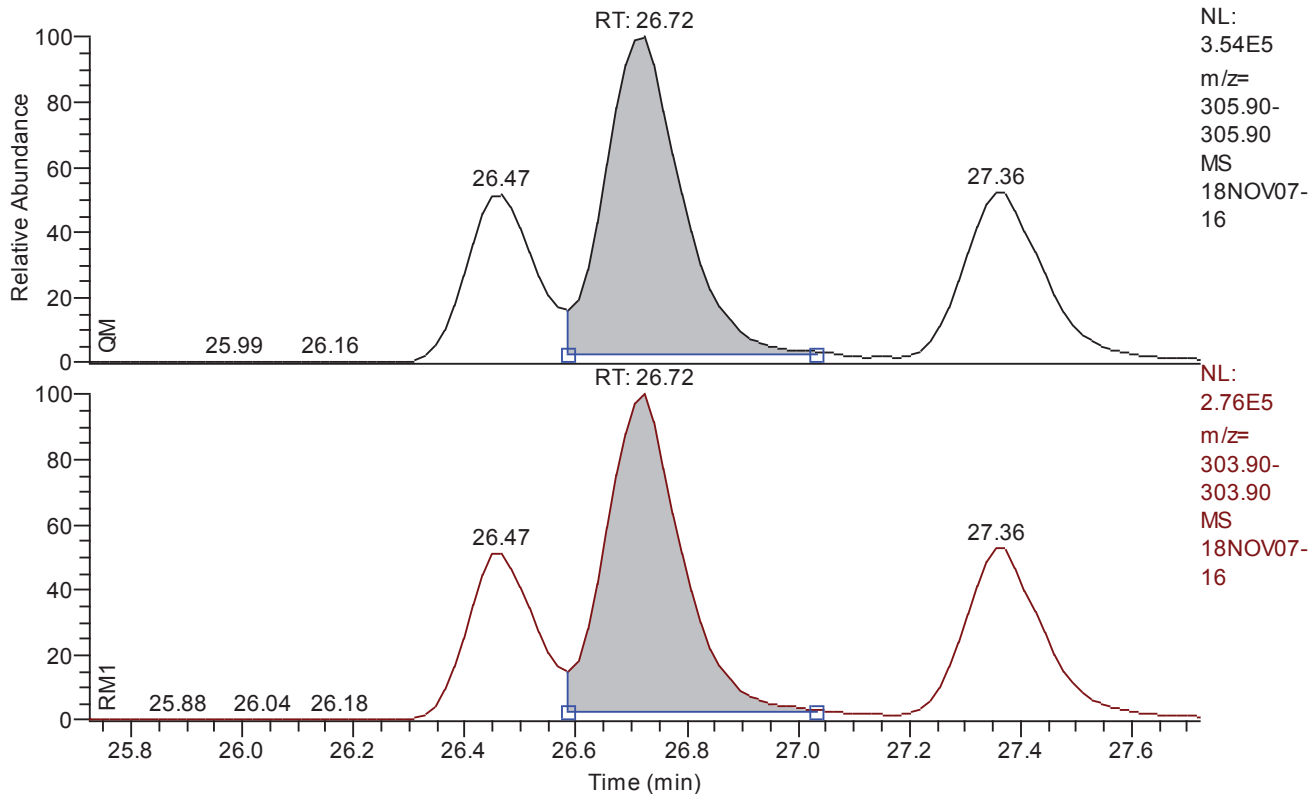
Quan y:\18nov07conf\18nov07-16.quan  
Data y:\18nov07conf\18nov07-16.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.72 - 27.72 SM: 3G



**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	M
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	M
ManInt	1
QM Retention Time	26.72
QM Left Baseline Height	9964.76
QM Height	344446
QM Right Height	2079
GC Res (%) left	13.261558



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 02:59  
Number of Entries 3  
Comment  
Vial 2  
Sample Name TDTFWD ST1808937C  
Sample ID CPS03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

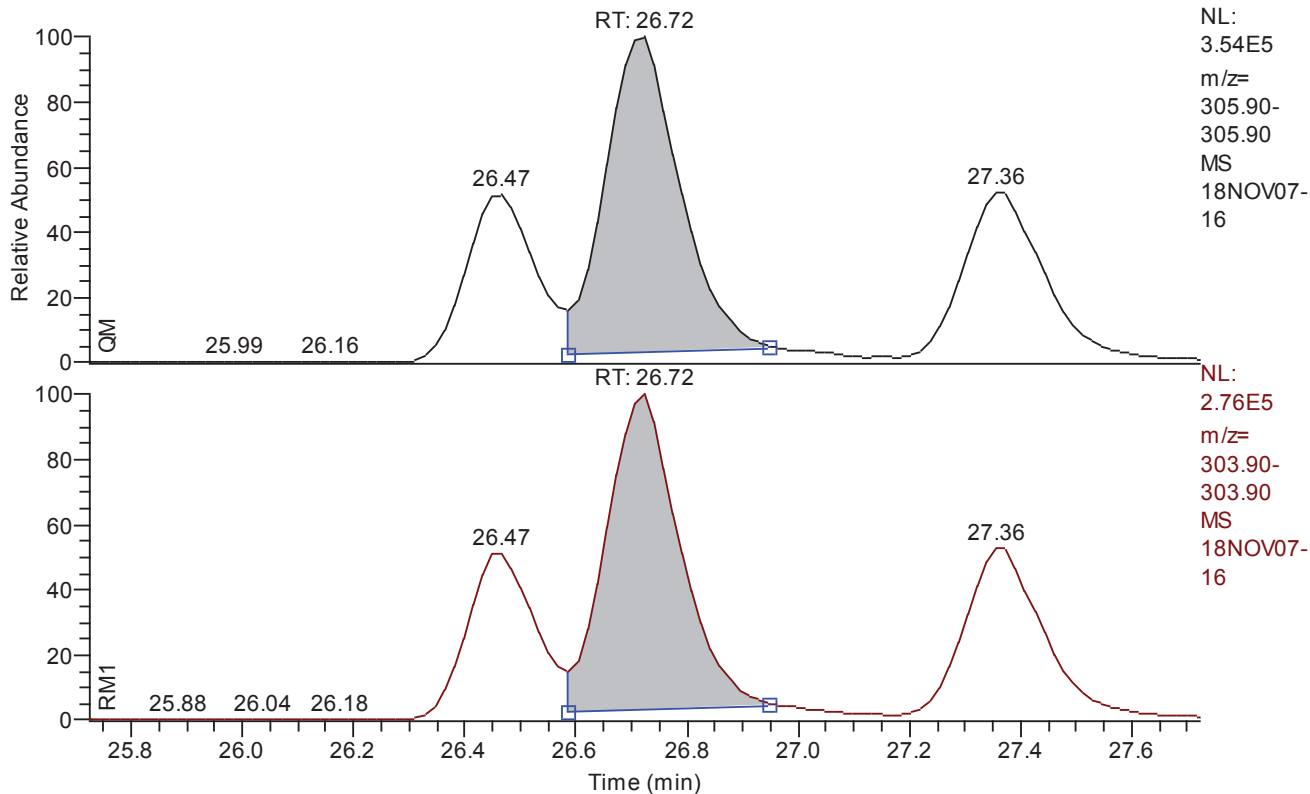
Quan y:\18nov07conf\18nov07-16.quan  
Data y:\18nov07conf\18nov07-16.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

### Chromatogram

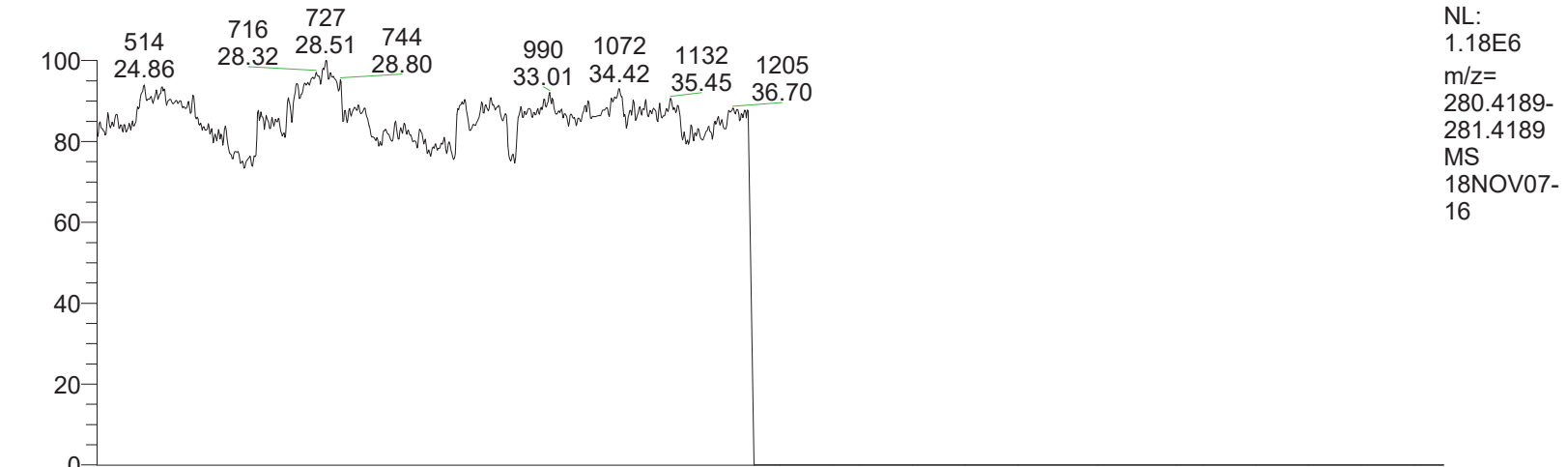
RT: 25.72 - 27.72 SM: 3G



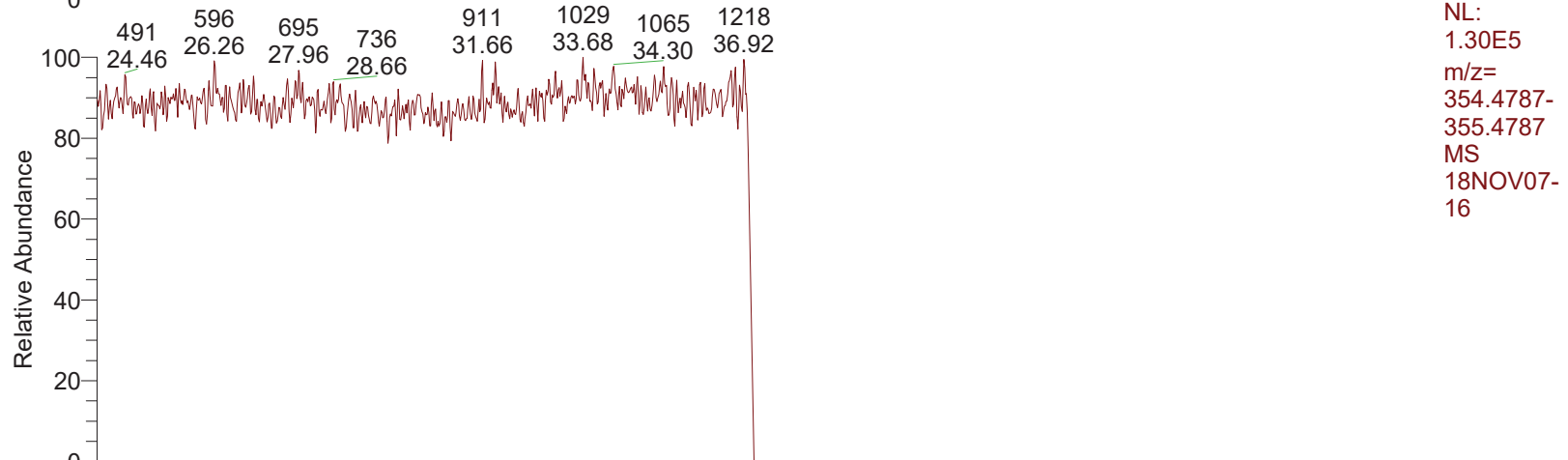
### Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	1
QM Retention Time	26.72
QM Left Baseline Height	9964.76
QM Height	341412
QM Right Height	0
GC Res (%) left	13.379408

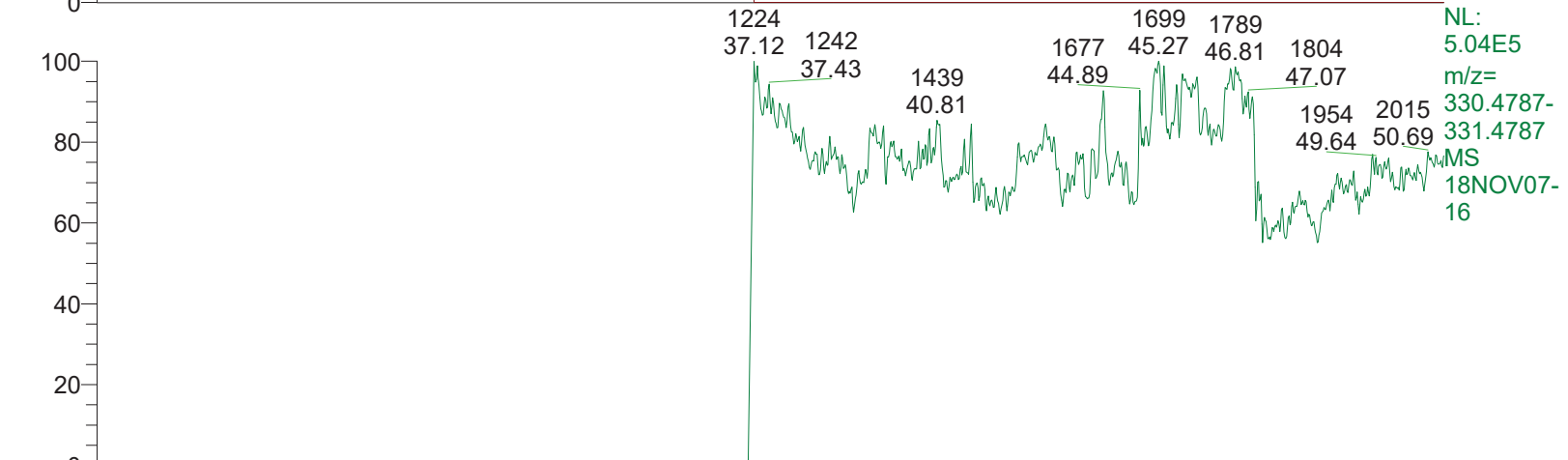
RT: 23.90 - 51.00



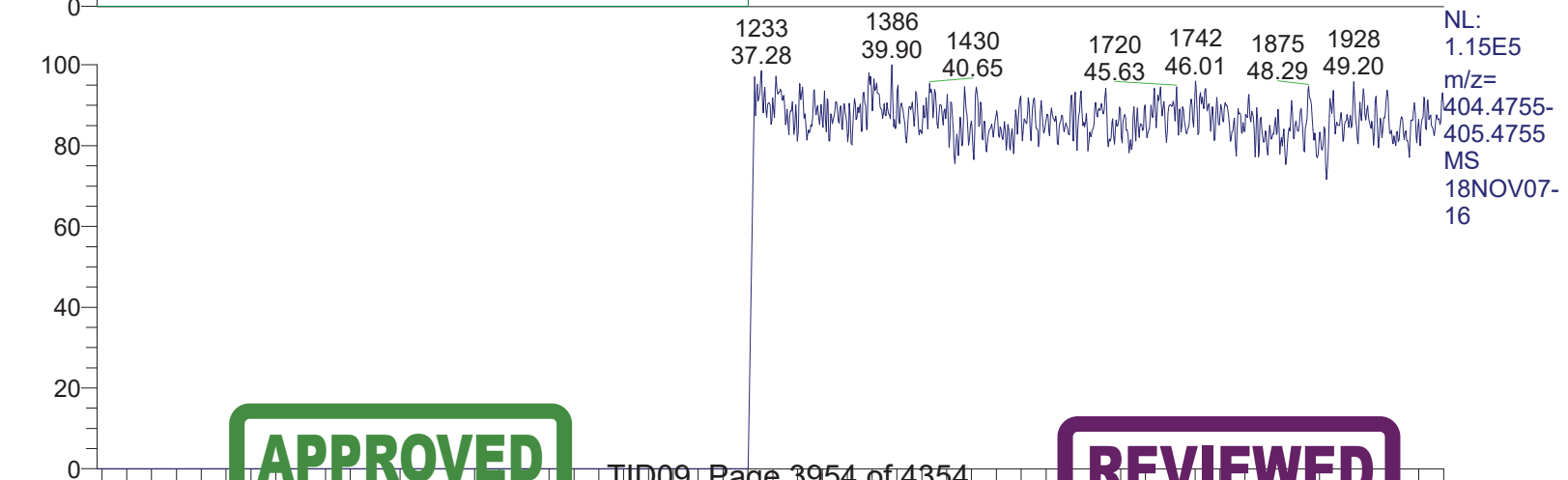
NL:  
1.18E6  
m/z=  
280.4189-  
281.4189  
MS  
18NOV07-  
16



NL:  
1.30E5  
m/z=  
354.4787-  
355.4787  
MS  
18NOV07-  
16



NL:  
5.04E5  
m/z=  
330.4787-  
331.4787  
MS  
18NOV07-  
16



NL:  
1.15E5  
m/z=  
404.4755-  
405.4755  
MS  
18NOV07-  
16

**APPROVED**  
By tma9 at 12:29 pm, 11/9/18

**REVIEWED**  
By uild at 1:13 pm, 11/9/18

\*\*\* file opened Thu Nov 08 03:04:15 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 03:04:14

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0381	FVSRG	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRG	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9670	RELEN	0.0000
RES	12170.0134	RPUSHER	-15.8168	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.3e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12296.  
MID Time Window 2: Resolution is 12170.

Amplifier offset: 89.



18NOV07-16  
\*\*\* File closed Thu Nov 08 03:56:47 2018  
\*\*\*





**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 04:02  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18nov07conf\18nov07-17.quan  
Data y:\18nov07conf\18nov07-17.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.67	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.74	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.62	passed	passed	passed	passed	passed	passed	passed

**APPROVED**  
By uma9 at 2:07 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 04:02  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

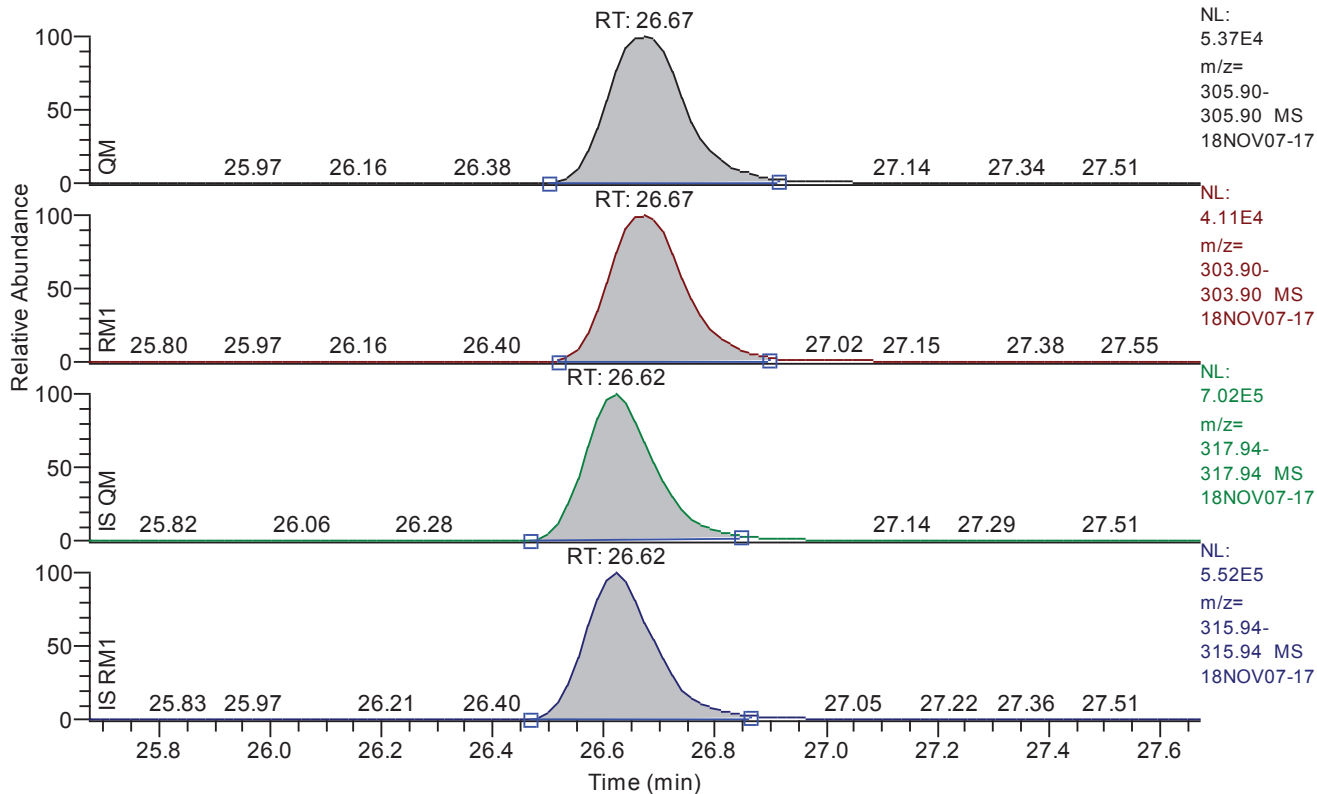
Quan y:\18nov07conf\18nov07-17.quan  
Data y:\18nov07conf\18nov07-17.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.67 - 27.67 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.67
QM Area	518802
QM Integration Mode	A
RM1 Area	388303
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	8.287015
Adjusted Amount (A)	8.2870
Signal-to-Noise	2184
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.67	26.67	26.62	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.74	24.74	24.74	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.62	26.62	26.62	passed	passed

**APPROVED**  
By uma9 at 2:07 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.67	0.7485	0.6450 - 0.8950	passed	82.87	0 - 0	passed
2	13C12-1234-TCDD	24.74	0.7949	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.62	0.7904	0.6450 - 0.8950	passed	85.52	0 - 0	passed

**APPROVED**  
By uma9 at 2:07 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

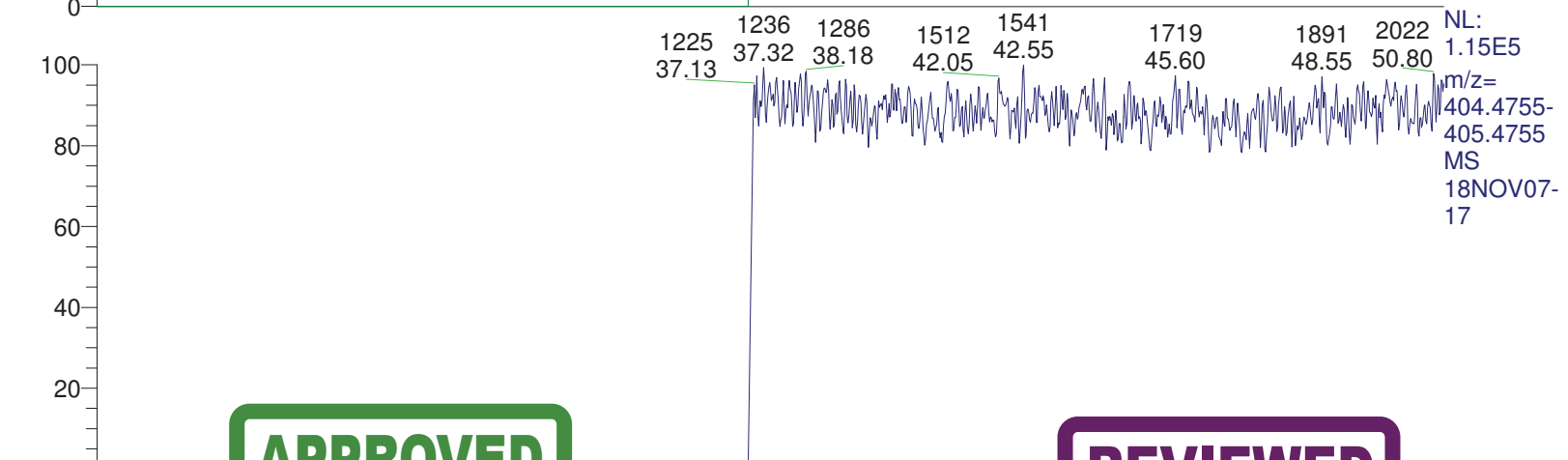
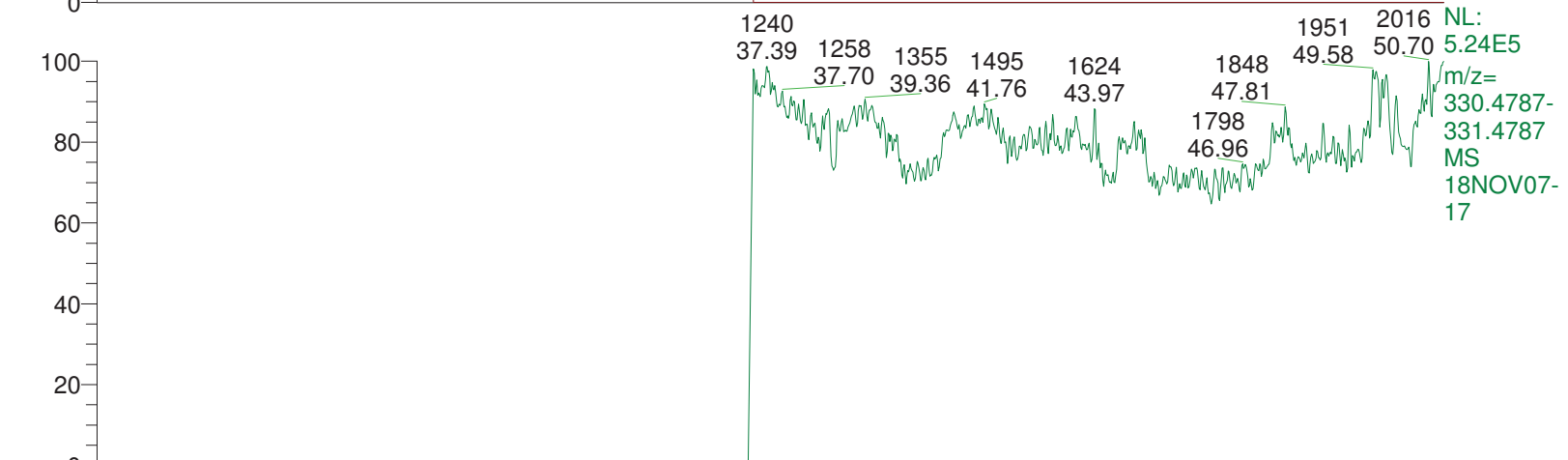
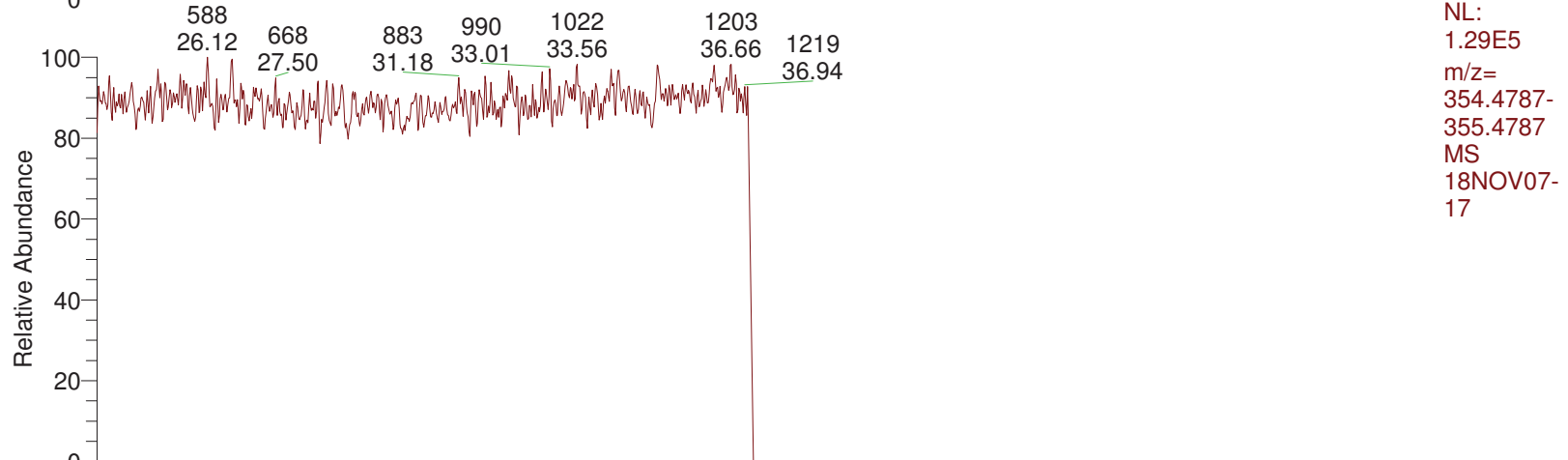
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.67	518802	A	388303	A	0.0085	8.287015	8.2870	10.000000	2184	
2	13C12-1234-TCDD	passed	24.74	3437148	A	2732176	A	0.0342	100.000000	100.0000	100.000000	7306	
3	13C12-2378-TCDF	passed	26.62	6005128	A	4746363	A	0.0139	85.517417	85.5174	100.000000	14548	

**APPROVED**  
By uma9 at 2:07 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

RT: 23.90 - 51.00



**APPROVED**  
By ulma9 at 2:07 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18



18NOV07-17

\*\*\* file opened Thu Nov 08 04:07:01 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 04:07:00

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0381	FVSR	0.0340
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	98.5000	LKM	330.9792	MASS	98.5000
MDAC	957780.3869	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9685	RELEN	0.0000
RES	12870.3600	RPUSHER	-15.8315	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.4e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12934.  
MID Time Window 2: Resolution is 12870.

Amplifier offset: 87.



18NOV07-17  
\*\*\* File closed Thu Nov 08 04:59:32 2018  
\*\*\*



### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/08 16:48  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

#### Files Parameter

Quan y:\18nov07conf\18nov07-30.quan  
Data y:\18nov07conf\18nov07-30.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.72	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.78	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.69	passed	passed	passed	passed	passed	passed	passed

### Quantitation Settings

#### Data File Parameter

Acq. Data 2018/11/08 16:48  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

#### Files Parameter

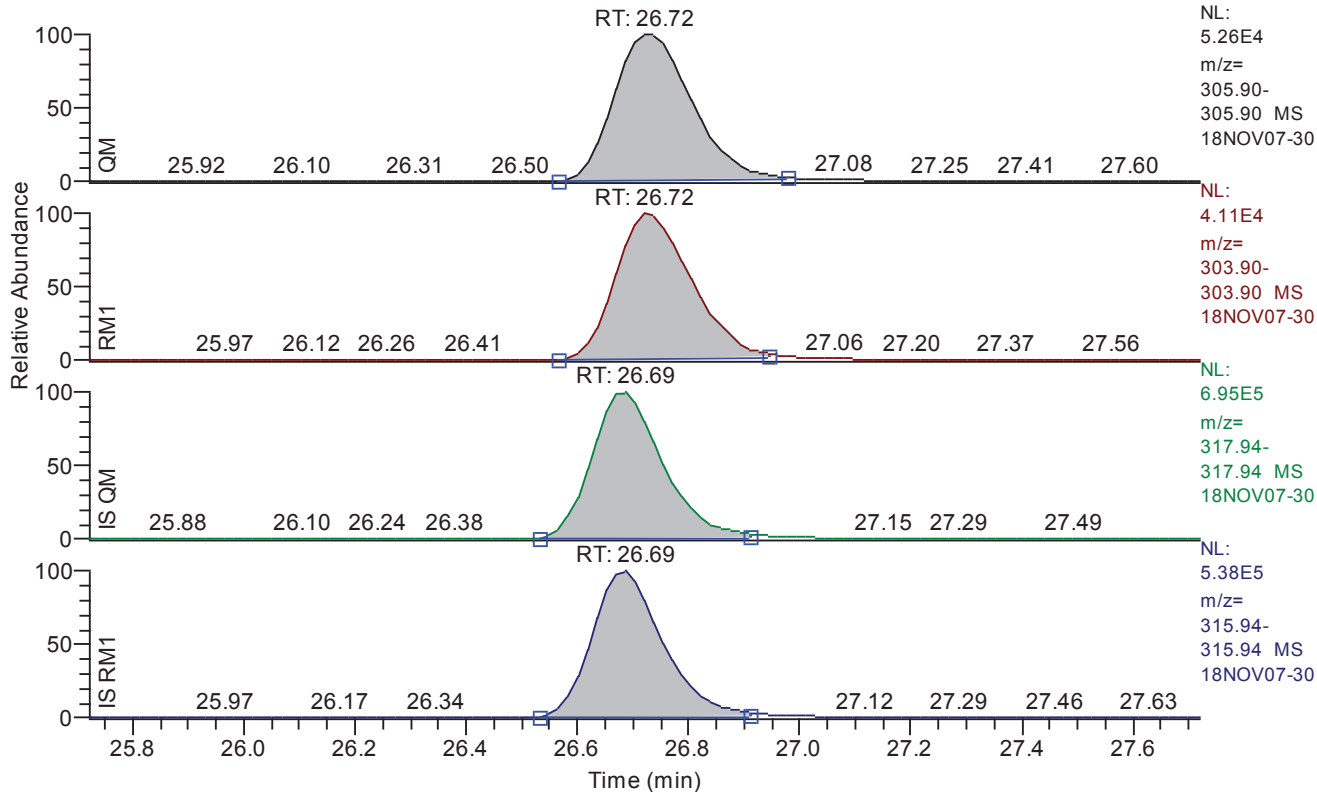
Quan y:\18nov07conf\18nov07-30.quan  
Data y:\18nov07conf\18nov07-30.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

#### Quan Parameter

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.72 - 27.72 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.72
QM Area	509206
QM Integration Mode	A
RM1 Area	384443
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0085
Unqualified Amount (A)	8.179008
Adjusted Amount (A)	8.1790
Signal-to-Noise	2182
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.72	26.72	26.72	26.69	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.78	24.78	24.78	24.78	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.69	26.69	26.69	26.69	passed	passed



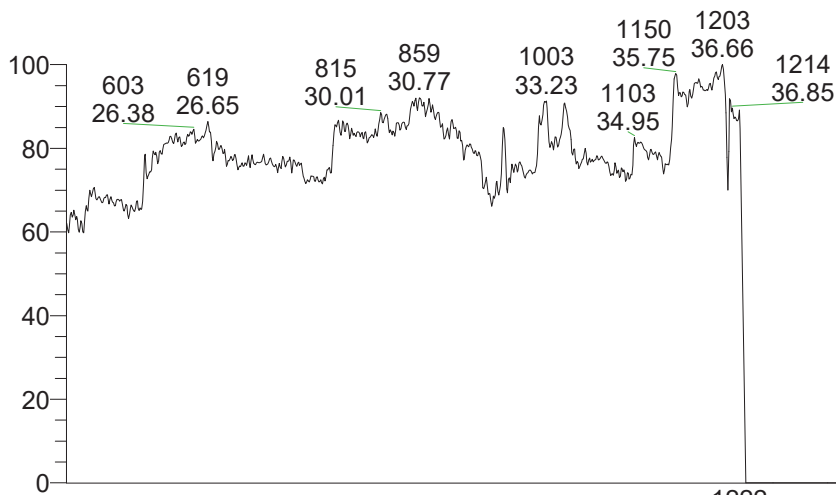
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	26.72	0.7550	0.6450 - 0.8950	passed	0.8327	1.0181	0.8094 - 1.2268	passed
2	13C12-1234-TCDD	24.78	0.7982	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
3	13C12-2378-TCDF	26.69	0.7747	0.6450 - 0.8950	passed	1.7628	2.0379	1.4163 - 2.6595	passed

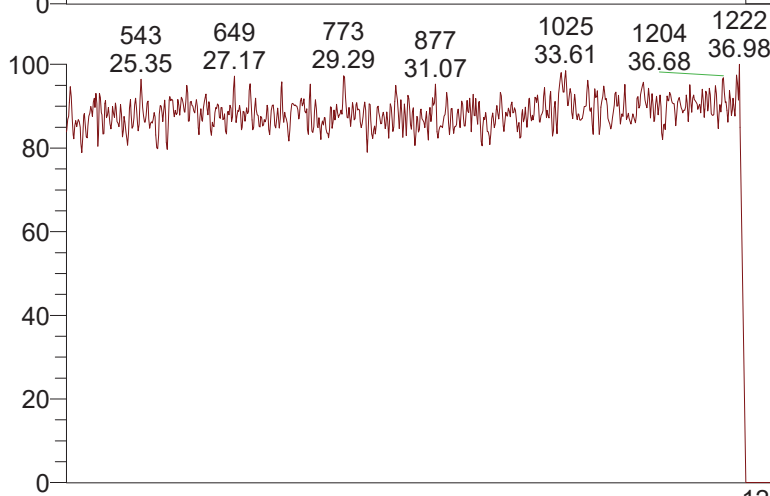
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.72	509206	A	384443	A	0.0085	8.179008	8.1790	10.000000	2182	
2	13C12-1234-TCDD	passed	24.78	3385557	A	2702453	A	0.0368	100.000000	100.0000	100.000000	6788	
3	13C12-2378-TCDF	passed	26.69	6047028	A	4684841	A	0.0141	86.501463	86.5015	100.000000	14507	

RT: 23.90 - 51.00



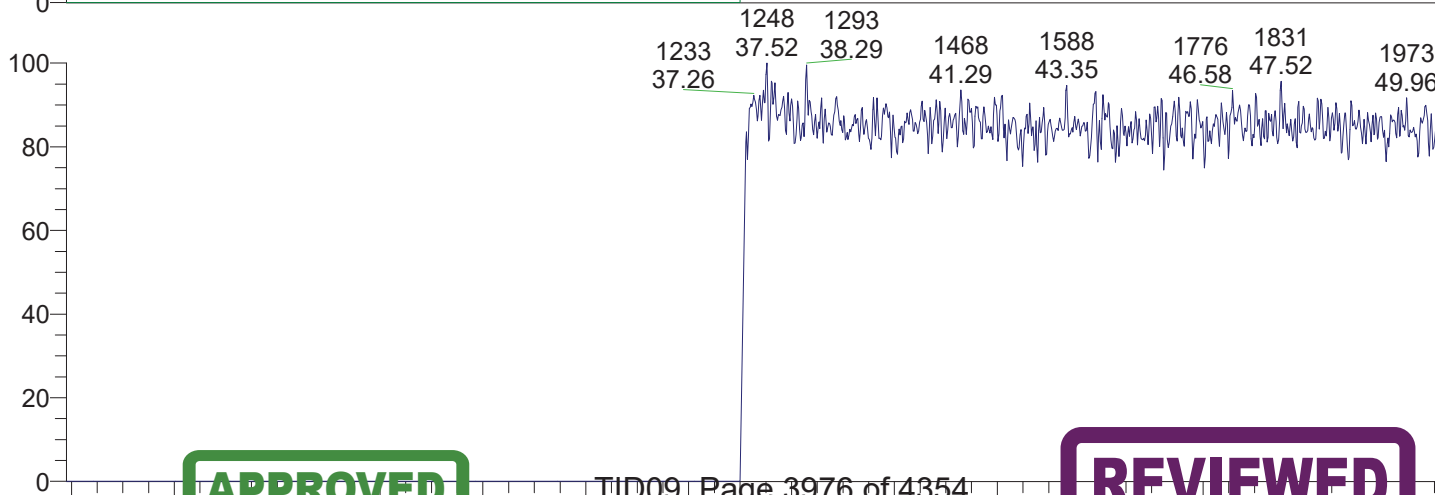
NL:  
1.09E6  
m/z=  
280.4189-  
281.4189  
MS  
18NOV07-  
30



NL:  
1.25E5  
m/z=  
354.4787-  
355.4787  
MS  
18NOV07-  
30



NL:  
5.91E5  
m/z=  
330.4787-  
331.4787  
MS  
18NOV07-  
30



NL:  
1.19E5  
m/z=  
404.4755-  
405.4755  
MS  
18NOV07-  
30

**APPROVED**  
By AQ46 at 7:21 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

\*\*\* file opened Thu Nov 08 16:53:13 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 16:53:12

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 4eed6304-d82b-42f9-aa8f-dbabb40daa7f

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-117.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0172	FVINLET	0.0379	FVSR	0.0333
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9709	RELEN	0.0000
RES	12441.8806	RPUSHER	-15.8315	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0175	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.3e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12698.  
MID Time Window 2: Resolution is 12441.

Amplifier offset: 88.



18NOV07-30  
\*\*\* File closed Thu Nov 08 17:45:44 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/10 15:54  
Number of Entries 3  
Comment  
Vial 2  
Sample Name TDTFWD ST1808937C  
Sample ID CPS02  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

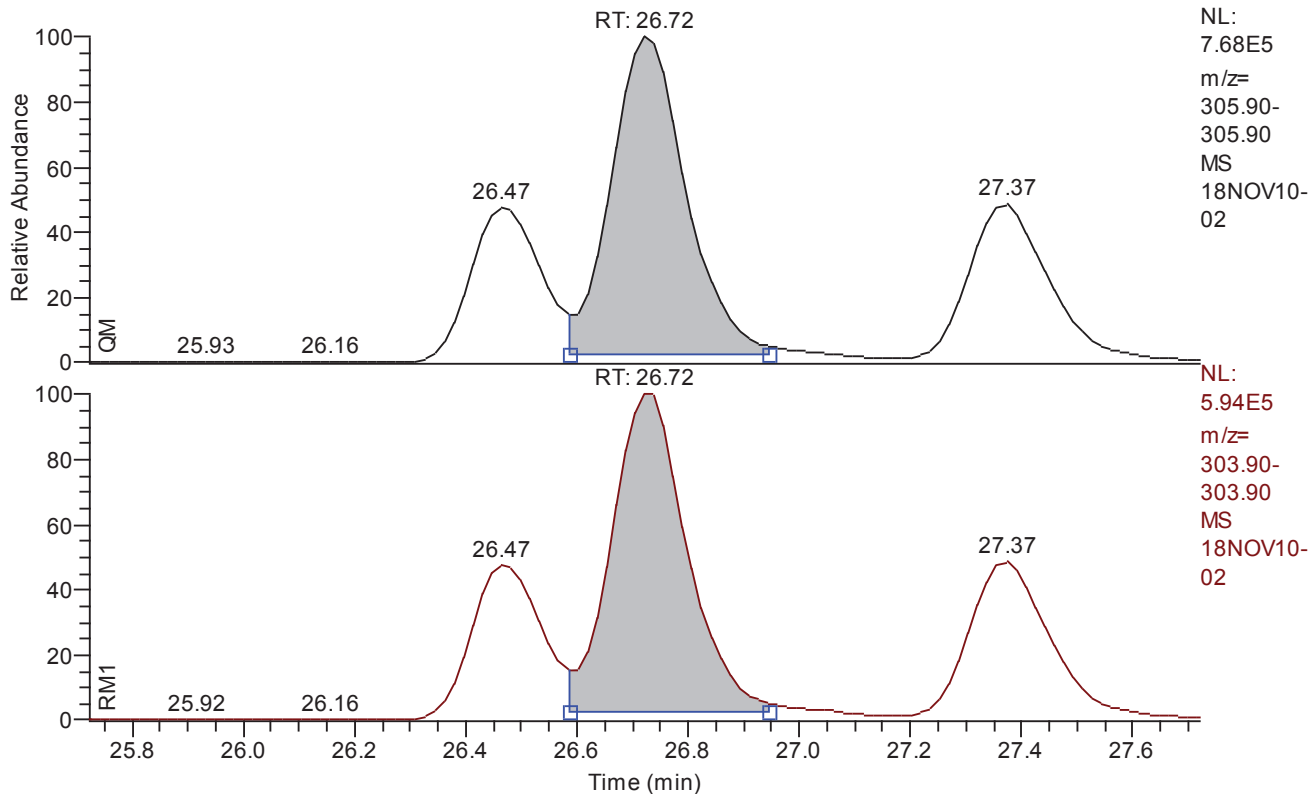
Quan y:\18nov10conf\18nov10-02.quan  
Data y:\18nov10conf\18nov10-02.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

### Chromatogram

RT: 25.72 - 27.72 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

### Entry Parameters

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	M
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	M
ManInt	1
QM Retention Time	26.72
QM Left Baseline Height	19538.61
QM Height	748619
QM Right Height	17567
GC Res (%) left	12.355768



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/10 15:54  
Number of Entries 3  
Comment  
Vial 2  
Sample Name TDTFWD ST1808937C  
Sample ID CPS02  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

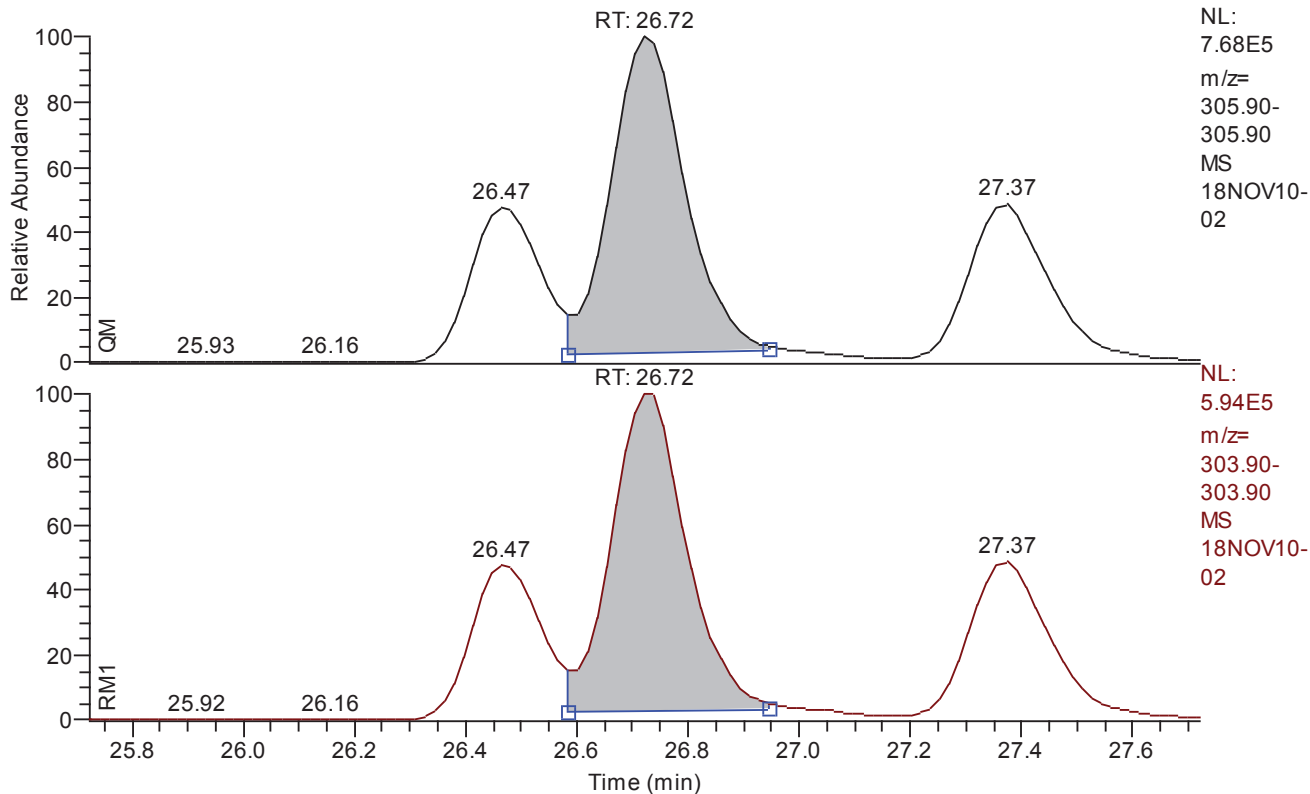
Quan y:\18nov10conf\18nov10-02.quan  
Data y:\18nov10conf\18nov10-02.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.72 - 27.72 SM: 3G



NL:  
 7.68E5  
 m/z=  
 305.90-  
 305.90  
 MS  
 18NOV10-  
 02

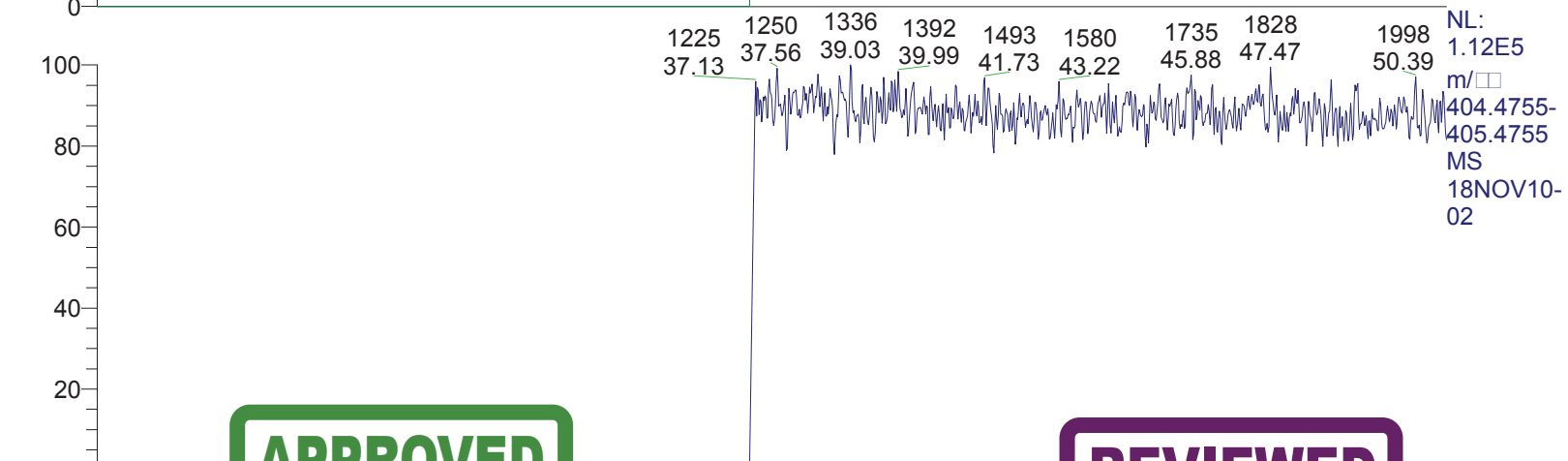
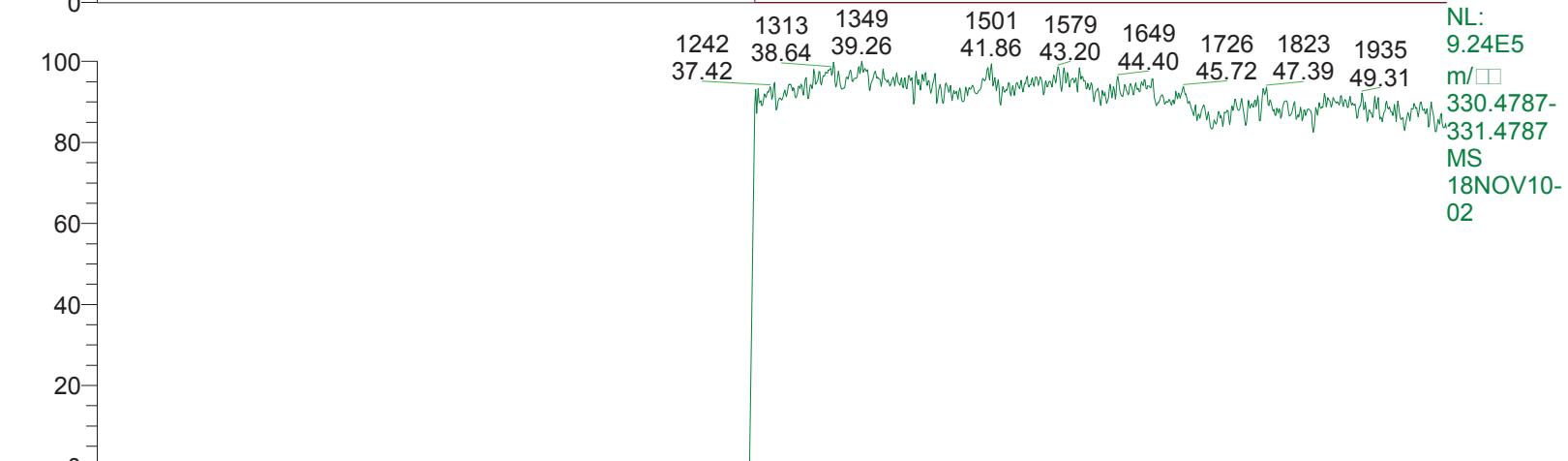
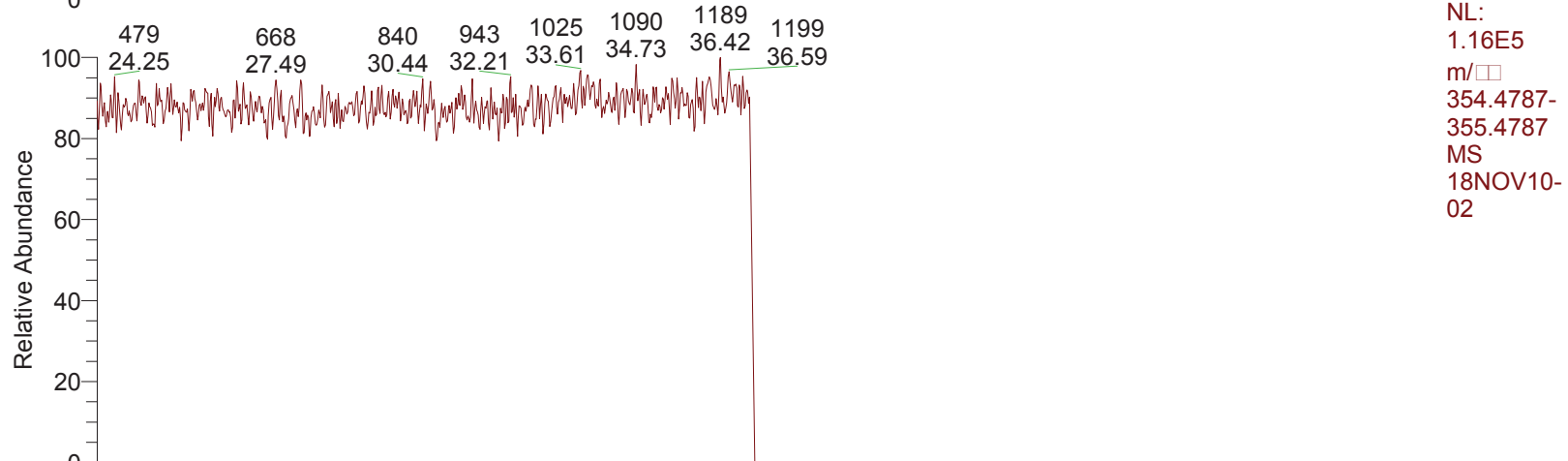
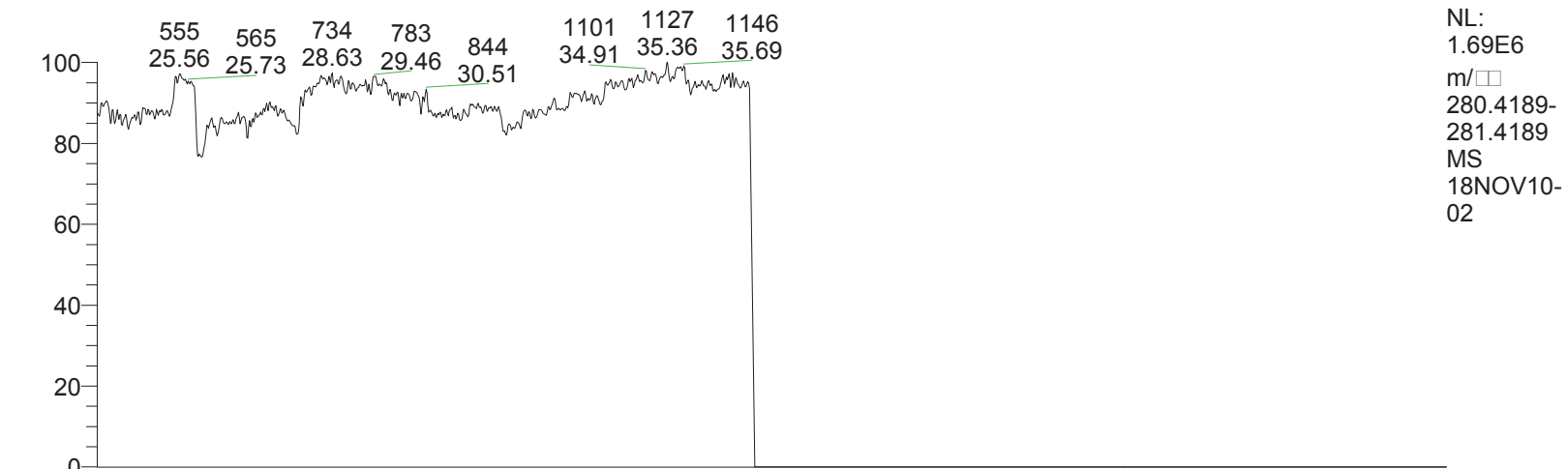
NL:  
 5.94E5  
 m/z=  
 303.90-  
 303.90  
 MS  
 18NOV10-  
 02

Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Smoothing Points	3
Compound Name	2378-TCDF
Quan. Mass	305.8987 +/- 5 ppm
QM Integration Mode	A
Ratio Mass 1	303.9016 +/- 5 ppm
RM1 Integration Mode	A
ManInt	1
QM Retention Time	26.72
QM Left Baseline Height	19538.61
QM Height	744085
QM Right Height	5663
GC Res (%) left	12.431063

RT: 23.90 - 51.00



**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

\*\*\* file opened Sat Nov 10 15:58:35 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 10-Nov-18 15:58:34

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 34833095-402f-4a49-92ba-731aaa215b3e

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-105.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0170	FVINLET	0.0381	FVSR	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	624.0000
LENS_SYM	-4.7500	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-17.0000	RECURR	0.9685	RELEN	0.0000
RES	11824.8766	RPUSHER	-16.8132	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	658.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0176	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	934.0000
XLENS_SYM	2.0000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.1e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11541.  
MID Time Window 2: Resolution is 11824.

Amplifier offset: 88.



18NOV10-02  
\*\*\* File closed Sat Nov 10 16:51:07 2018  
\*\*\*



**Quantitation Settings**

**Data File Parameter**

Acq. Data 2018/11/10 16:56  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC02  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18nov10conf\18nov10-03.quan  
Data y:\18nov10conf\18nov10-03.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.70	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.75	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.65	passed	passed	passed	passed	passed	passed	passed

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/10 16:56  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC02  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

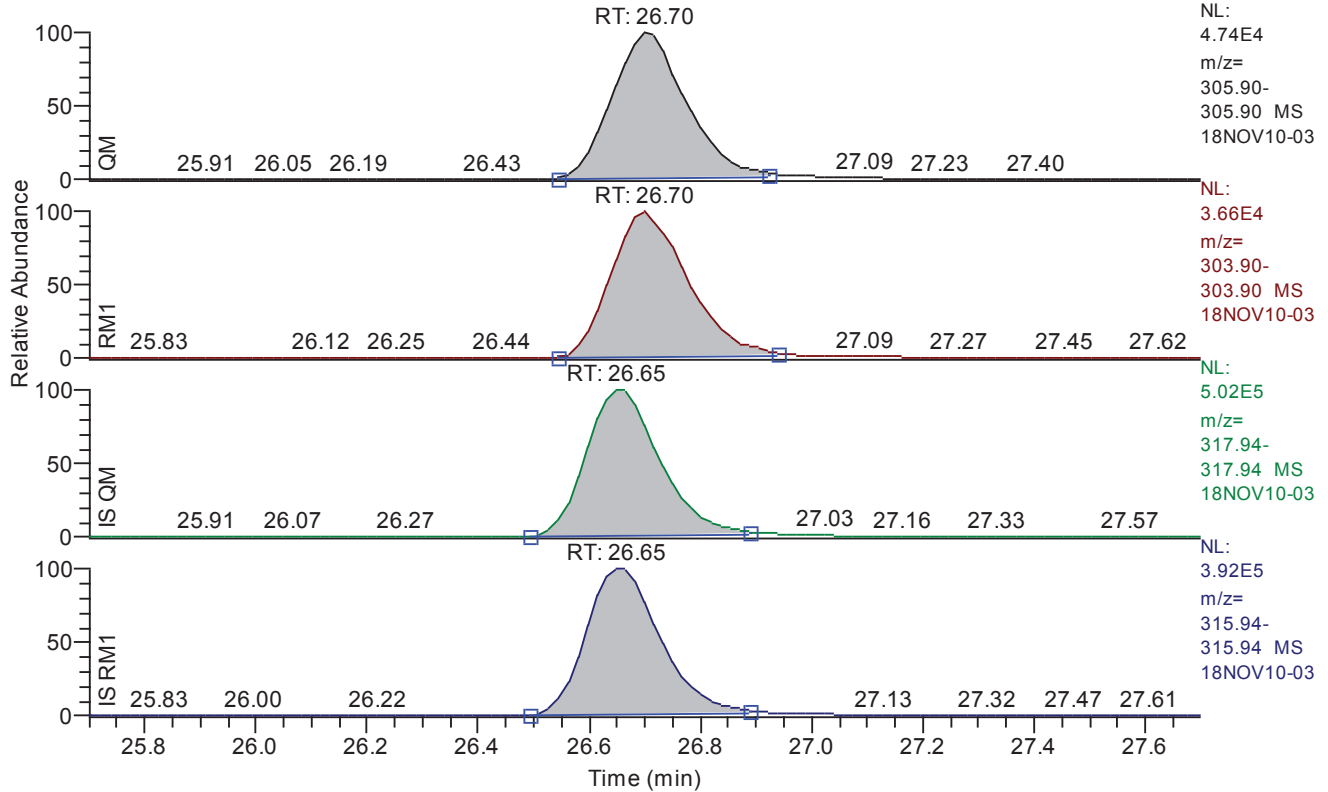
Quan y:\18nov10conf\18nov10-03.quan  
Data y:\18nov10conf\18nov10-03.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.70 - 27.70 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.70
QM Area	430939
QM Integration Mode	A
RM1 Area	344760
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0125
Unqualified Amount (A)	9.335991
Adjusted Amount (A)	9.3360
Signal-to-Noise	1837
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.81	26.70	26.70	26.65	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.85	24.75	24.75	24.75	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.75	26.65	26.65	26.65	passed	passed

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	26.70	0.8000	0.6450 - 0.8950	passed	0.9505	1.0181	0.8094 - 1.2268	passed
2	13C12-1234-TCDD	24.75	0.7895	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
3	13C12-2378-TCDF	26.65	0.7912	0.6450 - 0.8950	passed	1.8564	2.0379	1.4163 - 2.6595	passed

**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
 By uild at 3:13 pm, 11/12/18

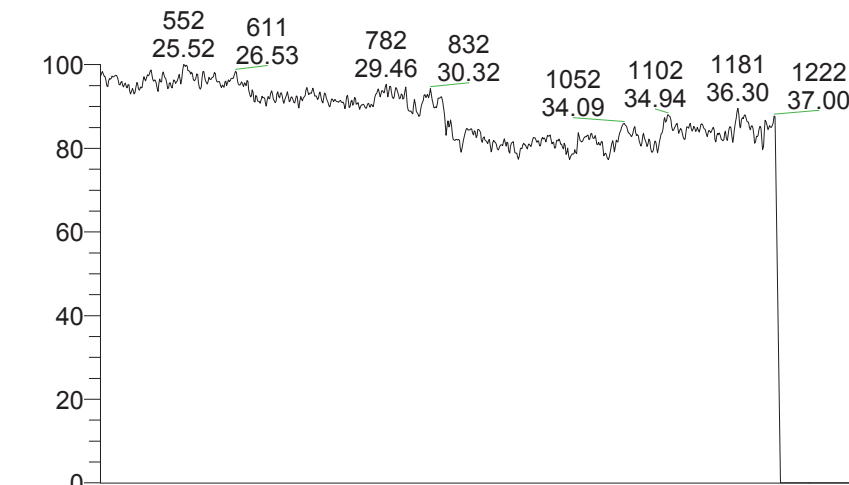
**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.70	430939	A	344760	A	0.0125	9.335991	9.3360	10.000000	1837	
2	13C12-1234-TCDD	passed	24.75	2456638	A	1939474	A	0.0428	100.000000	100.0000	100.000000	5841	
3	13C12-2378-TCDF	passed	26.65	4556198	A	3604780	A	0.0188	91.095515	91.0955	100.000000	11003	

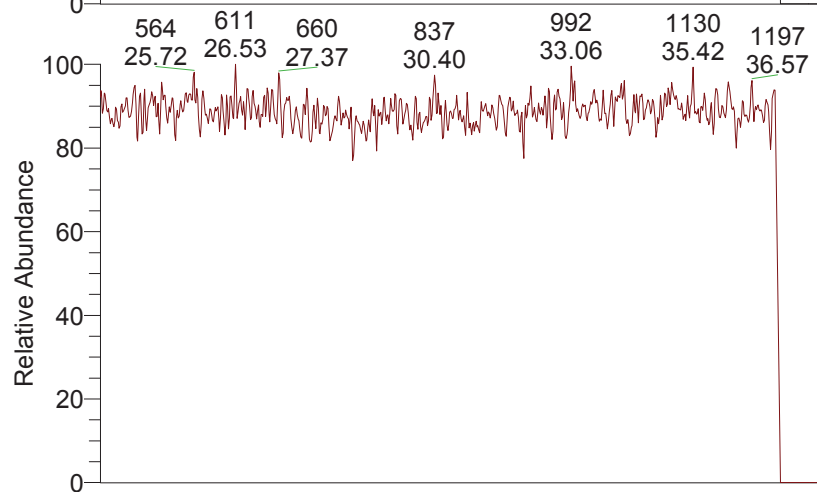
**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

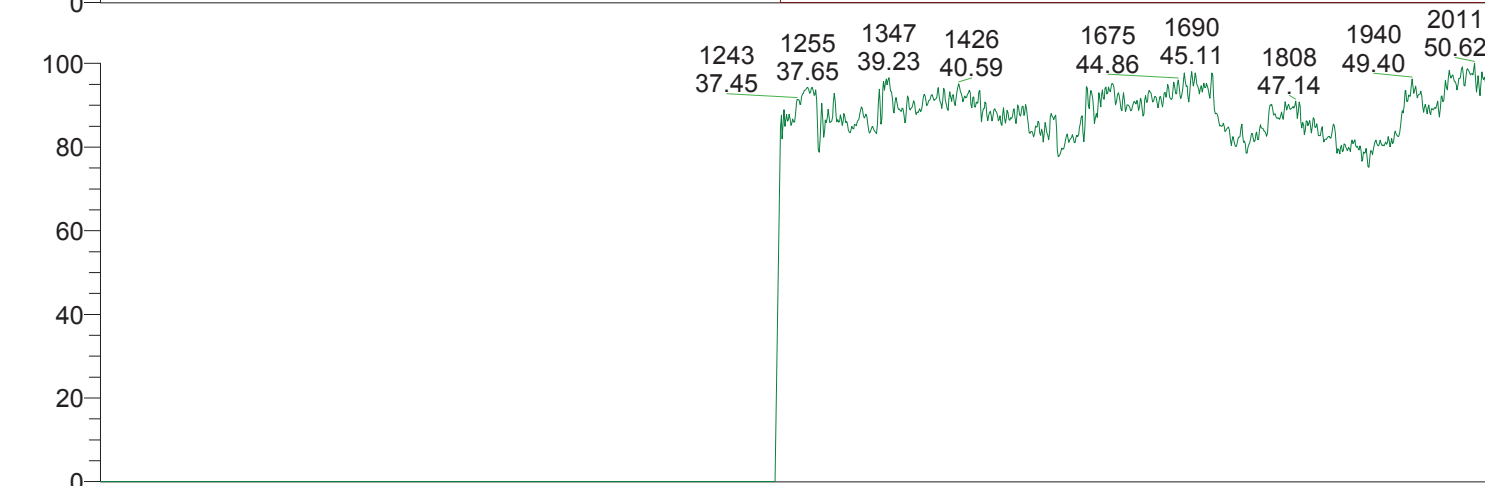
RT: 23.90 - 51.00



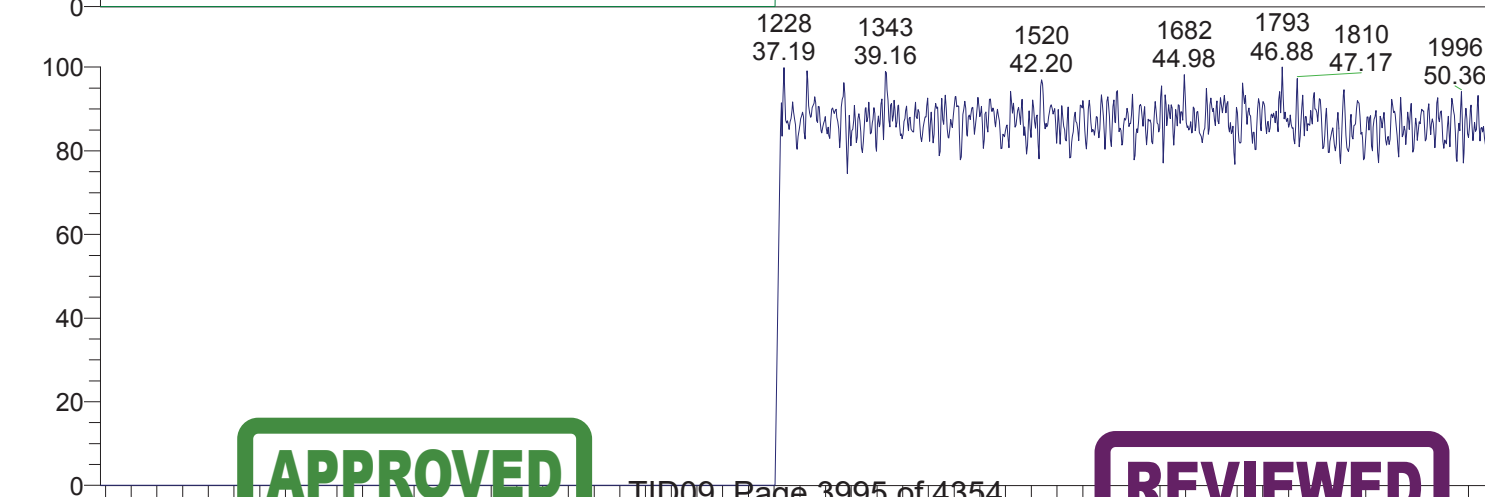
NL: 1.63E6  
m/[] 280.4189-281.4189 MS 18NOV10-03



NL: 1.14E5  
m/[] 354.4787-355.4787 MS 18NOV10-03



NL: 8.84E5  
m/[] 330.4787-331.4787 MS 18NOV10-03



NL: 1.13E5  
m/[] 404.4755-405.4755 MS 18NOV10-03

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

\*\*\* file opened Sat Nov 10 17:01:16 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 10-Nov-18 17:01:15

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 34833095-402f-4a49-92ba-731aaa215b3e

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	98.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-105.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0381	FVSR	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	624.0000
LENS_SYM	-4.7500	LM	650.0000	LMII	500.0000
LMASS	98.5000	LKM	330.9792	MASS	98.5000
MDAC	957780.3869	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-17.0000	RECURR	0.9690	RELEN	0.0000
RES	11830.6756	RPUSHER	-16.7985	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	658.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0176	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.5000	XLENS_POT	934.0000
XLENS_SYM	2.0000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.0e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11327.  
MID Time Window 2: Resolution is 11830.

Amplifier offset: 87.





18NOV10-03  
\*\*\* File closed Sat Nov 10 17:53:48 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/10 22:23  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18nov10conf\18nov10-09.quan  
Data y:\18nov10conf\18nov10-09.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.75	passed	passed	passed	passed	passed	passed	passed
2	13C12-1234-TCDD	24.81	passed	passed	passed	passed	passed	passed	passed
3	13C12-2378-TCDF	26.69	passed	passed	passed	passed	passed	passed	passed

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

**Quantitation Settings**

**Data File Parameter**

Acq. Data 2018/11/10 22:23  
Number of Entries 3  
Comment  
Vial 6  
Sample Name VER-CALDF41837C  
Sample ID CS3CC03  
Inst ID DF18471-18NOV10Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo  
Barcode

**Files Parameter**

Quan y:\18nov10conf\18nov10-09.quan  
Data y:\18nov10conf\18nov10-09.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

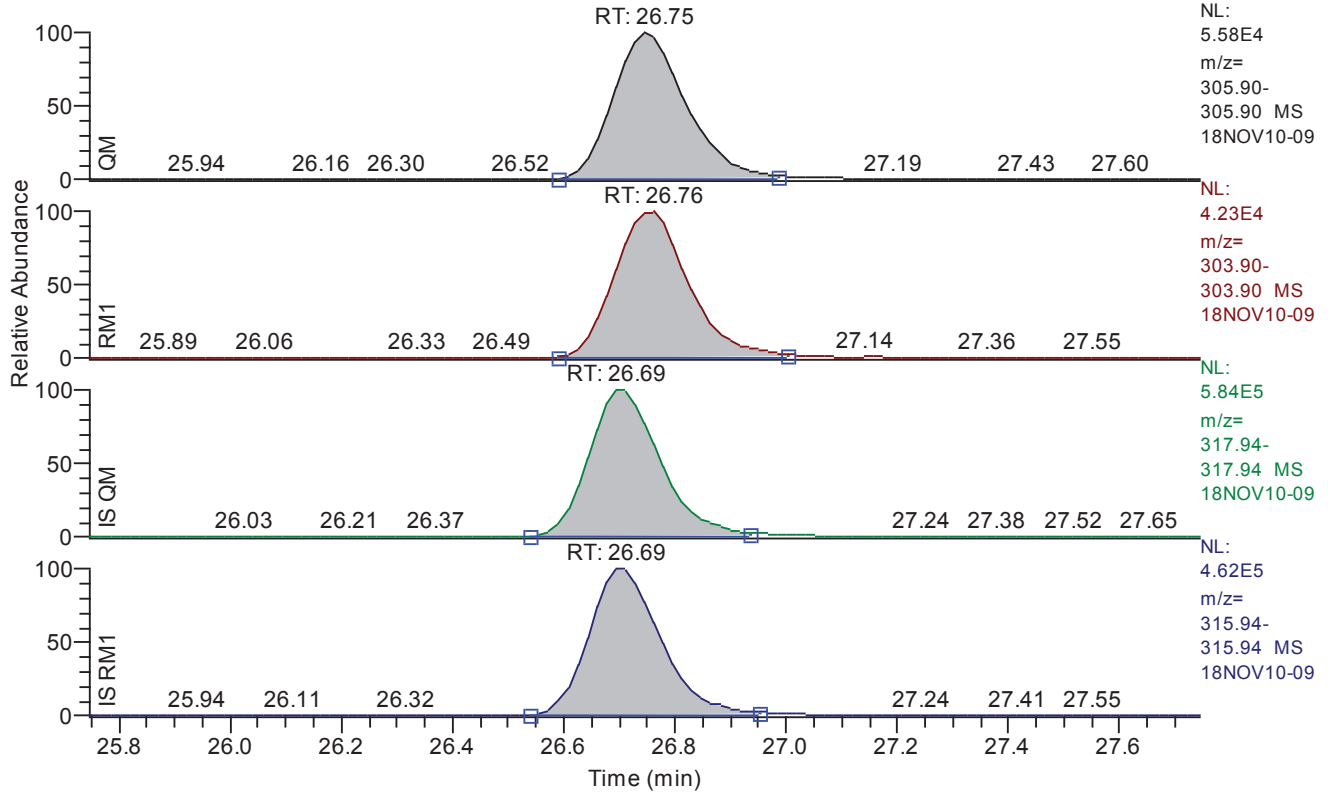
**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 1.0  
Sample Weight [hSWT] 1.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0



**Chromatogram**

RT: 25.75 - 27.75 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.75
QM Area	500046
QM Integration Mode	A
RM1 Area	389761
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0123
Unqualified Amount (A)	9.455703
Adjusted Amount (A)	9.4557
Signal-to-Noise	1871
Client Flags	
Status Overview	passed
Status Info	



**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.81	26.75	26.76	26.69	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.85	24.81	24.81	24.81	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.75	26.69	26.69	26.69	passed	passed

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Calculated RF (A)	Response File RF (A)	RF Limit	RF Status
1	2378-TCDF	26.75	0.7794	0.6450 - 0.8950	passed	0.9627	1.0181	0.8094 - 1.2268	passed
2	13C12-1234-TCDD	24.81	0.8081	0.6450 - 0.8950	passed	1.0000	1.0000	1.0000 - 1.0000	passed
3	13C12-2378-TCDF	26.69	0.7957	0.6450 - 0.8950	passed	1.8951	2.0379	1.4163 - 2.6595	passed

**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
 By uild at 3:13 pm, 11/12/18

**Entry Parameters**

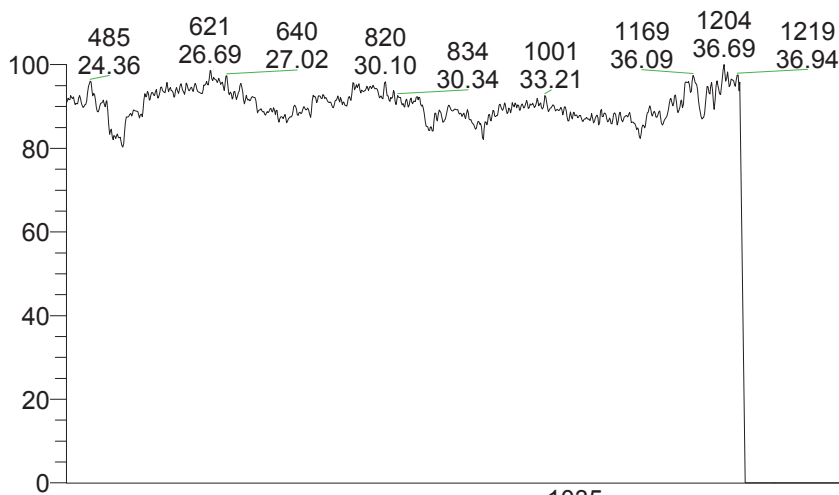
No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	26.75	500046	A	389761	A	0.0123	9.455703	9.4557	10.000000	1871	
2	13C12-1234-TCDD	passed	24.81	2697555	A	2179785	A	0.0583	100.000000	100.0000	100.000000	4292	
3	13C12-2378-TCDF	passed	26.69	5147178	A	4095776	A	0.0192	92.993205	92.9932	100.000000	11310	

**APPROVED**  
 By uma9 at 1:52 pm, 11/12/18

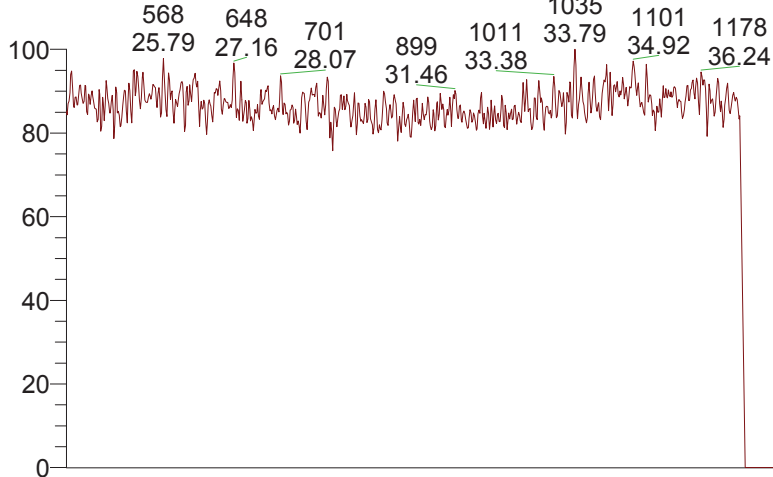
**REVIEWED**  
 By uild at 3:13 pm, 11/12/18



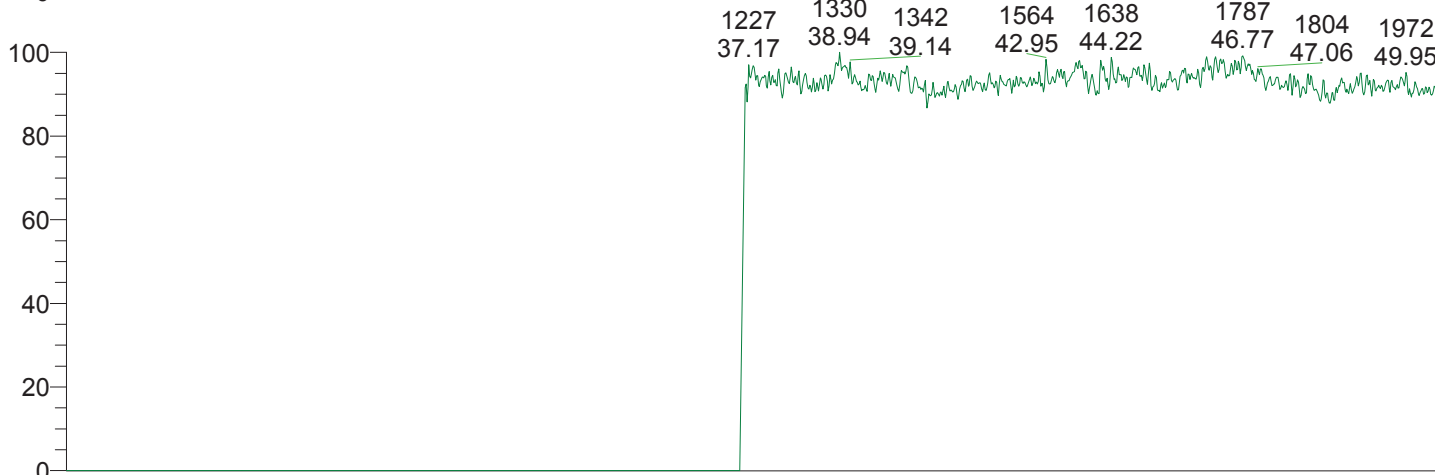
RT: 23.90 - 51.00



NL:  
1.51E6  
m/□  
280.4189-  
281.4189  
MS  
18NOV10-  
09



NL:  
1.14E5  
m/□  
354.4787-  
355.4787  
MS  
18NOV10-  
09



NL:  
8.21E5  
m/□  
330.4787-  
331.4787  
MS  
18NOV10-  
09



NL:  
1.09E5  
m/□  
404.4755-  
405.4755  
MS  
18NOV10-  
09

**APPROVED**  
By uma9 at 1:52 pm, 11/12/18

**REVIEWED**  
By uild at 3:13 pm, 11/12/18

18NOV10-09

\*\*\* file opened Sat Nov 10 22:27:51 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 10-Nov-18 22:27:51

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : 34833095-402f-4a49-92ba-731aaa215b3e

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	99.0000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9995	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-44.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0376	FVSRC	0.0336
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSRC	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	624.0000
LENS_SYM	-4.7500	LM	650.0000	LMII	500.0000
LMASS	99.0000	LKM	330.9792	MASS	99.0000
MDAC	963202.2819	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-17.0000	RECURR	0.9714	RELEN	0.0000
RES	11891.2540	RPUSHER	-16.8718	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	658.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0183	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	99.0000	XLENS_POT	934.0000
XLENS_SYM	2.0000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 6.9e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.7e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 11341.  
MID Time Window 2: Resolution is 11891.

Amplifier offset: 88.



18NOV10-09  
\*\*\* File closed Sat Nov 10 23:20:23 2018  
\*\*\*



**Raw QC Data**

**Dioxins/Furans by HRMS**

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 21:09  
Number of Entries 284  
Comment BLK:11030:12937  
Vial 62  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID BLK309016  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-15.quan  
Data w:\18nov06\18nov06-15.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.81	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.92	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
3	12378-PeCDF	34.93	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
4	23478-PeCDF	36.24	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
5	12378-PeCDD	36.67	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
6	123478-HxCDF	39.99	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
7	123678-HxCDF	40.15	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
8	234678-HxCDF	40.88	passed	passed	passed	passed	passed	passed	passed
9	1234678-HxCDD	41.06	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
10	123678-HxCDD	41.19	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.65	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
14	1234678-HpCDD	44.88	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
15	1234789-HpCDF	45.43	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
16	OCDD	47.92	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.10	failed	passed	passed	failed	passed	passed	Failed on: Ratio1A
18	13C12-1278-TCDD (CRS)	30.33	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.05	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.89	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.79	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.90	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.90	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.23	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.63	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	39.99	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.14	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.86	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.05	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.17	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.50	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.90	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.63	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.86	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.43	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.92	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.09	passed	passed	passed	passed	passed	passed	passed

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/06 21:09
Number of Entries	284
Comment	BLK:11030:12937
Vial	62
Sample Name	SW-846 8290A Feb 2007 Rev 1 18309016
Sample ID	BLK309016
Inst ID	DF17280-18NOV06
Client	
Analyst	maz02012
GC Column	DB5MS 60 M x 0.25um x 0.25mm
BatchNo	18309016
Barcode	

**Files Parameter**

Quan	w:\18nov06\18nov06-15.quan
Data	w:\18nov06\18nov06-15.raw
Response	w:\responsefiles\df17280-18nov02dfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

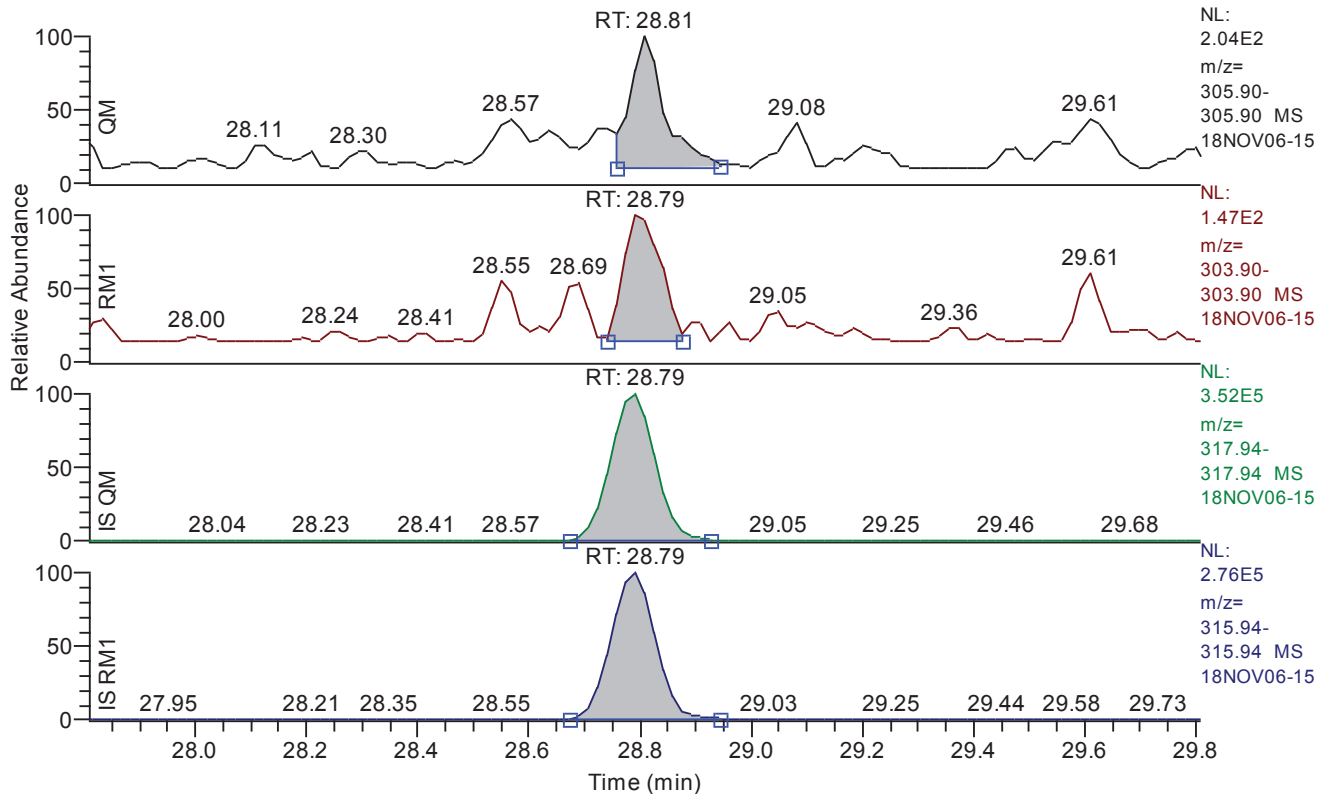
**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0



**Chromatogram**

RT: 27.81 - 29.81 SM: 3G

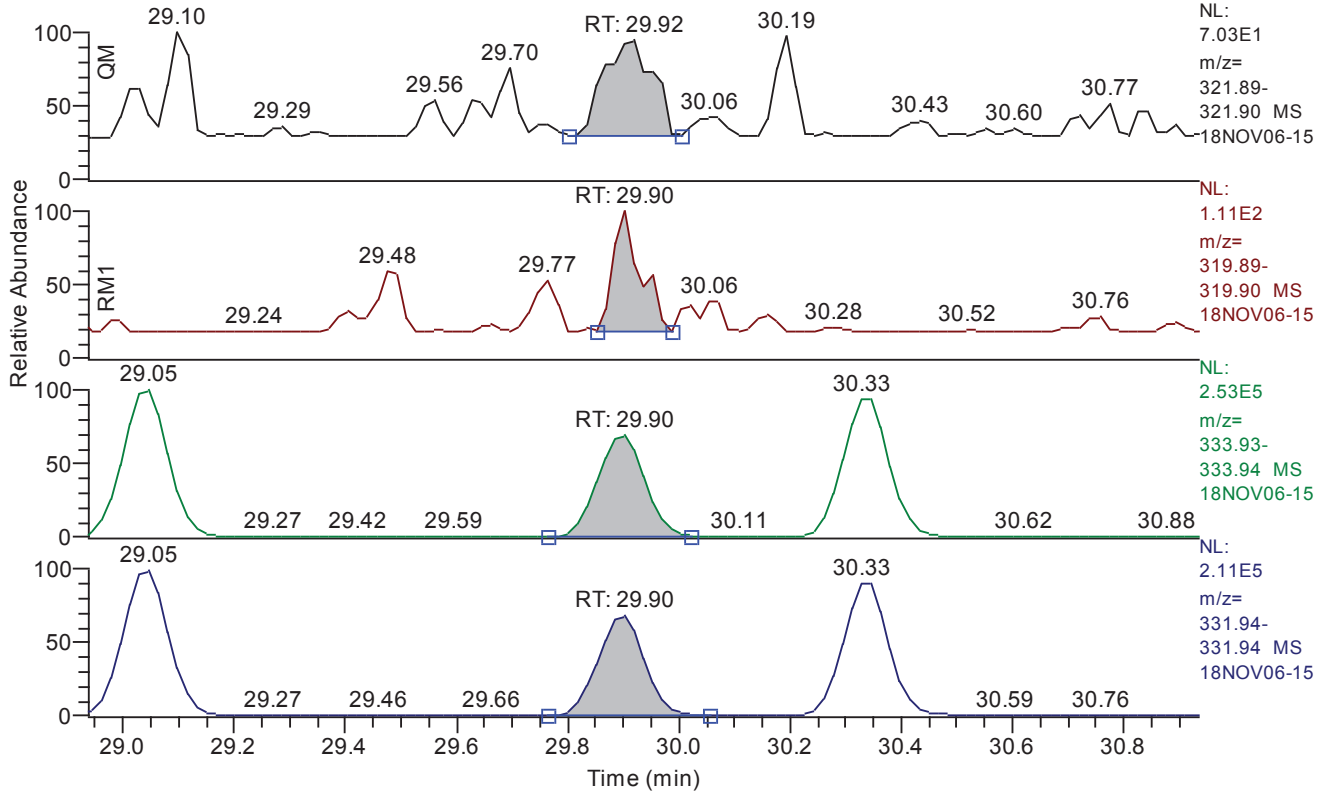


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.81
QM Area	788
QM Integration Mode	A
RM1 Area	592
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0156
Unqualified Amount (A)	0.083858
Adjusted Amount (A)	0.0839
Signal-to-Noise	17
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.94 - 30.94 SM: 3G

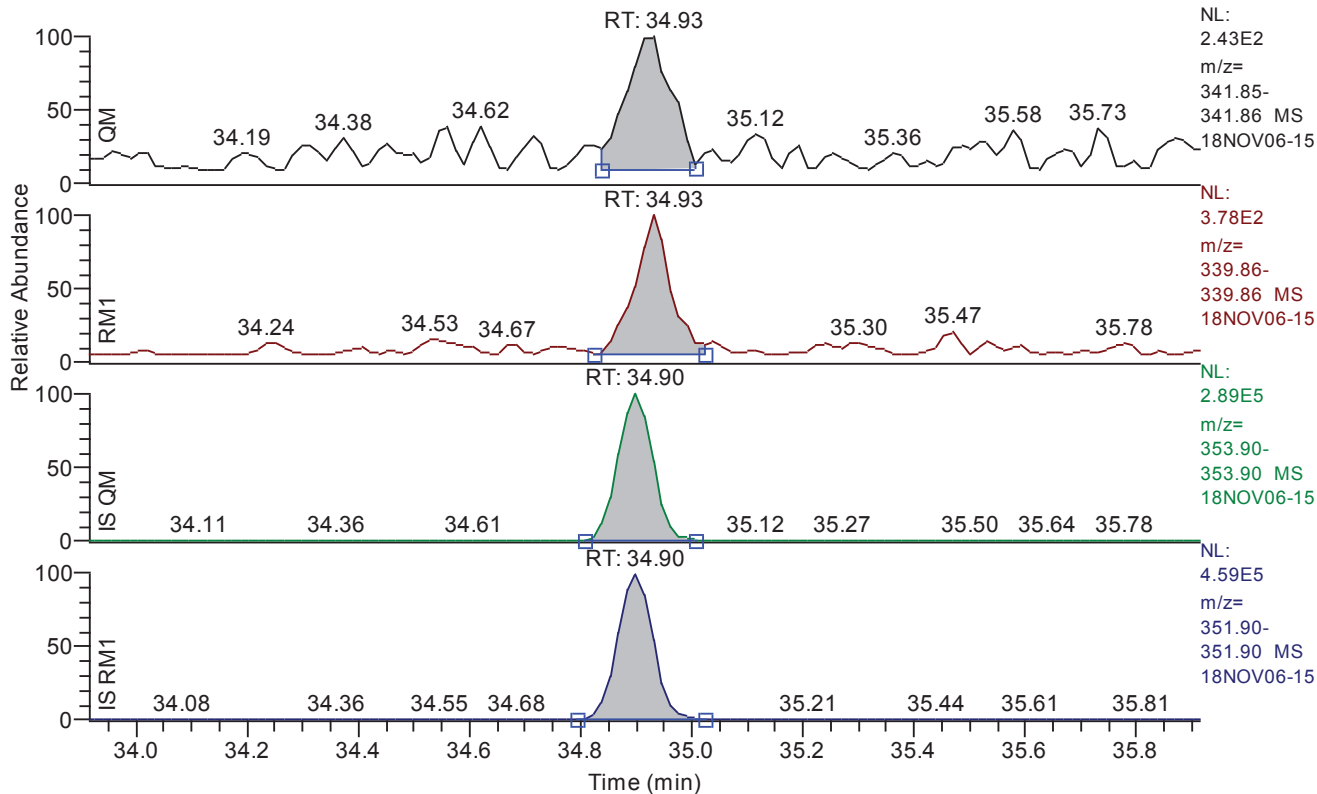


**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.92
QM Area	287
QM Integration Mode	A
RM1 Area	325
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0120
Unqualified Amount (A)	0.058475
Adjusted Amount (A)	n.d.
Signal-to-Noise	16
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 33.92 - 35.92 SM: 3G

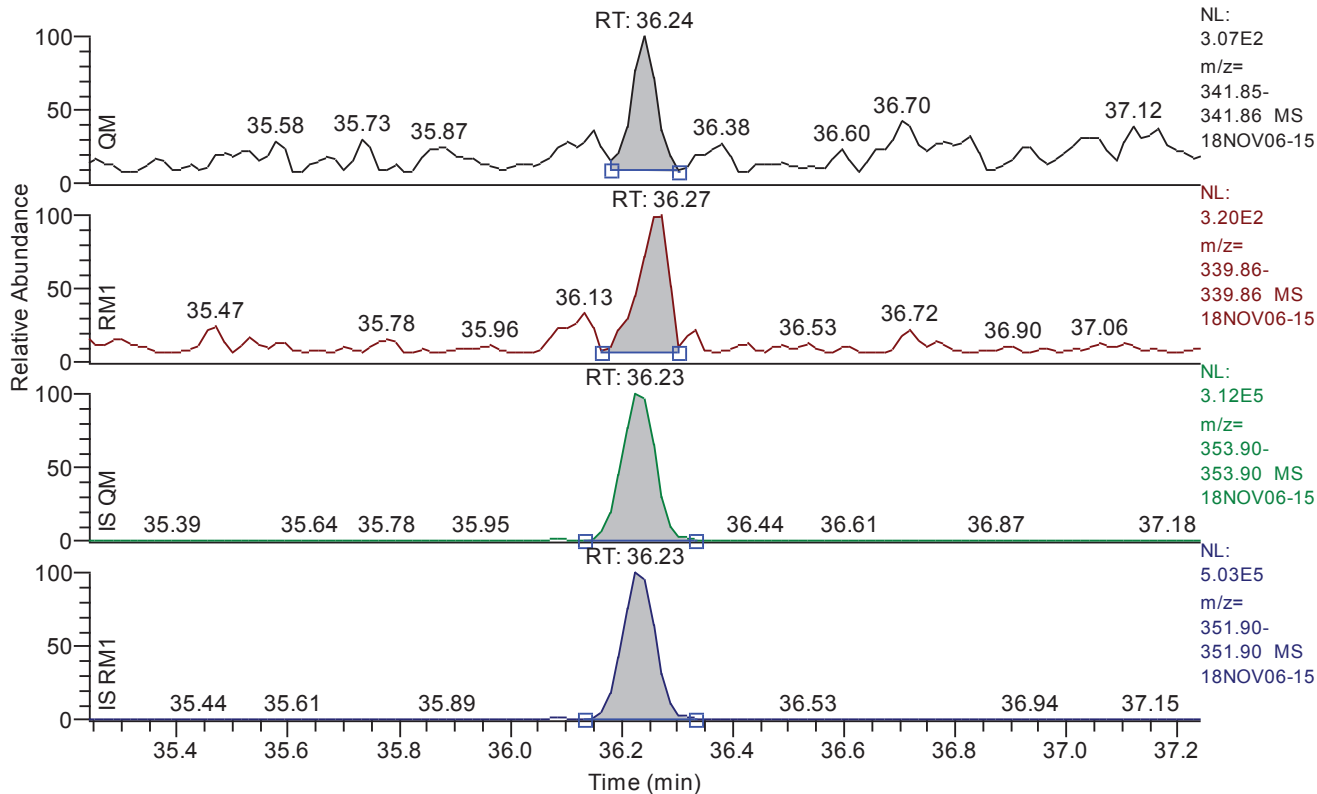


**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.93
QM Area	1241
QM Integration Mode	A
RM1 Area	1582
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0147
Unqualified Amount (A)	0.201399
Adjusted Amount (A)	n.d.
Signal-to-Noise	31
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 35.24 - 37.24 SM: 3G

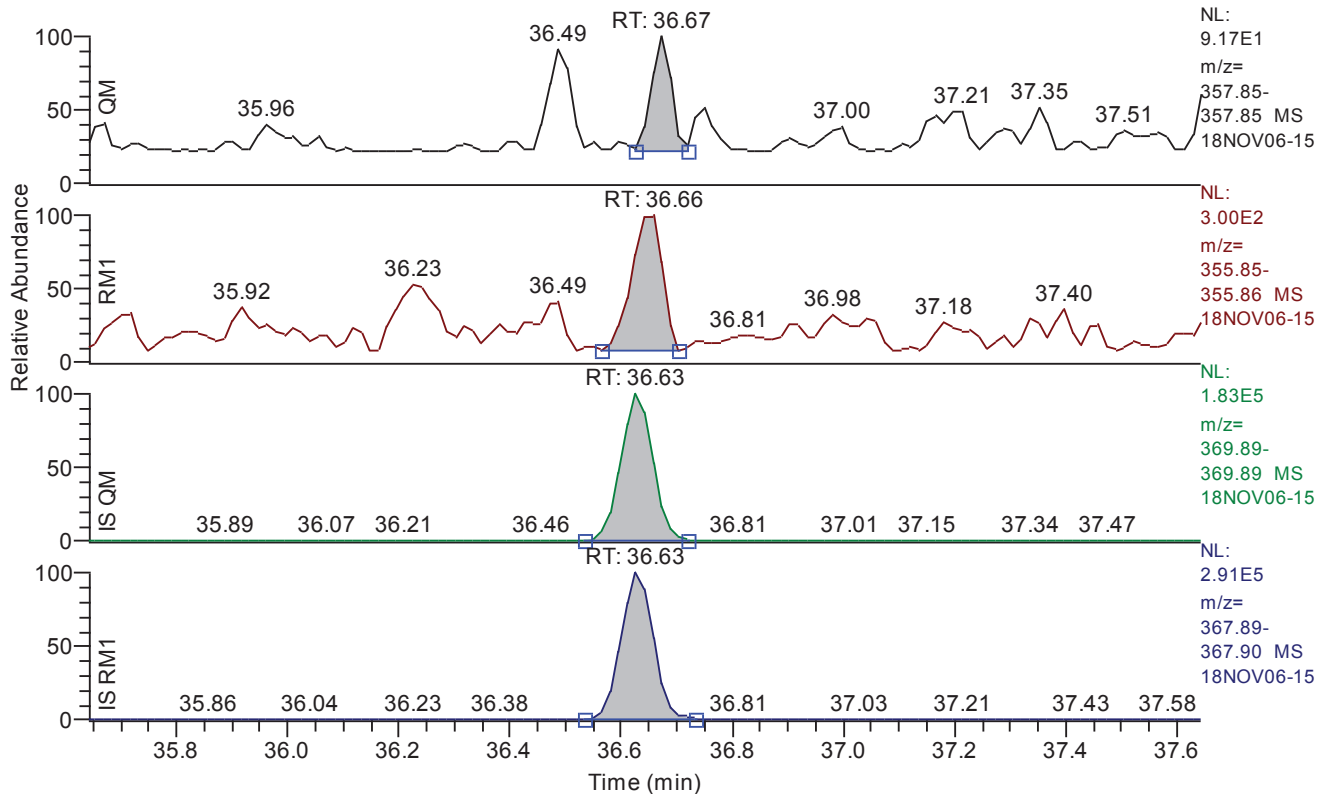


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.24
QM Area	868
QM Integration Mode	A
RM1 Area	1129
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0120
Unqualified Amount (A)	0.122525
Adjusted Amount (A)	n.d.
Signal-to-Noise	31
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 35.64 - 37.64 SM: 3G

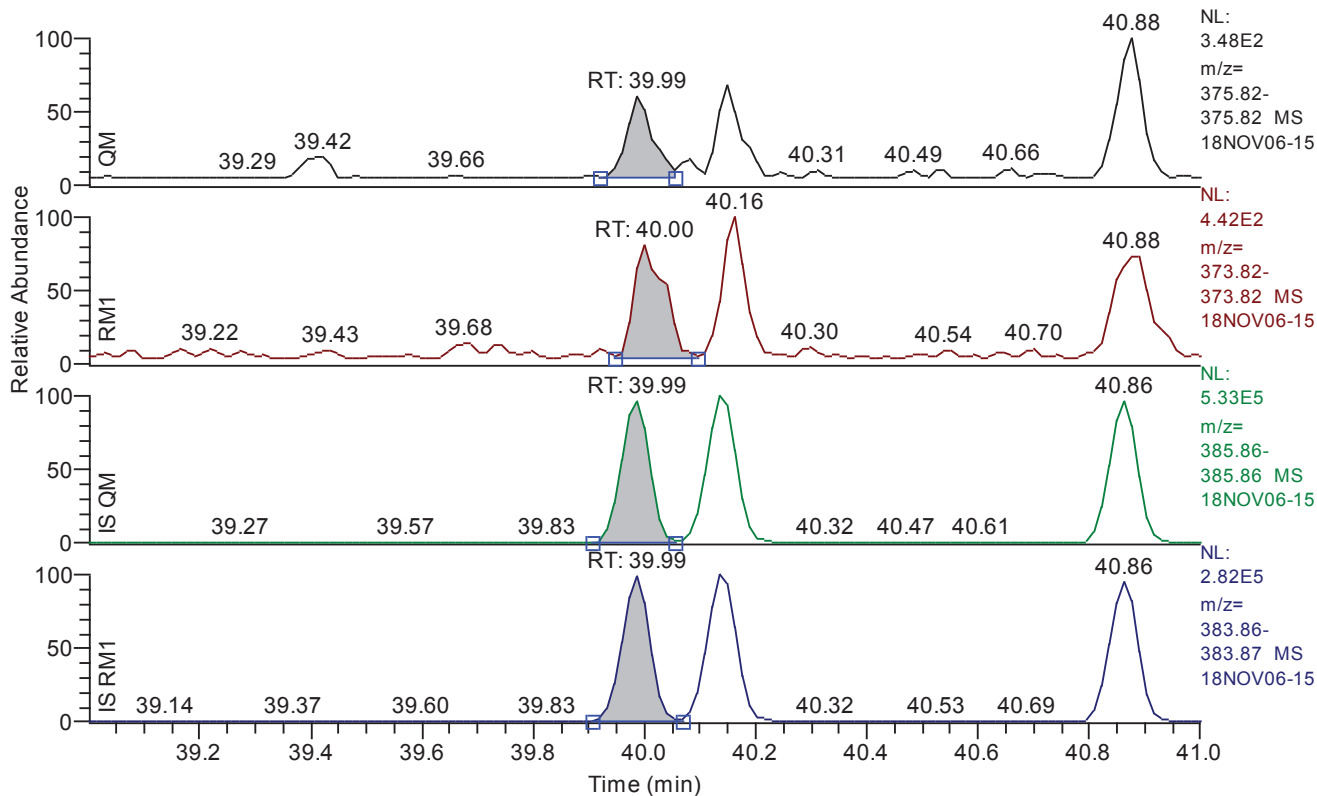


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	177
QM Integration Mode	A
RM1 Area	1059
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0299
Unqualified Amount (A)	0.144742
Adjusted Amount (A)	n.d.
Signal-to-Noise	14
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.00 - 41.00 SM: 3G

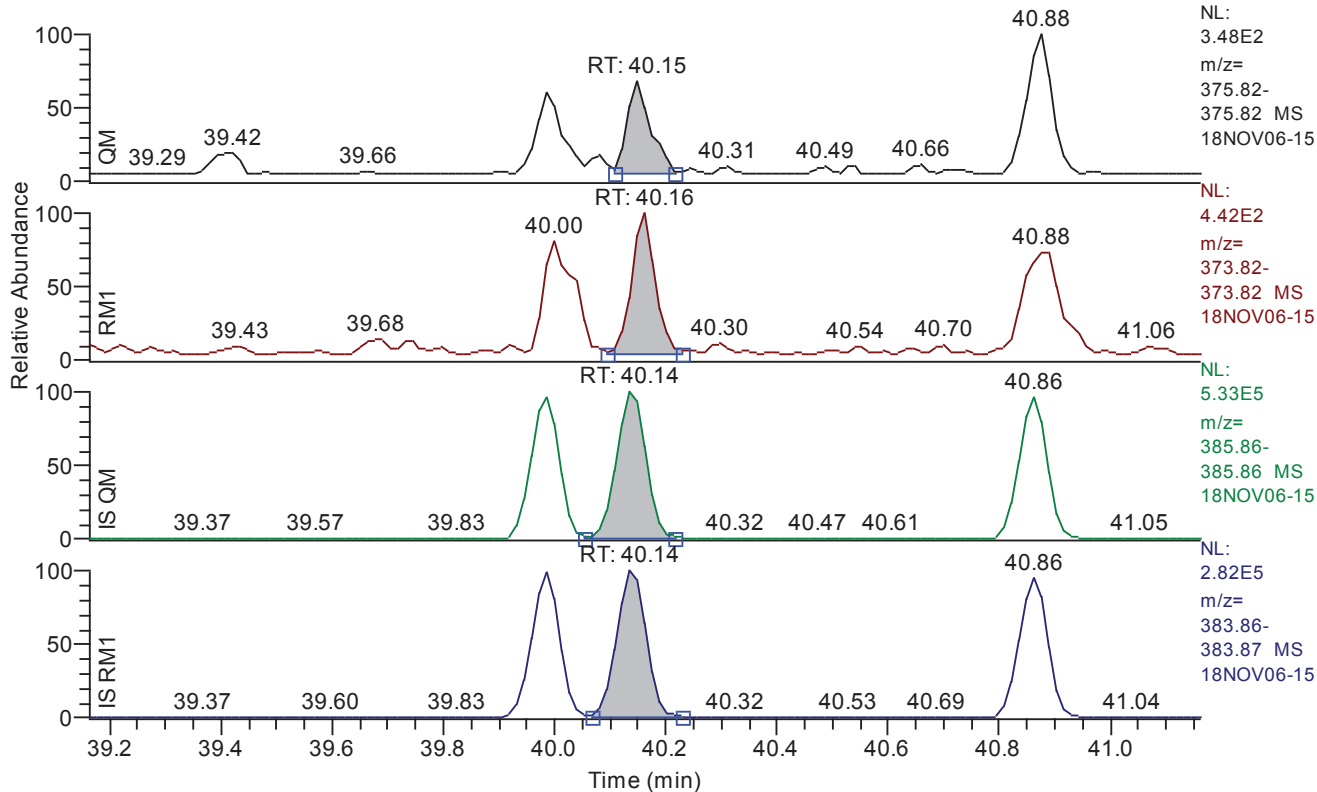


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	39.99
QM Area	623
QM Integration Mode	A
RM1 Area	1286
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	0.127692
Adjusted Amount (A)	n.d.
Signal-to-Noise	36
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.16 - 41.16 SM: 3G

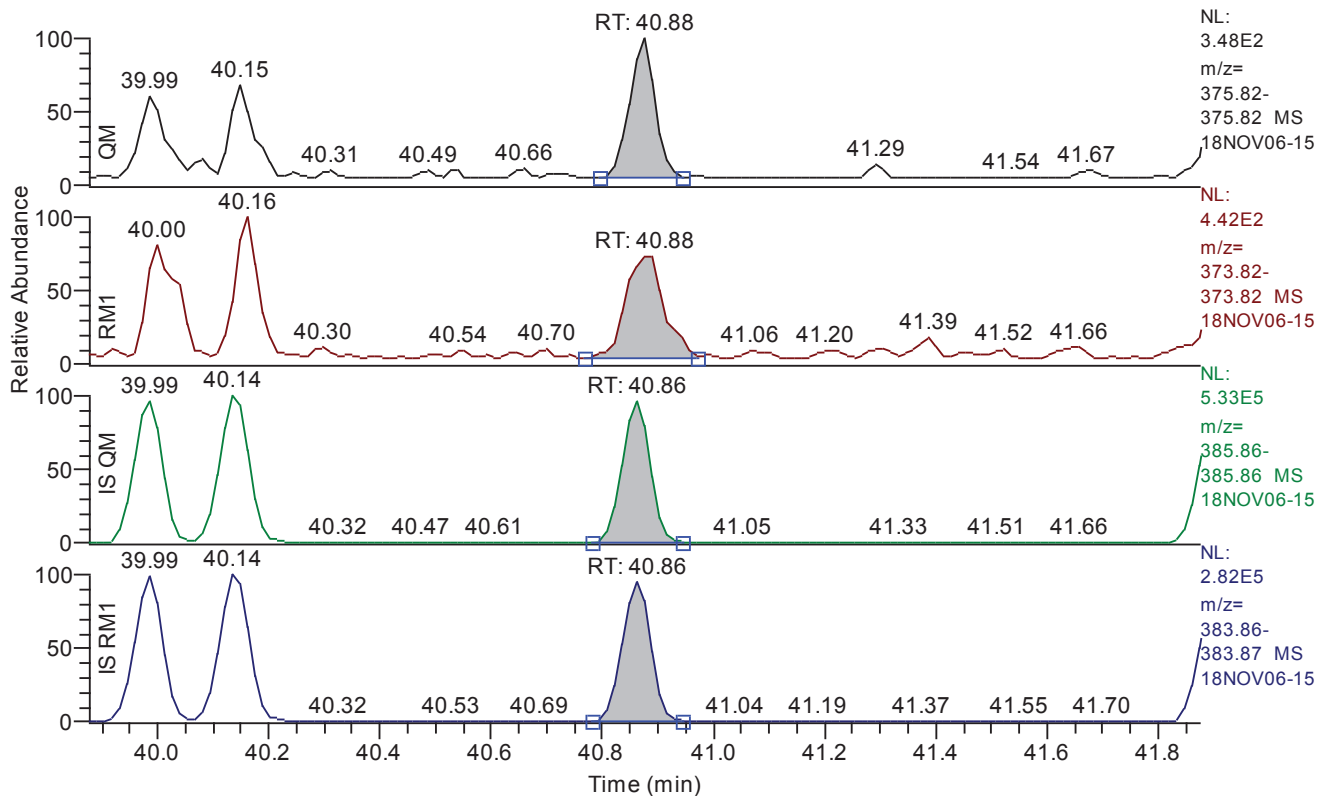


**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.15
QM Area	640
QM Integration Mode	A
RM1 Area	1228
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0086
Unqualified Amount (A)	0.120086
Adjusted Amount (A)	n.d.
Signal-to-Noise	44
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 39.88 - 41.88 SM: 3G



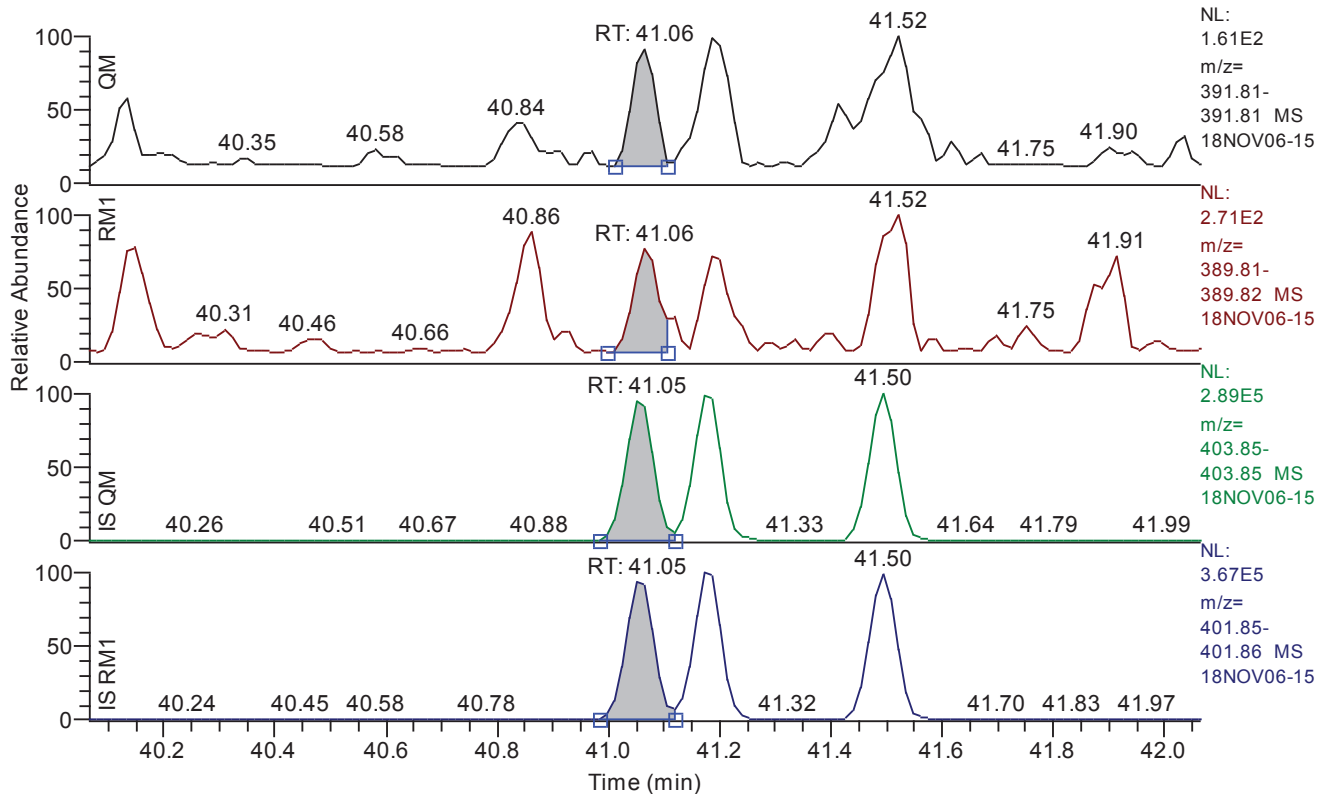
**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.88
QM Area	1048
QM Integration Mode	A
RM1 Area	1469
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0083
Unqualified Amount (A)	0.164537
Adjusted Amount (A)	0.1645
Signal-to-Noise	44
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 40.07 - 42.07 SM: 3G

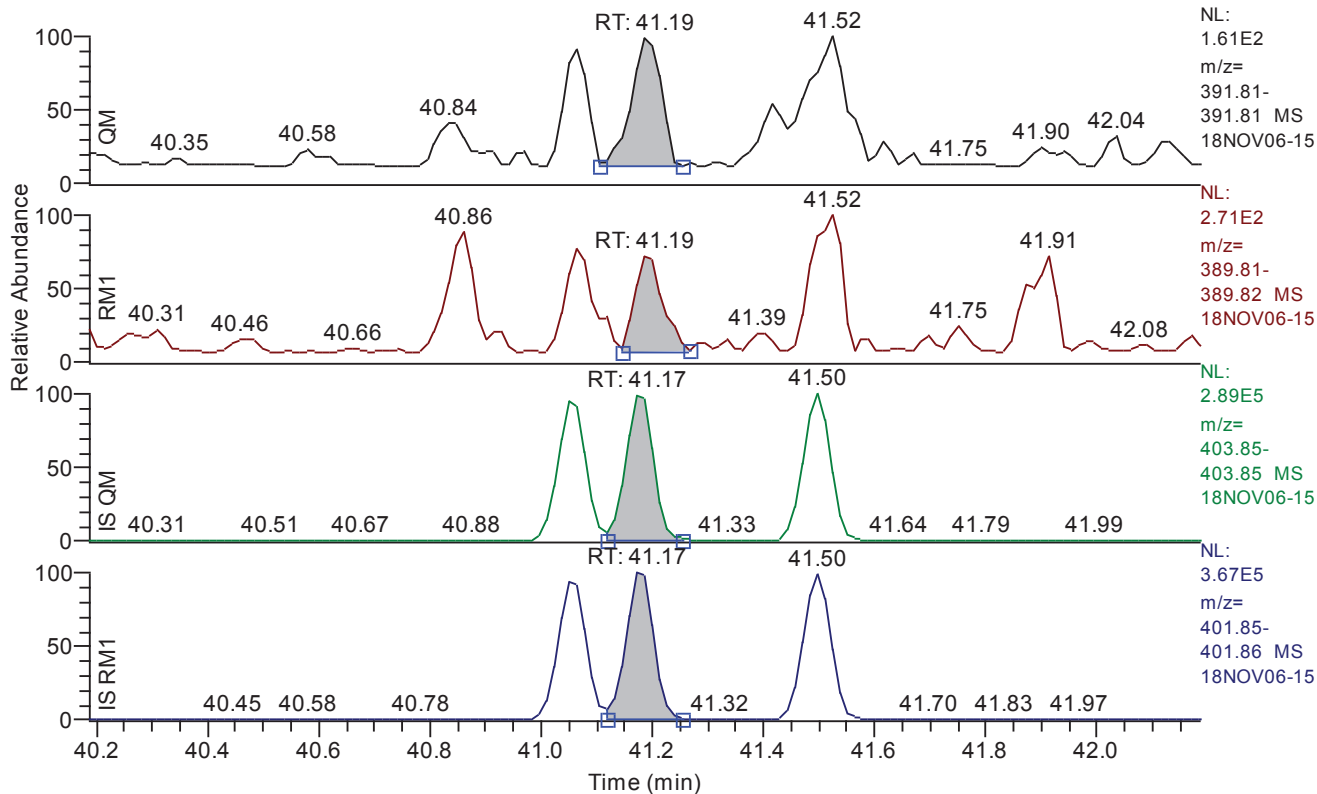


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.06
QM Area	377
QM Integration Mode	A
RM1 Area	584
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0148
Unqualified Amount (A)	0.096313
Adjusted Amount (A)	n.d.
Signal-to-Noise	19
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 40.19 - 42.19 SM: 3G

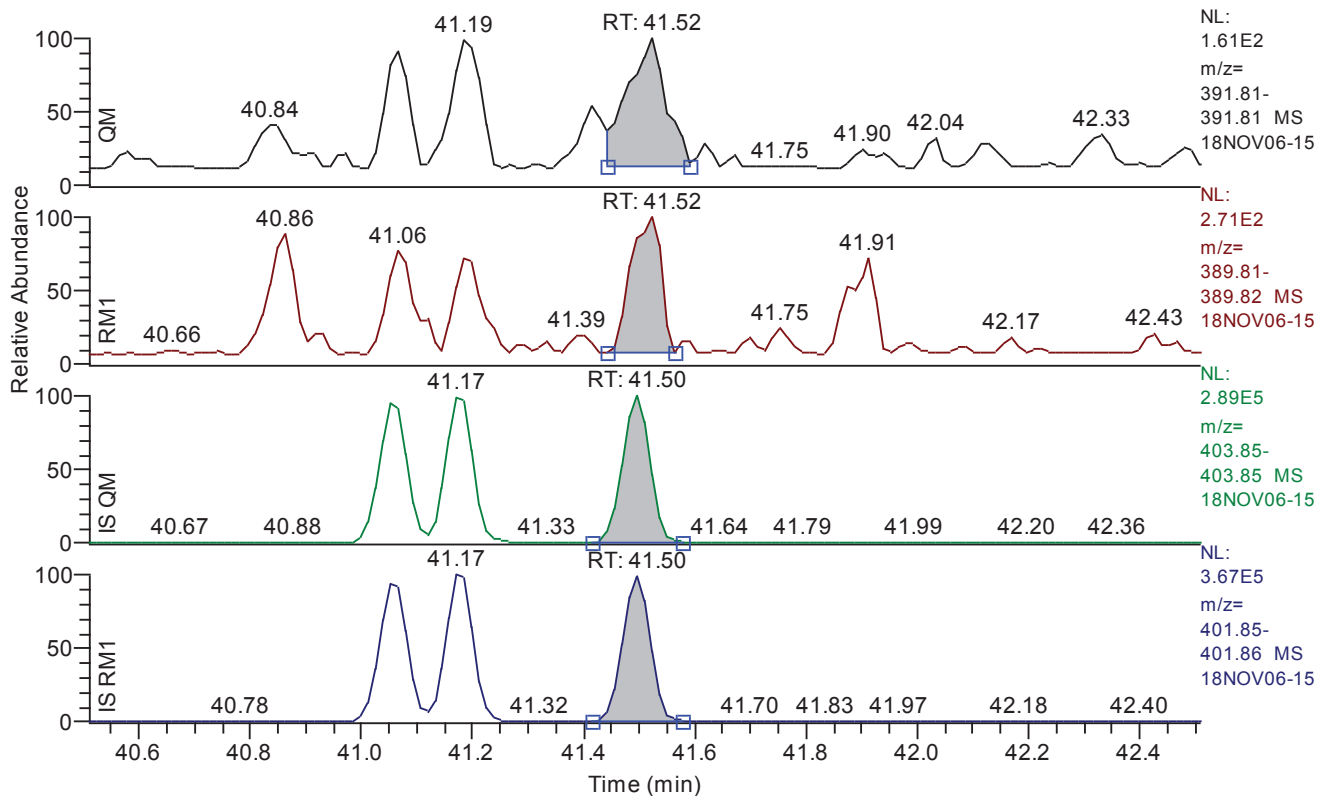


**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.19
QM Area	523
QM Integration Mode	A
RM1 Area	615
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0142
Unqualified Amount (A)	0.112416
Adjusted Amount (A)	0.1124
Signal-to-Noise	19
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.51 - 42.51 SM: 3G

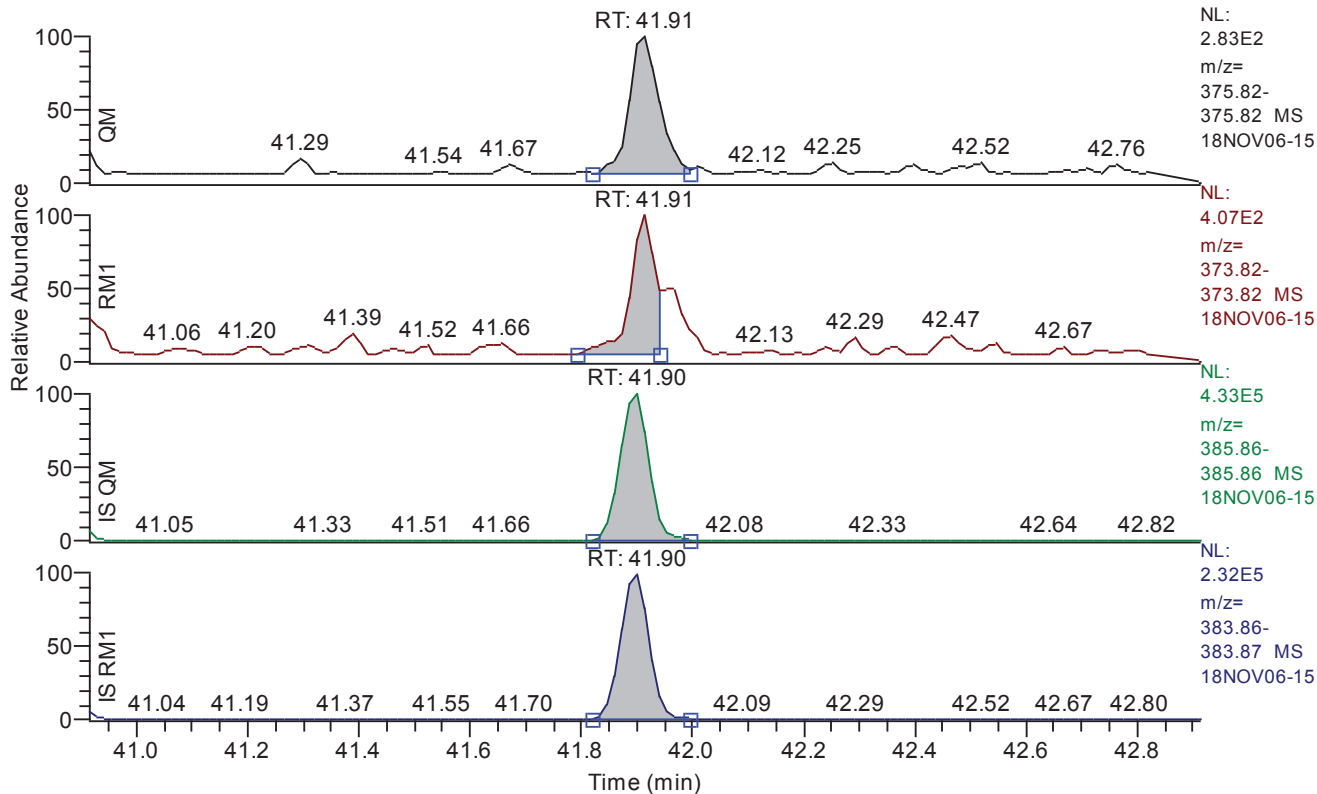


**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.52
QM Area	686
QM Integration Mode	A
RM1 Area	953
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0134
Unqualified Amount (A)	0.152638
Adjusted Amount (A)	0.1526
Signal-to-Noise	23
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.91 - 42.91 SM: 3G

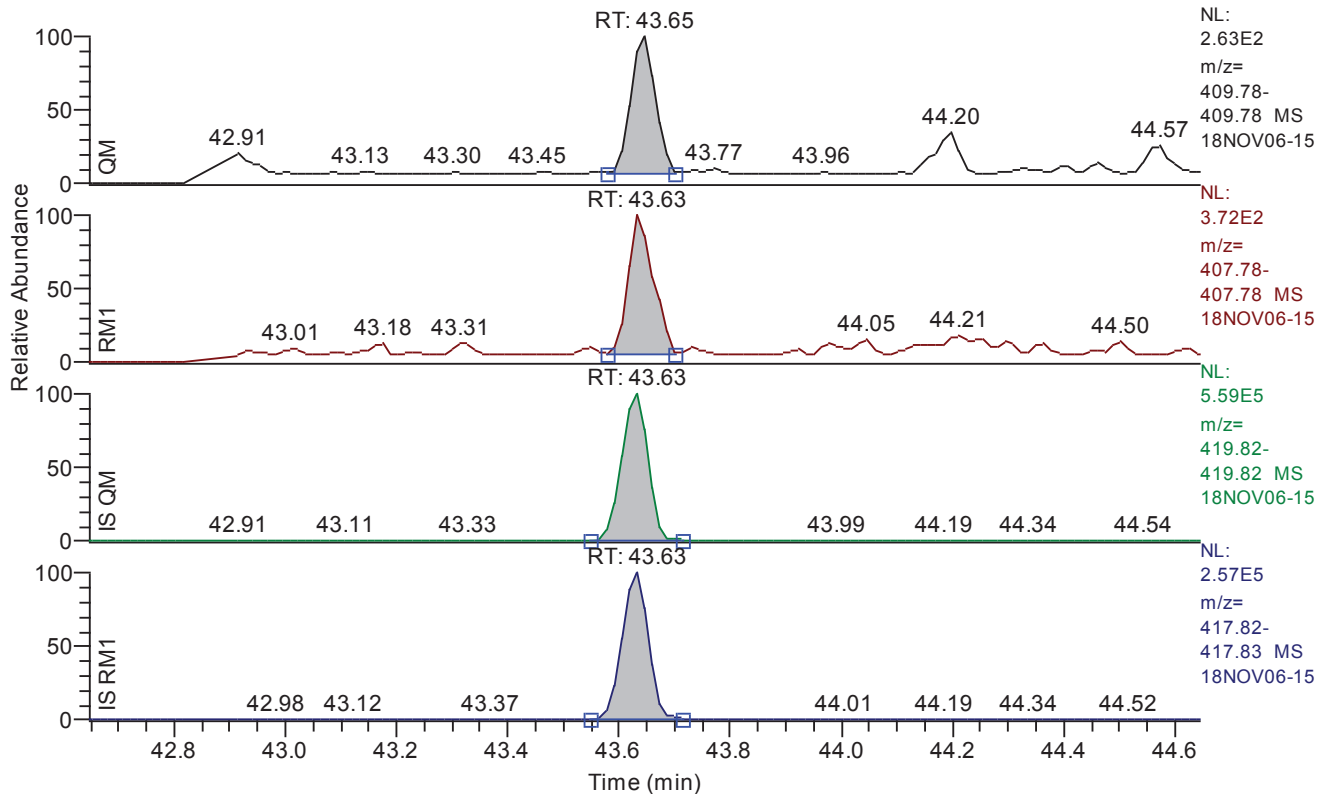


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.91
QM Area	998
QM Integration Mode	A
RM1 Area	1165
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0107
Unqualified Amount (A)	0.177748
Adjusted Amount (A)	0.1777
Signal-to-Noise	45
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.65 - 44.65 SM: 3G

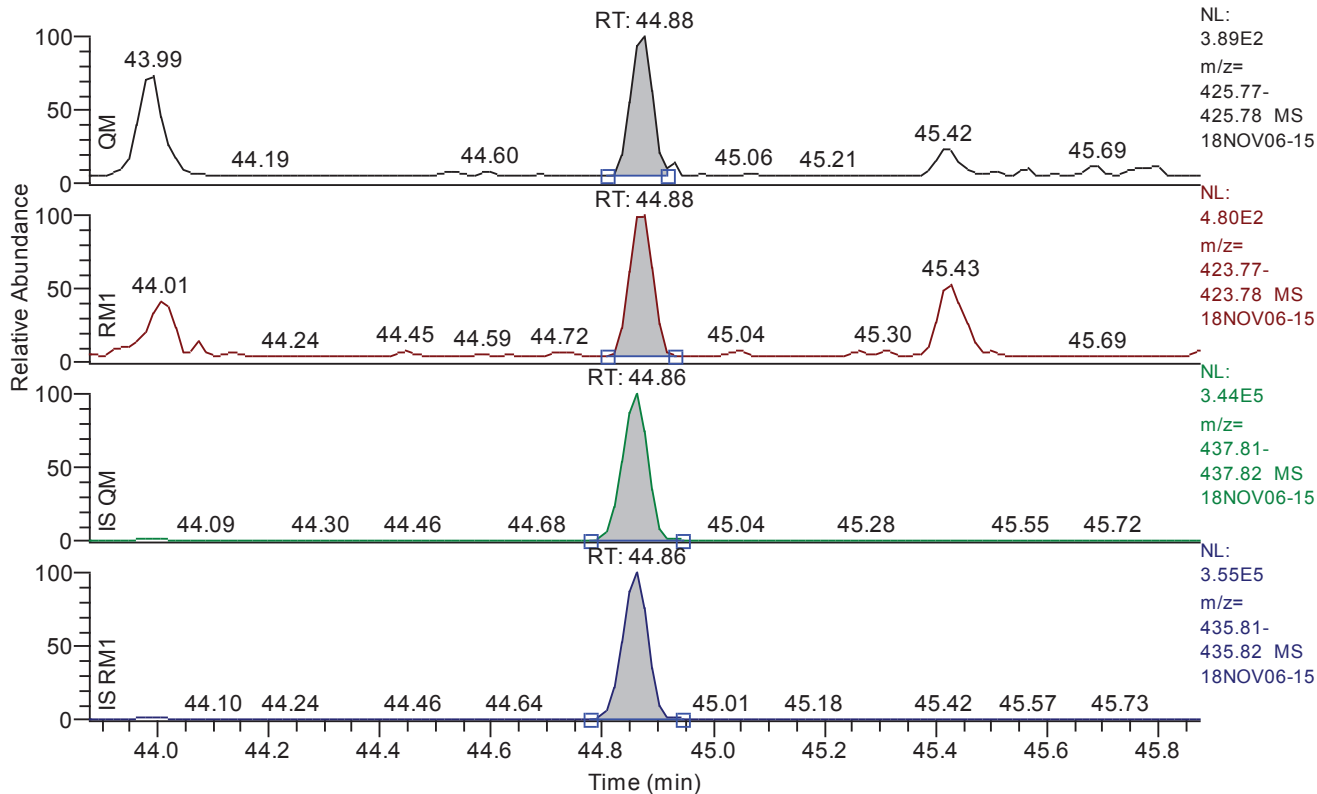


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.65
QM Area	768
QM Integration Mode	A
RM1 Area	1138
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0070
Unqualified Amount (A)	0.120168
Adjusted Amount (A)	n.d.
Signal-to-Noise	45
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 43.88 - 45.88 SM: 3G

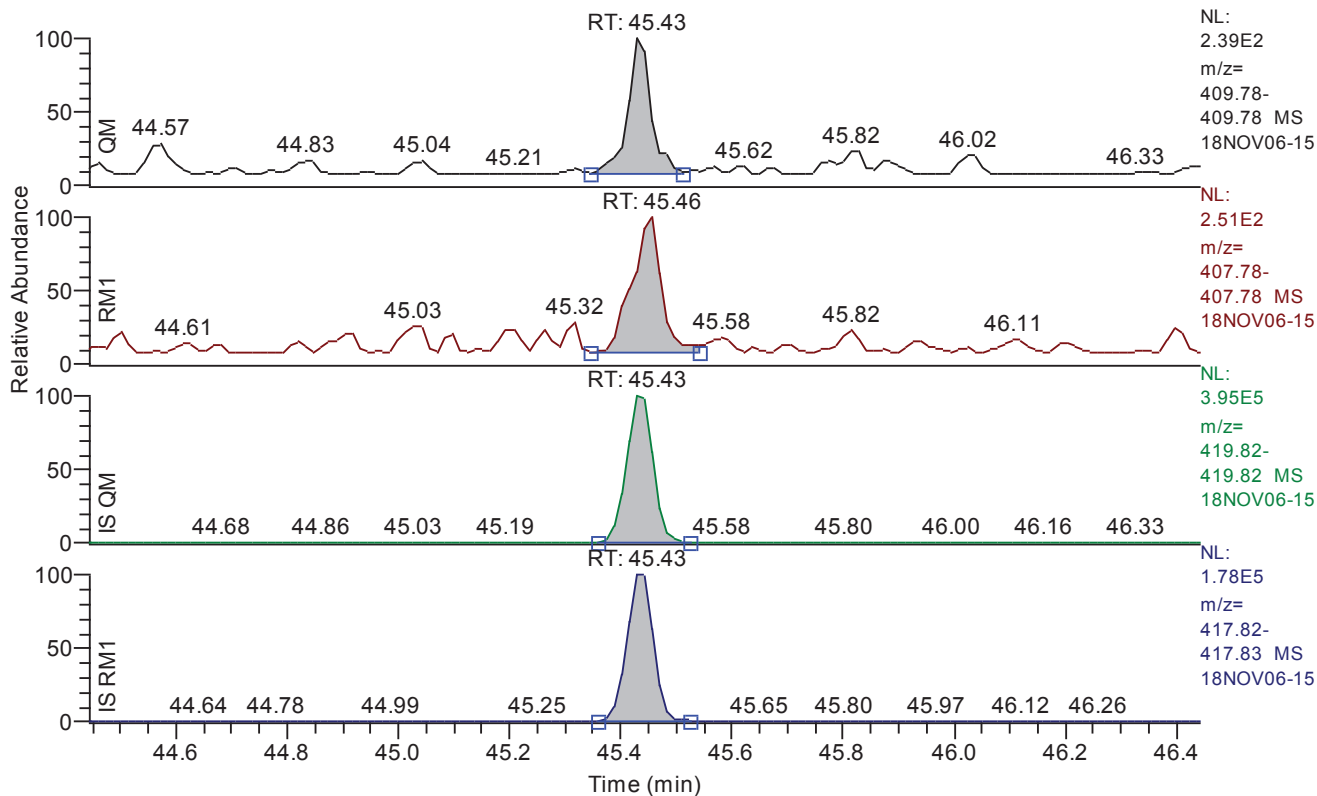


**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.88
QM Area	1066
QM Integration Mode	A
RM1 Area	1418
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0106
Unqualified Amount (A)	0.230975
Adjusted Amount (A)	n.d.
Signal-to-Noise	60
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 44.44 - 46.44 SM: 3G

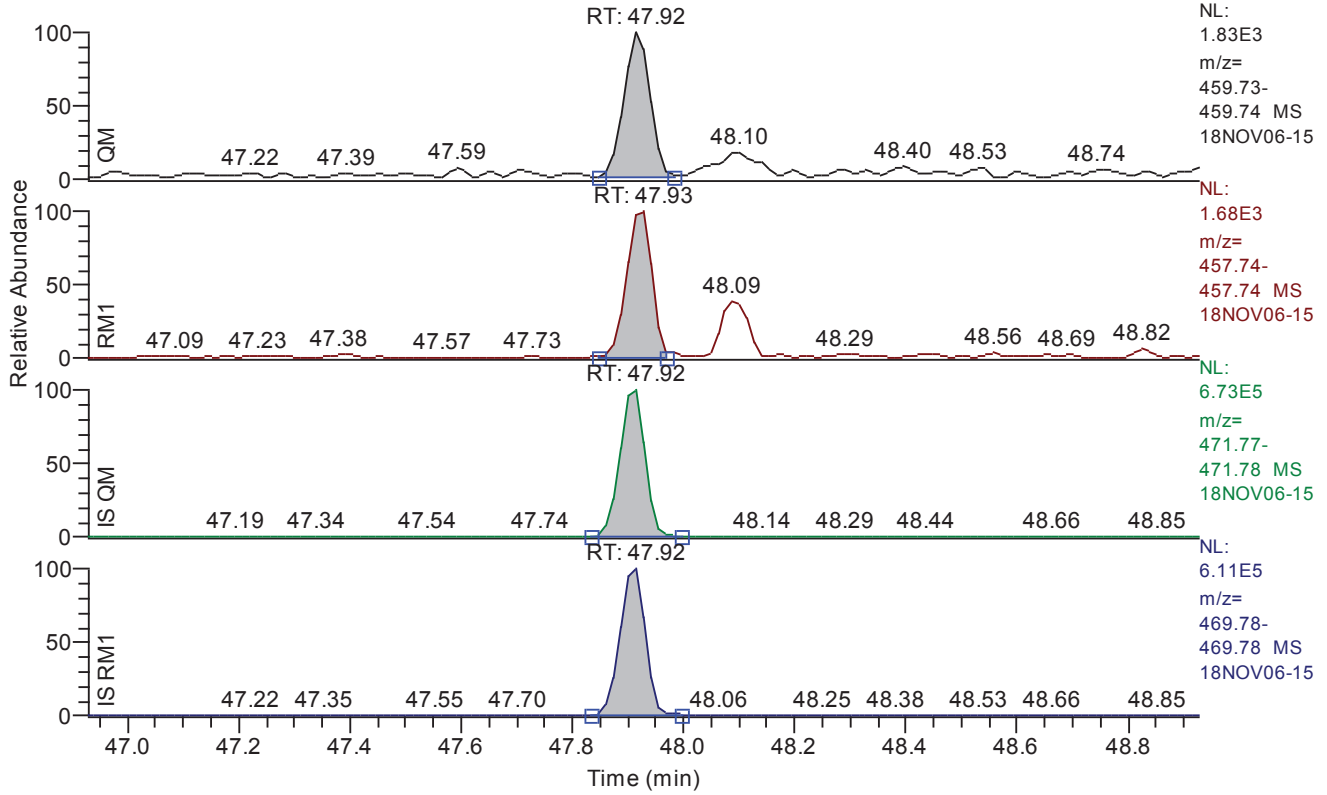


**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.43
QM Area	651
QM Integration Mode	A
RM1 Area	868
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0098
Unqualified Amount (A)	0.131289
Adjusted Amount (A)	n.d.
Signal-to-Noise	34
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 46.93 - 48.93 SM: 3G



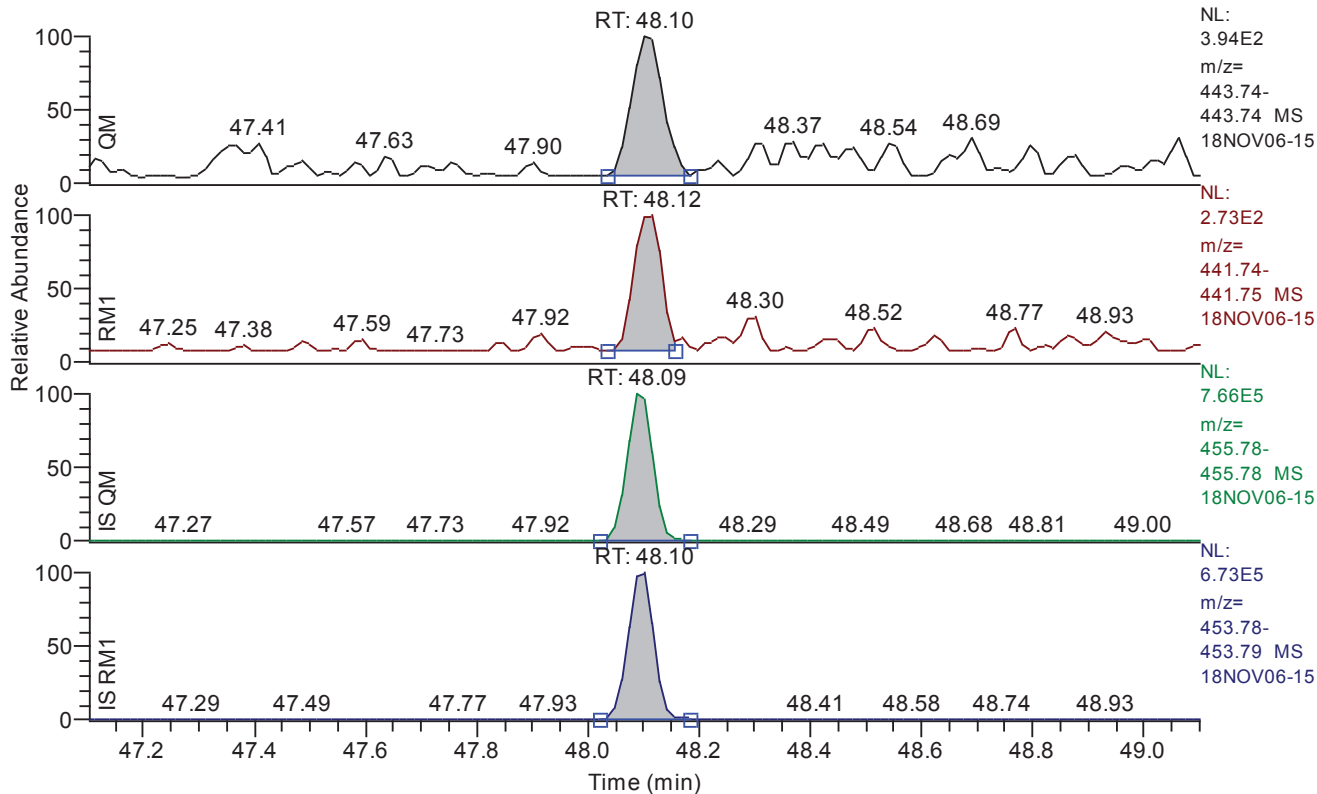
**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.92
QM Area	5875
QM Integration Mode	A
RM1 Area	5172
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0314
Unqualified Amount (A)	1.199637
Adjusted Amount (A)	1.1996
Signal-to-Noise	94
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 47.10 - 49.10 SM: 3G

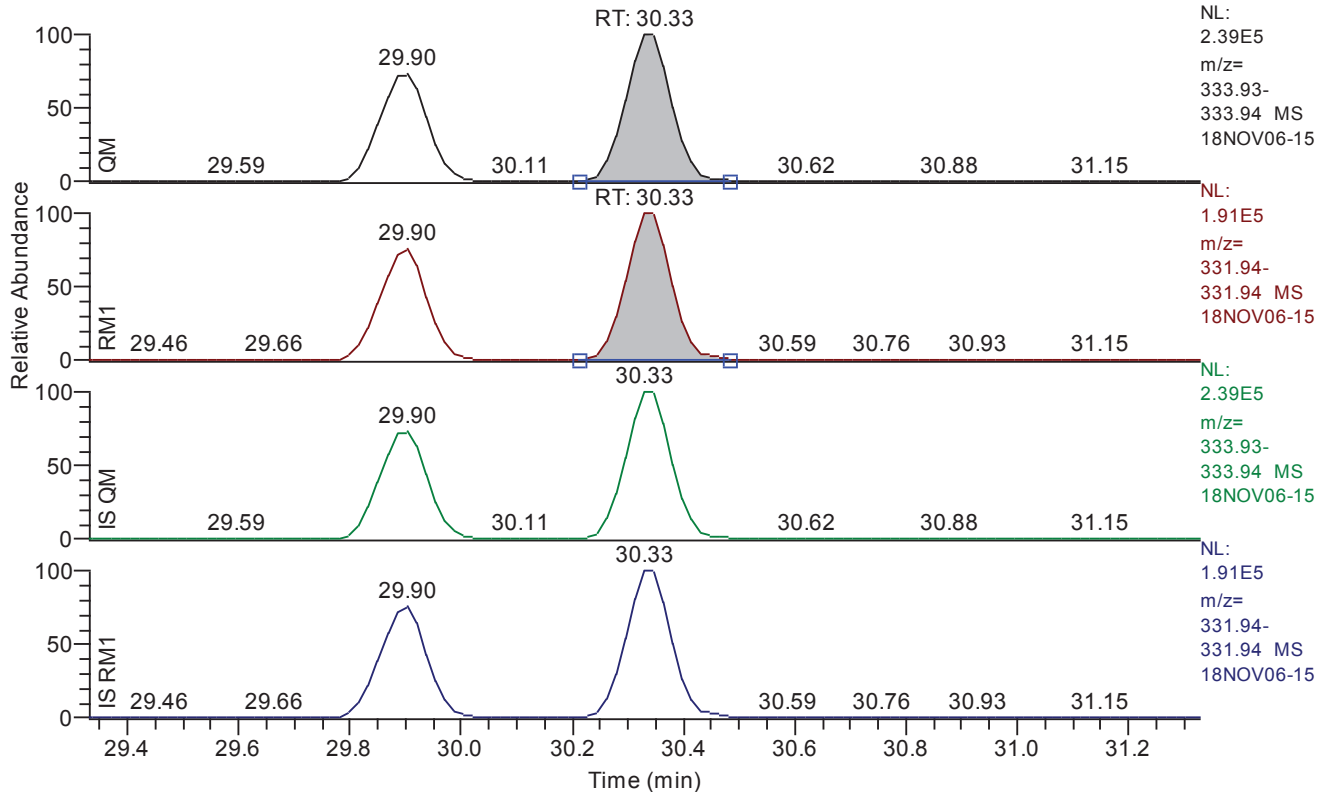


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.10
QM Area	1454
QM Integration Mode	A
RM1 Area	871
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0234
Unqualified Amount (A)	0.236797
Adjusted Amount (A)	n.d.
Signal-to-Noise	22
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

**Chromatogram**

RT: 29.33 - 31.33 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.33
QM Area	1394996
QM Integration Mode	A
RM1 Area	1094772
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0368
Unqualified Amount (A)	180.268403
Adjusted Amount (A)	180.2684
Signal-to-Noise	12177
Client Flags	
Status Overview	passed
Status Info	

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 21:09  
Number of Entries 284  
Comment BLK:11030:12937  
Vial 62  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID BLK309016  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

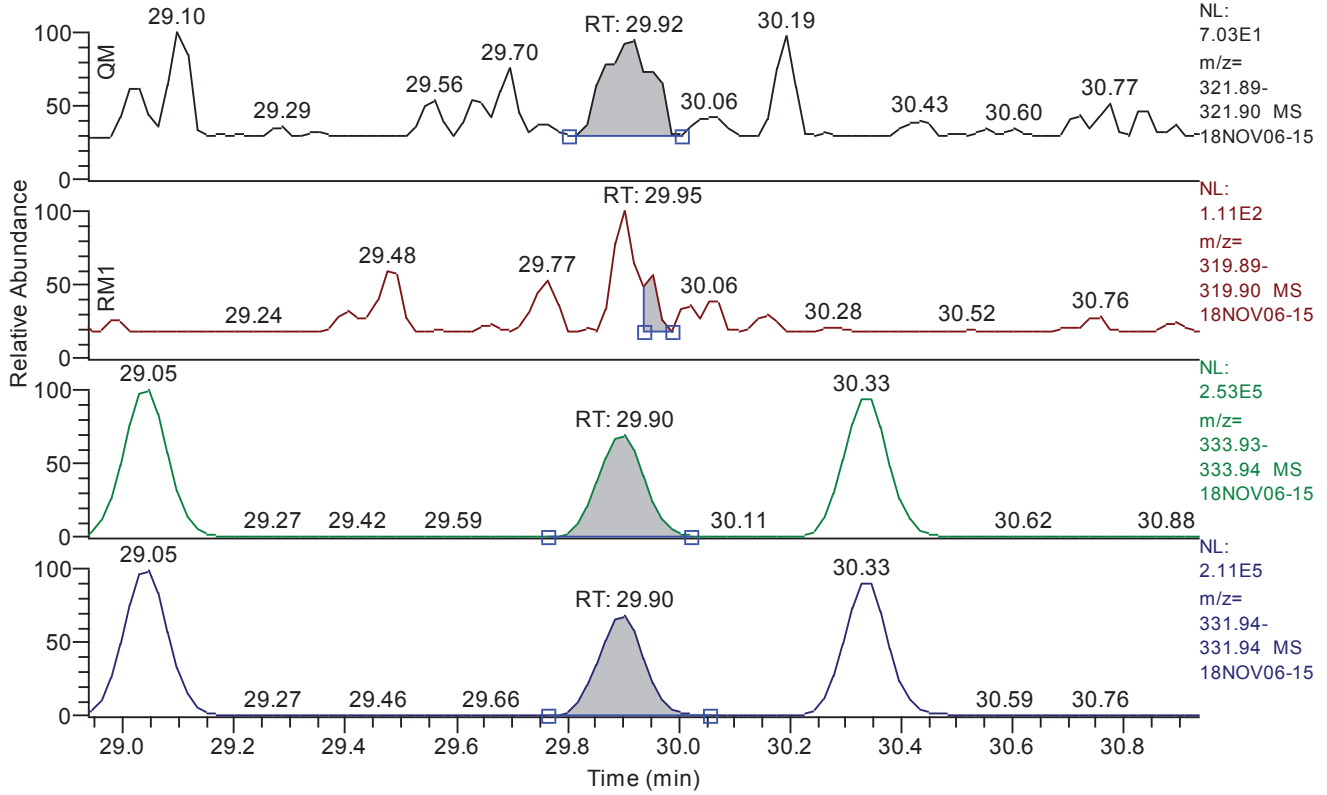
Quan w:\18nov06\18nov06-15.quan  
Data w:\18nov06\18nov06-15.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 28.94 - 30.94 SM: 3G



**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.92
QM Area	287
QM Integration Mode	A
RM1 Area	72
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0120
Unqualified Amount (A)	0.034329
Adjusted Amount (A)	n.d.
Signal-to-Noise	11
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A

Entry Parameters

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.81	28.79	28.79	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.92	29.90	29.90	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.93	34.93	34.90	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.24	36.27	36.23	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.66	36.63	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	39.99	40.00	39.99	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.15	40.16	40.14	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.88	40.88	40.86	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.06	41.06	41.05	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.19	41.19	41.17	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.52	41.52	41.50	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.91	41.91	41.90	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.65	43.63	43.63	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.88	44.88	44.86	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.43	45.46	45.43	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.92	47.93	47.92	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.10	48.12	48.09	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.33	30.33	30.33	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.05	29.05	29.05	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.89	39.89	39.89	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.79	28.79	28.83	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.90	29.90	29.90	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.90	34.90	34.93	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.23	36.23	36.23	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.63	36.63	36.63	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	39.99	39.99	40.00	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.14	40.14	40.14	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.86	40.86	40.82	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.05	41.05	41.05	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.17	41.17	41.17	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.50	41.50	41.50	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.90	41.90	41.91	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.63	43.63	43.63	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.86	44.86	44.86	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.43	45.43	45.42	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.92	47.92	47.92	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.09	48.10	47.93	passed	passed



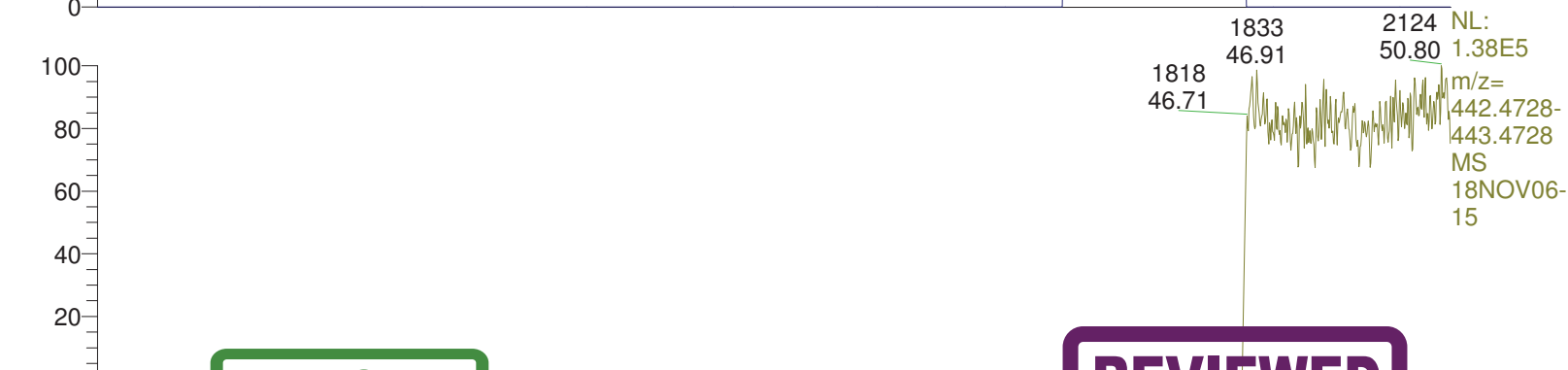
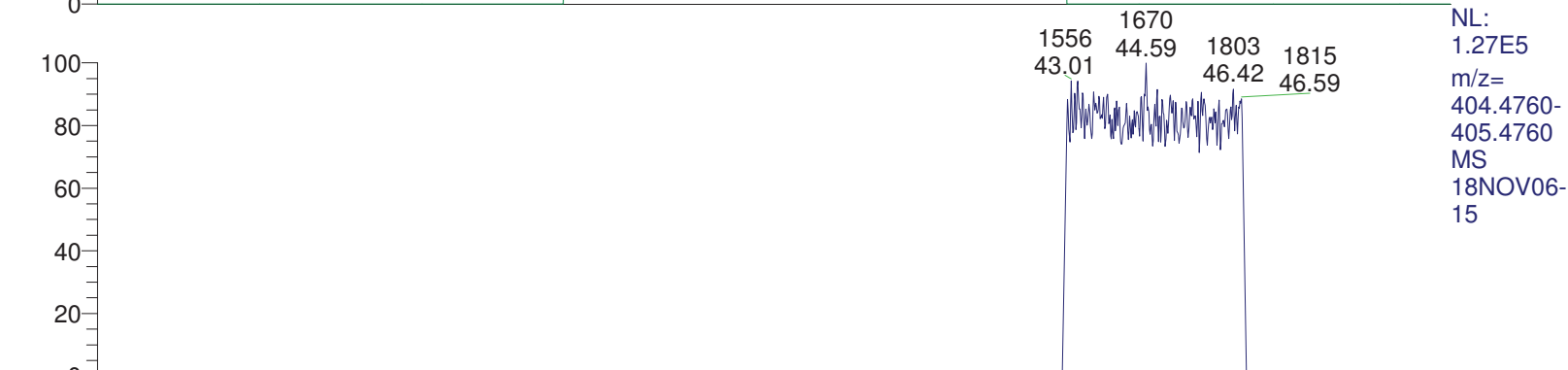
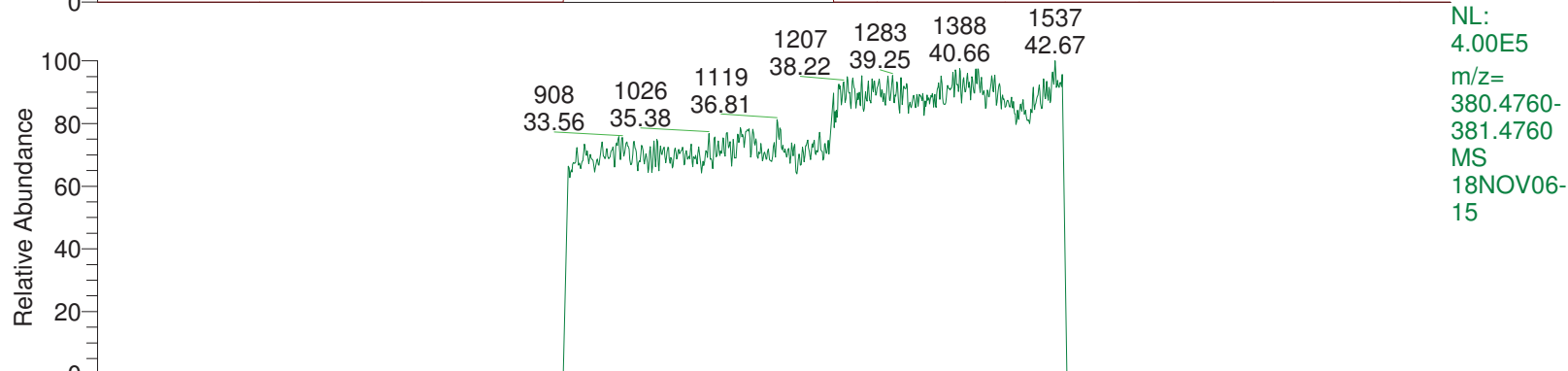
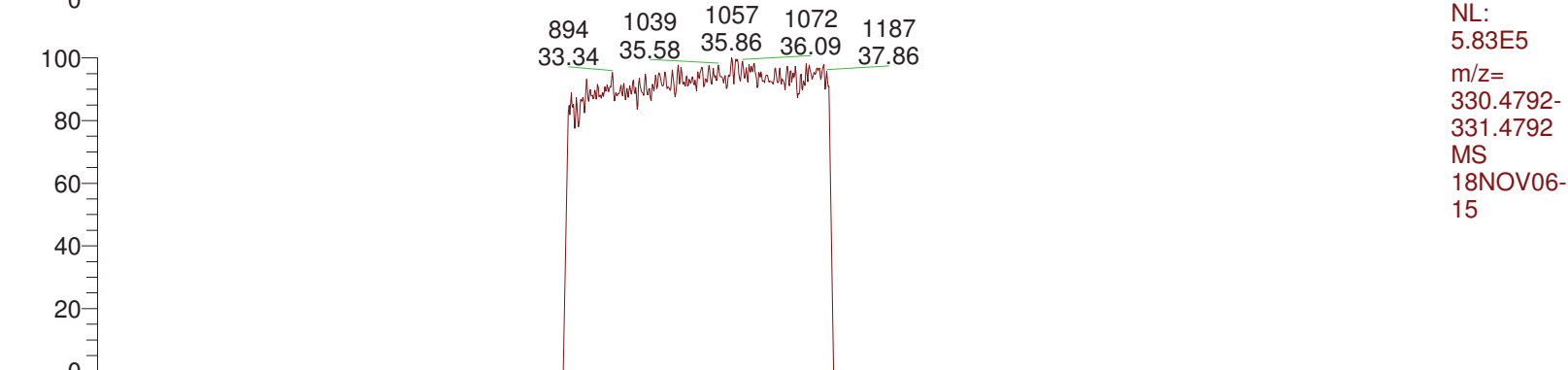
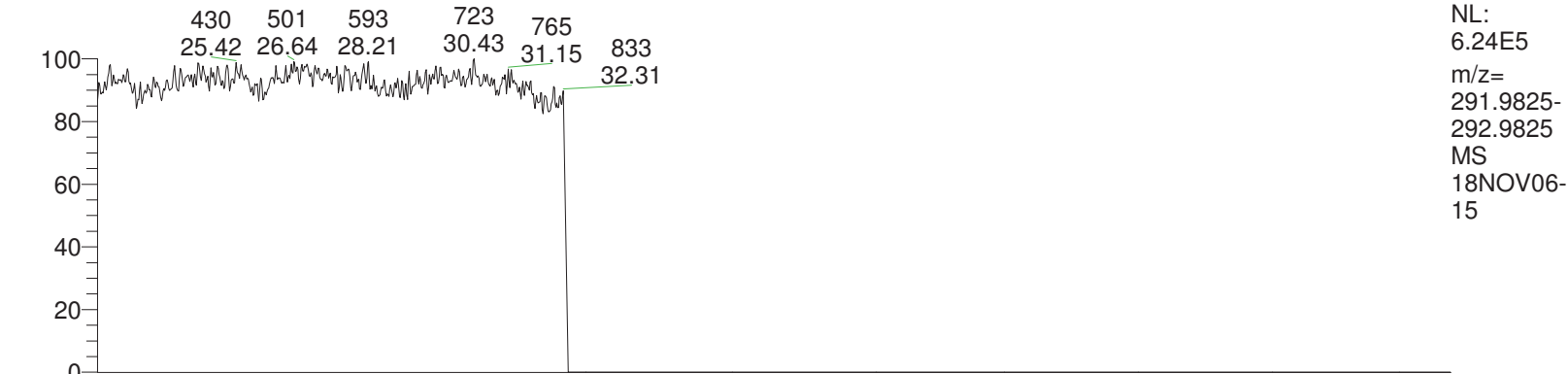
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.81	0.7507	0.6450 - 0.8950	passed	---	0 - 0	passed
2	2378-TCDD	29.92	1.1313	0.6450 - 0.8950	failed	---	0 - 0	passed
3	12378-PeCDF	34.93	1.2752	1.3150 - 1.7850	failed	---	0 - 0	passed
4	23478-PeCDF	36.24	1.3011	1.3150 - 1.7850	failed	---	0 - 0	passed
5	12378-PeCDD	36.67	5.9747	1.3150 - 1.7850	failed	---	0 - 0	passed
6	123478-HxCDF	39.99	2.0638	1.0450 - 1.4350	failed	---	0 - 0	passed
7	123678-HxCDF	40.15	1.9195	1.0450 - 1.4350	failed	---	0 - 0	passed
8	234678-HxCDF	40.88	1.4016	1.0450 - 1.4350	passed	---	0 - 0	passed
9	123478-HxCDD	41.06	1.5482	1.0450 - 1.4350	failed	---	0 - 0	passed
10	123678-HxCDD	41.19	1.1753	1.0450 - 1.4350	passed	---	0 - 0	passed
11	123789-HxCDD	41.52	1.3902	1.0450 - 1.4350	passed	---	0 - 0	passed
12	123789-HxCDF	41.91	1.1677	1.0450 - 1.4350	passed	---	0 - 0	passed
13	1234678-HpCDF	43.65	1.4812	0.8750 - 1.2050	failed	---	0 - 0	passed
14	1234678-HpCDD	44.88	1.3301	0.8750 - 1.2050	failed	---	0 - 0	passed
15	1234789-HpCDF	45.43	1.3341	0.8750 - 1.2050	failed	---	0 - 0	passed
16	OCDD	47.92	0.8804	0.7550 - 1.0250	passed	---	0 - 0	passed
17	OCDF	48.10	0.5992	0.7550 - 1.0250	failed	---	0 - 0	passed
18	13C12-1278-TCDD (CRS)	30.33	0.7848	0.6450 - 0.8950	passed	90.13	35 - 197	passed
19	13C12-1234-TCDD	29.05	0.8314	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.89	1.2515	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.79	0.7853	0.6450 - 0.8950	passed	75.27	40 - 135	passed
22	13C12-2378-TCDD	29.90	0.8065	0.6450 - 0.8950	passed	73.24	40 - 135	passed
23	13C12-12378-PeCDF	34.90	1.5985	1.3150 - 1.7850	passed	75.53	40 - 135	passed
24	13C12-23478-PeCDF	36.23	1.5975	1.3150 - 1.7850	passed	78.43	40 - 135	passed
25	13C12-12378-PeCDD	36.63	1.6063	1.3150 - 1.7850	passed	73.12	40 - 135	passed
26	13C12-123478-HxCDF	39.99	0.5357	0.4250 - 0.5950	passed	74.20	40 - 135	passed
27	13C12-123678-HxCDF	40.14	0.5329	0.4250 - 0.5950	passed	74.84	40 - 135	passed
28	13C12-234678-HxCDF	40.86	0.5357	0.4250 - 0.5950	passed	74.89	40 - 135	passed
29	13C12-123478-HxCDD	41.05	1.2721	1.0450 - 1.4350	passed	74.28	40 - 135	passed
30	13C12-123678-HxCDD	41.17	1.2734	1.0450 - 1.4350	passed	74.01	40 - 135	passed
31	13C12-123789-HxCDD	41.50	1.2672	1.0450 - 1.4350	passed	78.45	40 - 135	passed
32	13C12-123789-HxCDF	41.90	0.5255	0.4250 - 0.5950	passed	71.22	40 - 135	passed
33	13C12-1234678-HpCDF	43.63	0.4567	0.3650 - 0.5150	passed	79.63	40 - 135	passed
34	13C12-1234678-HpCDD	44.86	1.0340	0.8750 - 1.2050	passed	79.47	40 - 135	passed
35	13C12-1234789-HpCDF	45.43	0.4538	0.3650 - 0.5150	passed	68.69	40 - 135	passed
36	13C12-OCDD	47.92	0.9151	0.7550 - 1.0250	passed	71.89	40 - 135	passed
37	13C12-OCDF	48.09	0.8811	0.7550 - 1.0250	passed	61.90	40 - 135	passed

**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.81	788	A	592	A	0.0156	0.083858	0.0839	0.000000	17	
2	2378-TCDD	failed	29.92	287	A	325	M	0.0120	0.058475	n.d.	0.000000	16	
3	12378-PeCDF	failed	34.93	1241	A	1582	A	0.0147	0.201399	n.d.	0.000000	31	
4	23478-PeCDF	failed	36.24	868	A	1129	A	0.0120	0.122525	n.d.	0.000000	31	
5	12378-PeCDD	failed	36.67	177	A	1059	A	0.0299	0.144742	n.d.	0.000000	14	
6	123478-HxCDF	failed	39.99	623	A	1286	A	0.0086	0.127692	n.d.	0.000000	36	
7	123678-HxCDF	failed	40.15	640	A	1228	A	0.0086	0.120086	n.d.	0.000000	44	
8	234678-HxCDF	passed	40.88	1048	A	1469	A	0.0083	0.164537	0.1645	0.000000	44	
9	123478-HxCDD	failed	41.06	377	A	584	A	0.0148	0.096313	n.d.	0.000000	19	
10	123678-HxCDD	passed	41.19	523	A	615	A	0.0142	0.112416	0.1124	0.000000	19	
11	123789-HxCDD	passed	41.52	686	A	953	A	0.0134	0.152638	0.1526	0.000000	23	
12	123789-HxCDF	passed	41.91	998	A	1165	A	0.0107	0.177748	0.1777	0.000000	45	
13	1234678-HpCDF	failed	43.65	768	A	1138	A	0.0070	0.120168	n.d.	0.000000	45	
14	1234678-HpCDD	failed	44.88	1066	A	1418	A	0.0106	0.230975	n.d.	0.000000	60	
15	1234789-HpCDF	failed	45.43	651	A	868	A	0.0098	0.131289	n.d.	0.000000	34	
16	OCDD	passed	47.92	5875	A	5172	A	0.0314	1.199637	1.1996	0.000000	94	
17	OCDF	failed	48.10	1454	A	871	A	0.0234	0.236797	n.d.	0.000000	22	
18	13C12-1278-TCDD (CRS)	passed	30.33	1394996	A	1094772	A	0.0368	180.268403	180.2684	200.000000	12177	
19	13C12-1234-TCDD	passed	29.05	1460935	A	1214584	A	0.0380	200.000000	200.0000	200.000000	13155	
20	13C12-123468-HxCDD	passed	39.89	1324180	A	1657201	A	0.0475	200.000000	200.0000	200.000000	10525	
21	13C12-2378-TCDF	passed	28.79	1997061	A	1568248	A	0.0301	150.547499	150.5475	200.000000	12704	
22	13C12-2378-TCDD	passed	29.90	1059694	A	854649	A	0.0389	146.486218	146.4862	200.000000	9126	
23	13C12-12378-PeCDF	passed	34.90	1269107	A	2028720	A	0.0728	151.050766	151.0508	200.000000	6778	
24	13C12-23478-PeCDF	passed	36.23	1319495	A	2107949	A	0.0728	156.863208	156.8632	200.000000	7381	
25	13C12-12378-PeCDD	passed	36.63	731975	A	1175769	A	0.0561	146.249788	146.2498	200.000000	9332	
26	13C12-123478-HxCDF	passed	39.99	1823578	A	976871	A	0.0576	148.403870	148.4039	200.000000	6625	
27	13C12-123678-HxCDF	passed	40.14	1943829	A	1035942	A	0.0546	149.677191	149.6772	200.000000	6757	
28	13C12-234678-HxCDF	passed	40.86	1797778	A	963079	A	0.0590	149.776799	149.7768	200.000000	6540	
29	13C12-123478-HxCDD	passed	41.05	964154	A	1226539	A	0.0480	148.563078	148.5631	200.000000	7958	
30	13C12-123678-HxCDD	passed	41.17	984991	A	1254305	A	0.0468	148.011302	148.0113	200.000000	8339	
31	13C12-123789-HxCDD	passed	41.50	992606	A	1257785	A	0.0494	156.901479	156.9015	200.000000	8357	
32	13C12-123789-HxCDF	passed	41.90	1567891	A	823869	A	0.0647	142.430428	142.4304	200.000000	5536	
33	13C12-1234678-HpCDF	passed	43.63	1897843	A	866801	A	0.0724	159.259985	159.2600	200.000000	5883	
34	13C12-1234678-HpCDD	passed	44.86	1129063	A	1167399	A	0.0629	158.940072	158.9401	200.000000	6965	
35	13C12-1234789-HpCDF	passed	45.43	1347120	A	611307	A	0.0882	137.385811	137.3858	200.000000	4125	
36	13C12-OCDD	passed	47.92	2108896	A	1929944	A	0.0278	287.558600	287.5586	400.000000	29745	
37	13C12-OCDF	passed	48.09	2468835	A	2175260	A	0.0226	247.614473	247.6145	400.000000	30723	

RT: 22.50 - 51.00



**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

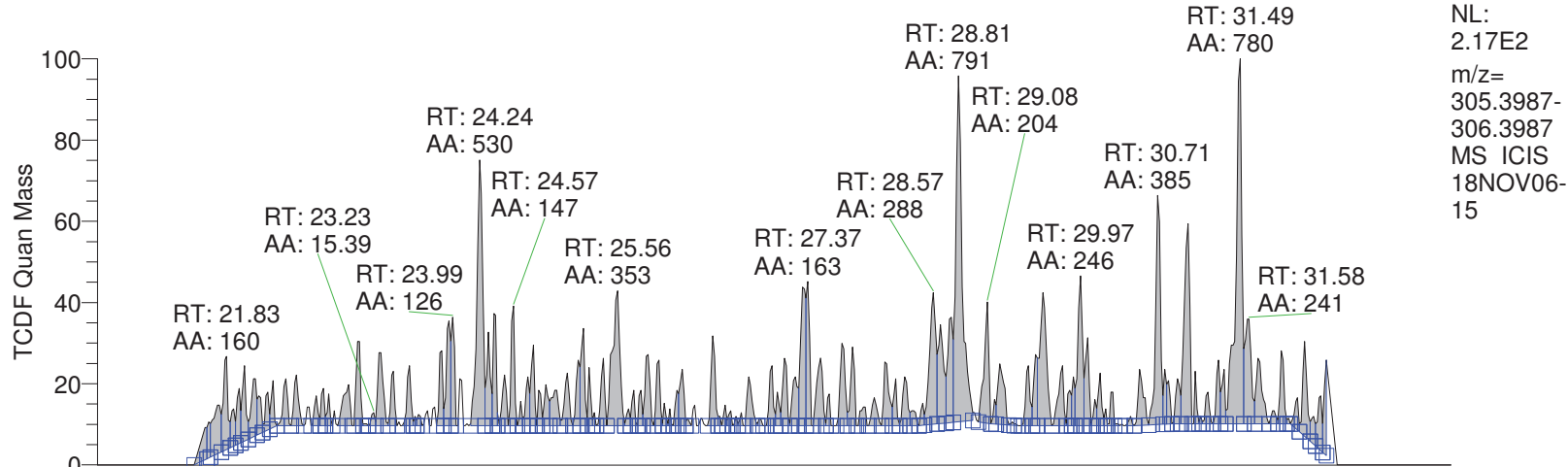
**REVIEWED**  
By uild at 4:13 pm, 11/8/18

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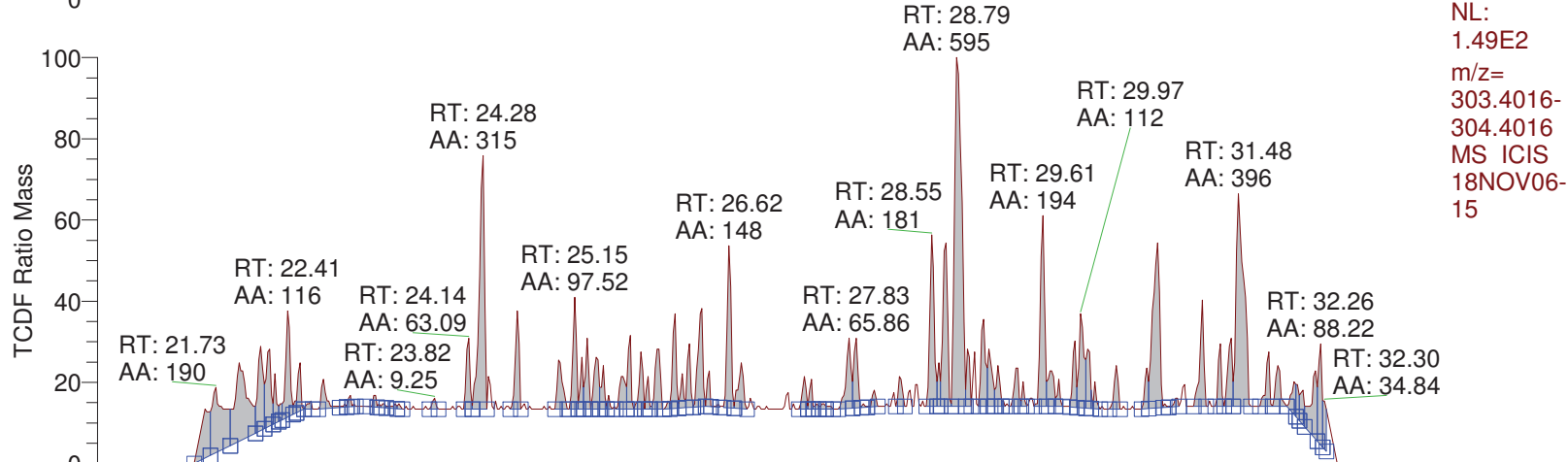
Time (min)



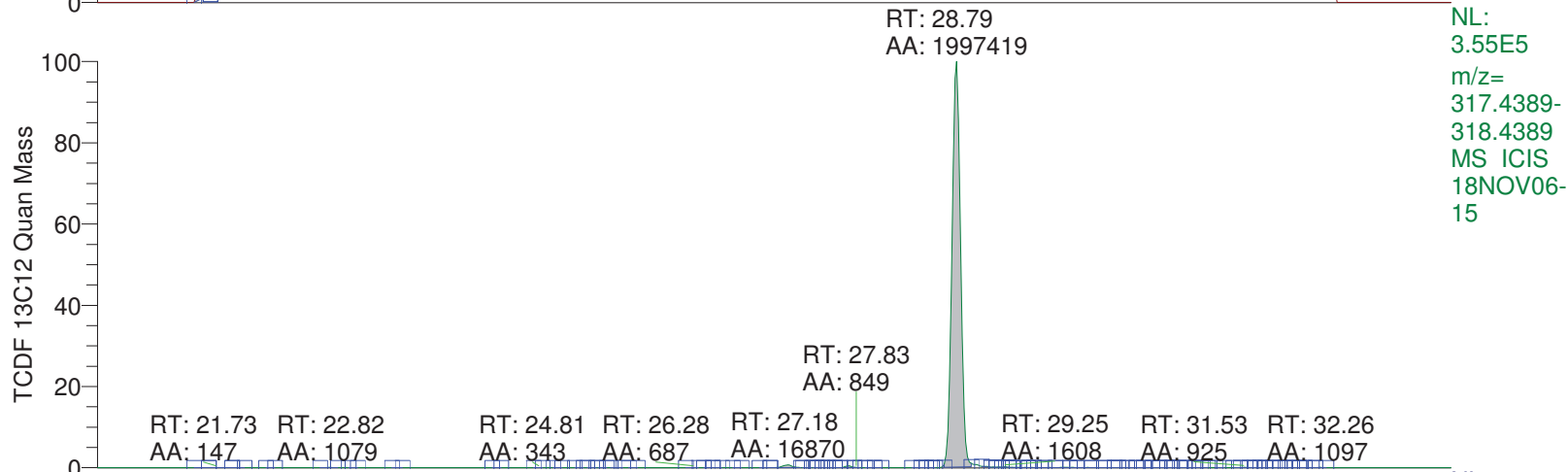
RT: 20.60 - 33.50



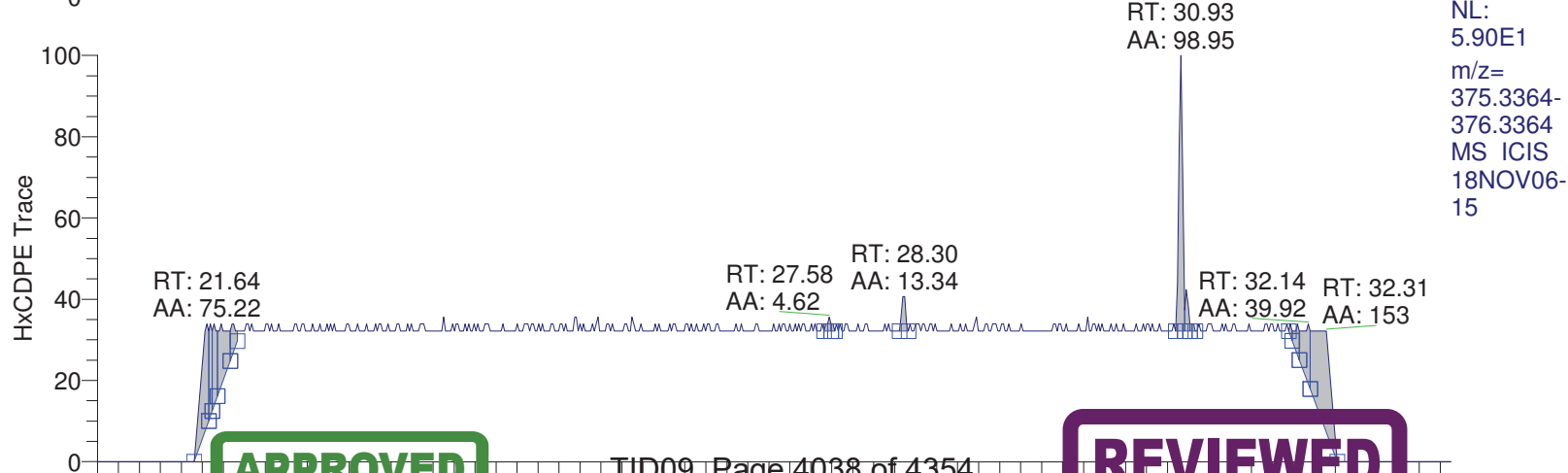
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15



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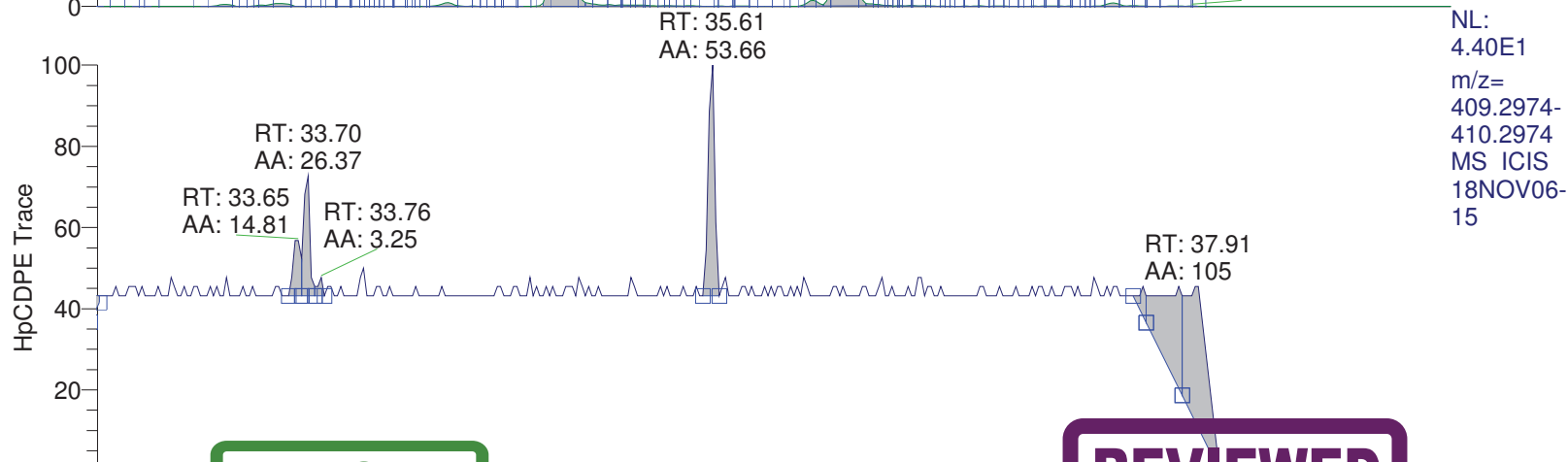
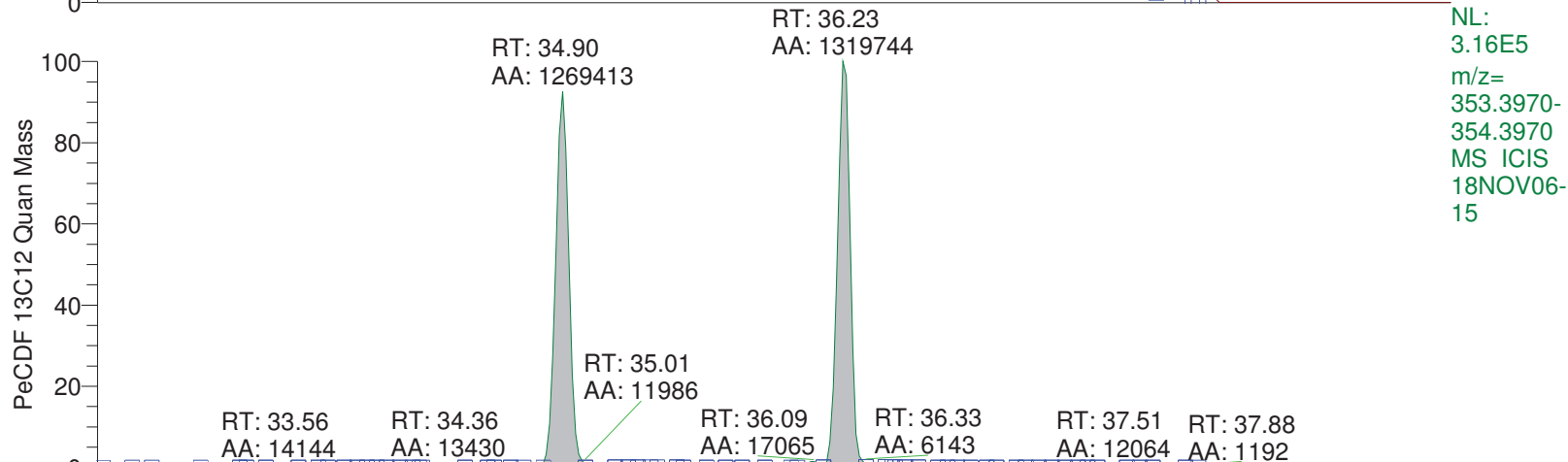
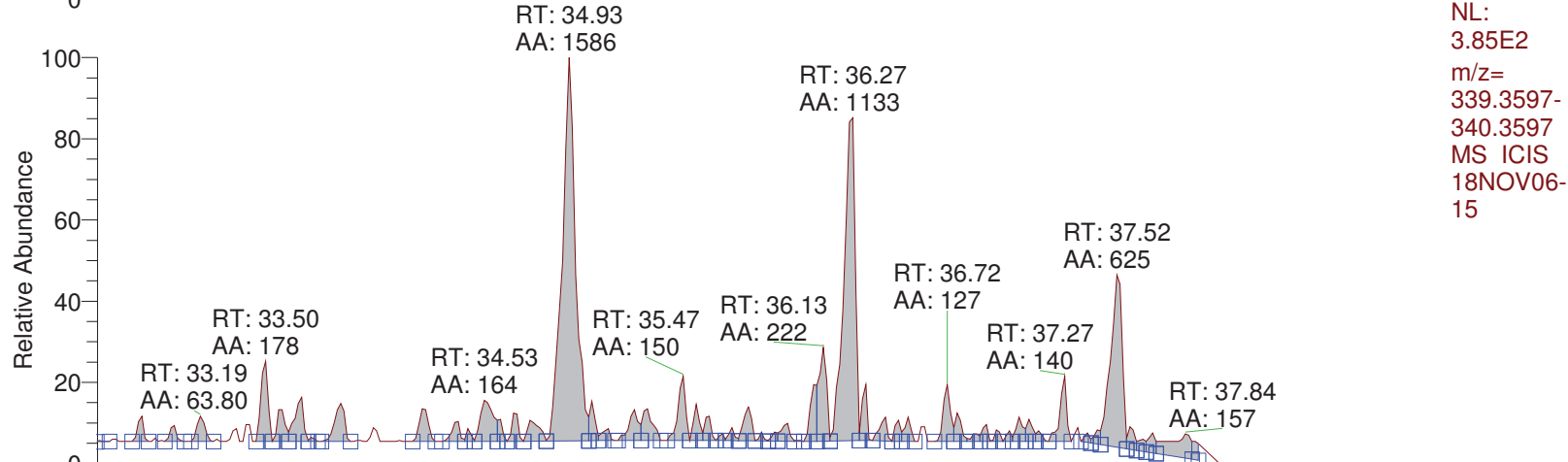
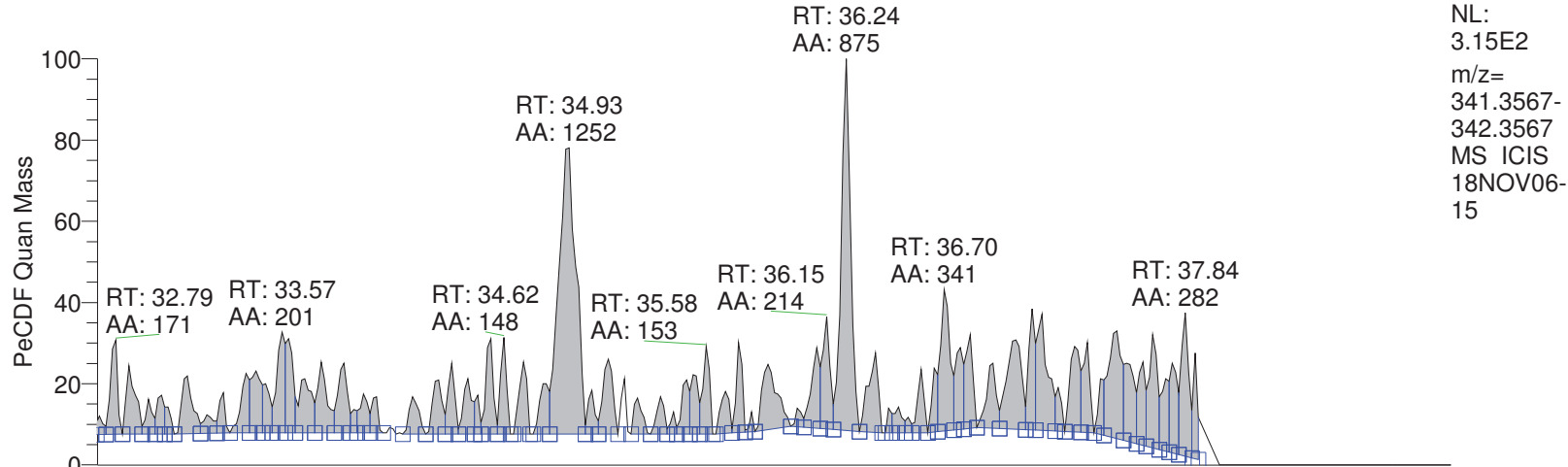


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376.3364  
MS ICIS  
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15

**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

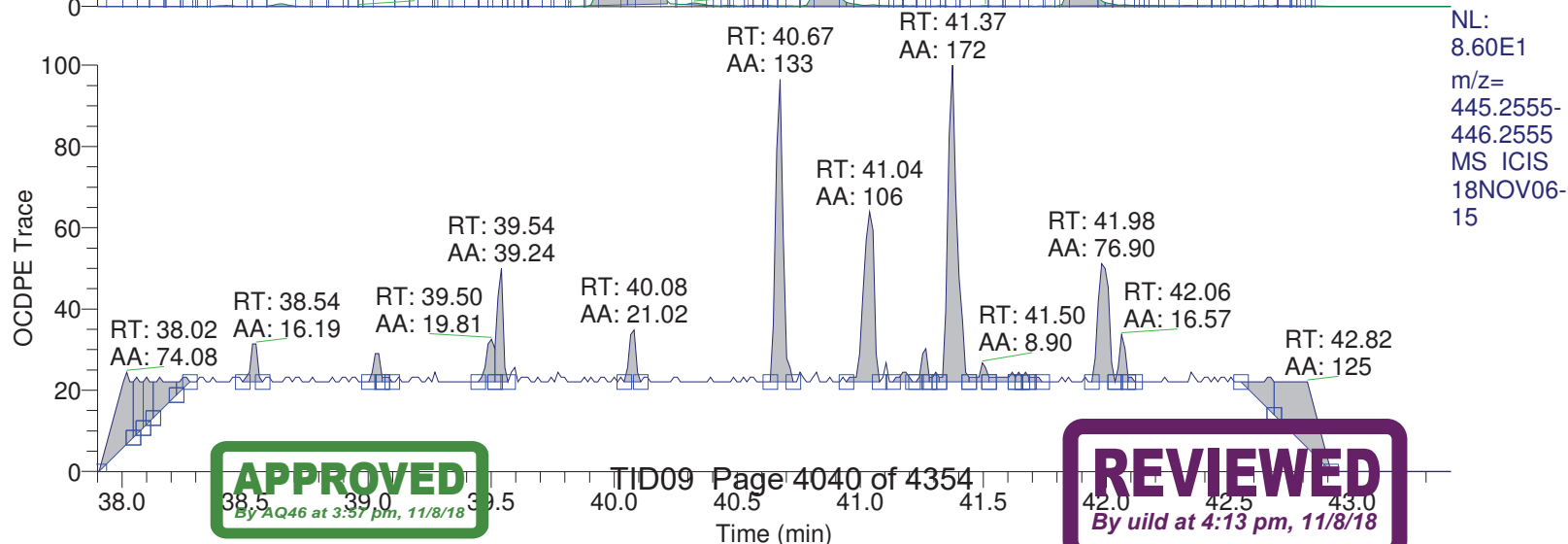
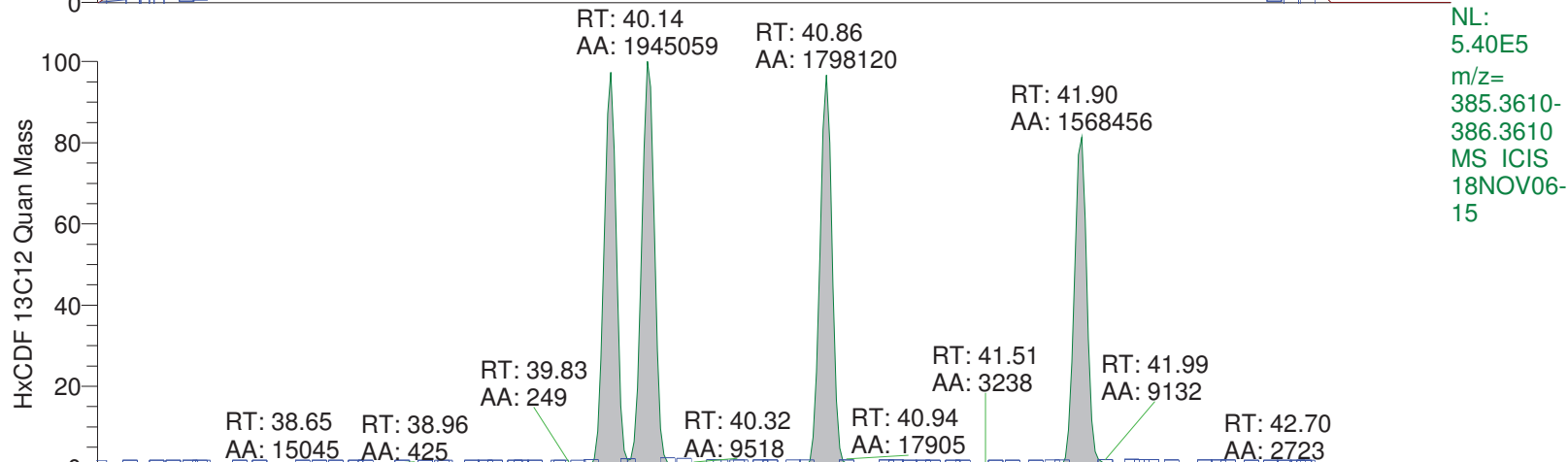
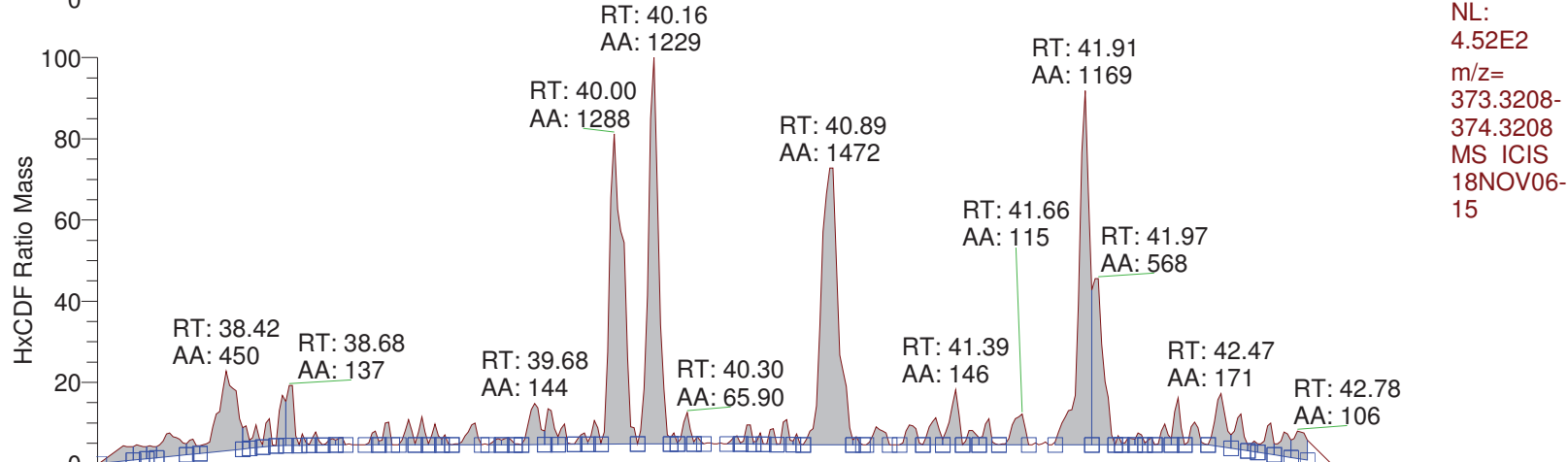
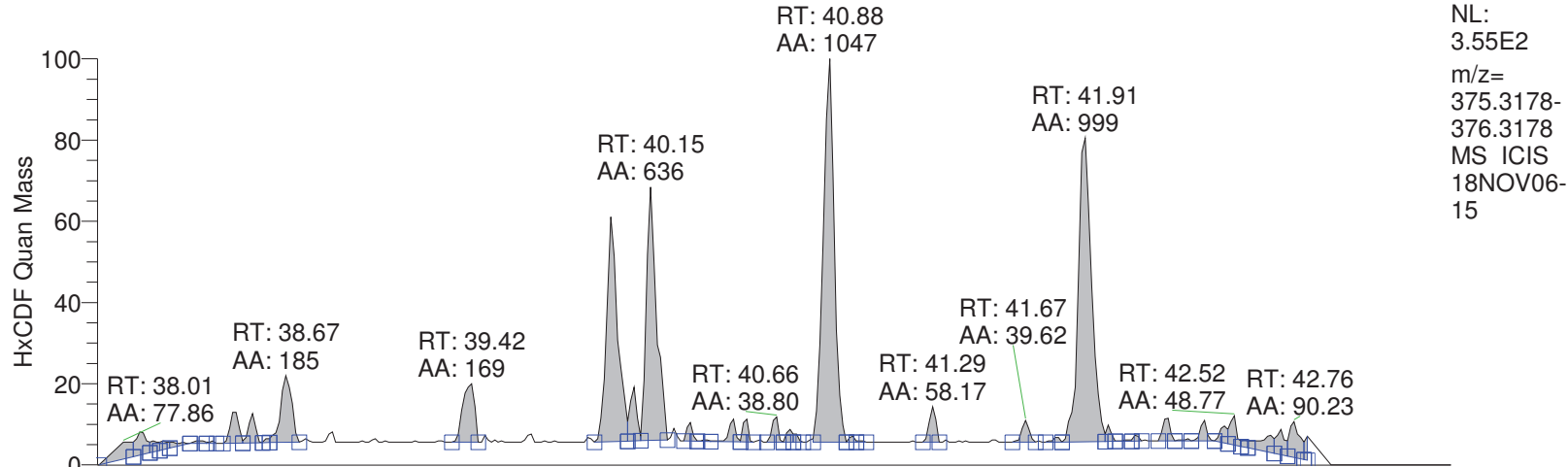
RT: 32.70 - 39.10



**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

RT: 37.90 - 43.40

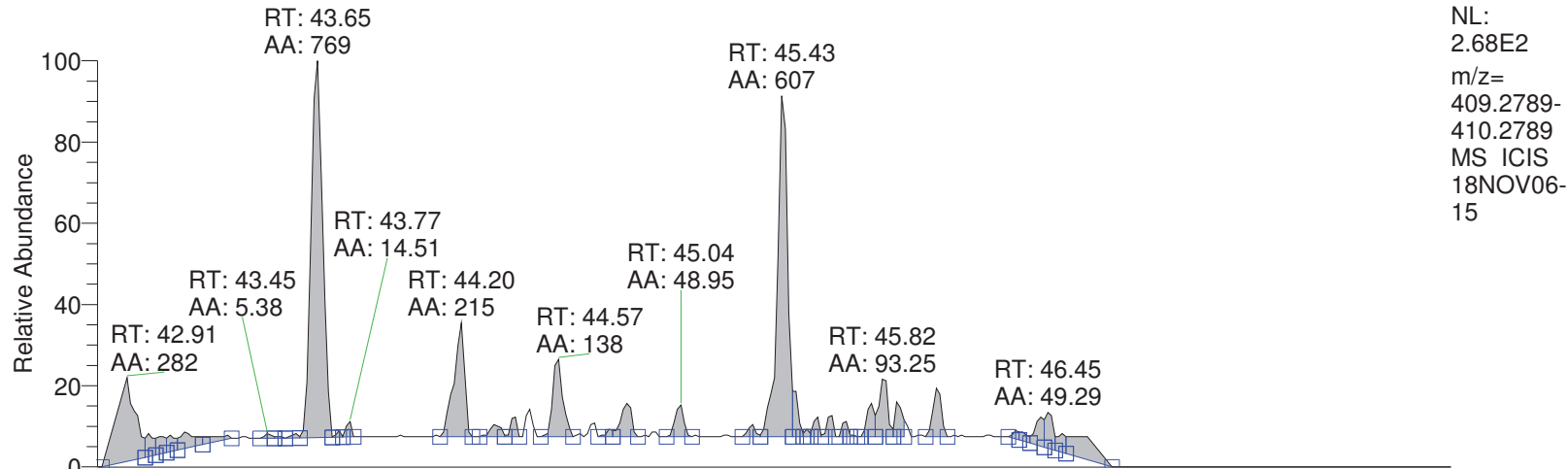


**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

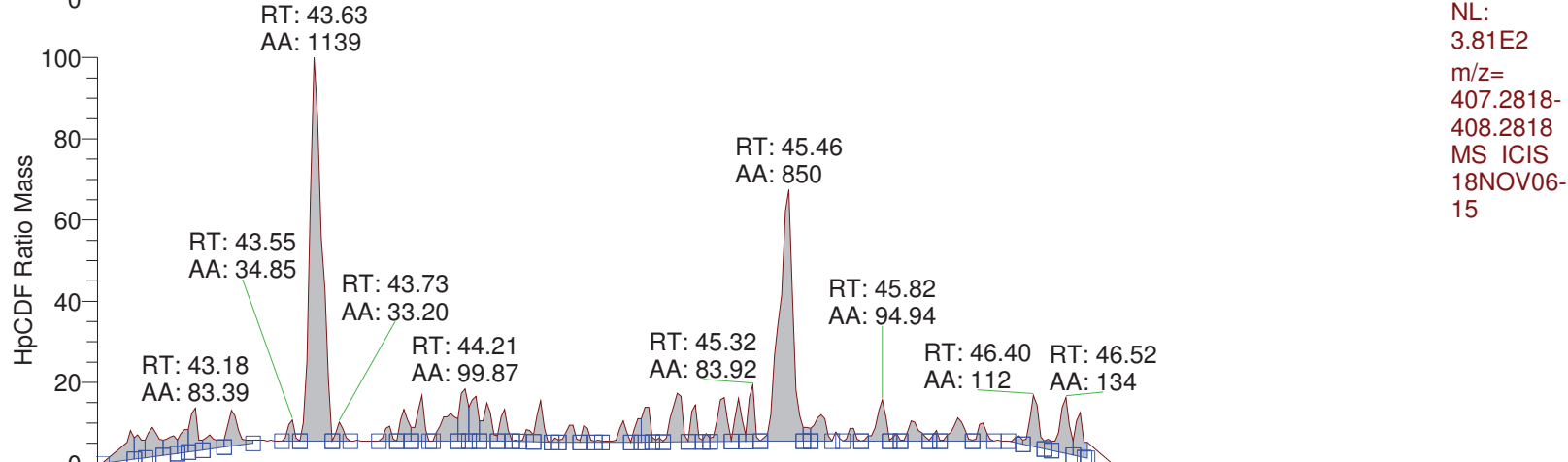
**REVIEWED**  
By uild at 4:13 pm, 11/8/18

Time (min)

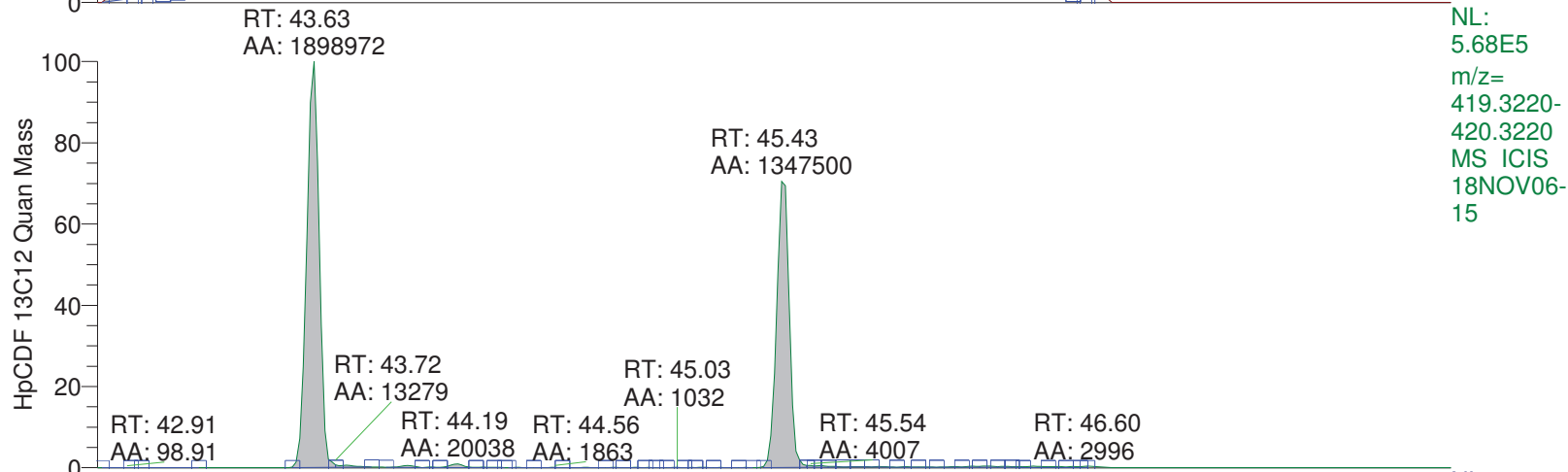
RT: 42.80 - 48.00



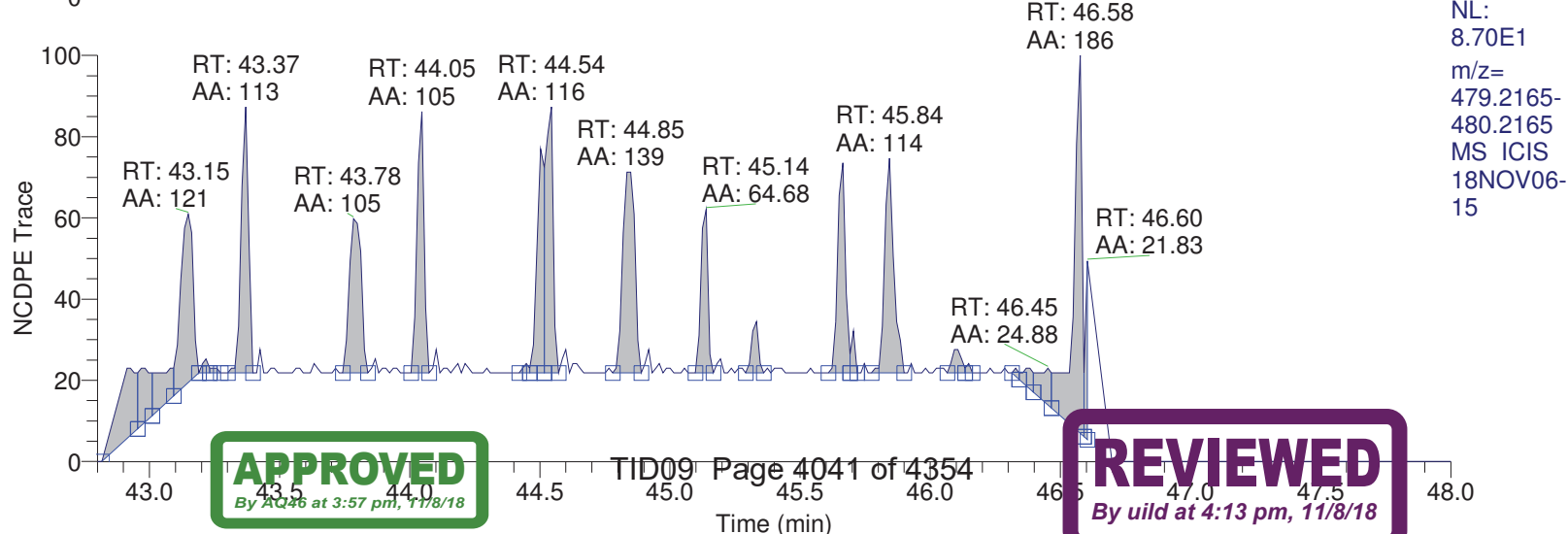
NL:  
2.68E2  
m/z=  
409.2789-  
410.2789  
MS ICIS  
18NOV06-  
15



NL:  
3.81E2  
m/z=  
407.2818-  
408.2818  
MS ICIS  
18NOV06-  
15



NL:  
5.68E5  
m/z=  
419.3220-  
420.3220  
MS ICIS  
18NOV06-  
15

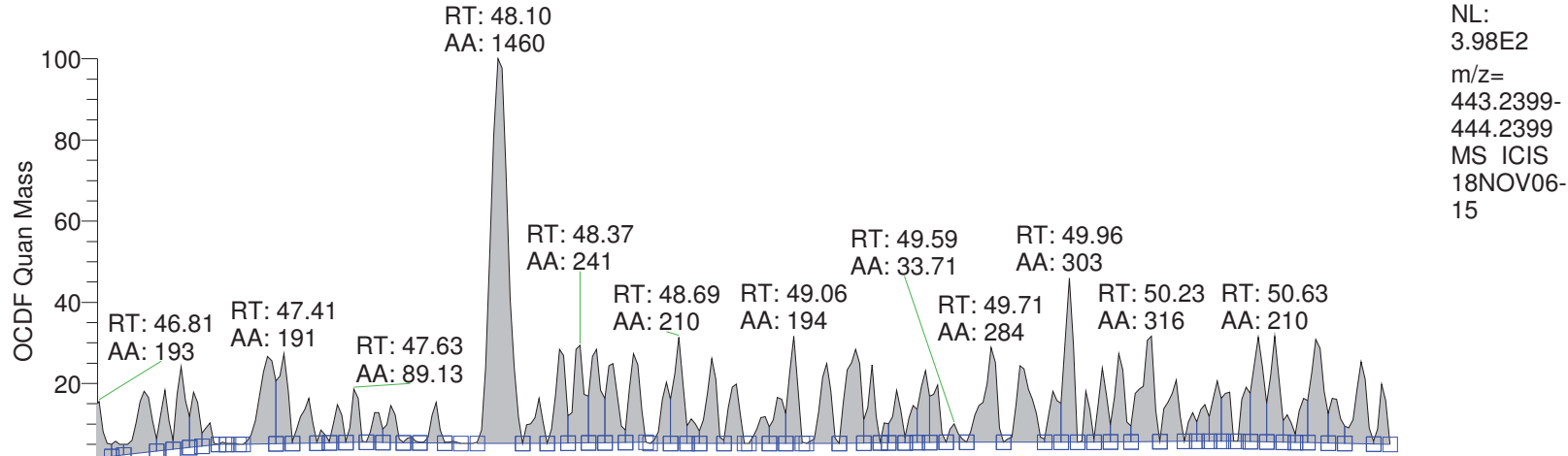


NL:  
8.70E1  
m/z=  
479.2165-  
480.2165  
MS ICIS  
18NOV06-  
15

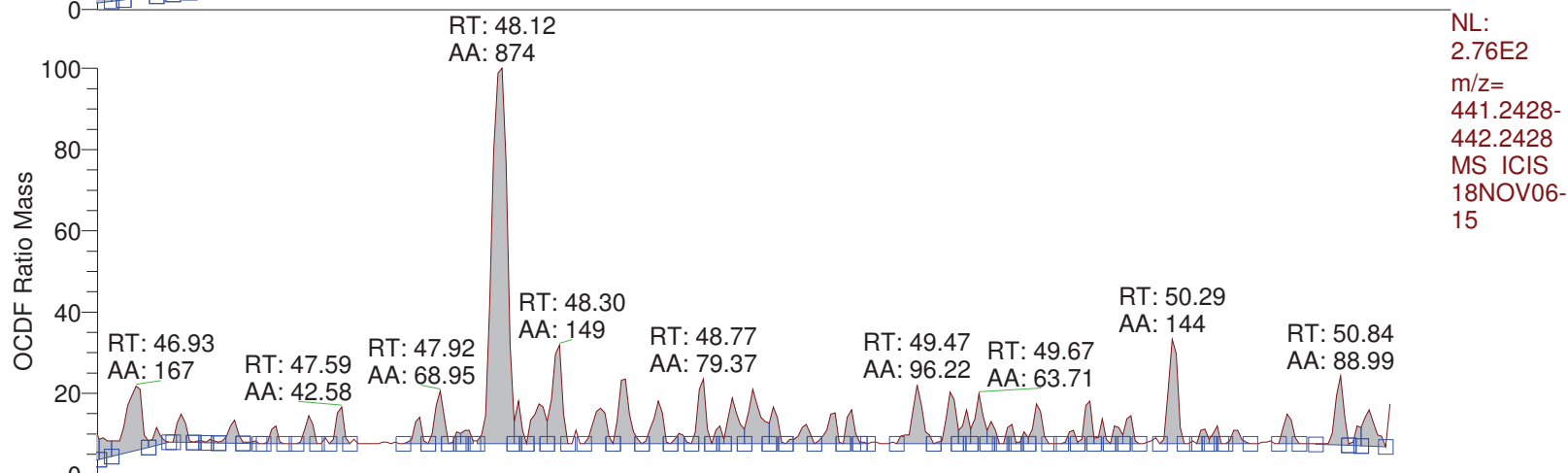
**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

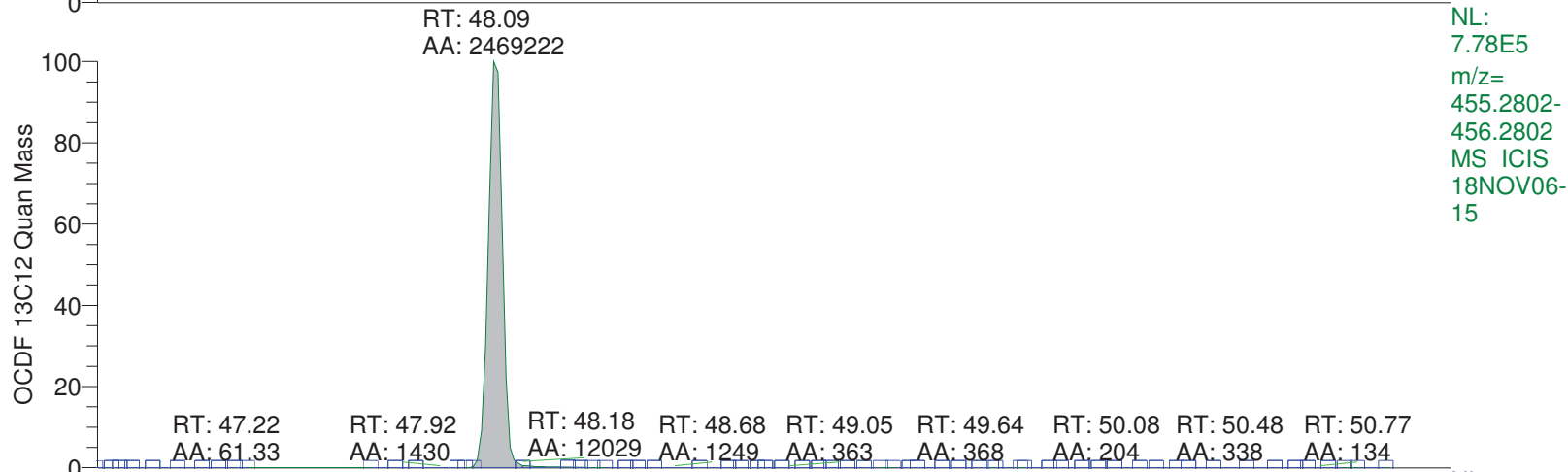
RT: 46.80 - 51.20



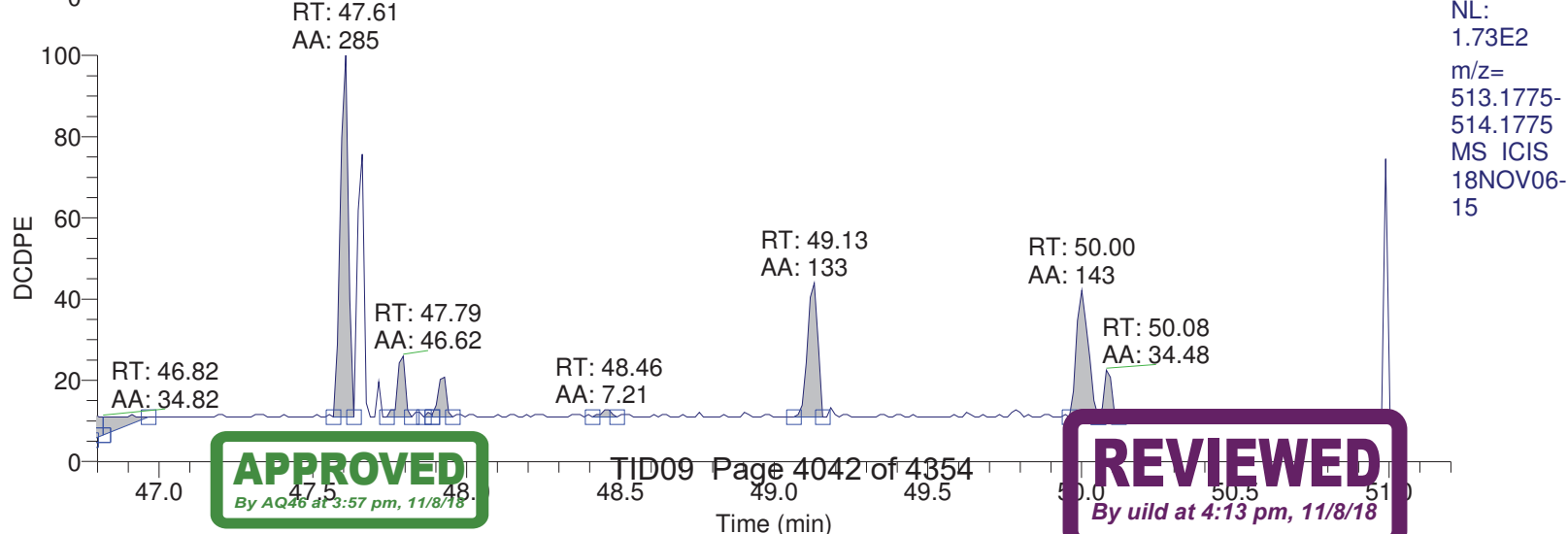
NL: 3.98E2  
m/z= 443.2399-444.2399  
MS ICIS 18NOV06-15



NL: 2.76E2  
m/z= 441.2428-442.2428  
MS ICIS 18NOV06-15



NL: 7.78E5  
m/z= 455.2802-456.2802  
MS ICIS 18NOV06-15



NL: 1.73E2  
m/z= 513.1775-514.1775  
MS ICIS 18NOV06-15

**APPROVED**  
By AQ46 at 3:57 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

Time (min)

\*\*\* file opened Tue Nov 06 21:15:24 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 21:15:23

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
	Window # 2	292.9819	l	20	1
303.9011			1	1	118
305.8981			1	1	118
315.9413			5	1	23
317.9384			5	1	23
319.8960			1	1	118
321.8930			1	1	118



331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.300000 minutes

MID window end time was 32.300000 minutes

18NOV06-15

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	97.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	3600000.0000
FVANAL	0.0184	FVINLET	0.0426	FVSR	0.0327
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	97.0000	LKM	442.9723	MASS	97.0000
MDAC	1426781.7688	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2164.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9822	RELEN	0.0000
RES	12252.4101	RPUSHER	-1.0476	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	97.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.8e-005 mbar  
Analyzer Penning: 7.8e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11969.  
MID Time window 2: Resolution is 12654.  
MID Time window 3: Resolution is 12236.  
MID Time window 4: Resolution is 13037.





18NOV06-15

MID Time Window 5: Resolution is 13317.  
MID Time Window 6: Resolution is 12252.

Amplifier Offset: 91.

\*\*\* File closed Tue Nov 06 22:06:25 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 06:08  
Number of Entries 3  
Comment BLK:11030:12937  
Vial 91  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID BLK309016  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

Quan y:\18nov07conf\18nov07-19.quan  
Data y:\18nov07conf\18nov07-19.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	26.64	failed	failed	passed	failed	passed	passed	Failed on: CAA Ratio1A
2	13C12-1234-TCDD	24.73	passed	passed	passed	passed	passed	passed	
3	13C12-2378-TCDF	26.64	passed	passed	passed	passed	passed	passed	

**Quantitation Settings****Data File Parameter**

Acq. Data	2018/11/08 06:08
Number of Entries	3
Comment	BLK:11030:12937
Vial	91
Sample Name	SW-846 8290A Feb 2007 Rev 1 18309016
Sample ID	BLK309016
Inst ID	DF18471-18NOV07Conf
Client	
Analyst	jda02741
GC Column	DB-Dioxin 60 M x 0.25um x 0.25mm
BatchNo	18309016
Barcode	

**Files Parameter**

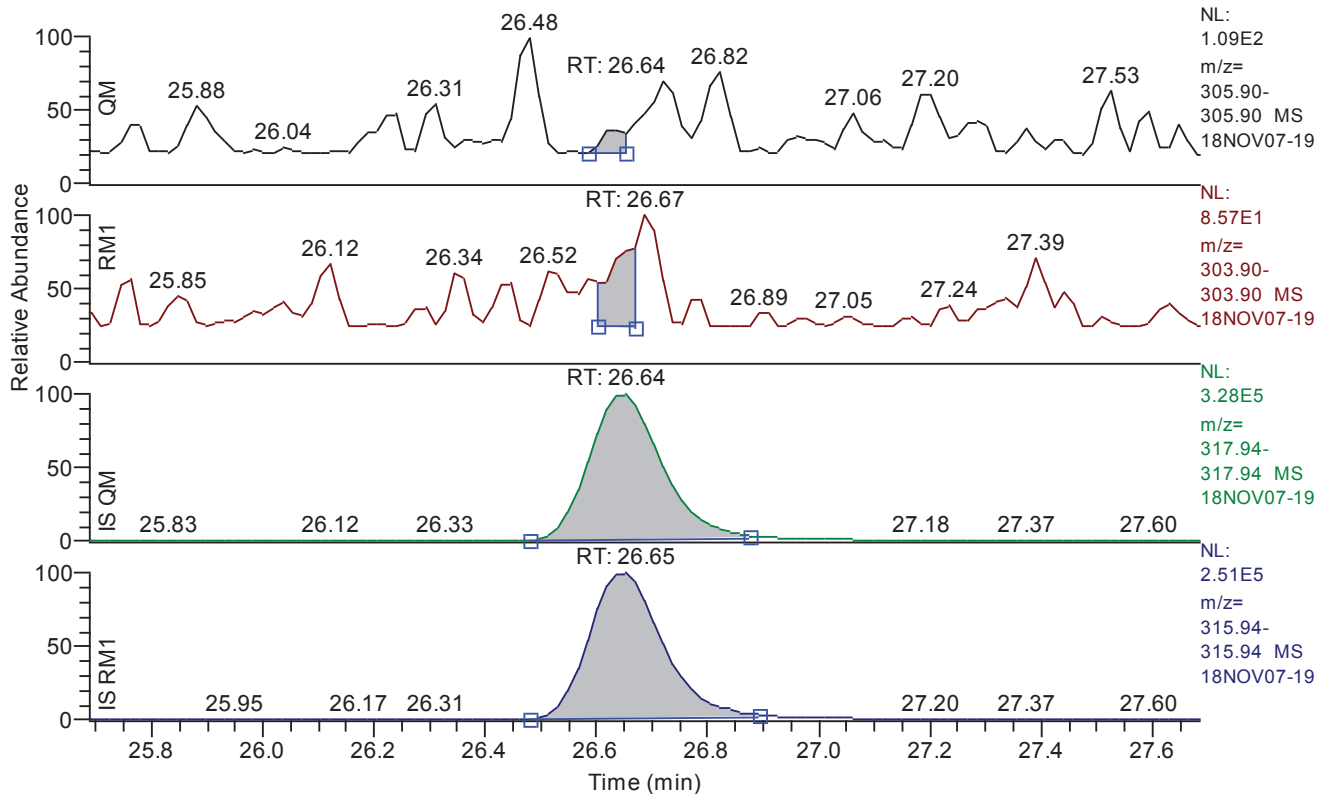
Quan	y:\18nov07conf\18nov07-19.quan
Data	y:\18nov07conf\18nov07-19.raw
Response	y:\responsefiles\df18471-18oct17confdfical.resp
Script	C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC
Mass Ref	

**Quan Parameter**

QualBrowser Compatibility	Compatibility off
Sum Area/Height	Sum QM RM1
Quantitation Status	Dependent on Area
Injection Volume [hIJV]	1.0
Sample Volume [hSV]	20.0
Sample Weight [hSWT]	10.0
Dilution Factor [hDF]	1.0
Det. Limit Factor [hDLF]	2.5
Response Factor Mode	Average RF
Fit Calc. Mode	Linear Fit
Regression Mode	Non weighted Regression
Weighted Regression Factor	1.0

**Chromatogram**

RT: 25.69 - 27.69 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.64
QM Area	48
QM Integration Mode	M
RM1 Area	152
RM1 Integration Mode	M
ManInt	1
Detection Limit (A)	0.0175
Unqualified Amount (A)	0.007507
Adjusted Amount (A)	n.d. < 0.0175
Signal-to-Noise	3
Client Flags	
Status Overview	failed
Status Info	Failed on: CAA Ratio1A

**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/08 06:08  
Number of Entries 3  
Comment BLK:11030:12937  
Vial 91  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID BLK309016  
Inst ID DF18471-18NOV07Conf  
Client  
Analyst jda02741  
GC Column DB-Dioxin 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

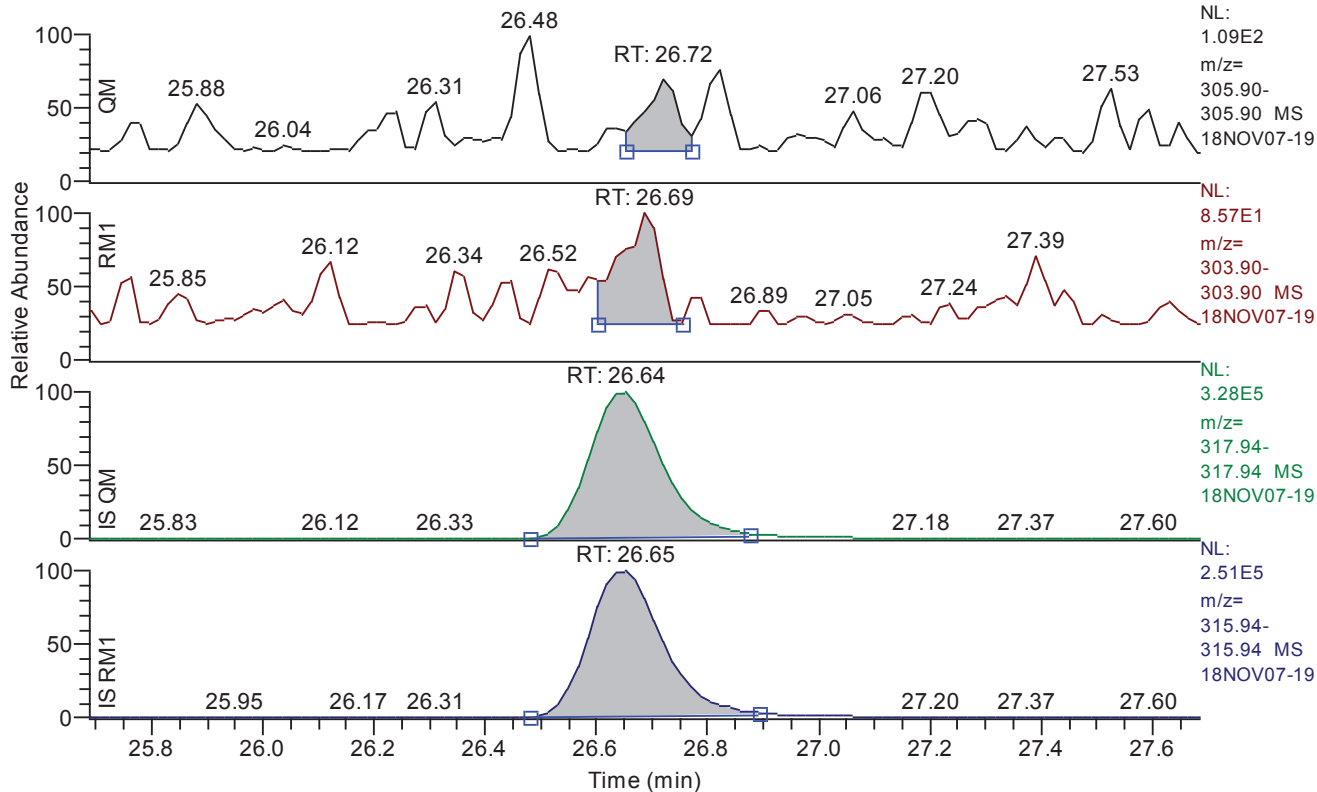
Quan y:\18nov07conf\18nov07-19.quan  
Data y:\18nov07conf\18nov07-19.raw  
Response y:\responsefiles\df18471-18oct17confdfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 25.69 - 27.69 SM: 3G



Entry: 2378-TCDF IS: 13C12-2378-TCDF

**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	26.72
QM Area	226
QM Integration Mode	A
RM1 Area	330
RM1 Integration Mode	A
ManInt	1
Detection Limit (A)	0.0175
Unqualified Amount (A)	0.020867
Adjusted Amount (A)	n.d.
Signal-to-Noise	6
Client Flags	
Status Overview	failed
Status Info	Failed on: Ratio1A RM2Time < min

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	26.67	26.64	26.67	26.64	passed	passed
2	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	24.74	24.73	24.73	24.73	passed	passed
3	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	26.62	26.64	26.65	26.65	passed	passed



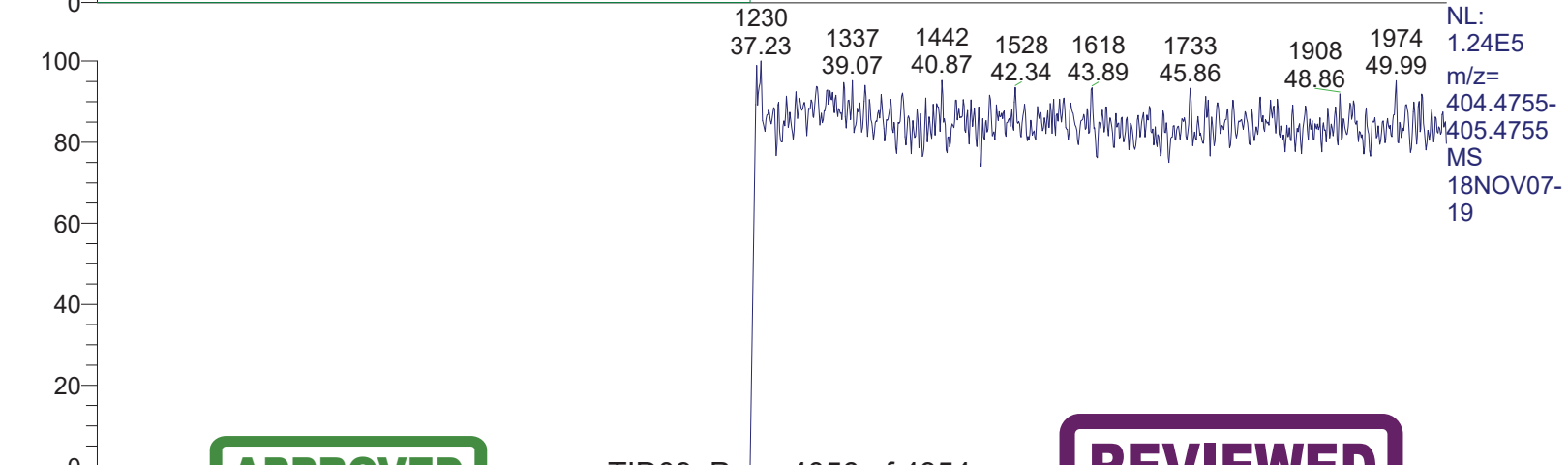
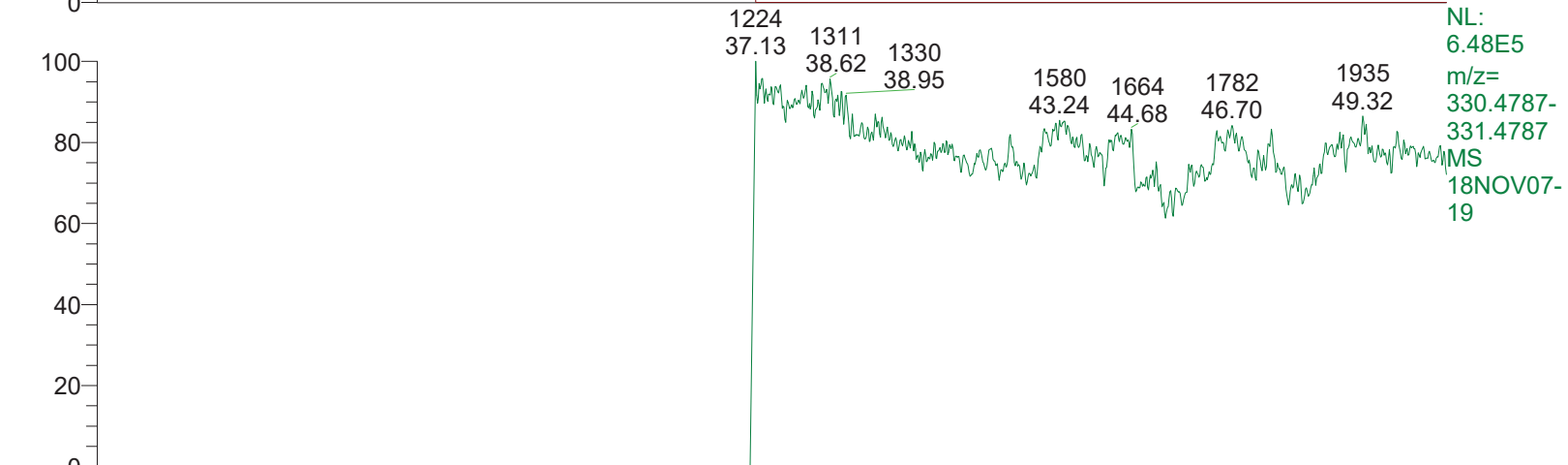
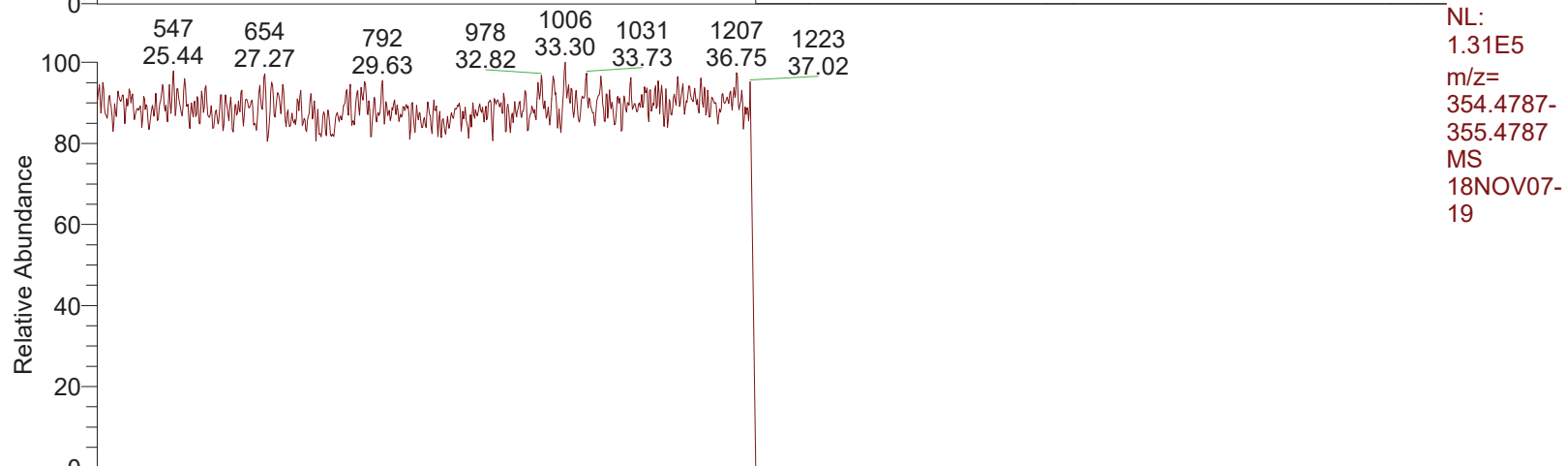
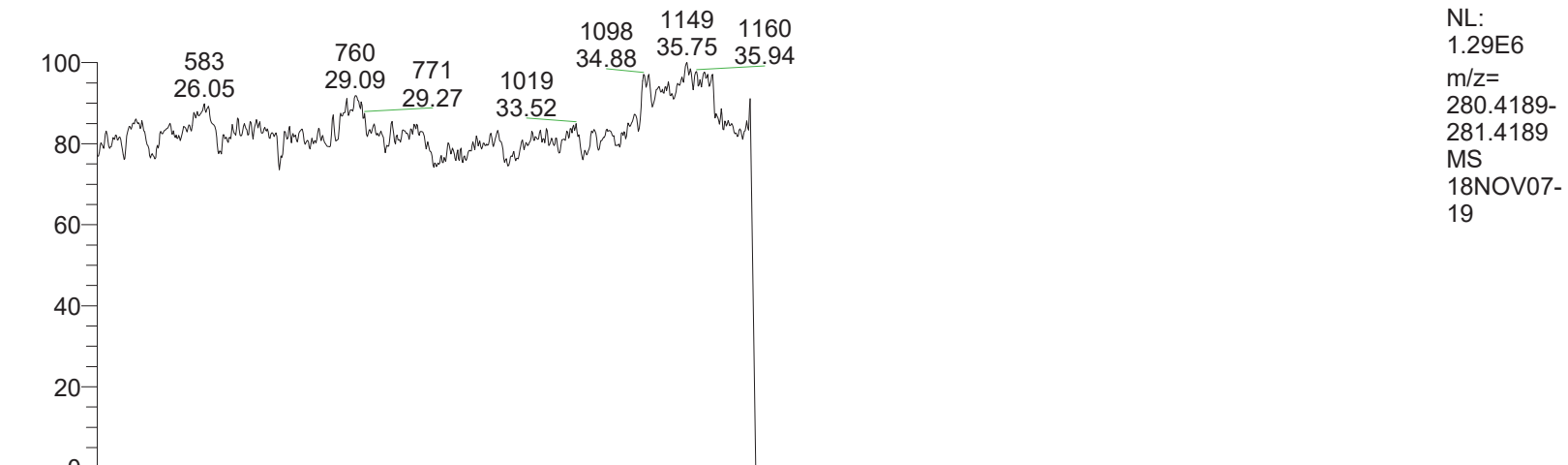
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	26.64	3.1820	0.6450 - 0.8950	failed	---	0 - 0	passed
2	13C12-1234-TCDD	24.73	0.7833	0.6450 - 0.8950	passed	100.00	0 - 0	passed
3	13C12-2378-TCDF	26.64	0.7726	0.6450 - 0.8950	passed	47.57	40 - 135	passed

**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	failed	26.64	48	M	152	M	0.0175	0.007507	n.d. < 0.0175	0.000000		3
2	13C12-1234-TCDD	passed	24.73	3024784	A	2369446	A	0.0699	200.000000	200.0000	200.000000	7155	
3	13C12-2378-TCDF	passed	26.64	2950224	A	2279438	A	0.0306	95.147549	95.1475	200.000000	7018	

RT: 23.90 - 51.00



**APPROVED**  
By AQ46 at 5:57 pm, 11/8/18

**REVIEWED**  
By uild at 10:49 am, 11/9/18

18NOV07-19

\*\*\* file opened Thu Nov 08 06:12:29 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07622

Analysis started at: 08-Nov-18 06:12:29

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name:

Sequence : e0a48656-e430-4b1b-bdc0-6583edd47d92

MID procedure: PFK17MAR13 DB-DIOXINCONF

Mid Time windows:

	Start	Measure	End	Cycle time
# 1	16:00 min	21:00 min	37:00 min	1.00 sec
# 2	37:00 min	15:30 min	52:30 min	1.00 sec

Mid Masses:

Window # 1

mass	F	int	gr	time (ms)
280.9819	1	10	1	12
303.9016		1	1	122
305.8987		1	1	122
315.9419		2	1	61
317.9389		2	1	61
331.9368		2	1	61
333.9339		2	1	61
339.8597		1	1	122
341.8567		1	1	122
351.9000		2	1	61
353.8970		2	1	61
354.9792	c	10	1	12

Window # 2

mass	F	int	gr	time (ms)
330.9792	1	10	1	9
339.8597		1	1	95
341.8567		1	1	95
351.9000		2	1	47
353.8970		2	1	47
373.8208		1	1	95
375.8178		1	1	95
383.8639		2	1	47
385.8610		2	1	47
401.8559		2	1	47
403.8529		2	1	47
404.9760	c	10	1	9
417.8253		1	1	95



419.8220 1 1 95

MID window terminated after 37.000000 minutes  
MID window end time was 37.000000 minutes  
MID window terminated after 52.500000 minutes  
MID window end time was 52.500000 minutes

Tune file name: C:\Xcalibur\System\DFS\MSI\18JUL19.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0170	BMASS	97.5000
BQUAD	6.3500	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	0.0000	DRAWS	0.0000
DYNVOLTAGE	15.0000	ECORR	0.9996	ECURR	1.0000
EDAC	7969177.0000	EDACG	1.0000	EDACZ	-199.0000
ELEN	-50.0000	EMULT	1775.0000	ENS	217.0000
ENSBR	6.3500	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	169.0000	EXSBR	-0.7300
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	50.0000	FMII	50.0000	FQUAD	4.2500
FQUADGAIN	1.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0171	FVINLET	0.0379	FVSR	0.0338
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	636.0000
LENS_SYM	-0.3000	LM	650.0000	LMII	500.0000
LMASS	97.5000	LKM	330.9792	MASS	97.5000
MDAC	946908.7264	MRANGE	1614.4523	NSAM	200.0000
NSCAN	2130.0000	NSMAX	8.0000	NSMIN	66.0000
NPEAK	14.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-16.0000	RECURR	0.9680	RELEN	0.0000
RES	12277.5128	RPUSHER	-15.8022	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	668.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0172	TANAL	0.0000	TCURR	0.0000
TD	30.0000	TS	33.4574	THRESH	2.0000
TIS	0.2000	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	97.5000	XLENS_POT	932.0000
XLENS_SYM	6.8000	YLENS_POT	864.0000	YLENS_SYM	12.3000

Source Gauge: 2.1e-005 mbar  
Analyzer Penning: 7.4e-008 mbar  
Pirani Analyse: 1.7e-002 mbar  
Pirani Source: 3.4e-002 mbar  
Pirani Inlet System: 3.8e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time Window 1: Resolution is 12487.  
MID Time Window 2: Resolution is 12277.

Amplifier offset: 88.



18NOV07-19  
\*\*\* File closed Thu Nov 08 07:05:01 2018  
\*\*\*



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 19:18  
Number of Entries 62  
Comment LCS:11030:12937  
Vial 61  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID OPR309016  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

Quan w:\18nov06\18nov06-13.quan  
Data w:\18nov06\18nov06-13.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Entry Parameters**

No.	Compound Name	QM Retention Time	Status Overview	Amount Status	RM1 Time Status	Ratio1 Status	Recovery Status	Native vs Labeled Time Status	Status Info
1	2378-TCDF	28.82	passed	passed	passed	passed	passed	passed	passed
2	2378-TCDD	29.93	passed	passed	passed	passed	passed	passed	passed
3	12378-PeCDF	34.94	passed	passed	passed	passed	passed	passed	passed
4	23478-PeCDF	36.27	passed	passed	passed	passed	passed	passed	passed
5	12378-PeCDD	36.67	passed	passed	passed	passed	passed	passed	passed
6	123478-HxCDF	40.01	passed	passed	passed	passed	passed	passed	passed
7	123678-HxCDF	40.17	passed	passed	passed	passed	passed	passed	passed
8	234678-HxCDF	40.89	passed	passed	passed	passed	passed	passed	passed
9	123478-HxCDD	41.09	passed	passed	passed	passed	passed	passed	passed
10	123678-HxCDD	41.21	passed	passed	passed	passed	passed	passed	passed
11	123789-HxCDD	41.52	passed	passed	passed	passed	passed	passed	passed
12	123789-HxCDF	41.93	passed	passed	passed	passed	passed	passed	passed
13	1234678-HpCDF	43.66	passed	passed	passed	passed	passed	passed	passed
14	1234678-HpCDD	44.89	passed	passed	passed	passed	passed	passed	passed
15	1234789-HpCDF	45.47	passed	passed	passed	passed	passed	passed	passed
16	OCDD	47.94	passed	passed	passed	passed	passed	passed	passed
17	OCDF	48.13	passed	passed	passed	passed	passed	passed	passed
18	13C12-1278-TCDD (CRS)	30.34	passed	passed	passed	passed	passed	passed	passed
19	13C12-1234-TCDD	29.04	passed	passed	passed	passed	passed	passed	passed
20	13C12-123468-HxCDD	39.90	passed	passed	passed	passed	passed	passed	passed
21	13C12-2378-TCDF	28.79	passed	passed	passed	passed	passed	passed	passed
22	13C12-2378-TCDD	29.90	passed	passed	passed	passed	passed	passed	passed
23	13C12-12378-PeCDF	34.91	passed	passed	passed	passed	passed	passed	passed
24	13C12-23478-PeCDF	36.24	passed	passed	passed	passed	passed	passed	passed
25	13C12-12378-PeCDD	36.64	passed	passed	passed	passed	passed	passed	passed
26	13C12-123478-HxCDF	40.00	passed	passed	passed	passed	passed	passed	passed
27	13C12-123678-HxCDF	40.15	passed	passed	passed	passed	passed	passed	passed
28	13C12-234678-HxCDF	40.87	passed	passed	passed	passed	passed	passed	passed
29	13C12-123478-HxCDD	41.06	passed	passed	passed	passed	passed	passed	passed
30	13C12-123678-HxCDD	41.18	passed	passed	passed	passed	passed	passed	passed
31	13C12-123789-HxCDD	41.51	passed	passed	passed	passed	passed	passed	passed
32	13C12-123789-HxCDF	41.91	passed	passed	passed	passed	passed	passed	passed
33	13C12-1234678-HpCDF	43.64	passed	passed	passed	passed	passed	passed	passed
34	13C12-1234678-HpCDD	44.87	passed	passed	passed	passed	passed	passed	passed
35	13C12-1234789-HpCDF	45.45	passed	passed	passed	passed	passed	passed	passed
36	13C12-OCDD	47.92	passed	passed	passed	passed	passed	passed	passed
37	13C12-OCDF	48.11	passed	passed	passed	passed	passed	passed	passed



**Quantitation Settings****Data File Parameter**

Acq. Data 2018/11/06 19:18  
Number of Entries 62  
Comment LCS:11030:12937  
Vial 61  
Sample Name SW-846 8290A Feb 2007 Rev 1 18309016  
Sample ID OPR309016  
Inst ID DF17280-18NOV06  
Client  
Analyst maz02012  
GC Column DB5MS 60 M x 0.25um x 0.25mm  
BatchNo 18309016  
Barcode

**Files Parameter**

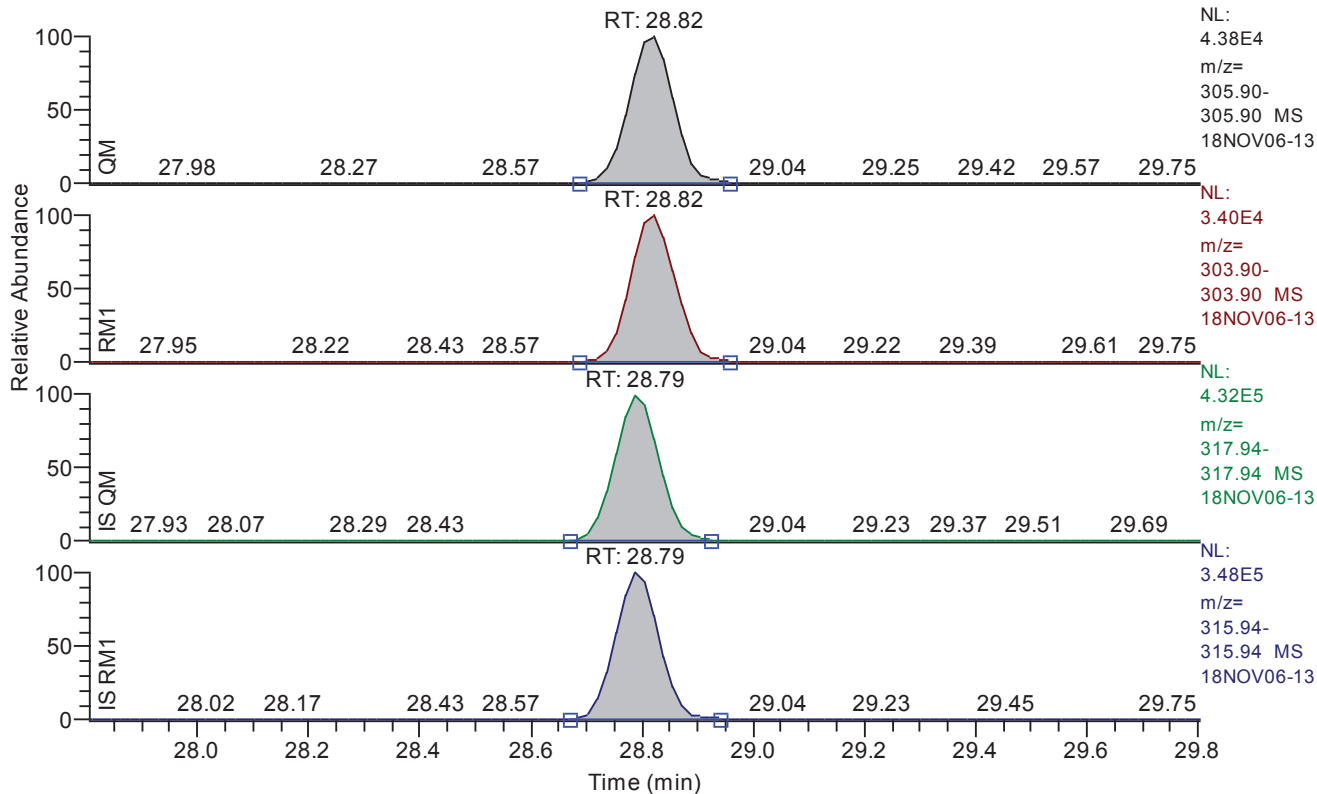
Quan w:\18nov06\18nov06-13.quan  
Data w:\18nov06\18nov06-13.raw  
Response w:\responsefiles\df17280-18nov02dfical.resp  
Script C:\XCALIBUR\SYSTEM\DFS\SCRIPTS\SCRIPT1.QSC  
Mass Ref

**Quan Parameter**

QualBrowser Compatibility Compatibility off  
Sum Area/Height Sum QM RM1  
Quantitation Status Depend on Area  
Injection Volume [hIJV] 1.0  
Sample Volume [hSV] 20.0  
Sample Weight [hSWT] 10.0  
Dilution Factor [hDF] 1.0  
Det. Limit Factor [hDLF] 2.5  
Response Factor Mode Average RF  
Fit Calc. Mode Linear Fit  
Regression Mode Non weighted Regression  
Weighted Regression Factor 1.0

**Chromatogram**

RT: 27.80 - 29.80 SM: 3G

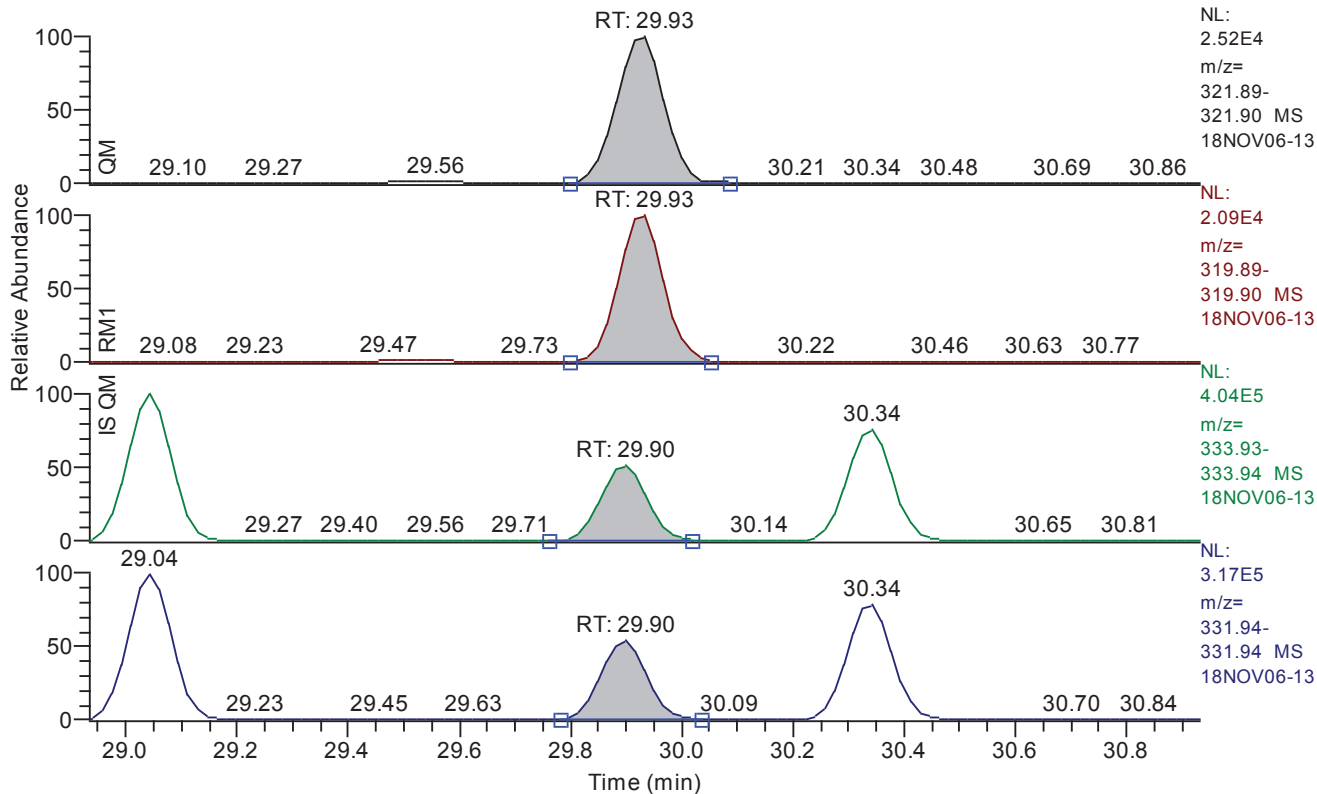


**Entry Parameters**

Compound Name	2378-TCDF
QM Retention Time	28.82
QM Area	251436
QM Integration Mode	A
RM1 Area	195868
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0230
Unqualified Amount (A)	22.163429
Adjusted Amount (A)	22.1634
Signal-to-Noise	2353
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 28.93 - 30.93 SM: 3G

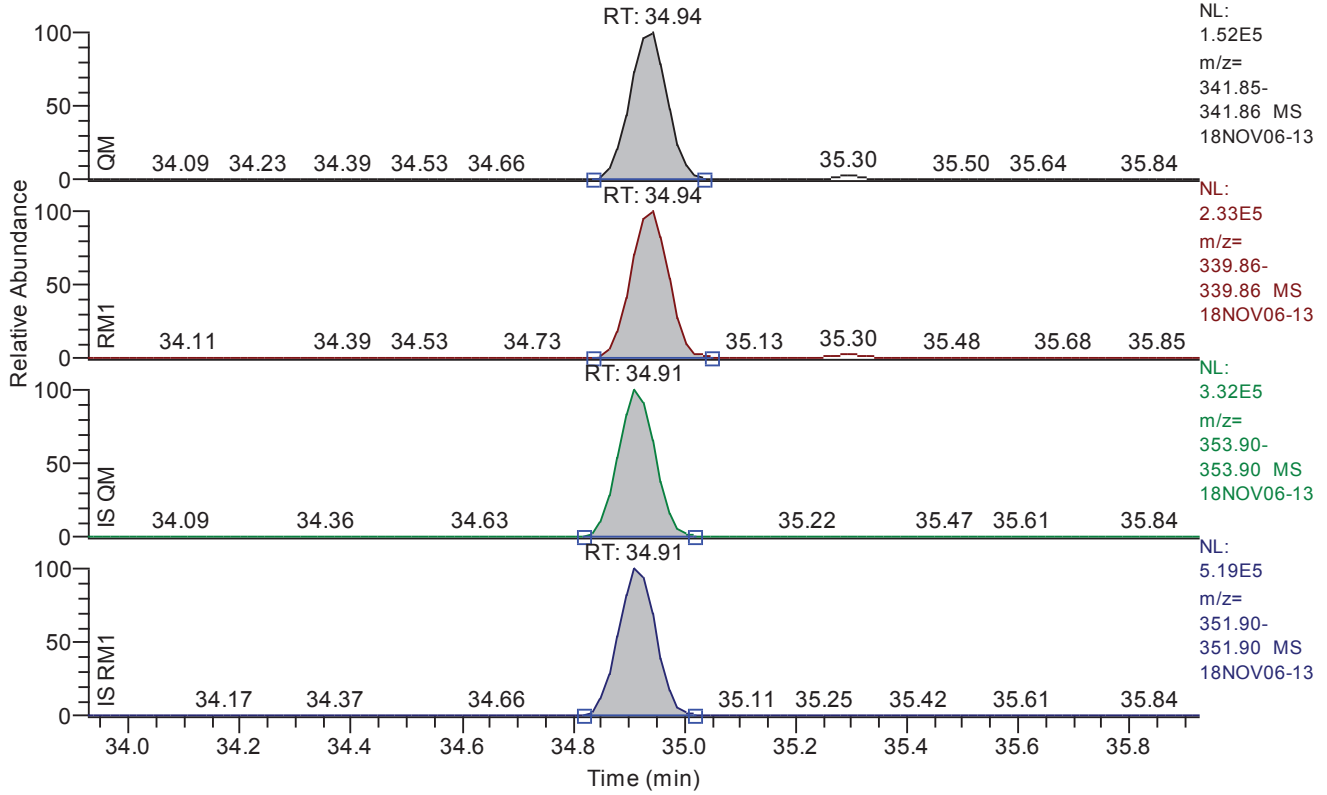


**Entry Parameters**

Compound Name	2378-TCDD
QM Retention Time	29.93
QM Area	152652
QM Integration Mode	A
RM1 Area	120465
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0226
Unqualified Amount (A)	22.153937
Adjusted Amount (A)	22.1539
Signal-to-Noise	2431
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 33.93 - 35.93 SM: 3G

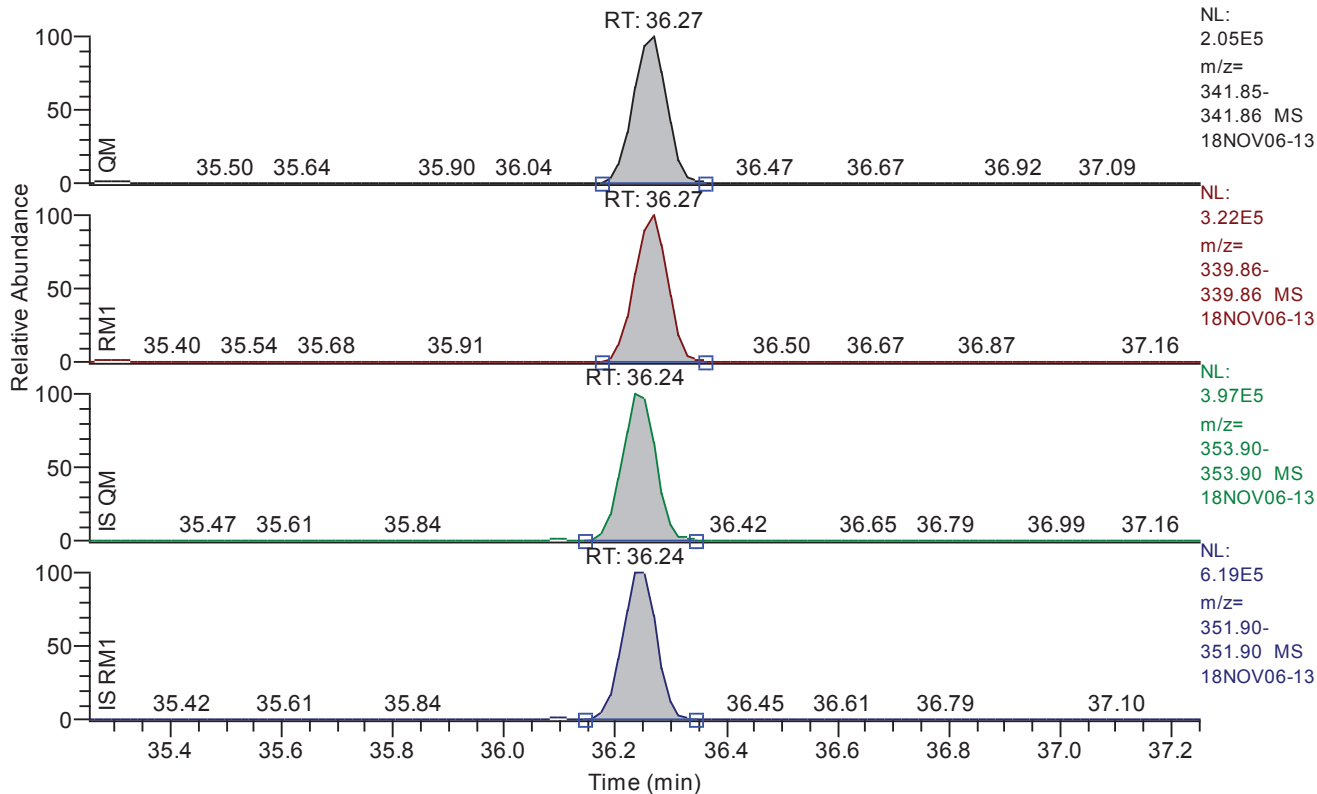


**Entry Parameters**

Compound Name	12378-PeCDF
QM Retention Time	34.94
QM Area	712410
QM Integration Mode	A
RM1 Area	1108159
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0265
Unqualified Amount (A)	107.296634
Adjusted Amount (A)	107.2966
Signal-to-Noise	10034
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.25 - 37.25 SM: 3G

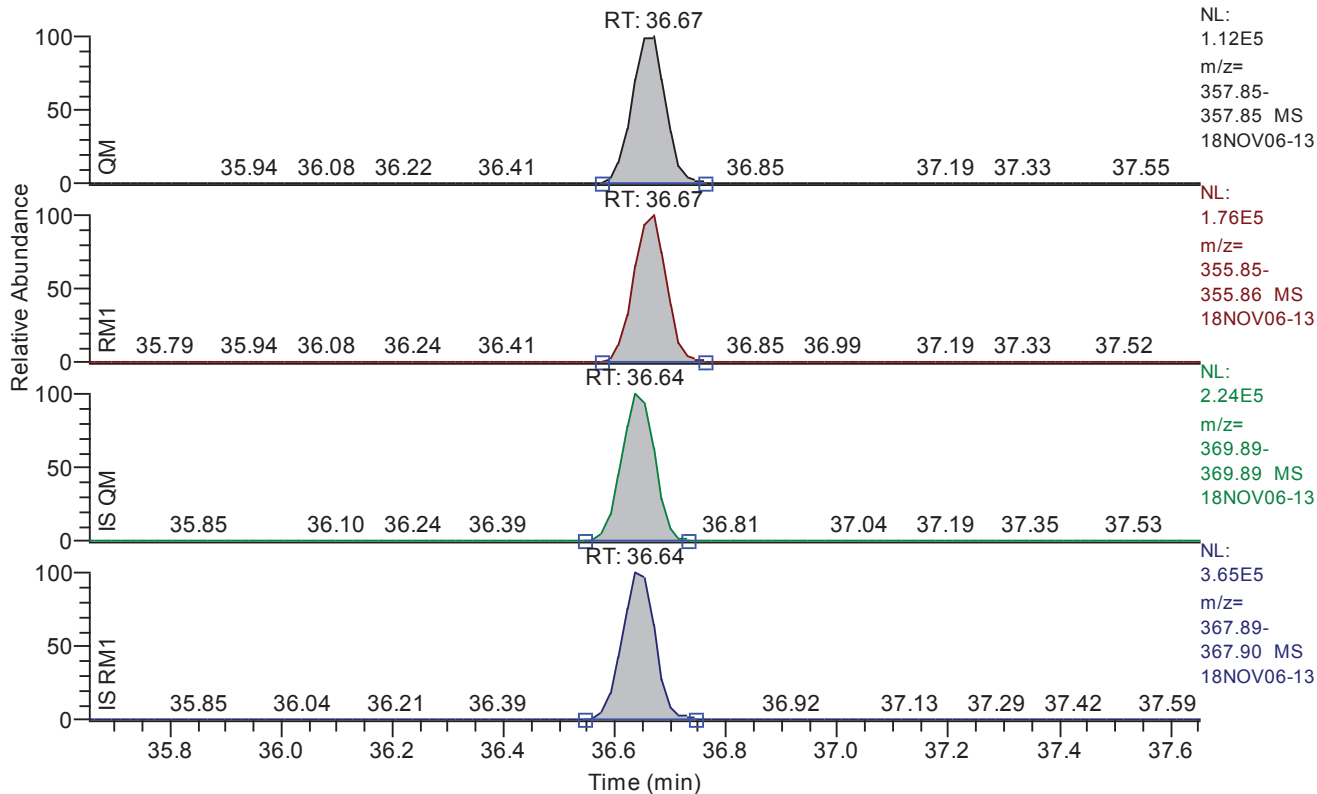


**Entry Parameters**

Compound Name	23478-PeCDF
QM Retention Time	36.27
QM Area	856514
QM Integration Mode	A
RM1 Area	1339769
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0198
Unqualified Amount (A)	107.081573
Adjusted Amount (A)	107.0816
Signal-to-Noise	13747
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 35.65 - 37.65 SM: 3G

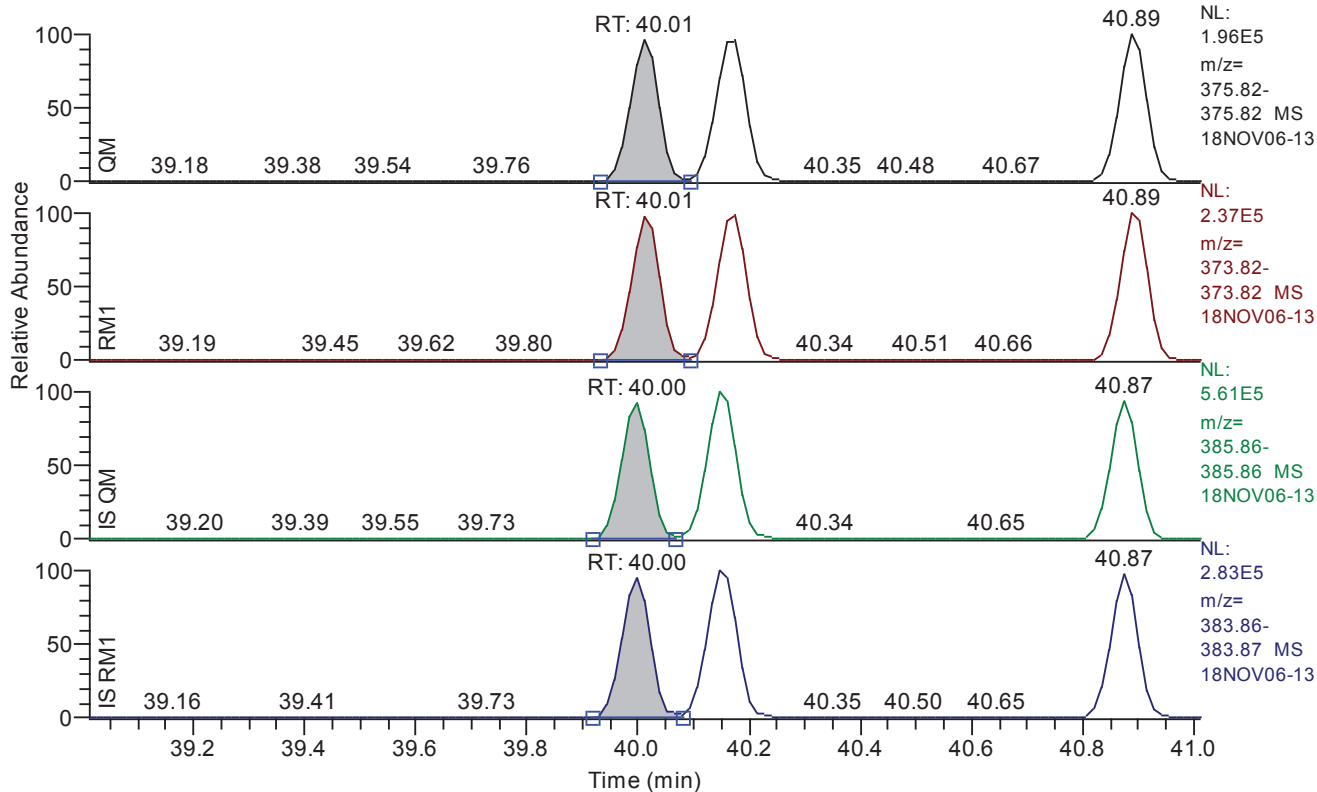


**Entry Parameters**

Compound Name	12378-PeCDD
QM Retention Time	36.67
QM Area	467469
QM Integration Mode	A
RM1 Area	721678
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0379
Unqualified Amount (A)	108.838270
Adjusted Amount (A)	108.8383
Signal-to-Noise	7216
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.01 - 41.01 SM: 3G

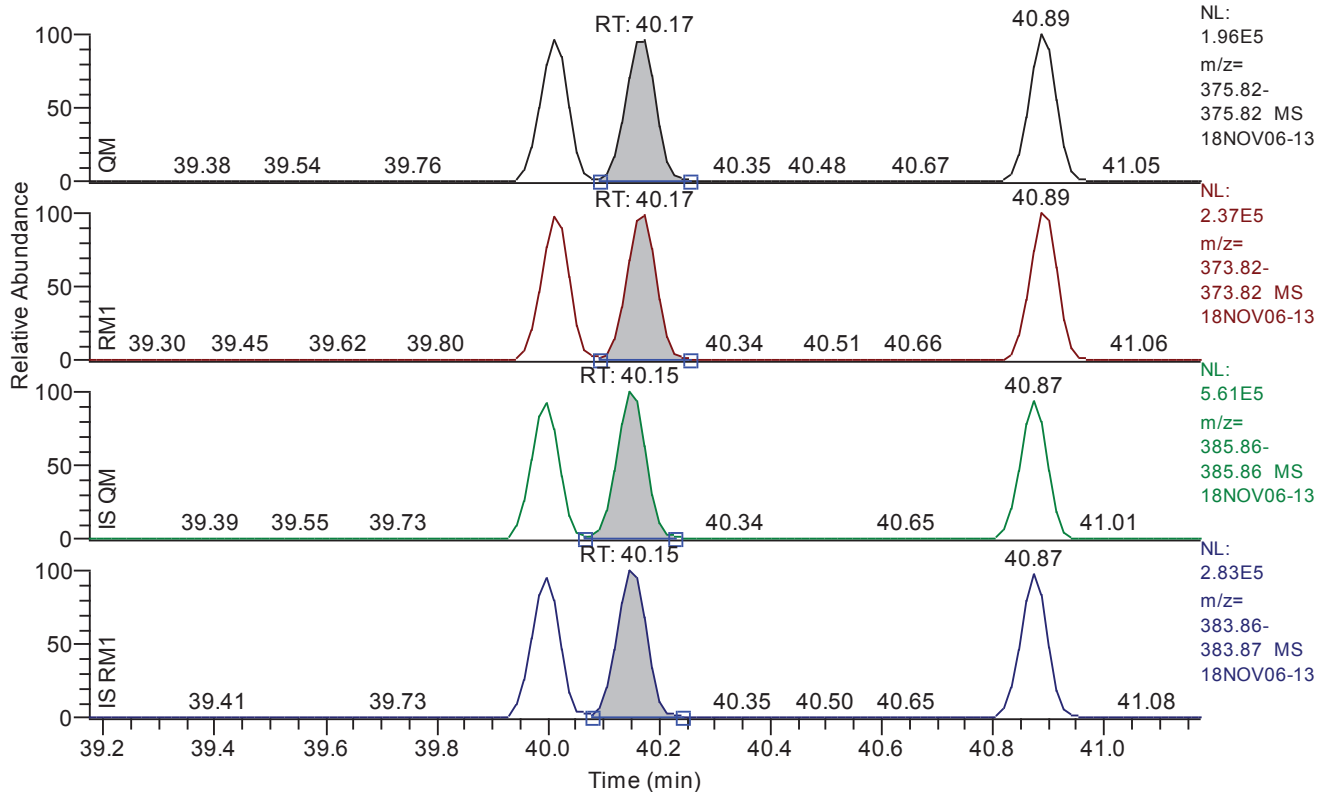


**Entry Parameters**

Compound Name	123478-HxCDF
QM Retention Time	40.01
QM Area	672310
QM Integration Mode	A
RM1 Area	828126
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0321
Unqualified Amount (A)	99.733232
Adjusted Amount (A)	99.7332
Signal-to-Noise	7799
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 39.17 - 41.17 SM: 3G



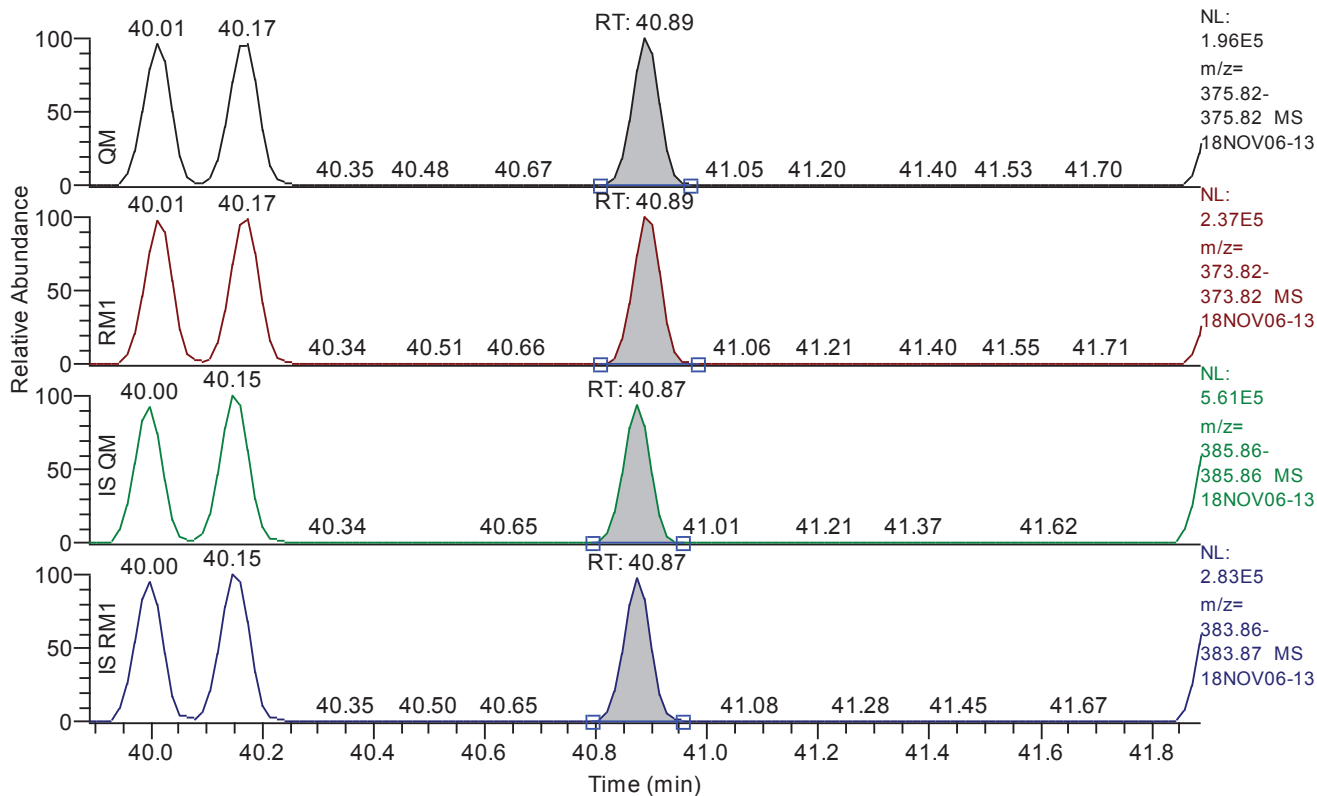
**Entry Parameters**

Compound Name	123678-HxCDF
QM Retention Time	40.17
QM Area	717402
QM Integration Mode	A
RM1 Area	879932
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0309
Unqualified Amount (A)	97.904178
Adjusted Amount (A)	97.9042
Signal-to-Noise	7819
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 39.89 - 41.89 SM: 3G

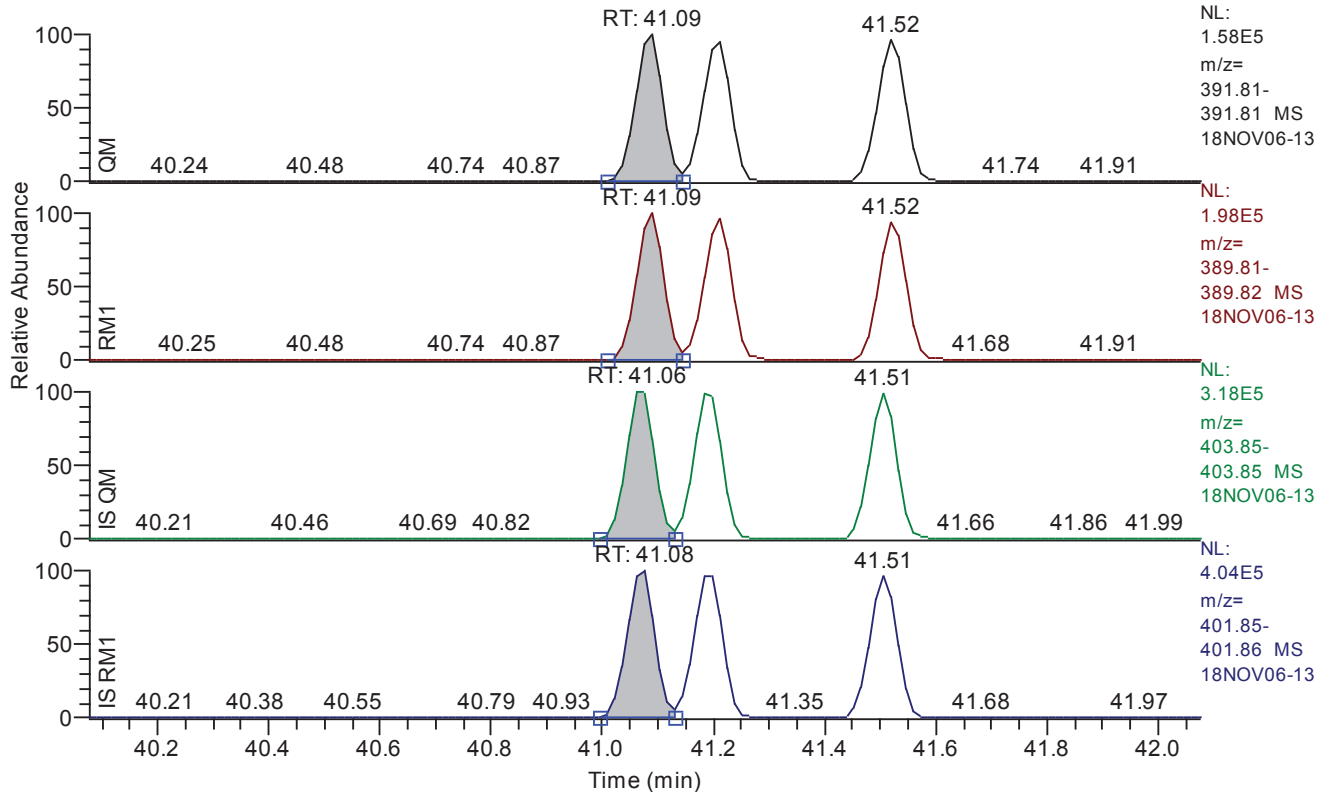


**Entry Parameters**

Compound Name	234678-HxCDF
QM Retention Time	40.89
QM Area	678045
QM Integration Mode	A
RM1 Area	837312
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0304
Unqualified Amount (A)	98.964400
Adjusted Amount (A)	98.9644
Signal-to-Noise	7998
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.08 - 42.08 SM: 3G

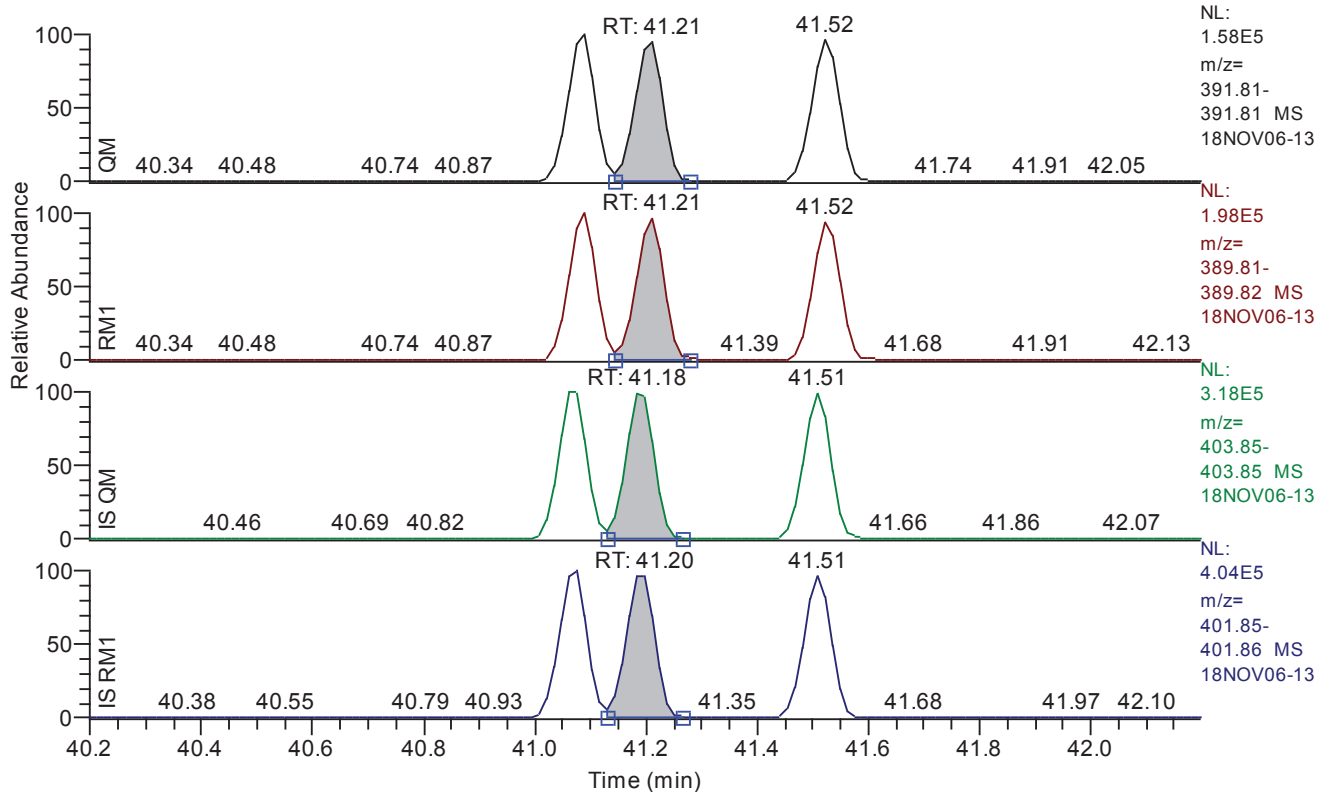


**Entry Parameters**

Compound Name	123478-HxCDD
QM Retention Time	41.09
QM Area	543123
QM Integration Mode	A
RM1 Area	673862
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0416
Unqualified Amount (A)	105.490127
Adjusted Amount (A)	105.4901
Signal-to-Noise	6529
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.20 - 42.20 SM: 3G

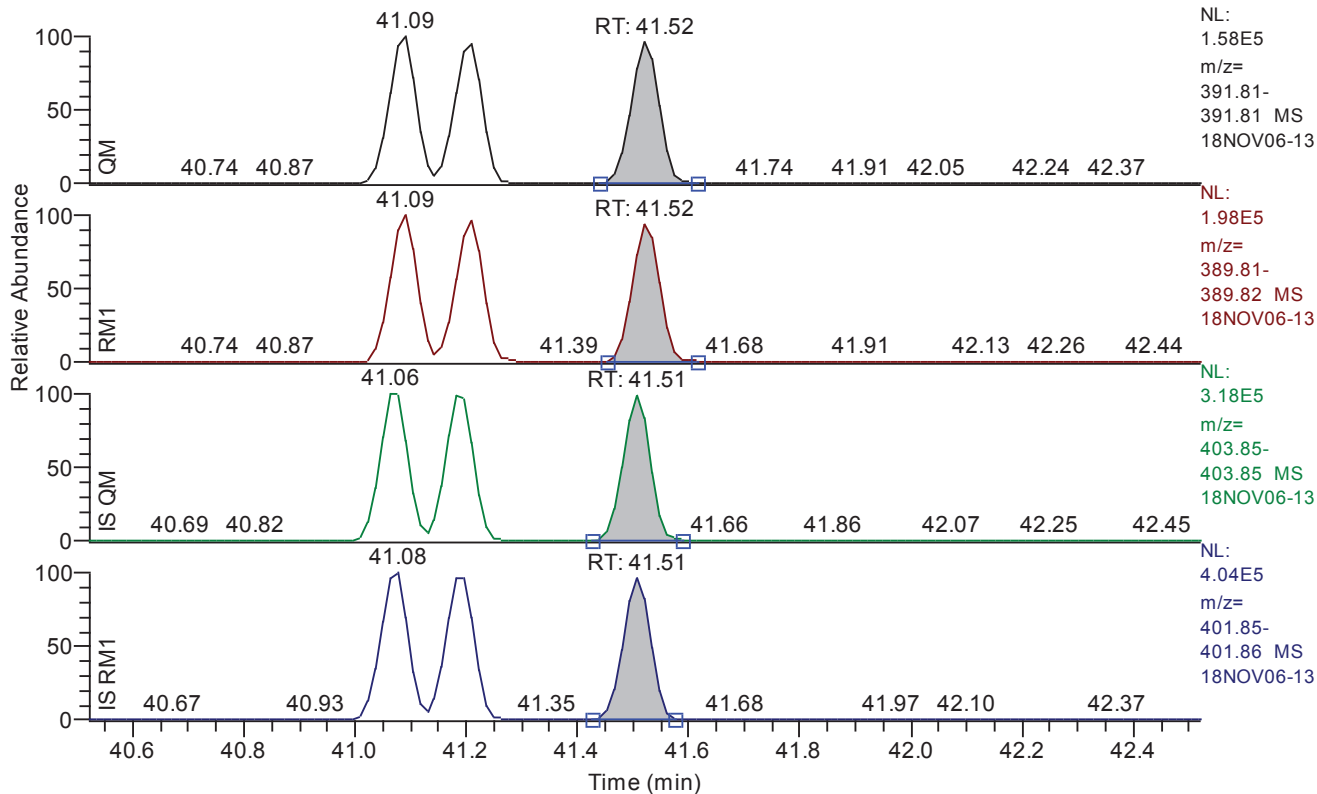


**Entry Parameters**

Compound Name	123678-HxCDD
QM Retention Time	41.21
QM Area	531681
QM Integration Mode	A
RM1 Area	660072
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0428
Unqualified Amount (A)	105.226460
Adjusted Amount (A)	105.2265
Signal-to-Noise	6290
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.52 - 42.52 SM: 3G

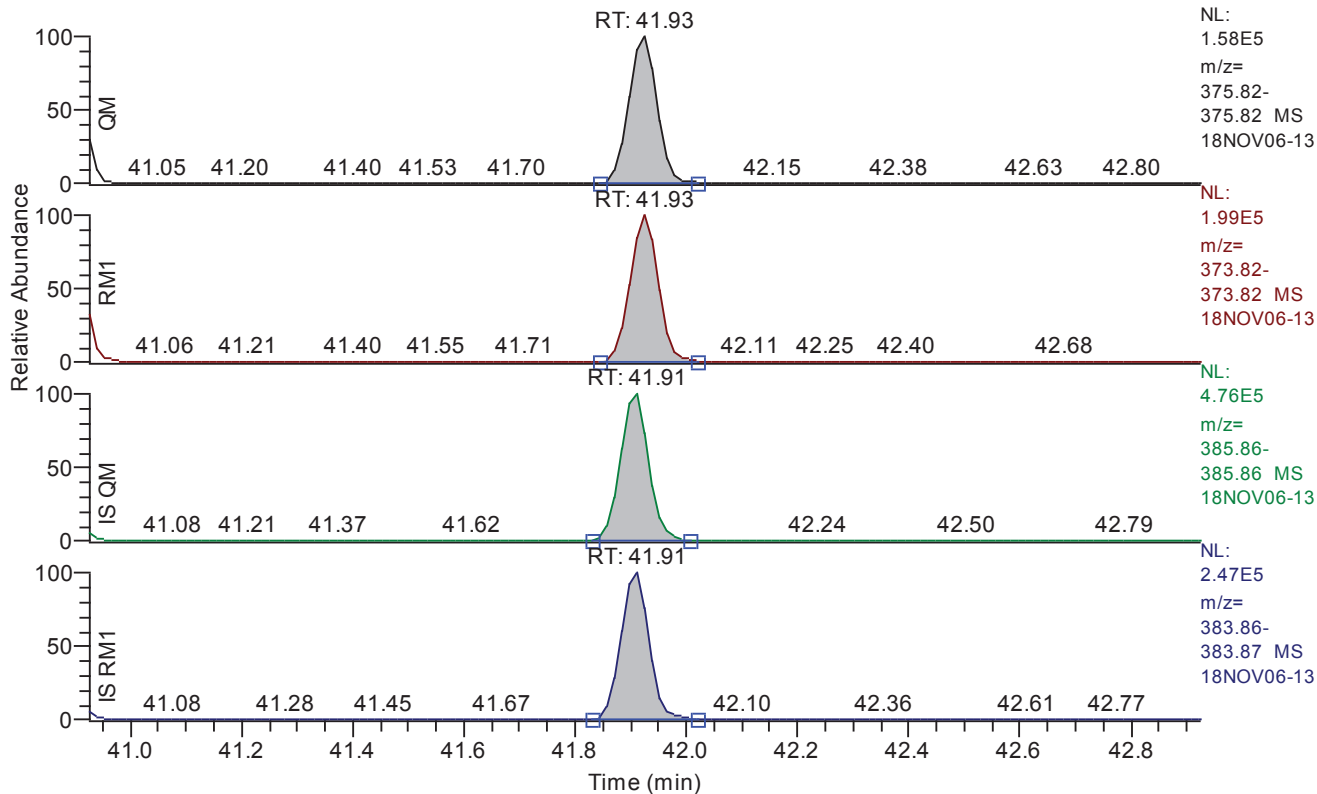


**Entry Parameters**

Compound Name	123789-HxCDD
QM Retention Time	41.52
QM Area	536815
QM Integration Mode	A
RM1 Area	646887
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0404
Unqualified Amount (A)	102.848868
Adjusted Amount (A)	102.8489
Signal-to-Noise	6209
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 40.93 - 42.93 SM: 3G

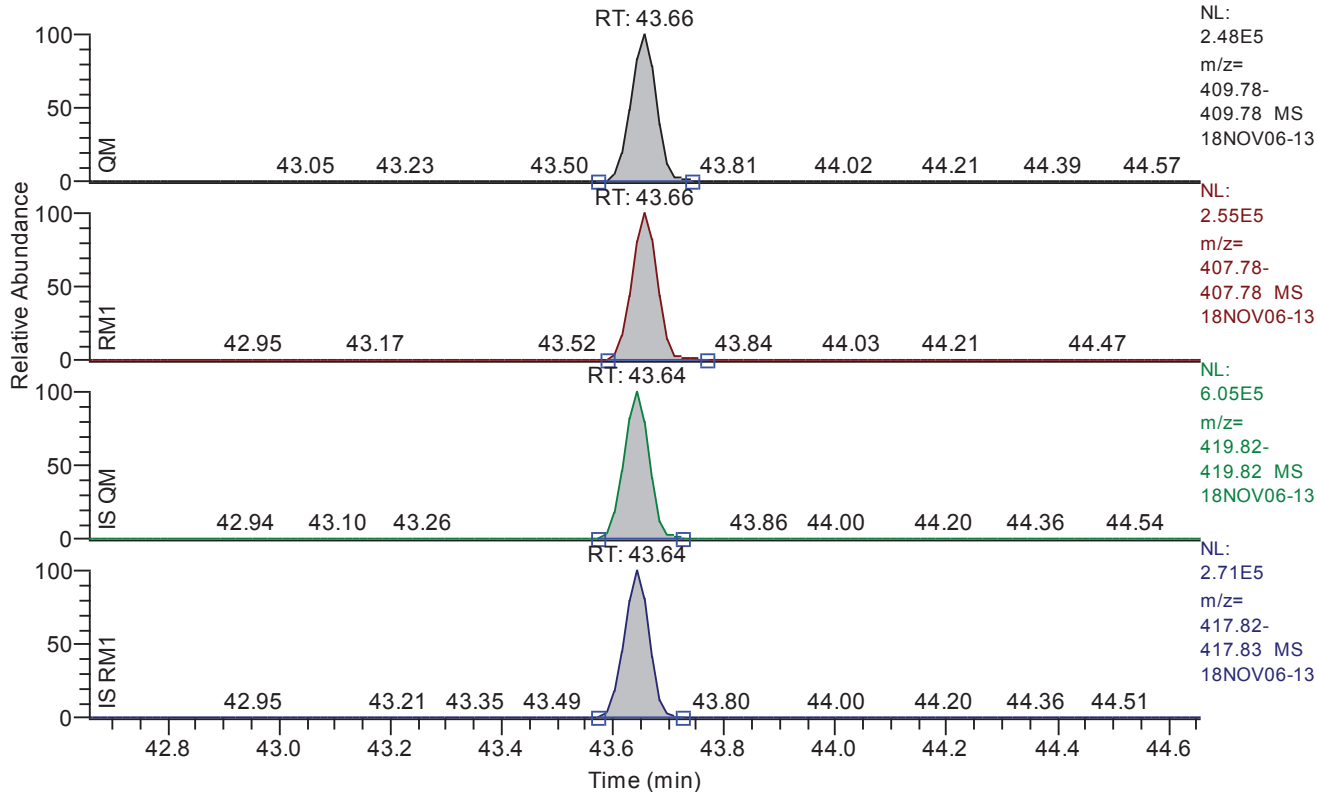


**Entry Parameters**

Compound Name	123789-HxCDF
QM Retention Time	41.93
QM Area	561409
QM Integration Mode	A
RM1 Area	700896
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0368
Unqualified Amount (A)	96.681628
Adjusted Amount (A)	96.6816
Signal-to-Noise	6593
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 42.66 - 44.66 SM: 3G

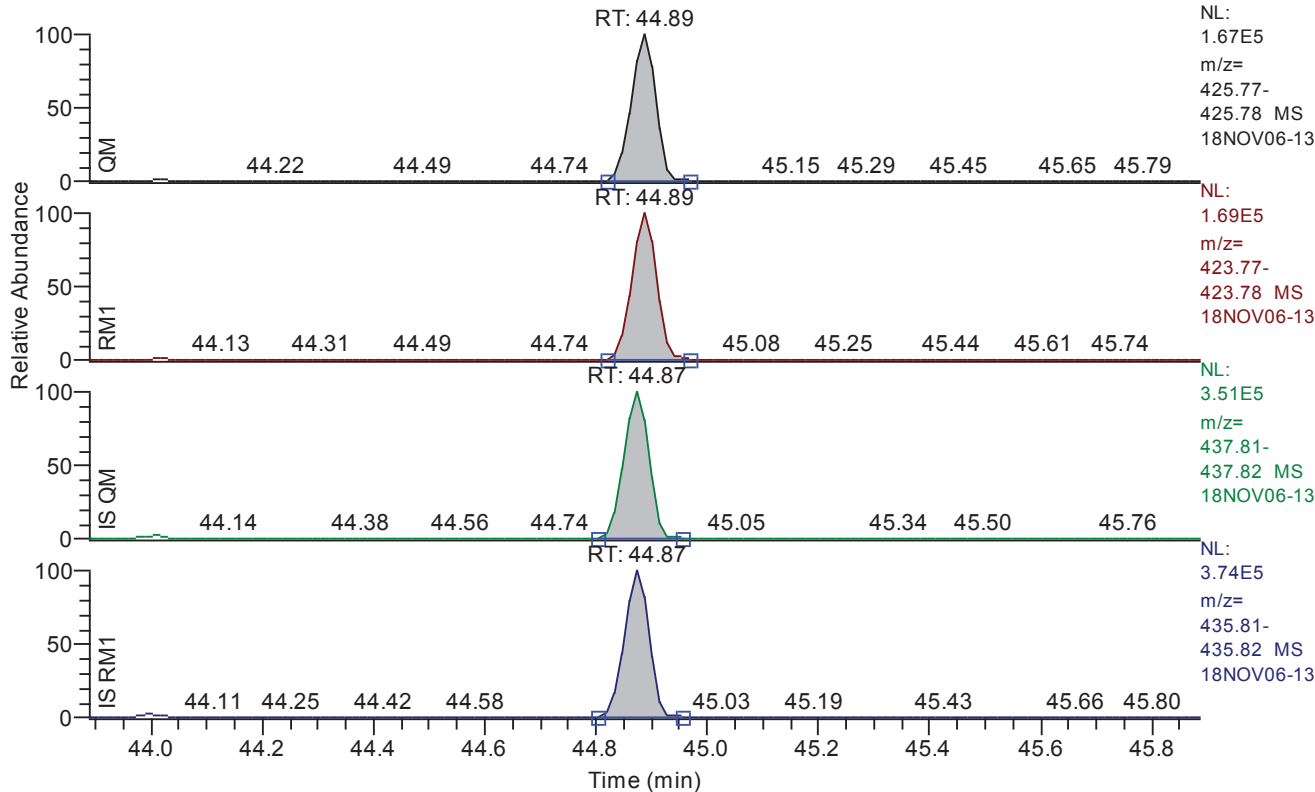


**Entry Parameters**

Compound Name	1234678-HpCDF
QM Retention Time	43.66
QM Area	811269
QM Integration Mode	A
RM1 Area	834364
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0287
Unqualified Amount (A)	101.191790
Adjusted Amount (A)	101.1918
Signal-to-Noise	8726
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 43.89 - 45.89 SM: 3G

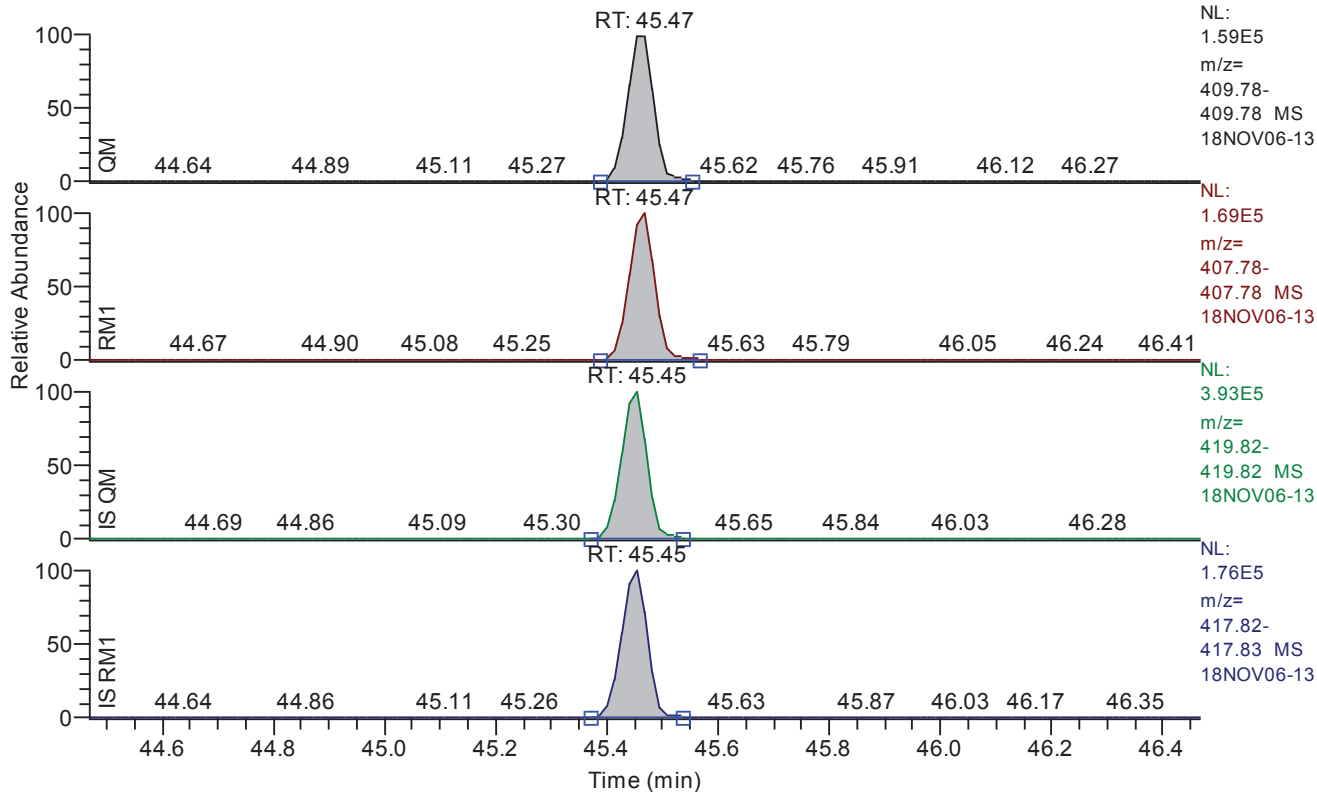


**Entry Parameters**

Compound Name	1234678-HpCDD
QM Retention Time	44.89
QM Area	530533
QM Integration Mode	A
RM1 Area	538553
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0523
Unqualified Amount (A)	97.743963
Adjusted Amount (A)	97.7440
Signal-to-Noise	4729
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 44.47 - 46.47 SM: 3G



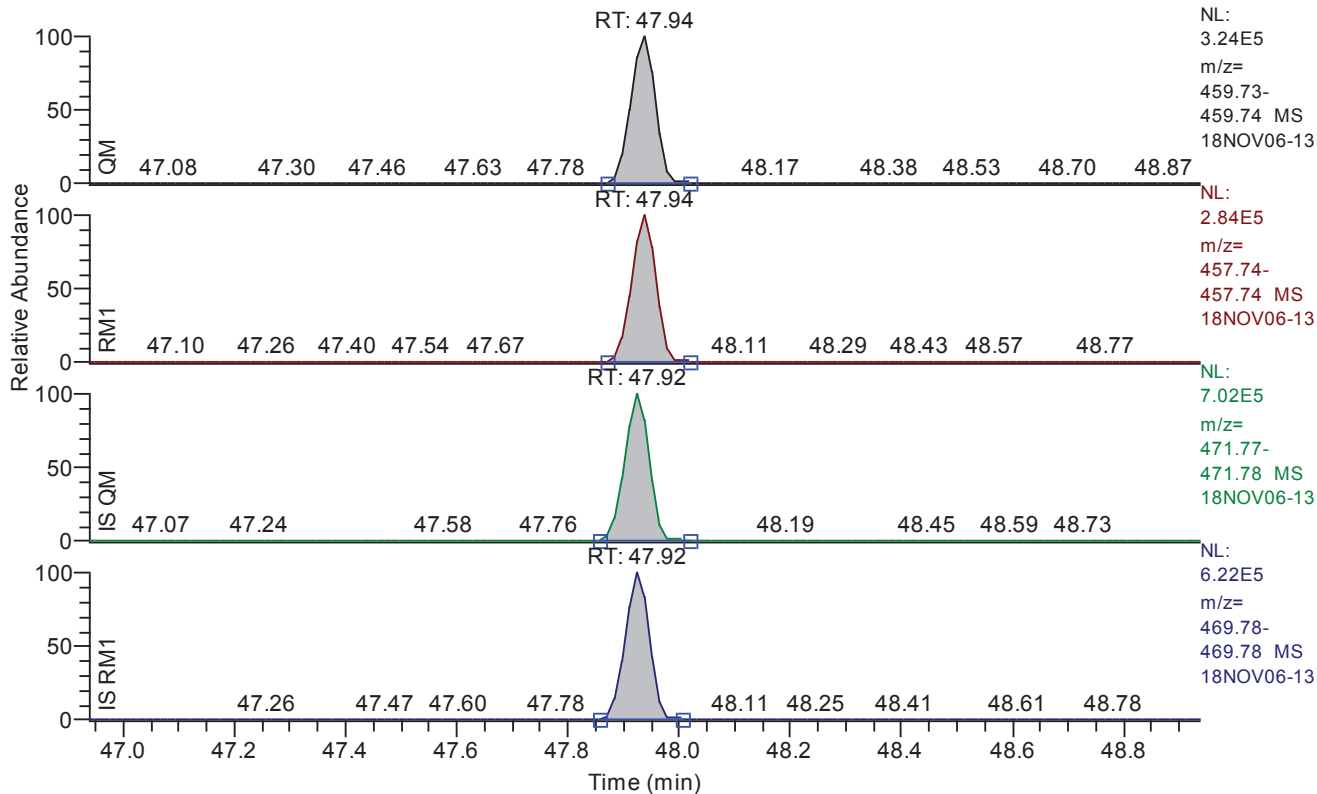
**Entry Parameters**

Compound Name	1234789-HpCDF
QM Retention Time	45.47
QM Area	532285
QM Integration Mode	A
RM1 Area	558309
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0429
Unqualified Amount (A)	98.476628
Adjusted Amount (A)	98.4766
Signal-to-Noise	5675
Client Flags	
Status Overview	passed
Status Info	



**Chromatogram**

RT: 46.94 - 48.94 SM: 3G

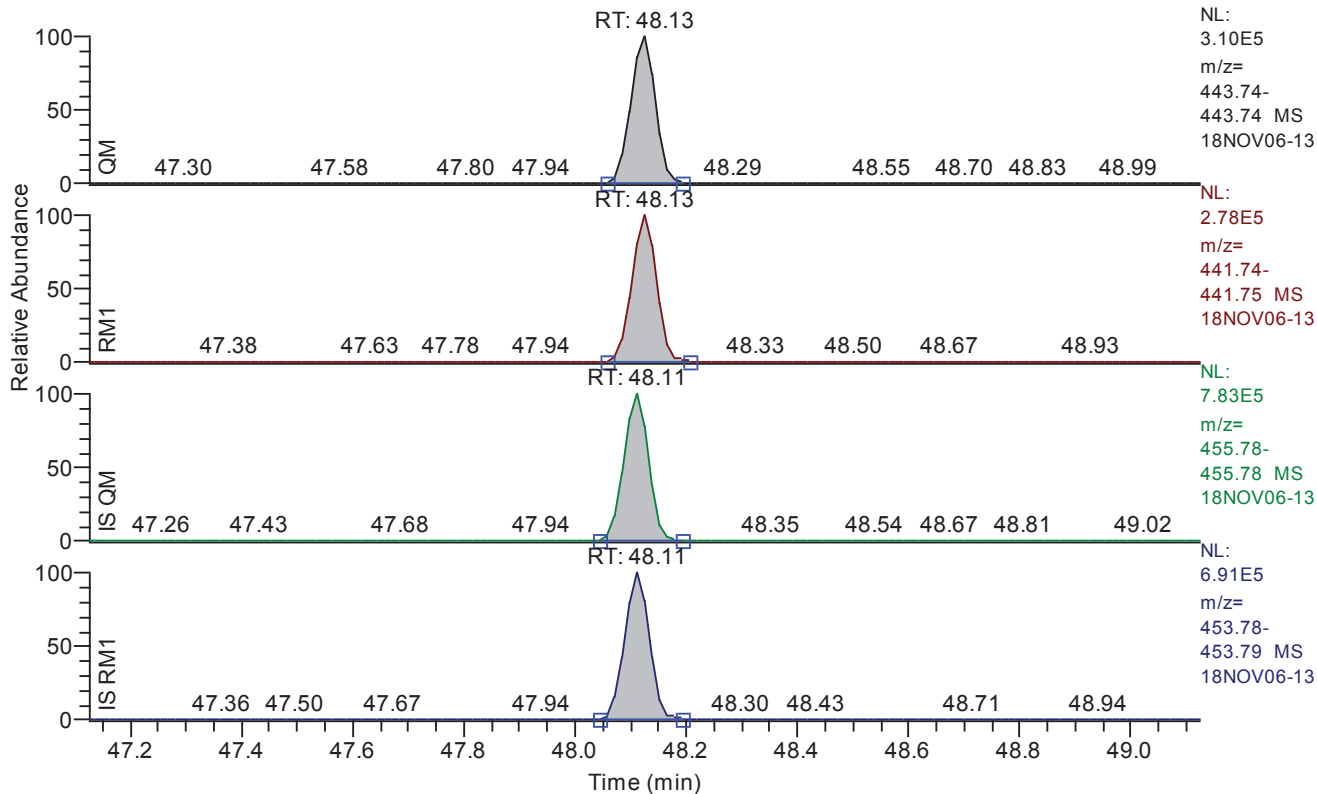


**Entry Parameters**

Compound Name	OCDD
QM Retention Time	47.94
QM Area	993483
QM Integration Mode	A
RM1 Area	861561
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0397
Unqualified Amount (A)	200.941462
Adjusted Amount (A)	200.9415
Signal-to-Noise	12663
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 47.13 - 49.13 SM: 3G

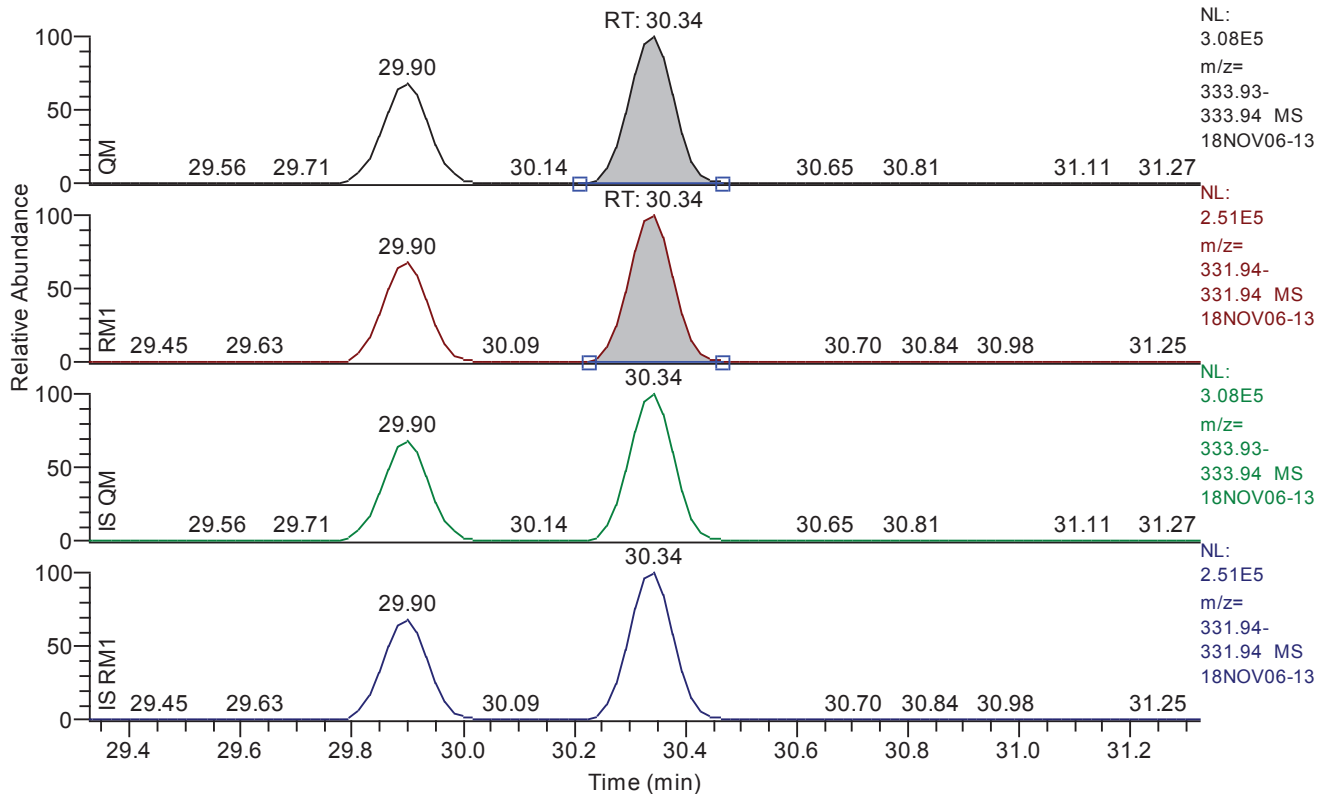


**Entry Parameters**

Compound Name	OCDF
QM Retention Time	48.13
QM Area	950093
QM Integration Mode	A
RM1 Area	859392
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0326
Unqualified Amount (A)	188.318926
Adjusted Amount (A)	188.3189
Signal-to-Noise	14469
Client Flags	
Status Overview	passed
Status Info	

**Chromatogram**

RT: 29.33 - 31.33 SM: 3G



**Entry Parameters**

Compound Name	13C12-1278-TCDD (CRS)
QM Retention Time	30.34
QM Area	1773647
QM Integration Mode	A
RM1 Area	1436903
RM1 Integration Mode	A
ManInt	0
Detection Limit (A)	0.0238
Unqualified Amount (A)	154.457788
Adjusted Amount (A)	154.4578
Signal-to-Noise	15767
Client Flags	
Status Overview	passed
Status Info	

**Entry Parameters**

No.	Compound Name	Quan. Mass	Ratio Mass 1	Specified RT [min]	QM Retention Time	RM1 Retention Time	Labeled RT	RM1 Time Status	Native vs Labeled Time Status
1	2378-TCDF	305.8987 +/- 5 ppm	303.9016 +/- 5 ppm	28.81	28.82	28.82	28.79	passed	passed
2	2378-TCDD	321.8936 +/- 5 ppm	319.8965 +/- 5 ppm	29.92	29.93	29.93	29.90	passed	passed
3	12378-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	34.92	34.94	34.94	34.91	passed	passed
4	23478-PeCDF	341.8567 +/- 5 ppm	339.8597 +/- 5 ppm	36.24	36.27	36.27	36.24	passed	passed
5	12378-PeCDD	357.8516 +/- 5 ppm	355.8546 +/- 5 ppm	36.64	36.67	36.67	36.64	passed	passed
6	123478-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.00	40.01	40.01	40.00	passed	passed
7	123678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.16	40.17	40.17	40.15	passed	passed
8	234678-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	40.88	40.89	40.89	40.87	passed	passed
9	123478-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.08	41.09	41.09	41.06	passed	passed
10	123678-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.20	41.21	41.21	41.18	passed	passed
11	123789-HxCDD	391.8127 +/- 5 ppm	389.8157 +/- 5 ppm	41.51	41.52	41.52	41.51	passed	passed
12	123789-HxCDF	375.8178 +/- 5 ppm	373.8208 +/- 5 ppm	41.91	41.93	41.93	41.91	passed	passed
13	1234678-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	43.64	43.66	43.66	43.64	passed	passed
14	1234678-HpCDD	425.7737 +/- 5 ppm	423.7766 +/- 5 ppm	44.87	44.89	44.89	44.87	passed	passed
15	1234789-HpCDF	409.7789 +/- 5 ppm	407.7818 +/- 5 ppm	45.44	45.47	45.47	45.45	passed	passed
16	OCDD	459.7348 +/- 5 ppm	457.7377 +/- 5 ppm	47.93	47.94	47.94	47.92	passed	passed
17	OCDF	443.7399 +/- 5 ppm	441.7428 +/- 5 ppm	48.11	48.13	48.13	48.11	passed	passed
18	13C12-1278-TCDD (CRS)	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	30.33	30.34	30.34	30.34	passed	passed
19	13C12-1234-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.05	29.04	29.04	29.04	passed	passed
20	13C12-123468-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	39.89	39.90	39.90	39.90	passed	passed
21	13C12-2378-TCDF	317.9389 +/- 5 ppm	315.9419 +/- 5 ppm	28.79	28.79	28.79	28.75	passed	passed
22	13C12-2378-TCDD	333.9339 +/- 5 ppm	331.9368 +/- 5 ppm	29.89	29.90	29.90	29.90	passed	passed
23	13C12-12378-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	34.90	34.91	34.91	35.00	passed	passed
24	13C12-23478-PeCDF	353.8970 +/- 5 ppm	351.9000 +/- 5 ppm	36.23	36.24	36.24	36.33	passed	passed
25	13C12-12378-PeCDD	369.8919 +/- 5 ppm	367.8949 +/- 5 ppm	36.63	36.64	36.64	36.64	passed	passed
26	13C12-123478-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	39.99	40.00	40.00	39.97	passed	passed
27	13C12-123678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.13	40.15	40.15	40.20	passed	passed
28	13C12-234678-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	40.86	40.87	40.87	40.90	passed	passed
29	13C12-123478-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.06	41.06	41.06	41.08	passed	passed
30	13C12-123678-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.19	41.18	41.20	41.20	passed	passed
31	13C12-123789-HxCDD	403.8529 +/- 5 ppm	401.8559 +/- 5 ppm	41.50	41.51	41.51	41.51	passed	passed
32	13C12-123789-HxCDF	385.8610 +/- 5 ppm	383.8639 +/- 5 ppm	41.90	41.91	41.91	41.91	passed	passed
33	13C12-1234678-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	43.63	43.64	43.64	43.64	passed	passed
34	13C12-1234678-HpCDD	437.8140 +/- 5 ppm	435.8169 +/- 5 ppm	44.86	44.87	44.87	44.87	passed	passed
35	13C12-1234789-HpCDF	419.8220 +/- 5 ppm	417.8253 +/- 5 ppm	45.43	45.45	45.45	45.62	passed	passed
36	13C12-OCDD	471.7750 +/- 5 ppm	469.7779 +/- 5 ppm	47.91	47.92	47.92	47.92	passed	passed
37	13C12-OCDF	455.7802 +/- 5 ppm	453.7831 +/- 5 ppm	48.10	48.11	48.11	48.15	passed	passed

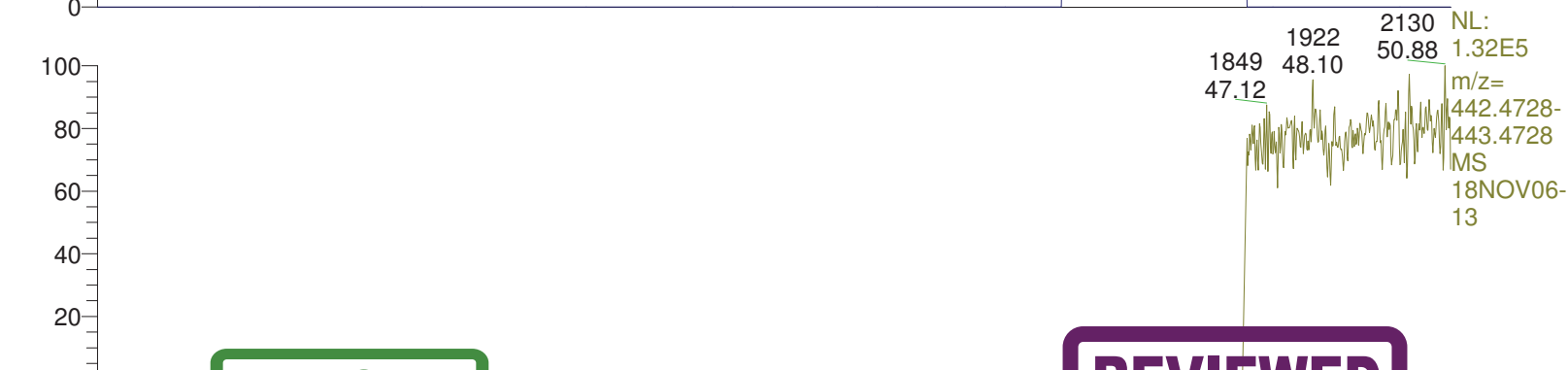
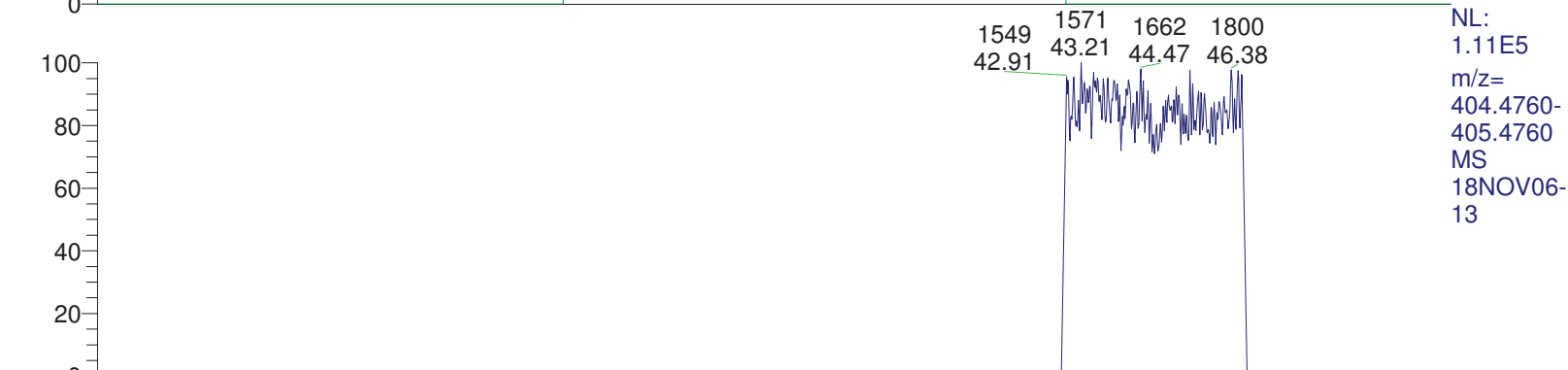
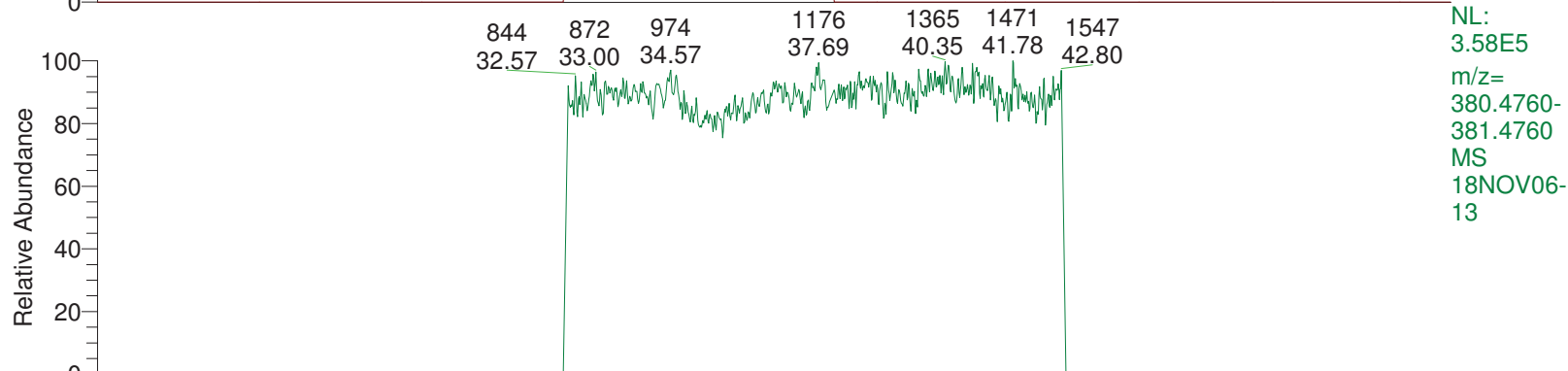
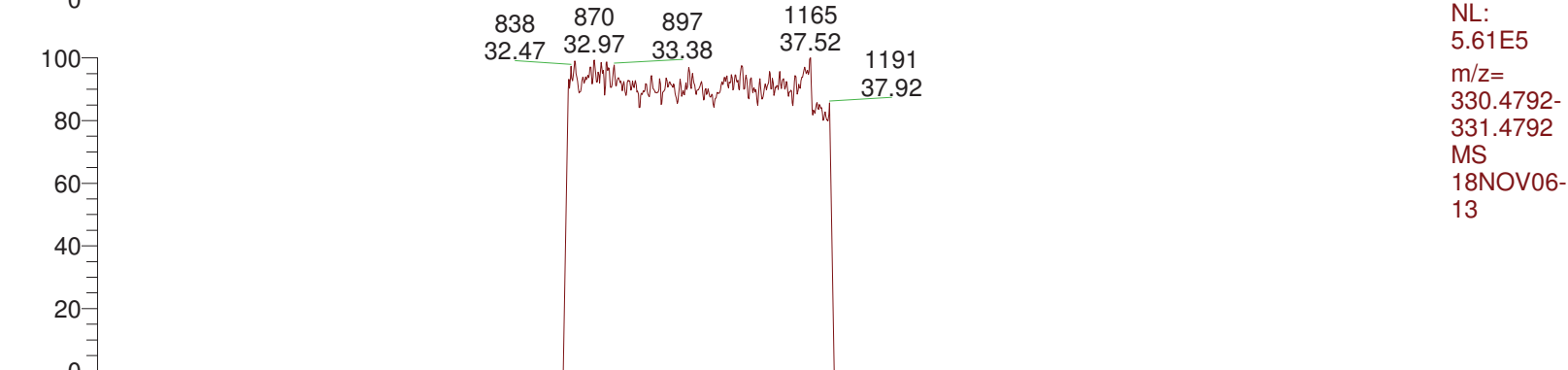
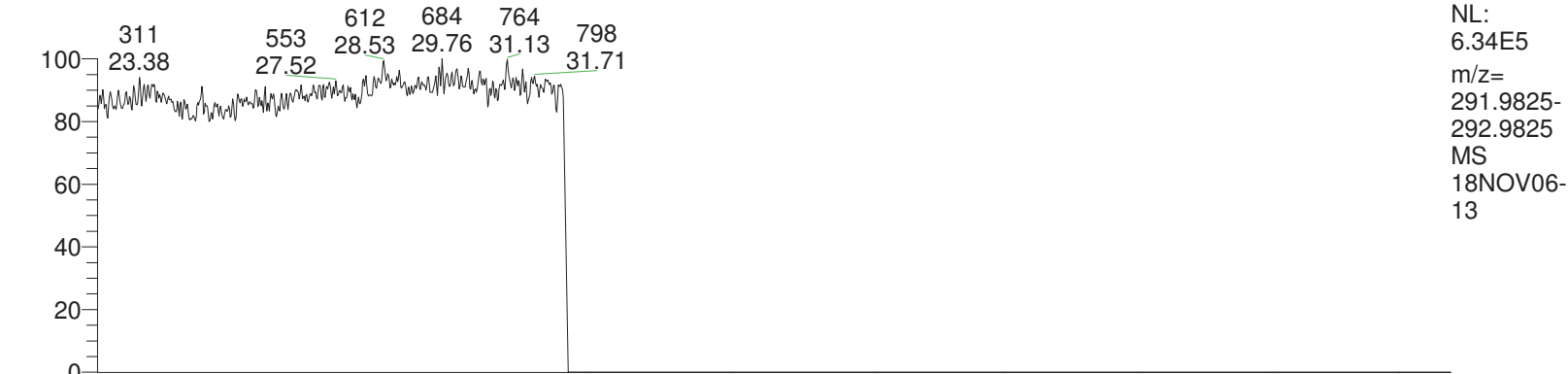
**Entry Parameters**

No.	Compound Name	QM Retention Time	RM1 Ratio (A)	Ratio1 Limit	Ratio1 Status	Percent Recovery (A)	Recovery Limit	Recovery Status
1	2378-TCDF	28.82	0.7790	0.6450 - 0.8950	passed	110.82	75 - 135	passed
2	2378-TCDD	29.93	0.7891	0.6450 - 0.8950	passed	110.77	70 - 128	passed
3	12378-PeCDF	34.94	1.5555	1.3150 - 1.7850	passed	107.30	77 - 131	passed
4	23478-PeCDF	36.27	1.5642	1.3150 - 1.7850	passed	107.08	75 - 128	passed
5	12378-PeCDD	36.67	1.5438	1.3150 - 1.7850	passed	108.84	74 - 125	passed
6	123478-HxCDF	40.01	1.2318	1.0450 - 1.4350	passed	99.73	77 - 130	passed
7	123678-HxCDF	40.17	1.2266	1.0450 - 1.4350	passed	97.90	73 - 134	passed
8	234678-HxCDF	40.89	1.2349	1.0450 - 1.4350	passed	98.96	74 - 133	passed
9	123478-HxCDD	41.09	1.2407	1.0450 - 1.4350	passed	105.49	72 - 131	passed
10	123678-HxCDD	41.21	1.2415	1.0450 - 1.4350	passed	105.23	74 - 134	passed
11	123789-HxCDD	41.52	1.2050	1.0450 - 1.4350	passed	102.85	71 - 138	passed
12	123789-HxCDF	41.93	1.2485	1.0450 - 1.4350	passed	96.68	74 - 135	passed
13	1234678-HpCDF	43.66	1.0285	0.8750 - 1.2050	passed	101.19	73 - 135	passed
14	1234678-HpCDD	44.89	1.0151	0.8750 - 1.2050	passed	97.74	76 - 125	passed
15	1234789-HpCDF	45.47	1.0489	0.8750 - 1.2050	passed	98.48	72 - 131	passed
16	OCDD	47.94	0.8672	0.7550 - 1.0250	passed	100.47	73 - 135	passed
17	OCDF	48.13	0.9045	0.7550 - 1.0250	passed	94.16	66 - 144	passed
18	13C12-1278-TCDD (CRS)	30.34	0.8101	0.6450 - 0.8950	passed	77.23	31 - 191	passed
19	13C12-1234-TCDD	29.04	0.7830	0.6450 - 0.8950	passed	100.00	0 - 0	passed
20	13C12-123468-HxCDD	39.90	1.2665	1.0450 - 1.4350	passed	100.00	0 - 0	passed
21	13C12-2378-TCDF	28.79	0.7980	0.6450 - 0.8950	passed	61.33	40 - 135	passed
22	13C12-2378-TCDD	29.90	0.8059	0.6450 - 0.8950	passed	57.29	40 - 135	passed
23	13C12-12378-PeCDF	34.91	1.6017	1.3150 - 1.7850	passed	60.75	40 - 135	passed
24	13C12-23478-PeCDF	36.24	1.5787	1.3150 - 1.7850	passed	65.59	40 - 135	passed
25	13C12-12378-PeCDD	36.64	1.6249	1.3150 - 1.7850	passed	62.13	40 - 135	passed
26	13C12-123478-HxCDF	40.00	0.5224	0.4250 - 0.5950	passed	54.20	40 - 135	passed
27	13C12-123678-HxCDF	40.15	0.5173	0.4250 - 0.5950	passed	57.00	40 - 135	passed
28	13C12-234678-HxCDF	40.87	0.5205	0.4250 - 0.5950	passed	54.42	40 - 135	passed
29	13C12-123478-HxCDD	41.06	1.2618	1.0450 - 1.4350	passed	62.38	40 - 135	passed
30	13C12-123678-HxCDD	41.18	1.2645	1.0450 - 1.4350	passed	60.11	40 - 135	passed
31	13C12-123789-HxCDD	41.51	1.2469	1.0450 - 1.4350	passed	61.07	40 - 135	passed
32	13C12-123789-HxCDF	41.91	0.5168	0.4250 - 0.5950	passed	55.47	40 - 135	passed
33	13C12-1234678-HpCDF	43.64	0.4454	0.3650 - 0.5150	passed	59.27	40 - 135	passed
34	13C12-1234678-HpCDD	44.87	1.0513	0.8750 - 1.2050	passed	58.69	40 - 135	passed
35	13C12-1234789-HpCDF	45.45	0.4528	0.3650 - 0.5150	passed	47.75	40 - 135	passed
36	13C12-OCDD	47.92	0.8807	0.7550 - 1.0250	passed	52.33	40 - 135	passed
37	13C12-OCDF	48.11	0.8849	0.7550 - 1.0250	passed	43.97	40 - 135	passed

**Entry Parameters**

No.	Compound Name	Status Overview	QM Retention Time	QM Area	QM Mode	RM1 Area	RM1 Mode	Detection Limit (A)	Unqualified Amount (A)	Adjusted Amount (A)	AdjSpecAMT	Signal-to-Noise	Client Flags
1	2378-TCDF	passed	28.82	251436	A	195868	A	0.0230	22.163429	22.1634	20.000000	2353	
2	2378-TCDD	passed	29.93	152652	A	120465	A	0.0226	22.153937	22.1539	20.000000	2431	
3	12378-PeCDF	passed	34.94	712410	A	1108159	A	0.0265	107.296634	107.2966	100.000000	10034	
4	23478-PeCDF	passed	36.27	856514	A	1339769	A	0.0198	107.081573	107.0816	100.000000	13747	
5	12378-PeCDD	passed	36.67	467469	A	721678	A	0.0379	108.838270	108.8383	100.000000	7216	
6	123478-HxCDF	passed	40.01	672310	A	828126	A	0.0321	99.733232	99.7332	100.000000	7799	
7	123678-HxCDF	passed	40.17	717402	A	879932	A	0.0309	97.904178	97.9042	100.000000	7819	
8	234678-HxCDF	passed	40.89	678045	A	837312	A	0.0304	98.964400	98.9644	100.000000	7998	
9	123478-HxCDD	passed	41.09	543123	A	673862	A	0.0416	105.490127	105.4901	100.000000	6529	
10	123678-HxCDD	passed	41.21	531681	A	660072	A	0.0428	105.226460	105.2265	100.000000	6290	
11	123789-HxCDD	passed	41.52	536815	A	646887	A	0.0404	102.848868	102.8489	100.000000	6209	
12	123789-HxCDF	passed	41.93	561409	A	700896	A	0.0368	96.681628	96.6816	100.000000	6593	
13	1234678-HpCDF	passed	43.66	811269	A	834364	A	0.0287	101.191790	101.1918	100.000000	8726	
14	1234678-HpCDD	passed	44.89	530533	A	538553	A	0.0523	97.743963	97.7440	100.000000	4729	
15	1234789-HpCDF	passed	45.47	532285	A	558309	A	0.0429	98.476628	98.4766	100.000000	5675	
16	OCDD	passed	47.94	993483	A	861561	A	0.0397	200.941462	200.9415	200.000000	12663	
17	OCDF	passed	48.13	950093	A	859392	A	0.0326	188.318926	188.3189	200.000000	14469	
18	13C12-1278-TCDD (CRS)	passed	30.34	1773647	A	1436903	A	0.0238	154.457788	154.4578	200.000000	15767	
19	13C12-1234-TCDD	passed	29.04	2258279	A	1768321	A	0.0245	200.000000	200.0000	200.000000	20377	
20	13C12-123468-HxCDD	passed	39.90	1811611	A	2294385	A	0.0319	200.000000	200.0000	200.000000	15694	
21	13C12-2378-TCDF	passed	28.79	2431477	A	1940325	A	0.0190	122.660983	122.6610	200.000000	16073	
22	13C12-2378-TCDD	passed	29.90	1247792	A	1005652	A	0.0251	114.575934	114.5759	200.000000	10777	
23	13C12-12378-PeCDF	passed	34.91	1534339	A	2457588	A	0.0465	121.491850	121.4918	200.000000	7770	
24	13C12-23478-PeCDF	passed	36.24	1672859	A	2641021	A	0.0465	131.186269	131.1863	200.000000	9271	
25	13C12-12378-PeCDD	passed	36.64	929389	A	1510121	A	0.0361	124.264521	124.2645	200.000000	11592	
26	13C12-123478-HxCDF	passed	40.00	1850614	A	966790	A	0.0468	108.409093	108.4091	200.000000	5803	
27	13C12-123678-HxCDF	passed	40.15	2060126	A	1065664	A	0.0444	114.006981	114.0070	200.000000	6173	
28	13C12-234678-HxCDF	passed	40.87	1817157	A	945781	A	0.0479	108.835495	108.8355	200.000000	5906	
29	13C12-123478-HxCDD	passed	41.06	1120200	A	1413434	A	0.0322	124.759127	124.7591	200.000000	9839	
30	13C12-123678-HxCDD	passed	41.18	1106185	A	1398742	A	0.0314	120.220241	120.2202	200.000000	9637	
31	13C12-123789-HxCDD	passed	41.51	1073667	A	1338805	A	0.0331	122.132235	122.1322	200.000000	9676	
32	13C12-123789-HxCDF	passed	41.91	1691445	A	874130	A	0.0526	110.935086	110.9351	200.000000	5307	
33	13C12-1234678-HpCDF	passed	43.64	1960642	A	873279	A	0.0482	118.537101	118.5371	200.000000	6793	
34	13C12-1234678-HpCDD	passed	44.87	1138659	A	1197026	A	0.0444	117.378179	117.3782	200.000000	7325	
35	13C12-1234789-HpCDF	passed	45.45	1290666	A	584381	A	0.0587	95.509276	95.5093	200.000000	4411	
36	13C12-OCDD	passed	47.92	2152988	A	1896089	A	0.0153	209.326718	209.3267	400.000000	39833	
37	13C12-OCDF	passed	48.11	2410423	A	2133055	A	0.0155	175.898566	175.8986	400.000000	32835	

RT: 22.50 - 51.00



**APPROVED**  
By RQ46 at 3:57 pm, 11/8/18

**REVIEWED**  
By uild at 4:13 pm, 11/8/18

Time (min)

\*\*\* file opened Tue Nov 06 19:21:40 2018 \*\*\*

Started by - Xcalibur  
Instrument Internet name - DFS MS  
Instrument model - DFS MS  
Instrument service number - SN0000XXXX  
Workstation internet name - US19INS07621

Analysis started at: 06-Nov-18 19:21:39

Analysis will stop at user request

Firmware Version: 2.02

MCAL file name: mcal1.cal

Sequence : c9df0e28-4ab1-4c8f-8831-0b2ec53f22e2

MID procedure: PFK18JUL21+MDT

Mid Time windows:

	Start	Measure	End	Cycletime
# 1	18:00 min	3:30 min	21:30 min	1.00 sec
# 2	21:30 min	10:47 min	32:17 min	1.00 sec
# 3	32:17 min	5:36 min	37:53 min	0.90 sec
# 4	37:53 min	4:53 min	42:47 min	0.80 sec
# 5	42:47 min	3:48 min	46:36 min	0.80 sec
# 6	46:36 min	4:23 min	51:00 min	0.80 sec

Mid Masses:

Window #	mass	F	int	gr	time (ms)
Window # 1	218.0129		1	1	95
	218.9851	l	20	1	4
	220.0100		1	1	95
	230.0532		2	1	47
	232.0502		2	1	47
	251.9739		1	1	95
	253.9710		1	1	95
	264.0142		2	1	47
	266.0112		2	1	47
	285.9350		1	1	95
	287.9320		1	1	95
	292.9819	c	20	1	4
	297.9752		2	1	47
	299.9723		2	1	47
Window # 2	292.9819	l	20	1	5
	303.9011		1	1	118
	305.8981		1	1	118
	315.9413		5	1	23
	317.9384		5	1	23
	319.8960		1	1	118
	321.8930		1	1	118





331.9363		5	1	23
333.9333		5	1	23
339.8592		1	1	118
341.8562		1	1	118
354.9787	c	20	1	5
375.8364		2	1	59
Window # 3				
mass	F	int	gr	time (ms)
330.9787	l	20	1	6
339.8592		1	1	133
341.8562		1	1	133
351.8994		3	1	44
353.8965		3	1	44
355.8541		1	1	133
357.8511		1	1	133
367.8943		3	1	44
369.8914		3	1	44
380.9755	c	20	1	6
409.7969		2	1	66
Window # 4				
mass	F	int	gr	time (ms)
373.8201		1	1	117
375.8172		1	1	117
380.9755	l	20	1	5
383.8634		3	1	39
385.8604		3	1	39
389.8151		1	1	117
391.8121		1	1	117
401.8554		3	1	39
403.8524		3	1	39
430.9723	c	20	1	5
445.7550		2	1	58
Window # 5				
mass	F	int	gr	time (ms)
404.9755	l	20	1	5
407.7812		1	1	117
409.7783		1	1	117
417.8244		3	1	39
419.8215		3	1	39
423.7761		1	1	117
425.7732		1	1	117
435.8164		3	1	39
437.8134		3	1	39
479.7160		2	1	58
480.9691	c	20	1	5
Window # 6				
mass	F	int	gr	time (ms)
441.7422		1	1	95
442.9723	l	20	1	4
443.7393		1	1	95
453.7825		1	1	95
455.7795		1	1	95
457.7372		1	1	95
459.7342		1	1	95
469.7774		3	1	31
471.7745		3	1	31
492.9691	c	20	1	4
513.6770		2	1	47

MID window terminated after 21.500000 minutes

MID window end time was 21.500000 minutes

MID window terminated after 32.300000 minutes

MID window end time was 32.300000 minutes

18NOV06-13

MID window terminated after 37.900000 minutes  
MID window end time was 37.900000 minutes  
MID window terminated after 42.800000 minutes  
MID window end time was 42.800000 minutes  
MID window terminated after 46.600000 minutes  
MID window end time was 46.600000 minutes  
MID window terminated after 51.000000 minutes  
MID window end time was 51.000000 minutes

Tune file name: C:\xcalibur\system\DFS\MSI\18OCT31(back)Tune.DFSTune

DFS - Parameter

ACCU	1000.0000	BCORRS	0.0178	BMASS	98.0000
BQUAD	-2.2000	CAPIL	0.0000	CAPTSET	200.0000
CCURR	0.0000	COUNTING	0.0000	DELAY	0.0000
DRAW	-25.0000	DRAWC	1.0000	DRAWS	0.0000
DYNVOLTAGE	20.0000	ECORR	1.0004	ECURR	1.0000
EDAC	7969177.0000	EDACG	0.9998	EDACZ	1590.0000
ELEN	-50.0000	EMULT	2119.0000	ENS	210.0000
ENSBR	-2.2000	ERATIO	1.0000	ESA	679.0600
ESIPAR	0.0000	EXS	187.0000	EXSBR	-2.6700
FDMA	18000000.0000	FILTER	100.0000	FLENS	1.0000
FM	232.6644	FMII	50.0000	FQUAD	7.3500
FQUADGAIN	8.0000	FREQ	400.0000	FSLOPE	36000000.0000
FVANAL	0.0183	FVINLET	0.0433	FVSR	0.0331
FWIN	0.7000	HCURR	0.0000	HVANAL	0.0000
HVSR	0.0000	ICAL0	0.0011	ICAL1	0.4030
ICAL2	0.5865	IONEN	0.0000	IST	0.0000
ISTC	260.0000	ISTS	260.0000	LENS_POT	610.0000
LENS_SYM	-7.0000	LM	233.6644	LMII	500.0000
LMASS	98.0000	LKM	442.9723	MASS	98.0000
MDAC	1439390.1347	MRANGE	1311.4489	NSAM	200.0000
NSCAN	2165.0000	NSMAX	2.0000	NSMIN	66.0000
NPEAK	11.0000	MULT	-2.0000	PSAM	10.0000
PUSHER	-1.0000	RECURR	0.9807	RELEN	0.0000
RES	12821.8985	RPUSHER	-1.0916	RDRAW	0.0000
RDRAWC	0.0000	RWIN	2.0000	SCIDLE	0.0000
SHIELD_POT	750.0000	SHIELD_SYM	0.0000	SHIGH	180.0000
SKIM	7.0000	SLOW	60.0000	SS	2.0000
SW	0.0203	TANAL	0.0000	TCURR	0.0000
TD	1.0000	TS	0.0019	THRESH	2.0000
TIS	0.0010	TREF	120.0000	TSAM	200.0000
TSET	0.0000	TUBEL	0.0000	UROT	0.0000
USERVAR	0.0000	UTQ1	150.0000	UTQ2	190.0000
UTQ3	80.0000	VMASS	98.0000	XLENS_POT	752.0000
XLENS_SYM	7.3000	YLENS_POT	804.0000	YLENS_SYM	2.5000

Source Gauge: 1.9e-005 mbar  
Analyzer Penning: 7.9e-008 mbar  
Pirani Analyse: 1.8e-002 mbar  
Pirani Source: 3.3e-002 mbar  
Pirani Inlet System: 4.3e-002 mbar

Scantype is magnetic

Sourcemode is EI POS

MID Time window 1: Resolution is 11928.  
MID Time window 2: Resolution is 12742.  
MID Time window 3: Resolution is 12511.  
MID Time window 4: Resolution is 11992.



18NOV06-13

MID Time Window 5: Resolution is 13074.  
MID Time Window 6: Resolution is 12821.

Amplifier Offset: 92.

\*\*\* File closed Tue Nov 06 20:12:42 2018  
\*\*\*



# **Extraction Logs**

## **Dioxins/Furans by HRMS**

Organic Extraction Batchlog

18309016

Assigned to: 0

Reviewed by: JAD 12-8-11

Start Date: 11/05/18

Start time: 14:54

Tech 1: AD 8884

Tech 2: JP 26809

Sox Start: 14:00 11/05/18

Sox Stop: 11/06/18 10:15

Dry Start: \_\_\_\_\_ Dry Stop: \_\_\_\_\_

Analyses on Batch: Dioxins/Furans in Solids-8290

Dept: 37 Prep Analysis: 11030 Dioxins/Furans in Solids - Sox

QC	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	MS Sol.	Amt (mL)	FV (uL)	Filter (Y/N)	IS amt (uL)	BC	Comments
9867763MS	T1003	10.10	LCSDFX1837AR	0.1	PARDFX1837AP	0.1	20	N	10	053a	
9867764MSD	T1003	10.20	LCSDFX1837AR	0.1	PARDFX1837AP	0.1	20	N	10		↓
BLANKA	BLK309016	10.0	LCSDFX1837AR	0.1		0.1	20	N	10		
LCSA	OPR309016	10.0	LCSDFX1837AR	0.1	PARDFX1837AP	0.1	20	N	10		Z

ABG

Solvent Used	Lot No.
1:1 MeCl2:Hexane	
Canola Oil	
Dry Start	
Dry Stop	
Isolute	
M-vap	15415
Microvap Temp	520
Quartz Sand	MKCF2632
Sox Start	14:00 11/05/18
Sox Stop	11/06/18 10:15
Witness	ABG 25082
glass fiber thimble	168724602
hexane	Z
methylene chloride	
toluene	184509

Instrument: DF17280 + DF18421

Sequence: W:\18NOV06\_107\_4\_18NOV072.conf

Witness: ABG 25082

Spike Solutions: PARDFX1837AP DF Perform and Rec Spike

LCSDFX1837AR DF Labeled Comp Spike

Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (uL)	Filter Y/N	IS amt (uL)	BC	Comments	Analyses	Due Date	Prio
1	9866461 R	10.14	LCSDFX1837AR	0.1	20	N	10	053a		12937	11/06/2018	N
2	9866462 R	10.02	LCSDFX1837AR	0.1	20		10	053a		12937	11/06/2018	N
3	9866463 R	10.04	LCSDFX1837AR	0.1	20		10	053a	went dry on sox	12937	11/06/2018	N
4	9866464 R	10.03	LCSDFX1837AR	0.1	20		10	053a		12937	11/06/2018	N
5	9866465 R	10.00	LCSDFX1837AR	0.1	20		10	053a		12937	11/06/2018	N
6	9866466 R	10.33	LCSDFX1837AR	0.1	20		10	053a		12937	11/06/2018	N
7	9866467 R	10.01	LCSDFX1837AR	0.1	20	N	10	053a		12937	11/06/2018	N

Micro Temp 100?

IS Added by: JAD 12-8-11 Date: 11/16/18

Internal Standard	1827437E	Balance #	17777
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S-bath ID		Micro Unit	
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M-vap	15415	50C	18309016
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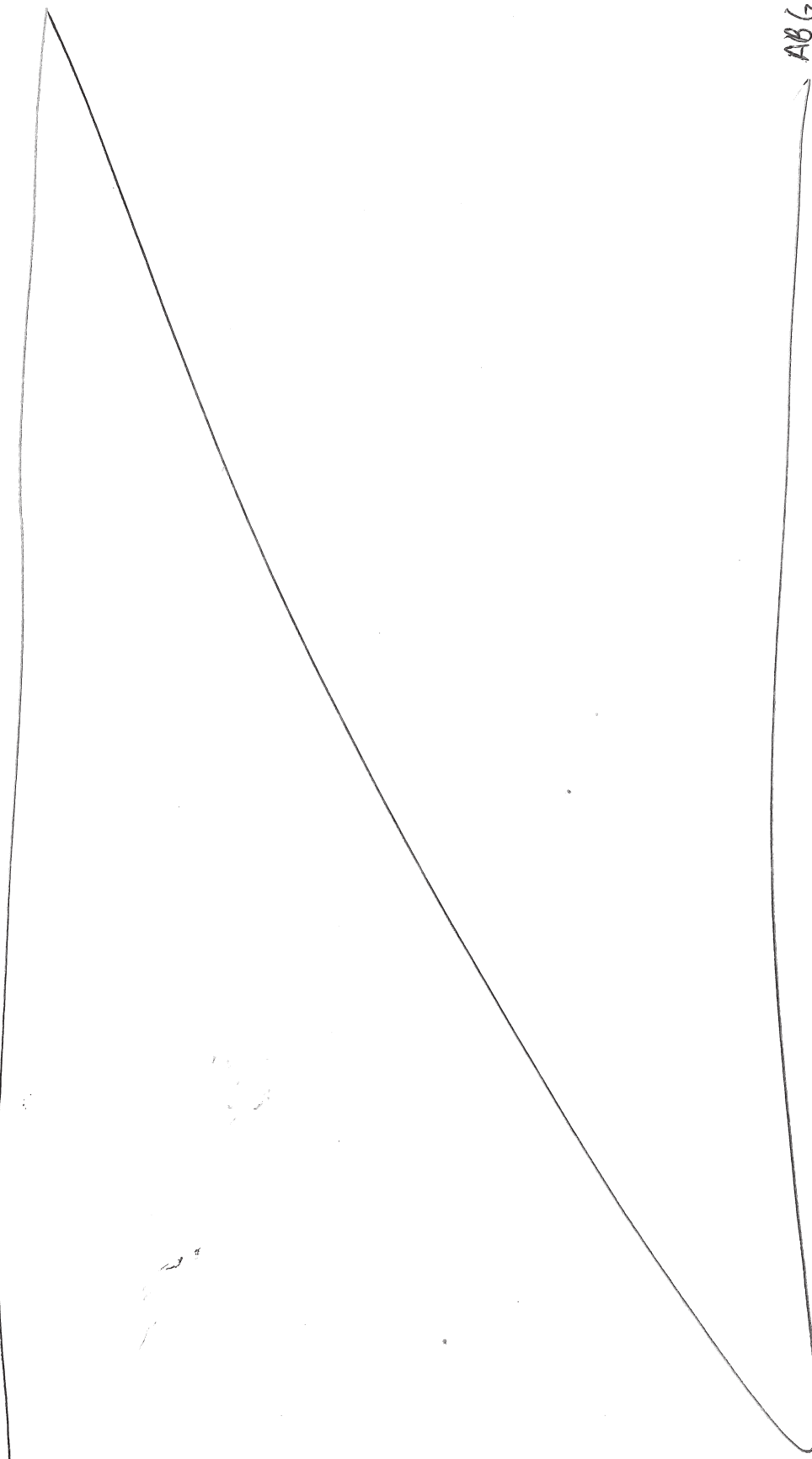
DF = Dilution Factor FV = Final Volume

Page 1 of 2

Documented temps are NIST corrected.



Sample #	Sample Code	Amt (g)	SS/IS Sol.	Amt (mL)	FV (uL)	Filter Y/N	IS amt (uL)	BC	Comments	Analyses	Due Date	Prio
8	9867761 R	10.22	LCSDFX1837AR	0.1	20	N	10	053a		12937	11/07/2018	N
9	9867762 R	10.16	LCSDFX1837AR	0.1	20		10	053a		12937	11/07/2018	N
10	9867766 R	10.22	LCSDFX1837AR	0.1	20		10	053a		12937	11/07/2018	N
11	9867767 R	10.04	LCSDFX1837AR	0.1	20	↓	10	053a		12937	11/07/2018	N



ABG  
25082  
11/05/18

IS Added by: JAD 12-8-11 Date: 11/6/18

Internal Standard	1827437B	Balance #	17779	S-bath ID		C	Micro Unit		M-vap	15415	SDC	18309016
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H2SO4 Shake

Prep: 11030    Dioxins/Furans in Solids - Sox

Batch: 18309016

Reviewed by: JAD 12811

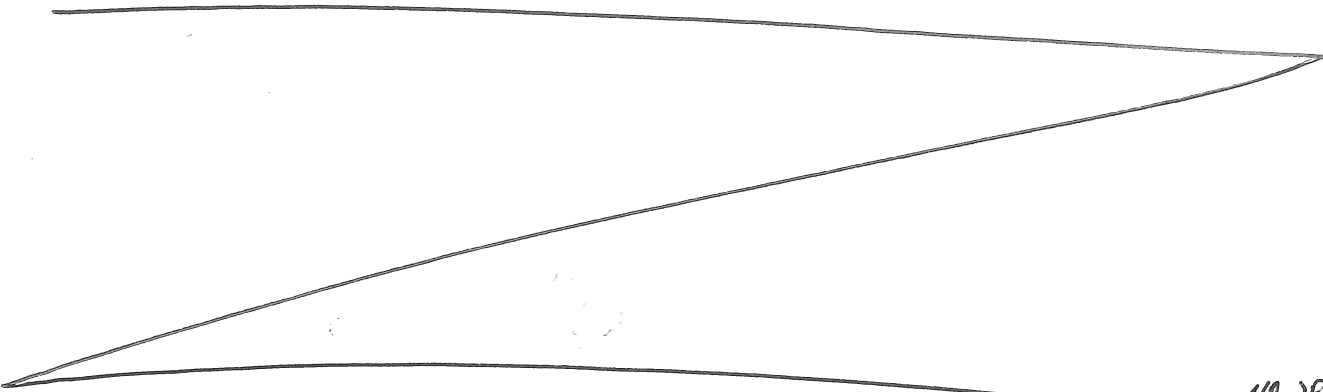
Start Date: 11/06/18

Start Time: 13:30

Tech 1: NA

Tech 2: JP 26809

Sample #	Aliquot (g) E=entire extract	Comments	Analyses
1	9866461	E	12937
2	9866462		12937
3	9866463		12937
4	9866464		12937
5	9866465		12937
6	9866466		12937
7	9866467		12937
8	9867761		12937
9	9867762		12937
10	9867763 MS		12937
11	9867764 MSI		12937
12	9867766		12937
13	9867767		12937
14	BLANKA	E	
15	LCSA	E	



NA JP 26809  
11/05/18

Additional Comment: \_\_\_\_\_

DF = Dilution Factor    FV = Final Volume

Media Used	Lot No.	Solvent Used	Lot No.
sodium sulfate	NA	hexane	NA
acid silica gel	NA		

Miscellaneous	Lot No.
13 mm filter paper	Z
nonane	

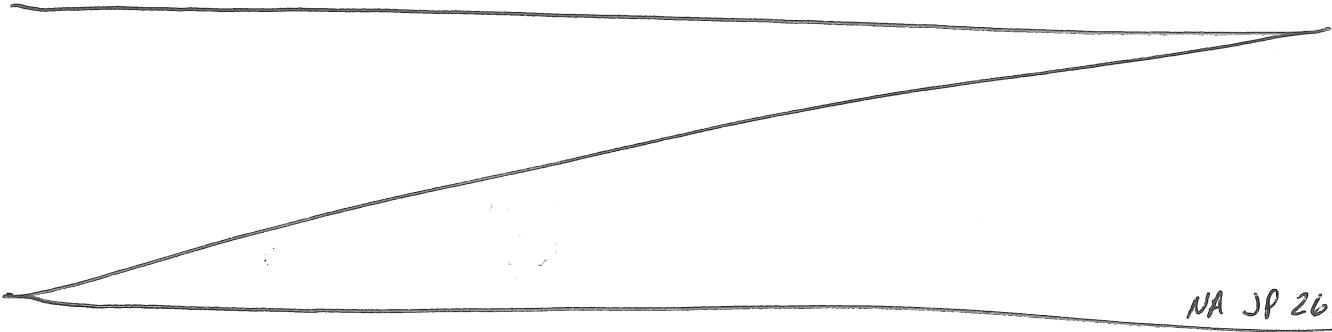
steam bath ——— C

The documented temperatures are NIST corrected.

DF Cleanup
Prep: 11030    Dioxins/Furans in Solids - Sox
Batch: 18309016

Reviewed by: <u>JAD 12811</u>
Start Date: <u>11/06/18</u>
Start Time: <u>14:00</u>
Tech 1: <u>NA</u>
Tech 2: <u>JP 26809</u>

Sample #	Aliquot (mL) E=entire extract	<u>CSPDFX1837A</u> Cleanup std	amt	Comments	Analyses
1 9866461	<u>E</u>	✓	<u>0.1</u>	<u>extra acid added</u>	12937
2 9866462	↓	↓	↓	↓	12937
3 9866463	↓	↓	↓	↓	12937
4 9866464	↓	↓	↓	↓	12937
5 9866465	↓	↓	↓	↓	12937
6 9866466	↓	↓	↓	↓	12937
7 9866467	↓	↓	↓	↓	12937
8 9867761	↓	↓	↓	↓	12937
9 9867762	↓	↓	↓	↓	12937
10 9867763 MS	↓	↓	↓	↓	12937
11 9867764 MS	↓	↓	↓	↓	12937
12 9867766	↓	↓	↓	↓	12937
13 9867767	↓	↓	↓	↓	12937
14 BLANKA	↓	↓	↓	↓	
15 LCSA	↓	↓	↓	↓	



NA JP 26809  
11/06/18

Additional Comment: \_\_\_\_\_

DF = Dilution Factor    FV = Final Volume

Media Used	Lot No.	Solvent Used	Lot No.
sodium sulfate	<u>308110218C</u>	hexane	<u>184810</u>
silica gel	<u>308103018E</u>	5% methylene chloride:	
acid silica gel	<u>25082110518E</u>	hexane	<u>26809110618A</u>
basic silica gel	<u>308110218D</u>	methylene chloride	<u>187356</u>
AgNO3 silica gel	<u>1761023218A</u>	2:1 Toluene:Hexane	<u>NA</u>
alumina	<u>0108035</u>		

Miscellaneous	Lot No.
13mm filter paper	<u>80823707</u>
Nonane	<u>NA</u>

M-Evap 15614 40 C

The documented temperatures are NIST corrected.



# **Metals in Solid Data**

# **Case Narrative/Conformance Summary**

## **Metals in Solid**

## Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.  
SDG: TID09

### ICP Metals

Fraction: Metals in Solid

Sample #	Client ID	Matrix		Comments
		Liquid	Solid	
9866461	OU1-1-SE005		X	
9866462	REF-1-SE001		X	
9866463	OU2-1-SS007		X	
9866464	OU2-1-SS003		X	
9866465	OU2-1-SS001		X	
9866466	OU2-1-SS005		X	
9866467	OU2-1-SS005-DUP		X	Field Duplicate Sample

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.  
See QC Reference List for Associated Batch QC Samples

#### SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

#### HOLDING TIME:

All holding times were met.

#### PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

#### CALIBRATION/STANDARDIZATION:

All criteria were met.

#### QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

##### MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

## Case Narrative/Conformance Summary

**CLIENT: Tidewater, Inc.**  
**SDG: TID09**

### ICP Metals

Fraction: Metals in Solid

#### SAMPLE ANALYSIS:

Refer to analysis run log for samples requiring dilutions.

The instrument detection limits (IDLs) are used for determining the U flags on the initial and continuing calibration blanks. The highest IDL is selected when multiple instruments are used for an analysis. The method detection limits (MDLs) are used for determining all other U flags.

(Sample number(s): 9866461-9866467: Analysis: 13499)  
Outlier recovery/result: CCV RSDs > 5%; Acceptance limits: < 5%  
1ST CCV RSD%- 3.8%, reading 0.51, acceptance limits: 0.45-0.55  
2ND CCV RSD%- 6.9%, reading 0.50, acceptance limits: 0.45-0.55  
3rd CCV RSD%- 5.5%, reading 0.47, acceptance limits: 0.45-0.55

No other problems were encountered with the analysis of the samples.

#### Abbreviation Key

BKG – Background	AF - Cold Vapor Atomic Fluorescence
DUP – Duplicate	U - Below MDL
MS - Matrix Spike	B - Below LOQ
MSD - Matrix Spike Dup	N - Matrix Spike out of specifications
B – Blank	* - Duplicate out of specifications
Q - Laboratory Control Sample	E - Matrix Effects exist as proven by Serial Dilution or Spiked Dilution
Y - Laboratory Control Sample Duplicate	A - Post Digestion Spike
P - ICP Atomic Emission Spectrometer	L - Serial Dilution
MS - ICP Mass Spectrometry	R - Internal Standard Relative Intensity OOS
CV - Cold Vapor	NR - Not Required

# **Sample Data**

## **Metals in Solid**



Lancaster Laboratories  
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QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866461

% Solids: 75.3

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4350			MS
7440-36-0	Antimony	0.21	B		MS
7440-38-2	Arsenic	2.0			MS
7440-39-3	Barium	18.7			MS
7440-41-7	Beryllium	0.27			MS
7440-43-9	Cadmium	0.21			MS
7440-70-2	Calcium	1500			MS
7440-47-3	Chromium	16.8			MS
7440-48-4	Cobalt	6.1			MS
7440-50-8	Copper	11.0			MS
7439-89-6	Iron	9730			MS
7439-92-1	Lead	12.4			MS
7439-95-4	Magnesium	3470			MS
7439-96-5	Manganese	77.8			MS
7439-97-6	Mercury	0.039	U		CV
7440-02-0	Nickel	33.5			MS
7440-09-7	Potassium	992			MS
7782-49-2	Selenium	0.14	U		MS
7440-22-4	Silver	0.042	U		MS
7440-23-5	Sodium	237			MS
7440-28-0	Thallium	0.056	B		MS
7440-29-1	Thorium	8.8	U		P
7440-61-1	Uranium	0.56			MS
7440-62-2	Vanadium	13.6			MS
7440-66-6	Zinc	62.0			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866462

% Solids: 64.9

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7620			MS
7440-36-0	Antimony	1.2			MS
7440-38-2	Arsenic	4.5			MS
7440-39-3	Barium	79.9			MS
7440-41-7	Beryllium	0.40			MS
7440-43-9	Cadmium	1.1			MS
7440-70-2	Calcium	8840			MS
7440-47-3	Chromium	56.9			MS
7440-48-4	Cobalt	9.7			MS
7440-50-8	Copper	65.8			MS
7439-89-6	Iron	14900			MS
7439-92-1	Lead	78.9			MS
7439-95-4	Magnesium	8560			MS
7439-96-5	Manganese	161			MS
7439-97-6	Mercury	0.087	B		CV
7440-02-0	Nickel	92.6			MS
7440-09-7	Potassium	1020			MS
7782-49-2	Selenium	0.40	B		MS
7440-22-4	Silver	0.29			MS
7440-23-5	Sodium	300			MS
7440-28-0	Thallium	0.089	B		MS
7440-29-1	Thorium	10.0	U		P
7440-61-1	Uranium	0.86			MS
7440-62-2	Vanadium	28.2			MS
7440-66-6	Zinc	228			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866463

% Solids: 93.3

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4200			MS
7440-36-0	Antimony	0.97			MS
7440-38-2	Arsenic	7.0			MS
7440-39-3	Barium	63.9			MS
7440-41-7	Beryllium	0.25			MS
7440-43-9	Cadmium	0.52			MS
7440-70-2	Calcium	28200			MS
7440-47-3	Chromium	15.5			MS
7440-48-4	Cobalt	4.2			MS
7440-50-8	Copper	92.7			MS
7439-89-6	Iron	15500			MS
7439-92-1	Lead	99.2			MS
7439-95-4	Magnesium	16900			MS
7439-96-5	Manganese	159			MS
7439-97-6	Mercury	0.16			CV
7440-02-0	Nickel	14.3			MS
7440-09-7	Potassium	821			MS
7782-49-2	Selenium	0.21	B		MS
7440-22-4	Silver	0.43			MS
7440-23-5	Sodium	200			MS
7440-28-0	Thallium	0.070	B		MS
7440-29-1	Thorium	7.6	U		P
7440-61-1	Uranium	0.34			MS
7440-62-2	Vanadium	16.0			MS
7440-66-6	Zinc	180			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
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QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866464

% Solids: 87.0

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	3770			MS
7440-36-0	Antimony	0.67			MS
7440-38-2	Arsenic	4.8			MS
7440-39-3	Barium	30.0			MS
7440-41-7	Beryllium	0.24			MS
7440-43-9	Cadmium	0.22			MS
7440-70-2	Calcium	24100			MS
7440-47-3	Chromium	12.8			MS
7440-48-4	Cobalt	4.0			MS
7440-50-8	Copper	43.0			MS
7439-89-6	Iron	11900			MS
7439-92-1	Lead	50.5			MS
7439-95-4	Magnesium	15200			MS
7439-96-5	Manganese	162			MS
7439-97-6	Mercury	0.042	B		CV
7440-02-0	Nickel	11.5			MS
7440-09-7	Potassium	630			MS
7782-49-2	Selenium	0.17	B		MS
7440-22-4	Silver	0.19			MS
7440-23-5	Sodium	238			MS
7440-28-0	Thallium	0.037	U		MS
7440-29-1	Thorium	7.9	U		P
7440-61-1	Uranium	0.26			MS
7440-62-2	Vanadium	15.9			MS
7440-66-6	Zinc	66.2			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866465

% Solids: 94.2

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	4670			MS
7440-36-0	Antimony	0.21	B		MS
7440-38-2	Arsenic	3.8			MS
7440-39-3	Barium	14.7			MS
7440-41-7	Beryllium	0.20			MS
7440-43-9	Cadmium	0.095	B		MS
7440-70-2	Calcium	118000			MS
7440-47-3	Chromium	9.2			MS
7440-48-4	Cobalt	3.9			MS
7440-50-8	Copper	44.6			MS
7439-89-6	Iron	8290			MS
7439-92-1	Lead	12.4			MS
7439-95-4	Magnesium	73100			MS
7439-96-5	Manganese	154			MS
7439-97-6	Mercury	0.033	U		CV
7440-02-0	Nickel	9.8			MS
7440-09-7	Potassium	590			MS
7782-49-2	Selenium	0.11	U		MS
7440-22-4	Silver	0.077	B		MS
7440-23-5	Sodium	481			MS
7440-28-0	Thallium	0.061	B		MS
7440-29-1	Thorium	6.8	U		P
7440-61-1	Uranium	0.33			MS
7440-62-2	Vanadium	16.7			MS
7440-66-6	Zinc	25.5			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866466

% Solids: 85.4

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	7230			MS
7440-36-0	Antimony	1.6			MS
7440-38-2	Arsenic	7.0			MS
7440-39-3	Barium	147			MS
7440-41-7	Beryllium	0.43			MS
7440-43-9	Cadmium	0.83			MS
7440-70-2	Calcium	1530			MS
7440-47-3	Chromium	36.7			MS
7440-48-4	Cobalt	9.9			MS
7440-50-8	Copper	215			MS
7439-89-6	Iron	25500			MS
7439-92-1	Lead	3000			MS
7439-95-4	Magnesium	3420			MS
7439-96-5	Manganese	195			MS
7439-97-6	Mercury	0.47			CV
7440-02-0	Nickel	81.4			MS
7440-09-7	Potassium	1050			MS
7782-49-2	Selenium	0.39			MS
7440-22-4	Silver	1.5			MS
7440-23-5	Sodium	71.3	U		MS
7440-28-0	Thallium	0.35	U		MS
7440-29-1	Thorium	10.1	B		P
7440-61-1	Uranium	0.74	B		MS
7440-62-2	Vanadium	21.7			MS
7440-66-6	Zinc	399			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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Lancaster Laboratories  
Environmental

QUALITY ASSURANCE SUMMARY

FORM 1

INORGANIC ANALYSIS DATA SHEET

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Lab Sample ID: 9866467

% Solids: 85.5

Concentration Units: MG/KG

Date Received: 10/24/2018

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	8760			MS
7440-36-0	Antimony	2.2			MS
7440-38-2	Arsenic	9.6			MS
7440-39-3	Barium	144			MS
7440-41-7	Beryllium	0.45			MS
7440-43-9	Cadmium	1.2			MS
7440-70-2	Calcium	1730			MS
7440-47-3	Chromium	66.5			MS
7440-48-4	Cobalt	13.8			MS
7440-50-8	Copper	312			MS
7439-89-6	Iron	44400			MS
7439-92-1	Lead	204			MS
7439-95-4	Magnesium	3610			MS
7439-96-5	Manganese	372			MS
7439-97-6	Mercury	0.50			CV
7440-02-0	Nickel	88.6			MS
7440-09-7	Potassium	1290			MS
7782-49-2	Selenium	0.34	B		MS
7440-22-4	Silver	1.4			MS
7440-23-5	Sodium	121	B		MS
7440-28-0	Thallium	0.086	B		MS
7440-29-1	Thorium	12.2	B		P
7440-61-1	Uranium	0.73			MS
7440-62-2	Vanadium	22.4			MS
7440-66-6	Zinc	507			MS

Comments:

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<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence  NR = Not Required</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U = Below MDL,  B = Below LOQ</p>
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# **Quality Control and Calibration Summary Forms**

## **Metals in Solid**

SDG No.: TID09

Matrix: SOIL

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Thorium	182991063702	9866461
		9866462
		9866463
		9866464
		9866465
		9866466
		9866467
		*67762BKG
		P29963BB
		P29963BQ

**LEGEND:**

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

SDG No.: TID09

Matrix: SOIL

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Aluminum	182991063702	9866461
Antimony		9866462
Arsenic		9866463
Barium		9866464
Beryllium		9866465
Cadmium		9866466
Calcium		9866467
Chromium		*67762BKG
Cobalt		P29963BB
Copper		P29963BQ
Iron		
Lead		
Magnesium		
Manganese		
Nickel		
Potassium		
Selenium		
Silver		
Sodium		
Thallium		
Uranium		
Vanadium		
Zinc		

**LEGEND:**

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	

SDG No.: TID09

Matrix: SOIL

<u>Analyte</u>	<u>Batch Number</u>	<u>Lab Sample ID</u>
Mercury	182991063802	9866461
		9866462
		9866463
		9866464
		9866465
		9866466
		9866467
		*67762BKG
		P29963BB
		P29963BQ

**LEGEND:**

BKG = Background	B = Blank
DUP = Duplicate	Q = Laboratory Control Sample
MS = Matrix Spike	Y = Laboratory Control Sample Duplicate
MSD = Matrix Spike Duplicate	





Method: P  
Run Name: 1830701T72  
Calibration Date(s): 11/03/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium		600.0	629.20	104.9	500.0	515.04	103.0	500.0	505.19	101.0

(1) Control Limits: 90 - 110  
(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

Method: P  
Run Name: 1830701T72  
Calibration Date(s): 11/03/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Thorium					500.0	476.43	95.3			

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1830410E05  
Calibration Date(s): 10/31/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum	27	5000.0	5361.88	107.2	2500.0	2554.03	102.2	2500.0	2565.94	102.6
Antimony	121	50.0	54.08	108.2	25.0	24.52	98.1	25.0	24.80	99.2
Arsenic	75	500.0	498.58	99.7	250.0	242.14	96.9	250.0	255.52	102.2
Barium	137	500.0	512.18	102.4	250.0	264.12	105.6	250.0	254.81	101.9
Beryllium	9	50.0	50.92	101.8	25.0	24.93	99.7	25.0	25.33	101.3
Cadmium	111	50.0	50.81	101.6	25.0	25.71	102.8	25.0	25.35	101.4
Calcium	44	5000.0	5045.69	100.9	2500.0	2483.07	99.3	2500.0	2458.90	98.4
Chromium	52	500.0	546.61	109.3	250.0	260.70	104.3	250.0	270.65	108.3
Cobalt	59	500.0	510.59	102.1	250.0	248.83	99.5	250.0	265.44	106.2
Copper	63	500.0	508.74	101.7	250.0	249.26	99.7	250.0	263.35	105.3
Iron	57	5000.0	5392.06	107.8	2500.0	2527.58	101.1	2500.0	2691.32	107.7
Lead	208	50.0	50.50	101.0	25.0	26.60	106.4	25.0	26.37	105.5
Magnesium	24	5000.0	5295.44	105.9	2500.0	2589.18	103.6	2500.0	2640.35	105.6
Manganese	55	500.0	546.83	109.4	250.0	256.85	102.7	250.0	270.58	108.2
Nickel	60	500.0	520.67	104.1	250.0	250.00	100.0	250.0	265.74	106.3
Potassium	39	5000.0	5265.02	105.3	2500.0	2646.78	105.9	2500.0	2591.81	103.7
Selenium	78	50.0	51.20	102.4	25.0	25.23	100.9	25.0	24.93	99.7
Silver	107	50.0	52.92	105.8	25.0	27.47	109.9	25.0	26.65	106.6
Sodium	23	5000.0	5203.20	104.1	2500.0	2553.52	102.1	2500.0	2648.65	105.9
Thallium	203	50.0	51.19	102.4	25.0	26.16	104.6	25.0	25.39	101.6
Uranium	238	50.0	48.81	97.6	25.0	24.61	98.4	25.0	24.87	99.5
Vanadium										
Zinc	66	500.0	497.92	99.6	250.0	236.62	94.6	250.0	255.49	102.2

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1830410E05  
Calibration Date(s): 10/31/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum	27				2500.0	2652.27	106.1			
Antimony	121				25.0	23.25	93.0			
Arsenic	75				250.0	264.52	105.8			
Barium	137				250.0	253.39	101.4			
Beryllium	9				25.0	25.83	103.3			
Cadmium	111				25.0	24.64	98.6			
Calcium										
Chromium	52				250.0	273.41	109.4			
Cobalt	59				250.0	272.20	108.9			
Copper										
Iron										
Lead	208				25.0	26.79	107.2			
Magnesium	24				2500.0	2623.51	104.9			
Manganese	55				250.0	264.54	105.8			
Nickel										
Potassium										
Selenium	78				25.0	24.72	98.9			
Silver										
Sodium	23				2500.0	2637.57	105.5			
Thallium	203				25.0	26.11	104.4			
Uranium	238				25.0	25.37	101.5			
Vanadium										
Zinc	66				250.0	268.06	107.2			

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer

MS = ICP Mass Spectrometry

CV = Cold Vapor

AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1831001E05  
Calibration Date(s): 11/06/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony	121	50.0	49.67	99.3	25.0	25.73	102.9	25.0	24.76	99.0
Arsenic										
Barium	137	500.0	484.10	96.8	250.0	259.21	103.7	250.0	251.22	100.5
Beryllium										
Cadmium	111	50.0	48.60	97.2	25.0	25.35	101.4	25.0	25.16	100.6
Calcium										
Chromium										
Cobalt										
Copper	63	500.0	495.38	99.1	250.0	254.54	101.8	250.0	249.17	99.7
Iron	57	5000.0	5160.26	103.2	2500.0	2555.99	102.2	2500.0	2506.48	100.3
Lead	208	50.0	50.85	101.7	25.0	25.53	102.1	25.0	26.59	106.4
Magnesium										
Manganese										
Nickel	60	500.0	496.61	99.3	250.0	251.67	100.7	250.0	248.99	99.6
Potassium	39	5000.0	5239.44	104.8	2500.0	2570.50	102.8	2500.0	2517.94	100.7
Selenium										
Silver	107	50.0	49.93	99.9	25.0	25.57	102.3	25.0	25.95	103.8
Sodium										
Thallium	203	50.0	51.05	102.1	25.0	26.26	105.0	25.0	26.40	105.6
Uranium	238	50.0	49.25	98.5	25.0	25.11	100.4	25.0	24.63	98.5
Vanadium	51	500.0	541.80	108.4	250.0	269.57	107.8	250.0	266.67	106.7
Zinc										

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

METHODS:

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1831001E05  
Calibration Date(s): 11/06/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium										
Chromium										
Cobalt										
Copper	63				250.0	250.09	100.0			
Iron	57				2500.0	2640.72	105.6			
Lead	208				25.0	27.39	109.6			
Magnesium										
Manganese										
Nickel	60				250.0	252.65	101.1			
Potassium	39				2500.0	2573.19	102.9			
Selenium										
Silver	107				25.0	26.09	104.4			
Sodium										
Thallium	203				25.0	26.72	106.9			
Uranium	238				25.0	24.98	99.9			
Vanadium	51				250.0	267.11	106.8			
Zinc										

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer

MS = ICP Mass Spectrometry

CV = Cold Vapor

AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1831706E05  
Calibration Date(s): 11/13/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Aluminum										
Antimony										
Arsenic										
Barium										
Beryllium										
Cadmium										
Calcium	44	5000.0	5374.90	107.5	2500.0	2541.90	101.7	2500.0	2600.47	104.0
Chromium										
Cobalt										
Copper										
Iron										
Lead										
Magnesium	24	5000.0	5031.27	100.6	2500.0	2563.19	102.5	2500.0	2462.61	98.5
Manganese										
Nickel										
Potassium										
Selenium										
Silver										
Sodium										
Thallium										
Uranium										
Vanadium										
Zinc										

(1) Control Limits: 90 - 110

(2) Control Limits: 90 - 110

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer

MS = ICP Mass Spectrometry

CV = Cold Vapor

AF = Cold Vapor Atomic Fluorescence



Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury		2.5	2.35	94.0	1.0	0.94	94.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110

(2) Control Limits: 80 - 120

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence





Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.98	98.0	1.0	0.97	97.0

(1) Control Limits: 90 - 110

(2) Control Limits: 80 - 120

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018  
Concentration Units: UG/L

Analyte	Mass	Initial Calibration			Continuing Calibration					
		True	Found	%R(1)	True	Found	%R(2)	True	Found	%R(2)
Mercury					1.0	0.96	96.0			

(1) Control Limits: 90 - 110

(2) Control Limits: 80 - 120

\* Outside Limits. If Continuing Calibration is outside limits, high, only ND samples are accepted.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: P  
Run Name: 1830701T72  
Calibration Date(s): 11/03/2018  
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Thorium		500.0	492.89	98.6		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

**METHODS:**

- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1830410E05  
Calibration Date(s): 10/31/2018  
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum	27	400.0	449.28	112.3		
Antimony	121	2.0	1.81	90.5		
Arsenic	75	2.0	2.08	104.0		
Barium	137	4.0	3.90	97.5		
Beryllium	9	0.5	0.48	96.0		
Cadmium	111	1.0	0.84	84.0		
Calcium	44	700.0	827.57	118.2		
Chromium	52	4.0	4.77	119.3		
Cobalt	59	1.0	1.11	111.0		
Copper	63	40.0	42.99	107.5		
Iron	57	100.0	109.27	109.3		
Lead	208	3.0	3.18	106.0		
Magnesium	24	100.0	109.77	109.8		
Manganese	55	10.0	10.29	102.9		
Nickel	60	4.0	3.95	98.8		
Potassium	39	400.0	460.05	115.0		
Selenium	78	2.0	2.18	109.0		
Silver	107	0.5	0.63	126.0		
Sodium	23	900.0	943.66	104.9		
Thallium	203	0.5	0.57	114.0		
Uranium	238	0.5	0.51	102.0		
Vanadium						
Zinc	66	15.0	14.45	96.3		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

**METHODS:**

- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence

Method: MS  
Run Name: 1831001E05  
Calibration Date(s): 11/06/2018  
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony	121	2.0	2.08	104.0		
Arsenic						
Barium	137	4.0	4.20	105.0		
Beryllium						
Cadmium	111	1.0	0.83	83.0		
Calcium						
Chromium						
Cobalt						
Copper	63	40.0	38.62	96.6		
Iron	57	100.0	116.17	116.2		
Lead	208	3.0	3.00	100.0		
Magnesium						
Manganese						
Nickel	60	4.0	4.50	112.5		
Potassium	39	400.0	397.86	99.5		
Selenium						
Silver	107	0.5	0.53	106.0		
Sodium						
Thallium	203	0.5	0.55	110.0		
Uranium	238	0.5	0.48	96.0		
Vanadium	51	1.0	0.98	98.0		
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: MS  
Run Name: 1831706E05  
Calibration Date(s): 11/13/2018  
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium	44	700.0	790.60	112.9		
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium	24	100.0	106.56	106.6		
Manganese						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Uranium						
Vanadium						
Zinc						

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

**METHODS:**

- P = ICP Atomic Emission Spectrometer
- MS = ICP Mass Spectrometry
- CV = Cold Vapor
- AF = Cold Vapor Atomic Fluorescence



Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018  
Concentration Units: UG/L

Analyte	Mass	Initial			Final	
		True	Found	%R	Found	%R
Mercury		0.8	0.72	90.0		

Control limits: 80% - 120%

For 6010B - Control limits apply to values up to 10 times the true value of the low level check standard. If LLC is out of specification, high, results < RL are acceptable.

For 6010C - If Low Level Check (LLC) is out of specification, results > CCV are acceptable. If LLC is out of specification, high, results < RL are acceptable.

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: P  
Run Name: 1830701T72  
Calibration Date(s): 11/03/2018  
Preparation Blank Matrix: SOIL

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)			
			C	1	C	2	C	3	C	Mass	C	Batch Number	
Thorium		68.1	U	68.1	U	68.1	U	68.1	U		8.400	U	182991063702

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

**CONCENTRATION QUALIFIERS:**

U= Below IDL/MDL  
B= Below LOQ





Method: MS  
Run Name: 1830410E05  
Calibration Date(s): 10/31/2018  
Preparation Blank Matrix: SOIL

Analyte	Mass	Initial Calibration		Continuing Calibration						Preparation			
		Blank (ug/L)		Blank (ug/L)						Blank (MG/KG)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum	27	30.8	U	30.8	U	30.8	U	30.8	U	27	33.400	U	182991063702A
Antimony	121	0.86	B	0.52	U	0.52	U	0.52	U	121	0.130	U	182991063702A
Arsenic	75	0.40	U	0.40	U	0.40	U	0.40	U	75	0.130	U	182991063702A
Barium	137	0.73	U	0.73	U	0.73	U	0.73	U	137	0.390	U	182991063702A
Beryllium	9	0.067	U	0.067	U	0.067	U	0.067	U	9	0.023	U	182991063702A
Cadmium	111	0.17	U	0.17	U	0.17	U	0.17	U	111	0.050	U	182991063702A
Calcium	44	101	U	101	U	101	U			44	68.200	U	182991063702A
Chromium	52	1.4	B	0.84	B	0.68	B	0.84	B	52	0.330	U	182991063702A
Cobalt	59	0.41	B	0.21	U	0.21	U	0.21	U	59	0.058	U	182991063702A
Copper	63	1.1	U	1.1	U	1.1	U			63	3.600	U	182991063702A
Iron	57	14.9	U	14.9	U	24.7	B			57	7.500	U	182991063702A
Lead	208	0.21	U	0.21	U	0.53	B	0.82	B	208	0.050	U	182991063702A
Magnesium	24	11.6	U	11.6	U	11.6	U	11.6	U	24	3.100	U	182991063702A
Manganese	55	0.95	U	0.95	U	0.95	U	0.95	U	55	0.400	U	182991063702A
Nickel	60	0.51	B	0.42	B	0.50	B			60	0.340	U	182991063702A
Potassium	39	79.1	B	41.2	U	41.2	U			39	36.200	U	182991063702A
Selenium	78	0.50	U	0.50	U	0.50	U	0.50	U	78	0.130	U	182991063702A
Silver	107	0.098	U	0.098	U	0.098	U			107	0.041	U	182991063702A
Sodium	23	50.0	U	50.0	U	50.0	U	50.0	U	23	80.400	U	182991063702A
Thallium	203	0.13	U	0.13	U	0.13	U	0.13	U	203	0.039	U	182991063702A
Uranium	238	0.080	U	0.080	U	0.080	U	0.080	U	238	0.039	U	182991063702A
Vanadium													
Zinc	66	2.0	U	2.0	U	2.0	B	2.0	U	66	1.200	U	182991063702A

<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U= Below IDL/MDL B= Below LOQ</p>
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Method: MS  
Run Name: 1831001E05  
Calibration Date(s): 11/06/2018  
Preparation Blank Matrix: SOIL

Analyte	Mass	Initial Calibration		Continuing Calibration						Preparation			
		Blank (ug/L)		Blank (ug/L)						Blank (MG/KG)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony	121	0.64	B	0.52	U	0.52	U						
Arsenic													
Barium	137	0.73	U	0.73	U	0.73	U						
Beryllium													
Cadmium	111	0.17	U	0.17	U	0.17	U						
Calcium													
Chromium													
Cobalt													
Copper	63	1.1	U	1.1	U	1.1	U	1.1	U				
Iron	57	14.9	U	14.9	U	14.9	U	14.9	U				
Lead	208	0.21	U	0.21	U	0.51	B	0.80	B				
Magnesium													
Manganese													
Nickel	60	0.41	U	0.41	U	0.41	U	0.41	U				
Potassium	39	41.2	U	41.2	U	41.2	U	41.2	U				
Selenium													
Silver	107	0.098	U	0.098	U	0.098	U	0.098	U				
Sodium													
Thallium	203	0.13	U	0.13	U	0.13	U	0.13	U				
Uranium	238	0.080	U	0.080	U	0.080	U	0.080	U				
Vanadium	51	0.21	U	0.21	U	0.21	U	0.21	U	51	0.086	U	182991063702A
Zinc													

METHODS:

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below IDL/MDL  
B= Below LOQ



Method: MS  
Run Name: 1831706E05  
Calibration Date(s): 11/13/2018

Analyte	Mass	Initial Calibration		Continuing Calibration						Preparation			
		Blank (ug/L)		Blank (ug/L)						Blank (MG/KG)			
			C	1	C	2	C	3	C	Mass		C	Batch Number
Aluminum													
Antimony													
Arsenic													
Barium													
Beryllium													
Cadmium													
Calcium	44	101	U	101	U	101	U						
Chromium													
Cobalt													
Copper													
Iron													
Lead													
Magnesium	24	11.6	U	11.6	U	11.6	U						
Manganese													
Nickel													
Potassium													
Selenium													
Silver													
Sodium													
Thallium													
Uranium													
Vanadium													
Zinc													

<p><b>METHODS:</b>  P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence</p>	<p><b>CONCENTRATION QUALIFIERS:</b>  U= Below IDL/MDL  B= Below LOQ</p>
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Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018  
Preparation Blank Matrix: SOIL

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)		
			C	1	C	2	C	3	C	Mass	C	Batch Number
Mercury		0.050	U	0.050	U	0.050	U	0.050	U	0.031	U	182991063802

<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U= Below IDL/MDL B= Below LOQ</p>
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Method: CV  
Run Name: 1830201M08  
Calibration Date(s): 10/29/2018

Analyte	Mass	Initial Calibration Blank (ug/L)		Continuing Calibration Blank (ug/L)						Preparation Blank (MG/KG)		
			C	1	C	2	C	3	C	Mass	C	Batch Number
Mercury				0.050	U	0.050	U					

<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence</p>	<p><b>CONCENTRATION QUALIFIERS:</b></p> <p>U= Below IDL/MDL B= Below LOQ</p>
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Instrument ID: 16417  
Run Name: 1830701T72  
Concentration Units: ug/L

Analyte	True		Initial Found				Final Found			
	Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R	Sol. A	%R	Sol. AB	%R
Aluminum	500000		484296	96.9						
Calcium	500000		485618	97.1						
Iron	200000		190815	95.4						
Magnesium	500000		483247	96.6						
Thorium	0		35							

Control Limits: All Metals 80%-120%

Instrument ID: 19204  
 Run Name: 1830410E05  
 Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		108682	108.7		
Antimony	121	0		1			
Arsenic	75	0		1			
Barium	137	0		1			
Beryllium	9	0		0			
Cadmium	111	0		0			
Calcium	44	300000		299468	99.8		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium	52	0		1			
Cobalt	59	0		1			
Copper	63	0		1			
Iron	57	250000		273125	109.3		
Lead	208	0		1			
Magnesium	24	100000		111921	111.9		
Manganese	55	0		4			
Molybdenum	98	2000		2245	112.3		
Nickel	60	0		2			
Phosphorus	31	10000		NA			
Potassium	39	100000		106517	106.5		
Selenium	78	0		0			
Silver	107	0		0			
Sodium	23	250000		282754	113.1		
Sulfur	34	10000		NA			
Thallium	203	0		0			
Titanium	47	2000		2068	103.4		
Uranium	238	0		0			
Vanadium							
Zinc	66	0		3			

Control Limits: All Metals 80%-120%

Instrument ID: 19204  
 Run Name: 1831001E05  
 Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		98517	98.5		
Antimony	121	0		1			
Arsenic							
Barium	137	0		1			
Beryllium							
Cadmium	111	0		0			
Calcium	44	300000		296934	99.0		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper	63	0		1			
Iron	57	250000		257242	102.9		
Lead	208	0		1			
Magnesium	24	100000		97508	97.5		
Manganese							
Molybdenum	98	2000		2170	108.5		
Nickel	60	0		2			
Phosphorus	31	10000		NA			
Potassium	39	100000		100493	100.5		
Selenium							
Silver	107	0		0			
Sodium	23	250000		240807	96.3		
Sulfur	34	10000		NA			
Thallium	203	0		0			
Titanium	47	2000		1981	99.1		
Uranium	238	0		0			
Vanadium	51	0		0			
Zinc							

Control Limits: All Metals 80%-120%



Instrument ID: 19204  
 Run Name: 1831706E05  
 Concentration Units: ug/L

Analyte	Mass	True		Found			
		Sol. A	Sol. AB	Sol. A	%R	Sol. AB	%R
Aluminum	27	100000		100990	101.0		
Antimony							
Arsenic							
Barium							
Beryllium							
Cadmium							
Calcium	44	300000		273419	91.1		
Carbon	13	20000		NA			
Chloride	37	100000		NA			
Chromium							
Cobalt							
Copper							
Iron	57	250000		252526	101.0		
Lead							
Magnesium	24	100000		98124	98.1		
Manganese							
Molybdenum	98	2000		2149	107.5		
Nickel							
Phosphorus	31	10000		NA			
Potassium	39	100000		101478	101.5		
Selenium							
Silver							
Sodium	23	250000		240473	96.2		
Sulfur	34	10000		NA			
Thallium							
Titanium	47	2000		2009	100.5		
Uranium							
Vanadium							
Zinc							

Control Limits: All Metals 80%-120%



Analyte	Mass	Batch Number	Units	True	Found	C	Control Limits (%)	%R	M	In Spec
Aluminum	27	182991063702	MG/KG	200.000	198.571		78 - 124	99	MS	Yes
Antimony	121	182991063702	MG/KG	0.600	0.606		72 - 124	101	MS	Yes
Arsenic	75	182991063702	MG/KG	1.000	0.935		82 - 118	94	MS	Yes
Barium	137	182991063702	MG/KG	5.000	5.090		86 - 116	102	MS	Yes
Beryllium	9	182991063702	MG/KG	0.400	0.396		80 - 120	99	MS	Yes
Cadmium	111	182991063702	MG/KG	0.500	0.458		84 - 116	92	MS	Yes
Calcium	44	182991063702	MG/KG	400.000	392.263		86 - 118	98	MS	Yes
Chromium	52	182991063702	MG/KG	5.000	5.090		83 - 119	102	MS	Yes
Cobalt	59	182991063702	MG/KG	25.000	25.667		84 - 115	103	MS	Yes
Copper	63	182991063702	MG/KG	5.000	5.164	B	84 - 119	103	MS	Yes
Iron	57	182991063702	MG/KG	100.000	93.043		81 - 124	93	MS	Yes
Lead	208	182991063702	MG/KG	1.500	1.450		84 - 118	97	MS	Yes
Magnesium	24	182991063702	MG/KG	200.000	198.376		80 - 123	99	MS	Yes
Manganese	55	182991063702	MG/KG	5.000	5.055		85 - 116	101	MS	Yes
Mercury		182991063802	MG/KG	0.100	0.093		80 - 124	93	CV	Yes
Nickel	60	182991063702	MG/KG	5.000	5.211		84 - 119	104	MS	Yes
Potassium	39	182991063702	MG/KG	1000.000	972.627		85 - 119	97	MS	Yes
Selenium	78	182991063702	MG/KG	1.000	1.013		80 - 119	101	MS	Yes
Silver	107	182991063702	MG/KG	5.000	5.239		83 - 118	105	MS	Yes
Sodium	23	182991063702	MG/KG	1000.000	966.923		79 - 125	97	MS	Yes
Thallium	203	182991063702	MG/KG	0.200	0.174		83 - 118	87	MS	Yes
Thorium		182991063702	MG/KG	50.000	52.010		92 - 114	104	P	Yes
Uranium	238	182991063702	MG/KG	5.000	4.865		80 - 120	97	MS	Yes
Vanadium	51	182991063702	MG/KG	5.000	5.531		82 - 116	111	MS	Yes
Zinc	66	182991063702	MG/KG	50.000	52.738		82 - 119	105	MS	Yes

METHODS:

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

CONCENTRATION QUALIFIERS:

U= Below MDL  
B= Below LOQ



QUALITY ASSURANCE SUMMARY

FORM 9

SERIAL DILUTIONS

SDG No.: TID09

Matrix: SOIL

Level (low/med): LOW

Background Lab Sample ID: \*67762BKG

Serial Dilution Lab Sample ID: \*67762L

Batch Number(s): 182991063702

Concentration Units: MG/KG

Analyte	Mass	Initial Sample Result (I) C	Serial Dilution Result (S) C	% Diff.	Q	M
Aluminum	27	4369.8328	4709.9874	8		MS
Antimony	121	7.5250	7.3476	2		MS
Arsenic	75	11.4365	11.6680	2		MS
Barium	137	540.4581	543.7342	1		MS
Beryllium	9	0.3454	0.3159	B	9	MS
Cadmium	111	3.6045	3.6710		2	MS
Calcium	44	4395.2460	4994.6181	14		MS
Chromium	52	45.7116	48.7712	7		MS
Cobalt	59	10.1542	10.2037	0		MS
Copper	63	506.6082	484.2785	4		MS
Iron	57	33138.8015	35406.3393	7		MS
Lead	208	594.6922	653.7402	10		MS
Magnesium	24	1063.1575	1156.6421	9		MS
Manganese	55	259.4650	285.7370	10		MS
Nickel	60	54.7931	55.1466	1		MS
Potassium	39	629.2893	734.1095	17		MS
Selenium	78	0.9032	0.8147	B	10	MS
Silver	107	6.4569	6.6031		2	MS
Sodium	23	292.4730	325.1620	B	11	MS
Thallium	203	0.0820	0.1581	U	100	MS
Thorium		8.5218	33.7903	U	100	P
Uranium	238	0.4092	0.5287		29	MS
Vanadium	51	21.6913	22.1209		2	MS
Zinc	66	745.1246	736.4264		1	MS

NOTE: An E in column Q indicates the presence of a chemical or physical interference in the matrix when the % difference is greater than 10%. This applies only when (I) is greater than or equal to 50x MDL for ICP, 100x MDL for ICP-MS (6020), 50x MDL for ICP-MS (200.8), or 25x MDL for GFAA.

METHODS:

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry

CONCENTRATION QUALIFIERS:

U= Below MDL  
B= Below LOQ

FLAGS:

E = Matrix Effects exist as proven by Serial Dilution or Spiked Dilution

Method: P  
Instrument ID: 16417  
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Thorium	401.91		68.1

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

Method: MS  
Instrument ID: 19204  
Date: 07/2018

Analyte	MASS (amu)	Background	IDL (UG/L)
Aluminum	27		30.8
Antimony	121		0.52
Arsenic	75		0.40
Barium	137		0.73
Beryllium	9		0.067
Cadmium	111		0.17
Calcium	44		101
Chromium	52		0.50
Cobalt	59		0.21
Copper	63		1.1
Iron	57		14.9
Lead	208		0.21
Magnesium	24		11.6
Manganese	55		0.95
Nickel	60		0.41
Potassium	39		41.2
Selenium	78		0.50
Silver	107		0.098
Sodium	23		50.0
Thallium	203		0.13
Uranium	238		0.080
Vanadium	51		0.21
Zinc	66		2.0

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

Method: CV  
Instrument ID: 19302  
Date: 07/2018

Analyte	Wavelength (nm)	Background	IDL (UG/L)
Mercury			0.050

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: P  
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Thorium	401.91		500	83.8

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: MS  
Date: 07/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum				
Antimony	121		2.0	0.63
Arsenic				
Barium				
Beryllium				
Cadmium	111		1.0	0.25
Calcium				
Chromium				
Cobalt	59		1.0	0.29
Copper				
Iron				
Lead				
Magnesium	24		100	15.7
Manganese	55		10.0	2.0
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Thallium				
Uranium	238		0.50	0.20
Vanadium				
Zinc				

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence





Method: MS  
Date: 09/2018

Analyte	Mass	Background	LOQ (UG/L)	MDL (UG/L)
Aluminum	27		400	167
Antimony				
Arsenic	75		2.0	0.67
Barium	137		4.0	1.9
Beryllium	9		0.50	0.11
Cadmium				
Calcium	44		700	341
Chromium	52		4.0	1.7
Cobalt				
Copper	63		40.0	17.9
Iron	57		100	37.5
Lead	208		3.0	0.25
Magnesium				
Manganese				
Nickel	60		4.0	1.7
Potassium	39		400	181
Selenium	78		2.0	0.65
Silver	107		0.50	0.20
Sodium	23		900	402
Thallium	203		0.50	0.20
Uranium				
Vanadium	51		1.0	0.43
Zinc	66		15.0	6.1

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: CV  
Date: 06/2018

Analyte	Wavelength (nm)	Background	LOQ (UG/L)	MDL (UG/L)
Mercury			0.80	0.19

The LOQ/MDL must be adjusted for % Solids and Sample Weight for samples reporting in mg/kg and ug/L.

Comments:

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**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Instrument ID: 16417  
Date: 09/2018

Analyte	Wavelength (nm)	Interelement Correction Factor for:				--
		AL	CA	FE	MG	
Thorium	401.91	0.0000000	0.0000000	0.0006910	0.0000000	

Comments:

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Method: P  
Instrument ID: 16417  
Date: 10/2018

Analyte	Wavelength (nm)	Integration Time (Sec.)	Concentration (ug/L)
Thorium	401.913	10.00	20000.0

Comments:

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METHODS:

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence



Method: P  
Batch Number: 182991063702

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9866461	10/29/2018	1.27	100
9866462	10/29/2018	1.29	100
9866463	10/29/2018	1.19	100
9866464	10/29/2018	1.22	100
9866465	10/29/2018	1.30	100
9866466	10/29/2018	1.32	100
9866467	10/29/2018	1.32	100
*67762BKG	10/29/2018	1.24	100
P29963BB	10/29/2018	1.00	100
P29963BQ	10/29/2018	1.00	100

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

**LEGEND:**

BKG = Background  
DUP = Duplicate  
MS = Matrix Spike  
MSD = Matrix Spike Duplicate  
B = Blank  
Q = Laboratory Control Sample  
Y = Laboratory Control Sample Duplicate



Method: MS  
Batch Number: 182991063702

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9866461	10/29/2018	1.27	100
9866462	10/29/2018	1.29	100
9866463	10/29/2018	1.19	100
9866464	10/29/2018	1.22	100
9866465	10/29/2018	1.30	100
9866466	10/29/2018	1.32	100
9866467	10/29/2018	1.32	100
*67762BKG	10/29/2018	1.24	100
P29963BB	10/29/2018	1.00	100
P29963BQ	10/29/2018	1.00	100

**METHODS:**

P = ICP Atomic Emission Spectrometer  
MS = ICP Mass Spectrometry  
CV = Cold Vapor  
AF = Cold Vapor Atomic Fluorescence

**LEGEND:**

BKG = Background  
DUP = Duplicate  
MS = Matrix Spike  
MSD = Matrix Spike Duplicate  
B = Blank  
Q = Laboratory Control Sample  
Y = Laboratory Control Sample Duplicate



Method: CV  
Batch Number: 182991063802

Lab Sample ID	Date	Sample Weight(gram)	Final Volume(ml)
9866461	10/29/2018	0.63	100
9866462	10/29/2018	0.64	100
9866463	10/29/2018	0.63	100
9866464	10/29/2018	0.61	100
9866465	10/29/2018	0.61	100
9866466	10/29/2018	0.60	100
9866467	10/29/2018	0.61	100
*67762BKG	10/29/2018	0.65	100
P29963BB	10/29/2018	0.60	100
P29963BQ	10/29/2018	1.00	100

<b>METHODS:</b> P = ICP Atomic Emission Spectrometer MS = ICP Mass Spectrometry CV = Cold Vapor AF = Cold Vapor Atomic Fluorescence	<b>LEGEND:</b> BKG = Background DUP = Duplicate MS = Matrix Spike MSD = Matrix Spike Duplicate B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate
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Method: CV  
Instrument ID: 19302  
Run Name: 1830201M08

Run Start Date: 10/29/2018  
Run End Date: 10/29/2018

Lab Sample ID	D/F	Time	Analytes																										
			A L	S B	A S	B A	B E	C D	C A	C R	C O	C U	F E	P B	M G	M N	H G	N I	K I	S E	A G	N A	T L	T H	U	V	Z N		
ZZZZZZ	10.00	11:16																											
ZZZZZZ	10.00	11:18																											
ZZZZZZ	10.00	11:20																											
9866461	1.00	11:22																											
9866462	1.00	11:25																											
9866463	1.00	11:27																											
9866464	1.00	11:29																											
CCV	1.00	11:31																											
CCB	1.00	11:33																											
9866465	1.00	11:35																											
9866466	1.00	11:37																											
9866467	1.00	11:39																											
ZZZZZZ	1.00	11:41																											
ZZZZZZ	1.00	11:43																											
ZZZZZZ	1.00	11:45																											
ZZZZZZ	10.00	11:49																											
ZZZZZZ	25.00	11:51																											
CCV	1.00	11:55																											
CCB	1.00	11:57																											

<p><b>METHODS:</b></p> <p>P = ICP Atomic Emission Spectrometer  MS = ICP Mass Spectrometry  CV = Cold Vapor  AF = Cold Vapor Atomic Fluorescence</p>	<p><b>LEGEND:</b></p> <p>BKG = Background  DUP = Duplicate  MS = Matrix Spike  MSD = Matrix Spike Duplicate  A = Post Digest Spike  L = Serial Dilution  B = Blank  Q = Laboratory Control Sample  Y = Laboratory Control Sample Duplicate</p>
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Instrument ID: 19204  
Run Name: 1830410E05

Start Date: 10/31/2018  
End Date: 10/31/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-3-209	PB, TL, U	IN-2-115	SE
IN-3-115	AS, CO, CU, NI, ZN	SC-1-45	BE
SC-3-45	AL, CA, CR, FE, K, MG, MN, NA	TB-3-159	AG, BA, CD, SB

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-1-45	Q	Element SC-3-45	Q	Element IN-2-115	Q	Element IN-3-115	Q	Element TB-3-159	Q	Element BI-3-209	Q
S0	19:45	100		100		100		100		100		100	
S	19:47	100		104		97		96		104		100	
ICV	19:50	99		95		95		95		100		98	
ICB	19:52	99		94		90		92		97		93	
LLC	19:55	97		96		91		92		97		96	
ICSA	19:57	98		93		85		84		97		91	
ZZZZZZ	20:00												
CCV	20:02	101		98		89		96		97		95	
CCB	20:04	98		96		88		95		96		93	
P29963BB	20:07	101		97		90		90		99		100	
P29963BQ	20:09	97		102		89		92		98		100	
*67762BKG	20:12	100		100		88		89		99		118	
ZZZZZZ	20:14												
ZZZZZZ	20:16												
ZZZZZZ	20:19												
ZZZZZZ	20:21												
*67762L	20:24	95		92		86		90		97		100	
9866461	20:26	100		96		87		89		100		99	
9866462	20:28	102		96		87		92		98		101	
CCV	20:31	96		93		86		89		97		94	
CCB	20:33	92		93		86		89		97		91	
9866463	20:36	100		95		85		87		98		98	
9866464	20:38	98		95		85		85		99		96	
9866465	20:41	97		96		82		86		96		93	
9866466	20:43	102		100		87		86		99			
9866467	20:45	102		94		80		83		100		101	
ZZZZZZ	20:48												
ZZZZZZ	20:50												
ZZZZZZ	20:53												
CCV	20:55	96		90		84		84		96		93	
CCB	20:57	91		89		84		85		92		89	

<p><b>LEGEND:</b></p> <p>BKG = Background      MS = Matrix Spike          DUP = Duplicate      MSD = Matrix Spike Duplicate          L = Serial Dilution    A = Post Digest Spike          B = Blank          Q = Laboratory Control Sample          Y = Laboratory Control Sample Duplicate</p> <p><b>FLAG:</b></p> <p>R = Internal Standard Relative Intensity OOS</p>	<p><b>INTERNAL STANDARD ELEMENTS:</b></p> <p>BE = Beryllium      LI = Lithium          BI = Bismuth      SC = Scandium          GE = Germanium    TB = Terbium          HO = Holmium      Y = Yttrium          IN = Indium</p>
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Instrument ID: 19204  
Run Name: 1831001E05

Start Date: 11/06/2018  
End Date: 11/06/2018

Standard	Elements Applies to	Standard	Elements Applies to
BI-1-209	PB, TL, U	IN-1-115	AG, BA, CD, CU, NI, SB
SC-1-45	FE, K, V		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-1-45	Q	Element IN-1-115	Q	Element BI-1-209	Q	Element	Q	Element	Q	Element	Q
S0	00:26	100		100		100							
S	00:28	101		98		103							
ICV	00:30	96		102		103							
ICB	00:32	95		97		101							
LLC	00:33	98		102		102							
ICSA	00:35	98		95		96							
ZZZZZZ	00:37												
CCV	00:39	94		95		100							
CCB	00:40	89		94		95							
P29963BB	00:42	95		97		101							
P29963BQ	00:44	92		99		102							
*67762BKG	00:46	100											
ZZZZZZ	00:47												
ZZZZZZ	00:49												
ZZZZZZ	00:51												
ZZZZZZ	00:53												
*67762L	00:54	99											
9866461	00:56	99		100									
9866462	00:58	104		97									
CCV	01:00	98		101		102							
CCB	01:02	98		102		98							
9866463	01:03	98		100									
9866464	01:05	96		97									
9866465	01:07	99		95									
9866466	01:09					107							
9866466	01:10	102		95									
9866467	01:12	104		96									
ZZZZZZ	01:14												
ZZZZZZ	01:16												
ZZZZZZ	01:17												
CCV	01:19	98		101		101							
CCB	01:21	95		100		98							

<p><b>LEGEND:</b></p> <p>BKG = Background      MS = Matrix Spike          DUP = Duplicate      MSD = Matrix Spike Duplicate          L = Serial Dilution    A = Post Digest Spike          B = Blank          Q = Laboratory Control Sample          Y = Laboratory Control Sample Duplicate</p> <p><b>FLAG:</b></p> <p>R = Internal Standard Relative Intensity OOS</p>	<p><b>INTERNAL STANDARD ELEMENTS:</b></p> <p>BE = Beryllium      LI = Lithium          BI = Bismuth      SC = Scandium          GE = Germanium    TB = Terbium          HO = Holmium      Y = Yttrium          IN = Indium</p>
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Instrument ID: 19204  
Run Name: 1831706E05

Start Date: 11/13/2018  
End Date: 11/13/2018

Standard	Elements Applies to	Standard	Elements Applies to
SC-1-45	CA, MG		

Lab Sample ID	Time	Internal Standards %RI For:											
		Element SC-1-45	Q	Element	Q	Element	Q	Element	Q	Element	Q	Element	Q
S0	13:30	100											
S	13:32	100											
ICV	13:34	100											
ICB	13:36	94											
LLC	13:37	101											
ICSA	13:39	99											
ZZZZZZ	13:41												
CCV	13:43	95											
CCB	13:44	92											
9866463	13:46	100											
9866464	13:48	94											
9866465	13:50	98											
9866466	13:52	108											
9866466	13:53												
9866467	13:55	105											
ZZZZZZ	13:57												
ZZZZZZ	13:59												
ZZZZZZ	14:00												
ZZZZZZ	14:02												
CCV	14:04	101											
CCB	14:06	98											

<b>LEGEND:</b> BKG = Background      MS = Matrix Spike DUP = Duplicate      MSD = Matrix Spike Duplicate L = Serial Dilution    A = Post Digest Spike B = Blank Q = Laboratory Control Sample Y = Laboratory Control Sample Duplicate <b>FLAG:</b> R = Internal Standard Relative Intensity OOS	<b>INTERNAL STANDARD ELEMENTS:</b> BE = Beryllium      LI = Lithium BI = Bismuth      SC = Scandium GE = Germanium      TB = Terbium HO = Holmium      Y = Yttrium IN = Indium
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**Raw Data**

**Metals in Solid**

**ICP Data**

**Metals in Solid**

# ICP-AES Run Data Report



Reviewed By  
Tara L Snyder

Reviewed Date  
11/13/2018 2:32PM

Data File Name 1830701T72.TXT  
Run Name: 1830701T72

Verified By:  
Tara L Snyder

Verified Date  
11/13/2018 2:42PM

Method Reference Name(s):

Analyst Employee: 943

Instrument Parameters:

Individual Integration Time: 10.00 sec

Total Integration Time: 30.00 sec

Rinse Time: 15.00 sec

<u>Element</u>	<u>Analyte Name</u>	<u>Wavelength Value</u>
AG	Silver	328.06
AL	Aluminum	308.21
AS	Arsenic	189.04
AU	Gold	242.80
B	Boron	249.67
BA	Barium	455.40
BE	Beryllium	313.04
CA	Calcium	317.93
CD	Cadmium	226.50
CO	Cobalt	228.62
CR	Chromium	267.72
CU	Copper	327.40
FE	Iron	261.19
K	Potassium	766.49
LI	Lithium	670.78
MG	Magnesium	285.21
MN	Manganese	257.61
MO	Molybdenum	202.03
NA	Sodium	589.59
NI	Nickel	231.60
P	Phosphorus	177.49
PB	Lead	220.35
SB	Antimony	206.83
SE	Selenium	196.09
SI	Silicon	251.60
SN	Tin	189.99
SR	Strontium	421.55
TE	Tellurium	214.28
TH	Thorium	401.91
TI	Titanium	334.94
TL	Thallium	190.86
V	Vanadium	292.40
W	Tungsten	207.91
Y1	Yttrium	224.31
Y2	Yttrium	371.03
ZN	Zinc	213.86
ZR	Zirconium	339.19

The TRACE ICP utilizes Yttrium as an internal standard to compensate for fluctuations in nebulization and plasma conditions. All Yttrium readings are expressed in counts.

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 1

Date/Time: 11/03/2018 05:57

Sample Number: S0

ELEMENT	CONC (ppm)	AVERAGE		INTEGRATIONS		
		INTENSITY	% RSD	#1	#2	#3
AG	0.000	-51.92046	3.055	-0.01948	-0.01839	-0.01929
AL	0.000	21.23224	28.039	0.06639	0.09218	0.11810
AS	0.000	-0.66000	39.088	-0.01078	-0.00520	-0.00647
B	0.000	6.62612	76.069	0.00003	0.00009	0.00002
BA	0.000	138.53446	28.573	0.00069	0.00110	0.00126
BE	0.000	-724.27948	0.802	-0.26575	-0.26372	-0.26798
CA	0.000	54.43891	10.596	0.00472	0.00424	0.00524
CD	0.000	-13.75000	8.305	-0.16932	-0.14350	-0.15477
CO	0.000	-1.56667	90.591	-0.00352	-0.03517	-0.01452
CR	0.000	-0.66432	565.646	-0.00003	0.00002	0.00000
CU	0.000	-66.02315	10.116	-0.02194	-0.02682	-0.02396
FE	0.000	-1.69472	91.654	-0.00007	-0.00007	-0.00030
K	0.000	136.85105	7.674	0.62719	0.61430	0.54249
LI	0.000	4.19909	302.242	0.00163	-0.00008	-0.00045
MG	0.000	-8.67207	27.334	-0.00062	-0.00099	-0.00064
MN	0.000	11.70170	16.716	0.00512	0.00391	0.00385
MO	0.000	0.32700	19.620	0.00340	0.00453	0.00318
NA	0.000	-966.07528	3.192	-0.08487	-0.08093	-0.08605
NI	0.000	13.23333	2.977	0.15502	0.14847	0.14649
P	0.000	-0.89667	81.147	-0.00031	-0.00028	-0.00001
PB	0.000	-1.37222	259.484	-0.02156	-0.05239	0.02742
S	0.000	0.04667	816.572	0.00011	-0.00006	-0.00001
SB	0.000	-0.99333	60.548	-0.00036	-0.00009	-0.00023
SE	0.000	1.89333	81.403	0.02565	0.03641	0.00227
SI	0.000	1.52865	75.792	0.00003	0.00014	0.00023
SN	0.000	3.55333	43.817	0.05538	0.04455	0.02088
SR	0.000	-39.28870	16.397	-0.00024	-0.00034	-0.00029
TH	0.000	-1.36294	176.698	0.00012	-0.00019	-0.00028
TI	0.000	58.84650	11.416	0.02108	0.01942	0.02427
TL	0.000	-2.90333	23.180	-0.04085	-0.03223	-0.02564
V	0.000	13.31490	42.450	0.00711	0.00454	0.00300
W	0.000	6.85222	11.028	0.00164	0.00136	0.00166
Y1	0.000	4411.37167	0.202	4405.88500	4421.65000	4406.58000
Y2A	0.000	136233.65457	0.555	136921.26747	135424.34053	136355.35572
Y2R	0.000	11507.48290	0.208	11479.95617	11519.31206	11523.18046
ZN	0.000	7.03000	6.813	0.07649	0.08594	0.07659
ZR	0.000	17.95666	28.884	0.00200	0.00158	0.00110

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 2

Date/Time: 11/03/2018 06:00

Sample Number: S1

ELEMENT	CONC (ppm)	AVERAGE			INTEGRATIONS		
		INTENSITY	% RSD	#1	#2	#3	
AL	50.000	5279.61134	0.622	22.94068	23.08340	23.22769	
CA	50.000	60997.42543	0.334	5.32420	5.32319	5.35452	
FE	50.000	14318.16519	0.216	1.25134	1.24980	1.25505	
K	50.000	14793.86300	0.104	64.61485	64.74935	64.68396	
MG	50.000	66547.43459	0.241	5.81054	5.81183	5.83549	
NA	50.000	35763.91725	0.151	3.12249	3.12778	3.13191	
S	50.000	4806.91333	0.293	1.11202	1.10580	1.10731	
SI	50.000	7678.81143	0.465	0.66993	0.66944	0.67507	
Y1	50.000	4336.91333	0.485	4313.92500	4341.60000	4355.21500	
Y2R	50.000	11435.69611	0.286	11418.61394	11473.43438	11415.04000	

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 3

Date/Time: 11/03/2018 06:02

Sample Number: S2

ELEMENT	CONC (ppm)	AVERAGE			INTEGRATIONS		
		INTENSITY	% RSD	#1	#2	#3	
AG	1.000	10682.83016	0.632	3.94770	3.91809	3.96761	
AS	1.000	156.59630	1.271	1.82627	1.79411	1.78198	
B	1.000	7804.06182	0.044	0.05766	0.05762	0.05761	
BA	1.000	367060.59840	0.429	2.71964	2.69749	2.71476	
BE	1.000	354831.16955	0.475	131.64470	130.39981	131.00444	
CD	1.000	6403.09605	0.174	73.77493	73.59729	73.52624	
CO	1.000	3001.00768	0.233	34.60244	34.45344	34.47494	
CU	1.000	13651.48204	0.454	5.06694	5.02907	5.02580	
LI	1.000	9527.90936	1.464	0.81462	0.83871	0.82897	
MN	1.000	48819.04833	0.135	18.04903	18.00044	18.02728	
NI	1.000	1933.44781	0.413	22.33242	22.21836	22.15064	
P	1.000	174.01454	0.426	0.04012	0.04012	0.03983	
PB	1.000	543.80918	0.518	6.28240	6.25980	6.21852	
SE	1.000	128.11667	0.352	1.47902	1.47190	1.46893	
SR	1.000	522185.04089	0.636	3.87824	3.82979	3.86057	
TH	1.000	123.68839	3.251	0.01040	0.01110	0.01072	
TL	1.000	152.34774	0.619	1.74244	1.76375	1.74961	
W	1.000	558.64701	0.190	0.12861	0.12820	0.12864	
Y1	1.000	4347.98990	0.041	4349.01119	4345.94203	4349.01648	
Y2A	1.000	135416.46079	0.371	134887.30270	135886.24550	135475.83417	
Y2R	1.000	11515.87857	0.812	11620.87156	11441.52170	11485.24247	
ZN	1.000	4331.92723	0.317	49.96222	49.83550	49.64815	

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 4

Date/Time: 11/03/2018 06:05

Sample Number: S3

ELEMENT	CONC (ppm)	AVERAGE INTENSITY	% RSD	INTEGRATIONS		
				#1	#2	#3
CR	1.000	9605.45541	0.274	0.07072	0.07059	0.07034
MO	1.000	1083.57367	0.464	12.37436	12.32212	12.26008
SB	1.000	340.54667	0.396	0.07761	0.07761	0.07708
SN	1.000	382.88000	0.379	4.37150	4.34029	4.34673
TI	1.000	42972.47970	0.269	15.79819	15.81399	15.73392
V	1.000	10974.00507	0.306	4.01625	4.03531	4.03934
Y1	1.000	4398.08667	0.437	4377.21500	4402.00500	4415.04000
Y2A	1.000	136143.87288	0.125	136244.68531	135947.06294	136239.87039
Y2R	1.000	11565.23733	0.250	11560.89859	11538.78467	11596.02874
ZR	1.000	2324.78976	0.761	0.19933	0.20139	0.20232

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 5

Date/Time: 11/03/2018 06:08

Sample Number: **ICV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.60327	6,610.43	0.480	0.59994	0.60517	0.60469
___ AL	29.88980	3,246.66	0.156	29.85917	29.86681	29.94341
___ AS	0.60704	95.64	1.910	0.59931	0.60143	0.62037
___ B	0.59008	4,912.30	0.529	0.58649	0.59159	0.59216
___ BA	0.60023	225,469.43	1.312	0.59308	0.59892	0.60867
___ BE	0.58264	211,172.90	0.646	0.57846	0.58369	0.58576
___ CA	29.89064	37,419.06	0.546	29.86499	30.06518	29.74173
___ CD	0.61146	3,969.47	0.214	0.61121	0.61030	0.61288
___ CO	0.60227	1,824.93	0.396	0.60020	0.60175	0.60488
___ CR	0.59374	5,792.34	0.520	0.59018	0.59532	0.59571
___ CU	0.61051	8,498.14	0.374	0.60806	0.61090	0.61257
___ FE	29.88564	8,797.66	0.413	29.80668	30.02792	29.82232
___ K	29.65818	9,043.12	0.860	29.56241	29.94714	29.46500
___ LI	0.60397	5,804.60	0.191	0.60530	0.60319	0.60343
___ MG	29.97090	40,878.20	0.499	29.93746	30.13423	29.84102
___ MN	0.60188	30,067.73	0.786	0.59661	0.60327	0.60576
___ MO	0.60706	655.54	0.017	0.60696	0.60707	0.60716
___ NA	28.02138	20,114.80	0.285	28.05859	28.07599	27.92955
___ NI	0.60588	1,184.38	0.178	0.60513	0.60538	0.60711
___ P	0.60049	105.20	0.929	0.60055	0.59488	0.60604
___ PB	0.59863	334.08	0.328	0.59867	0.59664	0.60057
___ S	30.31892	2,945.68	0.323	30.22891	30.30462	30.42324
___ SB	0.63597	216.19	0.494	0.63568	0.63298	0.63925
___ SE	0.59897	77.79	0.780	0.60012	0.60296	0.59383
___ SI	29.96262	4,723.63	0.471	29.95144	30.10899	29.82742
___ SN	0.60633	232.86	0.517	0.60364	0.60558	0.60977
___ SR	0.60978	326,316.74	0.672	0.60549	0.61020	0.61365
___ TH	0.62920	80.49	3.554	0.60795	0.65253	0.62713
___ TI	0.60697	26,677.86	0.766	0.60162	0.61005	0.60924
___ TL	0.61230	92.98	1.163	0.61324	0.61890	0.60475
___ V	0.60649	6,793.35	0.789	0.60115	0.60794	0.61039
___ W	0.60613	344.00	0.450	0.60758	0.60298	0.60782
___ Y1	4385.10833	4,385.11	0.410	4405.34000	4378.94000	4371.04500
___ Y2A	138553.64959	138,553.65	0.746	139737.14514	138098.48364	137825.32000
___ Y2R	11711.46764	11,711.47	0.657	11726.25899	11628.20973	11779.93421
___ ZN	0.60579	2,661.79	0.166	0.60463	0.60640	0.60634
___ ZR	0.62234	1,546.29	1.793	0.62342	0.63292	0.61068



## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 6

Date/Time: 11/03/2018 06:10

Sample Number: ICB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00049	-48.30	205.796	0.00067	-0.00097	-0.00118
___ AL	-0.01435	19.79	71.038	-0.00842	-0.02613	-0.00851
___ AS	0.00362	-1.03	103.873	0.00000	0.00335	0.00750
___ B	0.00332	33.43	15.333	0.00339	0.00278	0.00379
___ BA	0.00001	144.33	342.663	0.00004	0.00001	-0.00003
___ BE	-0.00095	-691.82	2.277	-0.00093	-0.00097	-0.00095
___ CA	0.01193	70.72	59.867	0.01769	0.01417	0.00394
___ CD	0.00002	-12.73	1541.814	-0.00029	0.00015	0.00019
___ CO	-0.00004	-1.83	1102.195	-0.00060	0.00025	0.00021
___ CR	0.00277	-1.32	10.434	0.00246	0.00303	0.00284
___ CU	0.00160	-69.66	69.449	0.00043	0.00173	0.00264
___ FE	0.01235	1.93	43.132	0.01643	0.01430	0.00632
___ K	-0.00665	137.04	1178.283	-0.00507	0.07087	-0.08575
___ LI	0.01532	2.92	12.228	0.01407	0.01747	0.01441
___ MG	0.00346	-4.11	89.665	0.00401	0.00624	0.00012
___ MN	0.00000	11.86	5624.707	0.00007	-0.00001	-0.00006
___ MO	0.00006	-0.77	558.256	-0.00011	0.00041	-0.00013
___ NA	0.03363	-909.48	83.460	0.05568	0.04318	0.00203
___ NI	-0.00004	13.21	860.982	-0.00023	-0.00023	0.00035
___ P	-0.00186	-0.79	219.411	-0.00122	-0.00623	0.00187
___ PB	-0.00047	-3.06	772.387	0.00268	0.00035	-0.00445
___ S	0.00819	0.86	85.920	0.01494	0.00871	0.00091
___ SB	-0.00191	0.37	130.827	-0.00005	-0.00474	-0.00093
___ SE	-0.00433	1.35	79.574	-0.00706	-0.00046	-0.00547
___ SI	0.05876	10.75	50.084	0.08504	0.06427	0.02696
___ SN	-0.00093	3.21	137.827	0.00031	-0.00225	-0.00085
___ SR	0.00009	8.86	5.868	0.00009	0.00010	0.00010
___ TH	-0.02404	-6.70	26.842	-0.01959	-0.02108	-0.03144
___ TI	0.00009	63.32	322.989	0.00010	-0.00020	0.00036
___ TL	0.00242	-2.09	210.421	0.00321	-0.00302	0.00706
___ V	-0.00039	8.76	109.239	0.00010	-0.00063	-0.00063
___ W	-0.00182	5.87	33.863	-0.00140	-0.00253	-0.00154
___ Y1	4431.46833	4,431.47	0.122	4434.60500	4434.59000	4425.21000
___ Y2A	138051.61939	138,051.62	0.116	137938.57000	138235.38000	137980.90818
___ Y2R	11695.88103	11,695.88	0.425	11693.08765	11647.65235	11746.90310
___ ZN	-0.00058	4.52	34.805	-0.00035	-0.00070	-0.00070
___ ZR	0.00248	21.23	176.510	0.00087	-0.00087	0.00743

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 7

Date/Time: 11/03/2018 06:13

Sample Number: LLC

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00983	-27.80	6.522	0.00985	0.00917	0.01045
___ AL	0.36154	65.54	13.712	0.41635	0.34841	0.31984
___ AS	0.05136	6.67	16.708	0.04150	0.05545	0.05714
___ B	0.05030	409.49	0.864	0.04985	0.05032	0.05072
___ BA	0.00483	1,950.30	1.662	0.00490	0.00485	0.00475
___ BE	0.00397	1,085.19	1.188	0.00395	0.00402	0.00393
___ CA	0.55303	740.42	3.611	0.57530	0.54707	0.53672
___ CD	0.00497	19.84	2.343	0.00484	0.00505	0.00503
___ CO	0.00475	12.88	16.446	0.00425	0.00565	0.00435
___ CR	0.01751	142.77	3.905	0.01828	0.01697	0.01728
___ CU	0.02157	387.53	1.464	0.02123	0.02184	0.02165
___ FE	0.22620	65.38	9.446	0.24201	0.23470	0.20189
___ K	0.50628	291.80	22.585	0.60534	0.53233	0.38116
___ LI	0.06758	518.19	6.183	0.06714	0.06364	0.07197
___ MG	0.12334	159.90	15.680	0.14180	0.12498	0.10323
___ MN	0.01008	513.85	1.690	0.01022	0.01013	0.00989
___ MO	0.01059	10.73	5.048	0.01017	0.01041	0.01119
___ NA	0.91117	-251.87	2.227	0.91498	0.92929	0.88924
___ NI	0.01047	33.71	5.413	0.00988	0.01101	0.01051
___ P	0.09397	16.23	5.061	0.09563	0.08861	0.09768
___ PB	0.01743	6.98	21.541	0.02171	0.01583	0.01473
___ S	0.51332	50.35	3.268	0.52155	0.52438	0.49401
___ SB	0.04532	16.47	2.897	0.04392	0.04553	0.04652
___ SE	0.04585	7.77	14.289	0.04130	0.04288	0.05335
___ SI	0.53556	86.42	2.413	0.54870	0.52286	0.53512
___ SN	0.05061	22.89	2.408	0.05186	0.04942	0.05054
___ SR	0.00496	2,612.17	0.727	0.00492	0.00499	0.00496
___ TH	0.49289	60.32	4.196	0.48073	0.48117	0.51677
___ TI	0.01047	517.45	0.942	0.01046	0.01057	0.01037
___ TL	0.02906	2.09	10.438	0.02692	0.03253	0.02773
___ V	0.00979	130.33	6.689	0.00929	0.00955	0.01053
___ W	0.02714	22.07	7.655	0.02908	0.02739	0.02495
___ Y1	4427.05167	4,427.05	0.337	4433.49000	4410.01500	4437.65000
___ Y2A	138182.24147	138,182.24	0.311	138418.73627	137685.42663	138442.56149
___ Y2R	11733.80230	11,733.80	0.427	11681.70659	11781.64835	11738.05195
___ ZN	0.01951	92.86	1.376	0.01982	0.01938	0.01933
___ ZR	0.05439	204.01	5.601	0.05680	0.05541	0.05097

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 8

Date/Time: 11/03/2018 06:16

Sample Number: **ICSA**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	-0.00687	-128.59	4.601	-0.00722	-0.00680	-0.00660
___ AL	484.29620	51,693.58	0.268	482.80816	484.87203	485.20841
___ AS	0.00885	0.37	21.132	0.00880	0.01074	0.00701
___ B	-0.01631	1,073.74	8.506	-0.01644	-0.01487	-0.01763
___ BA	0.00094	461.52	5.254	0.00099	0.00090	0.00091
___ BE	-0.00135	-789.08	1.315	-0.00136	-0.00133	-0.00136
___ CA	485.61775	560,811.41	0.745	481.45592	488.02089	487.37644
___ CD	-0.00305	121.65	11.934	-0.00318	-0.00334	-0.00264
___ CO	-0.00057	-3.10	133.101	-0.00034	0.00005	-0.00141
___ CR	0.00347	5.15	16.852	0.00409	0.00293	0.00340
___ CU	-0.00080	88.34	57.634	-0.00126	-0.00080	-0.00034
___ FE	190.81483	52,358.20	0.372	190.00795	191.09237	191.34415
___ K	-0.07473	112.35	166.620	-0.12823	-0.16355	0.06759
___ LI	0.01395	53.09	27.623	0.00953	0.01662	0.01570
___ MG	483.24718	623,129.74	0.623	479.90447	484.09841	485.73868
___ MN	0.00453	223.38	2.048	0.00444	0.00462	0.00452
___ MO	-0.00536	-6.10	21.690	-0.00402	-0.00602	-0.00604
___ NA	-0.03085	-922.29	73.947	-0.03063	-0.05378	-0.00815
___ NI	0.00772	24.92	13.024	0.00670	0.00871	0.00774
___ P	0.02231	3.20	17.625	0.02685	0.02026	0.01983
___ PB	-0.00301	56.67	82.058	-0.00055	-0.00550	-0.00299
___ S	0.13599	12.23	1.596	0.13660	0.13779	0.13358
___ SB	0.00285	1.50	235.750	0.00266	0.00965	-0.00377
___ SE	-0.00898	-1.45	189.588	0.00645	-0.02724	-0.00615
___ SI	-0.01541	-0.76	34.456	-0.00949	-0.01699	-0.01975
___ SN	0.01014	6.80	26.544	0.00829	0.01323	0.00890
___ SR	-0.00219	7,142.21	4.000	-0.00209	-0.00222	-0.00226
___ TH	0.03506	17.31	84.091	0.06134	0.00318	0.04066
___ TI	0.00475	249.57	2.977	0.00491	0.00468	0.00466
___ TL	0.01181	-0.56	95.975	0.02061	0.01579	-0.00098
___ V	0.00171	60.00	26.897	0.00219	0.00127	0.00167
___ W	0.00387	8.28	81.202	0.00554	0.00025	0.00583
___ Y1	4045.66167	4,045.66	0.148	4038.76000	4049.06500	4049.16000
___ Y2A	130016.36196	130,016.36	0.265	129661.05463	130348.34033	130039.69093
___ Y2R	11261.99424	11,261.99	0.127	11277.98604	11257.66700	11250.32967
___ ZN	0.00563	102.08	2.384	0.00557	0.00579	0.00554
___ ZR	0.00244	27.05	185.160	-0.00147	0.00740	0.00140

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 9

Date/Time: 11/03/2018 06:19

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.49084	5,332.59	0.282	0.49179	0.48925	0.49147
___ AL	24.69601	2,657.31	0.382	24.80346	24.65758	24.62699
___ AS	0.49672	77.74	1.286	0.49533	0.49115	0.50369
___ B	0.48092	3,980.39	0.254	0.48224	0.47983	0.48069
___ BA	0.49167	183,478.60	0.525	0.49450	0.48944	0.49108
___ BE	0.47813	172,064.38	0.142	0.47860	0.47735	0.47843
___ CA	24.72562	30,655.58	0.219	24.70702	24.68323	24.78659
___ CD	0.49750	3,217.61	0.357	0.49952	0.49619	0.49678
___ CO	0.49422	1,492.57	0.446	0.49676	0.49289	0.49300
___ CR	0.48829	4,726.53	0.265	0.48974	0.48726	0.48788
___ CU	0.50189	6,923.64	0.706	0.50450	0.49785	0.50330
___ FE	24.76667	7,221.90	0.234	24.76065	24.71201	24.82736
___ K	24.83605	7,516.76	0.541	24.95483	24.69006	24.86324
___ LI	0.50307	4,760.15	0.936	0.50119	0.49959	0.50843
___ MG	24.75991	33,425.58	0.182	24.78136	24.70803	24.79033
___ MN	0.49304	24,466.85	0.222	0.49430	0.49232	0.49250
___ MO	0.49883	536.85	0.284	0.49984	0.49943	0.49721
___ NA	24.41013	17,221.25	0.507	24.45261	24.27077	24.50702
___ NI	0.49487	966.77	0.139	0.49542	0.49509	0.49410
___ P	0.49326	86.07	1.499	0.49666	0.49834	0.48478
___ PB	0.48980	272.04	1.384	0.49720	0.48389	0.48829
___ S	24.54655	2,377.46	0.344	24.59881	24.59164	24.44920
___ SB	0.50536	171.47	0.818	0.50805	0.50060	0.50742
___ SE	0.49651	64.60	0.990	0.49620	0.49176	0.50158
___ SI	24.65799	3,847.25	0.469	24.78738	24.56464	24.62194
___ SN	0.49407	189.81	0.296	0.49543	0.49252	0.49425
___ SR	0.49613	263,709.54	0.303	0.49477	0.49587	0.49774
___ TH	0.51504	64.59	3.846	0.53625	0.49703	0.51183
___ TI	0.50026	21,849.06	0.158	0.49981	0.49979	0.50117
___ TL	0.49245	74.07	0.703	0.49273	0.48886	0.49577
___ V	0.50020	5,567.55	0.272	0.50154	0.49882	0.50023
___ W	0.49704	282.43	0.352	0.49764	0.49506	0.49841
___ Y1	4371.51000	4,371.51	0.570	4343.00500	4389.17000	4382.35500
___ Y2A	137617.01252	137,617.01	0.145	137438.05628	137831.75000	137581.23129
___ Y2R	11589.75365	11,589.75	0.142	11573.30610	11589.64243	11606.31243
___ ZN	0.49676	2,177.27	0.493	0.49928	0.49662	0.49439
___ ZR	0.50404	1,243.51	0.997	0.50488	0.49865	0.50859

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 10

Date/Time: 11/03/2018 06:21

Sample Number: CCB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00045	-49.97	112.986	-0.00097	0.00005	-0.00044
___ AL	0.03177	24.56	253.225	-0.05042	0.03539	0.11034
___ AS	0.00149	-1.36	178.324	0.00237	0.00358	-0.00149
___ B	0.00260	27.64	10.911	0.00230	0.00287	0.00262
___ BA	-0.00001	135.59	439.977	-0.00007	0.00000	0.00003
___ BE	-0.00098	-699.46	4.416	-0.00098	-0.00093	-0.00102
___ CA	0.02968	91.53	16.990	0.02449	0.02999	0.03456
___ CD	0.00017	-11.71	156.178	0.00008	0.00046	-0.00004
___ CO	0.00005	-1.54	707.683	0.00045	-0.00018	-0.00012
___ CR	0.00293	0.23	3.044	0.00300	0.00297	0.00283
___ CU	0.00181	-62.01	83.506	0.00349	0.00142	0.00054
___ FE	0.01391	2.36	64.973	0.01683	0.02112	0.00377
___ K	-0.01648	132.42	595.052	-0.06286	-0.08272	0.09615
___ LI	0.01748	23.92	3.281	0.01811	0.01736	0.01698
___ MG	0.02575	25.98	9.998	0.02280	0.02688	0.02757
___ MN	0.00010	16.71	87.467	0.00000	0.00015	0.00015
___ MO	0.00118	0.46	23.264	0.00129	0.00138	0.00087
___ NA	0.02993	-900.52	76.013	0.05591	0.02024	0.01362
___ NI	-0.00083	11.63	93.183	-0.00006	-0.00082	-0.00160
___ P	0.00102	-0.28	218.899	0.00260	0.00198	-0.00153
___ PB	0.00060	-2.45	125.918	0.00123	0.00079	-0.00023
___ S	0.01140	1.17	39.366	0.00646	0.01522	0.01251
___ SB	-0.00394	-0.33	149.629	0.00286	-0.00709	-0.00758
___ SE	-0.00079	1.79	682.176	0.00218	-0.00703	0.00247
___ SI	0.02098	4.74	42.432	0.03123	0.01529	0.01641
___ SN	-0.00036	3.42	128.773	0.00013	-0.00078	-0.00042
___ SR	0.00008	2.46	23.903	0.00010	0.00006	0.00009
___ TH	-0.01147	-5.01	99.979	-0.02416	-0.00836	-0.00188
___ TI	0.00016	66.18	126.891	0.00006	0.00039	0.00003
___ TL	0.00138	-2.25	299.287	0.00351	0.00402	-0.00338
___ V	0.00010	14.26	412.292	0.00032	-0.00039	0.00037
___ W	-0.00391	4.69	19.465	-0.00472	-0.00320	-0.00381
___ Y1	4415.27000	4,415.27	0.275	4407.08500	4429.20500	4409.52000
___ Y2A	137416.03854	137,416.04	0.156	137476.30530	137593.65285	137178.15747
___ Y2R	11545.10263	11,545.10	0.669	11468.28343	11622.76723	11544.25723
___ ZN	-0.00040	5.29	49.386	-0.00039	-0.00060	-0.00021
___ ZR	0.00291	23.41	53.463	0.00267	0.00458	0.00149

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 11

Date/Time: 11/03/2018 06:24

Sample Number: **PBS**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.00

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00053	-50.63	155.832	-0.00062	0.00034	-0.00130
___ AL	0.07542	29.68	64.302	0.05553	0.04003	0.13070
___ AS	0.00622	-0.61	75.870	0.01054	0.00118	0.00693
___ B	0.00718	64.42	5.555	0.00734	0.00672	0.00746
___ BA	0.00025	232.16	23.185	0.00027	0.00029	0.00018
___ BE	-0.00099	-705.21	2.637	-0.00102	-0.00098	-0.00097
___ CA	0.10765	191.35	8.141	0.09979	0.10606	0.11710
___ CD	0.00006	-12.45	368.710	0.00010	-0.00017	0.00025
___ CO	0.00045	-0.30	83.005	0.00012	0.00086	0.00038
___ CR	0.00283	-0.74	27.370	0.00278	0.00209	0.00364
___ CU	0.00256	-52.87	19.392	0.00300	0.00202	0.00264
___ FE	0.03285	8.03	25.781	0.02311	0.03693	0.03851
___ K	0.01770	145.11	528.245	0.09431	0.04526	-0.08648
___ LI	0.01621	11.78	1.338	0.01598	0.01623	0.01641
___ MG	0.03761	42.70	4.269	0.03576	0.03836	0.03870
___ MN	0.00032	27.55	14.622	0.00037	0.00029	0.00029
___ MO	0.00078	0.02	55.249	0.00039	0.00070	0.00124
___ NA	-0.02125	-955.50	228.811	-0.02188	0.02768	-0.06954
___ NI	-0.00032	12.66	137.008	0.00019	-0.00055	-0.00061
___ P	0.01297	1.84	12.139	0.01126	0.01327	0.01437
___ PB	-0.00166	-3.71	106.707	0.00010	-0.00345	-0.00163
___ S	0.01671	1.70	40.157	0.01432	0.02429	0.01152
___ SB	-0.00495	-0.67	113.462	-0.00639	-0.00971	0.00124
___ SE	-0.00717	0.98	83.413	-0.00750	-0.01298	-0.00103
___ SI	0.01025	3.18	132.342	0.00119	0.02583	0.00371
___ SN	0.01192	8.12	18.201	0.01404	0.00970	0.01202
___ SR	0.00046	203.98	7.291	0.00046	0.00042	0.00049
___ TH	-0.01355	-5.37	153.631	-0.03135	0.00933	-0.01861
___ TI	0.00078	93.30	20.797	0.00071	0.00066	0.00096
___ TL	-0.00067	-2.58	338.791	-0.00146	0.00188	-0.00243
___ V	-0.00030	9.83	160.184	-0.00018	0.00011	-0.00083
___ W	-0.00424	4.61	31.463	-0.00270	-0.00506	-0.00495
___ Y1	4430.87333	4,430.87	0.158	4428.80500	4438.68000	4425.13500
___ Y2A	137860.77295	137,860.77	0.294	138328.19000	137635.21183	137618.91703
___ Y2R	11755.23695	11,755.24	0.259	11756.66800	11724.05783	11784.98501
___ ZN	0.01180	58.74	1.221	0.01194	0.01166	0.01181
___ ZR	0.00207	21.59	126.327	0.00157	-0.00026	0.00489

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 12

Date/Time: 11/03/2018 06:27

Sample Number: **LCSW**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.00

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.04695	445.28	0.548	0.04669	0.04720	0.04697
___ AL	2.17802	266.11	0.982	2.19003	2.19071	2.15331
___ AS	0.15605	24.38	1.134	0.15776	0.15618	0.15422
___ B	1.95959	15,670.08	0.454	1.95156	1.96917	1.95805
___ BA	1.97626	739,315.81	0.059	1.97598	1.97754	1.97524
___ BE	0.04912	17,265.33	0.333	0.04900	0.04931	0.04906
___ CA	4.32585	5,443.08	0.073	4.32696	4.32831	4.32226
___ CD	0.05234	327.39	0.408	0.05259	0.05221	0.05223
___ CO	0.51790	1,575.71	0.384	0.51982	0.51803	0.51585
___ CR	0.20372	1,961.41	0.222	0.20424	0.20346	0.20346
___ CU	0.25372	3,499.50	1.089	0.25495	0.25566	0.25055
___ FE	1.09326	320.57	0.248	1.09622	1.09089	1.09268
___ K	9.92878	3,106.63	1.886	10.14500	9.82127	9.82006
___ LI	1.00741	9,721.74	0.372	1.01114	1.00743	1.00365
___ MG	2.17994	2,955.53	0.155	2.18203	2.18175	2.17603
___ MN	0.51204	25,487.21	0.166	0.51112	0.51280	0.51221
___ MO	2.04051	2,208.67	0.318	2.04729	2.03989	2.03435
___ NA	9.43276	6,124.04	0.281	9.41909	9.46328	9.41592
___ NI	0.52240	1,026.39	0.251	0.52225	0.52378	0.52117
___ P	1.04856	184.32	0.411	1.04374	1.04994	1.05202
___ PB	0.15316	82.13	1.235	0.15522	0.15277	0.15150
___ S	1.05994	102.71	0.525	1.05741	1.05609	1.06632
___ SB	0.53466	180.15	0.577	0.53623	0.53664	0.53110
___ SE	0.15713	21.97	1.533	0.15988	0.15612	0.15539
___ SI	1.01336	181.41	2.494	1.00293	0.99497	1.04218
___ SN	4.05568	1,539.76	0.427	4.07465	4.05160	4.04078
___ SR	1.00985	537,625.83	0.346	1.00774	1.00793	1.01388
___ TH	0.52010	63.53	6.072	0.51978	0.48869	0.55184
___ TI	1.01443	44,206.47	0.380	1.01020	1.01773	1.01535
___ TL	0.14947	21.14	1.416	0.15182	0.14772	0.14887
___ V	0.50742	5,513.39	0.274	0.50900	0.50690	0.50637
___ W	0.20574	123.57	0.532	0.20503	0.20518	0.20700
___ Y1	4391.62833	4,391.63	0.219	4381.12000	4399.94000	4393.82500
___ Y2A	138037.63903	138,037.64	0.313	137984.43311	137635.10000	138493.38397
___ Y2R	11661.20971	11,661.21	0.380	11610.06177	11688.90217	11684.66521
___ ZN	0.52137	2,283.05	0.284	0.52308	0.52057	0.52046
___ ZR	1.00732	2,422.31	0.845	1.01460	1.00942	0.99795

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 13

Date/Time: 11/03/2018 06:29

Sample Number: **9867762**

Class: U\*\*\*

Batch: 182991063702

Initial Vol: 1.24

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.06817	671.64	1.785	0.06679	0.06862	0.06910
___ AL	55.70323	6,212.49	0.401	55.96088	55.57515	55.57367
___ AS	0.14713	23.60	3.485	0.14263	0.15271	0.14606
___ B	0.21296	4,717.29	0.951	0.21141	0.21221	0.21525
___ BA	6.69574	2,558,848.24	0.310	6.69457	6.67559	6.71705
___ BE	0.00355	862.24	0.872	0.00359	0.00353	0.00354
___ CA	56.78262	73,086.58	0.285	56.94901	56.62540	56.77343
___ CD	0.03743	616.89	0.622	0.03732	0.03726	0.03769
___ CO	0.11828	374.98	0.685	0.11905	0.11835	0.11743
___ CR	0.56186	5,577.89	0.320	0.56190	0.56004	0.56363
___ CU	6.03654	84,420.13	0.250	6.02946	6.02631	6.05384
___ FE	439.29093	122,879.86	0.313	440.87210	438.39513	438.60557
___ K	8.35277	2,729.11	0.993	8.27032	8.35177	8.43621
___ LI	0.05066	517.42	6.568	0.05343	0.04697	0.05158
___ MG	13.76036	19,356.62	0.387	13.82045	13.71874	13.74189
___ MN	3.31510	168,522.45	0.345	3.32066	3.30195	3.32268
___ MO	0.04463	48.14	1.551	0.04491	0.04384	0.04514
___ NA	3.68183	1,886.84	0.920	3.65134	3.67584	3.71831
___ NI	0.65576	1,299.45	0.858	0.65996	0.64937	0.65795
___ P	15.73364	2,809.54	0.445	15.78091	15.65318	15.76683
___ PB	8.42958	4,768.41	0.076	8.43022	8.42284	8.43567
___ S	10.65380	1,051.13	0.065	10.64590	10.65847	10.65703
___ SB	0.10830	38.46	5.524	0.11500	0.10637	0.10351
___ SE	0.04416	2.18	22.616	0.03334	0.05302	0.04612
___ SI	15.09354	2,461.89	0.352	15.11706	15.03269	15.13087
___ SN	1.97669	762.43	0.505	1.97860	1.96590	1.98557
___ SR	0.42960	234,660.33	0.305	0.42865	0.43110	0.42905
___ TH	0.10567	50.89	11.990	0.09782	0.09890	0.12029
___ TI	2.04608	91,031.54	0.264	2.04839	2.03991	2.04995
___ TL	0.00629	-1.51	82.983	0.01048	0.00045	0.00794
___ V	0.27846	3,285.08	0.281	0.27853	0.27764	0.27920
___ W	0.03459	84.97	3.855	0.03353	0.03609	0.03416
___ Y1	4450.94551	4,450.95	0.172	4452.70540	4457.58665	4442.54447
___ Y2A	141030.89576	141,030.90	0.049	141108.53123	141008.56117	140975.59488
___ Y2R	12074.30064	12,074.30	0.667	11981.44000	12115.46072	12126.00120
___ ZN	8.87233	39,255.27	0.066	8.87911	8.86901	8.86887
___ ZR	0.14384	378.11	1.248	0.14590	0.14263	0.14298



## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 14

Date/Time: 11/03/2018 06:32

Sample Number: **9867762**

Class: UP\*\*

Batch: 182991063702

Initial Vol: 1.24

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.08088	871.13	0.648	0.08141	0.08087	0.08036
___ AL	54.41500	6,060.38	0.554	54.15258	54.74466	54.34776
___ AS	0.64383	104.49	0.578	0.64431	0.64729	0.63989
___ B	0.39736	6,068.46	0.881	0.39466	0.40131	0.39610
___ BA	6.49138	2,469,820.13	0.132	6.49840	6.48180	6.49394
___ BE	0.02219	7,690.70	0.378	0.02211	0.02218	0.02227
___ CA	55.68118	71,560.54	0.469	55.48479	55.97782	55.58095
___ CD	0.08498	917.16	0.361	0.08480	0.08481	0.08533
___ CO	0.21104	662.84	0.557	0.21032	0.21240	0.21041
___ CR	0.72664	7,190.49	0.175	0.72531	0.72785	0.72675
___ CU	6.29272	87,599.52	0.121	6.28701	6.30140	6.28974
___ FE	421.26190	118,088.63	0.415	420.38812	423.27712	420.12045
___ K	9.86853	3,192.98	1.119	9.92306	9.94112	9.74141
___ LI	0.99595	10,082.83	0.303	0.99360	0.99935	0.99490
___ MG	14.08181	19,777.22	0.176	14.05642	14.08304	14.10598
___ MN	3.24892	164,430.28	0.226	3.24254	3.25696	3.24725
___ MO	0.23457	257.64	0.540	0.23599	0.23419	0.23354
___ NA	5.30198	3,136.49	0.466	5.27513	5.32370	5.30710
___ NI	0.77491	1,540.06	0.317	0.77281	0.77761	0.77430
___ P	16.20075	2,904.73	0.331	16.22623	16.23691	16.13912
___ PB	8.56740	4,863.09	0.066	8.57285	8.56782	8.56152
___ S	11.34712	1,123.75	0.230	11.37060	11.35180	11.31896
___ SB	0.51152	177.46	0.941	0.51231	0.50636	0.51590
___ SE	0.87372	109.18	1.064	0.87681	0.88108	0.86327
___ SI	15.03082	2,451.11	0.433	15.03138	15.09567	14.96542
___ SN	2.47648	958.19	0.240	2.48117	2.47849	2.46978
___ SR	0.43182	234,806.05	0.556	0.43345	0.42906	0.43293
___ TH	0.15097	55.17	15.597	0.14775	0.17597	0.12920
___ TI	2.05224	90,904.85	0.152	2.04951	2.05565	2.05154
___ TL	0.95451	148.91	0.694	0.95840	0.95826	0.94685
___ V	0.36554	4,241.86	0.438	0.36386	0.36704	0.36571
___ W	0.16364	156.14	1.466	0.16564	0.16098	0.16430
___ Y1	4469.06475	4,469.06	0.376	4465.78237	4454.14668	4487.26519
___ Y2A	140409.22484	140,409.22	0.082	140491.28697	140458.32000	140278.06755
___ Y2R	12054.85548	12,054.86	0.355	12071.75824	12006.16014	12086.64807
___ ZN	8.64284	38,398.83	0.502	8.65332	8.68000	8.59521
___ ZR	1.08540	2,646.89	0.385	1.08147	1.08979	1.08495

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 15

Date/Time: 11/03/2018 06:35

Sample Number: 9867765

Class: D\*\*\*

Batch: 182991063702

Initial Vol: 1.33

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.05387	494.32	1.208	0.05368	0.05459	0.05333
___ AL	43.17011	4,770.66	0.413	43.24920	42.96607	43.29506
___ AS	0.12770	20.60	1.859	0.12872	0.12499	0.12940
___ B	0.11583	4,071.05	2.997	0.11194	0.11692	0.11862
___ BA	4.67519	1,772,620.83	0.243	4.66622	4.68799	4.67136
___ BE	0.00339	795.48	0.858	0.00336	0.00339	0.00342
___ CA	39.07374	49,908.77	0.287	39.13352	38.94423	39.14348
___ CD	0.02583	565.73	0.891	0.02600	0.02593	0.02557
___ CO	0.10068	320.52	0.431	0.10019	0.10088	0.10098
___ CR	0.44065	4,333.86	0.543	0.43904	0.43951	0.44341
___ CU	5.00394	69,519.96	0.084	5.00682	4.99910	5.00588
___ FE	465.74068	128,331.90	0.177	466.36356	464.80814	466.05034
___ K	6.04210	1,994.69	0.457	6.01216	6.06662	6.04753
___ LI	0.06468	662.70	1.105	0.06488	0.06526	0.06388
___ MG	10.43298	14,536.49	0.150	10.41945	10.42935	10.45013
___ MN	2.90419	146,470.34	0.145	2.89944	2.90576	2.90739
___ MO	0.03989	43.09	0.738	0.04023	0.03976	0.03968
___ NA	2.53996	992.81	0.460	2.53941	2.52856	2.55191
___ NI	0.52463	1,044.91	0.278	0.52295	0.52526	0.52566
___ P	13.03493	2,335.26	0.171	13.03735	13.05589	13.01154
___ PB	7.99718	4,543.22	0.065	7.99691	8.00250	7.99212
___ S	7.81555	773.67	0.328	7.84314	7.79243	7.81108
___ SB	0.10349	36.63	1.737	0.10144	0.10423	0.10479
___ SE	0.03146	0.22	32.736	0.02764	0.02361	0.04312
___ SI	13.80355	2,229.99	0.132	13.79783	13.78886	13.82397
___ SN	1.80070	697.17	0.329	1.80534	1.80274	1.79403
___ SR	0.61274	331,299.38	0.634	0.61169	0.60948	0.61704
___ TH	0.13607	56.83	13.416	0.15604	0.12025	0.13190
___ TI	1.82432	80,530.16	0.055	1.82502	1.82317	1.82478
___ TL	0.00533	-1.67	114.262	0.01163	0.00486	-0.00051
___ V	0.27693	3,245.24	0.282	0.27631	0.27667	0.27780
___ W	0.02303	69.69	12.179	0.02291	0.02028	0.02589
___ Y1	4465.67774	4,465.68	0.226	4471.86844	4454.01438	4471.15039
___ Y2A	139918.03239	139,918.03	0.313	140251.83596	140079.16584	139423.09538
___ Y2R	11959.59470	11,959.59	0.345	11918.00159	12000.45872	11960.32381
___ ZN	7.50496	33,354.51	0.240	7.49367	7.52570	7.49552
___ ZR	0.11815	316.92	1.163	0.11656	0.11897	0.11891

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 16

Date/Time: 11/03/2018 06:37

Sample Number: 9867763

Class: R\*\*\*

Batch: 182991063702

Initial Vol: 1.11

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.10719	1,101.14	0.269	0.10694	0.10751	0.10714
___ AL	77.08524	8,596.43	0.476	76.70592	77.11112	77.43867
___ AS	0.28278	46.37	1.729	0.28536	0.28583	0.27714
___ B	2.15124	20,480.28	0.310	2.14487	2.15819	2.15065
___ BA	6.71394	2,569,871.88	0.191	6.71337	6.70141	6.72704
___ BE	0.05260	18,860.97	0.161	0.05251	0.05260	0.05268
___ CA	57.54670	73,922.85	0.571	57.26667	57.46506	57.90835
___ CD	0.10519	1,045.95	1.765	0.10733	0.10411	0.10412
___ CO	0.63203	1,956.66	1.092	0.63999	0.62772	0.62837
___ CR	0.80099	7,976.88	0.498	0.80219	0.80424	0.79654
___ CU	6.37378	89,322.44	0.084	6.37032	6.37993	6.37110
___ FE	425.71875	119,206.14	0.560	423.76362	425.01715	428.37549
___ K	20.69172	6,536.41	1.292	20.42449	20.69158	20.95910
___ LI	1.07021	10,834.55	0.190	1.06864	1.06950	1.07250
___ MG	16.46336	23,117.05	0.571	16.37465	16.45347	16.56195
___ MN	3.73686	190,261.37	0.214	3.72783	3.73979	3.74296
___ MO	2.03936	2,228.43	1.170	2.06684	2.02396	2.02727
___ NA	14.68892	10,393.24	0.650	14.57950	14.73208	14.75518
___ NI	1.21965	2,397.56	1.069	1.23470	1.21179	1.21247
___ P	16.16677	2,875.54	1.089	16.37002	16.07139	16.05890
___ PB	8.42599	4,748.56	1.048	8.52772	8.36913	8.38113
___ S	9.89280	971.72	1.203	10.03018	9.82785	9.82037
___ SB	0.58320	198.92	2.031	0.59542	0.57177	0.58240
___ SE	0.19749	22.13	5.541	0.18739	0.19595	0.20911
___ SI	30.79796	5,020.97	0.386	30.73341	30.72524	30.93522
___ SN	5.65635	2,166.52	0.942	5.71789	5.62598	5.62520
___ SR	1.44879	790,243.45	0.601	1.43901	1.45168	1.45569
___ TH	0.55261	109.06	3.879	0.53967	0.54081	0.57735
___ TI	3.67113	163,537.10	0.166	3.66480	3.67693	3.67167
___ TL	0.15474	22.04	1.221	0.15453	0.15296	0.15672
___ V	0.78221	8,882.17	0.246	0.78010	0.78387	0.78267
___ W	0.22009	185.13	2.641	0.22667	0.21797	0.21564
___ Y1	4433.68660	4,433.69	0.827	4391.57264	4450.86991	4458.61724
___ Y2A	141254.26088	141,254.26	0.269	141621.16000	140862.45016	141279.17250
___ Y2R	12052.68672	12,052.69	0.297	12067.69523	12078.49731	12011.86763
___ ZN	8.48460	37,413.87	0.776	8.55975	8.45668	8.43735
___ ZR	1.12478	2,789.95	0.416	1.12130	1.12293	1.13010

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 17

Date/Time: 11/03/2018 06:40

Sample Number: 9867764

Class: M\*\*\*

Batch: 182991063702

Initial Vol: 1.33

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.12257	1,227.47	0.358	0.12298	0.12263	0.12210
___ AL	92.95333	10,317.44	0.314	92.89525	92.69474	93.27000
___ AS	0.42733	70.54	0.207	0.42635	0.42757	0.42808
___ B	2.15706	23,001.95	0.271	2.15235	2.16360	2.15522
___ BA	7.61503	2,902,629.34	0.382	7.58450	7.64248	7.61812
___ BE	0.05379	19,197.22	0.058	0.05377	0.05383	0.05378
___ CA	75.47753	96,291.05	0.266	75.38516	75.33992	75.70752
___ CD	0.07442	1,169.51	2.642	0.07384	0.07661	0.07281
___ CO	0.65518	2,026.78	0.800	0.65299	0.66116	0.65138
___ CR	0.88498	8,779.67	0.820	0.87957	0.89323	0.88214
___ CU	7.07853	99,076.39	0.113	7.08610	7.07928	7.07022
___ FE	804.85640	206,571.14	0.280	804.22455	802.98283	807.36184
___ K	23.32428	7,312.06	0.721	23.19899	23.51547	23.25840
___ LI	1.07499	10,960.50	0.214	1.07234	1.07649	1.07614
___ MG	20.61444	28,794.51	0.179	20.62377	20.57375	20.64581
___ MN	5.09038	258,094.55	0.440	5.07846	5.07644	5.11623
___ MO	2.03011	2,208.46	0.696	2.02739	2.04540	2.01756
___ NA	25.64144	18,763.85	0.371	25.56943	25.60573	25.74916
___ NI	1.24441	2,432.90	0.842	1.23964	1.25641	1.23716
___ P	17.46001	3,091.77	0.778	17.42724	17.60931	17.34346
___ PB	10.85728	6,119.95	0.816	10.82208	10.95803	10.79172
___ S	11.50150	1,124.80	0.881	11.51109	11.59768	11.39574
___ SB	0.57609	195.13	0.693	0.57462	0.57304	0.58061
___ SE	0.22454	20.81	3.426	0.22301	0.21773	0.23288
___ SI	31.00243	5,042.42	0.297	31.00915	30.90718	31.09097
___ SN	8.75244	3,335.47	0.912	8.73066	8.84089	8.68577
___ SR	1.56631	851,047.37	0.985	1.57822	1.57183	1.54887
___ TH	0.60898	150.69	4.499	0.58667	0.63956	0.60070
___ TI	4.91200	217,877.42	0.026	4.91237	4.91058	4.91305
___ TL	0.14680	20.72	3.137	0.14461	0.14370	0.15209
___ V	0.85970	9,802.20	0.331	0.85820	0.85791	0.86298
___ W	0.21322	189.41	0.952	0.21556	0.21221	0.21189
___ Y1	4413.84715	4,413.85	0.745	4426.09912	4376.58734	4438.85500
___ Y2A	140667.13380	140,667.13	0.153	140900.22940	140475.02995	140626.14203
___ Y2R	11990.50711	11,990.51	0.241	11957.28834	12004.47836	12009.75464
___ ZN	9.83677	43,304.91	0.781	9.80608	9.92420	9.78004
___ ZR	1.21819	3,005.83	1.111	1.21613	1.20582	1.23264

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 18

Date/Time: 11/03/2018 06:43

Sample Number: **9867762**

Class: UL\*\*

Batch: 182991063702

Initial Vol: 1.24

Final Vol: 100.00

DF: 5.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.01390	95.55	4.869	0.01451	0.01317	0.01401
___ AL	11.37651	1,240.45	0.995	11.32943	11.29444	11.50566
___ AS	0.03719	4.66	27.938	0.04698	0.03831	0.02629
___ B	0.05799	1,033.88	1.304	0.05880	0.05788	0.05730
___ BA	1.36308	509,212.58	0.194	1.36148	1.36162	1.36613
___ BE	-0.00013	-414.58	24.541	-0.00017	-0.00012	-0.00010
___ CA	11.77917	14,762.63	0.150	11.76041	11.79559	11.78152
___ CD	0.00710	107.91	2.768	0.00703	0.00694	0.00732
___ CO	0.02403	74.52	1.873	0.02367	0.02454	0.02389
___ CR	0.11777	1,120.19	0.504	0.11731	0.11844	0.11755
___ CU	1.16840	15,904.72	0.262	1.16922	1.17098	1.16502
___ FE	85.34932	24,787.31	0.195	85.16655	85.38963	85.49179
___ K	1.65155	633.23	3.651	1.69428	1.58257	1.67779
___ LI	0.02351	112.68	4.467	0.02356	0.02454	0.02244
___ MG	2.81026	3,817.59	0.886	2.79624	2.79552	2.83901
___ MN	0.67501	33,544.96	0.206	0.67398	0.67658	0.67445
___ MO	0.00937	9.41	7.429	0.01003	0.00943	0.00864
___ NA	0.73166	-385.12	3.276	0.74299	0.70413	0.74786
___ NI	0.13394	275.11	0.226	0.13378	0.13374	0.13429
___ P	3.13177	556.84	0.429	3.14605	3.12989	3.11938
___ PB	1.71340	963.04	0.242	1.70861	1.71576	1.71581
___ S	2.08648	205.15	0.516	2.08555	2.09769	2.07620
___ SB	0.01835	7.36	3.355	0.01903	0.01782	0.01822
___ SE	0.00545	1.55	85.719	0.00614	0.00973	0.00047
___ SI	2.44919	388.10	0.408	2.45062	2.43857	2.45837
___ SN	0.40132	157.08	0.881	0.40499	0.40101	0.39794
___ SR	0.08535	45,536.78	0.209	0.08521	0.08555	0.08527
___ TH	0.02641	7.42	78.504	0.01259	0.01640	0.05026
___ TI	0.40456	17,638.49	0.201	0.40362	0.40492	0.40512
___ TL	0.00222	-2.13	113.445	0.00421	0.00307	-0.00061
___ V	0.05610	657.12	1.589	0.05697	0.05616	0.05519
___ W	0.00468	21.59	22.454	0.00361	0.00571	0.00473
___ Y1	4434.82748	4,434.83	0.261	4427.75167	4428.55502	4448.17573
___ Y2A	137832.42235	137,832.42	0.178	138103.05817	137771.71788	137622.49100
___ Y2R	11676.65004	11,676.65	0.152	11688.98305	11684.72833	11656.23875
___ ZN	1.83198	8,078.87	0.186	1.83310	1.83467	1.82815
___ ZR	0.02879	88.40	15.228	0.03334	0.02844	0.02459

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 19

Date/Time: 11/03/2018 06:45

Sample Number: **9866461**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.27

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00303	-99.63	49.235	-0.00473	-0.00244	-0.00193
___ AL	41.28460	4,566.00	0.349	41.15384	41.43896	41.26099
___ AS	0.02321	2.46	32.526	0.03140	0.02169	0.01654
___ B	0.06526	1,150.68	1.627	0.06647	0.06448	0.06484
___ BA	0.18593	70,565.23	0.327	0.18663	0.18551	0.18566
___ BE	0.00158	180.24	2.234	0.00159	0.00160	0.00154
___ CA	15.14066	19,433.98	0.402	15.07995	15.20168	15.14034
___ CD	-0.00015	67.13	288.315	-0.00048	-0.00031	0.00034
___ CO	0.05349	176.99	0.167	0.05343	0.05359	0.05345
___ CR	0.16189	1,572.47	0.347	0.16246	0.16188	0.16133
___ CU	0.08891	1,178.53	0.957	0.08977	0.08890	0.08807
___ FE	91.76451	27,290.44	0.321	91.50103	92.08247	91.71004
___ K	9.28238	2,991.16	0.929	9.35994	9.29759	9.18959
___ LI	0.09834	870.29	2.289	0.10093	0.09689	0.09720
___ MG	31.89082	44,462.33	0.342	31.81409	32.01561	31.84276
___ MN	0.74483	37,536.80	0.479	0.74893	0.74311	0.74243
___ MO	0.00139	0.70	19.773	0.00167	0.00112	0.00139
___ NA	2.13948	686.29	0.708	2.15132	2.14471	2.12242
___ NI	0.31036	629.71	0.452	0.31048	0.31170	0.30890
___ P	1.52626	275.45	0.463	1.53282	1.52717	1.51879
___ PB	0.11060	74.58	5.122	0.11486	0.11276	0.10417
___ S	8.06489	805.50	0.246	8.07936	8.07305	8.04226
___ SB	-0.00138	0.73	49.415	-0.00091	-0.00107	-0.00216
___ SE	0.00661	1.64	26.616	0.00641	0.00845	0.00496
___ SI	16.09917	2,594.95	0.304	16.04268	16.12847	16.12635
___ SN	0.02384	12.89	4.728	0.02254	0.02437	0.02460
___ SR	0.05144	27,966.46	0.320	0.05161	0.05143	0.05128
___ TH	0.05865	12.47	18.108	0.05051	0.05478	0.07067
___ TI	1.90691	84,078.54	0.403	1.91565	1.90119	1.90389
___ TL	0.00251	-2.19	249.092	-0.00164	0.00971	-0.00054
___ V	0.13060	1,525.71	0.875	0.13144	0.13107	0.12930
___ W	-0.00161	9.79	185.059	-0.00285	0.00179	-0.00377
___ Y1	4505.36167	4,505.36	0.270	4517.13500	4506.09000	4492.86000
___ Y2A	139783.05215	139,783.05	0.437	139080.15000	140187.46263	140081.54382
___ Y2R	11971.88660	11,971.89	0.032	11974.81053	11967.59832	11973.25095
___ ZN	0.56620	2,573.87	0.079	0.56572	0.56628	0.56659
___ ZR	0.03168	101.43	8.024	0.03062	0.03459	0.02985

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 20

Date/Time: 11/03/2018 06:48

Sample Number: **9866462**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.29

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00066	-74.13	133.403	0.00031	-0.00139	-0.00089
___ AL	62.48275	7,009.79	0.429	62.18034	62.68964	62.57827
___ AS	0.04483	6.08	8.422	0.04110	0.04865	0.04474
___ B	0.06715	1,374.65	0.832	0.06659	0.06771	0.06717
___ BA	0.68232	259,689.31	0.595	0.68198	0.68654	0.67844
___ BE	0.00237	433.71	0.916	0.00235	0.00239	0.00237
___ CA	76.19670	98,473.37	0.389	75.94894	76.11589	76.52527
___ CD	0.00743	143.83	0.464	0.00747	0.00740	0.00743
___ CO	0.07734	254.73	0.998	0.07687	0.07823	0.07692
___ CR	0.45197	4,460.79	0.184	0.45102	0.45235	0.45255
___ CU	0.55217	7,613.43	0.416	0.55099	0.55481	0.55070
___ FE	122.00711	36,597.45	0.374	121.49282	122.16602	122.36248
___ K	8.44590	2,774.24	0.966	8.53980	8.40569	8.39222
___ LI	0.10008	911.56	2.077	0.09774	0.10081	0.10170
___ MG	69.49259	98,169.30	0.254	69.30435	69.51829	69.65513
___ MN	1.32582	67,096.35	0.022	1.32551	1.32586	1.32608
___ MO	0.00619	6.02	16.233	0.00614	0.00521	0.00722
___ NA	2.36453	871.59	2.344	2.42666	2.34679	2.32013
___ NI	0.76513	1,529.95	0.265	0.76562	0.76685	0.76290
___ P	3.66333	659.66	0.094	3.66059	3.66220	3.66720
___ PB	0.67981	401.11	0.275	0.68114	0.67767	0.68061
___ S	25.79924	2,568.28	0.164	25.82047	25.82666	25.75061
___ SB	0.00786	4.50	25.281	0.00588	0.00784	0.00986
___ SE	-0.00242	0.09	580.467	-0.01077	-0.01025	0.01378
___ SI	16.88700	2,763.17	0.585	16.84633	16.81510	16.99957
___ SN	0.04922	22.68	2.698	0.04850	0.05075	0.04840
___ SR	0.13242	73,050.12	0.120	0.13244	0.13256	0.13225
___ TH	0.05621	15.12	50.774	0.08414	0.05740	0.02709
___ TI	2.55079	112,934.09	0.067	2.54885	2.55209	2.55141
___ TL	0.00091	-2.42	609.660	0.00150	-0.00489	0.00611
___ V	0.24732	2,871.68	0.342	0.24762	0.24637	0.24798
___ W	0.00031	20.01	254.105	-0.00054	0.00097	0.00048
___ Y1	4490.79273	4,490.79	0.094	4492.40292	4493.96526	4486.01000
___ Y2A	140385.08213	140,385.08	0.087	140264.90000	140381.80639	140508.54000
___ Y2R	12146.20505	12,146.21	0.289	12122.68639	12186.48000	12129.44877
___ ZN	1.93837	8,678.92	0.101	1.93622	1.94007	1.93883
___ ZR	0.04860	143.61	3.203	0.04681	0.04964	0.04935

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 21

Date/Time: 11/03/2018 06:50

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48896	5,329.89	0.444	0.48901	0.49111	0.48676
___ AL	24.51703	2,685.66	0.305	24.56983	24.43160	24.54967
___ AS	0.49470	78.24	1.217	0.49579	0.50010	0.48820
___ B	0.48815	4,049.61	0.628	0.48525	0.49136	0.48783
___ BA	0.48963	183,263.16	0.650	0.48596	0.49136	0.49156
___ BE	0.47817	172,596.47	0.121	0.47768	0.47881	0.47802
___ CA	24.65366	31,117.38	0.116	24.66127	24.62210	24.67761
___ CD	0.49765	3,252.91	0.063	0.49743	0.49800	0.49750
___ CO	0.49237	1,502.92	0.060	0.49216	0.49271	0.49224
___ CR	0.48999	4,757.13	1.002	0.48504	0.49486	0.49005
___ CU	0.50242	6,948.15	0.704	0.50266	0.50582	0.49877
___ FE	24.66705	7,322.51	0.122	24.70175	24.64858	24.65083
___ K	24.45211	7,536.00	0.264	24.50951	24.46443	24.38239
___ LI	0.49244	4,740.47	0.114	0.49179	0.49272	0.49280
___ MG	24.40823	33,544.65	0.091	24.39883	24.39224	24.43362
___ MN	0.49226	24,501.96	0.154	0.49235	0.49297	0.49147
___ MO	0.49685	540.43	0.335	0.49640	0.49545	0.49869
___ NA	24.09391	17,292.06	0.122	24.12198	24.06355	24.09621
___ NI	0.49509	977.56	0.320	0.49598	0.49326	0.49603
___ P	0.50392	88.88	1.187	0.51028	0.50306	0.49841
___ PB	0.48481	272.16	0.750	0.48062	0.48667	0.48713
___ S	24.61030	2,409.14	0.107	24.58530	24.63784	24.60777
___ SB	0.50776	174.13	1.242	0.51320	0.50924	0.50085
___ SE	0.49814	65.49	1.582	0.48904	0.50280	0.50257
___ SI	24.38251	3,872.88	0.117	24.35373	24.41065	24.38316
___ SN	0.49319	191.50	1.300	0.49759	0.49615	0.48584
___ SR	0.49208	262,347.09	0.283	0.49053	0.49320	0.49252
___ TH	0.50519	64.45	6.947	0.50306	0.54130	0.47121
___ TI	0.50021	21,912.29	0.459	0.50065	0.50225	0.49773
___ TL	0.49352	75.03	1.055	0.48801	0.49419	0.49835
___ V	0.50178	5,601.99	0.218	0.50052	0.50252	0.50228
___ W	0.49326	283.35	0.372	0.49293	0.49523	0.49161
___ Y1	4418.23333	4,418.23	0.071	4418.45500	4415.01000	4421.23500
___ Y2A	138031.34438	138,031.34	0.506	138777.78886	137392.08741	137924.15685
___ Y2R	11798.49235	11,798.49	0.282	11768.55321	11792.66348	11834.26037
___ ZN	0.49631	2,198.55	0.143	0.49553	0.49693	0.49646
___ ZR	0.50805	1,274.17	1.325	0.50970	0.50064	0.51379



## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 22

Date/Time: 11/03/2018 06:53

Sample Number: CCB

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00027	-49.06	30.821	-0.00017	-0.00031	-0.00032
___ AL	-0.01603	19.82	274.098	-0.05643	0.03075	-0.02242
___ AS	0.00551	-0.72	93.449	0.00480	0.01097	0.00075
___ B	0.00634	57.43	4.911	0.00647	0.00656	0.00598
___ BA	0.00036	272.55	22.298	0.00040	0.00027	0.00041
___ BE	-0.00101	-709.05	3.660	-0.00097	-0.00105	-0.00102
___ CA	0.01723	77.10	23.899	0.01746	0.01300	0.02122
___ CD	-0.00016	-13.92	20.874	-0.00015	-0.00014	-0.00020
___ CO	-0.00037	-2.83	119.054	0.00002	-0.00085	-0.00028
___ CR	0.00279	-1.17	17.451	0.00289	0.00226	0.00321
___ CU	0.00164	-62.02	37.959	0.00097	0.00173	0.00221
___ FE	0.05275	13.90	1.828	0.05353	0.05304	0.05167
___ K	-0.00912	136.55	1304.665	0.01129	-0.13693	0.09829
___ LI	0.01487	-1.45	12.009	0.01407	0.01691	0.01362
___ MG	0.01138	6.73	22.226	0.01387	0.01147	0.00881
___ MN	0.00032	27.57	22.718	0.00029	0.00026	0.00040
___ MO	0.00022	-0.59	183.514	0.00067	-0.00011	0.00010
___ NA	0.03740	-907.77	95.245	0.06227	-0.00341	0.05335
___ NI	0.00026	13.87	277.101	-0.00037	0.00010	0.00105
___ P	-0.00332	-1.06	11.882	-0.00305	-0.00377	-0.00313
___ PB	0.00146	-1.99	106.186	-0.00025	0.00277	0.00185
___ S	0.01585	1.62	54.653	0.00862	0.02545	0.01348
___ SB	-0.00859	-1.92	13.353	-0.00811	-0.00776	-0.00990
___ SE	-0.00763	0.93	103.901	-0.00535	-0.01645	-0.00109
___ SI	0.02570	5.57	84.250	0.03094	0.04425	0.00191
___ SN	-0.00186	2.87	61.954	-0.00289	-0.00209	-0.00061
___ SR	0.00011	16.54	16.645	0.00009	0.00012	0.00011
___ TH	-0.00535	-4.29	40.976	-0.00745	-0.00308	-0.00551
___ TI	0.00035	74.08	71.966	0.00038	0.00008	0.00058
___ TL	-0.00159	-2.74	112.733	0.00011	-0.00347	-0.00142
___ V	-0.00046	8.21	75.365	-0.00082	-0.00041	-0.00014
___ W	-0.00276	5.38	45.210	-0.00411	-0.00165	-0.00252
___ Y1	4452.78000	4,452.78	0.294	4457.51000	4462.84000	4437.99000
___ Y2A	136979.31707	136,979.32	0.334	137240.35928	136451.22902	137246.36291
___ Y2R	11711.31536	11,711.32	0.418	11767.09504	11691.05683	11675.79421
___ ZN	-0.00003	7.00	1110.341	0.00030	-0.00038	-0.00001
___ ZR	0.00073	19.36	122.984	0.00083	0.00159	-0.00021

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 23

Date/Time: 11/03/2018 06:56

Sample Number: **9866463**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.19

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00016	-69.35	955.257	0.00097	-0.00186	0.00042
___ AL	47.08007	5,160.89	0.517	47.05041	47.33684	46.85296
___ AS	0.08398	12.21	8.408	0.09175	0.07796	0.08224
___ B	0.10636	2,008.19	1.193	0.10624	0.10515	0.10768
___ BA	0.73770	276,125.86	0.028	0.73788	0.73775	0.73747
___ BE	0.00165	187.96	1.110	0.00163	0.00166	0.00166
___ CA	332.48496	410,281.00	1.087	328.56228	335.67854	333.21408
___ CD	0.00430	163.02	5.238	0.00433	0.00406	0.00451
___ CO	0.04427	147.68	0.094	0.04427	0.04424	0.04432
___ CR	0.16565	1,589.96	0.737	0.16689	0.16445	0.16562
___ CU	1.12670	15,366.97	0.422	1.12186	1.13138	1.12686
___ FE	173.73689	50,409.38	0.384	173.35011	174.50789	173.35268
___ K	9.43062	3,010.49	0.092	9.42899	9.42284	9.44004
___ LI	0.08540	762.43	3.186	0.08714	0.08226	0.08679
___ MG	170.13745	233,967.66	0.995	169.05854	172.08920	169.26460
___ MN	1.79707	89,441.38	0.268	1.79304	1.80241	1.79576
___ MO	0.00803	7.78	9.540	0.00732	0.00884	0.00793
___ NA	2.18214	712.92	1.525	2.21267	2.14665	2.18711
___ NI	0.16525	327.81	1.038	0.16587	0.16656	0.16330
___ P	4.24848	739.30	0.424	4.26292	4.25426	4.22827
___ PB	1.12216	633.09	0.522	1.12193	1.11642	1.12812
___ S	2.57897	248.13	0.238	2.57247	2.57975	2.58469
___ SB	0.01856	7.21	20.858	0.02275	0.01512	0.01780
___ SE	0.00286	0.13	185.593	0.00759	-0.00287	0.00385
___ SI	15.43097	2,468.90	0.467	15.37501	15.51233	15.40557
___ SN	0.24365	94.69	0.770	0.24469	0.24148	0.24477
___ SR	0.25482	141,660.50	0.309	0.25423	0.25572	0.25451
___ TH	0.04362	17.83	76.749	0.05997	0.00511	0.06579
___ TI	2.63678	114,814.50	0.325	2.63036	2.64653	2.63345
___ TL	0.00120	-2.31	330.474	0.00459	0.00214	-0.00314
___ V	0.18032	2,081.81	0.675	0.17904	0.18046	0.18146
___ W	-0.00086	19.02	300.806	-0.00140	-0.00313	0.00195
___ Y1	4339.41280	4,339.41	0.345	4329.95700	4331.61574	4356.66567
___ Y2A	138070.30737	138,070.31	0.075	138188.68584	138001.87550	138020.36077
___ Y2R	11868.66983	11,868.67	0.513	11879.83646	11803.02154	11923.15148
___ ZN	1.98540	8,599.22	0.475	1.99056	1.99112	1.97452
___ ZR	0.06811	184.99	1.268	0.06729	0.06801	0.06901

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 24

Date/Time: 11/03/2018 06:59

Sample Number: **9866464**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.22

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00139	-79.10	57.247	-0.00133	-0.00220	-0.00062
___ AL	40.65637	4,466.03	0.338	40.68049	40.78026	40.50834
___ AS	0.05123	6.92	17.084	0.05428	0.05805	0.04136
___ B	0.20892	2,502.30	1.053	0.21132	0.20700	0.20845
___ BA	0.33636	126,121.38	0.164	0.33697	0.33591	0.33620
___ BE	0.00148	129.38	3.139	0.00152	0.00147	0.00143
___ CA	259.00677	322,316.83	0.389	258.83658	260.08903	258.09470
___ CD	0.00119	101.29	20.138	0.00128	0.00092	0.00138
___ CO	0.03772	131.80	2.063	0.03775	0.03848	0.03693
___ CR	0.13170	1,259.65	0.504	0.13226	0.13096	0.13186
___ CU	0.48991	6,620.82	0.471	0.49211	0.49011	0.48751
___ FE	124.09056	36,423.47	0.340	124.11088	124.50232	123.65848
___ K	6.87315	2,236.40	0.694	6.90791	6.89278	6.81875
___ LI	0.07381	630.69	2.148	0.07205	0.07423	0.07514
___ MG	150.03181	206,858.91	0.312	150.09520	150.46438	149.53584
___ MN	1.71535	85,471.52	0.151	1.71831	1.71348	1.71426
___ MO	0.00901	8.87	3.952	0.00920	0.00859	0.00922
___ NA	2.47298	935.99	0.655	2.45980	2.49106	2.46810
___ NI	0.12387	249.99	1.227	0.12554	0.12257	0.12350
___ P	2.63825	461.10	0.191	2.64007	2.63257	2.64212
___ PB	0.53257	306.89	0.716	0.53536	0.53412	0.52823
___ S	3.05882	295.66	0.606	3.08007	3.04609	3.05030
___ SB	0.00950	4.23	12.092	0.00945	0.01067	0.00838
___ SE	0.00150	0.55	704.224	0.01047	0.00413	-0.01011
___ SI	14.69329	2,356.64	0.435	14.62304	14.74781	14.70903
___ SN	0.13274	53.43	2.099	0.13164	0.13591	0.13068
___ SR	0.19681	109,567.74	0.126	0.19704	0.19655	0.19685
___ TH	0.03940	12.80	76.078	0.03608	0.01122	0.07089
___ TI	3.10982	135,555.05	0.083	3.11279	3.10815	3.10851
___ TL	0.00216	-2.17	73.458	0.00094	0.00396	0.00160
___ V	0.16840	1,946.13	0.803	0.16996	0.16750	0.16774
___ W	-0.00202	10.28	138.834	0.00094	-0.00236	-0.00463
___ Y1	4359.96167	4,359.96	0.237	4348.99500	4361.39500	4369.49500
___ Y2A	138227.17928	138,227.18	0.270	137814.68000	138326.79784	138540.06000
___ Y2R	11890.48353	11,890.48	0.575	11843.08627	11859.52809	11968.83623
___ ZN	0.72393	3,181.87	0.066	0.72425	0.72338	0.72415
___ ZR	0.04336	126.12	4.677	0.04452	0.04455	0.04102

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 25

Date/Time: 11/03/2018 07:01

Sample Number: **9866465**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.30

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	-0.00449	-93.14	11.522	-0.00509	-0.00425	-0.00414
___ AL	59.78074	6,204.47	0.197	59.91009	59.68064	59.75148
___ AS	0.06072	7.66	7.531	0.05702	0.05932	0.06583
___ B	0.20401	2,214.26	0.386	0.20392	0.20327	0.20484
___ BA	0.19434	70,260.51	0.029	0.19440	0.19434	0.19429
___ BE	0.00071	-152.99	5.874	0.00066	0.00074	0.00073
___ CA	1559.35907	1,622,027.50	0.792	1545.75869	1569.87444	1562.44408
___ CD	0.00221	79.37	8.710	0.00200	0.00238	0.00224
___ CO	0.04317	152.03	1.680	0.04338	0.04377	0.04237
___ CR	0.10873	997.15	0.816	0.10786	0.10871	0.10963
___ CU	0.66971	8,606.18	0.108	0.66999	0.67026	0.66889
___ FE	99.25523	27,670.49	0.128	99.23273	99.14140	99.39156
___ K	8.25427	2,511.77	0.936	8.25143	8.17844	8.33294
___ LI	0.09010	741.68	0.543	0.09063	0.08998	0.08968
___ MG	787.20218	1,001,176.44	0.357	784.10987	787.90399	789.59270
___ MN	1.82410	87,561.89	0.245	1.82006	1.82334	1.82890
___ MO	0.00501	4.19	14.847	0.00586	0.00468	0.00448
___ NA	6.35319	3,682.11	0.594	6.39669	6.32876	6.33412
___ NI	0.12244	226.98	0.576	0.12204	0.12204	0.12326
___ P	2.54169	407.38	0.191	2.53669	2.54640	2.54198
___ PB	0.13657	81.47	2.847	0.14101	0.13381	0.13487
___ S	7.22049	640.03	0.279	7.19941	7.23959	7.22247
___ SB	0.00558	2.67	61.347	0.00419	0.00948	0.00308
___ SE	-0.00941	-0.47	86.574	-0.01801	-0.00842	-0.00180
___ SI	12.89941	1,963.47	0.105	12.91493	12.88993	12.89337
___ SN	0.03162	14.12	4.510	0.03040	0.03127	0.03318
___ SR	0.72203	397,989.95	0.727	0.71673	0.72723	0.72213
___ TH	-0.02139	2.40	135.181	-0.04754	0.00966	-0.02630
___ TI	5.76189	241,912.77	0.067	5.76221	5.76559	5.75786
___ TL	0.00616	-1.40	56.180	0.00991	0.00310	0.00546
___ V	0.19694	2,198.83	0.381	0.19762	0.19707	0.19614
___ W	-0.00478	5.65	22.804	-0.00383	-0.00598	-0.00455
___ Y1	3998.43167	3,998.43	0.176	3997.60500	4005.86000	3991.83000
___ Y2A	133166.15157	133,166.15	0.079	133282.72691	133135.93376	133079.79404
___ Y2R	11238.81551	11,238.82	0.454	11291.73653	11234.74000	11189.97000
___ ZN	0.32097	1,318.51	0.347	0.32157	0.31968	0.32165
___ ZR	0.07898	192.14	5.416	0.07984	0.07433	0.08276

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 26

Date/Time: 11/03/2018 07:04

Sample Number: **9866466**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.32

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00865	2.70	5.941	0.00807	0.00880	0.00906
___ AL	81.26329	9,103.39	0.337	81.10621	81.10414	81.57952
___ AS	0.06959	10.73	5.553	0.06611	0.06892	0.07375
___ B	0.05203	2,402.65	2.318	0.05337	0.05103	0.05168
___ BA	1.70309	666,961.83	0.342	1.70980	1.69986	1.69960
___ BE	0.00395	1,045.34	1.114	0.00395	0.00391	0.00400
___ CA	17.87517	23,213.90	0.210	17.83910	17.91407	17.87235
___ CD	0.00530	273.88	7.237	0.00558	0.00545	0.00486
___ CO	0.10266	338.24	1.239	0.10197	0.10412	0.10188
___ CR	0.41113	4,173.91	0.472	0.41108	0.40921	0.41310
___ CU	2.29604	32,902.16	0.271	2.29847	2.28897	2.30069
___ FE	282.77136	81,993.77	0.349	281.64355	283.18857	283.48194
___ K	11.98450	3,868.19	0.653	11.89414	12.03229	12.02706
___ LI	0.12158	1,185.88	0.735	0.12132	0.12084	0.12257
___ MG	37.51512	52,947.89	0.290	37.38943	37.57764	37.57827
___ MN	2.27941	118,725.86	0.196	2.28353	2.27466	2.28004
___ MO	0.01479	15.67	0.641	0.01487	0.01468	0.01480
___ NA	1.00043	-190.77	3.667	1.01832	0.95822	1.02473
___ NI	0.90467	1,821.53	0.743	0.90142	0.91239	0.90019
___ P	4.32070	784.97	1.046	4.30083	4.37241	4.28887
___ PB	29.59934	16,894.06	0.765	29.45918	29.86066	29.47818
___ S	2.27617	228.62	0.615	2.27617	2.29017	2.26217
___ SB	0.02101	8.72	7.844	0.02252	0.02127	0.01925
___ SE	0.01414	0.25	74.956	0.02636	0.00877	0.00731
___ SI	20.98336	3,428.14	0.305	20.91005	21.01216	21.02787
___ SN	0.84583	334.16	0.517	0.84336	0.85088	0.84326
___ SR	0.12919	72,285.33	0.244	0.12923	0.12885	0.12948
___ TH	0.11389	37.70	14.053	0.09972	0.11070	0.13125
___ TI	2.87744	131,122.24	0.255	2.88185	2.86897	2.88150
___ TL	0.00851	-1.24	12.766	0.00871	0.00949	0.00734
___ V	0.25076	3,025.25	0.231	0.25124	0.25092	0.25011
___ W	0.00659	38.75	12.673	0.00755	0.00621	0.00601
___ Y1	4530.54718	4,530.55	0.663	4552.38737	4496.27574	4542.97843
___ Y2A	144498.27630	144,498.28	0.238	144115.98524	144597.26000	144781.58367
___ Y2R	12121.52869	12,121.53	0.185	12129.73621	12096.14694	12138.70293
___ ZN	4.16293	18,794.75	0.606	4.15014	4.19199	4.14666
___ ZR	0.03128	108.48	1.282	0.03163	0.03084	0.03137

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 27

Date/Time: 11/03/2018 07:07

Sample Number: **9866467**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.32

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00140	-108.55	73.581	0.00244	0.00039	0.00136
___ AL	92.59620	10,371.19	0.148	92.53638	92.75260	92.49962
___ AS	0.09644	15.82	8.436	0.09728	0.08792	0.10412
___ B	0.03038	3,715.79	6.593	0.02807	0.03153	0.03154
___ BA	1.67827	653,724.53	0.325	1.67488	1.67537	1.68456
___ BE	0.00430	1,166.30	0.633	0.00433	0.00428	0.00429
___ CA	18.75391	24,334.10	0.313	18.77164	18.68838	18.80171
___ CD	0.00486	464.31	11.562	0.00507	0.00528	0.00422
___ CO	0.13860	449.99	0.482	0.13932	0.13800	0.13848
___ CR	0.69430	7,031.30	0.382	0.69160	0.69439	0.69690
___ CU	3.30130	47,219.29	0.274	3.29205	3.30172	3.31012
___ FE	501.22648	138,850.20	0.168	501.12824	500.43929	502.11191
___ K	14.92386	4,778.45	0.500	14.90198	14.86259	15.00702
___ LI	0.13051	1,353.81	1.849	0.12954	0.12874	0.13326
___ MG	38.08587	53,717.46	0.131	38.03223	38.09479	38.13059
___ MN	4.06205	210,433.78	0.175	4.05491	4.06209	4.06915
___ MO	0.03228	35.13	0.797	0.03205	0.03222	0.03255
___ NA	1.27714	24.38	3.163	1.23087	1.30541	1.29513
___ NI	0.98070	1,968.04	0.160	0.98232	0.97919	0.98059
___ P	4.89293	887.14	0.194	4.90059	4.88232	4.89586
___ PB	2.31920	1,381.72	0.461	2.30994	2.33091	2.31676
___ S	2.68000	268.60	0.731	2.69314	2.65747	2.68940
___ SB	0.03858	15.01	4.451	0.04001	0.03906	0.03667
___ SE	0.04307	1.27	15.852	0.04216	0.05030	0.03674
___ SI	24.20506	3,954.35	0.016	24.20937	24.20403	24.20179
___ SN	2.01896	790.90	0.190	2.01936	2.02258	2.01493
___ SR	0.13551	75,418.92	0.205	0.13527	0.13544	0.13581
___ TH	0.13815	61.13	15.430	0.11653	0.13879	0.15915
___ TI	2.93313	132,940.73	0.212	2.92792	2.93145	2.94002
___ TL	0.01479	-0.23	49.560	0.02325	0.01055	0.01056
___ V	0.26489	3,208.63	0.342	0.26385	0.26546	0.26537
___ W	0.01246	48.63	16.558	0.01365	0.01008	0.01365
___ Y1	4520.90212	4,520.90	0.143	4527.69676	4514.84976	4520.15984
___ Y2A	143724.18395	143,724.18	0.245	143758.99022	144057.51099	143356.05064
___ Y2R	12113.61482	12,113.61	0.225	12086.14386	12140.67864	12114.02196
___ ZN	5.15146	23,271.89	0.080	5.15619	5.14939	5.14879
___ ZR	0.03798	127.57	9.666	0.03992	0.04027	0.03374

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 28

Date/Time: 11/03/2018 07:09

Sample Number: 9867761

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.36

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	-0.01813	-435.43	3.744	-0.01857	-0.01848	-0.01735
___ AL	60.68034	6,555.59	0.638	60.23450	60.93506	60.87147
___ AS	1.18124	190.20	0.692	1.17937	1.17415	1.19018
___ B	-0.43595	8,575.96	6.200	-0.40490	-0.44873	-0.45421
___ BA	2.85232	1,082,620.83	0.143	2.85289	2.85609	2.84799
___ BE	0.00360	511.95	1.018	0.00356	0.00362	0.00362
___ CA	44.73239	55,814.58	0.773	44.33347	44.91654	44.94717
___ CD	-0.05770	1,152.07	7.271	-0.05287	-0.06041	-0.05983
___ CO	0.18072	552.00	0.639	0.18172	0.17945	0.18098
___ CR	0.40431	3,978.11	0.322	0.40288	0.40464	0.40542
___ CU	1.89805	27,788.05	0.078	1.89714	1.89723	1.89976
___ FE	1801.37182	349,524.78	1.928	1761.54574	1817.22454	1825.34519
___ K	8.46725	2,676.36	1.047	8.38016	8.46417	8.55741
___ LI	0.03773	842.16	6.702	0.04028	0.03522	0.03768
___ MG	24.15151	32,885.91	0.559	23.99678	24.24444	24.21330
___ MN	5.50775	278,048.45	0.278	5.49657	5.50146	5.52521
___ MO	0.04004	41.99	2.081	0.04085	0.04008	0.03918
___ NA	4.50589	2,444.55	0.515	4.47962	4.52362	4.51442
___ NI	0.52922	1,015.18	0.379	0.52837	0.52778	0.53151
___ P	9.69656	1,686.37	0.517	9.66687	9.66834	9.75448
___ PB	4.99489	2,922.16	0.362	4.99670	4.97596	5.01199
___ S	6.43040	618.00	0.549	6.42217	6.39990	6.46912
___ SB	0.11209	35.94	5.687	0.11298	0.10532	0.11797
___ SE	0.15021	-1.05	6.283	0.15879	0.14010	0.15173
___ SI	18.06811	2,886.29	0.759	17.91586	18.18176	18.10672
___ SN	12.47418	4,667.95	0.579	12.46358	12.40781	12.55114
___ SR	0.27650	150,129.35	0.075	0.27626	0.27665	0.27659
___ TH	0.00175	157.42	3067.525	0.04874	-0.05681	0.01333
___ TI	2.03783	90,020.19	0.062	2.03637	2.03864	2.03848
___ TL	0.02501	1.53	18.267	0.02089	0.02992	0.02422
___ V	1.33690	15,510.84	0.081	1.33596	1.33665	1.33808
___ W	0.01044	41.72	20.321	0.01089	0.00813	0.01230
___ Y1	4335.45185	4,335.45	0.685	4338.05553	4363.76500	4304.53501
___ Y2A	140059.48137	140,059.48	0.141	140050.63809	140261.80403	139866.00199
___ Y2R	11689.81094	11,689.81	0.312	11730.24790	11679.70870	11659.47621
___ ZN	4.55486	20,273.81	0.792	4.55820	4.51725	4.58912
___ ZR	0.04594	125.57	7.104	0.04309	0.04950	0.04523

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 29

Date/Time: 11/03/2018 07:12

Sample Number: 9867766

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.27

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.00606	-24.98	23.831	0.00553	0.00770	0.00496
___ AL	53.44394	5,877.63	0.458	53.22395	53.40032	53.70755
___ AS	0.38405	61.69	1.574	0.38098	0.39102	0.38017
___ B	0.04222	2,379.02	4.561	0.04421	0.04206	0.04037
___ BA	2.33738	894,184.43	0.518	2.33717	2.34960	2.32538
___ BE	0.00332	772.05	1.040	0.00331	0.00336	0.00329
___ CA	30.65766	39,026.03	0.302	30.55808	30.67405	30.74086
___ CD	0.00766	300.00	2.259	0.00771	0.00747	0.00781
___ CO	0.09034	289.48	0.805	0.09031	0.09109	0.08963
___ CR	0.42248	4,190.97	0.279	0.42381	0.42207	0.42156
___ CU	3.32465	46,530.91	0.245	3.32548	3.31611	3.33236
___ FE	299.41395	84,992.54	0.272	298.47862	299.78903	299.97419
___ K	10.72941	3,416.46	0.726	10.64003	10.76570	10.78251
___ LI	0.08583	813.13	0.471	0.08593	0.08539	0.08618
___ MG	24.72085	34,284.51	0.376	24.61367	24.77737	24.77151
___ MN	2.34743	119,446.66	0.065	2.34807	2.34568	2.34853
___ MO	0.03056	32.80	3.699	0.02928	0.03096	0.03143
___ NA	0.98939	-195.83	1.245	1.00190	0.97727	0.98899
___ NI	0.52499	1,045.88	0.312	0.52676	0.52354	0.52465
___ P	8.27894	1,482.35	0.283	8.29575	8.25220	8.28887
___ PB	3.93722	2,245.48	0.371	3.92465	3.93375	3.95327
___ S	5.69506	563.50	0.143	5.70173	5.68597	5.69749
___ SB	0.05236	19.33	14.708	0.05911	0.04397	0.05400
___ SE	0.03775	3.08	33.846	0.03775	0.02498	0.05054
___ SI	17.39126	2,795.31	0.223	17.35908	17.43444	17.38028
___ SN	2.15909	834.83	0.431	2.16552	2.14843	2.16332
___ SR	0.21496	117,548.46	0.147	0.21489	0.21468	0.21530
___ TH	0.08495	34.73	20.823	0.09332	0.09689	0.06463
___ TI	1.99295	88,739.71	0.142	1.99051	1.99229	1.99606
___ TL	0.00019	-2.51	1239.383	0.00186	0.00128	-0.00256
___ V	0.29250	3,427.32	0.399	0.29289	0.29119	0.29342
___ W	0.02112	43.69	8.341	0.02215	0.02213	0.01909
___ Y1	4463.59585	4,463.60	0.092	4468.02697	4459.92111	4462.83946
___ Y2A	141163.20320	141,163.20	0.141	141001.35000	141102.07958	141386.18000
___ Y2R	11906.34780	11,906.35	0.356	11905.77383	11864.27575	11948.99382
___ ZN	3.76439	16,766.13	0.034	3.76312	3.76566	3.76439
___ ZR	0.01313	59.99	25.872	0.00933	0.01421	0.01586



## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 30

Date/Time: 11/03/2018 07:15

Sample Number: **9867767**

Class: \*\*\*\*

Batch: 182991063702

Initial Vol: 1.12

Final Vol: 100.00

DF: 1.00

Protocol Symbol: DU

ELEMENT	AVERAGE			INTEGRATIONS		
	CONC (ppm)	INTENSITY	%RSD	#1	#2	#3
___ AG	0.27139	3,079.00	0.672	0.27206	0.27278	0.26933
___ AL	57.30722	6,461.47	0.231	57.43010	57.16683	57.32474
___ AS	0.03045	4.06	9.032	0.02770	0.03320	0.03046
___ B	0.01741	1,620.69	3.611	0.01781	0.01774	0.01669
___ BA	4.77656	1,867,764.91	0.354	4.75748	4.78258	4.78962
___ BE	0.00228	441.07	0.341	0.00228	0.00227	0.00229
___ CA	31.60193	41,243.76	0.159	31.55180	31.60172	31.65225
___ CD	0.04363	466.39	0.156	0.04355	0.04364	0.04369
___ CO	0.01570	56.19	2.338	0.01535	0.01609	0.01567
___ CR	0.68384	6,952.73	0.163	0.68508	0.68293	0.68353
___ CU	7.25519	103,536.20	0.194	7.26894	7.24084	7.25580
___ FE	212.06057	62,815.22	0.170	211.64402	212.24793	212.28976
___ K	8.85235	2,915.78	0.416	8.85925	8.88524	8.81257
___ LI	0.05543	490.61	7.314	0.05853	0.05084	0.05692
___ MG	10.96155	15,591.38	0.188	10.94338	10.95740	10.98386
___ MN	0.45808	23,837.07	0.066	0.45812	0.45837	0.45776
___ MO	0.03181	34.63	1.487	0.03149	0.03158	0.03235
___ NA	1.77117	411.44	1.389	1.74422	1.79240	1.77689
___ NI	0.15311	316.66	0.085	0.15296	0.15316	0.15320
___ P	105.10331	19,073.98	0.118	105.12145	104.97091	105.21758
___ PB	3.02775	1,748.79	0.141	3.02345	3.03197	3.02783
___ S	14.51471	1,455.21	0.252	14.55690	14.49241	14.49483
___ SB	0.02615	11.21	4.142	0.02646	0.02495	0.02705
___ SE	0.04322	4.91	9.956	0.04790	0.03943	0.04233
___ SI	23.28837	3,829.18	0.132	23.27562	23.32333	23.26616
___ SN	1.58316	621.23	0.767	1.59137	1.56920	1.58890
___ SR	0.37858	211,229.18	0.482	0.37965	0.37647	0.37962
___ TH	0.04021	21.44	85.175	0.05323	0.06603	0.00136
___ TI	1.44515	65,846.45	0.080	1.44645	1.44476	1.44423
___ TL	0.00302	-2.19	242.960	0.01134	0.00017	-0.00246
___ V	0.16269	1,963.47	0.343	0.16245	0.16230	0.16333
___ W	0.00266	21.40	82.179	0.00343	0.00019	0.00435
___ Y1	4522.82161	4,522.82	0.222	4520.36482	4533.87645	4514.22358
___ Y2A	144299.64666	144,299.65	0.241	144226.09172	144678.40160	143994.44666
___ Y2R	12208.82539	12,208.83	0.100	12195.16387	12218.79235	12212.51997
___ ZN	1.93264	8,789.63	0.240	1.93433	1.92740	1.93619
___ ZR	0.01417	58.52	16.777	0.01353	0.01218	0.01680

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 31

Date/Time: 11/03/2018 07:17

Sample Number: **CCV**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	0.48413	5,301.50	0.305	0.48352	0.48305	0.48581
___ AL	23.72992	2,550.09	0.747	23.54187	23.75398	23.89393
___ AS	0.49963	77.94	0.923	0.49525	0.50445	0.49918
___ B	0.47535	3,957.86	0.391	0.47321	0.47633	0.47652
___ BA	0.48238	181,252.54	1.010	0.48183	0.48750	0.47780
___ BE	0.47891	173,539.44	0.296	0.47765	0.48044	0.47862
___ CA	24.19041	29,950.11	0.724	24.03242	24.16024	24.37857
___ CD	0.50059	3,226.32	0.273	0.50159	0.50114	0.49904
___ CO	0.49981	1,504.57	0.089	0.49930	0.50007	0.50006
___ CR	0.48443	4,721.33	0.256	0.48376	0.48367	0.48586
___ CU	0.48808	6,767.96	0.166	0.48720	0.48880	0.48824
___ FE	23.94051	6,971.57	0.789	23.73763	23.97231	24.11160
___ K	24.16172	7,305.49	1.000	23.88542	24.33419	24.26555
___ LI	0.49630	4,686.93	0.881	0.49275	0.50118	0.49496
___ MG	23.57613	31,780.94	0.582	23.42082	23.62701	23.68056
___ MN	0.48597	24,282.96	0.226	0.48472	0.48679	0.48641
___ MO	0.49889	535.16	0.144	0.49894	0.49958	0.49815
___ NA	24.17964	17,024.40	0.734	23.97473	24.28491	24.27927
___ NI	0.49461	963.17	0.360	0.49498	0.49617	0.49267
___ P	0.50340	87.56	0.884	0.50787	0.50336	0.49897
___ PB	0.49505	273.84	0.322	0.49675	0.49480	0.49359
___ S	24.56978	2,371.96	0.203	24.61736	24.57412	24.51786
___ SB	0.50654	171.31	0.661	0.51036	0.50516	0.50410
___ SE	0.48383	62.81	1.639	0.47970	0.47882	0.49297
___ SI	23.74464	3,699.58	0.317	23.67941	23.72769	23.82682
___ SN	0.49558	189.76	0.761	0.49811	0.49125	0.49738
___ SR	0.48947	261,964.08	0.137	0.48969	0.49001	0.48872
___ TH	0.47643	59.48	5.485	0.47594	0.45055	0.50281
___ TI	0.49845	21,919.72	0.367	0.49637	0.49981	0.49917
___ TL	0.49694	74.53	0.057	0.49680	0.49727	0.49676
___ V	0.48573	5,442.54	0.216	0.48499	0.48527	0.48693
___ W	0.49410	279.91	0.417	0.49582	0.49465	0.49182
___ Y1	4357.22833	4,357.23	0.082	4359.12000	4353.10500	4359.46000
___ Y2A	138567.38771	138,567.39	0.313	138576.60936	138128.74676	138996.80702
___ Y2R	11572.53372	11,572.53	0.287	11595.16677	11588.07000	11534.36440
___ ZN	0.49739	2,172.44	0.124	0.49701	0.49810	0.49705
___ ZR	0.49831	1,223.93	0.420	0.49687	0.50071	0.49735

## LANCASTER LABORATORIES

Run Name: 1830701T72

Instrument ID: 16417

Tube: 32

Date/Time: 11/03/2018 07:20

Sample Number: **CCB**

ELEMENT	AVERAGE	AVERAGE	%RSD	INTEGRATIONS		
	CONC (ppm)	INTENSITY		#1	#2	#3
___ AG	-0.00006	-49.39	1388.300	0.00055	0.00023	-0.00095
___ AL	-0.01443	19.86	84.759	-0.01396	-0.02690	-0.00244
___ AS	0.00225	-1.24	130.764	-0.00078	0.00245	0.00509
___ B	0.00413	40.39	10.638	0.00460	0.00404	0.00374
___ BA	0.00038	282.19	20.238	0.00036	0.00031	0.00046
___ BE	-0.00100	-714.55	1.765	-0.00099	-0.00102	-0.00099
___ CA	0.02635	87.22	7.061	0.02453	0.02825	0.02625
___ CD	-0.00030	-14.63	39.823	-0.00036	-0.00016	-0.00036
___ CO	-0.00011	-2.03	486.974	-0.00006	-0.00070	0.00041
___ CR	0.00241	-4.87	17.670	0.00248	0.00196	0.00280
___ CU	0.00194	-54.43	28.655	0.00244	0.00134	0.00203
___ FE	0.05524	14.46	24.442	0.07042	0.05070	0.04459
___ K	-0.04835	123.21	68.555	-0.03619	-0.08586	-0.02300
___ LI	0.01399	-9.97	30.869	0.00942	0.01800	0.01454
___ MG	0.01425	10.50	21.464	0.01774	0.01206	0.01293
___ MN	0.00016	19.66	58.922	0.00026	0.00008	0.00013
___ MO	0.00107	0.34	39.823	0.00092	0.00155	0.00074
___ NA	-0.00548	-928.42	152.750	-0.00749	-0.01267	0.00372
___ NI	0.00029	13.76	271.278	0.00107	0.00029	-0.00049
___ P	-0.00046	-0.54	828.289	-0.00483	0.00113	0.00231
___ PB	0.00219	-1.56	123.258	0.00446	0.00288	-0.00079
___ S	0.00583	0.62	106.873	0.01292	0.00128	0.00328
___ SB	-0.00465	-0.57	50.524	-0.00730	-0.00386	-0.00280
___ SE	-0.00047	1.82	2962.696	-0.00887	-0.00827	0.01572
___ SI	0.03094	6.31	18.197	0.03725	0.02918	0.02641
___ SN	-0.00077	3.25	398.585	0.00130	0.00069	-0.00429
___ SR	0.00014	34.15	11.694	0.00015	0.00012	0.00015
___ TH	0.00635	-2.74	243.896	-0.01151	0.01612	0.01445
___ TI	0.00025	70.49	97.805	0.00040	-0.00003	0.00036
___ TL	-0.00207	-2.78	240.368	-0.00486	0.00367	-0.00501
___ V	-0.00034	9.69	223.992	-0.00082	-0.00075	0.00054
___ W	-0.00345	4.93	55.271	-0.00177	-0.00306	-0.00552
___ Y1	4400.35833	4,400.36	0.333	4393.52500	4417.18500	4390.36500
___ Y2A	138512.83865	138,512.84	0.073	138615.51000	138412.82409	138510.18185
___ Y2R	11566.52576	11,566.53	0.384	11585.58765	11598.19541	11515.79421
___ ZN	-0.00040	5.30	69.471	-0.00016	-0.00034	-0.00071
___ ZR	0.00205	23.53	182.993	0.00638	-0.00028	0.00005

# **ICP-MS Data**

## **Metals in Solid**



Date File Name: 18J31I00.E05

Method Reference Name(s):

Run Name: 1830410E05

Analyst: 25839

Reviewed By: Choon Y Tian  
Reviewed Date: 11/01/2018 10:26

Verified By: Deborah A Krady  
Parker D Lindstrom  
Tara L Snyder  
Verified Date: 11/01/2018 13:53  
11/09/2018 16:45  
11/13/2018 14:45

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
<b>SC-1</b>		45
	BE	9
	B	11
-----		
<b>SC-3</b>		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
-----		
<b>IN-2</b>		115
	SE	78
-----		
<b>IN-3</b>		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	SN	120
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<b>TB-3</b>		159
	AG	107
	CD	111
	SB	121
	BA	137
-----		
<b>BI-3</b>		209
	TL	203
	PB	208
	U	238
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Run Name: 1830410E05  
 Tube Number: 1  
 Sample Number: **S0**

Date/Time: 10/31/2018 19:45:00

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
BE	9	0.00000	7.33300	0.000	-0.00324	0.00162	0.00163
B	11	0.00000	2507.58000	0.000	-0.13716	-0.13946	0.27662
NA	23	0.00000	50282.58700	0.000	-2.78156	9.04811	-6.26655
MG	24	0.00000	46.66700	0.000	0.15203	0.23403	-0.38606
AL	27	0.00000	30.00000	0.000	-2.67027	7.87249	-5.20222
K	39	0.00000	4227.53700	0.000	-52.18069	24.27247	27.90822
CA	44	0.00000	26.66700	0.000	6.95047	-53.92278	46.97231
SC-1	45	1351934	0	0.000	1378830	1338762	1338211
SC-2	45	677993.50700	0.00000	0.000	669985.54000	696101.24000	667893.74000
SC-3	45	12483.15300	0.00000	0.000	12586.59000	12206.38000	12656.49000
TI	47	0.00000	6.66700	0.000	2.65800	-1.32900	-1.32900
V	51	0.00000	50.00300	0.000	-0.10711	0.07546	0.03165
CR	52	0.00000	490.04300	0.000	-0.31187	0.33360	-0.02173
MN	55	0.00000	103.34300	0.000	-0.23764	0.08987	0.14778
FE	57	0.00000	70.00300	0.000	-4.97980	6.80363	-1.82383
CO	59	0.00000	26.66700	0.000	0.01890	-0.03088	0.01199
NI	60	0.00000	86.67700	0.000	0.02936	0.02966	-0.05902
CU	63	0.00000	243.35000	0.000	0.00070	-0.04118	0.04048
ZN	66	0.00000	46.66700	0.000	0.44965	-0.26432	-0.18533
GE-1	72	1387889	0	0.000	1405913	1372372	1385380
GE-2	72	1084324	0	0.000	1083689	1096998	1072286
GE-3	72	44404.27700	0.00000	0.000	44333.54000	43752.79000	45126.50000
AS	75	0.00000	12.00000	0.000	-0.19098	0.02515	0.16583
SE	78	0.00000	9.78000	0.000	-0.01690	-0.01160	0.02850
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	43.33300	0.000	0.04239	-0.00452	-0.03787
AG	107	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00000	1.33300	0.000	-0.01860	-0.01860	0.03720
IN-2	115	542692.54300	0.00000	0.000	545013.14000	550711.59000	532352.90000
IN-3	115	13143.43700	0.00000	0.000	12476.25000	12466.28000	14487.78000
SN	120	0.00000	46.67000	0.000	-0.26097	0.10361	0.15736
SB	121	0.00000	60.00300	0.000	-0.12119	0.00183	0.11936
BA	137	0.00000	3.33300	0.000	-0.07939	-0.07939	0.15879
TB-3	159	78868.06300	0.00000	0.000	77546.76000	78773.68000	80283.75000
TL	203	0.00000	3.33300	0.000	-0.00477	0.00955	-0.00477
PB	208	0.00000	60.00000	0.000	-0.00883	-0.00420	0.01303
BI-3	209	70086.34300	0.00000	0.000	70300.90000	69526.36000	70431.77000
U	238	0.00000	20.00000	0.000	-0.00005	0.00709	-0.00704

Run Name: 1830410E05  
 Tube Number: 2  
 Sample Number: S1

Date/Time: 10/31/2018 19:47:43

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1352706	0	0.000	1362129	1355545	1340444
<b>SC-3</b>	45	12940.13300	0.00000	0.000	12606.50000	12646.37000	13567.53000
AL	27	10000.00000	40828.35300	3.100	10307.98266	10009.13317	9682.88417
B	11	1000.00000	184788.01700	0.800	991.34014	1001.79341	1006.86644
BE	9	100.00000	45186.70300	1.100	99.45824	101.28450	99.25726
CA	44	10000.00000	5091.25300	2.000	10118.48444	10106.81118	9774.70437
CR	52	1000.00000	380382.20700	3.400	1020.02402	1018.89600	961.07998
FE	57	10000.00000	64116.56700	2.100	10233.90735	9946.74586	9819.34678
K	39	10000.00000	89731.22700	2.200	10178.08967	10067.32674	9754.58359
MG	24	10000.00000	195203.82000	2.300	10188.27972	10074.46855	9737.25173
MN	55	1000.00000	104995.77000	1.900	997.49111	1019.77657	982.73233
NA	23	10000.00000	493651.70000	3.100	10070.57850	10269.46297	9659.95853
TI	47	1000.00000	5154.65300	6.700	1053.84113	1020.72363	925.43524
V	51	1000.00000	293688.73700	3.300	1008.12808	1027.92724	963.94468
<b>IN-2</b>	115	526200.31700	0.00000	0.000	520203.53000	530819.07000	527578.35000
<b>IN-3</b>	115	12655.25000	0.00000	0.000	13047.45000	12068.16000	12850.14000
AS	75	1000.00000	37552.67300	5.000	953.26289	1052.51226	994.22486
CO	59	1000.00000	813963.79000	4.800	959.67744	1053.73412	986.58844
CU	63	1000.00000	722238.71300	4.500	958.08647	1048.35061	993.56292
MO	98	100.00000	43182.23300	4.200	99.03498	104.57199	96.39303
NI	60	1000.00000	242194.72300	2.400	984.20159	1027.34060	988.45781
SE	78	100.00000	10583.25300	0.800	99.09311	100.44356	100.46332
SN	120	100.00000	16714.95000	7.700	94.49481	108.84517	96.66003
SR	88	100.00000	8112.86000	8.400	93.79815	96.62369	109.57816
ZN	66	1000.00000	56760.62000	5.100	961.18042	1058.35042	980.46916
<b>TB-3</b>	159	82041.25700	0.00000	0.000	79427.67000	82627.86000	84068.24000
AG	107	100.00000	91779.79700	2.800	103.18087	98.65146	98.16767
BA	137	1000.00000	42903.08000	0.500	1005.52115	998.13660	996.34225
CD	111	100.00000	7324.76700	1.100	101.25675	99.50451	99.23874
SB	121	100.00000	16454.56000	2.000	102.17682	98.14716	99.67603
<b>BI-3</b>	209	70116.97000	0.00000	0.000	71034.66000	68612.10000	70704.15000
PB	208	100.00000	227292.93300	2.700	96.91188	101.37120	101.71693
TL	203	100.00000	70400.29700	1.500	98.46455	101.56172	99.97373
U	238	100.00000	285432.92000	0.800	99.03272	100.60268	100.36460
<b>SC-2</b>	45	638867.62000	0.00000	0.000	631344.99000	638842.14000	646415.73000
<b>GE-1</b>	72	1392633	0	0.000	1398530	1368707	1410663
<b>GE-2</b>	72	1046372	0	0.000	1025563	1054356	1059195
<b>GE-3</b>	72	44391.21300	0.00000	0.000	43301.04000	44244.39000	45628.21000

Run Name: 1830410E05  
 Tube Number: 3  
 Sample Number: **ICV**

Date/Time: 10/31/2018 19:50:23

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1336595	0	0.000	1354933	1324302	1330548
<b>SC-3</b>	45	11902.44700	0.00000	0.000	11885.78000	11885.87000	11935.69000
AL	27	5361.87717	20165.82000	4.000	5115.82351	5519.08608	5450.72191
B	11	686.90435	126194.61000	0.900	680.91168	686.40727	693.39409
BE	9	50.91992	22737.74000	0.800	50.88632	51.32995	50.54349
CA	44	5045.68629	2377.00700	13.100	4330.08350	5168.27088	5638.70449
CR	52	546.60789	191641.14300	0.600	543.57760	546.09218	550.15389
FE	57	5392.06130	31845.44700	1.700	5284.46517	5446.24515	5445.47356
K	39	5265.01623	45386.54700	4.600	5282.97072	5496.58185	5015.49611
MG	24	5295.43814	95163.47700	1.100	5273.97979	5249.22624	5363.10838
MN	55	546.82625	52877.98300	1.800	538.73579	543.71322	558.02974
NA	23	5203.20362	259432.43000	0.400	5194.17949	5187.46895	5227.96244
TI	47	543.95742	2587.07300	14.700	454.72513	568.73382	608.41331
V	51	533.23360	144194.42300	0.500	531.37399	531.93626	536.39055
<b>IN-2</b>	115	513816.69000	0.00000	0.000	499013.33000	517329.54000	525107.20000
<b>IN-3</b>	115	12428.40700	0.00000	0.000	12347.28000	12581.25000	12356.69000
AS	75	498.58187	18415.32300	2.400	494.30511	489.12541	512.31509
CO	59	510.59200	408659.73300	2.000	509.12732	501.38497	521.26369
CU	63	508.73696	361351.94700	2.000	508.31055	498.86491	519.03542
MO	98	51.09451	21705.53000	3.300	51.33303	49.27894	52.67156
NI	60	520.66846	123956.23300	0.800	524.60210	516.57386	520.82941
SE	78	51.20389	5295.49000	0.500	51.44802	50.91278	51.25087
SN	120	50.78290	8373.11000	3.500	52.64269	49.12804	50.57799
SR	88	47.21657	3760.74300	5.200	44.62154	47.51431	49.51387
ZN	66	497.92244	27816.47000	0.400	498.53457	495.81272	499.42002
<b>TB-3</b>	159	78686.96000	0.00000	0.000	76992.17000	79177.00000	79891.71000
AG	107	52.92079	46610.65000	0.400	52.71674	53.14240	52.90322
BA	137	512.17804	21081.73000	3.700	511.74578	493.26427	531.52408
CD	111	50.80618	3568.52000	5.000	53.72713	49.04638	49.64502
SB	121	54.08098	8559.98300	6.600	57.54540	50.38165	54.31590
<b>BI-3</b>	209	68815.46700	0.00000	0.000	67998.47000	68439.23000	70008.70000
PB	208	50.50432	112734.41700	2.000	49.59259	50.34695	51.57343
TL	203	51.19492	35372.02000	4.400	50.43290	53.75457	49.39729
U	238	48.80880	136771.27700	1.500	48.18669	48.64250	49.59720
<b>SC-2</b>	45	599822.30700	0.00000	0.000	583640.42000	606872.06000	608954.44000
<b>GE-1</b>	72	1365447	0	0.000	1378662	1355791	1361888
<b>GE-2</b>	72	1008104	0	0.000	984687.64000	1006535	1033088
<b>GE-3</b>	72	41762.91700	0.00000	0.000	41114.55000	42096.66000	42077.54000



Run Name: 1830410E05  
 Tube Number: 4  
 Sample Number: ICB

Date/Time: 10/31/2018 19:52:48

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1332717	0	0.000	1390198	1276725	1331229
<b>SC-3</b>	45	11675.66300	0.00000	0.000	11615.48000	12086.17000	11325.34000
AL	27	7.55409	56.67000	103.100	0.47933	15.89696	6.28597
B	11	164.23745	31948.24000	4.700	164.05884	172.10340	156.55012
BE	9	0.02383	18.00000	49.400	0.03542	0.01187	0.02421
CA	44	10.89804	30.00000	528.100	56.01480	30.60211	-53.92278
CR	52	1.44853	950.08700	59.500	1.41493	0.60366	2.32701
FE	57	9.41185	120.00700	87.300	0.77296	10.32667	17.13592
K	39	79.11642	4564.40000	38.500	114.27854	60.98021	62.09051
MG	24	6.70331	160.01300	73.900	5.50702	2.45463	12.14829
MN	55	0.12925	110.00300	398.300	-0.06604	0.71312	-0.25934
NA	23	47.19849	48887.35700	115.800	2.24745	31.33566	108.01235
TI	47	-1.32900	0.00000	0.000	-1.32900	-1.32900	-1.32900
V	51	0.21948	103.34000	166.700	0.05036	-0.03136	0.63943
<b>IN-2</b>	115	487483.76000	0.00000	0.000	487125.14000	487317.47000	488008.67000
<b>IN-3</b>	115	12132.09000	0.00000	0.000	11485.11000	12685.72000	12225.44000
AS	75	0.37218	24.00000	90.700	0.40458	0.01954	0.69243
CO	59	0.40938	343.35700	26.800	0.38826	0.31187	0.52800
CU	63	0.50043	573.38000	66.800	0.21147	0.42322	0.86659
MO	98	0.04611	60.00000	45.100	0.02903	0.04006	0.06925
NI	60	0.50921	196.67700	69.000	0.74412	0.10549	0.67801
SE	78	0.05297	14.00000	55.900	0.06667	0.01902	0.07322
SN	120	0.40924	106.67700	31.100	0.53055	0.27650	0.42066
SR	88	0.17259	13.33300	86.900	0.27174	0.24602	0.00000
ZN	66	1.81646	143.34300	52.800	0.94575	1.65873	2.84489
<b>TB-3</b>	159	76463.35300	0.00000	0.000	75091.09000	77094.21000	77204.76000
AG	107	0.05830	50.00300	90.700	0.04759	0.01159	0.11573
BA	137	0.41841	20.00000	102.000	0.17526	0.16864	0.91133
CD	111	0.05910	5.33300	74.400	0.01123	0.09762	0.06844
SB	121	0.86477	190.01000	20.700	0.95340	0.65918	0.98172
<b>BI-3</b>	209	65049.55000	0.00000	0.000	64751.20000	63363.94000	67033.51000
PB	208	0.06651	196.68300	35.200	0.04985	0.05639	0.09328
TL	203	0.10833	73.34000	42.900	0.13366	0.13669	0.05465
U	238	0.04390	136.67700	96.400	0.01193	0.02785	0.09191
<b>SC-2</b>	45	550921.77700	0.00000	0.000	546583.31000	559887.26000	546294.76000
<b>GE-1</b>	72	1398411	0	0.000	1504001	1354406	1336826
<b>GE-2</b>	72	967494.51700	0.00000	0.000	961718.11000	977412.80000	963352.64000
<b>GE-3</b>	72	42685.63000	0.00000	0.000	40742.94000	43310.79000	44003.16000

Run Name: 1830410E05  
 Tube Number: 5  
 Sample Number: LLC

Date/Time: 10/31/2018 19:55:12

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1306127	0	0.000	1337327	1327152	1253901
<b>SC-3</b>	45	12005.94700	0.00000	0.000	11245.18000	12226.05000	12546.61000
AL	27	449.27828	1713.54300	27.600	584.23928	422.66949	340.92607
B	11	121.98966	23881.61000	2.800	121.19084	119.08950	125.68864
BE	9	0.48305	216.66700	23.600	0.40912	0.42591	0.61412
CA	44	827.56579	416.69700	37.200	604.75782	1178.63880	699.30075
CR	52	4.77212	2153.62700	6.700	5.04708	4.42330	4.84598
FE	57	109.27274	716.72700	11.900	108.94305	122.41642	96.45874
K	39	460.05103	7695.96000	15.800	535.34131	390.43790	454.37389
MG	24	109.77297	2030.25700	4.900	115.38913	109.18358	104.74619
MN	55	10.28549	1096.78300	10.800	11.48166	10.07488	9.29993
NA	23	943.66335	86860.70700	13.300	1088.06396	884.92923	857.99686
TI	47	21.60680	110.00700	55.300	23.21751	8.93243	32.67046
V	51	0.72699	246.68300	12.500	0.68437	0.83138	0.66524
<b>IN-2</b>	115	494882.80000	0.00000	0.000	497063.22000	489889.89000	497695.29000
<b>IN-3</b>	115	12069.86000	0.00000	0.000	11292.19000	12074.47000	12842.92000
AS	75	2.08033	84.66700	22.600	2.62276	1.82008	1.79814
CO	59	1.11490	893.41300	11.000	1.08301	1.01086	1.25084
CU	63	42.98935	29780.73000	6.500	46.03970	42.30894	40.61942
MO	98	2.06656	890.08300	16.100	2.34125	1.69768	2.16077
NI	60	3.95059	993.42700	2.600	3.86246	4.06563	3.92368
SE	78	2.18457	226.22300	3.700	2.23290	2.09086	2.22995
SN	120	1.70812	313.35700	9.000	1.68454	1.87223	1.56759
SR	88	6.30565	486.70300	13.000	7.04831	5.42839	6.44026
ZN	66	14.45167	820.07000	18.300	16.96034	14.70222	11.69245
<b>TB-3</b>	159	76575.66700	0.00000	0.000	73483.60000	76611.45000	79631.95000
AG	107	0.63050	540.03700	17.700	0.58363	0.75806	0.54980
BA	137	3.89630	160.01300	34.000	2.52311	5.16270	4.00309
CD	111	0.84349	59.33300	25.500	0.62156	0.85857	1.05034
SB	121	1.81279	333.35700	32.000	2.48062	1.51479	1.44295
<b>BI-3</b>	209	67310.90700	0.00000	0.000	65754.71000	66631.57000	69546.44000
PB	208	3.18035	6991.14300	4.000	3.30070	3.19205	3.04830
TL	203	0.56839	386.69300	20.100	0.52533	0.69773	0.48210
U	238	0.50937	1416.83700	10.700	0.51978	0.45016	0.55818
<b>SC-2</b>	45	547550.79700	0.00000	0.000	560777.88000	539961.24000	541913.27000
<b>GE-1</b>	72	1363541	0	0.000	1371416	1397180	1322027
<b>GE-2</b>	72	975842.17000	0.00000	0.000	973999.75000	975810.06000	977716.70000
<b>GE-3</b>	72	41529.13300	0.00000	0.000	40371.57000	40492.14000	43723.69000

Run Name: 1830410E05  
 Tube Number: 6  
 Sample Number: ICSA

Date/Time: 10/31/2018 19:57:36

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1322877	0	0.000	1335056	1344345	1289230
<b>SC-3</b>	45	11605.68000	0.00000	0.000	11515.46000	11515.55000	11786.03000
AL	27	108682.32244	398038.03000	0.900	108264.26155	107963.00282	109819.70295
B	11	60.12211	13166.92700	3.800	60.93130	57.53080	61.90421
BE	9	0.03400	22.00000	96.700	0.01512	0.01491	0.07198
CA	44	299468.11374	136099.02000	1.700	296289.92207	305402.29689	296712.12224
CR	52	0.79986	730.06300	24.300	0.78862	0.61125	0.99970
FE	57	273125.25538	1569610.81300	1.600	268460.59892	277126.99975	273788.16748
K	39	106516.89422	819776.47000	0.500	105875.02185	106952.19333	106723.46749
MG	24	111921.18910	1960495.49000	1.300	111079.48657	111029.01441	113655.06633
MN	55	4.04411	476.70000	9.300	3.69076	4.44046	4.00111
NA	23	282753.72112	11251664.83000	1.400	281737.48950	287083.30109	279440.37278
TI	47	2068.33676	9573.91000	5.100	1951.74357	2158.88382	2094.38290
V	51	-0.02531	40.00000	0.000	0.05234	-0.10061	-0.02765
<b>IN-2</b>	115	458706.88700	0.00000	0.000	451981.90000	457162.37000	466976.39000
<b>IN-3</b>	115	11004.27000	0.00000	0.000	10883.45000	11204.64000	10924.72000
AS	75	0.77959	35.33300	46.400	0.87653	1.08320	0.37904
CO	59	1.08354	790.06300	5.300	1.09631	1.13331	1.02099
CU	63	1.22673	973.42700	10.100	1.35100	1.22492	1.10428
MO	98	2244.87909	842748.97300	2.600	2262.77545	2179.16090	2292.70091
NI	60	1.65254	420.03700	37.400	1.86053	0.95797	2.13913
SE	78	0.10975	18.44300	64.400	0.12289	0.03339	0.17297
SN	120	-0.09959	23.33300	0.000	-0.12177	-0.19337	0.01638
SR	88	17.36187	1223.46000	8.800	19.07171	16.15711	16.85678
ZN	66	2.83339	180.01300	40.900	1.65650	3.97268	2.87100
<b>TB-3</b>	159	76749.83300	0.00000	0.000	76340.31000	77458.27000	76450.92000
AG	107	0.05047	43.33300	13.800	0.05852	0.04614	0.04675
BA	137	1.08528	46.67000	35.700	1.17304	0.66122	1.42160
CD	111	0.08862	7.33300	69.100	0.06943	0.03924	0.15720
SB	121	0.79547	180.01000	29.400	0.93160	0.52511	0.92970
<b>BI-3</b>	209	63778.21000	0.00000	0.000	63795.10000	63211.99000	64327.54000
PB	208	0.90254	1920.18000	11.300	1.01828	0.86197	0.82736
TL	203	0.01614	13.33300	149.300	-0.00477	0.04249	0.01071
U	238	0.03917	120.01000	25.800	0.05072	0.03182	0.03497
<b>SC-2</b>	45	531020.79700	0.00000	0.000	524482.45000	527885.03000	540694.91000
<b>GE-1</b>	72	1331151	0	0.000	1333434	1345008	1315010
<b>GE-2</b>	72	944161.52000	0.00000	0.000	924704.28000	944867.95000	962912.33000
<b>GE-3</b>	72	41284.91000	0.00000	0.000	41064.06000	40683.53000	42107.14000

Run Name: 1830410E05  
 Tube Number: 7  
 Sample Number: RINSE

Date/Time: 10/31/2018 20:00:00

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1320204	0	0.000	1341584	1297764	1321263
<b>SC-3</b>	45	11862.52000	0.00000	0.000	11845.87000	11885.86000	11855.83000
AL	27	85.80285	350.02700	59.400	37.77973	80.29591	139.33292
B	11	28.46540	7513.40300	0.800	28.71629	28.43429	28.24562
BE	9	0.01418	13.33300	152.200	0.00158	0.03910	0.00186
CA	44	204.47287	120.01000	10.700	204.81736	182.45948	226.14176
CR	52	0.75543	730.06300	42.800	1.04534	0.40729	0.81367
FE	57	210.55400	1303.49300	63.100	123.30124	144.93892	363.42184
K	39	102.90642	4824.49300	18.100	118.70710	107.64769	82.36446
MG	24	61.77586	1150.15000	83.900	24.93132	39.33644	121.05983
MN	55	0.22545	120.00700	210.200	-0.18873	0.74236	0.12273
NA	23	158.57187	54210.24700	43.300	103.29037	137.05683	235.36841
TI	47	1.49223	13.33300	82.100	2.90730	0.78203	0.78737
V	51	-0.10287	20.00000	0.000	-0.10274	-0.06595	-0.13994
<b>IN-2</b>	115	476117.68300	0.00000	0.000	478444.91000	473261.38000	476646.76000
<b>IN-3</b>	115	12142.30700	0.00000	0.000	11955.47000	12155.36000	12316.09000
AS	75	-0.07622	8.00000	0.000	0.03900	-0.13274	-0.13491
CO	59	-0.00963	16.66700	0.000	-0.01790	-0.00534	-0.00567
CU	63	0.03390	246.68300	218.300	0.02941	0.11004	-0.03776
MO	98	4.91177	2083.64000	39.000	3.13750	4.65172	6.94607
NI	60	0.31635	153.34300	132.500	0.74490	0.29715	-0.09302
SE	78	0.04720	13.11000	68.100	0.01407	0.07830	0.04923
SN	120	-0.01024	40.00000	0.000	0.05583	0.11294	-0.19947
SR	88	0.08630	6.66700	86.600	0.13052	0.12838	0.00000
ZN	66	2.80009	196.68300	31.900	1.80894	3.04941	3.54192
<b>TB-3</b>	159	75461.40000	0.00000	0.000	75293.12000	72547.65000	78543.43000
AG	107	0.01170	10.00000	101.400	0.02373	0.00000	0.01137
BA	137	0.00847	3.33300	1797.500	-0.07939	0.18419	-0.07939
CD	111	-0.00831	0.66700	0.000	-0.01860	0.01228	-0.01860
SB	121	-0.09003	43.33300	0.000	-0.31282	0.10350	-0.06076
<b>BI-3</b>	209	66325.68700	0.00000	0.000	65454.39000	67494.86000	66027.81000
PB	208	0.02797	116.67300	28.300	0.03489	0.01933	0.02968
TL	203	0.02537	20.00000	60.100	0.02565	0.00998	0.04047
U	238	-0.00337	10.00000	0.000	-0.00704	0.00024	-0.00332
<b>SC-2</b>	45	520826.30700	0.00000	0.000	526091.48000	518362.14000	518025.30000
<b>GE-1</b>	72	1363462	0	0.000	1384579	1341419	1364388
<b>GE-2</b>	72	959165.11300	0.00000	0.000	961811.00000	965639.28000	950045.06000
<b>GE-3</b>	72	42191.33700	0.00000	0.000	41445.52000	42248.60000	42879.89000

Run Name: 1830410E05  
 Tube Number: 8  
 Sample Number: **CCV**

Date/Time: 10/31/2018 20:02:25

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1361893	0	0.000	1407204	1311832	1366644
<b>SC-3</b>	45	12242.82300	0.00000	0.000	11485.59000	12546.20000	12696.68000
AL	27	2554.02943	9904.03000	3.400	2493.26038	2514.42024	2654.40767
B	11	260.09461	50225.10000	3.100	252.17275	268.37312	259.73795
BE	9	24.93295	11342.64300	3.500	24.90132	25.82653	24.07100
CA	44	2483.07166	1220.12700	17.500	2169.91681	2979.50762	2299.79056
CR	52	260.70210	94182.63700	2.800	267.76813	261.33264	253.00552
FE	57	2527.57826	15379.44000	2.100	2589.03771	2507.79816	2485.89891
K	39	2646.78474	25491.26000	7.700	2791.92658	2735.11865	2413.30899
MG	24	2589.17967	47847.54700	2.100	2649.03385	2574.79418	2543.71098
MN	55	256.85269	25588.44000	1.700	261.20782	252.52705	256.82321
NA	23	2553.52148	155902.52000	4.500	2683.23953	2512.63615	2464.68878
TI	47	263.39982	1286.80300	11.700	293.62174	264.68984	231.88788
V	51	255.45524	70996.01300	3.300	265.09183	251.16832	250.10557
<b>IN-2</b>	115	481311.07700	0.00000	0.000	473557.89000	488037.14000	482338.20000
<b>IN-3</b>	115	12564.30700	0.00000	0.000	12353.22000	12814.27000	12525.43000
AS	75	242.13760	9043.09700	5.400	246.30984	227.50021	252.60275
CO	59	248.83354	201317.45700	2.600	250.87495	241.61059	254.01508
CU	63	249.26495	179132.31700	1.000	246.87890	249.04220	251.87374
MO	98	25.57320	10998.48000	7.100	26.05720	23.55950	27.10292
NI	60	249.99700	60204.83000	4.400	245.44200	242.12615	262.42287
SE	78	25.23056	2447.78700	5.900	26.82339	25.02537	23.84293
SN	120	24.07917	4034.17000	11.500	23.72012	21.49702	27.02036
SR	88	23.50529	1890.24300	15.300	23.62510	19.85195	27.03883
ZN	66	236.61867	13380.63000	4.600	241.57760	224.15514	244.12327
<b>TB-3</b>	159	76708.58300	0.00000	0.000	72627.77000	77808.72000	79689.26000
AG	107	27.46943	23555.47000	3.900	28.68885	27.08957	26.62987
BA	137	264.12048	10591.57000	4.300	273.07920	251.19845	268.08381
CD	111	25.70731	1759.46700	5.200	26.75511	26.15286	24.21395
SB	121	24.51760	3814.10000	2.700	25.11488	24.63993	23.79800
<b>BI-3</b>	209	66905.58300	0.00000	0.000	63976.47000	66399.37000	70340.91000
PB	208	26.59935	57689.17700	3.500	26.90232	27.35288	25.54287
TL	203	26.16378	17556.62700	4.800	27.56778	25.76561	25.15794
U	238	24.61134	66962.37700	4.100	25.60923	24.65567	23.56911
<b>SC-2</b>	45	527442.32300	0.00000	0.000	515647.30000	541157.37000	525522.30000
<b>GE-1</b>	72	1327779	0	0.000	1359967	1319572	1303800
<b>GE-2</b>	72	955270.17000	0.00000	0.000	953729.52000	954867.49000	957213.50000
<b>GE-3</b>	72	41462.22700	0.00000	0.000	39649.60000	41466.01000	43271.07000

Run Name: 1830410E05  
 Tube Number: 9  
 Sample Number: CCB

Date/Time: 10/31/2018 20:04:50

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1321402	0	0.000	1360480	1320141	1283585
<b>SC-3</b>	45	11999.21300	0.00000	0.000	11815.92000	11485.24000	12696.48000
AL	27	0.40718	30.00000	1387.800	0.34047	6.09116	-5.21011
B	11	65.44878	14105.82700	1.400	66.04365	64.39716	65.90555
BE	9	0.00458	9.33300	358.000	0.02334	-0.00267	-0.00694
CA	44	-25.68791	13.33300	0.000	-53.92278	-9.44908	-13.69186
CR	52	0.83586	770.07300	39.000	0.53287	0.79425	1.18048
FE	57	9.31129	123.34300	15.800	9.11433	7.94648	10.87307
K	39	-5.41043	4007.51700	0.000	29.22733	25.04097	-70.49959
MG	24	3.58197	110.01000	22.000	4.24991	2.71284	3.78314
MN	55	-0.29359	70.00300	0.000	0.02222	-0.26995	-0.63304
NA	23	-6.92472	47977.01700	0.000	-25.77874	62.44450	-57.43993
TI	47	-1.32900	0.00000	0.000	-1.32900	-1.32900	-1.32900
V	51	0.03588	60.00300	691.700	-0.17708	-0.02373	0.30847
<b>IN-2</b>	115	477570.36700	0.00000	0.000	486731.48000	470149.38000	475830.24000
<b>IN-3</b>	115	12429.05300	0.00000	0.000	12616.31000	12144.90000	12525.95000
AS	75	0.09913	14.66700	116.400	-0.03207	0.14460	0.18486
CO	59	0.14418	140.00700	73.500	0.04296	0.13534	0.25425
CU	63	0.09953	300.02300	181.100	0.01100	-0.01933	0.30693
MO	98	0.10585	86.67000	67.400	0.04082	0.09449	0.18223
NI	60	0.42416	183.34700	103.500	-0.01623	0.42674	0.86196
SE	78	0.06897	15.33000	134.100	0.16905	0.05115	-0.01328
SN	120	0.26786	86.67300	36.000	0.15932	0.30044	0.34383
SR	88	0.04283	3.33300	173.200	0.00000	0.12849	0.00000
ZN	66	1.47429	126.67700	21.300	1.14241	1.76824	1.51221
<b>TB-3</b>	159	76030.34300	0.00000	0.000	74970.55000	75362.27000	77758.21000
AG	107	0.03498	30.00000	65.100	0.01192	0.03557	0.05745
BA	137	0.09021	6.66700	162.800	0.17567	0.17434	-0.07939
CD	111	-0.01860	0.00000	0.000	-0.01860	-0.01860	-0.01860
SB	121	0.16823	83.33700	77.800	0.22137	0.01908	0.26425
<b>BI-3</b>	209	65467.79700	0.00000	0.000	64710.26000	64118.08000	67575.05000
PB	208	0.02536	110.00300	46.600	0.01175	0.03136	0.03296
TL	203	0.07110	50.00000	19.000	0.05678	0.07288	0.08365
U	238	0.03493	113.34000	85.400	0.01953	0.01595	0.06931
<b>SC-2</b>	45	521306.79000	0.00000	0.000	529285.23000	517940.85000	516694.29000
<b>GE-1</b>	72	1359898	0	0.000	1366145	1353277	1360272
<b>GE-2</b>	72	944560.27000	0.00000	0.000	956288.58000	953253.42000	924138.81000
<b>GE-3</b>	72	42063.67700	0.00000	0.000	40762.60000	43371.32000	42057.11000

Run Name: 1830410E05  
 Tube Number: 10  
 Sample Number: **PBS**

Date/Time: 10/31/2018 20:07:16  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.00

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1370782	0	0.000	1363066	1383148	1366132
<b>SC-3</b>	45	12149.39700	0.00000	0.000	12116.03000	12206.27000	12125.89000
AL	27	15.72620	90.00700	118.800	10.60712	36.43671	0.13477
B	11	32.87355	8614.06000	4.100	33.28728	31.37995	33.95341
BE	9	0.01128	12.66700	196.200	-0.00749	0.03568	0.00564
CA	44	2.25970	26.66700	2345.800	9.31465	-53.92278	51.38724
CR	52	0.62097	700.07000	38.800	0.54269	0.89132	0.42890
FE	57	12.43181	143.34300	8.200	13.60691	11.76749	11.92105
K	39	50.15976	4517.67700	126.700	122.11988	26.76381	1.59559
MG	24	3.16208	103.34000	89.100	6.27086	0.77692	2.43847
MN	55	-0.20929	80.00300	0.000	-0.30908	-0.31435	-0.00446
NA	23	21.29755	49827.75000	89.600	-0.03131	36.77344	27.15052
TI	47	0.04141	6.66700	5732.200	-1.32900	2.78222	-1.32900
V	51	-0.06829	30.00000	0.000	-0.14074	-0.10493	0.04079
<b>IN-2</b>	115	487058.02000	0.00000	0.000	485136.57000	489954.53000	486082.96000
<b>IN-3</b>	115	11855.33700	0.00000	0.000	11445.28000	11766.40000	12354.33000
AS	75	0.09957	14.00000	65.600	0.17171	0.04442	0.08259
CO	59	0.01716	36.66700	44.200	0.02338	0.00871	0.01939
CU	63	0.20446	356.69300	30.400	0.15215	0.27313	0.18812
MO	98	-0.01664	33.33300	0.000	-0.04734	0.00107	-0.00367
NI	60	0.30227	146.67700	44.700	0.42843	0.31846	0.15993
SE	78	0.03942	12.66300	28.900	0.02628	0.04545	0.04653
SN	120	6.63281	1076.77300	10.700	6.75526	7.27213	5.87104
SR	88	0.30983	23.33300	66.000	0.27269	0.53049	0.12631
ZN	66	5.84046	353.35700	45.400	3.87212	8.85824	4.79101
<b>TB-3</b>	159	78204.60300	0.00000	0.000	76522.10000	78966.61000	79125.10000
AG	107	0.00753	6.66700	173.200	0.00000	0.00000	0.02258
BA	137	0.08172	6.66700	341.500	-0.07939	-0.07939	0.40395
CD	111	0.03934	4.00000	148.800	0.09849	0.03813	-0.01860
SB	121	-0.10289	43.33300	0.000	-0.18311	-0.06247	-0.06310
<b>BI-3</b>	209	70411.84300	0.00000	0.000	70753.57000	70672.98000	69808.98000
PB	208	0.09207	270.01300	54.100	0.03466	0.11768	0.12388
TL	203	0.01883	16.66700	114.500	-0.00477	0.03750	0.02376
U	238	-0.00470	6.66700	0.000	-0.00704	-0.00704	0.00000
<b>SC-2</b>	45	523361.06000	0.00000	0.000	519134.33000	525441.55000	525507.30000
<b>GE-1</b>	72	1430083	0	0.000	1426736	1420950	1442565
<b>GE-2</b>	72	953105.87300	0.00000	0.000	951551.86000	947759.52000	960006.24000
<b>GE-3</b>	72	42715.37300	0.00000	0.000	41133.85000	43019.84000	43992.43000

Run Name: 1830410E05  
 Tube Number: 11  
 Sample Number: LCSW

Date/Time: 10/31/2018 20:09:41  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.00

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1316928	0	0.000	1352336	1316345	1282103
<b>SC-3</b>	45	12696.53300	0.00000	0.000	12446.11000	12596.48000	13047.01000
AL	27	992.85361	4004.14300	8.700	993.25230	1079.46515	905.84338
B	11	155.77300	30077.46300	2.000	152.43957	156.35100	158.52843
BE	9	1.98061	877.37000	6.500	1.88787	1.92631	2.12766
CA	44	1961.31672	1003.42700	14.500	1977.75289	1669.60714	2236.59015
CR	52	25.45010	10000.91000	4.500	24.23730	25.60791	26.50509
FE	57	465.21724	2993.83000	9.300	454.38927	512.97420	428.28824
K	39	4863.13529	45049.45700	2.300	4772.95560	4989.77504	4826.67524
MG	24	991.87818	19050.72000	1.400	985.85167	1007.23010	982.55275
MN	55	25.27495	2707.10000	1.300	25.63638	25.02416	25.16430
NA	23	4834.61446	260687.25000	2.200	4948.79540	4821.36574	4733.68224
TI	47	100.26349	513.37000	8.400	107.54302	102.25950	90.98793
V	51	23.77519	6902.03700	5.500	23.88606	25.03282	22.40671
<b>IN-2</b>	115	485466.79000	0.00000	0.000	484654.47000	484141.23000	487604.67000
<b>IN-3</b>	115	12111.49000	0.00000	0.000	12269.54000	11752.39000	12312.54000
AS	75	4.67654	178.66700	14.800	4.85947	5.25833	3.91182
CO	59	128.33618	100065.78700	3.500	125.59353	133.50246	125.91255
CU	63	25.82145	18076.33700	4.000	24.82236	26.86815	25.77385
MO	98	25.11294	10411.38300	6.400	23.34300	26.47119	25.52462
NI	60	26.05494	6118.35300	3.100	25.62986	26.99564	25.53930
SE	78	5.06512	502.90000	4.000	4.85275	5.08424	5.25836
SN	120	33.05937	5318.03700	11.100	29.99787	37.13382	32.04642
SR	88	21.14809	1640.19000	4.200	20.73344	22.17691	20.53391
ZN	66	263.69021	14358.33700	7.500	248.86502	286.23810	255.96750
<b>TB-3</b>	159	77372.93300	0.00000	0.000	75444.68000	77617.11000	79057.01000
AG	107	26.19478	22683.63700	0.800	26.25347	26.36012	25.97075
BA	137	23.48759	950.09000	23.500	29.57845	22.09550	18.78883
CD	111	2.24180	156.66700	22.100	1.67381	2.46339	2.58819
SB	121	3.02796	526.70700	8.500	3.00321	3.29531	2.78537
<b>BI-3</b>	209	70270.73300	0.00000	0.000	70079.37000	70110.11000	70622.72000
PB	208	7.24762	16568.73300	2.800	7.01949	7.40398	7.31940
TL	203	0.86899	616.71700	23.500	1.00424	0.63445	0.96827
U	238	24.32282	69603.68000	2.900	23.75913	24.11125	25.09809
<b>SC-2</b>	45	519957.83000	0.00000	0.000	518380.07000	519014.76000	522478.66000
<b>GE-1</b>	72	1387990	0	0.000	1409228	1368174	1386568
<b>GE-2</b>	72	983740.11700	0.00000	0.000	989594.83000	970666.78000	990958.74000
<b>GE-3</b>	72	42548.16300	0.00000	0.000	40753.01000	43210.08000	43681.40000



Run Name: 1830410E05  
 Tube Number: 12  
 Sample Number: 9867762

Date/Time: 10/31/2018 20:12:07  
 Batch: 182991063702A  
 Class: U\*\*\*\*\*

Initial Vol: 1.24

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1358260	0	0.000	1333360	1381846	1359573
<b>SC-3</b>	45	12499.69300	0.00000	0.000	12176.27000	12286.10000	13036.71000
AL	27	27092.96358	106897.13000	2.000	26517.99248	27572.18708	27188.71117
B	11	181.15721	35667.77300	2.800	186.91548	178.15021	178.40595
BE	9	2.14154	978.71300	5.300	2.22940	2.18094	2.01430
CA	44	27250.52513	13377.17300	5.100	25737.10067	27587.17261	28427.30213
CR	52	283.41169	104617.43700	1.600	278.27618	285.05585	286.90305
FE	57	205460.56904	1271330.60300	1.200	206641.09041	207100.00557	202640.61115
K	39	3901.59373	36416.56700	0.800	3887.94633	3936.32968	3880.50519
MG	24	6591.57653	124393.83700	0.600	6549.74618	6619.97548	6605.00791
MN	55	1608.68280	163197.22000	1.500	1580.66228	1622.10412	1623.28200
NA	23	1813.33230	127740.29700	3.900	1758.11699	1893.25145	1788.62846
TI	47	886.96571	4430.98700	15.600	734.46628	1003.70138	922.72946
V	51	130.55920	37119.05000	1.200	128.83975	131.71120	131.12664
<b>IN-2</b>	115	478976.21000	0.00000	0.000	477409.30000	485395.39000	474123.94000
<b>IN-3</b>	115	11738.02300	0.00000	0.000	11118.78000	11958.39000	12136.90000
AS	75	70.90642	2483.58700	2.200	69.71047	72.67934	70.32946
CO	59	62.95585	47599.40000	2.100	63.90278	61.43206	63.53270
CU	63	3140.97101	2105495.12700	1.100	3181.43340	3119.37640	3122.10322
MO	98	24.27040	9767.46000	4.500	23.44798	25.49808	23.86514
NI	60	339.71711	76422.60000	4.000	335.91248	354.90873	328.33012
SE	78	5.60001	547.79000	4.200	5.63673	5.81586	5.34745
SN	120	1035.35842	160481.80000	0.600	1035.34416	1028.77770	1041.95339
SR	88	202.75684	15266.24000	3.200	195.75531	203.95792	208.55730
ZN	66	4619.77277	243413.21300	0.500	4618.25171	4597.10551	4643.96108
<b>TB-3</b>	159	78402.65700	0.00000	0.000	75245.80000	78732.82000	81229.35000
AG	107	40.03282	35152.45000	2.600	38.82962	40.59140	40.67743
BA	137	3350.84052	137446.78700	1.700	3284.53593	3380.62378	3387.36186
CD	111	22.34817	1567.44300	4.400	21.26833	22.57335	23.20283
SB	121	46.65511	7369.12000	3.700	47.77749	44.69118	47.49666
<b>BI-3</b>	209	83030.39300	0.00000	0.000	79518.77000	85063.79000	84508.62000
PB	208	3687.09140	9922916.62300	2.000	3684.45421	3612.88669	3763.93332
TL	203	0.50810	430.03300	34.700	0.35843	0.46354	0.70232
U	238	2.53719	8593.53300	3.300	2.61674	2.45152	2.54331
<b>SC-2</b>	45	539503.67700	0.00000	0.000	533513.98000	547654.91000	537342.14000
<b>GE-1</b>	72	1450547	0	0.000	1445831	1464519	1441289
<b>GE-2</b>	72	985931.47000	0.00000	0.000	973948.58000	991138.27000	992707.56000
<b>GE-3</b>	72	42783.14700	0.00000	0.000	40472.69000	43191.63000	44685.12000

Run Name: 1830410E05  
 Tube Number: 13  
 Sample Number: 9867762

Date/Time: 10/31/2018 20:14:31  
 Batch: 182991063702A  
 Class: UP\*\*\*\*\*

Initial Vol: 1.24

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1358833	0	0.000	1393256	1380551	1302692
<b>SC-3</b>	45	11719.00000	0.00000	0.000	11195.08000	12146.08000	11815.84000
AL	27	29093.75405	107496.44700	4.600	29934.09496	27534.76120	29812.40600
B	11	283.83732	54460.73000	2.900	281.25548	277.17239	293.08410
BE	9	3.15862	1442.08700	3.700	3.27194	3.16772	3.03619
CA	44	28607.66475	13157.05700	8.400	27198.42505	27232.66092	31391.90826
CR	52	304.33421	105132.98700	4.500	319.79937	294.51596	298.68731
FE	57	212513.89544	1231709.79700	4.700	221346.51413	201731.55722	214463.61498
K	39	5109.98244	43453.28000	4.500	5244.10041	4847.10351	5238.74341
MG	24	7162.16081	126581.85700	3.800	7410.74726	6866.57927	7209.15591
MN	55	1689.08141	160505.80300	3.000	1719.45457	1630.50476	1717.28491
NA	23	3729.40701	196271.21300	4.500	3896.76791	3558.88997	3732.56314
TI	47	1027.85635	4807.79300	3.100	1007.47493	1011.14958	1064.94455
V	51	139.52915	37179.27700	3.900	138.05983	134.97574	145.55188
<b>IN-2</b>	115	471971.64700	0.00000	0.000	478587.98000	457838.48000	479488.48000
<b>IN-3</b>	115	11604.67300	0.00000	0.000	11291.54000	11610.36000	11912.12000
AS	75	75.15834	2600.27700	1.700	76.51191	74.98290	73.98022
CO	59	63.25756	47294.41700	0.600	63.48808	63.46304	62.82155
CU	63	3196.54055	2118304.55300	2.500	3241.76710	3244.42401	3103.43055
MO	98	28.43132	11298.89300	1.200	28.04946	28.71640	28.52812
NI	60	338.85855	75326.84000	2.500	343.95930	343.68716	328.92918
SE	78	9.35490	895.36700	2.500	9.12369	9.59931	9.34169
SN	120	1011.23437	154918.73700	2.000	1033.89546	994.00810	1005.79954
SR	88	212.53874	15796.72300	4.100	216.28274	218.68260	202.65088
ZN	66	4609.78543	240097.27000	0.500	4633.99410	4609.23934	4586.12284
<b>TB-3</b>	159	78854.53300	0.00000	0.000	79578.43000	78200.78000	78784.39000
AG	107	39.36933	34740.68700	3.900	37.58146	40.14499	40.38154
BA	137	3248.81788	133959.51300	2.100	3174.24212	3302.73432	3269.47720
CD	111	23.91641	1684.79000	7.200	22.33329	23.67248	25.74346
SB	121	51.57085	8189.74000	7.500	52.58002	47.30278	54.82973
<b>BI-3</b>	209	82394.09000	0.00000	0.000	82636.61000	81246.41000	83299.25000
PB	208	3644.46364	9732495.22000	1.000	3630.15232	3686.59130	3616.64731
TL	203	1.37367	1140.12700	12.500	1.17633	1.49077	1.45389
U	238	3.21871	10822.08700	4.700	3.10090	3.16616	3.38907
<b>SC-2</b>	45	532059.39300	0.00000	0.000	528246.36000	529353.16000	538578.66000
<b>GE-1</b>	72	1446430	0	0.000	1480348	1465899	1393043
<b>GE-2</b>	72	979351.57300	0.00000	0.000	976685.14000	967330.69000	994038.89000
<b>GE-3</b>	72	42551.99700	0.00000	0.000	43010.04000	42809.39000	41836.56000

Run Name: 1830410E05  
 Tube Number: 14  
 Sample Number: 9867765

Date/Time: 10/31/2018 20:16:54  
 Batch: 182991063702A  
 Class: D\*\*\*\*\*

Initial Vol: 1.33

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1371266	0	0.000	1378596	1393587	1341616
<b>SC-3</b>	45	12433.12700	0.00000	0.000	12656.55000	11986.09000	12656.74000
AL	27	21220.85597	83207.24000	4.200	20481.84123	22223.22144	20957.50524
B	11	139.30931	28283.74300	0.800	139.29455	138.24545	140.38792
BE	9	1.91093	882.70700	9.000	1.72129	2.05930	1.95221
CA	44	18570.69377	9056.87000	8.400	16801.31034	19706.41974	19204.35124
CR	52	222.76730	81830.30700	3.700	213.57415	229.39293	225.33483
FE	57	220843.99890	1358519.09300	4.200	218965.67137	230904.34674	212661.97858
K	39	2911.83040	28069.67700	7.600	2877.17659	3147.91324	2710.40137
MG	24	5213.54550	97812.88000	2.900	5072.97503	5377.25107	5190.41040
MN	55	1388.00247	139923.08300	4.600	1326.81304	1453.28440	1383.90996
NA	23	1272.79396	103998.22000	11.300	1183.18300	1438.24682	1196.95205
TI	47	744.64617	3694.04300	4.400	708.52941	771.27816	754.13095
V	51	127.67261	36085.71300	4.300	121.32605	130.81156	130.88021
<b>IN-2</b>	115	468269.65000	0.00000	0.000	466833.11000	467309.82000	470666.02000
<b>IN-3</b>	115	11396.79300	0.00000	0.000	11091.79000	12260.96000	10837.63000
AS	75	70.79502	2400.24300	6.700	74.61660	65.49566	72.27280
CO	59	54.61266	39964.04000	8.600	54.45045	49.97991	59.40762
CU	63	2682.89945	1741296.06700	7.200	2714.17780	2475.19341	2859.32714
MO	98	23.37131	9103.59000	6.000	24.29835	21.75683	24.05874
NI	60	279.10340	60821.35700	6.100	276.84853	263.21335	297.24832
SE	78	4.62119	443.34000	5.700	4.33070	4.68125	4.85162
SN	120	972.68285	145951.67700	7.400	962.86317	905.77109	1049.41429
SR	88	297.75344	21678.70300	7.000	303.86938	274.50509	314.88586
ZN	66	4035.74729	205866.32300	6.700	4062.43602	3753.22336	4291.58247
<b>TB-3</b>	159	78811.44000	0.00000	0.000	78936.47000	78180.20000	79317.65000
AG	107	32.49658	28665.77000	1.100	32.10072	32.69751	32.69152
BA	137	2326.40865	95886.29700	3.300	2240.52461	2350.40564	2388.29571
CD	111	17.70706	1247.40700	5.100	16.86728	17.60368	18.65022
SB	121	41.18096	6548.64700	8.100	39.75497	38.79811	44.98979
<b>BI-3</b>	209	76646.63700	0.00000	0.000	74061.43000	76767.00000	79111.48000
PB	208	3793.11999	9420573.92300	1.600	3844.05221	3806.60189	3728.70587
TL	203	0.42515	330.02300	22.000	0.51967	0.33253	0.42324
U	238	2.63029	8219.90700	6.500	2.82339	2.49625	2.57123
<b>SC-2</b>	45	529800.73300	0.00000	0.000	529806.20000	532317.73000	527278.27000
<b>GE-1</b>	72	1414030	0	0.000	1420862	1401331	1419896
<b>GE-2</b>	72	966883.76000	0.00000	0.000	967352.95000	959964.75000	973333.58000
<b>GE-3</b>	72	42605.66000	0.00000	0.000	40954.07000	42698.89000	44164.02000

Run Name: 1830410E05  
 Tube Number: 15  
 Sample Number: 9867763

Date/Time: 10/31/2018 20:19:17  
 Batch: 182991063702A  
 Class: R\*\*\*\*\*

Initial Vol: 1.11

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1348308	0	0.000	1376755	1374144	1294024
<b>SC-3</b>	45	12319.50300	0.00000	0.000	12236.25000	12816.46000	11905.80000
AL	27	30505.68482	118497.33700	3.800	30475.42401	29365.07441	31676.55603
B	11	405.07312	76047.89300	3.100	397.79730	398.06687	419.35517
BE	9	5.85573	2642.94300	5.200	6.05201	5.50565	6.00954
CA	44	23607.38744	11395.48300	8.200	22498.25904	22494.44786	25829.45542
CR	52	291.10884	105761.14000	4.000	292.53016	278.95948	301.83689
FE	57	165288.07899	1007350.34700	4.100	163818.82455	159377.69187	172667.72054
K	39	13702.34025	115445.94000	4.800	13726.15883	13037.32207	14343.53984
MG	24	8032.49215	149231.05700	4.400	7943.57863	7734.97967	8418.91815
MN	55	1469.22793	146720.67700	4.300	1472.90876	1404.83208	1529.94294
NA	23	11208.09606	520604.88700	4.600	11279.83806	10664.62479	11679.82533
TI	47	1090.14450	5348.09000	8.800	1065.24885	1009.13511	1196.04955
V	51	166.83535	46698.06000	3.000	164.87488	163.02122	172.60993
<b>IN-2</b>	115	475536.72700	0.00000	0.000	476064.63000	479358.78000	471186.77000
<b>IN-3</b>	115	11936.52000	0.00000	0.000	12143.70000	11652.79000	12013.07000
AS	75	72.45230	2576.94300	7.400	66.96265	77.59870	72.79554
CO	59	305.52617	234789.21700	3.100	299.70186	316.33992	300.53673
CU	63	6511.64537	4438745.45300	2.200	6363.56953	6647.43076	6523.93583
MO	98	69.78979	28452.14000	3.300	67.93567	72.39020	69.04350
NI	60	337.36740	77126.64000	4.000	327.84019	352.98400	331.27801
SE	78	14.07201	1353.18300	3.600	13.47996	14.39034	14.34574
SN	120	1037.17589	163390.71000	3.900	995.88208	1076.44913	1039.19646
SR	88	259.36665	19835.70300	1.700	254.50581	262.67912	260.91501
ZN	66	4247.64842	227514.33300	2.800	4112.53597	4332.57885	4297.83043
<b>TB-3</b>	159	81091.63000	0.00000	0.000	78694.07000	80684.32000	83896.50000
AG	107	77.31014	70134.39000	2.800	79.78853	76.29482	75.84706
BA	137	2078.24682	88119.43000	1.500	2075.92856	2111.07565	2047.73626
CD	111	23.06187	1672.12700	5.000	23.09699	21.88811	24.20052
SB	121	40.96065	6688.77700	8.300	44.64980	40.31299	37.91917
<b>BI-3</b>	209	77962.35300	0.00000	0.000	77231.43000	77361.17000	79294.46000
PB	208	3142.97672	7942026.81000	0.600	3151.64797	3157.27015	3120.01206
TL	203	1.93159	1516.85700	12.800	1.64587	2.09374	2.05515
U	238	23.95203	76027.96700	1.500	24.13672	24.18547	23.53391
<b>SC-2</b>	45	526725.63000	0.00000	0.000	523169.76000	528382.26000	528624.87000
<b>GE-1</b>	72	1397017	0	0.000	1437173	1437859	1316019
<b>GE-2</b>	72	970049.67300	0.00000	0.000	961825.38000	974612.72000	973710.92000
<b>GE-3</b>	72	42892.93000	0.00000	0.000	42217.89000	42688.62000	43772.28000

Run Name: 1830410E05  
 Tube Number: 16  
 Sample Number: **9867764**

Date/Time: 10/31/2018 20:21:41  
 Batch: 182991063702A  
 Class: M\*\*\*\*\*

Initial Vol: 1.33

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1394728	0	0.000	1432882	1366043	1385260
<b>SC-3</b>	45	12149.33300	0.00000	0.000	11785.71000	12466.35000	12195.94000
AL	27	33681.00298	129089.36000	3.500	34033.35744	32382.65597	34626.99554
B	11	528.42707	101878.88300	1.600	519.19950	535.11979	530.96192
BE	9	6.20157	2893.65700	6.100	5.76834	6.40652	6.42984
CA	44	32485.55618	15472.88300	3.000	33533.97661	32274.28092	31648.41100
CR	52	335.63035	120328.51000	2.000	328.43838	336.78733	341.66534
FE	57	281842.67733	1694971.95300	1.800	286851.56798	276545.39707	282131.06694
K	39	13820.06333	114905.63300	1.100	13912.73866	13637.54432	13909.90700
MG	24	11407.75110	209141.83300	1.700	11631.67249	11297.66067	11293.92014
MN	55	4131.85881	407064.72000	2.000	4162.23154	4039.26543	4194.07945
NA	23	12044.95299	548507.96000	1.800	12219.72885	11809.18059	12105.94951
TI	47	1273.38103	6171.74700	0.800	1282.80010	1275.10162	1262.24136
V	51	190.87116	52716.83300	0.800	189.96508	189.90591	192.74249
<b>IN-2</b>	115	464090.96700	0.00000	0.000	454359.33000	467852.89000	470060.68000
<b>IN-3</b>	115	11395.86000	0.00000	0.000	11305.04000	11254.18000	11628.36000
AS	75	90.89945	3086.38700	2.100	90.83627	92.86407	88.99800
CO	59	334.52241	245543.14000	2.400	325.60230	340.65233	337.31260
CU	63	3035.17057	1975761.53300	1.500	3005.03654	3086.24423	3014.23093
MO	98	77.69385	30245.87700	1.700	76.98364	79.21172	76.88620
NI	60	386.21607	84334.30700	1.700	378.91930	391.46550	388.26340
SE	78	14.68675	1377.63300	3.300	15.07030	14.15076	14.83918
SN	120	1113.77526	167579.74700	2.500	1089.53732	1144.41559	1107.37288
SR	88	269.05774	19652.02700	4.400	255.55083	276.56736	275.05502
ZN	66	5155.70371	263698.91000	3.800	4961.93178	5358.42897	5146.75039
<b>TB-3</b>	159	77701.16300	0.00000	0.000	72959.46000	80262.74000	79881.29000
AG	107	96.99112	84281.13000	2.700	99.63247	94.42131	96.91958
BA	137	2277.71647	92464.25700	3.300	2353.58276	2274.96556	2204.60109
CD	111	24.89756	1726.13300	4.200	26.05003	24.59913	24.04353
SB	121	48.29336	7545.87700	4.900	51.00162	46.57627	47.30220
<b>BI-3</b>	209	78157.65700	0.00000	0.000	76335.93000	78369.33000	79767.71000
PB	208	3643.97775	9232521.42000	0.800	3611.67202	3664.95495	3655.30627
TL	203	1.84309	1450.16000	5.200	1.80875	1.95233	1.76820
U	238	24.64229	78427.25700	3.000	24.26822	25.49040	24.16826
<b>SC-2</b>	45	530691.34700	0.00000	0.000	530888.43000	531301.01000	529884.60000
<b>GE-1</b>	72	1391111	0	0.000	1416076	1371424	1385834
<b>GE-2</b>	72	952209.38700	0.00000	0.000	947032.95000	959621.08000	949974.13000
<b>GE-3</b>	72	41371.52000	0.00000	0.000	38656.55000	42508.47000	42949.54000

Run Name: 1830410E05  
 Tube Number: 17  
 Sample Number: 9867762

Date/Time: 10/31/2018 20:24:06  
 Batch: 182991063702A  
 Class: UL\*\*\*\*\*

Initial Vol: 1.24      Final Vol: 100.00      DF: 10.00      Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1290456	0	0.000	1258647	1291509	1321212
<b>SC-3</b>	45	11442.18000	0.00000	0.000	11425.46000	11045.21000	11855.87000
AL	27	5840.38435	21097.13700	4.900	5594.52704	6158.05609	5768.56993
B	11	123.12616	23791.46700	4.200	129.06069	120.84528	119.47250
BE	9	0.39174	175.33300	19.300	0.45950	0.40566	0.31006
CA	44	6193.32641	2793.77700	9.000	6541.43271	6490.83105	5547.71547
CR	52	60.47623	20776.80700	3.700	58.13063	62.55394	60.74411
FE	57	43903.86073	248621.31300	4.800	42077.04519	46239.44216	43395.09486
K	39	910.29583	10741.48700	5.500	914.29588	957.97268	858.61893
MG	24	1434.23619	24806.52300	6.100	1334.36771	1492.16205	1476.17883
MN	55	354.31393	32971.53000	4.300	336.78633	362.73877	363.41670
NA	23	403.20085	61802.31700	15.100	364.34740	473.18771	372.06743
TI	47	210.78524	966.76700	18.500	255.64217	191.78552	184.92805
V	51	26.71937	6988.79000	0.800	26.92262	26.73902	26.49647
<b>IN-2</b>	115	464385.15700	0.00000	0.000	460357.30000	471050.99000	461747.18000
<b>IN-3</b>	115	11861.50300	0.00000	0.000	10905.16000	11927.82000	12751.53000
AS	75	14.46829	520.01700	3.700	14.88998	13.87025	14.64463
CO	59	12.65259	9687.23300	2.100	12.83154	12.34129	12.78494
CU	63	600.50529	406153.31700	4.400	627.86738	598.68258	574.96591
MO	98	5.17956	2120.31000	14.700	6.00277	5.03730	4.49860
NI	60	68.38177	15553.20700	7.100	73.94668	66.04169	65.15694
SE	78	1.01021	102.67000	9.500	0.91187	1.01591	1.10286
SN	120	207.09924	32375.47000	5.800	217.50339	209.84453	193.94981
SR	88	42.37868	3213.90300	6.200	43.36559	44.35876	39.41170
ZN	66	913.16879	48569.08700	3.500	939.75229	921.69055	878.06354
<b>TB-3</b>	159	76541.52300	0.00000	0.000	72458.50000	78381.59000	78784.48000
AG	107	8.18783	7005.64700	4.200	8.58456	7.95876	8.02018
BA	137	674.23044	26989.57300	0.300	675.43222	675.48093	671.77818
CD	111	4.55201	312.67700	3.500	4.37149	4.66847	4.61607
SB	121	9.11108	1450.16300	8.300	9.56511	8.23921	9.52890
<b>BI-3</b>	209	69792.13700	0.00000	0.000	65866.83000	70893.39000	72616.19000
PB	208	810.63790	1833048.81300	1.600	821.30263	814.67107	795.94001
TL	203	0.15168	110.00700	63.100	0.16155	0.05141	0.24209
U	238	0.65561	1880.26000	4.500	0.67928	0.66528	0.62226
<b>SC-2</b>	45	495872.97300	0.00000	0.000	501205.19000	500967.49000	485446.24000
<b>GE-1</b>	72	1383401	0	0.000	1384340	1338524	1427338
<b>GE-2</b>	72	930636.10700	0.00000	0.000	918866.00000	946212.41000	926829.91000
<b>GE-3</b>	72	41773.68700	0.00000	0.000	40101.90000	41927.56000	43291.60000

Run Name: 1830410E05  
 Tube Number: 18  
 Sample Number: **9866461**

Date/Time: 10/31/2018 20:26:30  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.27

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1355416	0	0.000	1348097	1368635	1349516
<b>SC-3</b>	45	12039.30300	0.00000	0.000	11045.13000	12226.16000	12846.62000
AL	27	20809.73034	78845.48300	5.800	22109.03397	20605.66517	19714.49190
B	11	83.78816	17818.67000	2.600	85.61343	84.36091	81.39013
BE	9	1.31144	601.35300	9.500	1.25863	1.45389	1.22179
CA	44	7189.71300	3420.59000	3.700	6884.03731	7342.19486	7342.90683
CR	52	80.38608	28831.92300	5.500	85.36592	79.00034	76.79199
FE	57	46517.21656	276601.82000	5.500	49365.32903	45719.11281	44467.20783
K	39	4742.46674	41591.09300	9.000	5234.26341	4547.17991	4445.95691
MG	24	16593.93090	300646.26300	5.900	17573.08933	16595.90127	15612.80210
MN	55	371.85055	36340.19000	3.400	386.13654	367.34239	362.07271
NA	23	1135.59203	94970.69300	9.200	1252.69334	1099.96346	1054.11929
TI	47	939.62382	4517.65000	7.300	900.71080	1018.87562	899.28503
V	51	62.78160	17208.63300	2.300	62.72995	64.26020	61.35464
<b>IN-2</b>	115	471642.71300	0.00000	0.000	469239.70000	474091.14000	471597.30000
<b>IN-3</b>	115	11715.20300	0.00000	0.000	11541.59000	11621.37000	11982.65000
AS	75	9.77838	350.01000	16.800	11.54391	9.49275	8.29848
CO	59	29.18530	22038.85000	3.400	28.67599	30.31304	28.56685
CU	63	52.77573	35527.77300	1.100	53.43060	52.63896	52.25763
MO	98	1.12950	490.04000	23.100	1.06958	1.41464	0.90427
NI	60	160.04819	35972.74000	1.900	157.18283	163.26904	159.69269
SE	78	0.47299	53.33300	35.300	0.61715	0.51187	0.28996
SN	120	13.51481	2130.29000	0.800	13.58935	13.55952	13.39557
SR	88	23.87173	1790.22700	10.700	23.79907	26.45591	21.36020
ZN	66	296.47685	15630.05300	2.300	302.11548	288.90262	298.41245
<b>TB-3</b>	159	78962.25300	0.00000	0.000	76359.16000	79701.05000	80826.55000
AG	107	0.22920	203.34700	20.300	0.17552	0.25785	0.25424
BA	137	89.18513	3684.06000	8.200	93.84880	80.79037	92.91623
CD	111	1.02757	74.00000	19.600	0.80280	1.18995	1.08997
SB	121	0.99677	216.68300	42.000	1.06239	1.37859	0.54933
<b>BI-3</b>	209	69701.03700	0.00000	0.000	66821.36000	71416.73000	70865.02000
PB	208	59.25207	133825.03000	3.200	61.34016	57.63363	58.78241
TL	203	0.26691	190.01300	39.700	0.26350	0.16257	0.37468
U	238	2.68998	7642.94000	5.400	2.84678	2.55653	2.66661
<b>SC-2</b>	45	522007.55700	0.00000	0.000	519363.51000	524121.16000	522538.00000
<b>GE-1</b>	72	1426850	0	0.000	1470430	1441681	1368439
<b>GE-2</b>	72	971156.05000	0.00000	0.000	967434.20000	971608.11000	974425.84000
<b>GE-3</b>	72	42779.76300	0.00000	0.000	41565.56000	42699.51000	44074.22000

Run Name: 1830410E05  
 Tube Number: 19  
 Sample Number: 9866462

Date/Time: 10/31/2018 20:28:55  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.29

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1380753	0	0.000	1400471	1397184	1344603
<b>SC-3</b>	45	12029.23000	0.00000	0.000	11935.94000	12015.81000	12135.94000
AL	27	31914.11094	121172.33000	3.500	30674.70904	32894.24335	32173.38043
B	11	71.53149	15869.66000	0.600	71.14831	71.44376	72.00241
BE	9	1.65367	770.03000	2.700	1.68988	1.60388	1.66724
CA	44	36993.46206	17451.94000	2.600	36067.44149	36954.78814	37958.15655
CR	52	237.99263	84589.99000	2.100	243.55828	233.60778	236.81184
FE	57	62264.40762	370956.44000	1.400	61406.83377	62290.69536	63095.69374
K	39	4268.13394	37960.71300	1.000	4227.32375	4263.99880	4313.07928
MG	24	35834.77013	650620.88700	1.500	35212.31883	36017.12982	36274.86175
MN	55	675.30723	65978.11300	2.800	654.74189	691.82158	679.35822
NA	23	1257.73233	100133.22700	3.700	1229.52168	1231.86716	1311.80816
TI	47	1208.98861	5801.62000	4.000	1214.06659	1254.03920	1158.86004
V	51	122.99643	33652.98000	1.000	122.45091	122.07468	124.46369
<b>IN-2</b>	115	473352.62000	0.00000	0.000	471770.17000	479354.51000	468933.18000
<b>IN-3</b>	115	12124.79300	0.00000	0.000	11952.38000	11242.90000	13179.10000
AS	75	18.76432	688.02300	7.700	17.22109	18.98545	20.08641
CO	59	40.53355	31567.93300	7.400	39.14368	43.98324	38.47373
CU	63	275.29874	190236.23700	6.800	271.21166	295.62887	259.05570
MO	98	3.99452	1690.20000	8.900	4.38910	3.89008	3.70438
NI	60	387.73976	89771.45700	7.000	379.43405	417.95155	365.83367
SE	78	1.67359	167.78000	5.200	1.72449	1.72350	1.57277
SN	120	25.06086	4054.15700	1.600	25.47539	24.67279	25.03441
SR	88	61.54200	4751.12300	12.000	61.89937	68.72150	54.00513
ZN	66	954.83685	51831.17000	6.200	950.31615	1016.09354	898.10086
<b>TB-3</b>	159	77439.70000	0.00000	0.000	75897.32000	77839.49000	78582.29000
AG	107	1.28955	1116.78000	8.300	1.37741	1.32007	1.17116
BA	137	334.29180	13547.84300	6.400	313.76200	356.59667	332.51672
CD	111	4.45542	309.34300	1.500	4.46772	4.38456	4.51397
SB	121	4.60293	770.07700	25.600	5.55441	3.28488	4.96952
<b>BI-3</b>	209	71078.55000	0.00000	0.000	68833.27000	70721.65000	73680.73000
PB	208	330.16548	760426.25300	1.800	335.05773	331.80924	323.62946
TL	203	0.37446	270.01700	10.900	0.41481	0.37545	0.33313
U	238	3.58347	10388.42300	3.100	3.67058	3.45763	3.62220
<b>SC-2</b>	45	532243.29700	0.00000	0.000	526296.12000	530802.37000	539631.40000
<b>GE-1</b>	72	1446211	0	0.000	1461107	1470737	1406790
<b>GE-2</b>	72	979254.72300	0.00000	0.000	970011.47000	990178.34000	977574.36000
<b>GE-3</b>	72	42187.39700	0.00000	0.000	41103.93000	42227.55000	43230.71000



Run Name: 1830410E05  
 Tube Number: 20  
 Sample Number: **CCV**

Date/Time: 10/31/2018 20:31:19

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1301912	0	0.000	1355238	1234476	1316023
<b>SC-3</b>	45	11612.17300	0.00000	0.000	11024.95000	11205.18000	12606.39000
AL	27	2565.94170	9400.30700	7.000	2597.79788	2728.51984	2371.50739
B	11	273.88713	50396.19700	4.600	262.05009	287.28222	272.32907
BE	9	25.32586	10998.38700	6.000	23.95969	26.97026	25.04763
CA	44	2458.89595	1143.44700	9.500	2216.47874	2681.46672	2478.74239
CR	52	270.64972	92527.76700	6.500	275.75220	285.14509	251.05187
FE	57	2691.31696	15529.66300	1.300	2710.58246	2713.64293	2649.72550
K	39	2591.81127	23764.97000	3.500	2682.18864	2591.52077	2501.72439
MG	24	2640.35115	46127.80700	8.100	2774.81726	2751.49425	2394.74193
MN	55	270.58361	25534.83300	3.400	273.61696	277.79955	260.33432
NA	23	2648.65468	151376.25300	8.300	2774.23566	2777.01366	2394.71470
TI	47	273.03609	1263.46700	11.500	305.94525	269.65096	243.51207
V	51	267.10251	70309.35300	5.600	271.03832	279.67032	250.59890
<b>IN-2</b>	115	464857.54000	0.00000	0.000	463716.46000	470775.65000	460080.51000
<b>IN-3</b>	115	11683.08300	0.00000	0.000	12054.74000	10938.29000	12056.22000
AS	75	255.51914	8860.31700	5.500	243.92109	271.31221	251.32413
CO	59	265.44266	199309.97000	6.400	250.02874	283.50934	262.78989
CU	63	263.35013	175706.60700	4.500	251.85412	275.37029	262.82598
MO	98	25.67790	10281.20300	3.000	25.22010	25.25737	26.55622
NI	60	265.73960	59344.56300	7.900	249.30802	289.23308	258.67771
SE	78	24.93137	2337.31700	3.600	23.90229	25.52329	25.36853
SN	120	26.47285	4124.22700	7.900	24.50248	26.26791	28.64815
SR	88	24.12121	1803.55700	5.400	22.65641	25.11171	24.59552
ZN	66	255.48591	13413.90700	5.500	241.65752	269.66777	255.13242
<b>TB-3</b>	159	76538.77700	0.00000	0.000	72446.83000	77206.27000	79963.23000
AG	107	26.64587	22790.69700	4.900	27.95786	26.61653	25.36321
BA	137	254.81169	10201.24300	0.900	256.59134	252.16948	255.67423
CD	111	25.34505	1729.46300	7.200	26.85289	25.86385	23.31839
SB	121	24.80089	3840.78300	8.900	27.11333	24.57568	22.71366
<b>BI-3</b>	209	66044.15300	0.00000	0.000	65514.44000	66137.99000	66480.03000
PB	208	26.36598	56496.69700	1.000	26.66634	26.15743	26.27418
TL	203	25.39078	16842.19000	1.000	25.51991	25.09818	25.55426
U	238	24.86624	66878.25700	1.600	24.41958	24.98480	25.19435
<b>SC-2</b>	45	496667.45300	0.00000	0.000	497258.39000	495011.32000	497732.65000
<b>GE-1</b>	72	1337970	0	0.000	1373577	1319102	1321230
<b>GE-2</b>	72	915773.71000	0.00000	0.000	915201.94000	909412.41000	922706.78000
<b>GE-3</b>	72	41030.91700	0.00000	0.000	40041.01000	41124.56000	41927.18000

Run Name: 1830410E05  
 Tube Number: 21  
 Sample Number: CCB

Date/Time: 10/31/2018 20:33:44

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1248454	0	0.000	1258651	1270843	1215868
<b>SC-3</b>	45	11632.25700	0.00000	0.000	11875.62000	11465.49000	11555.66000
AL	27	9.54695	63.33700	163.500	13.64398	22.70323	-7.70636
B	11	71.49904	14343.40700	1.200	72.09932	70.51554	71.88225
BE	9	0.02188	16.00000	75.400	0.01703	0.04027	0.00835
CA	44	-46.75416	3.33300	0.000	-32.41691	-53.92278	-53.92278
CR	52	0.68099	690.06000	77.200	0.66677	1.21351	0.16269
FE	57	24.66832	206.68000	62.200	9.01121	39.68795	25.30581
K	39	15.24589	4064.21000	441.900	87.75529	-45.42635	3.40873
MG	24	4.37514	120.00700	70.300	1.98358	3.29973	7.84210
MN	55	-0.06437	90.00700	0.000	-0.29466	0.26924	-0.16770
NA	23	19.01180	47596.33000	212.300	-26.62329	33.60695	50.05176
TI	47	-0.60522	3.33300	0.000	-1.32900	-1.32900	0.84235
V	51	0.21722	103.33700	176.700	-0.14000	0.16855	0.62312
<b>IN-2</b>	115	466860.04000	0.00000	0.000	462907.73000	466277.94000	471394.45000
<b>IN-3</b>	115	11717.91300	0.00000	0.000	10864.16000	11975.40000	12314.18000
AS	75	-0.03785	9.33300	0.000	-0.17496	-0.18646	0.24786
CO	59	0.17316	156.67700	62.400	0.09776	0.12472	0.29698
CU	63	0.50070	553.37300	27.200	0.37090	0.64286	0.48835
MO	98	0.06268	66.67000	303.400	-0.04460	-0.04961	0.28225
NI	60	0.50491	193.34300	48.600	0.22953	0.69942	0.58578
SE	78	0.05945	14.00000	45.300	0.08207	0.06663	0.02967
SN	120	0.65919	143.34300	39.000	0.43634	0.94093	0.60029
SR	88	0.08448	6.66700	173.200	0.00000	0.00000	0.25344
ZN	66	2.03505	146.67700	53.900	3.30166	1.43246	1.37103
<b>TB-3</b>	159	76295.58700	0.00000	0.000	75272.60000	76299.58000	77314.58000
AG	107	0.01952	16.66700	34.700	0.02374	0.01171	0.02311
BA	137	0.50100	23.33300	103.100	-0.07939	0.67247	0.90992
CD	111	0.07928	6.66700	42.800	0.10044	0.04012	0.09729
SB	121	0.38448	116.67300	40.400	0.21896	0.40770	0.52679
<b>BI-3</b>	209	63945.79700	0.00000	0.000	63433.61000	64327.46000	64076.32000
PB	208	0.52988	1153.41300	8.400	0.48432	0.57315	0.53216
TL	203	0.04187	30.00000	36.400	0.02662	0.05715	0.04185
U	238	0.03639	113.34000	67.400	0.00845	0.04643	0.05430
<b>SC-2</b>	45	490297.30000	0.00000	0.000	486425.66000	493091.91000	491374.33000
<b>GE-1</b>	72	1319127	0	0.000	1315696	1324357	1317328
<b>GE-2</b>	72	928141.49700	0.00000	0.000	914349.21000	926366.78000	943708.50000
<b>GE-3</b>	72	40268.36700	0.00000	0.000	38957.59000	40321.93000	41525.58000

Run Name: 1830410E05  
 Tube Number: 22  
 Sample Number: 9866463

Date/Time: 10/31/2018 20:36:11  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.19

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1357702	0	0.000	1377427	1366875	1328803
<b>SC-3</b>	45	11895.83000	0.00000	0.000	11395.41000	11705.63000	12586.45000
AL	27	23211.80718	87018.82300	4.500	23877.40944	23748.22392	22009.78816
B	11	98.41631	20521.02300	2.400	98.71075	95.89270	100.64549
BE	9	1.35540	622.02000	9.900	1.24453	1.50398	1.31770
CA	44	157138.91459	73166.93300	2.500	157733.25671	160723.05587	152960.43118
CR	52	85.54150	30331.68700	3.600	87.75916	86.85493	82.01042
FE	57	85765.60100	504724.39300	3.300	86715.49608	88036.37679	82544.93013
K	39	4499.64317	39244.45300	9.100	4820.20734	4638.55378	4040.16839
MG	24	93423.79357	1675598.10300	2.800	95720.10112	93933.78317	90617.49641
MN	55	877.94194	84671.22000	4.100	899.20904	898.02973	836.58705
NA	23	1106.34774	92724.98000	9.900	1145.82577	1190.97890	982.23856
TI	47	1211.99568	5741.55700	6.300	1234.25486	1274.41751	1127.31466
V	51	87.63746	23685.04300	5.200	92.37139	87.24350	83.29748
<b>IN-2</b>	115	458725.24700	0.00000	0.000	458952.42000	459711.71000	457511.61000
<b>IN-3</b>	115	11406.31300	0.00000	0.000	10801.49000	12069.68000	11347.77000
AS	75	38.49130	1311.41300	5.900	40.71988	36.18680	38.56724
CO	59	23.43779	17211.80700	5.700	23.83362	21.94494	24.53480
CU	63	555.76103	361728.26000	5.000	569.75289	523.89855	573.63165
MO	98	5.35942	2120.29700	15.400	5.11144	4.68539	6.28143
NI	60	85.96067	18803.84000	6.100	90.58827	80.29803	86.99572
SE	78	1.15390	114.66700	12.500	1.28362	1.18024	0.99783
SN	120	127.08575	19148.24000	4.300	130.13685	120.77372	130.34667
SR	88	124.57165	9100.30700	1.900	125.44790	121.84003	126.42704
ZN	66	994.44024	50807.09700	7.400	1057.65268	913.46282	1012.20520
<b>TB-3</b>	159	77526.98700	0.00000	0.000	74347.02000	77929.54000	80304.40000
AG	107	2.31629	2013.59300	13.900	2.27149	2.01800	2.65937
BA	137	353.28852	14342.03000	4.700	334.20985	363.79885	361.85686
CD	111	2.88913	201.33300	1.400	2.84372	2.91335	2.91033
SB	121	5.37114	890.08300	11.400	5.87989	4.69331	5.54023
<b>BI-3</b>	209	69016.61300	0.00000	0.000	66499.85000	69536.41000	71013.58000
PB	208	548.45348	1226745.46700	1.300	555.80309	541.63592	547.92142
TL	203	0.38655	270.01700	30.700	0.50441	0.26734	0.38791
U	238	1.88429	5314.82300	5.400	1.90324	1.77390	1.97571
<b>SC-2</b>	45	512199.87700	0.00000	0.000	505993.35000	516146.01000	514460.27000
<b>GE-1</b>	72	1377360	0	0.000	1400955	1335213	1395913
<b>GE-2</b>	72	950631.47000	0.00000	0.000	949939.75000	948357.41000	953597.25000
<b>GE-3</b>	72	40960.12300	0.00000	0.000	40040.39000	41355.11000	41484.87000

Run Name: 1830410E05  
 Tube Number: 23  
 Sample Number: **9866464**

Date/Time: 10/31/2018 20:38:36  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.22

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1330930	0	0.000	1347623	1344793	1300373
<b>SC-3</b>	45	11855.73000	0.00000	0.000	11805.68000	11905.73000	11855.78000
AL	27	20012.29005	74890.74300	1.900	19688.37291	19913.28506	20435.21220
B	11	149.93839	29356.62000	1.200	149.47853	148.46101	151.87562
BE	9	1.26507	569.35000	3.500	1.26352	1.22166	1.31002
CA	44	122604.02314	56939.99700	2.400	120258.19048	121616.69784	125937.18108
CR	52	67.75118	24069.05000	0.200	67.62059	67.84363	67.78932
FE	57	62247.78413	365487.38000	1.100	61556.29404	62317.26107	62869.79728
K	39	3452.73681	31029.58000	2.700	3560.22947	3386.88517	3411.09579
MG	24	80554.26210	1441315.81300	1.400	79452.69983	80494.35759	81715.72890
MN	55	860.29764	82806.34000	3.500	839.75161	846.54615	894.59518
NA	23	1264.22179	98941.20000	1.400	1280.04876	1267.83253	1244.78409
TI	47	1477.63801	6988.90700	3.800	1423.10371	1535.55616	1474.25417
V	51	82.43914	22245.75000	3.400	80.41212	81.29060	85.61469
<b>IN-2</b>	115	459800.55000	0.00000	0.000	462500.20000	458351.67000	458549.78000
<b>IN-3</b>	115	11218.11000	0.00000	0.000	11032.17000	11436.29000	11185.87000
AS	75	25.65975	865.37000	6.100	23.93147	26.07815	26.96962
CO	59	21.09902	15269.36300	2.200	20.60107	21.51689	21.17912
CU	63	243.69273	156373.02000	0.900	241.15328	244.28885	245.63606
MO	98	5.97592	2323.66300	6.900	6.11845	5.51430	6.29502
NI	60	66.29798	14308.23300	4.400	66.02666	63.49847	69.36882
SE	78	0.88145	89.77700	10.800	0.98610	0.80040	0.85786
SN	120	68.71579	10214.51000	2.600	67.74441	67.66153	70.74143
SR	88	94.96828	6825.43700	4.300	94.23330	91.31167	99.35988
ZN	66	351.41242	17732.34300	3.000	343.79911	347.03702	363.40112
<b>TB-3</b>	159	78388.51000	0.00000	0.000	76469.11000	78633.10000	80063.32000
AG	107	1.03654	910.08300	12.100	1.03992	0.90904	1.16065
BA	137	158.96675	6521.99300	2.300	154.75646	160.95708	161.18672
CD	111	1.16684	83.33300	29.600	0.83091	1.14938	1.52022
SB	121	3.57095	620.05000	13.600	3.08876	3.56604	4.05805
<b>BI-3</b>	209	66979.25300	0.00000	0.000	66459.81000	66429.18000	68048.77000
PB	208	268.12464	582161.51000	0.100	268.17526	268.44011	267.75853
TL	203	0.17369	120.00700	60.400	0.07015	0.28007	0.17085
U	238	1.35851	3720.80000	7.800	1.44960	1.38366	1.24226
<b>SC-2</b>	45	509993.37700	0.00000	0.000	502943.00000	510959.72000	516077.41000
<b>GE-1</b>	72	1376738	0	0.000	1353406	1429556	1347252
<b>GE-2</b>	72	948741.29000	0.00000	0.000	956597.88000	944427.80000	945198.19000
<b>GE-3</b>	72	41893.70000	0.00000	0.000	41164.77000	42037.53000	42478.80000

Run Name: 1830410E05  
 Tube Number: 24  
 Sample Number: 9866465

Date/Time: 10/31/2018 20:41:02  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.30

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1317434	0	0.000	1364835	1296959	1290507
<b>SC-3</b>	45	11949.17700	0.00000	0.000	11665.58000	11795.68000	12386.27000
AL	27	28571.17466	107702.68000	2.100	28822.62695	29005.72796	27885.16906
B	11	164.75031	31678.25700	2.800	160.11539	169.29572	164.83981
BE	9	1.20981	539.35300	3.100	1.19034	1.25349	1.18560
CA	44	691604.42667	323563.73700	1.200	688457.52508	700898.50626	685457.24865
CR	52	56.30243	20225.93300	3.800	56.41017	58.40228	54.09485
FE	57	51498.14937	304740.34700	1.800	50812.54093	52543.25161	51138.65557
K	39	3573.13338	32225.59000	0.800	3546.61161	3604.88236	3567.90618
MG	24	439650.70188	7926199.46300	1.400	440000.52438	445628.86572	433322.71555
MN	55	941.52309	91367.67700	2.200	920.16228	943.03441	961.37259
NA	23	2946.08541	168276.52700	3.900	2938.85991	3063.01063	2836.38567
TI	47	2603.36837	12399.64300	5.000	2529.35980	2752.67001	2528.07530
V	51	103.50108	28137.24000	2.100	101.53593	105.76437	103.20295
<b>IN-2</b>	115	443236.74300	0.00000	0.000	438215.14000	454261.32000	437233.77000
<b>IN-3</b>	115	11259.59300	0.00000	0.000	11264.38000	11202.37000	11312.03000
AS	75	23.34300	790.69700	3.900	22.29628	23.98406	23.74866
CO	59	23.65420	17175.00700	3.500	22.72904	23.95106	24.28251
CU	63	288.90816	186029.99000	1.600	286.73720	285.92355	294.06373
MO	98	4.01531	1580.17700	9.800	3.70033	4.45397	3.89161
NI	60	65.43768	14181.45700	5.900	61.91938	64.78451	69.60915
SE	78	0.56994	58.66300	14.900	0.62928	0.47241	0.60813
SN	120	14.18208	2146.98700	5.000	14.93925	13.53542	14.07158
SR	88	352.16429	25412.16000	4.800	335.71091	351.24130	369.54066
ZN	66	156.12740	7929.47700	3.400	161.66111	155.59685	151.12425
<b>TB-3</b>	159	75484.42300	0.00000	0.000	74206.64000	73743.87000	78502.76000
AG	107	0.55264	466.70300	11.300	0.49366	0.61794	0.54631
BA	137	90.26691	3570.68700	9.600	80.33231	94.06643	96.40198
CD	111	0.58384	40.66700	38.800	0.79644	0.34591	0.60916
SB	121	1.30860	253.35700	29.400	1.37390	1.65636	0.89555
<b>BI-3</b>	209	65491.06300	0.00000	0.000	64549.55000	65625.25000	66298.39000
PB	208	76.14901	161736.37700	3.100	73.69269	78.30945	76.44490
TL	203	0.37574	250.02000	15.300	0.39637	0.42015	0.31069
U	238	2.01306	5384.87000	1.800	2.04093	2.02613	1.97212
<b>SC-2</b>	45	511114.47000	0.00000	0.000	510031.63000	513103.70000	510208.08000
<b>GE-1</b>	72	1299683	0	0.000	1322098	1302214	1274737
<b>GE-2</b>	72	893174.33700	0.00000	0.000	900759.28000	898655.38000	880108.35000
<b>GE-3</b>	72	39091.89700	0.00000	0.000	38477.10000	40241.53000	38557.06000

Run Name: 1830410E05  
 Tube Number: 25  
 Sample Number: 9866466

Date/Time: 10/31/2018 20:43:28  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1385025	0	0.000	1402176	1392633	1360267
<b>SC-3</b>	45	12526.55300	0.00000	0.000	12356.21000	11776.03000	13447.42000
AL	27	40771.49699	160786.85300	6.200	39792.05029	43622.41950	38900.02119
B	11	74.49946	16475.72300	1.300	75.08278	75.00875	73.40686
BE	9	2.41292	1124.05700	4.300	2.53346	2.35744	2.34786
CA	44	8691.64061	4280.87300	12.900	7574.49467	9816.17085	8684.25630
CR	52	206.90208	76412.79700	7.200	204.61619	222.84619	193.24387
FE	57	136036.86001	841765.71700	5.500	135854.69560	143658.68106	128597.20337
K	39	5860.11520	52481.76300	9.500	5920.03021	6384.38230	5275.93309
MG	24	19270.21589	363772.65000	4.300	18833.23751	20218.58908	18758.82108
MN	55	1099.91757	111636.39000	3.900	1103.41299	1140.65489	1055.68483
NA	23	392.52955	67119.66300	18.100	387.07323	466.01725	324.49816
TI	47	1280.15605	6381.85000	8.100	1207.25088	1398.95682	1234.26046
V	51	116.78515	33225.27700	3.500	116.17083	121.15277	113.03185
<b>IN-2</b>	115	470303.81700	0.00000	0.000	467187.38000	468635.77000	475088.30000
<b>IN-3</b>	115	11285.64700	0.00000	0.000	10718.87000	10784.51000	12353.56000
AS	75	39.32148	1323.41300	7.000	40.03100	41.65852	36.27492
CO	59	55.91039	40468.68300	8.600	59.49961	57.80755	50.42400
CU	63	1261.49721	810068.24700	7.600	1326.58614	1306.26544	1151.64005
MO	98	9.65264	3737.41300	8.700	10.10165	10.17569	8.68057
NI	60	490.22608	105635.02700	7.000	492.34130	523.20720	455.12973
SE	78	2.20095	216.44700	3.800	2.28205	2.20389	2.11690
SN	120	453.01643	67294.93700	6.800	461.46284	478.49255	419.09391
SR	88	64.28835	4631.06300	7.500	65.96410	68.02318	58.87777
ZN	66	2246.25675	113461.53700	5.600	2316.82522	2321.03247	2100.91256
<b>TB-3</b>	159	78318.67700	0.00000	0.000	78573.81000	77878.51000	78503.71000
AG	107	8.05646	7062.28000	2.200	8.20084	8.11334	7.85521
BA	137	826.39617	33852.54000	4.200	812.38971	800.69300	866.10580
CD	111	4.65333	326.67700	2.600	4.51446	4.69875	4.74679
SB	121	8.97201	1463.50700	7.900	9.04605	9.64417	8.22580
<b>BI-3</b>	209	94732.00300	0.00000	0.000	93846.40000	95728.42000	94621.19000
PB	208	11335.40485	34806164.48300	0.300	11357.53577	11303.37303	11345.30576
TL	203	0.34157	330.03000	35.300	0.31360	0.47380	0.23731
U	238	2.83271	10952.27700	2.900	2.74536	2.84541	2.90737
<b>SC-2</b>	45	531599.35700	0.00000	0.000	529317.73000	532047.77000	533432.57000
<b>GE-1</b>	72	1369589	0	0.000	1449860	1349287	1309621
<b>GE-2</b>	72	949898.47300	0.00000	0.000	966271.86000	934825.45000	948598.11000
<b>GE-3</b>	72	41000.63700	0.00000	0.000	39248.50000	41374.84000	42378.57000

Run Name: 1830410E05  
 Tube Number: 26  
 Sample Number: **9866467**

Date/Time: 10/31/2018 20:45:53  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1375665	0	0.000	1413184	1354402	1359411
<b>SC-3</b>	45	11715.68300	0.00000	0.000	11665.58000	11355.37000	12126.10000
AL	27	49408.15218	182600.69300	1.700	49765.73939	50027.20111	48431.51605
B	11	80.21542	17418.89300	1.900	78.82823	79.92829	81.88974
BE	9	2.56591	1187.39700	5.700	2.72973	2.52171	2.44628
CA	44	10023.56497	4617.74300	5.000	10150.68592	10451.83773	9468.17125
CR	52	375.43974	129669.35000	1.400	373.75099	381.47028	371.09795
FE	57	266587.49660	1545502.84000	3.100	266073.80673	274992.00293	258696.68014
K	39	7600.28984	62701.24700	2.700	7521.84990	7833.79380	7445.22582
MG	24	20377.68863	360066.37700	3.600	20121.71769	21202.08806	19809.26014
MN	55	2101.55322	199615.39700	3.500	2152.94025	2135.14933	2016.57007
NA	23	683.54713	74503.07700	8.900	641.29004	753.21909	656.13226
TI	47	1364.97170	6371.81700	5.800	1347.65803	1450.82824	1296.42883
V	51	133.50774	35568.38300	1.900	130.70143	135.64084	134.18094
<b>IN-2</b>	115	435178.15300	0.00000	0.000	429117.51000	450872.86000	425544.09000
<b>IN-3</b>	115	10875.19300	0.00000	0.000	10364.12000	10802.95000	11458.51000
AS	75	54.29362	1760.13300	7.500	55.38062	57.73162	49.76863
CO	59	78.07531	54584.46700	6.500	82.90174	78.47953	72.84468
CU	63	1855.99503	1151377.87300	4.600	1933.55411	1868.65945	1765.77154
MO	98	20.85332	7772.75300	2.600	21.37110	20.28176	20.90709
NI	60	561.81058	116942.70300	3.100	566.43791	576.33955	542.65428
SE	78	1.90902	174.67000	4.300	1.88941	1.83806	1.99960
SN	120	1117.05674	160154.05000	4.900	1176.62434	1106.17538	1068.37050
SR	88	68.47741	4761.14300	7.000	73.49478	68.05166	63.88580
ZN	66	2860.37962	139454.88300	4.000	2978.28441	2855.83160	2747.02285
<b>TB-3</b>	159	78784.67700	0.00000	0.000	79146.33000	78574.83000	78632.87000
AG	107	7.35521	6485.27000	4.500	6.97816	7.47254	7.61494
BA	137	813.94704	33538.40000	1.800	812.31617	800.18814	829.33682
CD	111	6.89078	486.01300	0.900	6.85924	6.85211	6.96099
SB	121	12.47161	2023.60700	2.600	12.64498	12.67610	12.09374
<b>BI-3</b>	209	70733.93300	0.00000	0.000	72543.64000	68421.48000	71236.68000
PB	208	1148.75775	2632846.07000	2.500	1116.25270	1167.40908	1162.61147
TL	203	0.48568	346.69300	37.300	0.48944	0.66479	0.30280
U	238	4.10618	11843.02300	1.200	4.05864	4.10594	4.15397
<b>SC-2</b>	45	498552.94700	0.00000	0.000	500770.81000	509284.76000	485603.27000
<b>GE-1</b>	72	1328522	0	0.000	1327129	1321514	1336922
<b>GE-2</b>	72	893598.89300	0.00000	0.000	894521.63000	916263.27000	870011.78000
<b>GE-3</b>	72	41301.63700	0.00000	0.000	40572.60000	41084.25000	42248.06000

Run Name: 1830410E05  
 Tube Number: 27  
 Sample Number: 9867761

Date/Time: 10/31/2018 20:48:18  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.36

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1338546	0	0.000	1369472	1304672	1341493
<b>SC-3</b>	45	12125.97000	0.00000	0.000	12426.37000	11895.70000	12055.84000
AL	27	29897.61471	114371.90300	3.100	28854.51983	30214.32073	30624.00358
B	11	69.29620	14982.04000	0.200	69.16463	69.46874	69.25525
BE	9	2.05344	925.37700	0.900	2.07398	2.04467	2.04167
CA	44	21121.92387	10054.28000	3.800	20877.81863	20479.10121	22008.85178
CR	52	214.93414	77002.40300	5.500	201.30018	220.18565	223.31658
FE	57	646346.85621	3878392.13000	5.200	609849.57983	653583.97211	675607.01670
K	39	4179.87771	37542.41000	3.100	4038.85591	4290.49047	4210.28675
MG	24	12096.70076	221264.22000	4.400	11497.16060	12495.59769	12297.34399
MN	55	2738.39010	269169.39700	5.400	2570.35696	2799.95355	2844.85980
NA	23	2147.25317	137693.87300	5.600	2009.86998	2202.33655	2229.55299
TI	47	885.14088	4280.91700	5.100	832.78304	912.18488	910.45472
V	51	681.11906	187535.21300	4.300	649.94129	686.11882	707.29708
<b>IN-2</b>	115	434090.65700	0.00000	0.000	433093.02000	432670.80000	436508.15000
<b>IN-3</b>	115	9636.68700	0.00000	0.000	9262.19000	10275.26000	9372.61000
AS	75	724.39102	20701.28300	5.700	738.10539	678.10126	756.96641
CO	59	110.71147	68610.95000	5.500	110.68430	104.66134	116.78877
CU	63	1206.30657	662961.64700	5.500	1216.30223	1135.48260	1267.13487
MO	98	32.06490	10574.74700	5.200	30.57435	31.74616	33.87418
NI	60	314.14708	57895.15300	6.300	316.76601	293.10680	332.56843
SE	78	2.76579	249.11300	3.700	2.78284	2.65532	2.85921
SN	120	7648.19496	971108.55300	6.400	7626.23030	7166.41425	8151.94033
SR	88	156.59633	9640.61300	8.100	163.32328	141.90018	164.56552
ZN	66	2788.38423	120349.62000	6.200	2859.10956	2591.84852	2914.19462
<b>TB-3</b>	159	75907.19300	0.00000	0.000	73804.14000	76109.92000	77807.52000
AG	107	9.15533	7779.39000	7.900	8.74295	9.99337	8.72967
BA	137	1368.94035	54352.62300	2.600	1340.60099	1407.98552	1358.23453
CD	111	10.30769	700.69300	7.200	9.66379	10.13583	11.12345
SB	121	34.16141	5234.70000	8.200	35.42455	36.11532	30.94436
<b>BI-3</b>	209	71765.33300	0.00000	0.000	70883.36000	71104.15000	73308.49000
PB	208	2526.36110	5876727.54700	2.200	2475.98017	2586.10823	2516.99490
TL	203	0.43606	316.69000	25.500	0.50103	0.49946	0.30768
U	238	1.86731	5474.83700	4.200	1.95502	1.80374	1.84318
<b>SC-2</b>	45	526234.31700	0.00000	0.000	540152.06000	516368.98000	522181.91000
<b>GE-1</b>	72	1362784	0	0.000	1411239	1303075	1374039
<b>GE-2</b>	72	938013.42700	0.00000	0.000	952168.19000	927357.49000	934514.60000
<b>GE-3</b>	72	40876.66000	0.00000	0.000	40542.88000	40692.90000	41394.20000



Run Name: 1830410E05  
 Tube Number: 28  
 Sample Number: 9867766

Date/Time: 10/31/2018 20:50:43  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.27

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1288327	0	0.000	1345130	1282064	1237787
<b>SC-3</b>	45	11338.65700	0.00000	0.000	10384.43000	11956.01000	11675.53000
AL	27	28602.55799	102077.83300	5.600	30335.17078	27155.35706	28317.14613
B	11	62.82726	13291.69000	2.000	61.39887	63.46237	63.62055
BE	9	2.21417	959.37700	7.400	2.10733	2.40332	2.13185
CA	44	15645.83756	6938.83300	10.100	17142.63066	13984.74663	15810.13539
CR	52	231.91798	77521.63000	6.000	243.95263	216.80013	235.00119
FE	57	155654.77871	870978.01000	7.000	167653.99467	146581.91831	152728.42316
K	39	5679.52488	46226.30700	5.800	6012.67326	5353.34878	5672.55259
MG	24	13383.36865	228309.46700	6.700	14345.69069	12570.97311	13233.44214
MN	55	1220.04648	111990.38700	5.100	1288.80549	1166.35853	1204.97541
NA	23	575.96552	67836.55300	14.100	653.68327	491.71168	582.50161
TI	47	893.58275	4030.84700	10.400	975.04016	913.87273	791.83535
V	51	147.54171	37924.12000	6.400	157.52027	138.74670	146.35815
<b>IN-2</b>	115	451895.19300	0.00000	0.000	452251.72000	451891.92000	451541.94000
<b>IN-3</b>	115	11226.52300	0.00000	0.000	11152.79000	10835.20000	11691.58000
AS	75	188.27698	6286.19300	2.900	183.21241	194.18646	187.43208
CO	59	48.54973	35090.13000	5.000	47.01861	51.34334	47.28722
CU	63	1786.19353	1144402.07000	4.500	1768.29654	1873.59448	1716.68958
MO	98	16.24001	6258.49000	8.800	14.62066	17.29822	16.80115
NI	60	277.21246	59598.99700	3.700	274.86263	288.39905	268.37569
SE	78	5.92318	546.01300	4.300	6.14600	5.97475	5.64880
SN	120	1157.54303	171448.72000	4.900	1114.73742	1222.47173	1135.41994
SR	88	103.88138	7465.82000	4.100	105.53383	107.04176	99.06854
ZN	66	1958.83207	98666.38700	2.600	1961.50433	2008.43623	1906.55565
<b>TB-3</b>	159	75678.63000	0.00000	0.000	72455.79000	77426.01000	77154.09000
AG	107	7.55509	6398.60300	3.200	7.59786	7.29498	7.77244
BA	137	1152.30560	45571.95700	4.300	1192.03916	1096.18316	1168.69446
CD	111	6.20903	420.67700	9.100	6.25754	5.62320	6.74636
SB	121	23.37495	3594.03300	6.500	22.96485	22.11305	25.04695
<b>BI-3</b>	209	70053.40000	0.00000	0.000	68882.75000	70674.51000	70602.94000
PB	208	1962.89716	4457144.90700	0.400	1964.90048	1953.40610	1970.38491
TL	203	0.36055	256.68300	17.500	0.41451	0.37570	0.29144
U	238	2.25513	6452.09700	3.800	2.21898	2.35382	2.19260
<b>SC-2</b>	45	494335.06000	0.00000	0.000	498719.25000	489634.84000	494651.09000
<b>GE-1</b>	72	1365886	0	0.000	1409640	1343762	1344256
<b>GE-2</b>	72	961009.88000	0.00000	0.000	977184.36000	946516.86000	959328.42000
<b>GE-3</b>	72	41853.24000	0.00000	0.000	40733.49000	42789.67000	42036.56000

Run Name: 1830410E05  
 Tube Number: 29  
 Sample Number: 9867767

Date/Time: 10/31/2018 20:53:07  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.12

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1317975	0	0.000	1318894	1314277	1320752
<b>SC-3</b>	45	11825.78300	0.00000	0.000	11165.24000	11885.76000	12426.35000
AL	27	30876.53154	115042.90300	4.800	32305.81149	30973.94557	29349.83755
B	11	48.25421	11015.05300	1.500	47.41882	48.51518	48.82863
BE	9	1.73318	770.02700	10.700	1.52296	1.87467	1.80192
CA	44	15171.29767	7048.85700	0.500	15253.60667	15120.73888	15139.54746
CR	52	364.86943	127048.91300	4.600	383.26688	360.52302	350.81839
FE	57	111215.35878	650418.97300	3.800	116041.44654	109685.21411	107919.41570
K	39	4650.65945	40260.70300	3.400	4830.72410	4579.70983	4541.54442
MG	24	5863.53563	104523.26700	4.600	6170.33016	5751.21483	5669.06189
MN	55	236.31032	22730.13300	4.700	248.70275	227.12442	233.10379
NA	23	869.94491	82642.74300	10.400	971.04078	840.71420	798.07976
TI	47	671.29208	3157.21300	11.800	760.63828	642.65093	610.58703
V	51	80.97666	21761.75000	5.200	83.73100	83.02484	76.17412
<b>IN-2</b>	115	458633.72700	0.00000	0.000	461977.48000	451719.30000	462204.40000
<b>IN-3</b>	115	11195.31000	0.00000	0.000	11208.53000	10915.66000	11461.74000
AS	75	13.68763	464.67700	8.800	12.61667	14.99874	13.44748
CO	59	9.01138	6518.61700	1.100	8.92120	9.11856	8.99439
CU	63	4132.46538	2642087.46300	1.900	4099.45014	4223.52452	4074.42149
MO	98	17.06400	6555.33700	5.800	15.93401	17.73387	17.52411
NI	60	81.56041	17545.54700	4.600	78.28095	85.61307	80.78721
SE	78	17.41056	1612.54700	4.000	17.89440	17.71515	16.62212
SN	120	874.39856	129270.10000	2.600	848.72205	885.50644	888.96720
SR	88	187.27666	13430.85000	3.900	193.90745	188.37946	179.54309
ZN	66	1019.66007	51264.97000	2.200	994.46016	1038.57656	1025.94348
<b>TB-3</b>	159	77204.84000	0.00000	0.000	74367.95000	77203.78000	80042.79000
AG	107	145.60030	125714.47700	3.400	150.65849	145.40104	140.74136
BA	137	2491.78152	100554.01300	5.200	2614.36834	2354.88372	2506.09251
CD	111	23.54631	1623.45000	3.000	23.80897	24.09448	22.73548
SB	121	11.74686	1866.90300	9.700	12.74157	12.00059	10.49841
<b>BI-3</b>	209	267533.17300	0.00000	0.000	260356.77000	273870.41000	268372.34000
PB	208	403.98078	3501950.83300	2.700	412.83586	391.75093	407.35556
TL	203	0.13206	366.70000	30.400	0.13676	0.08977	0.16965
U	238	2.46517	26907.70700	4.000	2.57840	2.40587	2.41126
<b>SC-2</b>	45	500380.26300	0.00000	0.000	499366.24000	495519.60000	506254.95000
<b>GE-1</b>	72	1375611	0	0.000	1345685	1357990	1423158
<b>GE-2</b>	72	931120.03700	0.00000	0.000	928938.42000	925621.16000	938800.53000
<b>GE-3</b>	72	40549.38700	0.00000	0.000	39539.87000	39981.11000	42127.18000

Run Name: 1830410E05  
 Tube Number: 30  
 Sample Number: **CCV**

Date/Time: 10/31/2018 20:55:32

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1293477	0	0.000	1336063	1267241	1277129
<b>SC-3</b>	45	11211.86700	0.00000	0.000	11135.15000	11064.97000	11435.48000
AL	27	2652.27372	9410.38700	1.000	2620.39305	2665.77377	2670.65435
B	11	258.45100	47434.11300	1.700	253.56861	261.90664	259.87775
BE	9	25.83216	11159.16000	3.500	24.81952	26.56579	26.11117
CA	44	2791.07080	1250.12700	9.100	2583.94408	2716.12827	3073.14005
CR	52	273.40765	90514.46700	0.200	274.12059	272.98906	273.11330
FE	57	2802.89182	15629.82300	3.500	2741.68687	2750.05515	2916.93343
K	39	2763.42838	24245.65300	0.700	2784.15819	2748.85107	2757.27588
MG	24	2623.51354	44419.37000	2.800	2604.04743	2705.30501	2561.18816
MN	55	264.53748	24145.75300	2.300	257.36607	268.38250	267.86386
NA	23	2637.56661	146133.67300	1.500	2628.57453	2681.83714	2602.28815
TI	47	239.44624	1076.77000	13.200	203.74128	250.40377	264.19368
V	51	271.97995	69297.28300	2.500	265.33321	278.97121	271.63542
<b>IN-2</b>	115	455106.01000	0.00000	0.000	460461.17000	451174.72000	453682.14000
<b>IN-3</b>	115	11102.61000	0.00000	0.000	10781.91000	11743.76000	10782.16000
AS	75	264.51844	8718.22300	5.800	265.69054	248.49558	279.36922
CO	59	272.19629	194281.74700	5.600	281.11406	254.46505	281.00977
CU	63	278.22666	176364.18000	5.400	279.77724	262.39289	292.50987
MO	98	26.03755	9887.65300	7.800	24.97292	24.76720	28.37251
NI	60	276.28336	58705.76300	4.800	280.34853	261.55215	286.94938
SE	78	24.72356	2268.86000	2.100	24.18723	24.77517	25.20827
SN	120	31.13122	4577.75000	15.400	34.38430	25.61013	33.39922
SR	88	25.08549	1780.22300	15.800	22.72559	22.85813	29.67274
ZN	66	268.05814	13370.64000	5.900	280.42006	250.16637	273.58798
<b>TB-3</b>	159	75475.18300	0.00000	0.000	75232.83000	74318.96000	76873.76000
AG	107	26.83415	22673.89700	2.000	26.49420	26.54295	27.46532
BA	137	253.38883	10007.78300	7.800	231.31212	259.91025	268.94413
CD	111	24.63548	1661.45700	2.300	25.23252	24.12624	24.54768
SB	121	23.25210	3567.35300	6.400	23.10113	21.84131	24.81385
<b>BI-3</b>	209	65129.11000	0.00000	0.000	64136.81000	66147.67000	65102.85000
PB	208	26.79160	56607.62700	2.100	26.84463	26.20596	27.32423
TL	203	26.10760	17076.03300	1.100	26.27040	25.77339	26.27903
U	238	25.36672	67259.69000	2.600	25.59478	24.61505	25.89033
<b>SC-2</b>	45	482970.30700	0.00000	0.000	492227.77000	478573.94000	478109.21000
<b>GE-1</b>	72	1311570	0	0.000	1317302	1320055	1297353
<b>GE-2</b>	72	893609.20300	0.00000	0.000	912412.25000	872799.36000	895616.00000
<b>GE-3</b>	72	38693.74300	0.00000	0.000	38185.40000	39047.83000	38848.00000

Run Name: 1830410E05  
 Tube Number: 31  
 Sample Number: CCB

Date/Time: 10/31/2018 20:57:57

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	1234336	0	0.000	1226874	1248623	1227510
<b>SC-3</b>	45	11141.87000	0.00000	0.000	10865.01000	10234.32000	12326.28000
AL	27	4.95239	43.33300	224.500	-4.78933	17.06798	2.57852
B	11	62.31236	12653.11000	3.000	61.56031	60.92663	64.45015
BE	9	0.01452	12.66700	71.200	0.01789	0.00291	0.02275
CA	44	20.26981	33.33300	211.700	40.10219	-28.96797	49.67520
CR	52	0.83778	716.72700	23.300	0.72805	0.72245	1.06284
FE	57	23.00003	186.68300	44.600	31.36029	26.09786	11.54194
K	39	66.96145	4224.21000	156.500	149.23892	102.69079	-51.04537
MG	24	4.84829	120.00700	102.000	1.17902	10.46976	2.89609
MN	55	0.37420	130.00700	220.900	-0.34054	0.18353	1.27961
NA	23	29.05232	45736.33700	370.900	21.94212	140.19257	-74.97774
TI	47	-1.32900	0.00000	0.000	-1.32900	-1.32900	-1.32900
V	51	0.08835	70.00300	242.200	-0.09603	0.03803	0.32305
<b>IN-2</b>	115	457494.78000	0.00000	0.000	457218.49000	462462.86000	452802.99000
<b>IN-3</b>	115	11131.52300	0.00000	0.000	10581.06000	11461.80000	11351.71000
AS	75	0.26995	18.66700	128.300	0.40105	-0.12268	0.53147
CO	59	0.15328	133.34000	120.300	0.05717	0.03685	0.36583
CU	63	0.63122	606.71300	28.700	0.57145	0.48752	0.83469
MO	98	-0.04708	20.00000	0.000	-0.09855	-0.04742	0.00471
NI	60	0.45681	170.01000	67.300	0.68928	0.10829	0.57288
SE	78	0.06693	14.44300	53.300	0.07691	0.09655	0.02732
SN	120	1.95304	326.69000	16.800	1.60052	2.25062	2.00799
SR	88	0.04538	3.33300	173.200	0.00000	0.13615	0.00000
ZN	66	0.33786	56.66700	93.900	0.46299	-0.02292	0.57350
<b>TB-3</b>	159	72450.62300	0.00000	0.000	71823.93000	71521.20000	74006.74000
AG	107	0.01634	13.33300	86.600	0.02488	0.00000	0.02414
BA	137	0.44935	20.00000	119.000	-0.07939	0.99006	0.43737
CD	111	0.03281	3.33300	53.100	0.04378	0.01272	0.04194
SB	121	0.28995	96.67000	71.800	0.17802	0.53023	0.16158
<b>BI-3</b>	209	62699.92000	0.00000	0.000	61654.79000	62719.15000	63725.82000
PB	208	0.82001	1720.15700	4.200	0.83936	0.78038	0.84028
TL	203	0.01640	13.33300	55.900	0.01138	0.02698	0.01085
U	238	0.02033	70.00300	31.200	0.01687	0.01646	0.02766
<b>SC-2</b>	45	479013.96300	0.00000	0.000	476223.27000	484092.77000	476725.85000
<b>GE-1</b>	72	1283966	0	0.000	1278426	1296703	1276770
<b>GE-2</b>	72	906288.76300	0.00000	0.000	904757.02000	911902.64000	902206.63000
<b>GE-3</b>	72	38439.62000	0.00000	0.000	37523.55000	38516.66000	39278.65000

# US EPA Tune Check Report

**Operator Name** US19\_USR\_INS14259  
**Acq/Data Batch** C:\Agilent\ICPMH\1\DATA\~EPATUNEaa.b  
**Acq. Date-Time** 10/31/2018 4:21:13 AM  
**Report Comment** ICP-MS #19204 (E05) Daily Tune Check  
**Instrument Name** G3281A JP12071581

[No Gas]

**Sensitivity**

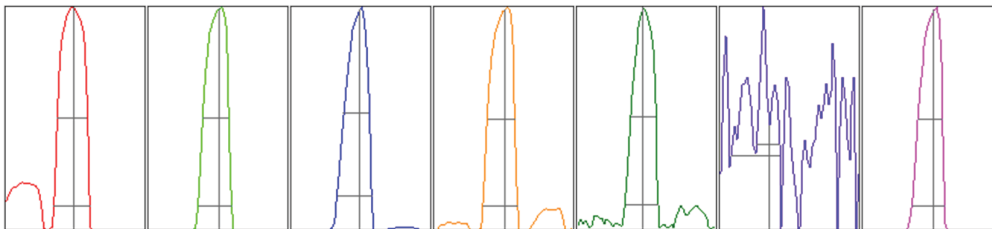
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	844	8444.81			1.018	5.000
89	10.00	5952	59517.17			0.924	5.000
205	10.00	3146	31460.88			0.675	5.000
70	1.00	275	2752.43	0.00		62.515	
156	1.00	16	163.51	0.00		14.572	
220	1.00	1	6.20	0.00		36.780	
140	10.00	5469	54692.20	0.00		0.818	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	847	848	843	854	831
89	6024	5969	5921	5966	5878
205	3177	3130	3151	3150	3123
70	228	286	155	142	565
156	16	17	13	16	20
220	1	1	1	0	1
140	5491	5451	5473	5525	5406

Integration Time [sec] 0.1

**Resolution/Axis**



# US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	1347.57	7.00	6.90 - 7.10	
89	10846.62	89.05	88.90 - 89.10	
205	5911.11	205.00	204.90 - 205.10	
70	479.13	70.05	-	
156	31.65	155.95	-	
220	0.75	219.60	-	
140	10554.22	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.765	0.800	
89	0.57	0.727	0.800	
205	0.54	0.748	0.800	
70	0.60	0.752		
156	0.54	0.720		
220	0.49	1.035		
140	0.54	0.714		

Integration Time [sec]      0.1  
 Acquisition Time [sec]    260.3  
 Y Axis                            Linear

## Tune Parameters

### Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

### Lens Parameters

Extract 1	0.0 V	Omega Lens	11.0 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-100 V	Cell Exit	-59 V		

### Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	190 V		

### QP Parameters

Mass Gain	122	Axis Gain	0.9988	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.03		

## Hardware Settings

### Torch

Torch H	0.9 mm	Torch V	-1.2 mm
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### EM

Discriminator	4.5 mV	Analog HV	1754 V	Pulse HV	1227 V
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Date File Name: 18K05H00.E05

Method Reference Name(s):

Run Name: 1831001E05

Analyst: 25839

Reviewed By: Choon Y Tian  
Reviewed Date: 11/06/2018 06:10

Verified By: Parker D Lindstrom  
Verified Date: 11/09/2018 16:45

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
<b>SC-1</b>		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
-----		
<b>IN-1</b>		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
-----		
<b>BI-1</b>		209
	TL	203
	PB	208
	U	238
-----		

Run Name: 1831001E05  
 Tube Number: 1  
 Sample Number: **S0**

Date/Time: 11/06/2018 0:26:21

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
NA	23	0.00000	38791.64700	0.000	-5.17319	47.55449	-42.38130
MG	24	0.00000	40.00000	0.000	-0.42318	0.51145	-0.08827
AL	27	0.00000	46.67000	0.000	-8.16002	2.89275	5.26727
K	39	0.00000	3200.56000	0.000	-6.16219	25.26801	-19.10582
CA	44	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
SC-1	45	15756.58700	0.00000	0.000	15659.73000	15069.04000	16540.99000
TI	47	0.00000	10.00000	0.000	2.86658	-1.43329	-1.43329
V	51	0.00000	20.00000	0.000	0.05468	-0.05277	-0.00191
CR	52	0.00000	623.38000	0.000	-0.36558	0.13859	0.22698
MN	55	0.00000	73.33700	0.000	0.11193	-0.06877	-0.04317
FE	57	0.00000	50.00000	0.000	-0.04438	2.59871	-2.55434
CO	59	0.00000	20.00000	0.000	0.00058	0.01856	-0.01914
NI	60	0.00000	56.67000	0.000	0.11707	-0.02583	-0.09123
CU	63	0.00000	880.07700	0.000	0.06550	0.04138	-0.10688
ZN	66	0.00000	26.66700	0.000	0.29904	-0.20864	-0.09040
GE-1	72	58880.04300	0.00000	0.000	60467.26000	57001.95000	59170.92000
AS	75	0.00000	6.00000	0.000	0.00344	-0.03485	0.03142
SR	88	0.00000	3.33300	0.000	-0.02157	-0.02157	0.04314
MO	98	0.00000	536.71000	0.000	-0.09252	-0.01861	0.11112
AG	107	0.00000	3.33300	0.000	0.00508	-0.00254	-0.00254
CD	111	0.00000	2.66700	0.000	-0.02143	-0.00527	0.02669
IN-1	115	20352.89000	0.00000	0.000	19695.06000	20606.48000	20757.13000
SN	120	0.00000	90.00300	0.000	-0.05496	0.15238	-0.09742
SB	121	0.00000	23.33300	0.000	0.02478	-0.07638	0.05160
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-1	159	119004.43000	0.00000	0.000	119345.33000	116659.74000	121008.22000
TL	203	0.00000	10.00000	0.000	-0.00901	-0.00018	0.00919
PB	208	0.00000	1973.51000	0.000	0.01749	0.01617	-0.03367
BI-1	209	99004.69000	0.00000	0.000	99196.12000	100404.89000	97413.06000
U	238	0.00000	6.66700	0.000	0.00075	-0.00154	0.00079



Run Name: 1831001E05  
 Tube Number: 2  
 Sample Number: S1

Date/Time: 11/06/2018 0:28:18

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15856.66700	0.00000	0.000	16410.63000	15299.36000	15860.01000
AL	27	10000.00000	57105.86300	4.800	9589.27612	10534.13523	9876.58864
CA	44	10000.00000	7385.74300	6.100	9951.23093	10631.84836	9416.92071
CR	52	1000.00000	494195.98300	2.500	977.37040	1026.14271	996.48689
FE	57	10000.00000	87092.60000	4.500	9589.23502	10483.72281	9927.04217
K	39	10000.00000	132819.40000	3.800	9664.31838	10413.50710	9922.17452
MG	24	10000.00000	237757.81700	3.600	9693.75291	10399.14502	9907.10207
MN	55	1000.00000	154947.30700	3.300	977.88546	1038.31800	983.79654
NA	23	10000.00000	571360.61700	5.000	9586.33220	10560.72127	9852.94653
TI	47	1000.00000	7068.90000	4.300	950.78254	1022.88530	1026.33215
V	51	1000.00000	376711.10300	2.700	975.14510	1028.82094	996.03396
<b>IN-1</b>	115	19929.64300	0.00000	0.000	19989.00000	20706.63000	19093.30000
AG	107	100.00000	132737.70000	5.000	98.43231	95.94899	105.61869
AS	75	1000.00000	57478.13300	3.600	994.54363	966.65591	1038.80047
BA	137	1000.00000	86298.23300	3.900	1029.99529	956.05081	1013.95390
CD	111	100.00000	11966.16300	2.700	99.01052	97.94412	103.04536
CO	59	1000.00000	1025226.65000	3.200	1011.81020	963.88018	1024.30962
CU	63	1000.00000	886248.52700	3.200	1003.64493	966.21721	1030.13785
MO	98	100.00000	64243.93000	2.300	100.65305	97.48612	101.86084
NI	60	1000.00000	298788.68000	3.300	1011.26414	962.98464	1025.75121
SB	121	100.00000	29995.53300	4.800	101.61093	94.55141	103.83766
SN	120	100.00000	31222.01000	2.100	98.20749	99.50293	102.28958
SR	88	100.00000	14798.96700	10.600	100.90094	88.95950	110.13956
ZN	66	1000.00000	80547.99700	4.500	1019.50765	948.84766	1031.64470
<b>BI-1</b>	209	101588.48000	0.00000	0.000	101635.44000	102138.95000	100991.05000
PB	208	100.00000	375742.61300	0.400	99.59635	100.30112	100.10253
TL	203	100.00000	114626.97300	1.900	98.91582	98.90439	102.17978
U	238	100.00000	447725.53000	0.200	99.74093	100.10518	100.15389
<b>GE-1</b>	72	57066.12000	0.00000	0.000	59041.90000	56088.55000	56067.91000
<b>TB-1</b>	159	120237.18000	0.00000	0.000	120525.60000	120376.27000	119809.67000

Run Name: 1831001E05  
 Tube Number: 3  
 Sample Number: **ICV**

Date/Time: 11/06/2018 0:30:16

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15172.63300	0.00000	0.000	15159.35000	14388.45000	15970.10000
AL	27	5097.66911	27875.75700	3.400	5140.96372	5242.81842	4909.22521
CA	44	5873.51442	4144.19000	7.700	5647.44834	6397.46691	5575.62801
CR	52	544.47789	257333.33000	6.300	549.03013	576.08860	508.31495
FE	57	5160.25611	42969.24300	6.900	5131.95516	5529.06900	4819.74416
K	39	5239.44303	68006.36700	4.900	5301.24585	5462.12964	4954.95360
MG	24	5267.43560	119711.33700	5.800	5283.39342	5563.58644	4955.32696
MN	55	533.06272	79027.57000	3.500	529.84952	553.12054	516.21808
NA	23	5008.75549	292191.97300	7.100	5117.49810	5299.43677	4609.33160
TI	47	553.09136	3750.74000	3.500	533.16791	554.00318	572.10299
V	51	541.80087	195101.91000	4.900	537.59382	570.06007	517.74870
<b>IN-1</b>	115	20801.75700	0.00000	0.000	20863.18000	20547.14000	20994.95000
AG	107	49.93263	69267.18300	2.100	48.82481	50.89641	50.07666
AS	75	495.97228	29784.81300	1.200	493.13740	502.71774	492.06170
BA	137	484.09997	43628.56300	2.800	475.77918	499.98863	476.53209
CD	111	48.60197	6075.46000	1.500	47.86427	49.34650	48.59513
CO	59	491.62942	526493.78000	1.100	485.73723	496.54435	492.60668
CU	63	495.38033	459035.95300	1.600	491.93021	504.38986	489.82093
MO	98	49.78655	33677.42000	1.200	49.08997	50.23923	50.03044
NI	60	496.60712	155005.84000	2.300	495.43725	508.52859	485.85551
SB	121	49.67389	15583.46700	1.100	50.28280	49.34229	49.39657
SN	120	51.07476	16694.76700	1.000	50.94021	51.63481	50.64926
SR	88	50.41422	7812.69300	3.200	51.69239	48.62926	50.92101
ZN	66	499.20186	42026.55300	2.100	509.47051	499.92807	488.20699
<b>BI-1</b>	209	101921.42000	0.00000	0.000	101514.43000	101979.17000	102270.66000
PB	208	50.84792	192673.92300	1.800	51.43158	51.31836	49.79381
TL	203	51.04941	58712.53300	3.100	52.54518	51.24964	49.35341
U	238	49.25304	221235.66000	1.700	50.14815	49.10800	48.50297
<b>GE-1</b>	72	57307.19300	0.00000	0.000	56461.01000	58538.72000	56921.85000
<b>TB-1</b>	159	118708.83700	0.00000	0.000	118427.20000	119749.25000	117950.06000

Run Name: 1831001E05  
 Tube Number: 4  
 Sample Number: ICB

Date/Time: 11/06/2018 0:32:03

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14972.26300	0.00000	0.000	15159.13000	14978.85000	14778.81000
AL	27	-5.67968	13.33300	0.000	-6.32884	-6.30680	-4.40341
CA	44	47.64861	33.33300	44.800	70.75634	28.64317	43.54631
CR	52	0.46819	810.07300	44.800	0.70218	0.29715	0.40524
FE	57	3.87442	80.00300	83.300	1.34799	7.51056	2.76473
K	39	-10.88973	2917.13700	0.000	1.04651	-14.72008	-18.99561
MG	24	0.96153	60.00300	165.600	1.37807	2.30458	-0.79805
MN	55	0.09393	83.33700	185.000	-0.07119	0.27527	0.07769
NA	23	29.73031	38417.59000	112.000	25.98897	-1.52685	64.72880
TI	47	-0.93381	3.33300	0.000	-1.43329	0.06515	-1.43329
V	51	0.04078	33.33300	37.100	0.05823	0.03148	0.03262
<b>IN-1</b>	115	19827.51300	0.00000	0.000	19403.86000	19443.92000	20634.76000
AG	107	0.00246	6.66700	176.200	0.00519	-0.00254	0.00473
AS	75	0.02875	7.33300	502.000	0.18356	0.00480	-0.10210
BA	137	0.23297	20.00000	3.500	0.23786	0.23737	0.22367
CD	111	-0.01605	0.66700	0.000	-0.02143	-0.02143	-0.00529
CO	59	0.04326	63.33700	142.200	0.11100	-0.00915	0.02792
CU	63	0.25690	1080.10300	94.100	0.33612	0.44912	-0.01452
MO	98	-0.15209	430.02700	0.000	-0.43600	-0.22779	0.20754
NI	60	0.23846	126.67700	21.900	0.29341	0.18957	0.23241
SB	121	0.64373	216.68000	37.400	0.50549	0.50429	0.92139
SN	120	0.22483	156.67700	71.900	0.41016	0.11255	0.15178
SR	88	0.06797	13.33300	114.200	0.11687	-0.02157	0.10861
ZN	66	1.84310	173.34300	27.100	2.34726	1.83313	1.34892
<b>BI-1</b>	209	99971.37000	0.00000	0.000	100676.12000	99840.64000	99397.35000
PB	208	0.02678	2090.18700	76.200	0.02818	0.00572	0.04645
TL	203	0.06498	83.33700	44.600	0.04381	0.05313	0.09800
U	238	0.00681	36.66700	84.600	0.00071	0.00755	0.01216
<b>GE-1</b>	72	58591.91000	0.00000	0.000	59351.83000	59091.07000	57332.83000
<b>TB-1</b>	159	115396.53000	0.00000	0.000	115037.56000	116366.73000	114785.30000

Run Name: 1831001E05  
 Tube Number: 5  
 Sample Number: LLC

Date/Time: 11/06/2018 0:33:50

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15399.39300	0.00000	0.000	15089.01000	15329.29000	15779.88000
AL	27	403.87157	2286.98700	4.100	396.62541	392.09686	422.89243
CA	44	869.88902	623.38300	23.300	824.64459	1091.64431	693.37816
CR	52	4.42414	2727.07700	11.200	4.54225	4.84929	3.88090
FE	57	116.16730	1033.43700	9.100	115.96711	105.74986	126.78493
K	39	397.85889	8146.18300	3.700	414.79462	386.84223	391.93982
MG	24	93.71047	2206.97300	8.300	89.74520	88.74619	102.64001
MN	55	9.87858	1560.19300	8.200	9.49239	9.33620	10.80714
NA	23	907.76255	84923.23300	5.100	948.67291	917.22949	857.38524
TI	47	25.78088	186.67700	11.900	23.85571	29.31605	24.17089
V	51	0.97572	376.69300	14.800	0.83944	1.12736	0.96036
<b>IN-1</b>	115	20669.17300	0.00000	0.000	20919.93000	20548.70000	20538.89000
AG	107	0.52952	733.39700	5.500	0.52792	0.55940	0.50124
AS	75	2.37107	147.33300	22.700	1.75259	2.62905	2.73156
BA	137	4.20447	376.69300	4.500	4.41276	4.15557	4.04508
CD	111	0.82771	105.33300	21.700	0.69474	1.03173	0.75666
CO	59	1.16916	1263.46700	12.300	1.01159	1.29495	1.20095
CU	63	38.62284	36390.42700	1.500	38.65470	38.02123	39.19257
MO	98	1.70800	1673.51700	14.100	1.76267	1.44419	1.91714
NI	60	4.50216	1453.48700	9.000	4.14633	4.41926	4.94087
SB	121	2.07694	670.06000	8.900	2.01901	1.92755	2.28425
SN	120	2.10150	770.06700	12.600	2.10361	2.36465	1.83624
SR	88	5.54371	856.74700	9.300	5.88581	5.79644	4.94888
ZN	66	16.88852	1440.15700	8.200	18.46459	15.91611	16.28487
<b>BI-1</b>	209	101384.30000	0.00000	0.000	98441.44000	101293.06000	104418.40000
PB	208	3.00080	13213.55000	2.500	3.02152	2.91850	3.06238
TL	203	0.55486	643.38700	17.700	0.66628	0.48101	0.51727
U	238	0.48207	2160.30700	1.800	0.48487	0.48910	0.47224
<b>GE-1</b>	72	59046.69700	0.00000	0.000	59200.75000	58989.64000	58949.70000
<b>TB-1</b>	159	118178.53000	0.00000	0.000	118830.35000	119073.91000	116631.33000

Run Name: 1831001E05  
 Tube Number: 6  
 Sample Number: ICSA

Date/Time: 11/06/2018 0:35:37

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15369.40700	0.00000	0.000	15870.01000	15419.52000	14818.69000
AL	27	98517.47479	544977.54300	4.300	94910.98854	97484.00104	103157.43479
CA	44	296934.09165	212543.15000	4.000	285137.31569	296575.19988	309089.75937
CR	52	1.24166	1200.12000	9.900	1.09956	1.31451	1.31090
FE	57	257242.31549	2170609.91700	4.000	248085.09439	255235.41948	268406.43260
K	39	100493.07614	1265211.59700	4.500	96441.33996	99677.51794	105360.37052
MG	24	97507.62602	2246837.31300	3.400	94327.23772	97233.00250	100962.63784
MN	55	3.91700	656.72700	26.500	3.32778	3.30634	5.11687
NA	23	240807.45641	12468478.56300	2.400	235516.23061	240108.34422	246797.79440
TI	47	1980.53520	13557.35000	5.900	1941.47171	1887.47399	2112.65989
V	51	0.10398	56.67000	123.400	0.10627	-0.02549	0.23114
<b>IN-1</b>	115	19370.31300	0.00000	0.000	19674.07000	19603.62000	18833.25000
AG	107	0.09777	130.00700	60.500	0.05843	0.16575	0.06913
AS	75	0.85153	53.33300	24.700	1.06006	0.64011	0.85442
BA	137	1.07310	90.00300	33.100	0.70378	1.41273	1.10280
CD	111	0.19481	25.33300	92.100	0.40164	0.08048	0.10232
CO	59	0.99828	1013.43000	7.600	0.96823	0.94205	1.08456
CU	63	1.15893	1833.55300	25.700	0.83262	1.22926	1.41492
MO	98	2169.58516	1344417.16700	2.500	2121.50646	2158.54307	2228.70596
NI	60	1.56939	510.04000	9.400	1.40496	1.61477	1.68845
SB	121	1.25945	390.02300	7.600	1.27395	1.34652	1.15789
SN	120	0.44279	220.01300	23.300	0.53077	0.46838	0.32921
SR	88	15.79022	2280.34700	3.300	16.29739	15.25978	15.81348
ZN	66	3.75763	320.02000	2.700	3.69297	3.70742	3.87251
<b>BI-1</b>	209	95249.91000	0.00000	0.000	94520.87000	95084.38000	96144.48000
PB	208	1.08700	5704.16700	12.600	1.14106	1.18828	0.93165
TL	203	0.09014	106.67300	56.800	0.03787	0.14014	0.09240
U	238	0.05964	256.68700	30.400	0.07769	0.04142	0.05983
<b>GE-1</b>	72	57159.49000	0.00000	0.000	59503.71000	56078.02000	55896.74000
<b>TB-1</b>	159	118484.49700	0.00000	0.000	119990.97000	117931.41000	117531.11000

Run Name: 1831001E05  
 Tube Number: 7  
 Sample Number: RINSE

Date/Time: 11/06/2018 0:37:23

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15305.95300	0.00000	0.000	15639.64000	14578.38000	15699.84000
AL	27	4.68441	70.00300	116.200	2.48950	10.88317	0.68055
CA	44	52.22069	36.66700	71.500	13.71649	88.29002	54.65556
CR	52	0.41098	800.07000	4.900	0.41580	0.42822	0.38892
FE	57	26.49196	273.35300	31.200	23.23743	20.36203	35.87641
K	39	-7.07541	3023.83000	0.000	9.00183	8.49333	-38.72140
MG	24	7.95896	220.01300	77.300	0.85692	11.55902	11.46095
MN	55	0.01759	73.34000	1153.800	0.11269	0.15555	-0.21547
NA	23	39.94843	39771.42000	67.300	33.16787	69.56662	17.11081
TI	47	0.00184	10.00000	135009.700	2.87210	-1.43329	-1.43329
V	51	-0.02526	10.00000	0.000	-0.02588	-0.02392	-0.02598
<b>IN-1</b>	115	20258.69700	0.00000	0.000	20125.43000	20335.13000	20315.53000
AG	107	0.00484	10.00000	264.000	-0.00254	-0.00254	0.01960
AS	75	-0.01084	5.33300	0.000	0.00118	-0.06803	0.03432
BA	137	0.11427	10.00000	100.300	0.22933	0.11348	0.00000
CD	111	-0.02143	0.00000	0.000	-0.02143	-0.02143	-0.02143
CO	59	-0.00953	10.00000	0.000	0.00016	-0.00959	-0.01914
CU	63	0.13674	1000.09300	67.300	0.21093	0.16553	0.03376
MO	98	1.89693	1763.55300	37.300	1.36762	1.62178	2.70139
NI	60	0.21860	123.34300	57.600	0.30928	0.07470	0.27182
SB	121	-0.01069	20.00000	0.000	0.02262	-0.07638	0.02169
SN	120	0.18122	146.68000	102.500	0.25815	-0.03062	0.31612
SR	88	-0.02157	0.00000	0.000	-0.02157	-0.02157	-0.02157
ZN	66	1.50268	150.01000	29.400	1.63708	1.00890	1.86208
<b>BI-1</b>	209	97953.37300	0.00000	0.000	98016.55000	97976.82000	97866.75000
PB	208	0.05789	2160.20700	25.300	0.04640	0.07440	0.05287
TL	203	0.00607	16.66700	172.000	0.01812	0.00004	0.00005
U	238	0.00155	13.33300	86.300	0.00078	0.00309	0.00078
<b>GE-1</b>	72	56804.82300	0.00000	0.000	56911.40000	57122.81000	56380.26000
<b>TB-1</b>	159	114044.31300	0.00000	0.000	113896.80000	116358.04000	111878.10000

Run Name: 1831001E05  
 Tube Number: 8  
 Sample Number: **CCV**

Date/Time: 11/06/2018 0:39:09

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14838.84700	0.00000	0.000	14949.11000	14558.51000	15008.92000
AL	27	2544.29796	13640.81300	3.600	2591.13963	2603.58461	2438.16964
CA	44	2745.51676	1896.91000	15.600	2281.93515	3124.23618	2830.37894
CR	52	264.59047	122850.07300	1.700	266.40991	267.93636	259.42516
FE	57	2555.99424	20890.28700	3.800	2459.98971	2556.21527	2651.77772
K	39	2570.50489	34213.82000	3.700	2613.79112	2635.83199	2461.89158
MG	24	2503.64345	55777.46000	2.300	2561.01477	2505.20788	2444.70771
MN	55	267.21578	38813.60000	3.700	271.43559	274.21717	255.99457
NA	23	2575.15174	164983.47300	2.900	2608.47930	2627.08072	2489.89521
TI	47	270.09596	1796.88000	12.900	307.90153	239.09719	263.28917
V	51	269.57266	95095.92000	1.100	270.06790	272.28387	266.36621
<b>IN-1</b>	115	19428.10300	0.00000	0.000	19917.96000	18650.83000	19715.52000
AG	107	25.56891	33096.15000	4.600	24.71401	26.91773	25.07500
AS	75	252.39991	14150.80300	3.000	248.74754	261.23004	247.22214
BA	137	259.21406	21802.52300	5.300	259.99379	272.57540	245.07299
CD	111	25.34698	2958.36300	4.900	25.55644	26.47286	24.01165
CO	59	250.73762	250667.04000	2.400	245.90258	257.54246	248.76781
CU	63	254.54236	220563.39700	3.200	247.48466	263.51997	252.62244
MO	98	25.37374	16267.46300	3.900	24.57130	26.46427	25.08565
NI	60	251.66745	73375.86700	2.800	253.73767	257.50519	243.75950
SB	121	25.72767	7539.26300	6.700	25.63940	27.49363	24.04998
SN	120	25.36215	7782.73700	2.100	25.10529	25.97215	25.00900
SR	88	23.74246	3430.60300	8.500	22.43793	26.05278	22.73667
ZN	66	253.62495	19952.30000	2.500	246.75413	254.78026	259.34045
<b>BI-1</b>	209	98682.28000	0.00000	0.000	100042.88000	96102.43000	99901.53000
PB	208	25.52540	94615.72700	1.600	25.66578	25.83834	25.07209
TL	203	26.26036	29238.89000	2.500	25.97077	26.99895	25.81136
U	238	25.10660	109160.52000	2.300	24.79738	25.76859	24.75383
<b>GE-1</b>	72	55498.81000	0.00000	0.000	55012.71000	55395.93000	56087.79000
<b>TB-1</b>	159	114470.63300	0.00000	0.000	116549.79000	115084.06000	111778.05000

Run Name: 1831001E05  
 Tube Number: 9  
 Sample Number: CCB

Date/Time: 11/06/2018 0:40:56

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14081.32300	0.00000	0.000	13687.71000	14087.81000	14468.45000
AL	27	-0.83718	36.66700	0.000	4.00817	-0.27828	-6.24143
CA	44	35.84220	23.33300	50.800	47.01756	45.68224	14.82681
CR	52	0.53867	793.40700	26.700	0.39786	0.53288	0.68526
FE	57	5.72283	90.00700	55.100	2.12230	7.06414	7.98205
K	39	14.90367	3037.17700	194.100	11.84669	45.23792	-12.37361
MG	24	1.00946	56.66700	156.100	2.19540	1.61167	-0.77870
MN	55	0.05972	73.33700	307.100	0.27141	-0.04039	-0.05186
NA	23	112.24893	40012.29700	39.700	163.50027	82.30294	90.94359
TI	47	-0.88669	3.33300	0.000	0.20650	-1.43329	-1.43329
V	51	-0.02259	10.00000	0.000	0.00869	-0.05277	-0.02370
<b>IN-1</b>	115	19063.28300	0.00000	0.000	18492.03000	19083.27000	19614.55000
AG	107	0.00287	6.66700	326.500	0.01368	-0.00254	-0.00254
AS	75	0.10349	11.33300	132.500	0.01030	0.26097	0.03919
BA	137	0.04031	3.33300	173.200	0.00000	0.12093	0.00000
CD	111	0.00224	2.66700	1234.700	0.03259	-0.02143	-0.00445
CO	59	0.01522	33.33300	205.300	0.02287	0.04193	-0.01914
CU	63	0.29815	1076.77000	50.900	0.44936	0.14598	0.29911
MO	98	0.00366	506.70700	7238.400	-0.16334	-0.13463	0.30895
NI	60	0.19689	110.01000	46.200	0.13689	0.30149	0.15230
SB	121	0.16646	70.00300	95.300	0.03136	0.34126	0.12677
SN	120	0.16508	133.34300	29.300	0.13288	0.22061	0.14174
SR	88	-0.02157	0.00000	0.000	-0.02157	-0.02157	-0.02157
ZN	66	1.49906	140.00700	60.100	2.47920	0.70784	1.31013
<b>BI-1</b>	209	94483.43000	0.00000	0.000	95195.64000	94642.27000	93612.38000
PB	208	0.01381	1930.19000	214.900	0.02100	-0.01880	0.03923
TL	203	0.03458	46.66700	94.300	0.06547	0.03781	0.00046
U	238	0.00971	46.67000	72.700	0.00561	0.00565	0.01785
<b>GE-1</b>	72	55924.21700	0.00000	0.000	56821.03000	56510.30000	54441.32000
<b>TB-1</b>	159	113714.66000	0.00000	0.000	112704.46000	113473.54000	114965.98000



Run Name: 1831001E05  
 Tube Number: 10  
 Sample Number: **PBS**

Date/Time: 11/06/2018 0:42:42  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.00

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14902.22700	0.00000	0.000	15279.39000	14688.46000	14738.83000
AL	27	12.99663	113.34000	48.200	10.00767	20.18975	8.79247
CA	44	53.12905	36.67000	58.100	28.07977	87.64295	43.66444
CR	52	0.80424	963.42000	34.500	1.10702	0.74347	0.56225
FE	57	14.04473	163.34300	27.700	17.96699	13.96956	10.19765
K	39	-5.52587	2967.15300	0.000	-10.52536	-8.42211	2.36987
MG	24	3.80808	123.34300	22.300	4.40725	2.83795	4.17904
MN	55	-0.08949	56.67000	0.000	0.12657	0.08110	-0.47614
NA	23	127.22820	43114.79000	15.300	104.77777	137.50769	139.39915
TI	47	1.03295	16.66700	295.200	4.44258	-1.43329	0.08955
V	51	-0.01533	13.33300	0.000	0.00229	0.00451	-0.05277
<b>IN-1</b>	115	19803.16000	0.00000	0.000	20166.35000	19575.99000	19667.14000
AG	107	0.00738	13.33300	232.800	0.02720	-0.00254	-0.00254
AS	75	0.10722	12.00000	52.900	0.17276	0.07487	0.07405
BA	137	0.46487	40.00000	42.700	0.57216	0.23577	0.58669
CD	111	-0.01025	1.33300	0.000	-0.00492	-0.00442	-0.02143
CO	59	0.03632	56.67000	39.200	0.04828	0.02055	0.04013
CU	63	0.21535	1046.77000	90.100	0.15276	0.06032	0.43298
MO	98	-0.07832	470.03700	0.000	-0.37310	-0.13598	0.27413
NI	60	0.04789	70.00300	282.700	0.04381	-0.08542	0.18529
SB	121	0.07953	46.67000	103.600	0.15418	0.09325	-0.00884
SN	120	6.57181	2120.31300	5.000	6.25483	6.90961	6.55100
SR	88	0.65808	100.00700	19.300	0.51126	0.73323	0.72974
ZN	66	5.28837	450.03300	11.800	5.55651	5.73411	4.57449
<b>BI-1</b>	209	100060.01300	0.00000	0.000	101222.28000	98118.60000	100839.16000
PB	208	0.12894	2466.90300	35.600	0.07613	0.15940	0.15127
TL	203	0.01155	23.33300	86.400	0.01726	0.00002	0.01736
U	238	0.00154	13.33300	345.800	-0.00154	0.00771	-0.00154
<b>GE-1</b>	72	58107.31000	0.00000	0.000	58590.06000	57274.27000	58457.60000
<b>TB-1</b>	159	114007.37700	0.00000	0.000	112544.57000	114814.48000	114663.08000

Run Name: 1831001E05  
 Tube Number: 11  
 Sample Number: LCSW

Date/Time: 11/06/2018 0:44:27  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.00

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14485.01700	0.00000	0.000	14027.91000	14248.02000	15179.12000
AL	27	1083.65284	5691.52300	3.900	1098.31555	1116.30097	1036.34200
CA	44	2268.26036	1530.18000	5.600	2232.97080	2409.29161	2162.51869
CR	52	27.36710	12906.86000	3.400	27.81603	27.97622	26.30905
FE	57	549.17880	4410.93700	7.900	598.81169	528.14715	520.57757
K	39	5335.73298	66094.03700	4.500	5435.47674	5511.44243	5060.27977
MG	24	1069.01171	23240.54000	4.600	1101.05884	1092.94949	1013.02679
MN	55	27.52707	3954.11000	9.600	29.21427	28.89936	24.46757
NA	23	5349.21444	295827.73700	3.800	5485.43689	5449.66690	5112.53951
TI	47	137.11762	893.41700	7.900	148.98122	127.75395	134.61767
V	51	27.65311	9530.52700	5.300	27.39774	29.21945	26.34214
<b>IN-1</b>	115	20198.59300	0.00000	0.000	20602.99000	19091.66000	20901.13000
AG	107	25.22261	33911.57000	6.300	24.40330	27.04377	24.22076
AS	75	5.31054	315.34300	11.100	4.63976	5.55950	5.73235
BA	137	25.44943	2230.32000	4.900	26.66172	24.17812	25.50843
CD	111	2.28956	280.01000	6.700	2.37028	2.38523	2.11316
CO	59	122.04024	126712.58300	5.500	117.09808	129.73067	119.29199
CU	63	25.88570	24092.65000	4.100	25.70854	27.03000	24.91856
MO	98	24.29444	16230.73700	3.800	23.33177	24.40810	25.14344
NI	60	25.09936	7645.86700	8.000	23.21177	27.23013	24.85618
SB	121	3.11685	973.42700	7.600	3.27625	2.84591	3.22840
SN	120	30.72612	9760.82300	8.900	29.32715	33.88529	28.96593
SR	88	20.60161	3093.83700	7.600	20.12630	22.35428	19.32423
ZN	66	248.62141	20313.00000	4.000	246.59296	259.39935	239.87190
<b>BI-1</b>	209	101373.77000	0.00000	0.000	102231.54000	101201.52000	100688.25000
PB	208	7.79591	31093.69000	1.100	7.87353	7.69820	7.81600
TL	203	1.02808	1186.78700	19.500	1.19616	0.80551	1.08257
U	238	25.27372	112911.95000	2.100	24.83965	25.10577	25.87574
<b>GE-1</b>	72	60005.19000	0.00000	0.000	60095.82000	60467.23000	59452.52000
<b>TB-1</b>	159	113127.75000	0.00000	0.000	113505.25000	114028.76000	111849.24000

Run Name: 1831001E05  
 Tube Number: 12  
 Sample Number: 9867762

Date/Time: 11/06/2018 0:46:13  
 Batch: 182991063702A  
 Class: U\*\*\*\*\*

Initial Vol: 1.24

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15683.07000	0.00000	0.000	15279.21000	16090.33000	15679.67000
AL	27	27210.48589	153711.23300	2.900	27638.09204	26290.09092	27703.27470
CA	44	29547.26359	21591.51000	2.700	30408.56254	28861.97576	29371.25246
CR	52	285.06351	139809.74300	2.400	288.25258	277.08103	289.85692
FE	57	219371.57296	1889259.66000	4.100	228927.29536	211300.35602	217887.06750
K	39	4087.14961	55593.98000	3.600	4253.89079	3967.32441	4040.23364
MG	24	6696.51110	157573.60300	1.700	6772.57986	6569.51195	6747.44147
MN	55	1627.39616	249420.94700	3.200	1650.15944	1567.52385	1664.50517
NA	23	1893.17095	138406.25700	3.800	1923.74533	1810.55785	1945.20968
TI	47	968.98457	6768.75300	10.200	1068.34093	870.64454	967.96825
V	51	134.48619	50117.52000	4.500	139.99970	127.95215	135.50670
<b>IN-1</b>	115	19286.63000	0.00000	0.000	19459.35000	19036.54000	19364.00000
AG	107	40.85762	52556.06300	0.200	40.95963	40.79371	40.81951
AS	75	75.82275	4226.70300	1.100	75.96395	76.59756	74.90674
BA	137	3596.58866	300556.80300	2.100	3510.61223	3634.37477	3644.77896
CD	111	23.48588	2722.97300	4.400	22.30869	23.94173	24.20722
CO	59	60.09740	59693.34300	1.100	59.83723	59.60828	60.84671
CU	63	3068.35678	2632102.15000	0.100	3064.54630	3070.44627	3070.07776
MO	98	25.06507	15970.38700	2.600	25.08925	25.69757	24.40840
NI	60	325.20398	94143.89000	0.400	323.97158	326.72723	324.91313
SB	121	48.98796	14248.48000	0.400	48.75600	49.17758	49.03031
SN	120	1041.64104	314001.64700	2.900	1007.14139	1061.83851	1055.94322
SR	88	219.45900	31511.88000	3.800	210.26539	221.51557	226.59604
ZN	66	4656.77569	363290.64300	0.700	4627.38387	4654.38357	4688.55963
<b>BI-1</b>	209	122880.26000	0.00000	0.000	123620.12000	123923.48000	121097.18000
PB	208	4120.39399	18625288.36300	2.400	4026.96125	4112.25158	4221.96915
TL	203	0.49411	696.72300	14.600	0.46421	0.44159	0.57654
U	238	2.67661	14496.06700	6.300	2.62486	2.53964	2.86533
<b>GE-1</b>	72	62034.58300	0.00000	0.000	62075.93000	63772.73000	60255.09000
<b>TB-1</b>	159	119867.74000	0.00000	0.000	120254.70000	118324.76000	121023.76000

Run Name: 1831001E05  
 Tube Number: 13  
 Sample Number: 9867762

Date/Time: 11/06/2018 0:47:58  
 Batch: 182991063702A  
 Class: UP\*\*\*\*\*

Initial Vol: 1.24

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15849.95000	0.00000	0.000	15629.60000	15940.03000	15980.22000
AL	27	27554.63998	157377.41300	1.400	27630.36028	27129.12741	27904.43226
CA	44	30082.76807	22229.23000	1.500	29630.72045	30064.14643	30553.43732
CR	52	285.82580	141711.01000	1.800	288.33854	289.08708	280.05177
FE	57	216081.77607	1881990.49300	0.300	216710.53079	216242.59696	215292.20047
K	39	4721.30988	64436.04000	1.100	4761.88590	4664.16535	4737.87839
MG	24	6859.88777	163159.45000	1.800	6957.18812	6902.77333	6719.70185
MN	55	1595.43570	247208.15300	1.400	1620.85633	1576.53022	1588.92055
NA	23	3591.51553	230377.05700	1.400	3621.72650	3621.37560	3531.44449
TI	47	1014.65482	7172.27700	5.800	1078.84369	964.80144	1000.31933
V	51	132.58539	49959.35000	4.100	137.72180	133.21078	126.82360
<b>IN-1</b>	115	19819.22000	0.00000	0.000	20080.75000	19821.98000	19554.93000
AG	107	40.13521	53048.28000	0.900	39.95477	39.89113	40.55974
AS	75	74.77860	4283.38000	1.600	74.05863	74.08267	76.19449
BA	137	3426.51981	294240.38700	3.000	3322.14990	3526.80744	3430.60209
CD	111	24.44704	2912.34700	8.200	24.78512	22.30338	26.25261
CO	59	60.41590	61648.07300	3.000	58.79004	60.06965	62.38800
CU	63	3022.99909	2664681.83700	0.600	3005.74383	3019.18461	3044.06883
MO	98	28.52785	18607.24000	1.200	28.18374	28.53142	28.86841
NI	60	316.03735	94002.43000	2.400	307.48753	318.71855	321.90598
SB	121	49.90288	14912.69700	2.100	48.86799	49.90829	50.93238
SN	120	999.62068	309652.05700	3.000	966.47738	1023.04788	1009.33677
SR	88	220.32921	32504.12000	3.800	214.01519	217.21519	229.75726
ZN	66	4498.12224	360561.55300	1.600	4413.16805	4537.92959	4543.26907
<b>BI-1</b>	209	122382.10300	0.00000	0.000	121332.76000	124541.96000	121271.59000
PB	208	4045.48334	18213756.91700	1.000	4064.74744	3997.05215	4074.65044
TL	203	1.24862	1736.88700	1.700	1.24022	1.27210	1.23353
U	238	3.44494	18581.86300	3.900	3.55453	3.29510	3.48519
<b>GE-1</b>	72	62074.20300	0.00000	0.000	61722.53000	61622.27000	62877.81000
<b>TB-1</b>	159	118565.92000	0.00000	0.000	118599.95000	118872.23000	118225.58000

Run Name: 1831001E05  
 Tube Number: 14  
 Sample Number: 9867765

Date/Time: 11/06/2018 0:49:43  
 Batch: 182991063702A  
 Class: D\*\*\*\*\*

Initial Vol: 1.33

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15452.72700	0.00000	0.000	16220.30000	15059.01000	15078.87000
AL	27	21748.30409	120952.61000	4.800	20588.92983	22016.41342	22639.56902
CA	44	21027.23389	15129.14000	4.100	20048.76345	21651.66779	21381.27043
CR	52	231.17321	111716.07300	5.200	218.46161	232.94914	242.10887
FE	57	237513.13899	2013282.57300	6.200	220580.63920	243844.54591	248114.23188
K	39	3044.09604	41560.92300	6.700	2839.89670	3046.30462	3246.08680
MG	24	5315.76715	123083.33700	6.200	4959.98079	5373.91974	5613.40092
MN	55	1492.15529	225119.06300	5.200	1406.26452	1510.87113	1559.33023
NA	23	1426.89802	112109.15700	5.800	1346.61400	1421.23412	1512.84596
TI	47	903.03554	6218.37700	4.900	852.57842	936.32788	920.20033
V	51	136.80439	50200.95300	4.900	129.11351	140.84102	140.45863
<b>IN-1</b>	115	19136.36000	0.00000	0.000	18857.35000	19076.24000	19475.49000
AG	107	33.16309	42312.93000	2.900	34.06333	33.25427	32.17166
AS	75	70.39729	3892.60300	4.400	73.90846	69.38958	67.89384
BA	137	2474.17941	205142.74700	1.200	2503.38896	2475.42744	2443.72183
CD	111	19.87901	2286.22000	5.900	21.11441	19.75463	18.76798
CO	59	52.92257	52150.82700	1.300	53.72968	52.63291	52.40513
CU	63	2648.34835	2253729.18300	2.400	2720.78502	2621.85294	2602.40708
MO	98	23.10727	14648.89300	1.500	22.96205	23.49319	22.86657
NI	60	267.29113	76778.38700	2.100	273.56296	262.30016	266.01028
SB	121	45.30724	13077.17700	1.300	45.76727	44.64794	45.50650
SN	120	972.55105	290894.63300	1.600	984.36636	977.84539	955.44140
SR	88	305.07805	43465.87700	2.400	311.97939	297.16660	306.08816
ZN	66	4016.66373	310903.60300	0.500	4039.05920	4008.23613	4002.69587
<b>BI-1</b>	209	115815.84700	0.00000	0.000	116001.19000	116634.41000	114811.94000
PB	208	4163.91910	17742398.17300	0.600	4154.93776	4145.16624	4191.65329
TL	203	0.40951	546.70700	10.800	0.36539	0.40895	0.45419
U	238	2.55213	13030.96300	5.100	2.53300	2.43354	2.68983
<b>GE-1</b>	72	60778.32300	0.00000	0.000	61672.88000	59130.34000	61531.75000
<b>TB-1</b>	159	117240.69300	0.00000	0.000	117943.13000	115301.21000	118477.74000

Run Name: 1831001E05  
 Tube Number: 15  
 Sample Number: 9867763

Date/Time: 11/06/2018 0:51:28  
 Batch: 182991063702A  
 Class: R\*\*\*\*\*

Initial Vol: 1.11

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	16680.96000	0.00000	0.000	16370.46000	17131.65000	16540.77000
AL	27	28683.95416	172357.83300	2.100	29227.07304	28018.86737	28805.92206
CA	44	24150.79178	18780.54300	0.900	24247.55863	24298.10667	23906.71004
CR	52	277.64268	144860.49000	1.900	283.37740	272.75254	276.79810
FE	57	168754.78943	1546257.16300	2.700	171144.46360	163530.73647	171589.16822
K	39	13097.55460	182000.31700	3.800	13453.93756	12530.24000	13308.48625
MG	24	7705.90698	192851.03300	1.900	7860.89362	7561.14035	7695.68695
MN	55	1427.97129	232784.00700	3.000	1456.00763	1379.00910	1448.89715
NA	23	10723.39951	641944.25000	3.300	11060.91335	10356.18124	10753.10393
TI	47	1130.53823	8409.71000	2.300	1147.95932	1100.77169	1142.88368
V	51	159.16252	63107.52000	3.300	165.21852	155.60439	156.66465
<b>IN-1</b>	115	19234.57000	0.00000	0.000	18999.75000	19113.27000	19590.69000
AG	107	83.23744	106761.84300	1.300	84.24772	83.35906	82.10555
AS	75	71.48332	3973.28700	4.100	74.81279	70.19763	69.43952
BA	137	2326.96818	193930.09000	1.300	2330.90273	2354.54499	2295.45684
CD	111	24.78742	2865.67300	2.800	25.30272	25.04771	24.01183
CO	59	312.36920	309291.27300	1.500	316.81362	312.80147	307.49250
CU	63	6491.33130	5551387.21000	1.900	6555.45281	6565.84155	6352.69953
MO	98	71.92143	44753.83700	2.500	71.59197	73.83630	70.33602
NI	60	338.67965	97769.64700	1.400	343.97695	337.00182	335.06019
SB	121	47.78849	13861.50300	1.300	48.46762	47.58900	47.30886
SN	120	1067.27172	320878.59000	1.600	1087.20417	1055.30352	1059.30748
SR	88	281.49122	40309.03300	2.300	278.86460	288.90406	276.70499
ZN	66	4355.97208	338800.89300	3.000	4475.75076	4378.55370	4213.61178
<b>BI-1</b>	209	114456.97300	0.00000	0.000	112348.76000	116878.00000	114144.16000
PB	208	3539.78914	14903149.67300	1.900	3588.28678	3462.03451	3569.04613
TL	203	2.26327	2937.20000	10.500	1.99505	2.34970	2.44505
U	238	24.75953	124869.46700	2.100	25.31904	24.29056	24.66900
<b>GE-1</b>	72	60470.70300	0.00000	0.000	60749.33000	60707.62000	59955.16000
<b>TB-1</b>	159	120213.68700	0.00000	0.000	117993.07000	121525.28000	121122.71000

Run Name: 1831001E05  
 Tube Number: 16  
 Sample Number: 9867764

Date/Time: 11/06/2018 0:53:13  
 Batch: 182991063702A  
 Class: M\*\*\*\*\*

Initial Vol: 1.33

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	16323.93700	0.00000	0.000	16420.77000	16310.50000	16240.54000
AL	27	33146.08643	194976.81300	1.600	33632.08791	33208.78898	32597.38240
CA	44	34747.42672	26443.54300	3.000	35466.28507	35232.09099	33543.90410
CR	52	322.82482	164780.00000	1.800	329.41704	319.45470	319.60273
FE	57	274637.50560	2463615.38000	0.600	276452.98584	274249.70134	273209.82961
K	39	13520.32978	183864.16700	1.400	13668.45617	13581.41589	13311.11729
MG	24	11038.03089	270396.28300	0.700	11130.07608	10977.22094	11006.79563
MN	55	3997.14855	637833.57000	0.500	4019.24728	3990.43043	3981.76795
NA	23	11623.85209	677918.27000	1.000	11747.19713	11531.05830	11593.30084
TI	47	1325.38237	9650.67700	4.300	1381.07290	1267.83641	1327.23781
V	51	187.76204	72879.86300	1.700	187.23880	191.12983	184.91749
<b>IN-1</b>	115	18955.61700	0.00000	0.000	19877.53000	18571.03000	18418.29000
AG	107	96.80033	122299.63300	2.500	94.56489	96.43586	99.40024
AS	75	91.03577	4983.63300	2.300	88.62501	92.51553	91.96678
BA	137	2475.63857	203182.07300	3.800	2385.19127	2571.47830	2470.24615
CD	111	25.71528	2928.35300	2.700	24.90473	26.06671	26.17441
CO	59	327.96279	319738.79000	3.700	313.82832	336.21964	333.84041
CU	63	2906.00121	2448644.75700	2.200	2837.63116	2914.63473	2965.73774
MO	98	76.62456	46932.73300	3.200	74.67548	75.83473	79.36348
NI	60	397.46246	112890.93700	9.000	373.47484	380.16816	438.74437
SB	121	53.27376	15226.41700	7.700	52.64571	57.68004	49.49552
SN	120	1121.38885	332133.92700	1.800	1099.21110	1139.66453	1125.29093
SR	88	280.24448	39540.52000	1.400	276.77824	279.50348	284.45172
ZN	66	5046.45839	386631.16700	2.800	4885.71540	5106.59280	5147.06696
<b>BI-1</b>	209	114487.91300	0.00000	0.000	116071.35000	114768.96000	112623.43000
PB	208	4091.28545	17234069.32700	0.300	4105.05171	4087.10493	4081.69969
TL	203	2.14511	2783.79000	4.400	2.19804	2.19994	2.03736
U	238	25.22106	127262.16700	1.400	25.41132	24.80750	25.44437
<b>GE-1</b>	72	60052.51700	0.00000	0.000	62164.71000	59916.00000	58076.84000
<b>TB-1</b>	159	118938.79700	0.00000	0.000	121002.69000	120409.79000	115403.91000

Run Name: 1831001E05  
 Tube Number: 17  
 Sample Number: 9867762

Date/Time: 11/06/2018 0:54:59  
 Batch: 182991063702A  
 Class: UL\*\*\*\*\*

Initial Vol: 1.24

Final Vol: 100.00

DF: 10.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15583.05700	0.00000	0.000	15449.51000	15239.21000	16060.45000
AL	27	5500.65065	30885.85000	7.000	5543.01897	5862.58620	5096.34679
CA	44	5970.23283	4337.60300	1.100	5985.86457	5899.48991	6025.34401
CR	52	59.25785	29356.12700	3.600	59.96322	60.93597	56.87436
FE	57	41752.47022	357517.46700	1.000	42109.28387	41857.38273	41290.74405
K	39	807.51143	13464.02300	2.600	830.15329	803.28631	789.09468
MG	24	1388.59437	32486.00300	4.000	1370.06459	1451.66680	1344.05172
MN	55	330.75096	50411.14000	4.200	337.51012	339.81241	314.93035
NA	23	424.31843	60643.55000	3.600	421.89308	440.57680	410.48541
TI	47	201.37738	1406.81300	5.700	210.69747	204.78193	188.65274
V	51	27.42996	10187.62300	5.300	28.14146	25.76850	28.37992
<b>IN-1</b>	115	20165.31700	0.00000	0.000	20356.09000	19916.88000	20222.98000
AG	107	7.47817	10057.68000	4.500	7.09409	7.68765	7.65276
AS	75	13.63184	799.36300	1.600	13.37704	13.77864	13.73984
BA	137	683.61078	59735.55700	0.300	681.32830	683.67905	685.82498
CD	111	4.81617	586.02000	2.400	4.73823	4.75961	4.95066
CO	59	11.69414	12159.34000	2.100	11.76169	11.89469	11.42602
CU	63	583.67816	524164.99300	1.500	581.32672	593.21665	576.49112
MO	98	4.69951	3560.66700	7.700	4.33797	5.06402	4.69655
NI	60	63.46842	19254.68000	1.800	63.06015	64.79143	62.55369
SB	121	9.75382	2983.83700	6.200	9.06004	10.12870	10.07272
SN	120	204.02396	64383.51000	1.900	205.65623	206.90526	199.51038
SR	88	40.90709	6141.78700	8.500	40.37158	44.63639	37.71331
ZN	66	887.73424	72418.36000	2.600	869.67139	914.31705	879.21429
<b>BI-1</b>	209	104384.35000	0.00000	0.000	107554.39000	104437.62000	101161.04000
PB	208	912.80375	3505428.10000	2.600	888.42191	914.48719	935.50216
TL	203	0.09073	116.67300	39.100	0.06516	0.07585	0.13118
U	238	0.61229	2818.81700	8.800	0.55973	0.61015	0.66699
<b>GE-1</b>	72	59372.81700	0.00000	0.000	62376.02000	58147.59000	57594.84000
<b>TB-1</b>	159	117799.03700	0.00000	0.000	119719.10000	117529.42000	116148.59000



Run Name: 1831001E05  
 Tube Number: 18  
 Sample Number: 9866461

Date/Time: 11/06/2018 0:56:45  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.27

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15549.66300	0.00000	0.000	15189.13000	15699.94000	15759.92000
AL	27	21173.76848	118633.30300	1.300	21492.89925	20949.98860	21078.41759
CA	44	7904.29239	5731.52700	3.500	7642.59311	8186.84584	7883.43823
CR	52	83.04444	40832.53700	0.400	82.84223	83.40892	82.88218
FE	57	46728.71433	399252.22000	1.800	47417.97234	46956.95029	45811.22036
K	39	4849.37388	64830.63300	3.200	4948.31205	4928.57946	4671.23012
MG	24	16448.36758	383738.39300	1.200	16654.86430	16275.60110	16414.63735
MN	55	375.33732	57094.68300	3.500	387.12965	377.72247	361.15985
NA	23	1183.41033	100156.64700	4.400	1240.53009	1172.06088	1137.64001
TI	47	902.42313	6258.43300	7.200	938.65749	940.96353	827.64836
V	51	64.81479	23968.71700	2.700	66.67444	64.52914	63.24077
<b>IN-1</b>	115	20326.03300	0.00000	0.000	20239.12000	21270.53000	19468.45000
AG	107	0.20036	273.35700	21.100	0.19751	0.15962	0.24395
AS	75	8.93186	528.68700	10.100	8.49089	8.33480	9.96989
BA	137	93.74918	8253.15700	1.800	93.18972	92.36435	95.69346
CD	111	0.84067	104.66700	21.100	0.93269	0.63598	0.95335
CO	59	26.04537	27242.17700	4.600	26.81506	24.66277	26.65828
CU	63	49.16600	45273.95300	3.100	49.45124	47.51476	50.53201
MO	98	0.94561	1143.46000	39.700	0.76832	0.69118	1.37734
NI	60	153.05136	46698.83000	3.800	147.77792	152.20924	159.16693
SB	121	1.70073	543.37700	5.200	1.63004	1.67222	1.79993
SN	120	13.67366	4434.32300	3.500	14.20081	13.55865	13.26151
SR	88	26.23811	3967.49300	7.000	25.06952	25.30521	28.33961
ZN	66	279.47264	22954.02000	7.200	279.54524	259.21728	299.65539
<b>BI-1</b>	209	101142.57300	0.00000	0.000	100548.77000	101887.72000	100991.23000
PB	208	61.67294	231486.41300	0.300	61.79985	61.76787	61.45109
TL	203	0.28881	340.02000	12.700	0.24663	0.31286	0.30694
U	238	2.74011	12220.04700	3.300	2.72597	2.65890	2.83547
<b>GE-1</b>	72	61862.91000	0.00000	0.000	61662.18000	62244.42000	61682.13000
<b>TB-1</b>	159	119056.45000	0.00000	0.000	118769.67000	120225.27000	118174.41000

Run Name: 1831001E05  
 Tube Number: 19  
 Sample Number: 9866462

Date/Time: 11/06/2018 0:58:31  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.29

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	16350.83000	0.00000	0.000	16060.48000	15800.04000	17191.97000
AL	27	30180.14389	177422.25000	7.400	31039.76620	31841.97646	27658.68899
CA	44	36540.85652	27832.94300	2.500	37305.63304	36778.09027	35538.84626
CR	52	224.05633	114611.06700	3.900	226.36809	231.41128	214.38962
FE	57	59122.33257	530462.62300	5.000	60647.22207	60993.29871	55726.47694
K	39	4037.72570	57244.68700	5.700	4052.38823	4258.58087	3802.20801
MG	24	34409.71103	842484.51700	6.800	35088.70577	36334.16882	31806.25849
MN	55	637.17980	101736.41000	5.500	653.41650	661.33195	596.79094
NA	23	1218.02068	107084.19700	8.800	1284.96001	1274.00989	1095.09213
TI	47	1224.31198	8906.70000	8.500	1255.41904	1308.82205	1108.69487
V	51	118.01364	45815.52700	5.400	121.48607	121.88844	110.66642
<b>IN-1</b>	115	19661.29300	0.00000	0.000	19582.25000	19857.18000	19544.45000
AG	107	1.23170	1616.86000	17.700	1.42190	0.99433	1.27888
AS	75	20.02664	1142.73000	6.600	18.68679	21.32288	20.07025
BA	137	348.92467	29725.38700	2.800	360.10335	341.72167	344.94897
CD	111	4.45067	528.01700	6.800	4.73930	4.13677	4.47595
CO	59	39.48130	39983.70300	1.200	39.88739	39.60914	38.94738
CU	63	276.59291	242645.80300	0.600	278.13842	274.97424	276.66607
MO	98	3.89978	2970.49300	11.100	3.42414	4.01094	4.26426
NI	60	391.26520	115441.50000	3.300	390.23454	378.94130	404.61976
SB	121	4.90266	1473.49300	10.200	5.45220	4.47253	4.78324
SN	120	26.22490	8142.94000	8.900	28.90852	24.66697	25.09922
SR	88	67.83487	9930.94300	4.500	71.00132	64.87277	67.63052
ZN	66	980.47278	77997.38300	1.900	999.41780	978.91588	963.08466
<b>BI-1</b>	209	102929.72700	0.00000	0.000	102280.19000	103319.40000	103189.59000
PB	208	347.36166	1317304.44300	1.200	350.83176	348.45529	342.79794
TL	203	0.37867	450.03300	14.200	0.43295	0.32556	0.37751
U	238	3.83156	17386.70300	2.200	3.92816	3.78088	3.78563
<b>GE-1</b>	72	61873.60700	0.00000	0.000	60788.19000	61641.84000	63190.79000
<b>TB-1</b>	159	119127.02000	0.00000	0.000	117154.40000	120707.94000	119518.72000

Run Name: 1831001E05  
 Tube Number: 20  
 Sample Number: **CCV**

Date/Time: 11/06/2018 1:00:17

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15512.95000	0.00000	0.000	15960.14000	15019.00000	15559.71000
AL	27	2551.90842	14294.72000	5.000	2403.78025	2627.12661	2624.81840
CA	44	2632.36203	1903.56700	3.700	2567.54807	2585.56322	2743.97479
CR	52	258.66031	125507.21700	3.000	250.73067	266.34939	258.90088
FE	57	2506.48388	21404.65300	3.400	2408.89788	2550.50017	2560.05360
K	39	2517.93815	35076.23300	5.600	2360.24519	2631.48805	2562.08121
MG	24	2540.03252	59120.86300	3.300	2460.31695	2627.47971	2532.30091
MN	55	265.74193	40337.62000	3.400	256.20069	274.19913	266.82599
NA	23	2547.11169	170953.48700	3.800	2435.47768	2617.79357	2588.06382
TI	47	264.73427	1836.90000	12.100	262.98542	297.49545	233.72193
V	51	266.67115	98313.79300	2.200	262.53622	273.54725	263.92998
<b>IN-1</b>	115	20625.64300	0.00000	0.000	20823.38000	21158.80000	19894.75000
AG	107	25.94586	35652.75000	5.300	25.32171	24.98430	27.53156
AS	75	252.58806	15023.78000	6.600	249.05370	238.05528	270.65519
BA	137	251.22360	22427.06700	5.900	242.47112	242.99879	268.20089
CD	111	25.16143	3118.40300	3.100	24.50824	24.93785	26.03820
CO	59	249.50494	264796.25700	3.000	248.84932	242.48631	257.17919
CU	63	249.16948	229265.31300	3.000	244.78205	244.97459	257.75180
MO	98	25.78281	17532.48700	6.900	24.45896	25.07910	27.81036
NI	60	248.99226	77069.81700	2.000	248.90778	244.00559	254.06339
SB	121	24.76381	7706.08300	7.900	25.98962	22.49844	25.80336
SN	120	26.49149	8626.63700	2.400	26.70734	25.76502	27.00211
SR	88	24.68724	3790.78000	7.900	22.55875	25.12168	26.38130
ZN	66	249.54561	20840.41000	3.000	256.34839	241.51017	250.77828
<b>BI-1</b>	209	101052.66700	0.00000	0.000	97514.83000	102765.61000	102877.56000
PB	208	26.59083	100793.09300	3.800	27.68471	25.69888	26.38890
TL	203	26.40332	30111.06300	2.100	26.59872	26.83856	25.77268
U	238	24.62771	109642.45700	2.100	25.21305	24.47152	24.19857
<b>GE-1</b>	72	57879.46300	0.00000	0.000	58327.47000	57383.24000	57927.68000
<b>TB-1</b>	159	119224.96700	0.00000	0.000	119770.97000	119898.74000	118005.19000

Run Name: 1831001E05  
 Tube Number: 21  
 Sample Number: CCB

Date/Time: 11/06/2018 1:02:03

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15406.11700	0.00000	0.000	14568.52000	15759.82000	15890.01000
AL	27	-4.01654	23.33300	0.000	-6.25460	-2.87587	-2.91916
CA	44	69.76586	50.00000	20.400	73.62481	81.67133	54.00145
CR	52	0.48392	840.07700	6.000	0.51755	0.46408	0.47014
FE	57	4.72680	90.00300	33.700	2.88915	5.69236	5.59889
K	39	-15.65519	2933.82000	0.000	3.62928	-21.67220	-28.92264
MG	24	0.94592	60.00300	197.500	2.87531	-0.85419	0.81663
MN	55	0.18530	100.00700	46.600	0.08568	0.23804	0.23219
NA	23	39.42525	39995.32000	79.200	73.38806	11.97497	32.91272
TI	47	-0.96245	3.33300	0.000	-1.43329	-1.43329	-0.02077
V	51	0.10322	56.66700	38.700	0.14936	0.08069	0.07960
<b>IN-1</b>	115	20810.73700	0.00000	0.000	20453.71000	20864.67000	21113.83000
AG	107	0.01419	23.33300	57.400	0.00479	0.01902	0.01877
AS	75	0.07595	10.66700	92.800	0.10115	0.13035	-0.00365
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	-0.02143	0.00000	0.000	-0.02143	-0.02143	-0.02143
CO	59	0.03986	63.33700	57.300	0.03784	0.01810	0.06366
CU	63	0.16605	1053.42300	77.800	0.31289	0.11504	0.07022
MO	98	-0.23496	393.36000	0.000	-0.53226	-0.23832	0.06571
NI	60	0.12230	96.67700	18.400	0.13836	0.13194	0.09660
SB	121	0.32623	126.67300	60.100	0.21587	0.21009	0.55273
SN	120	0.63761	300.02000	40.600	0.43718	0.54570	0.92993
SR	88	-0.02157	0.00000	0.000	-0.02157	-0.02157	-0.02157
ZN	66	1.89504	186.68300	43.500	2.21003	2.51552	0.95957
<b>BI-1</b>	209	96912.64300	0.00000	0.000	97474.40000	97563.73000	95699.80000
PB	208	0.50702	3737.11300	13.100	0.43738	0.51451	0.56917
TL	203	0.01843	30.00000	98.700	0.03645	0.00008	0.01878
U	238	0.01330	63.33300	20.900	0.01010	0.01474	0.01506
<b>GE-1</b>	72	57966.35000	0.00000	0.000	58147.76000	57936.16000	57815.13000
<b>TB-1</b>	159	117048.01000	0.00000	0.000	119013.07000	116205.41000	115925.55000

Run Name: 1831001E05  
 Tube Number: 22  
 Sample Number: 9866463

Date/Time: 11/06/2018 1:03:49  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.19

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15509.58300	0.00000	0.000	15389.60000	14948.83000	16190.32000
AL	27	22252.60643	124231.37300	4.300	22435.18855	23101.06615	21221.56460
CA	44	164865.46398	119071.92300	4.000	164224.70387	171689.55122	158682.13686
CR	52	84.09896	41197.02000	3.700	85.76462	86.02524	80.50701
FE	57	85581.46167	728804.65300	3.100	85998.22304	88026.68726	82719.47471
K	39	4539.01222	60695.35300	3.100	4533.50827	4682.71781	4400.81059
MG	24	84779.65097	1970629.71000	4.500	84228.81550	88811.87887	81298.25855
MN	55	881.55988	133567.52300	3.900	885.10467	914.13473	845.44023
NA	23	1137.64844	97449.57000	6.200	1154.59769	1198.27218	1060.07546
TI	47	1238.67214	8559.80300	4.600	1216.79996	1303.80369	1195.41277
V	51	88.32150	32530.28000	6.100	87.33703	94.17143	83.45606
<b>IN-1</b>	115	20326.08700	0.00000	0.000	20834.87000	20712.28000	19431.11000
AG	107	2.38809	3233.90000	8.200	2.28650	2.26381	2.61396
AS	75	36.30761	2133.52000	6.200	33.85385	36.76491	38.30409
BA	137	358.32308	31542.95700	2.500	349.00245	358.77868	367.18810
CD	111	2.76795	340.01000	10.800	2.42356	2.92027	2.96002
CO	59	21.19571	22169.19300	5.500	20.63973	20.40496	22.54244
CU	63	512.59105	463681.97300	3.900	499.97284	501.99639	535.80392
MO	98	4.84856	3684.03300	5.400	4.83463	4.59638	5.11466
NI	60	79.26508	24202.91000	4.000	76.76593	78.18837	82.84095
SB	121	5.76917	1786.89000	5.600	5.72551	5.47131	6.11068
SN	120	121.72545	38695.60300	6.200	116.81422	117.87487	130.48725
SR	88	125.70329	19001.05000	5.200	121.84744	122.04861	133.21383
ZN	66	938.64110	77148.40300	2.800	937.14228	913.16875	965.61228
<b>BI-1</b>	209	104169.52300	0.00000	0.000	105234.18000	102470.36000	104804.03000
PB	208	561.75156	2154599.15700	1.000	555.60279	566.86260	562.78929
TL	203	0.35371	426.69700	10.800	0.39528	0.31968	0.34619
U	238	1.73389	7963.07300	6.400	1.71758	1.85260	1.63149
<b>GE-1</b>	72	60591.19000	0.00000	0.000	60789.19000	60436.35000	60548.03000
<b>TB-1</b>	159	119813.13300	0.00000	0.000	119244.83000	119424.65000	120769.92000

Run Name: 1831001E05  
 Tube Number: 23  
 Sample Number: 9866464

Date/Time: 11/06/2018 1:05:35  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.22

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15162.40700	0.00000	0.000	15489.44000	15129.22000	14868.56000
AL	27	19956.52079	109013.73300	2.500	19388.03916	20158.80347	20322.71975
CA	44	131886.79481	93194.32700	3.200	130969.60827	128223.68461	136467.09156
CR	52	67.61059	32510.11700	3.800	65.29110	67.13121	70.40947
FE	57	63050.24309	525214.18700	2.900	62221.27226	61782.22389	65147.23312
K	39	3342.24937	44526.64000	2.500	3245.24826	3381.18525	3400.31459
MG	24	75808.94290	1724306.12000	1.600	74507.82593	76125.04938	76793.95340
MN	55	874.71651	129674.48700	1.500	861.40251	874.80952	887.93750
NA	23	1318.16999	104534.90000	3.400	1266.07753	1344.24671	1344.18574
TI	47	1520.99741	10284.36700	0.900	1525.09034	1504.99612	1532.90576
V	51	84.37055	30425.24000	0.800	83.88663	84.07410	85.15092
<b>IN-1</b>	115	19840.30000	0.00000	0.000	19565.38000	20115.04000	19840.48000
AG	107	1.02813	1363.48000	12.000	0.97854	0.93683	1.16903
AS	75	24.08656	1385.42300	1.000	23.80293	24.25194	24.20482
BA	137	171.72026	14762.51700	2.000	174.90883	172.19458	168.05736
CD	111	1.09938	133.33300	20.600	1.33991	0.88892	1.06932
CO	59	19.02920	19451.54000	2.800	19.49418	18.44839	19.14503
CU	63	228.34887	202285.10700	1.400	231.84565	227.67519	225.52576
MO	98	5.38868	3944.15700	8.900	5.29770	5.90767	4.96066
NI	60	61.12799	18239.83700	7.000	66.09508	58.70803	58.58085
SB	121	4.35309	1323.46300	6.600	4.13302	4.24907	4.67719
SN	120	68.13827	21214.76700	0.300	68.35644	68.07312	67.98526
SR	88	101.14952	14939.19700	5.500	107.34618	99.66634	96.43606
ZN	66	342.64394	27522.25300	2.400	338.68043	337.17063	352.08075
<b>BI-1</b>	209	101388.95300	0.00000	0.000	101275.64000	100538.53000	102352.69000
PB	208	276.16029	1032004.34000	0.900	278.04496	277.20542	273.23050
TL	203	0.18916	226.68300	5.500	0.20104	0.18495	0.18150
U	238	1.39705	6248.58000	4.300	1.34312	1.46136	1.38665
<b>GE-1</b>	72	61164.20700	0.00000	0.000	60839.51000	60075.40000	62577.71000
<b>TB-1</b>	159	117972.92000	0.00000	0.000	118285.37000	116459.08000	119174.31000

Run Name: 1831001E05  
 Tube Number: 24  
 Sample Number: 9866465

Date/Time: 11/06/2018 1:07:21  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.30

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15643.10000	0.00000	0.000	15419.50000	16000.32000	15509.48000
AL	27	27476.09845	154863.11700	1.500	27364.53957	27134.05205	27929.70372
CA	44	728972.77725	531478.22000	1.400	737927.42412	717930.58085	731060.32679
CR	52	56.86622	28323.88300	0.800	57.14107	57.11196	56.34561
FE	57	50759.29840	436243.13300	2.600	50981.65427	49357.10413	51939.13679
K	39	3614.86485	49430.43000	1.800	3631.88187	3541.65390	3671.05879
MG	24	398316.90815	9346330.69700	2.200	402090.35356	388514.01228	404346.35861
MN	55	935.93893	143142.14000	1.700	949.14923	918.49593	940.17163
NA	23	2918.31152	191965.63700	1.400	2949.66457	2871.35468	2933.91531
TI	47	2754.29613	19191.09000	5.900	2881.47766	2570.29955	2811.11118
V	51	102.49406	38118.07000	2.800	104.31713	99.21011	103.95492
<b>IN-1</b>	115	19358.69700	0.00000	0.000	19632.39000	19707.68000	18736.02000
AG	107	0.47251	613.38300	2.300	0.46340	0.48445	0.46969
AS	75	23.97965	1344.75000	9.800	25.76842	21.30962	24.86091
BA	137	95.28576	7986.21000	5.100	91.12953	94.06323	100.66453
CD	111	0.68022	81.33300	20.500	0.69083	0.53607	0.81376
CO	59	21.54801	21491.57700	2.000	21.89555	21.05120	21.69729
CU	63	272.86886	235623.00000	2.100	271.01499	268.37159	279.22001
MO	98	4.21676	3117.24300	9.200	3.82748	4.22224	4.60057
NI	60	60.00023	17471.98700	2.900	60.39379	58.09640	61.51050
SB	121	0.79246	253.35000	2.000	0.80320	0.79981	0.77439
SN	120	15.33671	4717.74700	9.100	14.35485	14.72114	16.93415
SR	88	375.08997	54027.20700	3.700	369.97595	364.38086	390.91311
ZN	66	147.38122	11552.25700	6.400	144.56581	139.74149	157.83636
<b>BI-1</b>	209	96593.58000	0.00000	0.000	96898.35000	95851.01000	97031.38000
PB	208	78.96745	282514.70000	1.300	78.13146	80.08528	78.68563
TL	203	0.29354	330.02300	23.000	0.28371	0.23142	0.36550
U	238	2.17261	9254.04000	3.500	2.14435	2.25783	2.11565
<b>GE-1</b>	72	58940.29300	0.00000	0.000	59573.54000	57704.42000	59542.92000
<b>TB-1</b>	159	117239.16700	0.00000	0.000	114592.28000	119052.05000	118073.17000

Run Name: 1831001E05  
 Tube Number: 25  
 Sample Number: 9866466

Date/Time: 11/06/2018 1:09:07  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 20.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15275.99300	0.00000	0.000	16350.72000	15019.04000	14458.22000
AL	27	4386.23425	24109.06000	8.300	4099.12773	4263.24358	4796.33144
CA	44	1020.94463	723.39300	13.500	865.99653	1128.47779	1068.35957
CR	52	22.45633	11265.15700	6.500	20.93286	23.82044	22.61569
FE	57	14466.20467	121150.83700	6.400	13447.48917	14688.01256	15263.11229
K	39	610.33726	10711.38700	8.300	558.87998	611.75393	660.37788
MG	24	2058.79306	47101.34700	6.300	1912.08988	2106.76069	2157.52860
MN	55	116.19016	17365.12300	7.400	106.90775	117.93169	123.73106
NA	23	87.00905	41994.64300	82.500	4.17433	125.48766	131.36515
TI	47	150.34754	1026.76000	16.700	122.12223	170.44116	158.47923
V	51	12.97347	4707.75000	12.200	11.57899	12.63866	14.70276
<b>IN-1</b>	115	20164.53700	0.00000	0.000	19578.99000	20779.62000	20135.00000
AG	107	0.75864	1023.42300	2.900	0.77871	0.76243	0.73479
AS	75	3.57763	214.00000	4.600	3.75518	3.43228	3.54543
BA	137	87.66768	7659.31700	4.900	90.90567	89.32182	82.77556
CD	111	0.52160	66.00000	21.800	0.47171	0.65151	0.44156
CO	59	5.05108	5254.63000	9.100	5.36925	4.52485	5.25913
CU	63	117.15603	105844.72000	3.300	121.25370	113.45054	116.76387
MO	98	0.65450	953.42700	39.600	0.45472	0.56145	0.94734
NI	60	44.69691	13570.81700	2.600	45.76590	43.46368	44.86117
SB	121	1.16697	376.69700	12.000	1.28051	1.01035	1.21005
SN	120	43.25171	13724.55700	2.900	41.83381	43.62338	44.29795
SR	88	6.32871	953.41300	4.700	6.49607	6.50751	5.98256
ZN	66	210.59747	17188.66700	4.300	218.15802	200.64856	212.98583
<b>BI-1</b>	209	105692.78300	0.00000	0.000	105748.91000	107051.51000	104277.93000
PB	208	1689.64780	6571569.46000	0.600	1700.40322	1679.21162	1689.32857
TL	203	0.07770	103.34000	23.000	0.05804	0.08207	0.09299
U	238	0.41743	1950.28000	12.700	0.36757	0.41183	0.47289
<b>GE-1</b>	72	59794.15300	0.00000	0.000	59693.50000	59754.08000	59934.88000
<b>TB-1</b>	159	118671.26000	0.00000	0.000	118368.83000	119639.56000	118005.39000



Run Name: 1831001E05  
 Tube Number: 26  
 Sample Number: 9866466

Date/Time: 11/06/2018 1:10:53  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	16086.97700	0.00000	0.000	16450.81000	15799.95000	16010.17000
AL	27	40676.22487	235684.39000	2.900	39339.84579	41437.32842	41251.50041
CA	44	8770.73105	6575.28300	5.400	8726.43717	9262.60747	8323.14851
CR	52	208.42391	105030.67300	2.100	203.51623	211.87317	209.88234
FE	57	143692.90601	1269749.56300	3.800	140249.20649	150038.05128	140791.46026
K	39	5914.86145	81066.68300	4.000	5647.21144	6084.52853	6012.84439
MG	24	18839.56903	454543.98000	3.800	18011.18264	19254.89529	19252.62915
MN	55	1126.03067	177076.19300	2.100	1098.95454	1141.16460	1137.97289
NA	23	526.80332	68130.88000	7.100	484.55689	556.12231	539.73075
TI	47	1425.73957	10224.36000	3.500	1367.59388	1452.43194	1457.19290
V	51	122.23211	46738.29000	3.700	117.24322	126.02781	123.42531
<b>IN-1</b>	115	19366.97700	0.00000	0.000	18603.89000	20177.22000	19319.82000
AG	107	8.40271	10845.06700	7.300	9.03705	8.35454	7.81654
AS	75	33.79155	1892.82000	6.100	36.06353	33.27783	32.03329
BA	137	920.18393	77103.77300	5.800	975.09234	868.01385	917.44561
CD	111	5.01184	584.68700	5.700	5.31179	4.74743	4.97630
CO	59	52.89480	52720.67300	2.700	54.49516	51.67529	52.51396
CU	63	1214.17200	1045157.45700	4.600	1277.25992	1169.49589	1195.76020
MO	98	9.56155	6415.23700	12.800	10.28702	8.14978	10.24785
NI	60	458.75061	133239.68000	2.800	470.23450	444.99119	461.02614
SB	121	11.11049	3257.27000	8.200	12.13457	10.78712	10.40977
SN	120	449.62648	136033.26700	3.900	465.54516	431.17824	452.15605
SR	88	68.09745	9814.19000	5.800	67.94409	64.24405	72.10420
ZN	66	2183.44094	170913.87000	3.300	2260.37357	2119.45331	2170.49594
<b>BI-1</b>	209	145096.69700	0.00000	0.000	146076.18000	144706.00000	144507.91000
PB	208	12426.56337	66331187.34700	0.600	12347.23759	12504.20865	12428.24389
TL	203	0.38386	643.38700	10.100	0.41574	0.39525	0.34060
U	238	2.97035	19002.41300	3.100	2.87753	3.06187	2.97165
<b>GE-1</b>	72	60269.79700	0.00000	0.000	61049.59000	61191.01000	58568.79000
<b>TB-1</b>	159	121750.81300	0.00000	0.000	123111.58000	120818.97000	121321.89000

Run Name: 1831001E05  
 Tube Number: 27  
 Sample Number: 9866467

Date/Time: 11/06/2018 1:12:38  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	16407.33700	0.00000	0.000	16030.24000	16380.54000	16811.23000
AL	27	46478.58869	274648.85700	2.800	47937.11606	46081.39079	45417.25922
CA	44	10148.36402	7755.99000	5.200	10468.59721	10441.33637	9535.15848
CR	52	352.34300	180626.68300	2.400	361.13598	351.85043	344.04257
FE	57	250781.85792	2260480.75000	2.000	253007.53021	254185.55586	245152.48768
K	39	7268.41842	100850.22300	2.700	7483.61865	7213.18767	7108.44895
MG	24	18981.00757	467234.32700	1.000	19136.49782	19043.33590	18763.18898
MN	55	1988.32442	318851.07700	1.700	2016.08749	1997.68526	1951.20050
NA	23	660.65765	76863.35700	6.200	707.40124	643.91361	630.65810
TI	47	1390.03727	10171.07700	3.600	1427.37467	1332.32189	1410.41525
V	51	126.41627	49307.35300	2.900	127.72009	129.26819	122.26052
<b>IN-1</b>	115	19486.53700	0.00000	0.000	20463.44000	19043.05000	18953.12000
AG	107	8.01418	10397.97300	6.800	7.40149	8.19025	8.45081
AS	75	53.36352	3001.69300	7.000	49.23531	56.48183	54.37341
BA	137	899.82398	75870.30000	5.100	847.23666	917.87565	934.35963
CD	111	8.12701	950.71300	13.900	7.02375	9.28027	8.07701
CO	59	72.31615	72495.18300	3.500	69.42365	73.88604	73.63876
CU	63	1758.24660	1522036.64300	5.200	1657.47468	1779.55966	1837.70545
MO	98	19.38971	12573.26000	7.800	17.68543	19.95306	20.53064
NI	60	500.05836	146009.11700	5.500	469.07398	510.16640	520.93471
SB	121	14.67714	4327.61000	5.100	14.53100	14.01580	15.48460
SN	120	1087.76842	330863.50300	5.200	1023.83107	1110.10455	1129.36965
SR	88	70.67746	10254.50000	6.000	69.71607	75.34074	66.97558
ZN	66	2764.47671	217622.06700	4.600	2617.26471	2832.20117	2843.96425
<b>BI-1</b>	209	104078.82000	0.00000	0.000	102735.27000	105869.39000	103631.80000
PB	208	1325.66634	5077388.90700	1.300	1322.17075	1310.38252	1344.44574
TL	203	0.69817	830.07300	5.500	0.74159	0.66914	0.68377
U	238	4.38414	20114.11700	1.400	4.44602	4.32513	4.38127
<b>GE-1</b>	72	60243.06000	0.00000	0.000	59342.92000	61803.23000	59583.03000
<b>TB-1</b>	159	122925.32300	0.00000	0.000	121678.22000	123372.53000	123725.22000

Run Name: 1831001E05  
 Tube Number: 28  
 Sample Number: 9867761

Date/Time: 11/06/2018 1:14:22  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.36

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15616.52300	0.00000	0.000	16120.35000	15179.30000	15549.92000
AL	27	30895.23966	173800.67700	2.000	30585.06000	31618.05704	30482.60193
CA	44	22952.36583	16694.26300	4.300	21931.78439	23885.29078	23040.02231
CR	52	217.66238	106447.51700	1.600	214.11880	221.05448	217.81386
FE	57	682773.19923	5854268.87000	4.100	651370.00170	706171.18742	690778.40856
K	39	4291.33562	57994.07300	0.300	4274.74119	4302.92106	4296.34461
MG	24	12395.01055	290359.62700	1.900	12176.87936	12643.73722	12364.41507
MN	55	2860.92779	436519.82300	2.700	2771.93620	2917.30739	2893.53977
NA	23	2338.97335	161178.45300	3.800	2266.47063	2437.20317	2313.24625
TI	47	1057.34644	7365.76300	3.500	1066.85169	1088.71222	1016.47539
V	51	707.41571	262455.23000	3.300	686.19134	732.87363	703.18216
<b>IN-1</b>	115	13502.25300	0.00000	0.000	13187.81000	13702.19000	13616.76000
AG	107	12.96215	11669.20700	3.700	13.38690	12.43508	13.06447
AS	75	885.44066	34503.89700	2.200	908.06782	870.62770	877.62645
BA	137	2152.61865	125889.97000	3.600	2233.29839	2076.98843	2147.56913
CD	111	15.47533	1256.07700	5.800	16.28839	14.50969	15.62790
CO	59	132.03025	91760.23700	2.800	135.47554	128.17462	132.44059
CU	63	1459.24338	876211.21000	3.800	1519.57189	1411.23022	1446.92805
MO	98	39.68231	17495.81700	1.100	39.64256	39.26586	40.13853
NI	60	375.03552	75970.48000	3.300	388.85944	364.71447	371.53265
SB	121	53.11714	10808.32700	4.800	55.69603	50.64363	53.01177
SN	120	10857.64756	2289834.34000	4.800	11368.43875	10336.99233	10867.51159
SR	88	197.97791	19902.32700	2.400	198.73578	192.84439	202.35356
ZN	66	3456.77517	188728.47000	2.900	3571.36662	3404.19838	3394.76049
<b>BI-1</b>	209	110090.93000	0.00000	0.000	109572.98000	108240.89000	112458.92000
PB	208	2923.70696	11840393.67700	2.200	2980.05624	2937.19112	2853.87351
TL	203	0.47418	600.04700	9.300	0.52487	0.44955	0.44812
U	238	1.92066	9327.46000	2.000	1.95413	1.87962	1.92823
<b>GE-1</b>	72	60818.31300	0.00000	0.000	60366.44000	59793.75000	62294.75000
<b>TB-1</b>	159	120056.23700	0.00000	0.000	119467.19000	120324.07000	120377.45000

Run Name: 1831001E05  
 Tube Number: 29  
 Sample Number: 9867766

Date/Time: 11/06/2018 1:16:10  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.27

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15833.33300	0.00000	0.000	15449.54000	15709.86000	16340.60000
AL	27	27019.30821	154116.41300	2.200	26987.96767	27640.57292	26429.38404
CA	44	15676.30385	11558.74000	5.500	16587.02799	15574.06966	14867.81389
CR	52	215.00715	106572.42300	4.200	218.69512	221.72323	204.60310
FE	57	155354.20151	1350770.13700	3.800	158516.88391	158951.60964	148594.11098
K	39	5446.26142	73715.47300	3.700	5531.91500	5588.63459	5218.23467
MG	24	12410.36685	294720.61000	2.600	12606.48672	12592.43808	12032.17575
MN	55	1149.35750	177861.81700	2.500	1164.13199	1167.81550	1116.12501
NA	23	535.31510	67488.17300	8.900	577.46214	544.69349	483.78967
TI	47	1018.40050	7185.66000	8.300	1026.02512	1099.03582	930.14057
V	51	145.88559	54888.83700	3.600	150.12668	147.58337	139.94673
<b>IN-1</b>	115	19481.58300	0.00000	0.000	19885.31000	19055.98000	19503.46000
AG	107	7.69389	9997.64000	3.500	7.44321	7.65703	7.98142
AS	75	191.95915	10799.06700	1.500	191.43825	195.15261	189.28658
BA	137	1223.78774	103275.50300	2.500	1193.66658	1255.27008	1222.42657
CD	111	6.70095	786.69700	0.400	6.70946	6.72285	6.67053
CO	59	45.71104	45848.47700	2.600	44.61886	46.99148	45.52278
CU	63	1757.29724	1522221.80000	3.900	1696.89635	1831.26139	1743.73397
MO	98	16.61526	10865.11000	4.700	16.76029	17.31224	15.77327
NI	60	260.41830	76164.87300	1.100	258.73444	258.78294	263.73753
SB	121	25.13414	7395.80300	6.200	24.24455	24.22209	26.93580
SN	120	1143.67726	348142.22000	3.100	1107.41427	1177.87361	1145.74391
SR	88	111.15900	16130.56000	2.500	112.24634	108.02741	113.20326
ZN	66	1916.77211	151046.51300	1.200	1892.50245	1921.21583	1936.59805
<b>BI-1</b>	209	106688.15300	0.00000	0.000	105821.89000	108655.80000	105586.77000
PB	208	2243.24156	8804596.69300	2.000	2250.97340	2195.96921	2282.78205
TL	203	0.46178	566.71300	9.200	0.41816	0.46412	0.50306
U	238	2.33148	10968.80300	1.600	2.30673	2.31341	2.37428
<b>GE-1</b>	72	63748.74300	0.00000	0.000	63229.05000	65018.23000	62998.95000
<b>TB-1</b>	159	119370.49000	0.00000	0.000	118276.34000	120325.86000	119509.27000

Run Name: 1831001E05  
 Tube Number: 30  
 Sample Number: 9867767

Date/Time: 11/06/2018 1:17:54  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.12

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15886.70000	0.00000	0.000	15569.53000	16140.41000	15950.16000
AL	27	29041.75869	166250.99700	0.200	29109.04254	29031.23189	28985.00163
CA	44	16588.40542	12289.42300	4.100	15866.35958	16701.76926	17197.08742
CR	52	359.33277	178373.92300	2.100	367.53058	352.20641	358.26131
FE	57	108672.66431	948580.92300	1.500	109992.09682	106784.65380	109241.24229
K	39	4555.03303	62416.96000	1.800	4613.90576	4460.94032	4590.25300
MG	24	5705.76053	136049.17700	2.900	5629.61186	5592.54114	5895.12858
MN	55	223.45439	34765.81300	2.600	224.68711	217.23174	228.44433
NA	23	950.07064	89892.84700	5.100	957.31141	898.78436	994.11616
TI	47	722.85499	5127.95000	2.800	700.79939	727.41958	740.34601
V	51	82.22313	31066.77700	4.000	81.96660	79.03889	85.66388
<b>IN-1</b>	115	20143.28300	0.00000	0.000	21379.29000	19267.05000	19783.51000
AG	107	143.49423	192416.80000	5.100	134.99633	147.76047	147.72590
AS	75	13.27483	775.36700	12.400	11.66247	13.20394	14.95808
BA	137	2609.27482	227200.88700	6.800	2403.77037	2720.27258	2703.78151
CD	111	23.98664	2895.68300	9.000	21.48722	25.33164	25.14108
CO	59	8.25648	8563.22000	6.600	7.76093	8.84608	8.16241
CU	63	3730.39596	3335603.80700	5.500	3493.26548	3830.68310	3867.23931
MO	98	16.71997	11272.24000	8.700	15.04920	17.40577	17.70494
NI	60	74.11551	22419.56000	4.400	70.99487	77.55135	73.80033
SB	121	12.40224	3777.45000	6.500	11.76119	13.30046	12.14506
SN	120	839.63908	263810.36000	6.200	780.75569	881.07029	857.09125
SR	88	196.70882	29450.69000	5.000	186.21808	205.65998	198.24841
ZN	66	987.05931	80259.70000	6.600	911.99674	1022.35608	1026.82511
<b>BI-1</b>	209	458834.00300	0.00000	0.000	454998.43000	454141.09000	467362.49000
PB	208	399.84293	6757317.63700	2.700	392.27359	412.44673	394.80847
TL	203	0.11653	650.05700	20.000	0.13904	0.09248	0.11806
U	238	2.20665	44636.46700	3.700	2.27630	2.22750	2.11613
<b>GE-1</b>	72	59948.12700	0.00000	0.000	60416.18000	59382.68000	60045.52000
<b>TB-1</b>	159	120507.03000	0.00000	0.000	117246.80000	117337.30000	126936.99000

Run Name: 1831001E05  
 Tube Number: 31  
 Sample Number: **CCV**

Date/Time: 11/06/2018 1:19:40

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	15372.72300	0.00000	0.000	15439.55000	15379.46000	15299.16000
AL	27	2548.75853	14161.31700	5.100	2692.11877	2438.87790	2515.27891
CA	44	2833.66146	2030.26000	8.700	2556.84692	3027.23615	2916.90133
CR	52	267.06365	128465.77000	1.500	263.55183	266.33688	271.30223
FE	57	2640.71846	22356.26700	1.500	2606.03891	2684.96332	2631.15316
K	39	2573.18856	35486.90000	1.300	2537.88518	2604.58799	2577.09252
MG	24	2550.19308	58853.41300	3.800	2474.42224	2517.14551	2659.01148
MN	55	264.62119	39833.00300	3.200	262.12871	273.96550	257.76937
NA	23	2557.48211	170037.47000	0.700	2556.58614	2575.89844	2539.96176
TI	47	255.17210	1756.88300	12.800	218.10441	267.13141	280.28049
V	51	267.11037	97626.20700	0.800	264.82970	268.59566	267.90575
<b>IN-1</b>	115	20552.08000	0.00000	0.000	20369.49000	20830.59000	20456.16000
AG	107	26.08563	35746.60300	3.800	26.51353	24.94501	26.79834
AS	75	252.07197	14959.02000	1.300	255.76277	249.26631	251.18683
BA	137	258.20044	22998.12000	2.600	259.67734	264.14147	250.78253
CD	111	25.67652	3173.07700	1.800	25.23462	26.14633	25.64860
CO	59	252.32975	267004.73700	0.300	252.85052	252.75263	251.38609
CU	63	250.08649	229403.82000	1.700	255.09135	247.59385	247.57428
MO	98	25.10206	17045.26000	3.100	24.36183	25.02150	25.92287
NI	60	252.64877	77938.63700	3.800	250.96902	243.99517	262.98213
SB	121	24.93302	7739.41300	0.500	24.90677	24.83200	25.06028
SN	120	29.66221	9620.72000	4.000	29.32075	30.97155	28.69434
SR	88	25.94154	3974.16000	6.300	26.03003	27.51703	24.27756
ZN	66	248.86691	20710.10700	2.900	252.82797	240.44580	253.32695
<b>BI-1</b>	209	100370.06700	0.00000	0.000	98562.51000	100316.11000	102231.58000
PB	208	27.38754	103104.38700	1.800	27.68370	27.66363	26.81528
TL	203	26.71730	30258.30300	2.600	27.23532	26.98051	25.93609
U	238	24.98374	110492.16300	2.400	25.38300	25.28893	24.27930
<b>GE-1</b>	72	59774.27000	0.00000	0.000	59693.24000	60336.95000	59292.62000
<b>TB-1</b>	159	118758.33700	0.00000	0.000	120105.62000	118446.82000	117722.57000

Run Name: 1831001E05  
 Tube Number: 32  
 Sample Number: CCB

Date/Time: 11/06/2018 1:21:26

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	14999.07300	0.00000	0.000	15179.40000	15049.15000	14768.67000
AL	27	-2.57850	30.00000	0.000	-4.50255	-4.47089	1.23795
CA	44	38.38215	26.66700	79.400	28.26474	14.25469	72.62702
CR	52	0.70875	923.41300	16.600	0.63607	0.84463	0.64554
FE	57	5.42174	93.33700	98.200	10.93062	5.02840	0.30620
K	39	-29.34878	2693.74700	0.000	-29.09243	-44.25846	-14.69544
MG	24	0.22781	43.33300	489.900	-0.82185	1.40012	0.10514
MN	55	0.11672	86.67300	185.700	0.06314	-0.06823	0.35525
NA	23	99.29765	41998.02700	8.400	96.14745	93.02352	108.72198
TI	47	-1.43329	0.00000	0.000	-1.43329	-1.43329	-1.43329
V	51	0.03164	30.00000	92.500	0.00265	0.03109	0.06117
<b>IN-1</b>	115	20404.48700	0.00000	0.000	21429.88000	20086.42000	19697.16000
AG	107	0.01467	23.33300	30.900	0.01146	0.01986	0.01269
AS	75	0.21847	18.66700	60.400	0.09189	0.20834	0.35518
BA	137	0.03830	3.33300	173.200	0.00000	0.11489	0.00000
CD	111	-0.02143	0.00000	0.000	-0.02143	-0.02143	-0.02143
CO	59	0.02685	50.00300	203.300	0.08963	0.00020	-0.00928
CU	63	0.51069	1343.47700	38.900	0.41172	0.38120	0.73916
MO	98	-0.16500	426.70000	0.000	-0.28292	-0.26236	0.05027
NI	60	0.08702	83.34000	90.500	-0.00094	0.11113	0.15088
SB	121	0.28442	110.00700	34.700	0.17154	0.35347	0.32825
SN	120	2.69572	946.75300	12.200	2.37527	2.68045	3.03144
SR	88	0.02022	6.66700	358.000	0.10378	-0.02157	-0.02157
ZN	66	0.94887	106.67000	53.300	1.51742	0.77916	0.55002
<b>BI-1</b>	209	97210.89000	0.00000	0.000	97210.05000	97765.40000	96657.22000
PB	208	0.80214	4803.98300	14.700	0.73091	0.73758	0.93791
TL	203	0.02737	40.00000	87.600	0.03658	0.04538	0.00016
U	238	0.01014	50.00000	23.700	0.01013	0.00774	0.01255
<b>GE-1</b>	72	58287.62300	0.00000	0.000	57694.97000	58849.58000	58318.32000
<b>TB-1</b>	159	114320.03000	0.00000	0.000	114209.62000	112624.51000	116125.96000

# US EPA Tune Check Report

**Operator Name** US19\_USR\_INS14259  
**Acq/Data Batch** C:\Agilent\ICPMH\1\DATA\^EPATUNEaa.b  
**Acq. Date-Time** 11/5/2018 4:17:01 PM  
**Report Comment** ICP-MS #19204 (E05) Daily Tune Check  
**Instrument Name** G3281A JP12071581

[No Gas]

**Sensitivity**

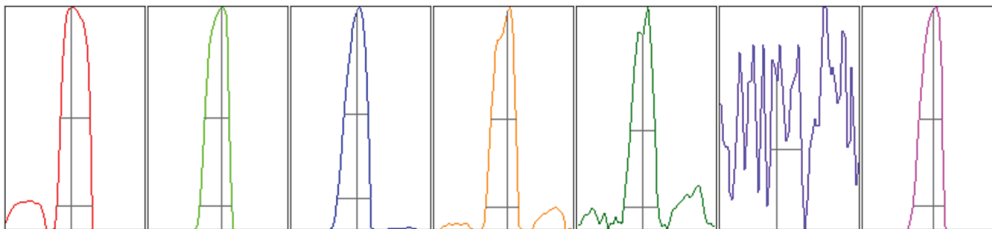
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1326	13262.07			0.822	5.000
89	10.00	6499	64991.85			0.073	5.000
205	10.00	2875	28749.11			0.215	5.000
70	1.00	74	738.28	0.00		3.590	
156	1.00	9	94.11	0.00		9.865	
220	1.00	1	10.90	0.00		33.301	
140	10.00	5559	55593.75	0.00		0.535	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1336	1321	1314	1339	1321
89	6503	6496	6501	6504	6493
205	2882	2869	2873	2870	2881
70	72	75	77	70	76
156	9	10	10	8	10
220	1	1	1	1	2
140	5581	5565	5519	5540	5592

Integration Time [sec] 0.1

**Resolution/Axis**





# US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2129.07	6.95	6.90 - 7.10	
89	12517.51	89.10	88.90 - 89.10	
205	5776.35	204.95	204.90 - 205.10	
70	142.12	70.10	-	
156	17.05	155.95	-	
220	1.35	219.75	-	
140	11311.75	140.05	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.65	0.756	0.800	
89	0.54	0.701	0.800	
205	0.50	0.704	0.800	
70	0.55	0.707		
156	0.52	0.745		
220	0.67			
140	0.51	0.684		

Integration Time [sec] 0.1  
 Acquisition Time [sec] 260.3  
 Y Axis Linear

## Tune Parameters

### Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

### Lens Parameters

Extract 1	0.0 V	Omega Lens	9.7 V	Deflect	14.2 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-100 V	Cell Exit	-59 V		

### Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	200 V		

### QP Parameters

Mass Gain	123	Axis Gain	0.9985	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.07		

## Hardware Settings

### Torch

Torch H	1.1 mm	Torch V	-1.2 mm
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### EM

Discriminator	4.5 mV	Analog HV	1761 V	Pulse HV	1217 V
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Date File Name: 18K13E01.E05

Method Reference Name(s):

Run Name: 1831706E05

Analyst: 3472

Reviewed By: Patrick J Engle  
Reviewed Date: 11/13/2018 14:45

Verified By: Tara L Snyder  
Verified Date: 11/13/2018 14:45

Instrument Parameters:

Rinse Time (sec): 25.00

<u>INTERNAL STD.</u>	<u>ELEMENT</u>	<u>MASS</u>
<b>SC-1</b>		45
	NA	23
	MG	24
	AL	27
	K	39
	CA	44
	TI	47
	V	51
	CR	52
	MN	55
	FE	57
-----		
<b>IN-1</b>		115
	CO	59
	NI	60
	CU	63
	ZN	66
	AS	75
	SR	88
	MO	98
	AG	107
	CD	111
	SN	120
	SB	121
	BA	137
-----		
<b>TB-1</b>		159
	TL	203
	PB	208
	U	238
-----		

Run Name: 1831706E05  
 Tube Number: 1  
 Sample Number: **S0**

Date/Time: 11/13/2018 13:30:24

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
NA	23	0.00000	38701.81700	0.000	-25.38426	13.98187	11.40239
MG	24	0.00000	36.66700	0.000	1.25032	-1.08650	-0.16381
AL	27	0.00000	43.33300	0.000	0.56778	2.28347	-2.85125
K	39	0.00000	3824.10700	0.000	5.33427	-4.73010	-0.60416
CA	44	0.00000	6.66700	0.000	-6.14154	12.28309	-6.14154
SC-1	45	21808.47300	0.00000	0.000	22720.05000	21127.38000	21577.99000
TI	47	0.00000	6.66700	0.000	-0.67485	0.34811	0.32675
V	51	0.00000	36.66700	0.000	0.00345	-0.01081	0.00736
CR	52	0.00000	463.37000	0.000	-0.13445	0.18031	-0.04586
MN	55	0.00000	36.66700	0.000	-0.16926	0.01787	0.15139
FE	57	0.00000	43.33300	0.000	0.38950	-0.15945	-0.23005
CO	59	0.00000	10.00000	0.000	-0.00652	0.00626	0.00026
NI	60	0.00000	116.67000	0.000	0.15590	-0.03823	-0.11767
CU	63	0.00000	423.36000	0.000	-0.11980	0.15528	-0.03548
ZN	66	0.00000	23.33300	0.000	-0.11243	0.13273	-0.02031
GE-1	72	83174.41000	0.00000	0.000	83841.04000	83027.77000	82654.42000
AS	75	0.00000	12.00000	0.000	0.04281	-0.04895	0.00614
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
MO	98	0.00000	46.66700	0.000	0.00243	0.00279	-0.00522
AG	107	0.00000	50.00000	0.000	0.01936	-0.00504	-0.01432
CD	111	0.00000	1.33300	0.000	0.01480	-0.00740	-0.00740
IN-1	115	30585.92300	0.00000	0.000	31327.87000	31116.95000	29312.95000
SN	120	0.00000	93.34000	0.000	0.03088	-0.03219	0.00131
SB	121	0.00000	10.00000	0.000	0.04380	-0.02190	-0.02190
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
TB-1	159	175397.06300	0.00000	0.000	176742.17000	175626.56000	173822.46000
TL	203	0.00000	16.66700	0.000	-0.00395	0.00781	-0.00386
PB	208	0.00000	500.04000	0.000	-0.00800	0.00903	-0.00103
BI-1	209	148770.28000	0.00000	0.000	148123.35000	151213.25000	146974.24000
U	238	0.00000	26.66700	0.000	0.00194	-0.00098	-0.00095

Run Name: 1831706E05  
 Tube Number: 2  
 Sample Number: S1

Date/Time: 11/13/2018 13:32:22

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21815.12700	0.00000	0.000	22209.47000	21207.14000	22028.77000
AL	27	10000.00000	81329.52300	1.300	10150.40370	9940.53610	9909.06020
CA	44	10000.00000	11218.47000	2.300	9997.67019	9772.39815	10229.93166
CR	52	1000.00000	680711.60300	0.200	1000.11082	997.94503	1001.94415
FE	57	10000.00000	122228.74700	1.200	9987.65174	9884.67687	10127.67140
K	39	10000.00000	182370.58000	1.100	9877.32652	10081.64441	10041.02907
MG	24	10000.00000	328782.14000	0.900	10001.65684	9911.29847	10087.04469
MN	55	1000.00000	220742.81700	0.500	1004.65134	1000.23960	995.10906
NA	23	10000.00000	736313.30000	0.500	10054.07799	9949.24157	9996.68044
TI	47	1000.00000	10100.94000	2.700	1025.43747	1002.56169	972.00085
V	51	1000.00000	521061.50300	0.700	1008.09035	996.54704	995.36261
<b>IN-1</b>	115	29408.26300	0.00000	0.000	30900.63000	28634.38000	28689.78000
AG	107	100.00000	191176.64000	3.000	97.06944	99.90702	103.02354
AS	75	1000.00000	81254.44000	2.800	976.80103	991.66695	1031.53203
BA	137	1000.00000	123941.07300	3.200	966.55178	1002.75962	1030.68860
CD	111	100.00000	16900.24000	4.400	95.23988	100.91858	103.84154
CO	59	1000.00000	1477808.94000	3.800	959.47435	1006.14764	1034.37801
CU	63	1000.00000	1277103.70300	2.600	972.02569	1004.90326	1023.07105
MO	98	100.00000	88967.05000	3.200	96.90775	99.80502	103.28722
NI	60	1000.00000	431760.78700	3.100	969.97042	997.95758	1032.07200
SB	121	100.00000	42848.55000	3.100	97.66100	98.87643	103.46256
SN	120	100.00000	43922.28000	2.600	97.21157	100.48285	102.30559
SR	88	100.00000	20753.99700	2.200	98.31469	99.25755	102.42775
ZN	66	1000.00000	115856.16300	4.600	973.95284	973.37473	1052.67243
<b>TB-1</b>	159	175490.68300	0.00000	0.000	181753.18000	171791.35000	172927.52000
PB	208	100.00000	545491.57000	1.400	98.76736	99.71639	101.51624
TL	203	100.00000	170411.13300	2.800	97.85508	98.98675	103.15817
U	238	100.00000	674818.58300	1.900	98.56208	99.31257	102.12535
<b>GE-1</b>	72	79951.98300	0.00000	0.000	79333.54000	78670.59000	81851.82000
<b>BI-1</b>	209	149118.59700	0.00000	0.000	151923.68000	146841.26000	148590.85000

Run Name: 1831706E05  
 Tube Number: 3  
 Sample Number: **ICV**

Date/Time: 11/13/2018 13:34:20

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21861.71700	0.00000	0.000	21507.73000	21397.51000	22679.91000
AL	27	5178.55406	42195.99300	3.300	5339.38232	5200.79477	4995.48509
CA	44	5374.90260	6038.35300	4.400	5479.37086	5544.04755	5101.28940
CR	52	518.89791	353950.56700	3.200	530.24923	526.45584	499.98866
FE	57	5179.66956	63419.04700	3.000	5315.17264	5216.81935	5007.01668
K	39	5074.60903	94549.13700	4.800	5207.07697	5221.72939	4795.02072
MG	24	5031.27307	165681.39000	2.600	5131.67749	5079.87239	4882.26934
MN	55	515.96577	114033.13000	5.200	537.48946	524.69899	485.70887
NA	23	4896.93385	380854.72000	3.700	5017.78815	4986.51233	4686.50106
TI	47	508.02278	5147.93300	2.200	506.91228	497.39015	519.76590
V	51	512.85807	267596.66300	3.600	519.81583	526.57247	492.18591
<b>IN-1</b>	115	28713.49700	0.00000	0.000	27972.61000	29851.20000	28316.68000
AG	107	52.15617	97363.74000	3.800	53.46257	49.90417	53.10177
AS	75	530.73083	42100.03000	3.600	546.66693	509.58020	535.94535
BA	137	529.99957	64174.15700	2.500	545.05720	525.68823	519.25329
CD	111	53.25016	8789.66300	4.800	56.04785	51.07522	52.62741
CO	59	517.42417	746572.61700	4.600	538.19637	491.65122	522.42492
CU	63	528.71237	659502.78000	2.800	542.22493	512.96889	530.94329
MO	98	52.80044	45867.93000	5.100	55.19580	49.88671	53.31881
NI	60	531.36878	224019.15000	3.900	545.43627	507.35897	541.31110
SB	121	55.09149	23064.63000	1.300	54.52514	54.82314	55.92617
SN	120	52.06474	22366.97300	3.600	53.60531	49.99384	52.59506
SR	88	53.76399	10885.00700	7.600	53.49496	49.79628	58.00072
ZN	66	536.82543	60700.85300	5.200	556.45726	504.95749	549.06155
<b>TB-1</b>	159	171079.07000	0.00000	0.000	170778.32000	171090.51000	171368.38000
PB	208	52.94749	281847.61300	0.700	53.08581	53.25480	52.50184
TL	203	53.03697	88145.60700	0.900	53.18933	53.40632	52.51525
U	238	51.92803	341697.44300	1.100	52.13393	52.38972	51.26044
<b>GE-1</b>	72	79431.69700	0.00000	0.000	78167.58000	81004.68000	79122.83000
<b>BI-1</b>	209	146748.95700	0.00000	0.000	149657.82000	145932.08000	144656.97000

Run Name: 1831706E05  
 Tube Number: 4  
 Sample Number: **ICB**

Date/Time: 11/13/2018 13:36:07

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	20459.59000	0.00000	0.000	21247.58000	20536.35000	19594.84000
AL	27	-3.09793	16.66700	0.000	-5.33902	-2.72507	-1.22969
CA	44	6.79864	13.33300	165.000	-6.14154	12.81334	13.72410
CR	52	0.41839	703.39700	34.900	0.29617	0.58004	0.37896
FE	57	3.44576	80.00300	43.600	2.34265	5.15580	2.83884
K	39	17.99368	3890.74300	51.700	23.98960	22.71582	7.27563
MG	24	1.19709	70.00300	60.300	1.09992	0.52931	1.96205
MN	55	0.08860	53.33300	32.200	0.06334	0.11952	0.08295
NA	23	23.82401	37859.81700	134.000	15.19933	-2.90405	59.17676
TI	47	0.39441	10.00000	266.900	-0.67485	1.42995	0.42812
V	51	0.03787	53.33300	102.800	0.06768	0.05207	-0.00616
<b>IN-1</b>	115	28760.07000	0.00000	0.000	28649.06000	29292.09000	28339.06000
AG	107	0.01783	80.00300	76.300	0.02349	0.02769	0.00232
AS	75	0.18451	26.00000	33.700	0.21162	0.22856	0.11336
BA	137	0.05517	6.66700	173.200	0.16550	0.00000	0.00000
CD	111	0.00078	1.33300	1815.500	-0.00740	-0.00740	0.01714
CO	59	0.03471	60.00300	66.500	0.02124	0.06135	0.02154
CU	63	0.10174	526.71300	152.600	0.13179	0.23980	-0.06638
MO	98	0.06044	96.67300	51.500	0.04198	0.09636	0.04298
NI	60	-0.04417	90.01000	0.000	-0.04312	-0.02458	-0.06481
SB	121	0.29584	133.34000	44.000	0.14573	0.37630	0.36548
SN	120	0.21379	180.01000	96.000	0.38054	0.27612	-0.01529
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	0.18808	43.33300	52.100	0.24939	0.23967	0.07517
<b>TB-1</b>	159	169995.16700	0.00000	0.000	169574.84000	173226.23000	167184.43000
PB	208	-0.00520	456.69700	0.000	0.00694	-0.01931	-0.00321
TL	203	0.01455	40.00000	75.100	0.00844	0.00805	0.02717
U	238	0.00378	50.00300	165.500	0.00372	-0.00244	0.01005
<b>GE-1</b>	72	78549.80000	0.00000	0.000	78308.55000	80863.71000	76477.14000
<b>BI-1</b>	209	142445.05700	0.00000	0.000	140864.67000	142481.89000	143988.61000

Run Name: 1831706E05  
 Tube Number: 5  
 Sample Number: LLC

Date/Time: 11/13/2018 13:37:54

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	22005.59700	0.00000	0.000	21407.86000	22770.05000	21838.88000
AL	27	439.52134	3644.05300	5.700	442.34527	413.21618	463.00257
CA	44	790.59624	903.41700	20.000	784.90202	951.29756	635.58913
CR	52	4.35278	3457.30300	1.600	4.36436	4.41457	4.27942
FE	57	102.27383	1300.13300	15.100	118.25484	87.43743	101.12921
K	39	393.89934	10941.64000	9.000	435.04931	373.12602	373.52269
MG	24	106.55958	3564.00000	7.400	111.46694	97.44499	110.76681
MN	55	11.12248	2517.04700	9.700	11.19072	12.16108	10.01564
NA	23	871.81894	100375.28300	4.400	896.69578	827.67127	891.08977
TI	47	22.40128	233.35000	43.500	33.65322	16.41106	17.13957
V	51	1.06104	593.37700	11.600	1.10339	0.92281	1.15692
<b>IN-1</b>	115	29209.82000	0.00000	0.000	27951.43000	30606.80000	29071.23000
AG	107	0.51288	1016.76700	16.000	0.59683	0.43237	0.50942
AS	75	2.10376	180.66700	17.400	2.18775	1.70195	2.42157
BA	137	4.35883	536.71300	33.300	3.47777	3.56342	6.03530
CD	111	0.98060	166.00000	23.000	1.13680	1.08297	0.72203
CO	59	1.01633	1503.50300	13.700	1.09600	1.09780	0.85519
CU	63	41.12077	52469.78700	7.800	44.72179	38.56385	40.07668
MO	98	1.98566	1793.56000	11.500	2.17265	1.73142	2.05292
NI	60	4.02441	1833.56300	10.400	4.05455	3.59147	4.42720
SB	121	2.28239	980.09700	6.200	2.43288	2.26478	2.14952
SN	120	2.10458	1006.76700	17.200	2.29028	2.33670	1.68674
SR	88	6.08139	1253.47000	1.800	6.18284	5.97042	6.09090
ZN	66	15.04107	1753.56000	8.400	15.96616	15.55930	13.59775
<b>TB-1</b>	159	172161.74700	0.00000	0.000	169273.47000	171810.80000	175400.97000
PB	208	3.11168	17125.62000	2.800	3.20912	3.08721	3.03870
TL	203	0.49452	843.41300	25.300	0.40385	0.63747	0.44223
U	238	0.52282	3487.37000	2.800	0.53838	0.50918	0.52092
<b>GE-1</b>	72	79689.52000	0.00000	0.000	80993.49000	79465.11000	78609.96000
<b>BI-1</b>	209	146883.53700	0.00000	0.000	145610.58000	147824.67000	147215.36000

Run Name: 1831706E05  
 Tube Number: 6  
 Sample Number: ICSA

Date/Time: 11/13/2018 13:39:41

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21614.93000	0.00000	0.000	21187.35000	20766.88000	22890.56000
AL	27	100990.26694	812087.38300	4.500	101531.79298	105251.66441	96187.34344
CA	44	273418.89182	303192.73000	4.400	276377.59808	283702.01647	260177.06092
CR	52	0.64221	890.07300	29.800	0.73798	0.76676	0.42190
FE	57	252526.46627	3051959.43300	4.600	254801.05574	262918.33839	239860.00467
K	39	101478.06127	1796502.63000	4.500	103514.06229	104623.19022	96296.93130
MG	24	98123.77072	3190535.36700	4.900	98824.20491	102553.01161	92994.09565
MN	55	3.05757	710.06300	23.300	3.28333	2.25836	3.63101
NA	23	240472.69997	16629391.83300	4.900	243606.51128	250427.81336	227383.77526
TI	47	2008.86864	20052.28700	6.500	2066.56799	2101.16265	1858.87528
V	51	0.00313	36.66700	2258.500	0.00879	0.07088	-0.07027
<b>IN-1</b>	115	27905.33700	0.00000	0.000	26335.70000	28359.41000	29020.90000
AG	107	0.07833	186.68000	48.200	0.09780	0.03483	0.10235
AS	75	0.78757	71.33300	18.600	0.95699	0.69998	0.70572
BA	137	0.96131	113.34300	5.600	0.90030	1.00325	0.98038
CD	111	0.13248	22.66700	55.000	0.07180	0.21325	0.11239
CO	59	0.90060	1270.12000	8.600	0.96734	0.91888	0.81557
CU	63	1.04702	1653.52300	7.100	1.10665	0.96439	1.07002
MO	98	2149.31421	1812162.94000	4.700	2262.14655	2115.25811	2070.53796
NI	60	1.09534	556.71000	17.200	0.88048	1.23146	1.17407
SB	121	1.27171	523.37300	19.800	1.54129	1.04266	1.23117
SN	120	0.46285	273.35300	69.100	0.81383	0.38652	0.18820
SR	88	18.46330	3634.06300	4.900	19.25808	17.48413	18.64769
ZN	66	2.39767	286.68700	29.600	2.02253	1.95387	3.21660
<b>TB-1</b>	159	170730.75700	0.00000	0.000	168054.33000	171367.61000	172770.33000
PB	208	0.87034	5104.00300	7.100	0.81637	0.93785	0.85680
TL	203	0.01023	33.33300	133.300	0.00247	0.00224	0.02598
U	238	0.03856	280.02000	42.500	0.02390	0.03551	0.05626
<b>GE-1</b>	72	78096.92000	0.00000	0.000	75653.07000	77594.26000	81043.43000
<b>BI-1</b>	209	138221.07000	0.00000	0.000	137139.30000	137858.61000	139665.30000



Run Name: 1831706E05  
 Tube Number: 7  
 Sample Number: RINSE

Date/Time: 11/13/2018 13:41:26

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	19958.89000	0.00000	0.000	20496.07000	19745.35000	19635.25000
AL	27	9.43873	110.01000	22.900	10.37685	10.97437	6.96497
CA	44	33.01798	40.00000	31.900	22.34666	33.28690	43.42037
CR	52	0.30121	613.38000	14.300	0.25389	0.33833	0.31140
FE	57	19.42204	256.68300	14.600	19.98453	16.35631	21.92529
K	39	22.64248	3870.79700	75.700	35.10614	29.73115	3.09015
MG	24	2.45951	106.67700	20.200	2.47560	2.94714	1.95578
MN	55	0.01170	36.66700	970.100	0.07186	-0.11920	0.08244
NA	23	83.13631	40744.43700	17.900	65.95914	90.55492	92.89486
TI	47	1.83903	23.33300	122.900	2.48856	3.70340	-0.67485
V	51	-0.06316	3.33300	0.000	-0.07027	-0.07027	-0.04894
<b>IN-1</b>	115	27775.61000	0.00000	0.000	27969.51000	27338.41000	28018.91000
AG	107	0.00846	60.00000	174.200	0.01917	0.01456	-0.00835
AS	75	0.06728	16.00000	144.600	-0.01261	0.17563	0.03880
BA	137	0.05651	6.66700	173.200	0.16953	0.00000	0.00000
CD	111	-0.00740	0.00000	0.000	-0.00740	-0.00740	-0.00740
CO	59	0.00531	16.66700	204.000	0.00770	-0.00652	0.01477
CU	63	0.17605	596.71700	36.300	0.24972	0.13651	0.14191
MO	98	1.50772	1310.15000	30.200	1.08406	1.44872	1.99038
NI	60	0.11263	150.01000	199.200	-0.06229	0.36559	0.03458
SB	121	0.09351	46.67000	92.300	0.17436	0.10358	0.00259
SN	120	0.18221	160.00700	81.400	0.01118	0.26143	0.27404
SR	88	0.03454	6.66700	173.200	0.00000	0.10362	0.00000
ZN	66	2.45321	290.02000	12.100	2.52818	2.12696	2.70449
<b>TB-1</b>	159	163165.52300	0.00000	0.000	164216.48000	162696.75000	162583.34000
PB	208	0.01931	563.37000	117.700	0.03564	0.02892	-0.00664
TL	203	0.00289	20.00000	759.900	-0.00978	-0.00978	0.02822
U	238	0.00241	40.00000	196.600	0.00714	0.00245	-0.00235
<b>GE-1</b>	72	76947.03000	0.00000	0.000	76387.96000	75672.87000	78780.26000
<b>BI-1</b>	209	143275.18000	0.00000	0.000	144939.41000	141450.15000	143435.98000

Run Name: 1831706E05  
 Tube Number: 8  
 Sample Number: **CCV**

Date/Time: 11/13/2018 13:43:13

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	20796.85000	0.00000	0.000	20335.94000	20826.93000	21227.68000
AL	27	2645.49641	20536.26700	3.600	2628.48159	2747.09879	2560.90884
CA	44	2541.90356	2717.09000	14.900	2970.89808	2395.93338	2258.87922
CR	52	266.09920	172965.07700	1.700	269.32199	268.10200	260.87362
FE	57	2670.86217	31126.99000	5.200	2764.86800	2737.42082	2510.29768
K	39	2546.31954	46985.11300	1.700	2560.04067	2581.13086	2497.78709
MG	24	2563.19238	80344.09000	1.200	2581.22622	2581.54161	2526.80930
MN	55	261.79668	55086.32700	4.200	270.88172	265.01775	249.49057
NA	23	2613.97823	210699.50000	2.500	2688.72280	2586.32004	2566.89187
TI	47	270.18671	2607.08700	3.600	269.31030	260.87314	280.37668
V	51	266.53372	132411.41700	0.600	267.74140	264.89522	266.96454
<b>IN-1</b>	115	28368.71300	0.00000	0.000	28363.57000	29191.14000	27551.43000
AG	107	26.40012	48728.13700	3.900	25.66229	25.97610	27.56196
AS	75	259.76052	20372.14300	3.000	253.53546	257.26444	268.48168
BA	137	267.29548	31961.16300	4.100	262.46030	259.48834	279.93781
CD	111	26.57637	4333.42000	6.900	25.84540	25.23150	28.65220
CO	59	255.80202	364892.06300	2.300	253.68044	251.37300	262.35262
CU	63	260.84758	321688.01000	3.000	259.31353	253.94869	269.28054
MO	98	26.78024	23021.11000	4.300	27.82184	25.55790	26.96099
NI	60	262.94673	109641.75300	1.700	262.56843	258.59774	267.67401
SB	121	27.27148	11282.06700	1.900	26.96156	26.99627	27.85661
SN	120	26.68806	11368.88300	5.000	26.14070	25.71543	28.20804
SR	88	25.56004	5111.27300	8.500	24.92467	23.78126	27.97419
ZN	66	263.78138	29500.14000	2.700	265.52045	255.97957	269.84413
<b>TB-1</b>	159	167618.31000	0.00000	0.000	167232.69000	167416.64000	168205.60000
PB	208	27.05615	141342.57300	1.700	26.89339	27.57187	26.70319
TL	203	26.00364	42350.20300	1.900	26.57751	25.73432	25.69909
U	238	26.27768	169431.68300	1.100	25.94069	26.42975	26.46260
<b>GE-1</b>	72	76860.17300	0.00000	0.000	75744.19000	78418.84000	76417.49000
<b>BI-1</b>	209	146593.79000	0.00000	0.000	144344.70000	147025.86000	148410.81000

Run Name: 1831706E05  
 Tube Number: 9  
 Sample Number: CCB

Date/Time: 11/13/2018 13:44:59

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	20149.13700	0.00000	0.000	20666.41000	20376.13000	19404.87000
AL	27	-0.90691	33.33300	0.000	-0.14401	-1.38726	-1.18946
CA	44	-3.00228	3.33300	0.000	3.27626	-6.14154	-6.14154
CR	52	0.35867	656.72700	28.900	0.35483	0.46404	0.25714
FE	57	2.35763	66.67300	37.700	3.37299	1.71790	1.98200
K	39	29.15673	4014.15700	66.600	18.26814	51.56943	17.63263
MG	24	0.34443	43.33300	115.100	0.51914	-0.10939	0.62353
MN	55	0.02467	40.00000	584.900	0.02205	0.17030	-0.11833
NA	23	56.48111	39417.24700	25.700	39.74149	65.31693	64.38493
TI	47	0.75708	13.33300	213.300	-0.67485	2.50718	0.43891
V	51	-0.05657	6.66700	0.000	-0.07027	-0.02917	-0.07027
<b>IN-1</b>	115	28289.84700	0.00000	0.000	28550.29000	28900.23000	27419.02000
AG	107	0.00267	50.00300	641.400	0.00212	-0.01417	0.02006
AS	75	-0.00637	10.66700	0.000	0.03544	0.00826	-0.06279
BA	137	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
CD	111	0.00106	1.33300	1388.200	-0.00740	-0.00740	0.01796
CO	59	0.02126	40.00000	85.000	0.02830	0.03475	0.00073
CU	63	-0.00144	390.02700	0.000	-0.08436	0.09601	-0.01595
MO	98	0.07511	106.67300	68.500	0.08860	0.01830	0.11843
NI	60	0.00704	110.00700	1504.400	-0.09010	0.11991	-0.00870
SB	121	0.23005	103.34000	34.900	0.24246	0.14428	0.30341
SN	120	0.23636	186.68000	36.100	0.28864	0.28264	0.13779
SR	88	0.00000	0.00000	0.000	0.00000	0.00000	0.00000
ZN	66	-0.04602	16.66700	0.000	0.07319	-0.01783	-0.19342
<b>TB-1</b>	159	164899.29700	0.00000	0.000	166062.19000	165117.69000	163518.01000
PB	208	-0.01044	416.69300	0.000	0.00514	-0.03720	0.00075
TL	203	0.03182	66.67000	68.400	0.05223	0.00893	0.03430
U	238	0.00079	30.00000	203.300	0.00075	-0.00080	0.00241
<b>GE-1</b>	72	77451.05700	0.00000	0.000	77938.08000	77735.21000	76679.88000
<b>BI-1</b>	209	139428.95300	0.00000	0.000	141754.78000	139964.88000	136567.20000

Run Name: 1831706E05  
 Tube Number: 10  
 Sample Number: 9866463

Date/Time: 11/13/2018 13:46:46  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.19

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21838.59000	0.00000	0.000	22299.19000	21878.88000	21337.70000
AL	27	23672.17613	192567.03000	3.100	22870.00488	23863.14030	24283.38320
CA	44	155964.41353	174963.11000	2.200	152006.52798	158377.31848	157509.39412
CR	52	86.45514	59303.83000	4.000	83.08403	86.20846	90.07294
FE	57	86789.58507	1061191.98700	2.100	84707.85066	87670.23332	87990.67123
K	39	4563.68528	85385.92000	3.200	4403.09203	4690.06819	4597.89563
MG	24	87689.14296	2884319.02000	2.900	85265.55012	87418.91281	90382.96596
MN	55	874.30158	193117.33300	3.400	840.94637	884.88496	897.07340
NA	23	1103.28730	115775.81700	4.900	1056.41142	1091.27987	1162.17060
TI	47	1245.16906	12583.17300	3.100	1213.39988	1234.74259	1287.36472
V	51	89.03854	46457.20700	2.700	87.37939	87.90540	91.83083
<b>IN-1</b>	115	28240.42700	0.00000	0.000	27919.57000	28145.49000	28656.22000
AG	107	2.50347	4641.09300	11.800	2.83403	2.27009	2.40628
AS	75	40.61277	3181.07300	1.200	40.83519	40.94343	40.05968
BA	137	383.65840	45692.05000	3.600	382.53843	397.89399	370.54279
CD	111	3.19149	519.34700	11.200	3.60356	2.99400	2.97690
CO	59	23.51785	33408.93000	5.200	23.32719	24.83253	22.39383
CU	63	551.58530	677036.18700	1.300	555.81162	555.38117	543.56311
MO	98	5.67648	4894.50700	10.900	5.13516	6.35033	5.54395
NI	60	86.35343	35922.40300	2.600	86.20219	88.71042	84.14769
SB	121	6.09959	2520.37700	11.600	5.40964	6.82887	6.06027
SN	120	129.89864	54799.68300	0.600	130.73115	129.36766	129.59713
SR	88	139.68686	27843.56300	3.000	143.57631	140.25442	135.22986
ZN	66	996.18650	110872.50300	3.300	1032.84791	986.83517	968.87643
<b>TB-1</b>	159	174367.05300	0.00000	0.000	173525.78000	176809.82000	172765.56000
PB	208	619.06691	3353120.50000	1.300	617.33000	612.06184	627.80889
TL	203	0.32489	566.71300	2.800	0.33437	0.31634	0.32397
U	238	2.04820	13761.91000	1.800	2.01111	2.05022	2.08326
<b>GE-1</b>	72	80450.44300	0.00000	0.000	78961.76000	80560.87000	81828.70000
<b>BI-1</b>	209	152537.65700	0.00000	0.000	152963.01000	151457.64000	153192.32000

Run Name: 1831706E05  
 Tube Number: 11  
 Sample Number: **9866464**

Date/Time: 11/13/2018 13:48:32  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.22

Final Vol: 100.00

DF: 5.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	20452.85000	0.00000	0.000	20065.67000	20676.53000	20616.35000
AL	27	8696.84433	66312.86300	0.600	8676.40686	8662.36073	8751.76541
CA	44	51174.79138	53793.98000	1.800	50111.77967	51796.42121	51616.17325
CR	52	28.32146	18496.72700	2.200	28.61589	27.59540	28.75307
FE	57	26496.16076	303493.65300	1.200	26767.37019	26133.70243	26587.40965
K	39	1449.91867	27853.23700	3.500	1481.50330	1391.72110	1476.53162
MG	24	31631.12741	974915.89700	1.100	31381.08551	31495.90312	32016.39361
MN	55	357.28316	73948.33300	3.200	364.51388	343.94007	363.39553
NA	23	601.14866	75640.31000	3.400	604.24046	579.56358	619.64195
TI	47	634.49856	6005.00300	9.200	698.57704	583.78067	621.13798
V	51	35.07258	17161.57700	2.200	35.97203	34.58224	34.66345
<b>IN-1</b>	115	27036.57000	0.00000	0.000	26604.85000	27483.59000	27021.27000
AG	107	0.40578	756.72700	20.500	0.37977	0.33885	0.49872
AS	75	11.03092	834.70700	3.300	11.41683	10.70501	10.97093
BA	137	67.84755	7739.43300	2.400	66.40988	69.63871	67.49407
CD	111	0.46752	74.00000	16.300	0.39766	0.54914	0.45574
CO	59	8.17522	11125.19000	4.700	8.08956	7.83800	8.59810
CU	63	99.85826	117654.94000	1.600	99.66428	98.40968	101.50082
MO	98	2.11785	1773.56300	10.900	2.01183	1.95793	2.38378
NI	60	26.10910	10471.23700	4.100	25.39375	25.58986	27.34369
SB	121	1.75882	700.05700	26.600	2.29924	1.50097	1.47624
SN	120	28.81657	11702.61300	7.500	27.60498	27.54624	31.29848
SR	88	46.05084	8793.39000	4.600	43.67155	46.76172	47.71925
ZN	66	152.13192	16227.22000	2.900	157.26707	149.27247	149.85623
<b>TB-1</b>	159	164639.49300	0.00000	0.000	160163.47000	165640.66000	168114.35000
PB	208	117.51172	601263.35700	1.600	119.66718	116.64404	116.22395
TL	203	0.12722	220.01300	42.900	0.07379	0.18292	0.12496
U	238	0.58803	3744.14000	7.500	0.63906	0.55970	0.56533
<b>GE-1</b>	72	79475.36000	0.00000	0.000	78399.67000	77845.88000	82180.53000
<b>Bl-1</b>	209	143844.82000	0.00000	0.000	142424.04000	141975.44000	147134.98000

Run Name: 1831706E05  
 Tube Number: 12  
 Sample Number: 9866465

Date/Time: 11/13/2018 13:50:19  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.30

Final Vol: 100.00

DF: 20.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21407.70300	0.00000	0.000	21527.72000	21838.31000	20857.08000
AL	27	3317.03914	26492.95700	1.900	3353.13856	3243.82094	3354.15791
CA	44	72544.00120	79769.41000	2.600	71116.17251	71798.14558	74717.68550
CR	52	6.83521	5021.24000	6.000	6.42266	7.24713	6.83583
FE	57	5673.90621	68062.56000	1.500	5577.13369	5726.89758	5717.68737
K	39	389.40932	10574.55700	6.600	417.22780	366.81343	384.18673
MG	24	44761.76640	1443704.82000	1.200	45017.37005	44154.19775	45113.73140
MN	55	105.88668	22967.02300	5.000	99.77940	109.23853	108.64211
NA	23	351.24639	62065.72700	2.000	356.98434	343.57328	353.18156
TI	47	303.49956	3013.83700	2.000	305.57781	308.14983	296.77105
V	51	11.03688	5674.84300	4.400	11.05827	10.53577	11.51658
<b>IN-1</b>	115	29664.76300	0.00000	0.000	30661.04000	30230.86000	28102.39000
AG	107	0.07646	193.34700	46.800	0.06044	0.05149	0.11745
AS	75	2.35207	204.00000	21.400	2.61902	1.77275	2.66442
BA	137	9.29887	1160.12300	16.900	9.82088	7.52931	10.54641
CD	111	0.05030	10.00000	57.700	0.07197	0.06160	0.01734
CO	59	2.21715	3310.57700	10.200	1.95836	2.31524	2.37784
CU	63	29.16133	37944.37300	4.100	28.10055	28.90937	30.47409
MO	98	0.42803	426.69700	22.900	0.34849	0.39791	0.53769
NI	60	6.26764	2830.45700	16.800	5.16146	6.38742	7.25405
SB	121	0.19517	93.34000	28.300	0.20189	0.13696	0.24668
SN	120	1.77906	876.74700	10.900	1.56679	1.94688	1.82352
SR	88	40.85272	8556.51300	5.300	38.95645	43.21540	40.38632
ZN	66	16.32556	1926.90700	12.800	16.93811	13.99203	18.04655
<b>TB-1</b>	159	173294.29300	0.00000	0.000	176098.53000	174866.99000	168917.36000
PB	208	7.96384	43365.13300	0.700	8.02222	7.94858	7.92072
TL	203	0.02221	53.33700	90.200	0.00776	0.01377	0.04508
U	238	0.20146	1366.83300	11.000	0.18654	0.19086	0.22698
<b>GE-1</b>	72	80507.81000	0.00000	0.000	81536.47000	80300.97000	79685.99000
<b>BI-1</b>	209	148649.71700	0.00000	0.000	149927.96000	148796.13000	147225.06000

Run Name: 1831706E05  
 Tube Number: 13  
 Sample Number: 9866466

Date/Time: 11/13/2018 13:52:06  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	23471.12700	0.00000	0.000	22839.96000	24823.48000	22749.94000
AL	27	41910.07989	365870.13700	5.500	43189.24143	39270.88643	43270.11181
CA	44	8609.68329	10377.84000	3.900	8911.43296	8253.64114	8663.97577
CR	52	210.39447	154375.19000	2.600	216.25080	205.20508	209.72754
FE	57	147085.04008	1931248.15000	3.300	149097.23712	141533.77733	150624.10579
K	39	5927.70019	117900.76000	2.700	5973.53076	5749.23657	6060.33326
MG	24	19023.35123	671733.92300	4.900	19621.75683	17952.13540	19496.16148
MN	55	1122.24140	266185.69300	3.800	1149.68460	1072.62897	1144.41062
NA	23	485.79984	78012.78300	11.300	514.31508	422.47568	520.60876
TI	47	1372.15865	14898.87300	4.700	1447.02036	1337.47600	1331.97960
V	51	123.50323	69193.23000	3.500	127.24737	118.82230	124.44003
<b>IN-1</b>	115	29067.85000	0.00000	0.000	28664.16000	29749.06000	28790.33000
AG	107	8.36840	15867.05000	6.000	8.85328	8.39470	7.85724
AS	75	36.70844	2960.35000	1.500	37.24592	36.17430	36.70510
BA	137	938.87434	115103.17000	0.900	938.45759	930.18829	947.97714
CD	111	5.55409	930.04300	1.200	5.49882	5.53173	5.63172
CO	59	54.11700	79134.15000	0.900	54.64380	53.91410	53.79309
CU	63	1278.19810	1614039.40000	2.400	1285.85171	1244.54564	1304.19694
MO	98	9.88922	8740.07000	5.200	10.47985	9.67319	9.51461
NI	60	483.28372	206407.76700	1.800	488.55072	472.99507	488.30538
SB	121	10.34531	4390.98700	2.400	10.58387	10.08160	10.37046
SN	120	456.95623	198133.88000	2.700	463.34803	442.91834	464.60233
SR	88	73.31185	15045.86300	0.500	72.92907	73.51068	73.49580
ZN	66	2241.99539	256798.94700	2.300	2282.17277	2184.42659	2259.38681
<b>TB-1</b>	159	181323.16300	0.00000	0.000	179671.27000	184174.12000	180124.10000
PB	208	15420.10569	86841492.03700	1.400	15673.86886	15265.09934	15321.34885
TL	203	0.45402	816.74000	10.200	0.41429	0.44307	0.50469
U	238	4.20234	29329.74700	2.300	4.31395	4.13904	4.15403
<b>GE-1</b>	72	83117.39000	0.00000	0.000	84455.17000	83087.61000	81809.39000
<b>Bl-1</b>	209	219964.94300	0.00000	0.000	221118.38000	220747.57000	218028.88000

Run Name: 1831706E05  
 Tube Number: 14  
 Sample Number: 9866466

Date/Time: 11/13/2018 13:53:51  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 20.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21531.31300	0.00000	0.000	21557.88000	21687.95000	21348.11000
AL	27	4442.31959	35677.31300	1.700	4359.31717	4458.37032	4509.27127
CA	44	952.73596	1060.11300	12.600	987.07635	819.57503	1051.55649
CR	52	21.79971	15092.41700	4.500	21.97078	20.75383	22.67451
FE	57	14683.27277	177082.27700	1.400	14808.72444	14454.69138	14786.40248
K	39	603.71984	14411.47300	4.400	588.21548	588.47051	634.47351
MG	24	1973.39807	64059.74300	0.700	1987.72509	1969.90143	1962.56769
MN	55	117.33460	25595.40000	1.100	118.47316	116.02470	117.50593
NA	23	55.41759	42061.72000	21.400	68.67510	45.84100	51.73668
TI	47	147.19026	1473.49700	6.100	153.73353	150.81246	137.02479
V	51	12.58880	6508.57700	2.700	12.67517	12.21244	12.87879
<b>IN-1</b>	115	28926.51000	0.00000	0.000	29141.35000	29619.40000	28018.78000
AG	107	0.93494	1810.22300	14.300	0.93029	1.07062	0.80390
AS	75	3.88634	322.01000	1.600	3.90524	3.81550	3.93828
BA	137	92.03712	11228.90300	1.400	90.51093	92.73375	92.86668
CD	111	0.66427	112.00000	11.700	0.72028	0.69680	0.57573
CO	59	5.48546	7982.72300	5.600	5.42548	5.21020	5.82071
CU	63	122.32613	154055.81700	2.300	121.98632	119.65906	125.33303
MO	98	1.00425	920.08000	29.200	0.69818	1.03200	1.28258
NI	60	46.38088	19812.21700	1.100	46.10507	46.04818	46.98938
SB	121	0.98019	423.36000	11.000	1.01408	1.06684	0.85966
SN	120	45.80007	19845.97700	1.000	45.38556	45.76125	46.25340
SR	88	7.41692	1513.50300	5.100	7.09708	7.31723	7.83645
ZN	66	218.65790	24937.46700	5.600	228.76242	205.15537	222.05592
<b>TB-1</b>	159	172631.47000	0.00000	0.000	172622.26000	172656.27000	172615.88000
PB	208	1602.67127	8594328.78000	0.600	1607.15594	1609.62576	1591.23210
TL	203	0.05583	110.01000	10.700	0.06180	0.04986	0.05584
U	238	0.41584	2787.18700	10.500	0.38774	0.46599	0.39379
<b>GE-1</b>	72	82767.43300	0.00000	0.000	82008.34000	84383.54000	81910.42000
<b>Bl-1</b>	209	153924.27700	0.00000	0.000	155538.08000	155182.61000	151052.14000



Run Name: 1831706E05  
 Tube Number: 15  
 Sample Number: 9866467

Date/Time: 11/13/2018 13:55:37  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.32

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	22930.29300	0.00000	0.000	22429.40000	22389.51000	23971.97000
AL	27	50216.53015	428703.02700	3.700	50103.34319	52106.61748	48439.62979
CA	44	9748.04490	11485.52700	3.400	9595.68221	10126.21539	9522.23709
CR	52	370.24610	265086.51300	2.100	370.24843	378.10989	362.37997
FE	57	250312.07359	3212416.30700	3.100	248424.22183	258821.43037	243690.56856
K	39	7659.10601	147696.27000	4.100	7489.08036	8019.03601	7469.20166
MG	24	20042.52247	691965.79700	3.600	20026.42298	20771.44532	19329.69910
MN	55	2054.15626	476266.92300	2.900	2049.34365	2116.30601	1996.81913
NA	23	659.97992	89029.00300	7.100	687.36831	686.91511	605.65633
TI	47	1469.26949	15579.60700	4.000	1515.00285	1490.65272	1402.15289
V	51	130.76426	71595.88300	3.200	130.70548	134.96031	126.62700
<b>IN-1</b>	115	28520.27300	0.00000	0.000	28179.34000	28741.59000	28639.89000
AG	107	7.98129	14852.49700	1.700	7.84230	8.10624	7.99531
AS	75	57.25790	4524.79700	1.400	58.05074	57.31552	56.40745
BA	137	932.74252	112211.54000	0.600	927.95914	931.43697	938.83144
CD	111	8.17572	1342.08300	6.900	8.77671	7.64918	8.10126
CO	59	74.79941	107324.43300	0.900	74.34363	75.61399	74.44061
CU	63	1858.79934	2303499.65300	0.600	1858.72866	1870.02899	1847.64038
MO	98	20.55836	17789.64300	2.900	19.86483	20.85652	20.95374
NI	60	534.26517	223929.96700	0.900	532.47332	530.59227	539.72991
SB	121	15.73848	6548.66300	7.500	16.73407	14.42403	16.05733
SN	120	1115.99178	474847.82000	1.100	1102.83654	1116.71684	1128.42195
SR	88	74.68916	15039.21000	0.300	74.73711	74.90346	74.42691
ZN	66	2836.23343	318834.50700	0.200	2837.29384	2830.19693	2841.20953
<b>TB-1</b>	159	177284.55000	0.00000	0.000	172382.34000	179286.25000	180185.06000
PB	208	1302.32394	7172002.02700	0.300	1302.43604	1306.01768	1298.51812
TL	203	0.60042	1053.44300	19.500	0.48002	0.71386	0.60739
U	238	4.58175	31248.13700	4.500	4.79597	4.38291	4.56637
<b>GE-1</b>	72	82063.01700	0.00000	0.000	79072.49000	84423.66000	82692.90000
<b>Bl-1</b>	209	154514.55700	0.00000	0.000	149889.18000	155355.53000	158298.96000

Run Name: 1831706E05  
 Tube Number: 16  
 Sample Number: 9867761

Date/Time: 11/13/2018 13:57:22  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.36

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	23133.90000	0.00000	0.000	23140.69000	23831.89000	22429.12000
AL	27	30455.37643	262419.37000	2.300	30546.66753	29710.64373	31108.81804
CA	44	22104.98985	26283.32000	4.300	23206.55187	21634.06392	21474.35378
CR	52	216.23192	156397.36700	3.700	223.06482	207.58953	218.04140
FE	57	638506.70692	8270301.96000	1.900	649802.68016	625802.88006	639914.56054
K	39	4070.54904	81100.19300	2.400	4094.92366	3962.29544	4154.42802
MG	24	11947.96284	416276.12700	3.600	12227.35603	11458.61925	12157.91324
MN	55	2749.72987	643373.55700	2.800	2819.02960	2666.50576	2763.65425
NA	23	2195.18910	203407.15000	3.400	2268.62012	2118.52923	2198.41793
TI	47	950.53580	10174.29700	3.700	941.16033	921.09369	989.35338
V	51	676.32097	373571.20300	3.000	695.96980	655.13348	677.85962
<b>IN-1</b>	115	21856.52700	0.00000	0.000	22230.77000	20518.05000	22820.76000
AG	107	12.30340	17475.89300	8.100	12.36418	13.27095	11.27505
AS	75	836.69681	50449.78700	6.000	834.70159	888.17651	787.21233
BA	137	1984.30707	182468.20000	7.000	1954.08354	2136.75328	1862.08440
CD	111	15.26823	1913.49000	10.500	14.66161	17.08919	14.05388
CO	59	122.12132	133953.82300	6.500	120.54481	130.76098	115.05817
CU	63	1373.52046	1301667.97300	6.200	1373.45109	1458.21557	1288.89472
MO	98	37.50955	24777.73700	7.800	38.05804	40.12581	34.34482
NI	60	352.42704	112973.85700	6.200	347.87885	376.17136	333.23091
SB	121	50.97174	16184.29000	10.400	50.47153	56.52834	45.91535
SN	120	8939.81690	2907667.04000	6.500	8917.33070	9535.34744	8366.77258
SR	88	190.19943	29290.52300	5.500	186.19166	202.15219	182.25444
ZN	66	3213.61252	276267.87300	6.100	3230.87384	3401.25231	3008.71142
<b>TB-1</b>	159	172465.83000	0.00000	0.000	175696.25000	174457.71000	167243.53000
PB	208	2807.85846	15040808.31700	1.100	2820.28515	2772.98714	2830.30309
TL	203	0.42451	726.72300	16.400	0.46491	0.34433	0.46427
U	238	2.18956	14549.49300	4.700	2.28256	2.07792	2.20819
<b>GE-1</b>	72	81430.01000	0.00000	0.000	84535.04000	80571.11000	79183.88000
<b>BI-1</b>	209	162651.17300	0.00000	0.000	166405.43000	162843.70000	158704.39000

Run Name: 1831706E05  
 Tube Number: 17  
 Sample Number: 9867761

Date/Time: 11/13/2018 13:59:07  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.36

Final Vol: 100.00

DF: 20.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	22195.67000	0.00000	0.000	22048.75000	22639.74000	21898.52000
AL	27	3296.13659	27298.41000	1.800	3253.14614	3272.58199	3362.68164
CA	44	2172.06640	2483.72000	1.300	2201.02335	2143.45028	2171.72556
CR	52	22.68763	16170.46300	3.500	22.52928	21.99435	23.53927
FE	57	68614.42076	852758.11000	1.700	69542.06292	67280.57410	69020.62525
K	39	424.59522	11598.83000	7.300	454.43680	392.70044	426.64844
MG	24	1245.49218	41680.75000	2.300	1242.41325	1218.48463	1275.57865
MN	55	288.14604	64724.96700	3.100	297.46747	279.38817	287.58248
NA	23	246.26827	56884.76700	9.500	257.37006	219.34749	262.08725
TI	47	101.89695	1053.43700	4.900	96.37528	103.39006	105.92551
V	51	70.72461	37516.22000	3.100	72.92207	68.47496	70.77680
<b>IN-1</b>	115	28250.75000	0.00000	0.000	29088.98000	27779.85000	27883.42000
AG	107	1.03083	1943.58700	13.800	1.18049	1.01584	0.89616
AS	75	66.21823	5178.37700	4.200	63.07392	68.39786	67.18291
BA	137	156.13145	18594.31000	4.200	150.40288	163.30077	154.69069
CD	111	1.10886	181.33300	3.300	1.06816	1.11884	1.13959
CO	59	10.19413	14495.14300	2.400	10.17559	10.44774	9.95907
CU	63	106.44165	130988.66000	1.800	104.37453	108.25140	106.69903
MO	98	2.67962	2337.02300	11.900	2.91528	2.31726	2.80634
NI	60	27.87533	11668.94300	2.600	27.04459	28.42953	28.15187
SB	121	4.35599	1803.56300	5.500	4.48353	4.07835	4.50609
SN	120	705.62081	297326.19300	1.800	692.13218	716.63816	708.09209
SR	88	15.28168	3047.18300	1.700	14.99977	15.34947	15.49580
ZN	66	243.75496	27155.05000	1.600	239.22232	245.83816	246.20440
<b>TB-1</b>	159	169590.51700	0.00000	0.000	172263.45000	167721.50000	168786.60000
PB	208	282.09232	1486333.73300	1.100	278.60744	283.22628	284.44325
TL	203	0.04463	90.00300	57.200	0.07390	0.02705	0.03292
U	238	0.22416	1486.84700	16.800	0.19682	0.20846	0.26721
<b>GE-1</b>	72	79683.31000	0.00000	0.000	81116.52000	79726.24000	78207.17000
<b>Bl-1</b>	209	147625.10700	0.00000	0.000	151701.55000	145183.65000	145990.12000

Run Name: 1831706E05  
 Tube Number: 18  
 Sample Number: 9867766

Date/Time: 11/13/2018 14:00:53  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.27

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	22355.83300	0.00000	0.000	23230.93000	21978.33000	21858.24000
AL	27	28803.40733	239830.77000	2.200	28074.99125	29034.27542	29300.95533
CA	44	15176.50688	17432.00300	2.000	14850.27018	15457.82778	15221.42269
CR	52	223.84852	156435.47300	2.400	217.61637	227.68280	226.24640
FE	57	156686.75519	1960830.07300	2.000	153170.34784	157894.59308	158995.32463
K	39	5648.53670	107257.25000	1.400	5576.20524	5632.83973	5736.56512
MG	24	13005.19086	437972.64700	1.700	12782.75952	13012.10626	13220.70682
MN	55	1198.32773	270910.05700	2.800	1164.06050	1199.05253	1231.87016
NA	23	512.96109	76323.19300	6.700	473.40395	537.23115	528.24817
TI	47	1044.30720	10811.60300	1.600	1054.81969	1052.98224	1025.11966
V	51	150.34630	80284.16700	3.300	148.50186	146.51071	156.02634
<b>IN-1</b>	115	28216.05700	0.00000	0.000	27910.22000	27573.88000	29164.07000
AG	107	7.92449	14585.70700	3.500	7.65343	8.21056	7.90949
AS	75	205.16349	16006.92000	2.700	210.90416	204.54501	200.04129
BA	137	1327.03018	157826.66300	3.600	1353.92552	1355.82908	1271.33593
CD	111	7.10299	1154.73000	6.500	7.52850	6.61172	7.16875
CO	59	48.46701	68708.57000	7.000	50.59174	50.22981	44.57947
CU	63	1866.44043	2286876.68300	3.500	1919.62478	1885.38429	1794.31222
MO	98	17.98541	15379.80300	9.500	19.77186	17.80589	16.37847
NI	60	278.57213	115451.95300	5.400	290.76663	283.36240	261.58736
SB	121	24.81770	10221.17300	6.800	26.26835	22.95301	25.23173
SN	120	1204.94766	506851.88000	3.500	1230.96888	1227.17187	1156.70223
SR	88	121.31415	24149.77300	3.700	121.81160	125.50752	116.62332
ZN	66	2063.39815	229334.85300	3.800	2126.14456	2087.76052	1976.28938
<b>TB-1</b>	159	179580.07300	0.00000	0.000	183004.08000	177324.37000	178411.77000
PB	208	2054.71595	11460278.52300	1.500	2031.32405	2088.77004	2044.05377
TL	203	0.55371	983.44700	5.600	0.58665	0.52444	0.55003
U	238	2.43305	16825.82700	3.800	2.35912	2.53760	2.40242
<b>GE-1</b>	72	86012.13300	0.00000	0.000	88300.95000	85290.96000	84444.49000
<b>BI-1</b>	209	157810.79000	0.00000	0.000	160757.89000	155972.07000	156702.41000

Run Name: 1831706E05  
 Tube Number: 19  
 Sample Number: 9867767

Date/Time: 11/13/2018 14:02:38  
 Batch: 182991063702A  
 Class: \*\*\*\*\*

Initial Vol: 1.12

Final Vol: 100.00

DF: 2.00

Protocol: DOD-U4

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21855.14300	0.00000	0.000	21287.40000	22589.94000	21688.09000
AL	27	31857.02312	259298.76300	2.900	32362.83426	30805.01507	32403.22004
CA	44	16744.67028	18793.84300	4.100	17406.13268	16031.06069	16796.81747
CR	52	377.50446	257543.79300	3.700	385.25201	361.41081	385.85057
FE	57	119242.83315	1458511.38700	3.300	122662.71703	114984.42042	120081.36200
K	39	4800.08623	89639.81300	3.900	4896.34477	4584.74082	4919.17311
MG	24	5910.29525	194544.60300	3.200	6049.52175	5696.92444	5984.43957
MN	55	244.85745	54142.85300	3.900	246.97598	234.43945	253.15692
NA	23	960.37768	105861.76000	5.800	983.33038	897.24635	1000.55630
TI	47	762.19683	7712.61700	4.600	742.74459	741.04707	802.79883
V	51	85.88313	44848.44300	2.200	86.06726	83.92852	87.65362
<b>IN-1</b>	115	27888.85000	0.00000	0.000	28319.50000	27512.81000	27834.24000
AG	107	158.38458	287289.83700	1.600	155.71569	160.78134	158.65670
AS	75	14.79987	1152.06000	8.200	15.62282	15.37487	13.40191
BA	137	2838.46079	333805.84700	3.700	2718.36855	2878.91094	2918.10289
CD	111	26.30338	4220.05300	3.900	25.12432	27.02402	26.76181
CO	59	9.15062	12846.81700	0.400	9.18745	9.11696	9.14744
CU	63	4093.33981	4959076.28000	1.700	4038.57335	4172.06398	4069.38211
MO	98	18.75353	15870.39700	2.800	18.67911	18.26627	19.31521
NI	60	82.96996	34090.81000	2.100	82.66639	84.80270	81.44080
SB	121	13.05004	5311.37700	4.900	12.31246	13.39765	13.44000
SN	120	924.83576	384755.23000	1.700	909.63670	923.52479	941.34579
SR	88	224.13690	44127.43000	2.700	218.92799	222.87169	230.61103
ZN	66	1073.08984	117966.25700	1.200	1060.19772	1072.39915	1086.67265
<b>TB-1</b>	159	175064.90000	0.00000	0.000	171673.57000	174472.30000	179048.83000
PB	208	1657.50222	9012544.13700	0.900	1673.90759	1653.99435	1644.60473
TL	203	0.57628	996.76300	10.000	0.60799	0.50956	0.61131
U	238	10.18365	68587.30700	0.700	10.25240	10.18387	10.11470
<b>GE-1</b>	72	81739.46000	0.00000	0.000	79928.17000	80390.64000	84899.57000
<b>Bl-1</b>	209	695213.76700	0.00000	0.000	688154.76000	691449.21000	706037.33000

Run Name: 1831706E05  
 Tube Number: 20  
 Sample Number: **CCV**

Date/Time: 11/13/2018 14:04:23

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	22082.40300	0.00000	0.000	21898.52000	21989.09000	22359.60000
AL	27	2567.56940	21163.79700	3.000	2649.19634	2556.37785	2497.13403
CA	44	2600.46986	2957.14700	4.300	2527.31311	2729.38025	2544.71621
CR	52	261.38934	180424.12000	2.300	264.69808	265.14027	254.32968
FE	57	2517.19960	31163.45000	4.100	2579.58921	2573.78146	2398.22813
K	39	2485.67429	48791.20700	3.300	2505.33838	2556.62941	2395.05506
MG	24	2462.60806	81956.48300	3.800	2480.77377	2546.11597	2360.93444
MN	55	258.60542	57811.03300	0.500	258.11316	260.11963	257.58348
NA	23	2458.07659	212761.33700	1.400	2490.68251	2462.87079	2420.67646
TI	47	266.65219	2730.42000	6.500	286.57301	258.84341	254.54016
V	51	262.59228	138498.19700	2.300	265.64065	266.64574	255.49044
<b>IN-1</b>	115	31305.36300	0.00000	0.000	31050.61000	31696.12000	31169.36000
AG	107	24.78694	50511.55000	2.000	25.07983	24.22250	25.05850
AS	75	251.14292	21747.59300	2.700	251.88463	257.47733	244.06680
BA	137	252.75229	33370.92000	2.600	251.91233	246.70413	259.64041
CD	111	23.92943	4311.41300	1.300	24.03371	24.16948	23.58512
CO	59	240.65451	378985.23000	2.300	245.04698	242.50852	234.40803
CU	63	246.93992	336247.39000	2.500	253.83997	244.96416	242.01564
MO	98	24.12928	22904.22000	1.000	24.36495	23.88875	24.13414
NI	60	247.79648	114070.72300	0.900	245.36738	249.44639	248.57568
SB	121	25.47631	11635.69300	1.400	25.37837	25.87903	25.17154
SN	120	28.72480	13507.70000	2.300	29.37240	28.76998	28.03203
SR	88	26.28967	5814.94700	11.600	23.04163	29.09988	26.72749
ZN	66	248.04618	30622.41300	5.400	263.32189	242.07303	238.74362
<b>TB-1</b>	159	176066.04700	0.00000	0.000	179794.57000	175674.78000	172728.79000
PB	208	26.48411	145291.20700	2.700	25.67410	26.81519	26.96305
TL	203	25.39131	43434.35700	1.500	25.03664	25.79395	25.34335
U	238	25.11702	170089.34700	1.200	24.78932	25.39572	25.16602
<b>GE-1</b>	72	82128.82300	0.00000	0.000	83168.66000	82665.41000	80552.40000
<b>BI-1</b>	209	149693.24700	0.00000	0.000	150942.84000	151083.07000	147053.83000

Run Name: 1831706E05  
 Tube Number: 21  
 Sample Number: CCB

Date/Time: 11/13/2018 14:06:09

Note: All Analyte values are in ppb, except Internal Standards, C, P, S and CL are in counts per second.

Element	MASS	CONC. MEAN (ppb)	CPS MEAN	%RSD	INTEGRATIONS		
					#1	#2	#3
<b>SC-1</b>	45	21374.24300	0.00000	0.000	21317.51000	21818.29000	20986.93000
AL	27	-0.28904	40.00300	0.000	7.25309	-5.33902	-2.78119
CA	44	8.86582	16.66700	154.200	12.11876	20.62024	-6.14154
CR	52	0.28259	643.38000	63.400	0.24780	0.12350	0.47646
FE	57	7.83878	136.67700	75.000	13.21448	8.73698	1.56486
K	39	-1.65218	3717.38700	0.000	-6.59737	2.64319	-1.00238
MG	24	0.47525	50.00300	176.300	1.09306	-0.47815	0.81085
MN	55	0.10708	60.00000	81.300	0.10894	0.19316	0.01913
NA	23	39.77826	40671.07300	50.800	53.94954	16.64936	48.73587
TI	47	-0.67485	0.00000	0.000	-0.67485	-0.67485	-0.67485
V	51	-0.03118	20.00000	0.000	-0.01134	-0.03188	-0.05031
<b>IN-1</b>	115	29973.25300	0.00000	0.000	29043.77000	30386.76000	30489.23000
AG	107	-0.01110	26.66700	0.000	-0.00893	-0.01975	-0.00464
AS	75	-0.05402	7.33300	0.000	-0.09213	-0.02290	-0.04703
BA	137	0.05201	6.66700	173.200	0.00000	0.15604	0.00000
CD	111	-0.00740	0.00000	0.000	-0.00740	-0.00740	-0.00740
CO	59	0.01753	36.67000	92.700	0.00032	0.01965	0.03261
CU	63	0.18067	650.05700	11.500	0.15737	0.19696	0.18768
MO	98	0.02596	70.00300	324.700	-0.02756	-0.01769	0.12312
NI	60	-0.00797	110.01000	0.000	-0.04603	-0.18980	0.21193
SB	121	0.24565	116.67300	47.800	0.28521	0.11357	0.33816
SN	120	1.95752	963.41700	20.900	2.40421	1.86963	1.59874
SR	88	0.03107	6.66700	173.200	0.00000	0.09322	0.00000
ZN	66	0.19718	46.67000	170.300	-0.10606	0.55814	0.13945
<b>TB-1</b>	159	170894.51000	0.00000	0.000	168426.87000	174085.88000	170170.78000
PB	208	0.37002	2450.22700	5.600	0.39185	0.35024	0.36797
TL	203	0.00639	26.66700	147.400	0.01467	-0.00386	0.00837
U	238	0.00213	40.00000	66.800	0.00069	0.00352	0.00217
<b>GE-1</b>	72	82161.77300	0.00000	0.000	80239.12000	85150.43000	81095.77000
<b>BI-1</b>	209	140980.91000	0.00000	0.000	139834.64000	145722.85000	137385.24000

# US EPA Tune Check Report

**Operator Name** US19\_USR\_INS14259  
**Acq/Data Batch** C:\Agilent\ICPMH\1\DATA\^EPATUNEaa.b  
**Acq. Date-Time** 11/12/2018 6:11:23 PM  
**Report Comment** ICP-MS #19204 (E05) Daily Tune Check  
**Instrument Name** G3281A JP12071581

[No Gas]

**Sensitivity**

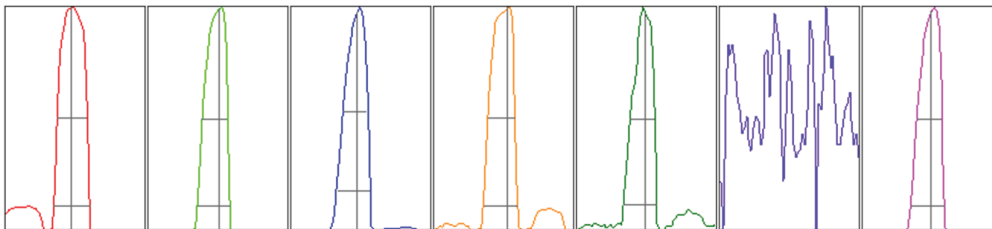
Mass	Conc. [ug/l]	Count	CPS	Resp (Required) [cps/ug/l]	Resp (Flag)	RSD%	RSD% (Required)
7	10.00	1614	16142.02			0.946	5.000
89	10.00	10841	108406.70			0.762	5.000
205	10.00	4907	49065.96			0.443	5.000
70	1.00	102	1015.32	0.00		1.545	
156	1.00	27	273.22	0.00		2.065	
220	1.00	1	11.20	0.00		27.808	
140	10.00	9719	97186.67	0.00		0.794	

Mass	RSD% (Flag)
7	
89	
205	
70	
156	
220	
140	

Mass	Rep#1 Count	Rep#2 Count	Rep#3 Count	Rep#4 Count	Rep#5 Count
7	1626	1616	1618	1624	1588
89	10893	10955	10816	10793	10747
205	4933	4907	4889	4881	4923
70	101	102	104	100	101
156	27	28	27	28	27
220	1	1	1	1	1
140	9855	9672	9692	9677	9697

Integration Time [sec] 0.1

**Resolution/Axis**





# US EPA Tune Check Report

Mass	Peak Height	Axis	Axis (Required)	Axis (Flag)
7	2572.58	6.95	6.90 - 7.10	
89	20290.17	89.05	88.90 - 89.10	
205	9265.27	204.95	204.90 - 205.10	
70	177.47	70.10	-	
156	53.60	156.00	-	
220			-	
140	18418.63	140.00	-	

Mass	W-50%	W-10%	W-10% (Required)	W-10% (Flag)
7	0.66	0.766	0.800	
89	0.55	0.706	0.800	
205	0.53	0.723	0.800	
70	0.59	0.744		
156	0.52	0.711		
220				
140	0.55	0.727		

Integration Time [sec] 0.1  
 Acquisition Time [sec] 260.3  
 Y Axis Linear

## Tune Parameters

### Plasma Parameters

Plasma Mode	---	Nebulizer Gas	0.25 L/min	Dilution Gas	0.70 L/min
RF Power	1600 W	Option Gas	---	Auxiliary Gas	0.90 L/min
RF Matching	1.60 V	Nebulizer Pump	0.10 rps	Plasma Gas	15.0 L/min
Sample Depth	10.0 mm	S/C Temp	20 °C		

### Lens Parameters

Extract 1	0.0 V	Omega Lens	9.9 V	Deflect	14.6 V
Extract 2	-200.0 V	Cell Entrance	-32 V	Plate Bias	-20 V
Omega Bias	-95 V	Cell Exit	-59 V		

### Cell Parameters

Use Gas	No	3rd Gas Flow	---	Energy Discrimination	5.0 V
He Flow	0.0 mL/min	OctP Bias	-8.0 V		
H2 Flow	0.0 mL/min	OctP RF	180 V		

### QP Parameters

Mass Gain	122	Axis Gain	0.9987	QP Bias	-3.0 V
Mass Offset	126	Axis Offset	0.02		

## Hardware Settings

### Torch

Torch H	1.0 mm	Torch V	-1.3 mm
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### EM

Discriminator	4.5 mV	Analog HV	1749 V	Pulse HV	1253 V
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**Mercury Data**

**Metals in Solid**



## Mercury Run Data Report

Analyst Employee ID:	354	Data File Name:	1830211.M08
		Run Name:	1830201M08
		Instrument No.:	19302
		Element:	Hg
<u>Reviewed By</u> Damary Valentin	<u>Reviewed Date</u> 10/29/2018 12:52PM	<u>Method Reference Name(s)</u> SW-846 7471B	
<u>Verified By:</u> Parker D Lindstrom	<u>Verified Date</u> 10/30/2018 12:00AM		

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**1**

Burn Date/Time: 10/29/2018 07:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		-255.0		

**2**

Burn Date/Time: 10/29/2018 07:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.2		1	1	1.00
AVG (ppb)		Intensity		
0.0000		1744.0		

**3**

Burn Date/Time: 10/29/2018 07:53

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S0.5		1	1	1.00
AVG (ppb)		Intensity		
0.0000		4801.0		

**4**

Burn Date/Time: 10/29/2018 07:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S1.0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		9527.0		

**5**

Burn Date/Time: 10/29/2018 07:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S2.5		1	1	1.00
AVG (ppb)		Intensity		
0.0000		24156.0		

**6**

Burn Date/Time: 10/29/2018 07:59

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
S5.0		1	1	1.00
AVG (ppb)		Intensity		
0.0000		48669.0		
CorrelationCoefficient = 1.00000				
Slope = 9769.9945800000				
Y-Intercept = -206.9916800000				

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**7**

Burn Date/Time: 10/29/2018 08:01

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICV		1	1	1.00
<u>AVG (ppb)</u>		<u>Intensity</u>		
2.3453		22707.0		

**8**

Burn Date/Time: 10/29/2018 08:03

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
ICB		1	1	1.00
<u>AVG (ppb)</u>		<u>Intensity</u>		
-0.0148		-352.0		

**9**

Burn Date/Time: 10/29/2018 10:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CRA		1	1	1.00
<u>AVG (ppb)</u>		<u>Intensity</u>		
0.7154		6782.0		

**10**

Burn Date/Time: 10/29/2018 10:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 1		1	1	1.00
<u>AVG (ppb)</u>		<u>Intensity</u>		
0.9414		8990.0		

**11**

Burn Date/Time: 10/29/2018 10:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 1		1	1	1.00
<u>AVG (ppb)</u>		<u>Intensity</u>		
-0.0004		-211.0		

**12**

Burn Date/Time: 10/29/2018 10:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	*****	0.6000	100	1.00	182991063801
V					<u>Re-read</u> <u>Re-digest</u>
<u>AVG (ppb)</u>		<u>Intensity</u>			
0.0129		-81.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**13**

Burn Date/Time: 10/29/2018 10:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1.0000	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9220	8801.0			

**14**

Burn Date/Time: 10/29/2018 10:24

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865711	U*****	0.6200	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0200	-12.0			

**15**

Burn Date/Time: 10/29/2018 10:26

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865711	UP*****	0.6200	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.7759	7373.0			

**16**

Burn Date/Time: 10/29/2018 10:28

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865714	D*****	0.6300	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0151	-60.0			

**17**

Burn Date/Time: 10/29/2018 10:30

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865712	R*****	0.6400	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9404	8981.0			

**18**

Burn Date/Time: 10/29/2018 10:32

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865713	M*****	0.6200	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9199	8780.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**19**

Burn Date/Time: 10/29/2018 10:34

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865704	*****	0.6200	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.1236	1000.0			

**20**

Burn Date/Time: 10/29/2018 10:36

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865705	*****	0.6180	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0551	331.0			

**21**

Burn Date/Time: 10/29/2018 10:38

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865706	*****	0.6415	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.1673	1427.0			

**22**

Burn Date/Time: 10/29/2018 10:40

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 2		1	1	1.00
	AVG (ppb)	Intensity		
	0.9670	9241.0		

**23**

Burn Date/Time: 10/29/2018 10:42

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 2		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0027	-234.0		

**24**

Burn Date/Time: 10/29/2018 10:44

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865707	*****	0.6386	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0639	417.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**25**

Burn Date/Time: 10/29/2018 10:46

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865708	*****	0.6422	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.2569	2303.0			

**26**

Burn Date/Time: 10/29/2018 10:48

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865709	*****	0.6214	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.1253	1017.0			

**27**

Burn Date/Time: 10/29/2018 10:50

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865710	*****	0.6500	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0075	-134.0			

**28**

Burn Date/Time: 10/29/2018 10:52

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865715	*****	0.6100	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.1357	1119.0			

**29**

Burn Date/Time: 10/29/2018 10:54

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865716	*****	0.6400	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0454	236.0			

**30**

Burn Date/Time: 10/29/2018 10:56

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865717	*****	0.6069	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.2449	2186.0			



LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**31**

Burn Date/Time: 10/29/2018 10:58

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9865718	*****	0.6000	100	1.00	182991063801
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0265	52.0			

**32**

Burn Date/Time: 10/29/2018 11:00

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
PBS	*****	0.6000	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0041	-167.0			

**33**

Burn Date/Time: 10/29/2018 11:02

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
LCSW	*****	1.0000	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9266	8846.0			

**34**

Burn Date/Time: 10/29/2018 11:04

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 3		1	1	1.00
	AVG (ppb)	Intensity		
	0.9820	9387.0		

**35**

Burn Date/Time: 10/29/2018 11:06

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 3		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0002	-209.0		

**36**

Burn Date/Time: 10/29/2018 11:08

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867762	U*****	0.6500	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	12.0822	117837.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**37**

Burn Date/Time: 10/29/2018 11:12

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867762	U*****	0.6500	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.2317	11827.0			

**38**

Burn Date/Time: 10/29/2018 11:14

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867762	UP*****	0.6500	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	2.1774	21066.0			

**39**

Burn Date/Time: 10/29/2018 11:16

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867765	D*****	0.6400	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.1622	11148.0			

**40**

Burn Date/Time: 10/29/2018 11:18

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867763	R*****	0.6400	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.0863	10406.0			

**41**

Burn Date/Time: 10/29/2018 11:20

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867764	M*****	0.6100	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.3830	13305.0			

**42**

Burn Date/Time: 10/29/2018 11:22

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866461	*****	0.6300	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0468	250.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**43**

Burn Date/Time: 10/29/2018 11:25

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866462	*****	0.6400	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.3634	3343.0			

**44**

Burn Date/Time: 10/29/2018 11:27

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866463	*****	0.6263	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.9250	8830.0			

**45**

Burn Date/Time: 10/29/2018 11:29

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866464	*****	0.6100	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.2220	1962.0			

**46**

Burn Date/Time: 10/29/2018 11:31

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 4		1	1	1.00
	AVG (ppb)	Intensity		
	0.9738	9307.0		

**47**

Burn Date/Time: 10/29/2018 11:33

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CGB 4		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0086	-291.0		

**48**

Burn Date/Time: 10/29/2018 11:35

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866465	*****	0.6100	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	0.0878	651.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**49**

Burn Date/Time: 10/29/2018 11:37

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866466	*****	0.6000	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	2.4222	23458.0			

**50**

Burn Date/Time: 10/29/2018 11:39

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9866467	*****	0.6100	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	2.5862	25060.0			

**51**

Burn Date/Time: 10/29/2018 11:41

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867761	*****	0.6000	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	2.1437	20737.0			

**52**

Burn Date/Time: 10/29/2018 11:43

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867766	*****	0.6500	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	16.0191	156301.0			

**53**

Burn Date/Time: 10/29/2018 11:45

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867767	*****	0.6200	100	1.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	31.0585	303238.0			

**54**

Burn Date/Time: 10/29/2018 11:49

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867766	*****	0.6500	100	10.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.6156	15577.0			

LANCASTER LABORATORIES

Run Name: 1830201M08

Instrument ID: 19302

Analyst ID: 354.00

CV Element: Hg

**55**

Burn Date/Time: 10/29/2018 11:51

Sample Number	Class	Initial Vol / Wt	Final Vol	DF	Batch Number
9867767	*****	0.6200	100	25.00	182991063802
V	AVG (ppb)	Intensity	Re-read	Re-digest	
	1.3658	13137.0			

**56**

Burn Date/Time: 10/29/2018 11:55

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCV 5		1	1	1.00
	AVG (ppb)	Intensity		
	0.9638	9209.0		

**57**

Burn Date/Time: 10/29/2018 11:57

Sample Number	Class	Initial Vol / Wt	Final Vol	DF
CCB 5		1	1	1.00
	AVG (ppb)	Intensity		
	-0.0082	-287.0		

# **Extraction/Distillation/Digestion Logs**

## **Metals in Solid**

Start Time: 10/29/18 5:32 End Time: 10/29/18 10:40 Hot Block: 4

Pipette ID: 23041058 /2000 I43551C /1000

Spike/Reagent	Lot#	Volume Added(mL)
1:1 HNO3	P18-285B	10.00
30% H2O2	183575#1	4.00
HCL	186764	10.00
HNO3	191695	5.00
ICP Spike 1A	1824912#9	2.00
ICP Spike 1B	1824913#9	2.00
ICP/MS Spike	1824914#2	2.00
LCS	1824914#2	1.00
LCS A1	1824912#9	2.00
LCS B1	1824913#9	2.00
Th,W Spike	P18-302A	2.00
U Spike	P18-278A	1.00

Method Ref:

SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Lot#	Location ID	Comments
1) PBS	.				19119			1803402		ICP/ICP-MS. Add New and U spike 1.02g Teflon chips, Lot: P18-23779016
2) LCSW	.				19119			1803402		1.02g Teflon chips, Lot: P18-23779016
3) LCSW2	.				19119			1803402		1.05g Teflon chips, Lot: P18-23779016
4) 9866461	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/C4	
5) 9866462	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/B6	
6) 9866463	11/02/18 11:10	SW	N7		19119		036A	1803402	E00862/	
7) 9866464	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/D6	
8) 9866465	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/F4	
9) 9866466	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/B5	
10) 9866467FD	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/D5	
11) 9867486	11/01/18 10:30	SW	S5		19119		620A	1803402	MET07/B8	
12) 9867487	11/01/18 10:30	SW	S5		19119		620A	1803402	MET07/C8	
13) 9867761	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E3	
14) 9867762U	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/D4	
15) 9867763R	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/C5	
16) 9867763R	11/05/18 10:30	SW	N7		19119		036a	1803402	E00862/	
17) 9867764M	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/F5	
18) 9867764M	11/05/18 10:30	SW	N7		19119		036a	1803402	E00862/	
19) 9867765D	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E4	
20) 9867766	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/F6	



SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel	Location	Comments
								Lot#	ID	
21) 9867767	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E6	





LLENS Batch Chronology and Change Log - SW846 (IV) ICP/ICP MS Digest

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		10/26/18 7:02	862
2) Sample Wt		10/26/18 7:40	862
3) Sample Wt		10/26/18 8:00	862
4) Final Vol	19119	10/26/18 8:00	862
5) Trial		10/26/18 8:00	862
6) Sample Wt		10/26/18 11:11	862
7) Upload Prep	US19PCC06705	10/29/18 12:31	862

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	Original Entry		Data Changed				
					<u>Date/Time</u>	<u>Data</u>	<u>Units</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Analyst</u>	<u>Reason</u>

Analysis: 0637 SW846 (IV) ICP/ICP MS Digest Batch# 18 299 1063 702

Sample ID	Due Date	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS				1.0000	100.0000	1
LCSW				1.0000	100.0000	1
LCSW2				1.0000	100.0000	1
9866461	11/02/18	N7 T0902	TID09-02	1.2700	100.0000	1
9866462	11/02/18	N7 T0903	TID09-03	1.2900	100.0000	1
9866463	11/02/18	N7 T0904	TID09-04	1.1850	100.0000	1
9866464	11/02/18	N7 T0905	TID09-05	1.2200	100.0000	1
9866465	11/02/18	N7 T0906	TID09-06	1.3000	100.0000	1
9866466	11/02/18	N7 T0907	TID09-07	1.3200	100.0000	1
9866467FD	11/02/18	N7 T0908	TID09-08FD*	1.3200	100.0000	1
9867486	11/01/18	S5 TC121	TTC12-01	1.4300	100.0000	1
9867487	11/01/18	S5 TC122	TTC12-02*	1.2100	100.0000	1
9867761	11/05/18	N7 T1002	TID10-02	1.3600	100.0000	1
9867762U	11/05/18	N7 T1003	TID10-03BKG	1.2400	100.0000	1
9867763R	11/05/18	N7 T1003	TID10-03MS	1.1100	100.0000	1
9867763R	11/05/18	N7 T1003	TID10-03MS	1.1102	100.0000	1
9867764M	11/05/18	N7 T1003	TID10-03MSD	1.3300	100.0000	1
9867764M	11/05/18	N7 T1003	TID10-03MSD	1.3325	100.0000	1
9867765D	11/05/18	N7 T1003	TID10-03DUP	1.3300	100.0000	1
9867766	11/05/18	N7 T1004	TID10-04	1.2700	100.0000	1
9867767	11/05/18	N7 T1005	TID10-05*	1.1200	100.0000	1

Start Time: 10/29/18 5:32 End Time: 10/29/18 10:40 Hot Block: 4

Pipette ID: 23041058 /2000 I43551C /1000

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
1:1 HNO3	P18-285B	10.00
30% H2O2	183575#1	4.00
HCL	186764	10.00
HNO3	191695	5.00
ICP Spike 1A	1824912#9	2.00
ICP Spike 1B	1824913#9	2.00
ICP/MS Spike	1824914#2	2.00
LCS	1824914#2	1.00
LCS A1	1824912#9	2.00
LCS B1	1824913#9	2.00
Th,W Spike	P18-302A	2.00
U Spike	P18-278A	1.00

Method Ref:

SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel Location		Comments
								Lot#	ID	
1) PBS	.				19119			1803402		ICP/ICP-MS. Add New and U spike 1.02g Teflon chips, Lot: P18-23779016
2) LCSW	.				19119			1803402		1.02g Teflon chips, Lot: P18-23779016
3) LCSW2	.				19119			1803402		1.05g Teflon chips, Lot: P18-23779016
4) 9866461	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/C4	
5) 9866462	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/B6	
6) 9866463	11/02/18 11:10	SW	N7		19119		036A	1803402	E00862/	
7) 9866464	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/D6	
8) 9866465	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/F4	
9) 9866466	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/B5	
10) 9866467FD	11/02/18 11:10	SW	N7		19119		620A	1803402	MET07/D5	
11) 9867486	11/01/18 10:30	SW	S5		19119		620A	1803402	MET07/B8	
12) 9867487	11/01/18 10:30	SW	S5		19119		620A	1803402	MET07/C8	
13) 9867761	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E3	
14) 9867762U	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/D4	
15) 9867763R	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/C5	
16) 9867763R	11/05/18 10:30	SW	N7		19119		036a	1803402	E00862/	
17) 9867764M	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/F5	
18) 9867764M	11/05/18 10:30	SW	N7		19119		036a	1803402	E00862/	
19) 9867765D	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E4	
20) 9867766	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/F6	

Prep Employee:862

D/I \_\_\_\_\_

10/29/2018

v 1.1.0



SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel	Location	Comments
								Lot#	ID	
21) 9867767	11/05/18 10:30	SW	N7		19119		620A	1803402	MET07/E6	



LLENS Batch Chronology and Change Log - SW846 (IV) ICP/ICP MS Digest

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		10/26/18 7:02	862
2) Sample Wt		10/26/18 7:40	862
3) Sample Wt		10/26/18 8:00	862
4) Final Vol	19119	10/26/18 8:00	862
5) Trial		10/26/18 8:00	862
6) Sample Wt		10/26/18 11:11	862
7) Upload Prep	US19PCC0670	10/29/18 12:31	862

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	<u>Original Entry</u>		<u>Data Changed</u>	
					<u>Date</u>	<u>Units</u>	<u>Date/Time</u>	<u>Analyst</u>
					<u>Data</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Analyst Reason</u>

Analysis: 0637 SW846 (IV) ICP/ICP MS Digest Batch# 18 299 1063 702

Sample ID	Due Date	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS				1.0000	100.0000	1
LCSW				1.0000	100.0000	1
LCSW2				1.0000	100.0000	1
9866461	11/02/18	N7 T0902	TID09-02	1.2700	100.0000	1
9866462	11/02/18	N7 T0903	TID09-03	1.2900	100.0000	1
9866463	11/02/18	N7 T0904	TID09-04	1.1850	100.0000	1
9866464	11/02/18	N7 T0905	TID09-05	1.2200	100.0000	1
9866465	11/02/18	N7 T0906	TID09-06	1.3000	100.0000	1
9866466	11/02/18	N7 T0907	TID09-07	1.3200	100.0000	1
9866467FD	11/02/18	N7 T0908	TID09-08FD*	1.3200	100.0000	1
9867486	11/01/18	S5 TC121	TTC12-01	1.4300	100.0000	1
9867487	11/01/18	S5 TC122	TTC12-02*	1.2100	100.0000	1
9867761	11/05/18	N7 T1002	TID10-02	1.3600	100.0000	1
9867762U	11/05/18	N7 T1003	TID10-03BKG	1.2400	100.0000	1
9867763R	11/05/18	N7 T1003	TID10-03MS	1.1100	100.0000	1
9867763R	11/05/18	N7 T1003	TID10-03MS	1.1102	100.0000	1
9867764M	11/05/18	N7 T1003	TID10-03MSD	1.3300	100.0000	1
9867764M	11/05/18	N7 T1003	TID10-03MSD	1.3325	100.0000	1
9867765D	11/05/18	N7 T1003	TID10-03DUP	1.3300	100.0000	1
9867766	11/05/18	N7 T1004	TID10-04	1.2700	100.0000	1
9867767	11/05/18	N7 T1005	TID10-05*	1.1200	100.0000	1

Start Time: 10/29/18 7:15 End Time: 10/29/18 7:45 Hot Block: 2  
 Pipette ID: I43551C /1000

<u>Spike/Reagent</u>	<u>Lot#</u>	<u>Volume Added(mL)</u>
5%KMnO4	P18-293E	15.00
Aqua Regia	P18-302C	5.00
LCS 100 ppb Hg	P18-302B	1.00
NaCl/NH20H.HCL	P18-296C	6.00
Spike 100 ppb Hg	P18-302B	1.00

Method Ref:

SampleID	Date Due	ST	P	H	Balance	PH<2	BC	Vessel	Location	Comments
								Lot#	ID	
1) PBS	.				19119			1803402		0.63g Teflon chips, Lot: P18-23779016
2) LCSW	.				19119			1803402		0.60g Teflon chips, Lot: P18-23779016
3) 9866461	11/02/18 11:10	SW	N7		19119		621A	1803402	HG10/C6	
4) 9866462	11/02/18 11:10	SW	N7		19119		621A	1803402	HG10/B2	
5) 9866463	11/02/18 11:10	SW	N7		19119		036A	1803402	E00862/	
6) 9866464	11/02/18 11:10	SW	N7		19119		621A	1803402	HG10/D2	
7) 9866465	11/02/18 11:10	SW	N7		19119		621A	1803402	HG01/C1	
8) 9866466	11/02/18 11:10	SW	N7		19119		621A	1803402	HG10/A3	
9) 9866467FD	11/02/18 11:10	SW	N7		19119		621A	1803402	HG10/D5	
10) 9867761	11/05/18 10:30	SW	N7		19119		621A	1803402	HG01/B3	
11) <b>9867762U</b>	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/B6	
12) <b>9867763R</b>	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/B4	
13) <b>9867764M</b>	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/A5	
14) <b>9867765D</b>	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/A6	
15) 9867766	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/D3	
16) 9867767	11/05/18 10:30	SW	N7		19119		621A	1803402	HG10/C3	



LLENS Batch Chronology and Change Log - SW SW846 Hg Digest

<u>Operation</u>	<u>Instrument</u>	<u>Operation Date</u>	<u>ANALYST</u>
1) Batch Creation		10/26/18 7:09	862
2) Final Vol	19119	10/26/18 7:43	862
3) Trial		10/26/18 7:43	862
4) Sample Wt		10/26/18 7:47	862
5) Sample Wt	19119	10/26/18 9:15	862
6) Sample Wt	19119	10/26/18 11:57	862
7) Upload Prep	US19PCC0681	10/29/18 7:46	862

<u>Sample ID</u>	<u>Analysis</u>	<u>D</u>	<u>Operation</u>	<u>Measurement</u>	Original Entry		Data Changed		
					<u>Date</u>	<u>Units</u>	<u>Analyst</u>	<u>Date/Time</u>	<u>Analyst Reason</u>



Analysis: 0638 SW SW846 Hg Digest

Batch# 18 299 1063 802

Sample ID	Due Date	EPA#	SDG#	Sample Wt	Final Volume	Trial
PBS				.6000	100.0000	1
LCSW				1.0000	100.0000	1
9866461	11/02/18	N7 T0902	TID09-02	.6300	100.0000	1
9866462	11/02/18	N7 T0903	TID09-03	.6400	100.0000	1
9866463	11/02/18	N7 T0904	TID09-04	.6263	100.0000	1
9866464	11/02/18	N7 T0905	TID09-05	.6100	100.0000	1
9866465	11/02/18	N7 T0906	TID09-06	.6100	100.0000	1
9866466	11/02/18	N7 T0907	TID09-07	.6000	100.0000	1
9866467FD	11/02/18	N7 T0908	TID09-08FD*	.6100	100.0000	1
9867761	11/05/18	N7 T1002	TID10-02	.6000	100.0000	1
<b>9867762U</b>	11/05/18	N7 T1003	TID10-03BKG	.6500	100.0000	1
<b>9867763R</b>	11/05/18	N7 T1003	TID10-03MS	.6400	100.0000	1
<b>9867764M</b>	11/05/18	N7 T1003	TID10-03MSD	.6100	100.0000	1
<b>9867765D</b>	11/05/18	N7 T1003	TID10-03DUP	.6400	100.0000	1
9867766	11/05/18	N7 T1004	TID10-04	.6500	100.0000	1
9867767	11/05/18	N7 T1005	TID10-05*	.6200	100.0000	1



Eurofins Document Reference :  
T-MET-FRM9079

Revision: 3

Effective date : 02 Feb 2017

Effective

Vol (mL)	M•	Lot #	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L)**	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M•	Lot #	Vol (mL*)						
2	4	184517	3.2ml for 3.205 low volume		H18-22014 H18-22515	100	2.5mg/L	01354	10-9-18	10-16-18	RT	
3	4	184517				200	1.0					
4			low volume		H18-21680	100	0.25					
5						10	1.0				RT	
6							6.1					
7							1.0					
8			5ml for 1.54 low volume		H18-22355 H18-22505	100	0.1					
9							2.5mg/L					
10							1.0					
11							1.0					
12							1.0					
13							1.0					
14							6.4					
15							0.8					
16							0.2					
17							0.5					
18							1.0					
19							2.5					
20							5.0					
							0.0					

Key (••) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage

\* units are mL unless otherwise specified  
 \*\* units are mg/L unless otherwise specified

b





Lancaster Laboratories  
Environmental

Eurofins Document Reference :  
T-MET-FRM9079

Effective date : 02 Feb 2017

Document Title:  
Standard/Reagent Preparation Logbook

Revision: 3

Historical Reference:  
1-P-QM-FOR-9009818; Form 1105

Effective

Vol (mL)	M#	Lot #	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M#	Vol (mL*)	M#						
57	181074	4	15ml	KNM	H18-22518	100	2.5mg/L	DL354	10-16-18	10-17-18	RT	
5	181074	4	15ml	KNM	H18-22518	100	1:3			10-16-18		
							2.5mg/L					
							1.0					
							0.4					
							6.8					
							6.2					
							0.5					
							1.0					
							2.5					
							5.0					
							0.0					
							1.0	DL354	10-11-18	10-18-18	RT	
							0.1					
							1.0					
							0.1					
							1.0					
							2.5mg/L					
							1.0					
							0.2					
							0.2					
							100					
							100					
							200					
							100					
							100					
							100					

Key (\*\*) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
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RT = Room Temperature Storage

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 \*\* units are mg/L unless otherwise specified





Lancaster Laboratories  
Environmental

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Effective date: 02 Feb 2017

Historical Reference:  
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Effective

Vol (mL)	M•	Lot #	Other Used		Final Vol (mL)	Final Conc (mg/L)**	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M•						
2					200	1.0				
3					200	1.0				
4					100	2.5				
5					100	5.0				
6					200	6.0				
7					200	2.5				
8					100	1.0				
9					100	0.2				
10					10	1.0				
11						0.1				
12						1.0				
13						0.1				
14					100	2.5				
15					200	1.0				
16					100	0.2				
17					200	0.2				
18					100	1.0				
19					100	2.5				
20					100	5.0				

Key (••) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage

\* units are mL unless otherwise specified  
\*\* units are mg/L unless otherwise specified

Standard/Reagent Prepared	Standards/Reagents Used	HNO <sub>3</sub> Used							
Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg 5000 StA Cal	H18281M								
ICV	N	Hg 10mg/L Cont	15	10-19-18	H18-281C	0.25ml	1	6	19/1/95
CCV	O	Hg 1.0mg/L Cal			H18-281A	0.20			
CRN	P	Hg 0.1mg/L Cont			H18-281D	0.20			
Stannous Chloride	H18288A	SnCl <sub>2</sub>	4	8-22-19	180818 #8 #8+9	200.06g 200.07g 200.03g			
	B				#9				
	C				#10				
	D								
Hg 10mg/L Inter Std	H18289A	Hg 1000mg/ml StA	XX	4/2020	17519132	1.0ml	1	6	19/1/95
Hg 1.0mg/L Inter Cal	H18289A	Hg 10mg/L Cal	15	4-16-19	H18-289A	1.0ml			
1.0mg/L Inter Cal	B	1.0mg/L Cal	15	10-23-18	H18-289A				
1.0mg/L Inter Cont	C	1.0mg/L Cont	16	4-19-19	make 1573275				
0.1mg/L Inter Cont	D	1.0mg/L Cont	15	6-23-18	H18-289C				
Hg 5000 ICV	E					0.25ml	1	6	19/1/95
CCV	F	Hg 1.0mg/L Cal			H18-289A	0.20			
CRN	G	Hg 0.1mg/L Cont			H18-289D	0.20			
StA Cal	H	Hg 0.1mg/L Cal			H18-289B	0.20			
	I					0.50			
	J	Hg 1.0mg/L Cal			H18-289A	0.20			
	K					0.25			

- 1 - Aldrich Chemical
- 2 - Conostan Specialty Products
- 3 - EM Science
- 4 - Fisher Scientific

- 5 - High-Purity Standards
- 6 - J.T. Baker
- 7 - Johnson Matthey
- 8 - Leaman Labs

- 9 - Mallinckrodt
- 10 - Plasma Pure
- 11 - Solutions Plus
- 12 - SPEX Industries

- 13 - VWR Scientific
- 14 - EMD
- 15 - Prepared in house
- 16 - Inorganic Ventures
- XX - Other (footnote Manuf)

XX - CFI International  
10-16-18 DV354



Vol (mL)	M.	Lot #	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L <sup>**</sup> )	Int/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M.	Lot #							
200	4	184517	32 mL H <sub>2</sub> SO <sub>4</sub>			100	0.01 mg/L	DL354	10-13-18	10-19-18	RT	
200	4	1810764				2000	16%	DL354	10-15-18	4-15-19	RT	
200	4	184517				100	2.5					
200	4	184517				200	1.0					
200	4	184517				100	0.2					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					
200	4	184517				200	0.2					
200	4	184517				100	0.5					
200	4	184517				200	1.0					
200	4	184517				100	0.1					



Lancaster Laboratories  
Environmental

Eurofins Document Reference :  
T-MET-FRM9079

Effective date : 02 Feb 2017

Revision: 3

Historical Reference:  
1-P-QM-FOR-9009818; Form 1105

Document Title:  
Standard/Reagent Preparation Logbook

Effective

Standard/Reagent Prepared	Standards/Reagents Used	HNO <sub>3</sub> Used							
Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg-5000 Std Cal	H18289L	Hg-1.0mg/L Cal	15	10-23-18	H18-289A	0.50 ml	1	16	191695
↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
1CV	N	Hg-1.0mg/L Cont	15	10-23-18	H18-289C	0.25 ml	1	16	191695
1CV	O	Hg-1.0mg/L Cal	15	10-23-18	H18-289A	0.20	1	16	191695
1CV	P	Hg-0.1mg/L Cont	15	10-23-18	H18-289D	0.20	1	16	191695
1CV	Q	Hg-1.0mg/L Cal	15	10-23-18	H18-289A	0.20	1	16	191695
1.0mg/L Table Cal	B	1.0mg/L Cal	15	10-24-18	H18-290A	1.0 ml	1	16	191695
1.0mg/L Table Cal	C	1.0mg/L Cont	16	4-19-19	M24615852	↓	1	16	191695
1.0mg/L Table Cal	D	1.0mg/L Cont	15	10-24-18	H18-290C	↓	1	16	191695
Hg-5001 1CV	E	↓	15	10-24-18	H18-290C	0.25 ml	1	16	191695
1CV	F	Hg-1.0mg/L Cal	15	10-23-18	H18-290A	0.10	1	16	191695
1CV	G	↓	15	10-23-18	H18-290A	0.10	1	16	191695
1CV	H	↓	15	10-23-18	H18-290A	0.10	1	16	191695
1CV	I	↓	15	10-23-18	H18-290A	0.10	1	16	191695
1CV	J	Hg-0.1mg/L Cont	15	10-23-18	H18-290D	0.46	1	16	191695
1CV	K	↓	15	10-23-18	H18-290D	0.80	1	16	191695
1CV	L	Hg-0.1mg/L Cal	15	10-23-18	H18-290B	0.20	1	16	191695
1CV	M	↓	15	10-23-18	H18-290B	0.50	1	16	191695
1CV	N	Hg-1.0mg/L Cal	15	10-23-18	H18-290A	0.10	1	16	191695

- Key - Manufacturer (M•)
- 1 - Aldrich Chemical
  - 2 - Conostan Specialty Products
  - 3 - EM Science
  - 4 - Fisher Scientific
  - 5 - High-Purity Standards
  - 6 - J. T. Baker
  - 7 - Johnson Matthey
  - 8 - Leeman Labs
  - 9 - Mallinckrodt
  - 10 - Plasma Pure
  - 11 - Solutions Plus
  - 12 - SPEX Industries
  - 13 - WWR Scientific
  - 14 - EMD
  - 15 - Prepared in house
  - 16 - Inorganic Ventures
  - XX - Other (Footnote Manuf.)



Lancaster Laboratories  
Environmental

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Effective date: 02 Feb 2017

Document Title:  
Standard/Reagent Preparation Logbook

Revision: 3

Historical Reference:  
1-P-QM-FOR-9009818; Form 1105

Effective

HCl Used	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L)**	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	Vol (mL)	M•	Vol (mL*)	M•						
	2ml H <sub>2</sub> SO <sub>4</sub>	4	3.2ml 1% CaCl <sub>2</sub> 3.2ml 1% K <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>		100	5.0ug/L	DL354	10-16-18	10-23-18	RT
		187517			100	2.5				
					200	1.0				
					100	0.2				
					200	1.0				
					10	0.1	DL354	10-17-18	10-24-18	RT
					10	0.1				
					100	2.5ug/L				
					100	1.0				
					100	1.0				
					100	1.0				
					100	1.0				
					100	1.0				
					100	0.8				
					100	0.4				
					100	0.2				
					100	0.5				
					100	1.0				

Key (••) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl

D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage

\* units are mL unless otherwise specified  
 \*\* units are mg/L unless otherwise specified

b





Standard/Reagent Prepared		Standards/Reagents Used				HNO <sub>3</sub> Used			
Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg-5700	CGA	H18292P	15	10-26-18	H18-292D	0.20ml	1	6	1911695
↓	CCV			↓		0.20ml	↓	↓	↓
Hg-5701	CCV	Hg-1.0mg/L Cont	15	↓	H18-292A	6.10	↓	↓	↓
↓	CCV			↓		6.10	↓	↓	↓
↓	CCV			↓		0.10	↓	↓	↓
↓	SHC Cal			↓			↓	↓	↓
Mercuric Bromide								5	1911695
Stannous Chloride	H18295A	SnCl <sub>2</sub>	4	10-14-19	180818 #10	200.00g			
↓				↓		200.01g			
↓				↓		200.05g			
Hg-1.0mg/L Cont	H18296A	Hg-10mg/L Cal	15	4-16-19	H18-289AA	1.0ml			
↓				↓					
↓				↓					
↓				↓					
↓				↓					
↓				↓					
↓				↓					
↓				↓					
↓				↓					
Hg-5700	CCV					0.25ml	1	6	1911695
↓	CCV					0.20	↓	↓	↓
↓	CGA					0.20	↓	↓	↓
↓	SHC Cal					0.20	↓	↓	↓
↓						0.50	↓	↓	↓
↓						0.20	↓	↓	↓

- Key - Manufacturer (M#)
- 1 - Aldrich Chemical
  - 2 - Conostan Specialty Products
  - 3 - EM Science
  - 4 - Fisher Scientific
  - 5 - High-Purity Standards
  - 6 - J. T. Baker
  - 7 - Johnson Matthey
  - 8 - Leeman Labs
  - 9 - Mallinckrodt
  - 10 - Plasma Pure
  - 11 - Solutions Plus
  - 12 - SPEX Industries
  - 13 - VWR Scientific
  - 14 - EMD
  - 15 - Prepared in house
  - 16 - Inorganic Ventures
  - XX - Other (footnote Manuf)

Vol (mL)	M•	Lot #	Other Used		Final Vol (mL)	Final Conc (mg/L)**	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M•						
2	↓	↓	3.2 ml H <sub>2</sub> O <sub>2</sub> 30% 100 ml KMnO <sub>4</sub>	H18-2064 H18-2064	100	0.2 mg/L	D1354	10-19-18	10-21-18	RT
3	↓	↓	5 ml Aqua Regia 15 ml KMnO <sub>4</sub>	H18-202-V H18-2064	160	1.0	↓	↓	↓	↓
4	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
5	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
6	↓	↓	↓	↓	↓	0.0	↓	↓	↓	↓
7	↓	↓	↓	↓	↓	1.3	↓	↓	↓	↓
8	200	180764	↓	↓	2000	16.1	D1354	10-22-18	4-22-19	RT
9	↓	↓	↓	↓	↓	↓	↓	↓	↓	↓
10	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
11	↓	↓	↓	↓	↓	1.0	D1354	10-23-18	10-31-18	RT
12	↓	↓	↓	↓	↓	0.1	↓	↓	↓	↓
13	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
14	↓	↓	↓	↓	↓	0.1	↓	↓	↓	↓
15	2 ml H <sub>2</sub> O <sub>2</sub>	4	10-23-18 DV354 3.2 ml H <sub>2</sub> O <sub>2</sub> 30% 100 ml KMnO <sub>4</sub>	H18-2064 H18-2064	100	2.5 mg/L	↓	↓	↓	↓
16	↓	↓	↓	↓	↓	1.0	↓	↓	↓	↓
17	↓	↓	↓	↓	↓	0.2	↓	↓	↓	↓
18	↓	↓	↓	↓	↓	0.2	↓	↓	↓	↓
19	↓	↓	↓	↓	↓	0.5	↓	↓	↓	↓
20	↓	↓	↓	↓	200	1.0	↓	↓	↓	↓

Key (••) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage  
 \* units are mL unless otherwise specified  
 \*\* units are mg/L unless otherwise specified

b







Lancaster Laboratories  
Environmental

Document Title:

Standard/Reagent Preparation Logbook

Eurofins Document Reference:  
T-MET-FRM9079

Revision: 3

Effective date: 02 Feb 2017

Historical Reference:  
1-P-QM-FOR-9009818; Form 1105

Effective

Vol (mL)	M.	Lot #	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M.	Lot #	Vol (mL*)						
2	2	184517	3.2ml K <sub>2</sub> S <sub>2</sub> O <sub>8</sub>		H18-2004		100	2.5ug/L	DL354	10-23-18	10-30-18	RT
4	4	184517	1.5ml KMnO <sub>4</sub>		H18-2004		100	0.2				
10			10.0ml 0.15% H <sub>2</sub> O <sub>2</sub>		H18-2080		10	1.0	DL354	10-24-18	10-31-18	RT
10			5ml Aqua Regia		H18-2975		100	0.1				
10			5ml KMnO <sub>4</sub>		H18-2640		100	2.5ug/L				
10							100	1.0				
10							100	1.0				
10							100	1.0				
10							100	0.4				
10							100	0.8				
10							100	0.2				
10							100	0.5				

Key (\*\*) - Other Used

- A = CaCl<sub>2</sub> (0.053%)
- B = CsCl (10%)
- C = KCl
- D = La<sub>2</sub>O<sub>3</sub> (10%)
- E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)
- F = Element Specific

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Effective date : 02 Feb 2017

Effective

Standard/Reagent Prepared	Standards/Reagents Used	HNO <sub>3</sub> Used			
		Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
1 Hg 5700 COV	Hg 1.0 mg/L Cal	0.20 ml	1	6	19K685
2 Hg 5700 CEA	Hg 0.1 mg/L Co#	0.20	↓	↓	↓
3 Hg 5700 COV	Hg 1.0 mg/L Cal	0.20	↓	↓	↓
4 Hg 11992 Hg 1.0 mg/L Cal	Hg 1.0 mg/L Cal	1.0 ml	↓	↓	↓
5 Hg 11992 Hg 0.1 mg/L Cal	Hg 0.1 mg/L Cal	↓	↓	↓	↓
6 Hg 11992 Hg 1.0 mg/L Cal	Hg 1.0 mg/L Cal	↓	↓	↓	↓
7 Hg 11992 Hg 0.1 mg/L Cal	Hg 0.1 mg/L Cal	↓	↓	↓	↓
8 Hg 4992 COV	Hg 1.0 mg/L Cal	0.25 ml	↓	↓	↓
9 Hg 4992 COV	Hg 1.0 mg/L Cal	0.10	↓	↓	↓
10 Hg 4992 COV	Hg 1.0 mg/L Cal	0.10	↓	↓	↓
11 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.40	↓	↓	↓
12 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.80	↓	↓	↓
13 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.20	↓	↓	↓
14 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.50	↓	↓	↓
15 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.10	↓	↓	↓
16 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.25	↓	↓	↓
17 Hg 4992 CEA	Hg 0.1 mg/L Co#	0.50	↓	↓	↓
18 Hg 4992 CEA	Hg 0.1 mg/L Co#	↓	↓	↓	↓
19 Hg 1.0 mg/L Standard Cal	Hg 1.0 mg/L Cal	1.0 ml	↓	↓	↓
20 Hg 1.0 mg/L Standard Cal	Hg 1.0 mg/L Cal	1.0 ml	↓	↓	↓

- 1 - Aldrich Chemical
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- 3 - EMI Science
- 4 - Fisher Scientific

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- 7 - Johnson Matthey
- 8 - Leeman Labs

- 9 - Mallinckrodt
- 10 - Plasma Pure
- 11 - Solutions Plus
- 12 - SPEX Industries

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- 15 - Prepared in house
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- XX - Other (footnote Manuf)





Lancaster Laboratories  
Environmental

Document Title:  
Standard/Reagent Preparation Logbook

Eurofins Document Reference :  
T-MEI-FRM9079

Revision: 3

Historical Reference:  
1-P-QM-F-OR-9009878; Form 1105

Effective date : 02 Feb 2017

Effective

Standard/Reagent Prepared		Standards/Reagents Used				HNO <sub>3</sub> Used			
Name	Lot #	Identification	M•	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg 1.0 mg/L Inter Cert	H18300C	Hg 1.0 mg/L Cert	16	4-19-19	M2H18165302	1.0 ml			
Hg 0.1 mg/L Inter Cert	D	Hg 0.1 mg/L Cert	15	11-03-18	H18-300C	1.0 ml			
Hg 5700 ICN	E					0.25 ml	1	6	1911695
ICN	F	Hg 1.0 mg/L Cert			H18-300A	0.20	1		
CRH	G	Hg 0.1 mg/L Cert			H18-300D	0.20	1		
SAH Cal	H	Hg 0.1 mg/L Cert			H18-300B	0.20	1		
	I					0.50	1		
	J	Hg 1.0 mg/L Cert			H18-300A	0.20	1		
	K					0.25	1		
	L					0.50	1		
	M								
	N	Hg 1.0 mg/L Cert	15	11-03-18	H18-300C	0.25 ml			
	O	Hg 1.0 mg/L Cert			H18-300A	0.20 ml			
	P	Hg 0.1 mg/L Cert			H18-300D	0.20			
	Q	Hg 1.0 mg/L Cert			H18-300A	0.20			
Hg 1.0 mg/L Inter Cert	H18303A	Hg 1.0 mg/L Cert	15	4-16-19	H18-28944A	1.5 ml			
8.1 mg/L Inter Cert	B	1.0 mg/L Cert	15	11-6-18	H18-303A				
1.0 mg/L Inter Cert	C	1.0 mg/L Cert	16	4-19-19	M2H18165302				
X 0.1 mg/L Inter Cert	D	1.0 mg/L Cert	15	11-06-18	H18-303C				
Hg 5700 ICN	E					0.25 ml	1	6	1911695

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- 12 - SPEX Industries

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- 14 - EMD
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- 16 - Inorganic Ventures
- XX - Other (footnote Manuf.)

Vol (mL)	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L**)	Int/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
	M•	Lot #	Vol (mL*)	M••						
1					10	0.1	DB354	10-27-18	11-03-18	RT
2					100	2.5 mg/L				
3	2ml H <sub>2</sub> SO <sub>4</sub>	18-1517	3.2ml H <sub>2</sub> SO <sub>4</sub> 6ml KMnO <sub>4</sub>		100	1.0				
4					200	0.2				
5					100	0.2				
6					200	0.5				
7					100	1.0				
8					200	2.5				
9					100	5.0				
10					200	0.0				
11					200	2.5				
12					100	0.2				
13					200	1.0				
14					100	0.2				
15					200	1.0				
16					10	1.0	DB354	10-30-18	11-06-18	RT
17					10	0.1				
18					10	1.0				
19					100	0.1				
20	2ml H <sub>2</sub> SO <sub>4</sub>	18-1517	3.2ml H <sub>2</sub> SO <sub>4</sub> 6ml KMnO <sub>4</sub>		100	2.5 mg/L				

Key (••) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al (NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage

\* units are mL unless otherwise specified  
 \*\* units are mg/L unless otherwise specified

Standard/Reagent Prepared	Standards/Reagents Used	Lot #	Expire Date (MM/YY)	Lot #	Init. Wt/Vol (Write g or mL)	Vol (mL)	M•	Lot #
Hg 5000 (3) <del>1000</del> <sup>1000</sup>	Hg 10mg/L Cal	H18303F	11-01-18	H18303A	0.20 ml	1	6	1911695
	Hg 0.1mg/L Cert	G		H18303D	0.20 ml			
	Hg 0.1mg/L Cert	H		H18303B	0.20			
	Hg 0.1mg/L Cal	I			0.50			
	Hg 1.0mg/L Cal	J		H18303A	0.20			
		K			0.25			
		L			0.50			
		M						
		N	11-06-18	H18303C	0.25 ml			
	Hg 1.0mg/L Cal	O		H18303A	0.20			
	Hg 0.1mg/L Cert	P		H18303D	0.20			
	Hg 0.1mg/L Cert	Q		H18303A	0.20			
	Hg 1.0mg/L Cal	R		H18303A #11	200.01g			
	Stannous Chloride	S	10-04-19	180868 #11-12	200.02g			
		T		#12	200.02g			
Hg 1.0mg/L Inhib Cal	Hg 10mg/L Cal	H18303A	4-16-19	H18303A	1.0 ml			
Hg 0.1mg/L Inhib Cal	10mg/L Cal	B	11-07-18	H18303C				
1.0mg/L Inhib Cert	10mg/L Cert	C	4-19-19	M2H6165392				
0.1mg/L Inhib Cert	10mg/L Cert	D	11-07-18	H18303C				
Hg 5000 CV		E			0.25 ml	1	6	1911695

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- 16 - Inorganic Ventures
- XX - Other (footnote Manuf.)

Key - Manufacturer (M#)



Vol (mL)	M*	Lot #	HCl Used		Other Used		Final Vol (mL)	Final Conc (mg/L**)	Init/ Emp #	Prep Date (MM/DD/YY)	Expire Date (MM/DD/YY)	Storage
			Vol (mL*)	M**	Lot #	Vol (mL)						
20	Zn/16504	4	184517	3.2 mL K552 1 mL KMM104	H18-2067 H18-2070	200	1.0 mg/L	D1354	10:30-18	11:06-18	RT	
13	200	6	198300			200	1.0					
12	100					100	2.5					
11	200					200	1.0					
10	100					100	0.2					
9	200					200	1.0					
8	100					100	5.0					
7	200					200	1.0					
6	100					100	2.5					
5	200					200	0.5					
4	100					100	0.2					
3	200					200	1.0					
2	100					100	0.2					
1	200					200	2.5					
16						10	1.0	D1354	10:31-18	11:07-18	RT	
15						10	0.1					
14						10	1.0					
13						10	0.1					
12						10	1.0					
11						10	0.1					
10						10	1.0					
9						10	0.1					
8						10	1.0					
7						10	0.1					
6						10	1.0					
5						10	0.1					
4						10	1.0					
3						10	0.1					
2						10	1.0					
1						10	0.1					

Key (\*\*) - Other Used  
 A = CaCl<sub>2</sub> (0.053%)  
 B = CsCl (10%)  
 C = KCl  
 D = La<sub>2</sub>O<sub>3</sub> (10%)  
 E = Al(NO<sub>3</sub>)<sub>3</sub> (40%)  
 F = Element Specific

RT = Room Temperature Storage

\* units are mL unless otherwise specified  
 \*\* units are mg/L unless otherwise specified

# **Instrumental Wet Chemistry Data**

# **Case Narrative/Conformance Summary**

## **Instrumental Wet Chemistry**

## Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.  
SDG: TID09

### Instrumental Water Quality Fraction: Instrumental Wet Chemistry

Sample #	Client ID	Matrix			Comments
		Liquid	Solid	DF	
9866461	OUI-1-SE005		X	1	
9866462	REF-1-SE001		X	1	

All analyses have been performed in accordance with DOD QSM Version 5.0 unless otherwise noted below.  
See QC Reference List for Associated Batch QC Samples

#### SAMPLE RECEIPT:

Samples were received in good condition and within temperature requirements.

#### HOLDING TIME:

All holding times were met.

#### PREPARATION/EXTRACTION/DIGESTION:

No problems were encountered.

#### CALIBRATION/STANDARDIZATION:

All criteria were met.

#### QUALITY CONTROL AND NONCONFORMANCE SUMMARY:

##### MS/MSD

Matrix QC may not be included if site-specific QC were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, laboratory spike data (LCS) are provided.

#### SAMPLE ANALYSIS:

No problems were encountered with the analysis of the samples.

## Case Narrative/Conformance Summary

CLIENT: Tidewater, Inc.  
SDG: TID09

### Instrumental Water Quality Fraction: Instrumental Wet Chemistry

#### Abbreviation Key

U = Unspiked (for MS/MSD)	LOQ = Limit of Quantitation
R = Matrix Spike (MS)	MDL = Method Detection Limit
M = Matrix Spike Duplicate (MSD)	ND = Not Detected
BKG = Background (for Duplicate)	J = Estimated Value
D = Duplicate (DUP)	NA = Not Applicable
HS = High Spike	ME = Method
LS = Low Spike	CO = Colorimetric
SS = Soluble Spike	G = Gravimetric
IS = Insoluble Spike	IR = Infrared Spectrophotometry
ISD = Insoluble Spike Duplicate	MTR = Meter
PDS = Post Digestion Spike	OD = Oven Dried
* = Out of Specification	TI = Titration
V = Visual	TOC = Total Organic Carbon
AK = Alpkem	IC = Ion Chromatography
TC = Total Carbon	RA = Rapid Analyzer

# **Quality Control and Calibration Summary Forms**

## **Instrumental Wet Chemistry**

**Quality Control Reference List**  
**Instrumental Water Quality**

**CLIENT: Tidewater, Inc.**  
**SDG: TID09**

**Fraction: Instrumental Wet Chemistry**

<b>Analysis</b>	<b>Batch Number</b>	<b>Sample Number</b>	<b>Analysis Date</b>
TOC Solids/Sludges Combustion	18304667631A	P183041B	10/31/2018 18:15
		P183041Q	10/31/2018 18:28
		9866461	10/31/2018 20:12
		9866462	10/31/2018 20:51

Fraction: Instrumental Wet Chemistry

<b>18304667631A / P183041B Parameter</b>	<b>ME</b>	<b>Analysis Date</b>	<b>Blank Results</b>	<b>Units</b>	<b>DL</b>	<b>LOD</b>	<b>LOQ</b>
TOC Solids/Sludges Combustion	TOC	10/31/18	N.D.	mg/kg	100	200	300



SDG: TID09  
Matrix: SOLID

**Instrumental Water Quality**  
Fraction: Instrumental Wet Chemistry

LCS: P183041Q	Batch: 18304667631A (Sample number(s): 9866461-9866462 )								
<b>Parameter</b>	<b>ME</b>	<b>Spike Added mg/kg</b>	<b>LCS Conc mg/kg</b>	<b>LCSD Conc mg/kg</b>	<b>LCS %Rec</b>	<b>LCSD %Rec</b>	<b>%Rec Limits</b>	<b>%RPD</b>	<b>%RPD Limits</b>
TOC Solids/Sludges Combustion	TOC	3890	4523.59	NA	116	NA	47-143	NA	NA

Fraction: Instrumental Wet Chemistry

02079: TOC Solids/Sludges Combustion Analyte Name	Default DL	Default LOD	Default LOQ	Units
TOC Solids/Sludges Combustion	100	200	300	mg/kg

# **Raw Data**

## **Instrumental Wet Chemistry**

Method: TC  
 Run Name: 18295-CAL  
 Analyst: *DG6676*  
 Run Start Date: 10/22/2018 10:36:39 AM  
 Run End Date: 10/22/2018 1:21:45 PM  
 Device ID: 17171

Sample ID	Result mg C abs	Weight ( mg )	Peak Area	Description	Result Flag	Analysed Date and time
SYNC	7.895	20	3041224.26		O	10/22/2018 11:32:08 AM
Blank	0.043	0	0		L	10/22/2018 11:45:39 AM
0.3 STD	0.357	1	121743.97		N	10/22/2018 11:58:35 AM
0.9 STD	0.903	3	332956.46		N	10/22/2018 12:11:31 PM
3.0 STD	2.886	10	1101334.32		N	10/22/2018 12:24:27 PM
6.0 STD	6.053	20	2328003.22		N	10/22/2018 12:37:24 PM
ICV 3.0	2.85	10	1087024.92		N	10/22/2018 12:50:20 PM <i>95%</i>
ICB	0.043	0	0		L	10/22/2018 1:03:16 PM

*[Signature]*  
 Drew Garbutt  
 Chemist

OCT 22 2018

*[Signature]*  
 Sandra J. Miller  
 Chemist

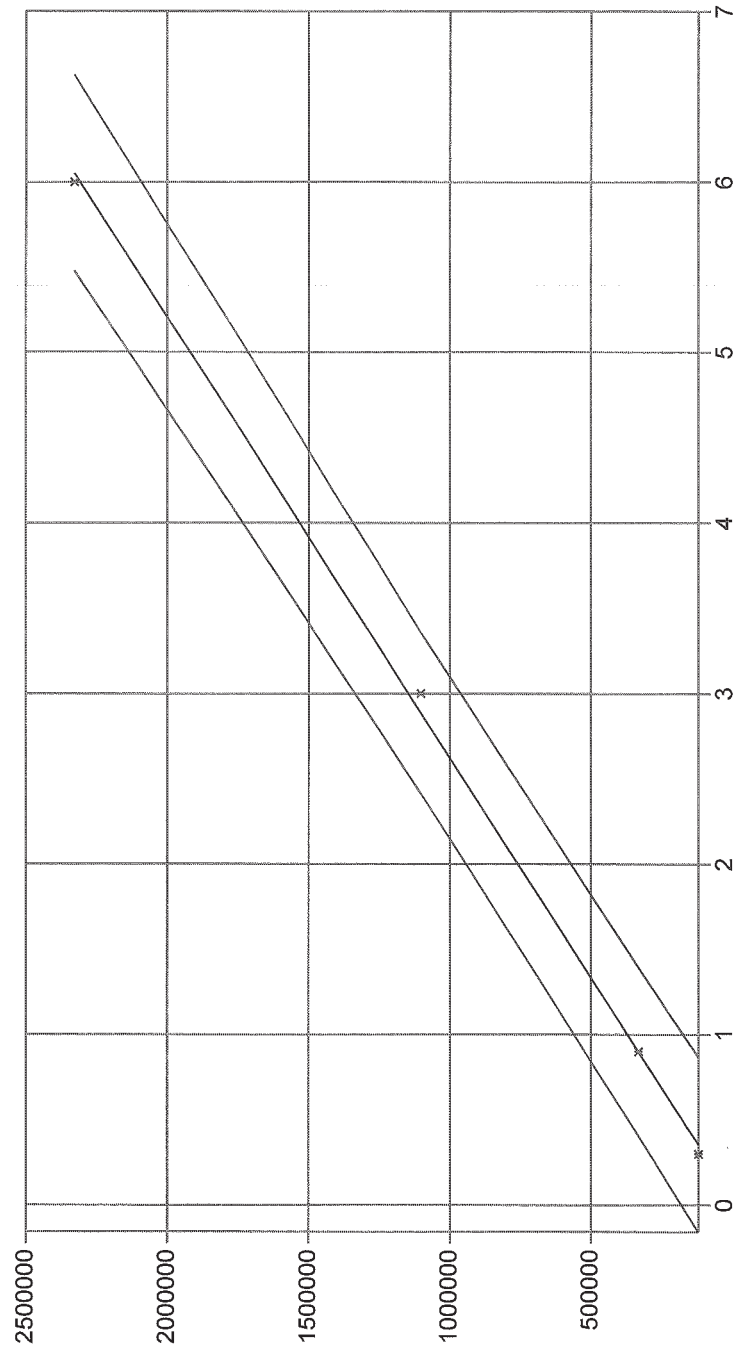
OCT 23 2018

Run Name: 18295-CAL  
Instrument: 17171  
Method: TC

Analyst: DG-6676  
Run Start Date: 10/22/2018 10:36:39 AM  
Run End Date: 10/22/2018 1:21:45 PM

**SNAccess**

**Method Name : TC Calibration Type : ISO First order Group : 1**  
**a = -16671.20769230750000 b = 387325.76478129700000 r = 0.99952152538827 R-Squared = 0.99904327971449**

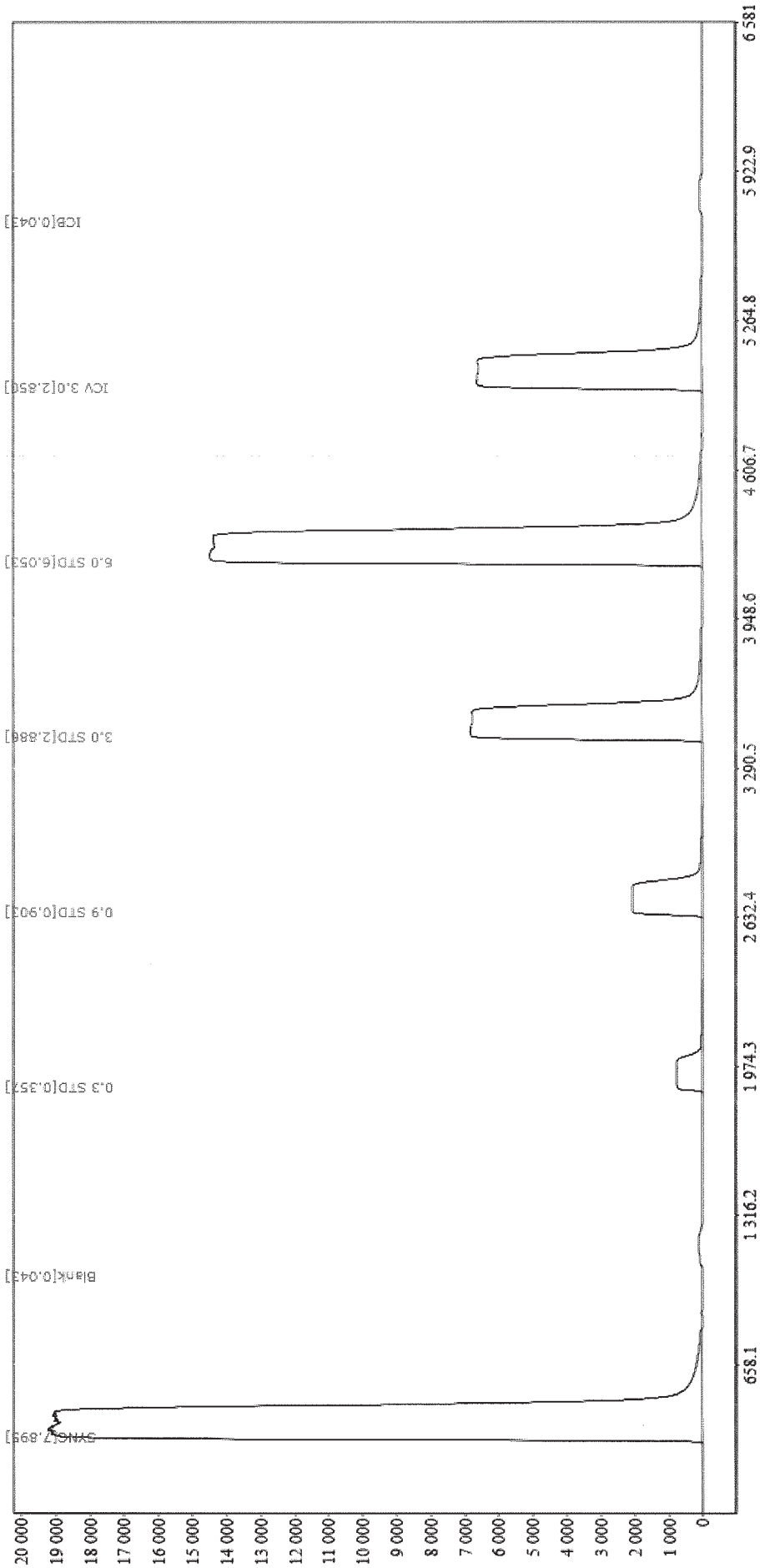


*Drew Gerhart*  
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Chemist

OCT 22 2018

*Sandra J. Miller*  
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OCT 23 2018



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OCT 22 2018

*Sandra J Miller*  
 Sandra J Miller  
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OCT 23 2018

Method: TC  
 Run Name: 18304-2  
 Analyst: DG-6676  
 Run Start Date: 10/31/2018 5:36:37 PM  
 Run End Date: 11/1/2018 8:09:27 AM  
 Device ID: 17171

Sample ID	Result mg C abs	Weight ( mg )	Peak Area	Description	Result Flag	Analysed Date and time
SYNC	0.305	49.1	101609.43		L	10/31/2018 5:37:05 PM
SOLID STD	0.542	106.8	193286.37		N	10/31/2018 5:50:01 PM TV=3890 5074.91 130% FS
CCB	0.043	0	0		L	10/31/2018 6:02:57 PM
PBS	0.043	0	0	18304667631A	L	10/31/2018 6:15:53 PM
LCSS	0.489	108.1	172675.61	18304667631A	N	10/31/2018 6:28:49 PM TV=3890 4523.59 116% FS
9863851	0.843	187.8	309892.81	18304667631A	N	10/31/2018 6:41:44 PM
9863852	2.199	55	835052.19	18304667631A	N	10/31/2018 6:54:40 PM
9863853-U	0.608	40.5	218743.89	18304667631A	N	10/31/2018 7:07:36 PM
9863854-R	7.634	22.7	2940220.71	18304667631A	O	10/31/2018 7:20:32 PM Repeat Double Spiked
9863856-D	0.562	40.2	200932.17	18304667631A	N	10/31/2018 7:33:28 PM
9863857	0.411	49.2	142428.91	18304667631A	N	10/31/2018 7:46:24 PM
9863858	0.516	59.8	183260.32	18304667631A	N	10/31/2018 7:59:20 PM
9866461	0.709	134.9	258086.66	18304667631A	N	10/31/2018 8:12:16 PM
SOLID STD	0.525	105.4	186721.29		N	10/31/2018 8:25:12 PM TV=3890 4981.02 128% FS
CCB	0.043	0	0		L	10/31/2018 8:38:07 PM
9866462	2.093	36.1	794136.07	18304667631A	N	10/31/2018 8:51:03 PM
9867848	2.423	261.9	921848.49	18304667631A	N	10/31/2018 9:03:59 PM
9867855	1.265	268.3	473484.65	18304667631A	N	10/31/2018 9:16:55 PM
9867856	1.306	242.2	489153.91	18304667631A	N	10/31/2018 9:29:51 PM
9867850-U	2.015	193.5	763695.78	18304667631B	N	10/31/2018 9:42:47 PM
9867851-R	3.863	95.9	1479734.09	18304667631B	N	10/31/2018 9:55:43 PM SA=31290 40281.54 95%
9867853-D	1.629	208.5	614422.84	18304667631B	N	10/31/2018 10:08:39 PM
9867882	0.885	313.9	326064.23	18304667631B	N	10/31/2018 10:21:34 PM
9867884	3.226	96.8	1232966.03	18304667631B	N	10/31/2018 10:34:30 PM
9867886	2.184	131.4	829387.81	18304667631B	N	10/31/2018 10:47:26 PM
SOLID STD	0.558	114.1	199375.37		N	10/31/2018 11:00:22 PM TV=3890 4890.45 126% FS
CCB	0.043	0	0		L	10/31/2018 11:13:12 PM
9867888	0.489	209	172863.63	18304667631B	N	10/31/2018 11:26:07 PM
9867892	0.913	294.8	337106.78	18304667631B	N	10/31/2018 11:39:03 PM
9867894	1.891	367.7	715940	18304667631B	N	10/31/2018 11:51:59 PM
9867896	1.138	276.1	423964.68	18304667631B	N	11/1/2018 12:04:55 AM
9867898	1.45	214.3	545084.28	18304667631B	N	11/1/2018 12:17:51 AM
9870436	0.824	218.3	302447.56	18304667631B	N	11/1/2018 12:30:47 AM

  
 Drew Gehart  
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 Joseph McKenzia  
 Chemist

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PBS	0.043	0	0.043	0	18304667632A	L	11/1/2018 12:43:43 AM
LCSS	0.492	119.1	173921.94	173921.94	18304667632A	N	11/1/2018 12:56:39 AM TV=3890 4130.98 106% IS
9870438	1.63	162.6	614547.09	614547.09	18304667632A	N	11/1/2018 1:09:35 AM
9870440	1.176	165.4	438715.29	438715.29	18304667632A	N	11/1/2018 1:22:31 AM
SOLID STD	0.45	106.9	157817.92	157817.92		N	11/1/2018 1:35:27 AM TV=3890 4209.54 108% IS
CCB	0.043	0	0	0		L	11/1/2018 1:48:23 AM
9870454	0.474	265.1	166848.78	166848.78	18304667632A	N	11/1/2018 2:01:19 AM
9870456	0.855	459.3	314497.04	314497.04	18304667632A	N	11/1/2018 2:14:16 AM
9870458	0.685	247.1	248692.77	248692.77	18304667632A	N	11/1/2018 2:27:19 AM
9870460	1.292	243.2	483926.03	483926.03	18304667632A	N	11/1/2018 2:40:15 AM
9870463	3.235	201.7	1236495.49	1236495.49	18304667632A	N	11/1/2018 2:53:11 AM
9871322-U	0.368	996.4	125860.64	125860.64	18304667632A	N	11/1/2018 3:06:07 AM
9871322-R	3.822	412.7	1463818.73	1463818.73	18304667632A	N	11/1/2018 3:19:04 AM SA=7260 9260.96 122%
9871322-D	0.382	996.5	131413.13	131413.13	18304667632A	N	11/1/2018 3:32:00 AM
9871323	5.692	996.2	2188136.78	2188136.78	18304667632A	N	11/1/2018 3:44:56 AM
9871324	0.348	998.5	118085.695	118085.695	18304667632A	L	11/1/2018 3:57:52 AM
SOLID STD	0.5	107.4	177031.28	177031.28		N	11/1/2018 4:10:48 AM TV=3890 4655.49 120% IS
CCB	0.043	0	0	0		L	11/1/2018 4:23:45 AM
9871325	24.381	999	9426619.53	9426619.53	18304667632B	O	11/1/2018 4:36:42 AM Repeat
9872009	2.368	203.2	900515.34	900515.34	18304667632B	N	11/1/2018 4:49:38 AM
9872011	3.823	283.4	1463988.58	1463988.58	18304667632B	N	11/1/2018 5:02:34 AM
9872013	1.708	197.7	645035.47	645035.47	18304667632B	N	11/1/2018 5:15:30 AM
9872016	3.151	292.7	1203694.05	1203694.05	18304667632B	N	11/1/2018 5:28:26 AM
9872018	3.868	357.6	1481340.78	1481340.78	18304667632B	N	11/1/2018 5:41:22 AM
9872021-U	1.886	354.1	713708.53	713708.53	18304667632B	N	11/1/2018 5:54:18 AM
9872022-R	6.383	114.1	2455783.11	2455783.11	18304667632B	O	11/1/2018 6:07:14 AM
9872024-D	1.949	340.9	738183.75	738183.75	18304667632B	N	11/1/2018 6:20:11 AM
9872026	0.583	231.4	208962.9	208962.9	18304667632B	N	11/1/2018 6:33:07 AM
SOLID STD	0.724	110.1	263725.91	263725.91		N	11/1/2018 6:46:03 AM TV=3890 6575.84 169% IS
CCB	0.043	0	0	0		L	11/1/2018 6:59:00 AM
9872028	1.583	82.6	596286.26	596286.26	18304667632B	N	11/1/2018 7:11:56 AM Repeat 005(3) DG06% 11-1-18
9872030	1.56	58.3	587635.31	587635.31	18304667632B	N	11/1/2018 7:24:52 AM
SOLID STD	0.537	107.1	191375.75	191375.75		N	11/1/2018 7:37:48 AM TV=3890 5014.01 129% IS
CCB	0.043	0	0	0		L	11/1/2018 7:50:45 AM

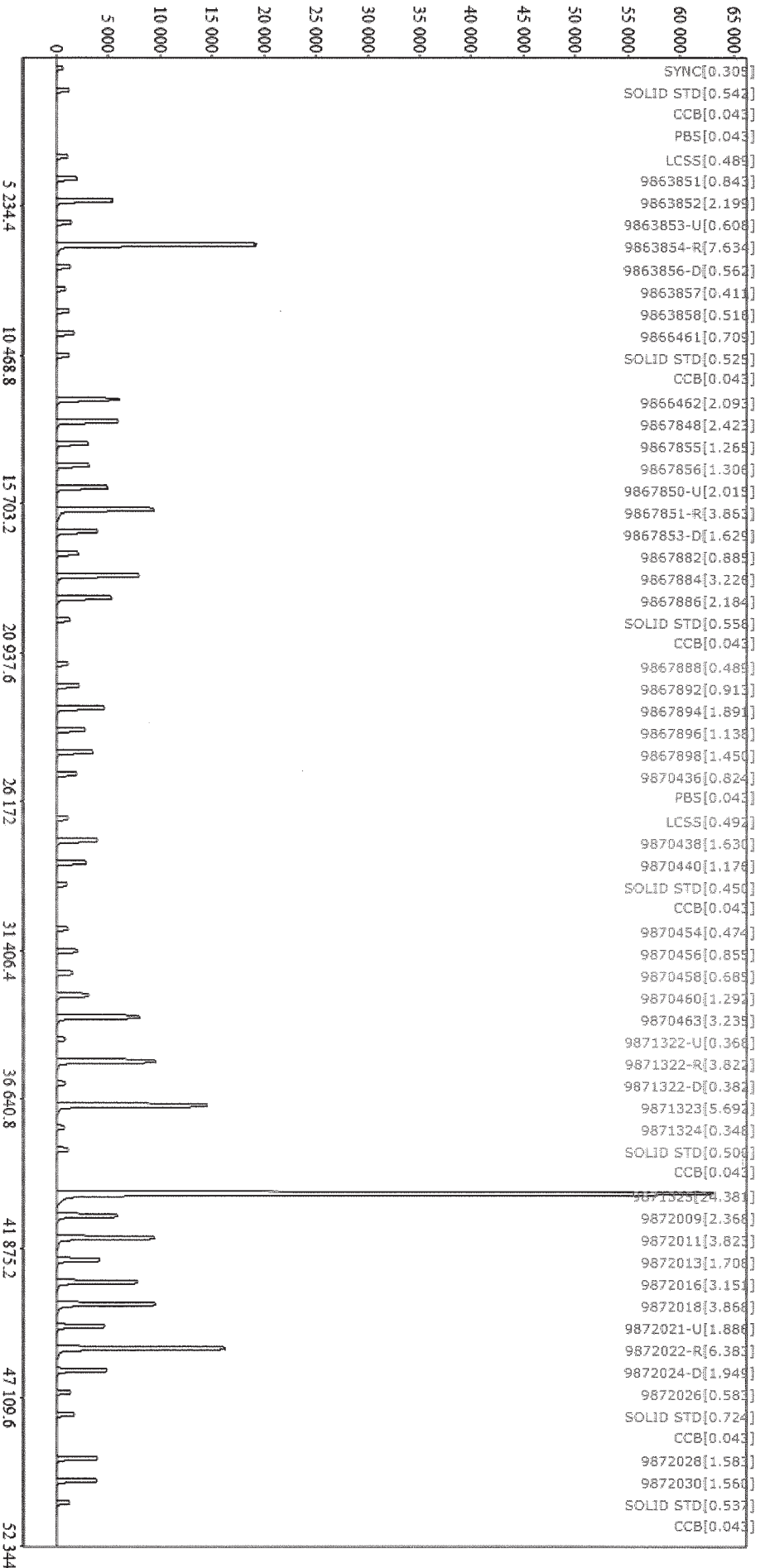
*Joseph McInerz*  
Joseph McInerz  
Chemist

*Erin M. Gerhart*  
Erin Gerhart  
Chemist

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*[Signature]*  
 Drew Gerhart  
 Chemist

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*[Signature]*  
 Joseph Iacono  
 Chemist

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# **Preparation Logs**

## **Instrumental Wet Chemistry**

Lancaster Laboratories  
Environmental

Document Title:

Combustion TOC Prep Log Analysis #2079, #0383

Eurofins Document Reference :  
T-WC-FRM10296Revision:  
4.1Historical Reference:  
1-P-QM-FOR-9010010; Form 2705

Effective date : 30 Dec 2016

Effective

③ DG6676 10-31-18

Phosphoric Lot # 102518/4-25-19

Oven ID# 974

Oven Temperature (°C) 77

Tray #: 1

Balance ID: 16862 Time In: 1705 Time Out: 1720

Position	Date	Analyst	Sample #	Weight (mg)	Batch Number	Comments
A1	10-31-18	DG6676	SYNC ③48.6	49.1		
A2			Solid Std	106.8		
A3			PBS	0.0	18304667631A	
A4			LCSS	108.1		
A5			9863851	187.8		36A Rocky
A6			9863852	55.0		36A
A7			9863853-U	40.5		36A
A8			9863854-R	22.7		36A Repeat. Double spiked
B1			9863856-D	40.2		36A
B2			9863857	49.2		36A
B3			9863858	59.8		36A
B4			③ 986386461	134.9		36A
B5			Solid Std	105.4		
B6			9866462	36.1	18304667631A <del>18304667631B</del> ③	36A
B7			9867848	261.9		34A
B8			9867855	268.3		34A
C1			9867856	242.2		34A
C2			9867850-U	193.5	18304667631B	34A
C3			9867851-R	95.9		34A
C4			9867853-D	208.5		34A
C5			9867882	313.9		34A
C6			9867884	96.8		34A
C7			9867886	131.4		34A
C8			Solid Std	114.1		

Verified by: JBWAZIS

Date: 11/1/18

# Moisture Data

**MOISTURE**

**SAMPLE NUMBERS:**

<u>Sample #</u>	<u>Sample Code</u>
9866461	T0902
9866462	T0903
9866463	T0904
9866464	T0905
9866465	T0906
9866466	T0907
9866467	T0908FD

**COMMENTS:**

Method defined actions are taken for any failed matrix QC.

**Laboratory Compliance Quality Control**

<u>Analysis Name</u>	<u>LCS</u>	<u>LCSD</u>	<u>LCS/LCSD</u>	<u>RPD</u>	<u>RPD Max</u>
	<u>%REC</u>	<u>%REC</u>	<u>Limits</u>		
Batch number: 18298820005B			Sample number(s): 9866461-9866467		
Moisture	100		99-101		

**Sample Matrix Quality Control**

<u>Analysis Name</u>	<u>BKG</u>	<u>DUP</u>	<u>RPD</u>	<u>RPD Max</u>
	<u>Conc</u>	<u>Conc</u>		
Batch number: 18298820005B			Sample number(s): 9866461-9866467	
Moisture	13.0	12.2	7*	5

\* - Outside of specification

(1) - The result for one or both determinations was less than five times the LOQ.

**Moisture Data Report**

Batch #: 18298820005

<u>Sample ID</u>	<u>Batch ID</u>	<u>Analysis#</u>	<u>Tare Wt</u>	<u>Sample</u>		<u>%Moisture</u>	<u>Analysis</u>	<u>Verified</u>
				<u>Wt</u>	<u>Dry Wt</u>		<u>Date (Emp#)</u>	<u>Date (Emp#)</u>
9866461	B	00111	1.1702	5.7918	5.5314	24.70	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866462	B	00111	1.1730	5.8682	4.9793	35.14	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866463	B	00111	1.1577	5.6100	6.3939	6.66	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866464BKG	B	00111	1.0316	5.5296	5.8415	13.02	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866464DUP	B	00111	1.1214	5.5682	6.0107	12.19	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866465	B	00111	1.1019	5.3720	6.1620	5.81	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866466	B	00111	1.1102	5.3466	5.6781	14.56	10/25/18 (835/LEB)	10/26/18 (236/CW)
9866467FD	B	00111	1.1627	5.1984	5.6089	14.47	10/25/18 (835/LEB)	10/26/18 (236/CW)
LCS 89.5% Std.		00111	1.1462	5.0240	1.6769	89.44	10/25/18 (835/LEB)	10/26/18 (236/CW)