

February 04, 2020

**Vista Work Order No. 1904207**

Ms. Delaney Peterson  
Anchor QEA, LLC  
720 Olive Way, Suite 1900  
Seattle, WA 98101

Dear Ms. Peterson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on November 26, 2019 under your Project Name 'Gasco-PDI 000029-02.59'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at [mmaier@vista-analytical.com](mailto:mmaier@vista-analytical.com).

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier  
Laboratory Director



*Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.*

**Vista Work Order No. 1904207**

**Case Narrative**

**Sample Condition on Receipt:**

Six sediment samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

**Analytical Notes:**

**EPA Method 1613B**

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-5MS GC column. The confirmation for 2,3,7,8-TCDF was performed using a DB-225 GC column.

**Holding Times**

These samples were extracted and analyzed within the method hold times.

**Quality Control**

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with each preparation batch. No analytes were detected in the Method Blanks. The OPR recoveries were within the method acceptance criteria.

As requested, a Duplicate was performed on sample "PDI-074SC-A-08-09-191012". The Duplicate RPDs were within acceptance criteria.

Labeled standard recoveries for all QC and field samples were within method acceptance criteria.

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# Sample Inventory Report

<b>Vista Sample ID</b>	<b>Client Sample ID</b>	<b>Sampled</b>	<b>Received</b>	<b>Components/Containers</b>
1904207-01	PDI-074SC-A-08-09-191012	12-Oct-19 09:54	26-Nov-19 08:55	Amber Glass, 120 mL
1904207-02	PDI-074SC-A-09-10-191012	12-Oct-19 09:54	26-Nov-19 08:55	Amber Glass, 120 mL
1904207-03	PDI-076SC-A-04-05-191013	13-Oct-19 13:08	26-Nov-19 08:55	Amber Glass, 120 mL
1904207-04	PDI-076SC-A-05-06-191013	13-Oct-19 13:08	26-Nov-19 08:55	Amber Glass, 120 mL
1904207-05	PDI-077SC-A-00-01-191014	14-Oct-19 08:36	26-Nov-19 08:55	Amber Glass, 120 mL
1904207-06	PDI-077SC-A-01-02-191014	14-Oct-19 08:36	26-Nov-19 08:55	Amber Glass, 120 mL

## **ANALYTICAL RESULTS**

Sample ID: Method Blank					EPA Method 1613B			
Matrix: Solid Sample Size: 1.00 g		QC Batch: B0A0133 Date Extracted: 20-Jan-2020 8:48		Lab Sample: B0A0133-BLK1 Date Analyzed: 01-Feb-20 02:13 Column: ZB-5MS				
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.390			IS 13C-2,3,7,8-TCDD	103	25 - 164	
1,2,3,7,8-PeCDD	ND	0.551			13C-1,2,3,7,8-PeCDD	105	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.440			13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.482			13C-1,2,3,6,7,8-HxCDD	93.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.517			13C-1,2,3,7,8,9-HxCDD	96.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.871			13C-1,2,3,4,6,7,8-HpCDD	91.1	23 - 140	
OCDD	2.24			J	13C-OCDD	77.3	17 - 157	
2,3,7,8-TCDF	ND	0.296			13C-2,3,7,8-TCDF	98.4	24 - 169	
1,2,3,7,8-PeCDF	ND		0.370		13C-1,2,3,7,8-PeCDF	106	24 - 185	
2,3,4,7,8-PeCDF	0.370			J	13C-2,3,4,7,8-PeCDF	107	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.361			13C-1,2,3,4,7,8-HxCDF	97.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.332			13C-1,2,3,6,7,8-HxCDF	99.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.356			13C-2,3,4,6,7,8-HxCDF	97.6	28 - 136	
1,2,3,7,8,9-HxCDF	1.17			J	13C-1,2,3,7,8,9-HxCDF	94.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.719			13C-1,2,3,4,6,7,8-HpCDF	89.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.809			13C-1,2,3,4,7,8,9-HpCDF	90.9	26 - 138	
OCDF	1.69			J	13C-OCDF	78.4	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	107	35 - 197	
					<b>Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)</b>			
					TEQMinWHO2005Dioxin	0.229		
<b>TOTALS</b>								
Total TCDD	ND	0.390						
Total PeCDD	ND		0.798					
Total HxCDD	ND	0.517						
Total HpCDD	ND	0.871						
Total TCDF	ND	0.296						
Total PeCDF	0.370		0.740					
Total HxCDF	1.17							
Total HpCDF	ND	0.809						

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: OPR					EPA Method 1613B		
Matrix: Solid Sample Size: 1.00 g		QC Batch: B0A0133 Date Extracted: 20-Jan-2020 8:48		Lab Sample: B0A0133-BS1 Date Analyzed: 31-Jan-20 23:52 Column: ZB-5MS			
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	184	200	91.8	67 - 158	IS 13C-2,3,7,8-TCDD	104	20 - 175
1,2,3,7,8-PeCDD	915	1000	91.5	70 - 142	13C-1,2,3,7,8-PeCDD	108	21 - 227
1,2,3,4,7,8-HxCDD	912	1000	91.2	70 - 164	13C-1,2,3,4,7,8-HxCDD	100	21 - 193
1,2,3,6,7,8-HxCDD	946	1000	94.6	76 - 134	13C-1,2,3,6,7,8-HxCDD	95.9	25 - 163
1,2,3,7,8,9-HxCDD	925	1000	92.5	64 - 162	13C-1,2,3,7,8,9-HxCDD	97.4	21 - 193
1,2,3,4,6,7,8-HpCDD	910	1000	91.0	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	90.4	26 - 166
OCDD	1870	2000	93.4	78 - 144	13C-OCDD	76.8	13 - 199
2,3,7,8-TCDF	181	200	90.5	75 - 158	13C-2,3,7,8-TCDF	98.8	22 - 152
1,2,3,7,8-PeCDF	928	1000	92.8	80 - 134	13C-1,2,3,7,8-PeCDF	109	21 - 192
2,3,4,7,8-PeCDF	938	1000	93.8	68 - 160	13C-2,3,4,7,8-PeCDF	109	13 - 328
1,2,3,4,7,8-HxCDF	924	1000	92.4	72 - 134	13C-1,2,3,4,7,8-HxCDF	101	19 - 202
1,2,3,6,7,8-HxCDF	929	1000	92.9	84 - 130	13C-1,2,3,6,7,8-HxCDF	101	21 - 159
2,3,4,6,7,8-HxCDF	927	1000	92.7	70 - 156	13C-2,3,4,6,7,8-HxCDF	99.4	22 - 176
1,2,3,7,8,9-HxCDF	907	1000	90.7	78 - 130	13C-1,2,3,7,8,9-HxCDF	97.1	17 - 205
1,2,3,4,6,7,8-HpCDF	920	1000	92.0	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	89.9	21 - 158
1,2,3,4,7,8,9-HpCDF	931	1000	93.1	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	91.6	20 - 186
OCDF	1850	2000	92.7	63 - 170	13C-OCDF	79.2	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	103	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: Method Blank					EPA Method 1613B				
Matrix: Solid Sample Size: 10.0 g		QC Batch: B9L0200 Date Extracted: 18-Dec-2019 6:38		Lab Sample: B9L0200-BLK1 Date Analyzed: 10-Jan-20 01:54 Column: ZB-5MS					
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.0552			IS 13C-2,3,7,8-TCDD	94.6	25 - 164		
1,2,3,7,8-PeCDD	ND	0.0603			13C-1,2,3,7,8-PeCDD	95.7	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.0997			13C-1,2,3,4,7,8-HxCDD	103	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.111			13C-1,2,3,6,7,8-HxCDD	90.6	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.111			13C-1,2,3,7,8,9-HxCDD	94.5	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	0.108			13C-1,2,3,4,6,7,8-HpCDD	96.9	23 - 140		
OCDD	ND	0.108			13C-OCDD	98.0	17 - 157		
2,3,7,8-TCDF	ND	0.0435			13C-2,3,7,8-TCDF	89.2	24 - 169		
1,2,3,7,8-PeCDF	ND	0.0728			13C-1,2,3,7,8-PeCDF	98.2	24 - 185		
2,3,4,7,8-PeCDF	ND	0.0631			13C-2,3,4,7,8-PeCDF	100	21 - 178		
1,2,3,4,7,8-HxCDF	ND	0.0454			13C-1,2,3,4,7,8-HxCDF	106	26 - 152		
1,2,3,6,7,8-HxCDF	ND	0.0469			13C-1,2,3,6,7,8-HxCDF	95.3	26 - 123		
2,3,4,6,7,8-HxCDF	ND	0.0513			13C-2,3,4,6,7,8-HxCDF	96.9	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.0761			13C-1,2,3,7,8,9-HxCDF	102	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	0.0626			13C-1,2,3,4,6,7,8-HpCDF	89.7	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	0.0567			13C-1,2,3,4,7,8,9-HpCDF	97.5	26 - 138		
OCDF	ND	0.0930			13C-OCDF	101	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	83.2	35 - 197		
					<b>Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)</b>				
					TEQMinWHO2005Dioxin		0.00		
<b>TOTALS</b>									
Total TCDD	ND	0.0552							
Total PeCDD	ND	0.0603							
Total HxCDD	ND	0.108							
Total HpCDD	ND	0.108							
Total TCDF	ND	0.0435							
Total PeCDF	ND	0.0678							
Total HxCDF	ND	0.0542							
Total HpCDF	ND	0.0599							

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

The results are reported in dry weight. The sample size is reported in wet weight.

Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.



Sample ID: OPR					EPA Method 1613B		
Matrix: Solid Sample Size: 10.0 g		QC Batch: B9L0200 Date Extracted: 18-Dec-2019 6:38		Lab Sample: B9L0200-BS1 Date Analyzed: 09-Jan-20 23:30 Column: ZB-5MS			
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	20.9	20.0	105	67 - 158	IS 13C-2,3,7,8-TCDD	90.4	20 - 175
1,2,3,7,8-PeCDD	107	100	107	70 - 142	13C-1,2,3,7,8-PeCDD	95.6	21 - 227
1,2,3,4,7,8-HxCDD	100	100	100	70 - 164	13C-1,2,3,4,7,8-HxCDD	99.3	21 - 193
1,2,3,6,7,8-HxCDD	101	100	101	76 - 134	13C-1,2,3,6,7,8-HxCDD	87.6	25 - 163
1,2,3,7,8,9-HxCDD	102	100	102	64 - 162	13C-1,2,3,7,8,9-HxCDD	90.9	21 - 193
1,2,3,4,6,7,8-HpCDD	94.0	100	94.0	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	103	26 - 166
OCDD	197	200	98.5	78 - 144	13C-OCDD	97.1	13 - 199
2,3,7,8-TCDF	19.0	20.0	95.0	75 - 158	13C-2,3,7,8-TCDF	86.0	22 - 152
1,2,3,7,8-PeCDF	105	100	105	80 - 134	13C-1,2,3,7,8-PeCDF	91.4	21 - 192
2,3,4,7,8-PeCDF	103	100	103	68 - 160	13C-2,3,4,7,8-PeCDF	95.0	13 - 328
1,2,3,4,7,8-HxCDF	89.3	100	89.3	72 - 134	13C-1,2,3,4,7,8-HxCDF	101	19 - 202
1,2,3,6,7,8-HxCDF	88.7	100	88.7	84 - 130	13C-1,2,3,6,7,8-HxCDF	93.7	21 - 159
2,3,4,6,7,8-HxCDF	91.0	100	91.0	70 - 156	13C-2,3,4,6,7,8-HxCDF	94.2	22 - 176
1,2,3,7,8,9-HxCDF	90.1	100	90.1	78 - 130	13C-1,2,3,7,8,9-HxCDF	100	17 - 205
1,2,3,4,6,7,8-HpCDF	86.8	100	86.8	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	91.5	21 - 158
1,2,3,4,7,8,9-HpCDF	84.6	100	84.6	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	101	20 - 186
OCDF	175	200	87.4	63 - 170	13C-OCDF	100	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	81.1	31 - 191

LCL-UCL - Lower control limit - upper control limit

**Sample ID: PDI-074SC-A-08-09-191012** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-01      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 14.1 g	QC Batch: B9L0200      Date Extracted: 18-Dec-2019 6:38
Date Collected: 12-Oct-2019 9:54	% Solids: 71.2	Date Analyzed: 11-Jan-20 06:56      Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.210			IS 13C-2,3,7,8-TCDD	97.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.262			13C-1,2,3,7,8-PeCDD	91.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.299			13C-1,2,3,4,7,8-HxCDD	90.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.323			13C-1,2,3,6,7,8-HxCDD	75.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.344			13C-1,2,3,7,8,9-HxCDD	77.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	5.47				13C-1,2,3,4,6,7,8-HpCDD	82.0	23 - 140	
OCDD	48.1				13C-OCDD	71.1	17 - 157	
2,3,7,8-TCDF	ND		0.278		13C-2,3,7,8-TCDF	91.4	24 - 169	
1,2,3,7,8-PeCDF	ND		0.512		13C-1,2,3,7,8-PeCDF	96.0	24 - 185	
2,3,4,7,8-PeCDF	ND		0.119		13C-2,3,4,7,8-PeCDF	92.4	21 - 178	
1,2,3,4,7,8-HxCDF	ND		0.917		13C-1,2,3,4,7,8-HxCDF	95.9	26 - 152	
1,2,3,6,7,8-HxCDF	0.251			J	13C-1,2,3,6,7,8-HxCDF	86.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.292			13C-2,3,4,6,7,8-HxCDF	82.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.411			13C-1,2,3,7,8,9-HxCDF	90.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	0.741			J	13C-1,2,3,4,6,7,8-HpCDF	76.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.428			13C-1,2,3,4,7,8,9-HpCDF	86.2	26 - 138	
OCDF	2.02			J	13C-OCDF	75.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	85.3	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**

TEQMinWHO2005Dioxin      0.102

<b>TOTALS</b>			
Total TCDD	0.787		
Total PeCDD	ND	0.521	
Total HxCDD	2.18		
Total HpCDD	12.9		
Total TCDF	0.311	0.589	
Total PeCDF	0.316	1.33	
Total HxCDF	0.646	1.82	
Total HpCDF	2.28		

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

Sample ID: Duplicate					EPA Method 1613B				
Source Client ID: PDI-074SC-A-08-09-191012		QC Batch: B9L0200		Lab Sample: B9L0200-DUP2					
Source LabNumber: 1904207-01		Date Extracted: 18-Dec-2019 6:38		Date Analyzed: 11-Jan-20 06:08 Column: ZB-5MS					
Matrix: Solid									
Sample Size: 14.1 g									
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.196			IS 13C-2,3,7,8-TCDD	104	25 - 164		
1,2,3,7,8-PeCDD	ND	0.229			13C-1,2,3,7,8-PeCDD	105	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.364			13C-1,2,3,4,7,8-HxCDD	105	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.365			13C-1,2,3,6,7,8-HxCDD	95.1	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.407			13C-1,2,3,7,8,9-HxCDD	96.2	32 - 141		
1,2,3,4,6,7,8-HpCDD	5.29				13C-1,2,3,4,6,7,8-HpCDD	109	23 - 140		
OCDD	47.2				13C-OCDD	105	17 - 157		
2,3,7,8-TCDF	ND		0.436		13C-2,3,7,8-TCDF	100	24 - 169		
1,2,3,7,8-PeCDF	0.474			J	13C-1,2,3,7,8-PeCDF	110	24 - 185		
2,3,4,7,8-PeCDF	ND		0.103		13C-2,3,4,7,8-PeCDF	108	21 - 178		
1,2,3,4,7,8-HxCDF	0.936			J	13C-1,2,3,4,7,8-HxCDF	117	26 - 152		
1,2,3,6,7,8-HxCDF	ND		0.218		13C-1,2,3,6,7,8-HxCDF	105	26 - 123		
2,3,4,6,7,8-HxCDF	ND	0.203			13C-2,3,4,6,7,8-HxCDF	100	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.302			13C-1,2,3,7,8,9-HxCDF	107	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	0.310			13C-1,2,3,4,6,7,8-HpCDF	99.9	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	0.286			13C-1,2,3,4,7,8,9-HpCDF	107	26 - 138		
OCDF	1.87			J	13C-OCDF	107	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	91.2	35 - 197		
					<b>Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)</b>				
					TEQMinWHO2005Dioxin		0.175		
<b>TOTALS</b>									
Total TCDD	0.465								
Total PeCDD	ND	0.229							
Total HxCDD	1.22		1.68						
Total HpCDD	12.7								
Total TCDF	0.387		0.824						
Total PeCDF	0.853		1.46						
Total HxCDF	1.00		1.52						
Total HpCDF	1.47		1.48						

DL - Sample specific estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL - Lower control limit - upper control limit

The results are reported in dry weight.

The sample size is reported in wet weight.

Sample ID: Duplicate					EPA Method 1613B				
Source Client ID: PDI-074SC-A-08-09-191012					Duplicate Lab Sample: B9L0200-DUP2				
Source LabNumber: 1904207-01									
Matrix: Solid									
Analyte	Dup Conc. (pg/g )	Source Conc.	RPD	RPD Limits	Labeled Standard	Dup %R	Source %R	LCL-UCL	
2,3,7,8-TCDD	ND	ND	NA	25	IS 13C-2,3,7,8-TCDD	104	97.7	25 - 164	
1,2,3,7,8-PeCDD	ND	ND	NA	25	13C-1,2,3,7,8-PeCDD	105	91.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,4,7,8-HxCDD	105	90.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,6,7,8-HxCDD	95.1	75.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDD	96.2	77.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	5.29	5.47	3.37	25	13C-1,2,3,4,6,7,8-HpCDD	109	82.0	23 - 140	
OCDD	47.2	48.1	1.85	25	13C-OCDD	105	71.1	17 - 157	
2,3,7,8-TCDF	ND	ND	NA	25	13C-2,3,7,8-TCDF	100	91.4	24 - 169	
1,2,3,7,8-PeCDF	0.474	ND	#	25	13C-1,2,3,7,8-PeCDF	110	96.0	24 - 185	
2,3,4,7,8-PeCDF	ND	ND	NA	25	13C-2,3,4,7,8-PeCDF	108	92.4	21 - 178	
1,2,3,4,7,8-HxCDF	0.936	ND	#	25	13C-1,2,3,4,7,8-HxCDF	117	95.9	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.251	#	25	13C-1,2,3,6,7,8-HxCDF	105	86.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND	ND	NA	25	13C-2,3,4,6,7,8-HxCDF	100	82.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDF	107	90.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.741	#	25	13C-1,2,3,4,6,7,8-HpCDF	99.9	76.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	ND	NA	25	13C-1,2,3,4,7,8,9-HpCDF	107	86.2	26 - 138	
OCDF	1.87	2.02	7.47	25	13C-OCDF	107	75.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	91.2	85.3	35 - 197	

LCL-UCL - Lower control limit - upper control limit  
The results are reported in dry weight.  
The sample size is reported in wet weight. Results reported to the MDL

**Sample ID: PDI-074SC-A-09-10-191012** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-02      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 11.1 g	QC Batch: B9L0200      Date Extracted: 18-Dec-2019 6:38
Date Collected: 12-Oct-2019 9:54	% Solids: 90.8	Date Analyzed: 11-Jan-20 07:44      Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.158			IS 13C-2,3,7,8-TCDD	97.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.204			13C-1,2,3,7,8-PeCDD	91.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.420			13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.474			13C-1,2,3,6,7,8-HxCDD	91.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.505			13C-1,2,3,7,8,9-HxCDD	91.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	2.80				13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
OCDD	22.6				13C-OCDD	96.0	17 - 157	
2,3,7,8-TCDF	ND	0.160			13C-2,3,7,8-TCDF	92.7	24 - 169	
1,2,3,7,8-PeCDF	ND		0.211		13C-1,2,3,7,8-PeCDF	103	24 - 185	
2,3,4,7,8-PeCDF	ND	0.148			13C-2,3,4,7,8-PeCDF	101	21 - 178	
1,2,3,4,7,8-HxCDF	ND		0.268		13C-1,2,3,4,7,8-HxCDF	111	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.145			13C-1,2,3,6,7,8-HxCDF	101	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.168			13C-2,3,4,6,7,8-HxCDF	98.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.271			13C-1,2,3,7,8,9-HxCDF	99.0	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.236			13C-1,2,3,4,6,7,8-HpCDF	98.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.226			13C-1,2,3,4,7,8,9-HpCDF	103	26 - 138	
OCDF	0.531			J	13C-OCDF	99.0	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	82.7	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**  
 TEQMinWHO2005Dioxin      0.0349

<b>TOTALS</b>								
Total TCDD	ND	0.158						
Total PeCDD	ND	0.204						
Total HxCDD	1.06							
Total HpCDD	7.66							
Total TCDF	ND	0.160						
Total PeCDF	ND		0.211					
Total HxCDF	ND		0.268					
Total HpCDF	ND	0.236						

DL - Sample specific estimated detection limit  
 EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
 The results are reported in dry weight. The sample size is reported in wet weight.  
 Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

**Sample ID: PDI-076SC-A-04-05-191013** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-03      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 15.2 g	QC Batch: B9L0200      Date Extracted: 18-Dec-2019 6:38
Date Collected: 13-Oct-2019 13:08	% Solids: 65.9	Date Analyzed : 11-Jan-20 08:32 Column: ZB-5MS 31-Jan-20 23:13 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND		0.634		IS 13C-2,3,7,8-TCDD	96.2	25 - 164	
1,2,3,7,8-PeCDD	ND		0.966		13C-1,2,3,7,8-PeCDD	92.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND		0.820		13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	4.77				13C-1,2,3,6,7,8-HxCDD	83.8	28 - 130	
1,2,3,7,8,9-HxCDD	2.17			J	13C-1,2,3,7,8,9-HxCDD	88.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	90.0				13C-1,2,3,4,6,7,8-HpCDD	99.0	23 - 140	
OCDD	1100				13C-OCDD	91.8	17 - 157	
2,3,7,8-TCDF	87.3				13C-2,3,7,8-TCDF	90.9	24 - 169	
1,2,3,7,8-PeCDF	259				13C-1,2,3,7,8-PeCDF	102	24 - 185	
2,3,4,7,8-PeCDF	91.7				13C-2,3,4,7,8-PeCDF	100	21 - 178	
1,2,3,4,7,8-HxCDF	315				13C-1,2,3,4,7,8-HxCDF	112	26 - 152	
1,2,3,6,7,8-HxCDF	81.0				13C-1,2,3,6,7,8-HxCDF	97.2	26 - 123	
2,3,4,6,7,8-HxCDF	22.7				13C-2,3,4,6,7,8-HxCDF	93.8	28 - 136	
1,2,3,7,8,9-HxCDF	18.2				13C-1,2,3,7,8,9-HxCDF	97.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	128				13C-1,2,3,4,6,7,8-HpCDF	96.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	51.1				13C-1,2,3,4,7,8,9-HpCDF	99.9	26 - 138	
OCDF	206				13C-OCDF	97.5	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	90.1	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**  
TEQMinWHO2005Dioxin      91.5

<b>TOTALS</b>			
Total TCDD	0.504		2.45
Total PeCDD	2.66		6.01
Total HxCDD	36.2		37.0
Total HpCDD	192		
Total TCDF	211		222
Total PeCDF	599		
Total HxCDF	534		535
Total HpCDF	261		264

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

**Sample ID: PDI-076SC-A-05-06-191013** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-04      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 1.70 g	QC Batch: B0A0133      Date Extracted: 20-Jan-2020 8:48
Date Collected: 13-Oct-2019 13:08	% Solids: 60.4	Date Analyzed : 01-Feb-20 05:21 Column: ZB-5MS 31-Jan-20 06:42 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND		2.25		IS 13C-2,3,7,8-TCDD	100	25 - 164	
1,2,3,7,8-PeCDD	ND		2.98		13C-1,2,3,7,8-PeCDD	110	25 - 181	
1,2,3,4,7,8-HxCDD	4.11			J	13C-1,2,3,4,7,8-HxCDD	96.6	32 - 141	
1,2,3,6,7,8-HxCDD	27.9				13C-1,2,3,6,7,8-HxCDD	95.6	28 - 130	
1,2,3,7,8,9-HxCDD	10.9			J	13C-1,2,3,7,8,9-HxCDD	97.8	32 - 141	
1,2,3,4,6,7,8-HpCDD	1160				13C-1,2,3,4,6,7,8-HpCDD	102	23 - 140	
OCDD	12500			B	13C-OCDD	80.3	17 - 157	
2,3,7,8-TCDF	171				13C-2,3,7,8-TCDF	93.3	24 - 169	
1,2,3,7,8-PeCDF	285				13C-1,2,3,7,8-PeCDF	112	24 - 185	
2,3,4,7,8-PeCDF	131			B	13C-2,3,4,7,8-PeCDF	105	21 - 178	
1,2,3,4,7,8-HxCDF	505				13C-1,2,3,4,7,8-HxCDF	95.2	26 - 152	
1,2,3,6,7,8-HxCDF	135				13C-1,2,3,6,7,8-HxCDF	86.9	26 - 123	
2,3,4,6,7,8-HxCDF	37.3				13C-2,3,4,6,7,8-HxCDF	101	28 - 136	
1,2,3,7,8,9-HxCDF	46.4			B	13C-1,2,3,7,8,9-HxCDF	107	29 - 147	
1,2,3,4,6,7,8-HpCDF	339				13C-1,2,3,4,6,7,8-HpCDF	95.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	103				13C-1,2,3,4,7,8,9-HpCDF	98.8	26 - 138	
OCDF	889			B	13C-OCDF	79.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	99.7	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**

TEQMinWHO2005Dioxin      162

<b>TOTALS</b>								
Total TCDD	10.9		17.8					
Total PeCDD	18.1		37.1					
Total HxCDD	272		274					
Total HpCDD	2550							
Total TCDF	605		637					
Total PeCDF	832		834	B				
Total HxCDF	981			B				
Total HpCDF	937							

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

**Sample ID: PDI-077SC-A-00-01-191014** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-05      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 20.7 g	QC Batch: B9L0200      Date Extracted: 18-Dec-2019 6:38
Date Collected: 14-Oct-2019 8:36	% Solids: 48.3	Date Analyzed : 11-Jan-20 10:08 Column: ZB-5MS 31-Jan-20 20:34 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND		0.399		IS 13C-2,3,7,8-TCDD	101	25 - 164	
1,2,3,7,8-PeCDD	ND	0.319			13C-1,2,3,7,8-PeCDD	98.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.547			13C-1,2,3,4,7,8-HxCDD	105	32 - 141	
1,2,3,6,7,8-HxCDD	2.94				13C-1,2,3,6,7,8-HxCDD	86.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND		0.769		13C-1,2,3,7,8,9-HxCDD	90.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	41.6				13C-1,2,3,4,6,7,8-HpCDD	101	23 - 140	
OCDD	414				13C-OCDD	93.2	17 - 157	
2,3,7,8-TCDF	7.41				13C-2,3,7,8-TCDF	92.7	24 - 169	
1,2,3,7,8-PeCDF	29.0				13C-1,2,3,7,8-PeCDF	106	24 - 185	
2,3,4,7,8-PeCDF	8.30				13C-2,3,4,7,8-PeCDF	103	21 - 178	
1,2,3,4,7,8-HxCDF	60.5				13C-1,2,3,4,7,8-HxCDF	110	26 - 152	
1,2,3,6,7,8-HxCDF	13.4				13C-1,2,3,6,7,8-HxCDF	96.7	26 - 123	
2,3,4,6,7,8-HxCDF	3.44				13C-2,3,4,6,7,8-HxCDF	94.0	28 - 136	
1,2,3,7,8,9-HxCDF	ND		2.98		13C-1,2,3,7,8,9-HxCDF	95.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	45.2				13C-1,2,3,4,6,7,8-HpCDF	98.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	10.6				13C-1,2,3,4,7,8,9-HpCDF	101	26 - 138	
OCDF	62.6				13C-OCDF	99.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	88.5	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**

TEQMinWHO2005Dioxin      13.2

<b>TOTALS</b>		
Total TCDD	2.10	2.49
Total PeCDD	1.34	1.58
Total HxCDD	16.9	18.2
Total HpCDD	90.9	
Total TCDF	22.5	24.9
Total PeCDF	67.0	69.6
Total HxCDF	94.8	97.7
Total HpCDF	77.6	

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.



**Sample ID: PDI-077SC-A-01-02-191014** **EPA Method 1613B**

<b>Client Data</b>	<b>Sample Data</b>	<b>Laboratory Data</b>
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1904207-06      Date Received: 26-Nov-2019 8:55
Project: Gasco-PDI 000029-02.59	Sample Size: 19.7 g	QC Batch: B9L0200      Date Extracted: 18-Dec-2019 6:38
Date Collected: 14-Oct-2019 8:36	% Solids: 50.8	Date Analyzed : 11-Jan-20 10:56 Column: ZB-5MS 31-Jan-20 21:06 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.234			IS 13C-2,3,7,8-TCDD	88.2	25 - 164	
1,2,3,7,8-PeCDD	ND		0.435		13C-1,2,3,7,8-PeCDD	89.7	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.537			13C-1,2,3,4,7,8-HxCDD	95.6	32 - 141	
1,2,3,6,7,8-HxCDD	3.31				13C-1,2,3,6,7,8-HxCDD	86.6	28 - 130	
1,2,3,7,8,9-HxCDD	1.31			J	13C-1,2,3,7,8,9-HxCDD	89.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	37.2				13C-1,2,3,4,6,7,8-HpCDD	101	23 - 140	
OCDD	341				13C-OCDD	95.7	17 - 157	
2,3,7,8-TCDF	5.94				13C-2,3,7,8-TCDF	81.0	24 - 169	
1,2,3,7,8-PeCDF	10.7				13C-1,2,3,7,8-PeCDF	81.3	24 - 185	
2,3,4,7,8-PeCDF	3.54				13C-2,3,4,7,8-PeCDF	92.1	21 - 178	
1,2,3,4,7,8-HxCDF	18.6				13C-1,2,3,4,7,8-HxCDF	105	26 - 152	
1,2,3,6,7,8-HxCDF	4.31				13C-1,2,3,6,7,8-HxCDF	97.1	26 - 123	
2,3,4,6,7,8-HxCDF	1.15			J	13C-2,3,4,6,7,8-HxCDF	90.6	28 - 136	
1,2,3,7,8,9-HxCDF	0.864			J	13C-1,2,3,7,8,9-HxCDF	97.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	9.41				13C-1,2,3,4,6,7,8-HpCDF	97.4	28 - 143	
1,2,3,4,7,8,9-HpCDF	2.63				13C-1,2,3,4,7,8,9-HpCDF	99.9	26 - 138	
OCDF	17.6				13C-OCDF	97.9	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	79.2	35 - 197	

**Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)**  
TEQMinWHO2005Dioxin      5.53

<b>TOTALS</b>								
Total TCDD	ND	0.234						
Total PeCDD	1.70		2.95					
Total HxCDD	21.7		22.3					
Total HpCDD	80.3							
Total TCDF	15.9		18.8					
Total PeCDF	29.2		31.0					
Total HxCDF	37.5							
Total HpCDF	23.5							

DL - Sample specific estimated detection limit  
EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit  
The results are reported in dry weight. The sample size is reported in wet weight.  
Min-The TEQ is calculated using zero for the concentration of congeners that are not detected.

## DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

### Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

*Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.*

## NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

Relinquished By: Modi Raduma Company: Anchor QEA, LLC  
Signature/Printed Name [Signature] Date/Time 11/25/19 12:15


Received By: \_\_\_\_\_ Company: UAC  
Signature/Printed Name [Signature] Date/Time 11/26/19 08:55

Relinquished By: \_\_\_\_\_ Company: \_\_\_\_\_  
Signature/Printed Name \_\_\_\_\_ Date/Time \_\_\_\_\_

Received By: \_\_\_\_\_ Company: \_\_\_\_\_  
Signature/Printed Name \_\_\_\_\_ Date/Time \_\_\_\_\_

**Chain of Custody Record & Laboratory Analysis Request**

1904207 3.9°C

Laboratory Number: _____																						Comments/Preservation
Date: 11.25.19																						
Project Name: Gasco PDI																						
Project Number: 000029-02.59																						
Project Manager: Delaney Peterson																						
Phone Number: 360.715.2707																						
Shipment Method: FedEx Samplers: dep																						
Line	Field Sample ID	Collection	Matrix	No. of Containers	Dioxin/furans (1613B)	Total Solids (SM 2540G)																
61	PDI-074SC-A-08-09-191012	101219 09:54	SE	1	X	X																
62	PDI-074SC-A-09-10-191012	101219 09:54	SE	1	X	X																
63	PDI-076SC-A-04-05-191013	101319 13:08	SE	1	X	X																
64	PDI-076SC-A-05-06-191013	101319 13:08	SE	1	X	X																
65	PDI-077SC-A-00-01-191014	101419 08:36	SE	1	X	X																
66	PDI-077SC-A-01-02-191014	101419 08:36	SE	1	X	X																
7																						
8																						
9																						
10																						
11																						
12																						
13																						
14																						

15	Please analyze a duplicate on one per 20 samples.	
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Relinquished By: Modi Raduma	Company: Anchor QEA, LLC
Signature/Printed Name	Date/Time 11/25/19 12:15

Received By: Alan C. Hayden (VMA)	Company: VAL
Signature/Printed Name	Date/Time 11/26/19 08:55

Relinquished By:	Company: _____
Signature/Printed Name	Date/Time

Received By:	Company: _____
Signature/Printed Name	Date/Time

# Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 1904207 TAT 3rd

<b>Samples Arrival:</b>	<b>Date/Time:</b> 11/26/19 0855	<b>Initials:</b> ajm	<b>Location:</b> WR-2
			<b>Shelf/Rack:</b> N/A
<b>Delivered By:</b>	<input checked="" type="checkbox"/> FedEx	<input type="checkbox"/> UPS	<input type="checkbox"/> On Trac
		<input type="checkbox"/> GSO	<input type="checkbox"/> DHL
		<input type="checkbox"/> Hand Delivered	<input type="checkbox"/> Other
<b>Preservation:</b>	<input checked="" type="checkbox"/> Ice	<input type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
<b>Temp °C:</b> 3.9 (uncorrected)	<b>Probe used:</b> Y <input checked="" type="checkbox"/> N		<b>Thermometer ID:</b> IR-3
<b>Temp °C:</b> 3.9 (corrected)			

	YES	NO	NA
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill <u>1 of 2</u> Trk # <u>7770 7667 7300</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>Logged In:</b>	<b>Date/Time:</b> 12/2/19 1303	<b>Initials:</b> BLS	<b>Location:</b> <del>WR-2</del> WR-2 1303 12/2/19 <b>Shelf/Rack:</b> B4 D6
COC Anomaly/Sample Acceptance Form completed?			
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments:



# CoC/Label Reconciliation Report WO# 1904207

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	BaseMatrix	Sample Comments
1904207-01	A PDI-074SC-A-08-09-191012	<input checked="" type="checkbox"/> C2	12-Oct-19 09:54	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	
1904207-02	A PDI-074SC-A-09-10-191012	<input checked="" type="checkbox"/> C2	12-Oct-19 09:54	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	
1904207-03	A PDI-076SC-A-04-05-191013	<input checked="" type="checkbox"/> C2	13-Oct-19 13:08	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	*'
1904207-04	A PDI-076SC-A-05-06-191013	<input checked="" type="checkbox"/> C2	13-Oct-19 13:08	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	
1904207-05	A PDI-077SC-A-00-01-191014	<input checked="" type="checkbox"/> C2	14-Oct-19 08:36	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	
1904207-06	A PDI-077SC-A-01-02-191014	<input checked="" type="checkbox"/> C2	14-Oct-19 08:36	<input checked="" type="checkbox"/> Amber Glass, 120 mL	Solid	

Checkmarks indicate that information on the COC reconciled with the sample label.  
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	<input checked="" type="checkbox"/> *	<input type="checkbox"/>	<input type="checkbox"/>
Sample Custody Seals Intact?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Adequate Sample Volume?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Container Type Appropriate for Analysis(es)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Preservation Documented: Na2S2O3 Trizma <del>None</del> Other	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Comments: \*' Container broken.

Verified by/Date: HDC 12/02/19

C1 = Cooler 1  
C2 = Cooler 2

## **EXTRACTION INFORMATION**

Process Sheet

Workorder: 1904207

Prep Expiration: 2020-10-11  
Client: Anchor QEA, LLC

Workorder Due: 19-Dec-19 00:00

TAT: 23

Method: 1613 Full List  
Matrix: Solid  
Client Matrix: Sediment  
Also run: Percent Solids

Prep Batch: B9L0200

Prep Data Entered: AZ 01/07/2020  
Date and Initials

Initial Sequence: SOA0026

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1904207-01	<input checked="" type="checkbox"/>	PDI-074SC-A-08-09-191012	26-Nov-19 08:55	WR-2 D-6	Dup
1904207-02	<input checked="" type="checkbox"/>	PDI-074SC-A-09-10-191012	26-Nov-19 08:55	WR-2 D-6	
1904207-03 (A)	<input checked="" type="checkbox"/>	PDI-076SC-A-04-05-191013	26-Nov-19 08:55	WR-2 D-6	Container broken
1904207-04	<input checked="" type="checkbox"/>	PDI-076SC-A-05-06-191013	26-Nov-19 08:55	WR-2 D-6	
1904207-05	<input checked="" type="checkbox"/>	PDI-077SC-A-00-01-191014	26-Nov-19 08:55	WR-2 D-6	
1904207-06	<input checked="" type="checkbox"/>	PDI-077SC-A-01-02-191014	26-Nov-19 08:55	WR-2 D-6	

(A) sample container broke in storage. Transferred sample to a secondary container with appropriate label. TL 12/18/19

WO Comments: ~~Post 1g extraction (dry weight) DDT, Aldrin, 5-Chloro, Dieldrin, Endrin~~

Dioxin - 10g (dry weight)

~~Post 5g extraction (dry weight)~~

Pre-Prep Check Out: CHT 12/09/19

Prep Check Out: TL 12/18/19

Prep Reconciled Initials/Date: 12/09/19

Pre-Prep Check In: CHT 12/09/19

Prep Check In: TL 12/18/19

Spike Reconciled Initials/Date: TL 12/18/19

VialBoxID: Cherry Sprite

PREPARATION BENCH SHEET

Matrix: Solid

B9L0200

Chemist: TL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 18-Dec-19 06:38

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisol CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B9L0200-BLK1	NA	(10.00)	TL 12/18/19	RTL 12/31/19	TL 12/31/19	AZ 01/02/20	AO 01/02/20	AO AZ 01/02/20	AO AZ 01/02/19
<input type="checkbox"/>	B9L0200-BS1	NA	(10.00)							
<input type="checkbox"/>	B9L0200-DUP1 1904208-05	(B) 11.75	11.80							
<input type="checkbox"/>	B9L0200-DUP2 1904207-01	14.09	14.08			NA				
<input type="checkbox"/>	1904021-06RE1	10.71	10.76							
<input type="checkbox"/>	1904207-01	14.09	14.11							
<input type="checkbox"/>	1904207-02	11.02	11.06							
<input type="checkbox"/>	1904207-03	15.18	15.20							
<input type="checkbox"/>	1904207-04	(B) 16.57	16.63							
<input type="checkbox"/>	1904207-05	20.70	20.71							
<input type="checkbox"/>	1904207-06	19.67	19.67							
<input type="checkbox"/>	1904208-01	(B) 12.08	12.09			TL 12/31/19				
<input type="checkbox"/>	1904208-02	(B) 13.34	13.35							
<input type="checkbox"/>	1904208-03	(B)(A) 13.30	13.30							
<input type="checkbox"/>	1904208-04	(B) 11.68	11.74							

IS Name <u>(1)</u>	NS Name <u>(3)</u>	CRS Name <u>(V5)</u>	RS Name <u>(V5)</u>	Cycle Time	APP: SEFUN SOX <u>(SDS)</u>	Check Out: Chemist/Date: <u>TL 12/18/19</u>
PCDD/F <u>17C1902 10uL</u>	PCDD/F <u>18F1913 10uL</u>	PCDD/F <u>19T1602, 10uL</u>	PCDD/F <u>19T1603, 10uL</u>	Start Date/Time <u>12/18/19 14:00</u>	SOLV: <u>Toluene</u>	Check In: Chemist/Date: <u>TL 12/18/19</u>
PCB _____	PCB _____	PCB _____	PCB _____	Stop Date/Time <u>12/19/19 600</u>	Other <u>NA</u>	Balance ID: <u>HRMS-8</u>
PAH _____	PAH _____	PAH _____	PAH _____	Final Volume(s) <u>20uL</u>	<u>614</u>	

Comments:

1 = Sample approached dryness on rotovap  
 2 = Sample bumped on rotovap; lost < 5%  
 3 = Sample poured through Na2SO4 to remove water  
 4 = Precipitate present at Final Volume

5 = Sample homogenized in secondary container  
 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

(A) Crystallized during rotovaping AO 01/02/20

PREPARATION BENCH SHEET

Matrix: Solid

B9L0200

Chemist: TL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 18-Dec-19 06:38

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	1904208-05	11.75	11.89	DF TL 12/18/19	TL TC 12/18/19	TL 12/13/19	AZ 01/02/20	AO 01/02/20	AO AZ 01/02/20	AO AZ 01/02/20
<input type="checkbox"/>	1904208-06	12.32	12.33	T	T	T	T	T	T	T
<input type="checkbox"/>	1904208-07	12.27	12.41	T	T	NA	T	T	T	T
<input type="checkbox"/>	1904208-08	11.92	11.94	T	T	T	T	T	T	T
<input type="checkbox"/>	1904208-09	12.01	12.01	T	T	TL 12/13/19	T	T	T	T
<input type="checkbox"/>	1904208-10	12.46	12.52	T	T	T	T	T	T	T

(B) ABSG/AA darkly colored AO 01/02/20  
AO 01/02/20

IS Name <u>(V1)</u>	NS Name <u>(V3)</u>	CRS Name <u>(V5)</u>	RS Name <u>(V5)</u>	Cycle Time	APP: SEFUN SOX <u>(DS)</u>	Check Out: Chemist/Date: <u>TL 12/18/19</u>
PCDD/F <u>19F1413, 10 mL</u>	PCDD/F <u>19F1413, 10 mL</u>	PCDD/F <u>19F1602, 10 mL</u>	PCDD/F <u>19F1603, 10 mL</u>	Start Date/Time 12/18/19 1400	SOLV: <u>tol</u>	Check In: Chemist/Date: <u>TL 12/18/19</u>
PCB _____	PCB _____	PCB _____	PCB _____	Stop Date/Time 12/19/19 600	Other <u>NA</u>	Balance ID: <u>HRMS-B</u>
PAH _____	PAH _____	PAH _____	PAH _____		Final Volume(s) <u>20 mL</u> <u>cu</u>	

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume
- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9L0063

<b>Analyst:</b> CHT	<b>Test Code:</b> %Moist/%Solids	Data Entry Verified by: (Initial and Date) <u>GL 12/10/19</u>
<b>Analyte:</b>	<b>Units:</b> %	
Dried at 110°C+/-5°C		
<b>Oven ID:</b> 01 02		

Date/Time IN: 12/09/19 10:47    Date/Time OUT: 12/10/19 14:20

Inst: HRMS-9

Particle Size	SampID	SampType	Initial and Date:	F		G	H	I	K		L		M		N	O	P
				CHT 12/09/19	TL 12/10/19				Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*			
			Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal										
	1904207-01	A	Sample	1.2700 ✓	14.0100 ✓	10.3400 ✓	9.0700	71.19	Mud	NA	NA	NA	NA	NA	NA	NA	Y
	1904207-02	A	Sample	1.2700 ✓	7.0200 ✓	6.4900 ✓	5.2200	90.78	Mud	NA	NA	NA	NA	NA	NA	NA	Y
	1904207-03	A	Sample	1.2700 ✓	9.5300 ✓	6.7100 ✓	5.4400	65.86	Mud	NA	NA	NA	NA	NA	NA	NA	Y
	1904207-04	A	Sample	1.2800 ✓	7.9400 ✓	5.3000 ✓	4.0200	60.36	Mud	NA	NA	NA	NA	NA	NA	NA	Y
	1904207-05	A	Sample	1.2700 ✓	11.6800 ✓	6.3000 ✓	5.0300	48.32	Mud	NA	NA	NA	NA	NA	NA	NA	Y
	1904207-06	A	Sample	1.2600 ✓	8.4600 ✓	4.9200 ✓	3.6600	50.83	Mud	NA	NA	NA	NA	NA	NA	NA	Y

\*Sample homogenized in sample container unless otherwise noted.

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9L0063

Analyst: <u>CHT</u>	Test Code: %Moist/%Solids	Data Entry Verified by: (Initial and Date) <u>AM</u>
Analyte: <u>Dried at 110°C +/- 5°C</u>	Units: %	
Oven ID: <u>01</u> 02		

Inst HAMS-9

Date/Time IN: 12/09/19 10:47 Date/Time OUT: 12/10/19 14:20

Particle Size	Sample ID	Sample Type	Initial and Date:	Weight (g)	Weight (g)	Weight (g)	%Solids RawVal	Visual Inspection	pH Before	pH After	Acid Added	Sample Homogenized*
			CHT 12/09/19		TL 12/10/19			CHT 12/09/19				CHT 12/09/19
			Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)						
	1904207-01	Sample	1.27	14.01	10.34			Mud				✓
	1904207-02	Sample	1.27	7.02	6.47							✓
	1904207-03	Sample	1.27	9.53	6.71							✓
	1904207-04	Sample	1.28	7.94	5.30							✓
	1904207-05	Sample	1.27	11.68	6.70							✓
	1904207-06	Sample	1.26	8.46	4.92							

\*Sample homogenized in sample container unless otherwise noted.

Batch: B9L0200

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1904021-06RE1	10.76 ✓	93.40836	10.0507	20 ✓	18-Dec-19 06:38	TL ✓			Soil	1613 Full List
1904207-01	14.11 ✓	71.19309	10.0453	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904207-02	11.06 ✓	90.78261	10.0406	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904207-03	15.2 ✓	65.85957	10.0107	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904207-04	16.63 ✓	60.36036	10.0379	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904207-05	20.71 ✓	48.31892	10.0068	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904207-06	19.67 ✓	50.83334	9.9989	20	18-Dec-19 06:38	TL			Sediment	1613 Full List
1904208-01	12.09 ✓	82.77311	10.0073	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-02	13.35 ✓	74.94601	10.0053	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-03	13.3 ✓	75.16779	9.9973	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-04	11.74 ✓	85.59837	10.0492	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-05	11.85 ✓	85.10204	10.0846	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-06	12.33 ✓	81.19002	10.0107	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-07	12.41 ✓	81.50407	10.1147	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-08	11.94 ✓	83.859	10.0128	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-09	12.01 ✓	83.29809	10.0041	20	18-Dec-19 06:38	TL			Soil	1613 Full List
1904208-10	12.52 ✓	80.26846	10.0496	20	18-Dec-19 06:38	TL			Soil	1613 Full List
B9L0200-BLK1	10 ✓			20	18-Dec-19 06:38	TL				QC
B9L0200-BS1	10 ✓			20	18-Dec-19 06:38	TL	18F1913 ✓	10 ✓		QC
B9L0200-DUP1	11.8 ✓			20	18-Dec-19 06:38	TL				QC
B9L0200-DUP2	14.08 ✓	71.19309	10.07367	20 ✓	18-Dec-19 06:38	TL ✓				QC

All bolded data on report verified against written benchsheet by (initial/date) AZ 01/07/2020

Printed: 1/7/2020 11:17:05AM  
Page 1 of 1





Process Sheet  
Workorder: 1904207

RX ASAP

Prep Expiration: 2020-10-11  
Client: Anchor QEA, LLC

Workorder Due: 26-Dec-19 00:00

TAT: 30

Method: 1613 Full List  
Matrix: Solid  
Client Matrix: Sediment  
Also run: Percent Solids

Prep Batch: ROAD133

Prep Data Entered: BOB 01/21/20  
Date and initials

Initial Sequence: SOA0064

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
<del>1904207-01</del>	<input type="checkbox"/>	<del>PDI-076SC-A-05-06-191013</del>	26-Nov-19 08:55	WR-2 D-6	Dup
<del>1904207-02</del>	<input type="checkbox"/>	<del>PDI-076SC-A-05-06-191013</del>	26-Nov-19 08:55	WR-2 D-6	
<del>1904207-03</del>	<input type="checkbox"/>	<del>PDI-076SC-A-05-06-191013</del>	26-Nov-19 08:55	WR-2 D-6	
1904207-04	A <input checked="" type="checkbox"/>	PDI-076SC-A-05-06-191013	26-Nov-19 08:55	WR-2 D-6	
<del>1904207-05</del>	<input type="checkbox"/>	<del>PDI-076SC-A-05-06-191013</del>	26-Nov-19 08:55	WR-2 D-6	
<del>1904207-06</del>	<input type="checkbox"/>	<del>PDI-076SC-A-05-06-191013</del>	26-Nov-19 08:55	WR-2 D-6	

1 g extraction  
@ 01/20/20

WO Comments: ~~Test 1g extraction (dry weight) BDN, Aldrin, Dieldrin, Dieldrin, Endane, Dieldrin, 1g (dry weight), BDN, Aldrin, Dieldrin, Dieldrin~~

Pre-Prep Check Out: JA  
Pre-Prep Check In: JA

Prep Check Out: AO 01/20/20  
Prep Check In: AO 01/20/20

Prep Reconciled Initials/Date: AO 01/20/20  
Spike Reconciled Initials/Date: AO 01/20/20  
VialBoxID: Stored Elsewhere

PREPARATION BENCH SHEET

Matrix: Solid

B0A0133

Chemist: AO

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 20-Jan-20 08:48

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B0A0133-BLK1 (A)	NA	(1.00)	AO 01/20/20	AO 01/21/20	NA	BUB 01/21/20	BUB 01/21/20	BUB 01/21/20	AO BUB 01/21/20
<input type="checkbox"/>	B0A0133-BS1	I	(1.00)	↓	↓	↓	↓	↓	↓	↓
<input type="checkbox"/>	1904207-04RE1	1.66	1.70	↓	↓	↓	↓	↓	↓	↓

(A) BUB did FV. BUB 01/21/20

IS Name <u>V2</u>	NS Name <u>V5</u>	CRS Name <u>V5</u>	RS Name <u>V5</u>	Cycle Time	APP: SEFUN SOX <u>BDS</u>	Check Out: Chemist/Date: <u>AO 01/20/20</u>
PCDD/F <u>19L2301, 10μL</u>	PCDD/F <u>18F1913, 10μL</u>	PCDD/F <u>19I1602, 10μL</u>	PCDD/F <u>19I1603, 10μL</u>	Start Date/Time <u>01/20/20 1330</u>	SOLV: <u>Toluene</u>	Check In: Chemist/Date: _____
PCB _____	PCB _____	PCB _____	PCB _____	Stop Date/Time <u>01/21/20 0530</u>	Other <u>NA</u>	Balance ID: <u>HRMS-10</u>
PAH _____	PAH _____	PAH _____	PAH _____	Final Volume(s) <u>C14 20μL</u>		

Comments:

- 1 = Sample approached dryness on rotovap
- 2 = Sample bumped on rotovap; lost < 5%
- 3 = Sample poured through Na2SO4 to remove water
- 4 = Precipitate present at Final Volume
- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Batch: B0A0133

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1904207-04RE1	1.7	60.36036	1.0261	20 ✓	20-Jan-20 08:48 ✓	ACO ✓			Sediment	1613 Full List
B0A0133-BLK1	1	(100)	(1.00)	20 ✓	20-Jan-20 08:48 ✓	ACO ✓				QC
B0A0133-BS1	1	(100)	(1.00)	20 ✓	20-Jan-20 08:48 ✓	ACO ✓	18F1913 ✓	10 ✓		QC

All bolded data on report verified against written benchsheet by (initial/date) Bob 01/21/20

SAMPLE DATA – EPA METHOD 1613

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-13.qld

Last Altered: Monday, February 03, 2020 08:29:50 Pacific Standard Time

Printed: Monday, February 03, 2020 08:33:16 Pacific Standard Time

*21 02/03/2020*

*CT 02/03/2020*

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD				0.988	1.000	25.69		1.00		NO			0.390	
2	2 1,2,3,7,8-PeCDD				0.972	1.000	30.64		1.00		NO			0.551	
3	3 1,2,3,4,7,8-HxCDD				1.07	1.000	33.98		1.00		NO			0.440	
4	4 1,2,3,6,7,8-HxCDD				0.921	1.000	34.07		1.00		NO			0.482	
5	5 1,2,3,7,8,9-HxCDD				0.918	1.000	34.38		1.00		NO			0.517	
6	6 1,2,3,4,6,7,8-HpCDD				0.923	1.000	37.90		1.00		NO			0.871	
7	7 OCDD	929.660	0.761	NO	0.975	1.000	40.89	40.90	1.00	1.00	NO	2.238		0.869	2.238
8	8 2,3,7,8-TCDF				0.802	1.000	24.82		1.00		NO			0.296	
9	9 1,2,3,7,8-PeCDF	523.869	1.083	YES	0.907	1.000	29.36	29.35	1.00	1.00	NO	0.4228		0.329	0.3702
10	10 2,3,4,7,8-PeCDF	451.258	1.612	NO	0.952	1.000	30.35	30.33	1.00	1.00	NO	0.3699		0.318	0.3699
11	11 1,2,3,4,7,8-HxCDF				0.862	1.000	33.10		1.00		NO			0.361	
12	12 1,2,3,6,7,8-HxCDF				0.841	1.000	33.23		1.00		NO			0.332	
13	13 2,3,4,6,7,8-HxCDF				0.898	1.000	33.83		1.00		NO			0.356	
14	14 1,2,3,7,8,9-HxCDF	681.798	1.164	NO	0.858	1.000	34.70	34.73	1.00	1.00	NO	1.166		0.515	1.166
15	15 1,2,3,4,6,7,8-HpCDF				0.851	1.000	36.48		1.00		NO			0.719	
16	16 1,2,3,4,7,8,9-HpCDF				0.980	1.000	38.48		1.00		NO			0.809	
17	17 OCDF	657.711	0.859	NO	0.806	1.000	41.08	41.11	1.00	1.00	NO	1.691		0.788	1.691
18	18 13C-2,3,7,8-TCDD	1967304.4...	0.785	NO	1.20	1.000	25.66	25.66	1.03	1.03	NO	2067	103	1.96	
19	19 13C-1,2,3,7,8-PeCDD	1607568.1...	0.652	NO	0.967	1.000	30.40	30.62	1.22	1.22	NO	2094	105	2.42	
20	20 13C-1,2,3,4,7,8-HxCDD	1387552.3...	1.268	NO	0.874	1.000	33.97	33.97	1.01	1.01	NO	2036	102	3.12	
21	21 13C-1,2,3,6,7,8-HxCDD	1532012.6...	1.255	NO	1.05	1.000	34.07	34.07	1.02	1.02	NO	1878	93.9	2.61	
22	22 13C-1,2,3,7,8,9-HxCDD	1459983.4...	1.227	NO	0.974	1.000	34.37	34.35	1.03	1.03	NO	1921	96.1	2.80	
23	23 13C-1,2,3,4,6,7,8-HpCDD	1062458.7...	1.082	NO	0.747	1.000	37.92	37.88	1.13	1.13	NO	1823	91.1	4.13	
24	24 13C-OCDD	1704924.3...	0.870	NO	0.707	1.000	40.80	40.89	1.22	1.22	NO	3094	77.3	2.66	
25	25 13C-2,3,7,8-TCDF	2624168.8...	0.774	NO	1.07	1.000	24.84	24.79	0.99	0.99	NO	1968	98.4	2.12	
26	26 13C-1,2,3,7,8-PeCDF	2668003.1...	1.588	NO	1.00	1.000	29.17	29.34	1.17	1.17	NO	2128	106	4.56	
27	27 13C-2,3,4,7,8-PeCDF	2564304.3...	1.576	NO	0.962	1.000	30.12	30.32	1.20	1.21	NO	2131	107	4.75	
28	28 13C-1,2,3,4,7,8-HxCDF	1602107.8...	0.501	NO	1.05	1.000	33.10	33.10	0.99	0.99	NO	1958	97.9	4.17	
29	29 13C-1,2,3,6,7,8-HxCDF	1837014.6...	0.504	NO	1.19	1.000	33.20	33.22	0.99	0.99	NO	1979	99.0	3.68	
30	30 13C-2,3,4,6,7,8-HxCDF	1623286.4...	0.508	NO	1.07	1.000	33.80	33.80	1.01	1.01	NO	1952	97.6	4.10	

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-13.qld

Last Altered: Monday, February 03, 2020 08:29:50 Pacific Standard Time

Printed: Monday, February 03, 2020 08:33:16 Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
31	31 13C-1,2,3,7,8,9-HxCDF	1363628.2...	0.515	NO	0.922	1.000	34.70	34.70	1.04	1.04	NO	1895	94.8	4.74	
32	32 13C-1,2,3,4,6,7,8-HpCDF	1073170.7...	0.437	NO	0.767	1.000	36.44	36.45	1.09	1.09	NO	1794	89.7	4.26	
33	33 13C-1,2,3,4,7,8,9-HpCDF	782857.625	0.431	NO	0.552	1.000	38.45	38.48	1.15	1.15	NO	1817	90.9	5.91	
34	34 13C-OCDF	1931114.063	0.869	NO	0.789	1.000	41.03	41.08	1.23	1.23	NO	3136	78.4	2.45	
35	35 37Cl-2,3,7,8-TCDD	802398.875			1.18	1.000	25.69	25.69	1.03	1.03	NO	859.1	107	0.511	
36	36 13C-1,2,3,4-TCDD	1588098.1...	0.802	NO	1.00	1.000	25.08	25.02	1.00	1.00	NO	2000	100	2.35	
37	37 13C-1,2,3,4-TCDF	2502925.7...	0.785	NO	1.00	1.000	23.42	23.35	1.00	1.00	NO	2000	100	2.26	
38	38 13C-1,2,3,4,6,9-HxCDF	1559926.9...	0.506	NO	1.00	1.000	33.52	33.50	1.00	1.00	NO	2000	100	4.37	
39	39 Total Tetra-Dioxins				0.988	1.000	24.62		0.00		NO			0.237	
40	40 Total Penta-Dioxins				0.972	1.000	29.96		0.00		NO	0.0000		0.188	0.7981
41	41 Total Hexa-Dioxins				0.921	1.000	33.63		0.00		NO			0.279	
42	42 Total Hepta-Dioxins				0.923	1.000	37.64		0.00		NO			0.461	
43	43 Total Tetra-Furans				0.802	1.000	23.61		0.00		NO			0.142	
44	44 1st Func. Penta-Furans				0.907	1.000	27.09		0.00		NO			0.0917	
45	45 Total Penta-Furans				0.907	1.000	29.27		0.00		NO	0.3699		0.337	0.7400
46	46 Total Hexa-Furans				0.898	1.000	33.56		0.00		NO	1.166		0.369	1.166
47	47 Total Hepta-Furans				0.851	1.000	37.83		0.00		NO			0.396	

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-13.qld

Last Altered: Monday, February 03, 2020 08:29:50 Pacific Standard Time

Printed: Monday, February 03, 2020 08:33:35 Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

**Tetra-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

**Penta-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	40 Total Penta-Dioxins	0.00e0	1.61e6	2.947	YES	29.96	30.32	0.0000	0.3072
2	40 Total Penta-Dioxins	0.00e0	1.61e6	2.201	YES	29.96	29.34	0.0000	0.4909

**Hexa-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

**Hepta-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

**Tetra-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

**Penta-Furans function 1**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-13.qld

Last Altered: Monday, February 03, 2020 08:29:50 Pacific Standard Time

Printed: Monday, February 03, 2020 08:33:35 Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

**Penta-Furans**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	10 2,3,4,7,8-PeCDF	4.51e2	2.56e6	1.612	NO	30.35	30.33	0.3699	0.3699
2	9 1,2,3,7,8-PeCDF	5.24e2	2.67e6	1.083	YES	29.36	29.35	0.0000	0.3702

**Hexa-Furans**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	14 1,2,3,7,8,9-HxCDF	6.82e2	1.36e6	1.164	NO	34.70	34.73	1.166	1.166

**Hepta-Furans**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									



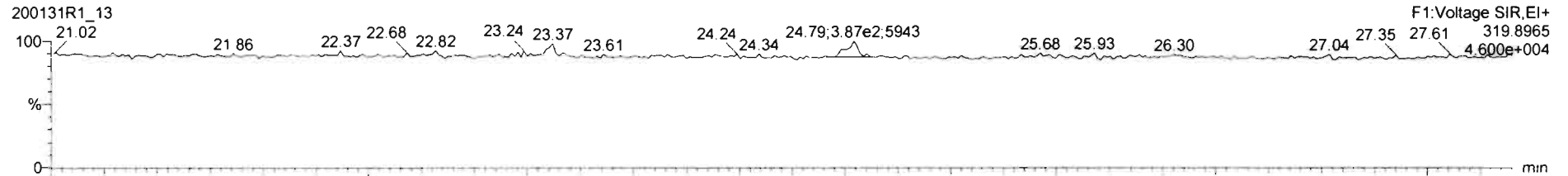
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Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

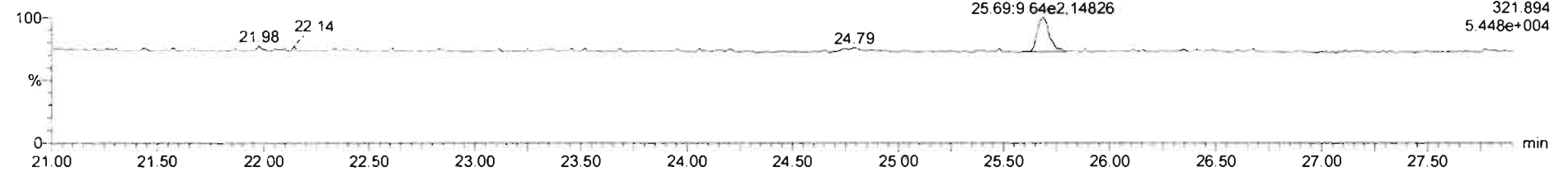
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Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

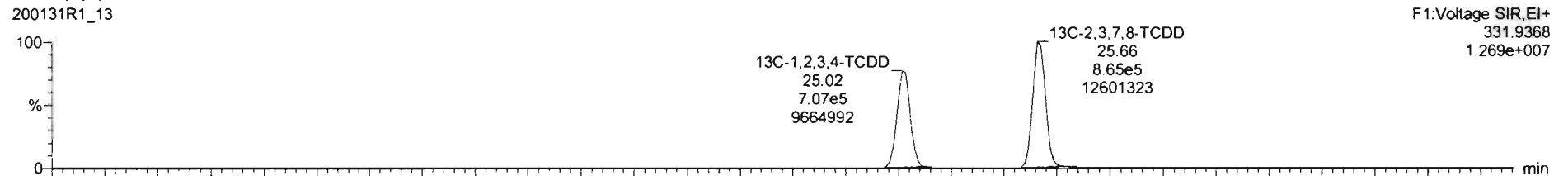
**2,3,7,8-TCDD**



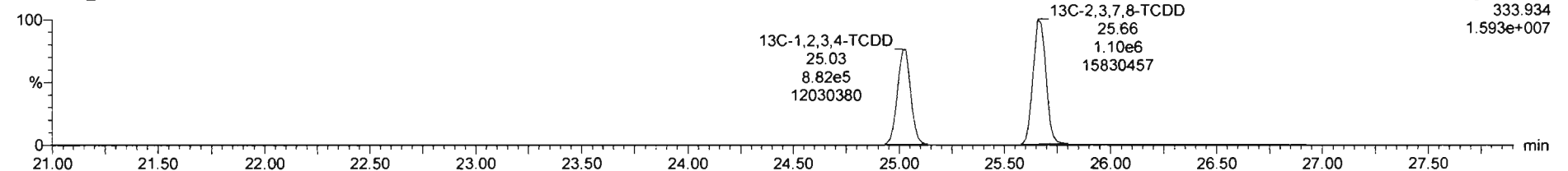
200131R1\_13



**13C-2,3,7,8-TCDD**



200131R1\_13



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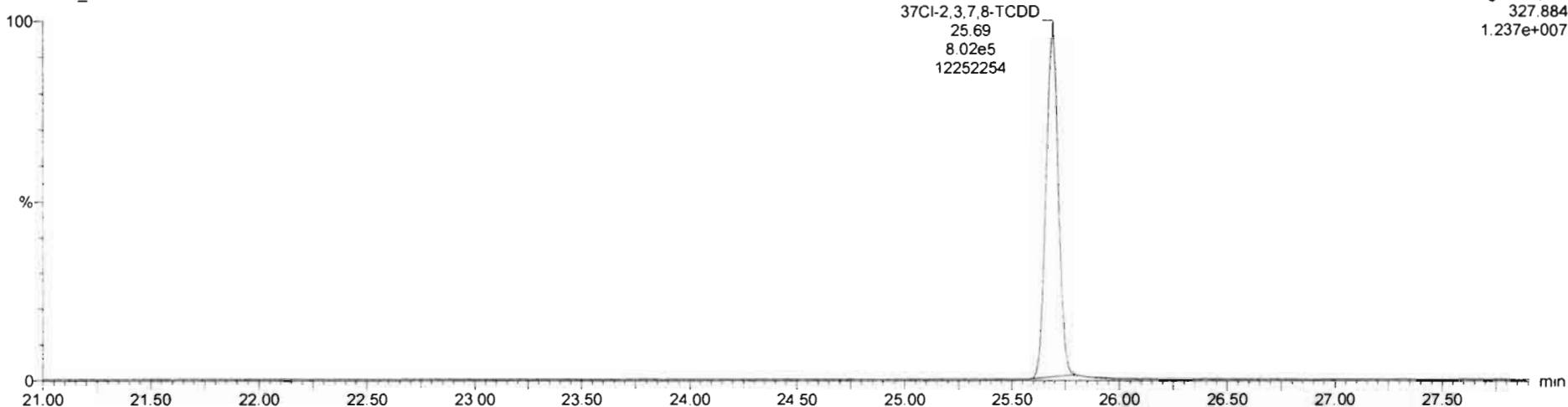
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Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

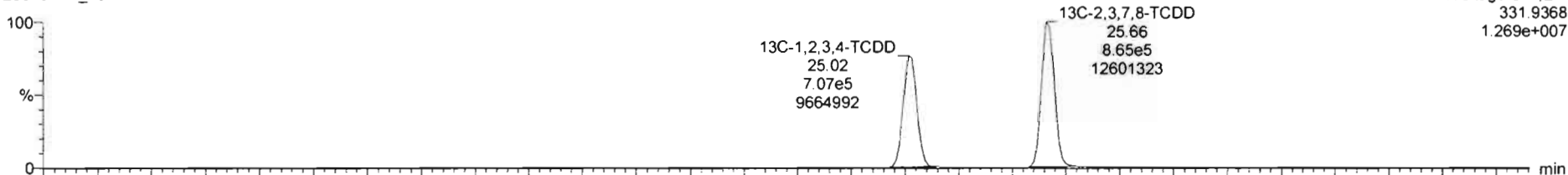
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200131R1\_13

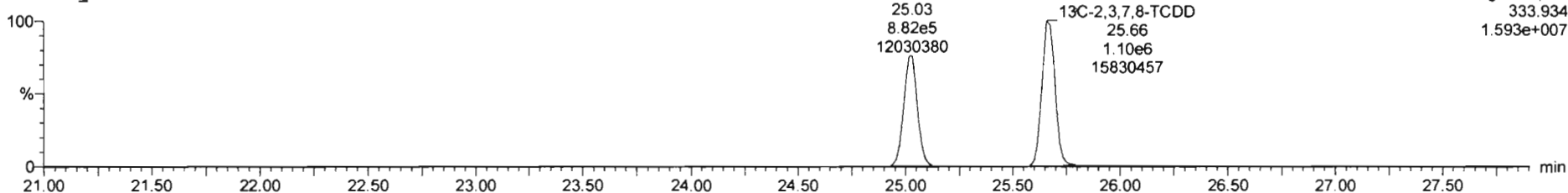


**13C-1,2,3,4-TCDD**

200131R1\_13



200131R1\_13

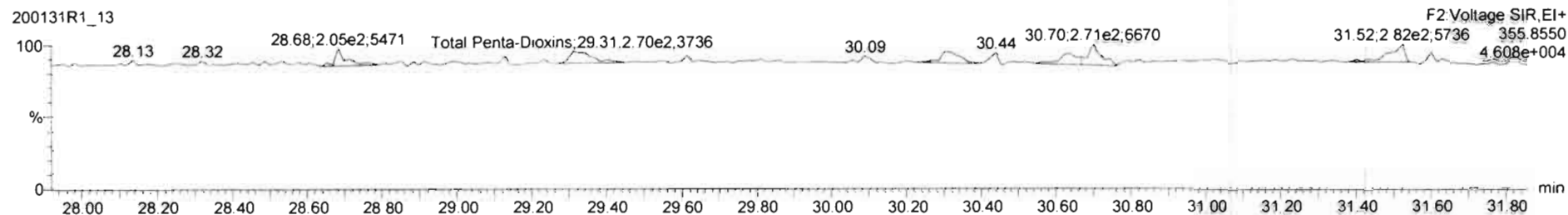
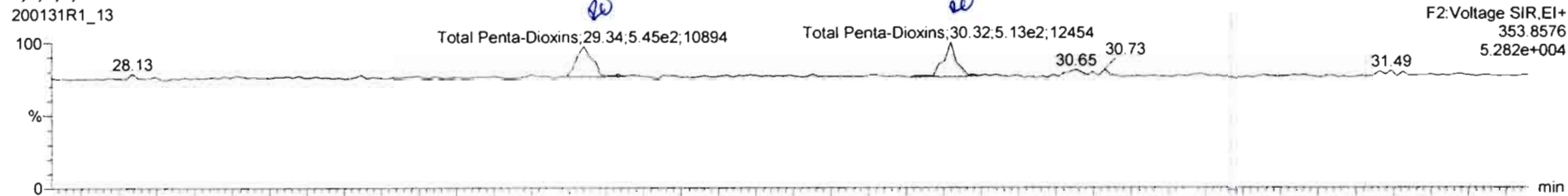


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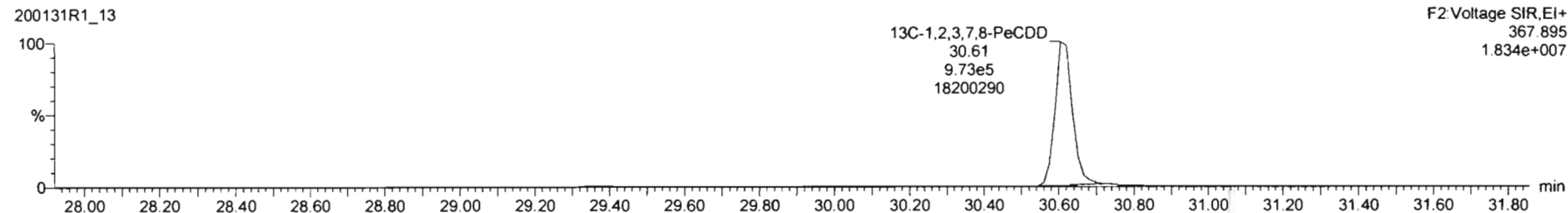
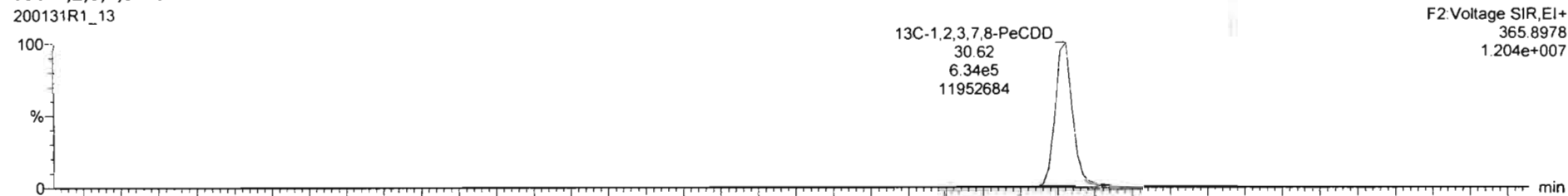
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Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

1,2,3,7,8-PeCDD



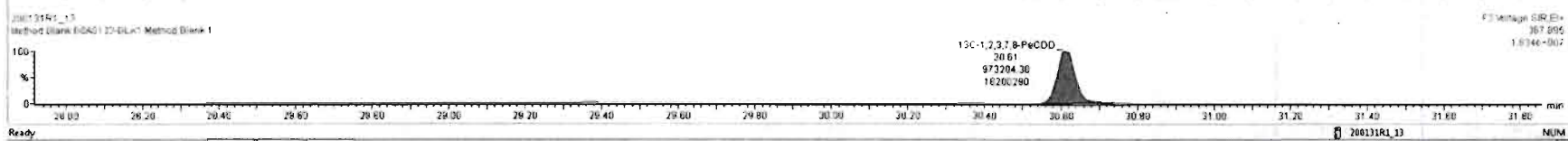
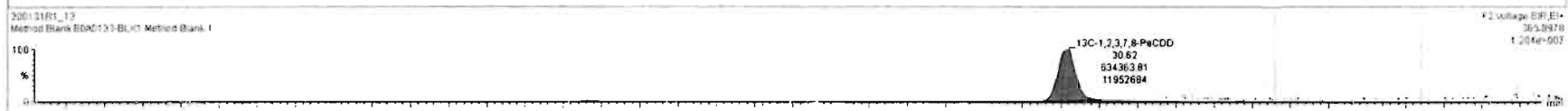
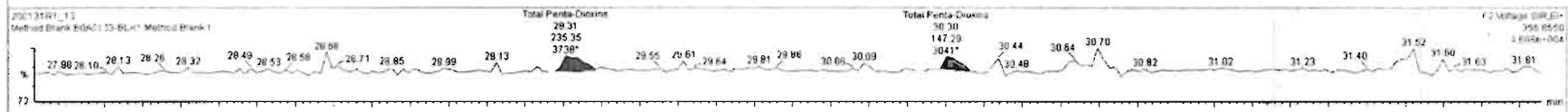
13C-1,2,3,7,8-PeCDD



200131R1\_13 - B0A0133-BL01 Method Blank 1 - Multi-D Blank

Name	Conc.	DL	%Rec	EMPC	Abn Resp	RRP	RT	#	ISF	RA	Y/N	RRT	Acq Date	Acq Time	1 <sup>st</sup> Chr Index	ID	Generic Text	Factor1	SN1	Cal File
39 Total Tetra-Dioxins	0.237				0.968		39						01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	db5_1
40 Total Penta-Dioxins	0.000000	0.189		1.0459E	0.972		40						01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	db5_1
41 Total Hexa-Dioxins	0.000000	0.279		0.744338	0.921		41						01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	db5_1

Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n/y	Resp	Conc.	EMPC
1 Total Penta-Dioxins	30.32	1.245e4	1.720e3	5.125e2	2.315e2	2.21	YES	0.000e0	0.000	0.483
2 Total Penta-Dioxins	30.34	1.089e4	1.739e3	5.447e2	2.637e2	2.02	YES	0.000e0	0.000	0.583



Dataset: Untitled

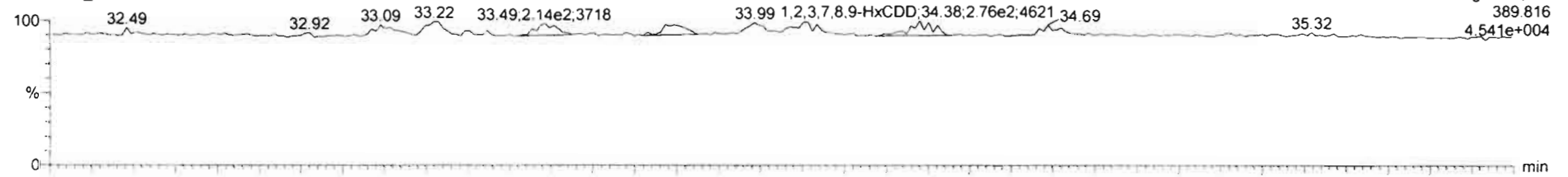
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

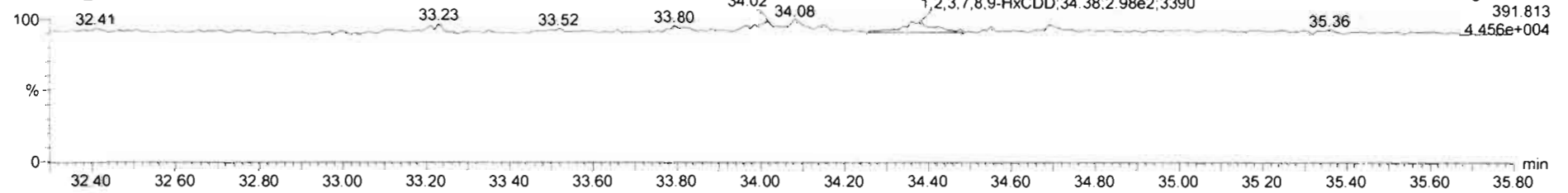
Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

1,2,3,4,7,8-HxCDD

200131R1\_13

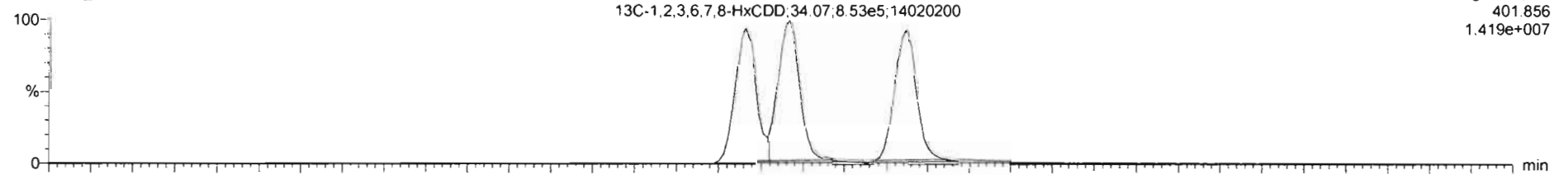


200131R1\_13

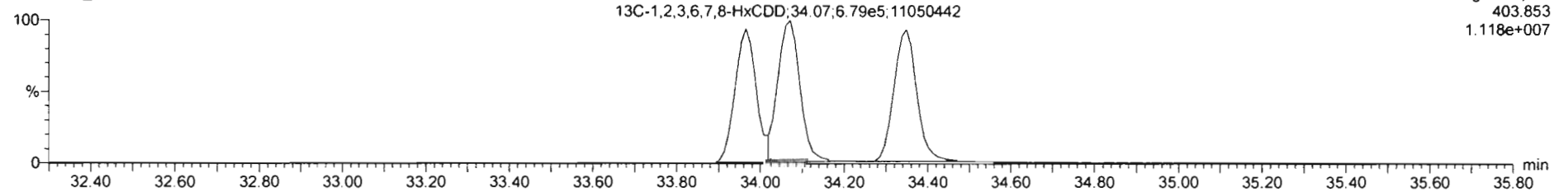


13C-1,2,3,4,7,8-HxCDD

200131R1\_13



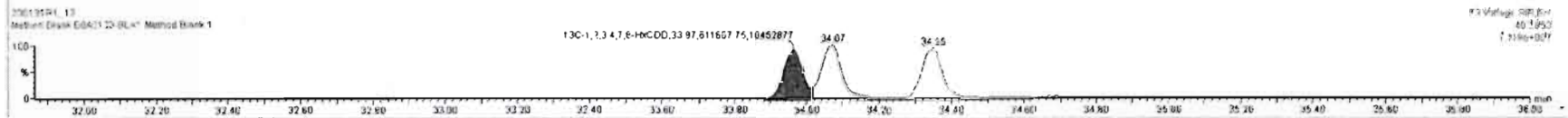
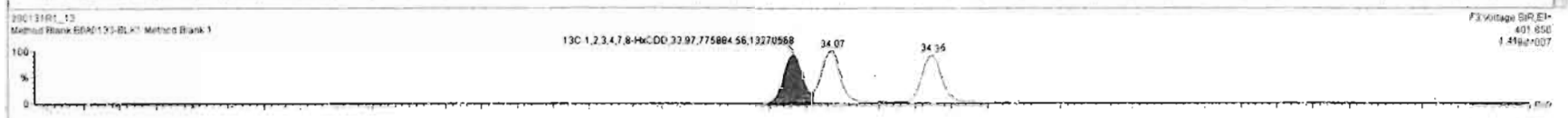
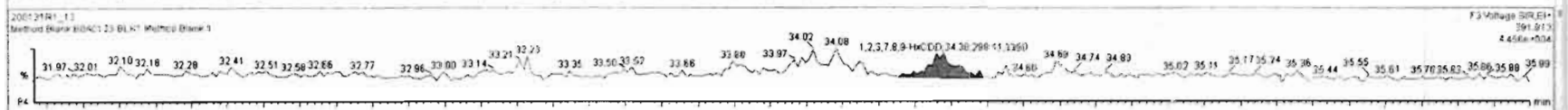
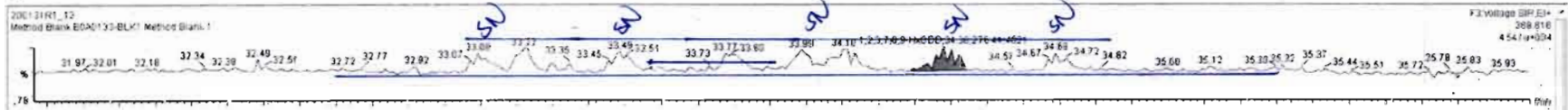
200131R1\_13



200131R1\_13 - B0A0133-BLK 1 Method Blank 1 - Method Blank

#	Name	Conc.	DL	%Rec	EMPC	Abs Resp	RRF	RT #	IS#	RA	Y/N	RRF	Acq Date	Acq Time	1 <sup>st</sup> Ch Name	ID	Sample Text	Factor1	S/M	Cal File
39	Total Tetra-Dioxins	0.237				0.395		39					01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	ms-1
40	Total Penta-Dioxins	0.00000	0.160		0.79072	0.972		40					01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	ms-1
41	Total Hexa-Dioxins	0.00000	0.279		0.744938	0.921		41					01-Feb-20	02:13:32		B0A0133-B	Method Blank	0.0	1.00	ms-1

#	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	rv	Resp	Conc.	EMPC
1	1,2,3,7,8,9-HxCDD	34.30	4.621e3	3.890e1	2.764e2	2.981e2	0.93	YES	6.745e2	0.000	0.745

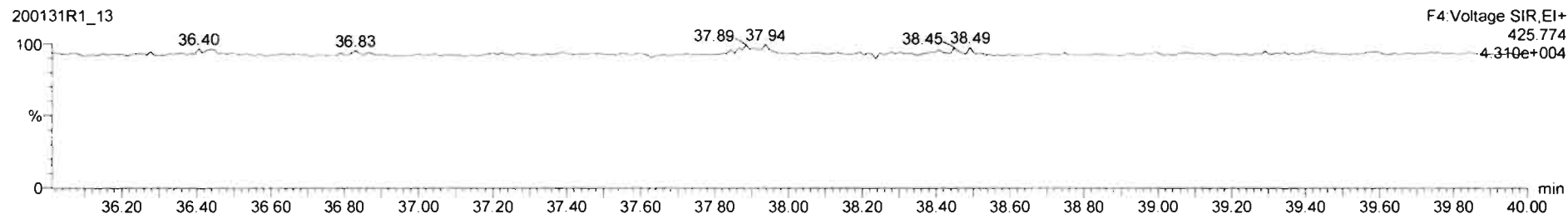
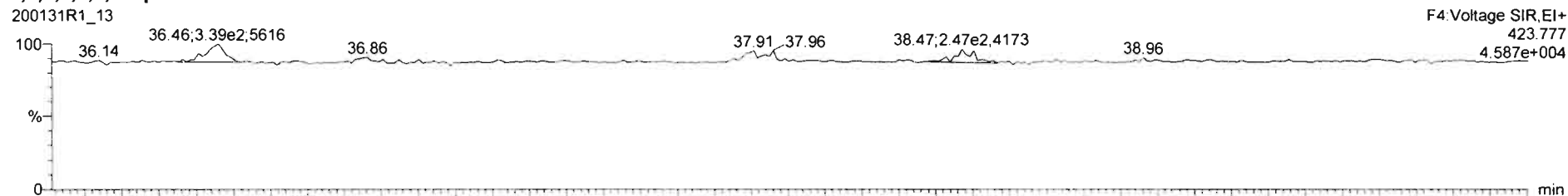


Dataset: Untitled

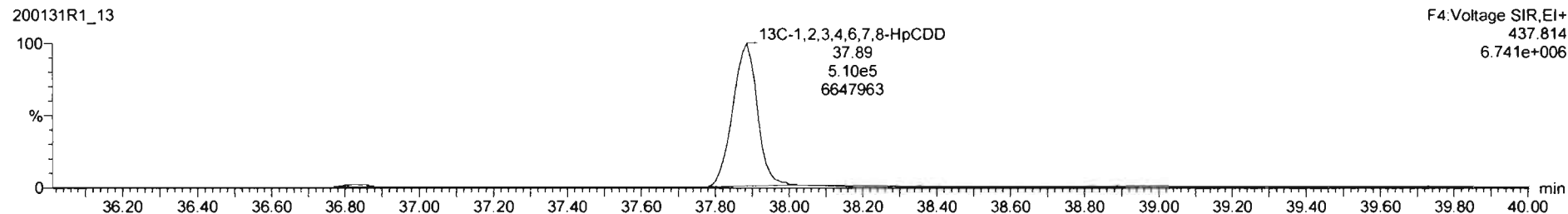
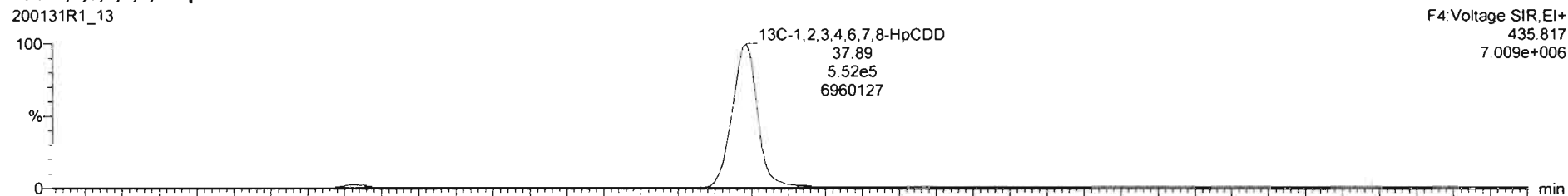
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

1,2,3,4,6,7,8-HpCDD



13C-1,2,3,4,6,7,8-HpCDD

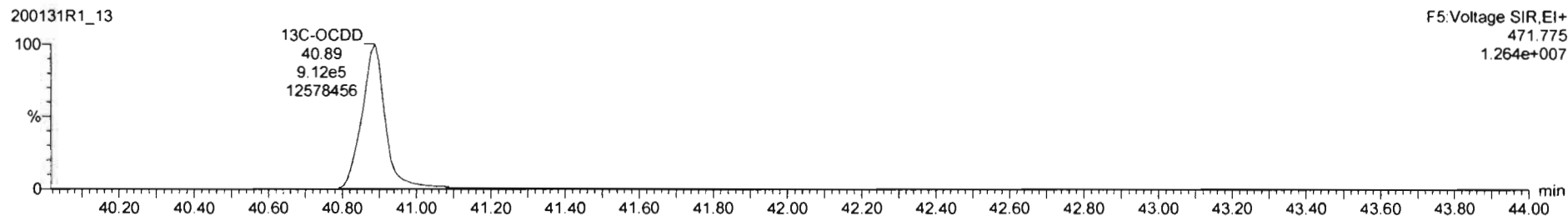
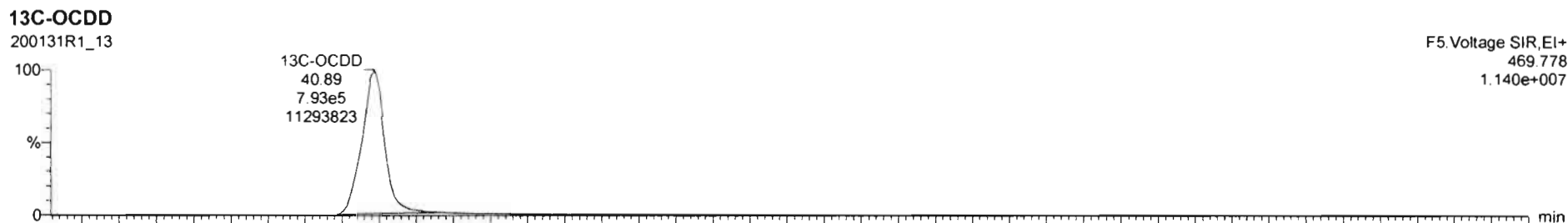
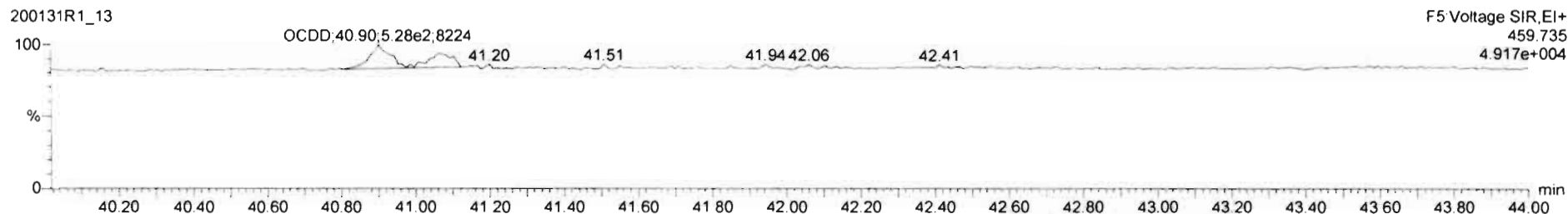
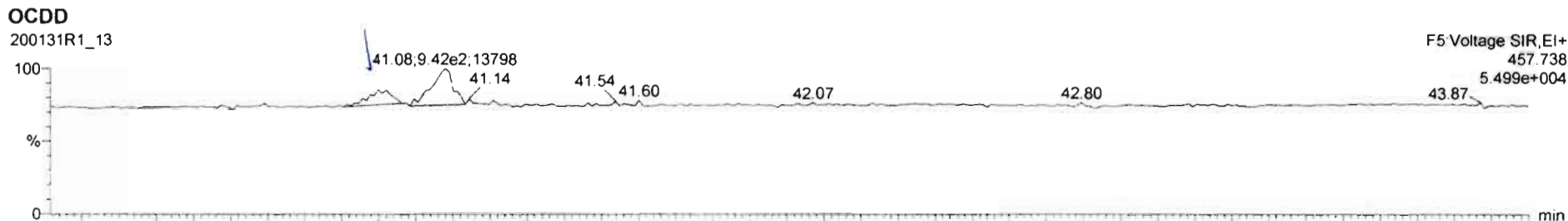


Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank



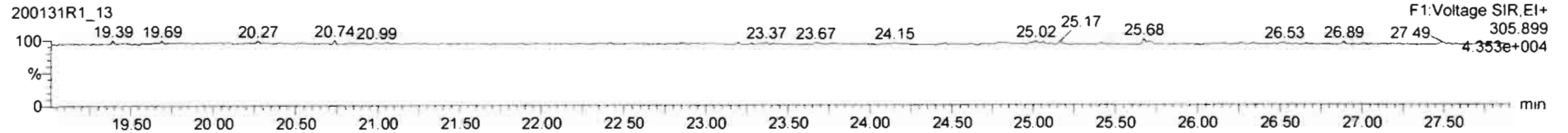


Dataset: Untitled

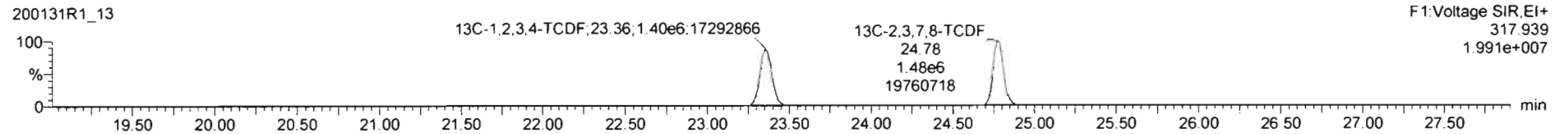
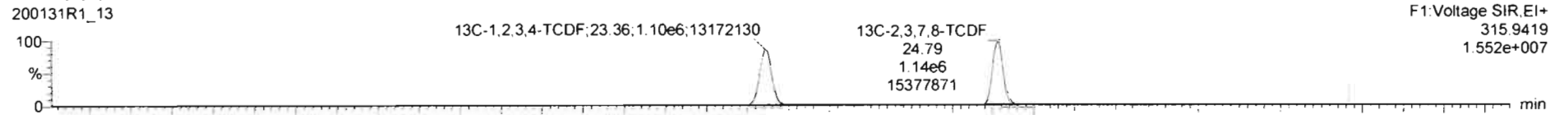
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

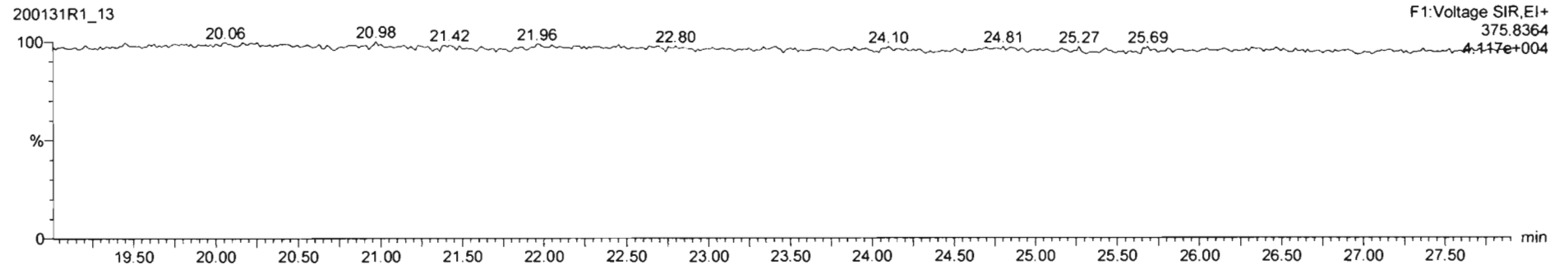
**2,3,7,8-TCDF**



**13C-2,3,7,8-TCDF**



**DPE1**



Dataset: Untitled

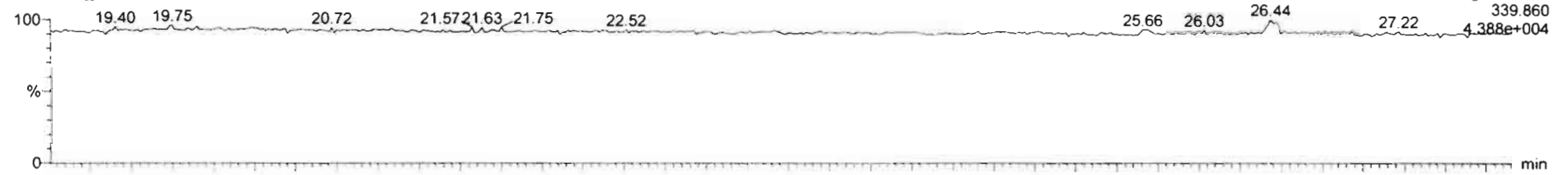
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

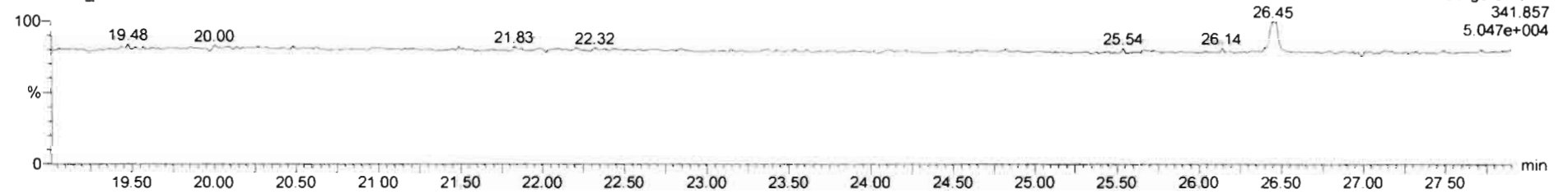
Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

1st Func. Penta-Furans

200131R1\_13

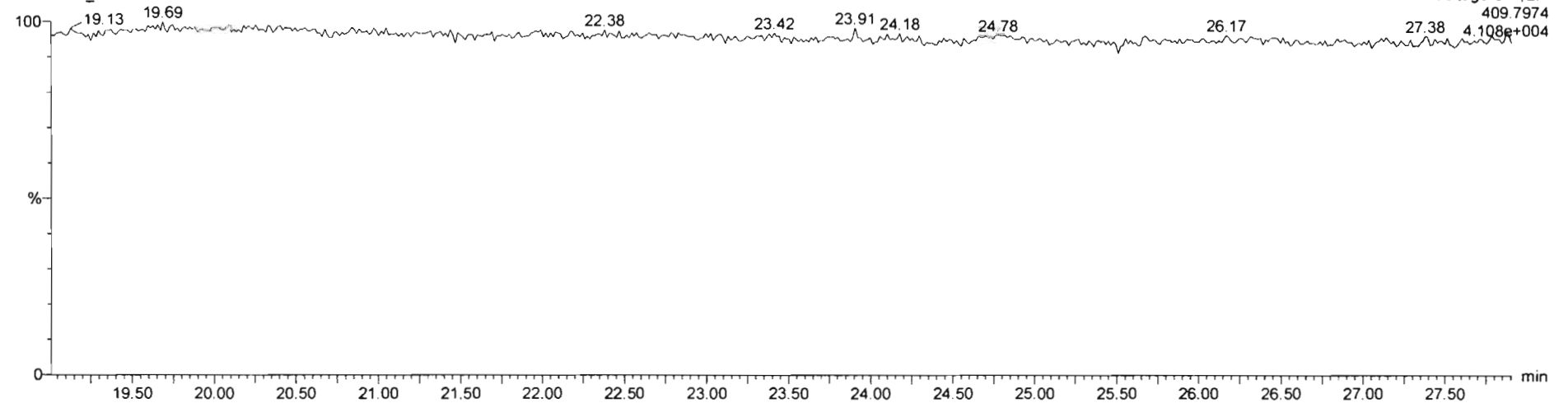


200131R1\_13



DPE6

200131R1\_13

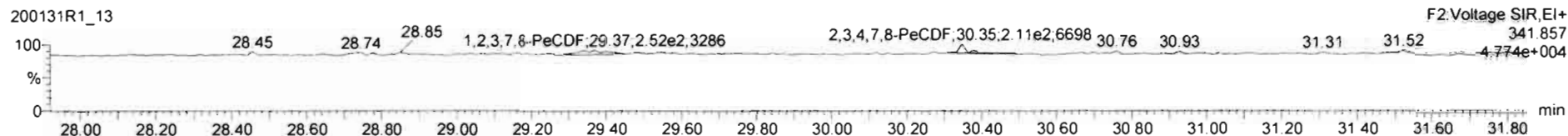
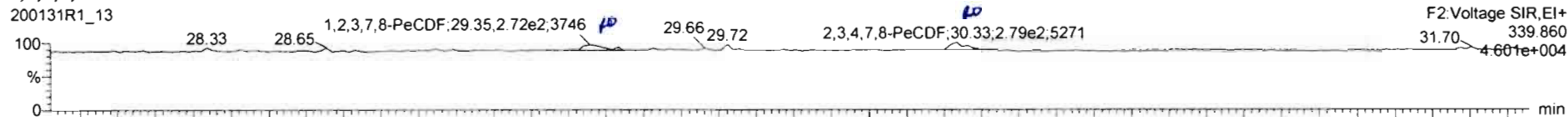


Dataset: Untitled

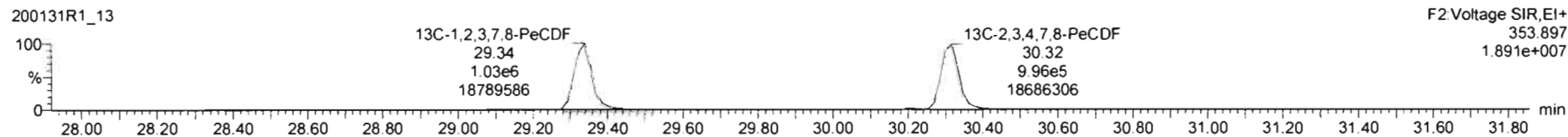
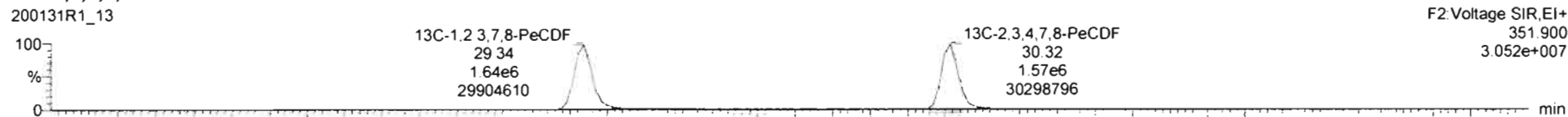
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

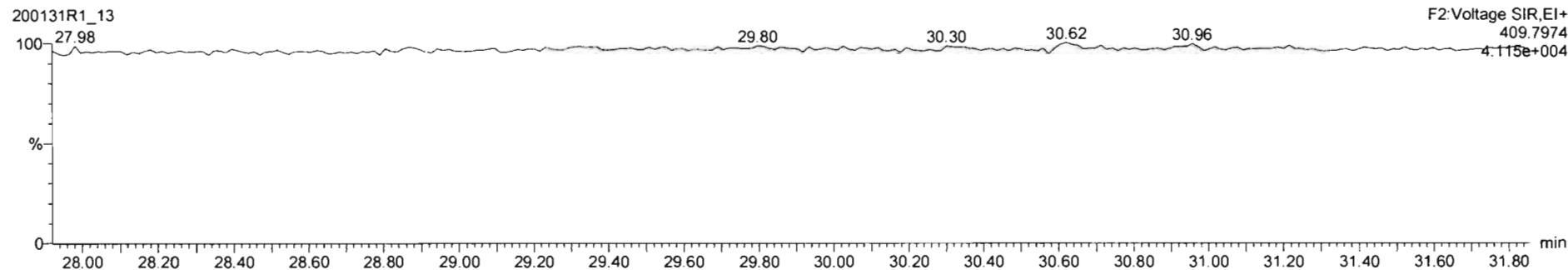
**1,2,3,7,8-PeCDF**



**13C-1,2,3,7,8-PeCDF**



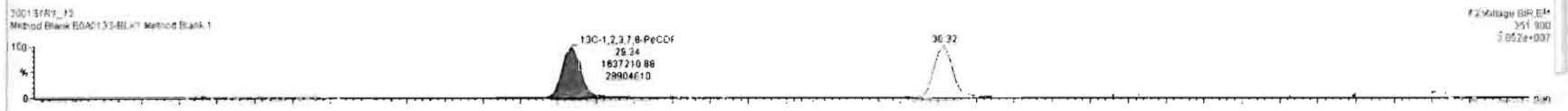
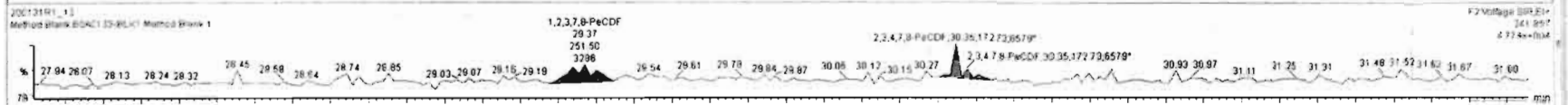
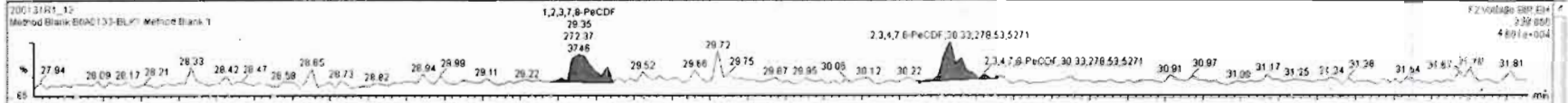
**DPE2**



200121R1\_13 - E0A0133-BL01 Method Blank 1 - Method Blank

Name	Conc	DL	%Rec	EMPC	Abs Resp	RRF	RT	#	ISL	PA	Y/N	RRT	Acq Date	Ann Time	1* Chk Nbrs	ID	Sample Test	Factor1	S/N	Cal File
45 Total Penta-Furans	0.000000	0.133		0.745756		0.807		45					01-Feb-20	02:13:32		E0A0133-B	Method Blank	0.0	1.00	db5_1
46 Total Hexa-Furans	0.000000	0.197		1.13032		0.898		46					01-Feb-20	02:13:32		E0A0133-B	Method Blank	0.0	1.00	db5_1
47 Total Hepta-Furans		0.396				0.851		47					01-Feb-20	02:13:32		E0A0133-B	Method Blank	0.0	1.00	db5_1

Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	dy	Resp	Conc	EMPC
1 2,3,4,7,8-PeCDF	30.33	5.271e3	5.696e3	2.785e2	2.114e2	1.32	YES	4.900e2	0.000	0.375
2 1,2,3,7,8-PeCDF	29.35	3.746e3	3.296e3	2.724e2	2.515e2	1.08	YES	5.239e2	0.000	0.370

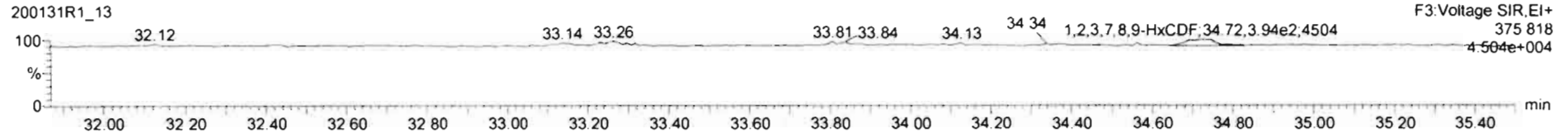
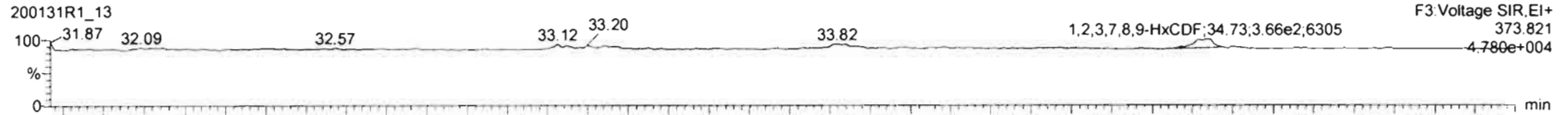


Dataset: Untitled

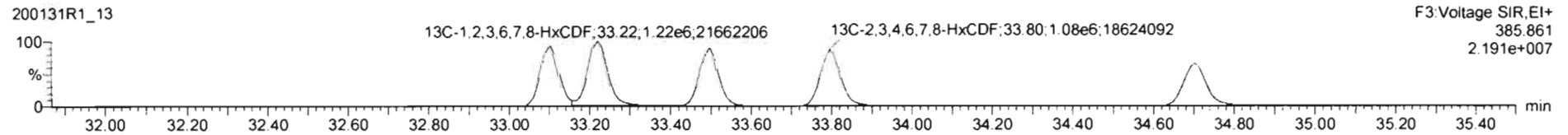
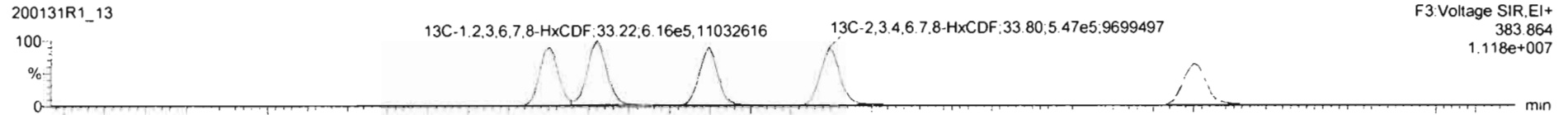
Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

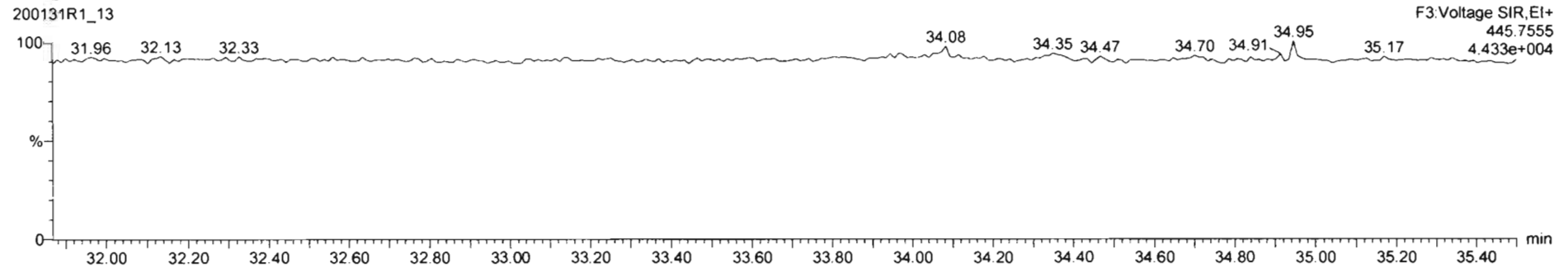
1,2,3,4,7,8-HxCDF



13C-1,2,3,4,7,8-HxCDF



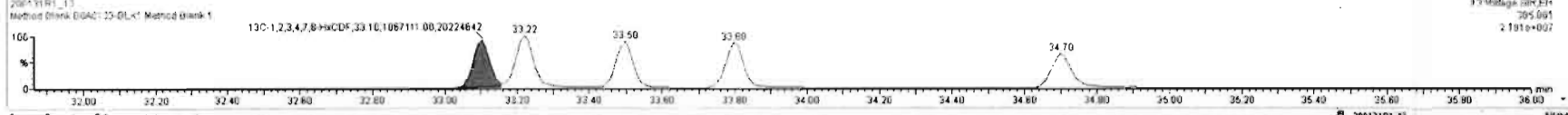
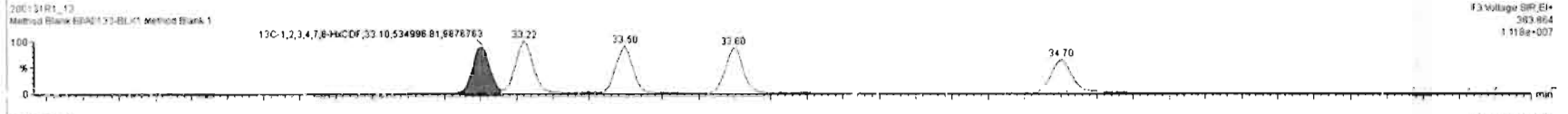
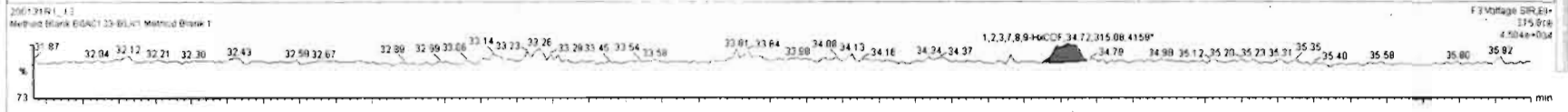
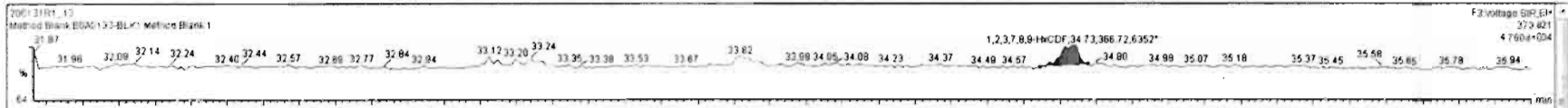
DPE3



200131R1\_13-BQAU133-BLK1 Method Blank 1 - Method Blank

Name	Conc	DL	%Rec	EMPC	Altz Resp	RPF	RT	#	ISL	RA	Y/N	RRT	Acq Date	Acq Time	** Original ID	Sample Text	Factor	Srta	Cal File
46 Total Hoare-Furans	0.000000	0.197		1.13032		0.890	46						01-Feb-20	02:13:32	BQAU133-B	Method Blank	0.0	1.00	db5_1
47 Total Hoare-Furans		0.296				0.851	47						01-Feb-20	02:13:32	BQAU133-B	Method Blank	0.0	1.00	db5_1
48 FRK1							48								BQAU133-B				

Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	dy	Resp	Conc	EMPC
1 1,2,3,4,7,8-HxCDF	34.73	6.356e3	4.504e2	2.659e2	3.037e2	0.93	YES	7.597e2	0.000	1.13



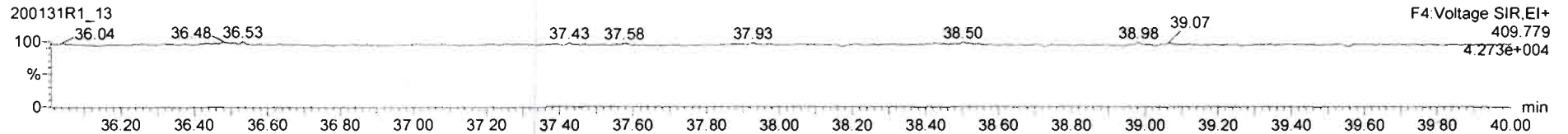
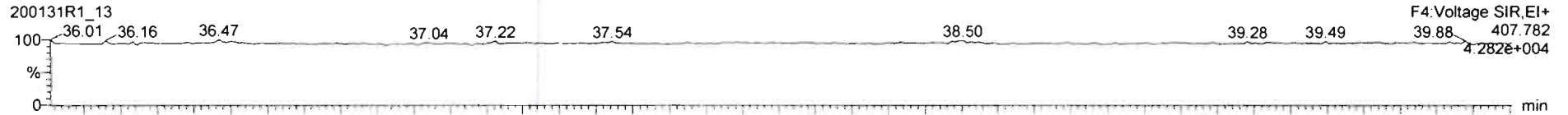
Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time

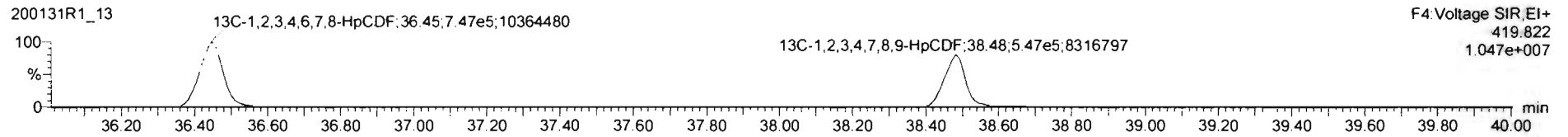
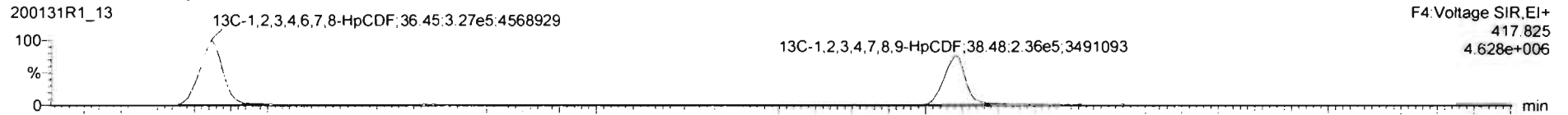
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

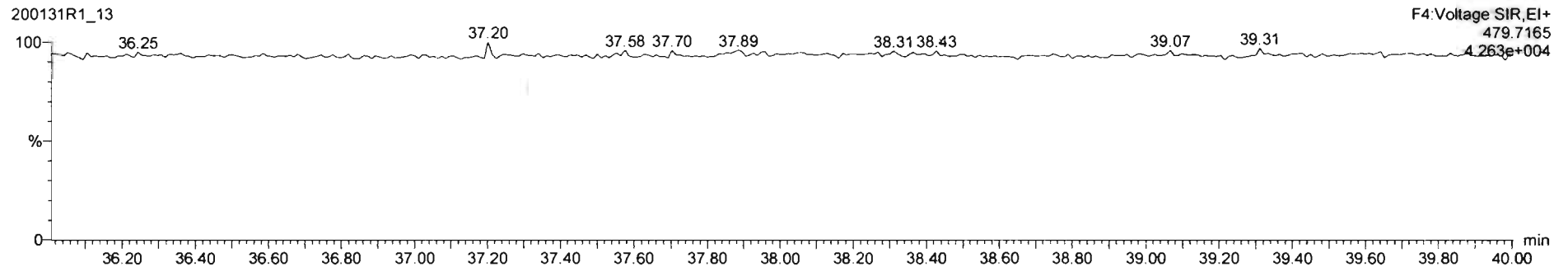
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**

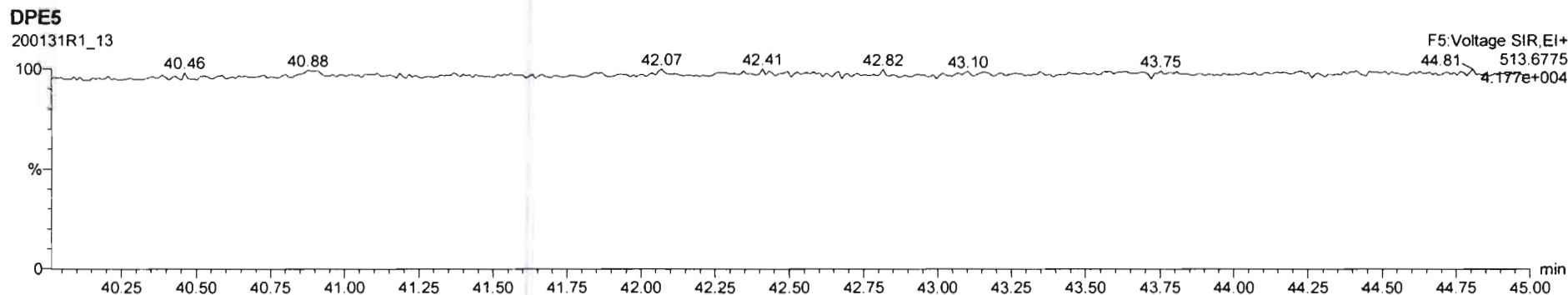
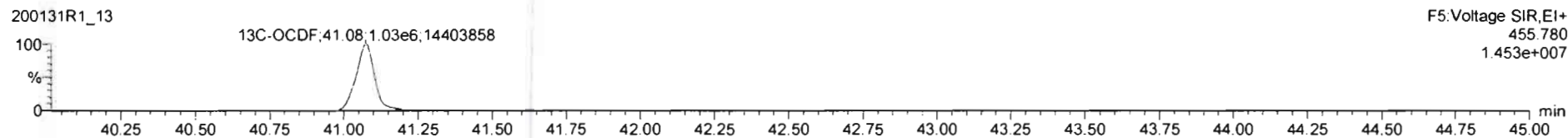
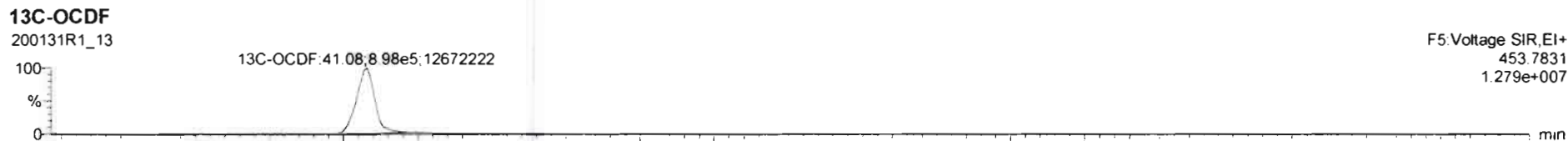
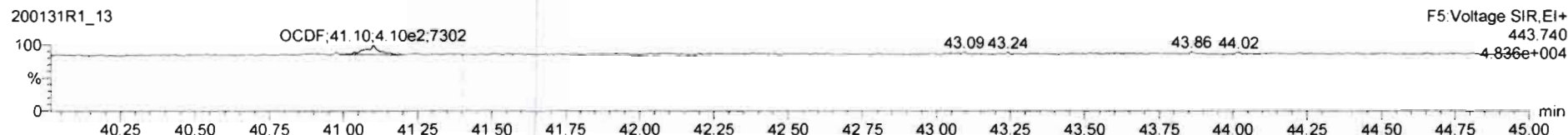
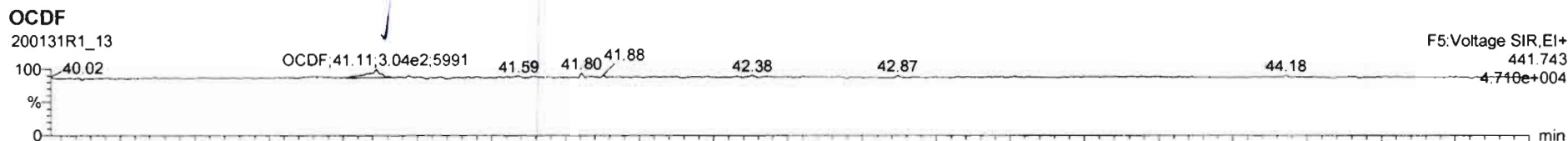


Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank

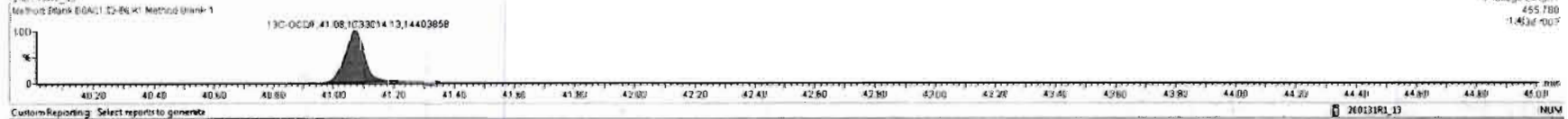
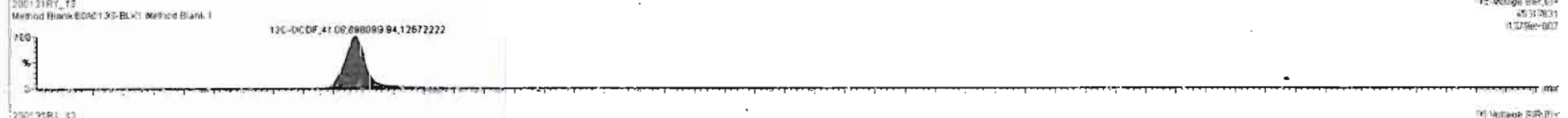
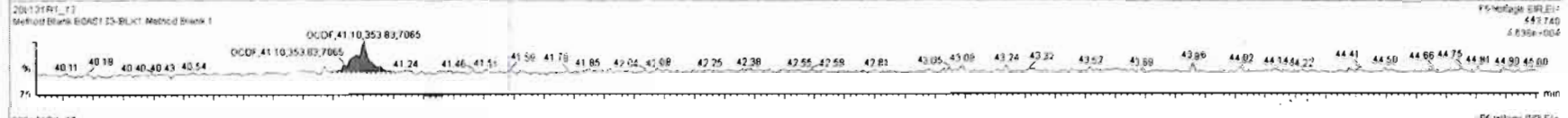
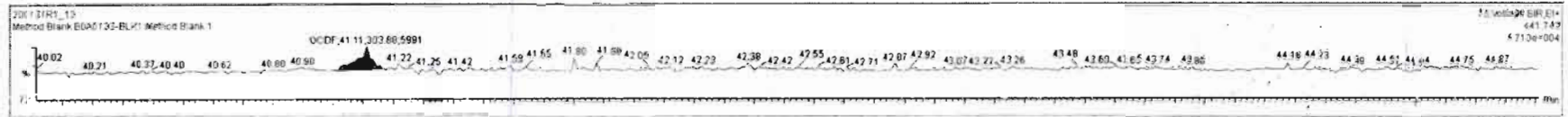




200131R1\_13 - B0A0133-BLK1 Method Blank 1 - Method Blank

ID	Name	Conc	Ex	%Rec	EMC	Abs Resp	RRF	RT	#	Std	PA	Y/N	RR1	Acq Date	Acq Time	1 <sup>st</sup> Ch Name	ID	Sample Text	Factor	Std. C.M. File
17	OCDF	1.69120	0.718		1.69120	6.577e2	0.826	41.11	17	34	0.859	NO	1.001	01-Feb-20	02:17:32	644.085	B0A0133-B	Method Blank	0.0	1.00\cb5_1
18	13C-2,3,7,8-TCDD	2067.16	1.98	103.4		1.967e6	1.19	25.86	18	36	0.755	NO	1.026	01-Feb-20	02:13:32	4501.114	B0A0133-B	Method Blank	0.0	1.00\cb5_1
19	13C-1,2,3,7,8-PeCDD	2094.35	2.42	104.7		1.609e6	0.961	30.62	19	38	0.652	NO	1.224	01-Feb-20	02:13:32	5035.293	B0A0133-B	Method Blank	0.0	1.00\cb5_1

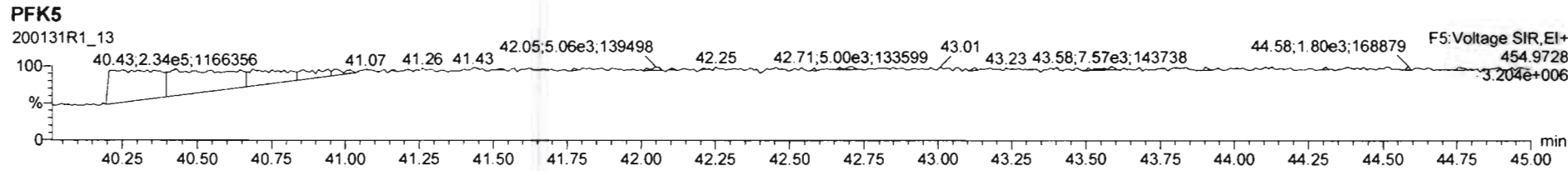
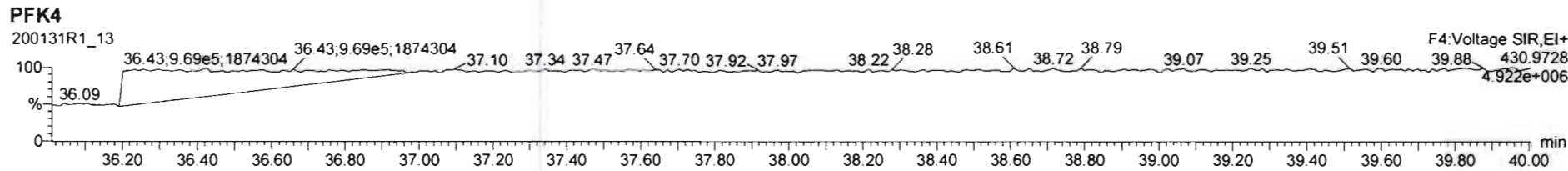
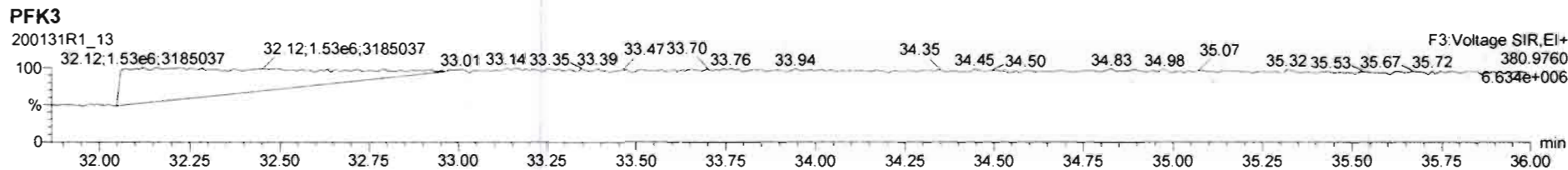
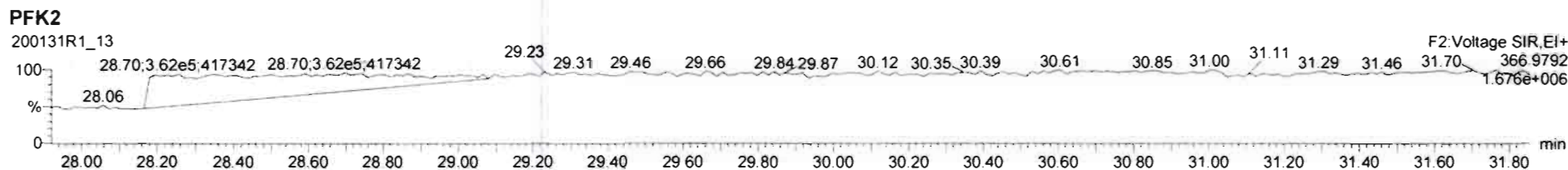
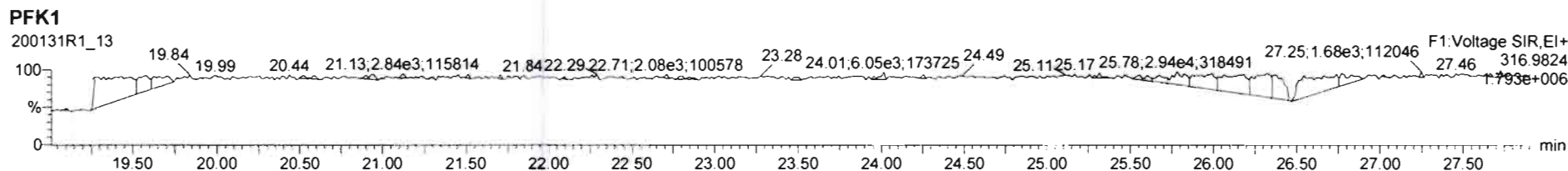
ID	Name	RT	m1 Height	m2 Height	m1 Resp	m2 Resp	RA	n1y	Resp	Conc	EMC
1											



Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:29:35 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:30:21 AM Pacific Standard Time

Name: 200131R1\_13, Date: 01-Feb-2020, Time: 02:13:32, ID: B0A0133-BLK1 Method Blank 1, Description: Method Blank



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Monday, February 03, 2020 09:54:12 Pacific Standard Time

Printed: Monday, February 03, 2020 10:09:22 Pacific Standard Time

*BL 02/03/2020*

*0702/03/2020*

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	162266.336	0.783	NO	0.988	1.000	25.71	25.69	1.00	1.00	NO	183.6		0.587	183.6
2	2 1,2,3,7,8-PeCDD	663168.828	0.627	NO	0.972	1.000	30.64	30.64	1.00	1.00	NO	915.3		1.18	915.3
3	3 1,2,3,4,7,8-HxCDD	600793.219	1.224	NO	1.07	1.000	33.98	33.98	1.00	1.00	NO	912.1		1.60	912.1
4	4 1,2,3,6,7,8-HxCDD	614384.719	1.232	NO	0.921	1.000	34.07	34.08	1.00	1.00	NO	945.6		1.72	945.6
5	5 1,2,3,7,8,9-HxCDD	566762.203	1.211	NO	0.918	1.000	34.38	34.36	1.00	1.00	NO	924.8		1.90	924.8
6	6 1,2,3,4,6,7,8-HpCDD	398822.907	1.004	NO	0.923	1.000	37.90	37.90	1.00	1.00	NO	909.8		3.93	909.8
7	7 OCDD	694685.750	0.876	NO	0.975	1.000	40.89	40.90	1.00	1.00	NO	1868		2.27	1868
8	8 2,3,7,8-TCDF	170390.539	0.739	NO	0.802	1.000	24.82	24.82	1.00	1.00	NO	181.0		0.535	181.0
9	9 1,2,3,7,8-PeCDF	1028690.7...	1.541	NO	0.907	1.000	29.36	29.35	1.00	1.00	NO	927.9		1.18	927.9
10	10 2,3,4,7,8-PeCDF	1040181.2...	1.523	NO	0.952	1.000	30.35	30.33	1.00	1.00	NO	937.7		1.09	937.7
11	11 1,2,3,4,7,8-HxCDF	592063.563	1.172	NO	0.862	1.000	33.10	33.13	1.00	1.00	NO	923.7		1.92	923.7
12	12 1,2,3,6,7,8-HxCDF	657850.687	1.168	NO	0.841	1.000	33.23	33.24	1.00	1.00	NO	928.5		1.83	928.5
13	13 2,3,4,6,7,8-HxCDF	620387.094	1.161	NO	0.898	1.000	33.83	33.82	1.00	1.00	NO	926.5		1.97	926.5
14	14 1,2,3,7,8,9-HxCDF	489830.391	1.192	NO	0.858	1.000	34.70	34.72	1.00	1.00	NO	906.6		2.77	906.6
15	15 1,2,3,4,6,7,8-HpCDF	379854.969	0.972	NO	0.851	1.000	36.48	36.47	1.00	1.00	NO	919.9		3.43	919.9
16	16 1,2,3,4,7,8,9-HpCDF	324378.328	0.956	NO	0.980	1.000	38.48	38.49	1.00	1.00	NO	930.7		3.62	930.7
17	17 OCDF	656944.251	0.864	NO	0.806	1.000	41.08	41.09	1.00	1.00	NO	1855		2.08	1855
18	18 13C-2,3,7,8-TCDD	1788852.8...	0.794	NO	1.20	1.000	25.68	25.67	1.03	1.03	NO	2087	104	1.73	
19	19 13C-1,2,3,7,8-PeCDD	1490430.0...	0.631	NO	0.967	1.000	30.41	30.62	1.22	1.22	NO	2156	108	3.03	
20	20 13C-1,2,3,4,7,8-HxCDD	1230349.3...	1.271	NO	0.874	1.000	33.97	33.97	1.01	1.01	NO	2002	100	3.43	
21	21 13C-1,2,3,6,7,8-HxCDD	1410786.3...	1.256	NO	1.05	1.000	34.07	34.07	1.02	1.02	NO	1918	95.9	2.87	
22	22 13C-1,2,3,7,8,9-HxCDD	1334929.8...	1.252	NO	0.974	1.000	34.37	34.35	1.03	1.03	NO	1948	97.4	3.08	
23	23 13C-1,2,3,4,6,7,8-HpCDD	949784.031	1.046	NO	0.747	1.000	37.92	37.89	1.13	1.13	NO	1808	90.4	5.15	
24	24 13C-OCDD	1526348.9...	0.872	NO	0.707	1.000	40.80	40.89	1.22	1.22	NO	3072	76.8	3.56	
25	25 13C-2,3,7,8-TCDF	2347668.7...	0.778	NO	1.07	1.000	24.86	24.79	0.99	0.99	NO	1976	98.8	2.43	
26	26 13C-1,2,3,7,8-PeCDF	2443556.5...	1.582	NO	1.00	1.000	29.19	29.34	1.17	1.17	NO	2187	109	4.22	
27	27 13C-2,3,4,7,8-PeCDF	2331376.3...	1.570	NO	0.962	1.000	30.14	30.32	1.20	1.21	NO	2174	109	4.39	
28	28 13C-1,2,3,4,7,8-HxCDF	1486693.0...	0.502	NO	1.05	1.000	33.10	33.10	0.99	0.99	NO	2015	101	4.06	
29	29 13C-1,2,3,6,7,8-HxCDF	1684110.8...	0.506	NO	1.19	1.000	33.20	33.22	0.99	0.99	NO	2013	101	3.58	
30	30 13C-2,3,4,6,7,8-HxCDF	1490920.5...	0.505	NO	1.07	1.000	33.80	33.80	1.01	1.01	NO	1988	99.4	3.99	

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Monday, February 03, 2020 09:54:12 Pacific Standard Time

Printed: Monday, February 03, 2020 10:09:22 Pacific Standard Time

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
31	13C-1,2,3,7,8,9-HxCDF	1259740.0...	0.512	NO	0.922	1.000	34.70	34.70	1.04	1.04	NO	1942	97.1	4.61	
32	13C-1,2,3,4,6,7,8-HpCDF	970395.032	0.431	NO	0.767	1.000	36.44	36.45	1.09	1.09	NO	1799	89.9	5.03	
33	13C-1,2,3,4,7,8,9-HpCDF	711345.953	0.433	NO	0.552	1.000	38.45	38.48	1.15	1.15	NO	1831	91.6	6.99	
34	13C-OCDF	1758788.4...	0.869	NO	0.789	1.000	41.03	41.08	1.23	1.23	NO	3168	79.2	3.53	
35	37Cl-2,3,7,8-TCDD	692343.875			1.18	1.000	25.71	25.69	1.03	1.03	NO	823.1	103	0.479	
36	13C-1,2,3,4-TCDD	1430137.6...	0.800	NO	1.00	1.000	25.08	25.03	1.00	1.00	NO	2000	100	2.07	
37	13C-1,2,3,4-TCDF	2230372.8...	0.786	NO	1.00	1.000	23.42	23.37	1.00	1.00	NO	2000	100	2.59	
38	13C-1,2,3,4,6,9-HxCDF	1406417.6...	0.509	NO	1.00	1.000	33.52	33.50	1.00	1.00	NO	2000	100	4.26	
39	Total Tetra-Dioxins				0.988	1.000	24.62		0.00		NO	183.6		0.587	188.0
40	Total Penta-Dioxins				0.972	1.000	29.96		0.00		NO	915.3		1.18	917.8
41	Total Hexa-Dioxins				0.921	1.000	33.63		0.00		NO	2782		1.82	2784
42	Total Hepta-Dioxins				0.923	1.000	37.64		0.00		NO	909.8		3.93	916.5
43	Total Tetra-Furans				0.802	1.000	23.61		0.00		NO	181.0		0.535	181.7
44	1st Func. Penta-Furans				0.907	1.000	27.09		0.00		NO			0.111	
45	Total Penta-Furans				0.907	1.000	29.27		0.00		NO	1881		1.16	1885
46	Total Hexa-Furans				0.898	1.000	33.56		0.00		NO	3687		2.01	3687
47	Total Hepta-Furans				0.851	1.000	37.83		0.00		NO	1856		3.74	1856

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Monday, February 03, 2020 09:54:12 Pacific Standard Time

Printed: Monday, February 03, 2020 10:09:50 Pacific Standard Time

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Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

**Tetra-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	1 2,3,7,8-TCDD	1.62e5	1.79e6	0.783	NO	25.71	25.69	183.6	183.6
2	39 Total Tetra-Dioxins	0.00e0	1.79e6	0.961	YES	24.62	25.41	0.0000	4.411

**Penta-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	2 1,2,3,7,8-PeCDD	6.63e5	1.49e6	0.627	NO	30.64	30.64	915.3	915.3
2	40 Total Penta-Dioxins	0.00e0	1.49e6	2.328	YES	29.96	30.32	0.0000	0.4520
3	40 Total Penta-Dioxins	0.00e0	1.49e6	0.440	YES	29.96	30.19	0.0000	1.286
4	40 Total Penta-Dioxins	0.00e0	1.49e6	0.430	YES	29.96	29.40	0.0000	0.7989

**Hexa-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	41 Total Hexa-Dioxins	0.00e0	0.00e0	1.879	YES	33.63	34.72	0.0000	1.110
2	5 1,2,3,7,8,9-HxCDD	5.67e5	1.33e6	1.211	NO	34.38	34.36	924.8	924.8
3	4 1,2,3,6,7,8-HxCDD	6.14e5	1.41e6	1.232	NO	34.07	34.08	945.6	945.6
4	3 1,2,3,4,7,8-HxCDD	6.01e5	1.23e6	1.224	NO	33.98	33.98	912.1	912.1

**Hepta-Dioxins**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	3.99e5	9.50e5	1.004	NO	37.90	37.90	909.8	909.8
2	42 Total Hepta-Dioxins	0.00e0	9.50e5	0.857	YES	37.64	36.85	0.0000	6.697

**Tetra-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	8 2,3,7,8-TCDF	1.70e5	2.35e6	0.739	NO	24.82	24.82	181.0	181.0
2	43 Total Tetra-Furans	0.00e0	2.35e6	0.478	YES	23.61	23.88	0.0000	0.6957

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Monday, February 03, 2020 09:54:12 Pacific Standard Time

Printed: Monday, February 03, 2020 10:09:50 Pacific Standard Time

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

**Penta-Furans function 1**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1									

**Penta-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	45 Total Penta-Furans	1.89e3	0.00e0	1.694	NO	29.27	29.17	1.749	1.749
2	45 Total Penta-Furans	0.00e0	0.00e0	0.913	YES	29.27	28.96	0.0000	0.9857
3	45 Total Penta-Furans	3.57e3	0.00e0	1.393	NO	29.27	28.38	3.294	3.294
4	45 Total Penta-Furans	0.00e0	0.00e0	1.193	YES	29.27	31.26	0.0000	3.276
5	10 2,3,4,7,8-PeCDF	1.04e6	2.33e6	1.523	NO	30.35	30.33	937.7	937.7
6	45 Total Penta-Furans	1.08e4	0.00e0	1.612	NO	29.27	29.61	9.990	9.990
7	9 1,2,3,7,8-PeCDF	1.03e6	2.44e6	1.541	NO	29.36	29.35	927.9	927.9

**Hexa-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	14 1,2,3,7,8,9-HxCDF	4.90e5	1.26e6	1.192	NO	34.70	34.72	906.6	906.6
2	13 2,3,4,6,7,8-HxCDF	6.20e5	1.49e6	1.161	NO	33.83	33.82	926.5	926.5
3	12 1,2,3,6,7,8-HxCDF	6.58e5	1.68e6	1.168	NO	33.23	33.24	928.5	928.5
4	11 1,2,3,4,7,8-HxCDF	5.92e5	1.49e6	1.172	NO	33.10	33.13	923.7	923.7
5	46 Total Hexa-Furans	1.23e3	0.00e0	1.161	NO	33.56	32.11	1.849	1.849

**Hepta-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	16 1,2,3,4,7,8,9-HpCDF	3.24e5	7.11e5	0.956	NO	38.48	38.49	930.7	930.7
2	47 Total Hepta-Furans	1.83e3	0.00e0	1.133	NO	37.83	37.08	5.107	5.107
3	15 1,2,3,4,6,7,8-HpCDF	3.80e5	9.70e5	0.972	NO	36.48	36.47	919.9	919.9

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

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Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

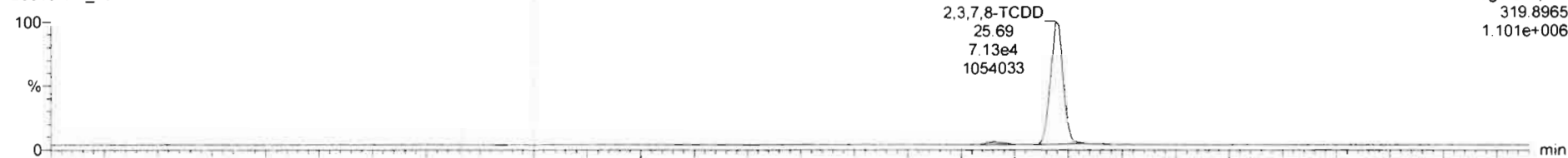
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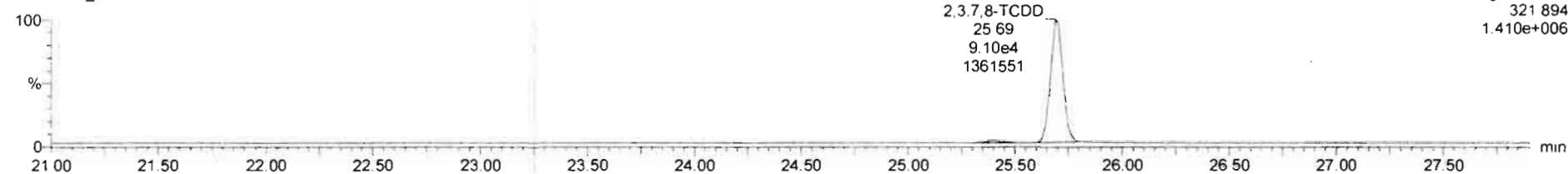
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2,3,7,8-TCDD

200131R1\_10

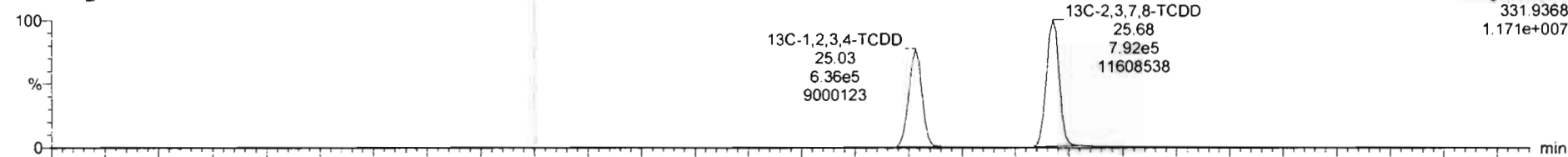


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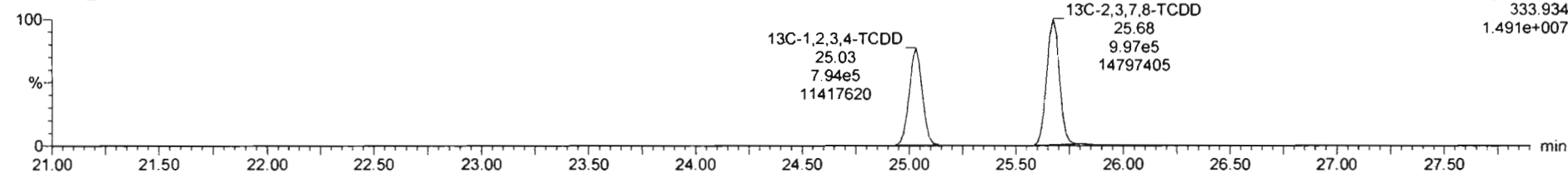


13C-2,3,7,8-TCDD

200131R1\_10



200131R1\_10



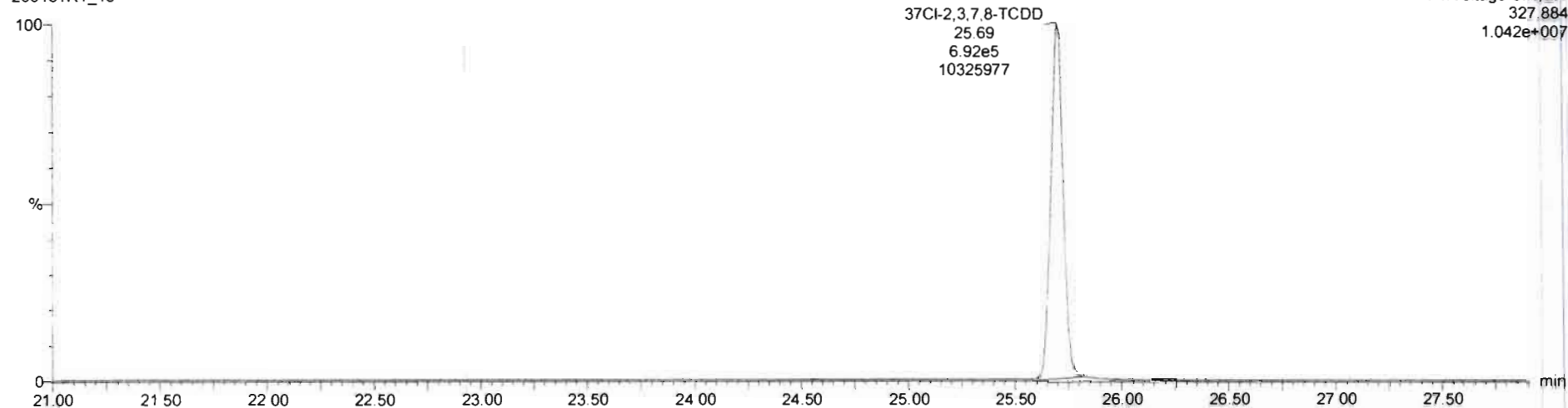
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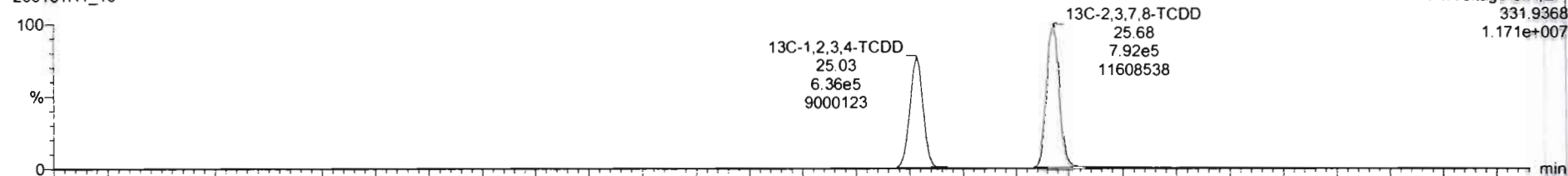
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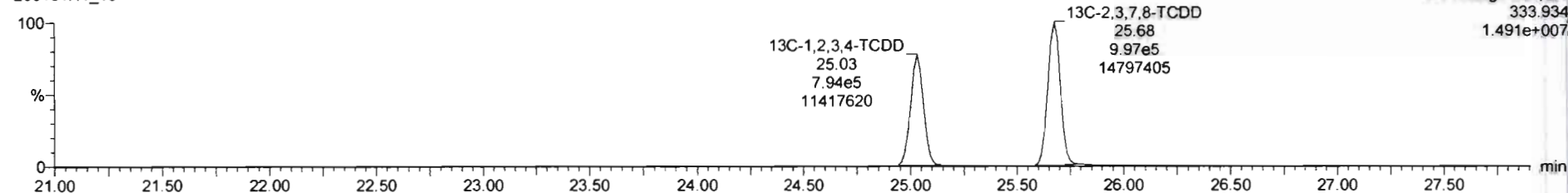


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200131R1\_10



200131R1\_10





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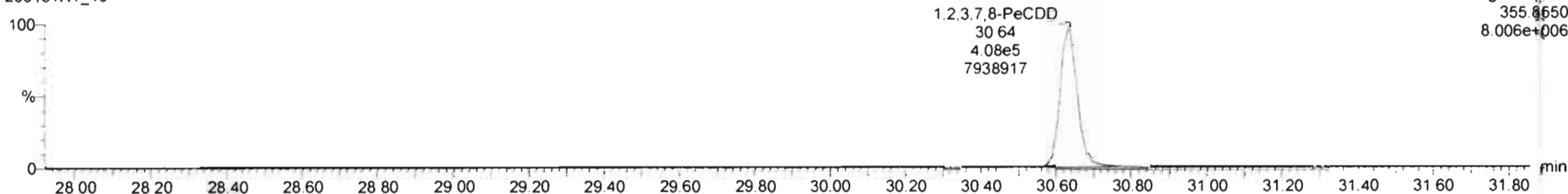
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1,2,3,7,8-PeCDD

200131R1\_10

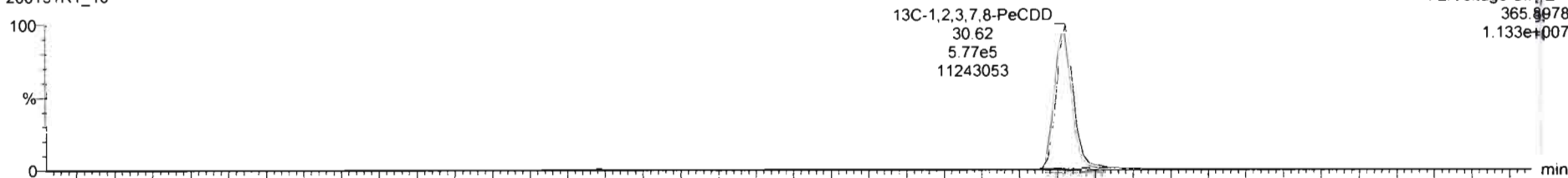


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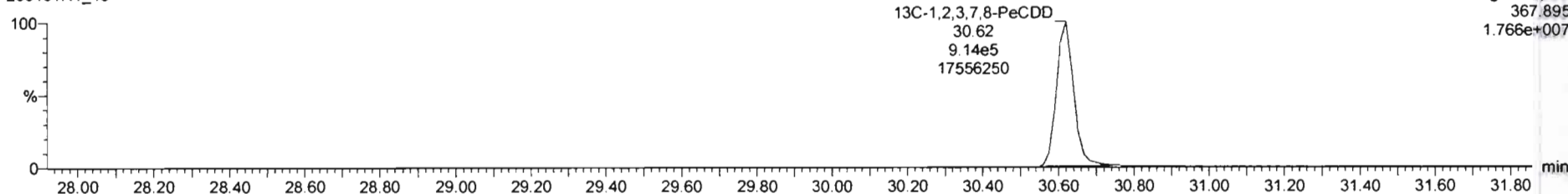


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200131R1\_10



200131R1\_10



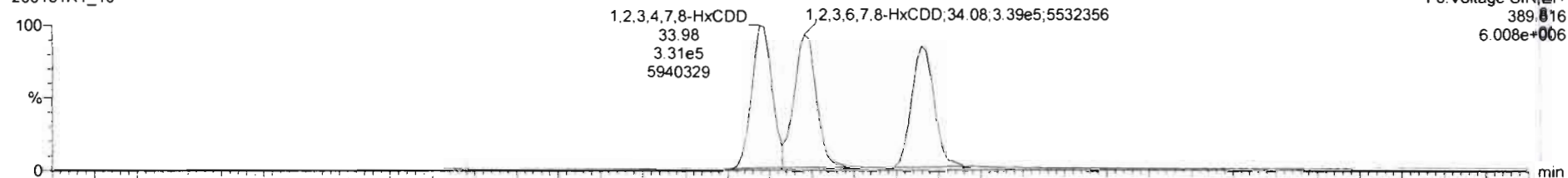
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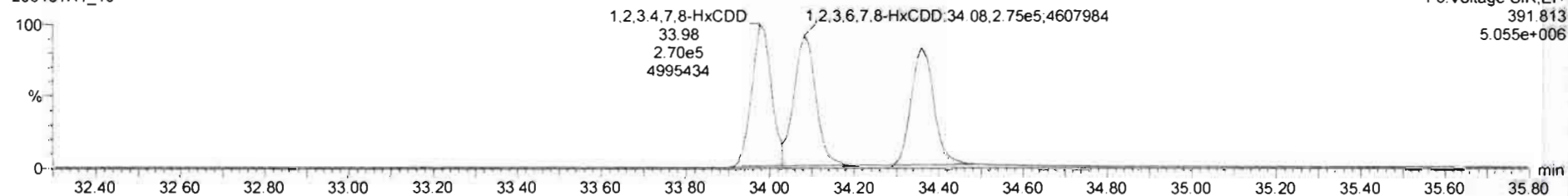
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1,2,3,4,7,8-HxCDD

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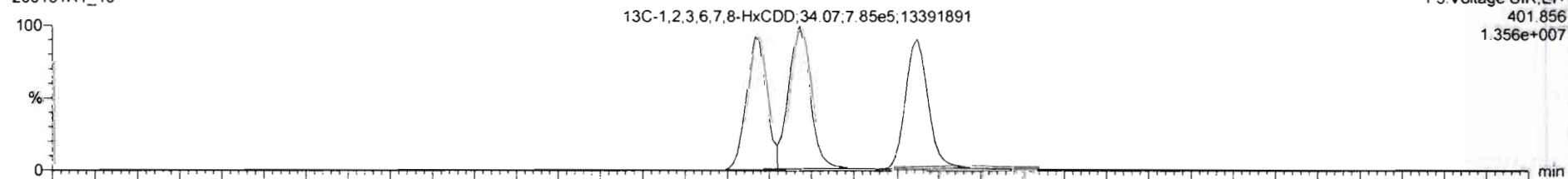


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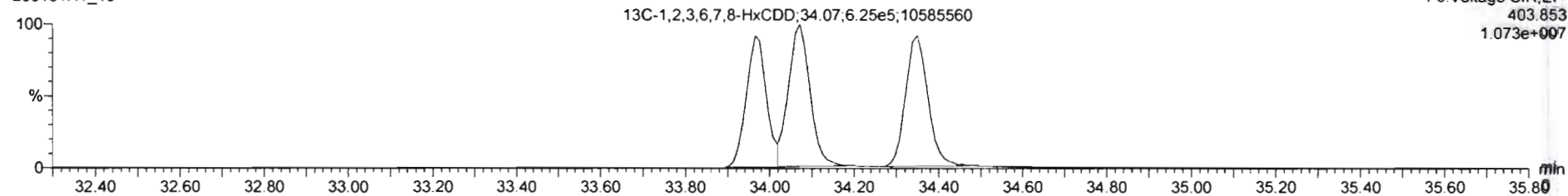


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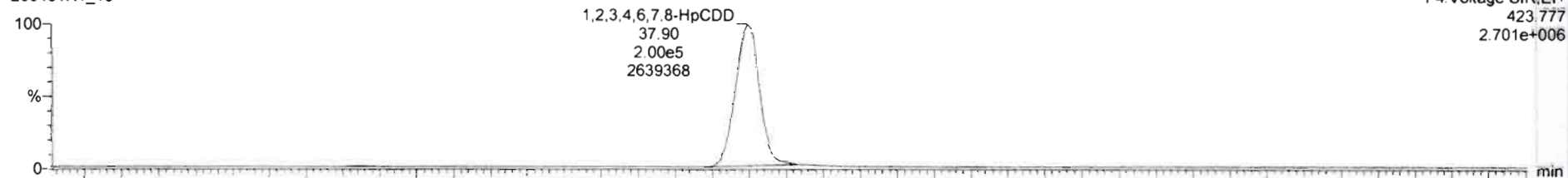
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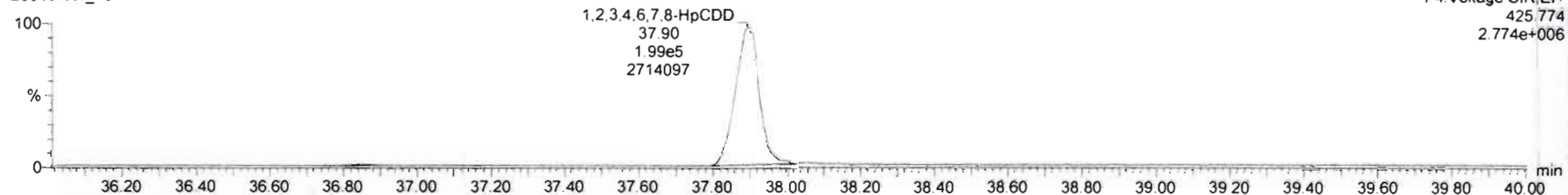
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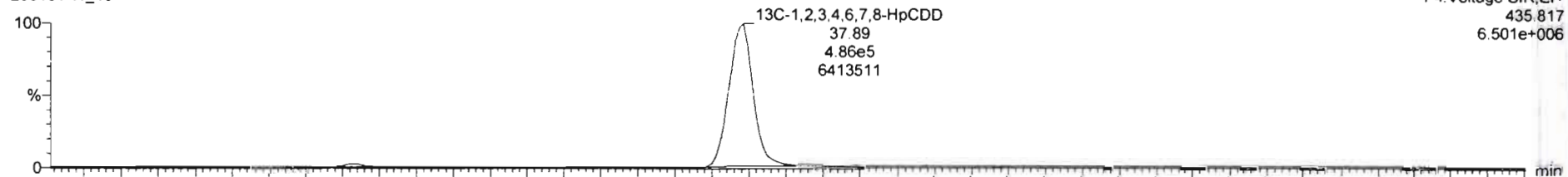


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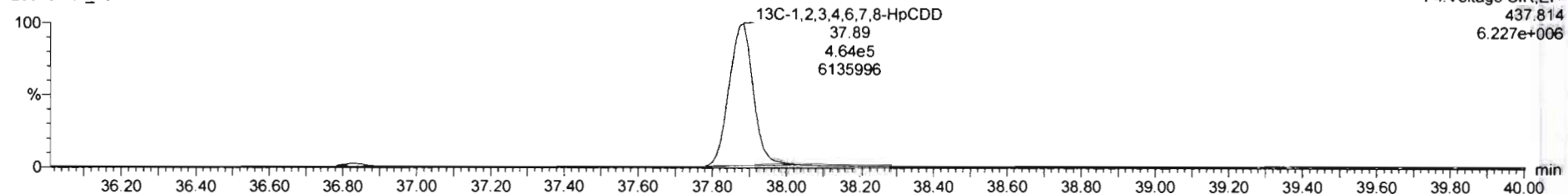


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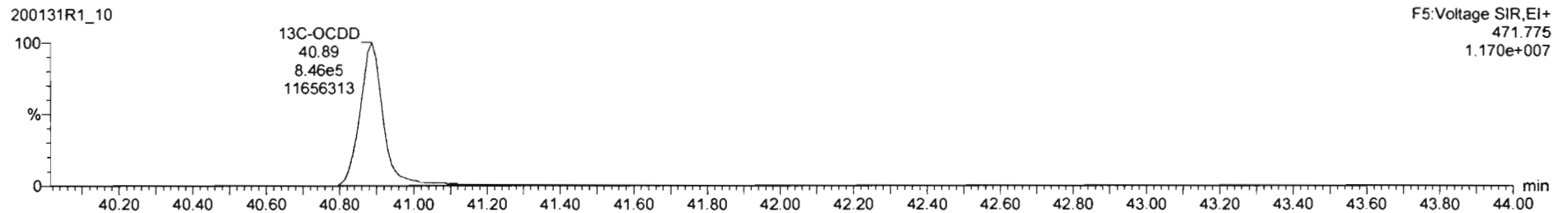
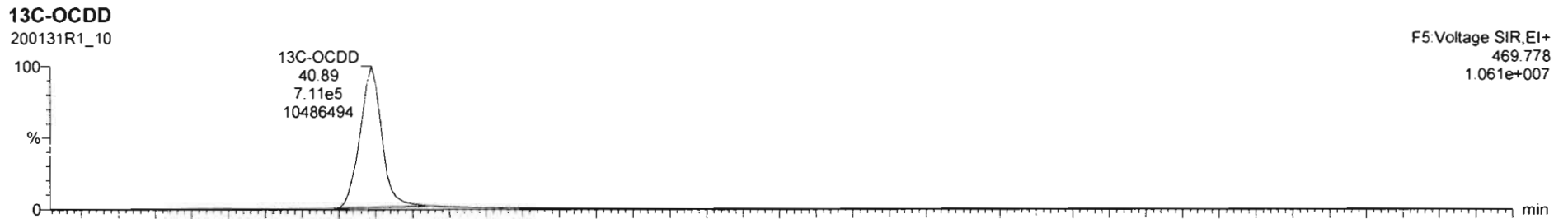
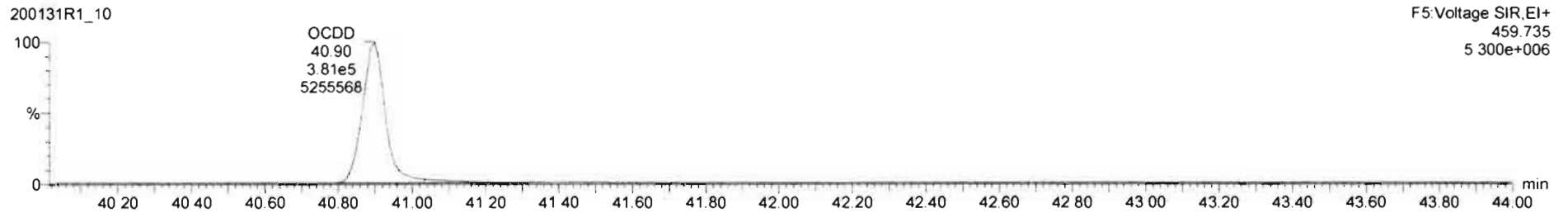
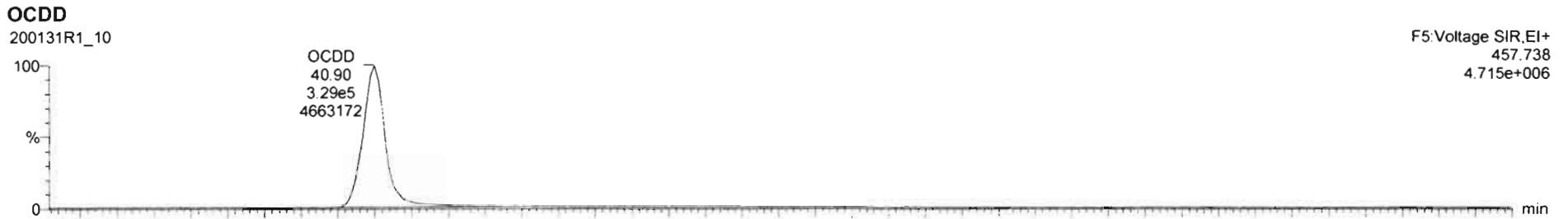


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Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

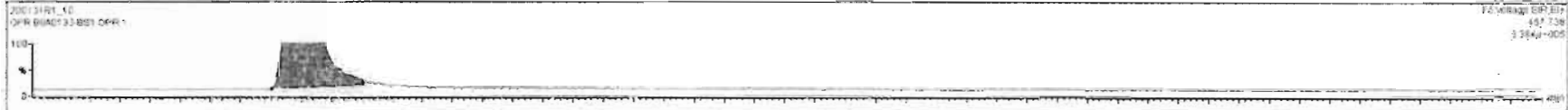
Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR



200131R1\_10-E0A0123-B51-QPR 1-QPR

#	Name	Resp	RA	n/y	RRF	wtAve	Pred RT	RT	Pred R	RRT	RRT Tol	Conc	SPeak	DL	EMPC
7	OCDD	710e5	0.87	NO	0.9746	1.000	40.59	40.90	1.000	1.000	NO	1872		2.25	1872
8	2,2,2,2-TCE	170e5	0.74	NO	0.8700	1.000	24.82	24.82	1.001	1.001	NO	181.0		0.536	181.0
9	1,2,3,7,8-PeCDF	103e6	1.54	NO	0.9074	1.000	29.36	29.35	1.001	1.000	NO	927.9		1.18	927.9

#	Name	Pred RT	RT	n/y	RRF	wtAve	1* Ratio (Pred)	RA	n/y	EMPC	Conc
1											



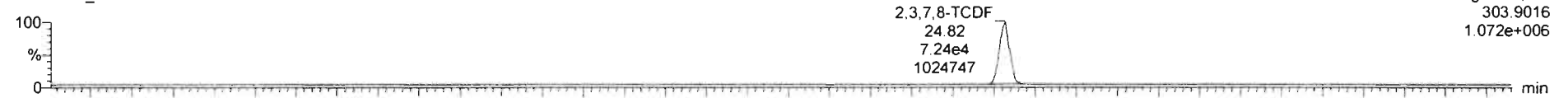
Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

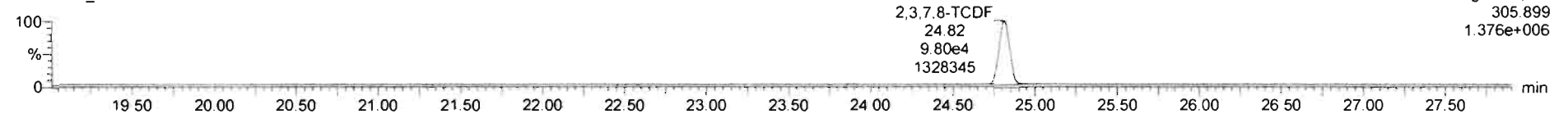
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**2,3,7,8-TCDF**

200131R1\_10

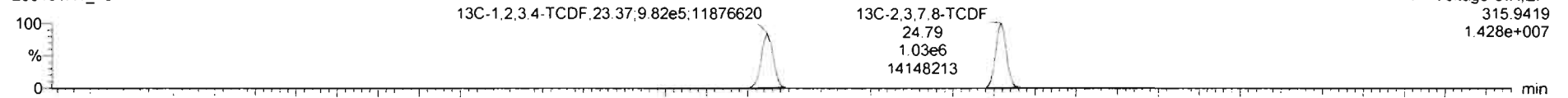


200131R1\_10

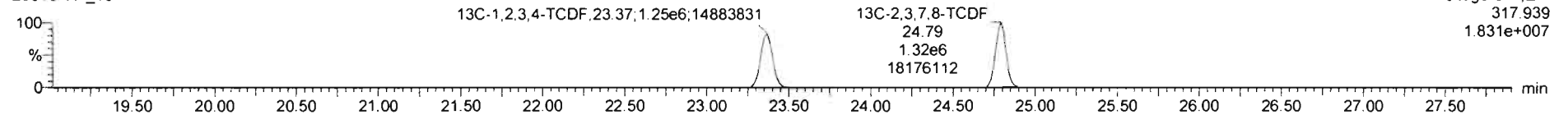


**13C-2,3,7,8-TCDF**

200131R1\_10

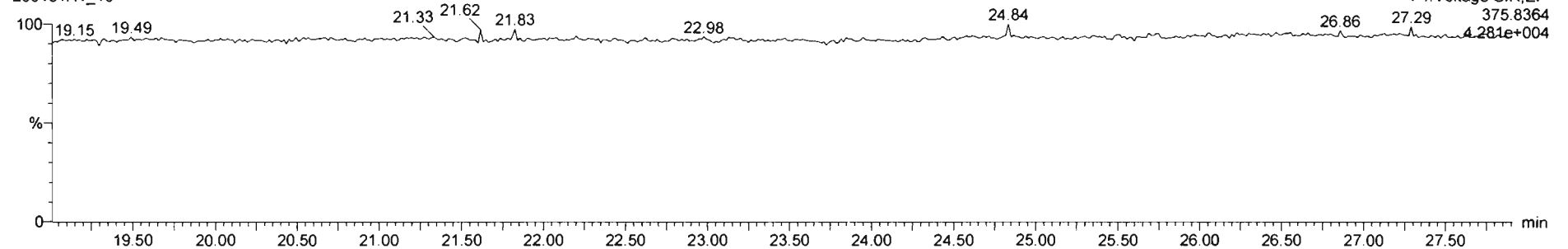


200131R1\_10



**DPE1**

200131R1\_10



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

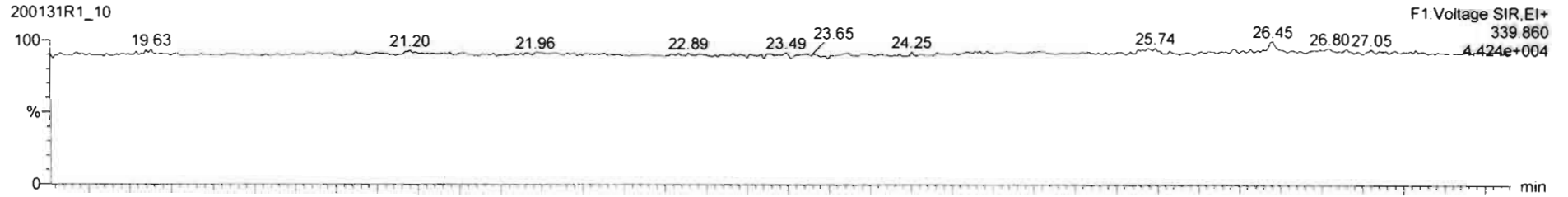
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Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

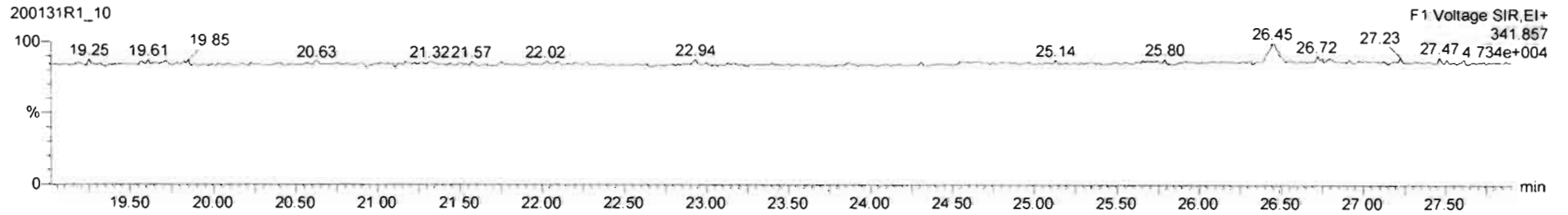
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1st Func. Penta-Furans

200131R1\_10

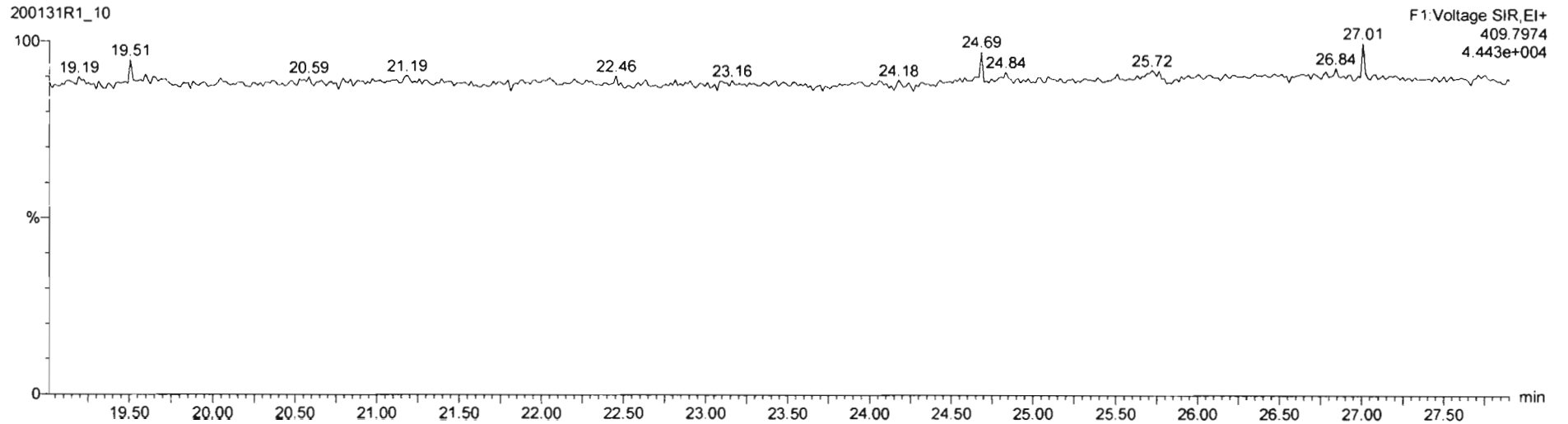


200131R1\_10



DPE6

200131R1\_10



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

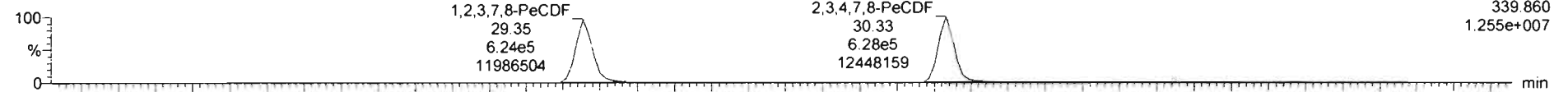
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Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

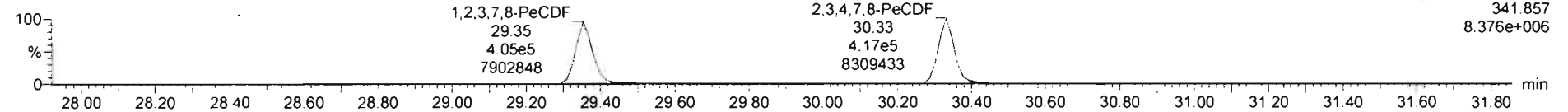
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**1,2,3,7,8-PeCDF**

200131R1\_10

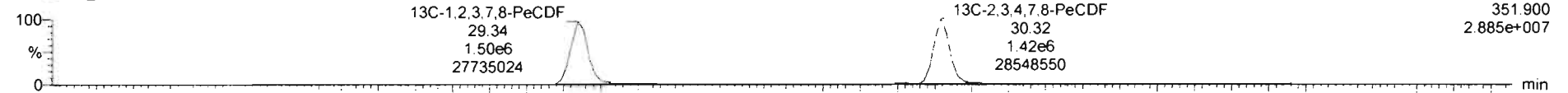


200131R1\_10

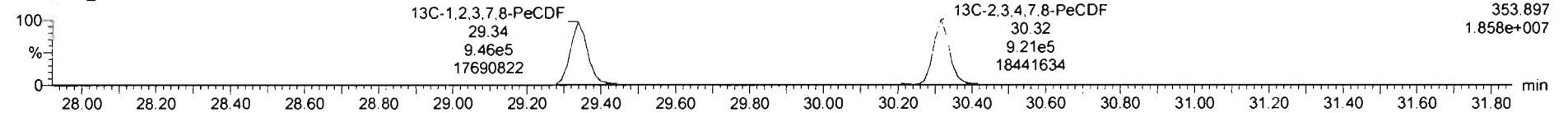


**13C-1,2,3,7,8-PeCDF**

200131R1\_10

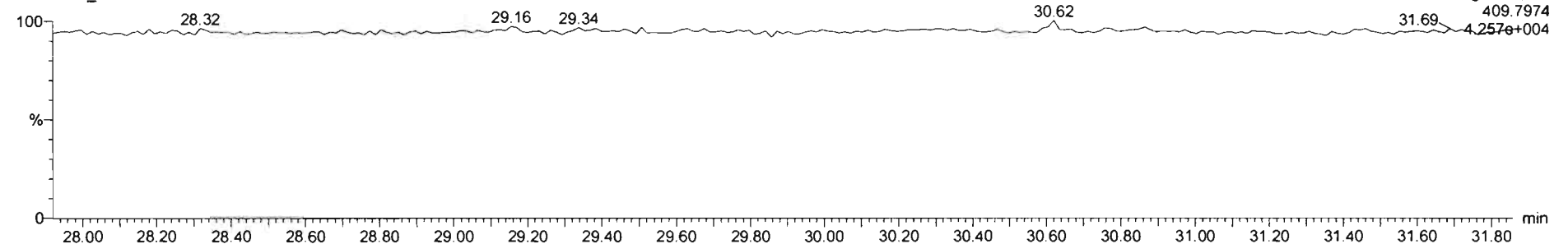


200131R1\_10



**DPE2**

200131R1\_10

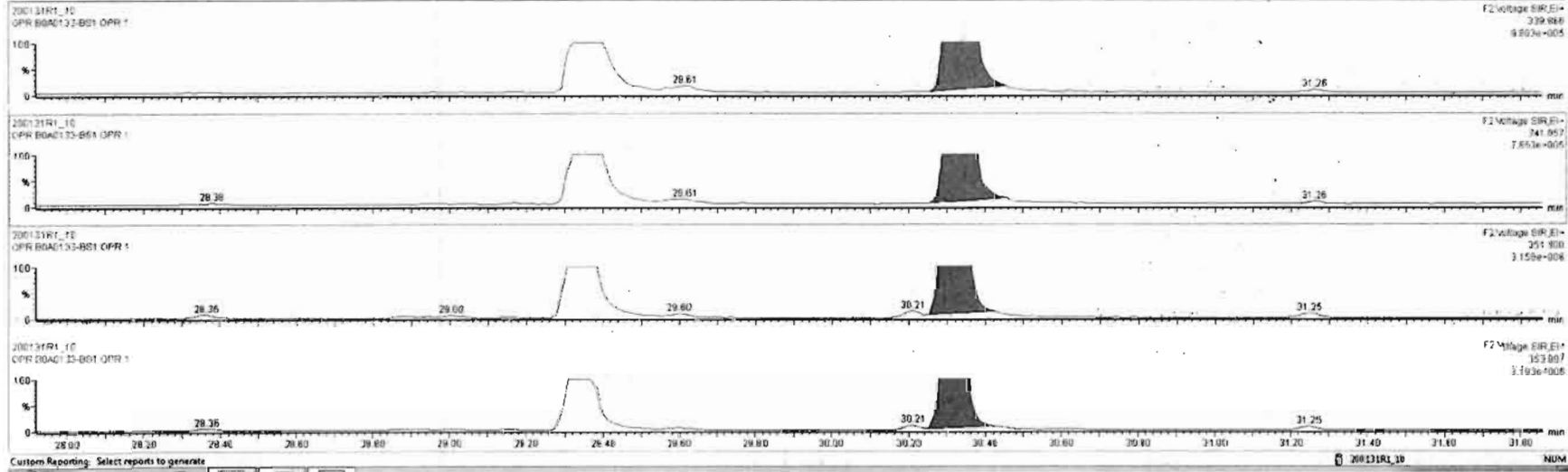




200131R1\_10 - E040723-BS1 QPR 1 - QPR

#	Name	Resp	RA	n/y	RRF	w/hol	Pred RT	RT	Pred R	RRT	RRT Ind	Conc.	%Area	Dt	EMPC
10	2,3,4,7,8-PeCDF	1.04e6	1.51	NO	0.9516	1.000	30.35	30.33	1.001	1.000	NO	936.2		1.06	636.2
11	1,2,3,4,7,8-HxCDF	5.92e5	1.17	NO	0.8623	1.000	33.10	33.13	1.000	1.001	NO	923.7		1.92	923.7
12	1,2,3,6,7,8-HxCDF	6.58e5	1.17	NO	0.8414	1.000	33.25	33.24	1.000	1.001	NO	926.5		1.83	926.5

#	Name	Pred RT	RT	nt Resp	n2 Resp	1* Ratio (Pred)	RA	n/y	EMPC	Conc
1										



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

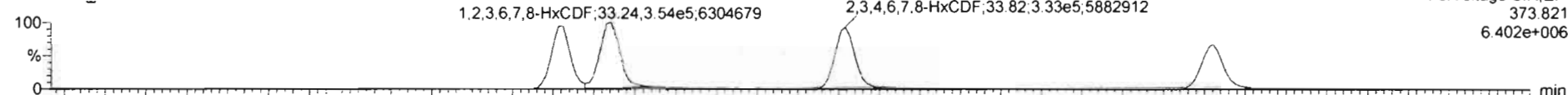
Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

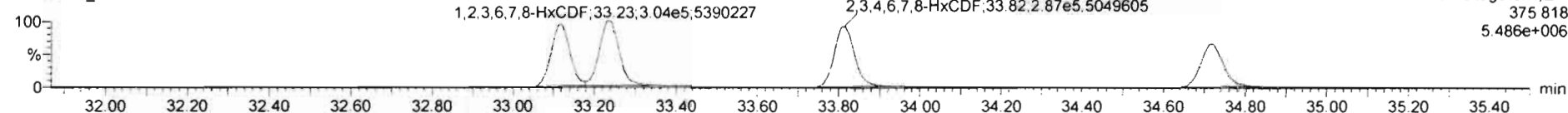
Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

**1,2,3,4,7,8-HxCDF**

200131R1\_10

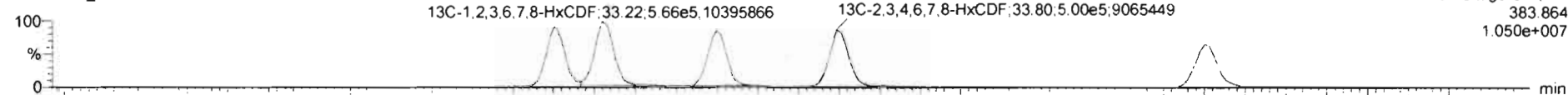


200131R1\_10

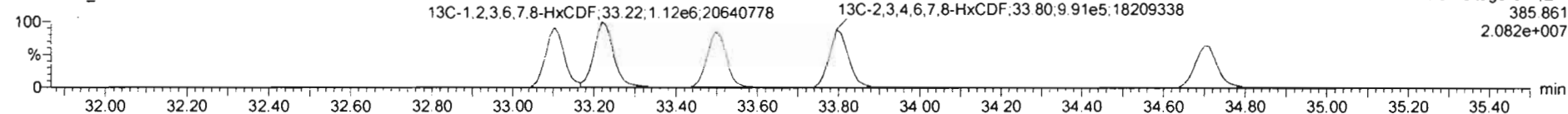


**13C-1,2,3,4,7,8-HxCDF**

200131R1\_10

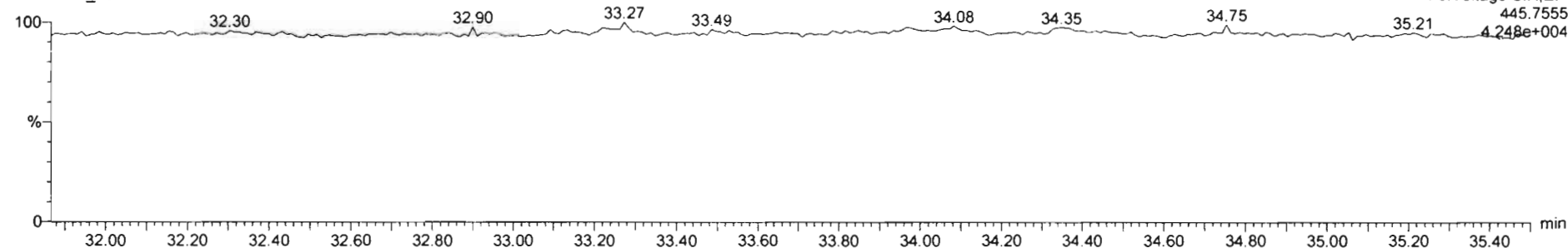


200131R1\_10



**DPE3**

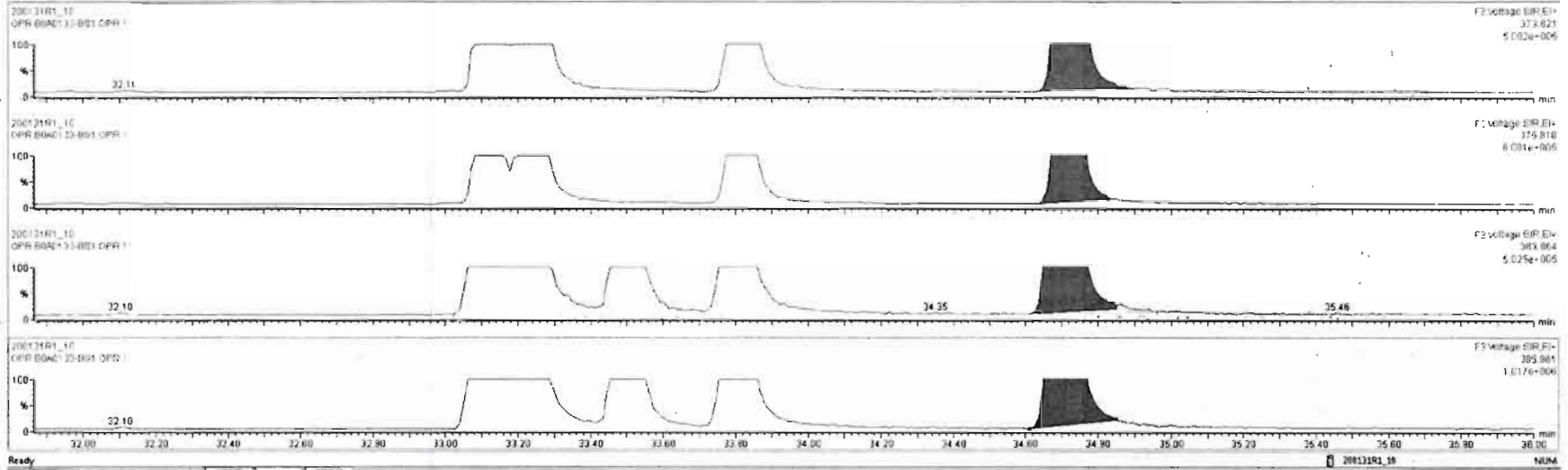
200131R1\_10



200131R1\_10 - EDA0133-BS1 QPR 1 - QPR

#	Name	Resp	RA	nY	RRF	MVol	Pred RT	RT	Pred R	RRT	RRT fail	Conc	Units	DL	EMPC
13	1,2,3,4,6,7,8-HxCDF	6.20e5	1.16	NO	0.8962	1.000	33.83	33.82	1.001	1.001	NO	926.5		1.97	926.5
14	1,2,3,7,8,9-HxCDF	4.90e5	1.19	NO	0.8578	1.000	34.70	34.72	1.000	1.001	NO	801.4		2.90	801.4
15	1,2,3,4,6,7,8-HxCDF	3.80e5	0.97	NO	0.9511	1.000	36.46	36.47	1.001	1.001	NO	919.9		3.43	919.9

#	Name	Pred RT	RT	n1 Resp	n2 Resp	1* Ratio (Pred)	RA	nY	EMPC	Conc
1										

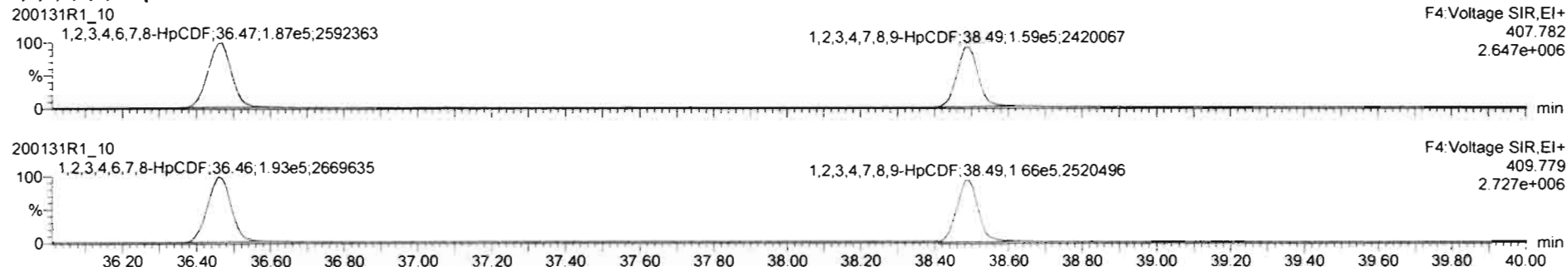


Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

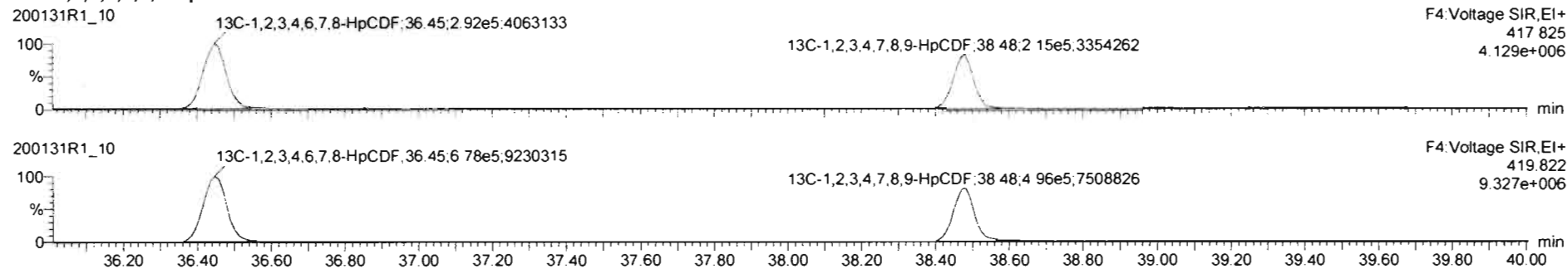
Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

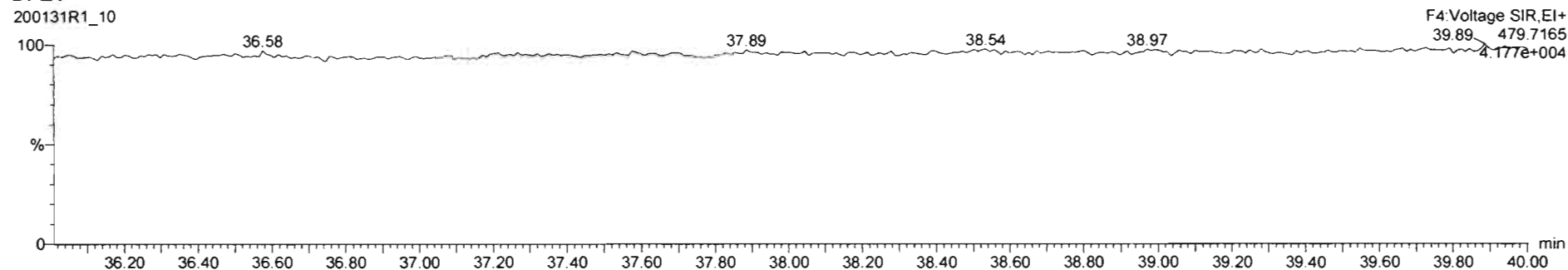
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



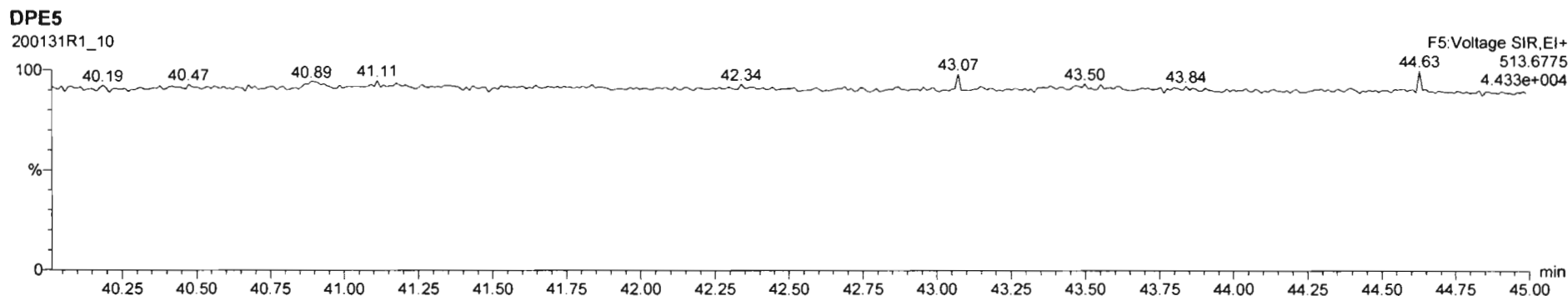
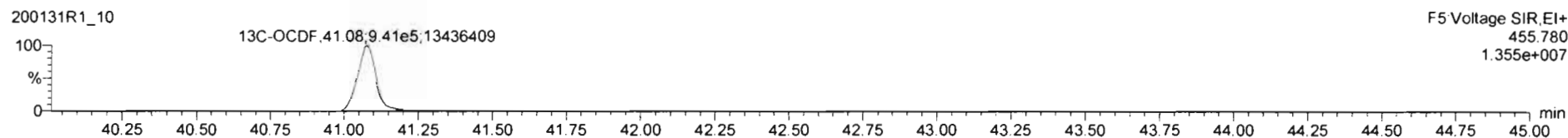
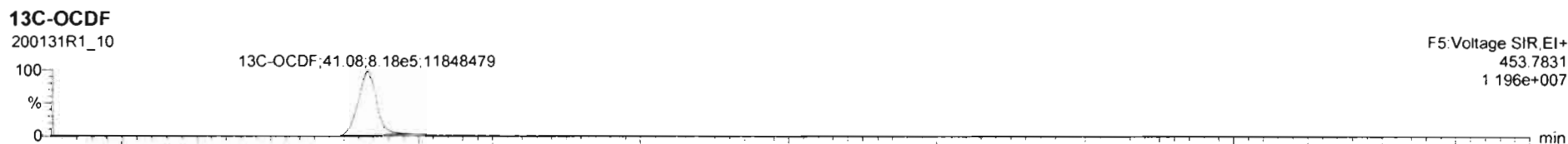
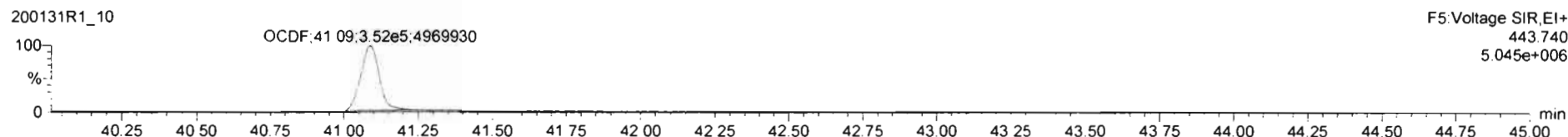
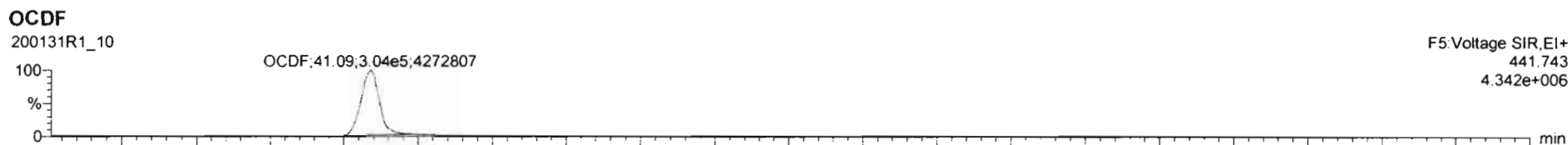
**DPE4**



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR

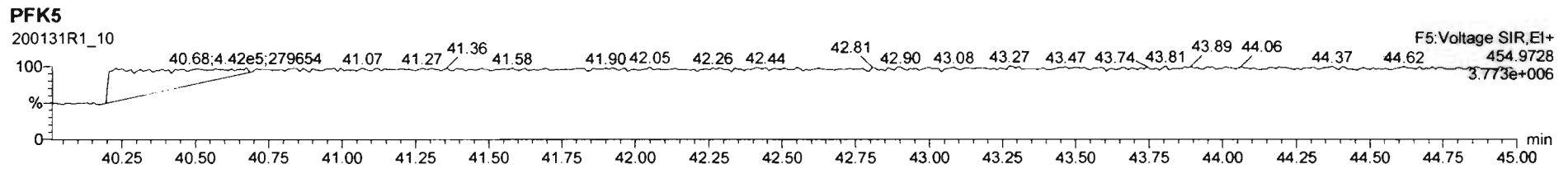
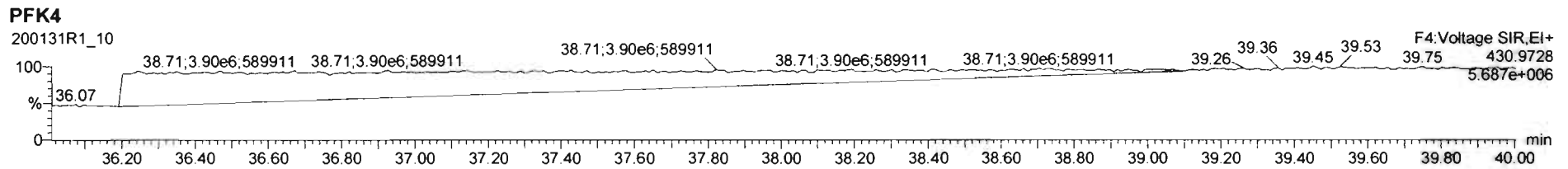
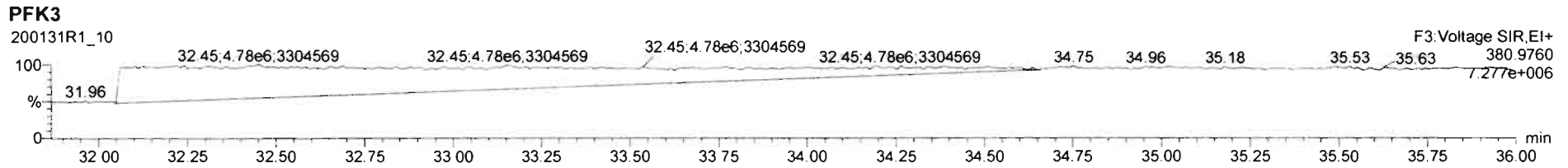
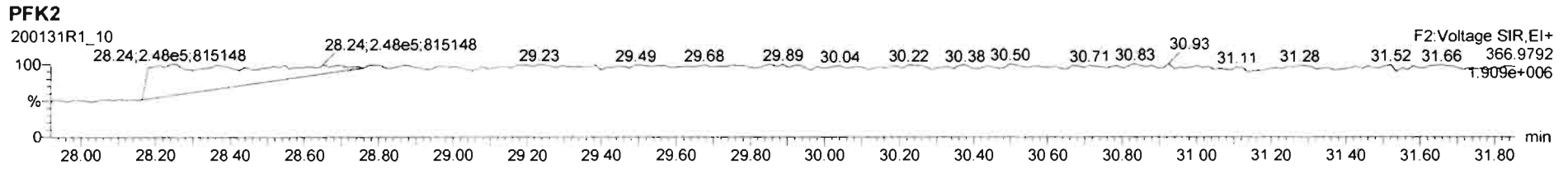
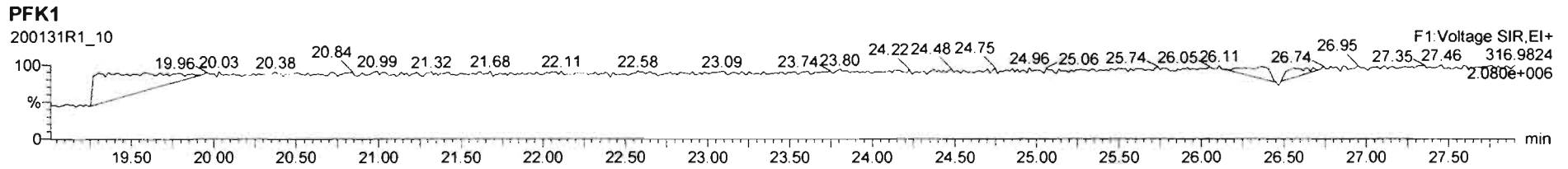


Dataset: U:\VG12.PRO\Results\200131R1\200131R1-10.qld

Last Altered: Sunday, February 02, 2020 11:26:39 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:27:27 AM Pacific Standard Time

Name: 200131R1\_10, Date: 31-Jan-2020, Time: 23:52:35, ID: B0A0133-BS1 OPR 1, Description: OPR



Client ID: Method Blank  
Lab ID: B9L0200-BLK1

Filename: 200109D2 S:5 Acq:10-JAN-20 01:54.35  
GC Column ID: ZB-5MS ICal. 1613VG7-10-9-19 wt/vol:10.000

ConCal: ST200109D2-1  
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.91	Not F <sub>η</sub>	*		117	2.5	0.0552
1,2,3,7,8-PeCDD	*	* n	0.90	Not F <sub>η</sub>	*		144	2.5	0.0603
1,2,3,4,7,8-HxCDD	*	* n	1.10	Not F <sub>η</sub>	*		158	2.5	0.0997
1,2,3,6,7,8-HxCDD	*	* n	0.94	Not F <sub>η</sub>	*		158	2.5	0.111
1,2,3,7,8,9-HxCDD	*	* n	0.96	Not F <sub>η</sub>	*		158	2.5	0.111
1,2,3,4,6,7,8-HpCDD	*	* n	0.98	Not F <sub>η</sub>	*		167	2.5	0.108
OCDD	*	* n	0.96	Not F <sub>η</sub>	*		134	2.5	0.108
2,3,7,8-TCDF	*	* n	0.95	Not F <sub>η</sub>	*		139	2.5	0.0435
1,2,3,7,8-PeCDF	*	* n	0.96	Not F <sub>η</sub>	*		165	2.5	0.0728
2,3,4,7,8-PeCDF	*	* n	1.01	Not F <sub>η</sub>	*		165	2.5	0.0631
1,2,3,4,7,8-HxCDF	*	* n	1.18	Not F <sub>η</sub>	*		175	2.5	0.0454
1,2,3,6,7,8-HxCDF	*	* n	1.07	Not F <sub>η</sub>	*		175	2.5	0.0469
2,3,4,6,7,8-HxCDF	*	* n	1.11	Not F <sub>η</sub>	*		175	2.5	0.0513
1,2,3,7,8,9-HxCDF	*	* n	1.06	Not F <sub>η</sub>	*		175	2.5	0.0761
1,2,3,4,6,7,8-HpCDF	*	* n	1.13	Not F <sub>η</sub>	*		126	2.5	0.0626
1,2,3,4,7,8,9-HpCDF	*	* n	1.28	Not F <sub>η</sub>	*		126	2.5	0.0567
OCDF	*	* n	0.95	Not F <sub>η</sub>	*		132	2.5	0.0930
IS	13C-2,3,7,8-TCDD	8.18e+06	0.82 y	1.10	25:59	189.22			
IS	13C-1,2,3,7,8-PeCDD	6.66e+06	0.63 y	0.88	30:34	191.46			
IS	13C-1,2,3,4,7,8-HxCDD	5.99e+06	1.23 y	0.64	33:52	205.87			
IS	13C-1,2,3,6,7,8-HxCDD	7.03e+06	1.25 y	0.86	33:58	181.21			
IS	13C-1,2,3,7,8,9-HxCDD	6.91e+06	1.26 y	0.81	34:16	188.92			
IS	13C-1,2,3,4,6,7,8-HpCDD	5.75e+06	1.07 y	0.65	37:45	193.83			
IS	13C-OCDD	1.03e+07	0.90 y	0.58	41:01	391.89			
IS	13C-2,3,7,8-TCDF	1.13e+07	0.78 y	1.03	25:12	178.34			
IS	13C-1,2,3,7,8-PeCDF	1.03e+07	1.65 y	0.85	29:23	196.46			
IS	13C-2,3,4,7,8-PeCDF	1.04e+07	1.58 y	0.85	30:17	200.24			
IS	13C-1,2,3,4,7,8-HxCDF	7.98e+06	0.52 y	0.83	32:59	211.55			
IS	13C-1,2,3,6,7,8-HxCDF	8.94e+06	0.50 y	1.03	33:06	190.70			
IS	13C-2,3,4,6,7,8-HxCDF	8.37e+06	0.50 y	0.95	33:42	193.76			
IS	13C-1,2,3,7,8,9-HxCDF	7.64e+06	0.51 y	0.83	34:39	203.59			
IS	13C-1,2,3,4,6,7,8-HpCDF	6.16e+06	0.45 y	0.76	36:29	179.46			
IS	13C-1,2,3,4,7,8,9-HpCDF	5.14e+06	0.44 y	0.58	38:18	194.95			
IS	13C-OCDF	1.26e+07	0.87 y	0.69	41:13	403.59			
C/Up	37C1-2,3,7,8-TCDD	3.15e+06		1.20	26:01	66.547			
RS/RT	13C-1,2,3,4-TCDD	7.89e+06	0.83 y	1.00	25:25	200.00			
RS	13C-1,2,3,4-TCDF	1.23e+07	0.81 y	1.00	23:58	200.00			
RS/RT	13C-1,2,3,4,6,9-HxCDF	9.07e+06	0.51 y	1.00	33:24	200.00			

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		117	0.0552
Total Penta-Dioxins	*	*		144	0.0603
Total Hexa-Dioxins	*	*		158	0.108
Total Hepta-Dioxins	*	*		167	0.108
Total Tetra-Furans	*	*		139	0.0435
Total Penta-Furans	0.0000	0.0000		165	0.0678
Total Hexa-Furans	*	*		175	0.0542
Total Hepta-Furans	*	*		126	0.0599

Rec Qual

94.6  
95.7  
103  
90.6  
94.5  
96.9  
98.0  
89.2  
98.2  
100  
106  
95.3  
96.9  
102  
89.7  
97.5  
101

Integrations

by  
Analyst: DB

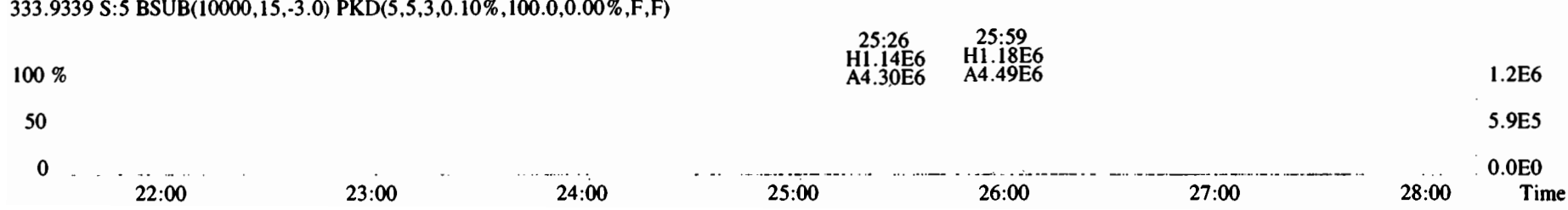
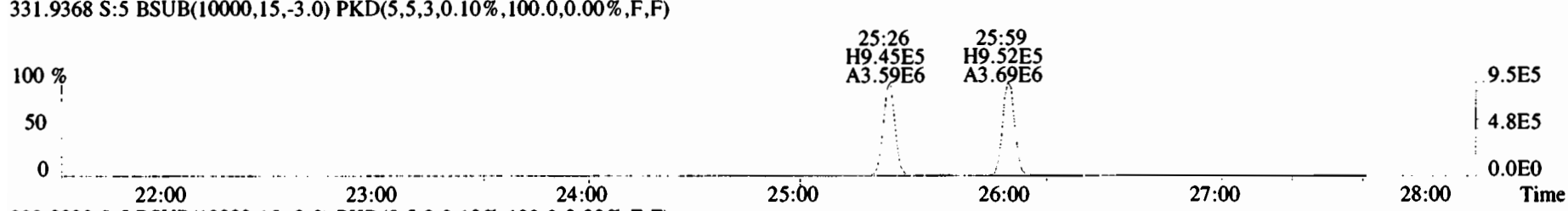
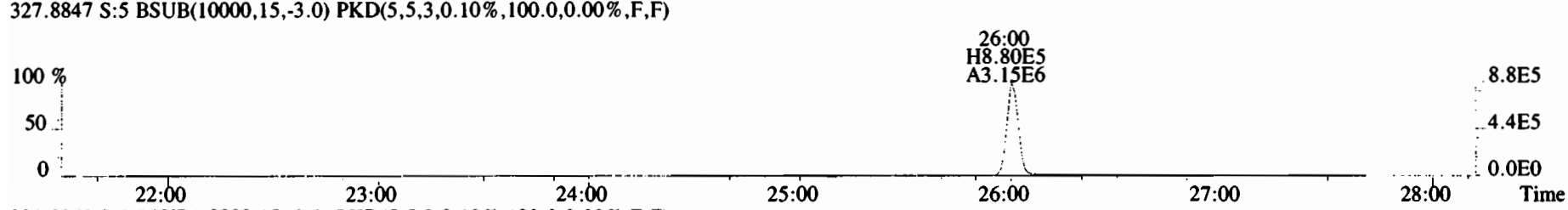
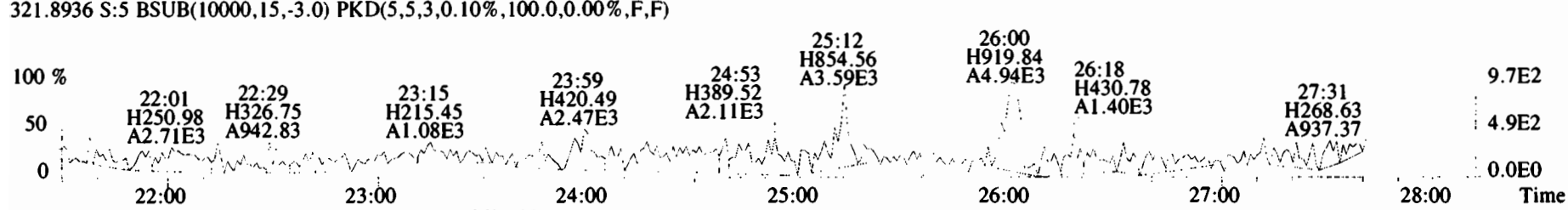
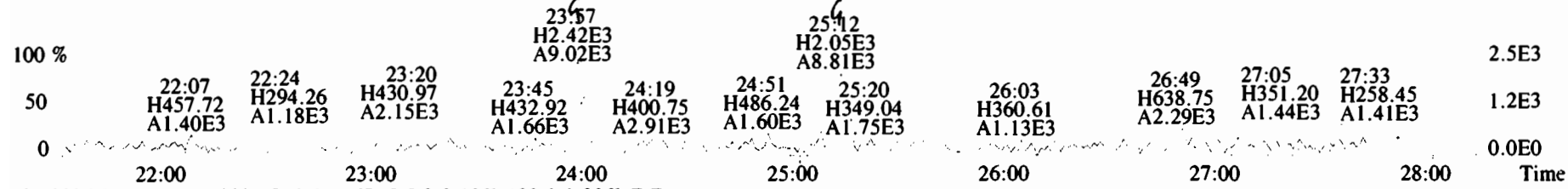
Date: 1/10/20

Reviewed

by  
Analyst: CT

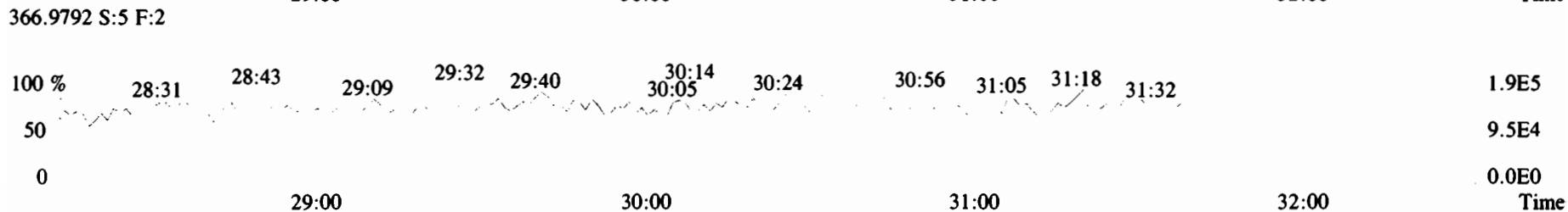
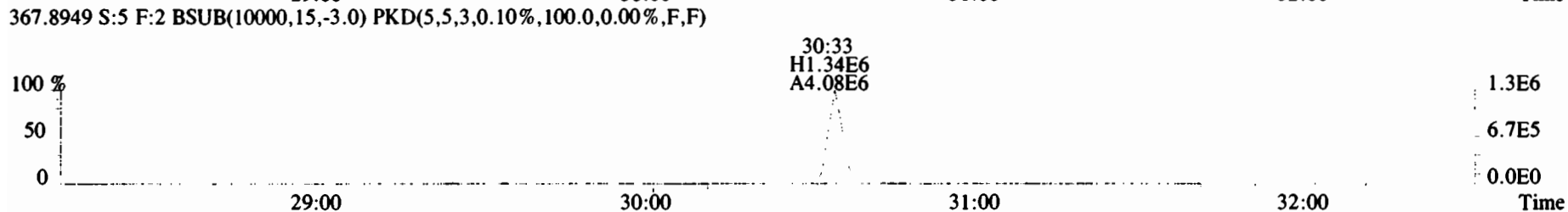
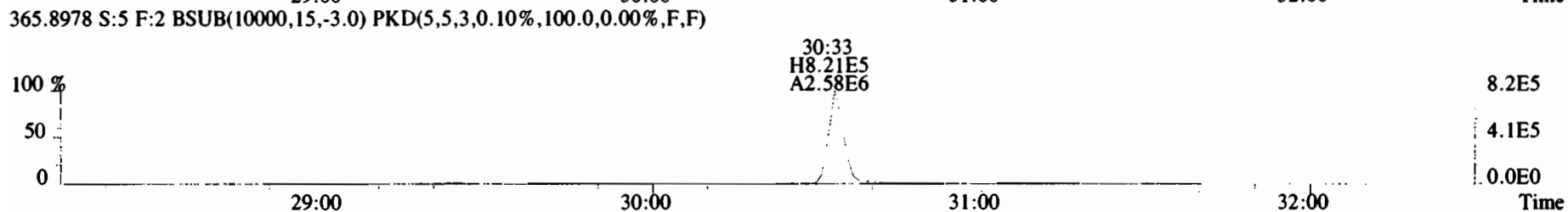
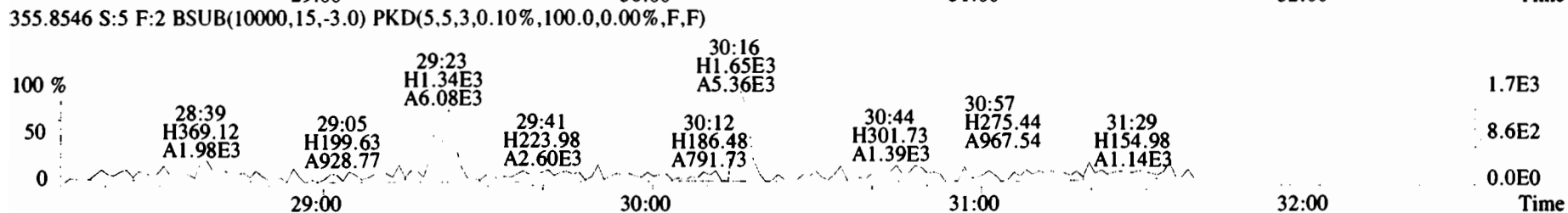
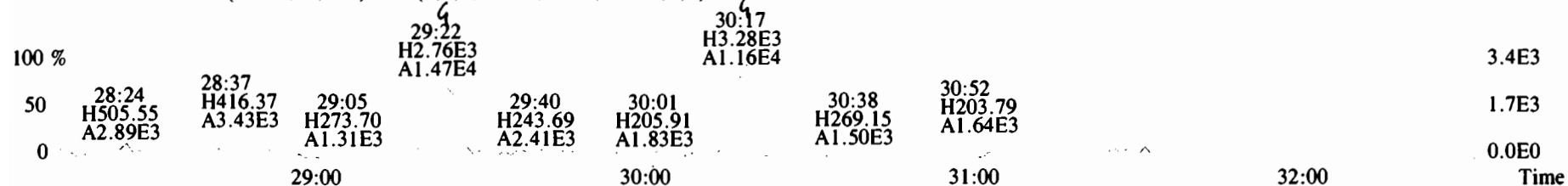
Date: 01/17/2020

File:200109D2 #1-493 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

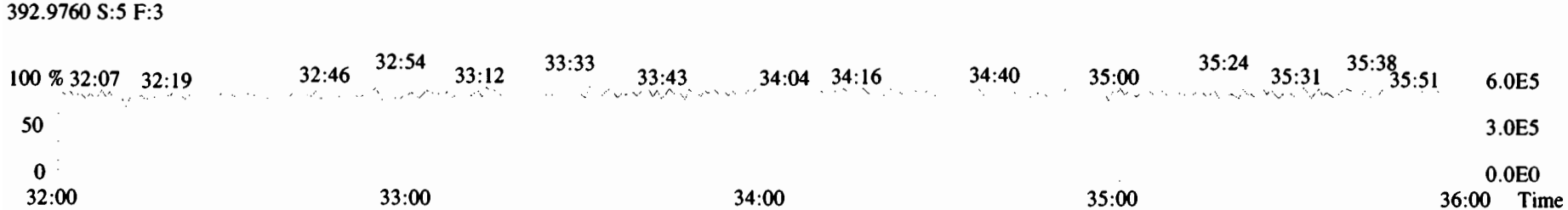
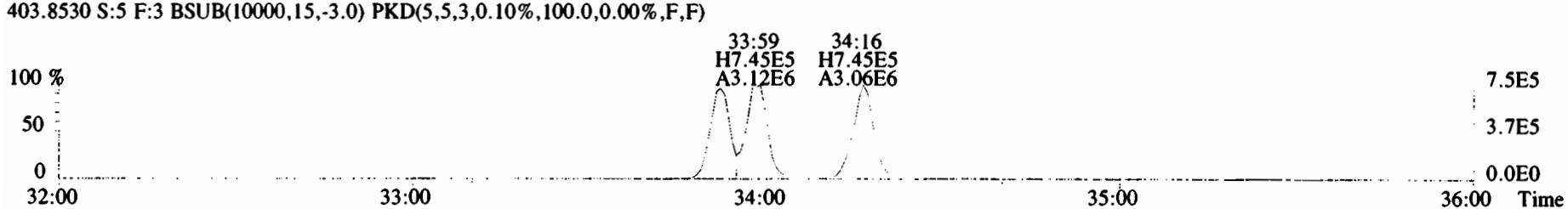
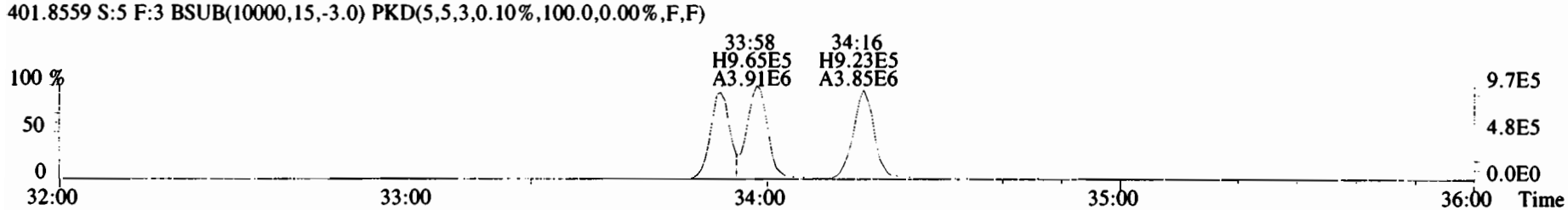
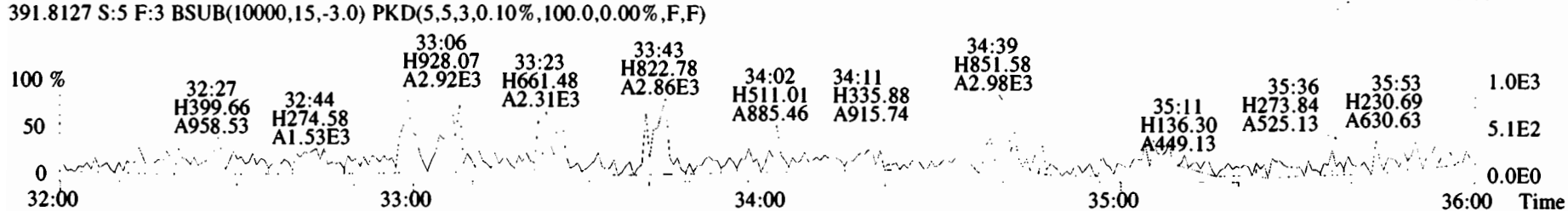
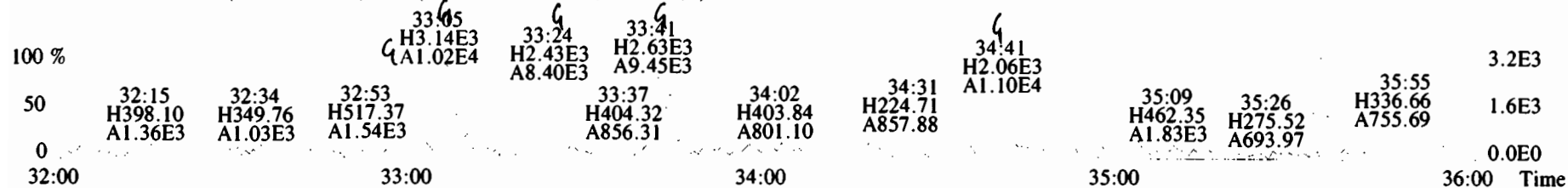




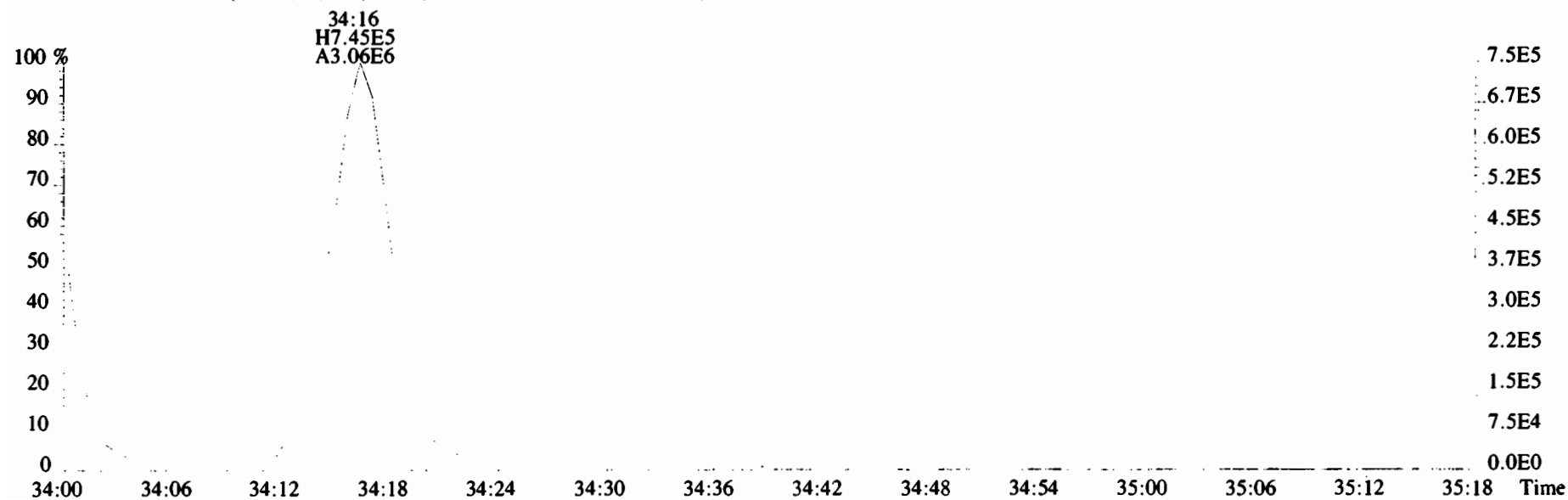
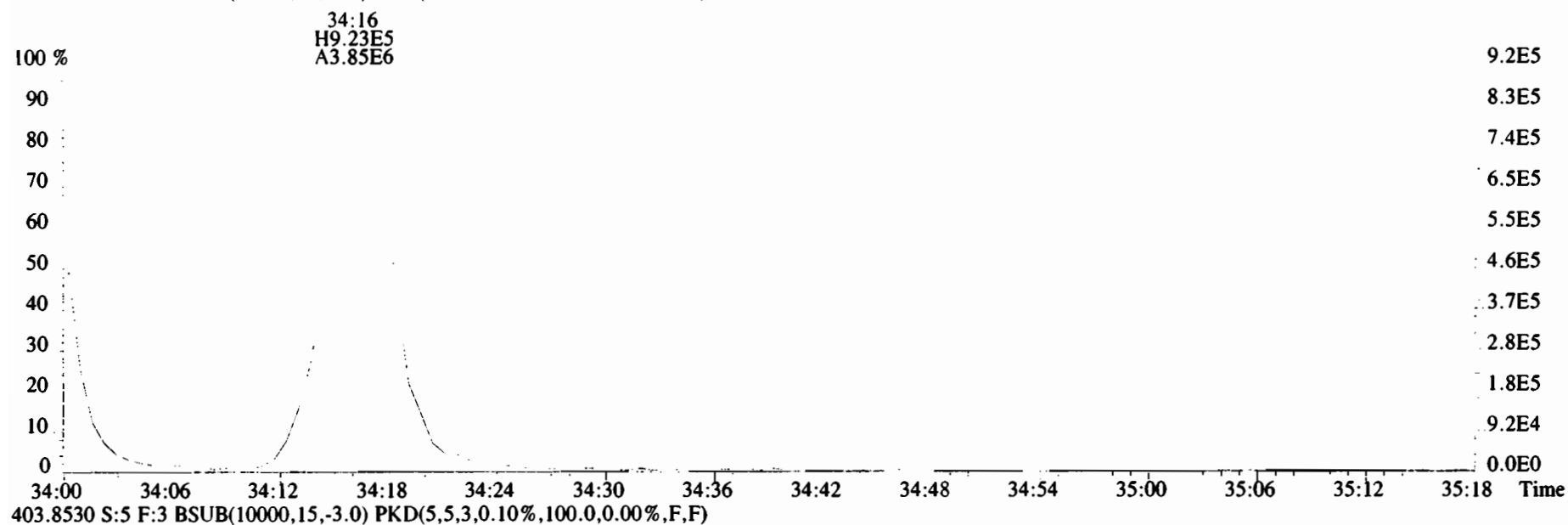
File:200109D2 #1-210 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLKI Method Blank 10 Exp:OCDD\_DB5  
 353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



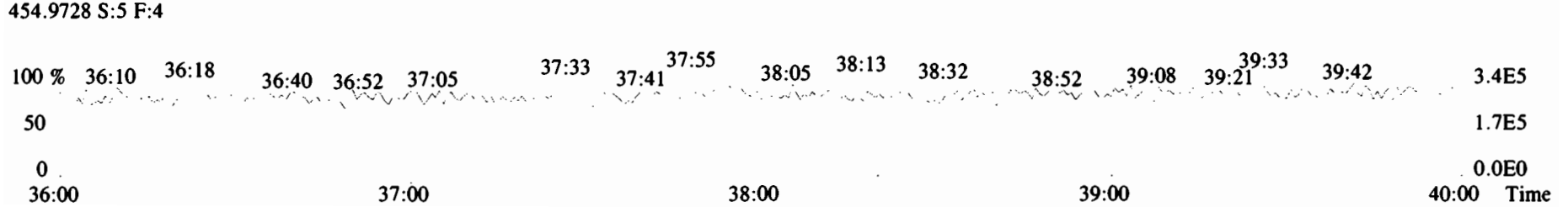
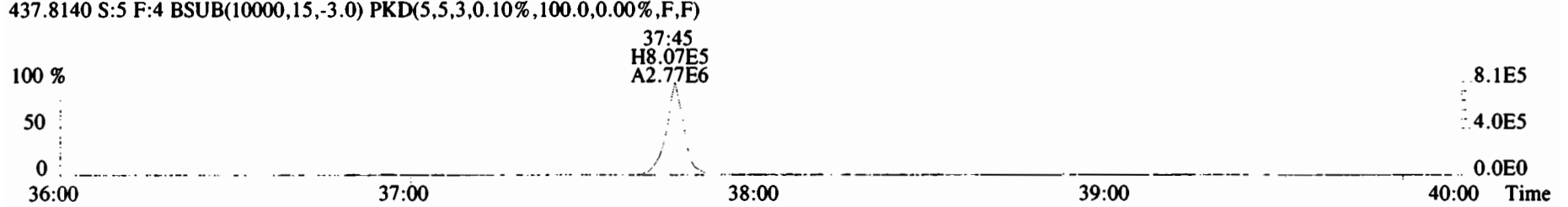
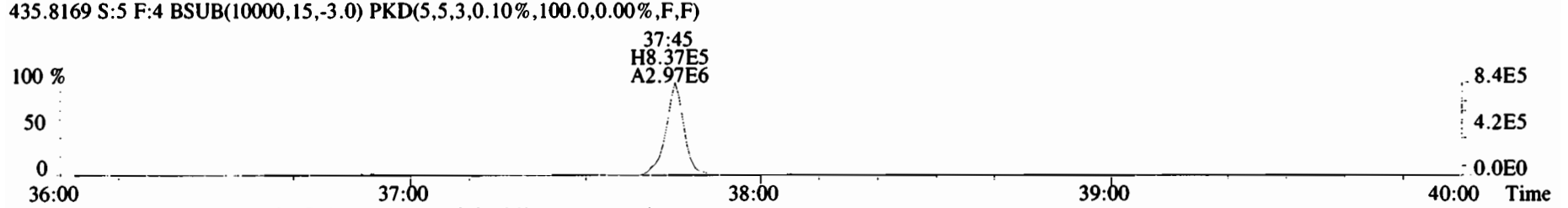
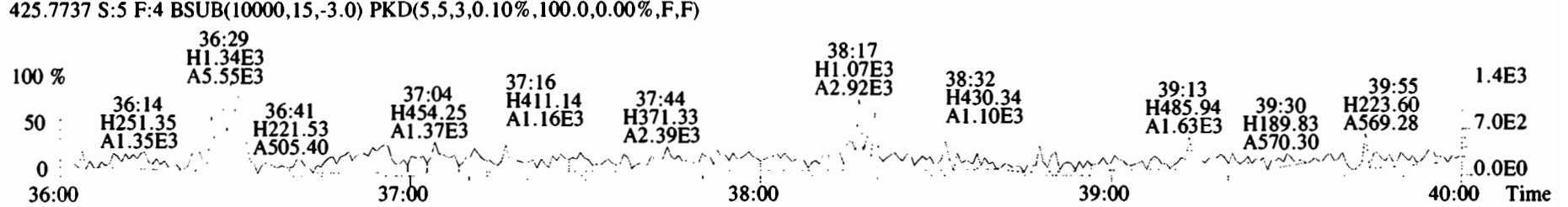
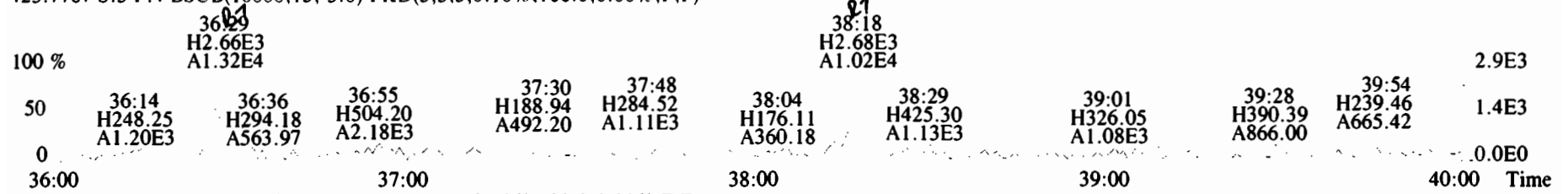
File:200109D2 #1-386 Acq:10-JAN-2020 01:54:35 GC:EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



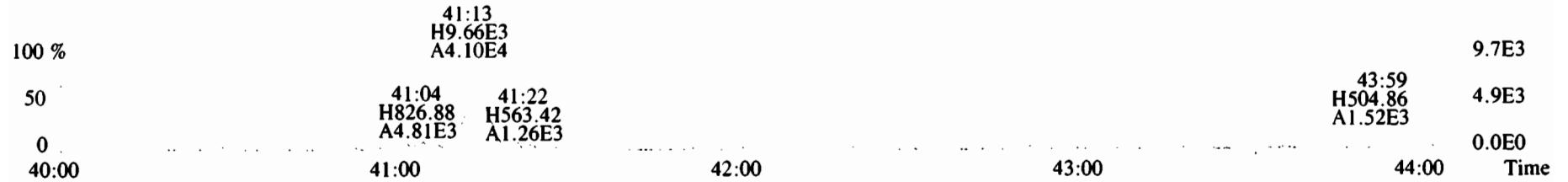
File:200109D2 #1-386 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaF  
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F)



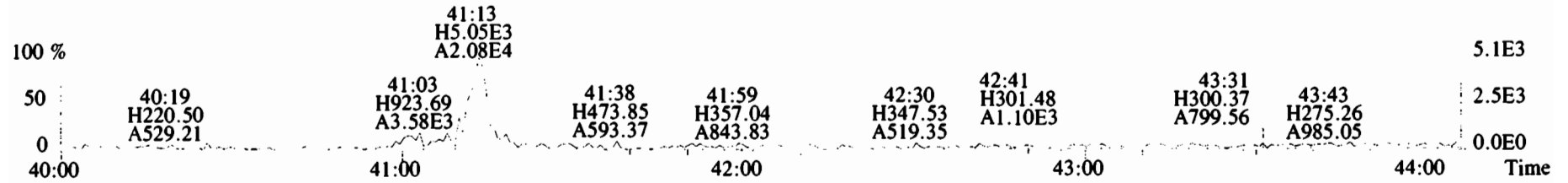
File:200109D2 #1-355 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



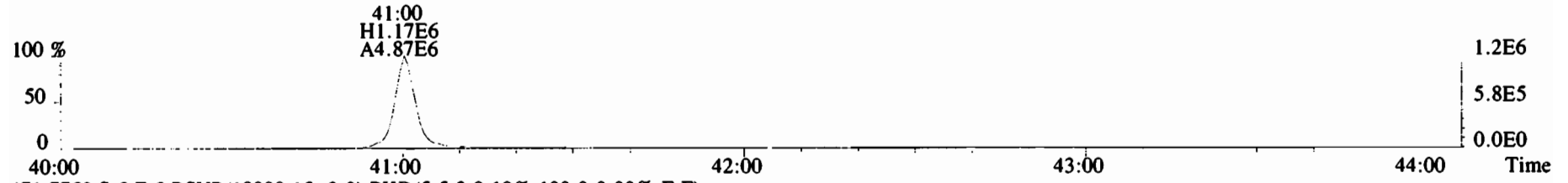
File:200109D2 #1-432 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F)



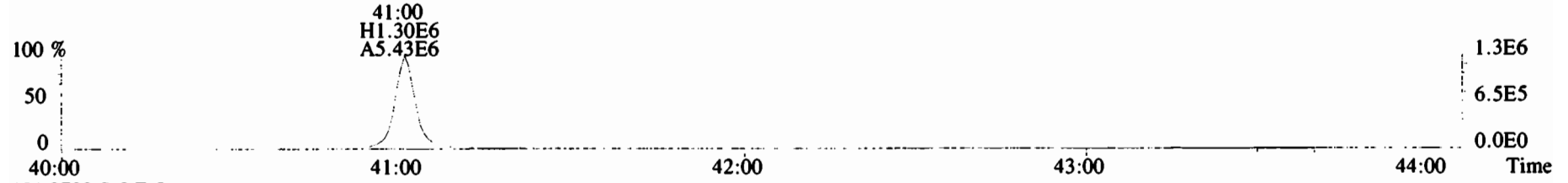
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



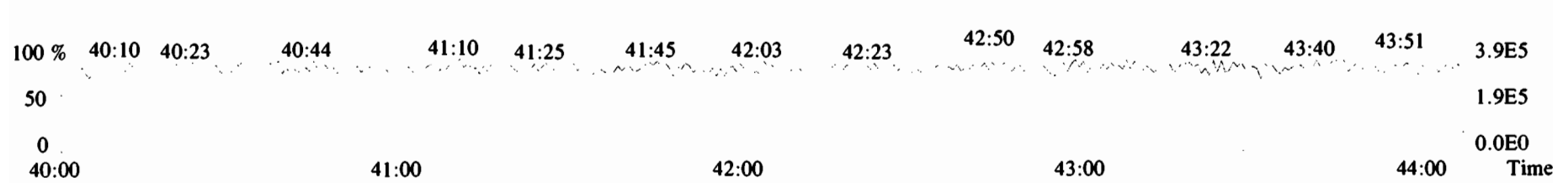
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



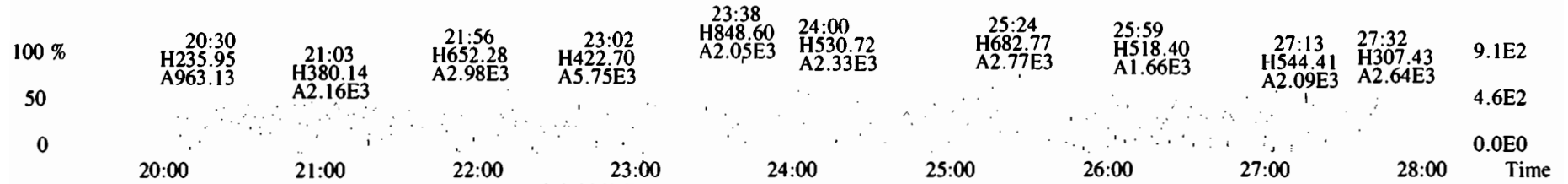
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



454.9728 S:5 F:5



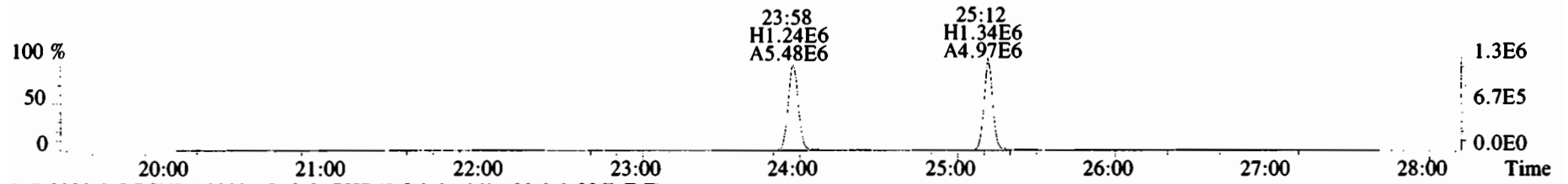
File:200109D2 #1-493 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaF  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



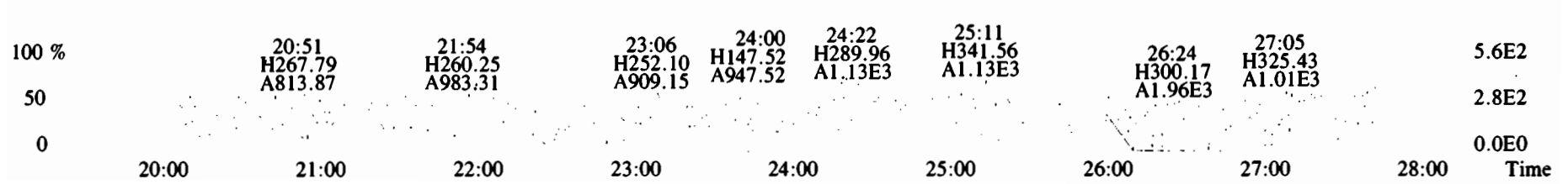
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



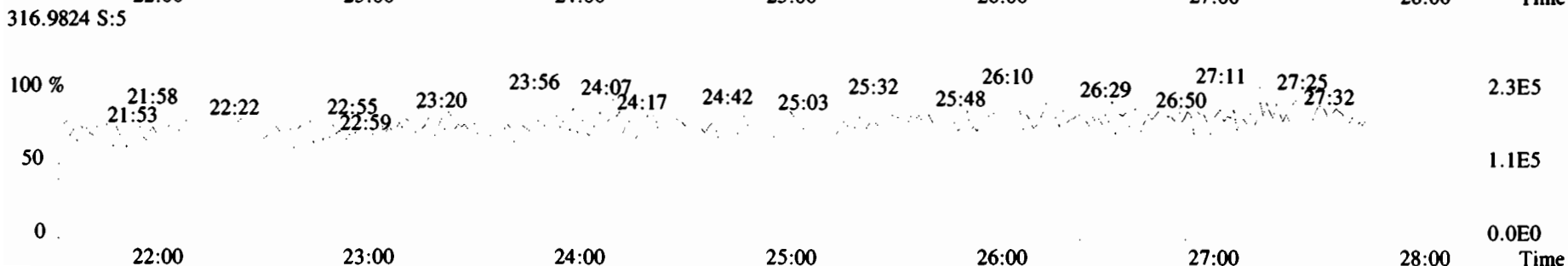
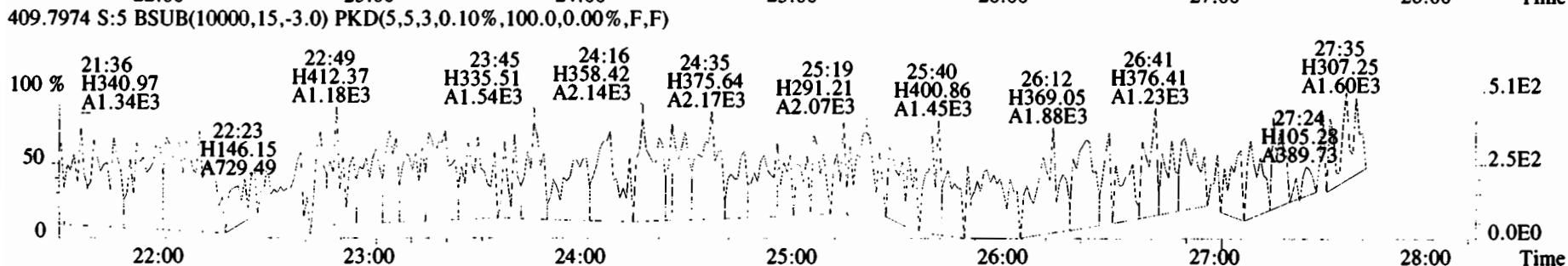
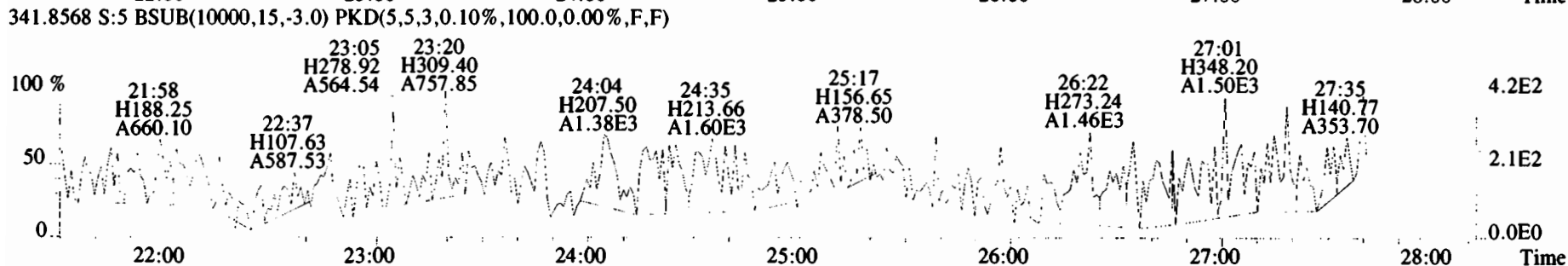
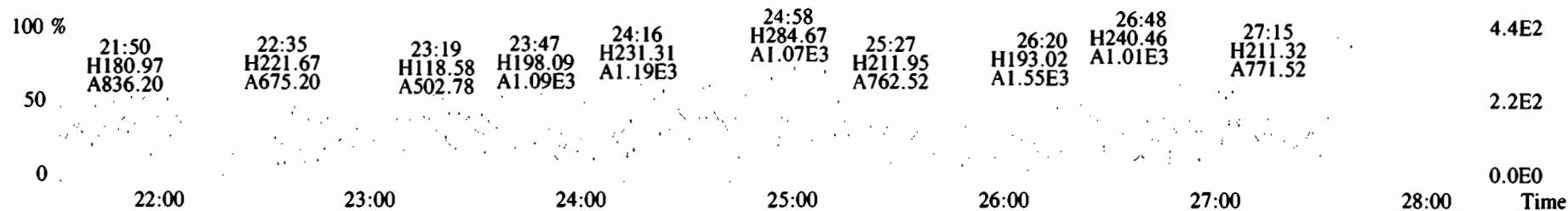
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



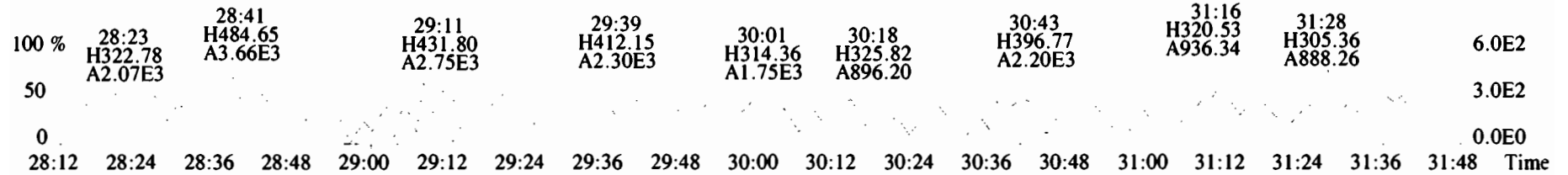
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



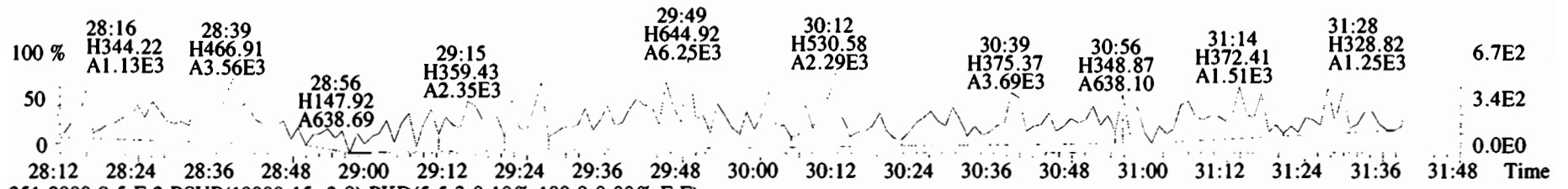
File:200109D2 #1-493 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



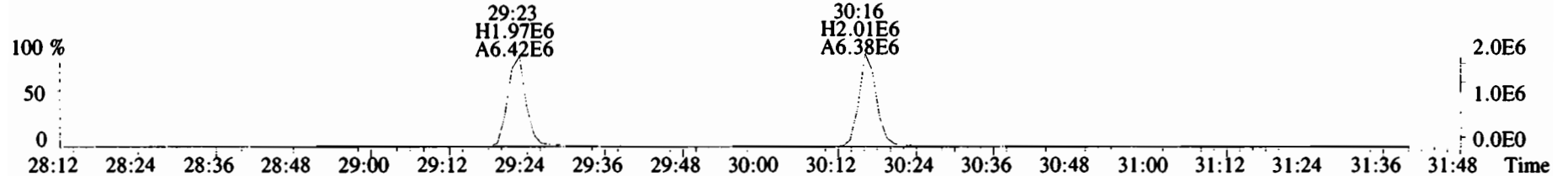
File:200109D2 #1-210 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaF  
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



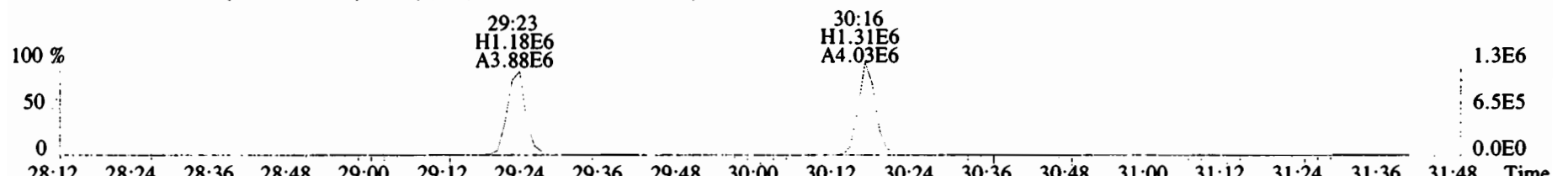
341.8568 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



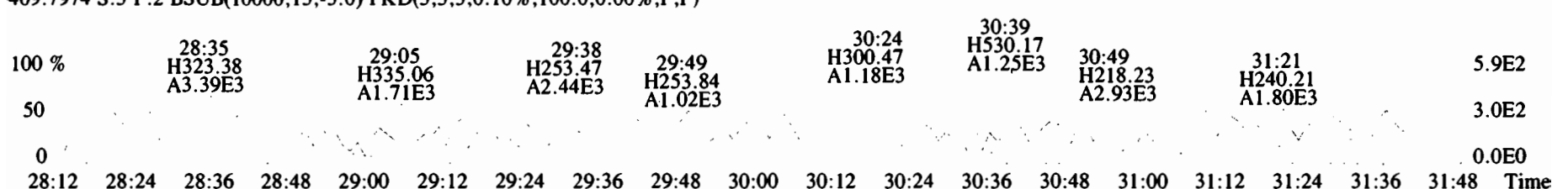
351.9000 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



353.8970 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

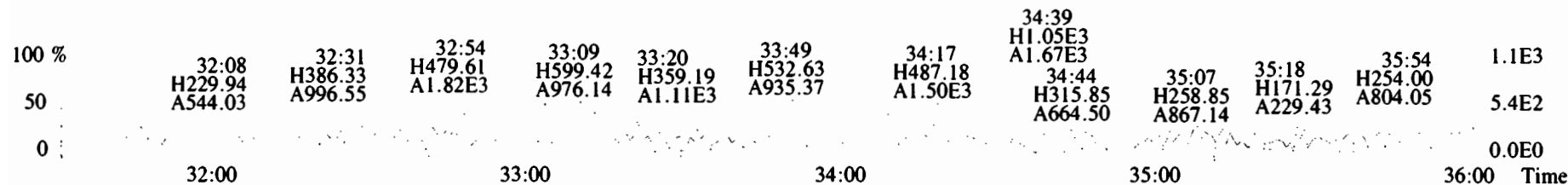


409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

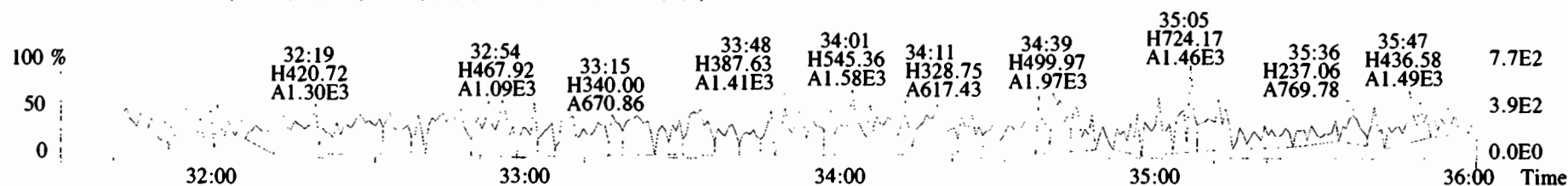




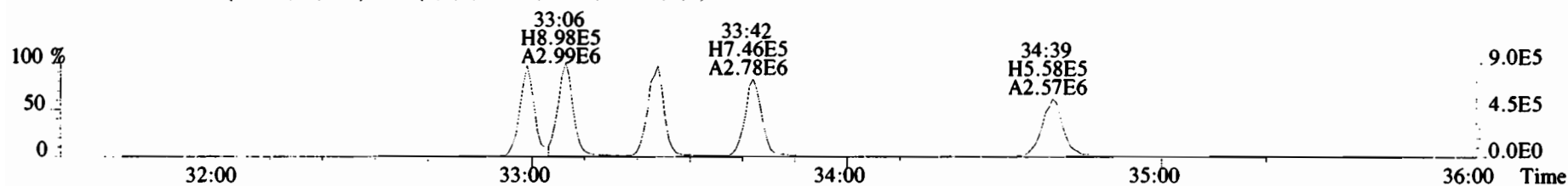
File:200109D2 #1-386 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



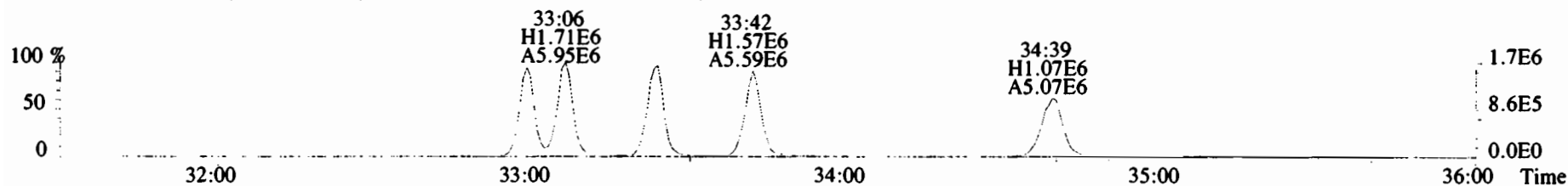
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



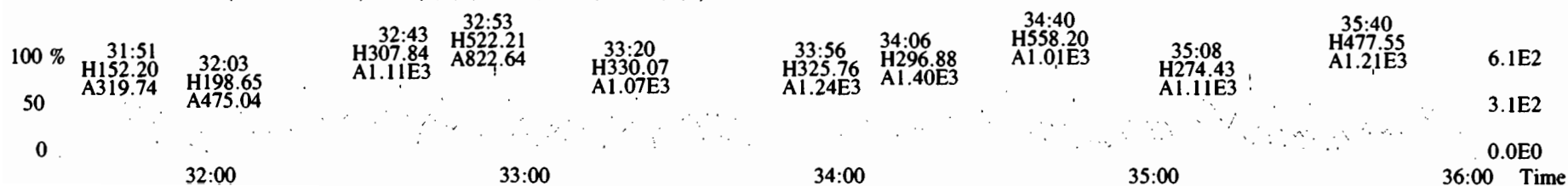
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



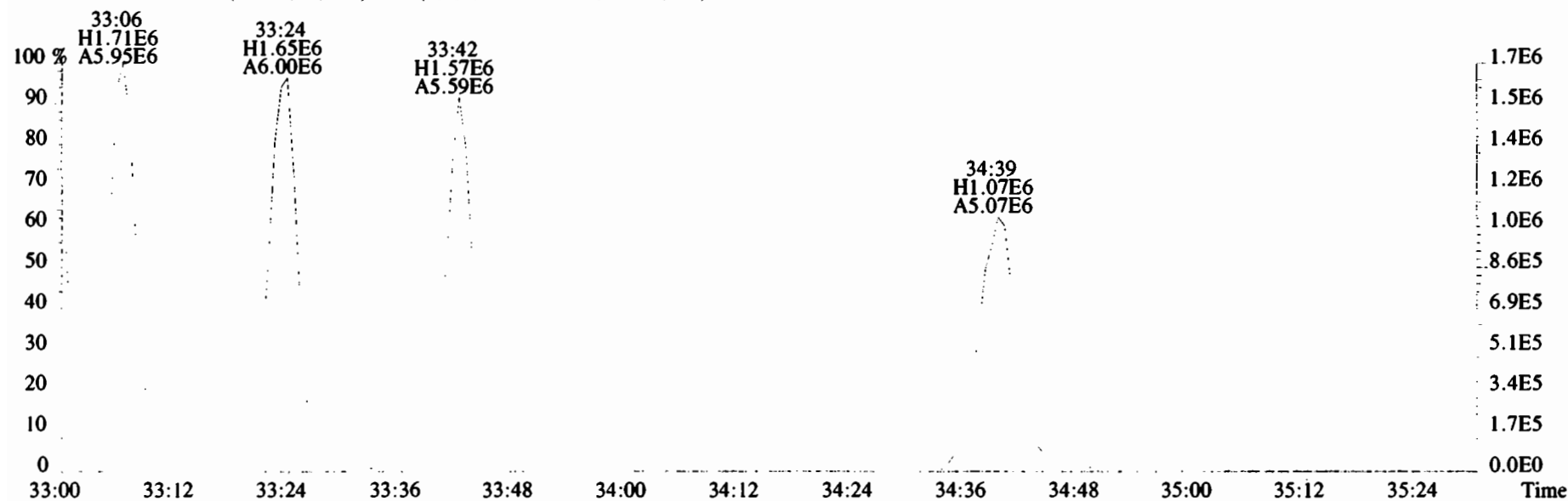
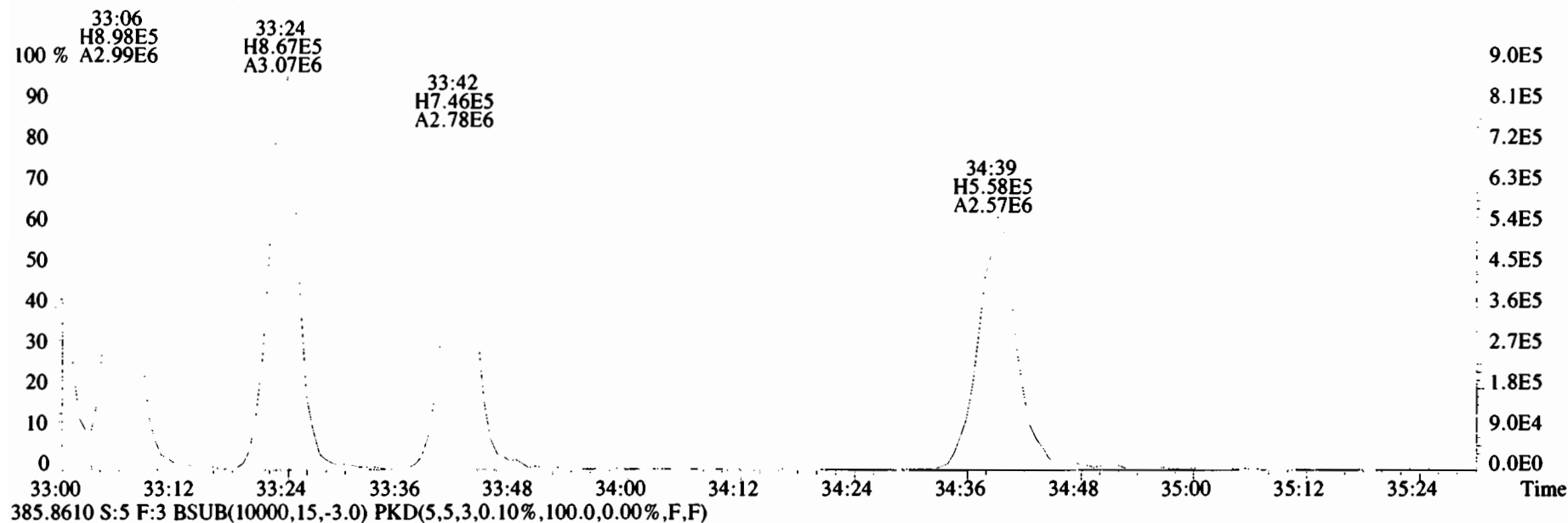
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



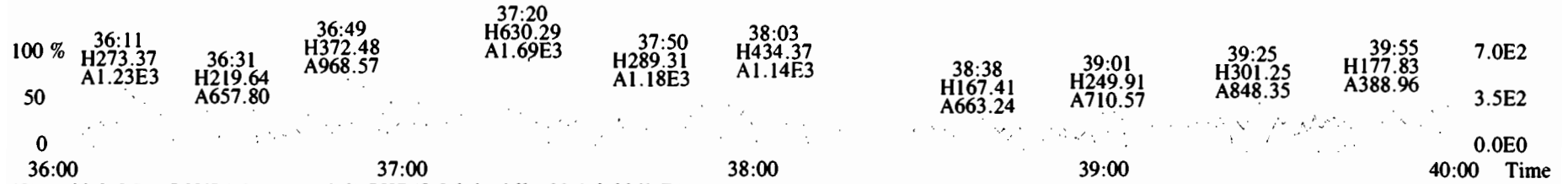
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



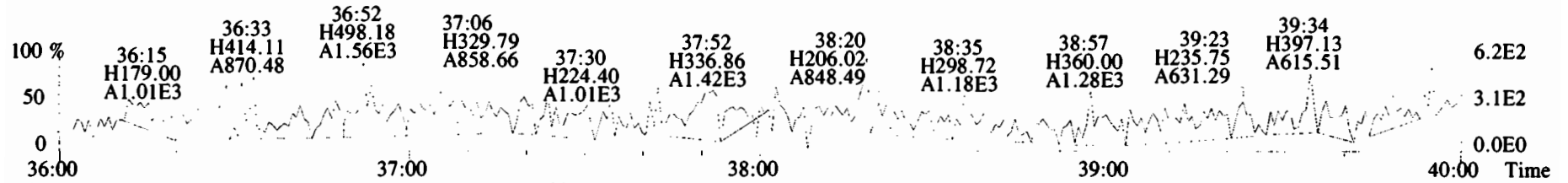
File:200109D2 #1-386 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
 383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



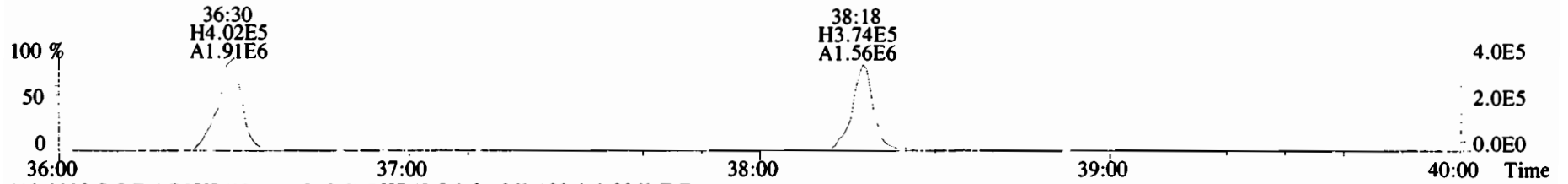
File:200109D2 #1-355 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLKI Method Blank 10 Exp:OCDD\_DB5  
 407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



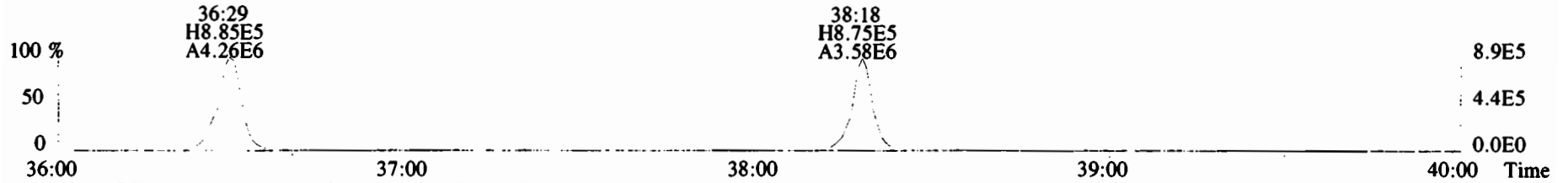
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



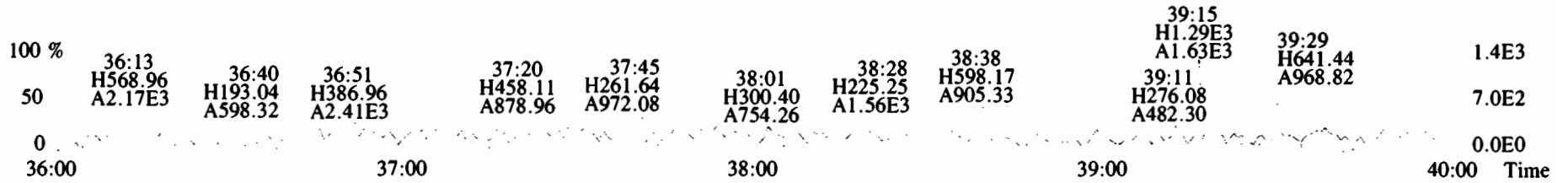
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



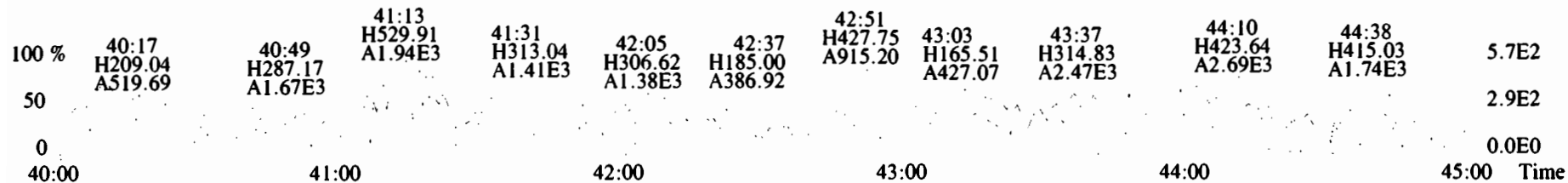
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



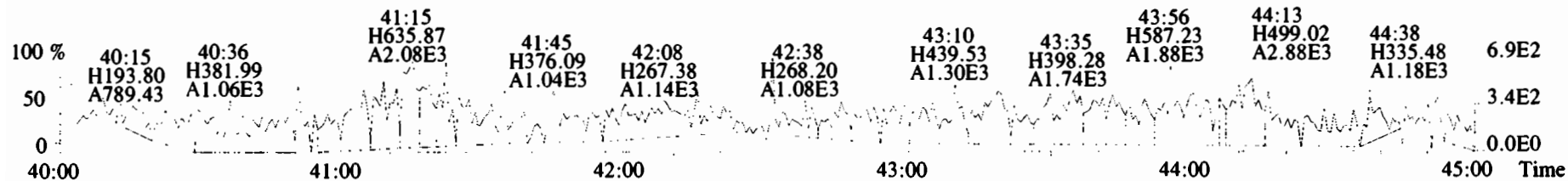
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:200109D2 #1-432 Acq:10-JAN-2020 01:54:35 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BLK1 Method Blank 10 Exp:OCDD\_DB5  
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



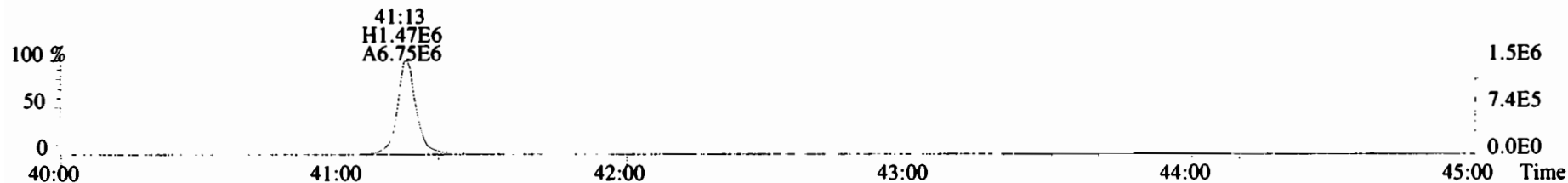
443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



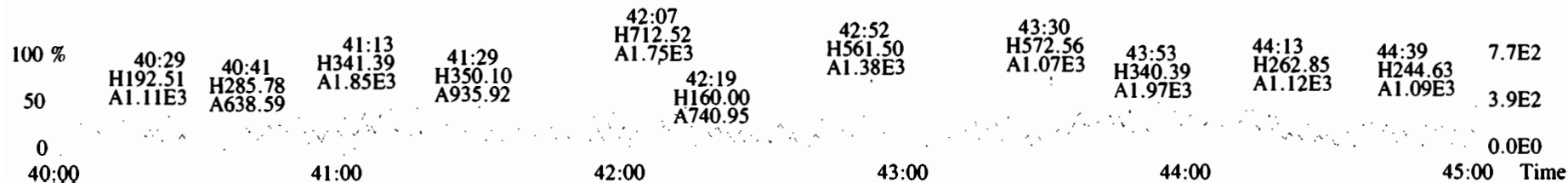
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 8A  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory      Extraction Batch: B9L0200-BS1

Contract No.:                      SAS No.:

Matrix (aqueous/solid/leachate): SOLID      OPR Data Filename: 200109D2-2

Ext. Date:                      Shift: Day      Analysis Date: 9-JAN-20      Time: 23:30:46

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	10.5	6.7 - 15.8 7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	53.5	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	50.2	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	50.3	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	50.9	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	47.0	35.0 - 70.0
OCDD	100	98.5	78.0 - 144.0
2,3,7,8-TCDF	10	9.50	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	52.6	40.0 - 67.0
2,3,4,7,8-PeCDF	50	51.7	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	44.6	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	44.3	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	45.5	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	45.0	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	43.4	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	42.3	39.0 - 69.0
OCDF	100	87.4	63.0 - 170.0

(1) Contract-required concentration limits for OPR  
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR  
as specified in Table 6a, Method 1613. 10/94

Analyst: DB

Date: 1/10/20

FORM 8B  
PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory      Extraction Batch: B9L0200-BS1

Contract No.:                      SAS No.:

Matrix (aqueous/solid/leachate): SOLID      OPR Data Filename: 200109D2-2

Ext. Date:                      Shift: Day      Analysis Date: 9-JAN-20      Time: 23:30:46

ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	90.4	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	95.6	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	99.3	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	87.6	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	90.9	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	103	26.0 - 166.0
13C-OCDD	200	194	26.0 - 397.0
13C-2,3,7,8-TCDF	100	86.0	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	91.4	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	95.0	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	101	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	93.7	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	94.2	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	100	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	91.5	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	101	20.0 - 186.0
13C-OCDF	200	201	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	32.5	12.4 - 76.4

(1) Contract-required concentration limits for OPR  
as specified in Table 6, Method 1613. 10/94

(2) Contract-required concentration limits for OPR  
as specified in Table 6a, Method 1613. 10/94

Analyst: DB

Date: 1/10/20

Client ID: OPR  
Lab ID: B9L0200-BS1

Filename: 200109D2 S:2 Acq. 9-JAN-20 23:30:46  
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

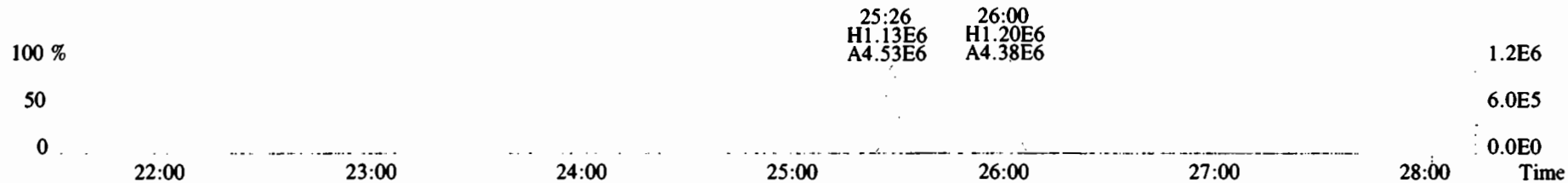
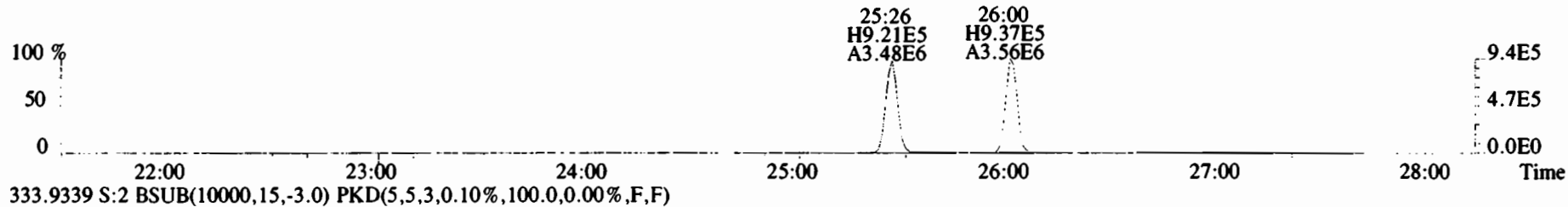
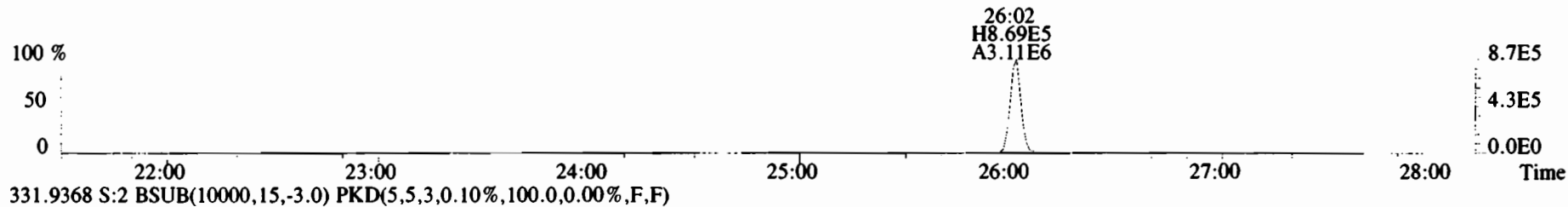
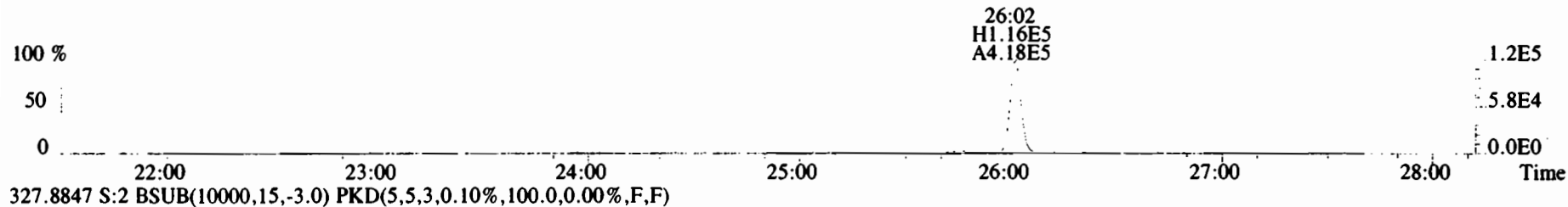
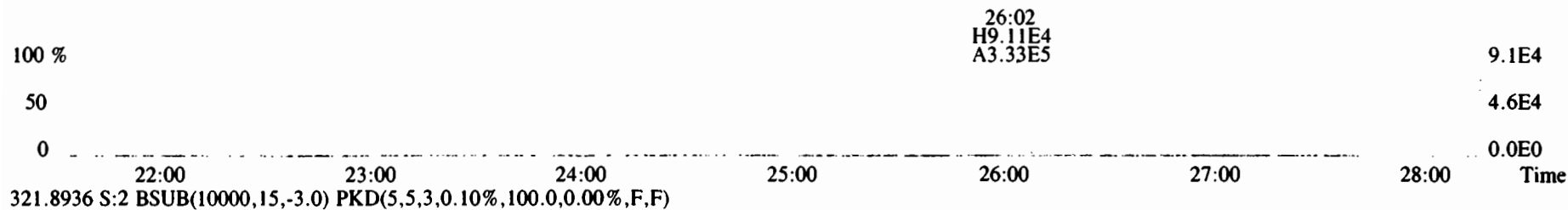
ConCal: ST200109D2-1  
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	7.51e+05	0.80 y	0.91	26:02	10.457			* 2.5	*	Total Tetra-Dioxins	10.5	11.7	*	*	*
1,2,3,7,8-PeCDD	3.26e+06	0.61 y	0.90	30:35	53.543			* 2.5	*	Total Penta-Dioxins	53.6	54.1	*	*	*
1,2,3,4,7,8-HxCDD	3.54e+06	1.24 y	1.10	33:54	50.202			* 2.5	*	Total Hexa-Dioxins	151	152	*	*	*
1,2,3,6,7,8-HxCDD	3.55e+06	1.25 y	0.94	34:00	50.253			* 2.5	*	Total Hepta-Dioxins	47.8	48.1	*	*	*
1,2,3,7,8,9-HxCDD	3.60e+06	1.22 y	0.96	34:18	50.875			* 2.5	*	Total Tetra-Furans	9.86	11.5	*	*	*
1,2,3,4,6,7,8-HpCDD	3.11e+06	1.03 y	0.98	37:47	46.978			* 2.5	*	Total Penta-Furans	105.22	106.11	*	*	*
OCDD	5.34e+06	0.89 y	0.96	41:02	98.496			* 2.5	*	Total Hexa-Furans	180	181	*	*	*
										Total Hepta-Furans	86.3	87.7	*	*	*
2,3,7,8-TCDF	9.93e+05	0.77 y	0.95	25:14	9.4991			* 2.5	*						
1,2,3,7,8-PeCDF	4.87e+06	1.51 y	0.96	29:24	52.570			* 2.5	*						
2,3,4,7,8-PeCDF	5.22e+06	1.47 y	1.01	30:18	51.673			* 2.5	*						
1,2,3,4,7,8-HxCDF	4.42e+06	1.24 y	1.18	33:00	44.634			* 2.5	*						
1,2,3,6,7,8-HxCDF	4.61e+06	1.18 y	1.07	33:08	44.330			* 2.5	*						
2,3,4,6,7,8-HxCDF	4.57e+06	1.24 y	1.11	33:44	45.477			* 2.5	*						
1,2,3,7,8,9-HxCDF	3.99e+06	1.22 y	1.06	34:41	45.030			* 2.5	*						
1,2,3,4,6,7,8-HpCDF	3.41e+06	1.02 y	1.13	36:31	43.377			* 2.5	*						
1,2,3,4,7,8,9-HpCDF	3.19e+06	1.03 y	1.28	38:19	42.286			* 2.5	*						
OCDF	5.76e+06	0.86 y	0.95	41:15	87.426			* 2.5	*						
IS	13C-2,3,7,8-TCDD	7.94e+06	0.81 y	1.10	26:00	90.437				Rec					
IS	13C-1,2,3,7,8-PeCDD	6.75e+06	0.64 y	0.88	30:34	95.585				Qual					
IS	13C-1,2,3,4,7,8-HxCDD	6.41e+06	1.27 y	0.64	33:53	99.349				90.4					
IS	13C-1,2,3,6,7,8-HxCDD	7.53e+06	1.27 y	0.86	33:59	87.609				95.6					
IS	13C-1,2,3,7,8,9-HxCDD	7.37e+06	1.26 y	0.81	34:17	90.930				99.3					
IS	13C-1,2,3,4,6,7,8-HpCDD	6.77e+06	1.03 y	0.65	37:46	103.01				87.6					
IS	13C-OCDD	1.13e+07	0.90 y	0.58	41:01	194.10				90.9					
IS	13C-2,3,7,8-TCDF	1.10e+07	0.79 y	1.03	25:13	85.980				103					
IS	13C-1,2,3,7,8-PeCDF	9.65e+06	1.61 y	0.85	29:23	91.371				97.1					
IS	13C-2,3,4,7,8-PeCDF	9.95e+06	1.56 y	0.85	30:17	94.984				86.0					
IS	13C-1,2,3,4,7,8-HxCDF	8.41e+06	0.51 y	0.83	32:60	100.66				91.4					
IS	13C-1,2,3,6,7,8-HxCDF	9.73e+06	0.51 y	1.03	33:07	93.667				95.0					
IS	13C-2,3,4,6,7,8-HxCDF	9.02e+06	0.51 y	0.95	33:43	94.172				101					
IS	13C-1,2,3,7,8,9-HxCDF	8.34e+06	0.51 y	0.83	34:40	100.32				93.7					
IS	13C-1,2,3,4,6,7,8-HpCDF	6.96e+06	0.43 y	0.76	36:30	91.516				94.2					
IS	13C-1,2,3,4,7,8,9-HpCDF	5.89e+06	0.44 y	0.58	38:18	100.95				100					
IS	13C-OCDF	1.39e+07	0.86 y	0.69	41:14	200.85				91.5					
C/Up	37C1-2,3,7,8-TCDD	3.11e+06		1.20	26:02	32.456				101					
RS/RT	13C-1,2,3,4-TCDD	8.01e+06	0.77 y	1.00	25:26	100.00				93.7					
RS	13C-1,2,3,4-TCDF	1.24e+07	0.81 y	1.00	23:58	100.00				94.2					
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.00e+07	0.52 y	1.00	33:24	100.00				100					

Integrations  
by DB  
Analyst: DB  
Date: 1/10/20

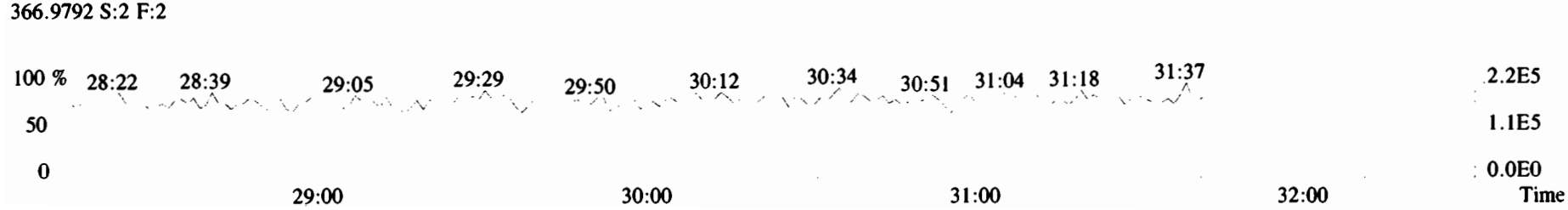
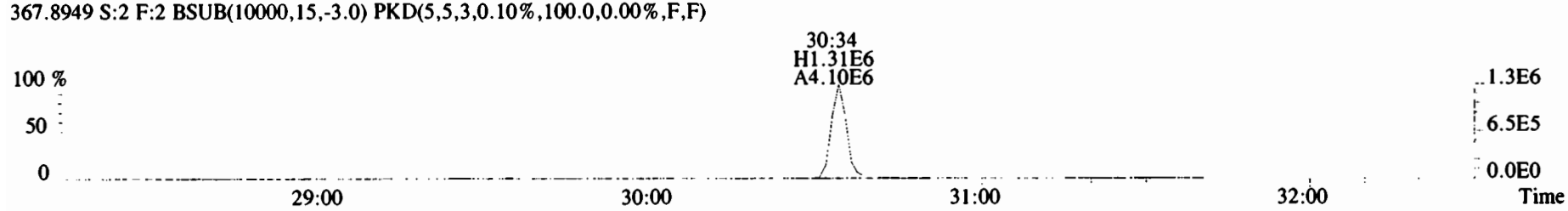
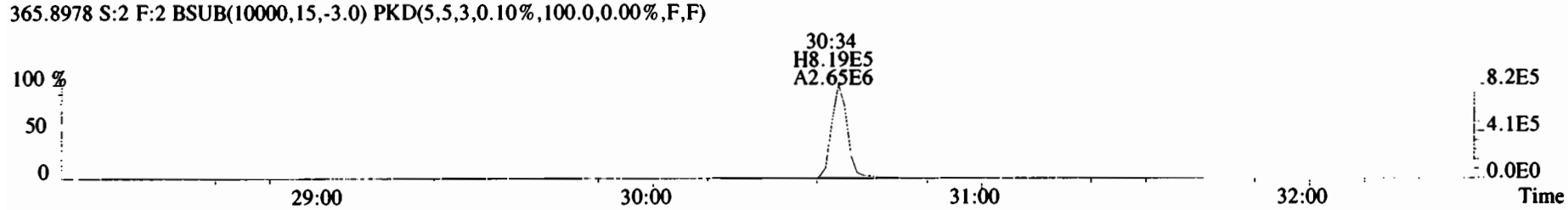
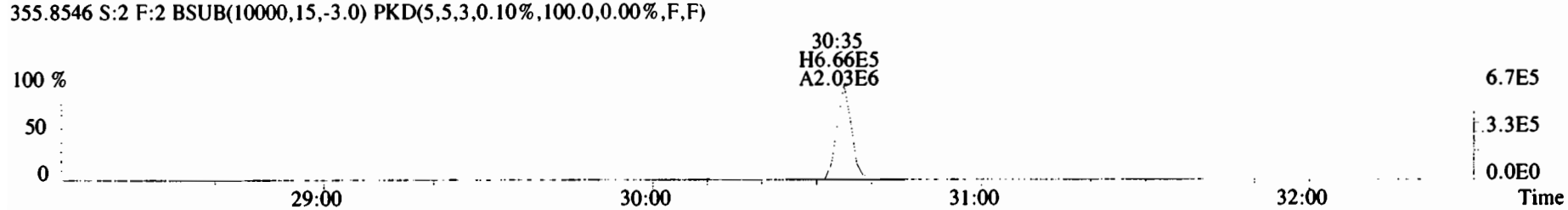
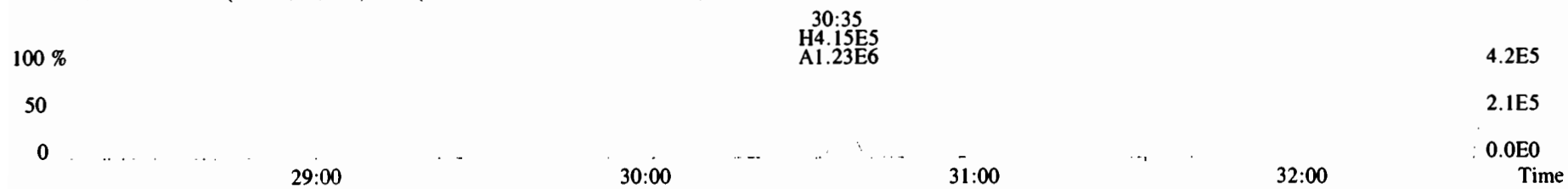
Reviewed  
by C7  
Analyst: C7  
Date: 01/17/2020

File:200109D2 #1-493 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BS1 OPR 10 Exp:OCDD\_DB5  
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

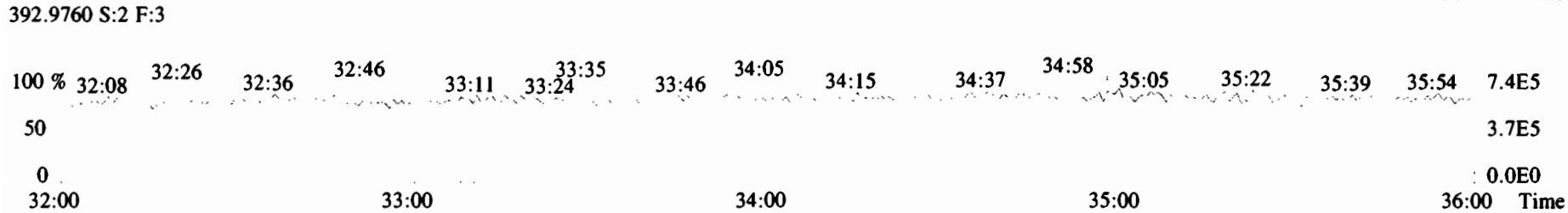
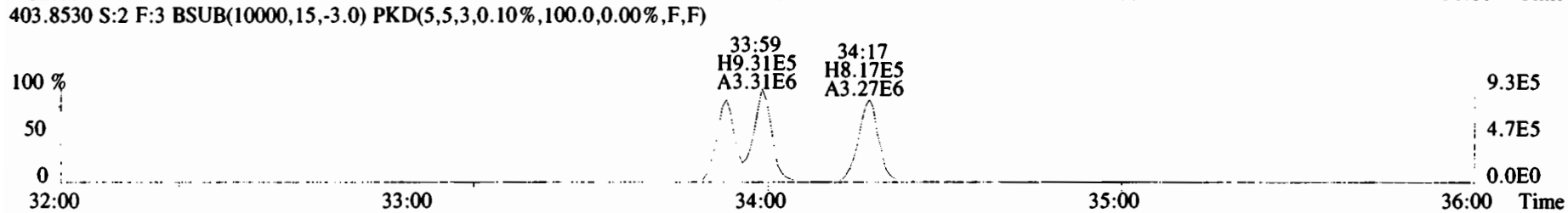
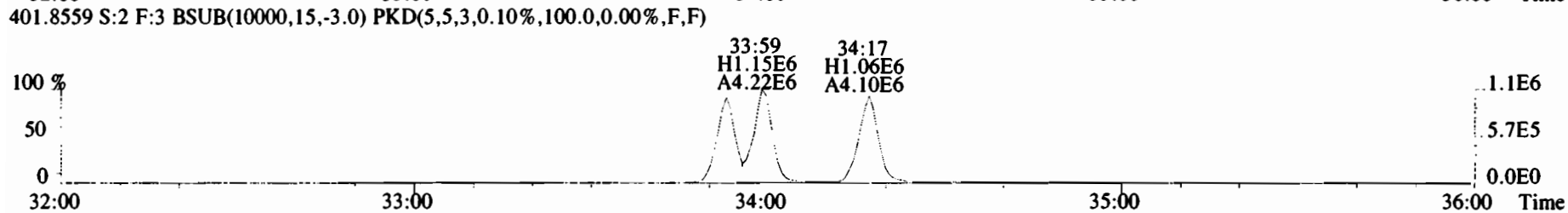
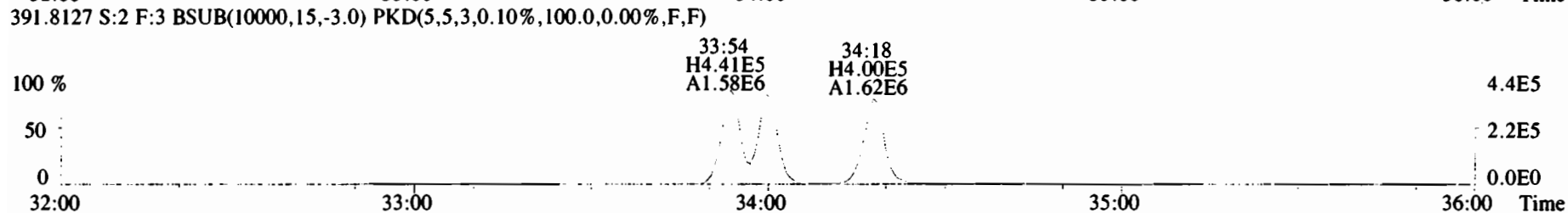
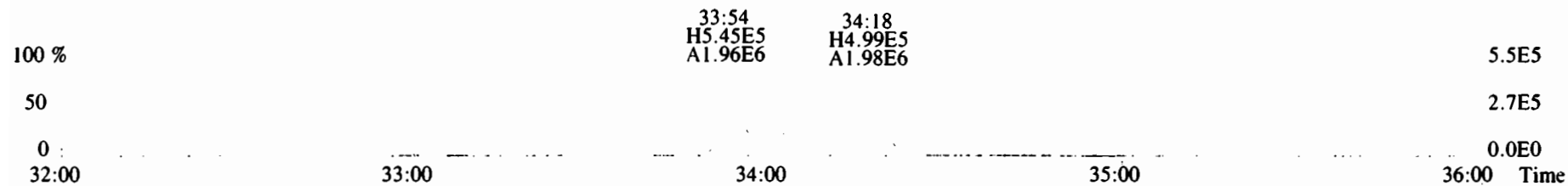




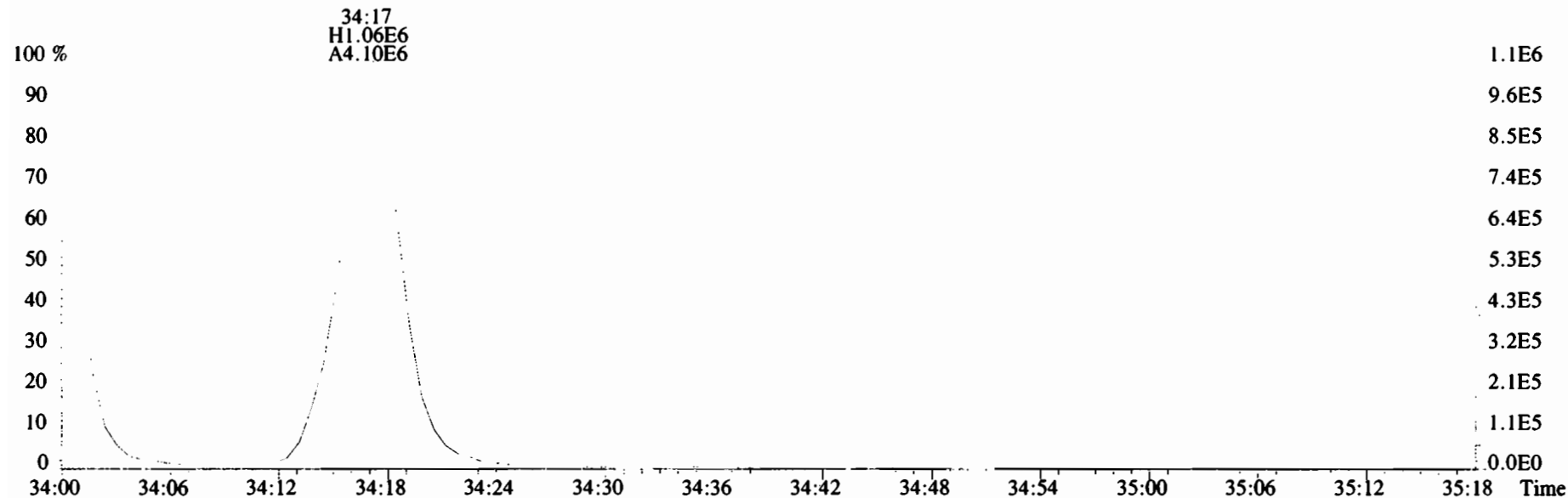
File:200109D2 #1-211 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



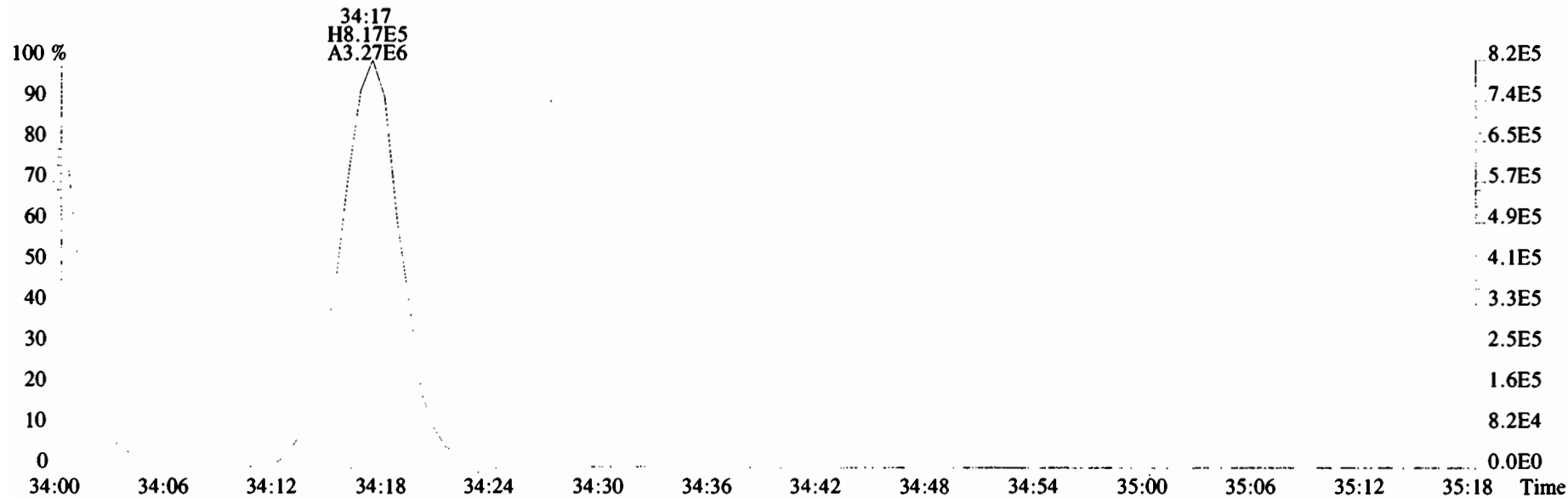
File:200109D2 #1-384 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
 389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



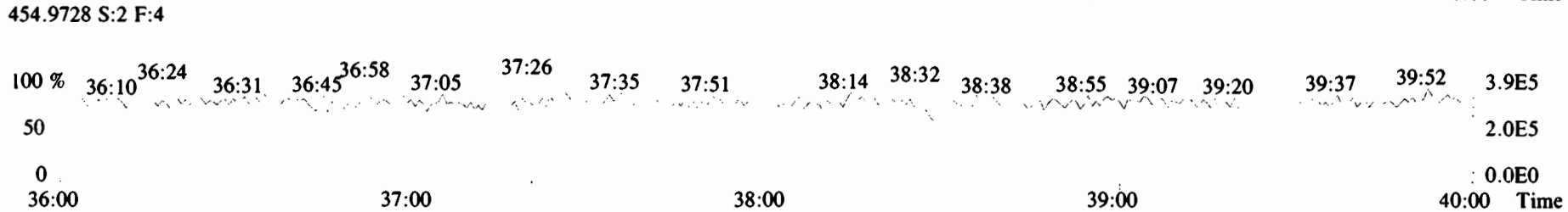
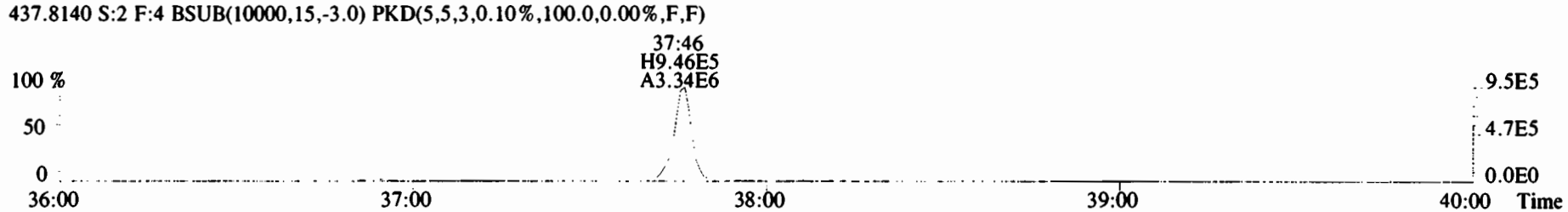
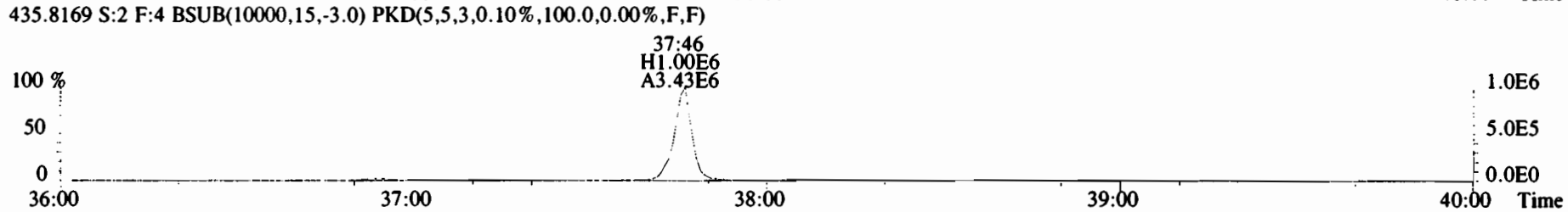
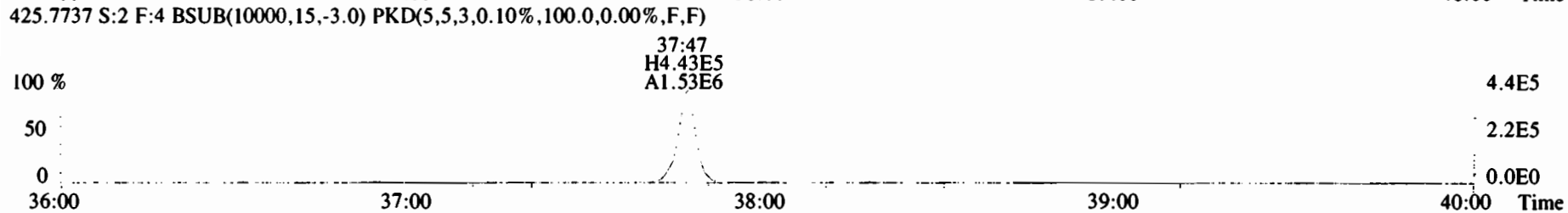
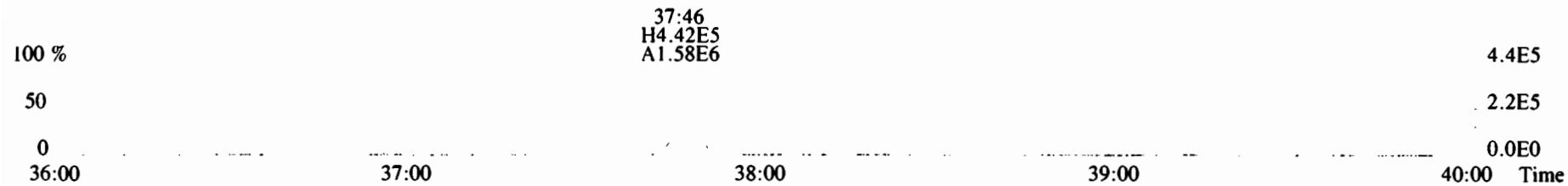
File:200109D2 #1-384 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9L0200-BS1 OPR 10 Exp:OCDD\_DB5  
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:200109D2 #1-356 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



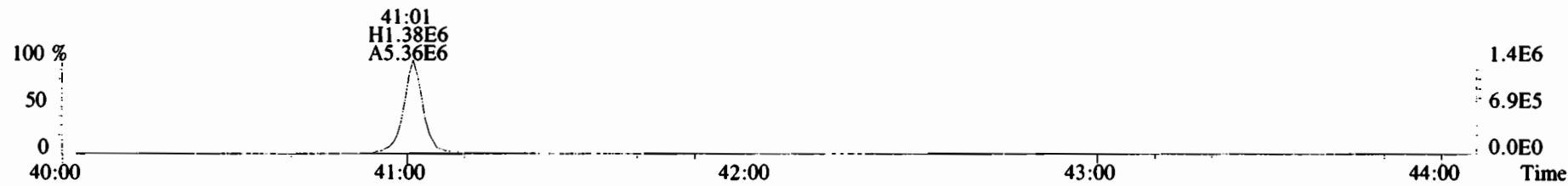
File:200109D2 #1-431 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BS1 OPR 10 Exp:OCDD\_DB5  
 457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



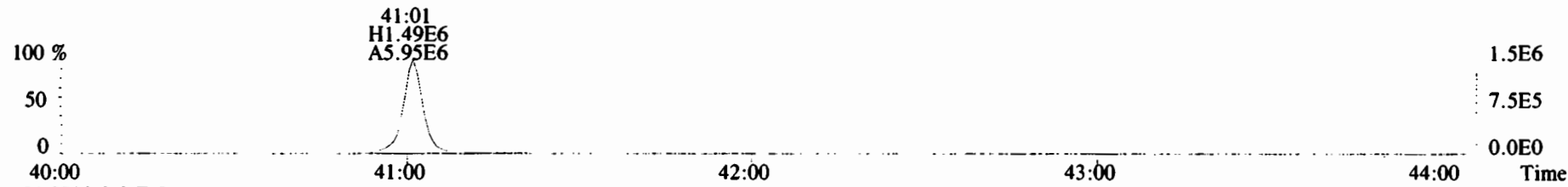
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



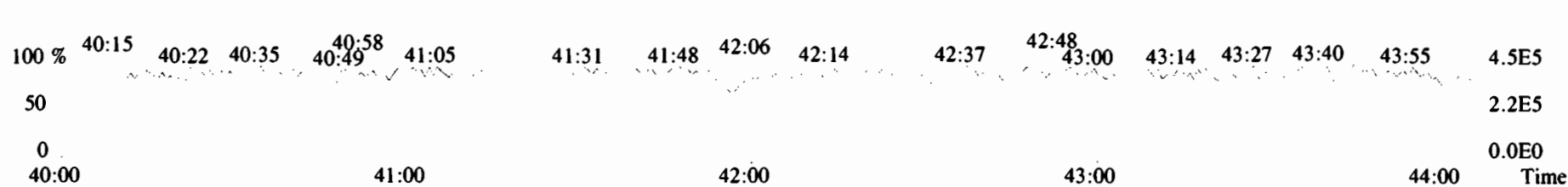
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



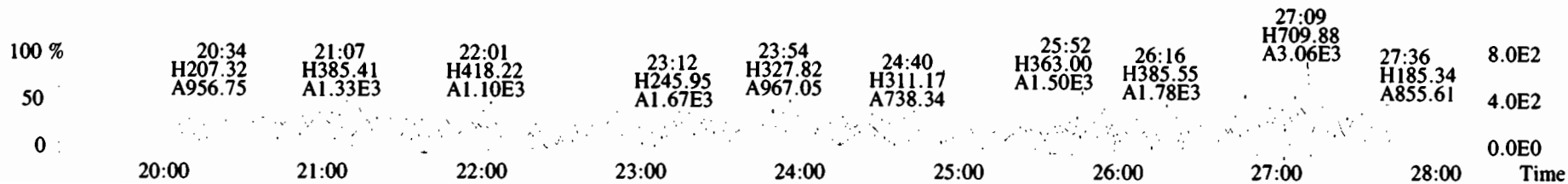
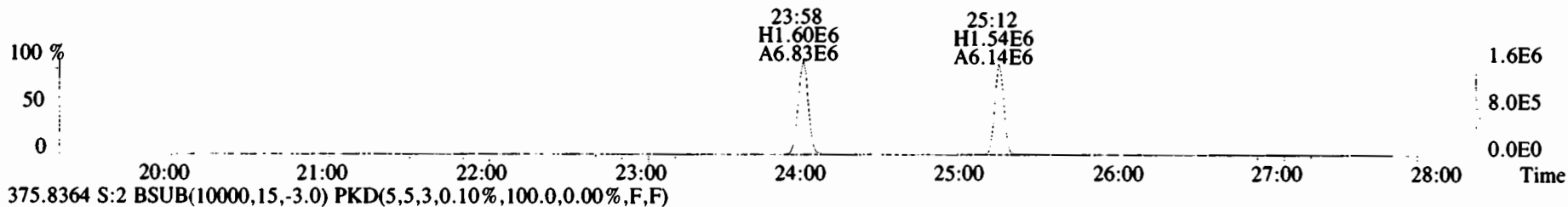
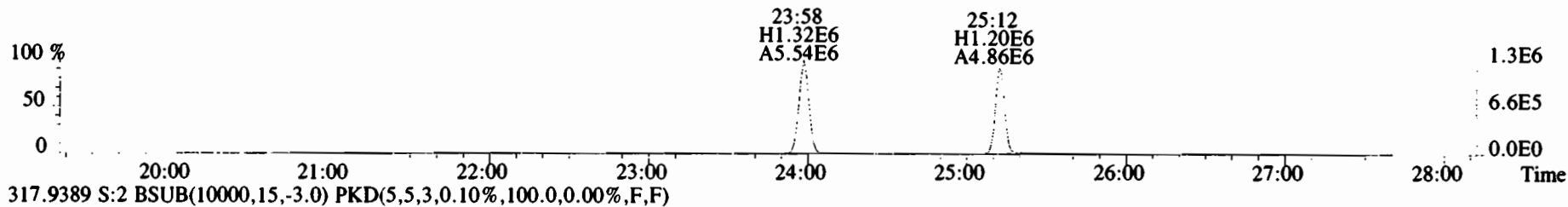
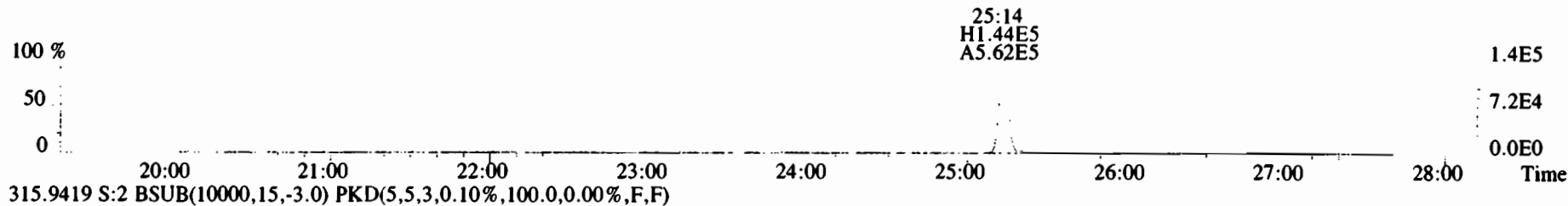
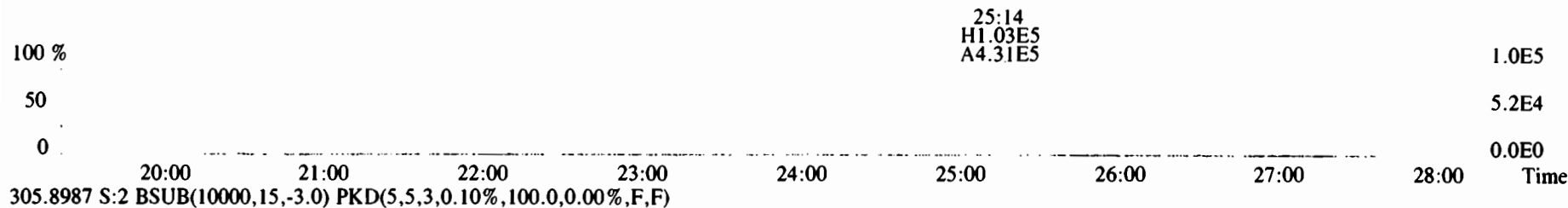
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



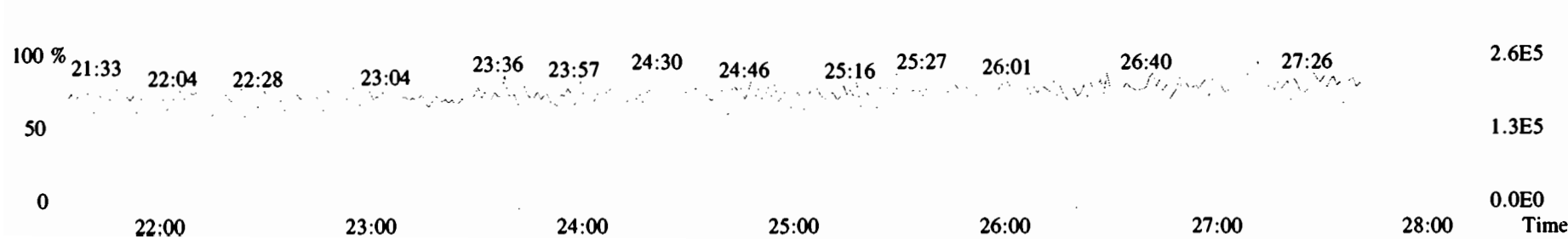
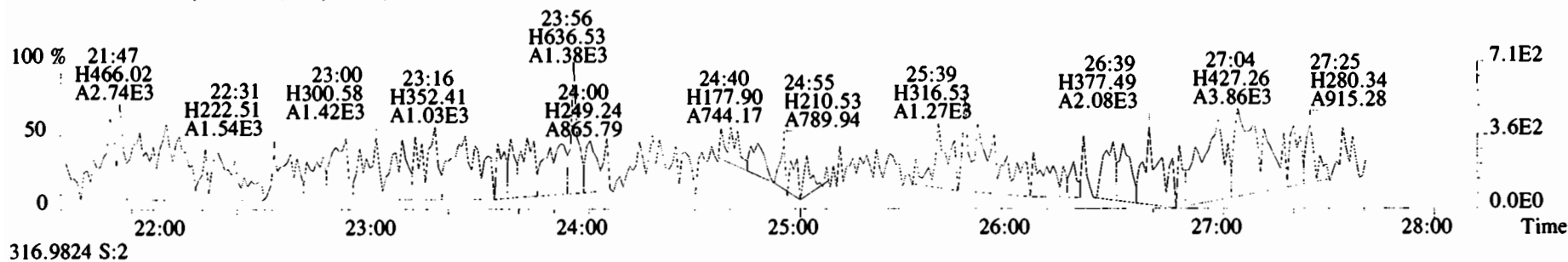
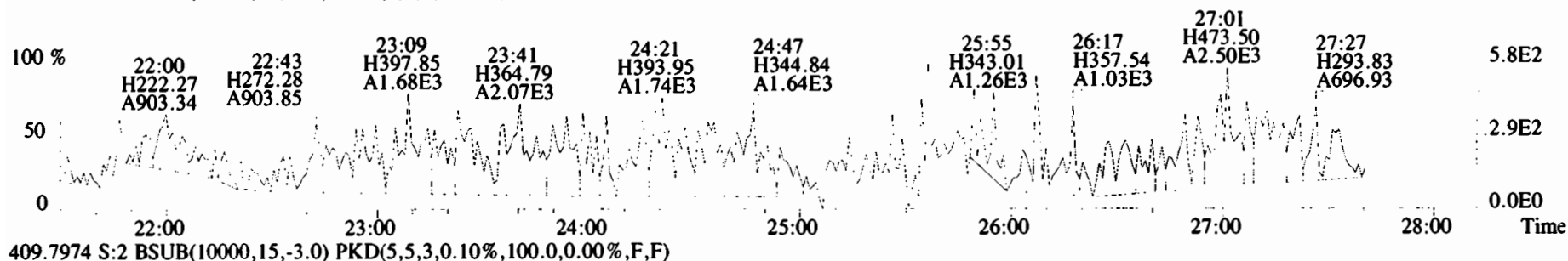
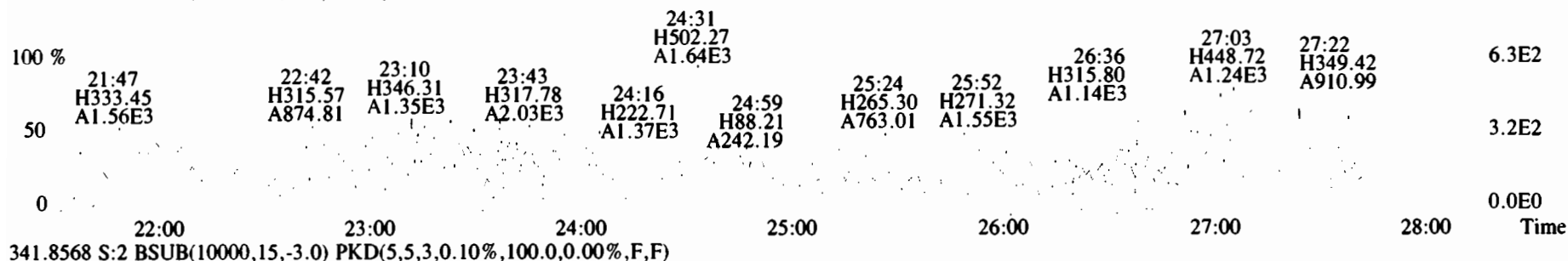
454.9728 S:2 F:5



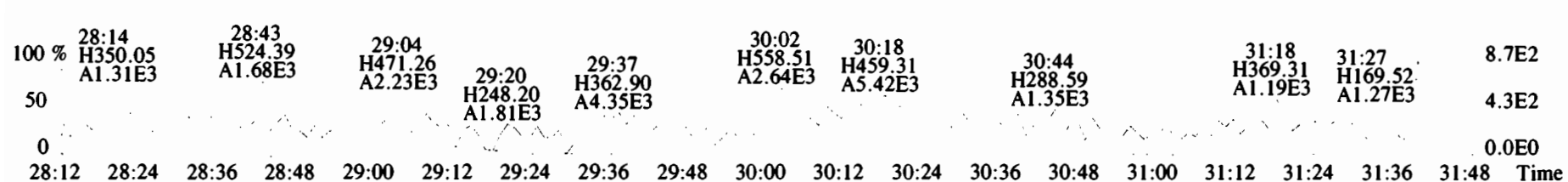
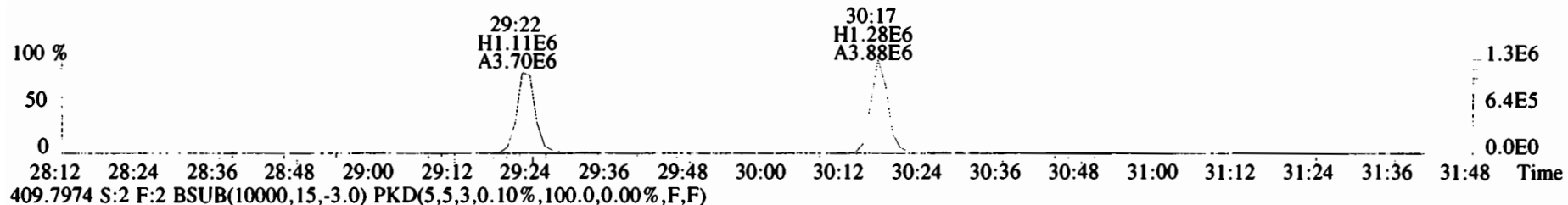
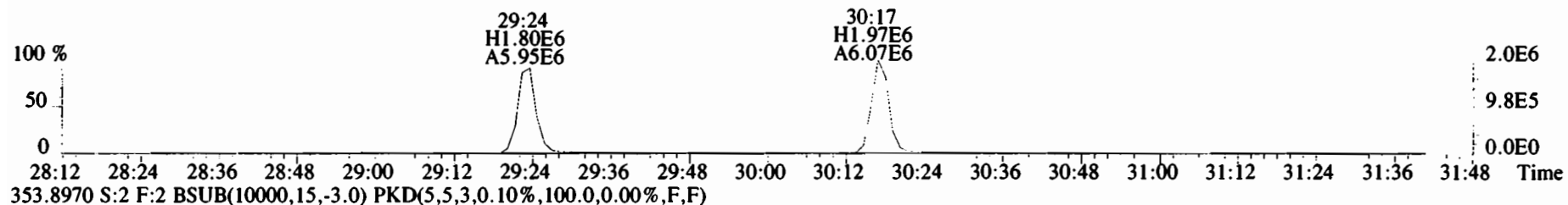
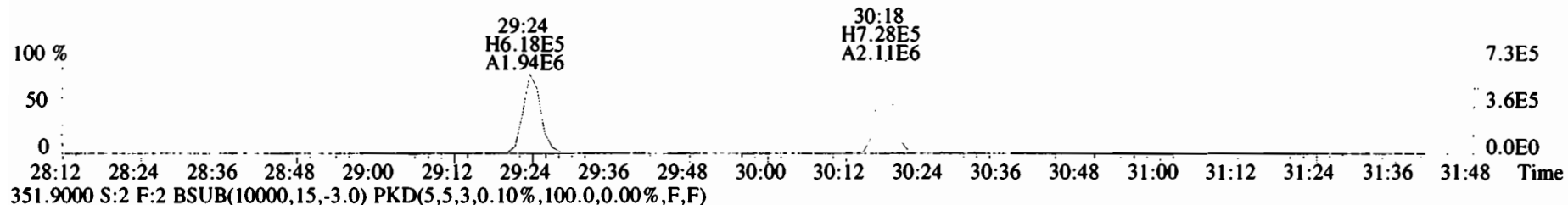
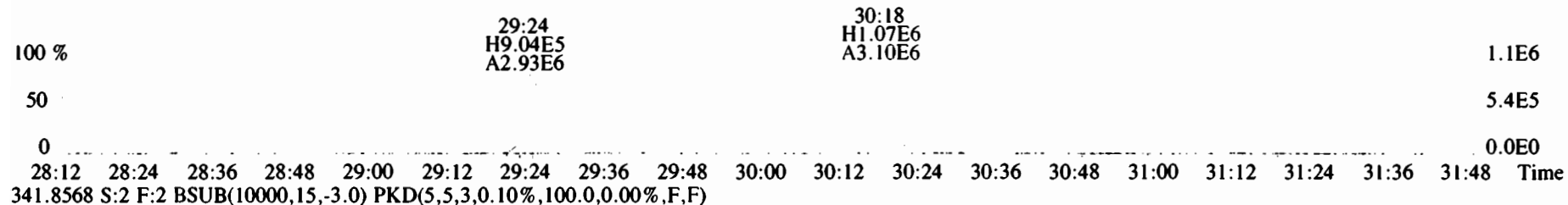
File:200109D2 #1-493 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text: Vista\_Analytical\_Laboratory\_VG7 Text: B9L0200-BSI OPR 10 Exp: OCDD\_DB5  
 303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:200109D2 #1-493 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

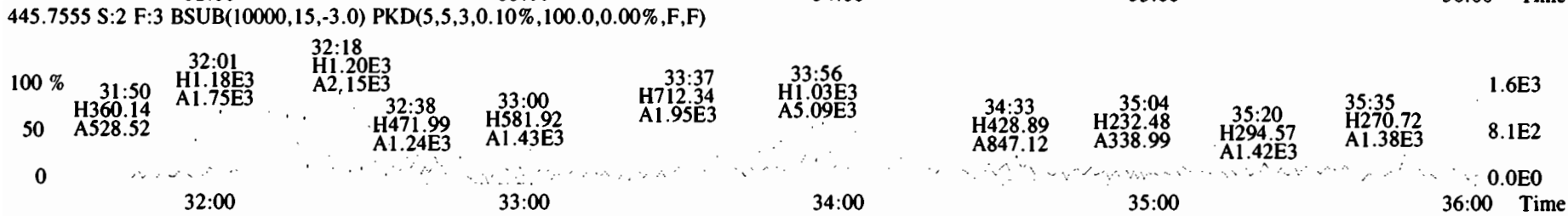
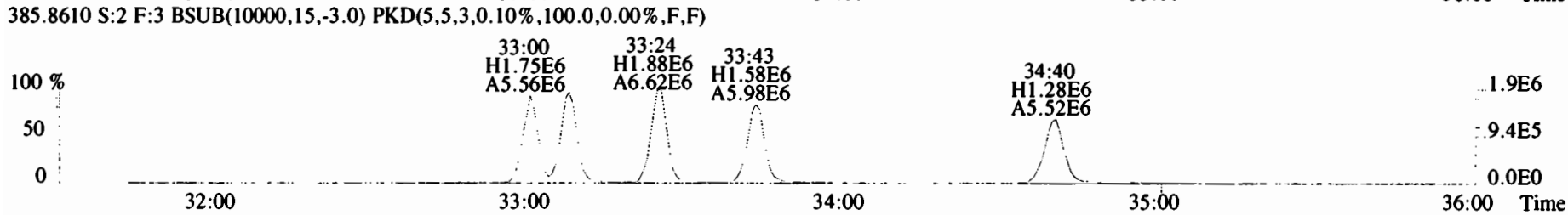
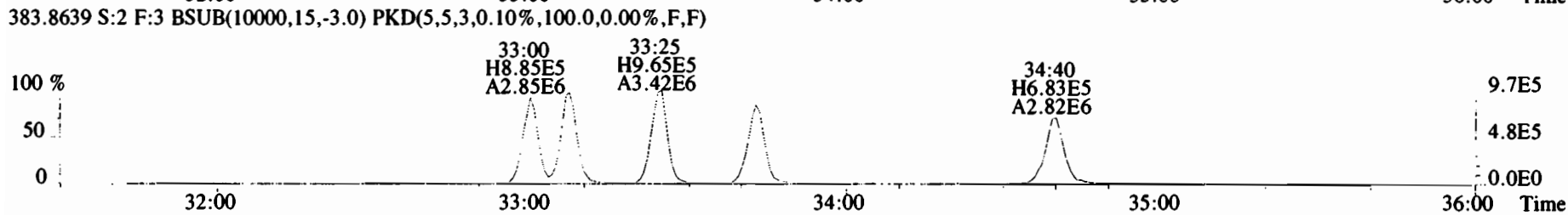
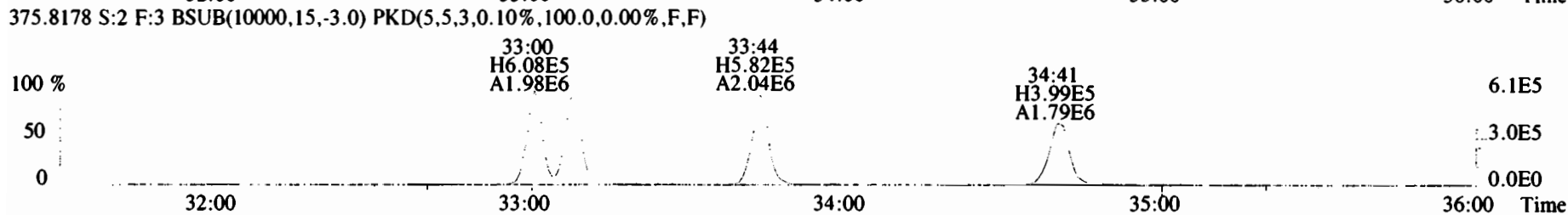
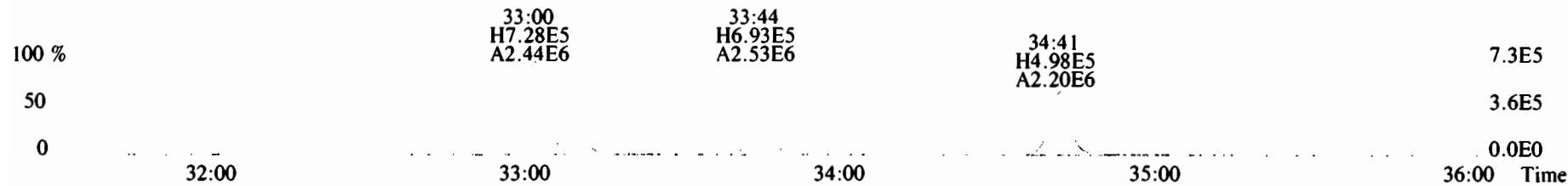


File:200109D2 #1-211 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
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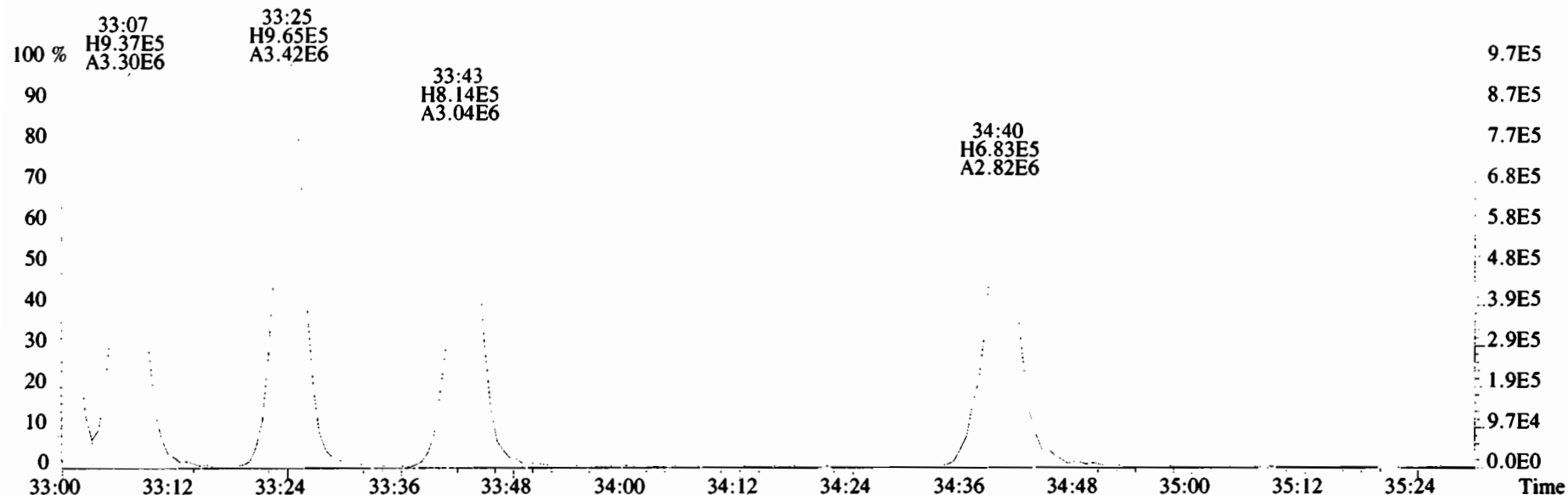




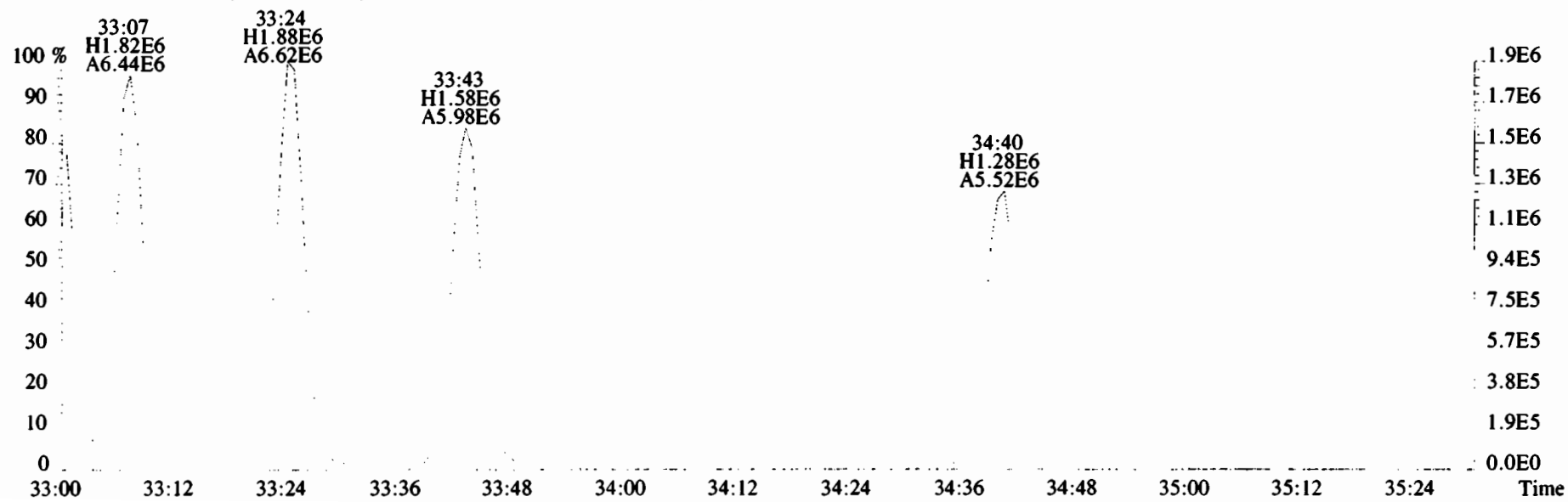
File:200109D2 #1-384 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



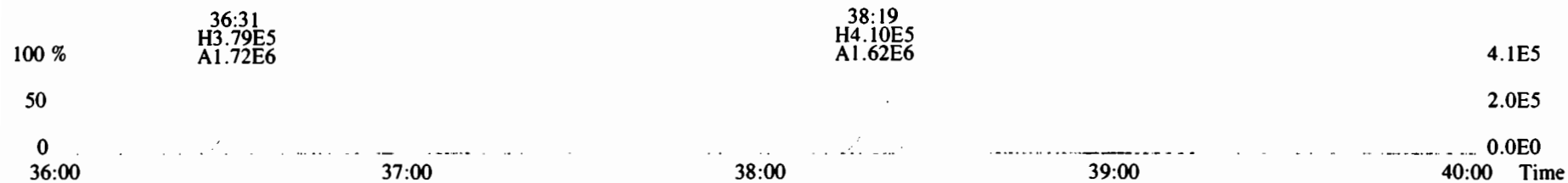
File:200109D2 #1-384 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
 383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



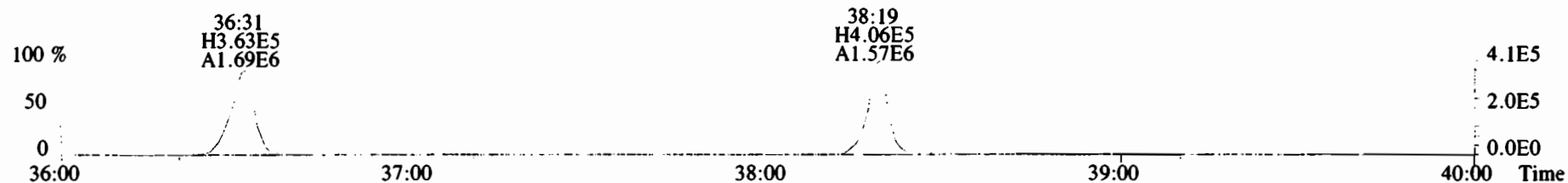
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



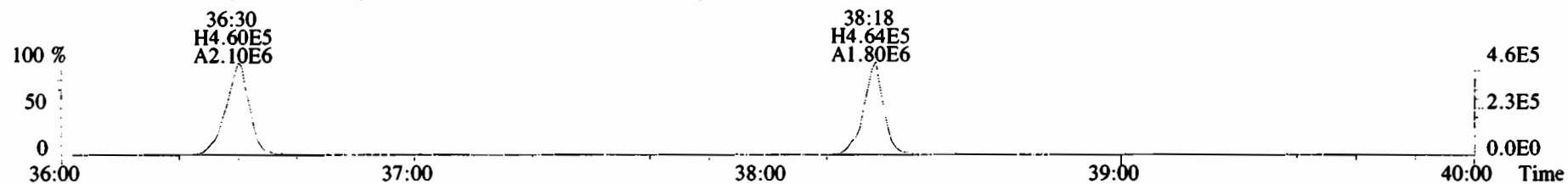
File:200109D2 #1-356 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text.Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BSI OPR 10 Exp:OCDD\_DB5  
 407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



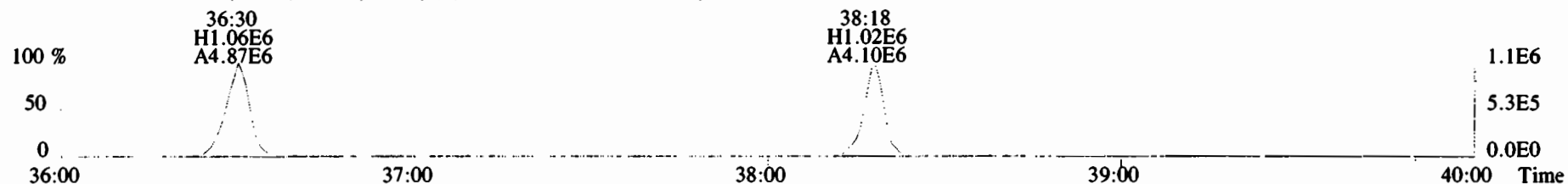
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



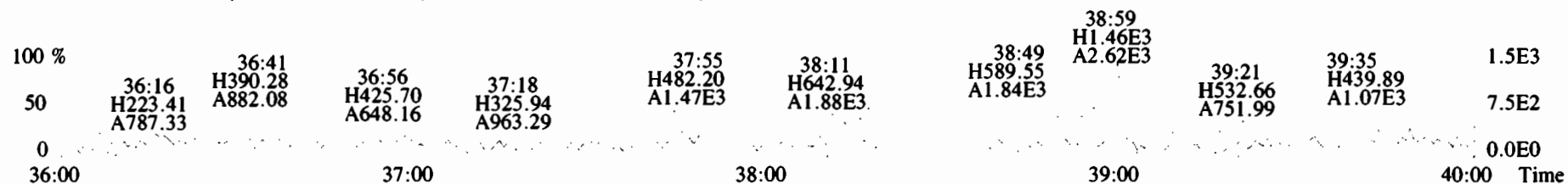
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



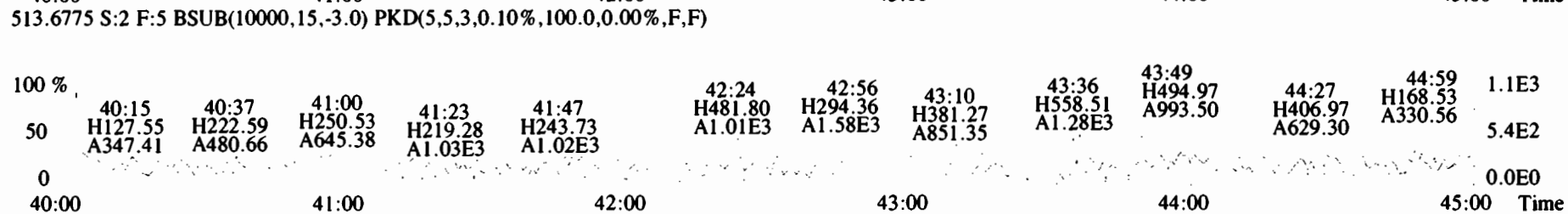
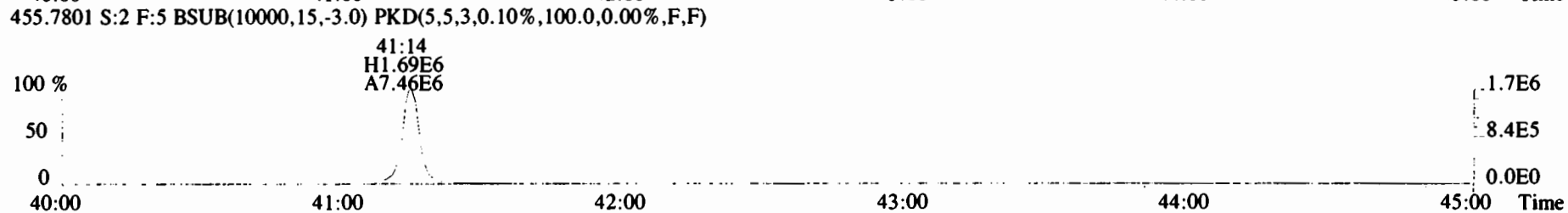
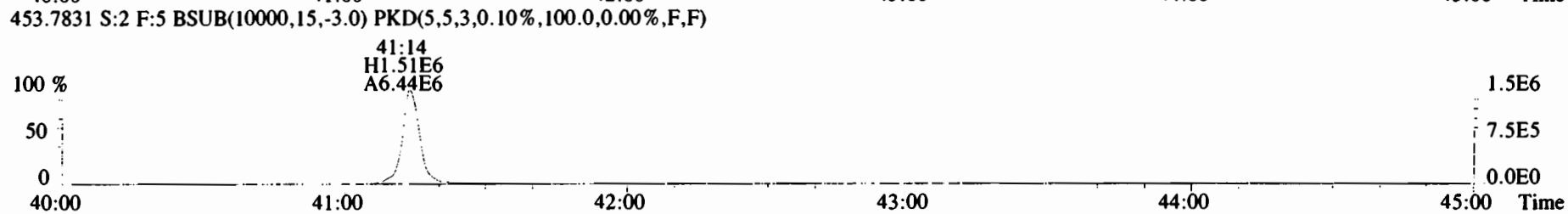
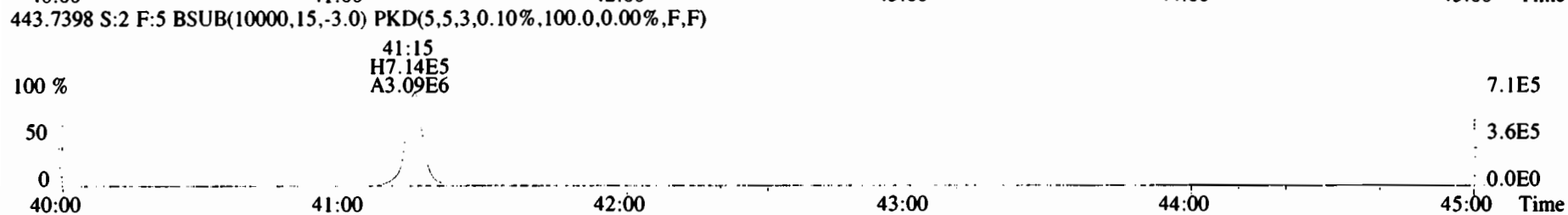
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:200109D2 #1-431 Acq: 9-JAN-2020 23:30:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:B9L0200-BS1 OPR 10 Exp:OCDD\_DB5  
 441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-9.qld

Last Altered: Tuesday, January 14, 2020 17:06:02 Pacific Standard Time

Printed: Tuesday, January 14, 2020 17:08:00 Pacific Standard Time

*Hc +14.20  
1.14.20*

*OT 01/20/2020*

Method: U:\VG7.PRO\MethDB\1613VG7-1-10-20.mdb 14 Jan 2020 16:27:50

Calibration: 14 Jan 2020 16:47:18

Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,

Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD		1.12e5	10.0453	0.905			1.001		26.02					0.210
2	2 1,2,3,7,8-PeCDD		8.38e4	10.0453	0.903			1.001		30.57					0.262
3	3 1,2,3,4,7,8-HxCDD		7.34e4	10.0453	1.101			1.000		33.87					0.299
4	4 1,2,3,6,7,8-HxCDD		8.16e4	10.0453	0.939			1.000		33.96					0.323
5	5 1,2,3,7,8,9-HxCDD		7.88e4	10.0453	0.961			1.001		34.31					0.344
6	6 1,2,3,4,6,7,8-HpCDD	1.83e3	6.80e4	10.0453	0.979	1.052	NO	1.000	1.001	37.75	37.77	5.4741		5.47	0.995
7	7 OCDD	1.21e4	1.05e5	10.0453	0.959	0.887	NO	1.000	1.000	40.99	41.01	48.078		48.1	0.547
8	8 2,3,7,8-TCDF	2.62e2	1.67e5	10.0453	0.950	0.581	YES	1.001	1.001	25.22	25.21	0.32870		0.278 <i>ok</i>	0.186
9	9 1,2,3,7,8-PeCDF	4.05e2	1.45e5	10.0453	0.960	1.155	YES	1.001	1.000	29.40	29.38	0.58116		0.512	0.185
10	10 2,3,4,7,8-PeCDF	1.45e2	1.38e5	10.0453	1.015	3.427	YES	1.001	1.001	30.30	30.29	0.20842		0.119	0.183
11	11 1,2,3,4,7,8-HxCDF	5.98e2	1.01e5	10.0453	1.177	1.030	YES	1.000	1.000	32.98	33.00	1.0002		0.917	0.220
12	12 1,2,3,6,7,8-HxCDF	1.52e2	1.13e5	10.0453	1.069	1.163	NO	1.000	1.000	33.11	33.11	0.25128		0.251	0.247
13	13 2,3,4,6,7,8-HxCDF		9.97e4	10.0453	1.114			1.001		33.74					0.292
14	14 1,2,3,7,8,9-HxCDF		9.51e4	10.0453	1.062			1.000		34.65					0.411
15	15 1,2,3,4,6,7,8-HpCDF	3.06e2	7.30e4	10.0453	1.128	1.030	NO	1.001	1.000	36.52	36.48	0.74068		0.741	0.459
16	16 1,2,3,4,7,8,9-HpCDF		6.35e4	10.0453	1.280			1.000		38.29					0.428
17	17 OCDF	6.30e2	1.31e5	10.0453	0.947	0.822	NO	1.000	1.000	41.22	41.24	2.0171		2.02	0.526
18	18 13C-2,3,7,8-TCDD	1.12e5	1.04e5	10.0453	1.095	0.793	NO	1.023	1.022	26.01	25.99	194.50	97.7		0.607
19	19 13C-1,2,3,7,8-PeCDD	8.38e4	1.04e5	10.0453	0.881	0.634	NO	1.203	1.202	30.58	30.55	181.50	91.2		0.455
20	20 13C-1,2,3,4,7,8-Hx...	7.34e4	1.27e5	10.0453	0.642	1.277	NO	1.014	1.014	33.85	33.86	179.56	90.2		1.04
21	21 13C-1,2,3,6,7,8-Hx...	8.16e4	1.27e5	10.0453	0.856	1.236	NO	1.017	1.017	33.97	33.96	149.75	75.2		0.782
22	22 13C-1,2,3,7,8,9-Hx...	7.88e4	1.27e5	10.0453	0.807	1.194	NO	1.026	1.027	34.27	34.27	153.47	77.1		0.830
23	23 13C-1,2,3,4,6,7,8-H...	6.80e4	1.27e5	10.0453	0.654	0.999	NO	1.131	1.130	37.76	37.74	163.26	82.0		1.37
24	24 13C-OCDD	1.05e5	1.27e5	10.0453	0.580	0.873	NO	1.228	1.228	41.01	40.99	283.27	71.1		0.873
25	25 13C-2,3,7,8-TCDF	1.67e5	1.76e5	10.0453	1.035	0.767	NO	0.992	0.991	25.22	25.19	181.99	91.4		0.614
26	26 13C-1,2,3,7,8-PeCDF	1.45e5	1.76e5	10.0453	0.854	1.602	NO	1.156	1.156	29.39	29.38	191.16	96.0		1.28
27	27 13C-2,3,4,7,8-PeCDF	1.38e5	1.76e5	10.0453	0.847	1.564	NO	1.192	1.190	30.30	30.27	184.05	92.4		1.29
28	28 13C-1,2,3,4,7,8-Hx...	1.01e5	1.27e5	10.0453	0.832	0.491	NO	0.987	0.988	32.96	32.98	190.97	95.9		1.59
29	29 13C-1,2,3,6,7,8-Hx...	1.13e5	1.27e5	10.0453	1.034	0.500	NO	0.991	0.991	33.08	33.10	171.59	86.2		1.28
30	30 13C-2,3,4,6,7,8-Hx...	9.97e4	1.27e5	10.0453	0.953	0.509	NO	1.009	1.009	33.69	33.70	164.26	82.5		1.39
31	31 13C-1,2,3,7,8,9-Hx...	9.51e4	1.27e5	10.0453	0.828	0.497	NO	1.038	1.038	34.65	34.65	180.54	90.7		1.60

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-9.qld

Last Altered: Tuesday, January 14, 2020 17:06:02 Pacific Standard Time

Printed: Tuesday, January 14, 2020 17:08:00 Pacific Standard Time

Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,

Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	7.30e4	1.27e5	10.0453	0.757	0.457	NO	1.093	1.093	36.49	36.49	151.37	76.0		1.29
33	33 13C-1,2,3,4,7,8,9-H...	6.35e4	1.27e5	10.0453	0.581	0.437	NO	1.147	1.147	38.29	38.29	171.68	86.2		1.68
34	34 13C-OCDF	1.31e5	1.27e5	10.0453	0.689	0.919	NO	1.235	1.235	41.23	41.22	299.57	75.2		0.867
35	35 37Cl-2,3,7,8-TCDD	4.26e4	1.04e5	10.0453	1.198			1.024	1.023	26.03	26.00	67.910	85.3		0.129
36	36 13C-1,2,3,4-TCDD	1.04e5	1.04e5	10.0453	1.000	0.808	NO	1.000	1.000	25.39	25.43	199.10	100.0		0.665
37	37 13C-1,2,3,4-TCDF	1.76e5	1.76e5	10.0453	1.000	0.781	NO	1.000	1.000	23.93	23.96	199.10	100.0		0.636
38	38 13C-1,2,3,4,6,9-Hx...	1.27e5	1.27e5	10.0453	1.000	0.521	NO	1.000	1.000	33.37	33.39	199.10	100.0		1.32
39	39 Total Tetra-Dioxins		1.12e5	10.0453	0.901			0.000		25.50		0.78711		0.787	0.211
40	40 Total Penta-Dioxins		8.38e4	10.0453	0.872			0.000		30.00		0.00000		0.521	0.137
41	41 Total Hexa-Dioxins		0.00e0	10.0453	0.976			0.000		33.80		2.1844		2.18	0.329
42	42 Total Hepta-Dioxins		6.80e4	10.0453	0.989			0.000		37.75		12.930		12.9	0.985
43	43 Total Tetra-Furans		1.67e5	10.0453	0.943			0.000		24.00		0.31094		0.589	0.167
44	44 1st Func. Penta-Fur...		0.00e0	10.0453	0.940			0.000		27.63					0.0467
45	45 Total Penta-Furans		0.00e0	10.0453	0.940			0.000		30.00		0.31603		1.33	0.183
46	46 Total Hexa-Furans		0.00e0	10.0453	1.078			0.000		33.00		0.64641		1.82	0.298
47	47 Total Hepta-Furans		0.00e0	10.0453	1.135			0.000		37.75		2.2764		2.28	0.468

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-9.qld

Last Altered: Tuesday, January 14, 2020 17:06:02 Pacific Standard Time

Printed: Tuesday, January 14, 2020 17:08:00 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-1-10-20.mdb 14 Jan 2020 16:27:50

Calibration: 14 Jan 2020 16:47:18

Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,

Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	39 Total Tetra-Dioxins	NO	24.10	184.783	49367.914	7.123	db	0.7871	0.79

**Penta-Dioxins**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	40 Total Penta-Dioxins	YES	29.85	21.383	32525.742	0.000	MM	0.0000	0.08
2	40 Total Penta-Dioxins	YES	28.53	31.708	32525.742	0.000	MM	0.0000	0.16
3	40 Total Penta-Dioxins	YES	29.89	23.850	32525.742	0.000	MM	0.0000	0.10
4	40 Total Penta-Dioxins	YES	28.95	26.266	32525.742	0.000	MM	0.0000	0.19

**Hexa-Dioxins**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	41 Total Hexa-Dioxins	NO	33.19	157.719	43049.703	7.219	db	0.7363	0.74
2	41 Total Hexa-Dioxins	NO	32.36	315.660	43049.703	14.196	bb	1.4481	1.45

**Hepta-Dioxins**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	NO	37.77	938.310	33963.848	53.856	bb	5.4741	5.47
2	42 Total Hepta-Dioxins	NO	36.88	1273.518	33963.848	74.054	MM	7.4563	7.46

**Tetra-Furans**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	8 2,3,7,8-TCDF	YES	25.21	96.367	72390.125	0.000	MM	0.0000	0.28
2	43 Total Tetra-Furans	NO	24.40	104.454	72390.125	2.945	bb	0.3109	0.31

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-9.qld

Last Altered: Tuesday, January 14, 2020 17:06:02 Pacific Standard Time

Printed: Tuesday, January 14, 2020 17:08:00 Pacific Standard Time

Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,  
 Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Penta-Furans function 1

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

Penta-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	9 1,2,3,7,8-PeCDF	YES	29.38	217.198	89010.648	0.000	bb	0.0000	0.51
2	45 Total Penta-Furans	YES	29.21	63.737	86601.054	0.000	MM	0.0000	0.06
3	45 Total Penta-Furans	NO	28.49	125.213	86601.054	2.983	MM	0.3160	0.32
4	10 2:3,4,7,8-PeCDF	YES	30.29	112.426	84191.461	0.000	MM	0.0000	0.12
5	45 Total Penta-Furans	YES	29.63	121.642	86601.054	0.000	bb	0.0000	0.21
6	45 Total Penta-Furans	YES	30.31	81.088	86601.054	0.000	MM	0.0000	0.11

Hexa-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	12 1,2,3,6,7,8-HxCDF	NO	33.11	81.967	37655.406	2.696	MM	0.2513	0.25
2	11 1,2,3,4,7,8-HxCDF	YES	33.00	303.351	33293.781	0.000	MM	0.0000	0.92
3	46 Total Hexa-Furans	YES	32.54	79.964	34041.561	0.000	MM	0.0000	0.26
4	46 Total Hexa-Furans	NO	32.00	98.391	34041.561	3.321	MM	0.3068	0.31
5	46 Total Hexa-Furans	NO	33.14	25.151	34041.561	0.956	MM	0.0883	0.09

Hepta-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	47 Total Hepta-Furans	NO	37.08	298.611	21101.012	17.505	MM	1.5357	1.54
2	15 1,2,3,4,6,7,8-HpCDF	NO	36.48	155.381	22890.633	8.390	MM	0.7407	0.74



Vista Analytical Laboratory

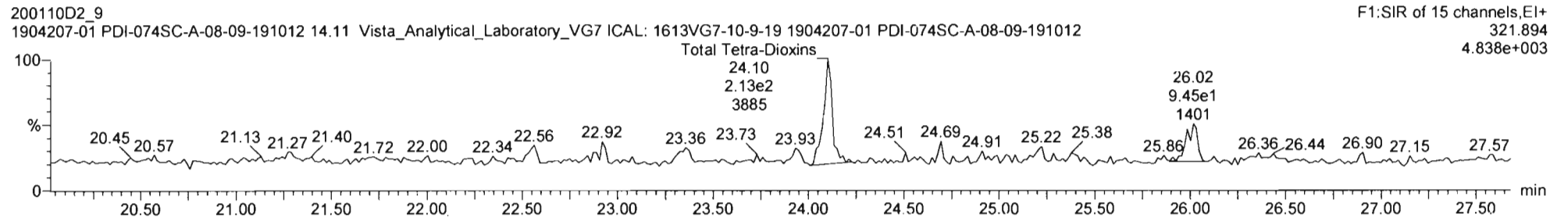
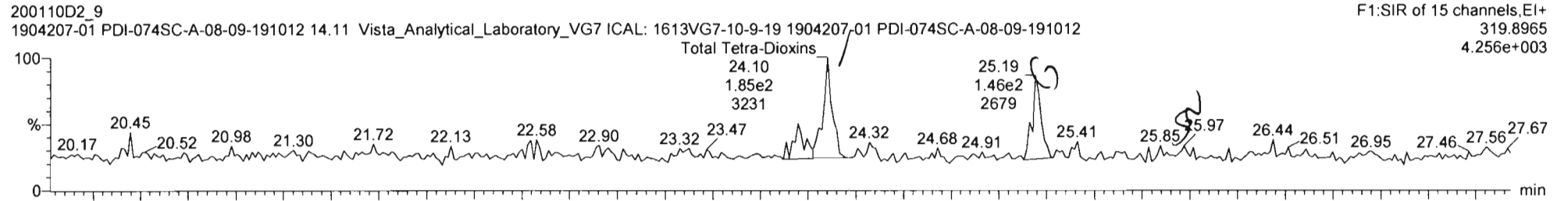
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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

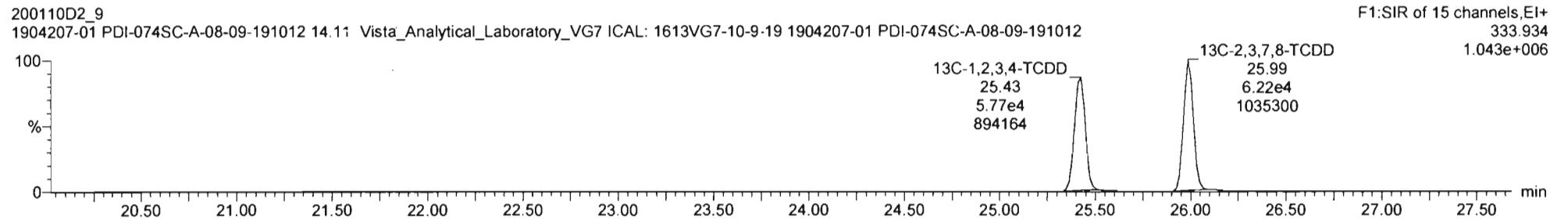
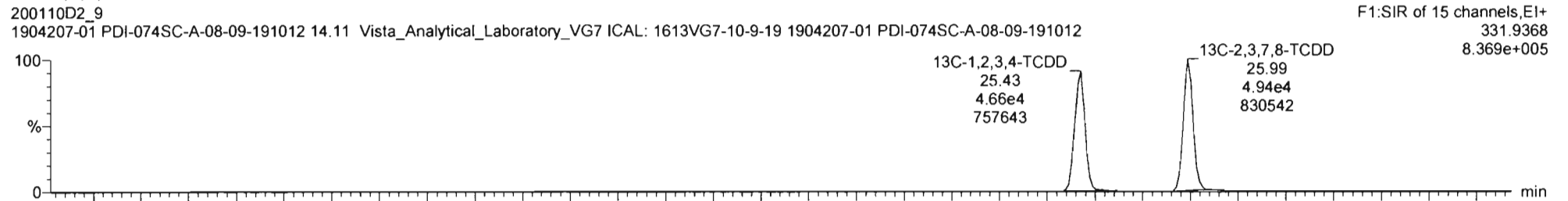
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Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012, Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Total Tetra-Dioxins



13C-2,3,7,8-TCDD



Vista Analytical Laboratory

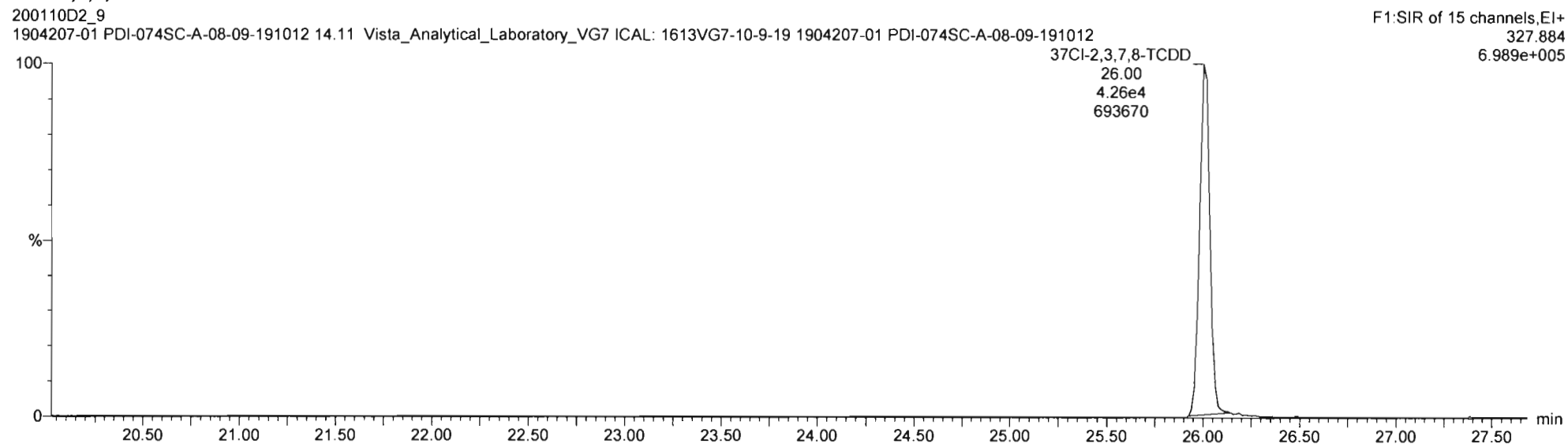
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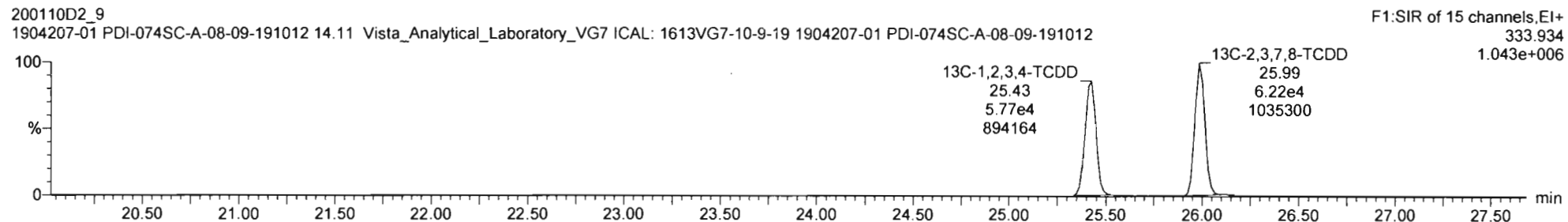
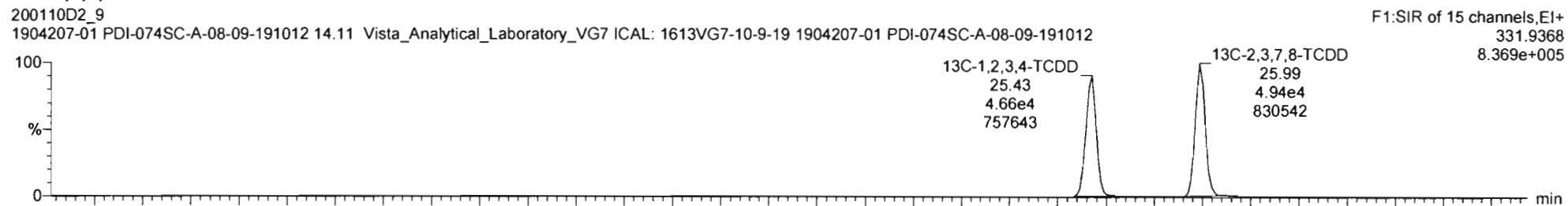
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Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,  
 Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**37Cl-2,3,7,8-TCDD**



**13C-1,2,3,4-TCDD**



Vista Analytical Laboratory

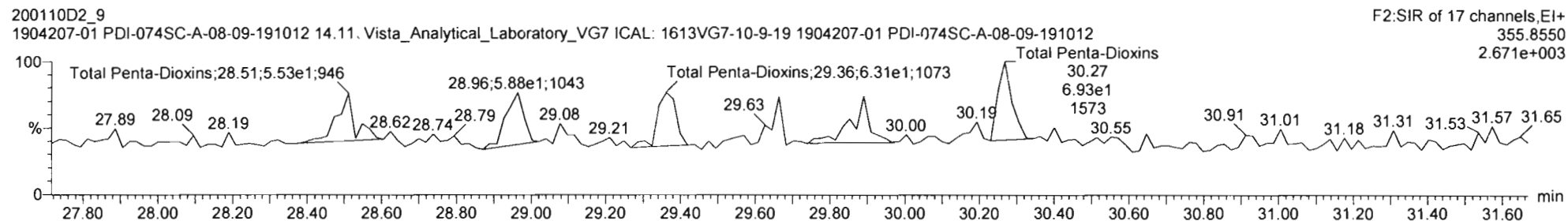
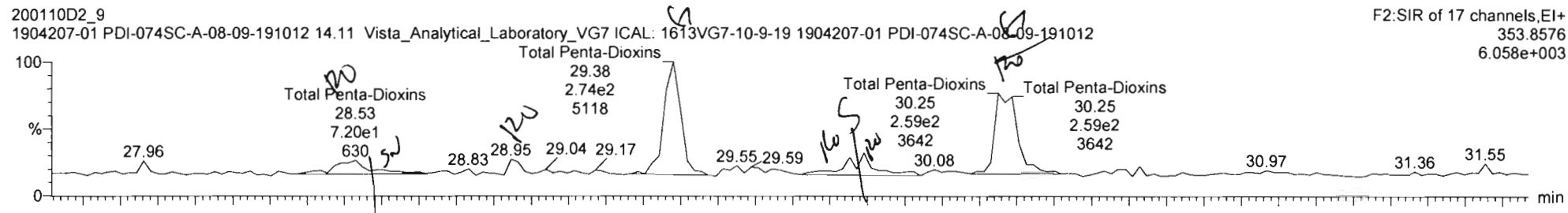
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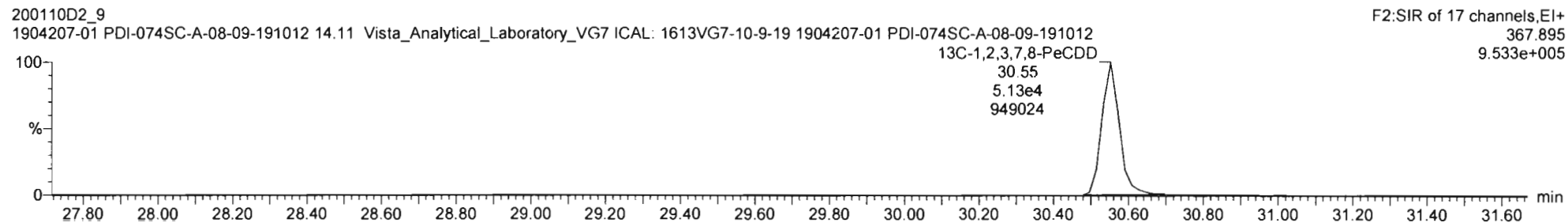
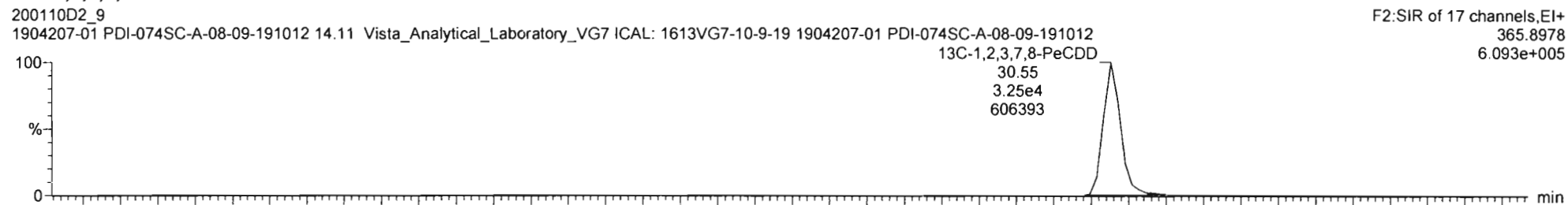
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Total Penta-Dioxins

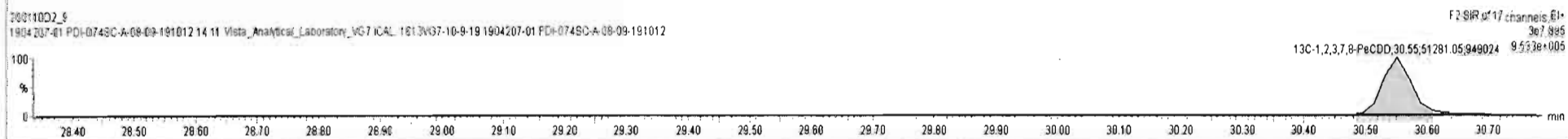
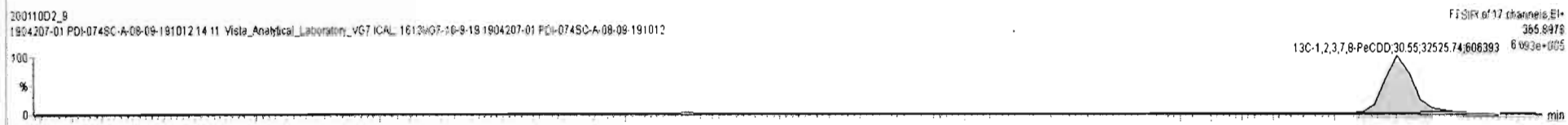
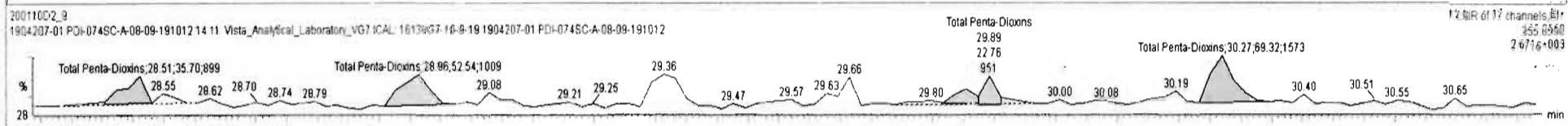
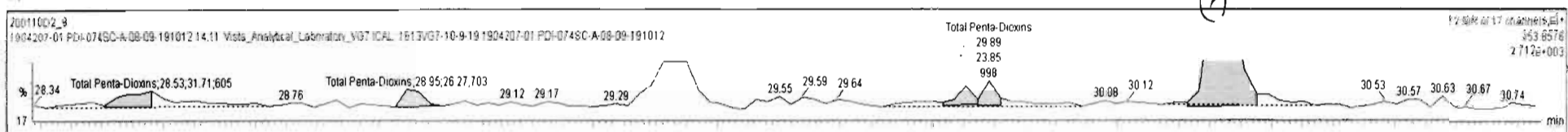


13C-1,2,3,7,8-PeCDD



#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
25	13C-2,3,7,8-TCDF	1.67e5	1.76e5	37	0.77	NO	1.035	10.045	25.22	25.19	0.991	0.992	NO	182.0	91.4	0.614	
26	13C-1,2,3,7,8-PeCDF	1.45e5	1.76e5	37	1.60	NO	0.854	10.045	29.39	29.38	1.156	1.156	NO	191.2	96.0	1.28	
27	13C-2,3,4,7,8-PeCDF	1.38e5	1.76e5	37	1.56	NO	0.847	10.045	30.30	30.27	1.190	1.192	NO	184.1	92.4	1.29	
28	13C-1,2,3,4,7,8-HxCDF	1.01e5	1.27e5	38	0.49	NO	0.832	10.045	32.96	32.98	0.988	0.987	NO	191.0	95.9	1.59	
29	13C-1,2,3,6,7,8-HxCDF	1.13e5	1.27e5	38	0.50	NO	1.034	10.045	33.08	33.10	0.991	0.991	NO	171.6	86.2	1.28	
30	13C-2,3,4,6,7,8-HxCDF	9.97e4	1.27e5	38	0.51	NO	0.953	10.045	33.69	33.70	1.009	1.008	NO	164.3	82.5	1.39	
31	13C-1,2,3,7,8,9-HxCDF	9.51e4	1.27e5	38	0.50	NO	0.828	10.045	34.65	34.65	1.038	1.038	NO	180.5	90.7	1.60	
32	13C-1,2,3,4,6,7,8-HpCDF	7.90e4	1.27e5	38	0.46	NO	0.757	10.045	36.49	36.49	1.093	1.093	NO	151.4	76.0	1.29	
33	13C-1,2,3,4,7,8,9-HpCDF	6.35e4	1.27e5	38	0.44	NO	0.581	10.045	38.29	38.29	1.147	1.147	NO	171.7	86.2	1.68	
34	13C-OCDF	1.31e5	1.27e5	38	0.92	NO	0.689	10.045	41.23	41.22	1.235	1.235	NO	299.6	75.2	0.867	
35	37C-2,3,7,8-TCDD	4.26e4	1.04e5	36			1.198	10.045	26.03	26.00	1.023	1.024	NO	67.91	85.3	0.129	
36	13C-1,2,3,4-TCDD	1.04e5	1.04e5	36	0.81	NO	1.000	10.045	25.39	25.43	1.000	1.000	NO	199.1	100	0.665	
37	13C-1,2,3,4-TCDF	1.76e5	1.76e5	37	0.78	NO	1.000	10.045	23.93	23.96	1.000	1.000	NO	199.1	100	0.636	
38	13C-1,2,3,4,6,8-HxCDF	1.72e5	1.72e5	38	0.63	NO	1.000	10.045	29.97	29.90	1.000	1.000	NO	100.4	100	1.33	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.53	3.171e1	3.570e1	0.630	0.89	YES	0.15849	0.00000
2	40 Total Penta-Dioxins	30.00	28.95	2.627e1	5.254e1	0.630	0.50	YES	0.18510	0.00000
3	40 Total Penta-Dioxins	30.00	29.85	2.138e1	1.721e1	0.630	1.24	YES	0.076413	0.00000
4	40 Total Penta-Dioxins	30.00	29.89	2.385e1	2.276e1	0.630	1.05	YES	0.10106	0.00000
5	40 Total Penta-Dioxins	30.00	30.25	2.402e2	6.932e1	0.630	3.47	YES	0.30776	0.00000



Vista Analytical Laboratory

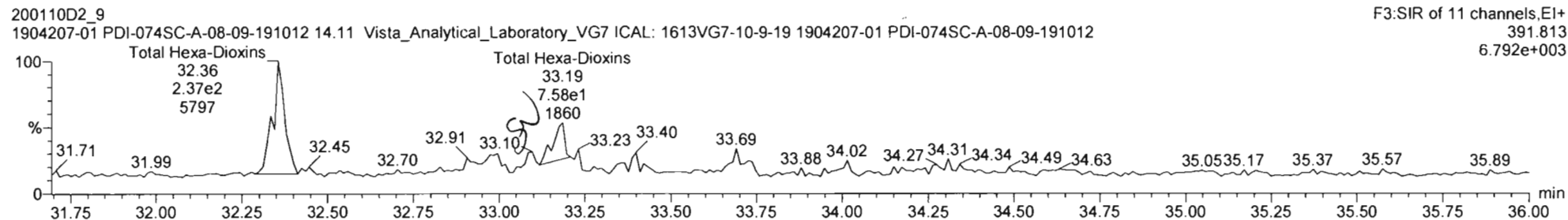
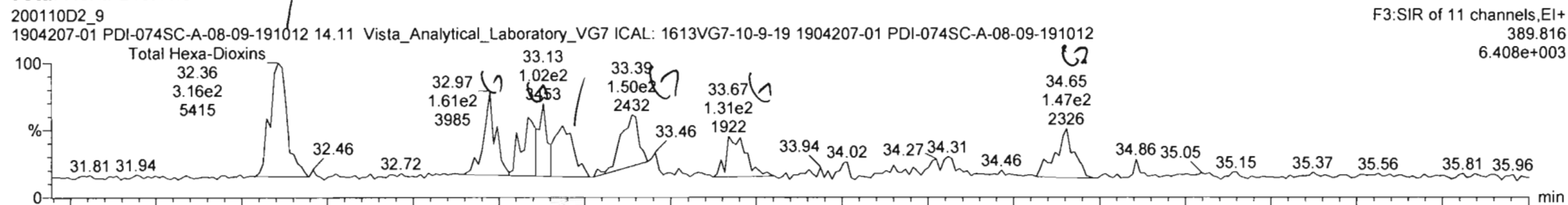
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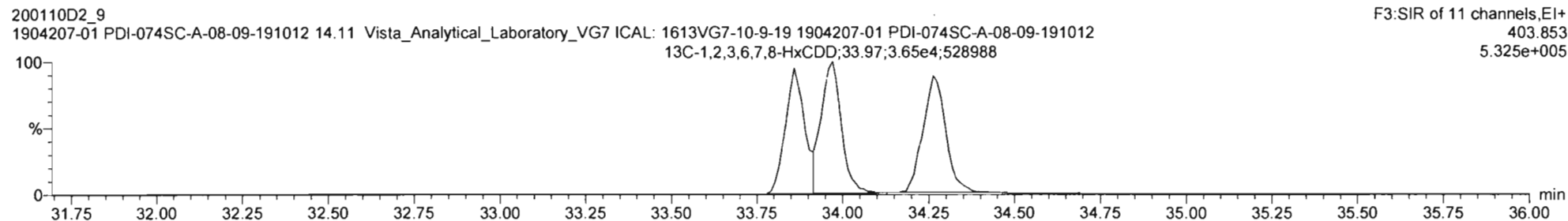
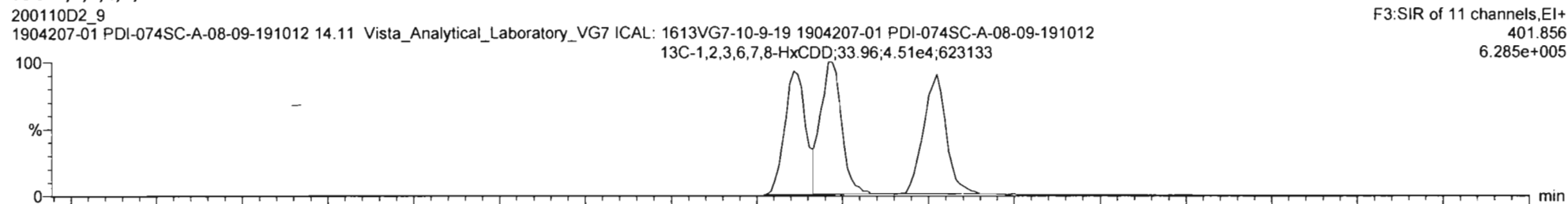
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Total Hexa-Dioxins

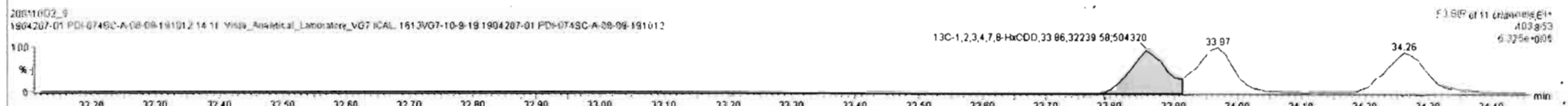
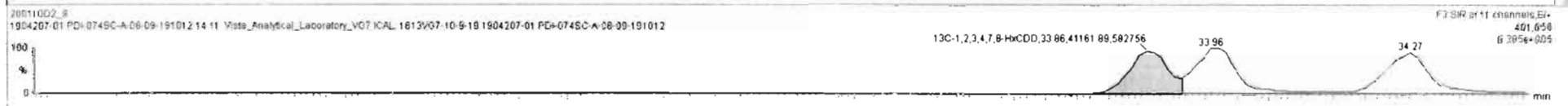
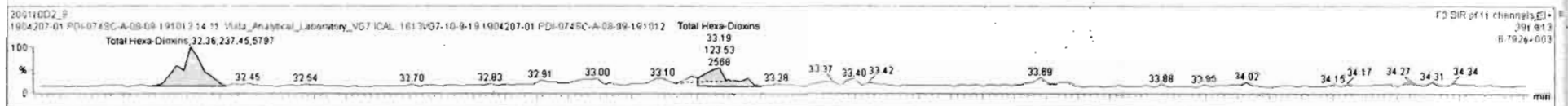
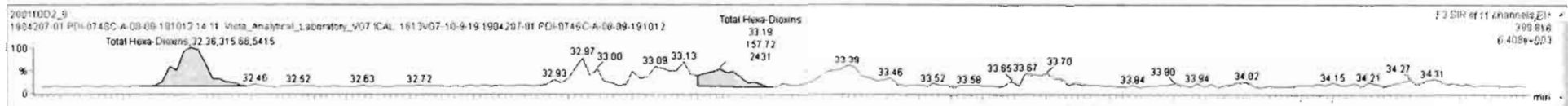


13C-1,2,3,4,7,8-HxCDD



#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
26	13C-1,2,3,7,8-PeCDF	1.45e5	1.76e5	37	1.60	NO	0.854	10.045	29.39	29.38	1.156	1.156	NO	191.2	96.0	1.26	
27	13C-2,3,4,7,8-PeCDF	1.38e5	1.76e5	37	1.56	NO	0.847	10.045	30.30	30.27	1.190	1.192	NO	184.1	92.4	1.29	
28	13C-1,2,3,4,7,8-HxCDF	1.01e5	1.27e5	38	0.49	NO	0.832	10.045	32.96	32.88	0.988	0.987	NO	191.0	95.5	1.59	
29	13C-1,2,3,6,7,8-HxCDF	1.13e5	1.27e5	38	0.50	NO	1.034	10.045	33.08	33.10	0.991	0.991	NO	171.6	86.2	1.28	
30	13C-2,3,4,6,7,8-HxCDF	9.97e4	1.27e5	38	0.51	NO	0.953	10.045	33.69	33.70	1.009	1.009	NO	164.3	82.5	1.38	
31	13C-1,2,3,7,8,9-HxCDF	9.51e4	1.27e5	38	0.50	NO	0.828	10.045	34.65	34.65	1.038	1.038	NO	180.5	90.7	1.60	
32	13C-1,2,3,4,6,7,8-HxCDF	7.30e4	1.27e5	38	0.45	NO	0.757	10.045	36.49	36.49	1.093	1.093	NO	151.4	76.0	1.29	
33	13C-1,2,3,4,7,8-HxCDF	6.35e4	1.27e5	38	0.44	NO	0.581	10.045	38.29	38.29	1.147	1.147	NO	171.7	86.2	1.68	
34	13C-OCDF	1.31e5	1.27e5	38	0.92	NO	0.689	10.045	41.23	41.22	1.235	1.235	NO	299.6	75.2	0.867	
35	37Cl-2,3,7,8-TCDF	4.25e4	1.04e5	36			1.196	10.045	26.03	26.00	1.023	1.024	NO	67.91	85.3	0.129	
36	13C-1,2,3,4-TCDF	1.04e5	1.04e5	36	0.81	NO	1.000	10.045	25.39	25.43	1.008	1.008	NO	199.1	100	0.665	
37	13C-1,2,3,4-TCDF	1.76e5	1.76e5	37	0.78	NO	1.000	10.045	23.93	23.96	1.000	1.000	NO	199.1	100	0.636	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.52	NO	1.000	10.045	33.37	33.39	1.000	1.000	NO	199.1	100	1.32	
39	Total Hexa-Dioxins																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	Total Hexa-Dioxins	33.80	32.36	3.157e2	2.374e2	1.240	1.33	NO	1.4481	1.4481
2	Total Hexa-Dioxins	33.80	33.19	1.577e2	1.235e2	1.240	1.28	NO	0.73634	0.73634



Vista Analytical Laboratory

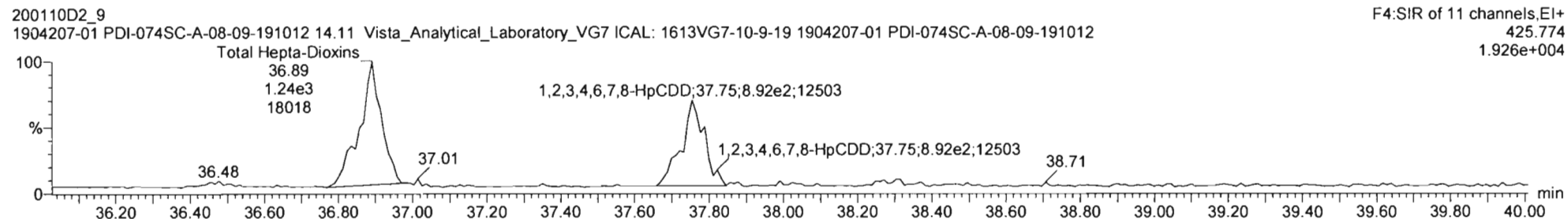
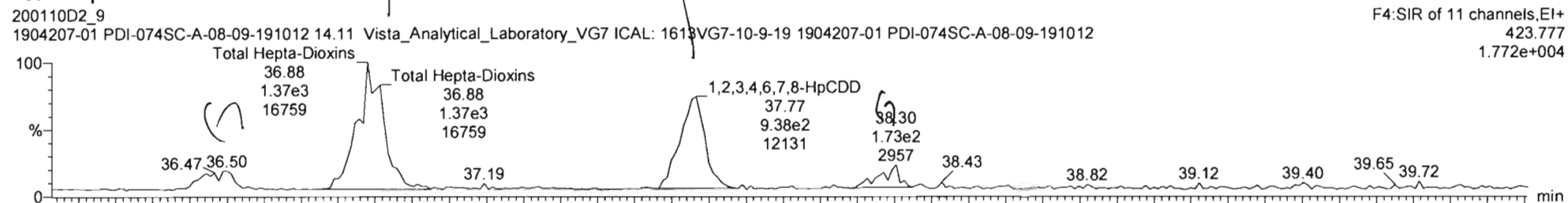
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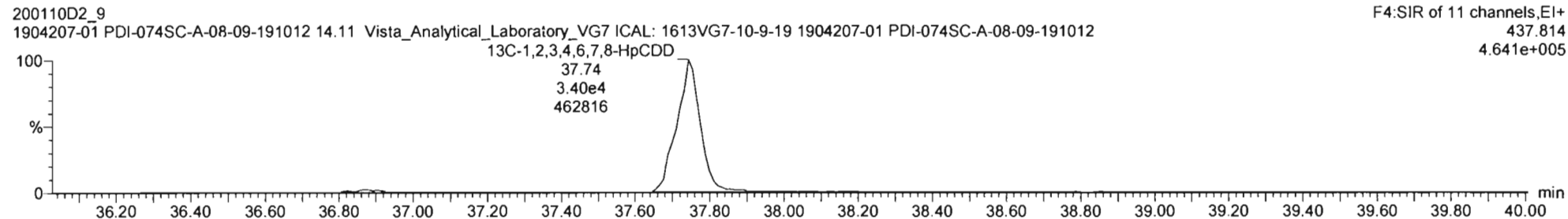
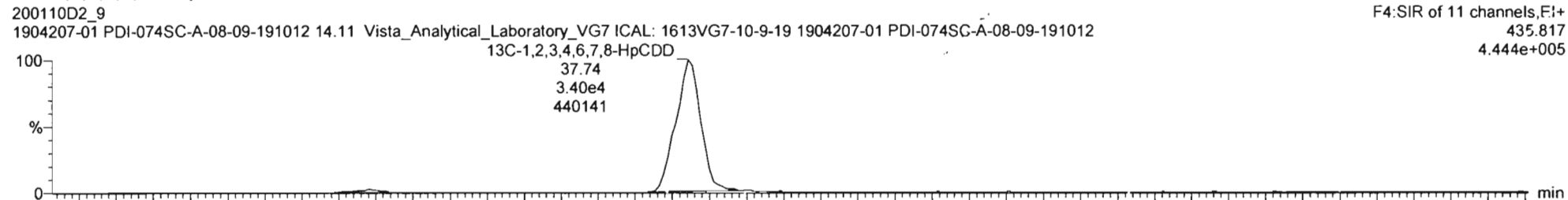
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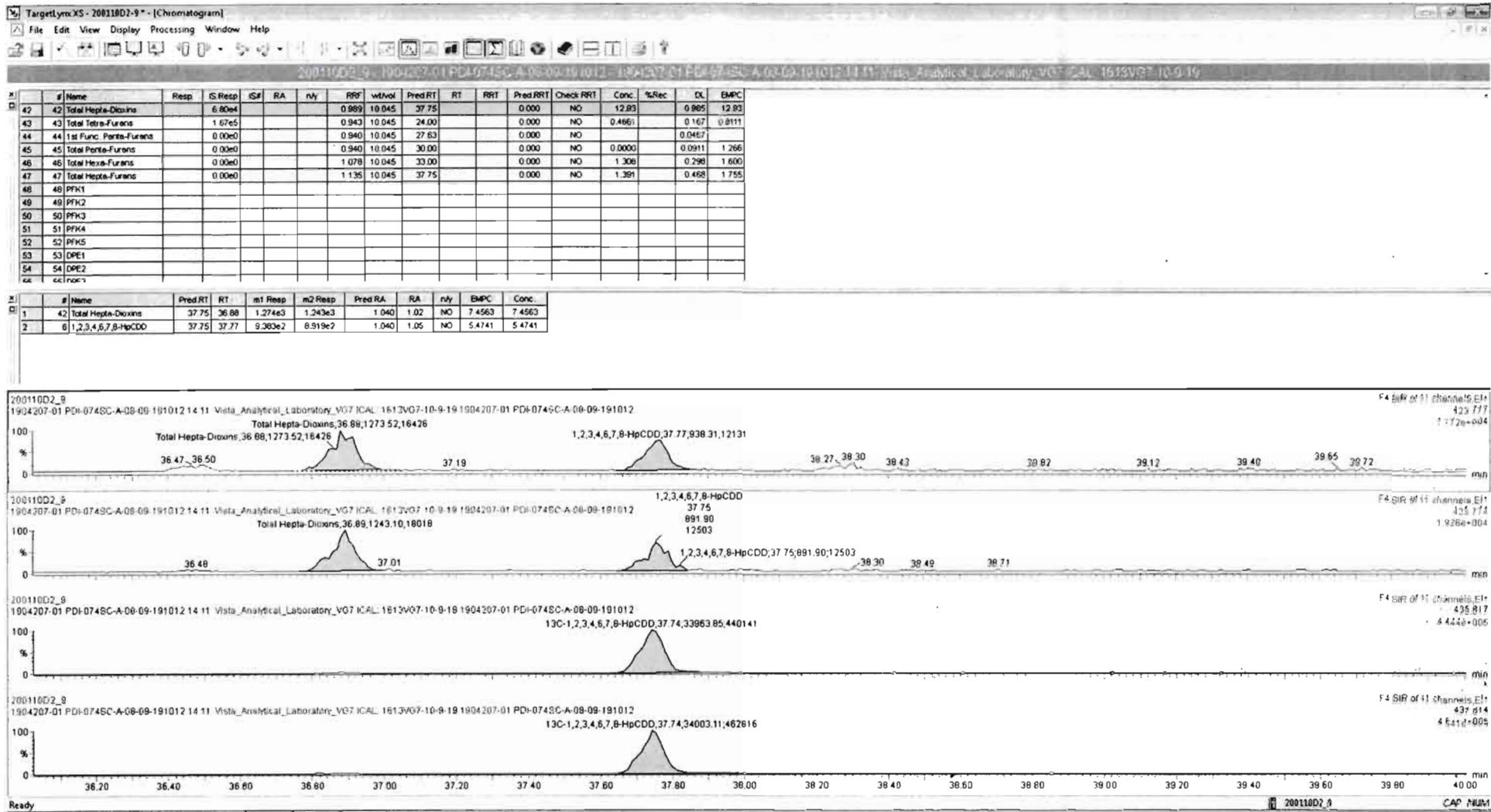
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Total Hepta-Dioxins



13C-1,2,3,4,6,7,8-HpCDD







Vista Analytical Laboratory

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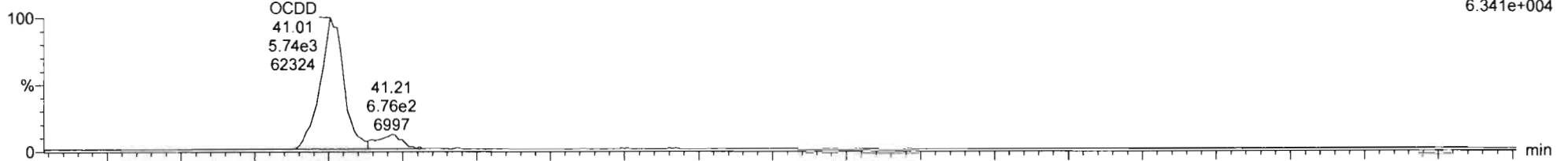
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OCDD

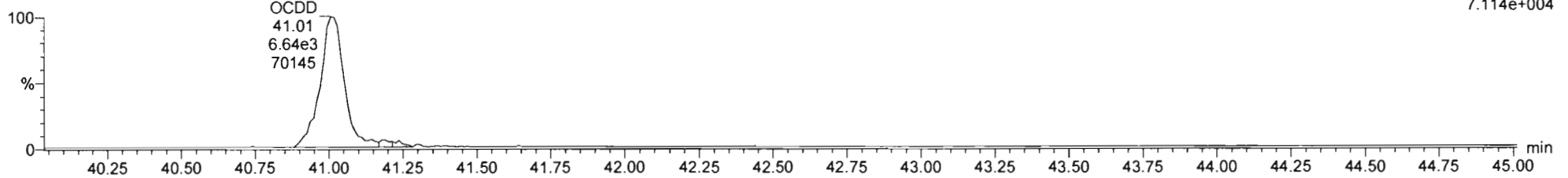
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F5:SIR of 11 channels,EI+  
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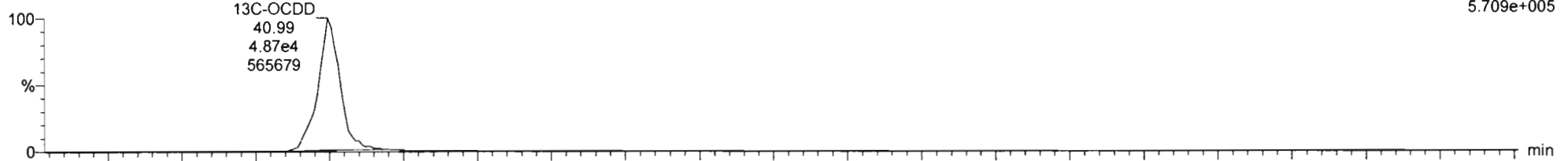
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13C-OCDD

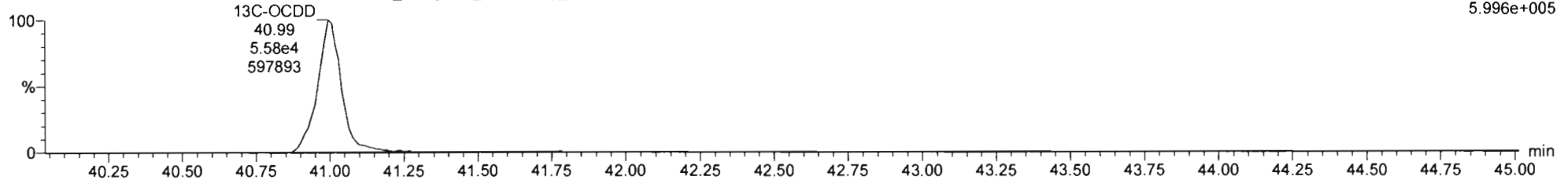
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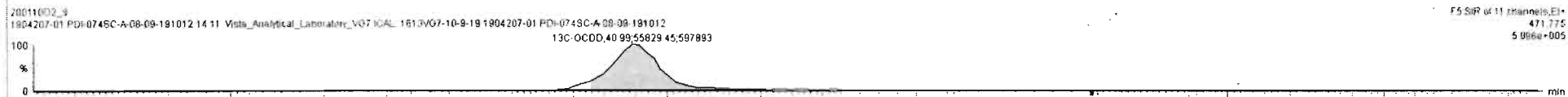
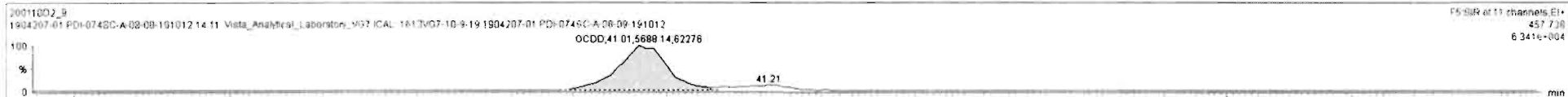
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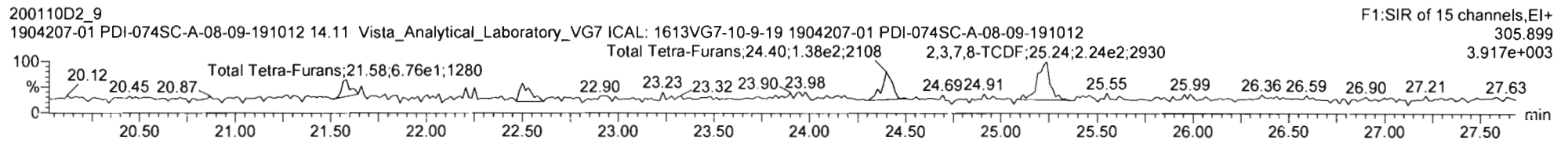
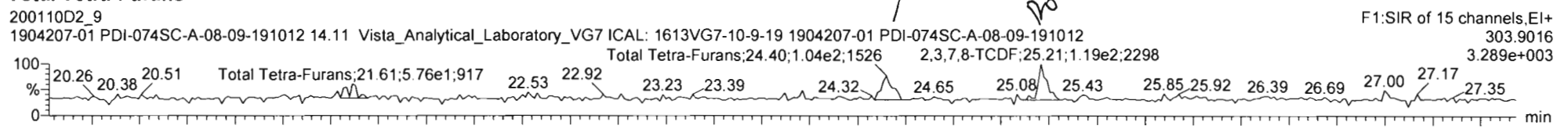
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6	1,2,3,4,6,7,8-HpCDD	1.83e3	6.80e4	23	1.05	NO	0.979	10.045	37.75	37.77	1.001	1.000	NO	5.474		0.995	5.474
7	OCDD	1.21e4	1.05e5	24	0.89	NO	0.958	10.045	40.99	41.01	1.000	1.000	NO	48.08		0.547	48.08
8	2,3,7,8-TCDF	3.44e2	1.67e5	25	0.53	YES	0.950	10.045	25.22	25.21	1.001	1.001	NO	0.4320		0.166	0.3450
9	1,2,3,7,8-PeCDF	4.05e2	1.45e5	26	1.15	YES	0.960	10.045	29.40	29.38	1.000	1.001	NO	0.5812		0.185	0.5124
10	2,3,4,7,8-PeCDF	2.56e2	1.38e5	27	3.15	YES	1.015	10.045	30.30	30.29	1.001	1.001	NO	0.3633		0.163	0.2234
11	1,2,3,4,7,8-HxCDF	5.81e2	1.01e5	28	1.07	NO	1.177	10.045	32.98	33.00	1.000	1.000	NO	0.9729		0.230	0.9729
12	1,2,3,6,7,8-HxCDF		1.13e5	29			1.069	10.045	33.11			1.000	NO				0.747
13	2,3,4,6,7,8-HxCDF		9.97e4	30			1.114	10.045	33.74			1.001	NO				0.292
14	1,2,3,7,8,9-HxCDF		8.51e4	31			1.062	10.045	34.65			1.000	NO				0.411
15	1,2,3,4,6,7,8-HxCDF	1.84e2	7.30e4	32	0.71	YES	1.128	10.045	36.52	36.48	1.000	1.001	NO	0.4452		0.459	0.3638
16	1,2,3,4,7,8,9-HxCDF		6.35e4	33			1.280	10.045	38.29			1.000	NO				0.426
17	OCDF	6.62e2	1.31e5	34	0.62	NO	0.947	10.045	41.22	41.24	1.000	1.000	NO	2.117		0.526	2.117
18	13C-2,3,7,8-TCDD	1.12e5	1.04e5	36	0.79	NO	1.095	10.045	26.01	25.99	1.022	1.023	NO	194.5	97.7	0.607	0.607

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1										

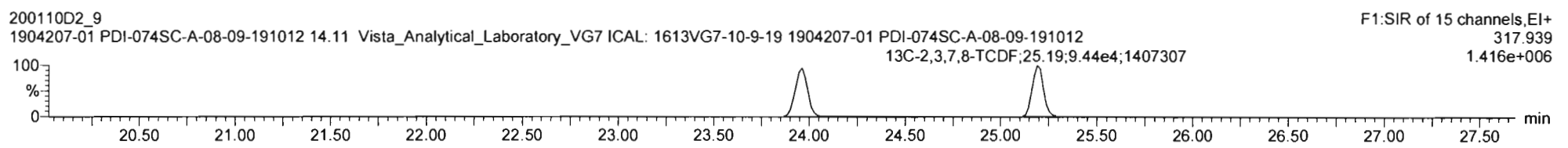
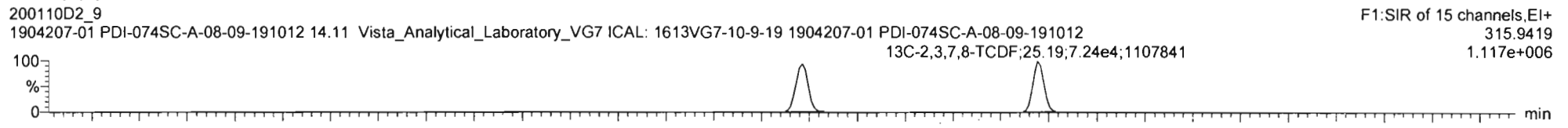


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 Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

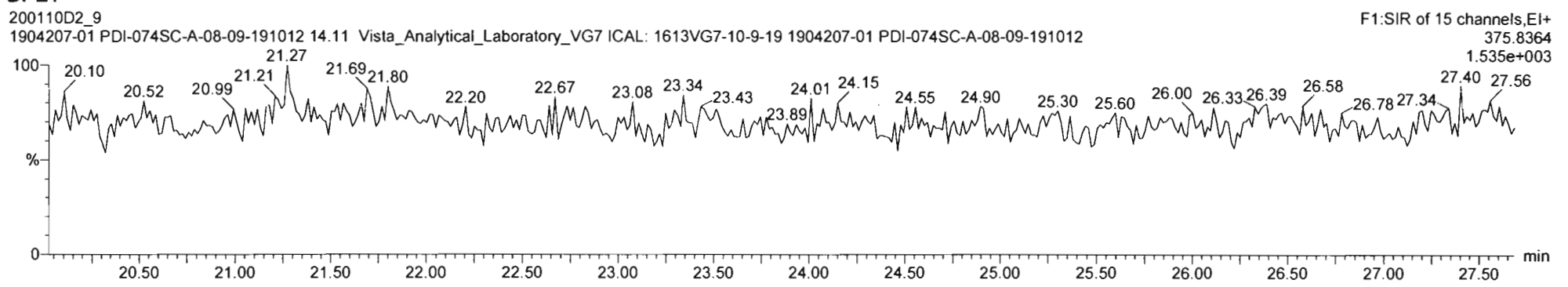
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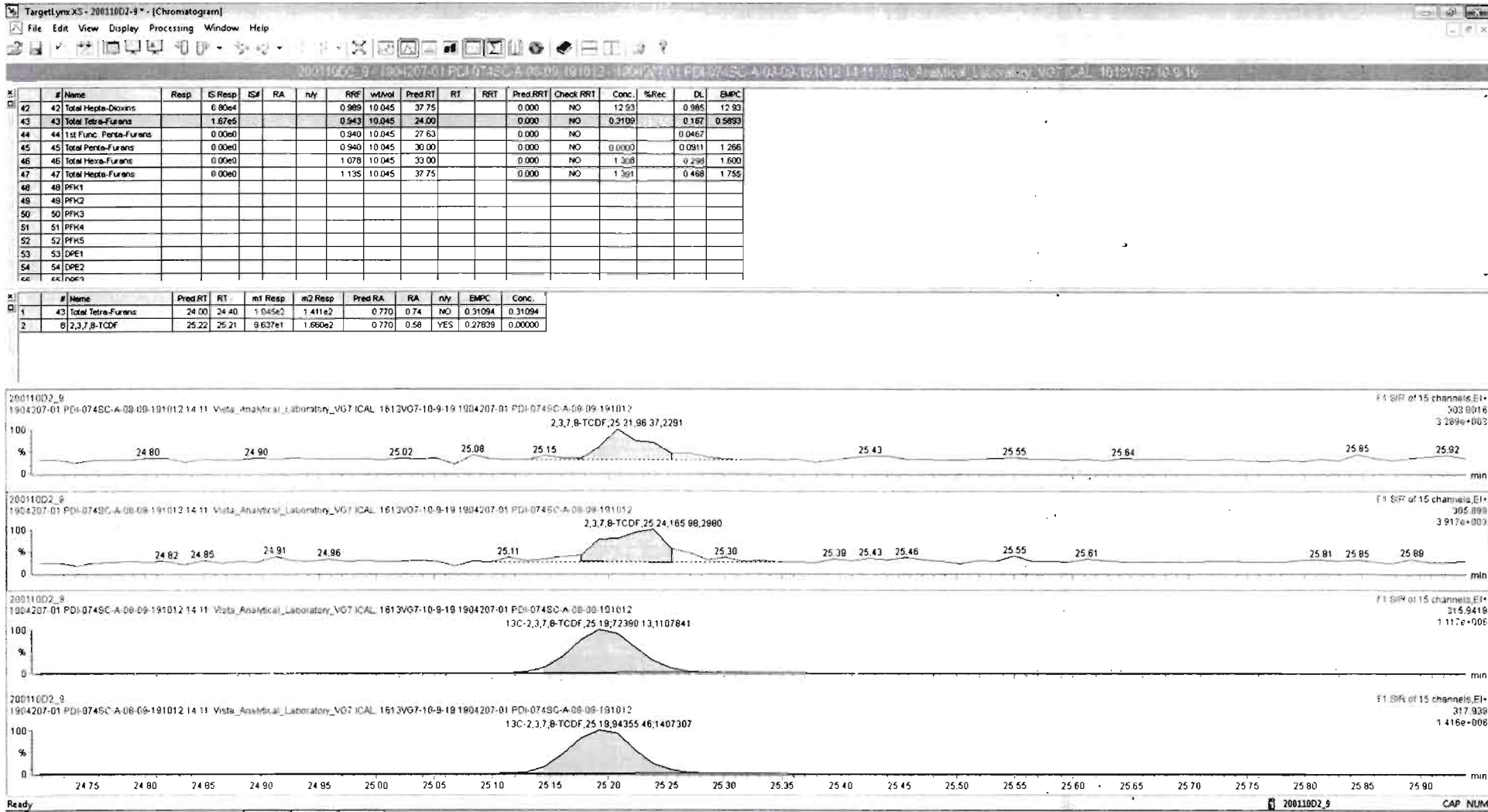


**13C-2,3,7,8-TCDF**



**DPE1**





Vista Analytical Laboratory

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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

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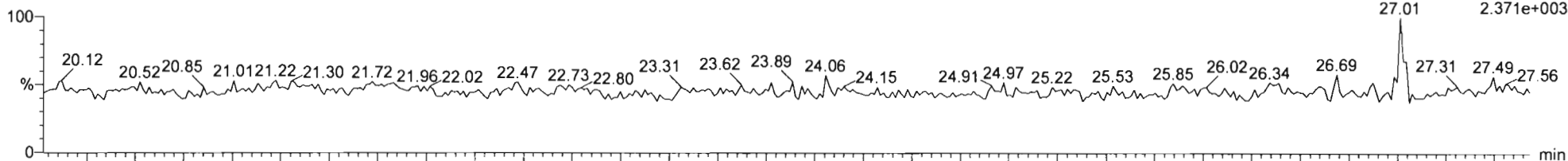
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1st Func. Penta-Furans

200110D2\_9

1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-01 PDI-074SC-A-08-09-191012

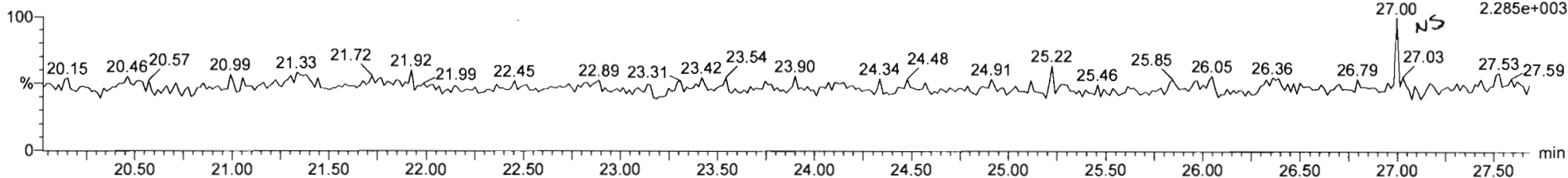
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200110D2\_9

1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-01 PDI-074SC-A-08-09-191012

F1:SIR of 15 channels,EI+  
341.857  
27.00 2.285e+003

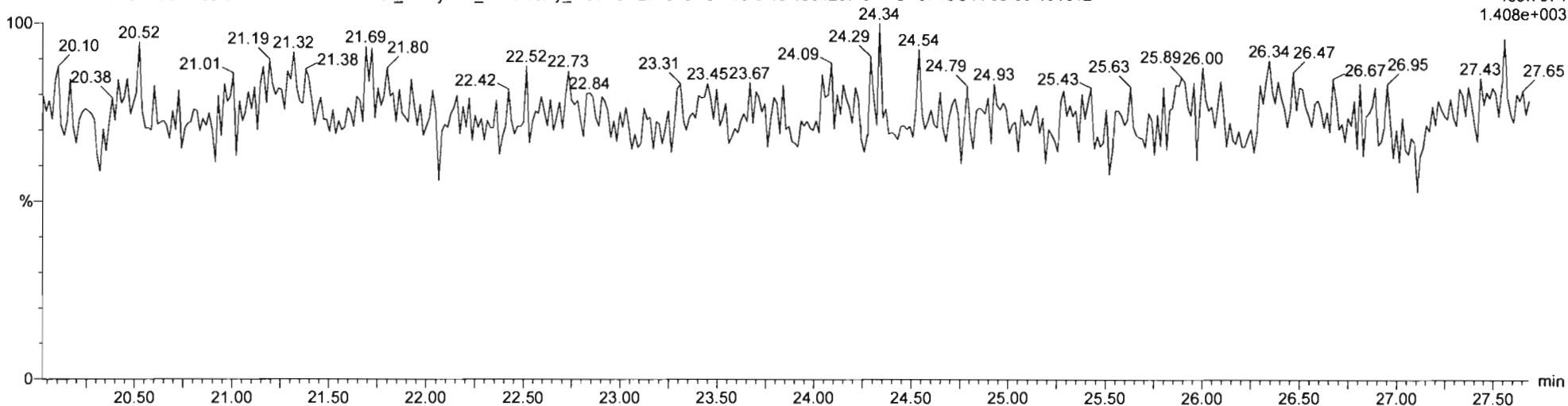


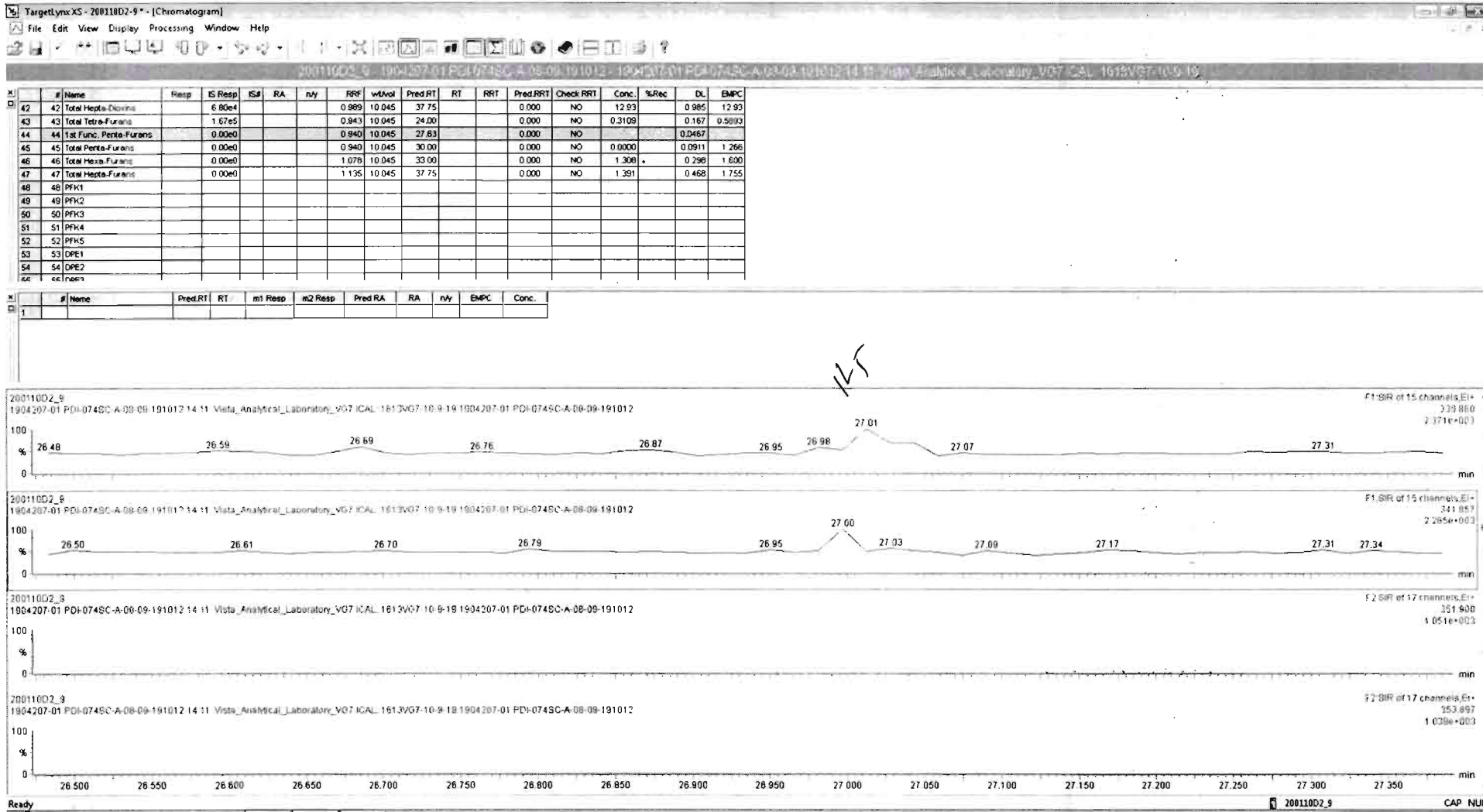
DPE6

200110D2\_9

1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-01 PDI-074SC-A-08-09-191012

F1:SIR of 15 channels,EI+  
409.7974  
24.34 1.408e+003





Vista Analytical Laboratory

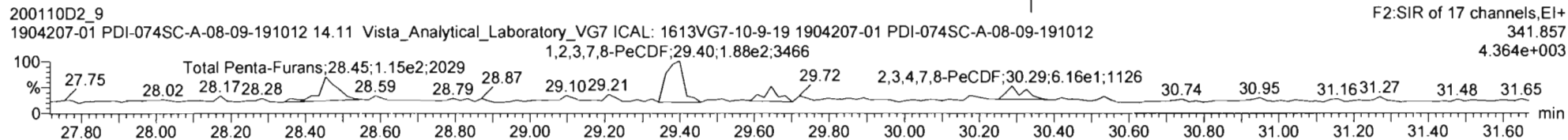
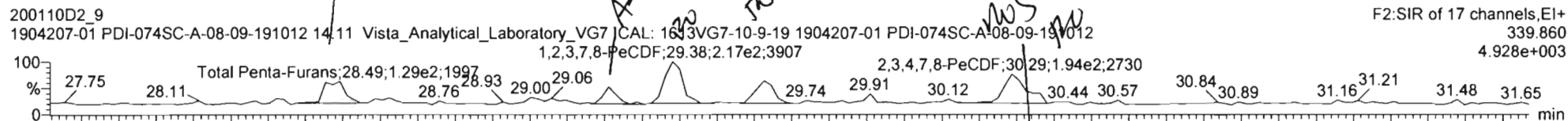
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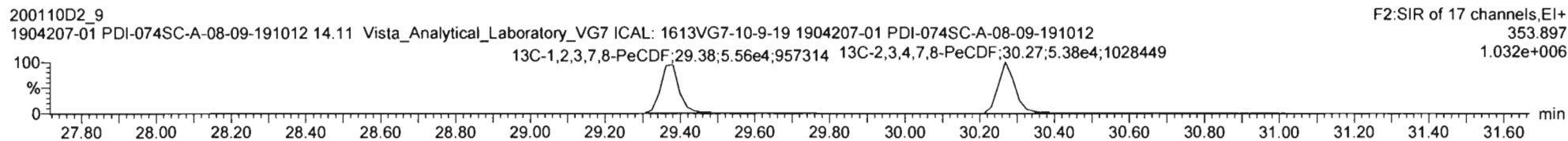
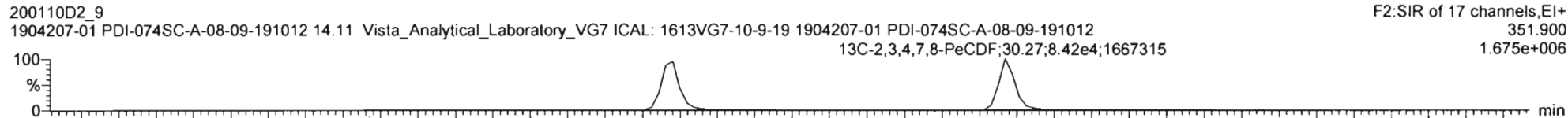
Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012, Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

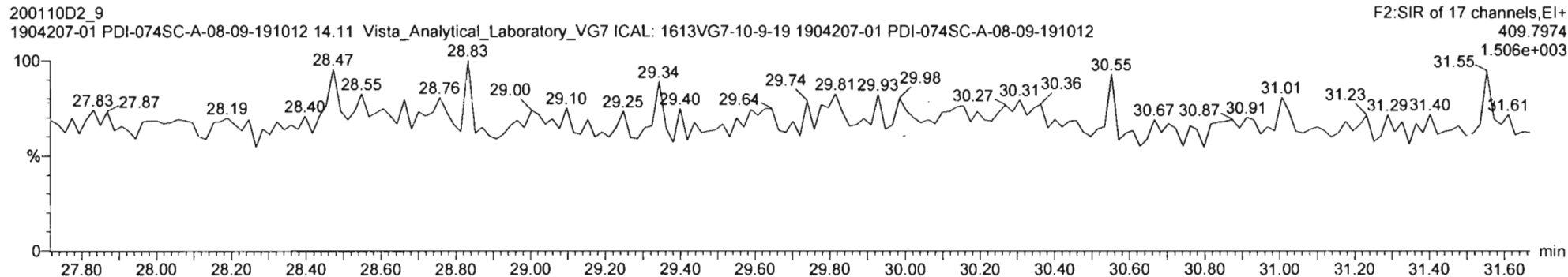
Total Penta-Furans

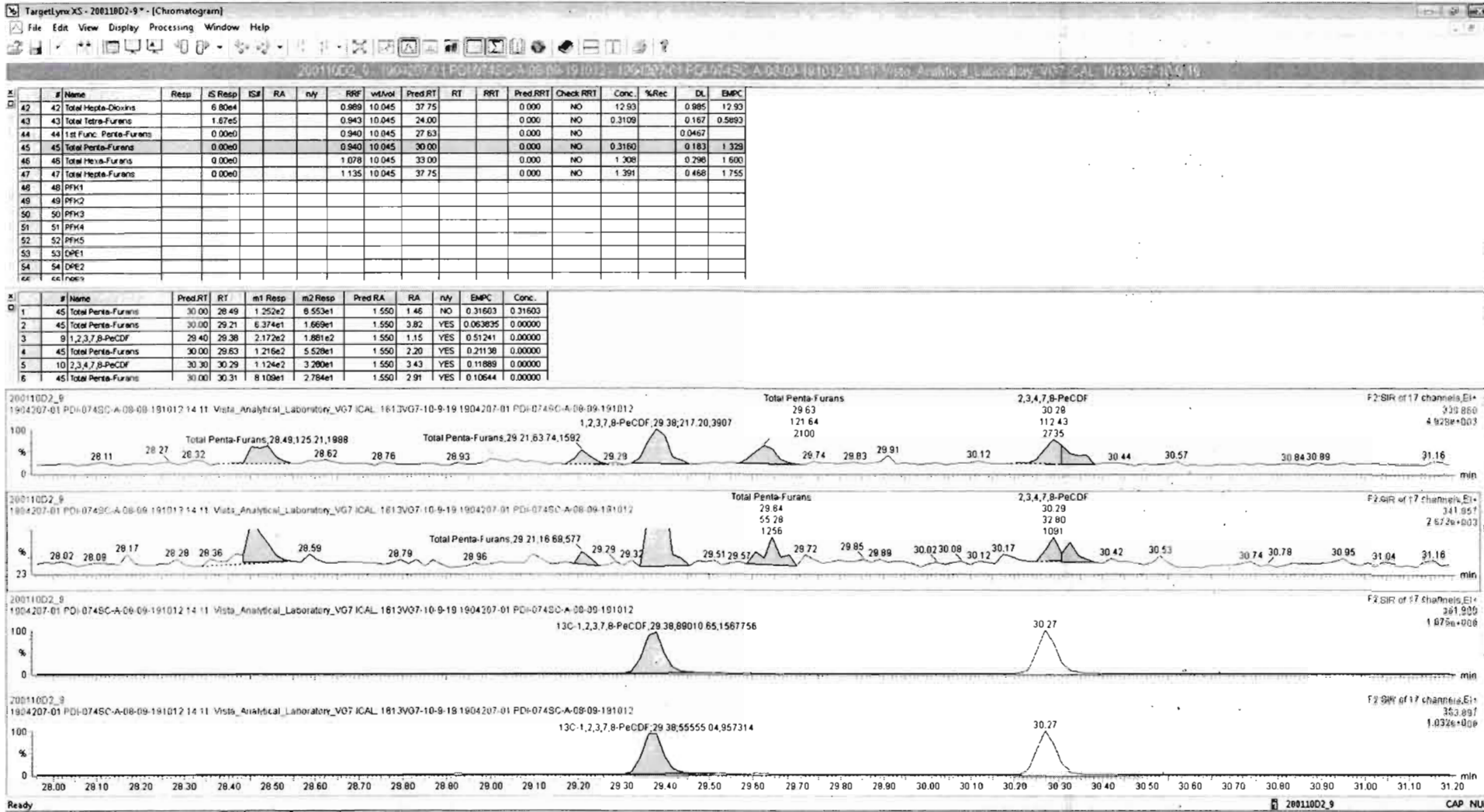


13C-1,2,3,7,8-PeCDF



DPE2







Vista Analytical Laboratory

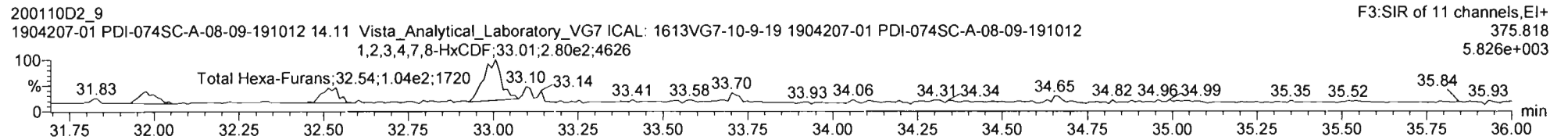
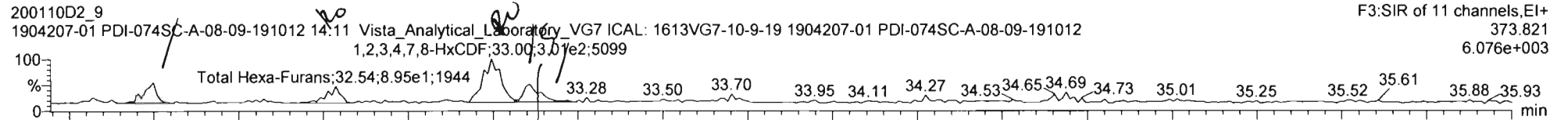
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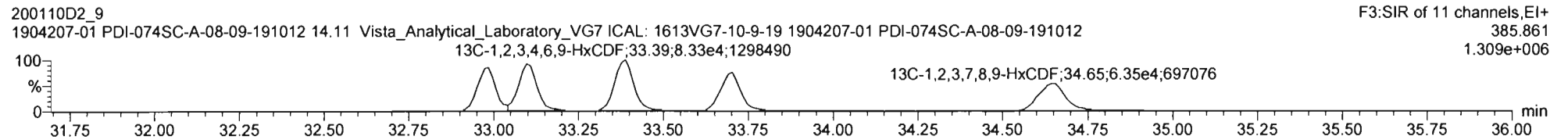
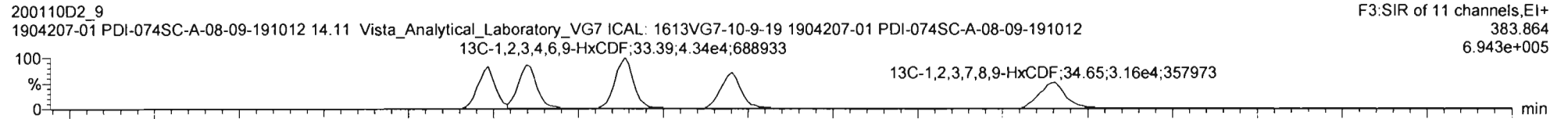
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Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012, Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

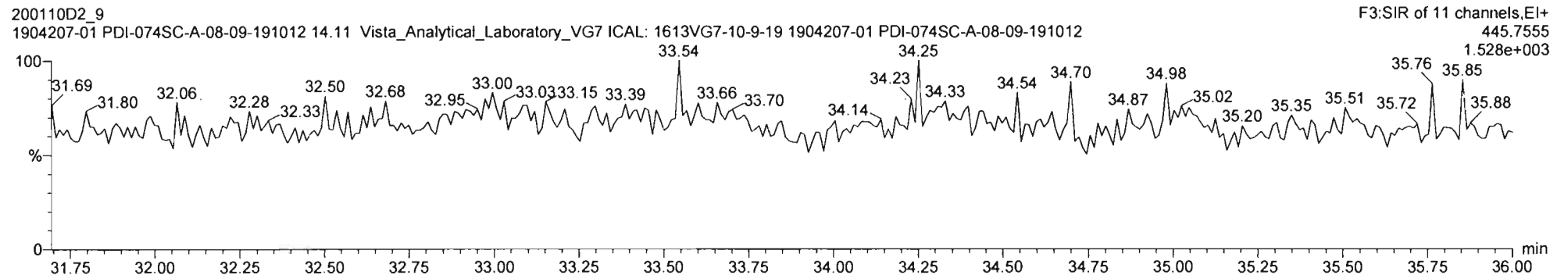
Total Hexa-Furans



13C-1,2,3,4,7,8-HxCDF

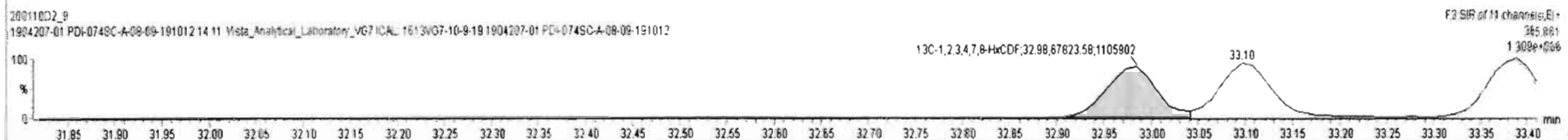
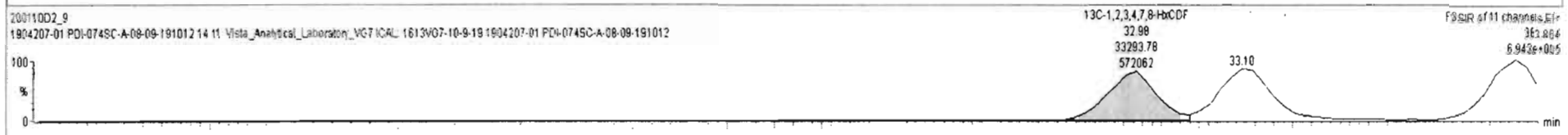
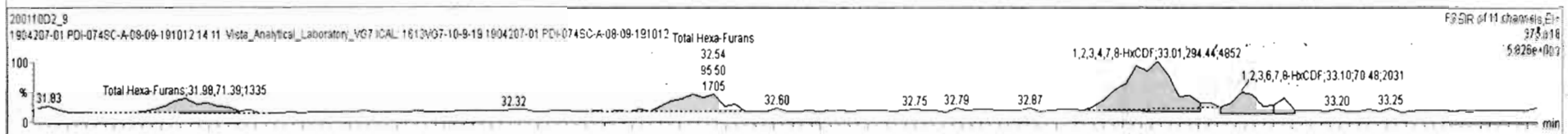
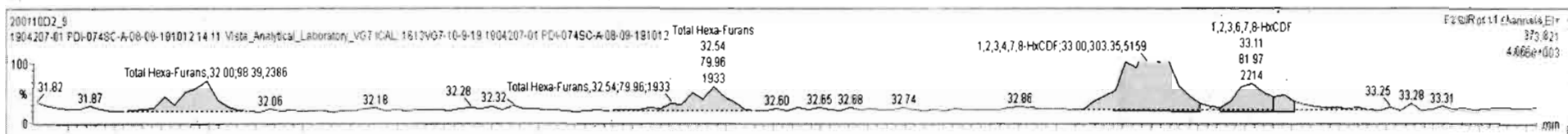


DPE3



#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.80e4				0.989	10.045	37.75			0.000	NO	12.93		0.985	12.93
43	Total Tetra-Furans		1.67e5				0.943	10.045	24.00			0.000	NO	0.3109		0.167	0.5893
44	1st Func. Penta-Furans		0.00e0				0.940	10.045	27.63			0.000	NO				0.0467
45	Total Penta-Furans		0.00e0				0.940	10.045	30.00			0.000	NO	0.3160		0.183	1.329
46	Total Hexa-Furans		0.00e0				1.078	10.045	33.00			0.000	NO	0.6464		0.298	1.824
47	Total Hepta-Furans		0.00e0				1.135	10.045	37.75			0.000	NO	1.391		0.468	1.755
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																
55	cc/noc																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.00	9.839e1	7.139e1	1.240	1.38	NO	0.30682	0.30682
2	46 Total Hexa-Furans	33.00	32.54	7.996e1	9.550e1	1.240	0.84	YES	0.26105	0.00000
3	11 1,2,3,4,7,8-HxCDF	32.98	33.00	3.034e2	2.944e2	1.240	1.03	YES	0.91688	0.00000
4	12 1,2,3,6,7,8-HxCDF	33.11	33.11	8.197e1	7.048e1	1.240	1.16	NO	0.25128	0.25128
5	46 Total Hexa-Furans	33.00	33.14	2.515e1	2.371e1	1.240	1.06	NO	0.088307	0.088307



Vista Analytical Laboratory

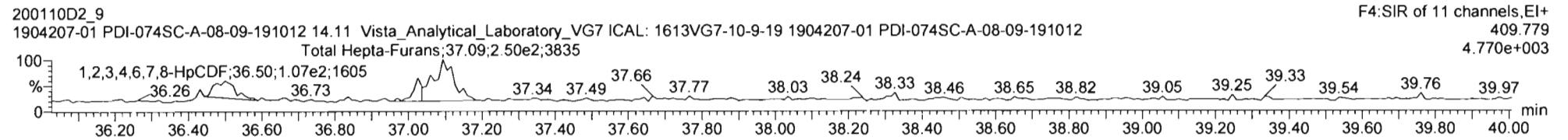
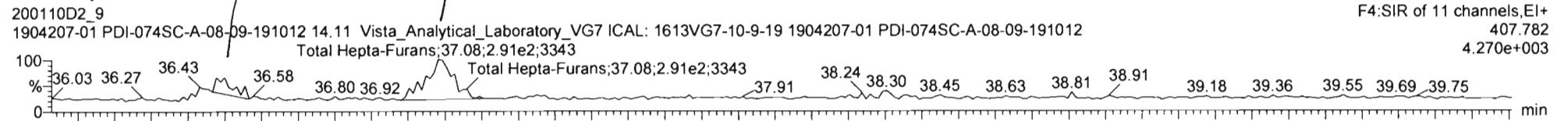
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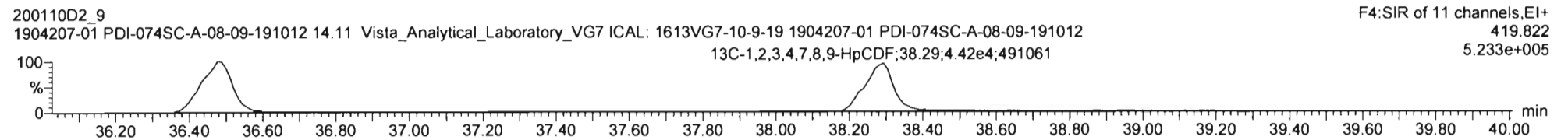
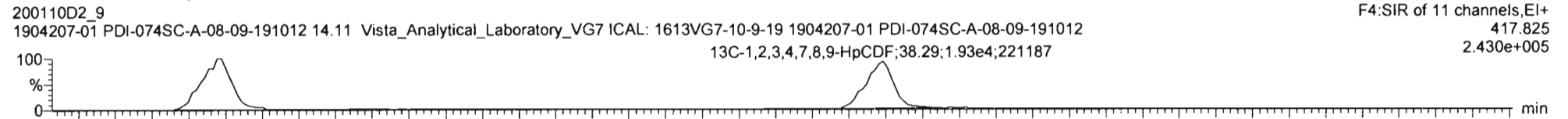
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Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012,  
Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

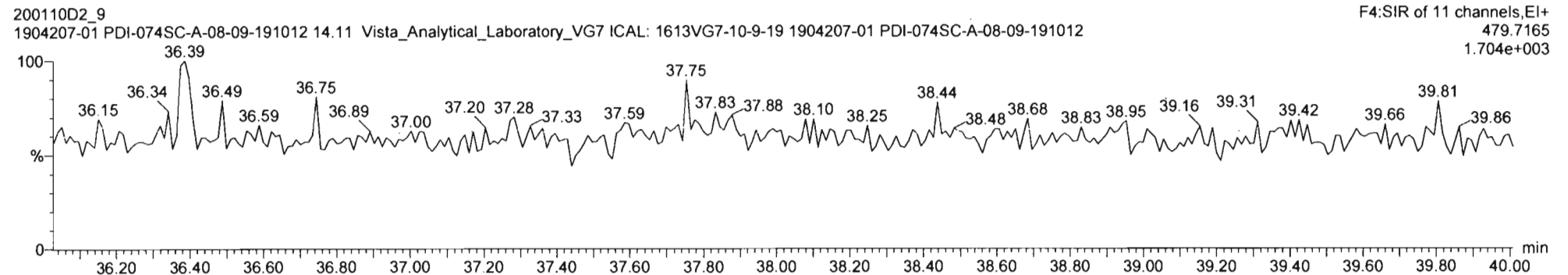
**Total Hepta-Furans**



**13C-1,2,3,4,6,7,8-HpCDF**



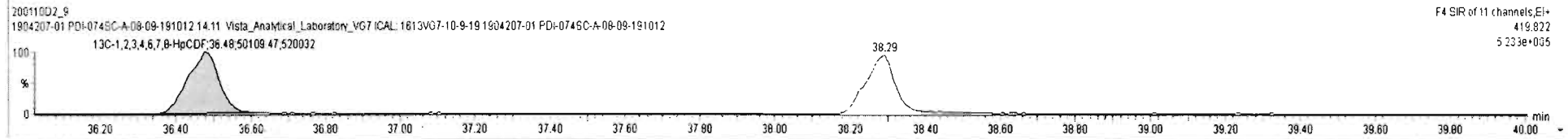
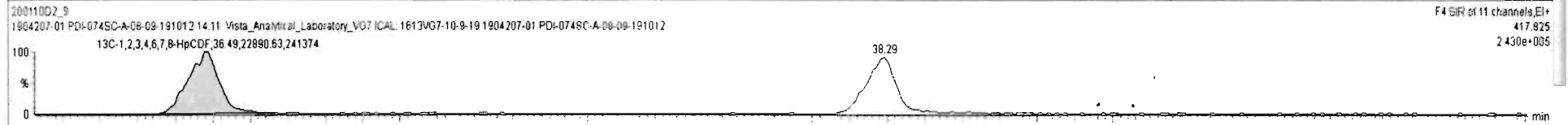
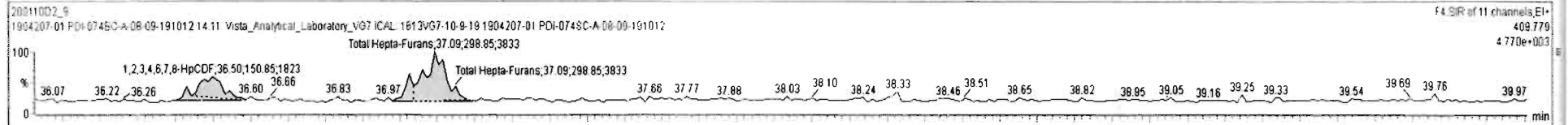
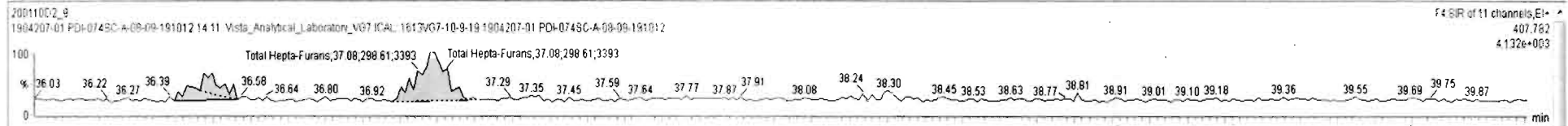
**DPE4**



20011002\_9 - 1904207-01 PDI-0745C-A-08-09-191012 14:11 Vista\_Analytical\_Laboratory\_VG7 ICAL 1613VG7-10-9-19 1904207-01 PDI-0745C-A-08-09-191012 14:11 Vista\_Analytical\_Laboratory\_VG7 ICAL 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RF#	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
42	Total Hepta-Furans	6.80e4					0.969	10.045	37.75			0.000	NO	12.93	0.965	12.93	
43	Total Tetra-Furans	1.67e5					0.943	10.045	24.00			0.000	NO	0.3109	0.167	0.5893	
44	1st Func. Penta-Furans	0.00e0					0.940	10.045	27.63			0.000	NO		0.0467		
45	Total Penta-Furans	0.00e0					0.940	10.045	30.00			0.000	NO	0.3160	0.183	1.329	
46	Total Hexa-Furans	0.00e0					1.078	10.045	33.00			0.000	NO	0.6464	0.298	1.824	
47	Total Hepta-Furans	0.00e0					1.135	10.045	37.75			0.000	NO	2.276	0.468	2.276	
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	1,2,3,4,6,7,8-HpCDF	36.52	36.48	1.554e2	1.508e2	1.040	1.03	NO	0.74068	0.74068
2	Total Hepta-Furans	37.75	37.08	2.986e2	2.989e2	1.040	1.00	NO	1.5357	1.5357



Vista Analytical Laboratory

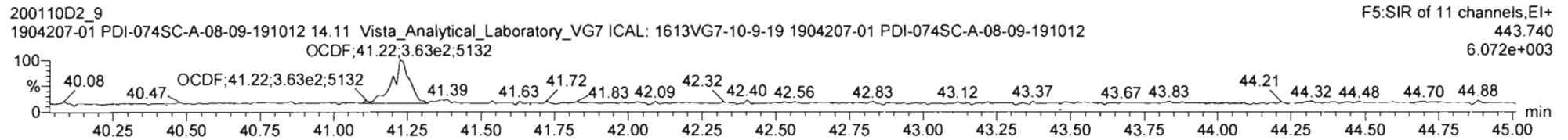
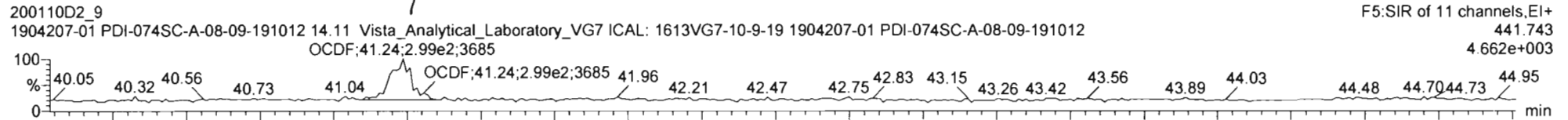
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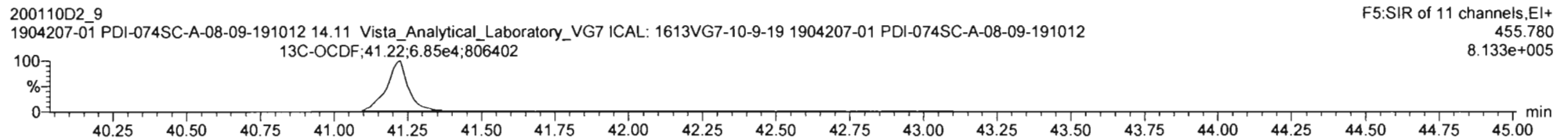
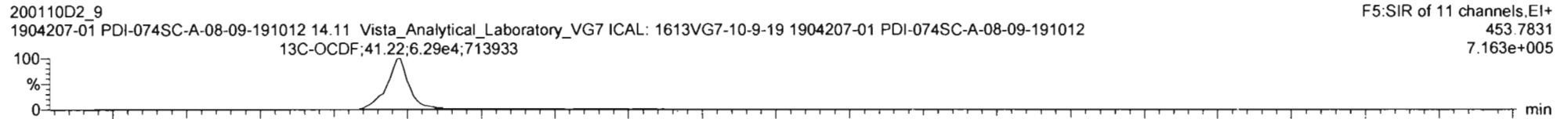
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Name: VG7 200110D2-9, Date: 11-JAN-2020, Time: 06:56:31, ID: 1904207-01 PDI-074SC-A-08-09-191012, Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

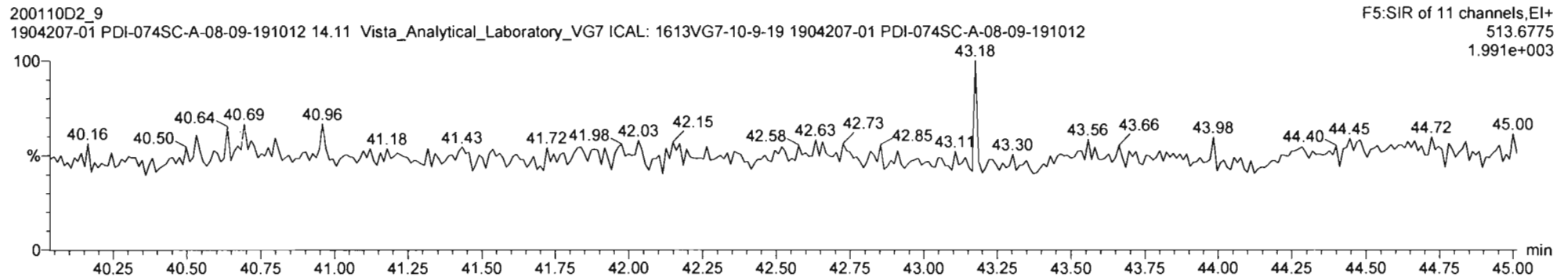
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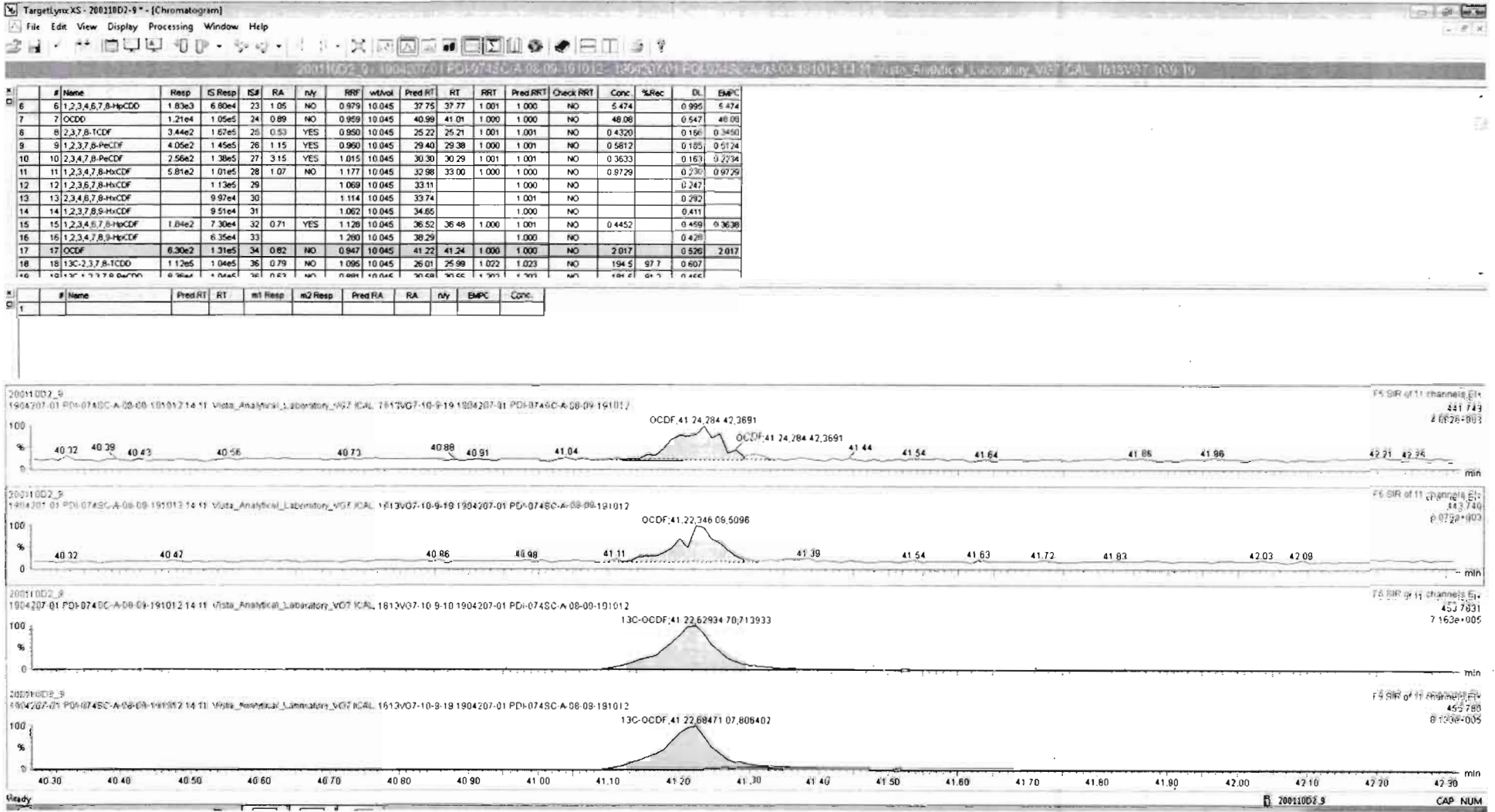


13C-OCDF



DPE5





Vista Analytical Laboratory

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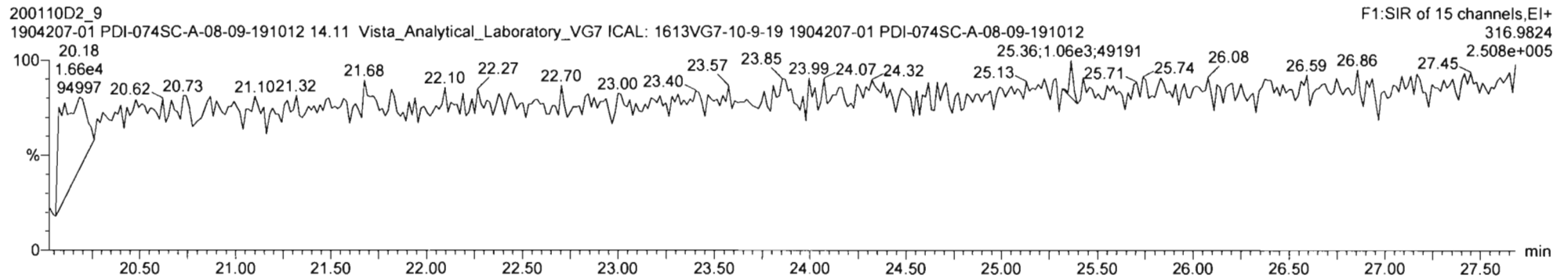
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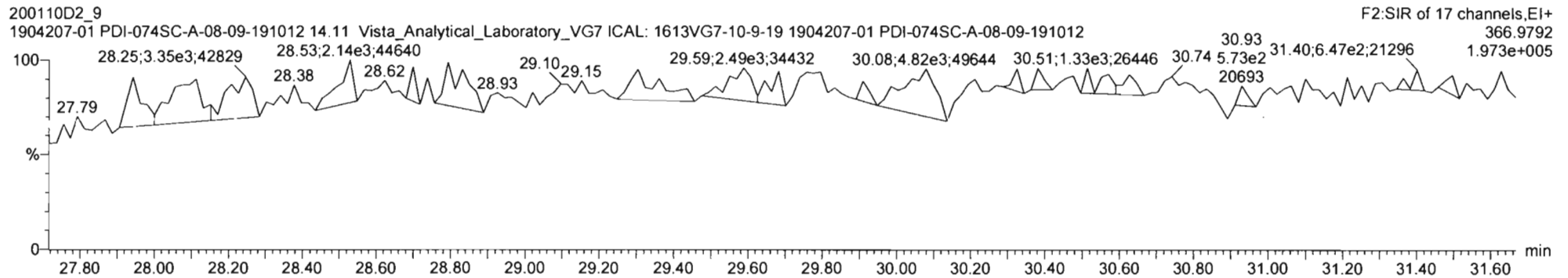
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Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

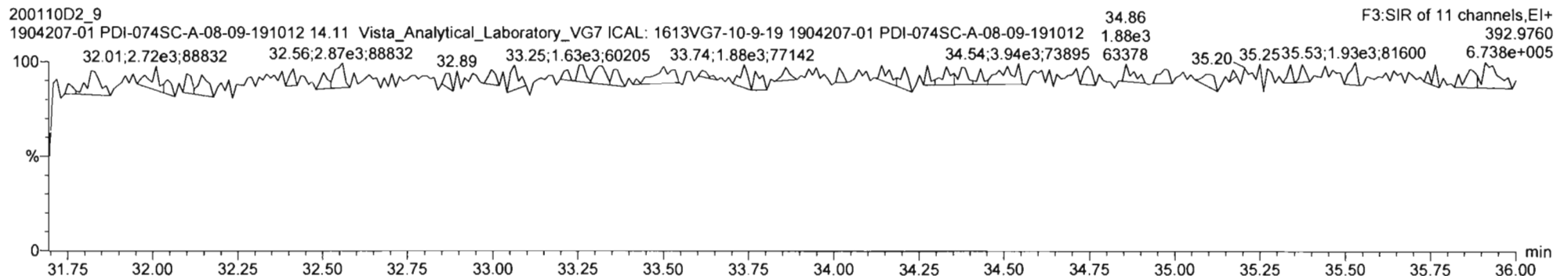
PFK1



PFK2



PFK3



Vista Analytical Laboratory

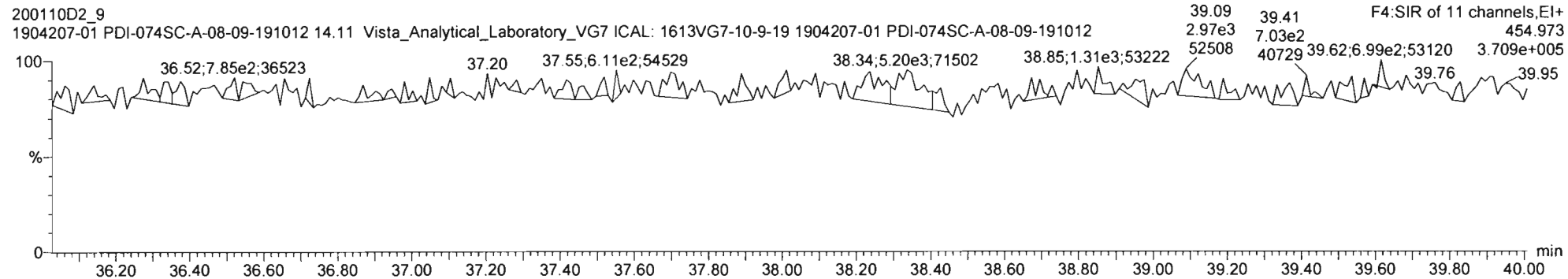
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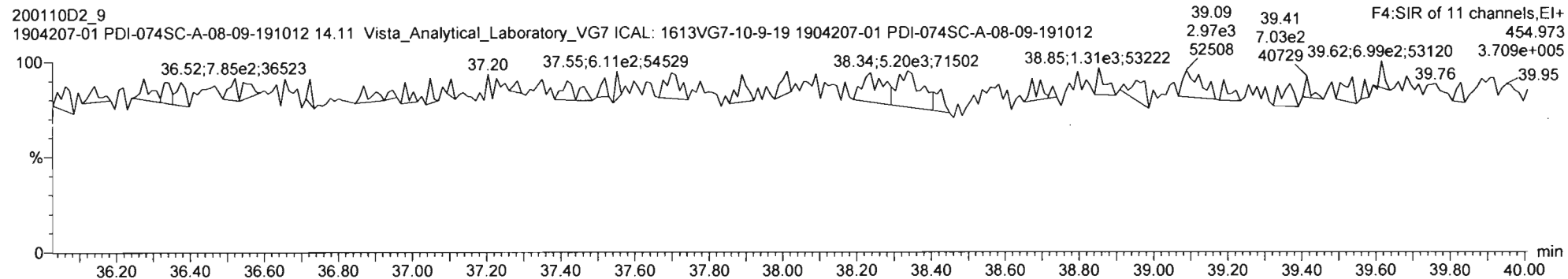
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Description: 1904207-01 PDI-074SC-A-08-09-191012 14.11 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

PFK4



PFK5





Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-8.qld  
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 Printed: Monday, January 20, 2020 19:07:46 Pacific Standard Time

*HC 1-20-2020 C1 02/23/2020*

Method: U:\VG7.PRO\MethDB\1613VG7-1-10-20.mdb 14 Jan 2020 15:42:37  
 Calibration: 14 Jan 2020 16:15:09

Name: VG7 200110D2-8, Date: 11-JAN-2020, Time: 06:08:33, ID: B9L0200-DUP2 Duplicate,  
 Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD		1.12e5	10.0240	0.905			1.001			26.01				0.196
2	2 1,2,3,7,8-PeCDD		9.05e4	10.0240	0.903			1.001			30.57				0.229
3	3 1,2,3,4,7,8-HxCDD		8.04e4	10.0240	1.101			1.000			33.87				0.364
4	4 1,2,3,6,7,8-HxCDD		9.70e4	10.0240	0.939			1.000			33.97				0.365
5	5 1,2,3,7,8,9-HxCDD		9.25e4	10.0240	0.961			1.001			34.30				0.407
6	6 1,2,3,4,6,7,8-HpCDD	2.21e3	8.53e4	10.0240	0.979	1.012	NO	1.000	1.000	37.76	37.75	5.2928		5.29	0.452
7	7 OCDD	1.64e4	1.45e5	10.0240	0.959	0.928	NO	1.000	1.000	41.00	41.01	47.198		47.2	0.346
8	8 2,3,7,8-TCDF	3.81e2	1.64e5	10.0240	0.950	0.978	YES	1.001	1.001	25.22	25.22	0.48765		0.436	0.169
9	9 1,2,3,7,8-PeCDF	3.39e2	1.49e5	10.0240	0.960	1.692	NO	1.001	1.000	29.40	29.38	0.47396		0.474	0.279
10	10 2,3,4,7,8-PeCDF	1.33e2	1.44e5	10.0240	1.015	3.477	YES	1.001	1.001	30.30	30.29	0.18118		0.103	0.246
11	11 1,2,3,4,7,8-HxCDF	6.43e2	1.16e5	10.0240	1.177	1.124	NO	1.000	1.001	32.98	33.00	0.93605		0.936	0.173
12	12 1,2,3,6,7,8-HxCDF	1.68e2	1.29e5	10.0240	1.069	1.494	YES	1.000	1.000	33.11	33.11	0.24823		0.218	0.175
13	13 2,3,4,6,7,8-HxCDF		1.14e5	10.0240	1.114			1.001			33.73				0.203
14	14 1,2,3,7,8,9-HxCDF		1.05e5	10.0240	1.062			1.000			34.65				0.302
15	15 1,2,3,4,6,7,8-HpCDF		9.03e4	10.0240	1.128			1.001			36.51				0.310
16	16 1,2,3,4,7,8,9-HpCDF		7.41e4	10.0240	1.280			1.000			38.29				0.286
17	17 OCDF	7.84e2	1.76e5	10.0240	0.947	0.845	NO	1.000	1.000	41.22	41.23	1.8719		1.87	0.328
18	18 13C-2,3,7,8-TCDD	1.12e5	9.80e4	10.0240	1.095	0.785	NO	1.023	1.022	26.00	25.98	208.27	104.4		0.614
19	19 13C-1,2,3,7,8-PeCDD	9.05e4	9.80e4	10.0240	0.881	0.645	NO	1.203	1.202	30.58	30.55	209.08	104.8		0.574
20	20 13C-1,2,3,4,7,8-Hx...	8.04e4	1.19e5	10.0240	0.642	1.283	NO	1.014	1.014	33.85	33.86	209.51	105.0		0.970
21	21 13C-1,2,3,6,7,8-Hx...	9.70e4	1.19e5	10.0240	0.856	1.248	NO	1.017	1.017	33.96	33.97	189.78	95.1		0.728
22	22 13C-1,2,3,7,8,9-Hx...	9.25e4	1.19e5	10.0240	0.807	1.313	NO	1.026	1.027	34.26	34.27	191.89	96.2		0.772
23	23 13C-1,2,3,4,6,7,8-H...	8.53e4	1.19e5	10.0240	0.654	1.044	NO	1.131	1.131	37.76	37.75	218.15	109.3		1.48
24	24 13C-OCDD	1.45e5	1.19e5	10.0240	0.580	0.925	NO	1.228	1.228	41.00	41.00	417.56	104.6		0.784
25	25 13C-2,3,7,8-TCDF	1.64e5	1.58e5	10.0240	1.035	0.765	NO	0.992	0.991	25.22	25.19	199.73	100.1		0.608
26	26 13C-1,2,3,7,8-PeCDF	1.49e5	1.58e5	10.0240	0.854	1.581	NO	1.156	1.156	29.39	29.38	219.20	109.9		1.22
27	27 13C-2,3,4,7,8-PeCDF	1.44e5	1.58e5	10.0240	0.847	1.581	NO	1.192	1.190	30.30	30.27	214.92	107.7		1.23
28	28 13C-1,2,3,4,7,8-Hx...	1.16e5	1.19e5	10.0240	0.832	0.519	NO	0.987	0.988	32.96	32.98	234.21	117.4		1.38
29	29 13C-1,2,3,6,7,8-Hx...	1.29e5	1.19e5	10.0240	1.034	0.512	NO	0.991	0.992	33.08	33.10	208.53	104.5		1.11
30	30 13C-2,3,4,6,7,8-Hx...	1.14e5	1.19e5	10.0240	0.953	0.515	NO	1.009	1.009	33.69	33.70	200.00	100.2		1.20
31	31 13C-1,2,3,7,8,9-Hx...	1.05e5	1.19e5	10.0240	0.828	0.498	NO	1.038	1.038	34.64	34.65	213.14	106.8		1.39

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-8.qld

Last Altered: Monday, January 20, 2020 19:06:41 Pacific Standard Time

Printed: Monday, January 20, 2020 19:07:46 Pacific Standard Time

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 Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	WL/Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	9.03e4	1.19e5	10.0240	0.757	0.438	NO	1.093	1.093	36.48	36.47	199.41	99.9		1.66
33	33 13C-1,2,3,4,7,8,9-H...	7.41e4	1.19e5	10.0240	0.581	0.444	NO	1.147	1.147	38.28	38.29	213.28	106.9		2.16
34	34 13C-OCDF	1.76e5	1.19e5	10.0240	0.689	0.881	NO	1.235	1.235	41.22	41.22	428.40	107.4		0.921
35	35 37Cl-2,3,7,8-TCDD	4.28e4	9.80e4	10.0240	1.198			1.024	1.023	26.02	26.00	72.813	91.2		0.228
36	36 13C-1,2,3,4-TCDD	9.80e4	9.80e4	10.0240	1.000	0.779	NO	1.000	1.000	25.39	25.42	199.52	100.0		0.673
37	37 13C-1,2,3,4-TCDF	1.58e5	1.58e5	10.0240	1.000	0.798	NO	1.000	1.000	23.93	23.96	199.52	100.0		0.629
38	38 13C-1,2,3,4,6,9-Hx...	1.19e5	1.19e5	10.0240	1.000	0.504	NO	1.000	1.000	33.37	33.38	199.52	100.0		1.15
39	39 Total Tetra-Dioxins		1.12e5	10.0240	0.901			0.000		25.50		0.46489		0.465	0.197
40	40 Total Penta-Dioxins		9.05e4	10.0240	0.872			0.000		30.00					0.0908
41	41 Total Hexa-Dioxins		0.00e0	10.0240	0.976			0.000		33.80		1.2249		1.68	0.386
42	42 Total Hepta-Dioxins		8.53e4	10.0240	0.989			0.000		37.75		12.726		12.7	0.447
43	43 Total Tetra-Furans		1.64e5	10.0240	0.943			0.000		24.00		0.38711		0.824	0.170
44	44 1st Func. Penta-Fur...		0.00e0	10.0240	0.940			0.000		27.63		0.00000		0.162	0.0404
45	45 Total Penta-Furans		0.00e0	10.0240	0.940			0.000		30.00		0.85286		1.30	0.276
46	46 Total Hexa-Furans		0.00e0	10.0240	1.078			0.000		33.00		0.99985		1.52	0.214
47	47 Total Hepta-Furans		0.00e0	10.0240	1.135			0.000		37.75		1.4749		1.47	0.314

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-8.qld

Last Altered: Monday, January 20, 2020 19:06:41 Pacific Standard Time

Printed: Monday, January 20, 2020 19:07:46 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-1-10-20.mdb 14 Jan 2020 15:42:37

Calibration: 14 Jan 2020 16:15:09

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 Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	39 Total Tetra-Dioxins	NO	24.10	101.763	49294.879	4.198	db	0.4649	0.46

**Penta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

**Hexa-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	41 Total Hexa-Dioxins	YES	33.17	111.351	50520.366	0.000	MM	0.0000	0.46
2	41 Total Hexa-Dioxins	NO	32.36	312.957	50520.366	11.983	bb	1.2249	1.22

**Hepta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	NO	37.75	1113.842	43536.859	51.962	bb	5.2928	5.29
2	42 Total Hepta-Dioxins	NO	36.90	1571.026	43536.859	73.664	bb	7.4327	7.43

**Tetra-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	8 2,3,7,8-TCDF	YES	25.22	188.271	71059.953	0.000	MM	0.0000	0.44
2	43 Total Tetra-Furans	NO	24.40	140.666	71059.953	3.658	MM	0.3871	0.39

**Penta-Furans function 1**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	44 1st Func. Penta-Furans	YES	27.01	84.077	89745.519	0.000	bb	0.0000	0.16

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-8.qld

Last Altered: Monday, January 20, 2020 19:06:41 Pacific Standard Time

Printed: Monday, January 20, 2020 19:07:46 Pacific Standard Time

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 Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Penta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	45 Total Penta-Furans	NO	29.62	115.569	89745.519	2.531	bb	0.2687	0.27
2	45 Total Penta-Furans	YES	28.47	101.529	89745.519	0.000	MM	0.0000	0.24
3	10 2,3,4,7,8-PeCDF	YES	30.29	103.390	88493.156	0.000	MM	0.0000	0.10
4	9 1,2,3,7,8-PeCDF	NO	29.38	213.060	90997.883	4.563	MM	0.4740	0.47
5	45 Total Penta-Furans	YES	30.30	58.751	89745.519	0.000	MM	0.0000	0.10
6	45 Total Penta-Furans	NO	29.42	45.583	89745.519	1.038	MM	0.1102	0.11

**Hexa-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	12 1,2,3,6,7,8-HxCDF	YES	33.11	100.626	43653.344	0.000	MM	0.0000	0.22
2	11 1,2,3,4,7,8-HxCDF	NO	33.00	340.170	39789.027	11.042	MM	0.9360	0.94
3	46 Total Hexa-Furans	YES	32.53	92.919	39301.948	0.000	MM	0.0000	0.05
4	46 Total Hexa-Furans	YES	31.97	106.593	39301.948	0.000	MM	0.0000	0.19
5	46 Total Hexa-Furans	NO	33.03	22.420	39301.948	0.689	MM	0.0638	0.06
6	46 Total Hexa-Furans	YES	32.54	18.597	39301.948	0.000	MM	0.0000	0.05

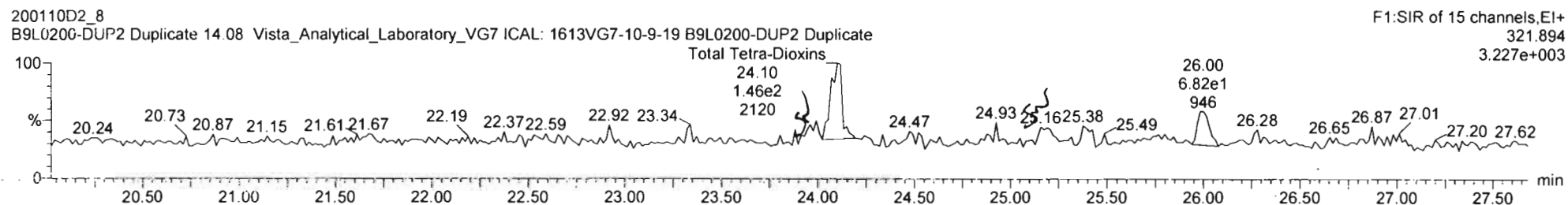
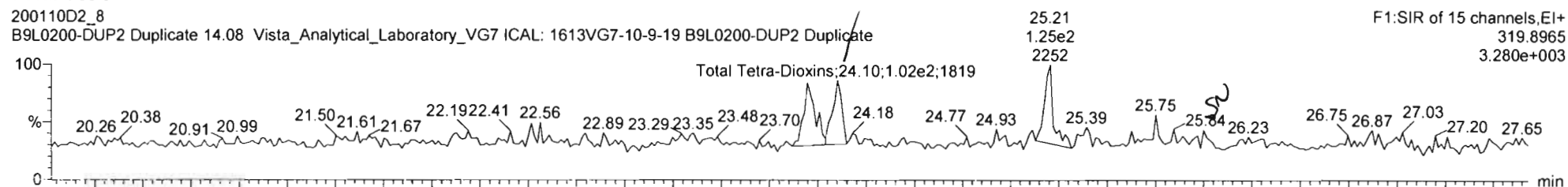
**Hepta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	47 Total Hepta-Furans	NO	37.10	353.057	25150.792	16.776	MM	1.4749	1.47

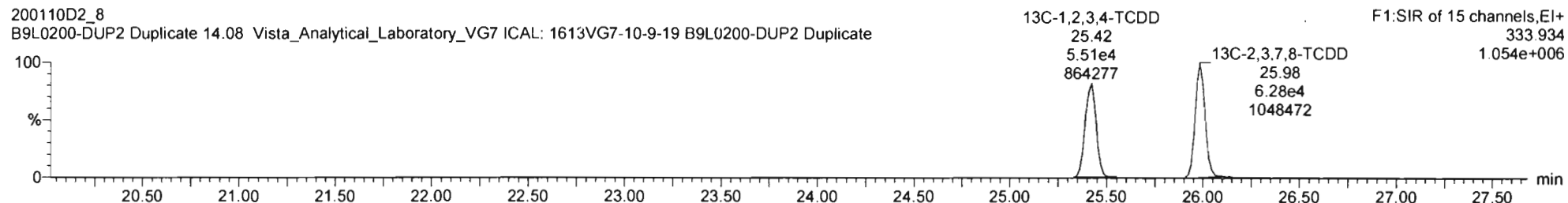
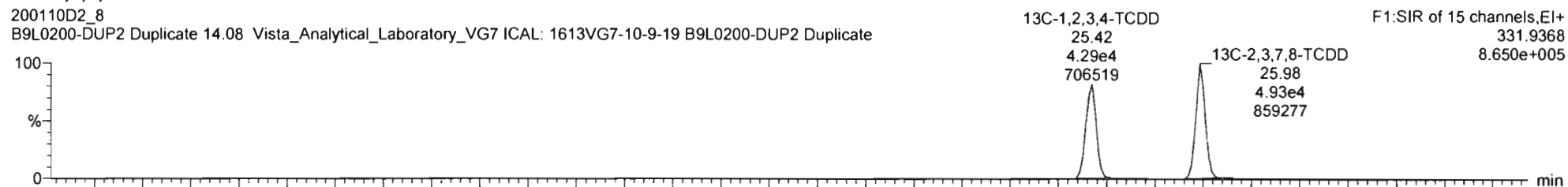
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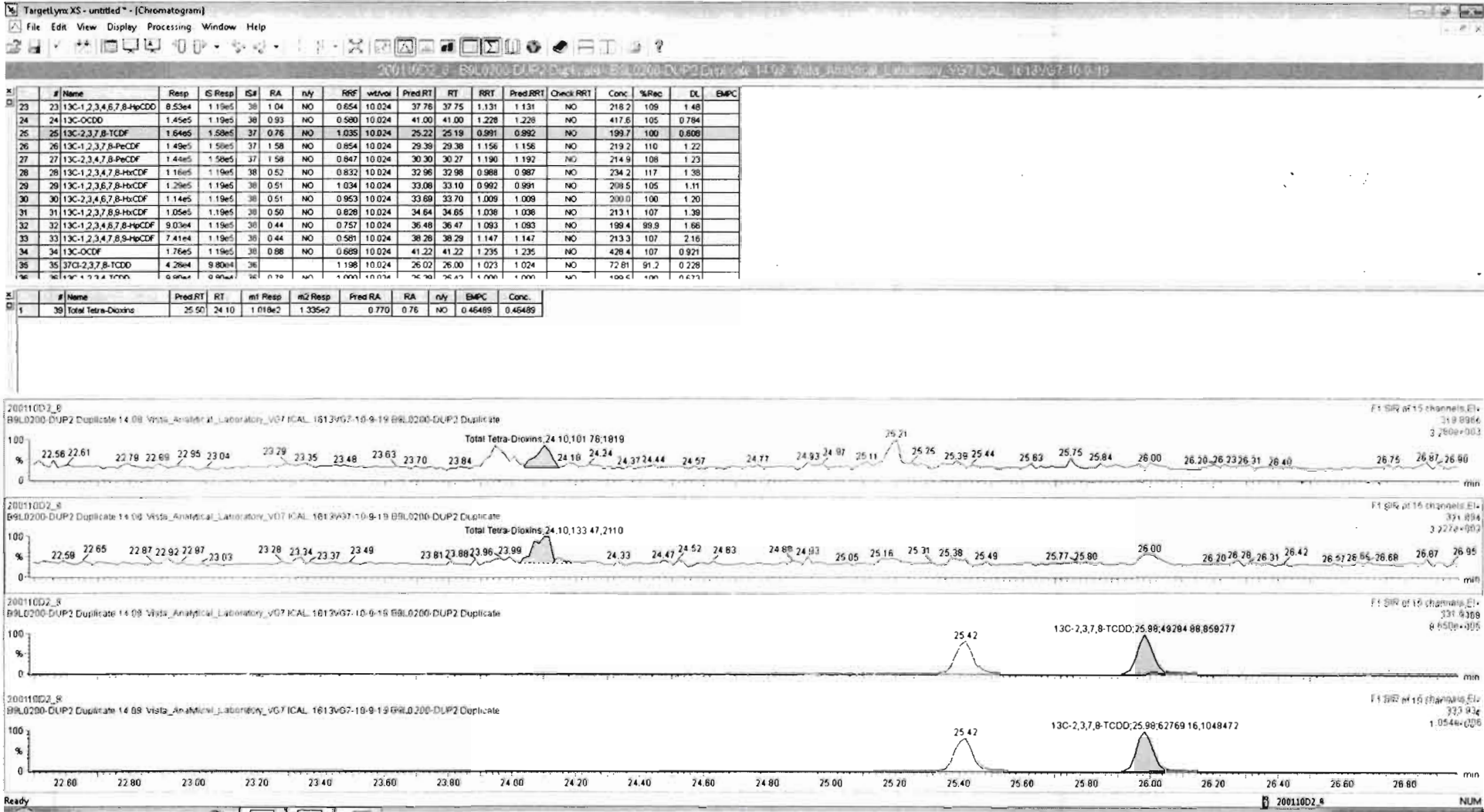
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**Total Tetra-Dioxins**



**13C-2,3,7,8-TCDD**





Vista Analytical Laboratory

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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

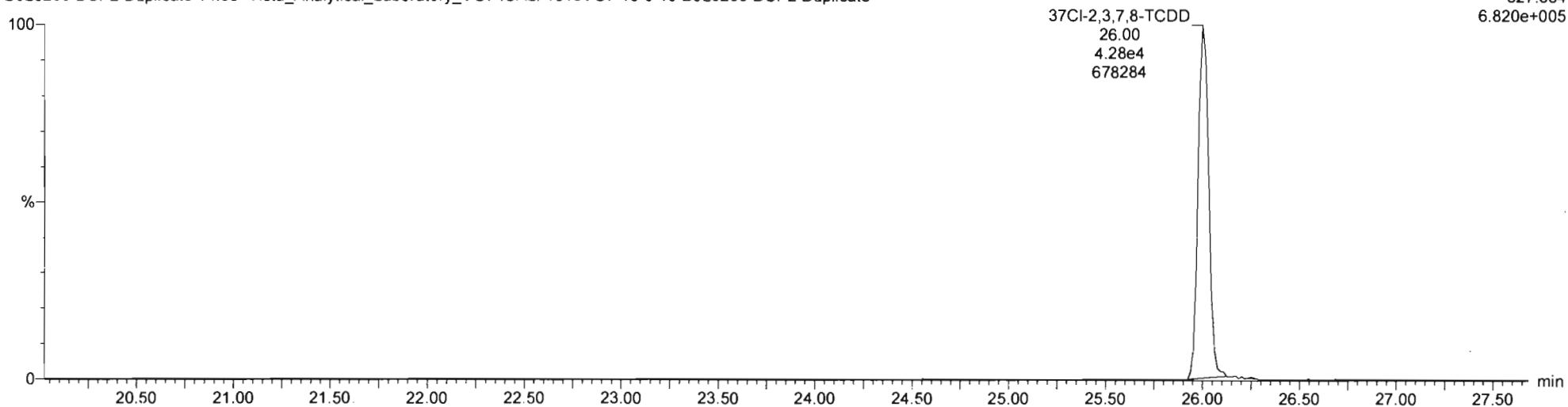
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37Cl-2,3,7,8-TCDD

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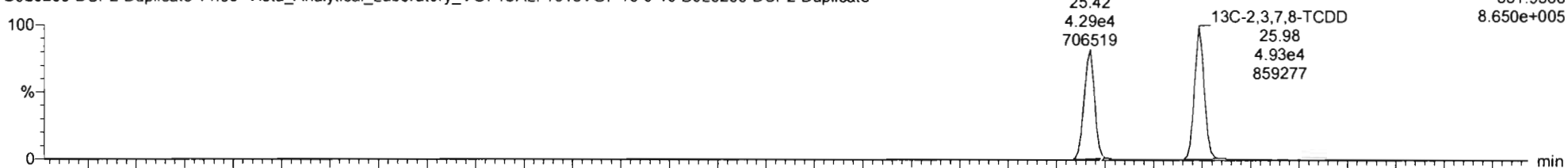
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13C-1,2,3,4-TCDD

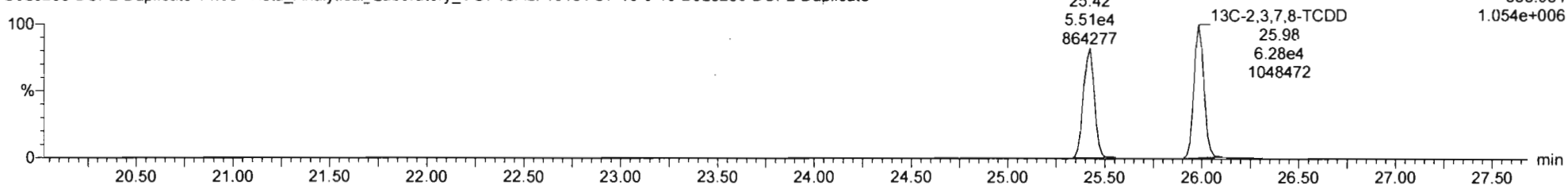
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F1:SIR of 15 channels,EI+  
331.9368  
8.650e+005



200110D2\_8  
B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 B9L0200-DUP2 Duplicate

F1:SIR of 15 channels,EI+  
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Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

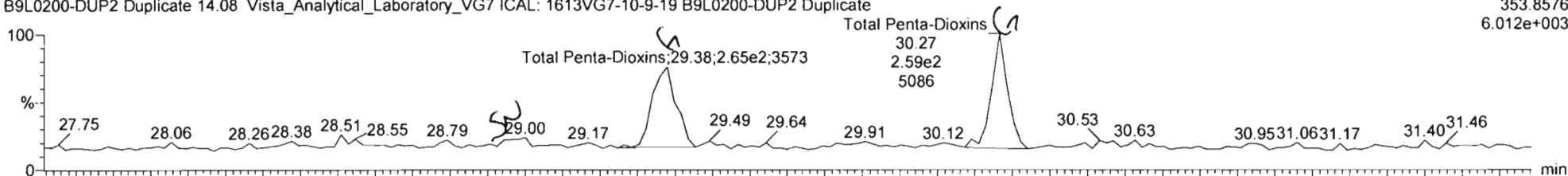
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Total Penta-Dioxins

200110D2\_8

B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 B9L0200-DUP2 Duplicate

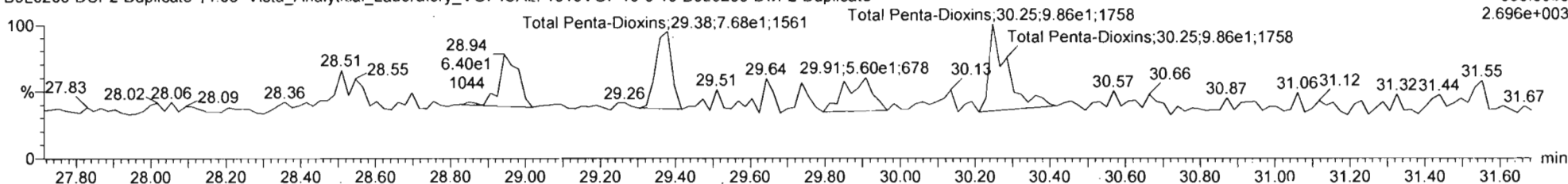
F2:SIR of 17 channels,EI+  
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6.012e+003



200110D2\_8

B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 B9L0200-DUP2 Duplicate

F2:SIR of 17 channels,EI+  
355.8550  
2.696e+003

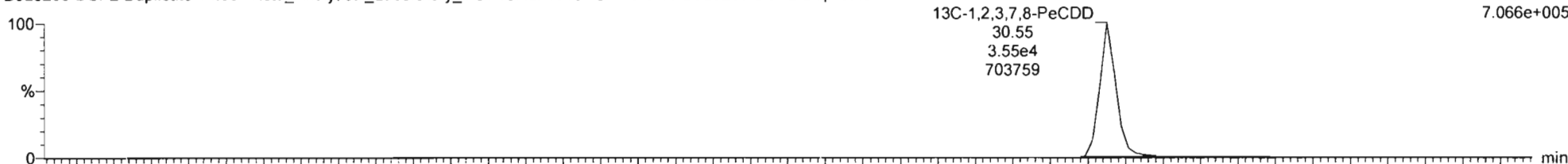


13C-1,2,3,7,8-PeCDD

200110D2\_8

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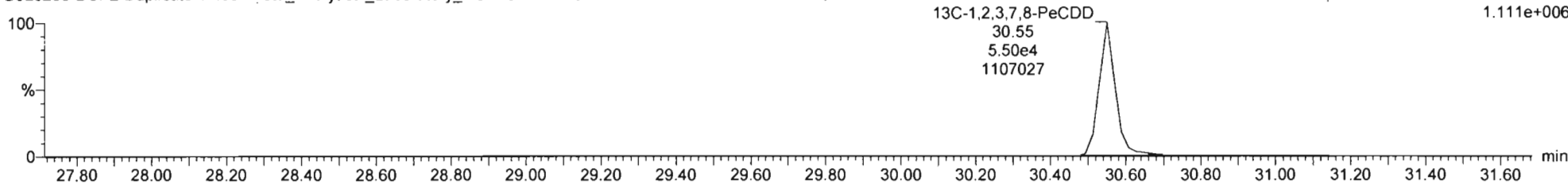
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200110D2\_8

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Vista Analytical Laboratory

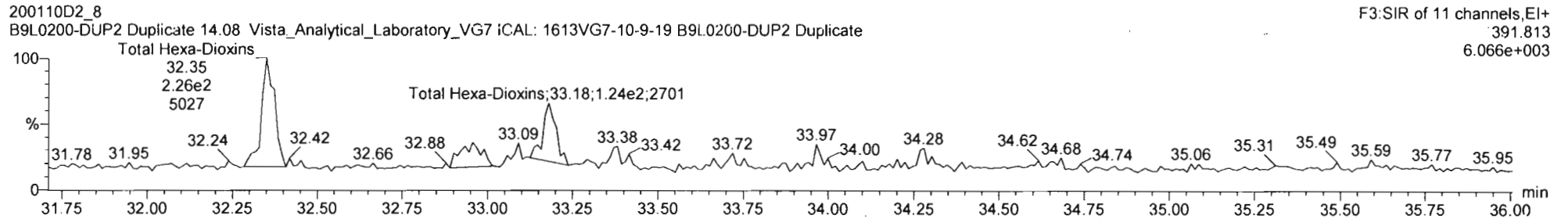
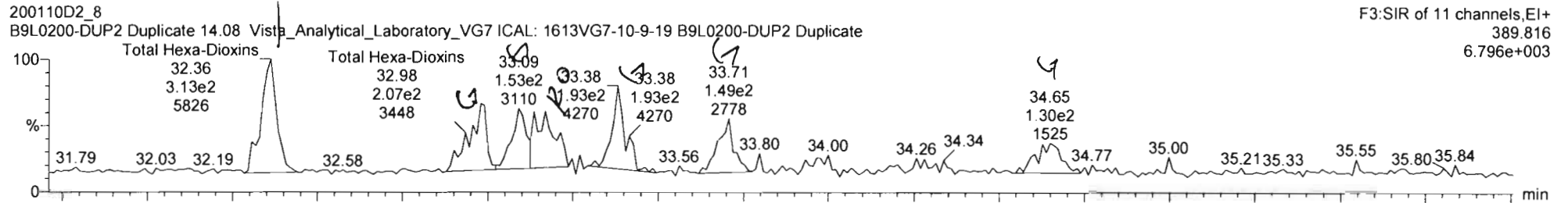
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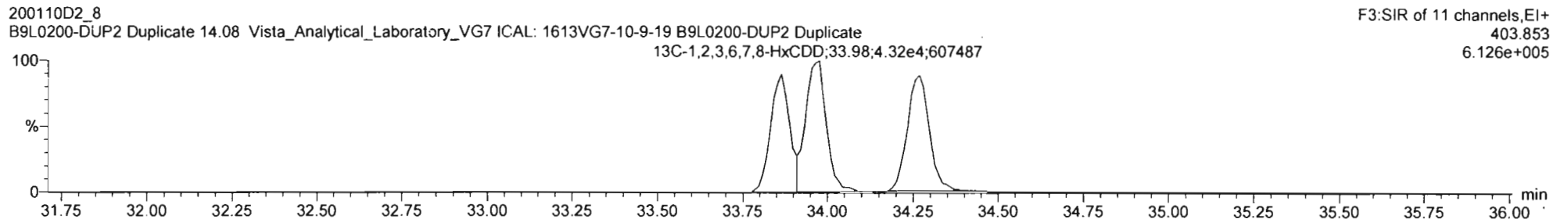
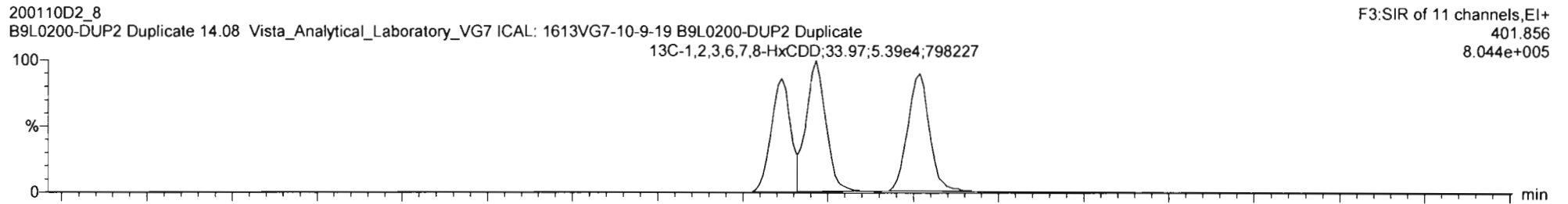
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Total Hexa-Dioxins



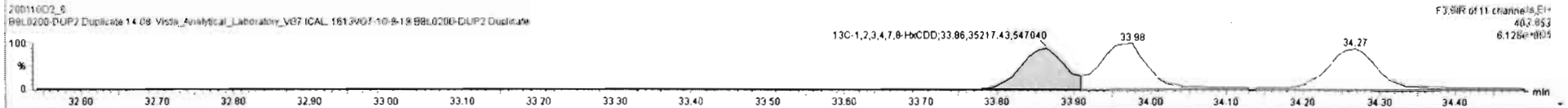
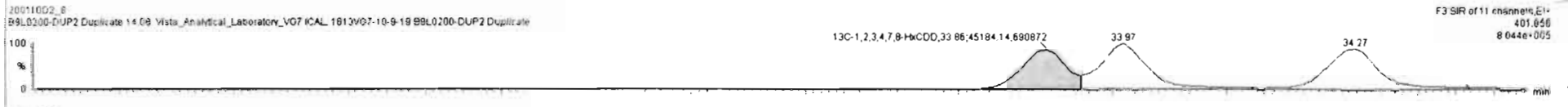
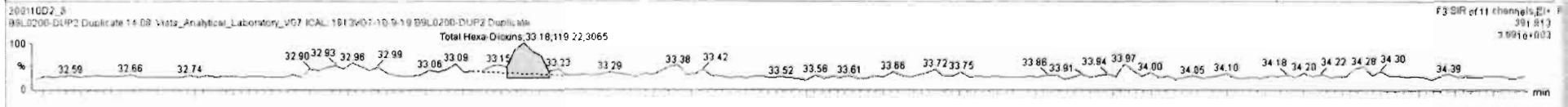
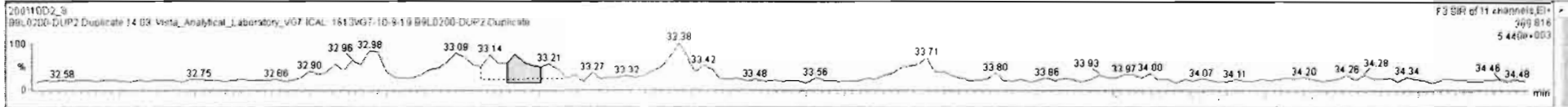
13C-1,2,3,4,7,8-HxCDD



20011002\_3 B9L0200-DUP2 Duplicate 14 08 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 B9L0200-DUP2 Duplicate

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wt/vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
27	13C-2,3,4,7,8-PeCDF	1.44e5	1.58e5	37	1.58	NO	0.847	10.024	30.30	30.27	1.190	1.192	NO	214.9	108	1.23	
28	13C-1,2,3,4,7,8-HxCDF	1.16e5	1.19e5	38	0.52	NO	0.832	10.024	32.96	32.98	0.988	0.987	NO	234.2	117	1.38	
29	13C-1,2,3,6,7,8-HxCDF	1.29e5	1.19e5	38	0.51	NO	1.034	10.024	33.08	33.10	0.992	0.991	NO	208.5	105	1.11	
30	13C-2,3,4,6,7,8-HxCDF	1.14e5	1.19e5	38	0.51	NO	0.953	10.024	33.69	33.70	1.009	1.009	NO	200.0	100	1.20	
31	13C-1,2,3,7,8,9-HxCDF	1.05e5	1.19e5	38	0.50	NO	0.628	10.024	34.64	34.65	1.038	1.038	NO	213.1	107	1.38	
32	13C-1,2,3,4,6,7,8-HpCDF	9.03e4	1.19e5	38	0.44	NO	0.757	10.024	36.48	36.47	1.093	1.093	NO	199.4	99.5	1.86	
33	13C-1,2,3,4,7,8,9-HpCDF	7.41e4	1.19e5	38	0.44	NO	0.581	10.024	38.28	38.29	1.147	1.147	NO	213.3	107	2.16	
34	13C-OCDF	1.76e5	1.19e5	38	0.88	NO	0.689	10.024	41.22	41.22	1.235	1.235	NO	428.4	107	0.921	
35	37Cl-2,3,7,8-TCDD	4.28e4	9.80e4	36			1.198	10.024	26.02	26.00	1.023	1.024	NO	72.81	91.2	0.228	
36	13C-1,2,3,4-TCDD	9.80e4	9.80e4	36	0.78	NO	1.000	10.024	25.39	25.42	1.000	1.000	NO	199.5	100	0.673	
37	13C-1,2,3,4,7,8-TCDF	1.58e5	1.58e5	37	0.80	NO	1.000	10.024	23.93	23.96	1.000	1.000	NO	199.5	100	0.679	
38	13C-1,2,3,4,6,8,9-HxCDF	1.19e5	1.19e5	38	0.50	NO	1.000	10.024	33.37	33.38	1.000	1.000	NO	199.5	100	1.15	
39	Total Tetra-Dioxins		1.12e5				0.901	10.024	25.50			0.000	NO	0.4649	0.197	0.4649	
40	Total Hexa-Dioxins		0.0000				0.0000	10.0000	30.0000			0.0000	NO	0.0000	0.0000	0.0000	0.0000

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	33.36	3.130e2	2.261e2	1.240	1.38	NO	1.2249	1.2249
2	41 Total Hexa-Dioxins	33.80	33.17	1.114e2	1.192e2	1.240	0.93	YES	0.45704	0.00000



Vista Analytical Laboratory

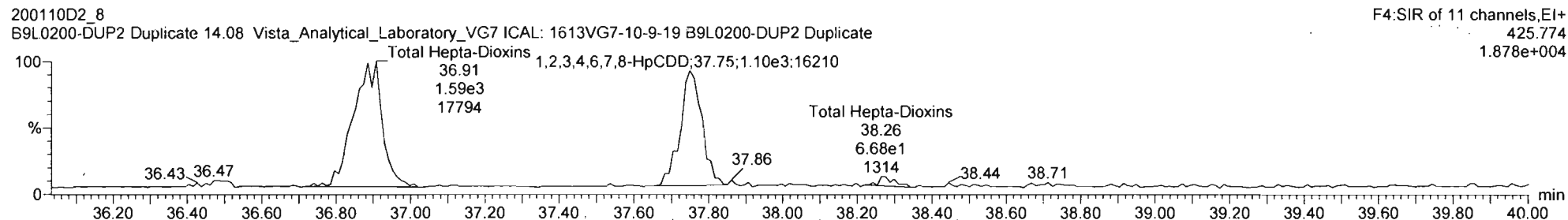
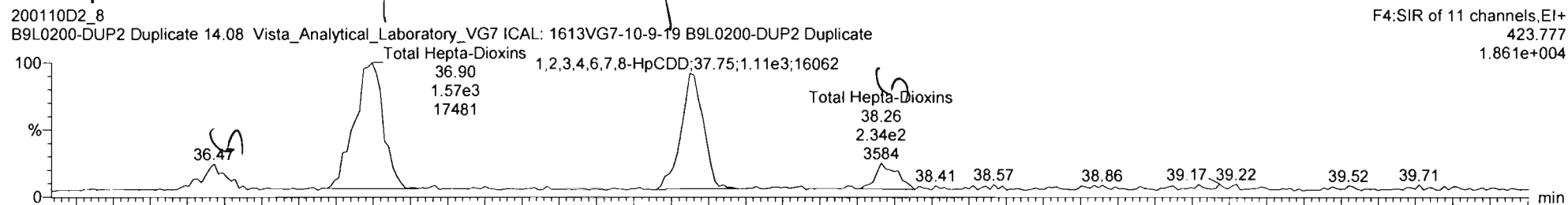
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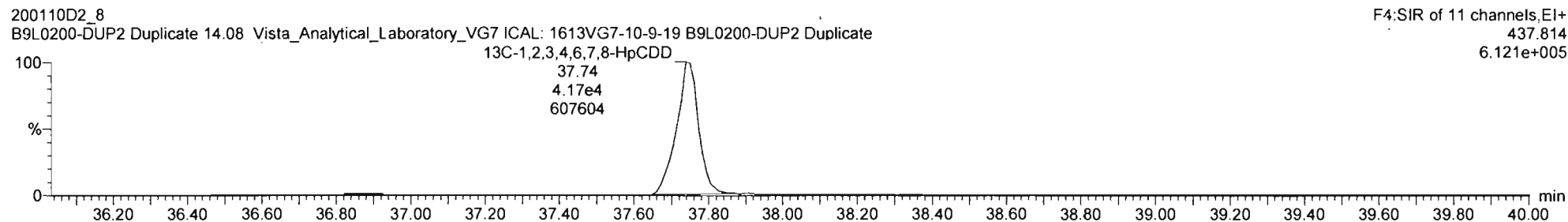
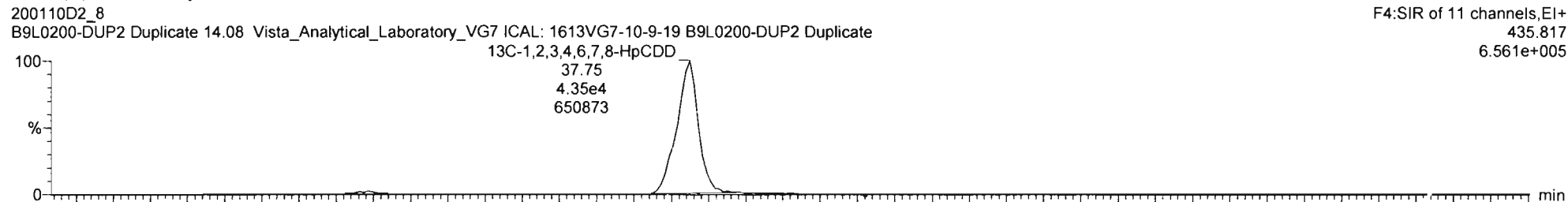
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**Total Hepta-Dioxins**



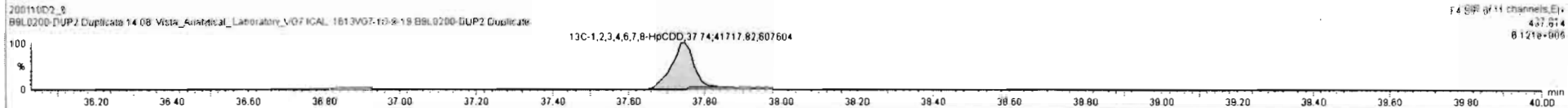
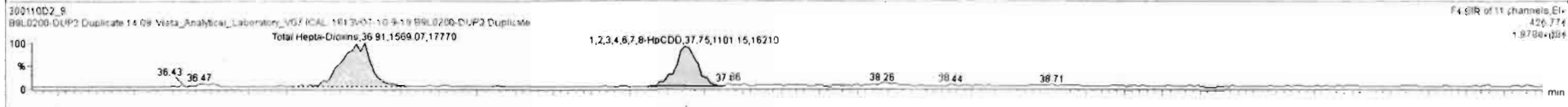
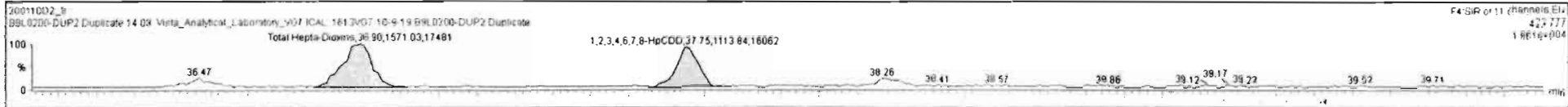
**13C-1,2,3,4,6,7,8-HpCDD**



20011002\_9 B9L0200-DUP2 Duplicate 14 03 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 B9L0200-DUP2 Duplicate

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wt/vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
30	13C-2,3,4,6,7,8-HxCDF	1.14e5	1.19e5	38	0.51	NO	0.953	10.024	33.69	33.70	1.009	1.009	NO	200.0	100	1.20	
31	13C-1,2,3,7,8,9-HpCDF	1.05e5	1.19e5	38	0.50	NO	0.828	10.024	34.64	34.65	1.038	1.038	NO	213.1	107	1.39	
32	13C-1,2,3,4,6,7,8-HpCDF	9.03e4	1.19e5	38	0.44	NO	0.757	10.024	36.48	36.47	1.093	1.093	NO	199.4	99.9	1.68	
33	13C-1,2,3,4,7,8,9-HpCDF	7.41e4	1.19e5	38	0.44	NO	0.581	10.024	36.28	36.29	1.147	1.147	NO	213.3	107	2.16	
34	13C-OCDF	1.76e5	1.19e5	38	0.86	NO	0.669	10.024	41.22	41.22	1.235	1.235	NO	428.4	107	0.921	
35	37Cl-2,3,7,8-TCDD	4.28e4	9.80e4	36			1.198	10.024	26.02	26.00	1.023	1.024	NO	72.81	91.2	0.228	
36	13C-1,2,3,4-TCDD	9.80e4	9.80e4	36	0.78	NO	1.000	10.024	25.39	25.42	1.000	1.000	NO	199.5	100	0.673	
37	13C-1,2,3,4-TCDF	1.58e5	1.58e5	37	0.90	NO	1.000	10.024	23.93	23.96	1.000	1.000	NO	199.5	100	0.629	
38	13C-1,2,3,4,6,8,9-HxCDF	1.19e5	1.19e5	38	0.50	NO	1.000	10.024	33.37	33.38	1.000	1.000	NO	199.5	100	1.15	
39	Total Tetra-Dioxins		1.12e5				0.901	10.024	25.50			0.000	NO	0.4649		0.197	0.4649
40	Total Penta-Dioxins		9.05e4				0.872	10.024	30.00			0.000	NO	0.0000		0.0906	0.7225
41	Total Hexa-Dioxins		0.00e0				0.976	10.024	33.80			0.000	NO	1.225		0.366	1.682
42	Total Hepta-Dioxins		8.53e4				0.989	10.024	37.75			0.000	NO	12.73		0.447	12.73
43	Total Tetra-Furans		1.02e5				0.943	10.024	24.00			0.000	NO	0.4431		0.170	1.000

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	42 Total Hepta-Dioxins	37.75	36.90	1.671e3	1.569e3	1.040	1.00	NO	7.4327	7.4327
2	6 1,2,3,4,6,7,8-HpCDD	37.75	37.75	1.114e3	1.101e3	1.040	1.01	NO	5.2926	5.2926



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

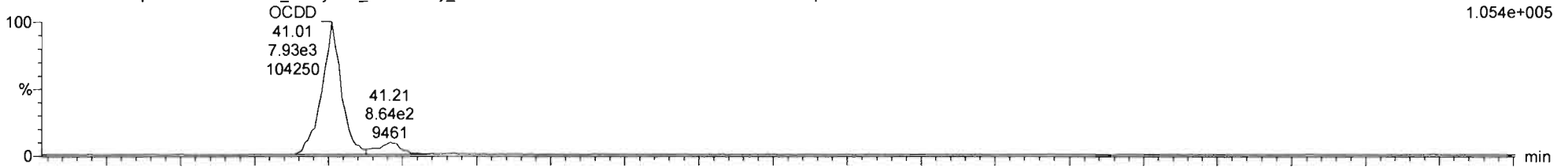
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Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

OCDD

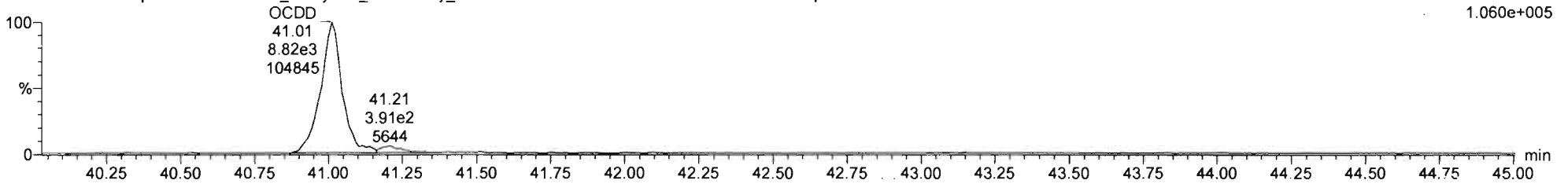
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F5:SIR of 11 channels,EI+  
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1.054e+005



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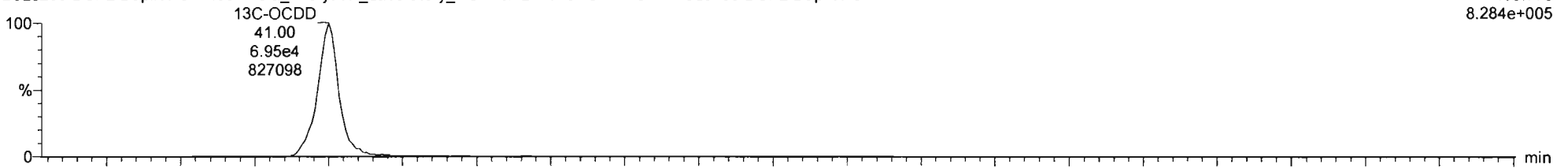
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13C-OCDD

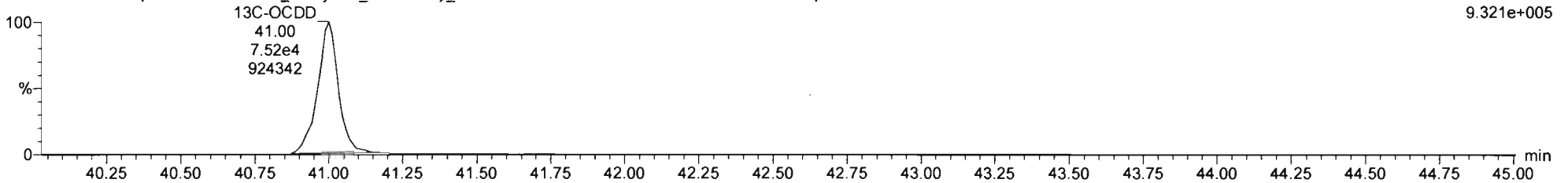
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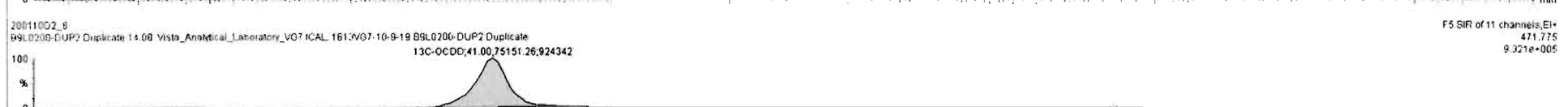
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20011002\_8 - B9L0200-DUP2 Duplicate 14 08 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 B9L0200-DUP2 Duplicate

#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
1	1,2,3,7,8-TCDD		1.12e5	18			0.905	10.024	26.01			1.001	NO			0.196	
2	1,2,3,7,8-PeCDD		9.05e4	19			0.903	10.024	30.57			1.001	NO			0.229	
3	1,2,3,4,7,8-HxCDD		8.04e4	20			1.101	10.024	33.87			1.000	NO			0.364	
4	1,2,3,6,7,8-HxCDD		9.70e4	21			0.939	10.024	33.97			1.000	NO			0.365	
5	1,2,3,7,8,9-HxCDD		9.25e4	22			0.961	10.024	34.30			1.001	NO			0.407	
6	1,2,3,4,6,7,8-HpCDD	2.21e3	8.53e4	23	1.01	NO	0.979	10.024	37.76	37.75	1.000	1.000	NO	5.293		0.452	5.293
7	OCDD	1.64e4	1.48e5	24	0.93	NO	0.959	10.024	41.00	41.01	1.000	1.000	NO	47.20		0.346	47.20
8	2,3,7,8-TCDF	4.03e2	1.84e5	25	0.94	YES	0.950	10.024	25.22	25.22	1.001	1.001	NO	0.5155		0.189	0.4713
9	1,2,3,7,8-PeCDF	3.97e2	1.49e5	26	1.68	NO	0.960	10.024	29.40	29.38	1.000	1.001	NO	0.5555		0.279	0.5555
10	1,2,3,4,7,8-PeCDF	2.16e2	1.44e5	27	2.73	YES	1.015	10.024	30.30	30.29	1.001	1.001	NO	0.2934		0.246	0.2008
11	1,2,3,4,7,8-HxCDF	6.76e2	1.16e5	28	1.18	NO	1.177	10.024	32.98	33.00	1.001	1.000	NO	0.9841		0.173	0.9841
12	1,2,3,6,7,8-HxCDF	1.70e2	1.70e4	29	1.84	YES	1.060	10.024	33.11	33.11	1.000	1.000	NO	0.7670		0.174	0.7670

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1										



Vista Analytical Laboratory

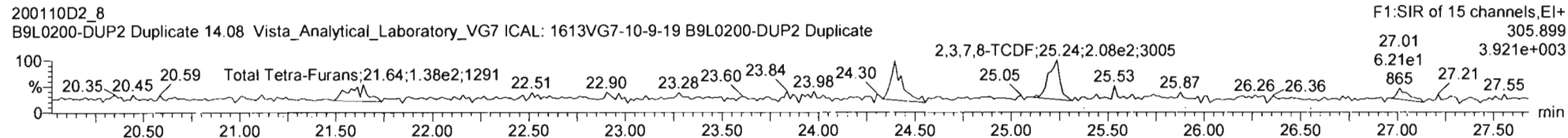
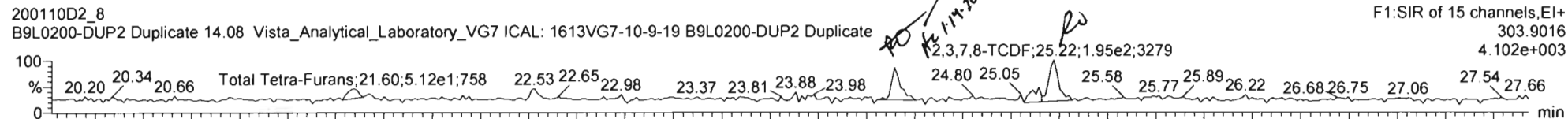
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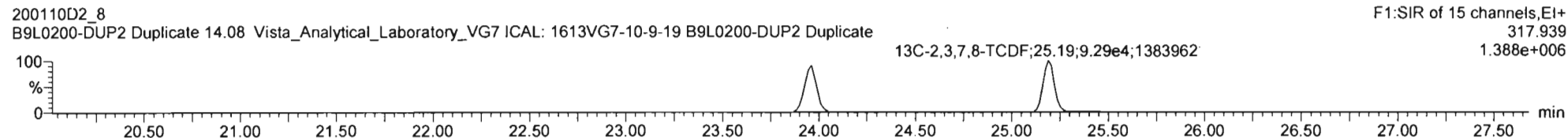
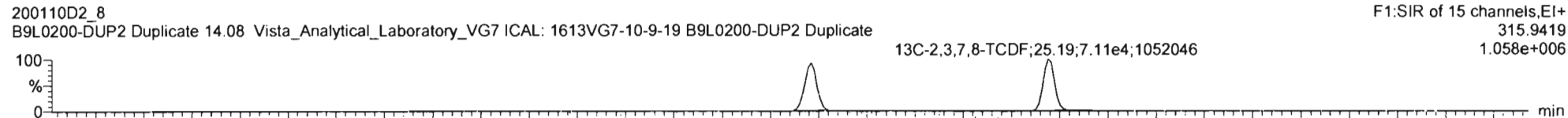
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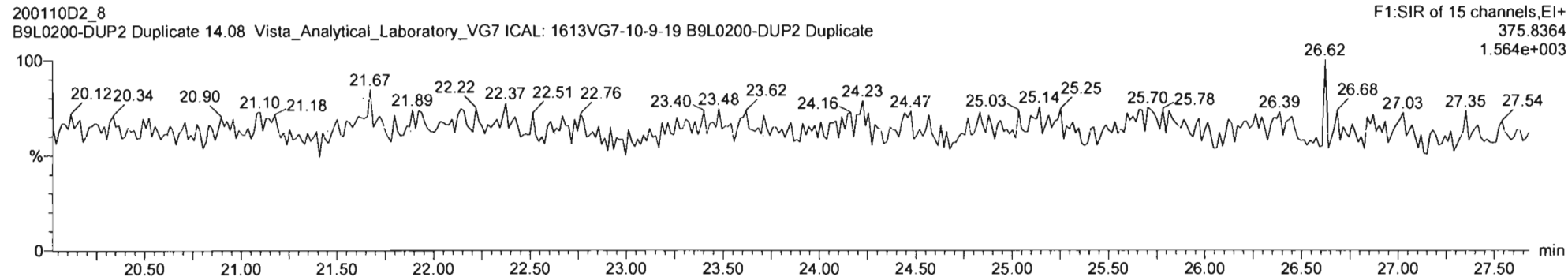
Total Tetra-Furans

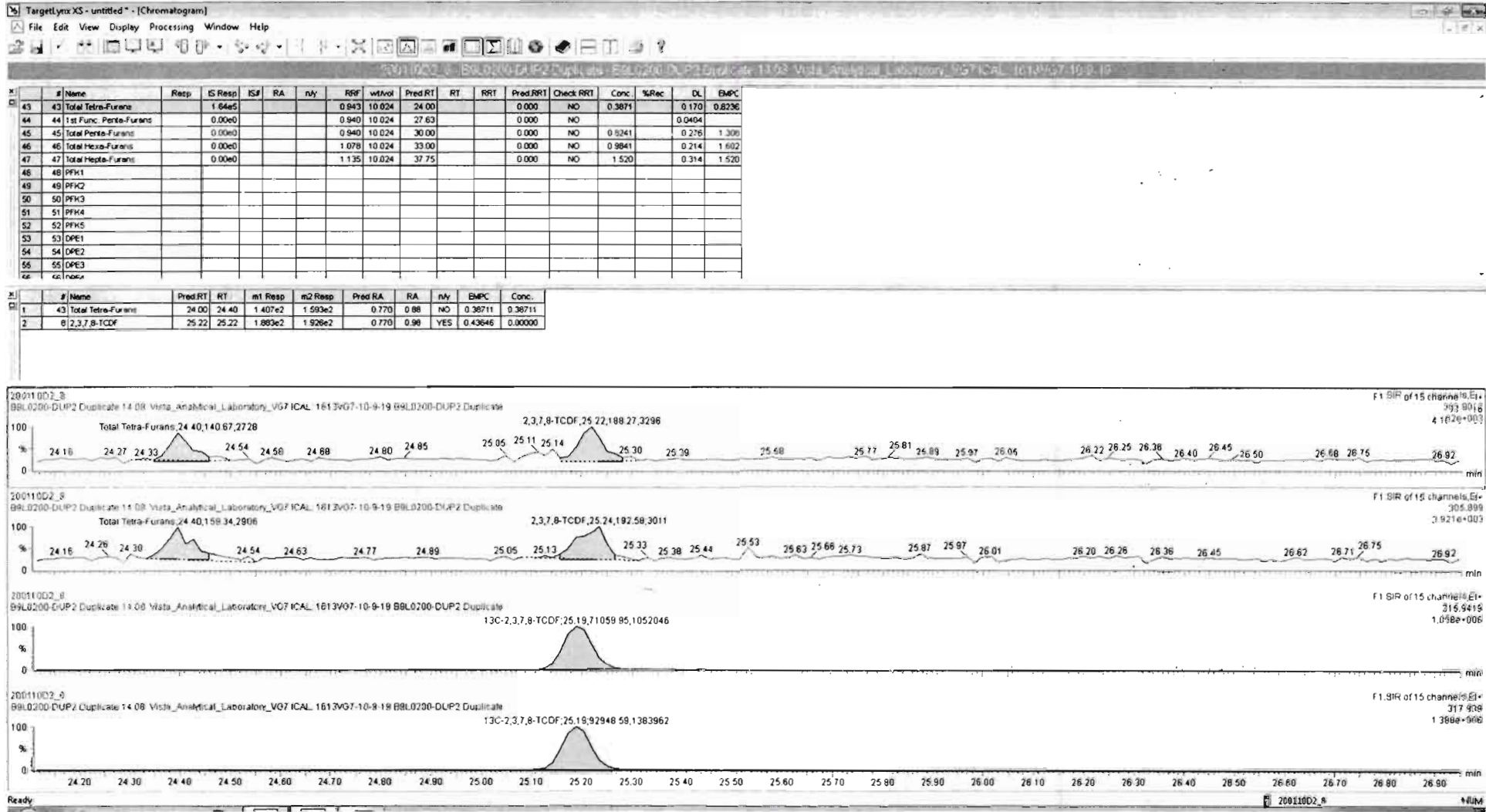


13C-2,3,7,8-TCDF



DPE1







Vista Analytical Laboratory

Dataset: Untitled

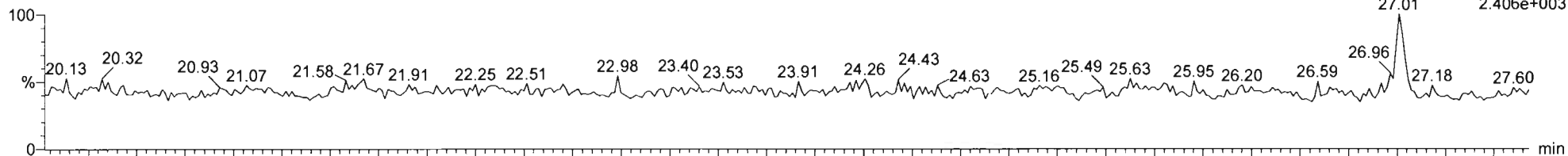
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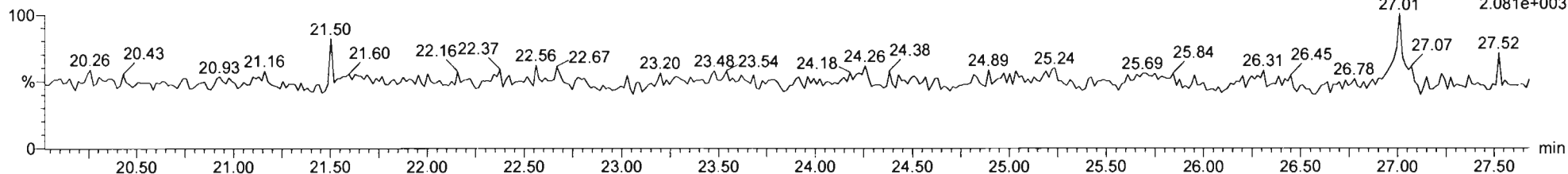
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1st Func. Penta-Furans

200110D2\_8  
B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 B9L0200-DUP2 Duplicate

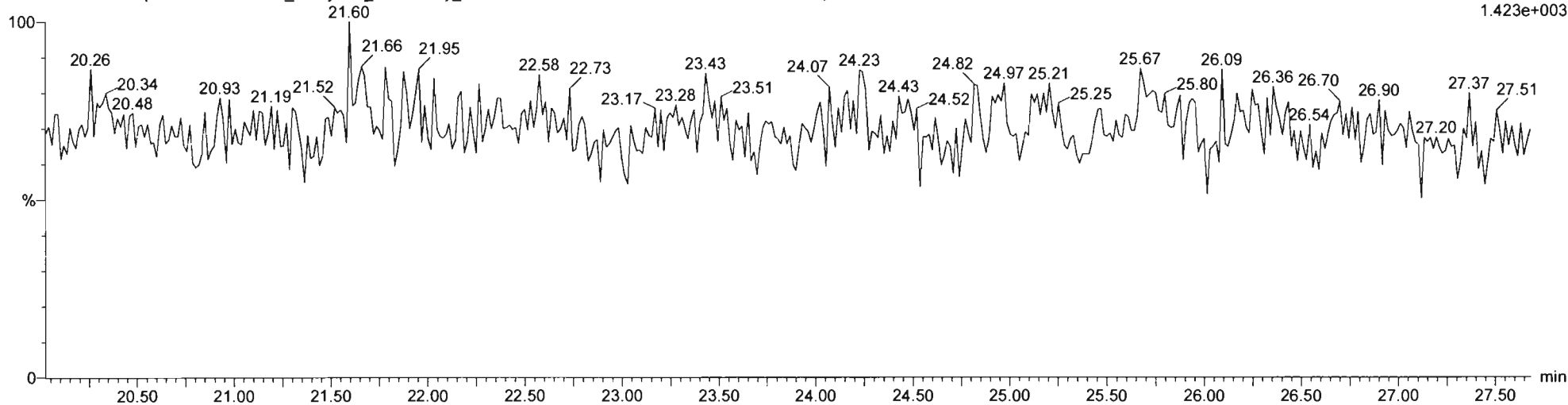


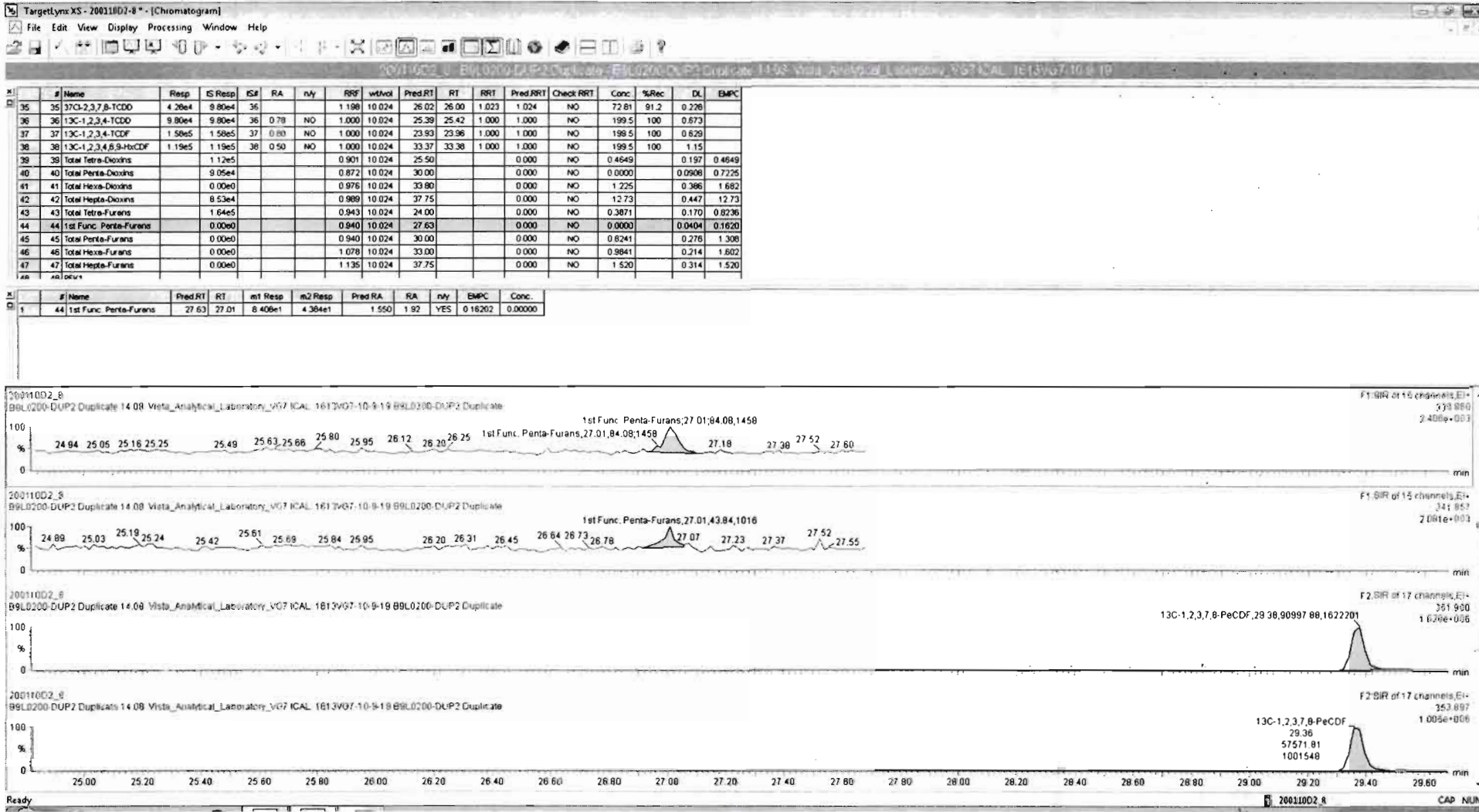
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DPE6

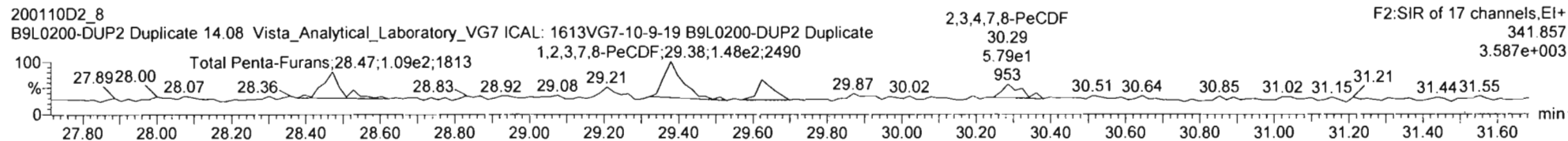
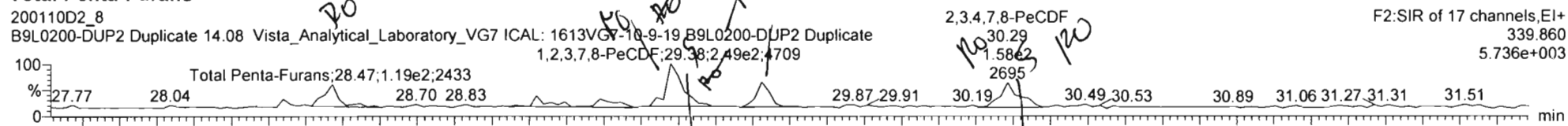
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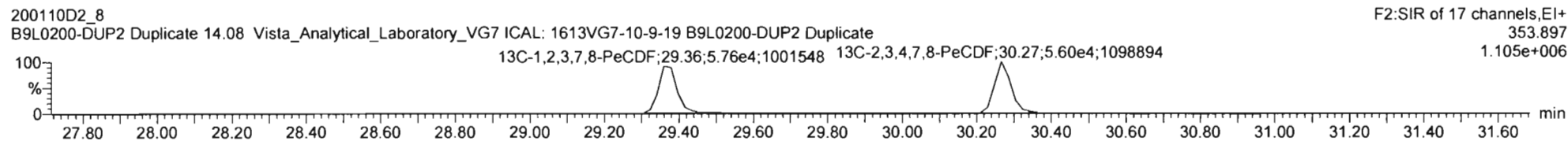
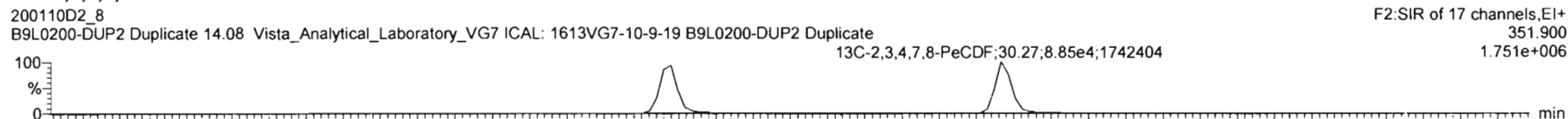


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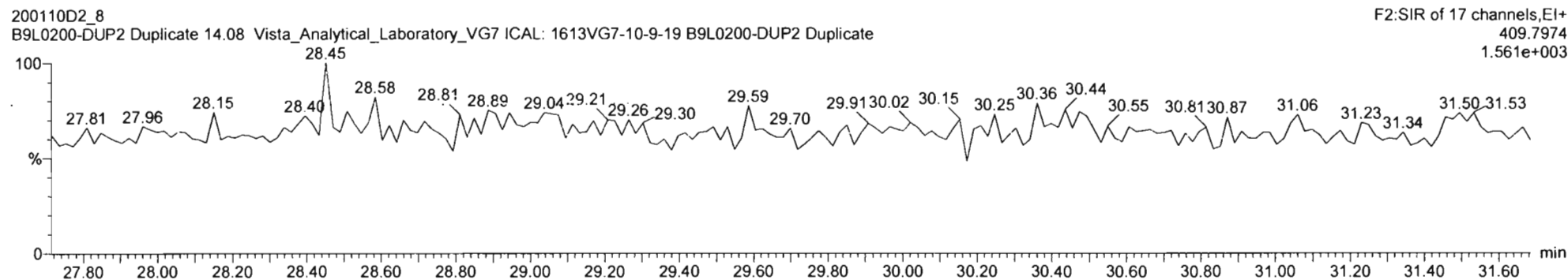
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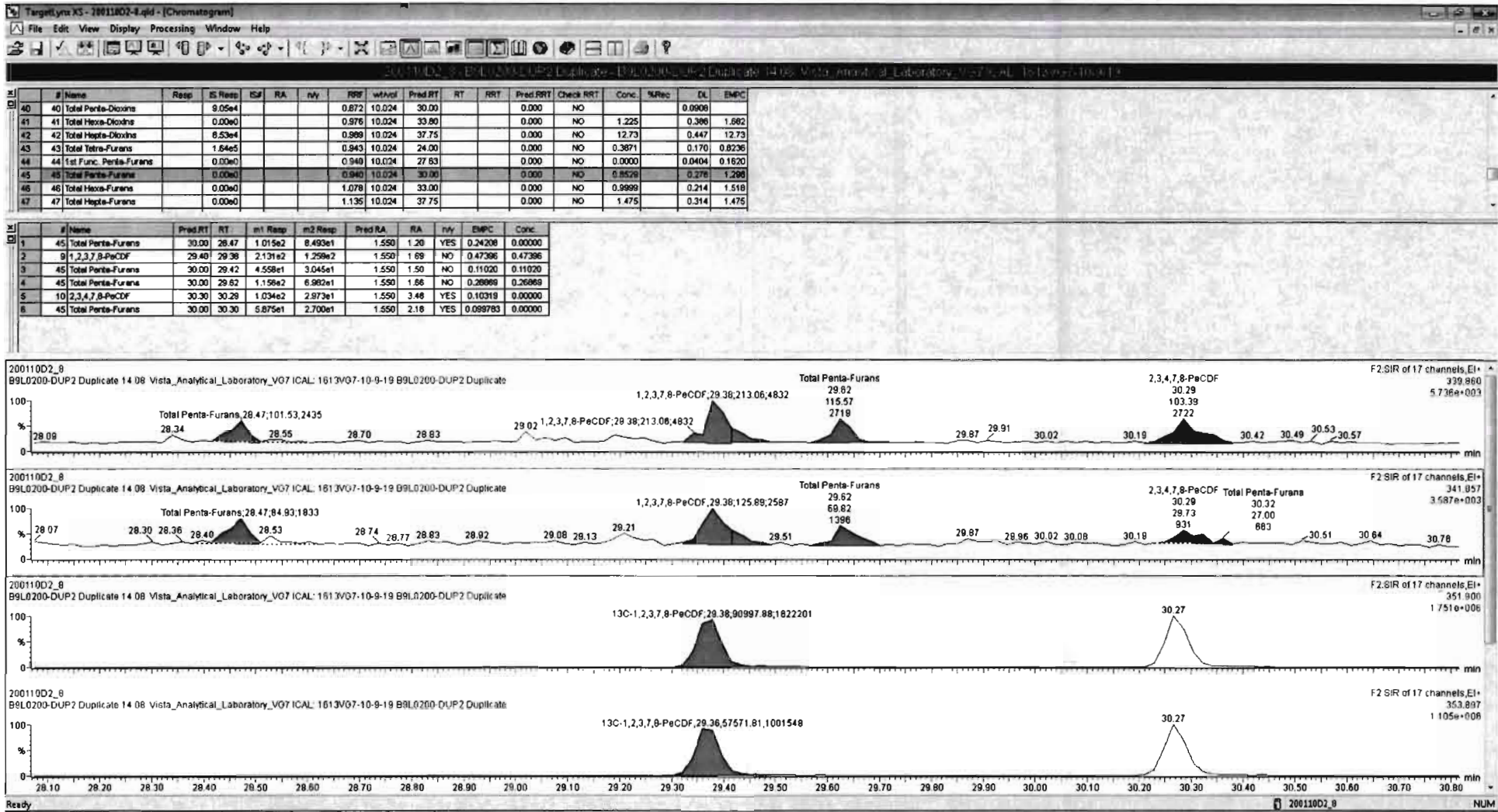


**13C-1,2,3,7,8-PeCDF**



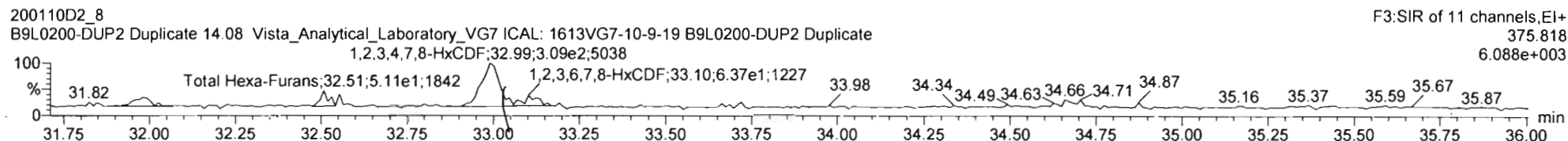
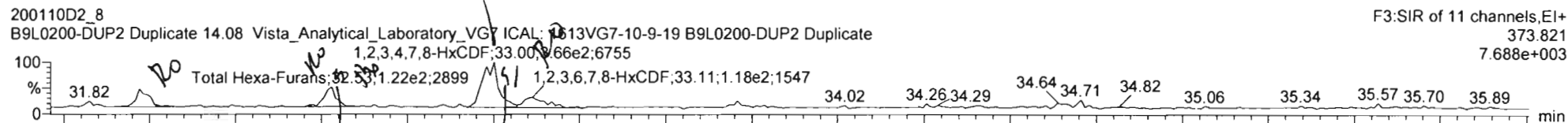
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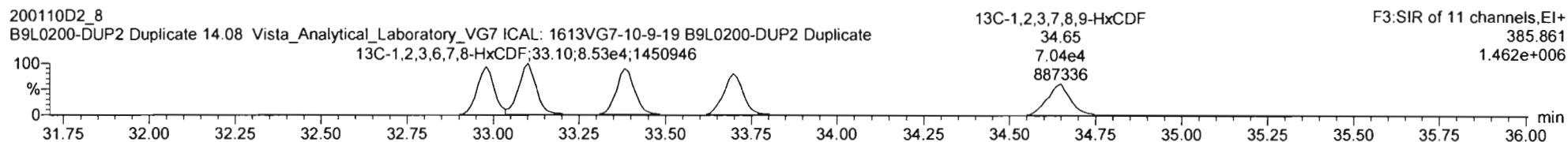
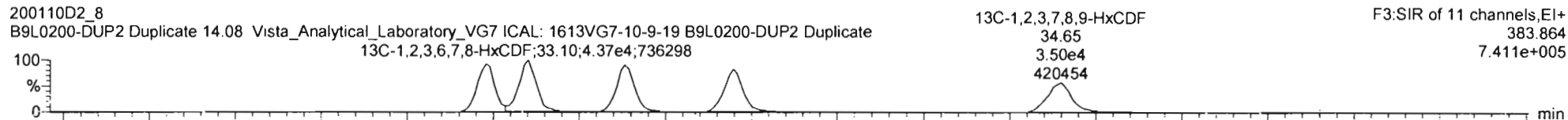


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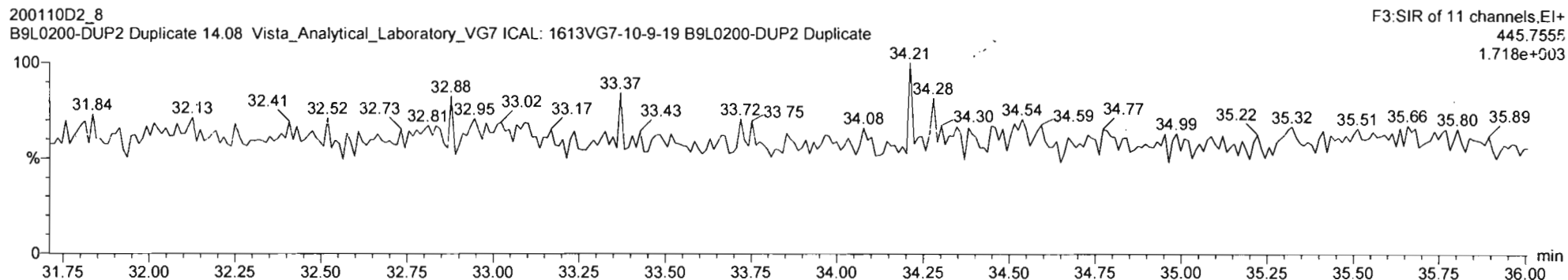
**Total Hexa-Furans**



**13C-1,2,3,4,7,8-HxCDF**



**DPE3**

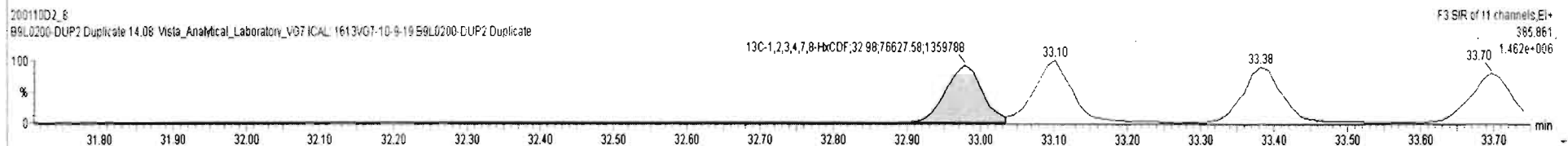
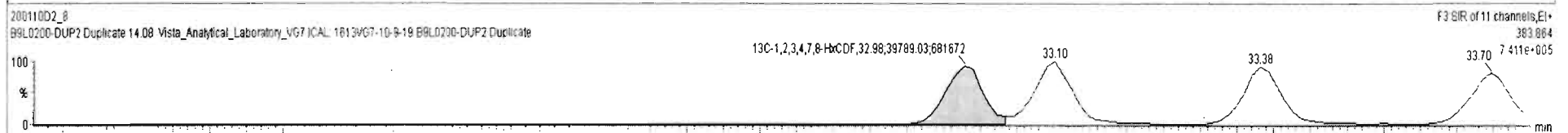
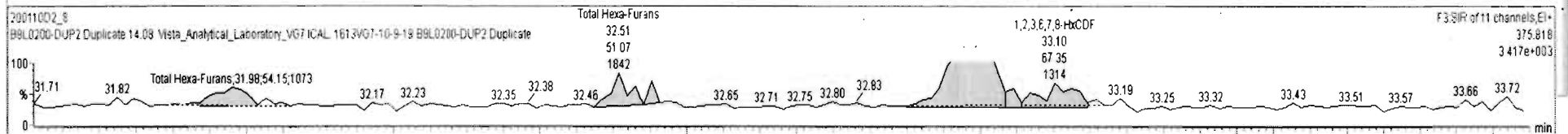
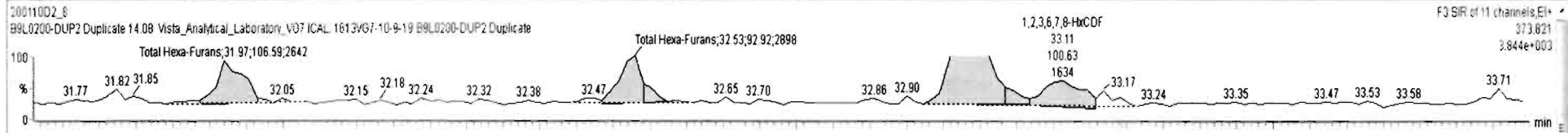




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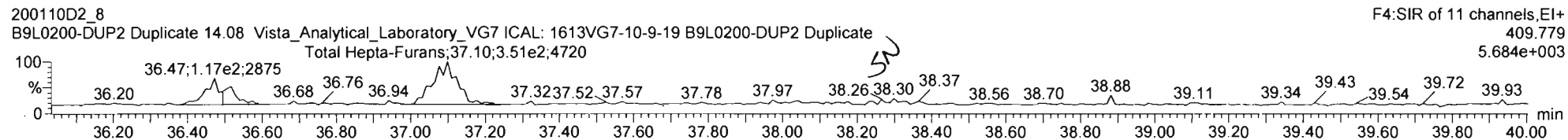
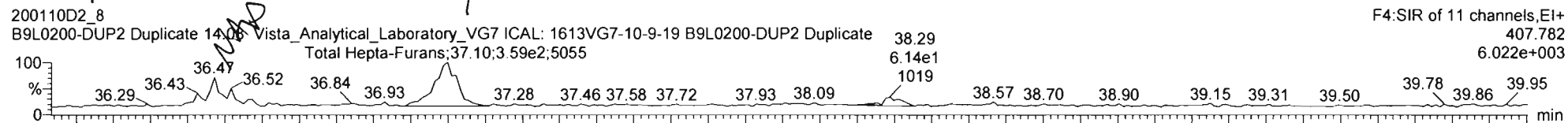
#	Name	Resp	IS Resp	IS#	RA	nly	RF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
35	37Cl-2,3,7,8-TCDD	4.26e4	9.80e4	36			1.198	10.024	26.02	26.00	1.023	1.024	NO	72.81	91.2	0.226	
36	13C-1,2,3,4-TCDD	9.80e4	9.80e4	36	0.78	NO	1.000	10.024	25.39	25.42	1.000	1.000	NO	199.5	100	0.673	
37	13C-1,2,3,4-TCDF	1.58e5	1.58e5	37	0.80	NO	1.000	10.024	23.93	23.96	1.000	1.000	NO	199.5	100	0.629	
38	13C-1,2,3,4,6,9-HxCDF	1.19e5	1.19e5	38	0.50	NO	1.000	10.024	33.37	33.38	1.000	1.000	NO	199.5	100	1.15	
39	Total Tetra-Dioxins		1.12e5				0.901	10.024	25.50			0.000	NO	0.4649		0.197	0.4649
40	Total Penta-Dioxins		9.05e4				0.872	10.024	30.00			0.000	NO	0.0000		0.0908	0.7225
41	Total Hexa-Dioxins		0.00e0				0.978	10.024	33.80			0.000	NO	1.225		0.386	1.682
42	Total Hepta-Dioxins		8.53e4				0.989	10.024	37.75			0.000	NO	12.73		0.447	12.73
43	Total Tetra-Furans		1.84e5				0.943	10.024	24.00			0.000	NO	0.3871		0.170	0.8236
44	1st Func. Penta-Furans		0.00e0				0.940	10.024	27.63			0.000	NO	0.0000		0.0404	0.1620
45	Total Penta-Furans		0.00e0				0.940	10.024	30.00			0.000	NO	0.2687		0.276	1.210
46	Total Hexa-Furans		0.00e0				1.078	10.024	33.00			0.000	NO	0.9999		0.214	1.518
47	Total Hepta-Furans		0.00e0				1.135	10.024	37.75			0.000	NO	1.520		0.314	1.520

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	31.97	1.066e2	5.415e1	1.240	1.97	YES	0.19330	0.00000
2	46 Total Hexa-Furans	33.00	32.53	9.252e1	1.484e1	1.240	6.26	YES	0.052991	0.00000
3	46 Total Hexa-Furans	33.00	32.54	1.860e1	5.107e1	1.240	0.36	YES	0.053540	0.00000
4	11 1,2,3,4,7,8-HxCDF	32.98	33.00	3.402e2	3.026e2	1.240	1.12	NO	0.93605	0.93605
5	46 Total Hexa-Furans	33.00	33.03	2.242e1	1.762e1	1.240	1.27	NO	0.063808	0.063808
6	12 1,2,3,6,7,8-HxCDF	33.11	33.11	1.006e2	6.735e1	1.240	1.49	YES	0.21846	0.00000

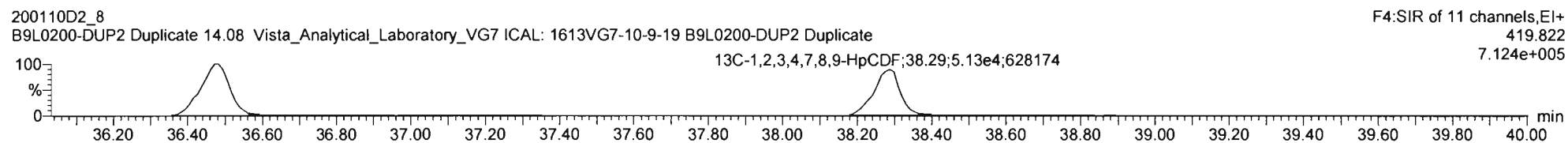
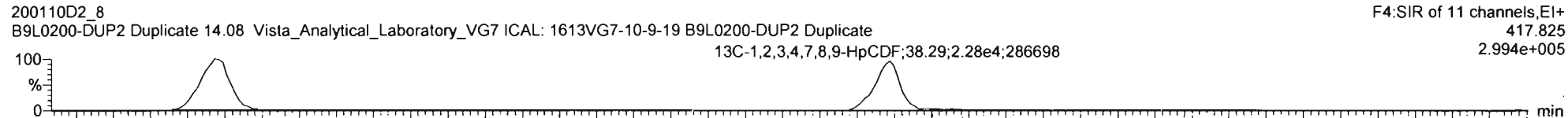


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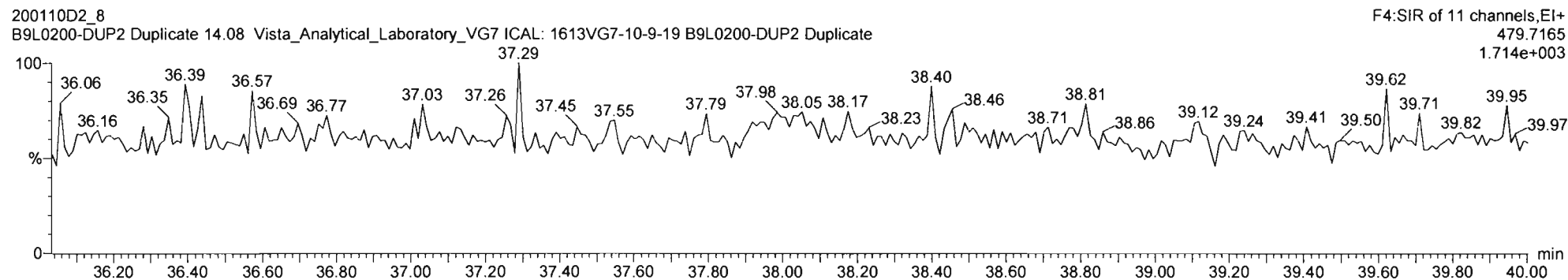
### Total Hepta-Furans



### 13C-1,2,3,4,6,7,8-HpCDF

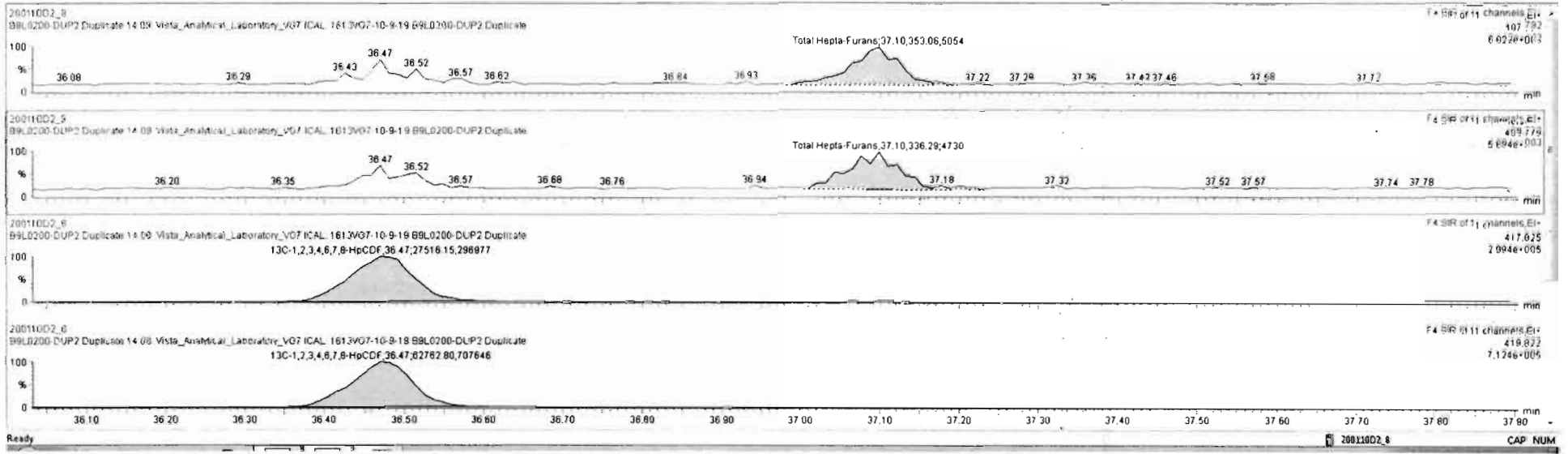


### DPE4



#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
35	370-2,3,7,8-TCDD	4.26e4	9.80e4	36			1.198	10.024	26.02	26.00	1.023	1.024	NO	72.81	91.2	0.228	
36	13C-1,2,3,4-TCDD	9.80e4	9.80e4	36	0.78	NO	1.000	10.024	25.39	25.42	1.000	1.000	NO	199.5	100	0.673	
37	13C-1,2,3,4-TCDF	1.58e5	1.58e5	37	0.80	NO	1.000	10.024	23.93	23.96	1.000	1.000	NO	199.5	100	0.629	
38	13C-1,2,3,4,6,8-HpCDF	1.19e5	1.19e5	38	0.50	NO	1.000	10.024	33.37	33.36	1.000	1.000	NO	199.5	100	1.15	
39	Total Tetra-Dioxins		1.12e5				0.901	10.024	25.50			0.000	NO	0.4643		0.197	0.4649
40	Total Penta-Dioxins		9.05e4				0.872	10.024	30.00			0.000	NO	0.0000		0.0508	0.7225
41	Total Hexa-Dioxins		0.00e0				0.976	10.024	33.90			0.000	NO	1.225		0.386	1.682
42	Total Hepta-Dioxins		8.53e4				0.989	10.024	37.75			0.000	NO	12.73		0.447	12.73
43	Total Tetra-Furans		1.64e5				0.943	10.024	24.00			0.000	NO	0.3871		0.170	0.8236
44	1st Func. Penta-Furans		0.00e0				0.940	10.024	27.63			0.000	NO	0.0000		0.0404	0.1620
45	Total Penta-Furans		0.00e0				0.940	10.024	30.00			0.000	NO	0.2687		0.276	1.210
46	Total Hexa-Furans		0.00e0				1.078	10.024	33.00			0.000	NO	0.9899		0.714	1.518
47	Total Hepta-Furans		0.00e0				1.135	10.024	37.75			0.000	NO	1.475		0.314	1.475

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc
1	47 Total Hepta-Furans	37.75	37.10	3.531e2	3.363e2	1.040	1.05	NO	1.4749	1.4749





Vista Analytical Laboratory

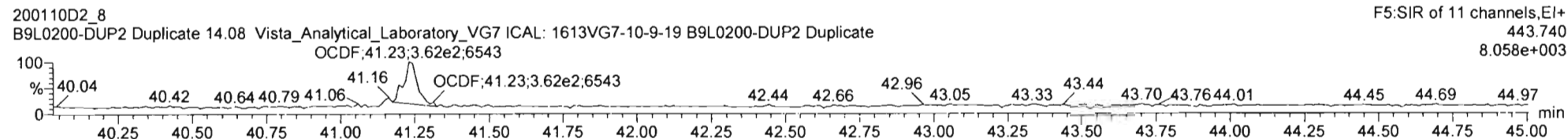
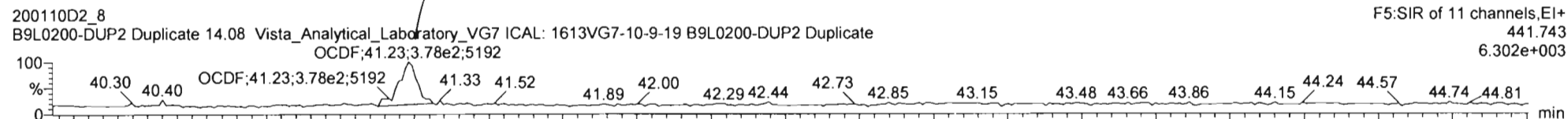
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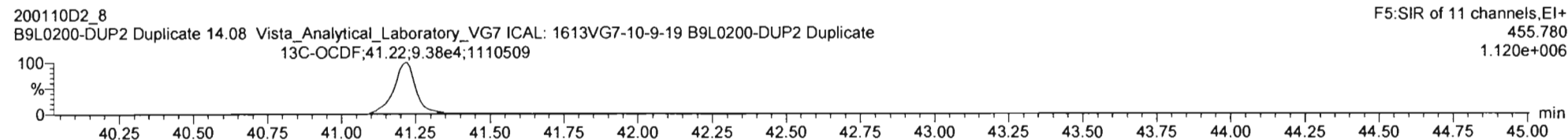
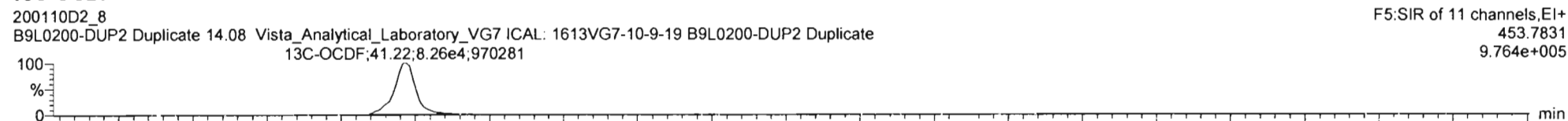
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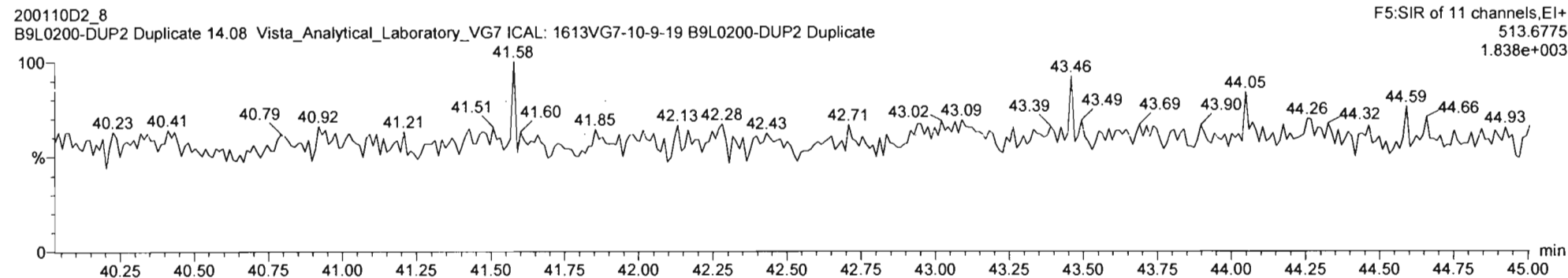
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13C-OCDF

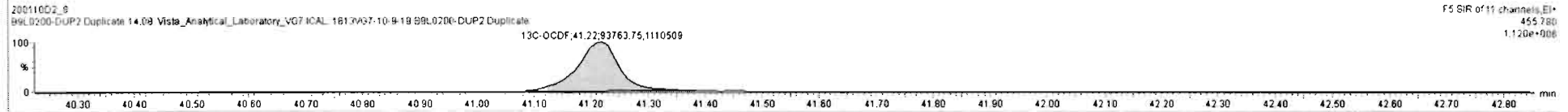
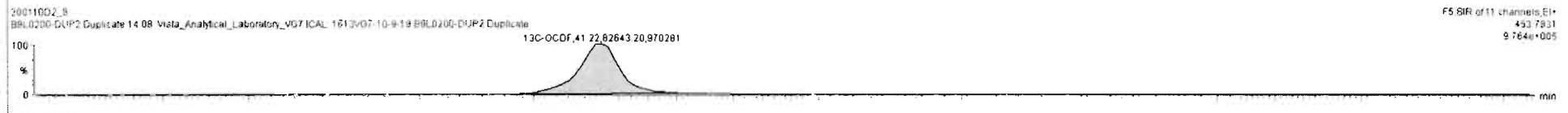
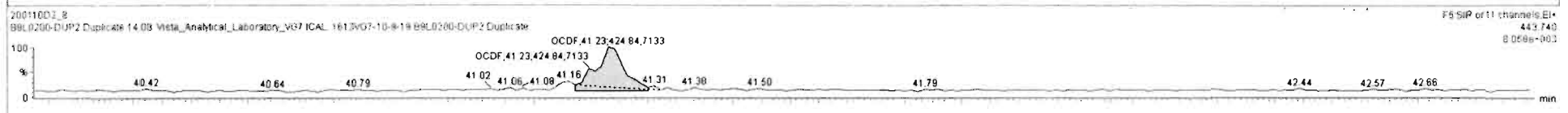
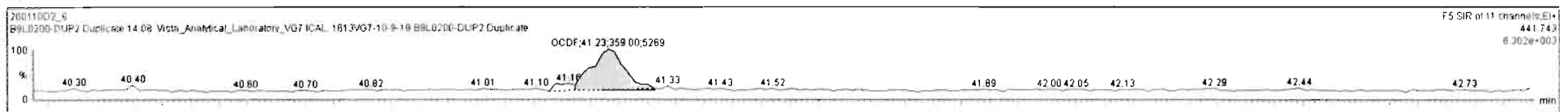


DPE5



#	Name	Resp	IS Resp	CF	RA	n/y	RRF	wt/mol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
11	11 1,2,3,4,7,8-HxCDF	6.76e2	1.16e5	26	1.18	NO	1.177	10.024	32.98	33.00	1.001	1.000	NO	0.9841		0.173	0.9841
12	12 1,2,3,6,7,8-HxCDF	1.82e2	1.29e5	26	1.85	YES	1.069	10.024	33.11	33.11	1.000	1.000	NO	0.2629		0.175	0.2067
13	13 1,2,3,6,7,8-HxCDF		1.14e5	30			1.114	10.024	33.73			1.001	NO			0.293	
14	14 1,2,3,7,8,9-HxCDF		1.05e5	31			1.062	10.024	34.65			1.000	NO			0.302	
15	15 1,2,3,4,6,7,8-HpCDF		9.03e4	32			1.128	10.024	36.51			1.001	NO			0.310	
16	16 1,2,3,4,7,8,9-HpCDF		7.41e4	33			1.280	10.024	38.29			1.000	NO			0.296	
17	17 OCDF	7.84e2	1.76e5	34	0.85	NO	0.947	10.024	41.22	41.23	1.000	1.000	NO	1.872		0.328	1.872
18	18 1,3C-2,3,7,8-TCDD	1.12e5	9.80e4	36	0.79	NO	1.095	10.024	26.00	25.98	1.022	1.023	NO	208.3	104	0.614	
19	19 1,3C-1,2,3,7,8-PeCDD	9.05e4	9.80e4	36	0.64	NO	0.881	10.024	30.58	30.55	1.202	1.203	NO	209.1	105	0.574	
20	20 1,3C-1,2,3,4,7,8-HxCDD	8.04e4	1.19e5	36	1.26	NO	0.642	10.024	33.85	33.86	1.014	1.014	NO	209.5	105	0.970	
21	21 1,3C-1,2,3,6,7,8-HxCDD	9.70e4	1.19e5	38	1.25	NO	0.856	10.024	33.96	33.97	1.017	1.017	NO	189.8	95.1	0.726	
22	22 1,3C-1,2,3,7,8,9-HxCDD	9.75e4	1.19e5	38	1.21	NO	0.807	10.024	34.76	34.77	1.022	1.026	NO	191.8	95.7	0.772	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1										



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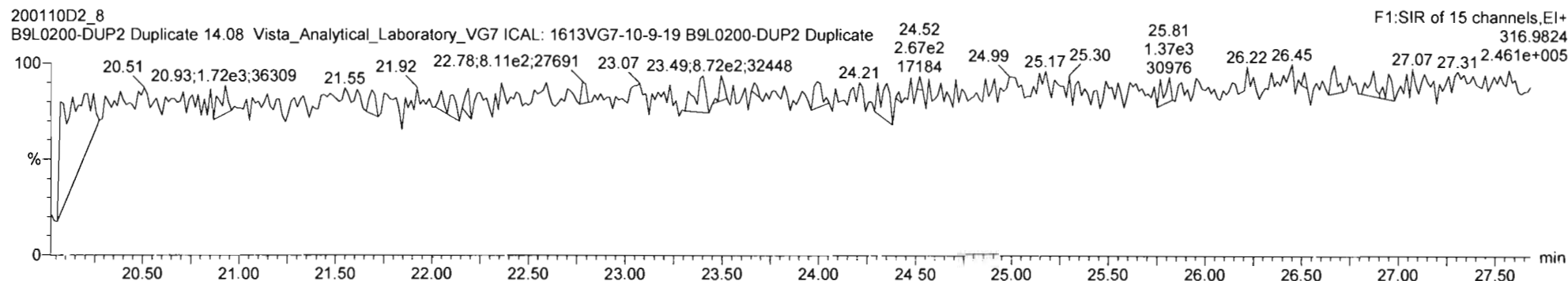
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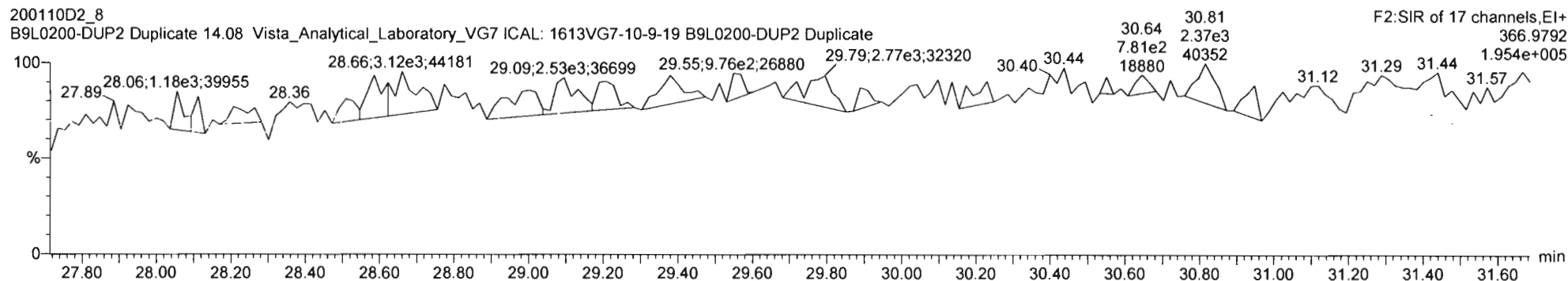
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Name: VG7 200110D2-8, Date: 11-JAN-2020, Time: 06:08:33, ID: B9L0200-DUP2 Duplicate,  
Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

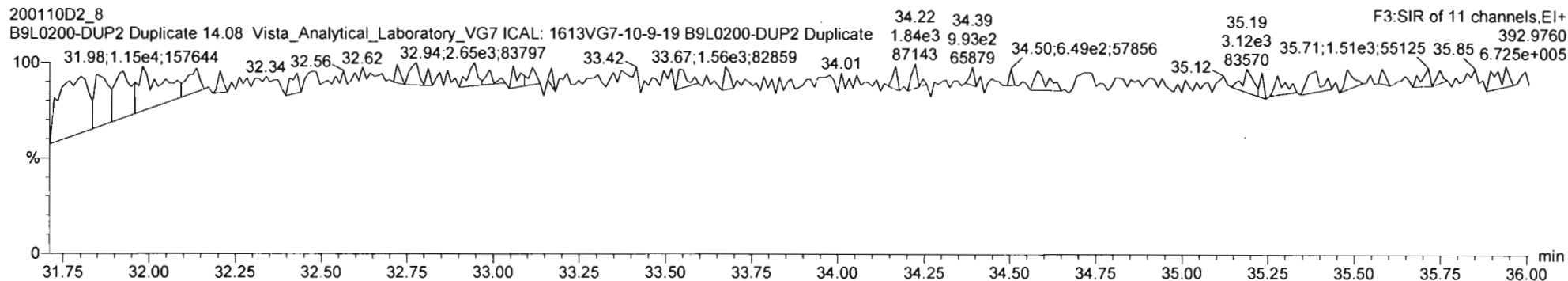
PFK1



PFK2



PFK3



Vista Analytical Laboratory

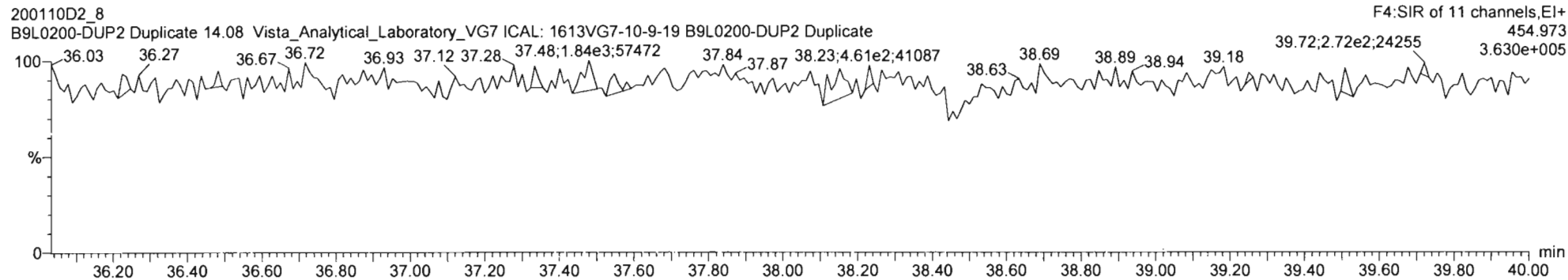
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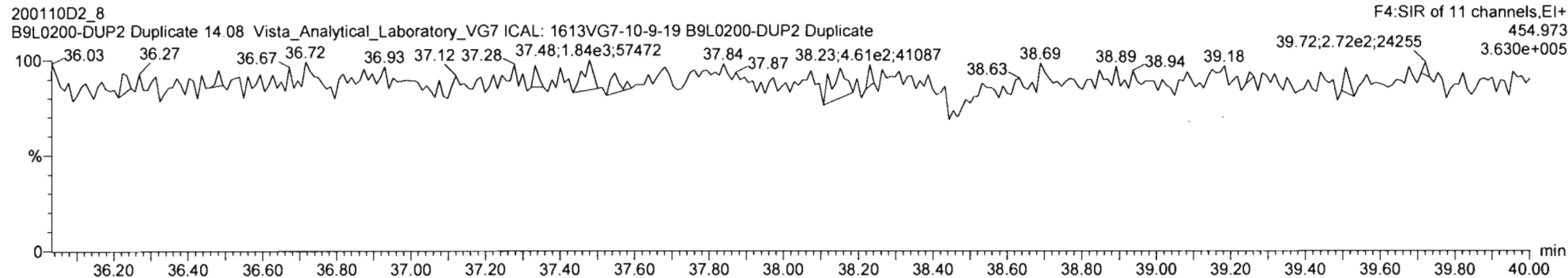
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Description: B9L0200-DUP2 Duplicate 14.08 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**PFK4**



**PFK5**



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-10.qld

Last Altered: Wednesday, January 15, 2020 11:17:55 Pacific Standard Time

Printed: Wednesday, January 15, 2020 11:20:38 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-1-10-20.mdb 14 Jan 2020 16:27:50

Calibration: 15 Jan 2020 10:45:54

*Hc 1.15.20*

*CT 01/20/2020*

Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012,

Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD		1.14e5	10.0406	0.905			1.001		26.02					0.158
2	2 1,2,3,7,8-PeCDD		8.61e4	10.0406	0.903			1.001		30.57					0.204
3	3 1,2,3,4,7,8-HxCDD		7.75e4	10.0406	1.101			1.000		33.87					0.420
4	4 1,2,3,6,7,8-HxCDD		9.23e4	10.0406	0.939			1.000		33.97					0.474
5	5 1,2,3,7,8,9-HxCDD		8.71e4	10.0406	0.961			1.001		34.30					0.505
6	6 1,2,3,4,6,7,8-HpCDD	1.10e3	7.98e4	10.0406	0.979	0.923	NO	1.000	1.001	37.75	37.76	2.8005		2.80	0.638
7	7 OCDD	7.15e3	1.32e5	10.0406	0.959	0.850	NO	1.000	1.000	40.99	41.01	22.585		22.6	0.433
8	8 2,3,7,8-TCDF		1.60e5	10.0406	0.950			1.001		25.22					0.160
9	9 1,2,3,7,8-PeCDF	1.64e2	1.46e5	10.0406	0.960	1.235	YES	1.001	1.001	29.38	29.40	0.23202		0.21104	0.159
10	10 2,3,4,7,8-PeCDF		1.43e5	10.0406	1.015			1.001		30.30					0.148
11	11 1,2,3,4,7,8-HxCDF	1.94e2	1.09e5	10.0406	1.177	0.978	YES	1.000	1.000	32.97	32.97	0.29987		0.268	0.147
12	12 1,2,3,6,7,8-HxCDF		1.23e5	10.0406	1.069			1.000		33.11					0.145
13	13 2,3,4,6,7,8-HxCDF		1.11e5	10.0406	1.114			1.001		33.74					0.168
14	14 1,2,3,7,8,9-HxCDF		9.08e4	10.0406	1.062			1.000		34.65					0.271
15	15 1,2,3,4,6,7,8-HpCDF		8.85e4	10.0406	1.128			1.001		36.51					0.236
16	16 1,2,3,4,7,8,9-HpCDF		7.10e4	10.0406	1.280			1.000		38.27					0.226
17	17 OCDF	2.04e2	1.61e5	10.0406	0.947	0.816	NO	1.000	1.001	41.21	41.24	0.53138		0.531	0.355
18	18 13C-2,3,7,8-TCDD	1.14e5	1.07e5	10.0406	1.095	0.800	NO	1.023	1.023	25.99	25.99	193.91	97.3		0.700
19	19 13C-1,2,3,7,8-PeCDD	8.61e4	1.07e5	10.0406	0.881	0.635	NO	1.203	1.202	30.56	30.55	182.00	91.4		0.459
20	20 13C-1,2,3,4,7,8-Hx...	7.75e4	1.18e5	10.0406	0.642	1.261	NO	1.014	1.014	33.85	33.86	203.46	102.1		1.43
21	21 13C-1,2,3,6,7,8-Hx...	9.23e4	1.18e5	10.0406	0.856	1.242	NO	1.017	1.017	33.97	33.97	181.81	91.3		1.07
22	22 13C-1,2,3,7,8,9-Hx...	8.71e4	1.18e5	10.0406	0.807	1.234	NO	1.026	1.026	34.27	34.26	182.05	91.4		1.14
23	23 13C-1,2,3,4,6,7,8-H...	7.98e4	1.18e5	10.0406	0.654	1.101	NO	1.131	1.130	37.76	37.74	205.61	103.2		1.75
24	24 13C-OCDD	1.32e5	1.18e5	10.0406	0.580	0.915	NO	1.228	1.228	41.01	40.99	382.40	96.0		1.17
25	25 13C-2,3,7,8-TCDF	1.60e5	1.67e5	10.0406	1.035	0.777	NO	0.992	0.991	25.20	25.19	184.64	92.7		0.576
26	26 13C-1,2,3,7,8-PeCDF	1.46e5	1.67e5	10.0406	0.854	1.625	NO	1.156	1.155	29.37	29.36	204.57	102.7		0.868
27	27 13C-2,3,4,7,8-PeCDF	1.43e5	1.67e5	10.0406	0.847	1.554	NO	1.192	1.191	30.28	30.27	200.80	100.8		0.876
28	28 13C-1,2,3,4,7,8-Hx...	1.09e5	1.18e5	10.0406	0.832	0.510	NO	0.987	0.988	32.96	32.97	221.69	111.3		1.59
29	29 13C-1,2,3,6,7,8-Hx...	1.23e5	1.18e5	10.0406	1.034	0.501	NO	0.991	0.991	33.08	33.10	201.09	101.0		1.28
30	30 13C-2,3,4,6,7,8-Hx...	1.11e5	1.18e5	10.0406	0.953	0.493	NO	1.009	1.009	33.69	33.70	195.43	98.1		1.39
31	31 13C-1,2,3,7,8,9-Hx...	9.68e4	1.18e5	10.0406	0.828	0.498	NO	1.038	1.038	34.65	34.65	197.16	99.0		1.60

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-10.qld

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Printed: Wednesday, January 15, 2020 11:20:38 Pacific Standard Time

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 Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	WL/Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	8.85e4	1.18e5	10.0406	0.757	0.426	NO	1.093	1.093	36.49	36.48	196.96	98.9		1.60
33	33 13C-1,2,3,4,7,8,9-H...	7.10e4	1.18e5	10.0406	0.581	0.435	NO	1.147	1.146	38.29	38.27	205.81	103.3		2.08
34	34 13C-OCDF	1.61e5	1.18e5	10.0406	0.689	0.871	NO	1.235	1.234	41.23	41.21	394.42	99.0		1.16
35	35 37Cl-2,3,7,8-TCDD	4.24e4	1.07e5	10.0406	1.198			1.024	1.023	26.01	26.00	65.905	82.7		0.127
36	36 13C-1,2,3,4-TCDD	1.07e5	1.07e5	10.0406	1.000	0.785	NO	1.000	1.000	25.39	25.41	199.19	100.0		0.767
37	37 13C-1,2,3,4-TCDF	1.67e5	1.67e5	10.0406	1.000	0.786	NO	1.000	1.000	23.93	23.95	199.19	100.0		0.596
38	38 13C-1,2,3,4,6,9-Hx...	1.18e5	1.18e5	10.0406	1.000	0.503	NO	1.000	1.000	33.37	33.39	199.19	100.0		1.32
39	39 Total Tetra-Dioxins		1.14e5	10.0406	0.901			0.000		25.50					0.0863
40	40 Total Penta-Dioxins		8.61e4	10.0406	0.872			0.000		30.00					0.106
41	41 Total Hexa-Dioxins		0.00e0	10.0406	0.976			0.000		33.80		1.0557		1.06	0.475
42	42 Total Hepta-Dioxins		7.98e4	10.0406	0.989			0.000		37.75		7.6550		7.66	0.632
43	43 Total Tetra-Furans		1.60e5	10.0406	0.943			0.000		24.00					0.0805
44	44 1st Func. Penta-Fur...		0.00e0	10.0406	0.940			0.000		27.63					0.0332
45	45 Total Penta-Furans		0.00e0	10.0406	0.940			0.000		30.00		0.00000		0.211	0.0748
46	46 Total Hexa-Furans		0.00e0	10.0406	1.078			0.000		33.00		0.00000		0.268	0.0934
47	47 Total Hepta-Furans		0.00e0	10.0406	1.135			0.000		37.75					0.113

Vista Analytical Laboratory

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Calibration: 15 Jan 2020 10:45:54

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Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

**Penta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

**Hexa-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	41 Total Hexa-Dioxins	NO	32.36	240.592	47479.685	10.345	MM	1.0557	1.06

**Hepta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	NO	37.76	527.262	41790.227	27.540	bb	2.8005	2.80
2	42 Total Hepta-Dioxins	NO	36.88	940.859	41790.227	48.191	MM	4.8545	4.85

**Tetra-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

**Penta-Furans function 1**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-10.qld

Last Altered: Wednesday, January 15, 2020 11:17:55 Pacific Standard Time

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 Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Penta-Furans**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	9 1,2,3,7,8-PeCDF	YES	29.40	90.547	90675.695	0.000	MM	0.0000	0.21

**Hexa-Furans**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	11 1,2,3,4,7,8-HxCDF	YES	32.97	95.827	36947.879	0.000	MM	0.0000	0.27

**Hepta-Furans**

	# Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									



Vista Analytical Laboratory

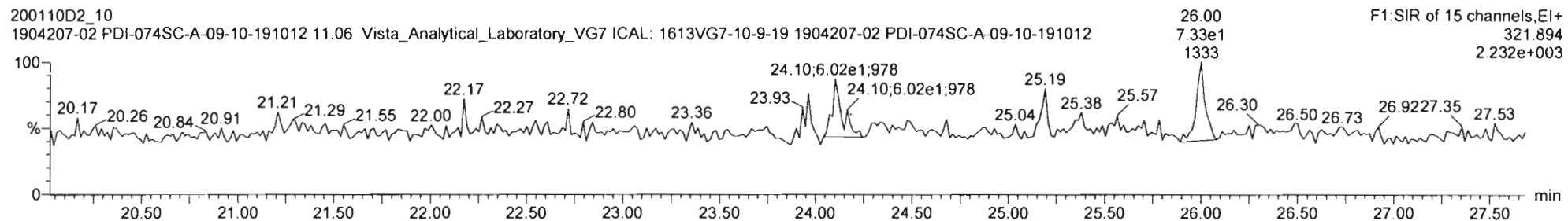
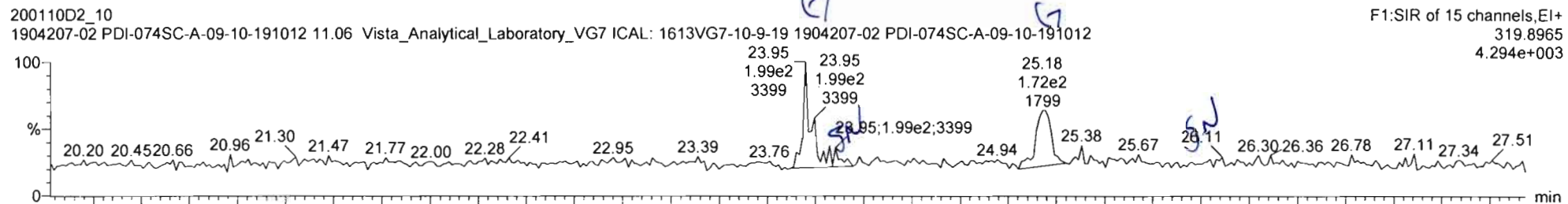
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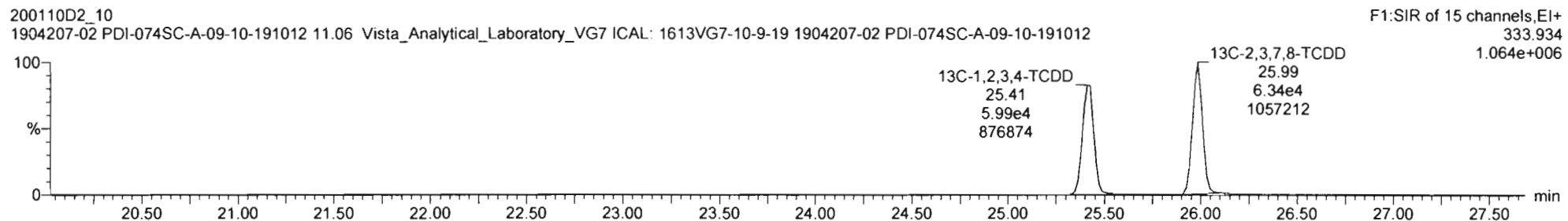
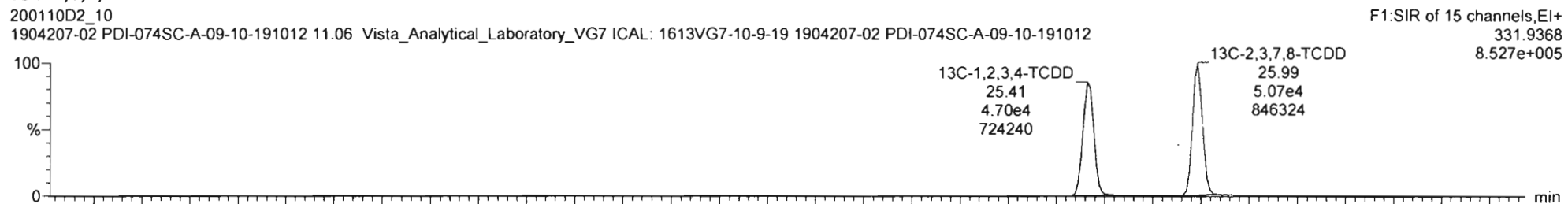
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Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012, Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Total Tetra-Dioxins

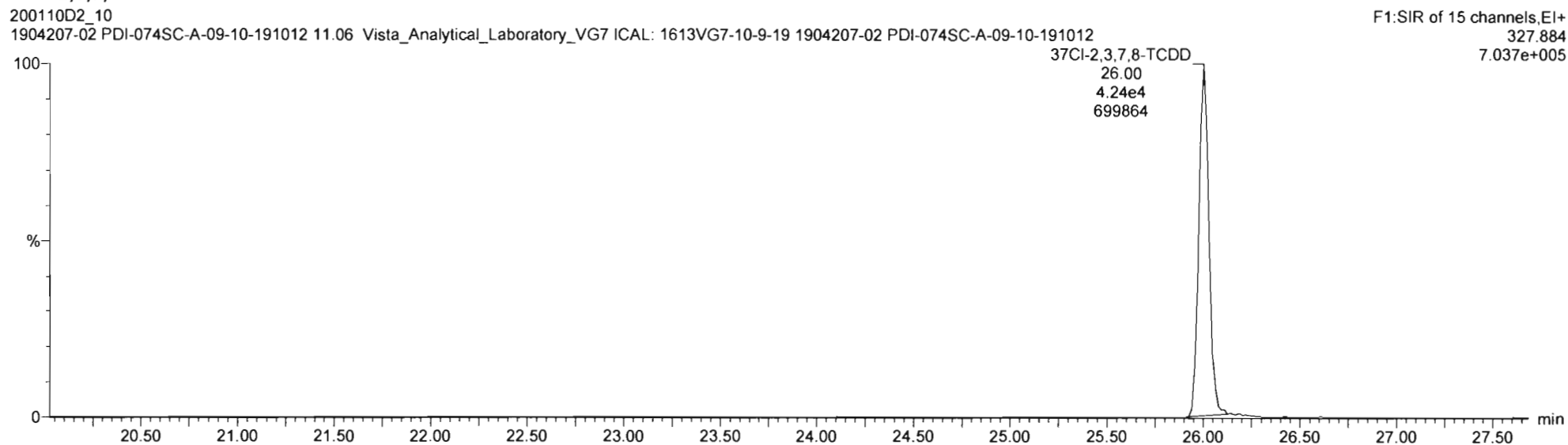


13C-2,3,7,8-TCDD

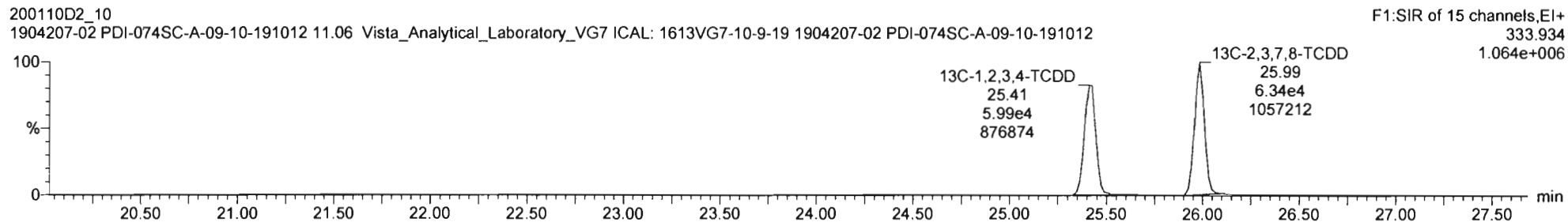
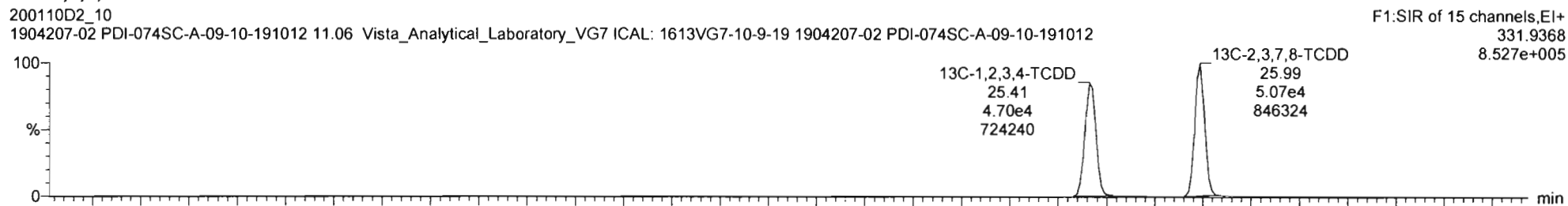


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Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

37Cl-2,3,7,8-TCDD



13C-1,2,3,4-TCDD



Vista Analytical Laboratory

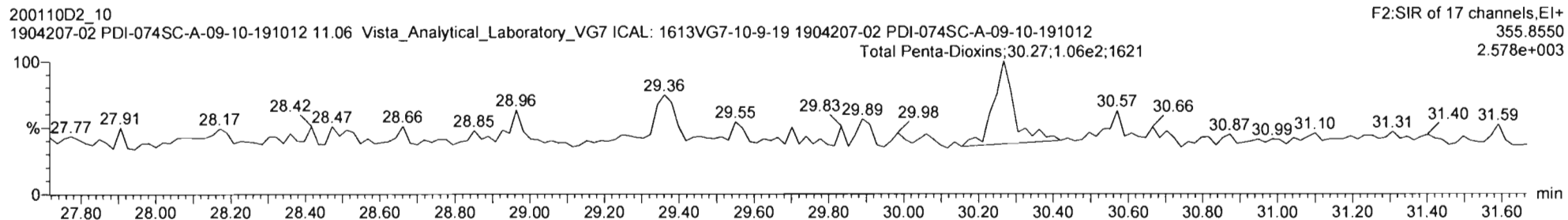
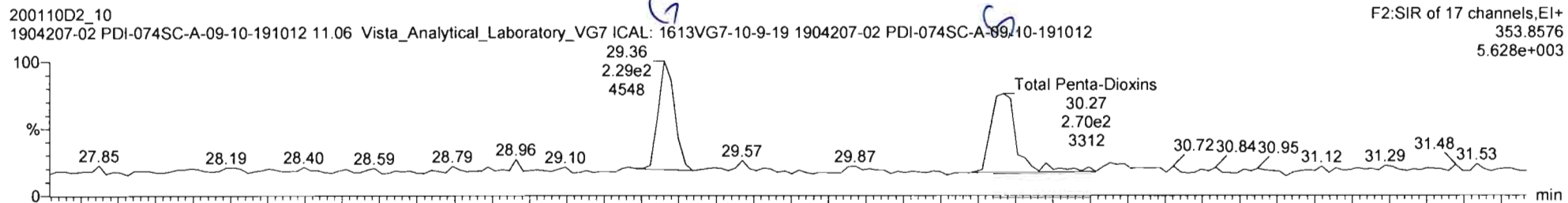
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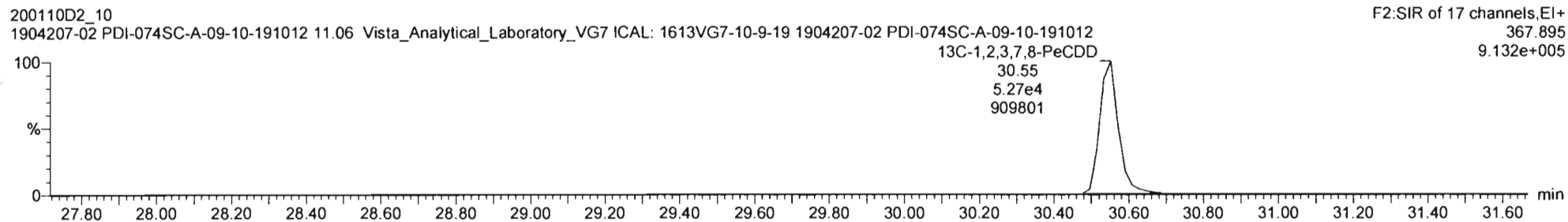
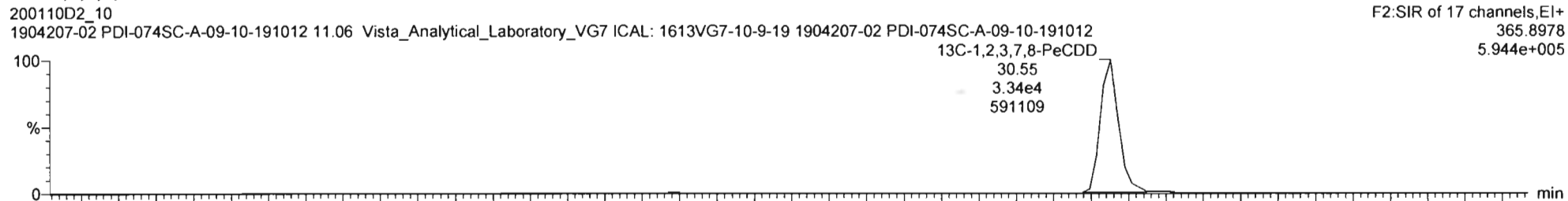
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Total Penta-Dioxins



13C-1,2,3,7,8-PeCDD



Vista Analytical Laboratory

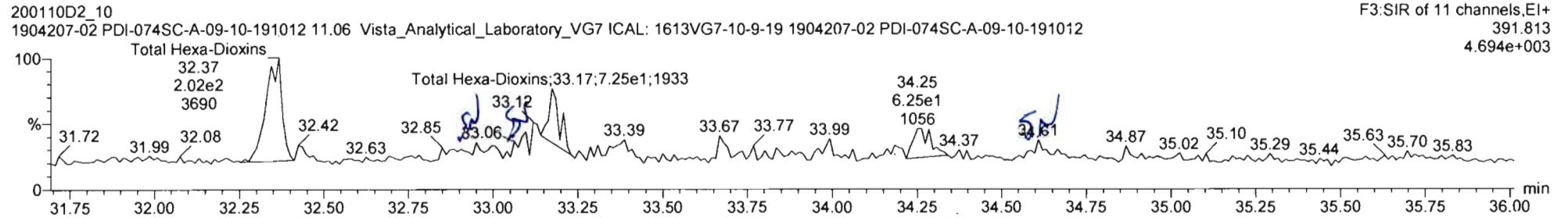
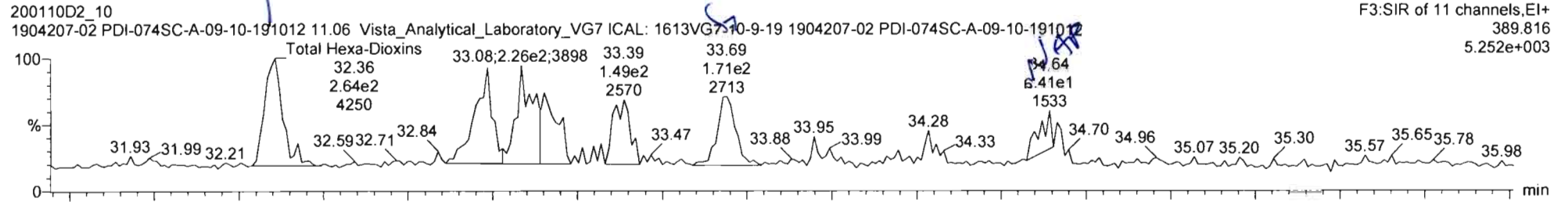
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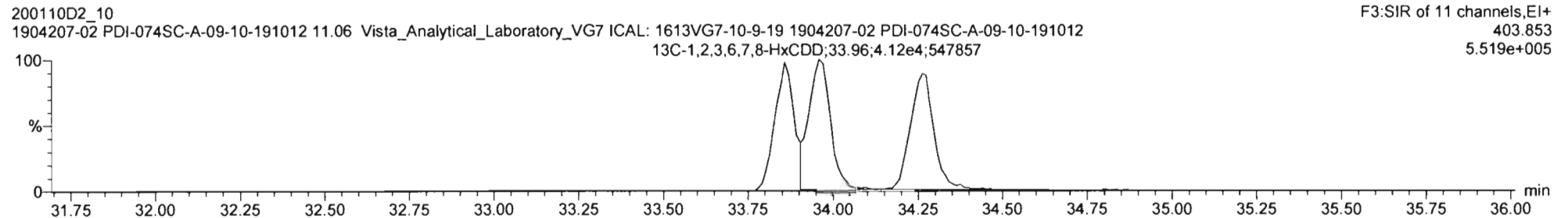
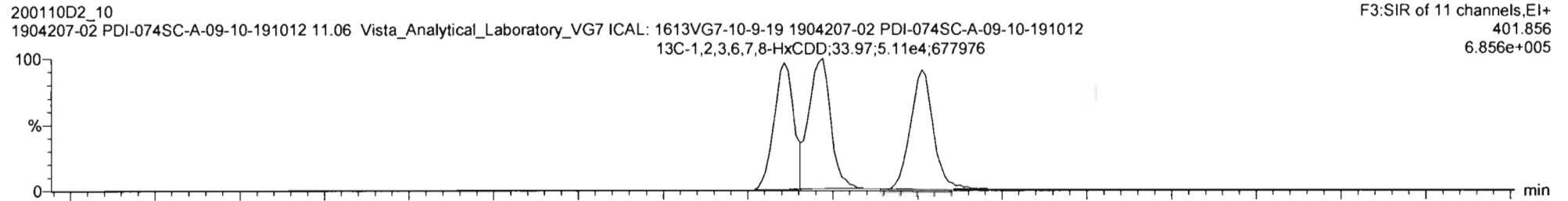
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Total Hexa-Dioxins



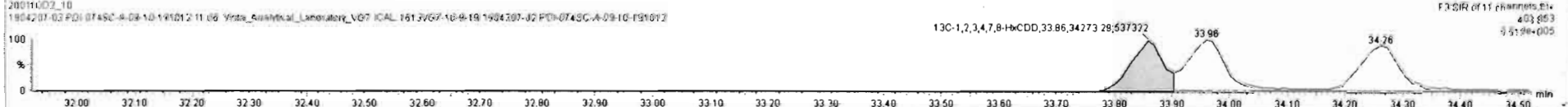
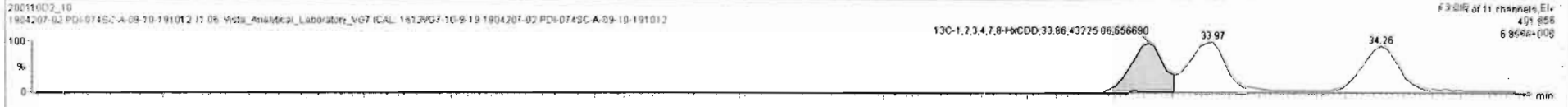
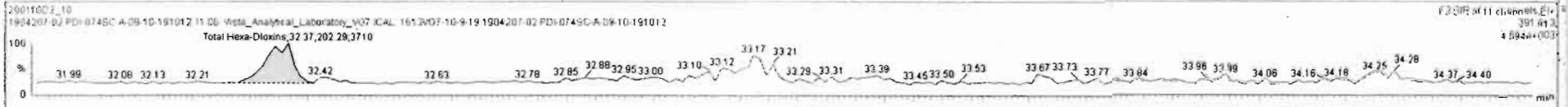
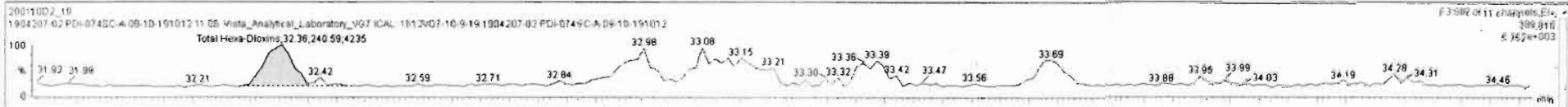
13C-1,2,3,4,7,8-HxCDD



20011002\_10 1904207-02 PDI-0745C-A-09-10-191012 1613V07-10-9-19 1904207-02 PDI-0745C-A-09-10-191012 11:09 Vista Analytical Laboratory\_V07 ICAL 1613V07-10-9-19

#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
28	13C-1,2,3,4,7,8-HxCDF	1.09e5	1.18e5	38	0.51	NO	0.832	10.041	32.96	32.97	0.998	0.987	NO	221.7	111	1.59	
29	13C-1,2,3,6,7,8-HxCDF	1.23e5	1.18e5	38	0.50	NO	1.034	10.041	33.08	33.10	0.991	0.991	NO	201.1	101	1.28	
30	13C-2,3,4,6,7,8-HxCDF	1.11e5	1.18e5	38	0.49	NO	0.953	10.041	33.69	33.70	1.009	1.009	NO	195.4	98.1	1.39	
31	13C-1,2,3,7,8,9-HxCDF	9.68e4	1.18e5	38	0.50	NO	0.828	10.041	34.65	34.65	1.038	1.038	NO	197.2	99.0	1.60	
32	13C-1,2,3,4,6,7,8-HpCDF	8.65e4	1.18e5	38	0.43	NO	0.757	10.041	36.49	36.48	1.093	1.093	NO	197.0	98.9	1.60	
33	13C-1,2,3,4,7,8,9-HpCDF	7.10e4	1.18e5	38	0.43	NO	0.581	10.041	38.29	38.27	1.146	1.147	NO	205.8	103	2.08	
34	13C-OCDF	1.61e5	1.18e5	38	0.87	NO	0.689	10.041	41.23	41.21	1.234	1.235	NO	394.4	99.0	1.16	
35	37Cl-2,3,7,8-TCDD	4.24e4	1.07e5	36			1.198	10.041	26.01	26.00	1.023	1.024	NO	65.91	92.7	0.127	
36	13C-1,2,3,4-TCDD	1.07e5	1.07e5	36	0.79	NO	1.000	10.041	25.39	25.41	1.000	1.000	NO	199.2	100	0.767	
37	13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.79	NO	1.000	10.041	23.93	23.95	1.000	1.000	NO	199.2	100	0.596	
38	13C-1,2,3,4,6,9-HxCDF	1.18e5	1.18e5	38	0.50	NO	1.000	10.041	33.37	33.38	1.000	1.000	NO	199.2	100	1.32	
39	Total Tetra-Dioxins		1.14e5				0.901	10.041	25.50			0.000	NO			0.0863	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
41	Total Hexa-Dioxins	33.80	32.36	2.406e2	2.023e2	1.240	1.19	NO	1.0557	1.0557



Vista Analytical Laboratory

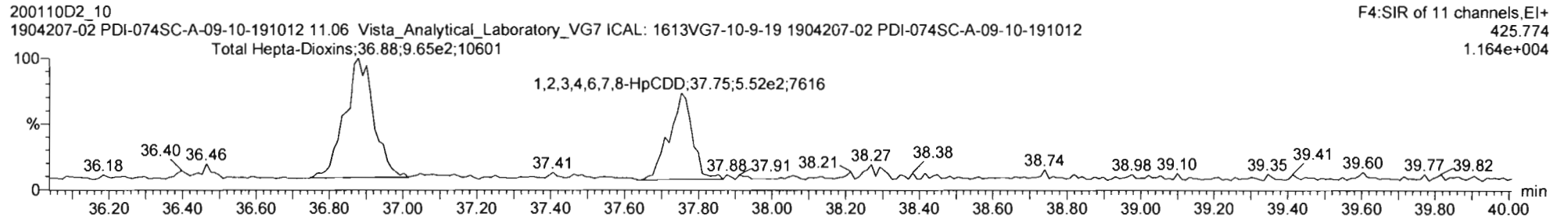
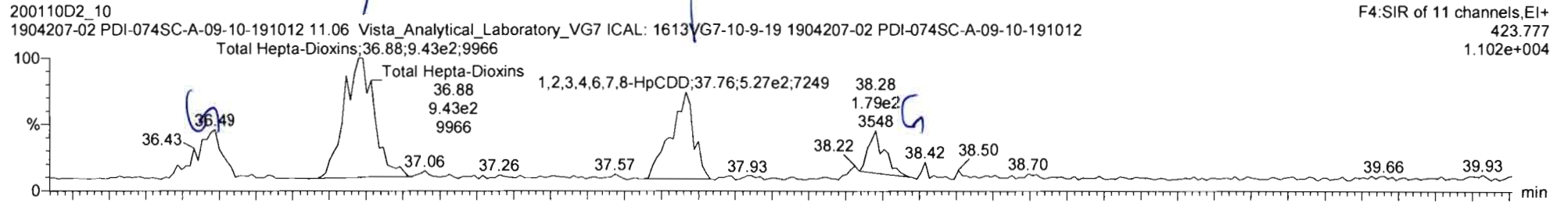
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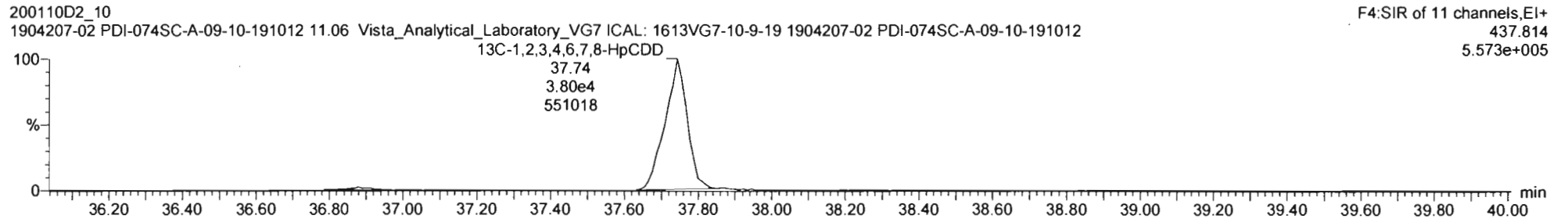
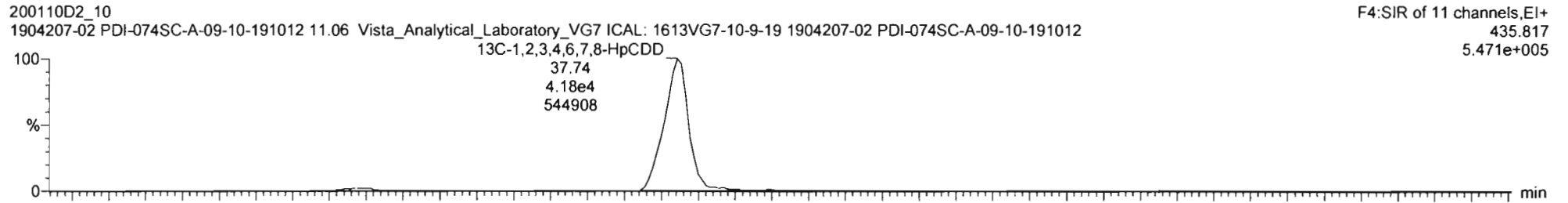
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Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012, Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Total Hepta-Dioxins



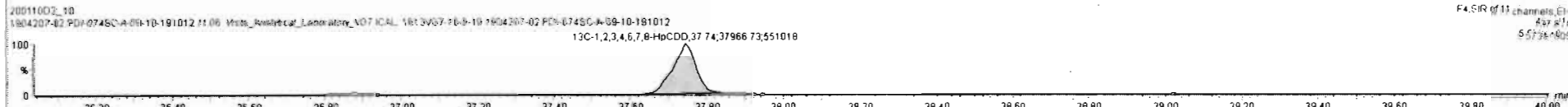
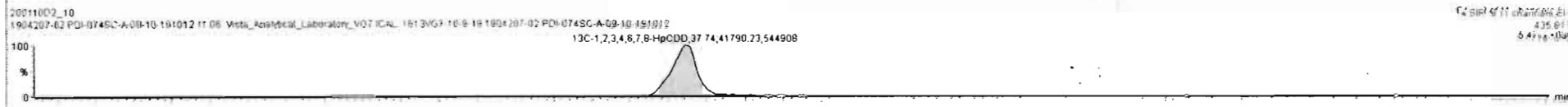
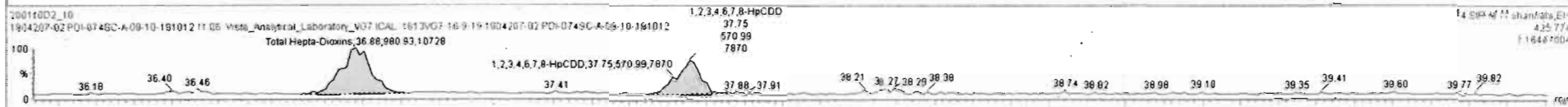
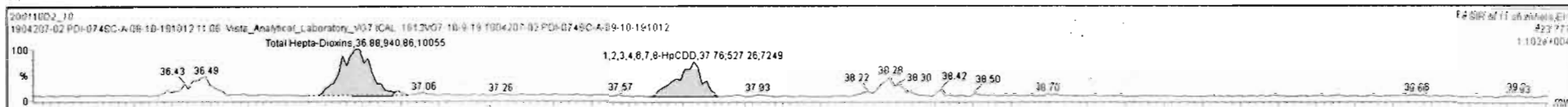
13C-1,2,3,4,6,7,8-HpCDD



20011002\_10 1904207-02 PDI-0745C-A-09-10-191012 1904207-02 PDI-0745C-A-09-10-191012 11 08 Vistal\_Analytical\_Laboratory\_V07 ICAL 1613VG7 10-9-19 1904207-02 PDI-0745C-A-09-10-191012

#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
31	13C-1,2,3,7,8,9-HxCDF	9.88e4	1.18e5	38	0.50	NO	0.828	10.041	34.65	34.65	1.038	1.038	NO	197.2	99.0	1.60	
32	13C-1,2,3,4,6,7,8-HpCDF	8.85e4	1.18e5	38	0.43	NO	0.757	10.041	36.49	36.48	1.093	1.093	NO	197.0	99.9	1.60	
33	13C-1,2,3,4,7,8,9-HpCDF	7.10e4	1.18e5	38	0.43	NO	0.581	10.041	38.29	38.27	1.146	1.147	NO	205.8	103	2.08	
34	13C-OCDF	1.61e5	1.18e5	38	0.87	NO	0.689	10.041	41.23	41.21	1.234	1.235	NO	394.4	99.0	1.16	
35	37Cl-2,3,7,8-TCDD	4.24e4	1.07e5	36			1.198	10.041	26.01	26.00	1.023	1.024	NO	65.91	82.7	0.127	
36	13C-1,2,3,4-TCDD	1.07e5	1.07e5	36	0.79	NO	1.000	10.041	25.38	25.41	1.000	1.000	NO	199.2	100	0.757	
37	13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.79	NO	1.000	10.041	23.93	23.95	1.000	1.000	NO	199.2	100	0.596	
38	13C-1,2,3,4,6,9-HxCDF	1.18e5	1.18e5	38	0.50	NO	1.000	10.041	33.37	33.39	1.000	1.000	NO	199.2	100	1.32	
39	Total Tetra-Dioxins		1.14e5				0.901	10.041	25.50			0.000	NO			0.0653	
40	Total Penta-Dioxins		8.61e4				0.872	10.041	30.00			0.000	NO			0.108	
41	Total Hexa-Dioxins		0.00e0				0.976	10.041	33.80			0.000	NO	1.056		0.475	1.056
42	Total Hepta-Dioxins		7.98e4				0.969	10.041	37.75			0.000	NO	7.655		0.632	7.655

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc
1	42 Total Hepta-Dioxins	37.75	36.88	9.409e2	9.809e2	1.040	0.96	NO	4.8545	4.8545
2	6 1,2,3,4,6,7,8-HpCDD	37.75	37.76	5.273e2	5.710e2	1.040	0.92	NO	2.8005	2.8005



Vista Analytical Laboratory

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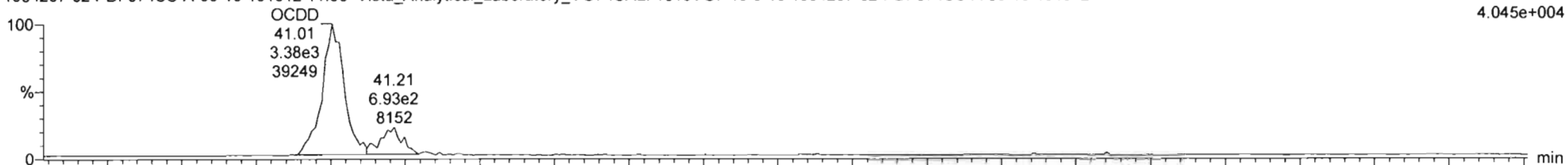
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OCDD

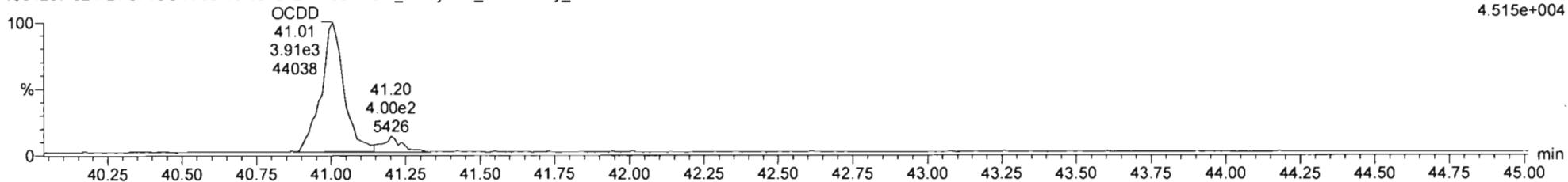
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F5:SIR of 11 channels, EI+  
457.738  
4.045e+004



200110D2\_10  
1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-02 PDI-074SC-A-09-10-191012

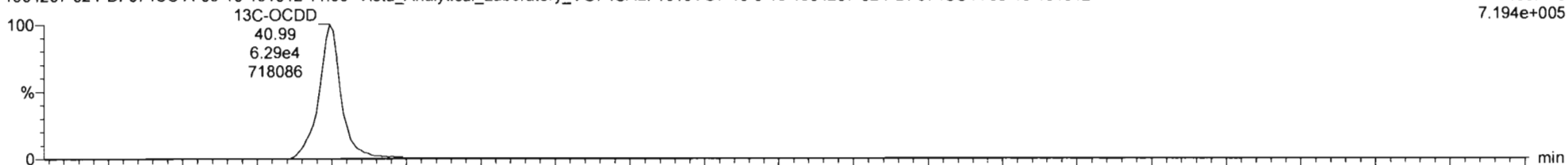
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13C-OCDD

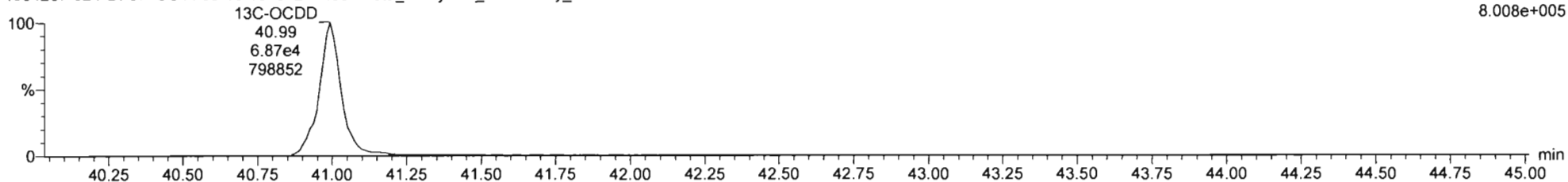
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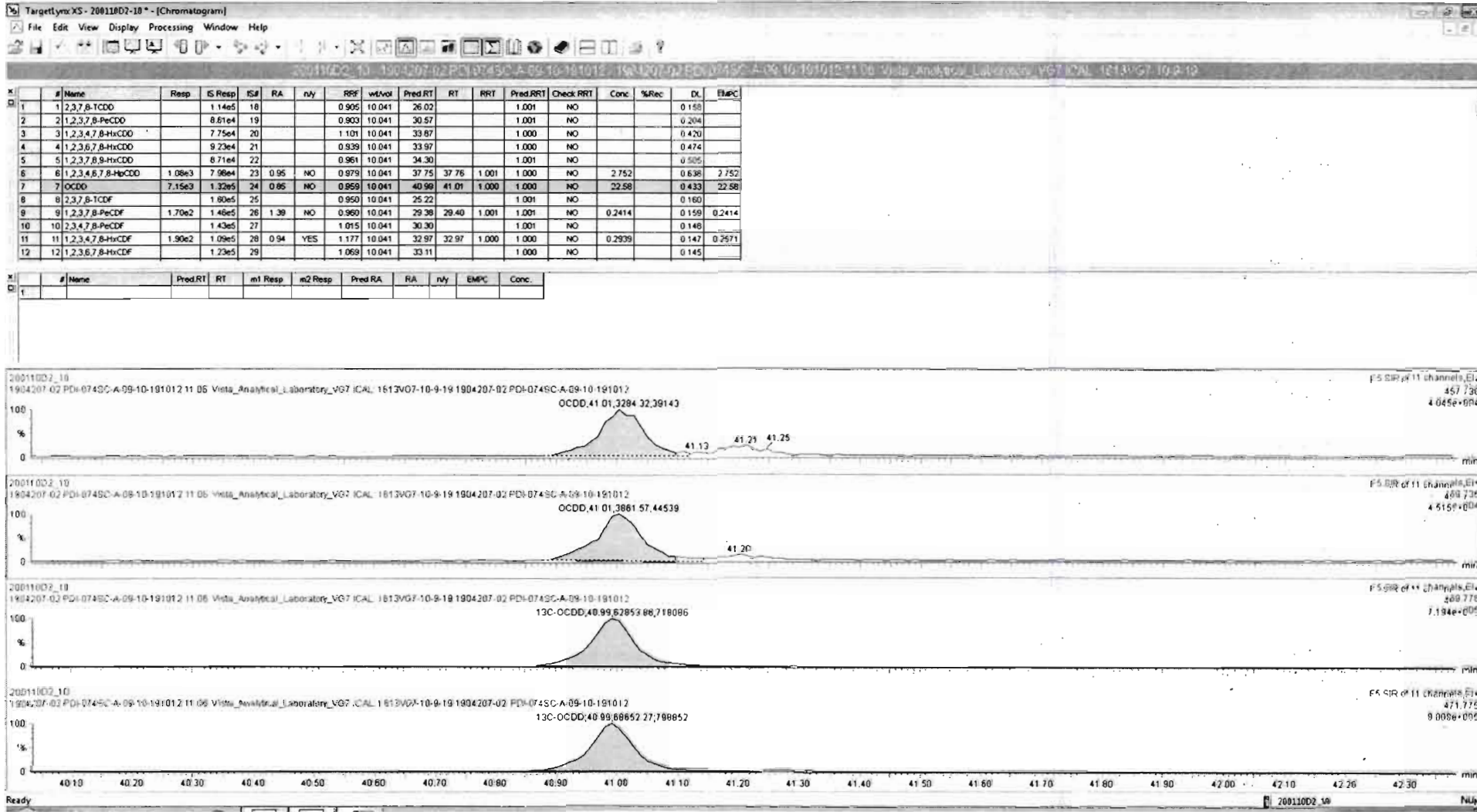


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F5:SIR of 11 channels, EI+  
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Vista Analytical Laboratory

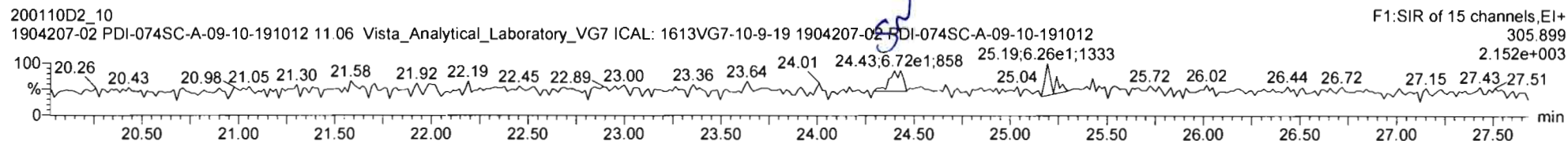
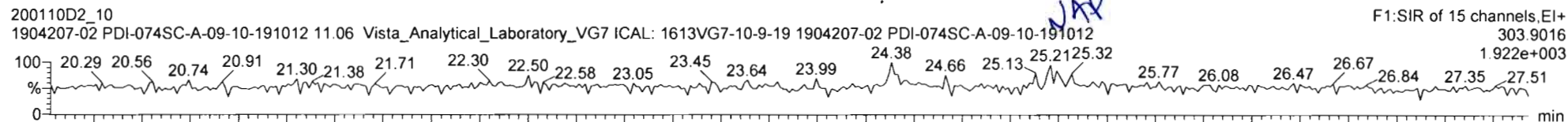
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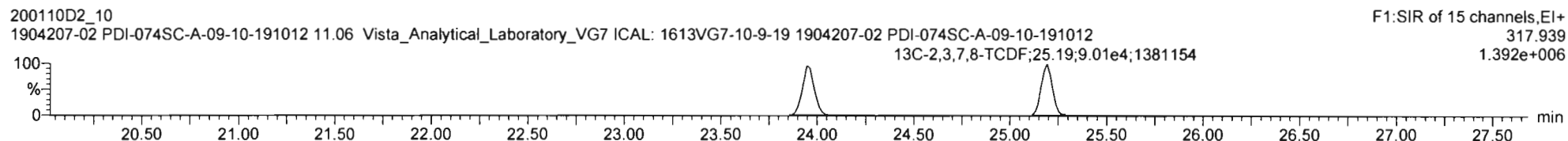
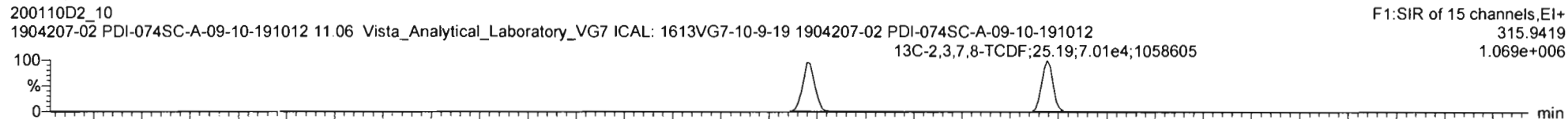
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Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012, Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

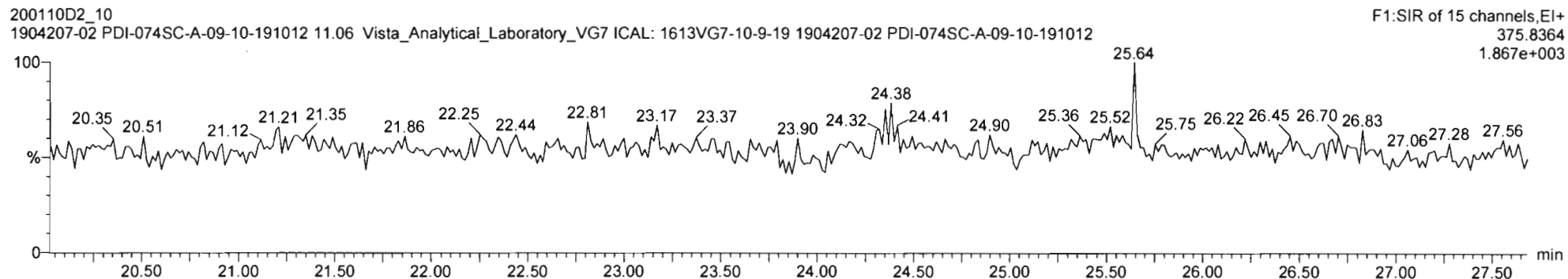
Total Tetra-Furans



13C-2,3,7,8-TCDF



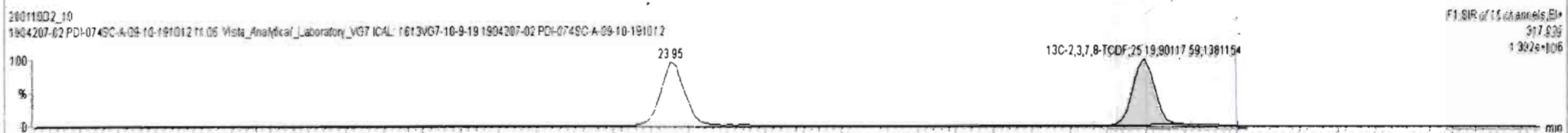
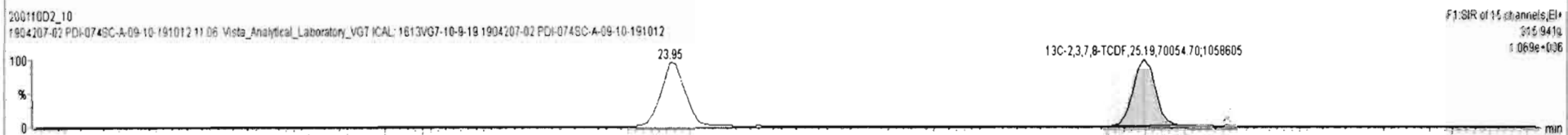
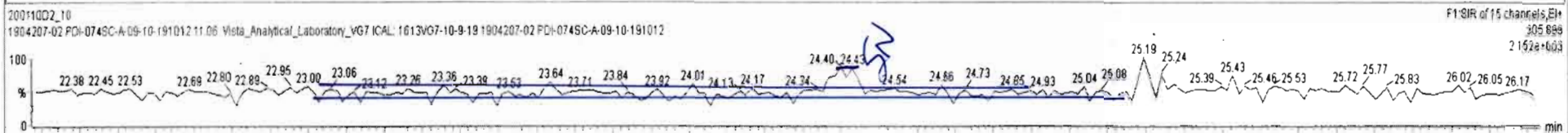
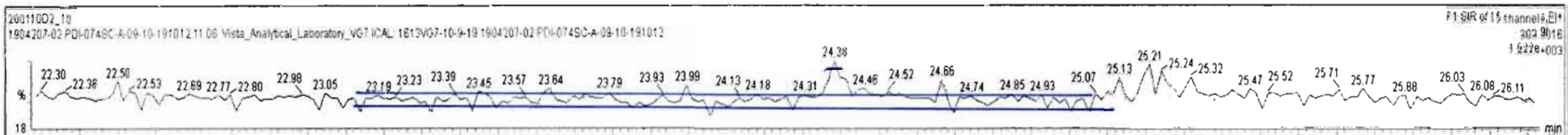
DPE1



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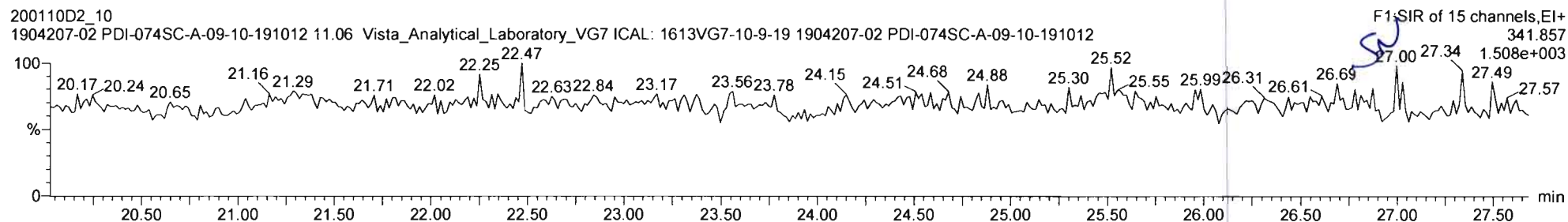
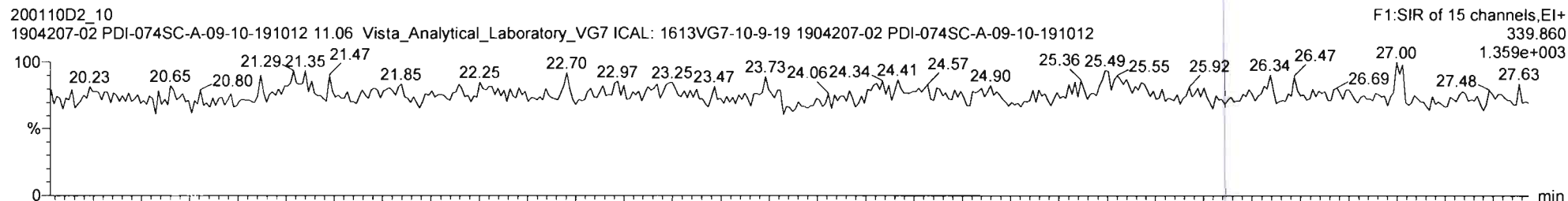
#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
31	13C-1,2,3,7,8,9-HxCDF	9.68e4	1.18e5	36	0.50	NO	0.828	10.041	34.65	34.65	1.038	1.038	NO	197.2	99.0	1.60	
32	13C-1,2,3,4,6,7,8-HpCDF	8.85e4	1.18e5	38	0.43	NO	0.757	10.041	36.49	36.48	1.093	1.093	NO	197.0	98.9	1.60	
33	13C-1,2,3,4,7,8,9-HpCDF	7.10e4	1.18e5	38	0.43	NO	0.581	10.041	38.29	38.27	1.146	1.147	NO	205.8	103	2.08	
34	13C-OCDF	1.61e5	1.18e5	38	0.87	NO	0.689	10.041	41.23	41.21	1.234	1.235	NO	394.4	99.0	1.16	
35	37Cl-2,3,7,8-TCDD	4.24e4	1.07e5	36			1.198	10.041	26.01	26.00	1.023	1.024	NO	65.91	82.7	0.127	
36	13C-1,2,3,4-TCDD	1.07e5	1.07e5	36	0.79	NO	1.000	10.041	25.39	25.41	1.000	1.000	NO	199.2	100	0.767	
37	13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.79	NO	1.000	10.041	23.93	23.95	1.000	1.000	NO	199.2	100	0.596	
38	13C-1,2,3,4,6,9-HxCDF	1.18e5	1.18e5	38	0.50	NO	1.000	10.041	33.37	33.39	1.000	1.000	NO	199.2	100	1.32	
39	Total Tetra-Dioxins		1.14e5				0.901	10.041	25.50			0.000	NO			0.063	
40	Total Penta-Dioxins		8.61e4				0.872	10.041	30.00			0.000	NO			0.106	
41	Total Hexa-Dioxins		0.00e0				0.976	10.041	33.80			0.000	NO	1.056		0.475	1.056
42	Total Hepta-Dioxins		7.98e4				0.989	10.041	37.75			0.000	NO	7.655		0.632	7.655

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1										

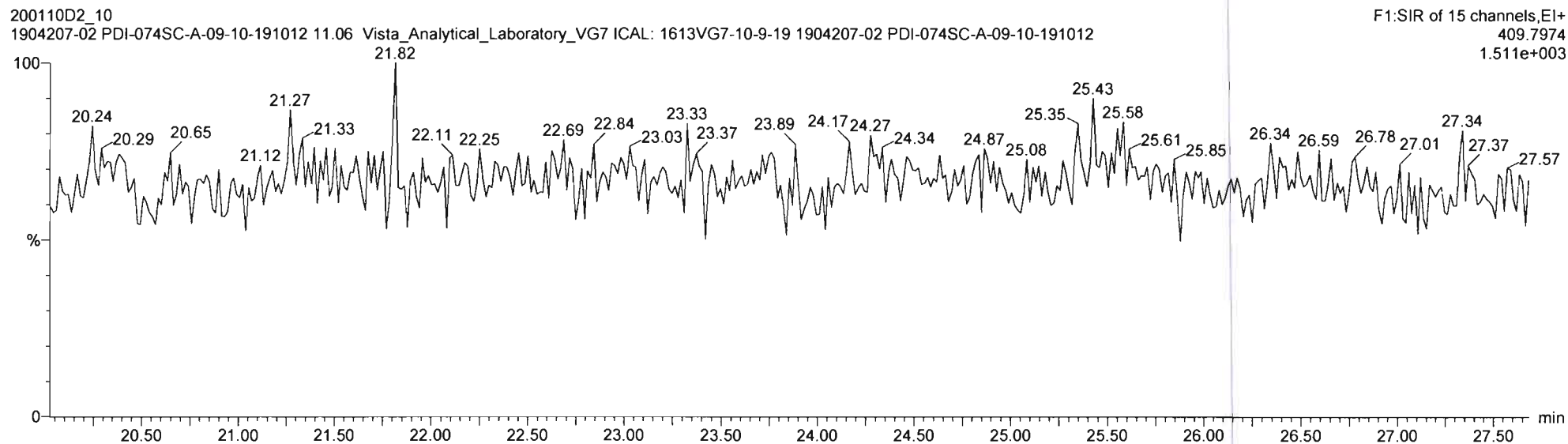


Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012,  
Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

1st Func. Penta-Furans



DPE6



Vista Analytical Laboratory

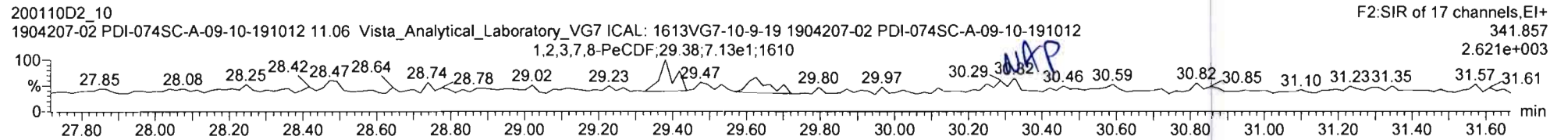
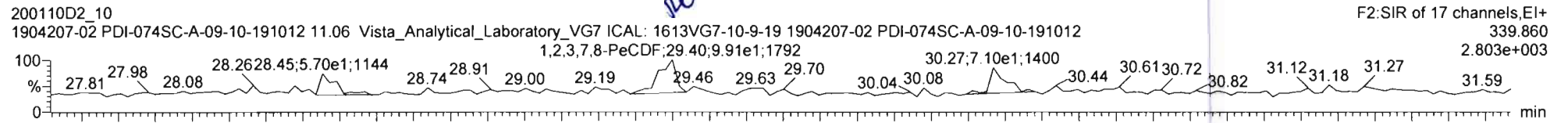
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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

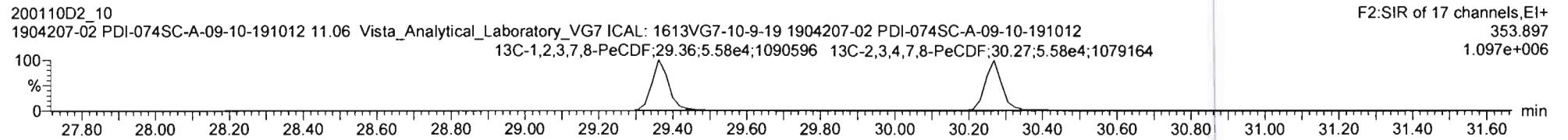
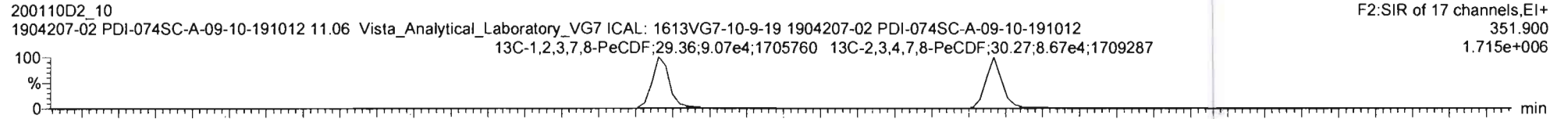
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Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012, Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

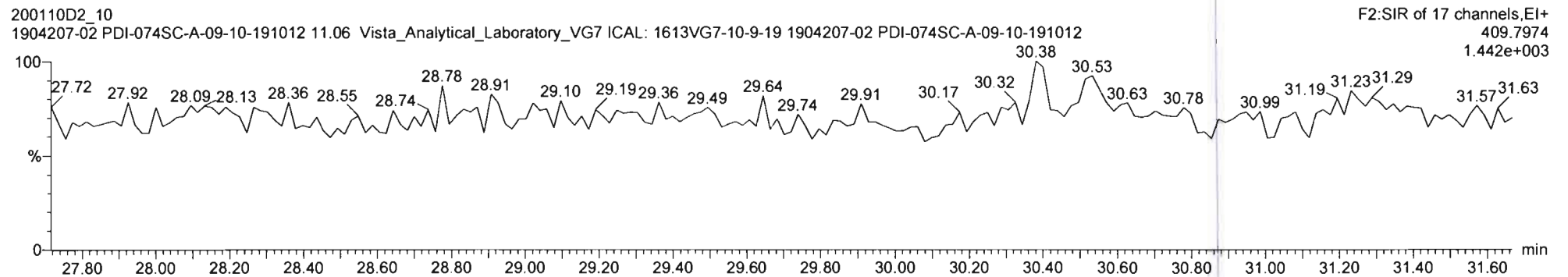
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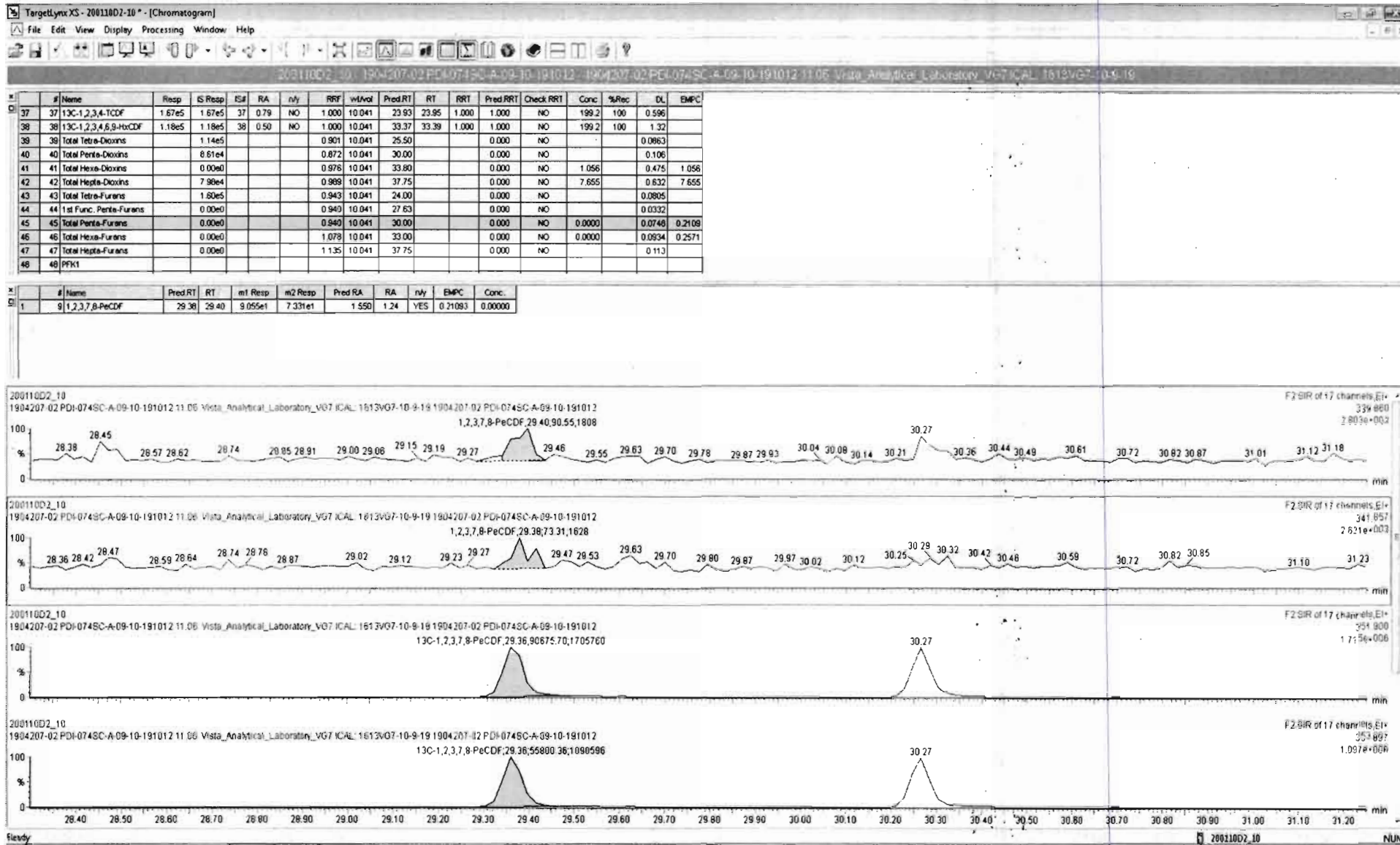


13C-1,2,3,7,8-PeCDF



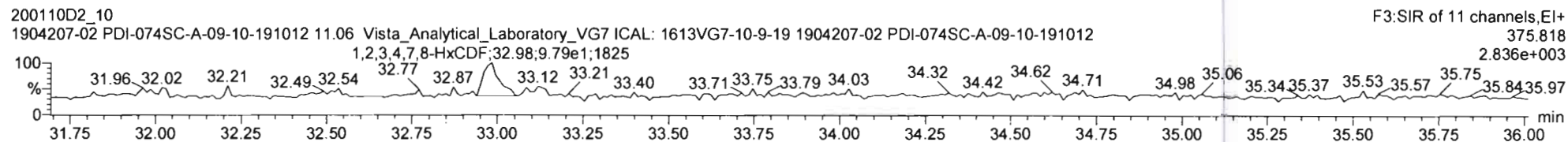
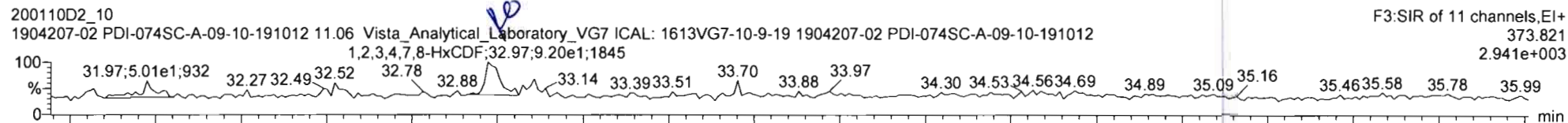
DPE2



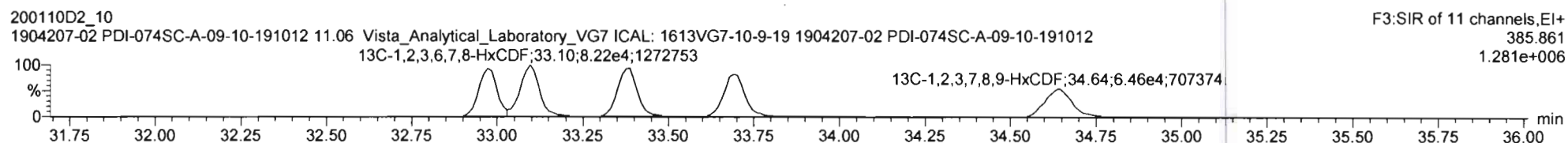
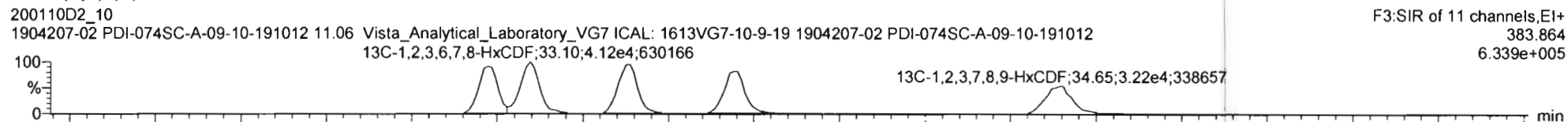


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Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

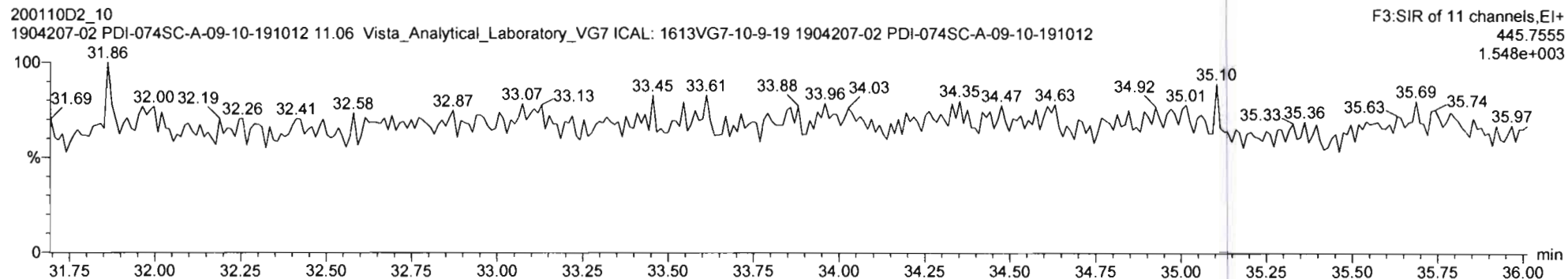
### Total Hexa-Furans



### 13C-1,2,3,4,7,8-HxCDF



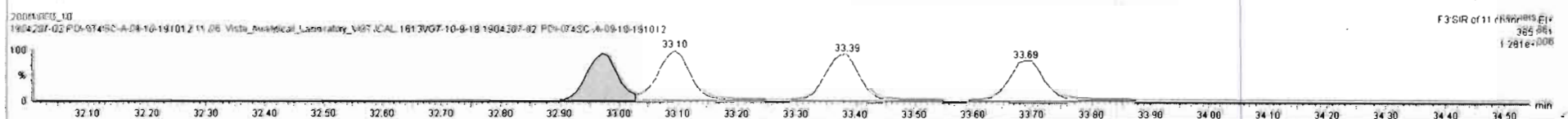
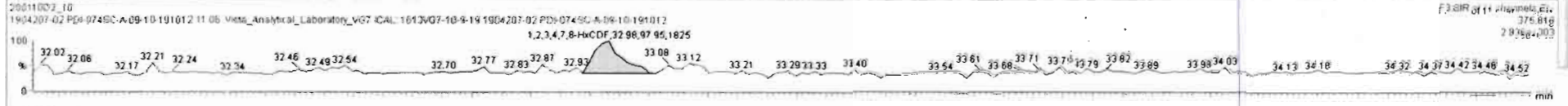
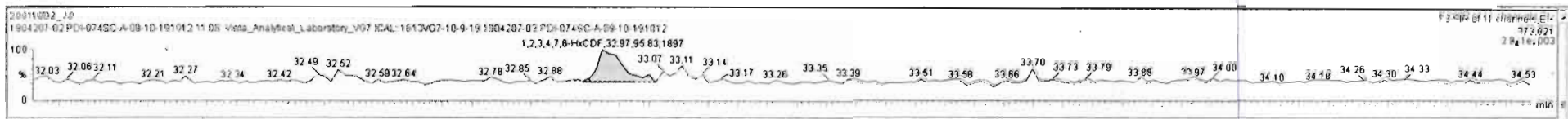
### DPE3



20011002-10 1904207-02 PDI-0745C-A-09-10-191012 1904207-02 PDI-0745C-A-09-10-191012 11 05 Vista Analytical Laboratory\_V07 ICAL 1613V07-10-9-191012-11 05

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	PredRT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
37	13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.79	NO	1.000	10.041	23.93	23.95	1.000	1.000	NO	199.2	100	0.596	
38	13C-1,2,3,4,6,8-HxCDF	1.18e5	1.18e5	38	0.50	NO	1.000	10.041	33.37	33.39	1.000	1.000	NO	199.2	100	1.32	
39	Total Tetra-Dioxins		1.14e5				0.901	10.041	25.50			0.000	NO			0.0863	
40	Total Penta-Dioxins		8.61e4				0.872	10.041	30.00			0.000	NO			0.106	
41	Total Hexa-Dioxins		0.00e0				0.976	10.041	33.80			0.000	NO	1.056		0.475	1.056
42	Total Hepta-Dioxins		7.98e4				0.999	10.041	37.75			0.000	NO	7.655		0.632	7.655
43	Total Tetra-Furans		1.60e5				0.943	10.041	24.00			0.000	NO			0.0805	
44	1st Func. Penta-Furans		0.00e0				0.940	10.041	27.83			0.000	NO			0.0332	
45	Total Penta-Furans		0.00e0				0.940	10.041	30.00			0.000	NO	0.0000		0.0748	0.2109
46	Total Hexa-Furans		0.00e0				1.078	10.041	33.00			0.000	NO	0.0000		0.0834	0.2679
47	Total Hepta-Furans		0.00e0				1.135	10.041	37.75			0.000	NO			0.113	
48	PRR1																

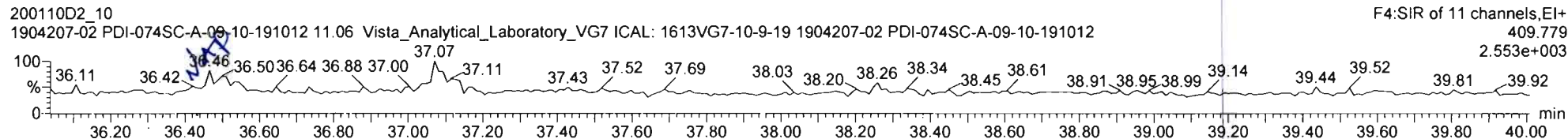
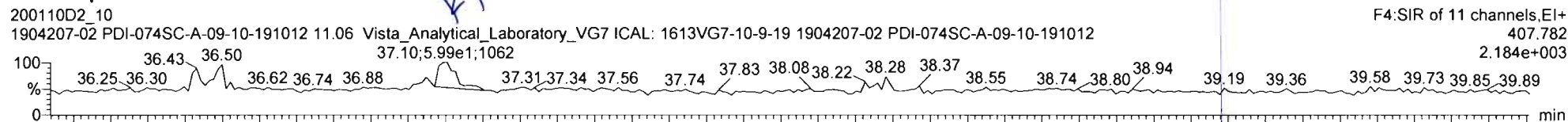
#	Name	PredRT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	1,2,3,4,7,8-HxCDF	32.97	32.97	9.583e1	9.795e1	1.240	0.98	YES	0.26789	0.00000



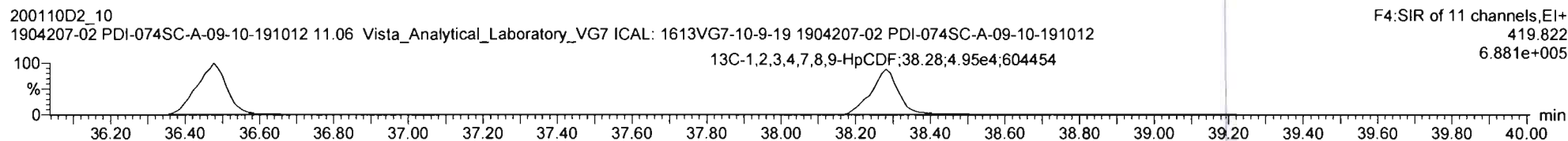
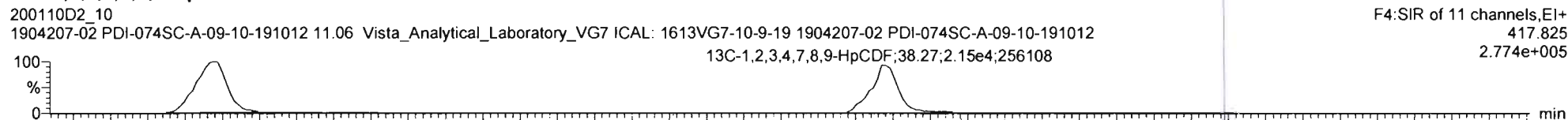


Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012,  
Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

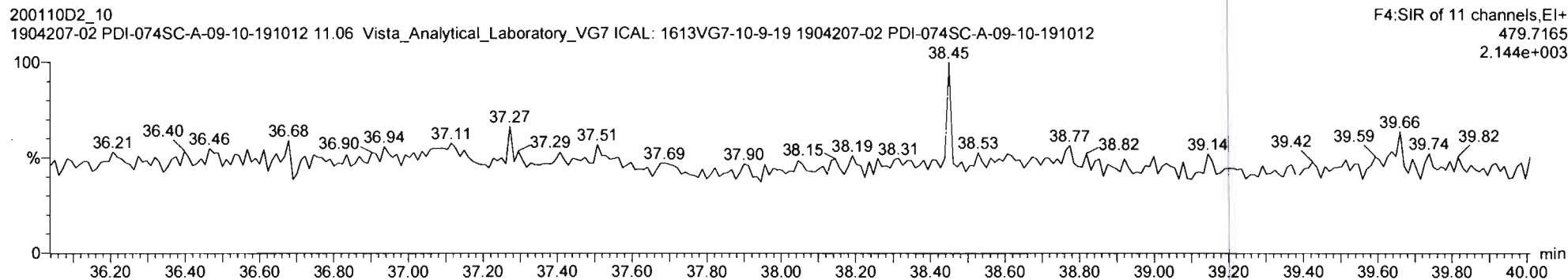
### Total Hepta-Furans



### 13C-1,2,3,4,6,7,8-HpCDF

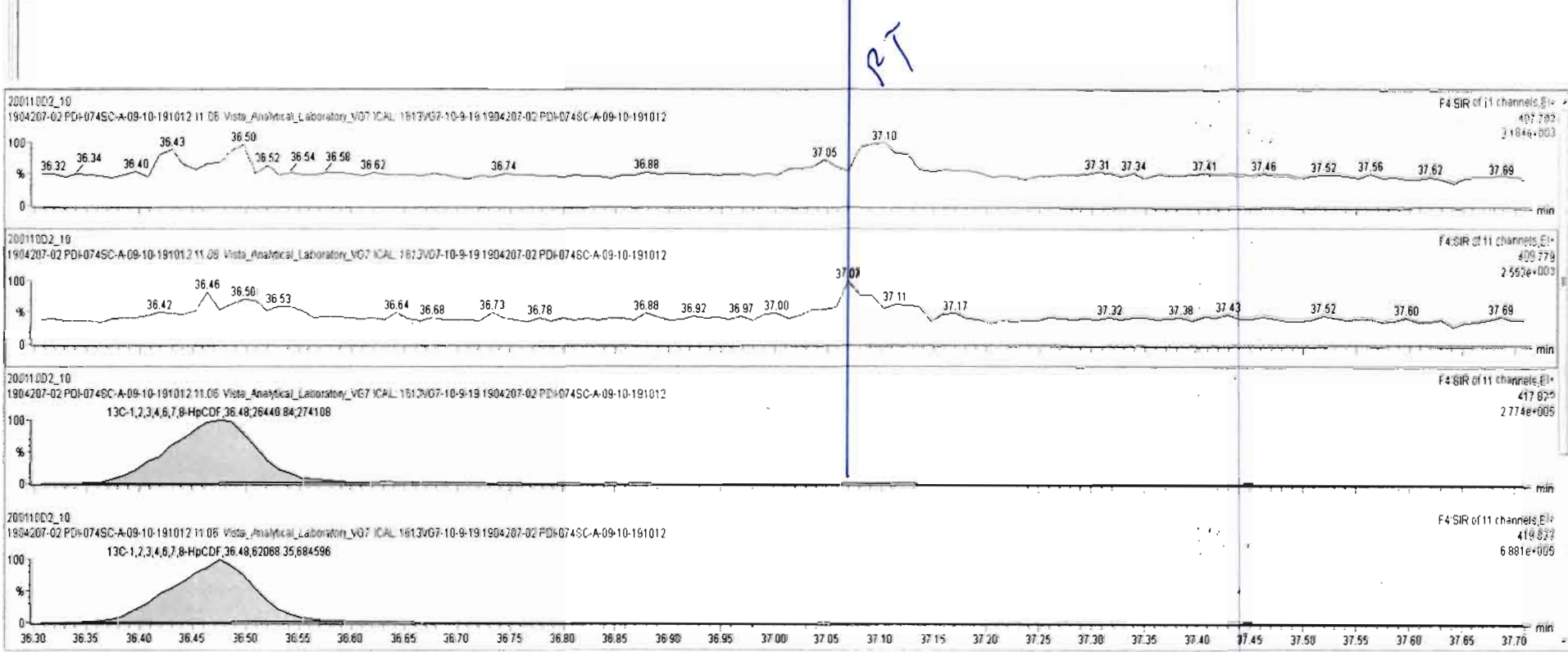


### DPE4



#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	vMVol	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
37	37 13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.79	NO	1.000	10.041	23.93	23.95	1.000	1.000	NO	199.2	100	0.596	
38	38 13C-1,2,3,4,6,9-HpCDF	1.18e5	1.18e5	38	0.50	NO	1.000	10.041	33.37	33.39	1.000	1.000	NO	199.2	100	1.32	
39	39 Total Tetra-Dioxins		1.14e5				0.901	10.041	25.50			0.000	NO			0.0863	
40	40 Total Penta-Dioxins		8.61e4				0.872	10.041	30.00			0.000	NO			0.106	
41	41 Total Hexa-Dioxins		0.00e0				0.976	10.041	33.80			0.000	NO	1.056		0.475	1.056
42	42 Total Hepta-Dioxins		7.98e4				0.989	10.041	37.75			0.000	NO	7.655		0.632	7.655
43	43 Total Tetra-Furans		1.60e5				0.943	10.041	24.00			0.000	NO			0.0805	
44	44 1st Func. Penta-Furans		0.00e0				0.940	10.041	27.63			0.000	NO			0.0332	
45	45 Total Penta-Furans		0.00e0				0.940	10.041	30.00			0.000	NO	0.0000		0.0748	0.2109
46	46 Total Hexa-Furans		0.00e0				1.078	10.041	33.00			0.000	NO	0.0000		0.0934	0.2679
47	47 Total Hepta-Furans		0.00e0				1.136	10.041	37.75			0.000	NO			0.113	
48	48 PFK1																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred.RA	RA	n/y	EMPC	Conc.
1										



Vista Analytical Laboratory

Dataset: Untitled

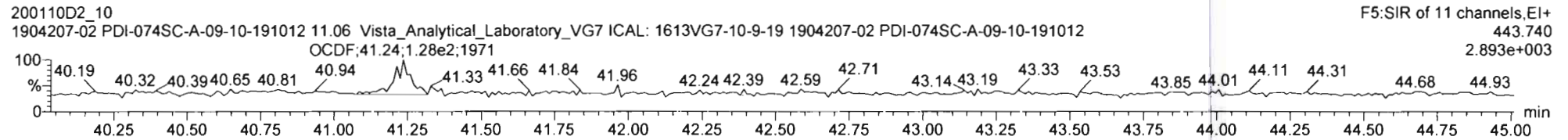
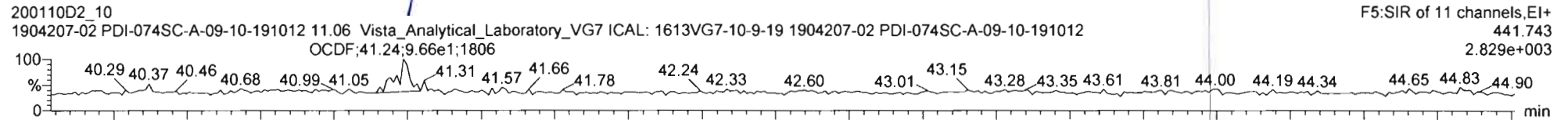
Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

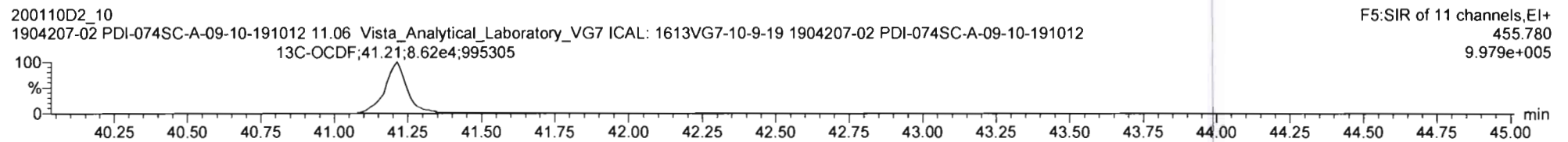
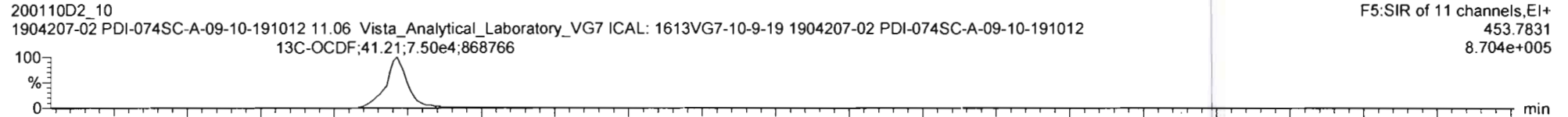
Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012,

Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

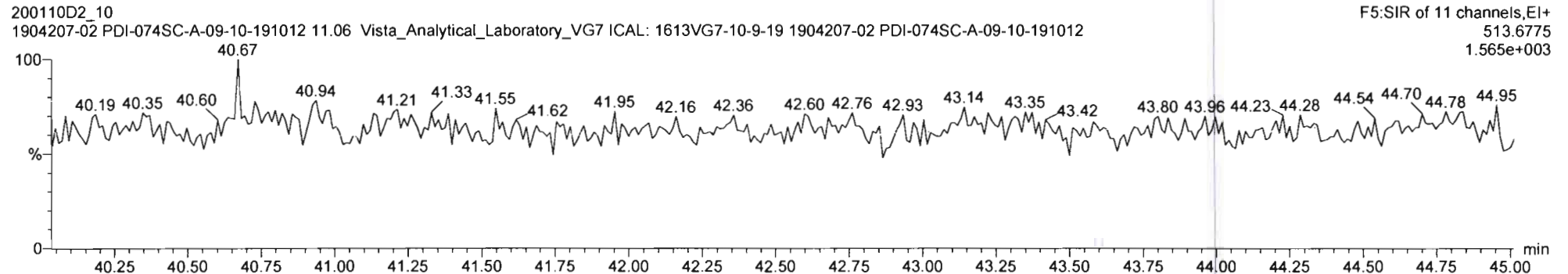
OCDF

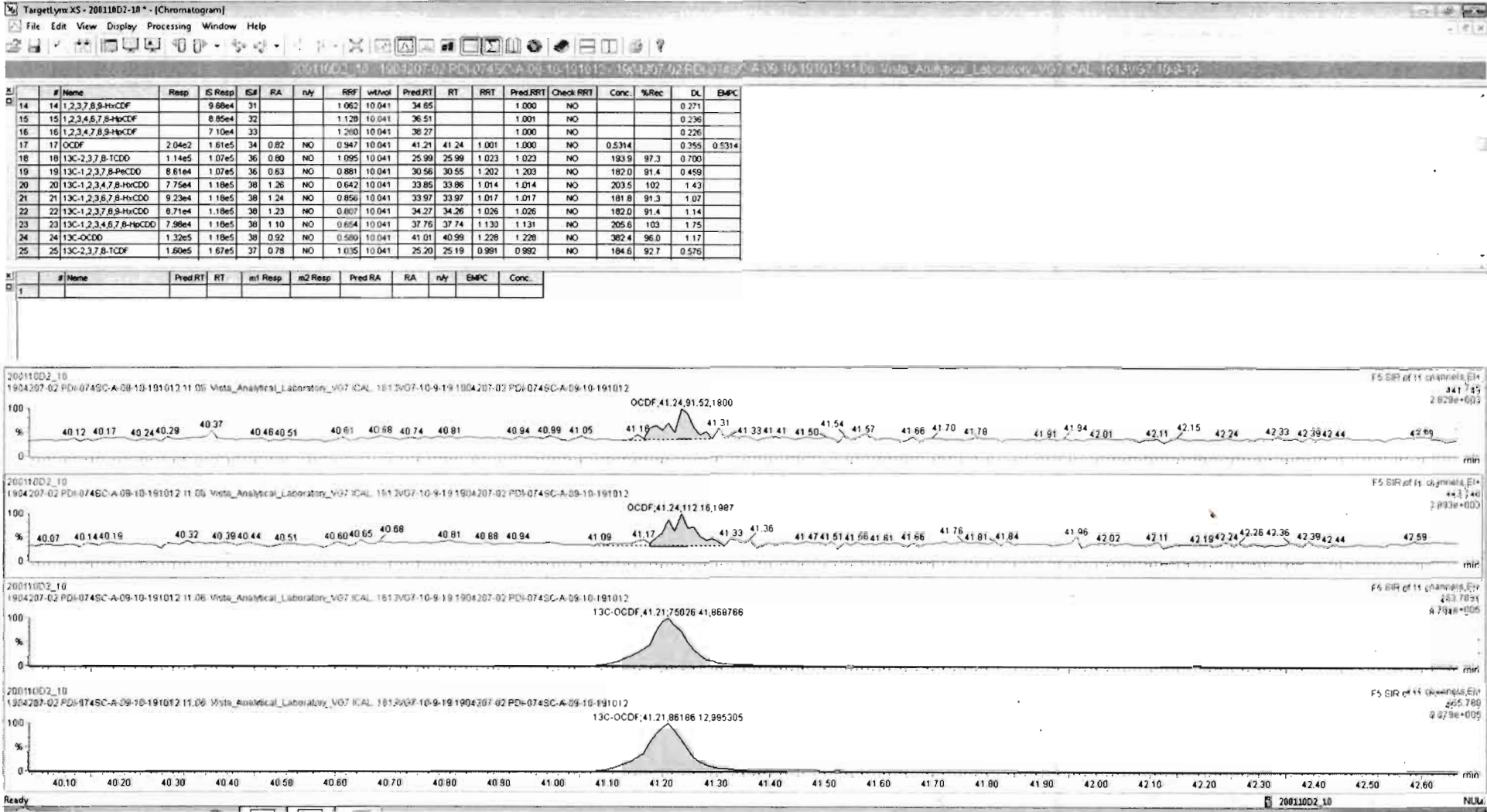


13C-OCDF



DPE5





Vista Analytical Laboratory

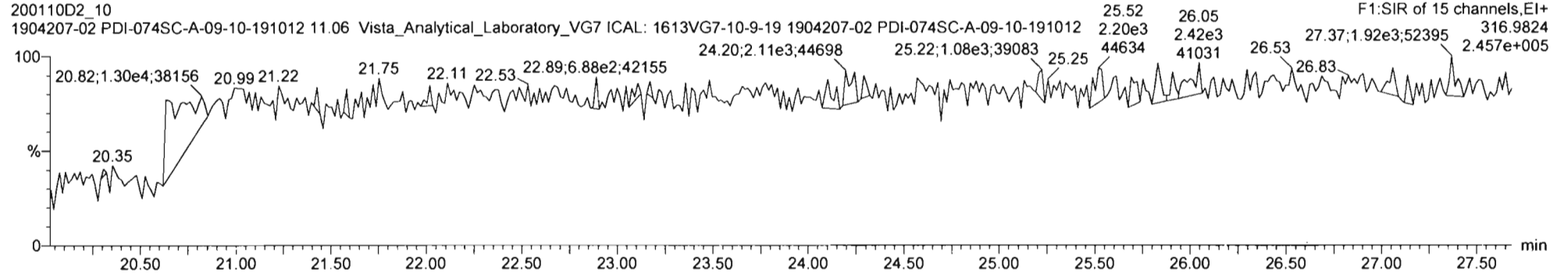
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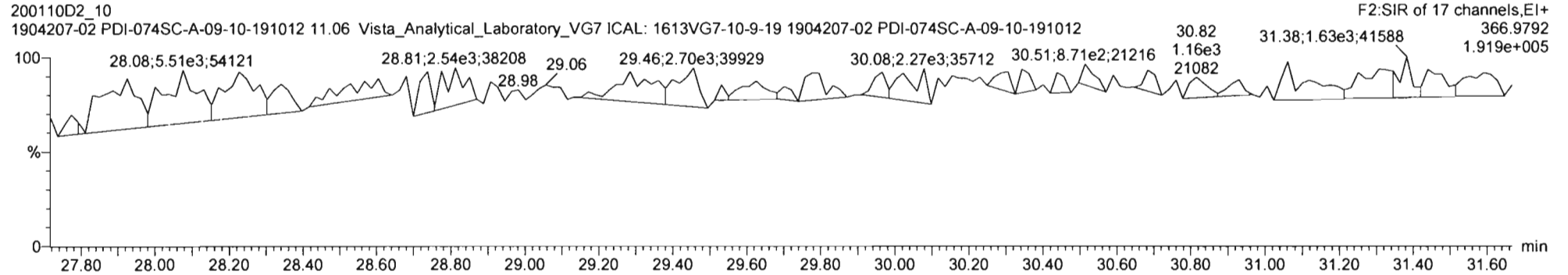
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Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

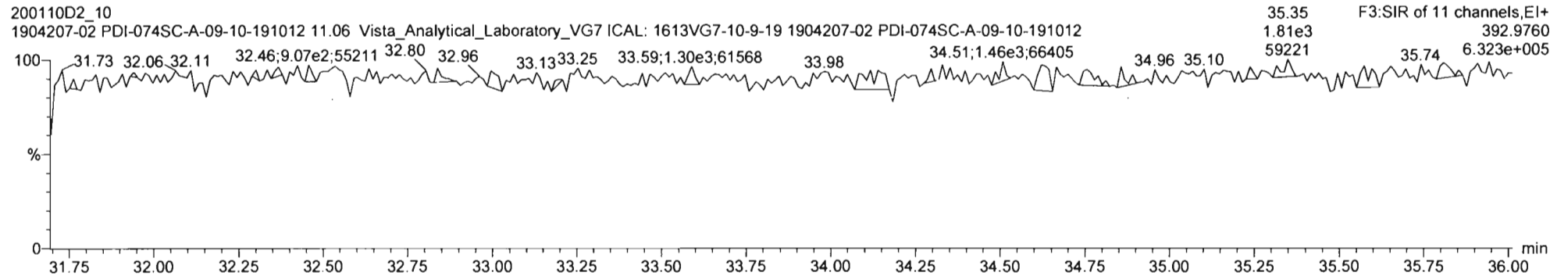
PFK1



PFK2



PFK3



Vista Analytical Laboratory

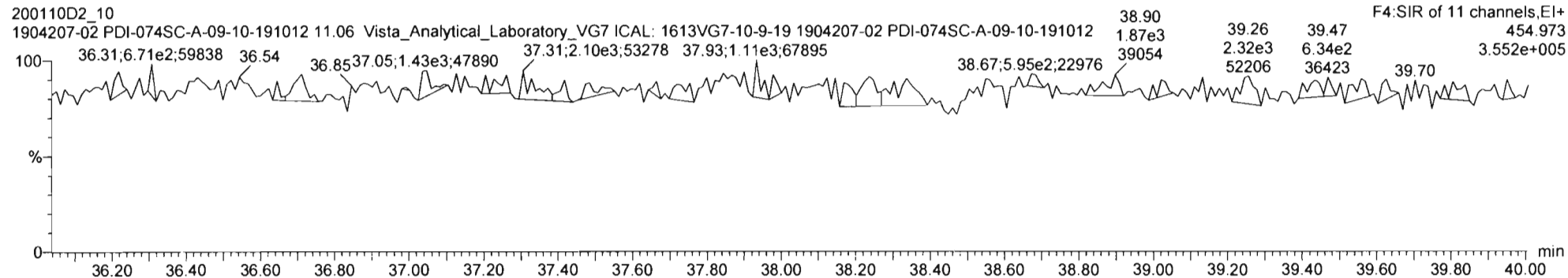
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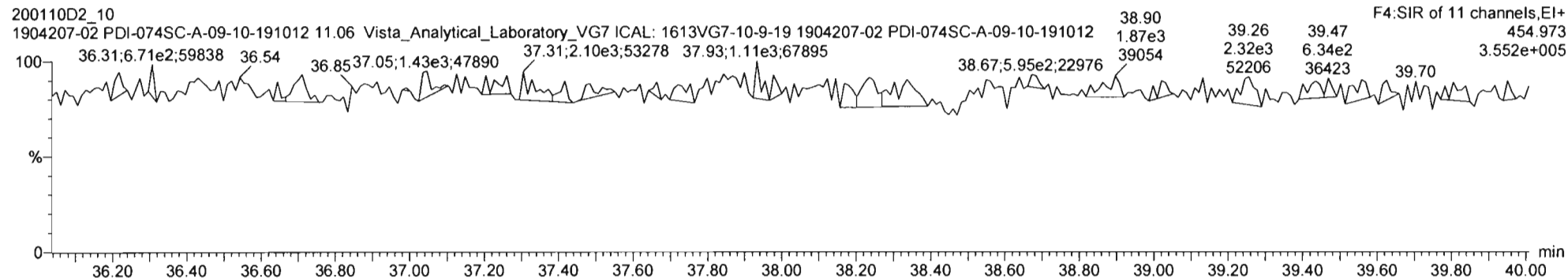
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Name: VG7 200110D2-10, Date: 11-JAN-2020, Time: 07:44:27, ID: 1904207-02 PDI-074SC-A-09-10-191012,  
Description: 1904207-02 PDI-074SC-A-09-10-191012 11.06 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-11.qld  
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*HL 1-20-2020 @ 02/03/2020*

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 Calibration: 15 Jan 2020 13:44:47

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 Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD	3.71e2	1.13e5	10.0107	0.905	0.620	YES	1.001	1.001	26.03	26.03	0.72075		0.634	0.304
2	2 1,2,3,7,8-PeCDD	4.29e2	8.79e4	10.0107	0.903	0.529	YES	1.001	1.000	30.59	30.57	1.0786		0.966	0.327
3	3 1,2,3,4,7,8-HxCDD	4.73e2	8.59e4	10.0107	1.101	1.725	YES	1.000	1.001	33.87	33.89	0.99820		0.820	0.525
4	4 1,2,3,6,7,8-HxCDD	2.10e3	9.38e4	10.0107	0.939	1.214	NO	1.000	1.001	33.97	33.99	4.7698		4.77	0.616
5	5 1,2,3,7,8,9-HxCDD	9.74e2	9.34e4	10.0107	0.961	1.199	NO	1.001	1.001	34.30	34.29	2.1661		2.17	0.610
6	6 1,2,3,4,6,7,8-HpCDD	3.74e4	8.47e4	10.0107	0.979	1.019	NO	1.000	1.001	37.75	37.76	89.976		90.0	1.21
7	7 OCDD	3.68e5	1.39e5	10.0107	0.959	0.886	NO	1.000	1.000	41.00	41.01	1102.8		1100	0.962
8	8 2,3,7,8-TCDF	6.81e4	1.57e5	10.0107	0.950	0.740	NO	1.001	1.001	25.23	25.22	90.998	(87.3)	91.0	0.659
9	9 1,2,3,7,8-PeCDF	1.82e5	1.46e5	10.0107	0.960	1.549	NO	1.001	1.001	29.40	29.40	258.97		259	0.443
10	10 2,3,4,7,8-PeCDF	6.63e4	1.42e5	10.0107	1.015	1.544	NO	1.001	1.001	30.32	30.30	91.715		91.7	0.432
11	11 1,2,3,4,7,8-HxCDF	2.27e5	1.22e5	10.0107	1.177	1.210	NO	1.000	1.000	32.99	33.00	315.25		315	0.565
12	12 1,2,3,6,7,8-HxCDF	5.71e4	1.32e5	10.0107	1.069	1.242	NO	1.000	1.000	33.12	33.12	81.026		81.0	0.572
13	13 2,3,4,6,7,8-HxCDF	1.48e4	1.17e5	10.0107	1.114	1.146	NO	1.001	1.000	33.74	33.72	22.702		22.7	0.674
14	14 1,2,3,7,8,9-HxCDF	1.02e4	1.06e5	10.0107	1.062	1.211	NO	1.000	1.001	34.65	34.68	18.239		18.2	0.860
15	15 1,2,3,4,6,7,8-HpCDF	6.95e4	9.59e4	10.0107	1.128	1.019	NO	1.001	1.001	36.51	36.49	128.35		128	1.05
16	16 1,2,3,4,7,8,9-HpCDF	2.49e4	7.60e4	10.0107	1.280	1.052	NO	1.000	1.000	38.28	38.29	51.118		51.1	1.04
17	17 OCDF	8.58e4	1.76e5	10.0107	0.947	0.867	NO	1.000	1.000	41.22	41.22	205.82		206	0.427
18	18 13C-2,3,7,8-TCDD	1.13e5	1.08e5	10.0107	1.095	0.794	NO	1.023	1.023	26.00	26.00	192.10	96.2		0.564
19	19 13C-1,2,3,7,8-PeCDD	8.79e4	1.08e5	10.0107	0.881	0.650	NO	1.203	1.202	30.58	30.57	185.01	92.6		0.577
20	20 13C-1,2,3,4,7,8-Hx...	8.59e4	1.31e5	10.0107	0.642	1.301	NO	1.014	1.014	33.86	33.86	204.29	102.3		0.886
21	21 13C-1,2,3,6,7,8-Hx...	9.38e4	1.31e5	10.0107	0.856	1.253	NO	1.017	1.017	33.97	33.97	167.42	83.8		0.665
22	22 13C-1,2,3,7,8,9-Hx...	9.34e4	1.31e5	10.0107	0.807	1.283	NO	1.026	1.026	34.27	34.27	176.85	88.5		0.705
23	23 13C-1,2,3,4,6,7,8-H...	8.47e4	1.31e5	10.0107	0.654	1.036	NO	1.131	1.130	37.77	37.74	197.76	99.0		1.01
24	24 13C-OCDD	1.39e5	1.31e5	10.0107	0.580	0.902	NO	1.228	1.228	41.02	41.00	366.72	91.8		0.553
25	25 13C-2,3,7,8-TCDF	1.57e5	1.67e5	10.0107	1.035	0.771	NO	0.992	0.991	25.22	25.21	181.63	90.9		0.670
26	26 13C-1,2,3,7,8-PeCDF	1.46e5	1.67e5	10.0107	0.854	1.543	NO	1.156	1.156	29.39	29.38	204.63	102.4		1.03
27	27 13C-2,3,4,7,8-PeCDF	1.42e5	1.67e5	10.0107	0.847	1.690	NO	1.192	1.191	30.30	30.29	200.62	100.4		1.04
28	28 13C-1,2,3,4,7,8-Hx...	1.22e5	1.31e5	10.0107	0.832	0.496	NO	0.987	0.988	32.97	32.99	224.36	112.3		1.33
29	29 13C-1,2,3,6,7,8-Hx...	1.32e5	1.31e5	10.0107	1.034	0.508	NO	0.991	0.992	33.09	33.11	194.27	97.2		1.07
30	30 13C-2,3,4,6,7,8-Hx...	1.17e5	1.31e5	10.0107	0.953	0.501	NO	1.009	1.009	33.70	33.71	187.43	93.8		1.16
31	31 13C-1,2,3,7,8,9-Hx...	1.06e5	1.31e5	10.0107	0.828	0.493	NO	1.038	1.038	34.66	34.65	194.69	97.4		1.33

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-11.qld

Last Altered: Monday, January 20, 2020 18:53:32 Pacific Standard Time

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Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,

Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	9.59e4	1.31e5	10.0107	0.757	0.433	NO	1.093	1.092	36.49	36.47	193.36	96.8		1.10
33	33 13C-1,2,3,4,7,8,9-H...	7.60e4	1.31e5	10.0107	0.581	0.430	NO	1.147	1.146	38.30	38.28	199.53	99.9		1.43
34	34 13C-OCDF	1.76e5	1.31e5	10.0107	0.689	0.891	NO	1.235	1.234	41.24	41.22	389.51	97.5		0.623
35	35 37Cl-2,3,7,8-TCDD	4.65e4	1.08e5	10.0107	1.198			1.024	1.023	26.02	26.02	72.001	90.1		0.183
36	36 13C-1,2,3,4-TCDD	1.08e5	1.08e5	10.0107	1.000	0.803	NO	1.000	1.000	25.39	25.42	199.79	100.0		0.618
37	37 13C-1,2,3,4-TCDF	1.67e5	1.67e5	10.0107	1.000	0.798	NO	1.000	1.000	23.93	23.98	199.79	100.0		0.694
38	38 13C-1,2,3,4,6,9-Hx...	1.31e5	1.31e5	10.0107	1.000	0.511	NO	1.000	1.000	33.37	33.39	199.79	100.0		1.10
39	39 Total Tetra-Dioxins		1.13e5	10.0107	0.901			0.000		25.50		0.50402		2.45	0.306
40	40 Total Penta-Dioxins		8.79e4	10.0107	0.872			0.000		30.00		2.6576		6.01	0.338
41	41 Total Hexa-Dioxins		0.00e0	10.0107	0.976			0.000		33.80		36.181		37.0	0.596
42	42 Total Hepta-Dioxins		8.47e4	10.0107	0.989			0.000		37.75		191.87		192	1.20
43	43 Total Tetra-Furans		1.57e5	10.0107	0.943			0.000		24.00		211.45		222	0.664
44	44 1st Func. Penta-Fur...		0.00e0	10.0107	0.940			0.000		27.63		10.157		10.2	0.0932
45	45 Total Penta-Furans		0.00e0	10.0107	0.940			0.000		30.00		588.70		589	0.460
46	46 Total Hexa-Furans		0.00e0	10.0107	1.078			0.000		33.00		534.04		535	0.874
47	47 Total Hepta-Furans		0.00e0	10.0107	1.135			0.000		37.75		260.50		264	1.10
48	48 PFK1														
49	49 PFK2														
50	50 PFK3														
51	51 PFK4														
52	52 PFK5														
53	53 DPE1														
54	54 DPE2														
55	55 DPE3														
56	56 DPE4														
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58	58 DPE6														



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-11.qld

Last Altered: Monday, January 20, 2020 18:53:32 Pacific Standard Time

Printed: Monday, January 20, 2020 18:55:29 Pacific Standard Time

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Calibration: 15 Jan 2020 13:44:47

Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,

Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	1 2,3,7,8-TCDD	YES	26.03	141.794	50220.789	0.000	MM	0.0000	0.63
2	39 Total Tetra-Dioxins	NO	25.78	106.290	50220.789	4.546	MM	0.5040	0.50
3	39 Total Tetra-Dioxins	YES	22.94	114.397	50220.789	0.000	bb	0.0000	0.41
4	39 Total Tetra-Dioxins	YES	22.58	294.828	50220.789	0.000	MM	0.0000	0.90

**Penta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	40 Total Penta-Dioxins	YES	30.93	76.133	34650.863	0.000	bb	0.0000	0.30
2	40 Total Penta-Dioxins	YES	30.66	73.158	34650.863	0.000	MM	0.0000	0.23
3	2 1,2,3,7,8-PeCDD	YES	30.57	148.310	34650.863	0.000	MM	0.0000	0.97
4	40 Total Penta-Dioxins	NO	29.85	129.728	34650.863	7.844	MM	0.8984	0.90
5	40 Total Penta-Dioxins	NO	29.66	105.982	34650.863	5.868	dd	0.6720	0.67
6	40 Total Penta-Dioxins	NO	29.57	120.468	34650.863	7.079	MM	0.8107	0.81
7	40 Total Penta-Dioxins	YES	28.53	275.544	34650.863	0.000	bb	0.0000	1.61
8	40 Total Penta-Dioxins	NO	30.17	33.783	34650.863	0.000	MM	0.0000	0.24
9	40 Total Penta-Dioxins	NO	28.96	41.084	34650.863	2.414	MM	0.2765	0.28

**Hexa-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	3 1,2,3,4,7,8-HxCDD	YES	33.89	299.284	48583.625	0.000	MM	0.0000	0.82
2	41 Total Hexa-Dioxins	NO	33.29	148.654	51087.102	5.895	MM	0.6034	0.60
3	41 Total Hexa-Dioxins	NO	33.19	4128.313	51087.102	162.583	MM	16.6420	16.64
4	41 Total Hexa-Dioxins	NO	32.92	465.496	51087.102	18.088	MM	1.8515	1.85
5	41 Total Hexa-Dioxins	NO	32.36	2530.125	51087.102	99.144	MM	10.1484	10.15
6	5 1,2,3,7,8,9-HxCDD	NO	34.29	530.935	52499.602	20.845	MM	2.1661	2.17
7	4 1,2,3,6,7,8-HxCDD	NO	33.99	1152.709	52178.078	44.817	MM	4.7698	4.77

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Dataset: U:\VG7.PRO\Results\200110D2\200110D2-11.qld

Last Altered: Monday, January 20, 2020 18:53:32 Pacific Standard Time

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Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,  
 Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Hepta-Dioxins

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	NO	37.76	18857.020	43094.395	882.172	bb	89.9764	89.98
2	42 Total Hepta-Dioxins	NO	36.89	21479.758	43094.395	1008.494	bb	101.8930	101.89

Tetra-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	43 Total Tetra-Furans	NO	23.26	947.435	68462.180	25.739	MM	2.7271	2.73
2	43 Total Tetra-Furans	NO	23.09	282.814	68462.180	7.978	MM	0.8453	0.85
3	43 Total Tetra-Furans	NO	22.97	1468.895	68462.180	43.807	MM	4.6415	4.64
4	43 Total Tetra-Furans	NO	22.55	5129.168	68462.180	146.612	MM	15.5341	15.53
5	43 Total Tetra-Furans	NO	22.16	1188.519	68462.180	35.563	MM	3.7680	3.77
6	43 Total Tetra-Furans	NO	21.61	2224.866	68462.180	65.753	bb	6.9668	6.97
7	43 Total Tetra-Furans	YES	20.99	311.421	68462.180	0.000	bb	0.0000	0.84
8	43 Total Tetra-Furans	NO	20.42	113.824	68462.180	3.082	MM	0.3265	0.33
9	43 Total Tetra-Furans	YES	27.03	2176.673	68462.180	0.000	bb	0.0000	5.77
10	43 Total Tetra-Furans	YES	25.78	146.495	68462.180	0.000	MM	0.0000	0.45
11	43 Total Tetra-Furans	NO	25.56	898.757	68462.180	25.405	MM	2.6917	2.69
12	8 2,3,7,8-TCDF	NO	25.22	28960.092	68462.180	865.501	MM	90.9985	91.00
13	43 Total Tetra-Furans	YES	25.04	165.156	68462.180	0.000	bd	0.0000	0.51
14	43 Total Tetra-Furans	YES	24.88	176.135	68462.180	0.000	bb	0.0000	0.41
15	43 Total Tetra-Furans	YES	24.68	732.901	68462.180	0.000	MM	0.0000	1.97
16	43 Total Tetra-Furans	NO	24.41	21969.371	68462.180	630.643	MM	66.8189	66.82
17	43 Total Tetra-Furans	NO	23.98	2218.522	68462.180	66.235	MM	7.0178	7.02
18	43 Total Tetra-Furans	NO	23.88	872.142	68462.180	25.787	dd	2.7322	2.73
19	43 Total Tetra-Furans	YES	23.76	127.025	68462.180	0.000	MM	0.0000	0.33
20	43 Total Tetra-Furans	NO	23.62	143.168	68462.180	4.252	MM	0.4505	0.45
21	43 Total Tetra-Furans	NO	25.13	2024.971	68462.180	55.968	MM	5.9300	5.93

Penta-Furans function 1

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	44 1st Func. Penta-Furans	NO	27.03	4319.957	89056.636	95.539	MM	10.1571	10.16

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Dataset: U:\VG7.PRO\Results\200110D2\200110D2-11.qld  
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 Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Penta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	10 2,3,4,7,8-PeCDF	NO	30.30	40210.566	89352.914	931.717	MM	91.7147	91.71
2	45 Total Penta-Furans	NO	29.64	27716.619	89056.636	632.685	MM	67.2636	67.26
3	9 1,2,3,7,8-PeCDF	NO	29.40	110667.539	88760.359	2489.839	MM	258.9731	258.97
4	45 Total Penta-Furans	NO	29.23	8089.861	89056.636	186.405	MM	19.8176	19.82
5	45 Total Penta-Furans	NO	29.02	2002.410	89056.636	46.219	bb	4.9137	4.91
6	45 Total Penta-Furans	NO	28.49	44323.109	89056.636	1017.823	MM	108.2093	108.21
7	45 Total Penta-Furans	NO	28.36	1189.171	89056.636	27.110	MM	2.8822	2.88
8	45 Total Penta-Furans	NO	31.17	2212.821	89056.636	49.862	MM	5.3010	5.30
9	45 Total Penta-Furans	NO	30.32	12510.957	89056.636	278.654	MM	29.6249	29.62

**Hexa-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	14 1,2,3,7,8,9-HxCDF	NO	34.68	5601.902	34864.375	193.836	MM	18.2393	18.24
2	13 2,3,4,6,7,8-HxCDF	NO	33.72	7909.222	39051.320	253.076	MM	22.7017	22.70
3	46 Total Hexa-Furans	NO	33.40	773.288	39698.770	22.425	MM	2.0788	2.08
4	12 1,2,3,6,7,8-HxCDF	NO	33.12	31611.443	44371.348	867.016	MM	81.0262	81.03
5	11 1,2,3,4,7,8-HxCDF	NO	33.00	124248.016	40508.035	3713.854	MM	315.2519	315.25
6	46 Total Hexa-Furans	NO	32.89	1449.376	39698.770	43.141	MM	3.9991	4.00
7	46 Total Hexa-Furans	NO	32.53	7995.566	39698.770	245.415	MM	22.7498	22.75
8	46 Total Hexa-Furans	YES	32.33	398.831	39698.770	0.000	MM	0.0000	0.95
9	46 Total Hexa-Furans	NO	31.99	12948.896	39698.770	402.231	db	37.2867	37.29
10	46 Total Hexa-Furans	NO	31.82	3114.203	39698.770	93.942	bd	8.7083	8.71
11	46 Total Hexa-Furans	NO	34.69	7872.462	39698.770	237.319	MM	21.9994	22.00

**Hepta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	16 1,2,3,4,7,8,9-HpCDF	NO	38.29	12749.758	22852.684	654.965	bb	51.1184	51.12
2	47 Total Hepta-Furans	NO	37.09	20184.311	25925.270	920.451	bb	81.0318	81.03
3	47 Total Hepta-Furans	YES	36.89	859.504	25925.270	0.000	bb	0.0000	3.45
4	15 1,2,3,4,6,7,8-HpCDF	NO	36.49	35083.207	28997.857	1448.846	bb	128.3521	128.35

Vista Analytical Laboratory

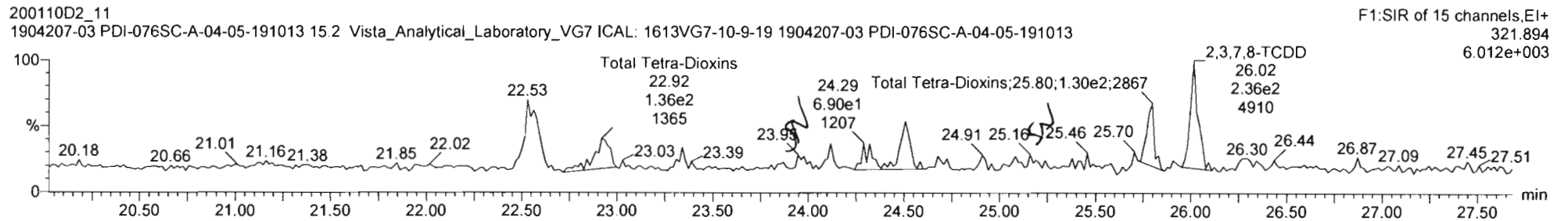
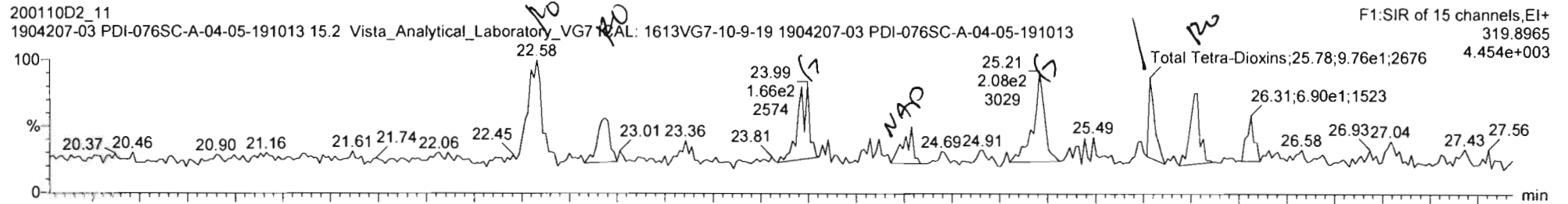
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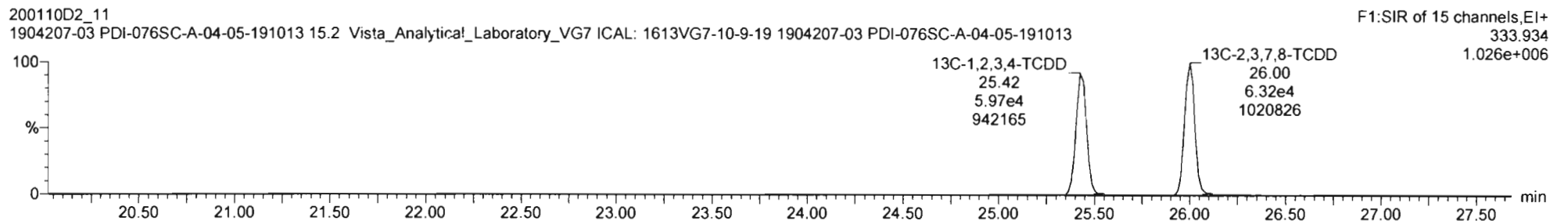
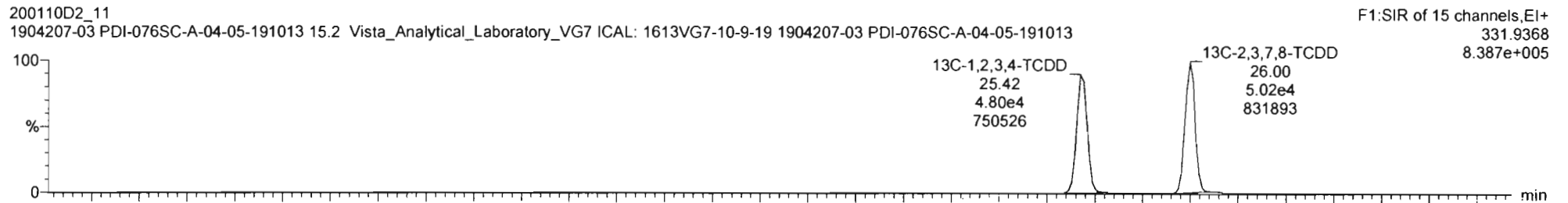
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Total Tetra-Dioxins



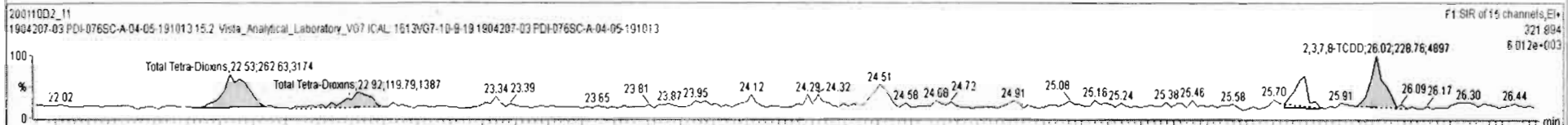
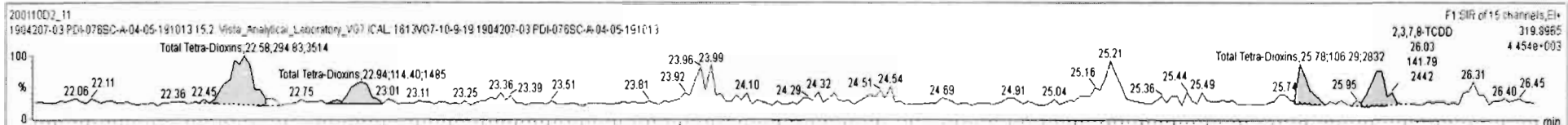
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#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
33	13C-1,2,3,4,7,8,9-HpCDF	7.60e4	1.31e5	36	0.43	NO	0.581	10.011	36.30	36.26	1.146	1.147	NO	199.5	99.9	1.43	
34	13C-OCDF	1.76e5	1.31e5	38	0.89	NO	0.669	10.011	41.24	41.22	1.234	1.235	NO	389.5	97.5	0.623	
35	37Cl-2,3,7,8-TCDD	4.65e4	1.08e5	36			1.196	10.011	26.02	26.02	1.023	1.024	NO	72.00	90.1	0.183	
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	36	0.80	NO	1.000	10.011	25.39	25.42	1.000	1.000	NO	199.8	100	0.618	
37	13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.80	NO	1.000	10.011	23.93	23.98	1.000	1.000	NO	199.8	100	0.694	
38	13C-1,2,3,4,6,8-HxCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.011	33.37	33.39	1.000	1.000	NO	199.8	100	1.10	
39	Total Tetra-Dioxins		1.13e5				0.901	10.011	25.50			0.000	NO	0.5040		0.306	2.461
40	Total Penta-Dioxins		8.79e4				0.872	10.011	30.00			0.000	NO	2.006		0.338	7.525
41	Total Hexa-Dioxins		0.00e0				0.976	10.011	33.80			0.000	NO	34.19		0.596	37.80
42	Total Hepta-Dioxins		8.47e4				0.989	10.011	37.75			0.000	NO	191.9		1.20	191.9
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	204.7		0.664	219.8
44	1st Func Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.17		0.0932	10.37

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	38 Total Tetra-Dioxins	25.50	22.58	2.948e2	2.626e2	0.770	1.12	YES	0.90859	0.00000
2	38 Total Tetra-Dioxins	25.50	22.94	1.144e2	1.198e2	0.770	0.95	YES	0.41442	0.00000
3	38 Total Tetra-Dioxins	25.50	25.78	1.053e2	1.516e2	0.770	0.70	NO	0.50402	0.50402
4	1 2,3,7,8-TCDD	26.03	26.03	1.418e2	2.288e2	0.770	0.62	YES	0.63397	0.00000

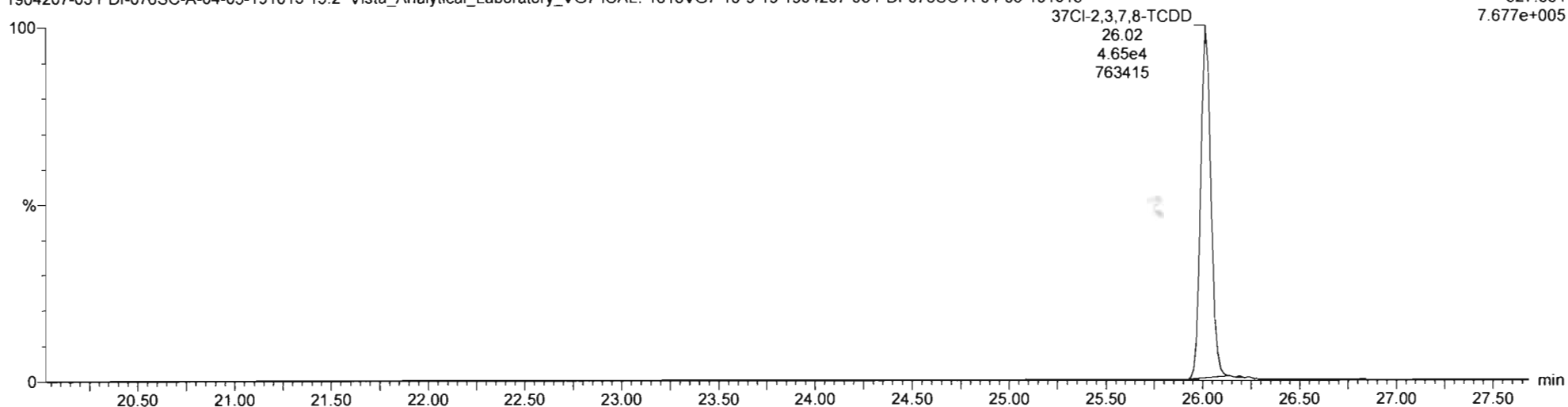


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Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

37Cl-2,3,7,8-TCDD

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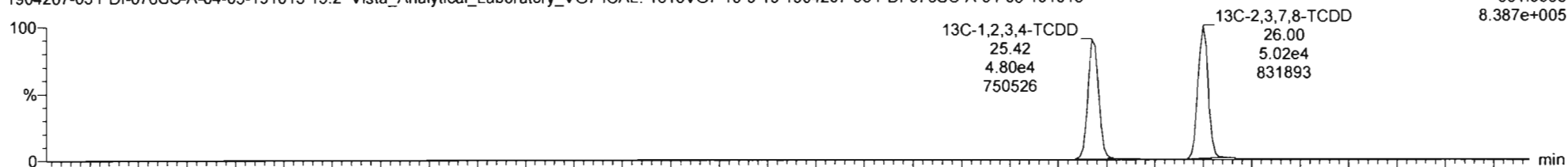
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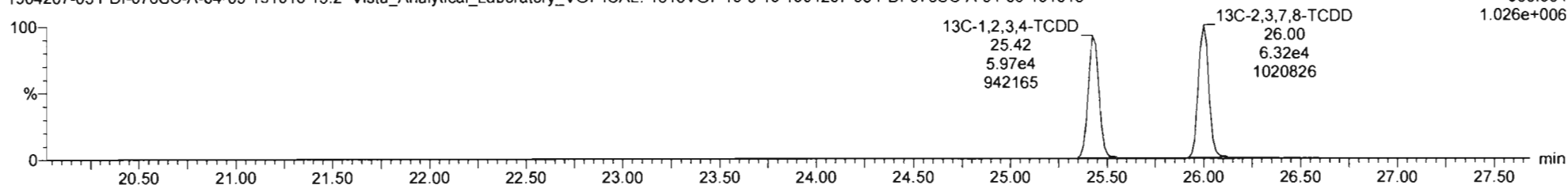
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F1:SIR of 15 channels,EI+  
331.9368  
8.387e+005



200110D2\_11  
1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

F1:SIR of 15 channels,EI+  
333.934  
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Vista Analytical Laboratory

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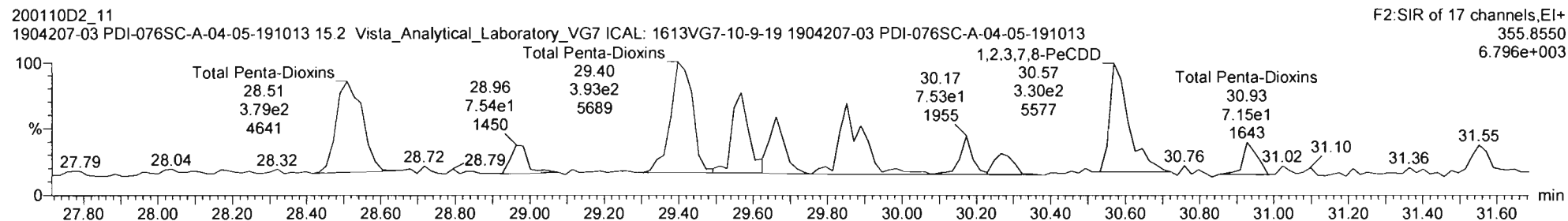
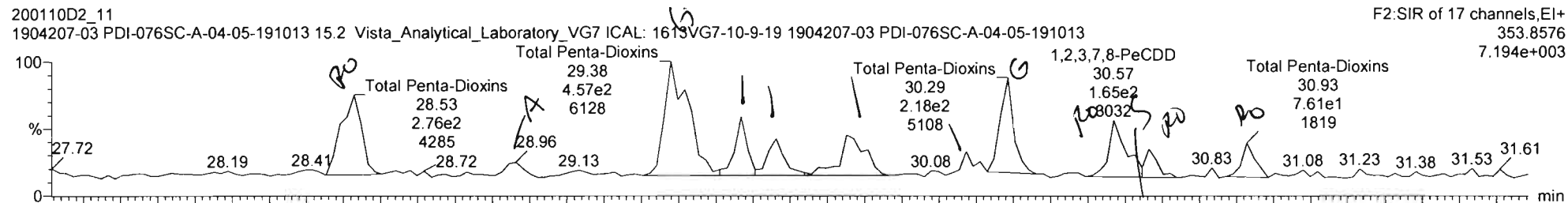
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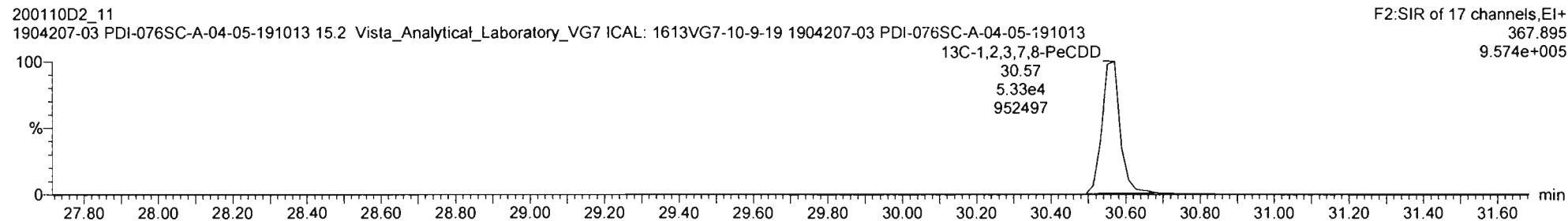
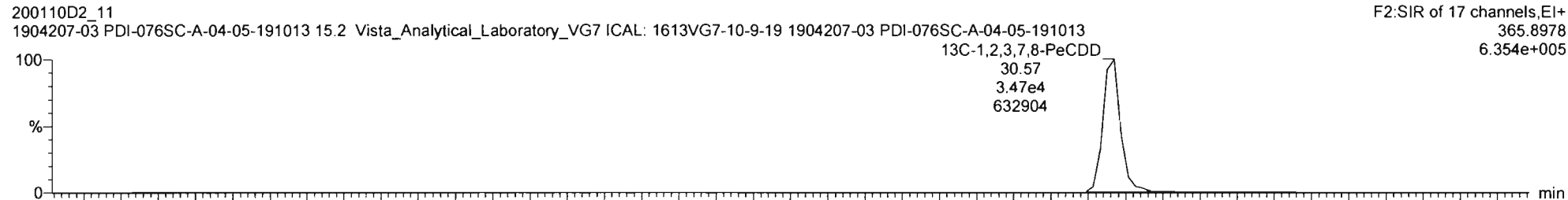
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Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Total Penta-Dioxins

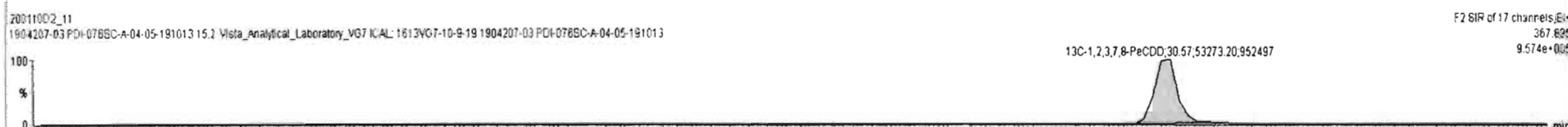
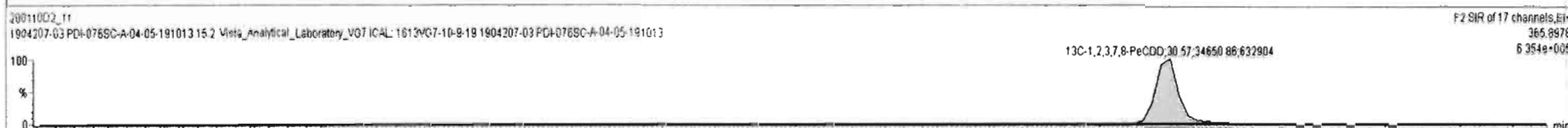
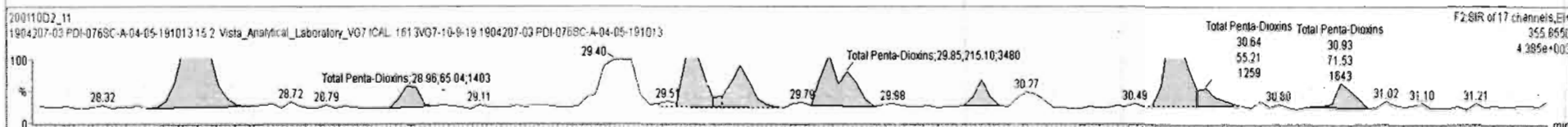
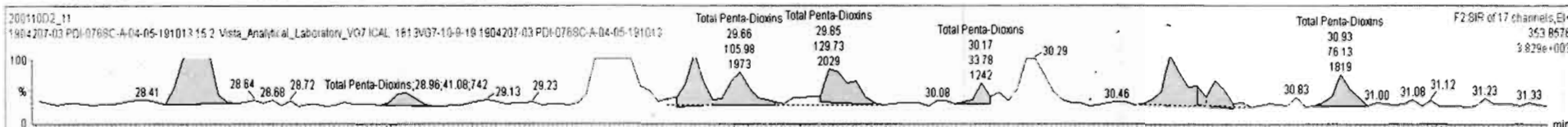


13C-1,2,3,7,8-PeCDD



#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
20	13C-1,2,3,4,7,8-HxCDD	8.59e4	1.31e5	38	1.30	NO	0.642	10.011	33.86	33.86	1.014	1.014	NO	204.3	102	0.886	
21	13C-1,2,3,6,7,8-HxCDD	9.38e4	1.31e5	38	1.25	NO	0.856	10.011	33.97	33.97	1.017	1.017	NO	187.4	83.8	0.665	
22	13C-1,2,3,7,8,9-HxCDD	9.34e4	1.31e5	38	1.28	NO	0.807	10.011	34.27	34.27	1.026	1.026	NO	176.9	88.5	0.705	
23	13C-1,2,3,4,6,7,8-HxCDD	8.47e4	1.31e5	38	1.04	NO	0.654	10.011	37.77	37.74	1.130	1.131	NO	197.8	99.0	1.01	
24	13C-OCDD	1.39e5	1.31e5	38	0.90	NO	0.580	10.011	41.02	41.00	1.228	1.228	NO	366.7	91.8	0.553	
25	13C-2,3,7,8-TCDF	1.57e5	1.67e5	37	0.77	NO	1.035	10.011	25.22	25.21	0.991	0.992	NO	181.6	90.9	0.670	
26	13C-1,2,3,7,8-PeCDF	1.46e5	1.67e5	37	1.54	NO	0.854	10.011	29.39	29.38	1.156	1.156	NO	204.6	102	1.03	
27	13C-2,3,4,7,8-PeCDF	1.42e5	1.67e5	37	1.69	NO	0.847	10.011	30.30	30.29	1.191	1.192	NO	200.6	100	1.04	
28	13C-1,2,3,4,7,8-HxCDF	1.22e5	1.31e5	38	0.50	NO	0.832	10.011	32.97	32.99	0.988	0.987	NO	224.4	112	1.33	
29	13C-1,2,3,6,7,8-HxCDF	1.32e5	1.31e5	38	0.51	NO	1.034	10.011	33.09	33.11	0.992	0.991	NO	194.3	97.2	1.07	
30	13C-2,3,4,6,7,8-HxCDF	1.17e5	1.31e5	38	0.50	NO	0.953	10.011	33.70	33.71	1.009	1.009	NO	187.4	93.8	1.16	
31	13C-1,2,3,7,8,9-HxCDF	1.06e5	1.31e5	38	0.49	NO	0.828	10.011	34.66	34.65	1.038	1.038	NO	194.7	97.4	1.33	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	Total Penta-Dioxins	30.00	28.53	2.755e2	3.793e2	0.630	0.73	YES	1.6105	0.00000
2	Total Penta-Dioxins	30.00	28.96	4.109e1	6.504e1	0.630	0.63	NO	0.27646	0.27646
3	Total Penta-Dioxins	30.00	29.57	1.205e2	1.907e2	0.630	0.63	NO	0.81071	0.81071
4	Total Penta-Dioxins	30.00	29.66	1.060e2	1.520e2	0.630	0.70	NO	0.67203	0.67203
5	Total Penta-Dioxins	30.00	29.85	1.297e2	2.151e2	0.630	0.60	NO	0.89835	0.89835
6	Total Penta-Dioxins	30.00	30.17	3.378e1	5.683e1	0.630	0.59	NO	0.23606	0.00000

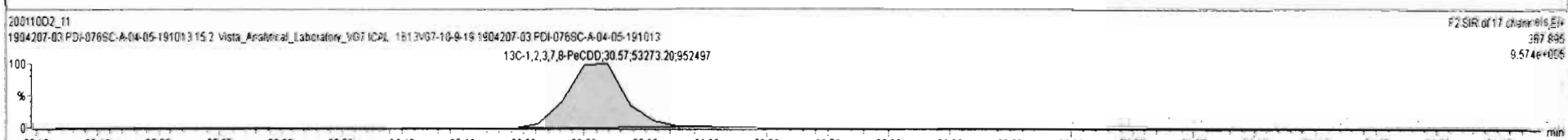
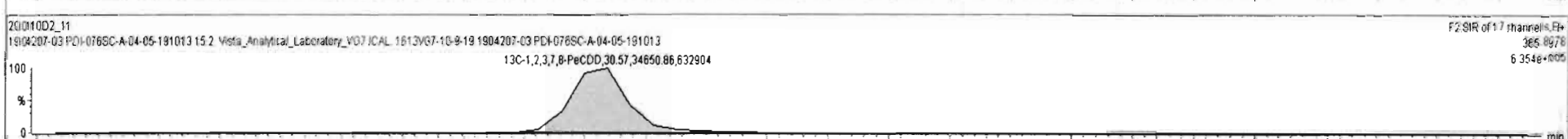
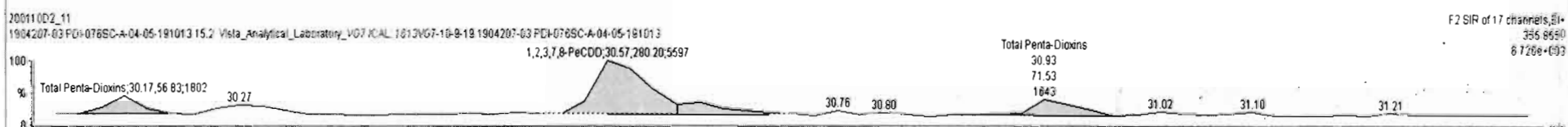
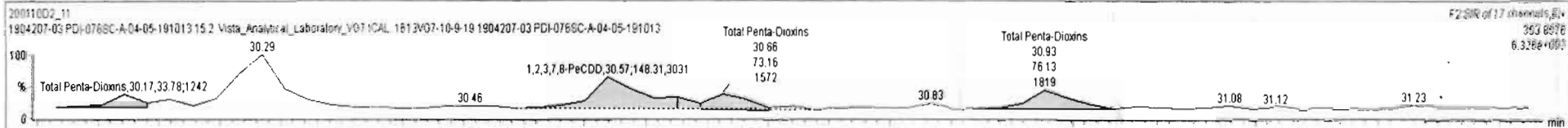




20011002\_11 - 1904207-03 PDI-0765C-A-04-05-191013 - 1904207-03 PDI-0765C-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_V07 ICAL 1813VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RRT	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
20	13C-1,2,3,4,7,8-HxCDD	8.59e4	1.31e5	38	1.30	NO	0.642	10.011	33.86	33.86	1.014	1.014	NO	204.3	102	0.886	
21	13C-1,2,3,6,7,8-HxCDD	9.38e4	1.31e5	38	1.25	NO	0.856	10.011	33.97	33.97	1.017	1.017	NO	167.4	83.8	0.665	
22	13C-1,2,3,7,8-HxCDD	9.34e4	1.31e5	38	1.28	NO	0.807	10.011	34.27	34.27	1.026	1.026	NO	176.9	88.5	0.705	
23	13C-1,2,3,4,6,7,8-HpCDD	8.47e4	1.31e5	38	1.04	NO	0.654	10.011	37.77	37.74	1.130	1.131	NO	197.8	99.0	1.01	
24	13C-OCDD	1.39e5	1.31e5	38	0.90	NO	0.580	10.011	41.02	41.00	1.228	1.228	NO	366.7	91.8	0.553	
25	13C-2,3,7,8-TCDF	1.57e5	1.67e5	37	0.77	NO	1.035	10.011	25.22	25.21	0.991	0.992	NO	181.6	90.9	0.670	
26	13C-1,2,3,7,8-PeCDF	1.46e5	1.67e5	37	1.54	NO	0.854	10.011	29.39	29.38	1.156	1.156	NO	204.6	102	1.03	
27	13C-2,3,4,7,8-PeCDF	1.42e5	1.67e5	37	1.89	NO	0.847	10.011	30.30	30.29	1.191	1.192	NO	200.6	100	1.04	
28	13C-1,2,3,4,7,8-HxCDF	1.22e5	1.31e5	38	0.50	NO	0.832	10.011	32.97	32.99	0.988	0.987	NO	224.4	112	1.33	
29	13C-1,2,3,6,7,8-HxCDF	1.32e5	1.31e5	38	0.51	NO	1.034	10.011	33.09	33.11	0.992	0.991	NO	194.3	97.2	1.07	
30	13C-2,3,4,6,7,8-HxCDF	1.17e5	1.31e5	38	0.50	NO	0.953	10.011	33.70	33.71	1.009	1.009	NO	167.4	93.8	1.16	
31	13C-1,2,3,7,8,9-HxCDF	1.06e5	1.31e5	38	0.49	NO	0.828	10.011	34.66	34.65	1.038	1.038	NO	194.7	97.4	1.33	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	Total Penta-Dioxins	30.00	28.53	2.755e2	3.793e2	0.630	0.73	YES	1.6105	0.00000
2	Total Penta-Dioxins	30.00	28.96	4.108e1	6.504e1	0.630	0.63	NO	0.27646	0.27646
3	Total Penta-Dioxins	30.00	29.57	1.205e2	1.907e2	0.630	0.63	NO	0.81071	0.81071
4	Total Penta-Dioxins	30.00	29.66	1.060e2	1.520e2	0.630	0.70	NO	0.67203	0.67203
5	Total Penta-Dioxins	30.00	29.85	1.297e2	2.151e2	0.630	0.80	NO	0.89835	0.89835
6	Total Penta-Dioxins	30.00	30.17	3.378e1	5.683e1	0.630	0.59	NO	0.23606	0.00000



Vista Analytical Laboratory

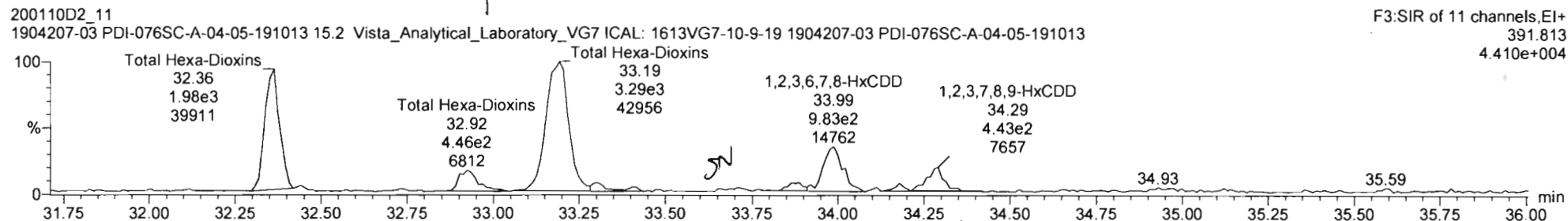
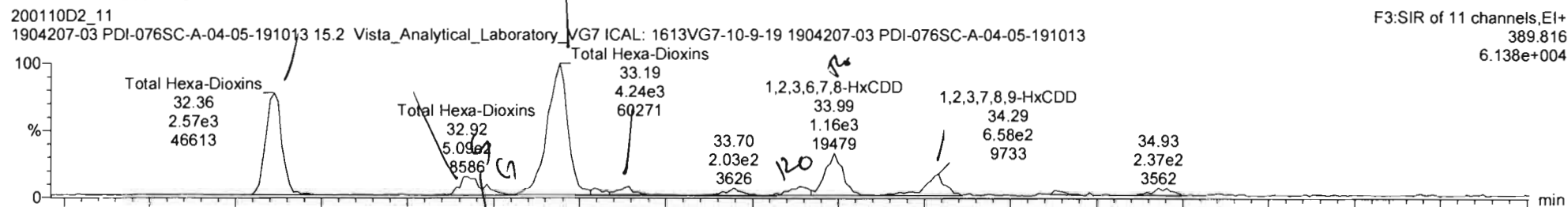
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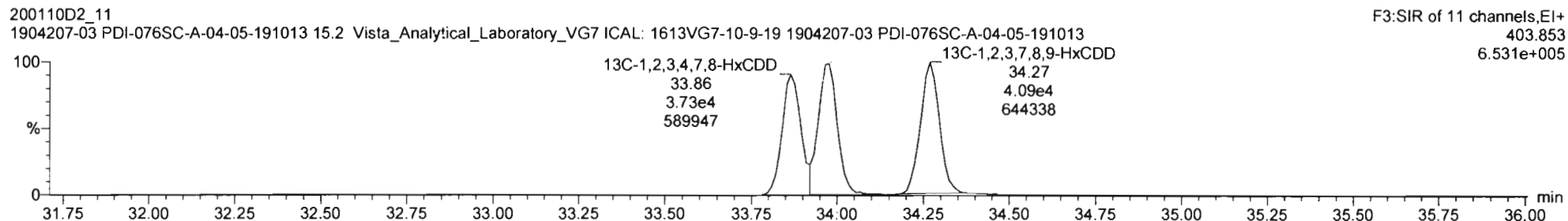
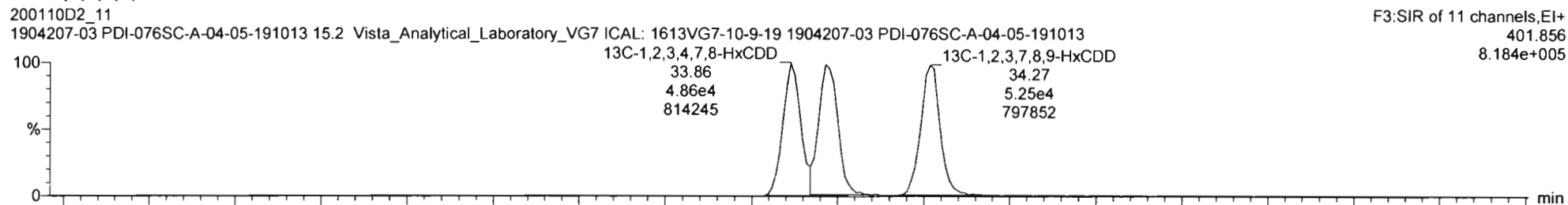
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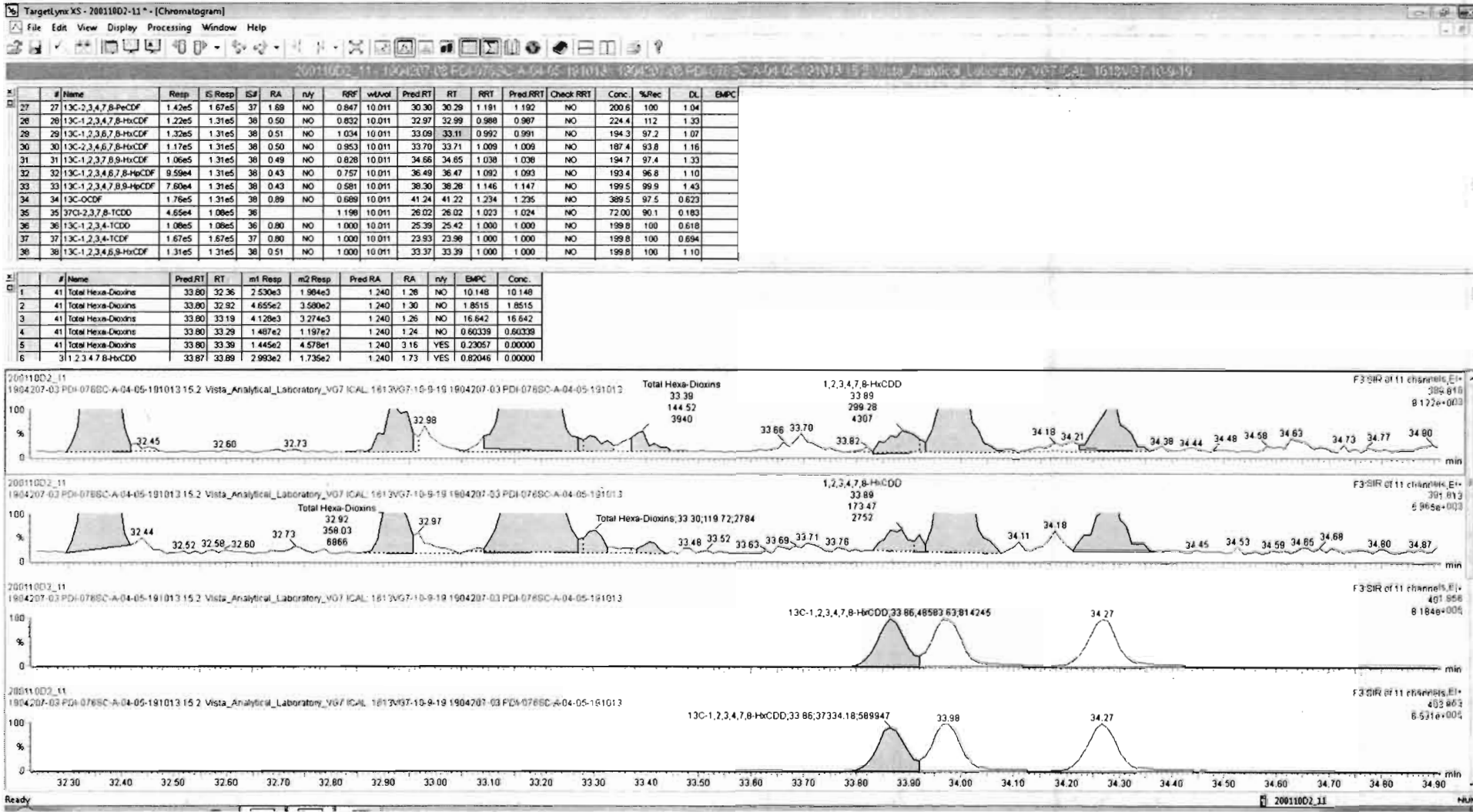
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Total Hexa-Dioxins



13C-1,2,3,4,7,8-HxCDD

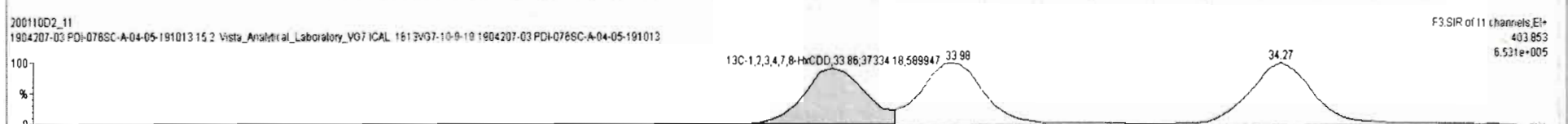
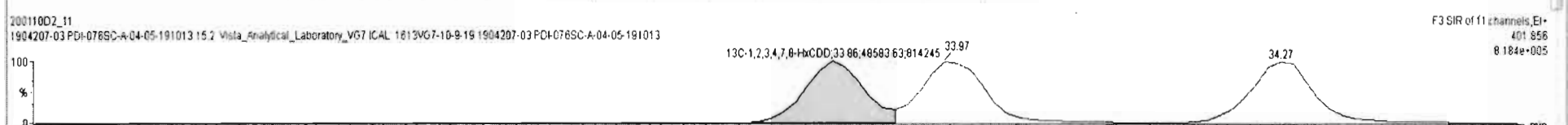
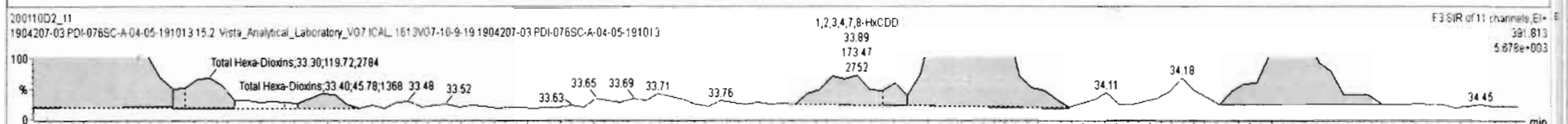
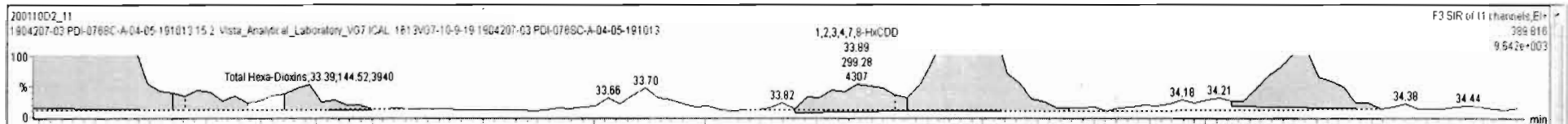




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#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtAvol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
27	27 13C-1,2,3,4,7,8-PeCDF	1.42e5	1.67e5	37	1.69	NO	0.847	10.011	30.30	30.29	1.191	1.192	NO	200.6	100	1.04	
28	28 13C-1,2,3,4,7,8-HxCDF	1.22e5	1.31e5	38	0.50	NO	0.832	10.011	32.97	32.99	0.988	0.987	NO	224.4	112	1.33	
29	29 13C-1,2,3,6,7,8-HxCDF	1.32e5	1.31e5	38	0.51	NO	1.034	10.011	33.09	33.11	0.992	0.991	NO	194.3	97.2	1.07	
30	30 13C-2,3,4,6,7,8-HxCDF	1.17e5	1.31e5	36	0.50	NO	0.953	10.011	33.70	33.71	1.009	1.009	NO	187.4	93.8	1.16	
31	31 13C-1,2,3,7,8-HxCDF	1.06e5	1.31e5	38	0.49	NO	0.828	10.011	34.66	34.65	1.038	1.038	NO	194.7	97.4	1.33	
32	32 13C-1,2,3,4,6,7,8-HpCDF	9.59e4	1.31e5	38	0.43	NO	0.757	10.011	36.49	36.47	1.092	1.093	NO	193.4	96.8	1.10	
33	33 13C-1,2,3,4,7,8-HpCDF	7.60e4	1.31e5	38	0.43	NO	0.581	10.011	38.30	38.26	1.146	1.147	NO	199.5	99.9	1.43	
34	34 13C-OCDF	1.76e5	1.31e5	38	0.89	NO	0.689	10.011	41.24	41.22	1.234	1.235	NO	389.5	97.5	0.623	
35	35 3TC-2,3,7,8-TCDD	4.85e4	1.08e5	36			1.198	10.011	26.02	26.02	1.023	1.024	NO	72.00	90.1	0.183	
36	36 13C-1,2,3,4-TCDD	1.08e5	1.08e5	36	0.80	NO	1.000	10.011	25.39	25.42	1.000	1.000	NO	199.8	100	0.618	
37	37 13C-1,2,3,4-TCDF	1.67e5	1.67e5	37	0.80	NO	1.000	10.011	23.93	23.98	1.000	1.000	NO	199.8	100	0.694	
38	38 13C-1,2,3,4,6,8-HxCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.011	33.37	33.39	1.000	1.000	NO	199.8	100	1.10	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.36	2.530e3	1.984e3	1.240	1.26	NO	10.148	10.148
2	41 Total Hexa-Dioxins	33.80	32.92	4.655e2	3.580e2	1.240	1.30	NO	1.8515	1.8515
3	41 Total Hexa-Dioxins	33.80	33.19	4.128e3	3.274e3	1.240	1.26	NO	16.642	16.642
4	41 Total Hexa-Dioxins	33.80	33.29	1.487e2	1.197e2	1.240	1.24	NO	0.60339	0.60339
5	41 Total Hexa-Dioxins	33.80	33.39	1.445e2	4.579e1	1.240	3.16	YES	0.23057	0.00000
6	31 1,2,3,4,7,8-HxCDD	33.87	33.89	2.993e2	1.735e2	1.240	1.73	YES	0.82046	0.00000



Vista Analytical Laboratory

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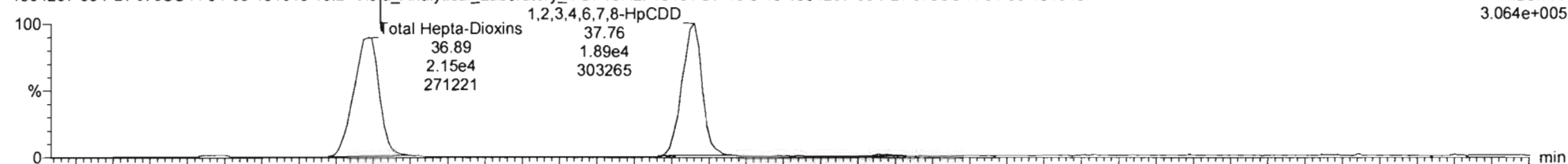
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Total Hepta-Dioxins

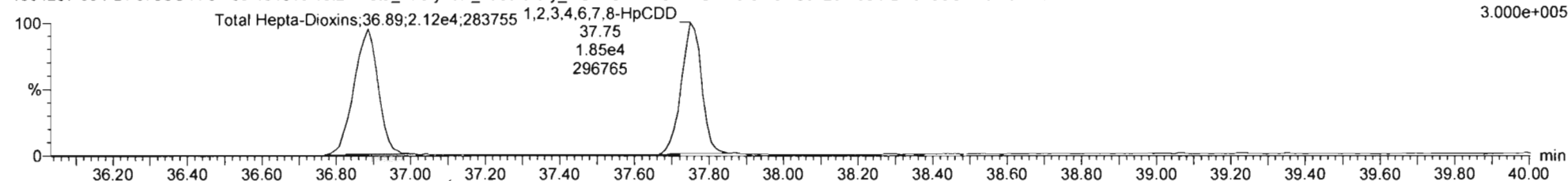
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F4:SIR of 11 channels,EI+ 423.777 3.064e+005



200110D2\_11 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

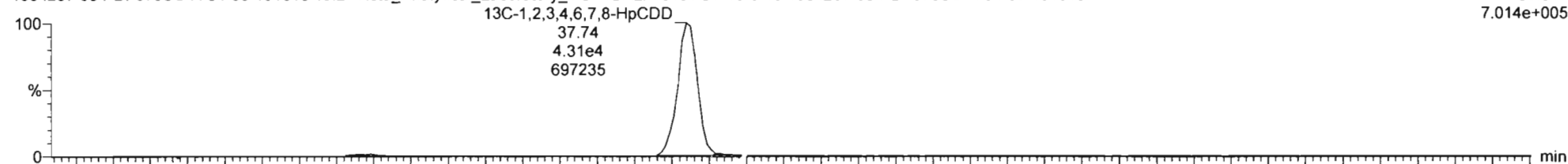
F4:SIR of 11 channels,EI+ 425.774 3.000e+005



13C-1,2,3,4,6,7,8-HpCDD

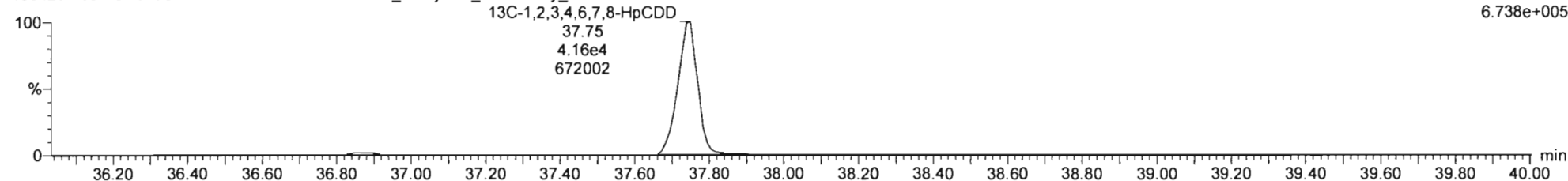
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F4:SIR of 11 channels,EI+ 435.817 7.014e+005



200110D2\_11 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

F4:SIR of 11 channels,EI+ 437.814 6.738e+005



Vista Analytical Laboratory

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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

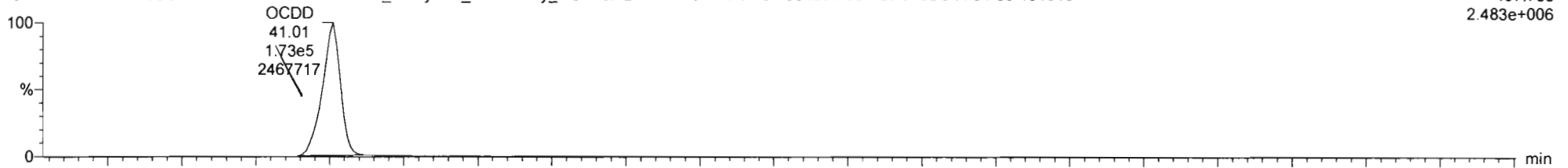
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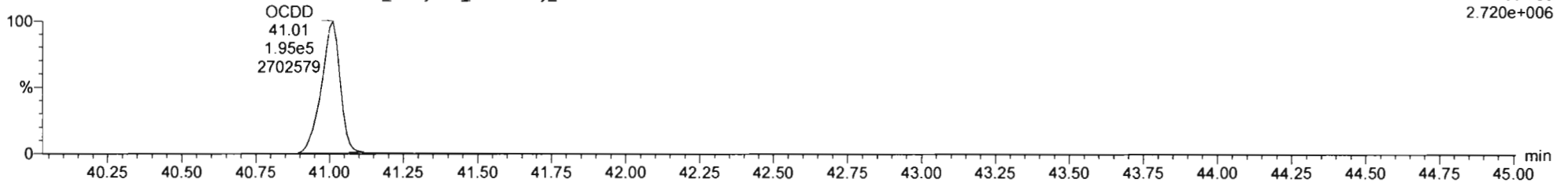
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F5:SIR of 11 channels,EI+  
457.738  
2.483e+006



200110D2\_11  
1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

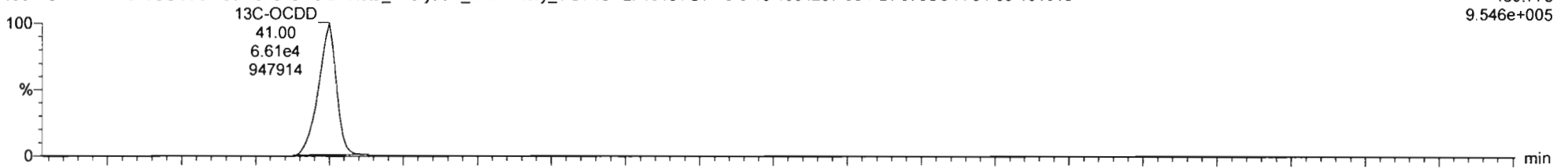
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13C-OCDD

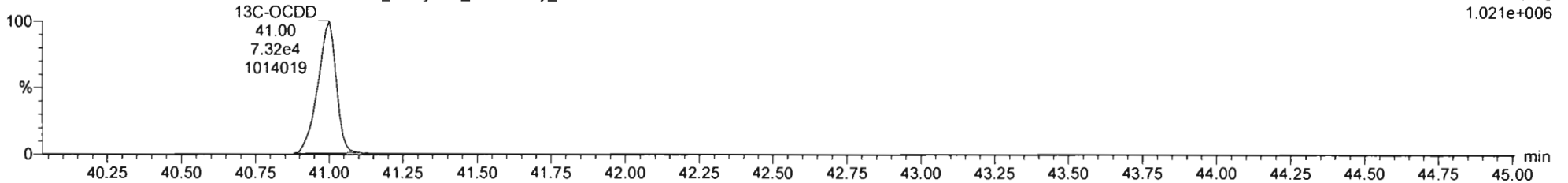
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F5:SIR of 11 channels,EI+  
469.778  
9.546e+005



200110D2\_11  
1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

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Vista Analytical Laboratory

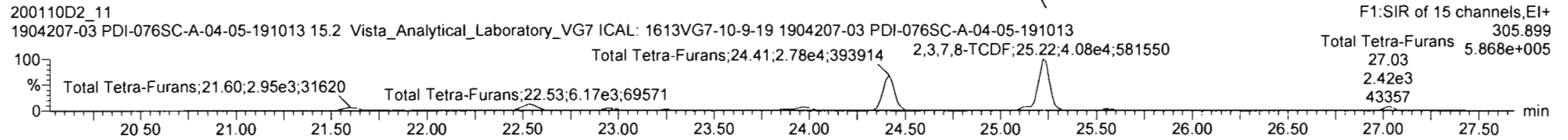
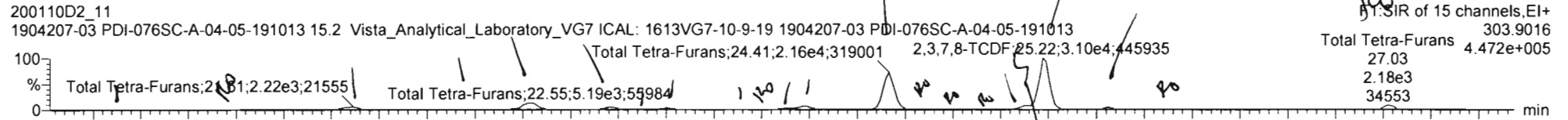
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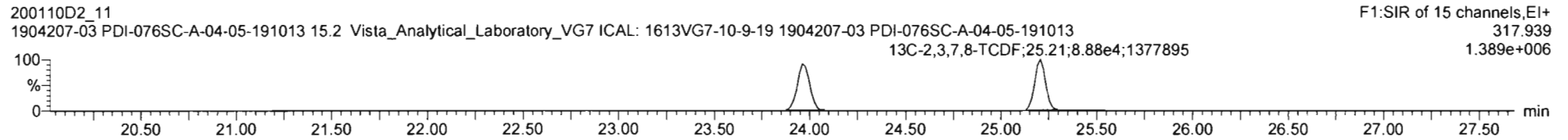
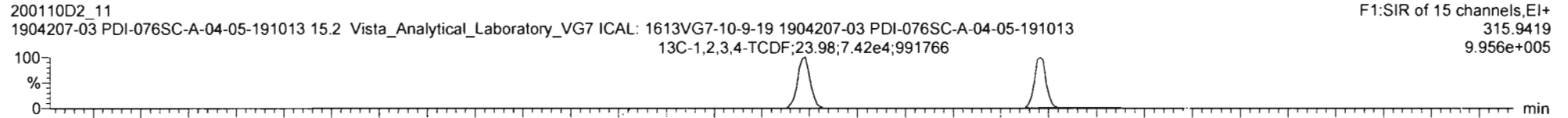
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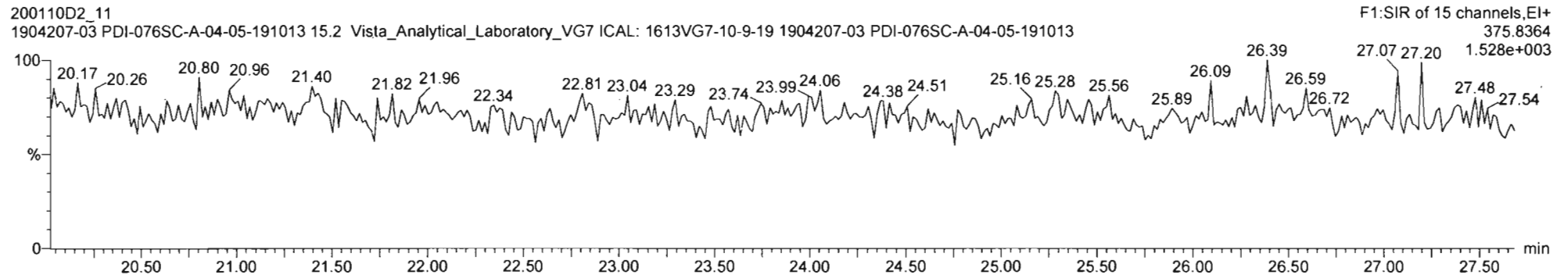
Total Tetra-Furans

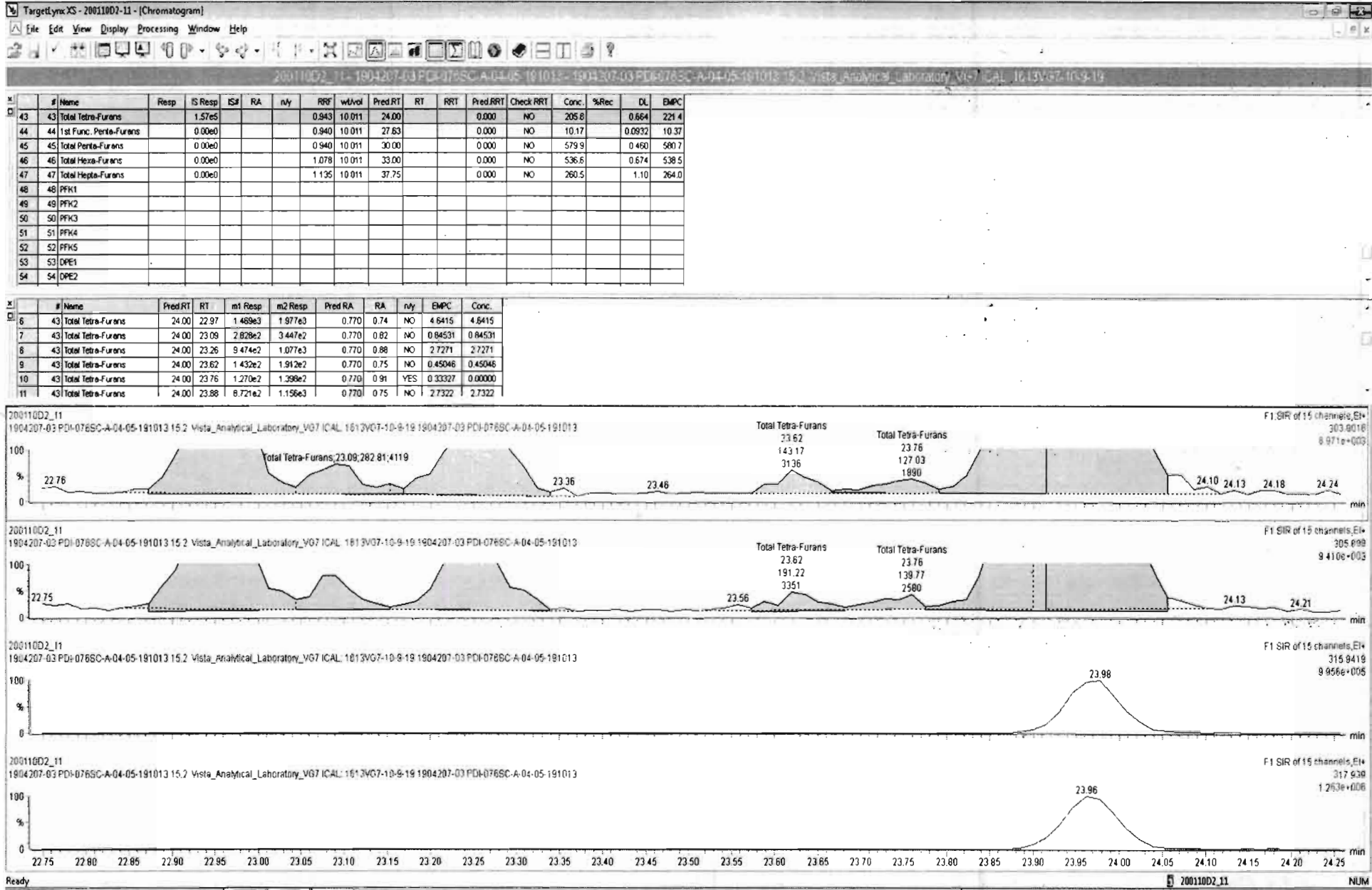


13C-2,3,7,8-TCDF



DPE1



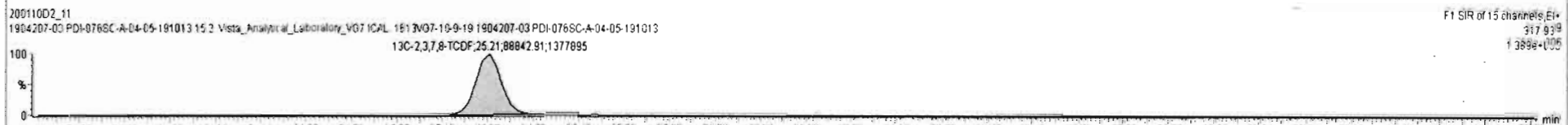
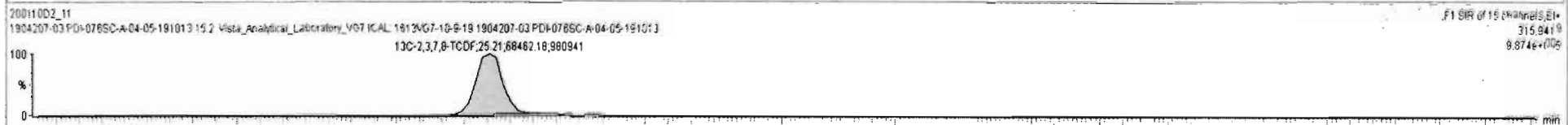
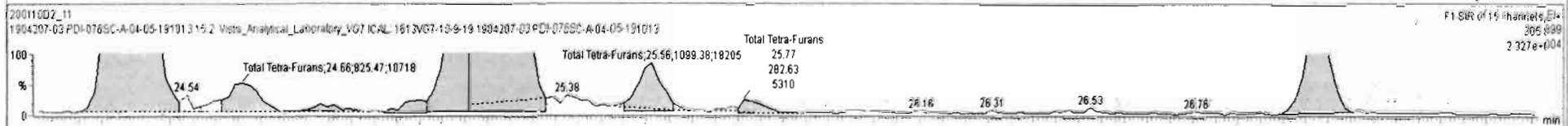
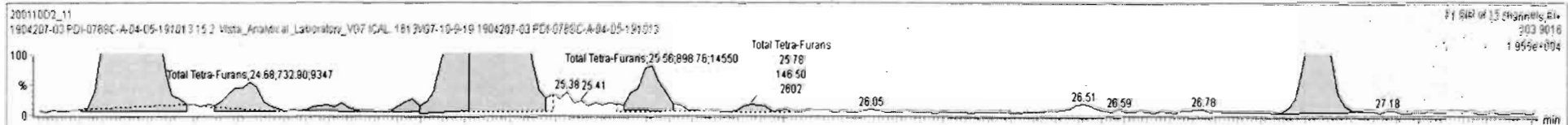




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#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RR1	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	211.4		0.664	221.7
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.17		0.0932	10.37
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO	579.9		0.460	580.7
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	536.6		0.674	538.5
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	260.5		1.10	264.0
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	20.42	1.138e2	1.286e2	0.770	0.89	NO	0.32653	0.32653
2	43 Total Tetra-Furans	24.00	20.99	3.114e2	3.504e2	0.770	0.89	YES	0.83541	0.00000
3	43 Total Tetra-Furans	24.00	21.61	2.225e3	2.947e3	0.770	0.75	NO	6.9668	6.9668
4	43 Total Tetra-Furans	24.00	22.16	1.189e3	1.609e3	0.770	0.74	NO	3.7680	3.7680
5	43 Total Tetra-Furans	24.00	22.55	5.129e3	6.402e3	0.770	0.80	NO	15.534	15.534
6	43 Total Tetra-Furans	24.00	22.97	1.469e3	1.977e3	0.770	0.74	NO	4.6415	4.6415



Vista Analytical Laboratory

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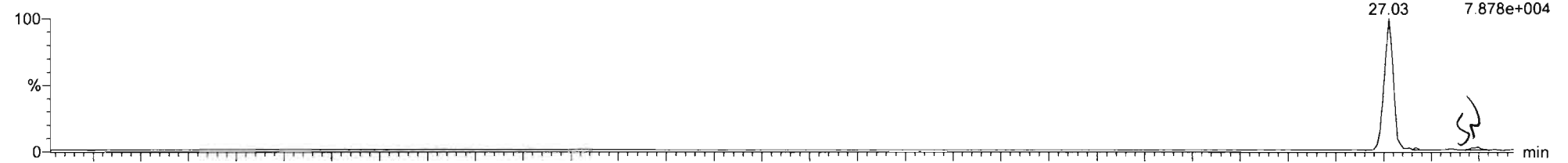
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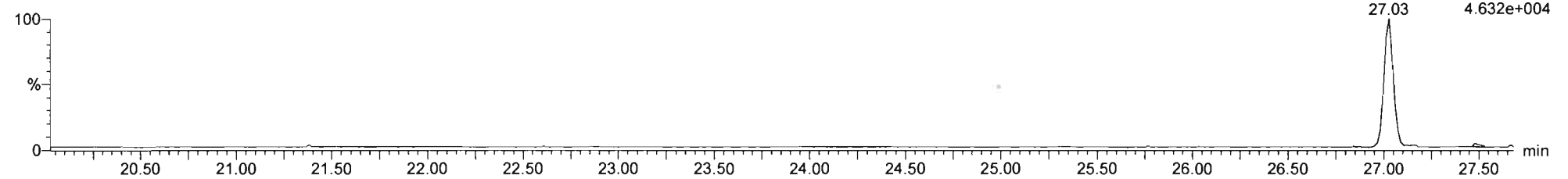
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Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

1st Func. Penta-Furans

200110D2\_11  
1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013

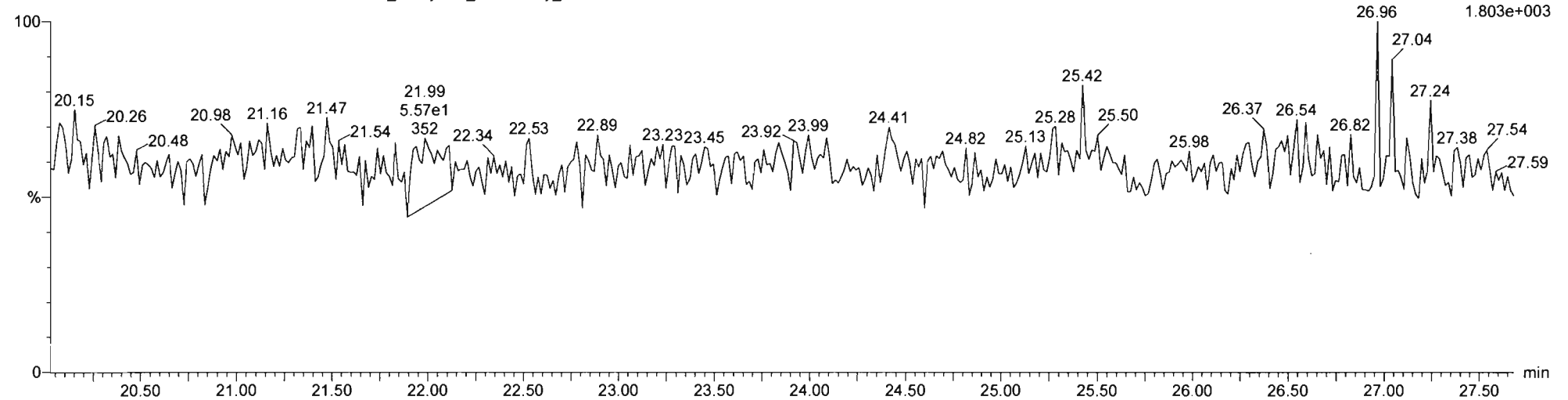


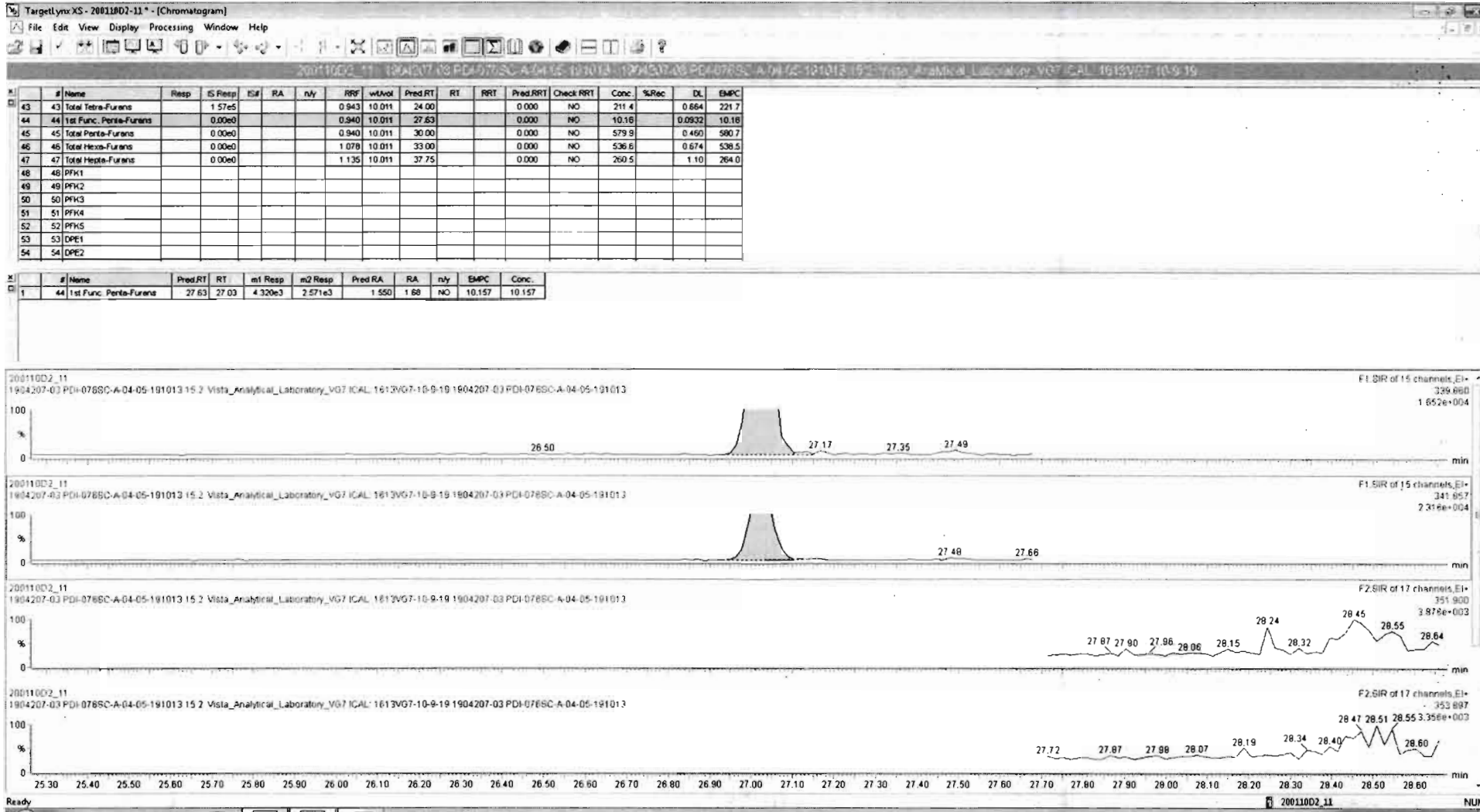
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DPE6

200110D2\_11  
1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-03 PDI-076SC-A-04-05-191013





Vista Analytical Laboratory

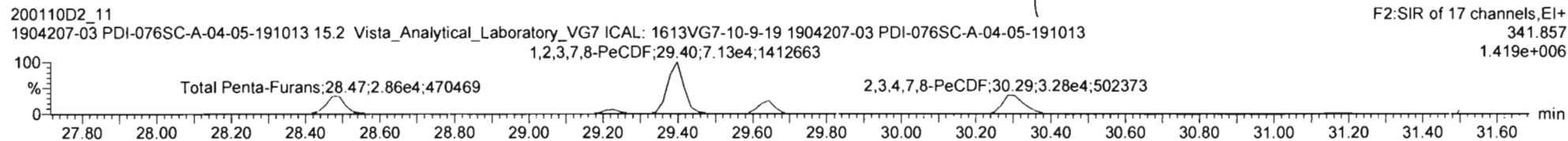
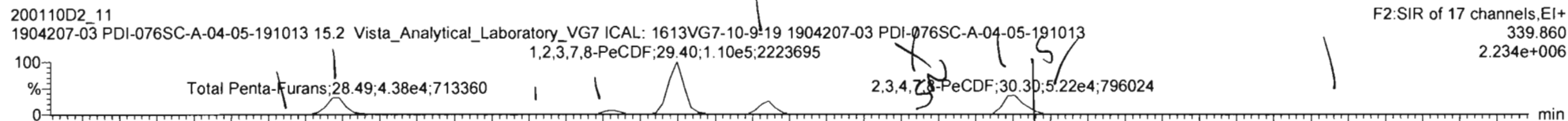
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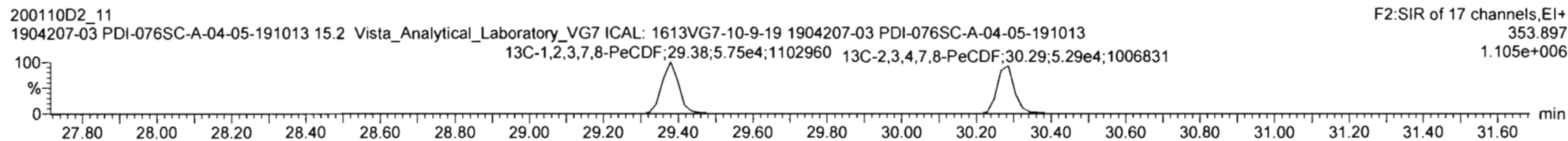
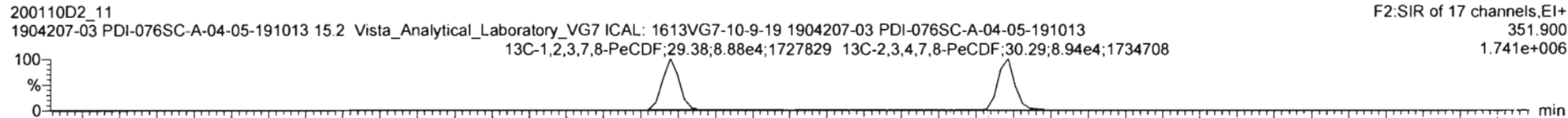
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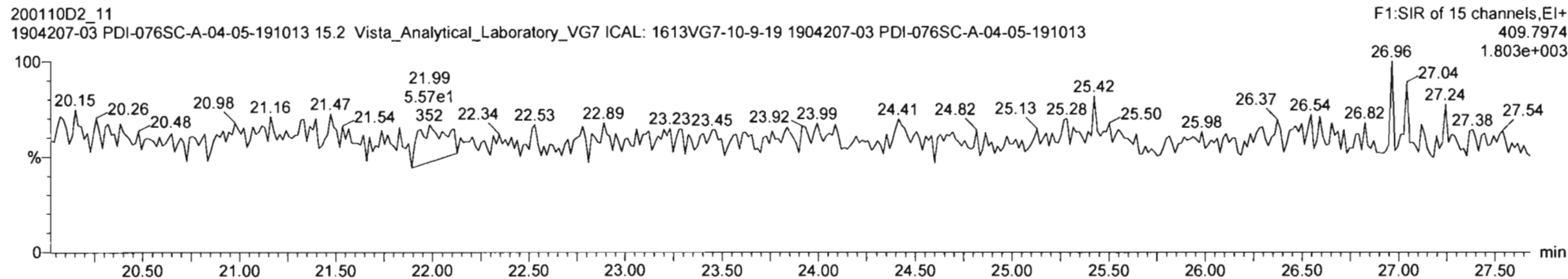
Total Penta-Furans

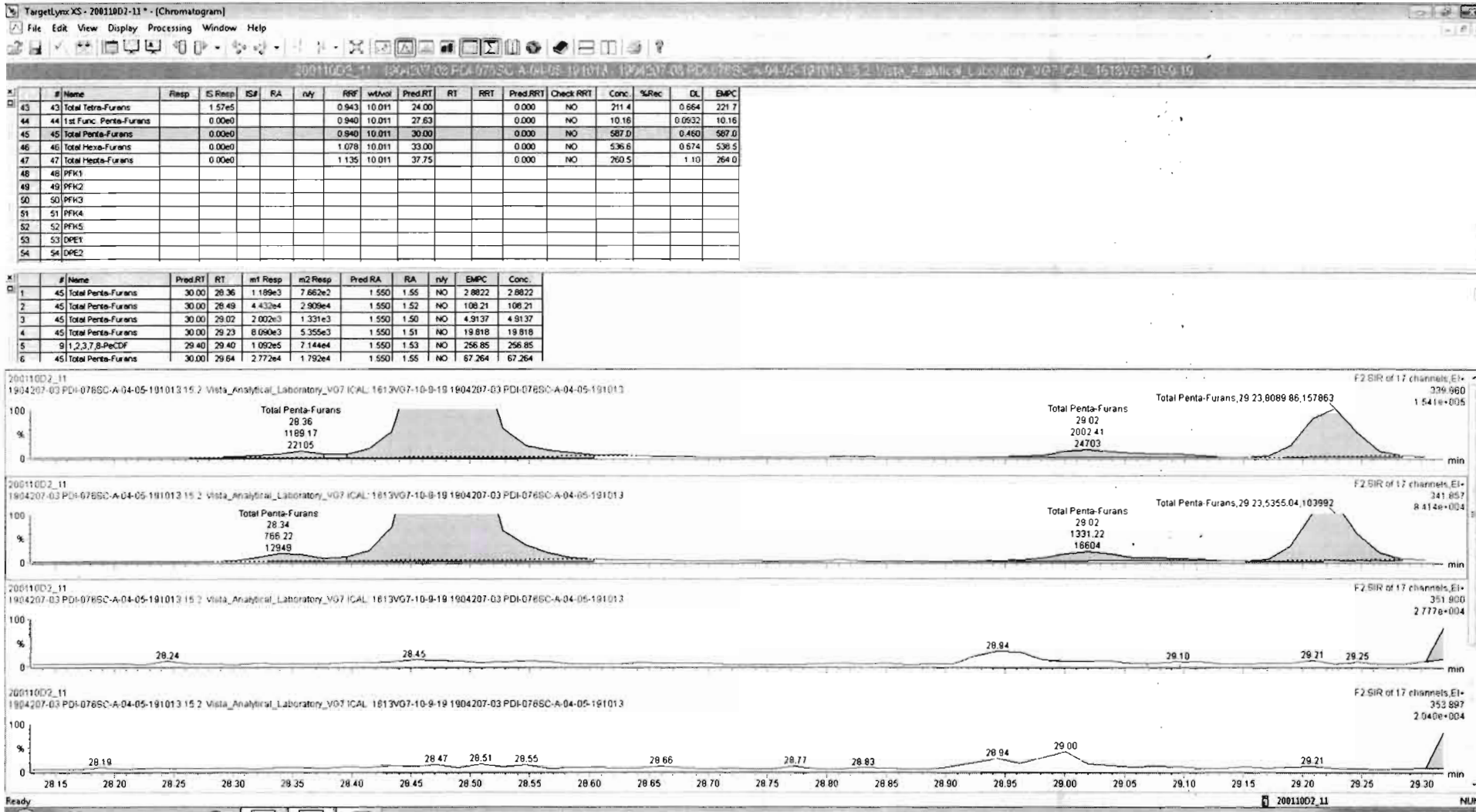


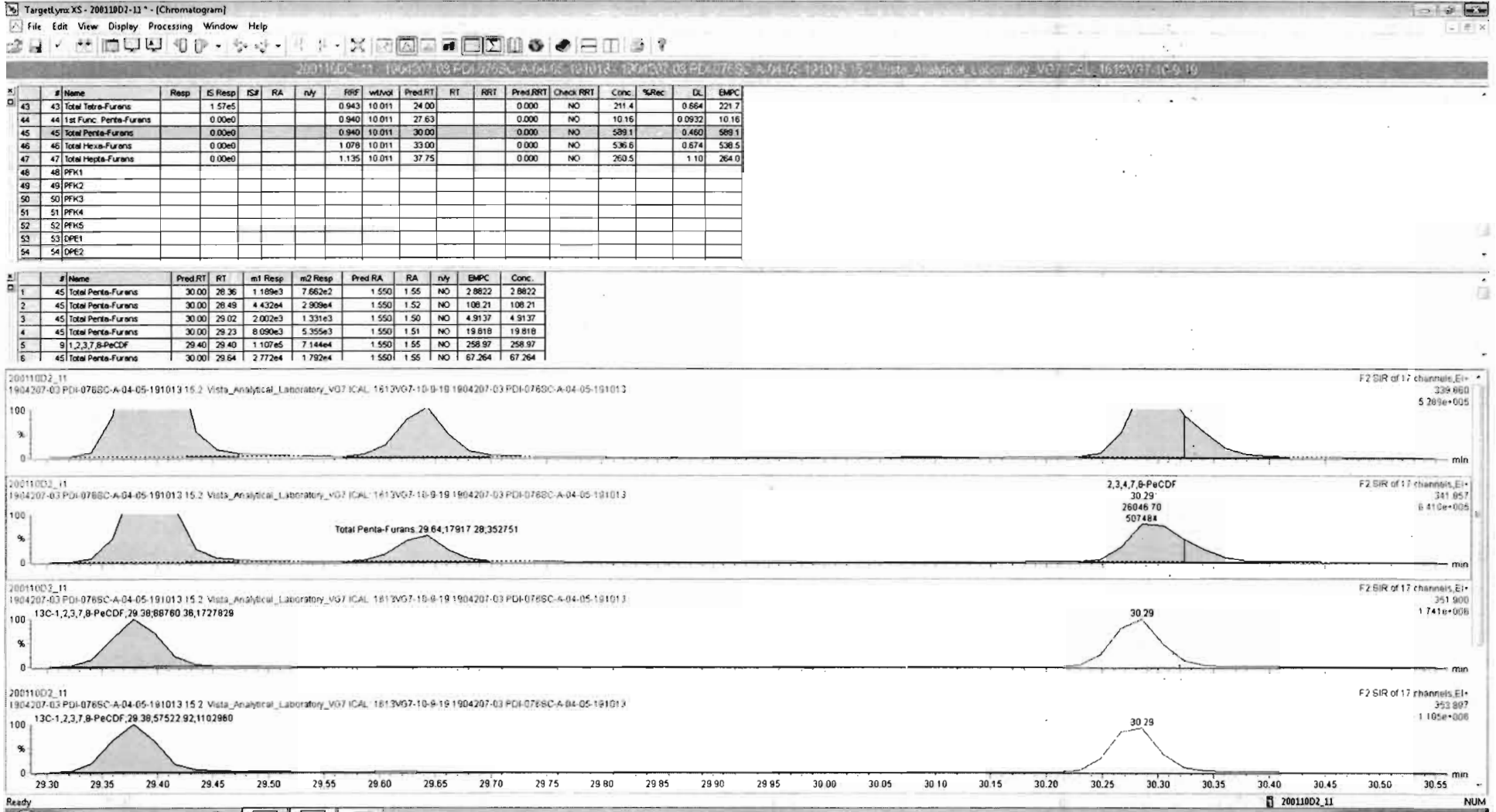
13C-1,2,3,7,8-PeCDF



DPE2



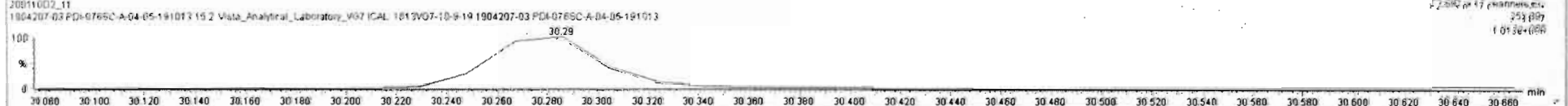
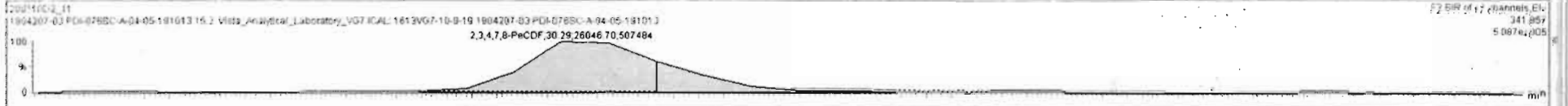
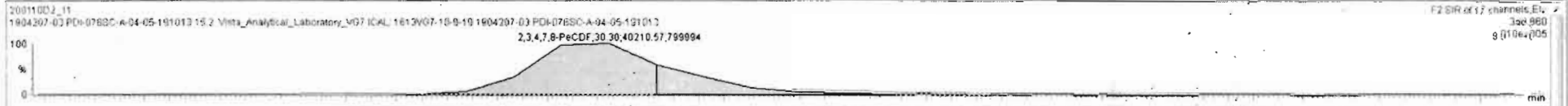


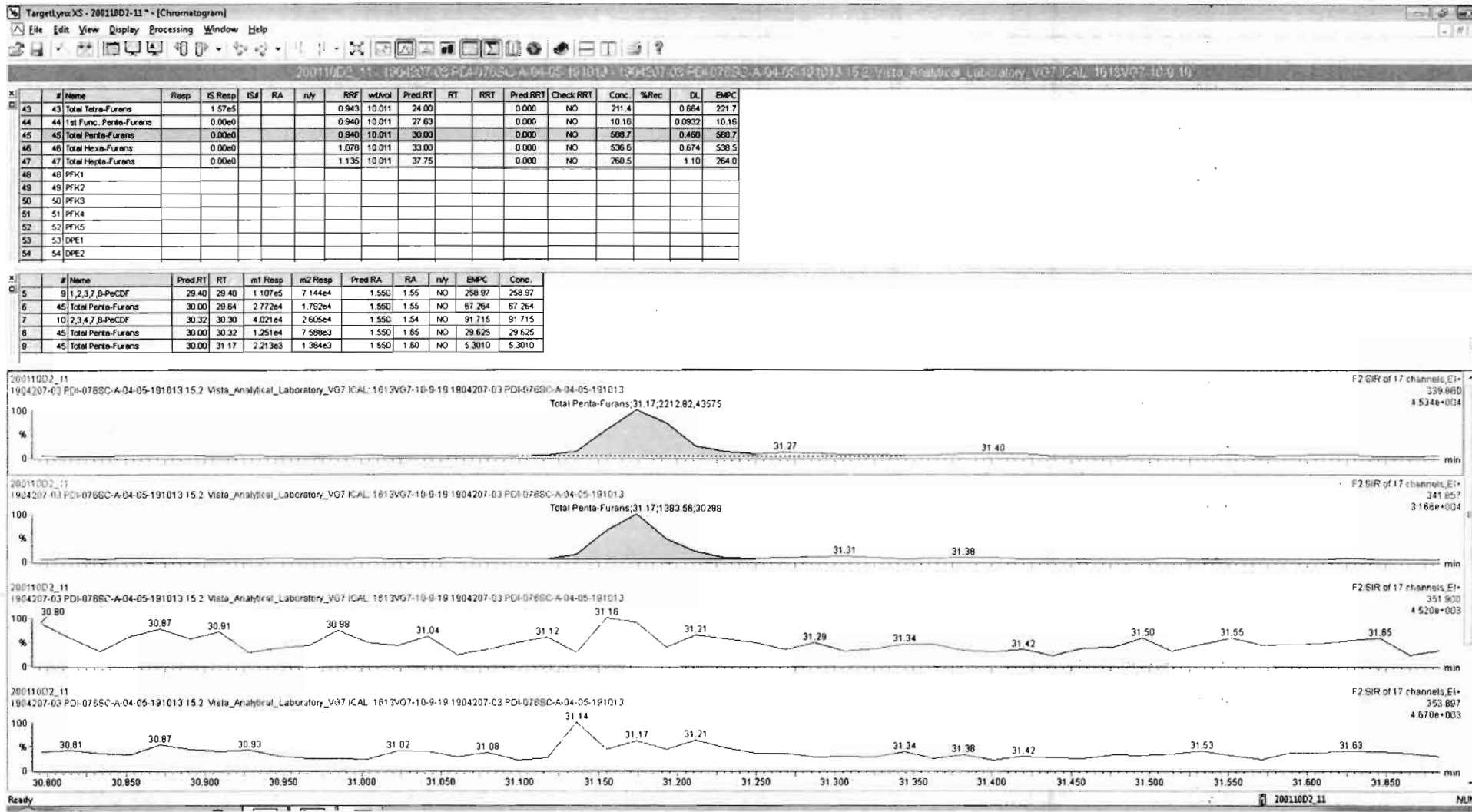


20011002\_11 1904207-03 PDI-0785C-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 1904207-03 PDI-0785C-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RSF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	211.4		0.664	221.7
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.16		0.0932	10.16
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO	589.7		0.460	589.7
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	536.6		0.674	536.5
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	260.5		1.10	264.0
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.36	1.189e3	7.662e2	1.550	1.55	NO	2.8622	2.8622
2	45 Total Penta-Furans	30.00	28.49	4.432e4	2.909e4	1.550	1.52	NO	108.21	108.21
3	45 Total Penta-Furans	30.00	29.02	2.002e3	1.331e3	1.550	1.50	NO	4.9137	4.9137
4	45 Total Penta-Furans	30.00	29.23	8.090e3	5.355e3	1.550	1.51	NO	19.818	19.818
5	9 1,2,3,7,8-PeCDF	29.40	29.40	1.107e5	7.144e4	1.550	1.55	NO	258.97	258.97
6	45 Total Penta-Furans	30.00	29.64	2.772e4	1.792e4	1.550	1.55	NO	67.264	67.264







Vista Analytical Laboratory

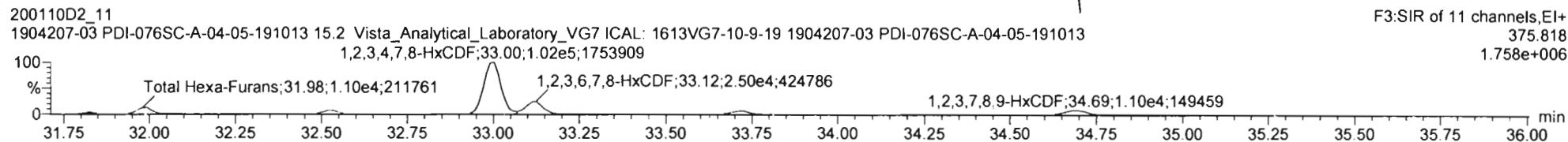
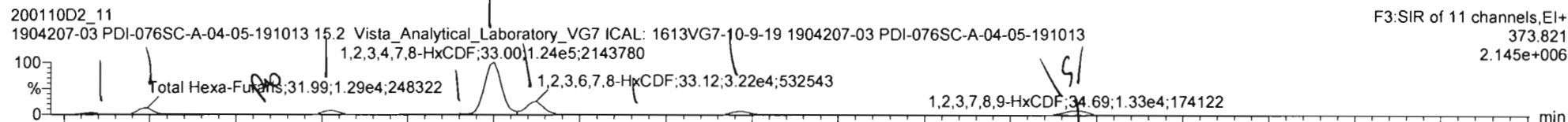
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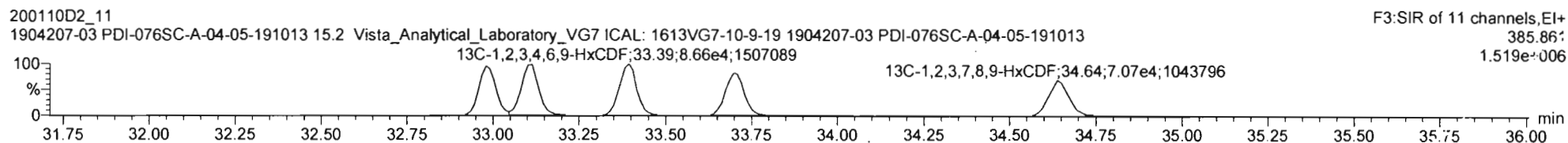
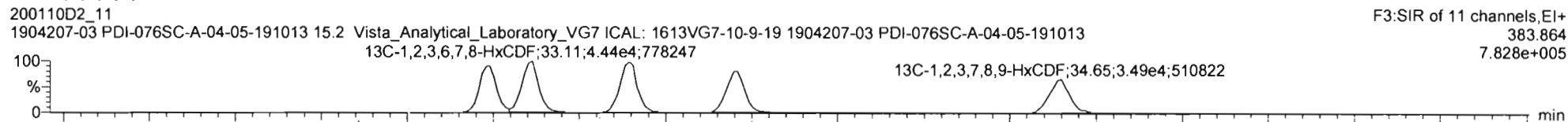
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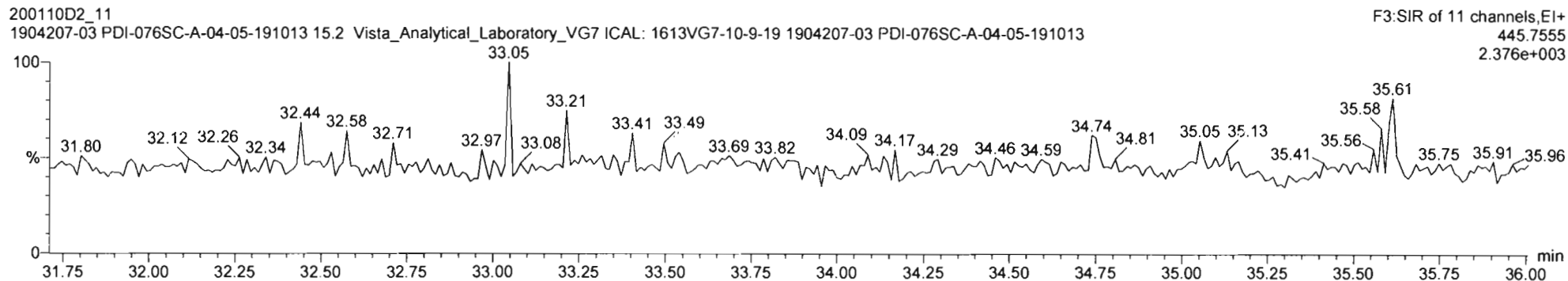
Total Hexa-Furans



13C-1,2,3,4,7,8-HxCDF



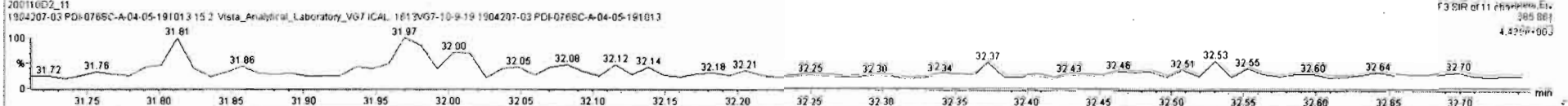
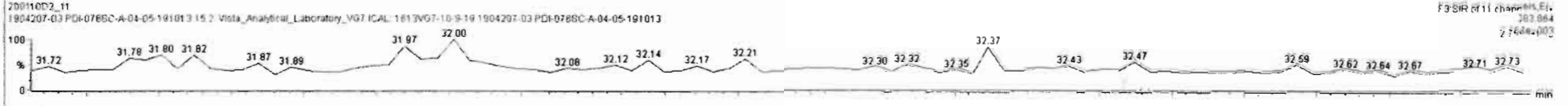
DPE3



20011002\_11\_1104207\_03 PDI-0785C-A-04-05-191013 15 2 Vista\_Analytical\_Laboratory\_VG7 ICAL 1613VG7-10-9-19 1904207-03 PDI-0785C-A-04-05-191013 15 2 Vista\_Analytical\_Laboratory\_VG7 ICAL 1613VG7-10-9-19

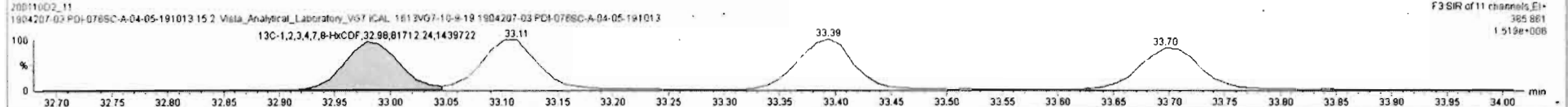
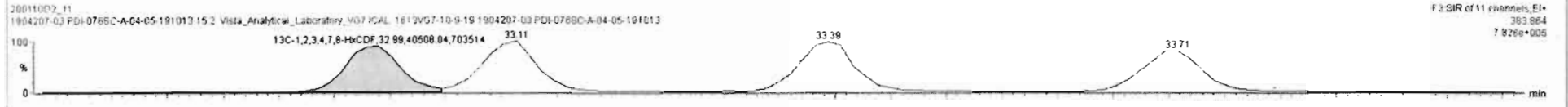
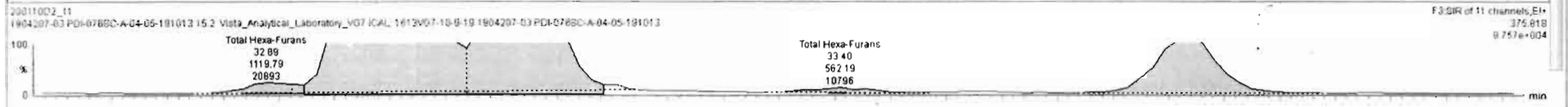
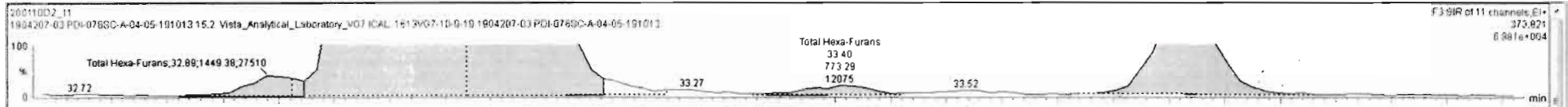
#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	211.4		0.664	221.7
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.16		0.0932	10.16
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO	569.7		0.460	569.7
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	537.1		0.674	536.1
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	260.5		1.10	264.0
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																

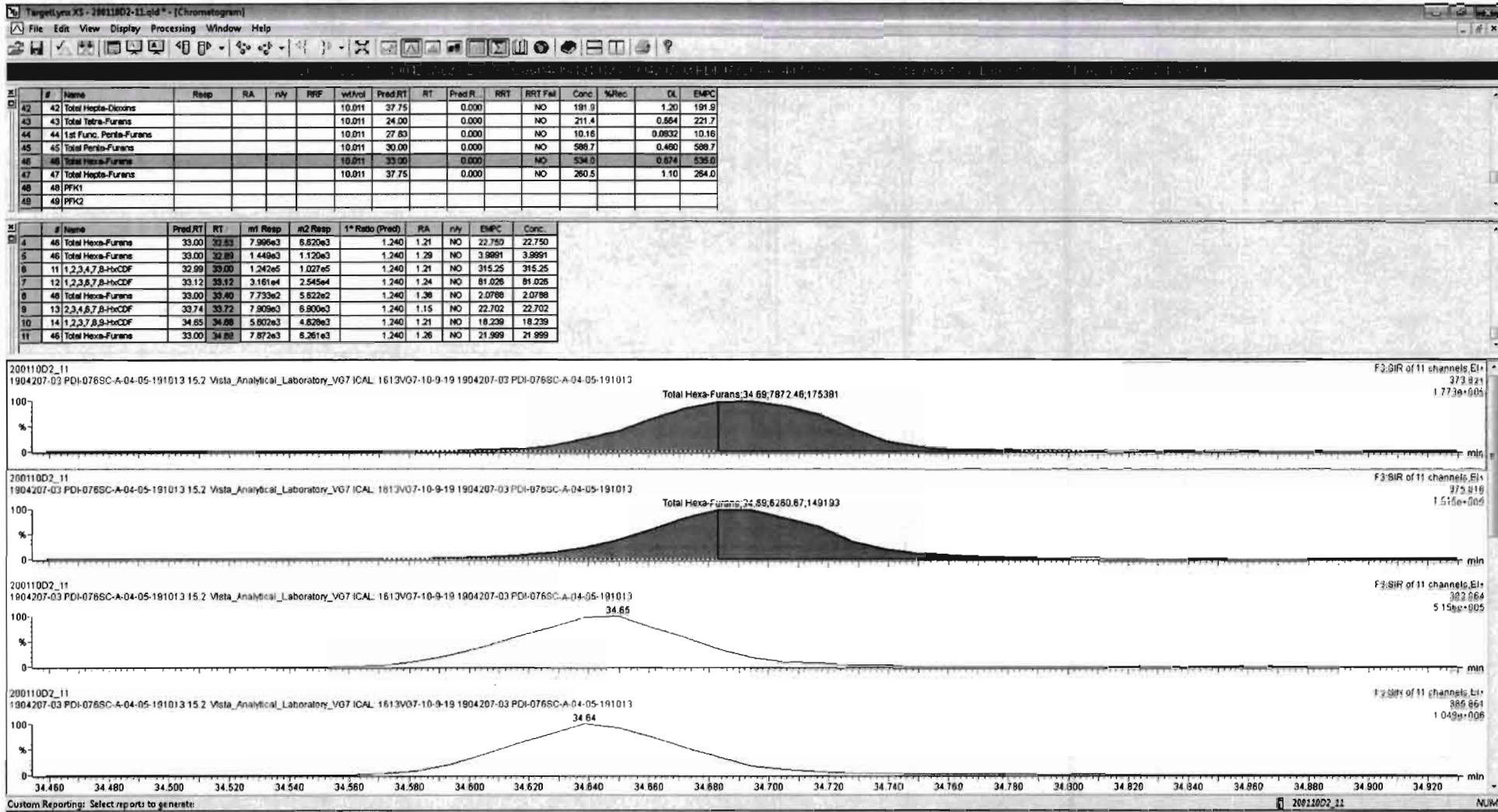
#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	31.82	3.114e3	2.480e3	1.240	1.26	NO	8.7083	8.7083
2	46 Total Hexa-Furans	33.00	31.99	1.295e4	1.101e4	1.240	1.18	NO	37.287	37.287
3	46 Total Hexa-Furans	33.00	32.33	3.988e2	2.715e2	1.240	1.47	YES	0.94649	0.00000
4	46 Total Hexa-Furans	33.00	32.53	7.996e3	6.620e3	1.240	1.21	NO	22.750	22.750
5	46 Total Hexa-Furans	33.00	32.89	1.449e3	1.120e3	1.240	1.29	NO	3.9991	3.9991
6	11 1.2.3.4.7.8-HxCDF	32.99	33.00	1.242e5	1.027e5	1.240	1.21	NO	315.25	315.25



#	Name	Resp	IS Resp	ISF	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	211.4		0.664	221.7
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.16		0.0932	10.16
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO	588.7		0.480	588.7
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	537.1		0.674	538.1
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	260.5		1.10	264.0
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	31.82	3.114e3	2.480e3	1.240	1.26	NO	8.7083	8.7083
2	46 Total Hexa-Furans	33.00	31.99	1.295e4	1.101e4	1.240	1.16	NO	37.287	37.287
3	46 Total Hexa-Furans	33.00	32.33	3.989e2	2.715e2	1.240	1.47	YES	0.94649	0.00000
4	46 Total Hexa-Furans	33.00	32.53	7.996e3	6.620e3	1.240	1.21	NO	22.750	22.750
5	46 Total Hexa-Furans	33.00	32.89	1.449e3	1.120e3	1.240	1.29	NO	3.9991	3.9991
6	11 1,2,3,4,7,8-HxCDF	32.99	33.00	1.242e5	1.027e5	1.240	1.21	NO	315.25	315.25





Vista Analytical Laboratory

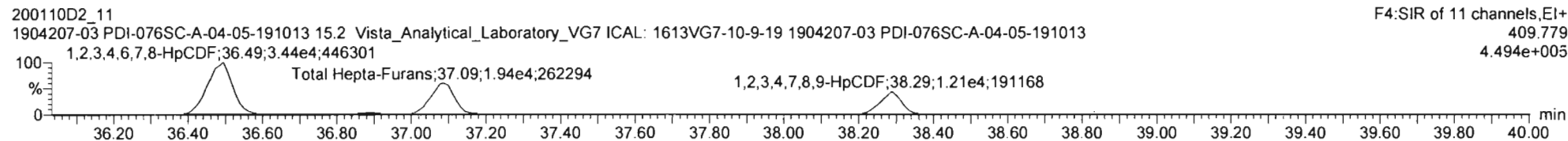
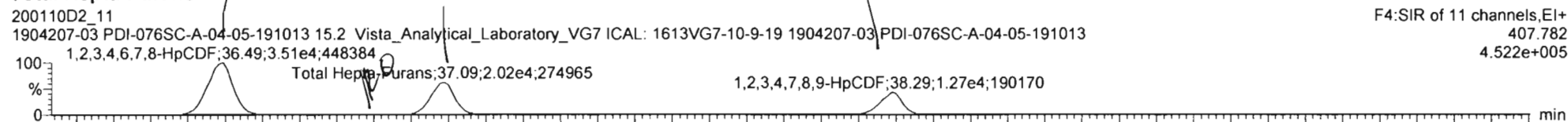
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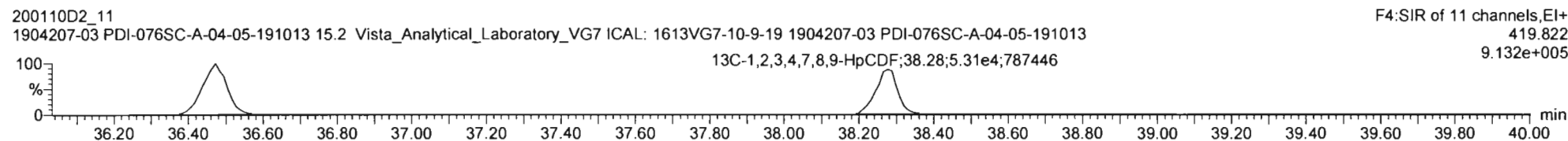
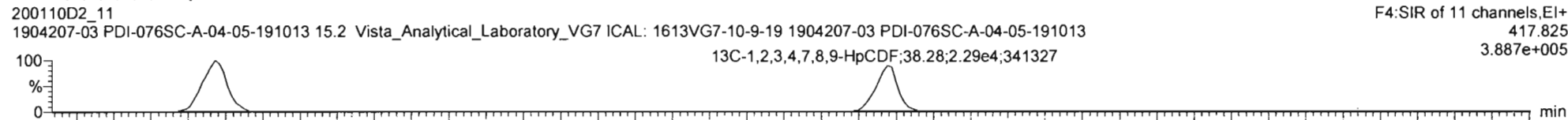
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Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013, Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

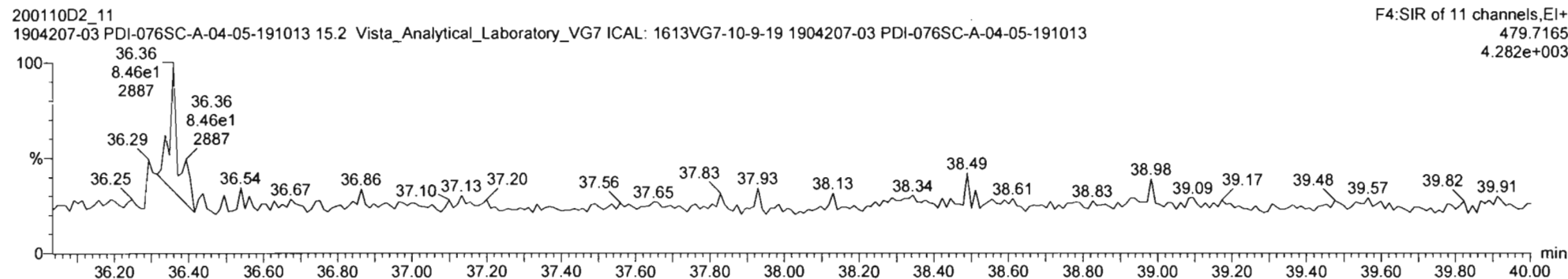
Total Hepta-Furans



13C-1,2,3,4,6,7,8-HpCDF



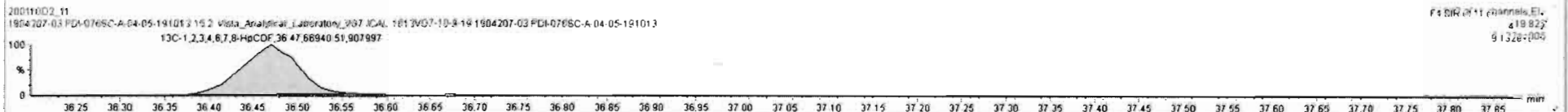
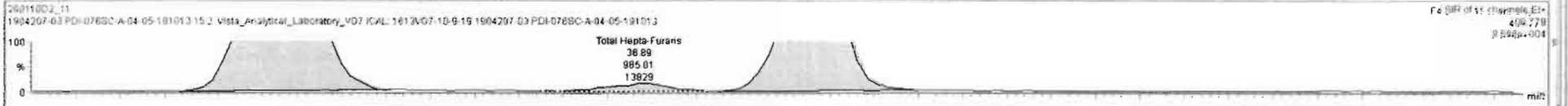
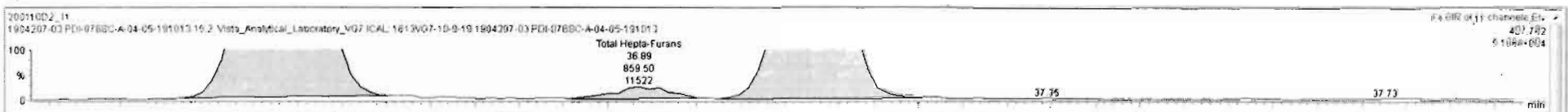
DPE4



20011002\_11 1904207-03 PDI-0785C-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 1904207-03 PDI-0785C-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19

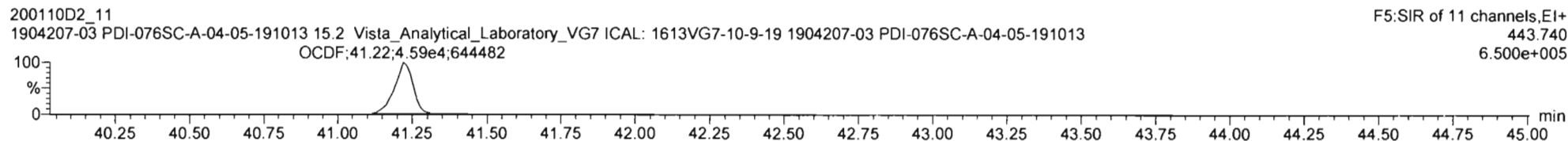
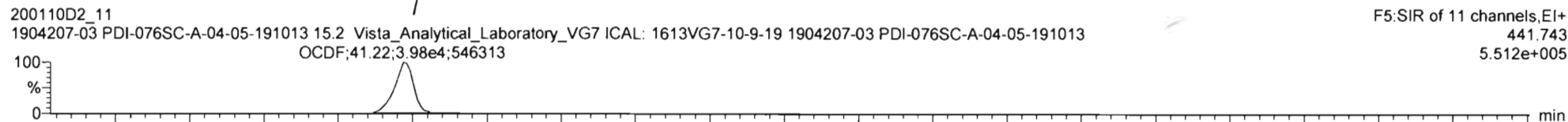
#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtMol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
43	Total Tetra-Furans		1.57e5				0.943	10.011	24.00			0.000	NO	211.4		0.664	221.7
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	10.16		0.0932	10.16
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO	598.7		0.460	568.7
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	537.1		0.674	536.1
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	260.5		1.10	264.0
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc
1	1,2,3,4,6,7,8-HpCDF	36.51	36.49	3.508e4	3.442e4	1.040	1.02	NO	128.35	128.35
2	Total Hepta-Furans	37.75	36.89	8.595e2	9.890e2	1.040	0.87	YES	3.4538	0.000000
3	Total Hepta-Furans	37.75	37.09	2.019e4	1.937e4	1.040	1.04	NO	81.032	81.032
4	1,2,3,4,7,8,9-HpCDF	38.78	38.29	1.275e4	1.212e4	1.040	1.05	NO	51.118	51.118

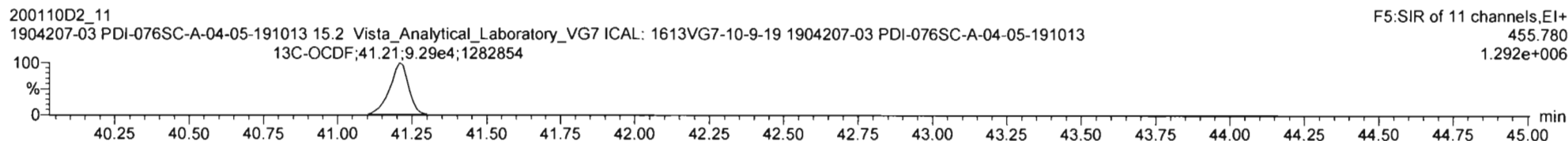
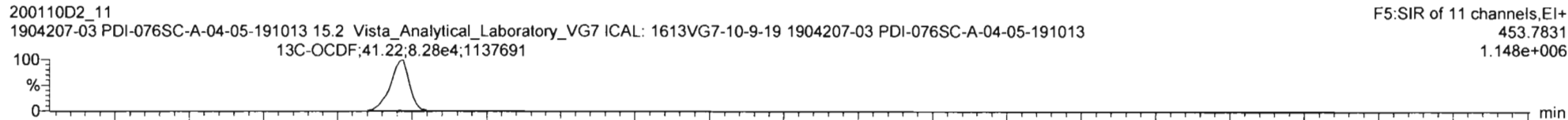


Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,  
Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

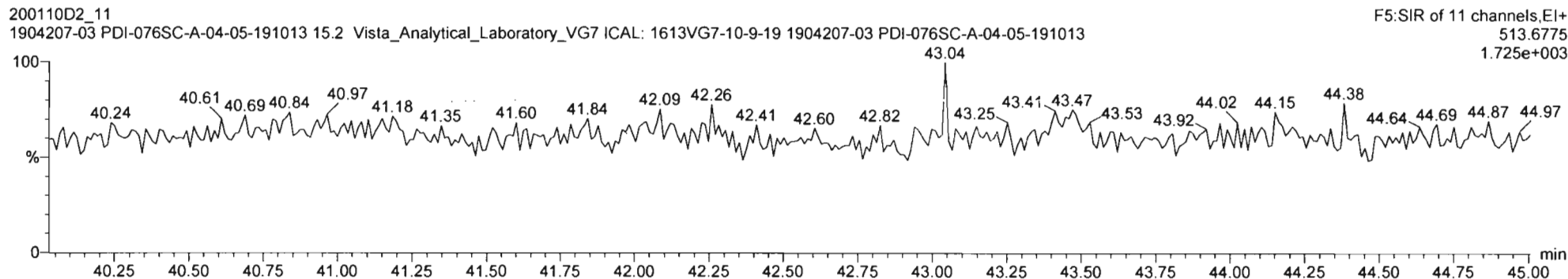
OCDF



13C-OCDF



DPE5



Vista Analytical Laboratory

Dataset: Untitled

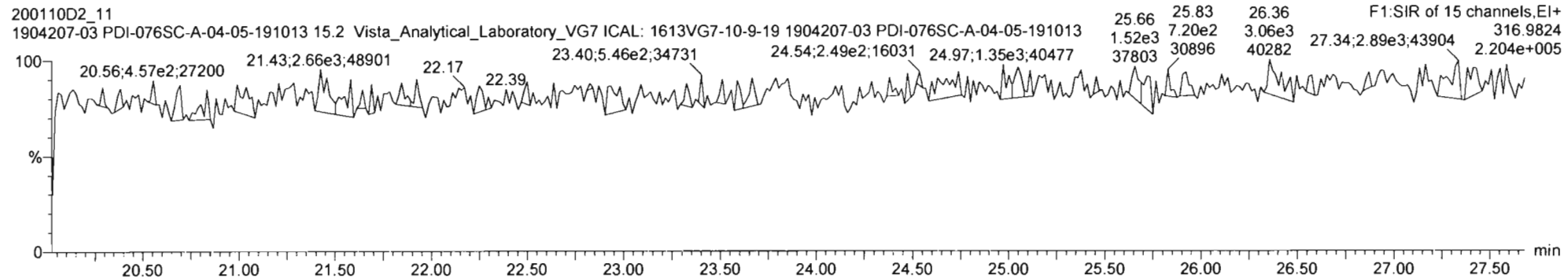
Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

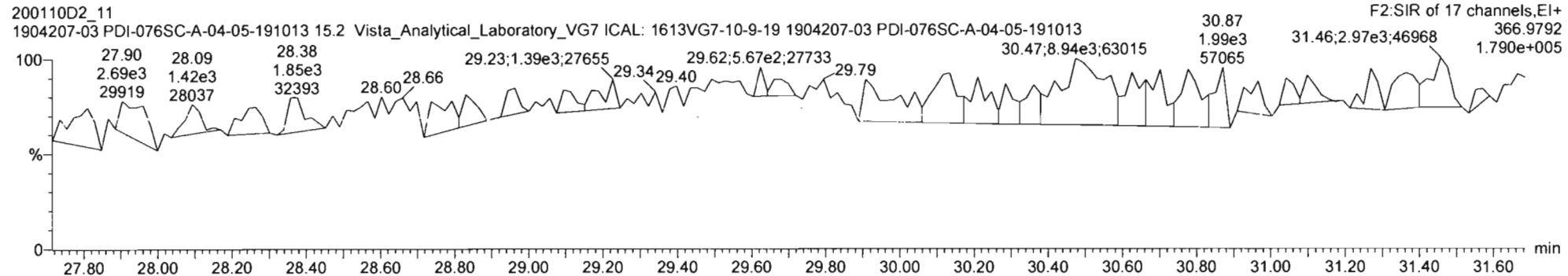
Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,

Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

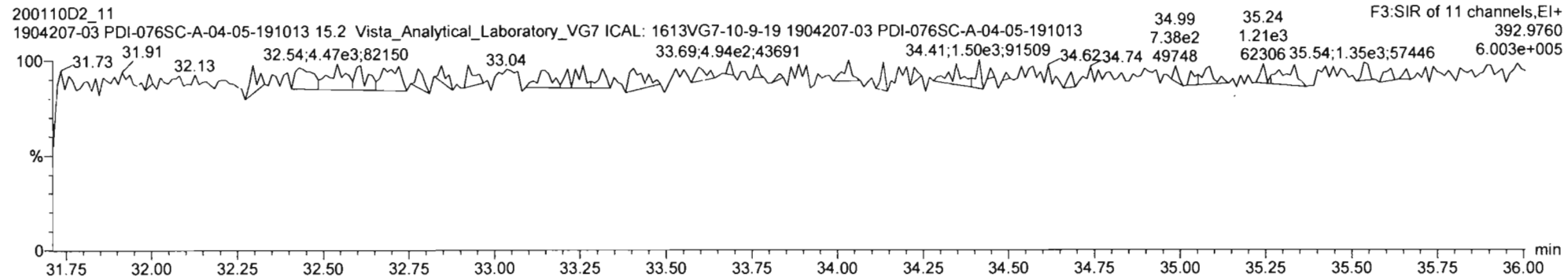
PFK1



PFK2



PFK3





Vista Analytical Laboratory

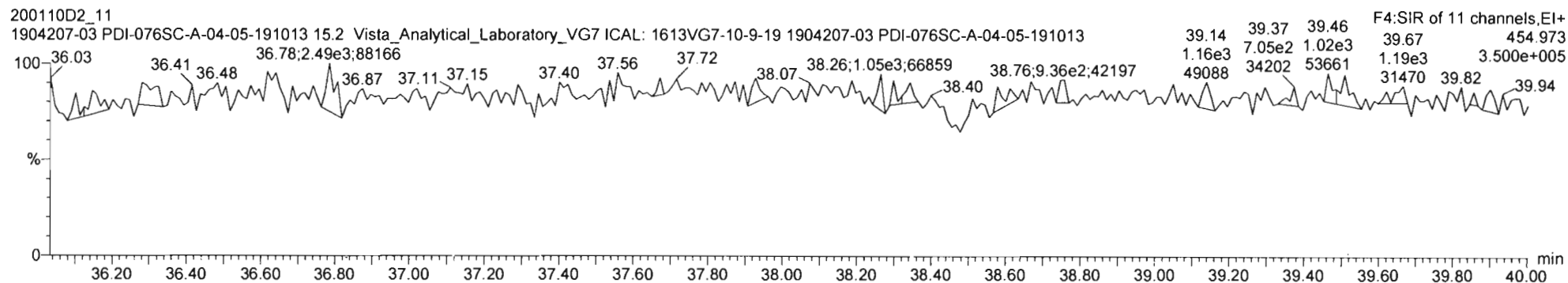
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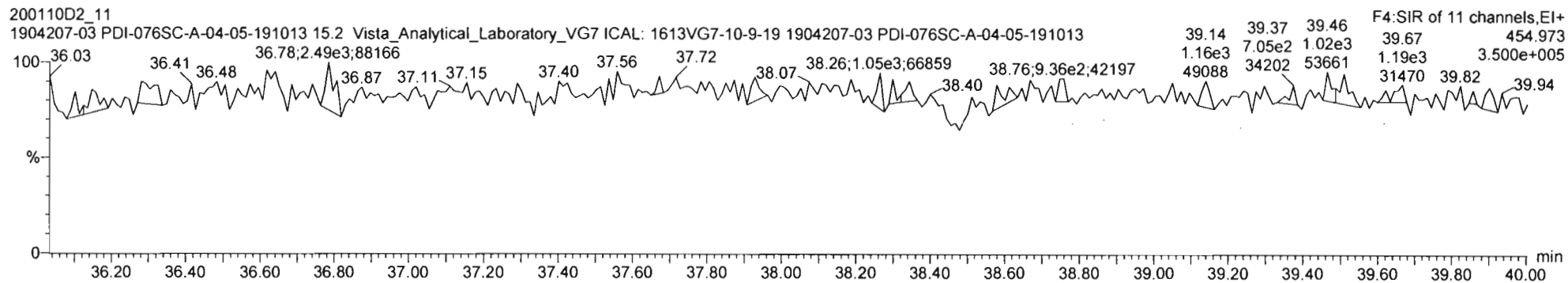
Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

Name: VG7 200110D2-11, Date: 11-JAN-2020, Time: 08:32:18, ID: 1904207-03 PDI-076SC-A-04-05-191013,  
Description: 1904207-03 PDI-076SC-A-04-05-191013 15.2 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

PFK4



PFK5



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-17.qld

Last Altered: Monday, February 03, 2020 15:05:56 Pacific Standard Time  
Printed: Monday, February 03, 2020 15:06:48 Pacific Standard Time

*BA 02/03/2020*  
*02/03/2020*

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23  
Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_17, Date: 01-Feb-2020, Time: 05:21:38, ID: 1904207-04RE1 PDI-076SC-A-05-06-191013 1.7, Description: PDI-076SC-A-05-06-191013

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	2392.715	0.533	YES	0.988	1.026	25.71	25.70	1.00	1.00	NO	2.810		0.687	2.247
2	2 1,2,3,7,8-PeCDD	2513.667	0.845	YES	0.972	1.026	30.63	30.62	1.00	1.00	NO	3.371		0.775	2.978
3	3 1,2,3,4,7,8-HxCDD	2961.309	1.128	NO	1.07	1.026	33.98	33.98	1.00	1.00	NO	4.113		1.22	4.113
4	4 1,2,3,6,7,8-HxCDD	20487.105	1.286	NO	0.921	1.026	34.06	34.08	1.00	1.00	NO	27.94		1.30	27.94
5	5 1,2,3,7,8,9-HxCDD	7626.361	1.279	NO	0.918	1.026	34.37	34.36	1.00	1.00	NO	10.95		1.38	10.95
6	6 1,2,3,4,6,7,8-HpCDD	644970.969	1.021	NO	0.923	1.026	37.89	37.90	1.00	1.00	NO	1155		6.14	1155
7	7 OCDD	5439022.2...	0.883	NO	0.975	1.026	40.89	40.89	1.00	1.00	NO	12460		3.93	12460
8	8 2,3,7,8-TCDF	166016.313	0.756	NO	0.802	1.026	24.82	24.82	1.00	1.00	NO	190.4 (171)		1.23	190.4
9	9 1,2,3,7,8-PeCDF	319135.055	1.541	NO	0.907	1.026	29.36	29.35	1.00	1.00	NO	285.4		0.921	285.4
10	10 2,3,4,7,8-PeCDF	138074.993	1.523	NO	0.952	1.026	30.35	30.33	1.00	1.00	NO	131.1		0.974	131.1
11	11 1,2,3,4,7,8-HxCDF	346301.422	1.167	NO	0.862	1.026	33.10	33.11	1.00	1.00	NO	504.7		1.18	504.7
12	12 1,2,3,6,7,8-HxCDF	93551.043	1.145	NO	0.841	1.026	33.23	33.23	1.00	1.00	NO	135.0		1.19	135.0
13	13 2,3,4,6,7,8-HxCDF	28609.423	1.197	NO	0.898	1.026	33.83	33.81	1.00	1.00	NO	37.28		1.12	37.28
14	14 1,2,3,7,8,9-HxCDF	31220.500	1.175	NO	0.858	1.026	34.70	34.75	1.00	1.00	NO	46.37		1.44	46.37
15	15 1,2,3,4,6,7,8-HpCDF	168199.070	0.966	NO	0.851	1.026	36.48	36.47	1.00	1.00	NO	339.0		2.24	339.0
16	16 1,2,3,4,7,8,9-HpCDF	43653.656	0.959	NO	0.980	1.026	38.48	38.49	1.00	1.00	NO	102.5		2.24	102.5
17	17 OCDF	356568.563	0.841	NO	0.806	1.026	41.08	41.09	1.00	1.00	NO	889.0		1.72	889.0
18	18 13C-2,3,7,8-TCDD	1679389.7...	0.797	NO	1.20	1.026	25.68	25.67	1.03	1.03	NO	1950	100	2.62	
19	19 13C-1,2,3,7,8-PeCDD	1494850.0...	0.634	NO	0.967	1.026	30.41	30.61	1.22	1.22	NO	2152	110	2.03	
20	20 13C-1,2,3,4,7,8-HxCDD	1310463.5...	1.263	NO	0.874	1.026	33.97	33.97	1.01	1.01	NO	1882	96.6	2.51	
21	21 13C-1,2,3,6,7,8-HxCDD	1551702.0...	1.274	NO	1.05	1.026	34.07	34.06	1.02	1.02	NO	1863	95.6	2.10	
22	22 13C-1,2,3,7,8,9-HxCDD	1478841.5...	1.247	NO	0.974	1.026	34.37	34.34	1.03	1.03	NO	1905	97.8	2.25	
23	23 13C-1,2,3,4,6,7,8-HpCDD	1178983.2...	1.061	NO	0.747	1.026	37.92	37.88	1.13	1.13	NO	1981	102	4.27	
24	24 13C-OCDD	1761997.7...	0.909	NO	0.707	1.026	40.80	40.89	1.22	1.22	NO	3131	80.3	2.56	
25	25 13C-2,3,7,8-TCDF	2118692.2...	0.765	NO	1.07	1.026	24.86	24.79	0.99	0.99	NO	1818	93.3	3.66	
26	26 13C-1,2,3,7,8-PeCDF	2401897.5...	1.578	NO	1.00	1.026	29.19	29.34	1.17	1.17	NO	2191	112	4.93	
27	27 13C-2,3,4,7,8-PeCDF	2157744.1...	1.585	NO	0.962	1.026	30.14	30.32	1.20	1.21	NO	2051	105	5.14	
28	28 13C-1,2,3,4,7,8-HxCDF	1550874.8...	0.502	NO	1.05	1.026	33.10	33.10	0.99	0.99	NO	1856	95.2	4.15	
29	29 13C-1,2,3,6,7,8-HxCDF	1605392.1...	0.507	NO	1.19	1.026	33.20	33.22	0.99	0.99	NO	1694	86.9	3.66	
30	30 13C-2,3,4,6,7,8-HxCDF	1665259.8...	0.512	NO	1.07	1.026	33.80	33.80	1.01	1.01	NO	1961	101	4.08	

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-17.qld

Last Altered: Monday, February 03, 2020 15:05:56 Pacific Standard Time

Printed: Monday, February 03, 2020 15:06:48 Pacific Standard Time

Name: 200131R1\_17, Date: 01-Feb-2020, Time: 05:21:38, ID: 1904207-04RE1 PDI-076SC-A-05-06-191013 1.7, Description: PDI-076SC-A-05-06-191013

#	Name	Abs.Resp	RA	n/y	RRF	wt./vol.	Pred.RT	RT	Pred.RRT	RRT	Check RRT	Conc.	%Rec	DL	EMPC
31	13C-1,2,3,7,8,9-HxCDF	1529982.1...	0.511	NO	0.922	1.026	34.70	34.70	1.04	1.04	NO	2082	107	4.72	
32	13C-1,2,3,4,6,7,8-HpCDF	1136425.0...	0.427	NO	0.767	1.026	36.44	36.45	1.09	1.09	NO	1860	95.4	3.91	
33	13C-1,2,3,4,7,8,9-HpCDF	847062.703	0.432	NO	0.552	1.026	38.45	38.48	1.15	1.15	NO	1925	98.8	5.43	
34	13C-OCDF	1940887.2...	0.861	NO	0.789	1.026	41.03	41.08	1.23	1.23	NO	3086	79.2	2.50	
35	37Cl-2,3,7,8-TCDD	656954.688			1.18	1.026	25.71	25.70	1.03	1.03	NO	777.1	99.7	0.593	
36	13C-1,2,3,4-TCDD	1400762.2...	0.804	NO	1.00	1.026	25.08	25.03	1.00	1.00	NO	1949	100	3.14	
37	13C-1,2,3,4-TCDF	2132589.9...	0.789	NO	1.00	1.026	23.42	23.39	1.00	1.00	NO	1949	100	3.90	
38	13C-1,2,3,4,6,9-HxCDF	1552636.5...	0.501	NO	1.00	1.026	33.52	33.50	1.00	1.00	NO	1949	100	4.35	
39	Total Tetra-Dioxins				0.988	1.026	24.62		0.00		NO	10.86		0.697	17.85
40	Total Penta-Dioxins				0.972	1.026	29.96		0.00		NO	18.07		0.775	37.05
41	Total Hexa-Dioxins				0.921	1.026	33.63		0.00		NO	271.6		1.36	273.8
42	Total Hepta-Dioxins				0.923	1.026	37.64		0.00		NO	2554		6.14	2554
43	Total Tetra-Furans				0.802	1.026	23.61		0.00		NO	605.4		1.23	637.1
44	1st Func. Penta-Furans				0.907	1.026	27.09		0.00		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.907	1.026	29.27		0.00		NO	764.0		0.968	765.7
46	Total Hexa-Furans				0.898	1.026	33.56		0.00		NO	981.3		1.18	981.3
47	Total Hepta-Furans				0.851	1.026	37.83		0.00		NO	936.7		2.38	936.7

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Dataset: U:\VG12.PRO\Results\200131R1\200131R1-17.qld

Last Altered: Monday, February 03, 2020 15:05:56 Pacific Standard Time

Printed: Monday, February 03, 2020 15:07:08 Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\vb5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_17, Date: 01-Feb-2020, Time: 05:21:38, ID: 1904207-04RE1 PDI-076SC-A-05-06-191013 1.7, Description: PDI-076SC-A-05-06-191013

**Tetra-Dioxins**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	1 2,3,7,8-TCDD	2.39e3	1.68e6	0.533	YES	25.71	25.70	0.0000	2.247
2	39 Total Tetra-Dioxins	0.00e0	1.68e6	0.955	YES	24.62	25.44	0.0000	1.868
3	39 Total Tetra-Dioxins	1.37e3	1.68e6	0.836	NO	24.62	24.03	1.607	1.607
4	39 Total Tetra-Dioxins	0.00e0	1.68e6	0.974	YES	24.62	23.79	0.0000	1.468
5	39 Total Tetra-Dioxins	0.00e0	1.68e6	0.623	YES	24.62	22.17	0.0000	1.403
6	39 Total Tetra-Dioxins	7.88e3	1.68e6	0.823	NO	24.62	21.75	9.252	9.252

**Penta-Dioxins**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	40 Total Penta-Dioxins	7.07e2	1.49e6	0.577	NO	29.96	30.19	0.9487	0.9487
2	40 Total Penta-Dioxins	0.00e0	1.49e6	1.275	YES	29.96	29.86	0.0000	5.430
3	40 Total Penta-Dioxins	1.84e3	1.49e6	0.708	NO	29.96	29.64	2.471	2.471
4	40 Total Penta-Dioxins	0.00e0	1.49e6	0.497	YES	29.96	29.55	0.0000	2.780
5	40 Total Penta-Dioxins	0.00e0	1.49e6	0.799	YES	29.96	29.39	0.0000	6.516
6	40 Total Penta-Dioxins	2.17e3	1.49e6	0.612	NO	29.96	28.90	2.911	2.911
7	40 Total Penta-Dioxins	7.73e3	1.49e6	0.677	NO	29.96	28.42	10.37	10.37
8	40 Total Penta-Dioxins	1.02e3	1.49e6	0.657	NO	29.96	31.02	1.368	1.368
9	40 Total Penta-Dioxins	0.00e0	1.49e6	0.954	YES	29.96	30.71	0.0000	1.278
10	2 1,2,3,7,8-PeCDD	2.51e3	1.49e6	0.845	YES	30.63	30.62	0.0000	2.978

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Dataset: U:\VG12.PRO\Results\200131R1\200131R1-17.qld

Last Altered: Monday, February 03, 2020 15:05:56 Pacific Standard Time

Printed: Monday, February 03, 2020 15:07:08 Pacific Standard Time

Name: 200131R1\_17, Date: 01-Feb-2020, Time: 05:21:38, ID: 1904207-04RE1 PDI-076SC-A-05-06-191013 1.7, Description: PDI-076SC-A-05-06-191013

Hexa-Dioxins

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	5 1,2,3,7,8,9-HxCDD	7.63e3	1.48e6	1.279	NO	34.37	34.36	10.95	10.95
2	41 Total Hexa-Dioxins	4.19e3	0.00e0	1.297	NO	33.63	34.28	6.120	6.120
3	4 1,2,3,6,7,8-HxCDD	2.05e4	1.55e6	1.286	NO	34.06	34.08	27.94	27.94
4	3 1,2,3,4,7,8-HxCDD	2.96e3	1.31e6	1.128	NO	33.98	33.98	4.113	4.113
5	41 Total Hexa-Dioxins	0.00e0	0.00e0	0.658	YES	33.63	33.41	0.0000	2.133
6	41 Total Hexa-Dioxins	7.20e4	0.00e0	1.235	NO	33.63	33.29	105.3	105.3
7	41 Total Hexa-Dioxins	9.09e3	0.00e0	1.301	NO	33.63	33.05	13.29	13.29
8	41 Total Hexa-Dioxins	7.11e4	0.00e0	1.243	NO	33.63	32.50	104.0	104.0

Hepta-Dioxins

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	6 1,2,3,4,6,7,8-HpCDD	6.45e5	1.18e6	1.021	NO	37.89	37.90	1155	1155
2	42 Total Hepta-Dioxins	7.81e5	1.18e6	1.008	NO	37.64	36.85	1399	1399

Vista Analytical Laboratory

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-17.qld

Last Altered: Monday, February 03, 2020 15:05:56 Pacific Standard Time

Printed: Monday, February 03, 2020 15:07:08 Pacific Standard Time

Name: 200131R1\_17, Date: 01-Feb-2020, Time: 05:21:38, ID: 1904207-04RE1 PDI-076SC-A-05-06-191013 1.7, Description: PDI-076SC-A-05-06-191013

**Tetra-Furans**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	43 Total Tetra-Furans	0.00e0	2.12e6	0.583	YES	23.61	23.00	0.0000	1.577
2	43 Total Tetra-Furans	6.92e3	2.12e6	0.752	NO	23.61	22.56	7.936	7.936
3	43 Total Tetra-Furans	1.53e3	2.12e6	0.720	NO	23.61	22.35	1.758	1.758
4	43 Total Tetra-Furans	1.44e4	2.12e6	0.734	NO	23.61	22.22	16.51	16.51
5	43 Total Tetra-Furans	4.20e4	2.12e6	0.724	NO	23.61	21.72	48.23	48.23
6	43 Total Tetra-Furans	8.18e3	2.12e6	0.753	NO	23.61	21.32	9.384	9.384
7	43 Total Tetra-Furans	7.81e4	2.12e6	0.726	NO	23.61	20.77	89.61	89.61
8	43 Total Tetra-Furans	3.25e3	2.12e6	0.745	NO	23.61	20.17	3.732	3.732
9	43 Total Tetra-Furans	0.00e0	2.12e6	1.036	YES	23.61	26.80	0.0000	27.67
10	43 Total Tetra-Furans	0.00e0	2.12e6	0.963	YES	23.61	26.53	0.0000	0.8624
11	43 Total Tetra-Furans	1.45e3	2.12e6	0.666	NO	23.61	25.44	1.661	1.661
12	43 Total Tetra-Furans	7.77e3	2.12e6	0.684	NO	23.61	25.18	8.915	8.915
13	8 2,3,7,8-TCDF	1.66e5	2.12e6	0.756	NO	24.82	24.82	190.4	190.4
14	43 Total Tetra-Furans	1.51e4	2.12e6	0.746	NO	23.61	24.72	17.32	17.32
15	43 Total Tetra-Furans	0.00e0	2.12e6	0.545	YES	23.61	24.60	0.0000	1.534
16	43 Total Tetra-Furans	1.11e3	2.12e6	0.808	NO	23.61	24.37	1.279	1.279
17	43 Total Tetra-Furans	5.66e3	2.12e6	0.793	NO	23.61	24.16	6.488	6.488
18	43 Total Tetra-Furans	1.43e5	2.12e6	0.727	NO	23.61	23.89	164.1	164.1
19	43 Total Tetra-Furans	2.41e4	2.12e6	0.704	NO	23.61	23.39	27.70	27.70
20	43 Total Tetra-Furans	8.99e3	2.12e6	0.875	NO	23.61	23.30	10.31	10.31

**Penta-Furans function 1**

	# Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	44 1st Func. Penta-Fura...	7.20e4	0.00e0	1.633	NO	27.09	26.80	67.87	67.87

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**Penta-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	45 Total Penta-Furans	8.37e3	0.00e0	1.659	NO	29.27	31.26	7.887	7.887
2	10 2,3,4,7,8-PeCDF	1.38e5	2.16e6	1.523	NO	30.35	30.33	131.1	131.1
3	45 Total Penta-Furans	0.00e0	0.00e0	1.872	YES	29.27	30.21	0.0000	1.647
4	45 Total Penta-Furans	1.07e5	0.00e0	1.521	NO	29.27	29.61	100.4	100.4
5	9 1,2,3,7,8-PeCDF	3.19e5	2.40e6	1.541	NO	29.36	29.35	285.4	285.4
6	45 Total Penta-Furans	3.65e4	0.00e0	1.575	NO	29.27	29.17	34.43	34.43
7	45 Total Penta-Furans	2.02e4	0.00e0	1.488	NO	29.27	28.96	19.05	19.05
8	45 Total Penta-Furans	1.64e5	0.00e0	1.527	NO	29.27	28.38	154.1	154.1
9	45 Total Penta-Furans	5.19e3	0.00e0	1.426	NO	29.27	28.23	4.891	4.891
10	45 Total Penta-Furans	2.85e4	0.00e0	1.676	NO	29.27	30.36	26.82	26.82

**Hexa-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	14 1,2,3,7,8,9-HxCDF	3.12e4	1.53e6	1.175	NO	34.70	34.75	46.37	46.37
2	13 2,3,4,6,7,8-HxCDF	2.86e4	1.67e6	1.197	NO	33.83	33.81	37.28	37.28
3	46 Total Hexa-Furans	1.92e3	0.00e0	1.425	NO	33.56	33.51	2.624	2.624
4	12 1,2,3,6,7,8-HxCDF	9.36e4	1.61e6	1.145	NO	33.23	33.23	135.0	135.0
5	11 1,2,3,4,7,8-HxCDF	3.46e5	1.55e6	1.167	NO	33.10	33.11	504.7	504.7
6	46 Total Hexa-Furans	3.41e3	0.00e0	1.133	NO	33.56	33.01	4.656	4.656
7	46 Total Hexa-Furans	8.45e4	0.00e0	1.171	NO	33.56	32.66	115.5	115.5
8	46 Total Hexa-Furans	6.88e4	0.00e0	1.142	NO	33.56	32.11	93.99	93.99
9	46 Total Hexa-Furans	1.79e4	0.00e0	1.145	NO	33.56	31.94	24.42	24.42
10	46 Total Hexa-Furans	1.22e4	0.00e0	1.211	NO	33.56	34.76	16.74	16.74

**Hepta-Furans**

#	Name	Area	IS Area	RA	Y/N	Pred.RT	RT	Conc.	EMPC
1	16 1,2,3,4,7,8,9-HpCDF	4.37e4	8.47e5	0.959	NO	38.48	38.49	102.5	102.5
2	47 Total Hepta-Furans	2.14e5	0.00e0	0.964	NO	37.83	37.06	495.2	495.2
3	15 1,2,3,4,6,7,8-HpCDF	1.68e5	1.14e6	0.966	NO	36.48	36.47	339.0	339.0

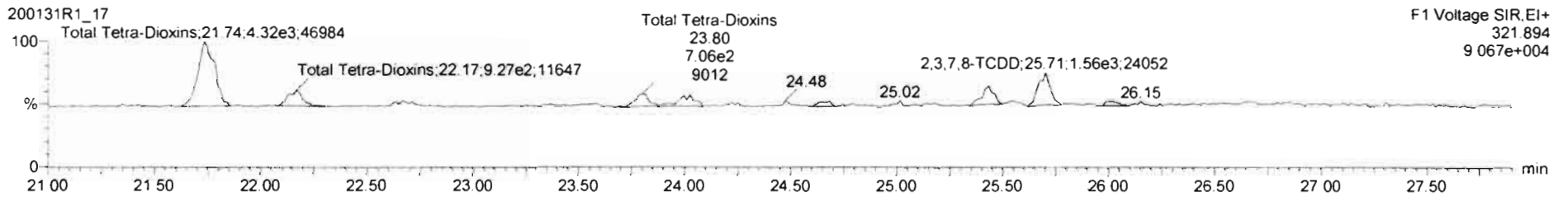
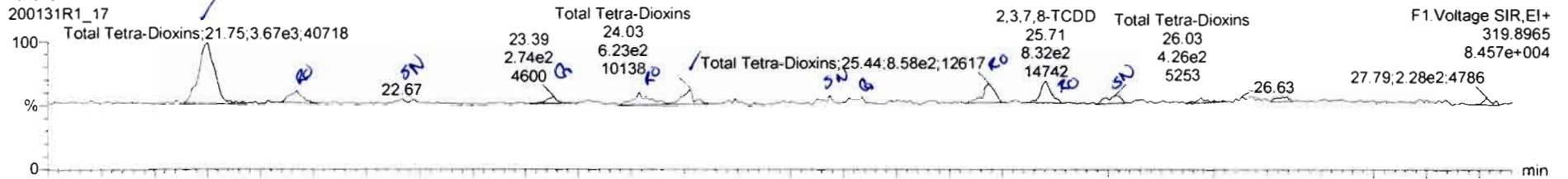
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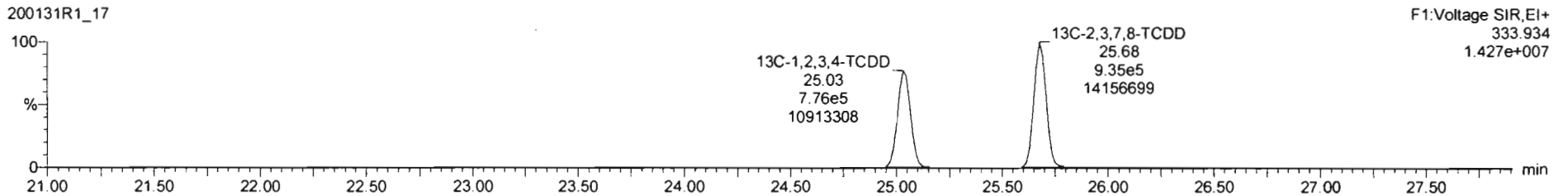
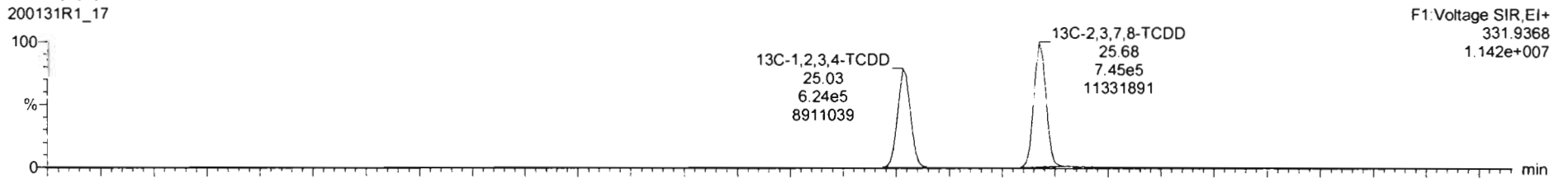
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2,3,7,8-TCDD



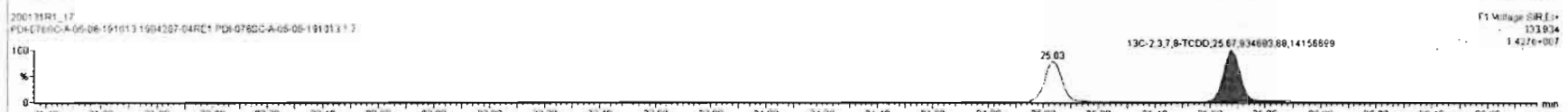
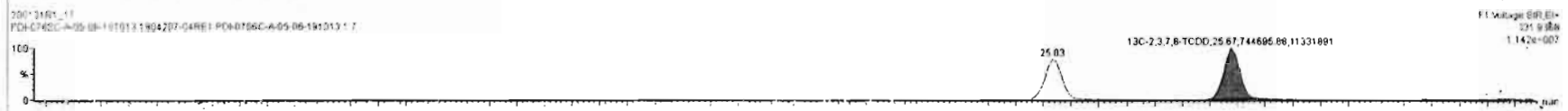
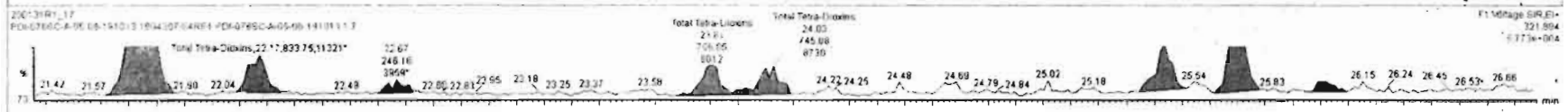
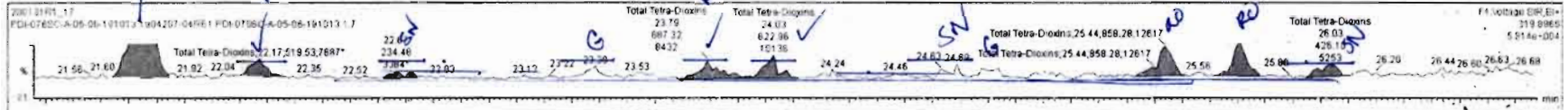
13C-2,3,7,8-TCDD





#	Name	Resp	RA	n/y	RRF	WtAval	Prnd RT	RT	Prnd R	RRT	RRT Fail	Conc.	%Rec	DL	EMPC
39	Total Tetra-Dioxins		0.9991	1.026	24.62		0.000		NO	10.99				0.697	16.51
40	Total Penta-Dioxins		0.9723	1.026	29.96		0.000		NO	20.62				0.775	38.41
41	Total Hexa-Dioxins		0.9211	1.026	33.62		0.000		NO	273.1				1.36	275.4

#	Name	Prnd RT	RT	m1 Resp	m2 Resp	1* Ratio (Prnd)	RA	n/y	EMPC	Conc.
1	Total Tetra-Dioxins	24.62	21.75	3.667e3	4.320e3	0.770	0.85	NO	9.9520	9.3816
2	Total Tetra-Dioxins	24.62	22.17	5.475e2	9.263e2	0.770	0.99	YES	1.4780	0.00000
3	Total Tetra-Dioxins	24.62	23.79	6.673e2	7.001e2	0.770	0.97	YES	1.4600	0.00000
4	Total Tetra-Dioxins	24.62	24.03	6.230e2	7.491e2	0.770	0.94	NO	1.9070	1.6999
5	Total Tetra-Dioxins	24.62	25.44	8.953e2	8.953e2	0.770	0.96	YES	1.9660	0.00000
6	1,2,3,7,8-TCDD	26.21	25.70	8.522e2	1.909e3	0.770	0.53	YES	2.2470	0.00000
7	Total Tetra-Dioxins	24.62	26.03	4.261e2	2.224e2	0.770	1.02	YES	0.46200	0.00000



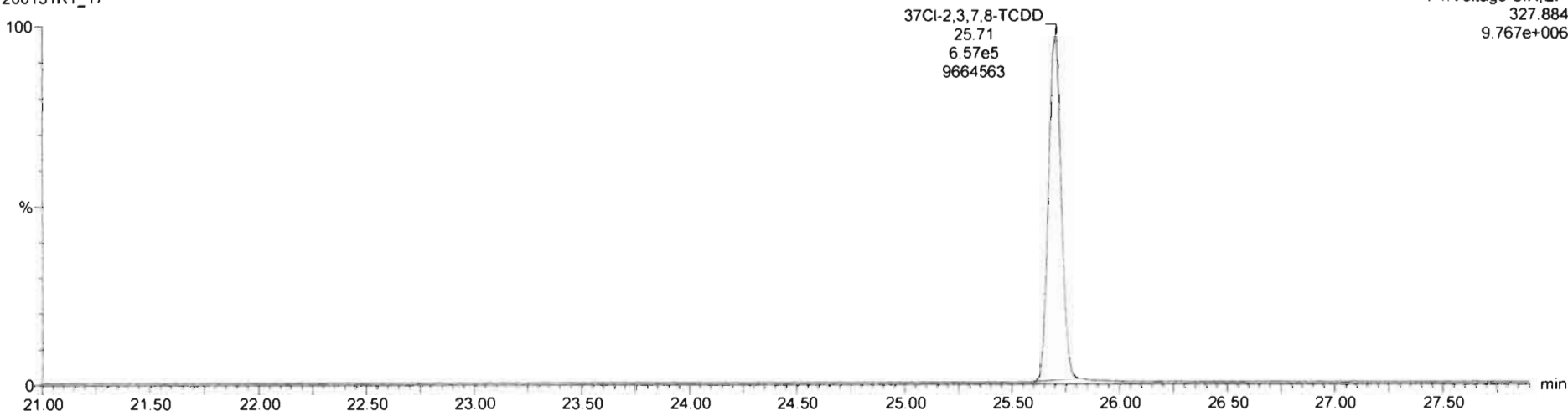
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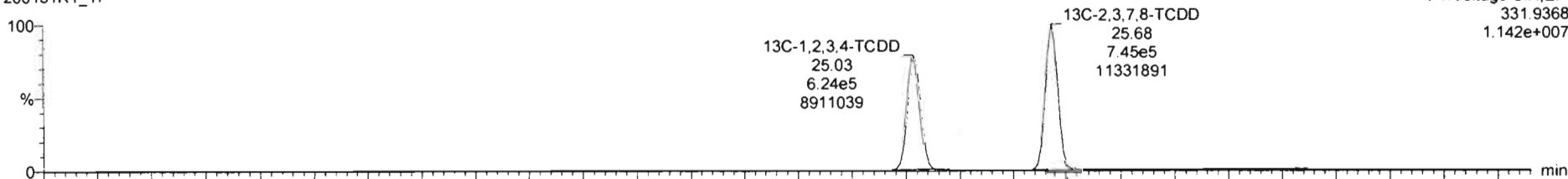
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200131R1\_17

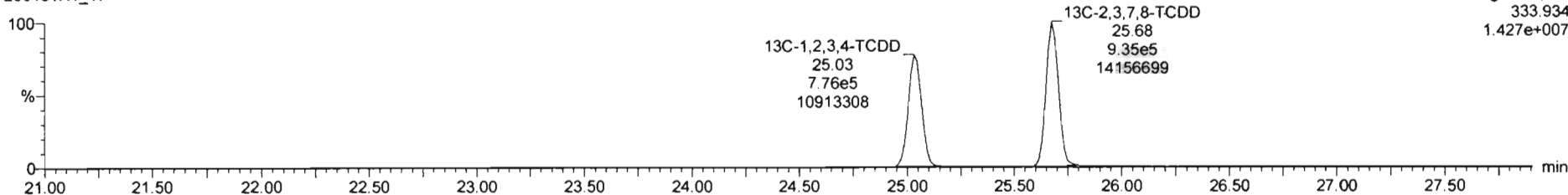


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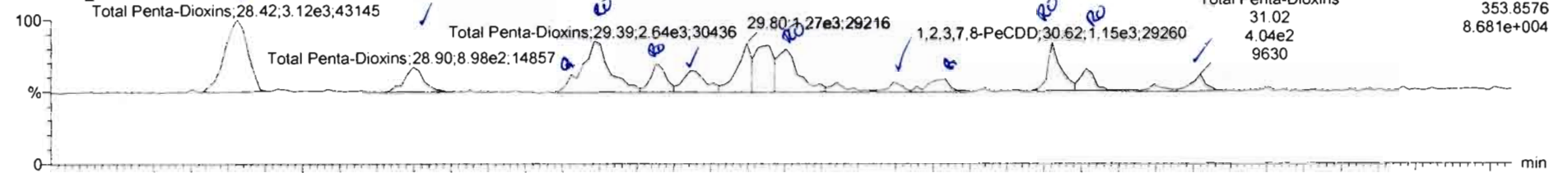
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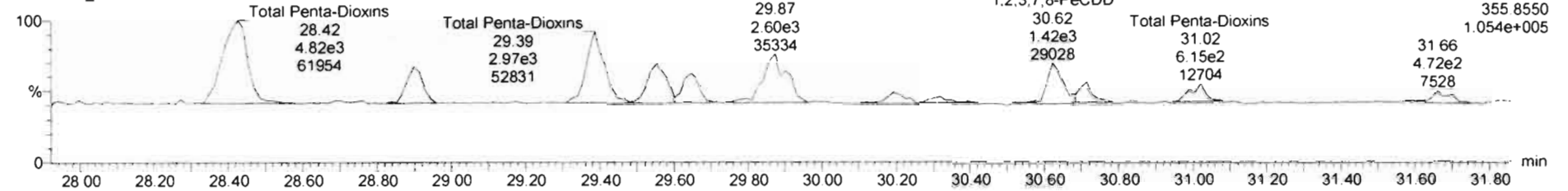
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**1,2,3,7,8-PeCDD**

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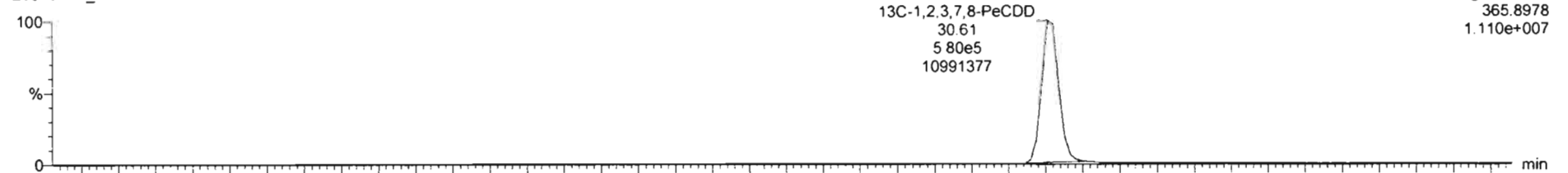


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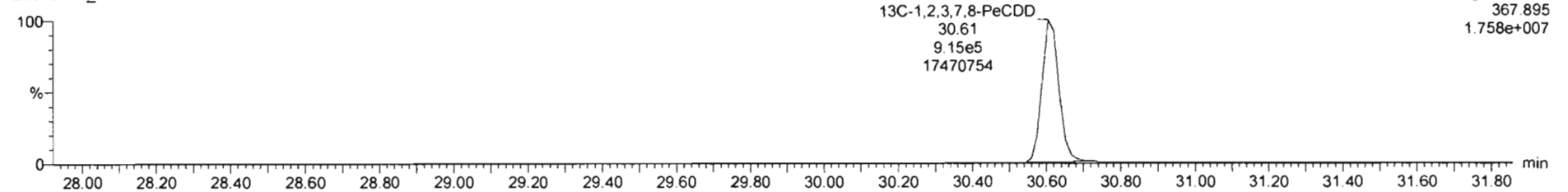


**13C-1,2,3,7,8-PeCDD**

200131R1\_17



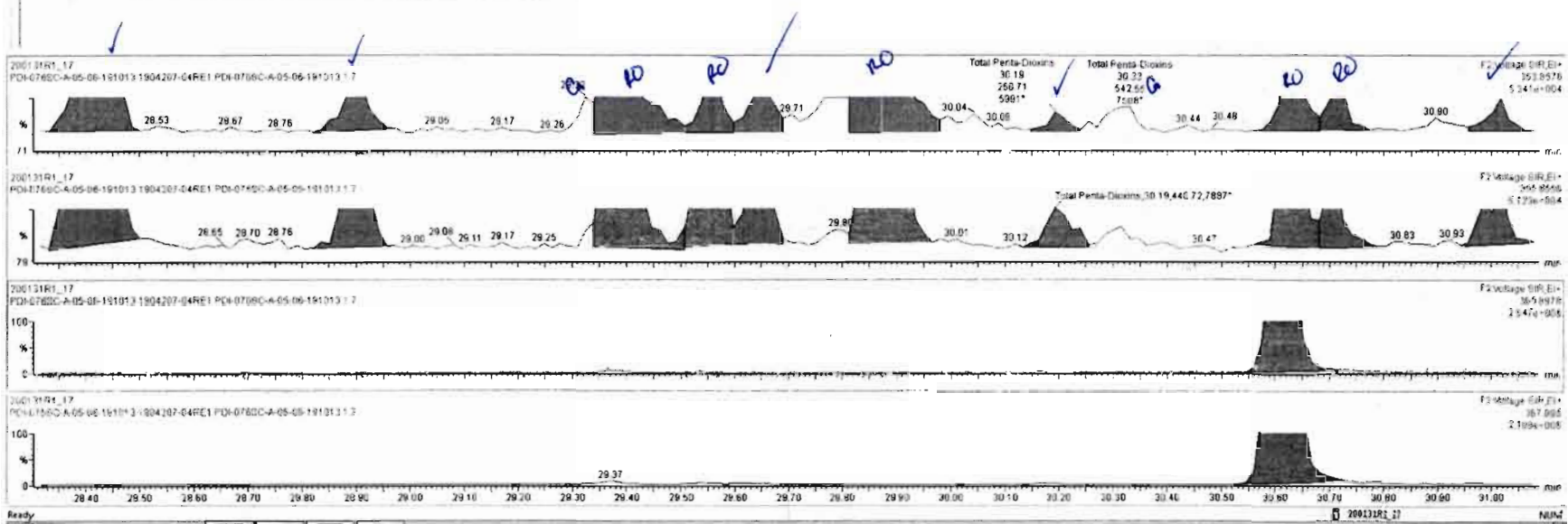
200131R1\_17



200131R1\_17 - 1904207-04RE1 PDI-0760C-A-05-06-191013 17 - PDI-0760C-A-05-06-191013

#	Name	Resp	RA	nV	RRF	wtWt	Pred RT	RT	Pred R	RRT	RRT Fail	Conc	%Inc	DL	EMPC
40	Total Penta-Dioxins				0.9723	1.026	29.96		0.000		NO	20.82		0.775	38.41
41	Total Hexa-Dioxins				0.9211	1.026	33.83		0.000		NO	273.1		1.36	275.4
42	Total Hepta-Dioxins				0.9231	1.026	37.64		0.000		NO	2564		6.14	2566

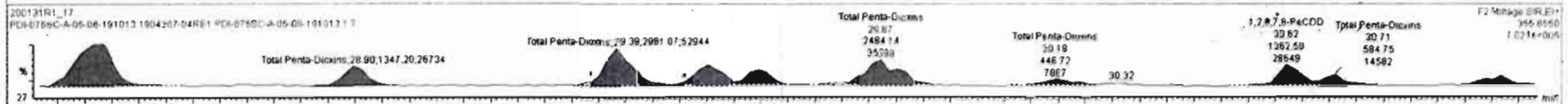
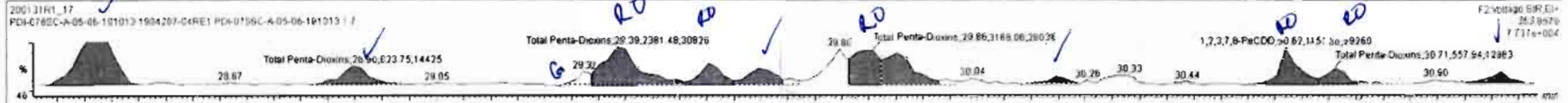
#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	nV	EMPC	Conc
40	Total Penta-Dioxins	29.96	29.42	3.121e3	4.824e3	0.630	0.66	NO	10.854	10.854
2	Total Penta-Dioxins	29.96	28.00	8.979e2	1.347e3	0.630	0.67	NO	3.0107	3.0107
3	Total Penta-Dioxins	29.96	28.39	2.644e3	2.967e3	0.630	0.89	YES	6.4649	0.00000
4	Total Penta-Dioxins	29.96	29.55	6.013e2	1.656e3	0.630	0.46	YES	2.7602	0.00000
5	Total Penta-Dioxins	29.96	28.65	9.037e2	1.064e3	0.630	0.83	YES	2.3907	0.00000
6	Total Penta-Dioxins	29.96	29.90	1.715e3	2.820e3	0.630	0.69	NO	5.7874	5.7874
7	Total Penta-Dioxins	29.96	30.19	2.669e2	4.991e2	0.630	0.53	YES	0.92620	0.00000
8	Total Penta-Dioxins	29.96	30.33	5.425e2	2.826e2	0.630	1.92	YES	6.61780	0.00000
9	2,2,3,7,8-PeCDD	30.03	30.62	1.151e3	1.424e3	0.630	0.81	YES	3.1116	0.00000
10	Total Penta-Dioxins	29.96	30.71	6.028e2	5.947e2	0.630	1.03	YES	1.2292	0.00000
11	Total Penta-Dioxins	29.96	31.02	4.044e2	6.153e2	0.630	0.66	NO	1.3675	1.3675



200131R1\_17 - 1904207-04RE1 PDI-076SC-A-05-06-191013 17 - PDI-076SC-A-05-06-191013

#	Name	Resp	RA	nly	RRF	uMVol	Pred RT	RT	Pred R	RRT	RRT Fail	Conc.	%Inj	DL	EMPC
40	Total Penta-Dioxins				0.9723	1.026	29.96		0.000		NO	18.07		0.775	27.06
41	Total Hepta-Dioxins				0.9211	1.026	33.63		0.000		NO	273.1		1.36	215.4
42	Total Hepta-Dioxins				0.9231	1.026	37.64		0.000		NO	2664		6.14	2568

#	Name	Pred RT	RT	m1 Resp	m2 Resp	* Ratio (Pred)	RA	nly	EMPC	Conc.
1	Total Penta-Dioxins	29.96	29.42	3.121e3	4.612e3	0.630	0.58	NO	10.371	10.371
2	Total Penta-Dioxins	29.96	28.90	8.227e2	1.347e3	0.630	0.51	NO	2.5110	2.9113
3	Total Penta-Dioxins	29.96	29.29	2.361e3	2.981e3	0.630	0.80	YES	6.5160	0.00000
4	Total Penta-Dioxins	29.96	29.55	8.013e2	1.611e3	0.630	0.50	YES	2.7600	0.00000
5	Total Penta-Dioxins	29.96	29.64	7.635e2	1.079e3	0.630	0.71	NO	2.4710	2.4705
6	Total Penta-Dioxins	29.96	29.86	3.168e3	2.484e3	0.630	1.20	YES	5.4300	0.00000
7	Total Penta-Dioxins	29.96	30.19	2.587e2	4.467e2	0.630	0.58	NO	0.94900	0.94968
8	1,2,3,7,8-PeCDD	30.63	30.62	1.151e1	1.363e3	0.630	0.94	YES	2.9780	0.00000
9	Total Penta-Dioxins	29.96	30.71	5.579e2	5.847e2	0.630	0.95	YES	1.2780	0.00000
10	Total Penta-Dioxins	29.96	31.02	4.044e2	6.153e2	0.630	0.66	NO	1.3680	1.3675



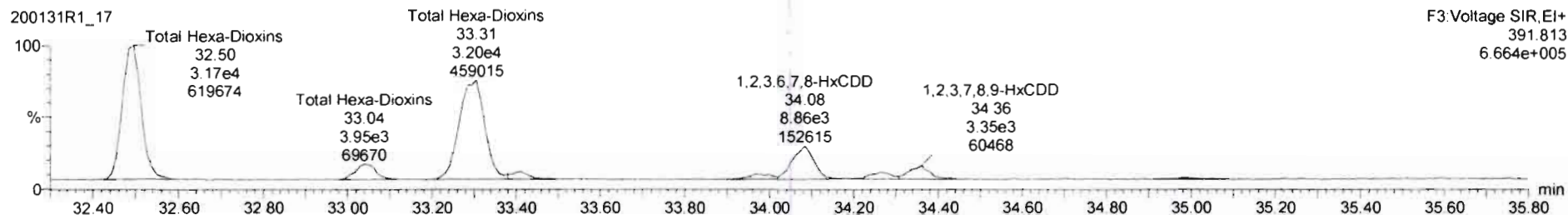
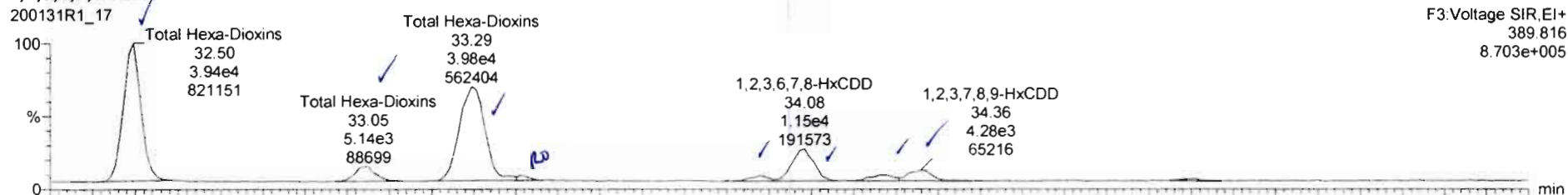
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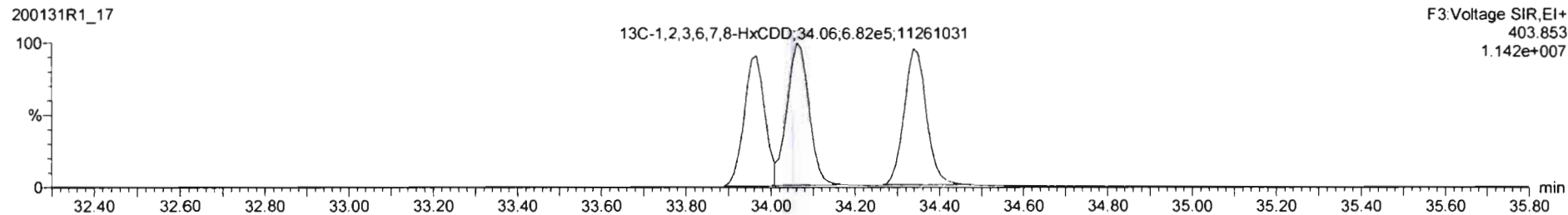
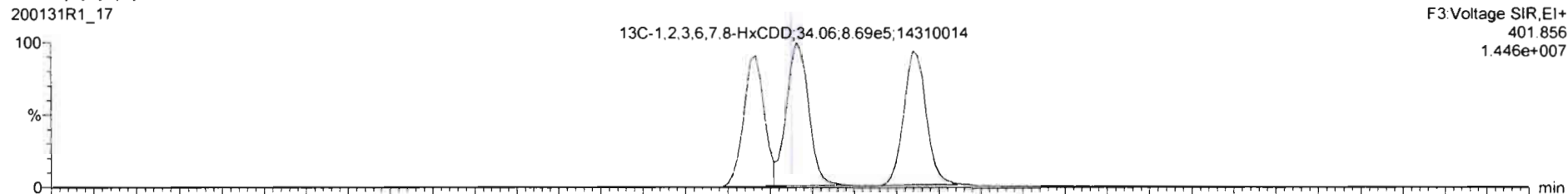
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1,2,3,4,7,8-HxCDD

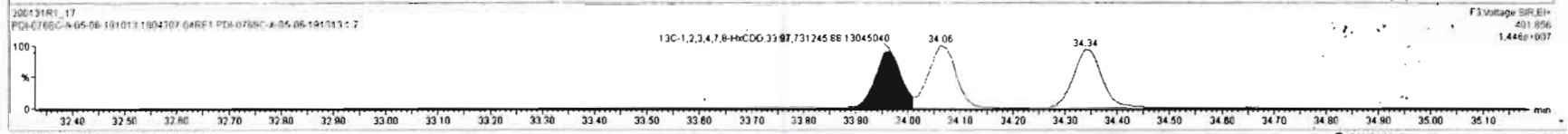
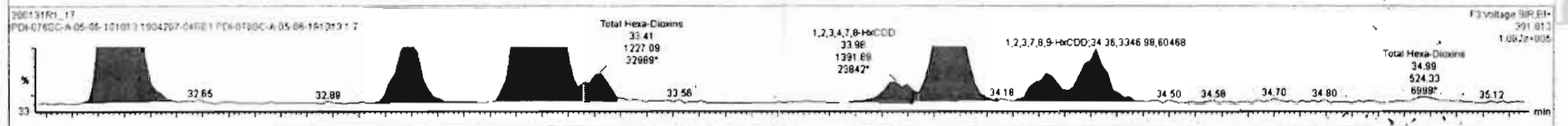
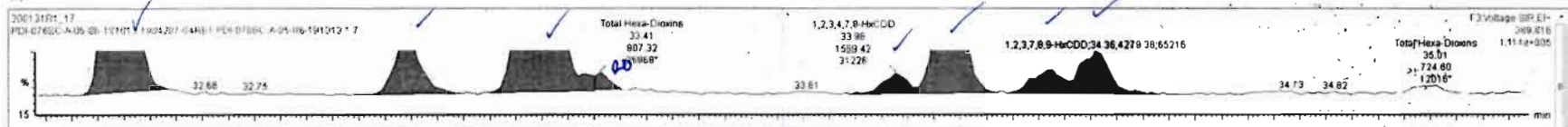


13C-1,2,3,4,7,8-HxCDD



#	Name	Resp	RA	n/y	RRF	WtVol	Prod RT	RT	Prod R	RRT	RRF Fail	Conc.	%Rec	DL	EMPC
41	Total Hexa-Chlorine				0.9211	1.026	33.53		0.000		NO	273.1		1.36	275.4
42	Total Hexa-Chlorine				0.9231	1.026	37.54		0.000		NO	2554		6.14	2556
43	Total Tetra-Furans				0.8020	1.026	23.61		0.000		NO	604.5		1.23	637.5
44	1st Func. Penta-Furans				0.9074	1.026	27.09		0.000		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.9074	1.026	29.27		0.000		NO	767.3		0.989	774.9
46	Total Hexa-Furans				0.8962	1.026	33.56		0.000		NO	983.0		1.18	985.7
47	Total Hexa-Furans				0.8511	1.026	27.83		0.000		NO	948.3		2.36	948.3
48	PFK1														
49	PFK2														

#	Name	Prod RT	RT	Int Resp	#2 Resp	1* Ratio (Prod)	RA	n/y	EMPC	Conc.
1	1,2,3,4,7,8-HxCDD	33.96	33.96	1.569e3	1.438e3	1.240	1.09	NO	4.1760	4.1776
2	1,2,3,6,7,8-HxCDD	34.06	34.06	1.152e4	8.861e3	1.240	1.30	NO	27.8000	27.9000
3	1,2,3,7,8-HxCDD	34.37	34.36	4.279e3	3.347e3	1.240	1.26	NO	10.9470	10.9470
4	Total Hexa-Chlorine	33.63	32.50	3.039e4	3.170e4	1.240	1.24	NO	103.97	103.97
5	Total Hexa-Chlorine	33.63	33.05	5.140e3	3.949e3	1.240	1.30	NO	13.2910	13.2910
6	Total Hexa-Chlorine	33.63	33.29	3.978e4	3.202e4	1.240	1.24	NO	104.99	104.99
7	Total Hexa-Chlorine	33.63	33.41	8.654e2	1.630e3	1.240	0.53	YES	2.2860	0.000000
8	Total Hexa-Chlorine	33.63	34.26	2.303e3	1.822e3	1.240	1.30	NO	6.1200	6.1201
9	Total Hexa-Chlorine	33.63	35.01	7.246e2	5.243e2	1.240	1.38	NO	1.8260	1.8283



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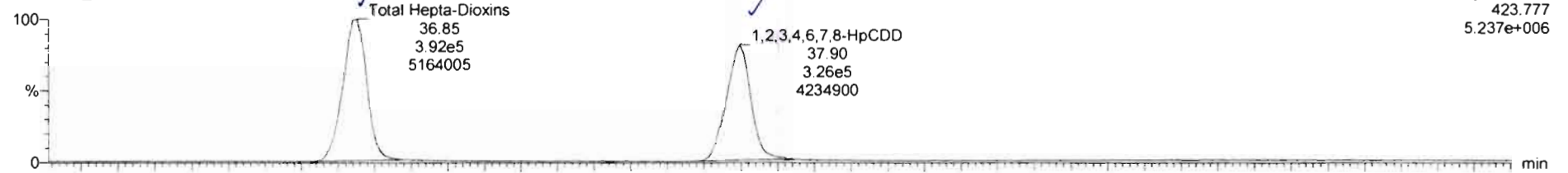
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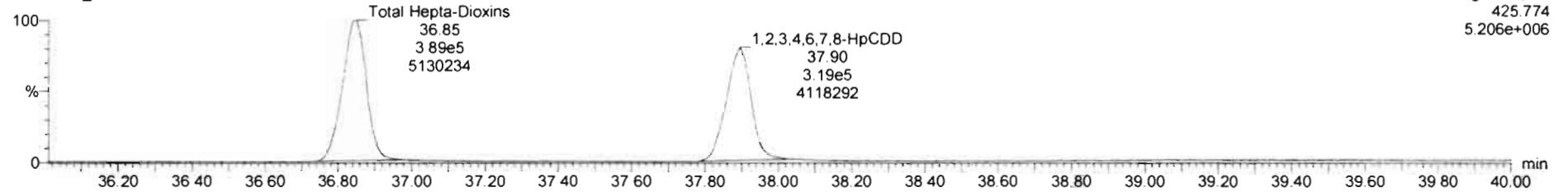
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**1,2,3,4,6,7,8-HpCDD**

200131R1\_17

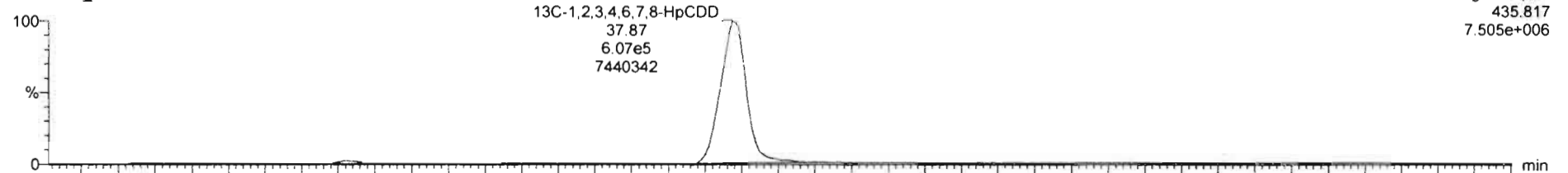


200131R1\_17

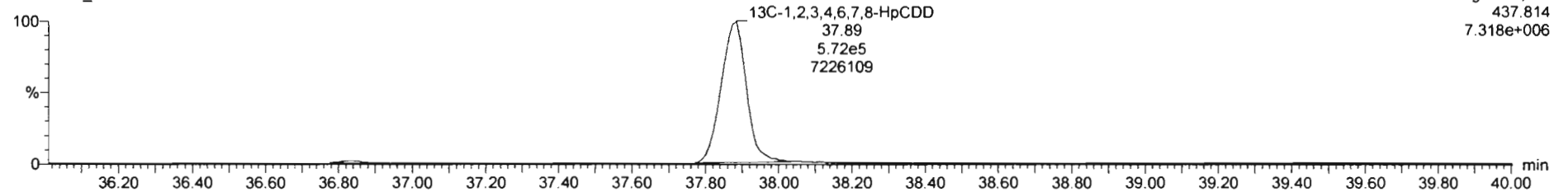


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200131R1\_17



200131R1\_17



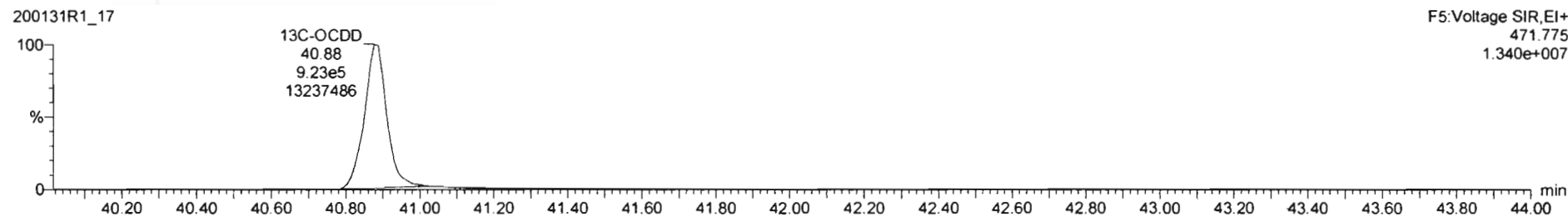
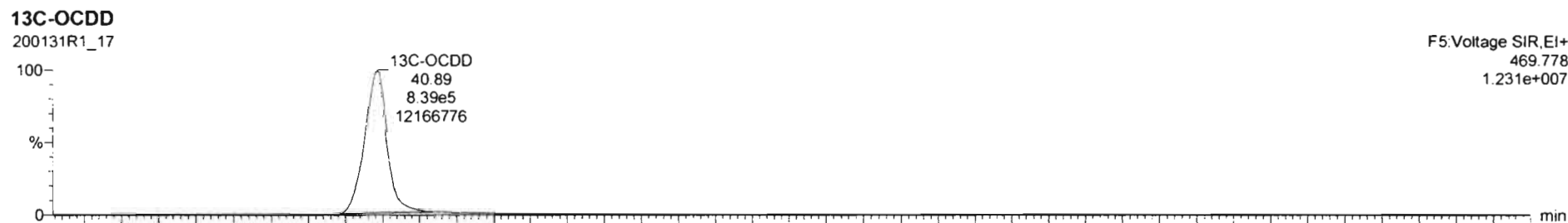
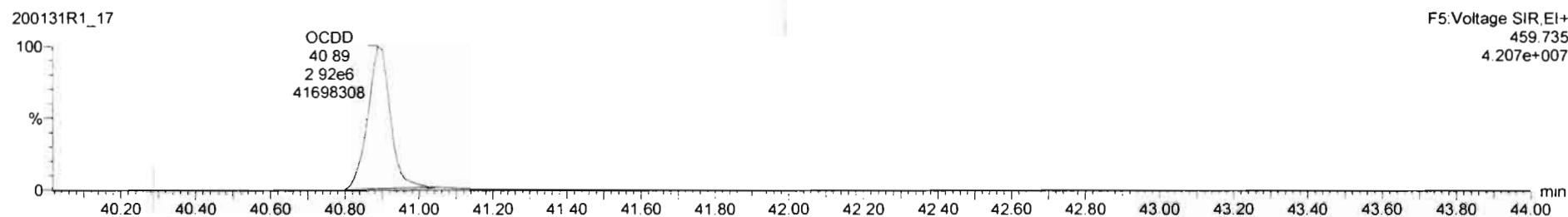


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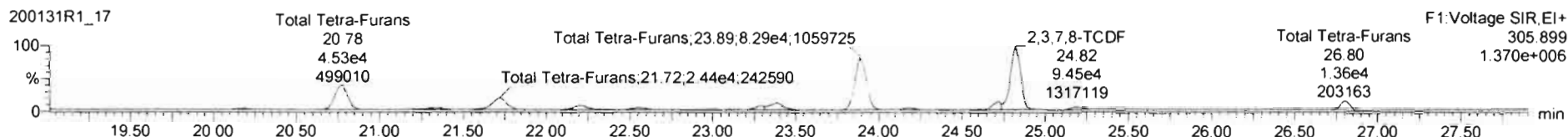
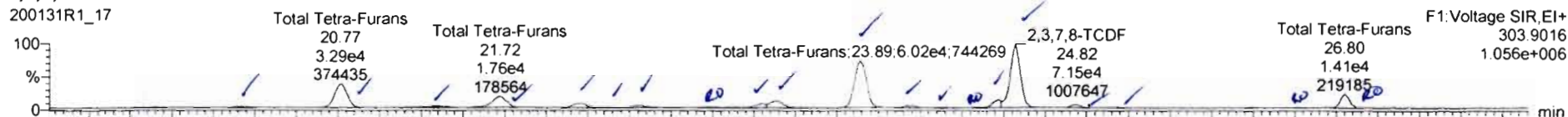
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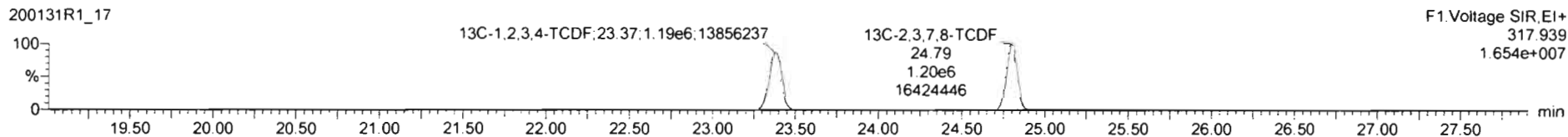
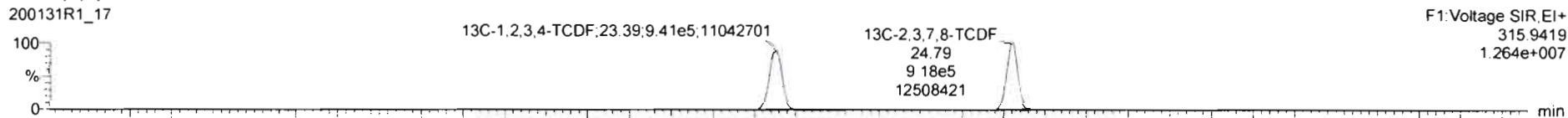
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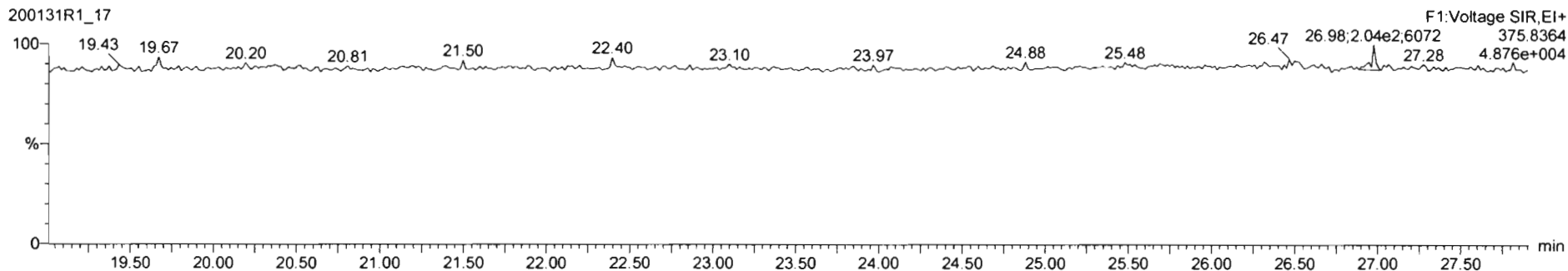
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### 13C-2,3,7,8-TCDF

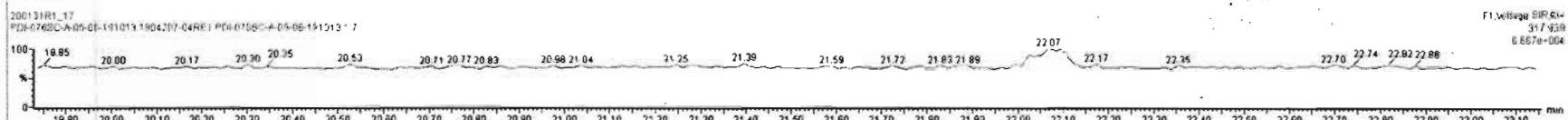
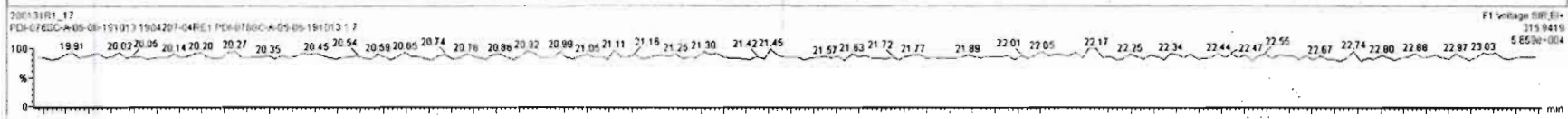
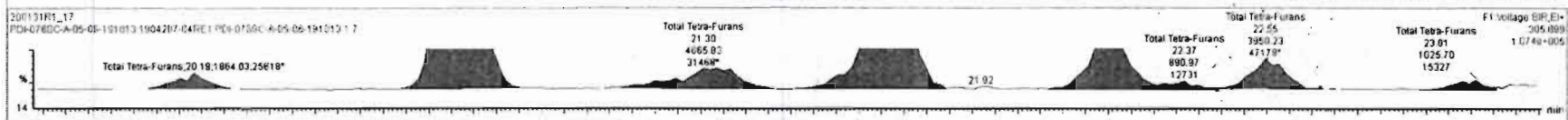
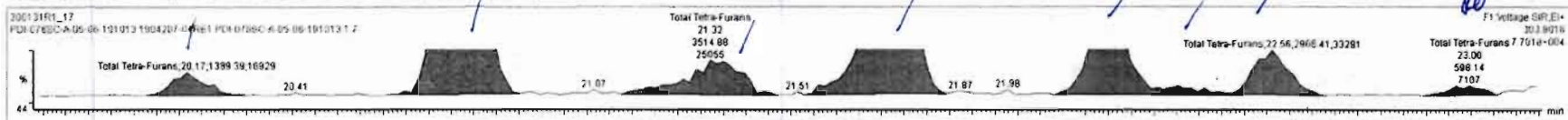


### DPE1



#	Name	Resp	RA	n/y	RFP	wt/mg	Pred RT	RT	Pred P	RRT	RRT Fat	Conc.	Units	DL	EMPC
41	Total Hexa-Dioxins		0.9211	1.026	33.63			0.000			NO	271.6		1.36	273.8
42	Total Hepta-Dioxins		0.9291	1.026	37.64			0.000			NO	2554		6.14	2554
43	Total Tetra-Furans		0.8000	1.026	29.61			0.000			NO	604.5		1.23	637.6
44	1st Func. Perflu-Furans		0.9074	1.026	27.09			0.000			NO	67.67		0.217	67.67
45	Total Perflu-Furans		0.9074	1.026	29.27			0.000			NO	767.3		0.968	774.9
46	Total Hexa-Furans		0.8902	1.026	33.56			0.000			NO	983.0		1.18	985.7
47	Total Hepta-Furans		0.8511	1.026	37.83			0.000			NO	949.3		2.36	949.3
48	PFK1														

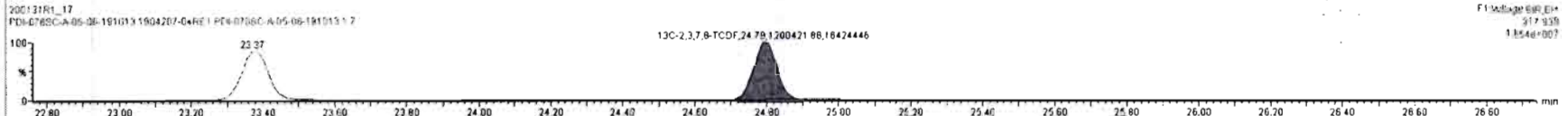
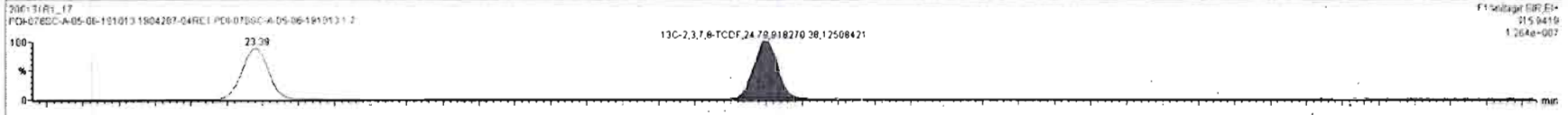
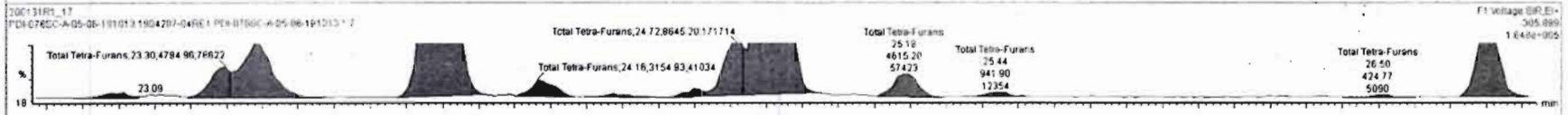
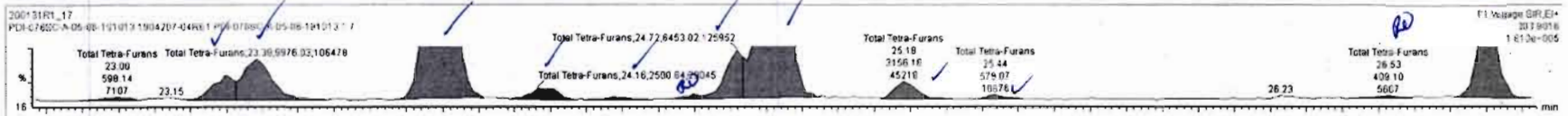
#	Name	Pred RT	RT	m1 Resp	m2 Resp	1 <sup>st</sup> Ratio (Pred)	RA	n/y	EMPC	Conc.
1	Total Tetra-Furans	25.61	20.17	1.389e3	1.905e3	0.770	0.73	NO	3.7701	3.7791
2	Total Tetra-Furans	25.61	20.77	3.267e4	4.525e4	0.770	0.73	NO	89.010	89.010
3	Total Tetra-Furans	25.61	21.32	3.515e3	5.101e3	0.770	0.69	NO	9.8829	9.8829
4	Total Tetra-Furans	25.61	21.72	1.765e4	2.439e4	0.770	0.72	NO	48.228	48.228
5	Total Tetra-Furans	25.61	22.22	6.090e3	8.301e3	0.770	0.73	NO	16.508	16.508
6	Total Tetra-Furans	25.61	22.35	6.414e2	8.910e2	0.770	0.72	NO	1.7578	1.7578
7	Total Tetra-Furans	25.61	22.56	2.968e3	4.161e3	0.770	0.71	NO	8.1784	8.1784



200131R1\_17 - 1904207-04RE1 PDI-0785C-A-05-06-191013 17 - PDI-0785C-A-05-06-191013

#	Name	Resp	RA	n/y	R/R	wtAve	Pred RT	RT	Pred R	R/R	RRT Fail	Conc	%Inc	DL	EMPC
41	Total Hexa-Dioxins				0.9211	1.026	33.63		0.000		NO	271.6		1.36	273.8
42	Total Hepta-Dioxins				0.9231	1.026	37.54		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8020	1.026	23.61		0.000		NO	603.8		1.23	636.9
44	1st Func. Penta-Furans				0.9074	1.026	27.09		0.000		NO	67.67		0.217	67.67
45	Total Penta-Furans				0.9074	1.026	28.27		0.000		NO	767.3		0.908	774.8
46	Total Hexa-Furans				0.8902	1.026	33.56		0.000		NO	983.0		1.16	995.7
47	Total Hepta-Furans				0.8911	1.026	37.83		0.000		NO	949.3		2.38	949.3

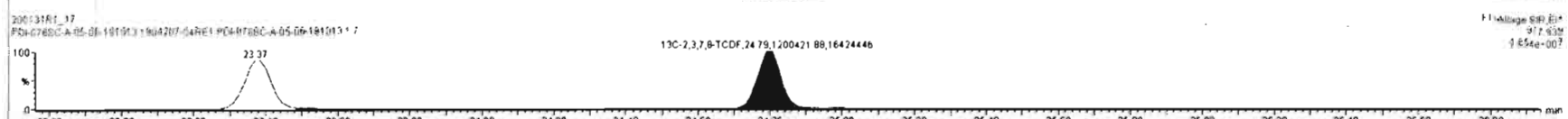
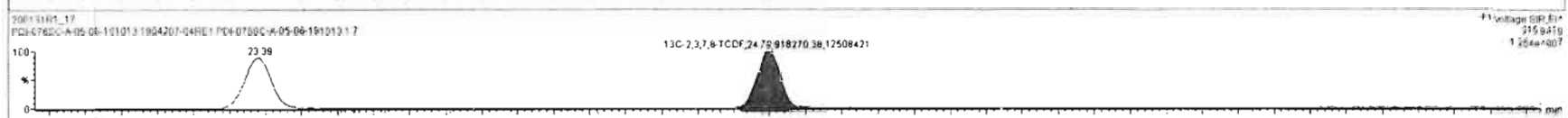
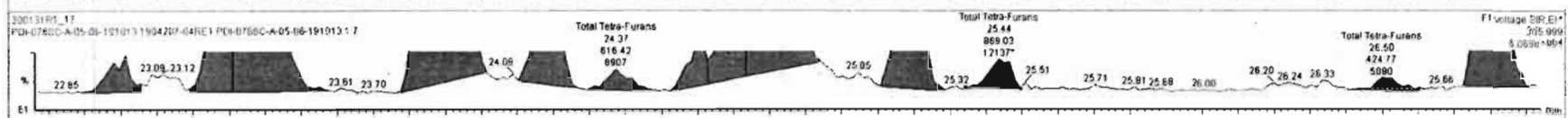
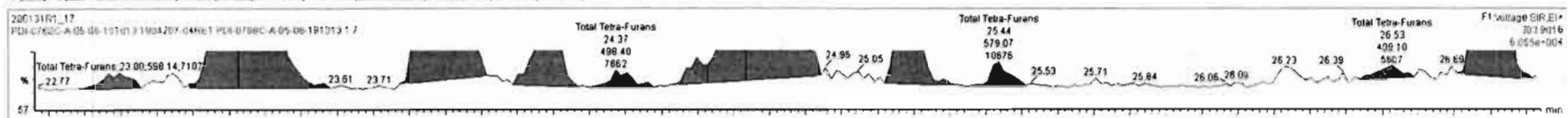
#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	n/y	EMPC	Conc:
1	Total Tetra-Furans	23.61	20.17	1.389e3	1.864e3	0.770	0.75	NO	3.7320	3.7320
2	Total Tetra-Furans	23.61	20.77	3.267e4	4.525e4	0.770	0.72	NO	69.610	69.610
3	Total Tetra-Furans	23.61	21.32	3.515e3	4.666e3	0.770	0.75	NO	9.3641	9.3641
4	Total Tetra-Furans	23.61	21.72	1.765e4	2.479e4	0.770	0.72	NO	46.228	46.228
5	Total Tetra-Furans	23.61	22.22	6.060e3	8.301e3	0.770	0.72	NO	16.508	16.508
6	Total Tetra-Furans	23.61	22.35	6.414e2	8.810e2	0.770	0.72	NO	1.7578	1.7578
7	Total Tetra-Furans	23.61	22.56	2.968e3	3.956e3	0.770	0.75	NO	7.9364	7.9364



200131R1\_17 - 1904207-04RE1.PE-076SC-A-05-06-191013 17 - FD4-076SC-A-05-06-191013

#	Name	Resp	RA	n/y	RRF	wtAve	Pred RT	RT	Pred R	RRT	RRT Fat	Conc	%Inc	OK	PaPC
41	Total Hexa-Chlorins				0.9211	1.026	33.63		0.000	NO	NO	271.6		1.36	273.8
42	Total Hepta-Chlorins				0.9231	1.026	37.64		0.000	NO	NO	2554		5.14	2554
43	Total Tetra-Furans				0.8020	1.026	23.61		0.000	NO	NO	603.8		1.25	636.9
44	1st Func. Penta-Furans				0.9074	1.026	27.09		0.000	NO	NO	67.87		0.217	67.87
45	Total Penta-Furans				0.9074	1.026	29.27		0.000	NO	NO	787.3		0.966	774.9
46	Total Hexa-Furans				0.8962	1.026	33.56		0.000	NO	NO	903.0		1.16	905.7
47	Total Hepta-Furans				0.8511	1.026	37.62		0.000	NO	NO	949.3		2.30	948.3

#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	n/y	EMPC	Conc
1	Total Tetra-Furans	23.61	20.17	1.399e3	1.854e3	0.770	0.75	NO	3.7320	3.7320
2	Total Tetra-Furans	23.61	20.77	3.267e4	4.525e4	0.770	0.73	NO	89.610	89.610
3	Total Tetra-Furans	23.61	21.32	3.515e3	4.666e3	0.770	0.75	NO	9.3841	9.3841
4	Total Tetra-Furans	23.61	21.72	1.765e4	2.439e4	0.770	0.72	NO	48.228	48.228
5	Total Tetra-Furans	23.61	22.22	6.090e3	8.301e3	0.770	0.73	NO	18.509	18.509
6	Total Tetra-Furans	23.61	22.36	6.414e2	8.919e2	0.770	0.72	NO	1.7578	1.7578
7	Total Tetra-Furans	23.61	22.58	2.968e3	3.950e3	0.770	0.75	NO	7.9364	7.9364



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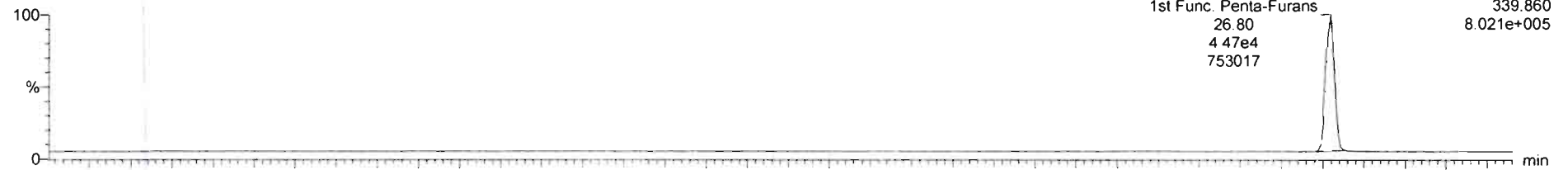
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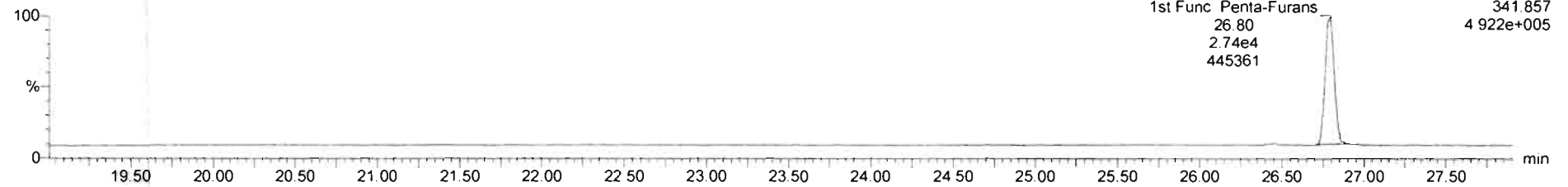
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1st Func. Penta-Furans

200131R1\_17

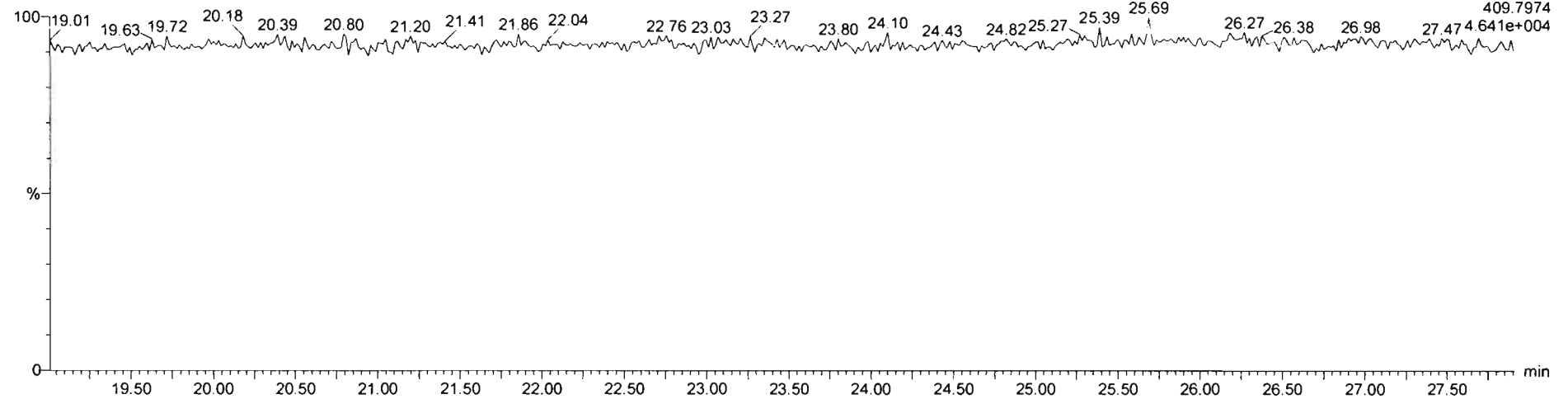


200131R1\_17



DPE6

200131R1\_17

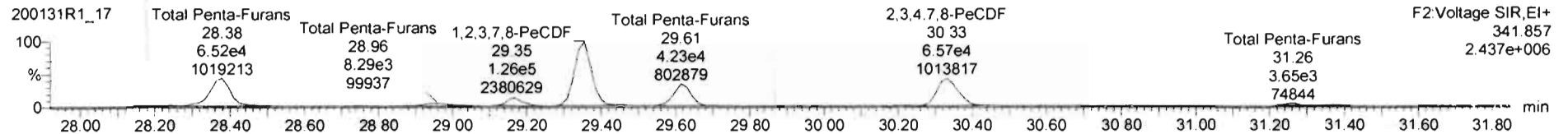
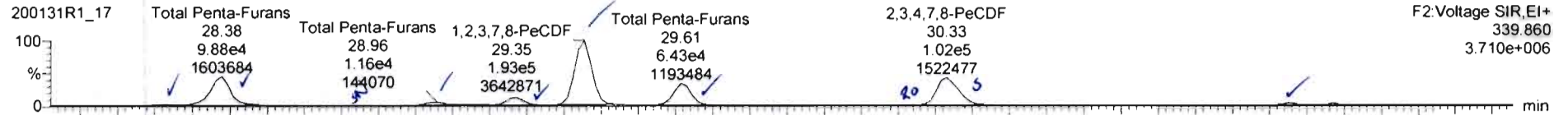


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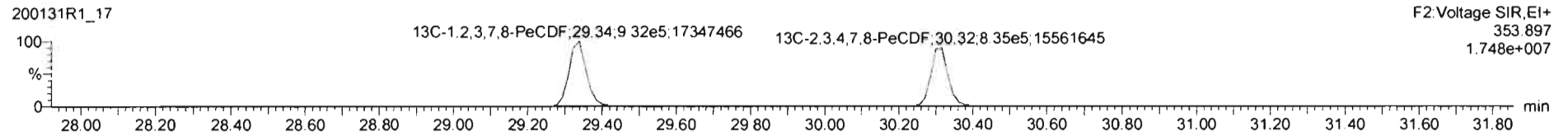
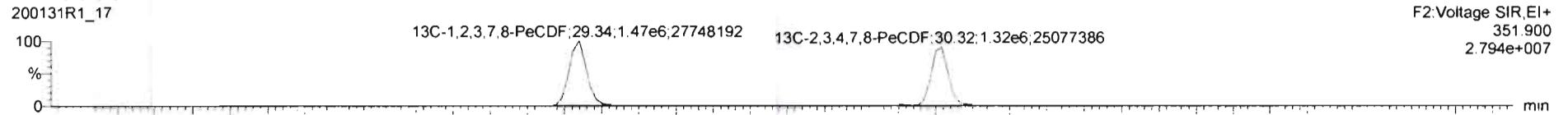
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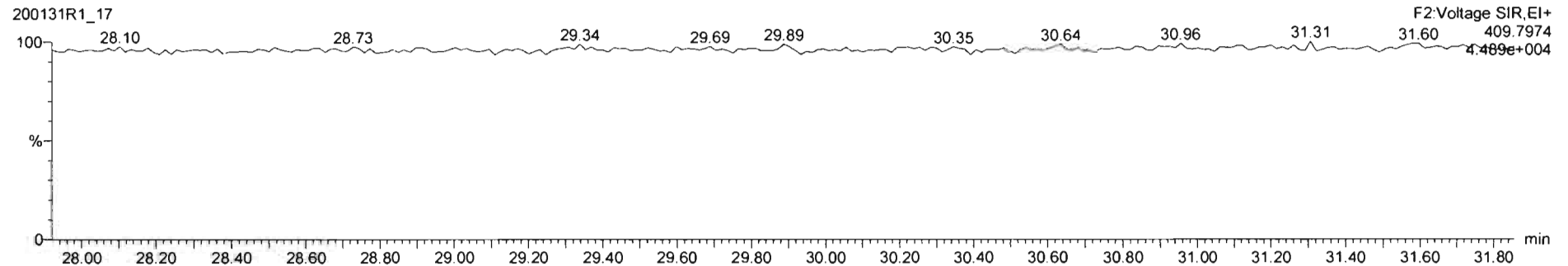
**1,2,3,7,8-PeCDF**



**13C-1,2,3,7,8-PeCDF**



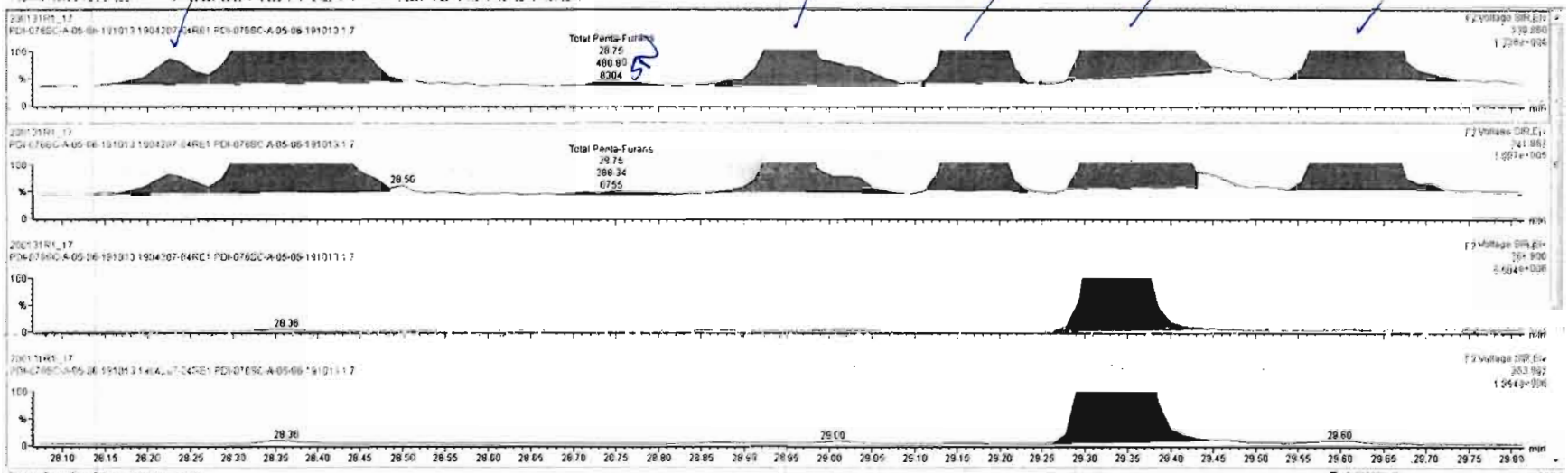
**DPE2**



200131R1-17-1904207-64RE1 PDI0765C-A05-06-191013-17-FC40765C-A05-06-191013

#	Name	Resp	RA	n/y	RRF	w/NM	Pred RT	RT	Pred R	RRT	RRT Fail	Conc	%Rnc	Ex	EMPC
42	43 Total Hepta-Dioxins		0.9231	1.026	37.54		0.000				NO	2564		6.11	2554
43	43 Total Tetra-Furans		0.8020	1.026	23.61		0.000				NO	605.4		1.23	637.1
44	44 1st Func. Penta-Furans		0.9074	1.026	27.09		0.000				NO	67.87		0.217	67.87
45	45 Total Penta-Furans		0.9074	1.026	28.27		0.000				NO	785.6		0.866	789.0
46	46 Total Hexa-Furans		0.8982	1.026	33.56		0.000				NO	983.0		1.16	985.7
47	47 Total Hepta-Furans		0.8511	1.026	37.93		0.000				NO	948.3		2.38	948.3
48	48 DPA1														
49	49 DPA2														
50	50 DPA3														

#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	n/y	EMPC	Conc
1	45 Total Penta-Furans	28.27	28.23	3.375e3	2.305e3	1.550	1.46	NO	5.3521	5.3521
2	45 Total Penta-Furans	28.27	28.30	9.875e4	6.518e4	1.550	1.52	NO	154.45	154.45
3	45 Total Penta-Furans	28.27	28.75	4.808e2	3.883e2	1.550	1.24	YES	0.74528	0.00000
4	45 Total Penta-Furans	28.27	28.96	1.163e4	8.206e3	1.550	1.40	NO	18.767	18.767
5	45 Total Penta-Furans	28.27	29.17	2.234e4	1.424e4	1.550	1.57	NO	34.465	34.465
6	9 1,2,3,8-PeCDF	29.36	29.35	1.930e5	1.263e5	1.550	1.53	NO	285.53	285.53
7	45 Total Penta-Furans	29.27	29.61	6.428e4	4.225e4	1.550	1.52	NO	100.37	100.37
8	45 Total Penta-Furans	28.27	30.21	1.283e3	6.857e2	1.550	1.87	YES	1.6474	0.00000

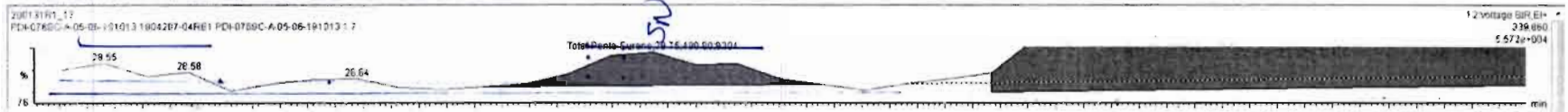




200131R1\_17 1904207-04RE1 PDI-076SC-A-05-06-191013 17 PDI-076SC-A-05-06-191013

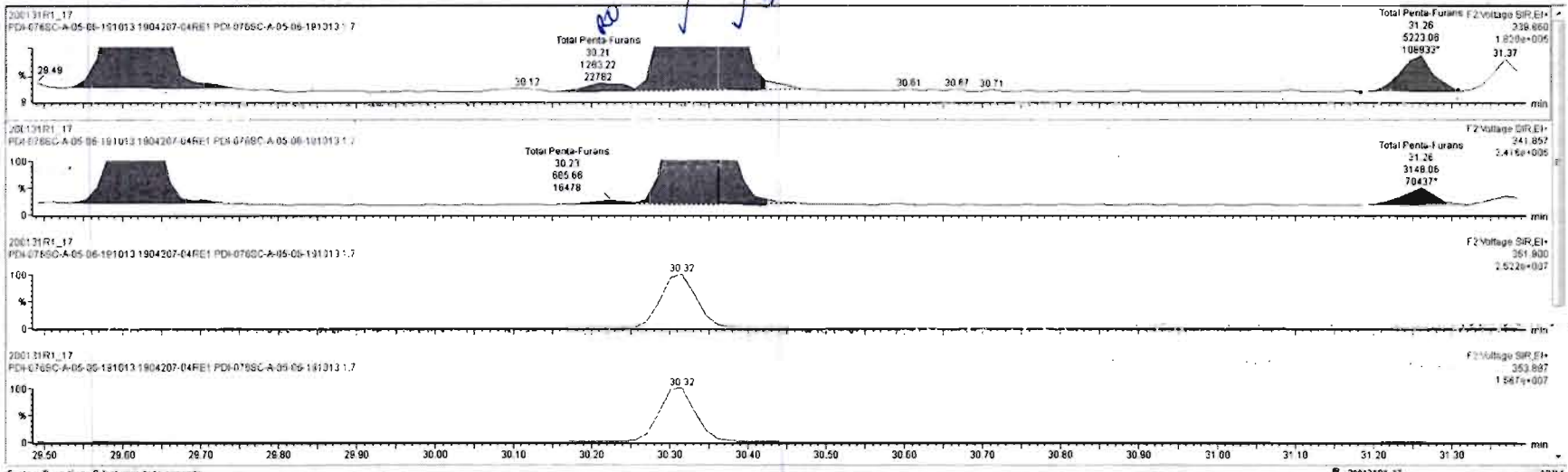
#	Name	Resp	RA	n/y	RRF	m1/m2	Pred RT	RT	Pred R	RRT	RRT Fld	Conc.	%Rec	OK	EMPC
42	Total Hexa-Dichloro				0.9231	1.026	27.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8020	1.026	23.61		0.000		NO	605.4		1.20	637.1
44	1st Func. Penta-Furans				0.8074	1.026	27.06		0.000		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.8074	1.026	28.27		0.000		NO	764.0		0.966	766.4
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	983.0		1.16	985.7
47	Total Hepta-Furans				0.8911	1.026	37.83		0.000		NO	948.3		2.38	948.3
48	PFK1														
49	PFK2														
49	PFK3														

#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	n/y	EMPC	Conc.
1	Total Penta-Furans	29.27	28.23	3.051e3	2.140e3	1.550	1.43	NO	4.8915	4.8915
2	Total Penta-Furans	29.27	28.36	9.863e4	6.471e4	1.550	1.53	NO	154.09	154.09
3	Total Penta-Furans	29.27	28.75	4.808e2	3.863e2	1.550	1.24	YES	0.74528	0.00000
4	Total Penta-Furans	29.27	28.96	1.205e4	8.126e3	1.550	1.48	NO	19.052	19.052
5	Total Penta-Furans	29.27	29.17	2.225e4	1.419e4	1.550	1.58	NO	34.430	34.430
6	1,2,3,7,8-PeCDF	29.36	29.35	1.825e5	1.256e5	1.550	1.54	NO	285.41	285.41
7	Total Penta-Furans	29.27	29.81	6.428e4	4.225e4	1.550	1.52	NO	100.27	100.27
8	Total Penta-Furans	29.27	30.21	1.283e3	6.857e2	1.550	1.87	YES	1.6474	0.00000



#	Name	Resp	RA	nY	RPF	wtAVol	Prod RT	RT	Pred R	RRT	RRT Fail	Conc.	%Inc	DL	EMPC
42	Total Hepta-Dioxins				0.9231	1.026	37.54		0.000		NO	2954		6.14	2954
43	Total Tetra-Furans				0.8020	1.026	23.81		0.000		NO	605.4		1.20	637.1
44	1st Func. Penta-Furans				0.9074	1.026	27.00		0.000		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.9074	1.026	28.27		0.000		NO	764.8		0.866	767.3
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	983.0		1.16	985.7
47	Total Hepta-Furans				0.8511	1.026	37.83		0.000		NO	948.3		2.38	948.3
48	PFK1														
49	PFK2														
50	PFK3														

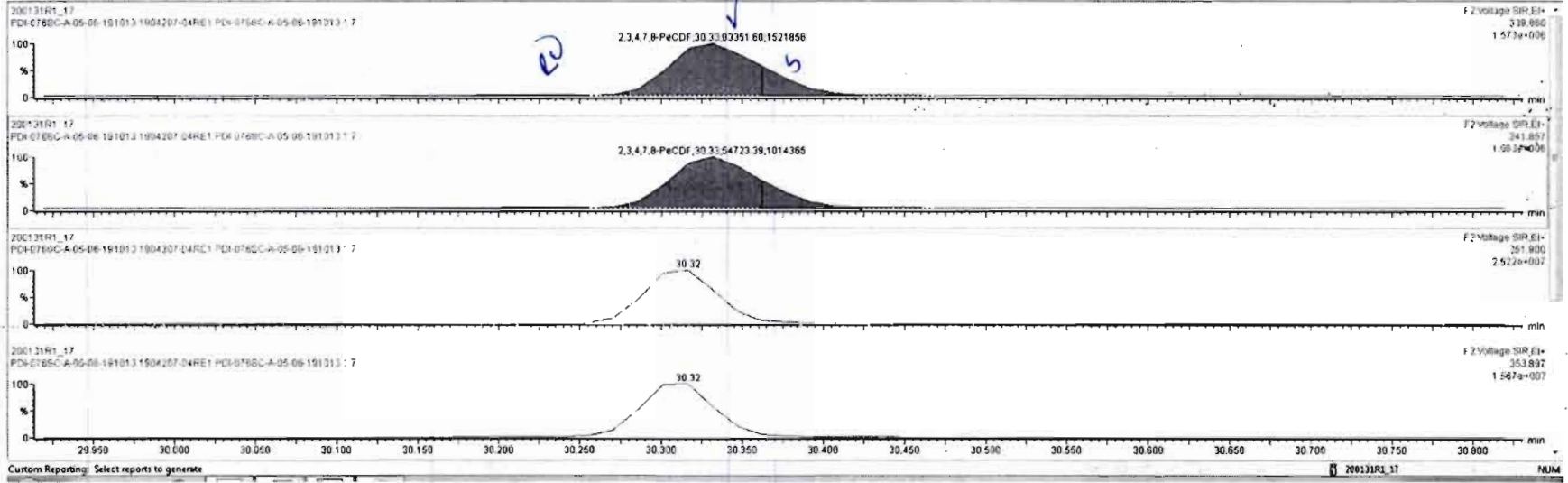
#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	nY	EMPC	Conc
1	Total Penta-Furans	29.27	28.23	3.051e3	2.140e3	1.550	1.43	NO	4.8015	4.8915
2	Total Penta-Furans	29.27	28.36	9.803e4	6.471e4	1.550	1.53	NO	154.09	154.09
3	Total Penta-Furans	29.27	28.75	4.808e2	3.863e2	1.550	1.24	YES	0.74528	0.00000
4	Total Penta-Furans	29.27	28.96	1.209e4	8.126e3	1.550	1.48	NO	19.052	19.052
5	Total Penta-Furans	29.27	29.17	2.235e4	1.419e4	1.550	1.58	NO	34.430	34.430
6	9,1,2,3,7,8-PeCDF	29.36	29.35	1.935e5	1.256e5	1.550	1.54	NO	285.41	285.41
7	Total Penta-Furans	29.27	29.61	6.428e4	4.225e4	1.550	1.52	NO	100.37	100.37
8	Total Penta-Furans	29.27	30.21	1.283e3	6.867e2	1.550	1.87	YES	1.8474	0.00000



200131R1\_17 - 19-420744RE1 PDR0765C-A-05-06-191013 17 PDR0765C-A-05-06-191013

#	Name	Resp	RA	nV	RRF	wtMol	Pred RT	RT	Pred R	RRT	RRT Fail	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins				0.9231	1.026	37.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8000	1.026	23.61		0.000		NO	605.4		1.23	637.1
44	1st Func. Penta-Furans				0.9074	1.026	27.00		0.000		NO	67.67		0.217	67.67
45	Total Penta-Furans				0.9074	1.026	29.27		0.000		NO	730.6		0.966	741.6
46	Total Hexa-Furans				0.6962	1.026	33.96		0.000		NO	963.0		1.16	985.7
47	Total Hepta-Furans				0.9511	1.026	37.83		0.000		NO	948.3		2.30	948.3
48	PK1														
49	PK2														

#	Name	Pred RT	RT	m1 Resp	m2 Resp	1 <sup>st</sup> Ratio (Pred)	RA	nV	EMPC	Conc
1	Total Penta-Furans	29.27	29.23	3.375e3	2.305e3	1.550	1.46	NO	5.3521	5.3521
2	Total Penta-Furans	29.27	29.39	9.075e4	6.518e4	1.550	1.52	NO	154.45	154.45
3	Total Penta-Furans	29.27	29.75	4.809e2	3.063e2	1.550	1.24	YES	0.74528	0.00000
4	Total Penta-Furans	29.27	29.96	1.163e4	8.206e3	1.550	1.40	NO	18.767	18.767
5	Total Penta-Furans	29.27	29.17	2.234e4	1.424e4	1.550	1.57	NO	34.465	34.465
6	1,2,3,7,8-PeCDF	29.26	29.35	1.930e5	1.263e5	1.550	1.53	NO	285.53	285.53
7	Total Penta-Furans	29.27	29.61	6.428e4	4.225e4	1.550	1.52	NO	100.37	100.37
8	Total Penta-Furans	29.27	30.21	1.263e3	6.857e2	1.550	1.87	YES	1.9474	0.00000

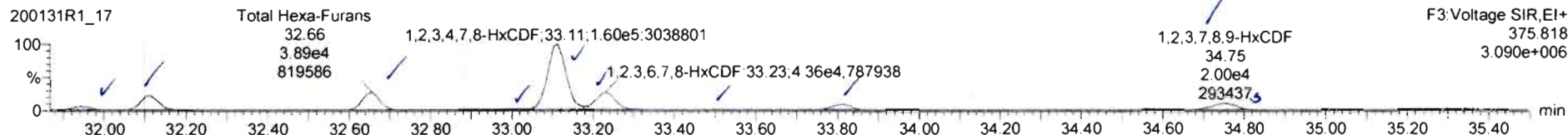
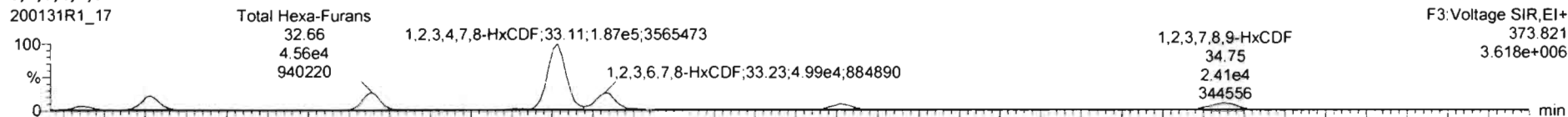


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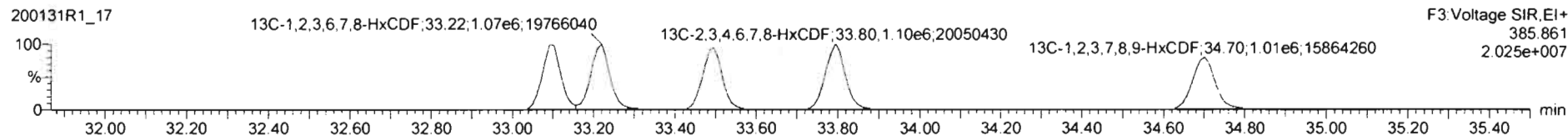
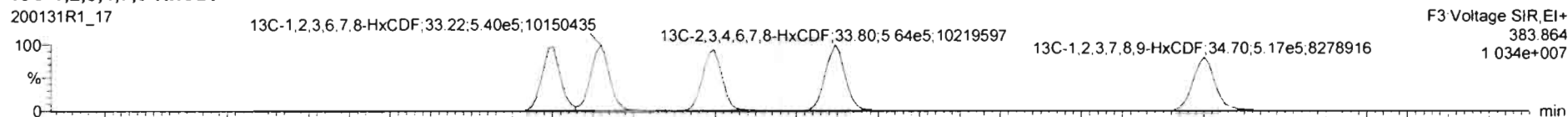
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Printed: Sunday, February 02, 2020 11:36:06 AM Pacific Standard Time

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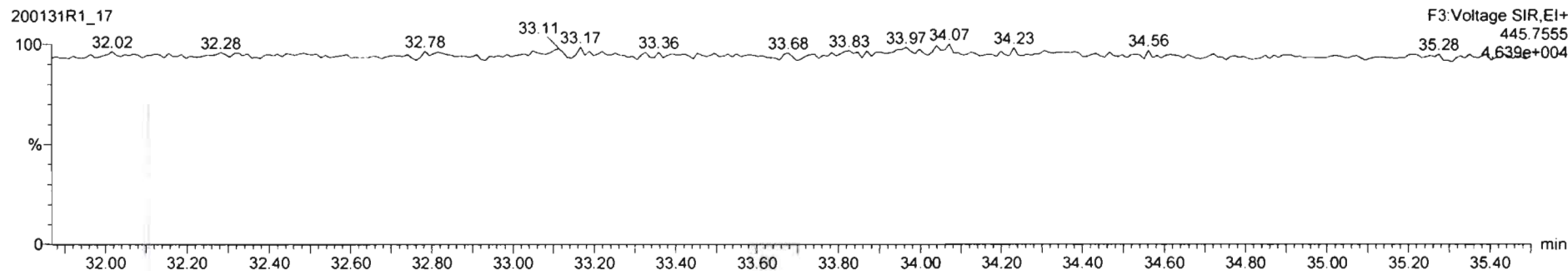
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13C-1,2,3,4,7,8-HxCDF

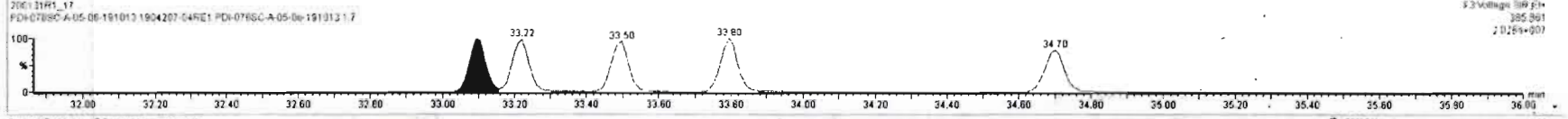
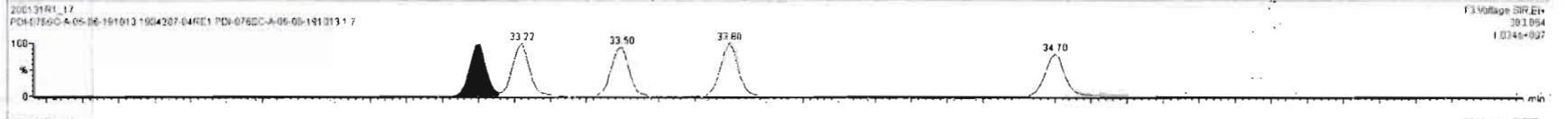
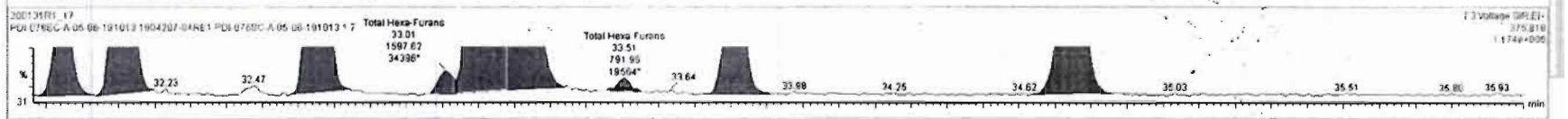
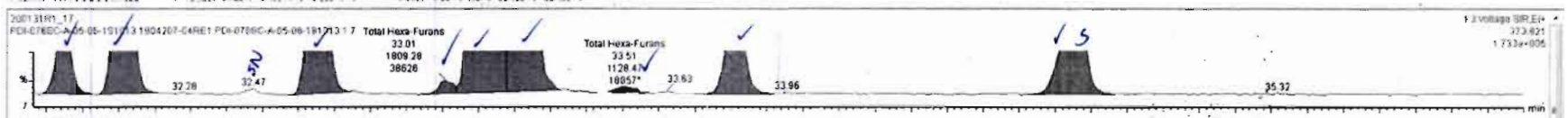


DPE3



#	Name	Resp	RA	ivY	RRF	MAV	Pred RT	RT	Pred R	RRT	RRT Fail	Conc.	Filter	DL	EMPC
42	Total Hexa-Furans				0.9231	1.026	37.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8020	1.026	23.81		0.000		NO	605.4		1.21	637.1
44	1st Func. Penta-Furans				0.9074	1.026	27.00		0.000		NO	67.67		0.217	67.67
45	Total Penta-Furans				0.9074	1.026	29.27		0.000		NO	764.0		0.966	765.7
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	960.9		1.16	983.5
47	Total Hepta-Furans				0.8511	1.026	37.93		0.000		NO	948.3		2.38	948.3
48	PFH1														
49	PFH2														
49	Kn Loc 1														

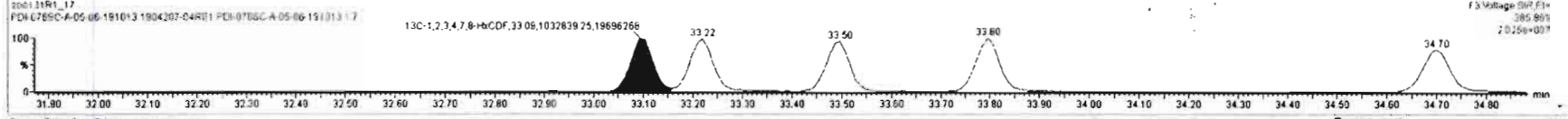
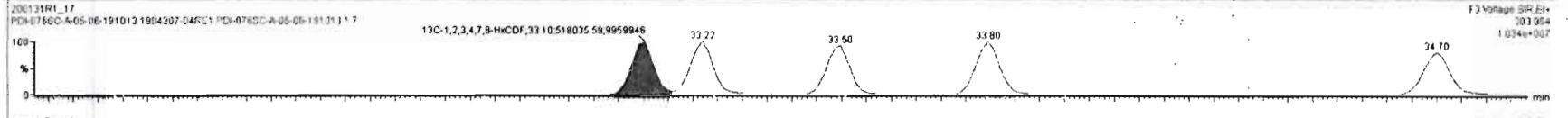
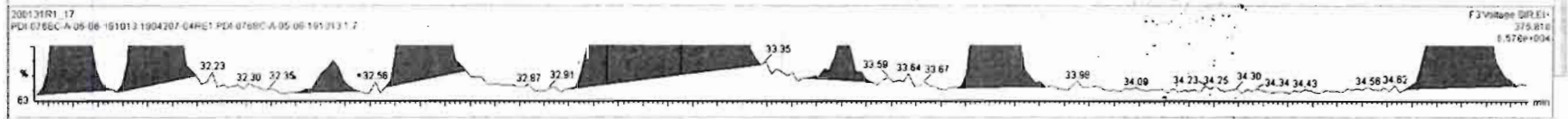
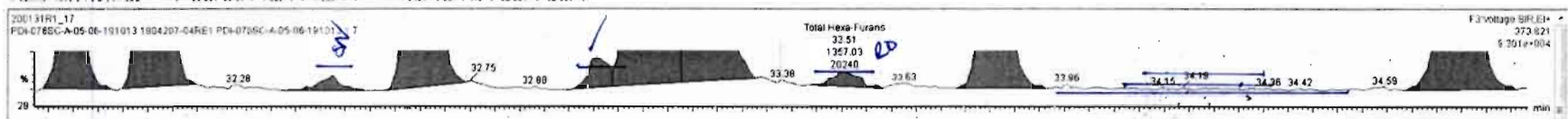
#	Name	Pred RT	RT	mt Resp	nt Resp	1* Ratio (Pred)	RA	ivY	EMPC	Conc.
1	Total Hexa-Furans	33.56	31.94	9.540e3	8.332e3	1.240	1.14	NO	24.423	24.423
2	Total Hexa-Furans	33.50	32.11	3.666e4	3.211e4	1.240	1.14	NO	93.991	93.991
3	Total Hexa-Furans	33.56	32.66	4.569e4	3.893e4	1.240	1.17	NO	115.50	115.50
4	Total Hexa-Furans	33.56	33.01	1.809e3	1.343e3	1.240	1.35	NO	4.3077	4.3077
5	1,2,3,4,7,β-HxCDF	33.10	33.11	1.865e5	1.600e5	1.240	1.17	NO	505.00	505.00
6	1,2,3,6,7,β-HxCDF	33.23	33.23	4.985e4	4.361e4	1.240	1.15	NO	134.99	134.99
7	Total Hexa-Furans	33.56	33.51	1.367e3	8.594e2	1.240	1.58	YES	2.6309	0.00000
8	1,2,3,4,6,7,β-HxCDF	33.03	33.03	1.559e4	1.302e4	1.240	1.20	NO	37.281	37.281



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#	Name	Resp	RA	nV	RRP	wt/Vol	Pred RT	RT	Pred R	RRT	RRT Fail	Conc	%Rec	DL	EMPC
42	Total Hepta-Dioxins				0.9231	1.026	37.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8020	1.026	23.81		0.000		NO	605.4		1.23	637.1
44	1st Func. Penta-Furans				0.9074	1.026	27.09		0.000		NO	87.87		0.217	87.87
45	Total Penta-Furans				0.9074	1.026	28.27		0.000		NO	764.0		0.988	765.7
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	863.0		1.15	865.7
47	Total Hepta-Furans				0.8511	1.026	37.83		0.000		NO	948.3		2.36	948.3
48	PFK1														
49	PFK2														
50	cal surr														

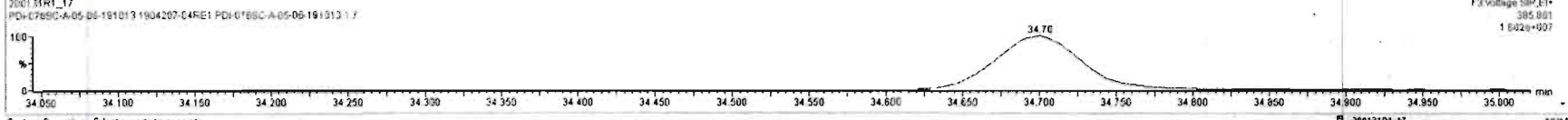
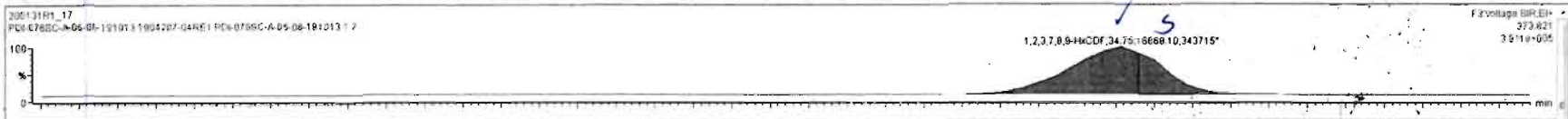
#	Name	Pred RT	RT	ml Resp	n2 Resp	1* Ratio (Pred)	RA	nV	EMPC	Conc
1	46 Total Hexa-Furans	33.56	31.94	9.540e3	8.352e3	1.240	1.14	NO	24.423	24.423
2	46 Total Hexa-Furans	33.56	32.11	3.666e4	3.211e4	1.240	1.14	NO	93.991	93.991
3	46 Total Hexa-Furans	33.56	32.47	6.978e2	6.500e2	1.240	1.36	NO	2.1261	2.1261
4	46 Total Hexa-Furans	33.56	32.66	4.509e4	3.853e4	1.240	1.17	NO	115.50	115.50
5	46 Total Hexa-Furans	33.56	33.01	1.809e3	1.343e3	1.240	1.35	NO	4.3077	4.3077
6	11 1,2,3,4,7,8-HxCDF	33.10	33.11	1.805e5	1.600e5	1.240	1.17	NO	605.00	505.00
7	12 1,2,3,6,7,8-HxCDF	33.23	33.23	4.905e4	4.361e4	1.240	1.15	NO	134.99	134.99
8	46 Total Hexa-Furans	33.56	33.51	1.357e3	8.594e2	1.240	1.50	YES	2.6309	0.00000



200131R1\_17 - 1904207-04RE1 PDI-0785C-A-05-06-191013\_17 - PDI-0785C-A-05-06-191013

#	Name	Resp	RA	rly	RRF	wt/NOI	Pred RT	RT	Pred R	RRT	RRT Fld	Conc.	%Rec	Di.	EMPC
42	Total Hepta-Furans				0.9231	1.026	37.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.8320	1.026	23.81		0.000		NO	805.4		1.22	837.1
44	1st Func. Penta-Furans				0.9074	1.026	27.00		0.000		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.9074	1.026	29.27		0.000		NO	764.0		0.866	785.7
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	983.6		1.18	983.6
47	Total Hepta-Furans				0.8511	1.026	37.83		0.000		NO	948.3		2.36	948.3
48	PFK1														
49	PFK2														
50	PFK3														

#	Name	Pred RT	RT	m1 Resp	m2 Resp	1* Ratio (Pred)	RA	rly	EMPC	Conc.
1	46 Total Hexa-Furans	33.56	31.94	9.540e3	8.332e3	1.240	1.14	NO	24.423	24.423
2	46 Total Hexa-Furans	33.56	32.11	3.666e4	3.211e4	1.240	1.14	NO	93.991	93.991
3	46 Total Hexa-Furans	33.56	32.66	4.558e4	3.893e4	1.240	1.17	NO	115.50	115.50
4	46 Total Hexa-Furans	33.56	33.01	1.809e3	1.599e3	1.240	1.13	NO	4.6559	4.6559
5	11 1,2,3,4,7,8-HxCDF	33.10	33.11	1.885e5	1.889e5	1.240	1.17	NO	504.72	504.72
6	12 1,2,3,6,7,8-HxCDF	33.23	33.23	4.995e4	4.361e4	1.240	1.15	NO	134.99	134.99
7	46 Total Hexa-Furans	33.56	33.51	1.128e3	7.920e2	1.240	1.42	NO	2.6245	2.6245
8	13 2,3,4,6,7,8-HxCDF	33.83	33.81	1.509e4	1.302e4	1.240	1.20	NO	37.261	37.261



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Printed: Sunday, February 02, 2020 11:36:06 AM Pacific Standard Time

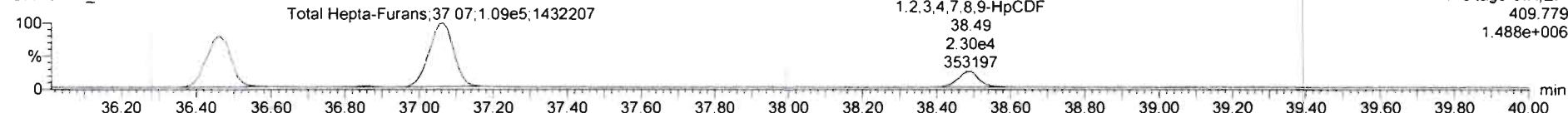
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**1,2,3,4,6,7,8-HpCDF**

200131R1\_17

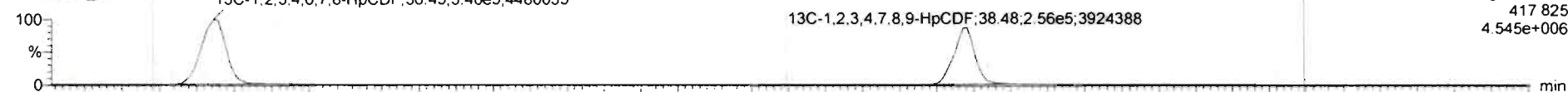


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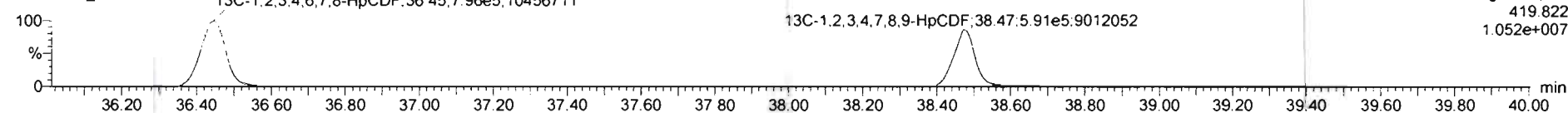


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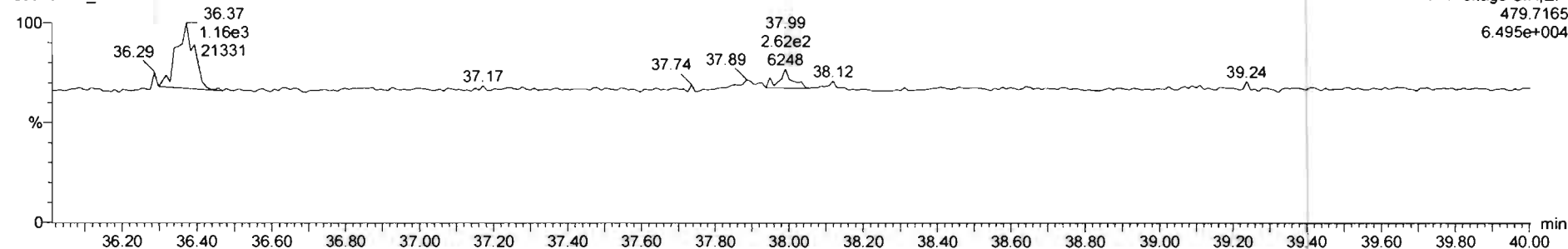


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**DPE4**

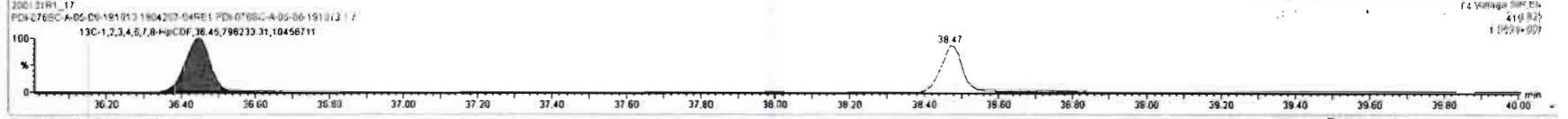
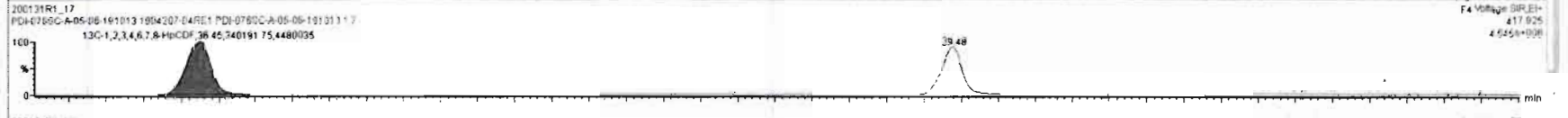
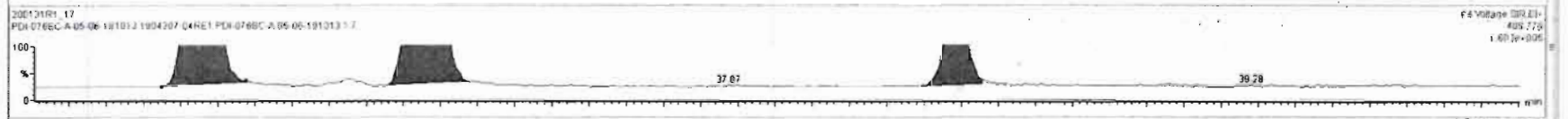
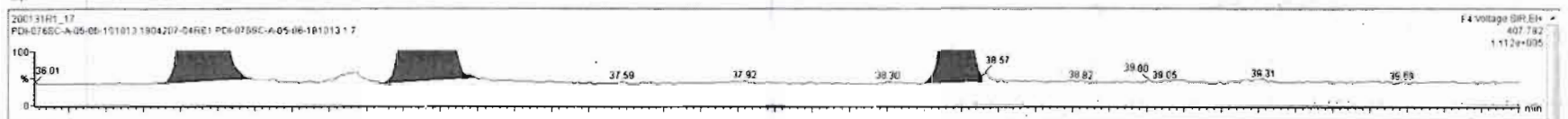
200131R1\_17





#	Name	Resp	RA	n/y	RRT	Wt/Mol	Pred RT	RT	Pred R	RRT	RRT Fail	Conc.	%Inc	DL	EMPC
42	Total Histo-Derivats				0.9231	1.026	37.64		0.000		NO	2554		6.14	2554
43	Total Tetra-Furans				0.9020	1.026	23.61		0.000		NO	606.4		1.23	637.1
44	1st Func. Penta-Furans				0.9074	1.026	27.09		0.000		NO	67.87		0.217	67.87
45	Total Penta-Furans				0.9074	1.026	29.27		0.000		NO	764.0		0.966	765.7
46	Total Hexa-Furans				0.8982	1.026	33.56		0.000		NO	981.3		1.16	981.3
47	Total Hepta-Furans				0.8911	1.026	37.82		0.000		NO	948.3		2.36	948.3

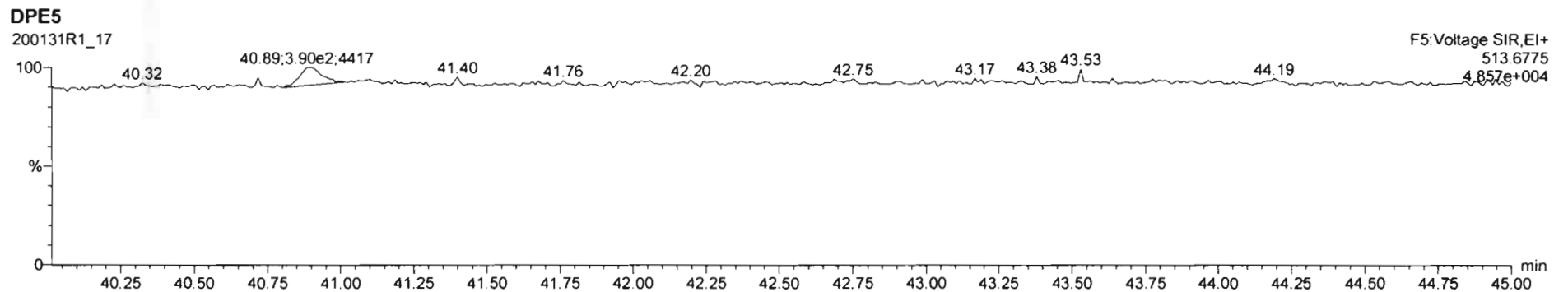
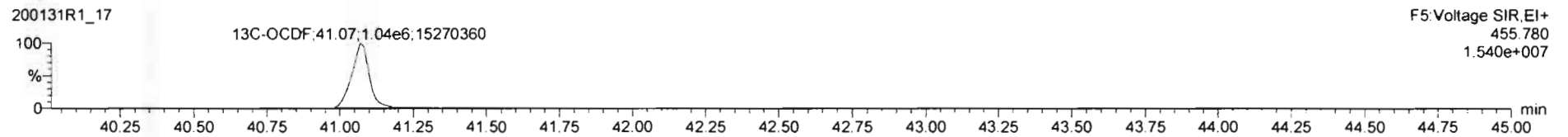
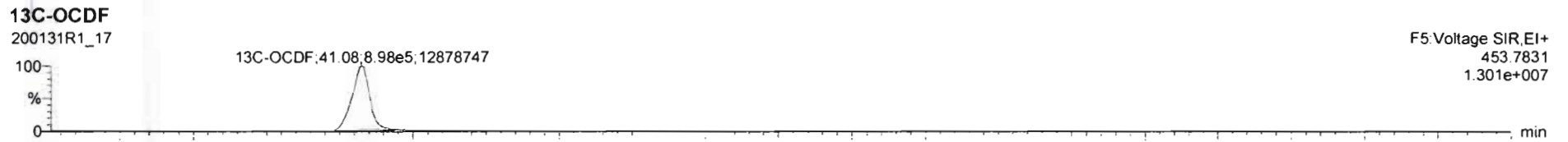
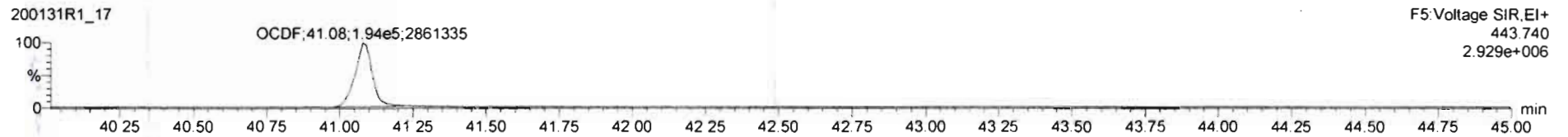
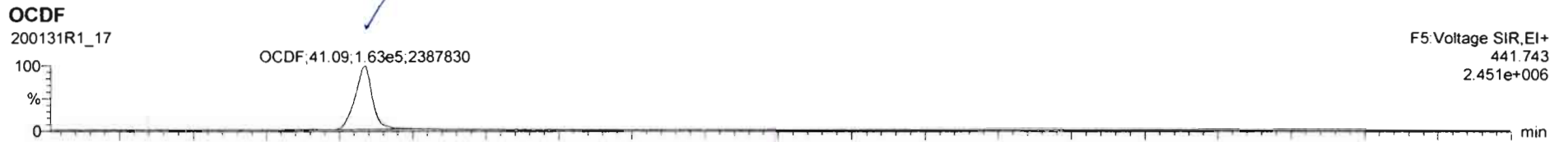
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1	15-1,2,3,4,6,7,8-HpCDF	36.48	36.47	8.264e4	8.670e4	1.040	0.96	NO	340.62	340.62
2	47 Total Histo-Furans	37.83	36.67	1.595e3	1.488e3	1.040	1.02	NO	7.0560	7.0950
3	47 Total Histo-Furans	37.83	37.06	1.052e5	1.050e5	1.040	0.96	NO	495.20	485.20
4	16-1,2,3,4,7,8-HpCDF	38.48	38.48	2.191e4	2.292e4	1.040	0.95	NO	105.38	105.38



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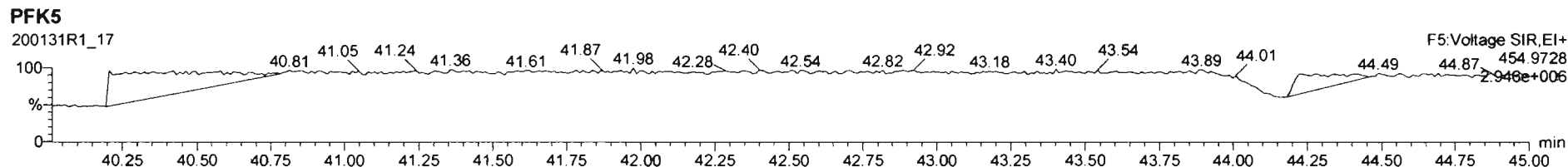
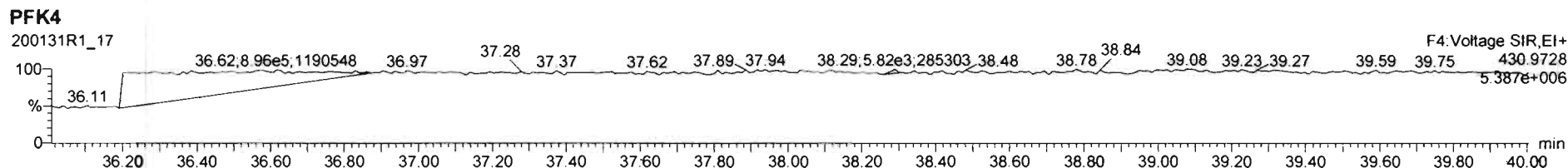
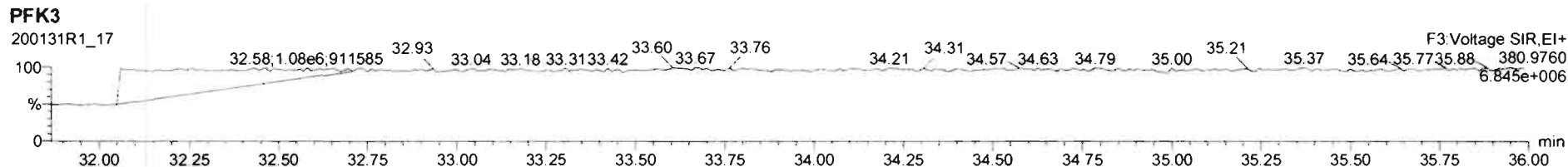
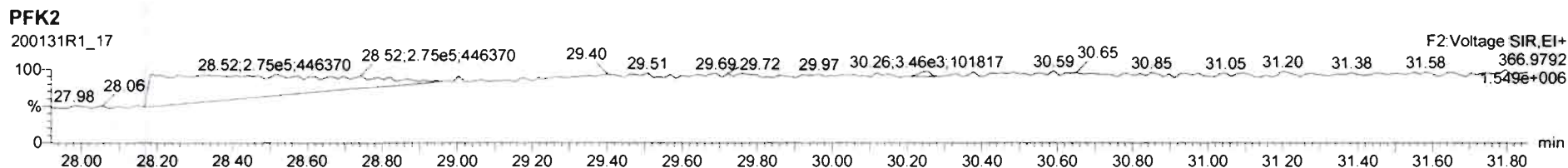
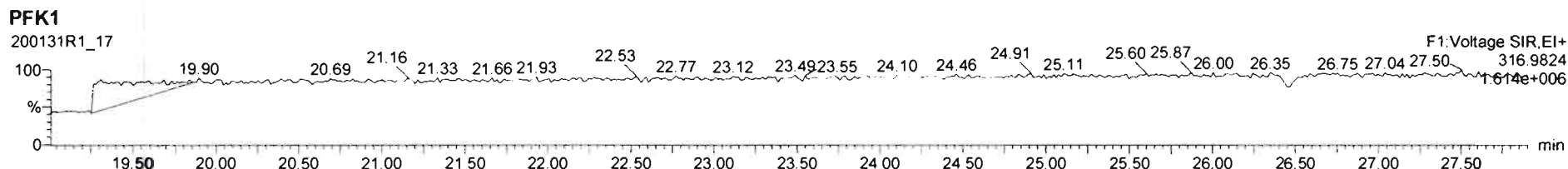
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Last Altered: Sunday, February 02, 2020 11:35:54 AM Pacific Standard Time  
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Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-13.qld

Last Altered: Monday, January 20, 2020 19:17:26 Pacific Standard Time

Printed: Monday, January 20, 2020 19:17:47 Pacific Standard Time

*HL 1-20-2020*

*0702/09/2020*

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Calibration: 15 Jan 2020 15:48:44

Name: VG7 200110D2-13, Date: 11-JAN-2020, Time: 10:08:09, ID: 1904207-05 PDI-077SC-A-00-01-191014,

Description: 1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD	2.71e2	1.14e5	10.0068	0.905	0.490	YES	1.001	1.001	26.02	26.02	0.52766		0.399	0.261
2	2 1,2,3,7,8-PeCDD		8.86e4	10.0068	0.903			1.001		30.58					0.319
3	3 1,2,3,4,7,8-HxCDD		8.51e4	10.0068	1.101			1.000		33.88					0.547
4	4 1,2,3,6,7,8-HxCDD	1.29e3	9.35e4	10.0068	0.939	1.260	NO	1.000	1.001	33.97	34.00	2.9352		2.94	0.613
5	5 1,2,3,7,8,9-HxCDD	3.86e2	9.21e4	10.0068	0.961	1.538	YES	1.000	1.001	34.28	34.29	0.87160		0.769	0.639
6	6 1,2,3,4,6,7,8-HpCDD	1.70e4	8.34e4	10.0068	0.979	1.003	NO	1.000	1.000	37.77	37.76	41.638		41.6	0.838
7	7 OCDD	1.36e5	1.37e5	10.0068	0.959	0.914	NO	1.000	1.000	41.00	41.01	413.66		414	0.642
8	8 2,3,7,8-TCDF	5.78e3	1.58e5	10.0068	0.950	0.807	NO	1.001	1.001	25.22	25.23	7.6758	(7.41)	7.68	0.353
9	9 1,2,3,7,8-PeCDF	2.09e4	1.50e5	10.0068	0.960	1.610	NO	1.001	1.001	29.39	29.39	29.031		29.0	0.343
10	10 2,3,4,7,8-PeCDF	6.06e3	1.44e5	10.0068	1.015	1.533	NO	1.001	1.001	30.31	30.30	8.2988		8.30	0.297
11	11 1,2,3,4,7,8-HxCDF	4.14e4	1.16e5	10.0068	1.177	1.199	NO	1.000	1.001	32.98	33.00	60.502		60.5	0.321
12	12 1,2,3,6,7,8-HxCDF	9.08e3	1.27e5	10.0068	1.069	1.250	NO	1.000	1.000	33.11	33.12	13.413		13.4	0.373
13	13 2,3,4,6,7,8-HxCDF	2.17e3	1.13e5	10.0068	1.114	1.148	NO	1.001	1.000	33.74	33.71	3.4394		3.44	0.422
14	14 1,2,3,7,8,9-HxCDF	1.72e3	1.00e5	10.0068	1.062	1.041	YES	1.000	1.001	34.65	34.68	3.2339		2.98	0.603
15	15 1,2,3,4,6,7,8-HpCDF	2.39e4	9.40e4	10.0068	1.128	1.005	NO	1.001	1.001	36.52	36.51	45.157		45.2	0.554
16	16 1,2,3,4,7,8,9-HpCDF	5.03e3	7.43e4	10.0068	1.280	1.073	NO	1.000	1.000	38.28	38.29	10.578		10.6	0.562
17	17 OCDF	2.56e4	1.73e5	10.0068	0.947	0.891	NO	1.000	1.000	41.22	41.23	62.605		62.6	0.563
18	18 13C-2,3,7,8-TCDD	1.14e5	1.03e5	10.0068	1.095	0.789	NO	1.023	1.022	26.01	25.99	201.99	101.1		0.587
19	19 13C-1,2,3,7,8-PeCDD	8.86e4	1.03e5	10.0068	0.881	0.659	NO	1.203	1.202	30.59	30.56	195.91	98.0		0.604
20	20 13C-1,2,3,4,7,8-Hx...	8.51e4	1.27e5	10.0068	0.642	1.303	NO	1.014	1.014	33.85	33.87	209.25	104.7		1.61
21	21 13C-1,2,3,6,7,8-Hx...	9.35e4	1.27e5	10.0068	0.856	1.285	NO	1.017	1.017	33.96	33.97	172.68	86.4		1.21
22	22 13C-1,2,3,7,8,9-Hx...	9.21e4	1.27e5	10.0068	0.807	1.262	NO	1.026	1.027	34.26	34.27	180.44	90.3		1.28
23	23 13C-1,2,3,4,6,7,8-H...	8.34e4	1.27e5	10.0068	0.654	1.034	NO	1.131	1.131	37.76	37.76	201.59	100.9		1.45
24	24 13C-OCDD	1.37e5	1.27e5	10.0068	0.580	0.907	NO	1.228	1.228	41.01	41.00	372.52	93.2		1.05
25	25 13C-2,3,7,8-TCDF	1.58e5	1.65e5	10.0068	1.035	0.770	NO	0.992	0.991	25.22	25.20	185.32	92.7		0.781
26	26 13C-1,2,3,7,8-PeCDF	1.50e5	1.65e5	10.0068	0.854	1.655	NO	1.156	1.155	29.40	29.37	211.99	106.1		1.40
27	27 13C-2,3,4,7,8-PeCDF	1.44e5	1.65e5	10.0068	0.847	1.631	NO	1.192	1.191	30.31	30.28	205.68	102.9		1.41
28	28 13C-1,2,3,4,7,8-Hx...	1.16e5	1.27e5	10.0068	0.832	0.504	NO	0.987	0.988	32.96	32.98	220.82	110.5		1.39
29	29 13C-1,2,3,6,7,8-Hx...	1.27e5	1.27e5	10.0068	1.034	0.517	NO	0.991	0.992	33.08	33.10	193.35	96.7		1.11
30	30 13C-2,3,4,6,7,8-Hx...	1.13e5	1.27e5	10.0068	0.953	0.511	NO	1.009	1.010	33.69	33.71	187.92	94.0		1.21
31	31 13C-1,2,3,7,8,9-Hx...	1.00e5	1.27e5	10.0068	0.828	0.505	NO	1.038	1.038	34.65	34.65	190.77	95.4		1.39

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-13.qld

Last Altered: Monday, January 20, 2020 19:17:26 Pacific Standard Time

Printed: Monday, January 20, 2020 19:17:47 Pacific Standard Time

Name: VG7 200110D2-13, Date: 11-JAN-2020, Time: 10:08:09, ID: 1904207-05 PDI-077SC-A-00-01-191014,  
 Description: 1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	9.40e4	1.27e5	10.0068	0.757	0.435	NO	1.093	1.093	36.48	36.48	196.02	98.1		1.27
33	33 13C-1,2,3,4,7,8,9-H...	7.43e4	1.27e5	10.0068	0.581	0.441	NO	1.147	1.147	38.28	38.28	201.97	101.1		1.66
34	34 13C-OCDF	1.73e5	1.27e5	10.0068	0.689	0.878	NO	1.235	1.235	41.23	41.22	396.36	99.2		0.676
35	35 37Cl-2,3,7,8-TCDD	4.35e4	1.03e5	10.0068	1.198			1.024	1.023	26.03	26.02	70.786	88.5		0.156
36	36 13C-1,2,3,4-TCDD	1.03e5	1.03e5	10.0068	1.000	0.799	NO	1.000	1.000	25.39	25.43	199.86	100.0		0.643
37	37 13C-1,2,3,4-TCDF	1.65e5	1.65e5	10.0068	1.000	0.793	NO	1.000	1.000	23.93	23.97	199.86	100.0		0.808
38	38 13C-1,2,3,4,6,9-Hx...	1.27e5	1.27e5	10.0068	1.000	0.511	NO	1.000	1.000	33.37	33.38	199.86	100.0		1.15
39	39 Total Tetra-Dioxins		1.14e5	10.0068	0.901			0.000		25.50		2.0961		2.49	0.262
40	40 Total Penta-Dioxins		8.86e4	10.0068	0.872			0.000		30.00		1.3406		1.58	0.330
41	41 Total Hexa-Dioxins		0.00e0	10.0068	0.976			0.000		33.80		16.905		18.2	0.612
42	42 Total Hepta-Dioxins		8.34e4	10.0068	0.989			0.000		37.75		90.924		90.9	0.830
43	43 Total Tetra-Furans		1.58e5	10.0068	0.943			0.000		24.00		22.532		24.9	0.356
44	44 1st Func. Penta-Fur...		0.00e0	10.0068	0.940			0.000		27.63		0.00000		2.60	0.0451
45	45 Total Penta-Furans		0.00e0	10.0068	0.940			0.000		30.00		66.977		67.0	0.336
46	46 Total Hexa-Furans		0.00e0	10.0068	1.078			0.000		33.00		94.764		97.7	0.430
47	47 Total Hepta-Furans		0.00e0	10.0068	1.135			0.000		37.75		77.614		77.6	0.587

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-13.qld

Last Altered: Monday, January 20, 2020 19:17:26 Pacific Standard Time

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Calibration: 15 Jan 2020 15:48:44

Name: VG7 200110D2-13, Date: 11-JAN-2020, Time: 10:08:09, ID: 1904207-05 PDI-077SC-A-00-01-191014,

Description: 1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	39 Total Tetra-Dioxins	NO	22.55	192.671	50083.711	7.291	MM	0.8088	0.81
2	39 Total Tetra-Dioxins	NO	22.94	63.812	50083.711	2.465	bb	0.2734	0.27
3	39 Total Tetra-Dioxins	NO	25.77	237.063	50083.711	9.140	bb	1.0139	1.01
4	1 2,3,7,8-TCDD	YES	26.02	89.246	50083.711	0.000	MM	0.0000	0.40

**Penta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	40 Total Penta-Dioxins	NO	28.52	195.922	35185.930	11.700	MM	1.3406	1.34
2	40 Total Penta-Dioxins	YES	28.97	35.598	35185.930	0.000	MM	0.0000	0.24

**Hexa-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	41 Total Hexa-Dioxins	NO	32.35	1202.894	50707.151	49.512	MM	5.0700	5.07
2	41 Total Hexa-Dioxins	NO	33.18	2216.908	50707.151	86.910	MM	8.8996	8.90
3	4 1,2,3,6,7,8-HxCDD	NO	34.00	718.786	52594.270	27.569	MM	2.9352	2.94
4	5 1,2,3,7,8,9-HxCDD	YES	34.29	234.073	51403.582	0.000	MM	0.0000	0.77
5	41 Total Hexa-Dioxins	NO	34.31	121.941	50707.151	0.000	MM	0.0000	0.48

**Hepta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	42 Total Hepta-Dioxins	NO	36.89	10352.612	42411.699	487.628	bb	49.2866	49.29
2	6 1,2,3,4,6,7,8-HpCDD	NO	37.76	8525.128	42411.699	408.075	bb	41.6375	41.64

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-13.qld

Last Altered: Monday, January 20, 2020 19:17:26 Pacific Standard Time

Printed: Monday, January 20, 2020 19:17:47 Pacific Standard Time

Name: VG7 200110D2-13, Date: 11-JAN-2020, Time: 10:08:09, ID: 1904207-05 PDI-077SC-A-00-01-191014,  
 Description: 1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	43 Total Tetra-Furans	NO	20.39	119.327	68941.141	3.621	bb	0.3839	0.38
2	43 Total Tetra-Furans	YES	20.97	74.195	68941.141	0.000	MM	0.0000	0.13
3	43 Total Tetra-Furans	NO	21.60	607.367	68941.141	16.799	bb	1.7806	1.78
4	43 Total Tetra-Furans	YES	22.16	163.334	68941.141	0.000	MM	0.0000	0.50
5	43 Total Tetra-Furans	NO	22.55	599.891	68941.141	16.291	MM	1.7268	1.73
6	43 Total Tetra-Furans	YES	22.94	253.955	68941.141	0.000	MM	0.0000	0.63
7	43 Total Tetra-Furans	YES	23.10	78.000	68941.141	0.000	MM	0.0000	0.24
8	43 Total Tetra-Furans	YES	23.25	137.393	68941.141	0.000	db	0.0000	0.42
9	43 Total Tetra-Furans	NO	23.97	935.461	68941.141	26.992	MM	2.8611	2.86
10	43 Total Tetra-Furans	NO	24.42	1995.692	68941.141	56.313	MM	5.9689	5.97
11	43 Total Tetra-Furans	NO	25.13	549.347	68941.141	16.477	MM	1.7465	1.75
12	8 2,3,7,8-TCDF	NO	25.23	2581.908	68941.141	72.978	MM	7.6758	7.68
13	43 Total Tetra-Furans	NO	25.55	120.879	68941.141	3.661	bb	0.3881	0.39
14	43 Total Tetra-Furans	YES	27.03	133.137	68941.141	0.000	MM	0.0000	0.41

**Penta-Furans function 1**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	44 1st Func. Penta-Furans	YES	27.03	1256.769	91234.261	0.000	bb	0.0000	2.60

**Penta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	45 Total Penta-Furans	NO	28.48	6217.398	91234.261	137.947	MM	14.6714	14.67
2	45 Total Penta-Furans	NO	29.01	736.566	91234.261	17.179	MM	1.8271	1.83
3	45 Total Penta-Furans	NO	29.22	591.043	91234.261	12.869	db	1.3687	1.37
4	9 1,2,3,7,8-PeCDF	NO	29.39	12871.818	93243.234	279.006	MM	29.0312	29.03
5	45 Total Penta-Furans	NO	29.63	2949.806	91234.261	65.653	bb	6.9826	6.98
6	10 2,3,4,7,8-PeCDF	NO	30.30	3670.217	89225.289	84.273	MM	8.2988	8.30
7	45 Total Penta-Furans	NO	31.18	227.432	91234.261	4.990	MM	0.5307	0.53
8	45 Total Penta-Furans	NO	30.31	1837.587	91234.261	40.110	MM	4.2660	4.27

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-13.qld

Last Altered: Monday, January 20, 2020 19:17:26 Pacific Standard Time

Printed: Monday, January 20, 2020 19:17:47 Pacific Standard Time

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 Description: 1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Hexa-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	46 Total Hexa-Furans	NO	31.83	585.603	38503.827	19.003	MM	1.7622	1.76
2	46 Total Hexa-Furans	NO	31.99	2706.807	38503.827	86.307	db	8.0038	8.00
3	46 Total Hexa-Furans	NO	32.52	2075.367	38503.827	67.765	MM	6.2843	6.28
4	11 1,2,3,4,7,8-HxCDF	NO	33.00	22583.867	38973.887	712.470	MM	60.5018	60.50
5	12 1,2,3,6,7,8-HxCDF	NO	33.12	5045.318	43156.668	143.471	MM	13.4132	13.41
6	13 2,3,4,6,7,8-HxCDF	NO	33.71	1161.299	38339.910	38.327	bb	3.4394	3.44
7	14 1,2,3,7,8,9-HxCDF	YES	34.68	875.513	33544.844	0.000	MM	0.0000	2.98
8	46 Total Hexa-Furans	NO	34.72	464.853	38503.827	14.663	MM	1.3598	1.36

Hepta-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	15 1,2,3,4,6,7,8-HpCDF	NO	36.51	12004.530	28498.674	509.537	bb	45.1570	45.16
2	47 Total Hepta-Furans	NO	37.09	5374.254	25615.326	248.426	bb	21.8786	21.88
3	16 1,2,3,4,7,8,9-HpCDF	NO	38.29	2605.028	22731.979	135.486	bb	10.5785	10.58



Vista Analytical Laboratory

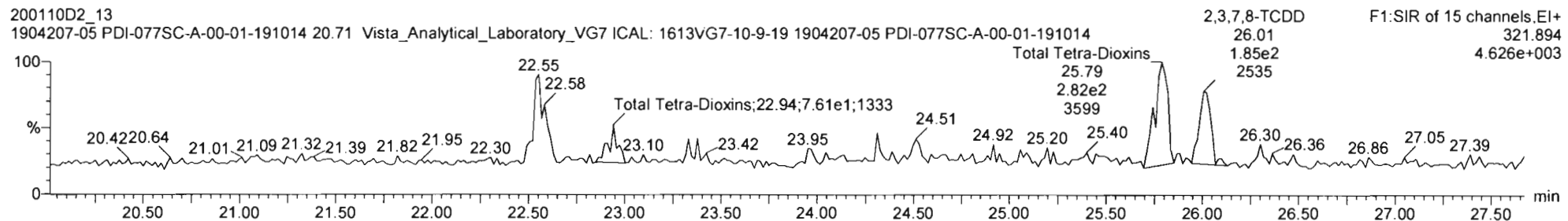
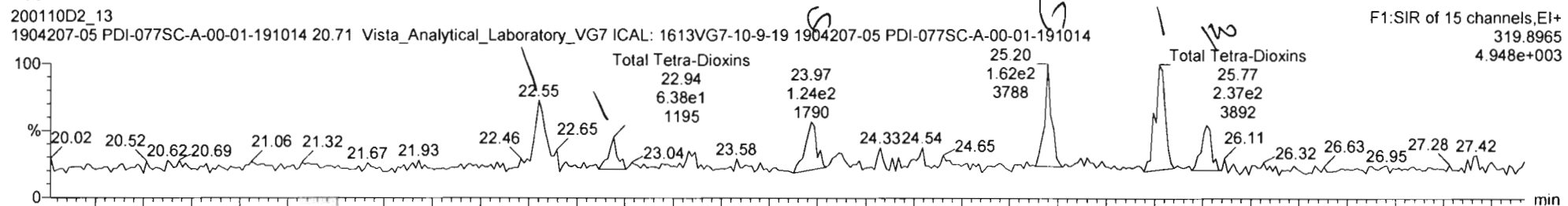
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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

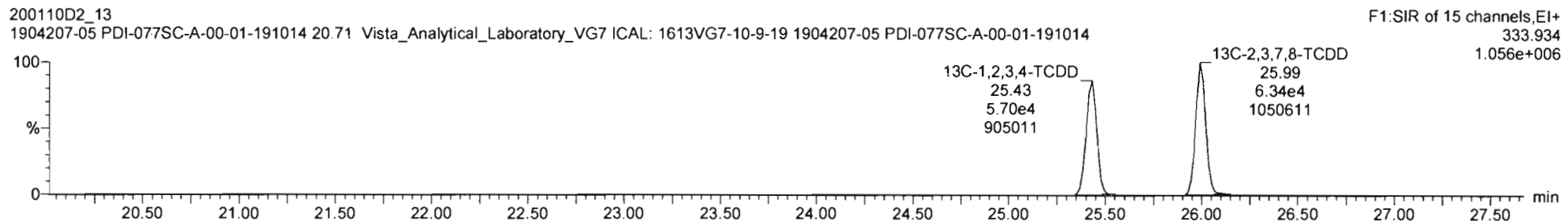
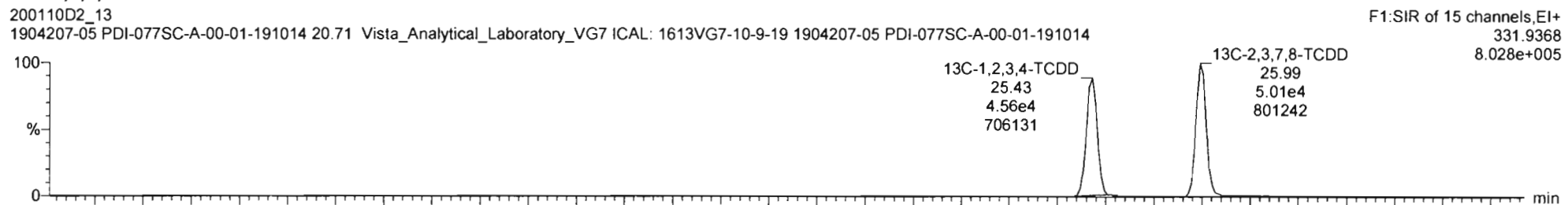
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Total Tetra-Dioxins



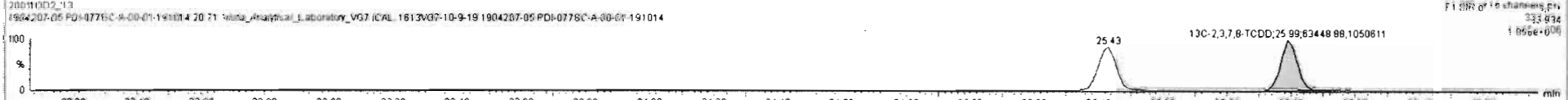
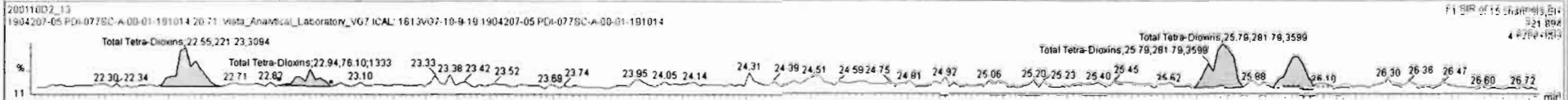
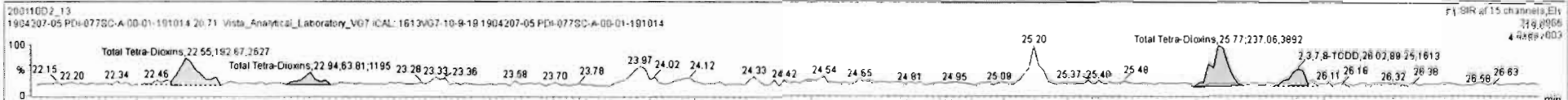
13C-2,3,7,8-TCDD



20011002\_13 1904207-05 PDI-0775C-A-00-01-191014 20 71 Vista\_Analytical\_Laboratory\_V07 ICAL 1613V07-10-9-19 1904207-05 PDI-0775C-A-00-01-191014

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
28	13C-1,2,3,4,7,8-HxCDF	1.16e5	1.27e5	38	0.50	NO	0.832	10.007	32.96	32.98	0.988	0.987	NO	220.8	110	1.39	
29	13C-1,2,3,6,7,8-HxCDF	1.27e5	1.27e5	38	0.52	NO	1.034	10.007	33.08	33.10	0.992	0.991	NO	193.3	96.7	1.11	
30	13C-2,3,4,6,7,8-HxCDF	1.13e5	1.27e5	38	0.51	NO	0.953	10.007	33.69	33.71	1.010	1.008	NO	187.9	94.0	1.21	
31	13C-1,2,3,7,8,9-HxCDF	1.00e5	1.27e5	38	0.51	NO	0.828	10.007	34.65	34.65	1.038	1.038	NO	190.8	95.4	1.39	
32	13C-1,2,3,4,6,7,8-HpCDF	9.40e4	1.27e5	38	0.44	NO	0.757	10.007	36.48	36.48	1.093	1.093	NO	196.0	98.1	1.27	
33	13C-1,2,3,4,7,8,9-HpCDF	7.43e4	1.27e5	38	0.44	NO	0.581	10.007	38.28	38.28	1.147	1.147	NO	202.0	101	1.66	
34	13C-OCDF	1.73e5	1.27e5	38	0.88	NO	0.689	10.007	41.23	41.22	1.235	1.235	NO	396.4	99.2	0.676	
35	37Cl-2,3,7,8-TCDD	4.35e4	1.03e5	36			1.198	10.007	26.03	26.02	1.023	1.024	NO	70.79	88.5	0.156	
36	13C-1,2,3,4-TCDD	1.03e5	1.03e5	36	0.80	NO	1.000	10.007	25.39	25.43	1.000	1.000	NO	199.9	100	0.643	
37	13C-1,2,3,4-TCDF	1.65e5	1.65e5	37	0.79	NO	1.000	10.007	23.93	23.97	1.000	1.000	NO	199.9	100	0.806	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.007	33.37	33.38	1.000	1.000	NO	199.9	100	1.15	
39	Total Tetra-Dioxins	1.14e5					0.901	10.007	25.50			0.000	NO	2.096	0.262	2.495	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	39 Total Tetra-Dioxins	25.50	22.55	1.927e2	2.212e2	0.770	0.87	NO	0.80879	0.80879
2	39 Total Tetra-Dioxins	25.50	22.94	6.381e1	7.610e1	0.770	0.84	NO	0.27340	0.27340
3	39 Total Tetra-Dioxins	25.50	25.77	2.371e2	2.818e2	0.770	0.84	NO	1.0139	1.0139
4	1 2,3,7,8-TCDD	26.02	26.02	6.925e1	1.821e2	0.770	0.49	YES	0.39893	0.00000



Vista Analytical Laboratory

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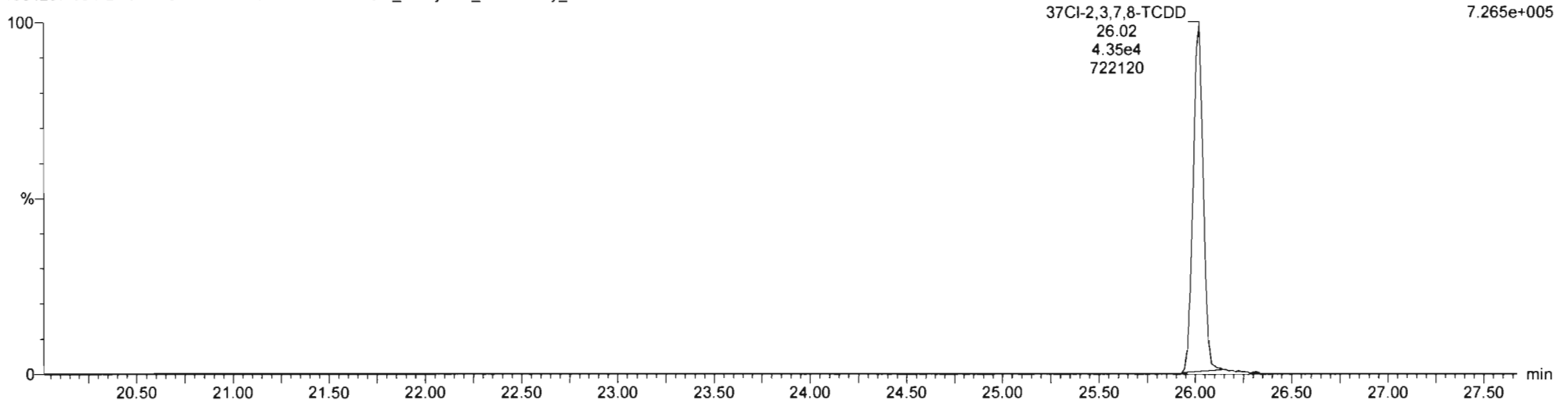
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37Cl-2,3,7,8-TCDD

200110D2\_13

1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-05 PDI-077SC-A-00-01-191014

F1:SIR of 15 channels,EI+  
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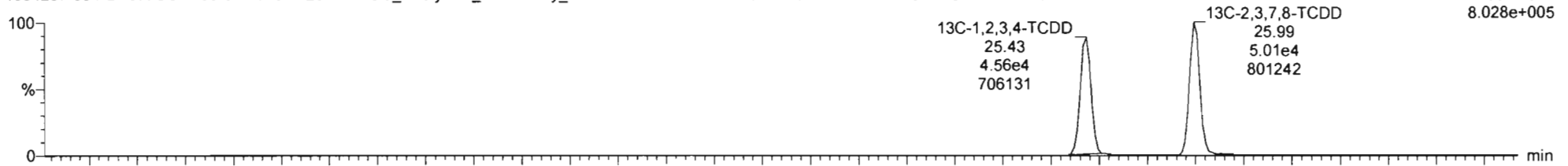


13C-1,2,3,4-TCDD

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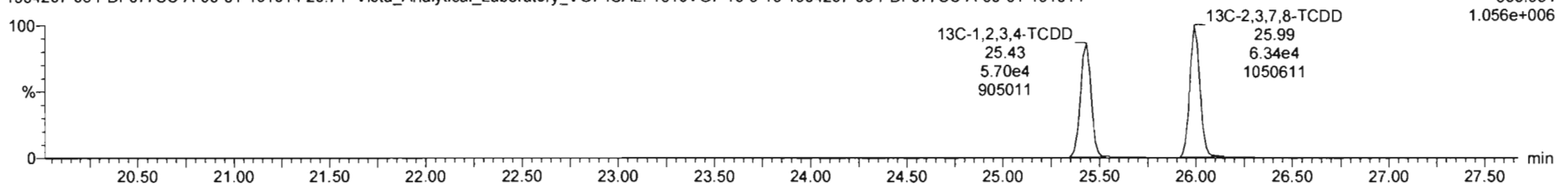
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F1:SIR of 15 channels,EI+  
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Vista Analytical Laboratory

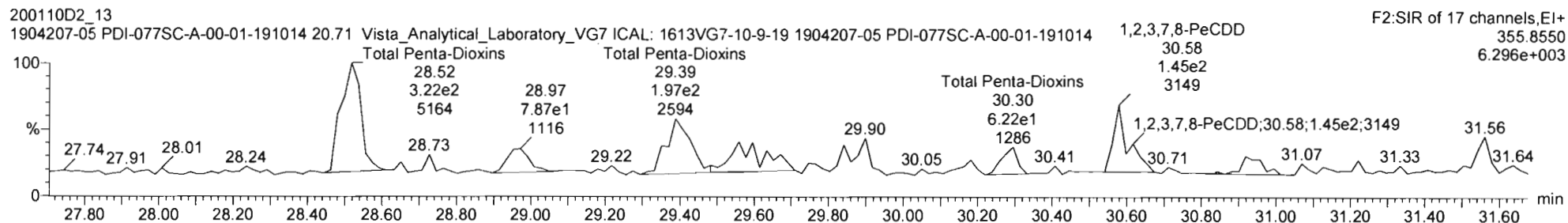
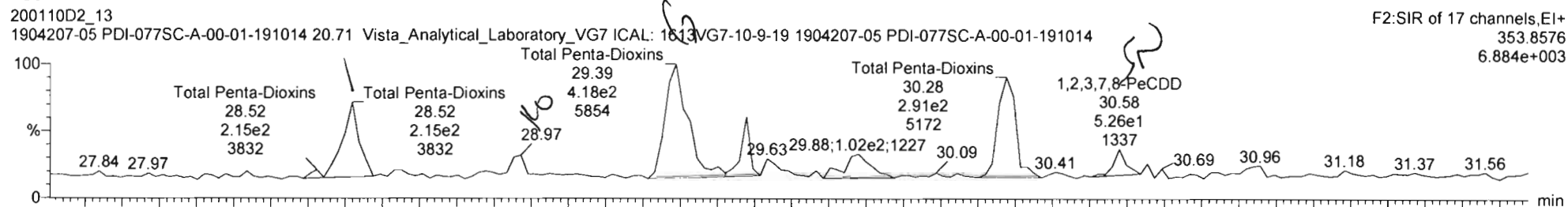
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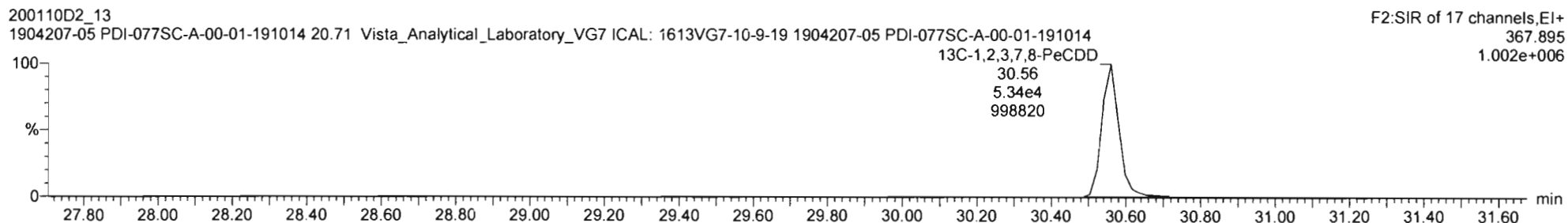
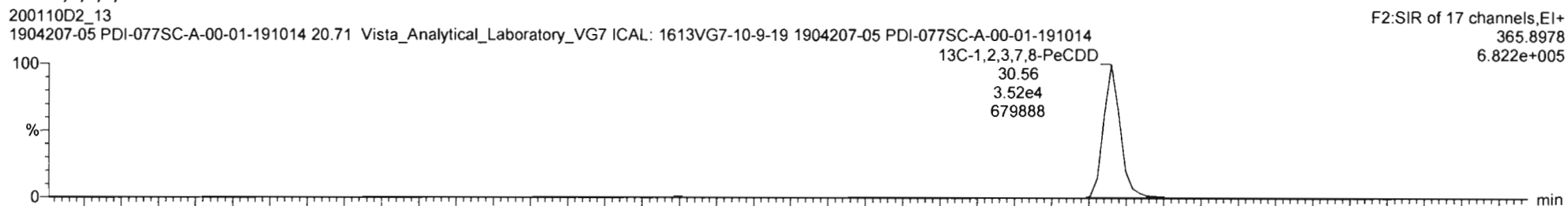
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Total Penta-Dioxins



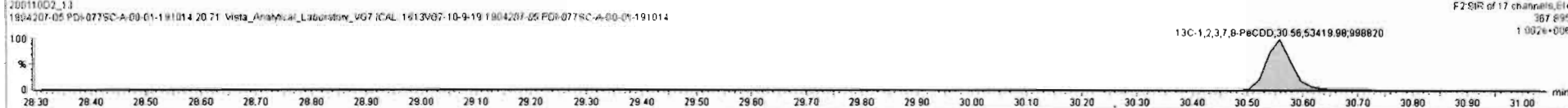
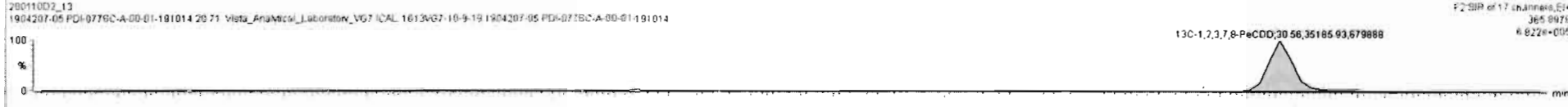
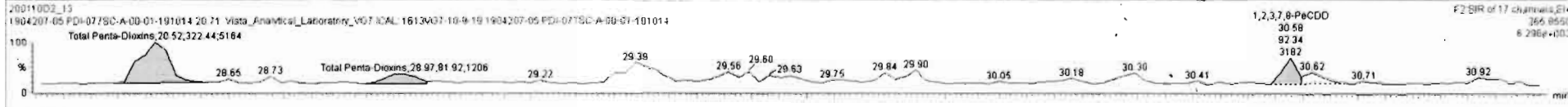
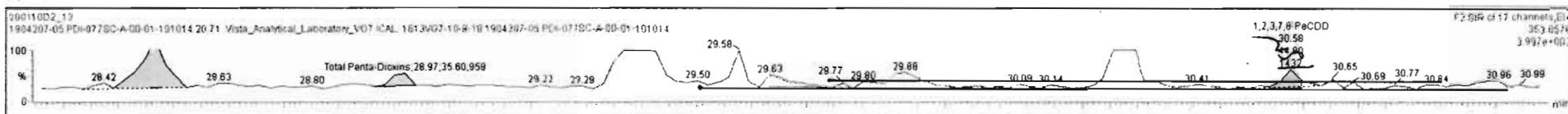
13C-1,2,3,7,8-PeCDD



20011002\_13 1904207-05 PDI-0775C-A-00-01-191014 20 71 Vista\_Analytical\_Laboratory\_V07\_ICAL 1613V07-10-9-19 1904207-05 PDI-0775C-A-00-01-191014 20 71 Vista\_Analytical\_Laboratory\_V07\_ICAL 1613V07-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
22	13C-1,2,3,7,8,9-HxCDD	8.21e4	1.27e5	38	1.26	NO	0.807	10.007	34.26	34.27	1.027	1.026	NO	180.4	90.3	1.28	
23	13C-1,2,3,4,6,7,8-HpCDD	8.34e4	1.27e5	38	1.03	NO	0.654	10.007	37.76	37.76	1.131	1.131	NO	201.6	101	1.45	
24	13C-OCDD	1.37e5	1.27e5	38	0.91	NO	0.580	10.007	41.01	41.00	1.228	1.228	NO	372.5	182.2	1.05	
25	13C-2,3,7,8-TCDF	1.58e5	1.65e5	37	0.77	NO	1.035	10.007	25.22	25.20	0.991	0.992	NO	185.3	92.7	0.781	
26	13C-1,2,3,7,8-PeCDF	1.90e5	1.65e5	37	1.66	NO	0.854	10.007	29.40	29.37	1.155	1.156	NO	212.0	106	1.40	
27	13C-2,3,4,7,8-PeCDF	1.44e5	1.65e5	37	1.63	NO	0.847	10.007	30.31	30.28	1.191	1.192	NO	205.7	103	1.41	
28	13C-1,2,3,4,7,8-HxCDF	1.16e5	1.27e5	38	0.50	NO	0.832	10.007	32.96	32.98	0.968	0.967	NO	220.8	110	1.38	
29	13C-1,2,3,6,7,8-HxCDF	1.27e5	1.27e5	38	0.52	NO	1.034	10.007	33.08	33.10	0.982	0.981	NO	193.3	96.7	1.11	
30	13C-2,3,4,6,7,8-HxCDF	1.13e5	1.27e5	38	0.51	NO	0.953	10.007	33.89	33.71	1.010	1.008	NO	187.9	94.0	1.21	
31	13C-1,2,3,7,8,9-HxCDF	1.00e5	1.27e5	38	0.51	NO	0.828	10.007	34.65	34.65	1.038	1.038	NO	190.6	95.4	1.39	
32	13C-1,2,3,4,6,7,8-HpCDF	9.40e4	1.27e5	38	0.44	NO	0.757	10.007	36.48	36.48	1.093	1.093	NO	196.0	98.1	1.27	
33	13C-1,2,3,4,7,8,9-HpCDF	7.43e4	1.27e5	38	0.44	NO	0.581	10.007	38.28	38.28	1.147	1.147	NO	202.0	101	1.68	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.52	1.959e2	3.224e2	0.630	0.61	NO	1.3406	1.3406
2	40 Total Penta-Dioxins	30.00	28.97	3.560e1	8.192e1	0.630	0.43	YES	0.23819	0.00000
3	2 1,2,3,7,8-PeCDD	30.58	30.58	4.400e1	9.234e1	0.630	0.48	YES	0.26445	0.00000



Vista Analytical Laboratory

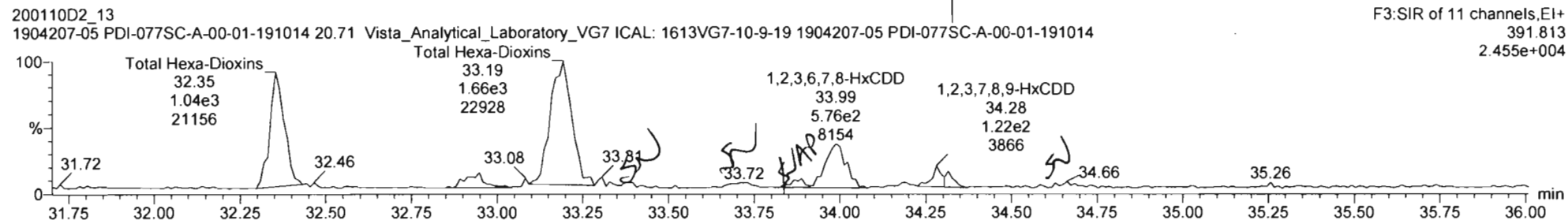
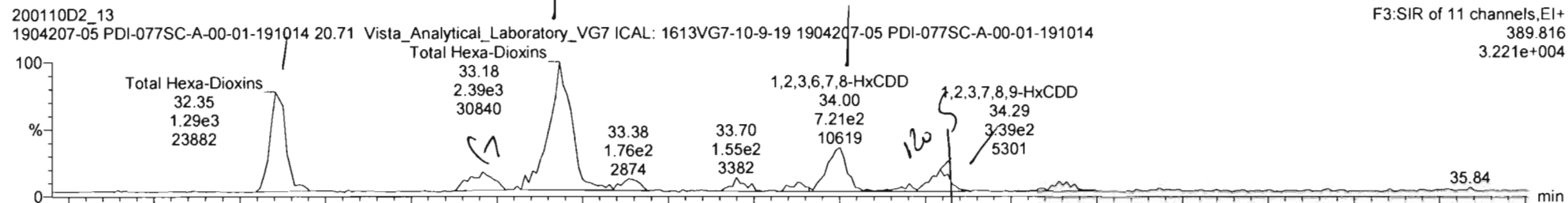
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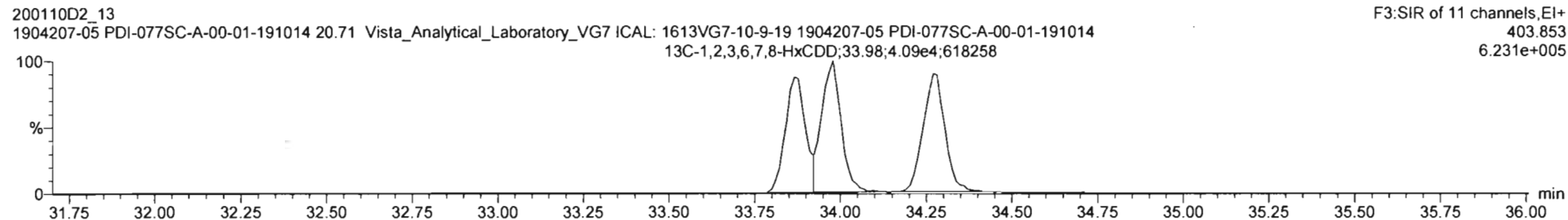
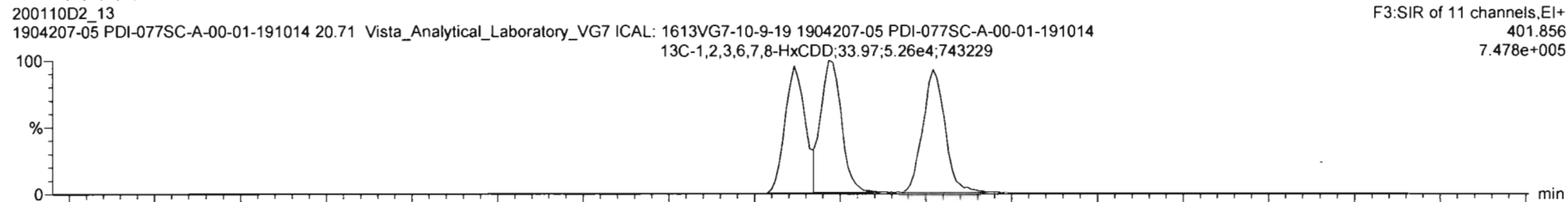
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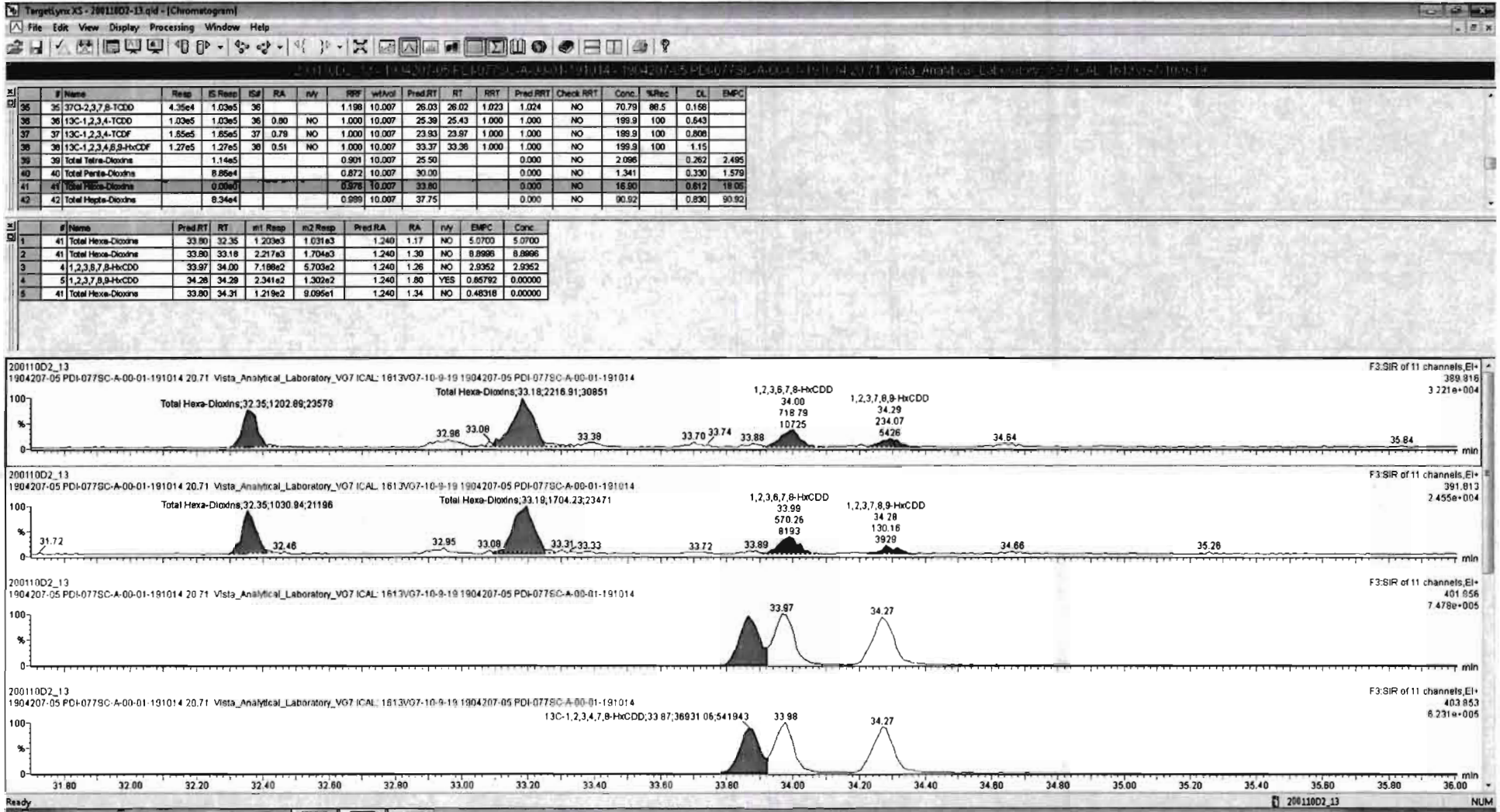
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Total Hexa-Dioxins



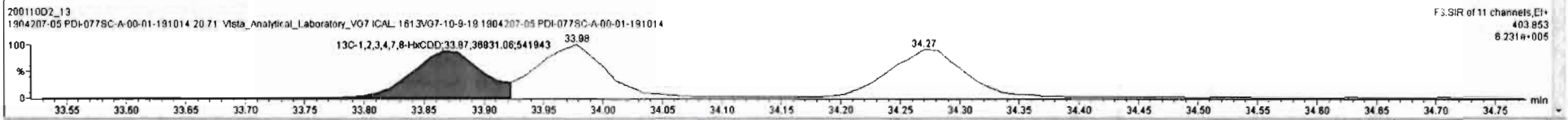
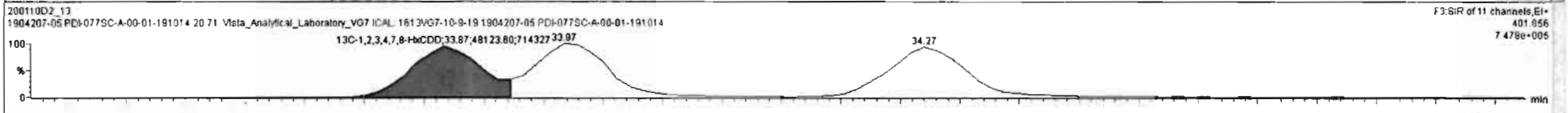
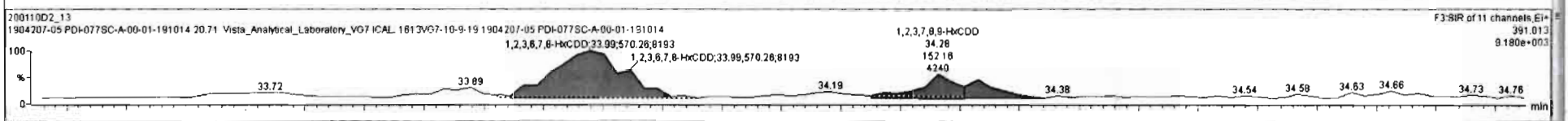
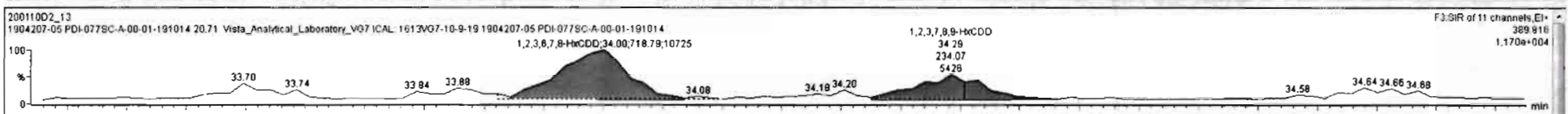
13C-1,2,3,4,7,8-HxCDD





#	Name	Resp	IS Resp	IS#	RA	inj	RRF	retArd	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
36	37Cl-2,3,7,8-TCDD	4.35e4	1.03e5	36			1.190	10.007	26.03	26.02	1.023	1.024	NO	70.79	88.5	0.156	
36	13C-1,2,3,4-TCDD	1.03e5	1.03e5	36	0.80	NO	1.000	10.007	25.39	25.43	1.000	1.000	NO	198.9	100	0.643	
37	13C-1,2,3,4-TCDF	1.85e5	1.85e5	37	0.78	NO	1.000	10.007	23.93	23.97	1.000	1.000	NO	199.9	100	0.808	
38	13C-1,2,3,4,8,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.007	33.37	33.38	1.000	1.000	NO	199.9	100	1.15	
39	Total Tetra-Dioxins		1.14e5				0.901	10.007	25.50			0.000	NO	2.086		0.262	2.495
40	Total Penta-Dioxins		8.89e4				0.872	10.007	30.00			0.000	NO	1.341		0.330	1.579
41	Total Hexa-Dioxins		0.00e0				0.978	10.007	33.90			0.000	NO	16.90		0.812	18.16
42	Total Hepta-Dioxins		6.34e4				0.989	10.007	37.75			0.000	NO	90.92		0.830	90.92

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	inj	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.35	1.203e3	1.031e3	1.240	1.17	NO	5.0700	5.0700
2	41 Total Hexa-Dioxins	33.80	33.18	2.217e3	1.704e3	1.240	1.30	NO	8.8996	8.8996
3	4 1,2,3,6,7,8-HxCDD	33.97	34.00	7.189e2	5.703e2	1.240	1.26	NO	2.9352	2.9352
4	5 1,2,3,7,8-HxCDD	34.28	34.29	2.341e2	1.522e2	1.240	1.54	YES	0.76917	0.00000
5	41 Total Hexa-Dioxins	33.80	34.31	1.219e2	9.095e1	1.240	1.34	NO	0.48318	0.00000





Vista Analytical Laboratory

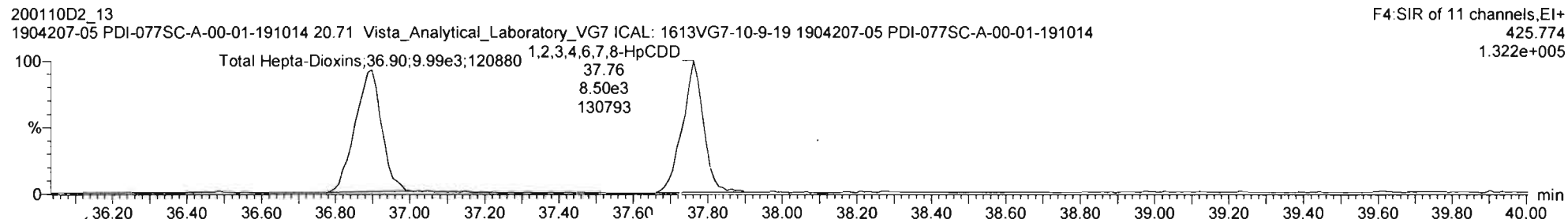
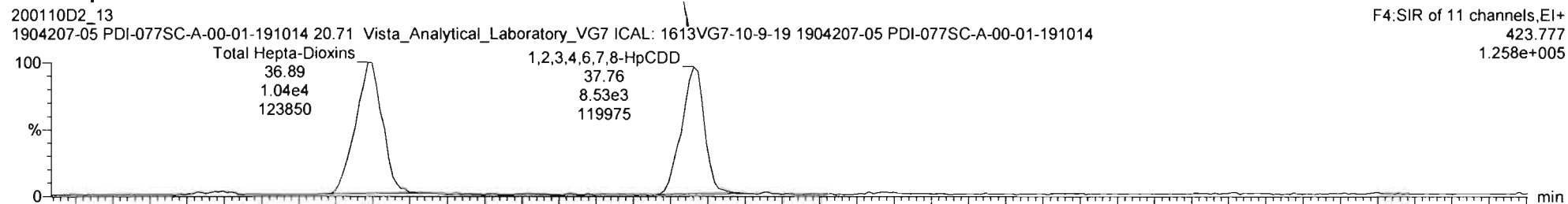
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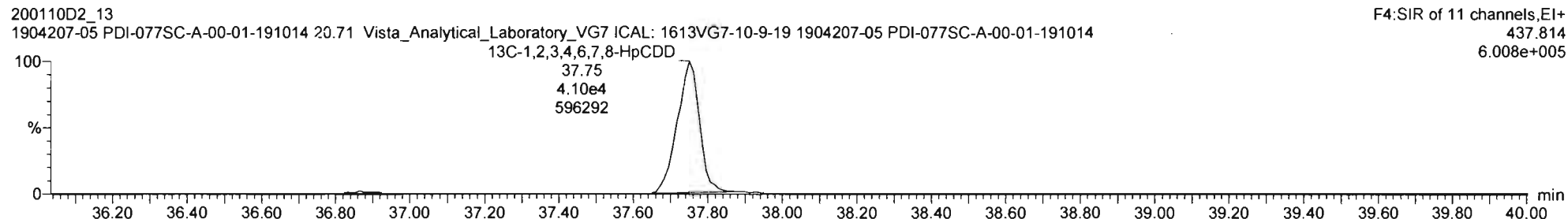
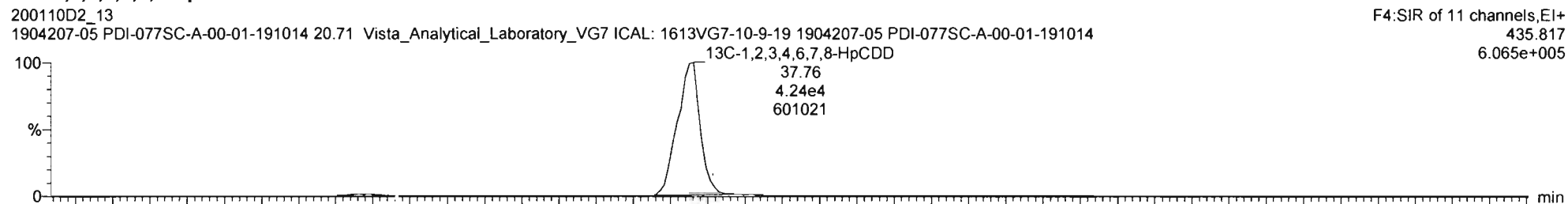
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Total Hepta-Dioxins



<sup>13</sup>C-1,2,3,4,6,7,8-HpCDD



Vista Analytical Laboratory

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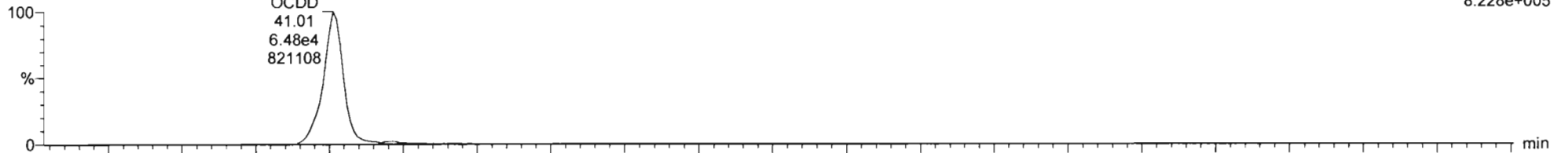
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**OCDD**

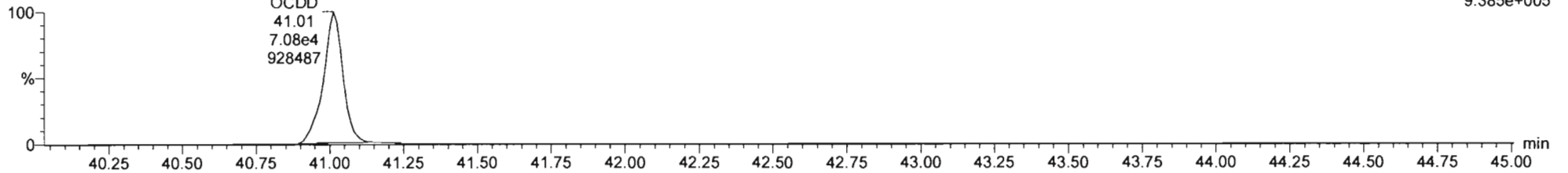
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F5:SIR of 11 channels, EI+  
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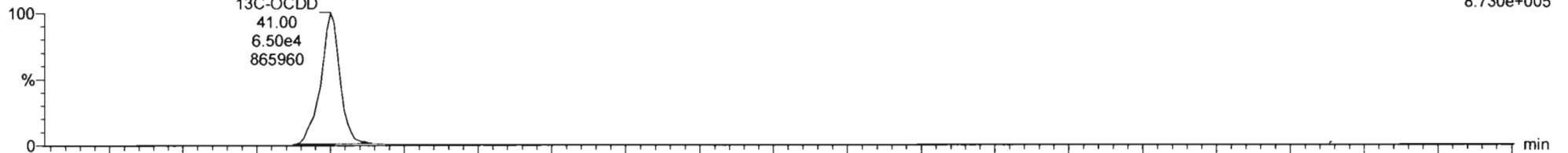
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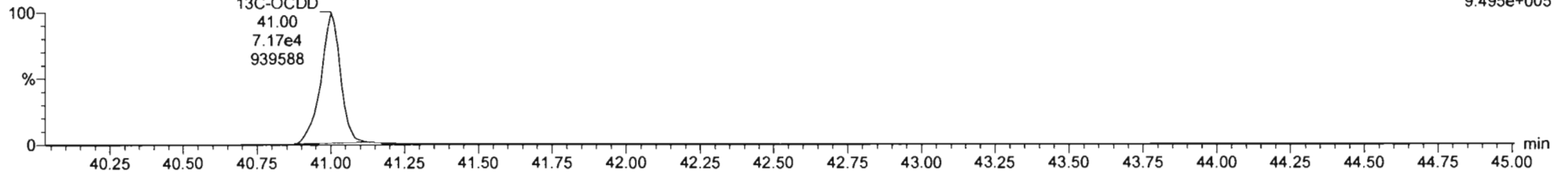
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F5:SIR of 11 channels, EI+  
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8.730e+005



200110D2\_13  
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F5:SIR of 11 channels, EI+  
471.775  
9.495e+005



Vista Analytical Laboratory

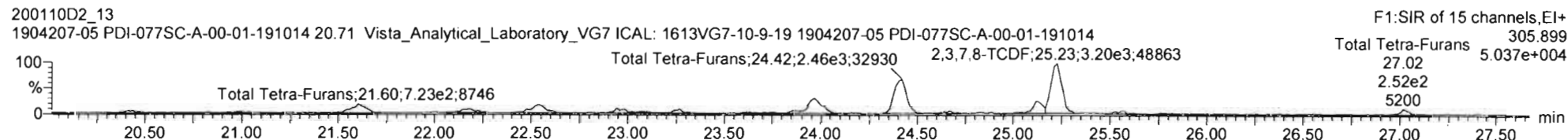
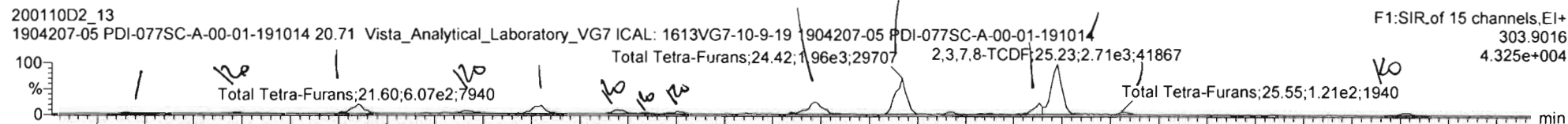
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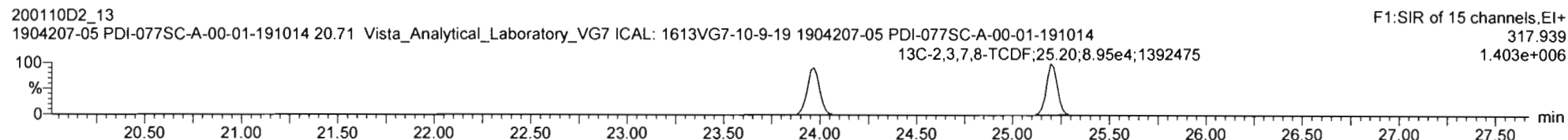
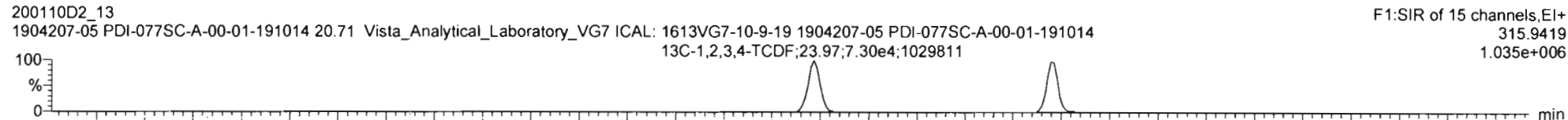
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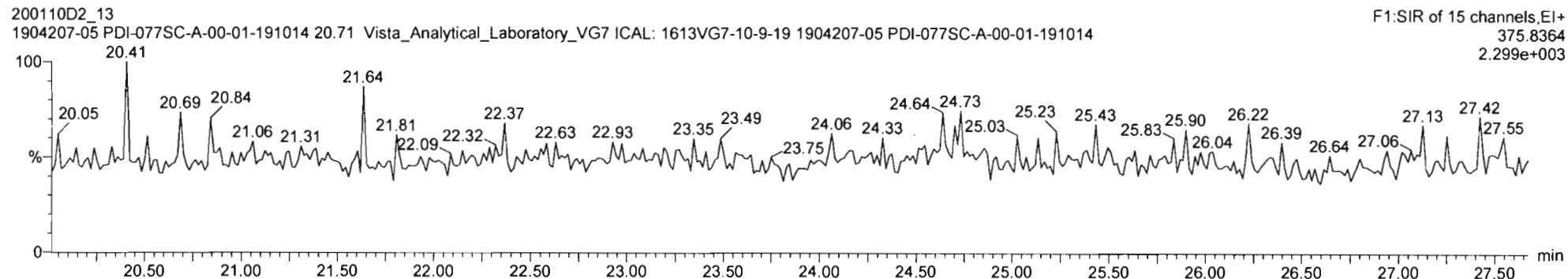
Total Tetra-Furans



13C-2,3,7,8-TCDF



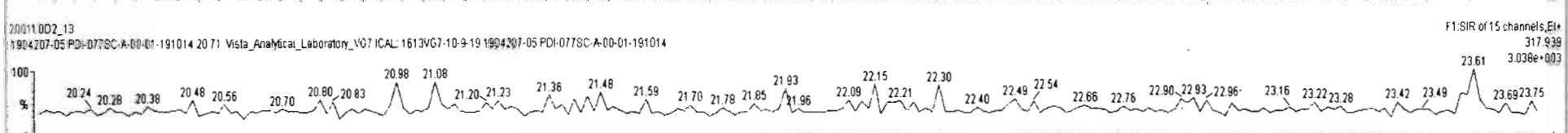
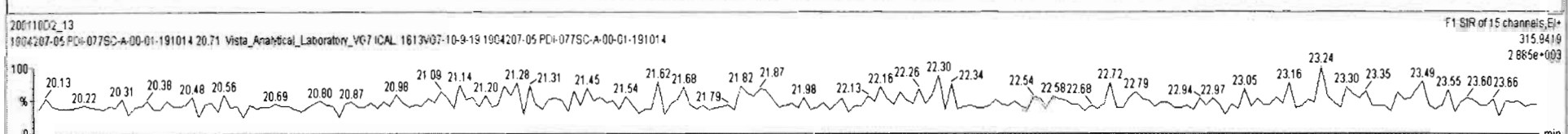
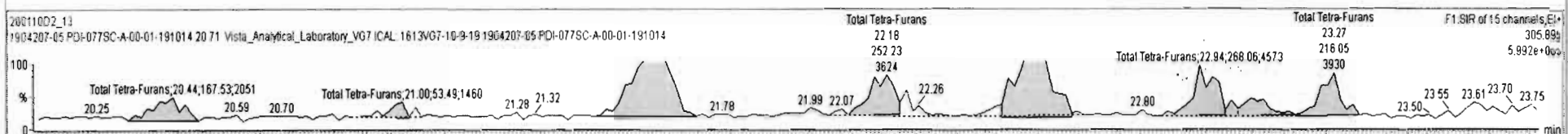
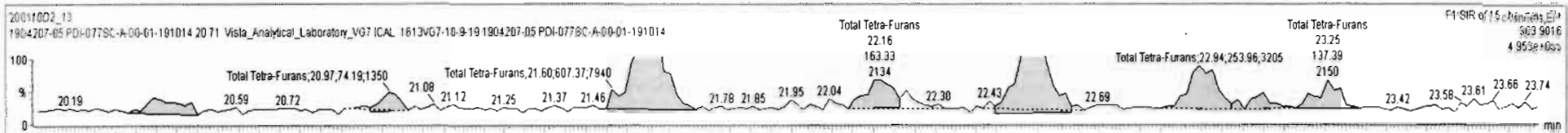
DPE1

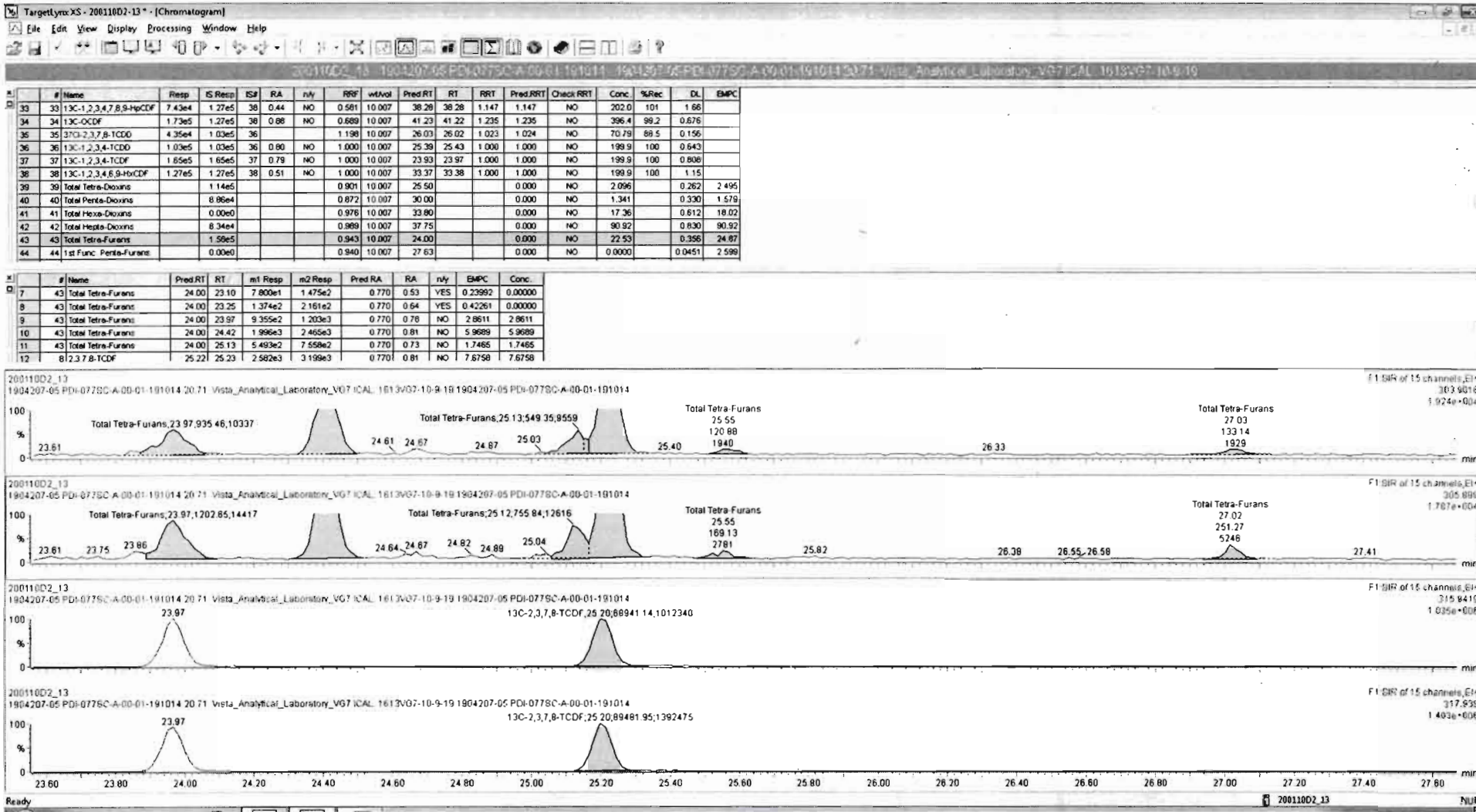


20011002\_13 - 1904207-05.PDI-077SC-A-00-01-191014 - 1904207-05.PDI-077SC-A-00-01-191014 20 71 Vista Analytical Laboratory\_VG7 ICAI 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
33	13C-1,2,3,4,7,8,9-HxCDF	7.43e4	1.27e5	38	0.44	NO	0.581	10.007	38.28	38.28	1.147	1.147	NO	202.0	101	1.86	
34	13C-OCDF	1.73e5	1.27e5	38	0.88	NO	0.689	10.007	41.23	41.22	1.235	1.235	NO	396.4	99.2	0.676	
35	37Cl-2,3,7,8-TCDD	4.35e4	1.03e5	36			1.198	10.007	26.03	26.02	1.023	1.024	NO	70.79	86.5	0.156	
36	13C-1,2,3,4-TCDD	1.03e5	1.03e5	36	0.80	NO	1.000	10.007	25.39	25.43	1.000	1.000	NO	199.9	100	0.643	
37	13C-1,2,3,4-TCDF	1.65e5	1.65e5	37	0.79	NO	1.000	10.007	23.93	23.97	1.000	1.000	NO	199.9	100	0.808	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.007	33.37	33.38	1.000	1.000	NO	199.9	100	1.15	
39	Total Tetra-Dioxins	1.14e5					0.901	10.007	25.50			0.000	NO	2.096		0.262	2.495
40	Total Penta-Dioxins	8.86e4					0.872	10.007	30.00			0.000	NO	1.341		0.330	1.579
41	Total Hexa-Dioxins	0.00e0					0.976	10.007	33.80			0.000	NO	17.36		0.612	18.02
42	Total Hepta-Dioxins	6.34e4					0.989	10.007	37.75			0.000	NO	90.92		0.830	90.92
43	Total Tetra-Furans	1.58e5					0.943	10.007	24.00			0.000	NO	22.53		0.356	24.87
44	1st Func. Penta-Furans	0.00e0					0.940	10.007	27.63			0.000	NO	0.0000		0.0451	2.599

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	20.39	1.193e2	1.675e2	0.770	0.71	NO	0.38385	0.38385
2	43 Total Tetra-Furans	24.00	20.97	7.419e1	5.349e1	0.770	1.39	YES	0.12668	0.00000
3	43 Total Tetra-Furans	24.00	21.60	6.074e2	7.233e2	0.770	0.84	NO	1.7806	1.7806
4	43 Total Tetra-Furans	24.00	22.16	1.633e2	2.522e2	0.770	0.65	YES	0.50241	0.00000
5	43 Total Tetra-Furans	24.00	22.55	5.939e2	6.906e2	0.770	0.87	NO	1.7268	1.7268
6	43 Total Tetra-Furans	24.00	22.94	2.540e2	2.681e2	0.770	0.95	YES	0.63489	0.00000





Vista Analytical Laboratory

Dataset: Untitled

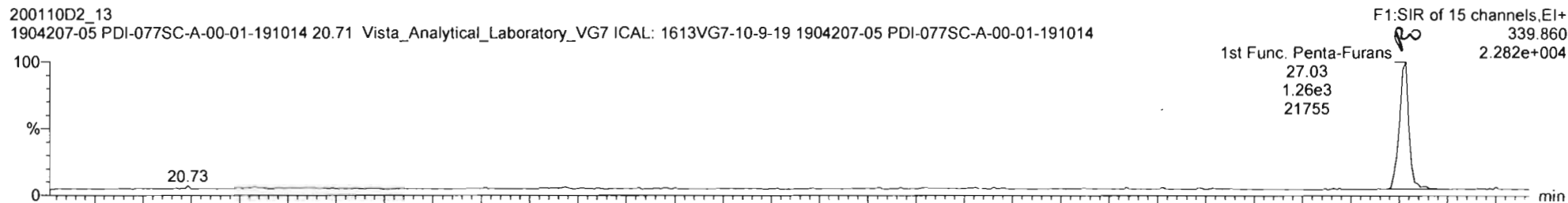
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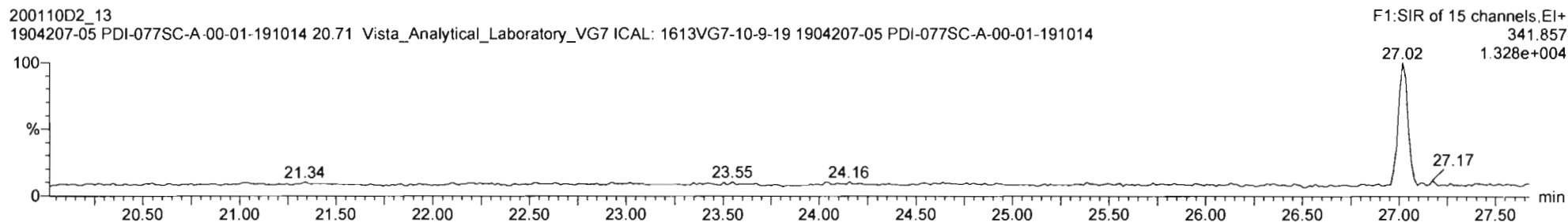
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1st Func. Penta-Furans

200110D2\_13  
1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-05 PDI-077SC-A-00-01-191014

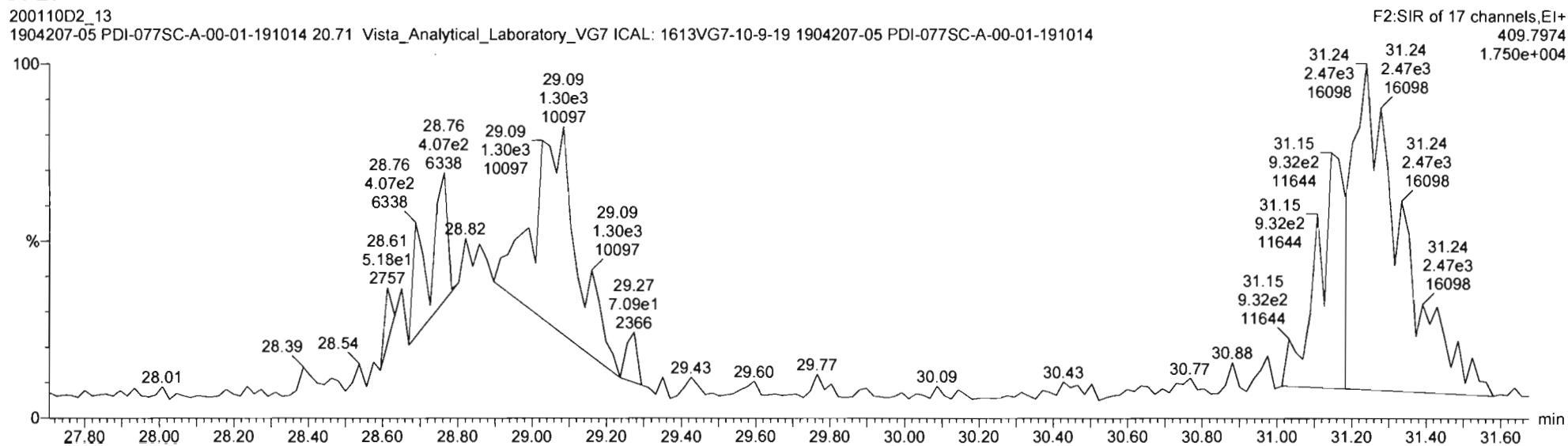


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DPE6

200110D2\_13  
1904207-05 PDI-077SC-A-00-01-191014 20.71 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-05 PDI-077SC-A-00-01-191014



Vista Analytical Laboratory

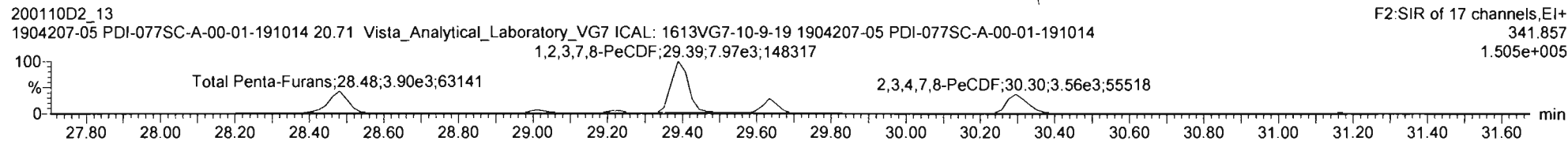
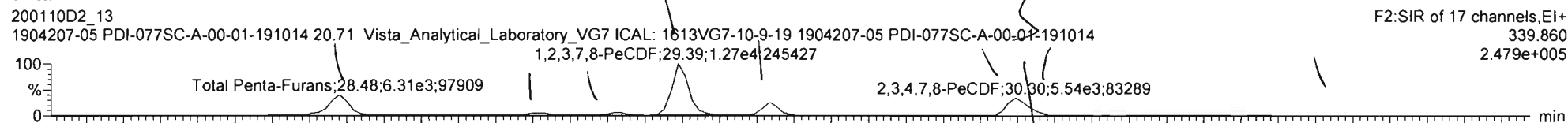
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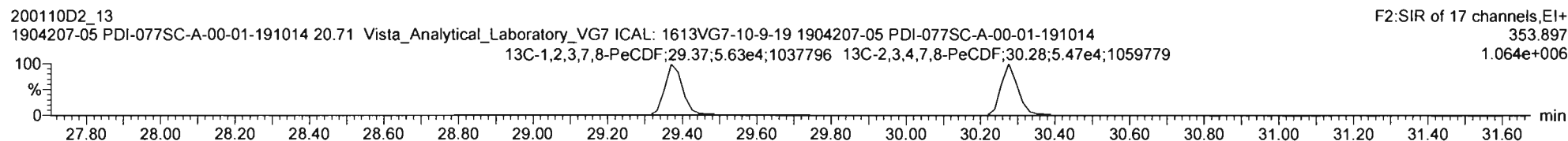
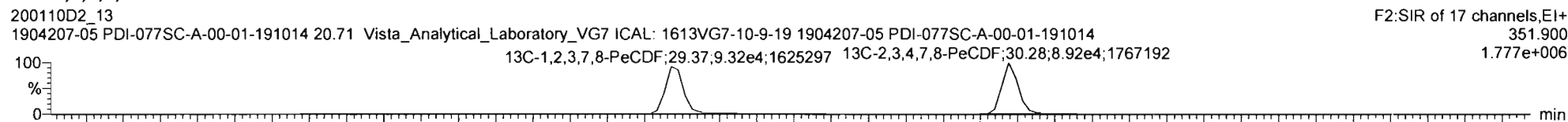
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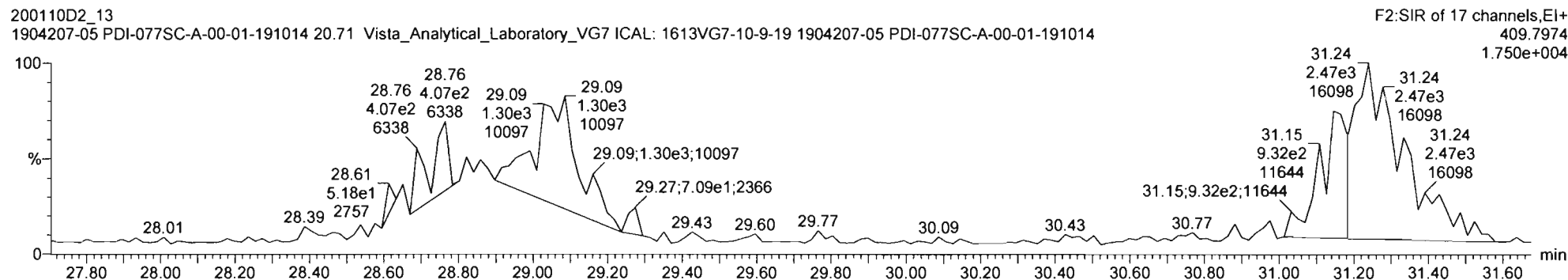
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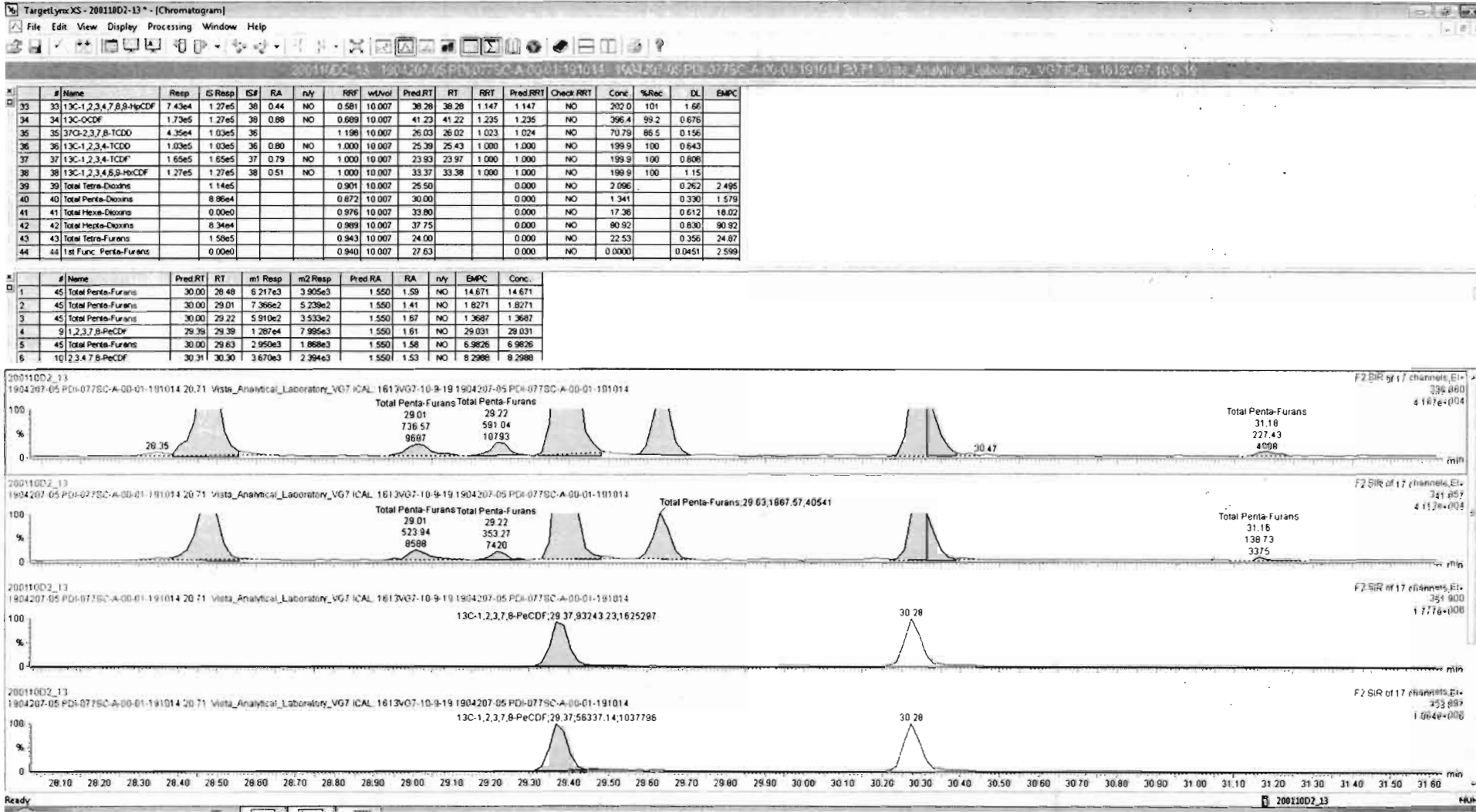


**13C-1,2,3,7,8-PeCDF**



**DPE2**



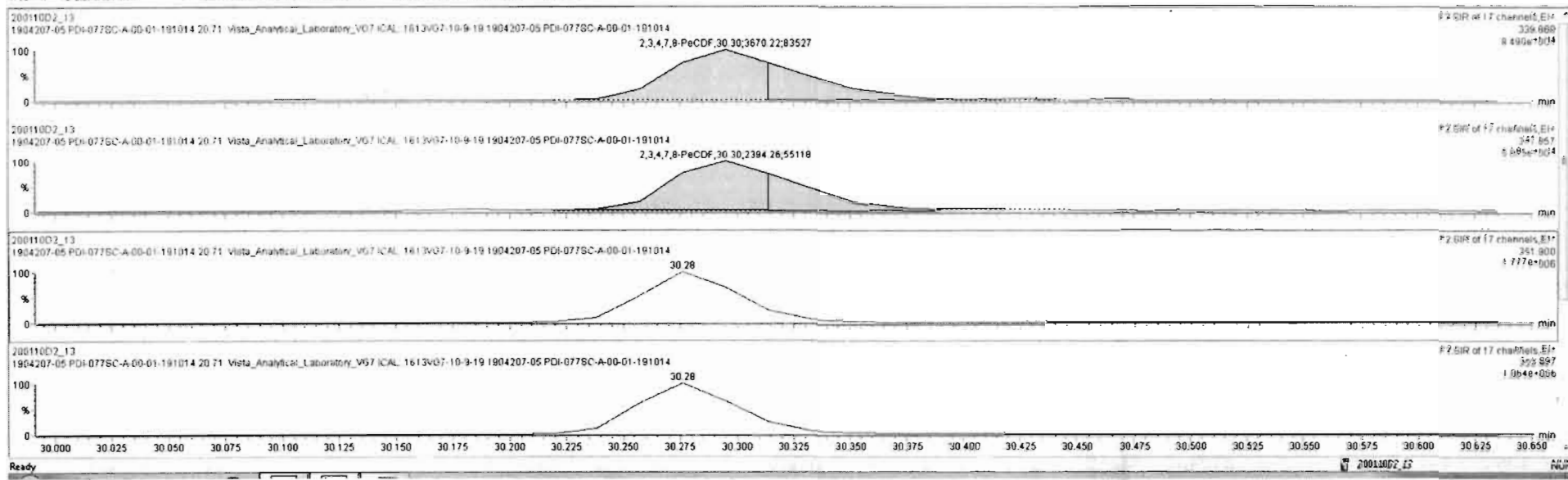




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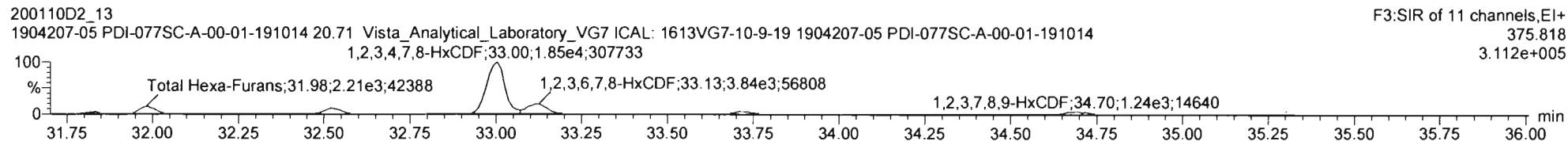
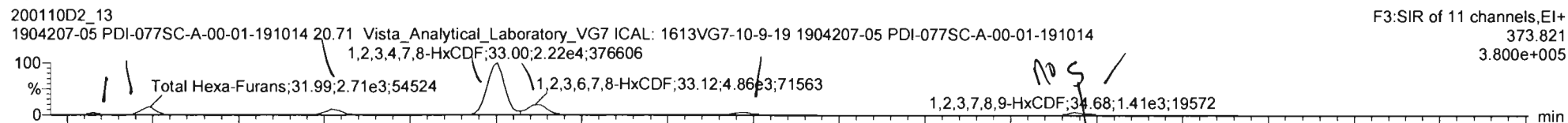
#	Name	Resp	S Resp	ISF	RA	n/y	RRF	wt/vol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
33	13C-1,2,3,4,7,8,9-HpCDF	7.43e4	1.27e5	38	0.44	NO	0.581	10.007	38.26	38.26	1.147	1.147	NO	202.0	101	1.66	
34	13C-OCDF	1.73e5	1.27e5	38	0.88	NO	0.689	10.007	41.23	41.22	1.235	1.235	NO	396.4	99.2	0.676	
35	37C-2,3,7,8-TCDD	4.35e4	1.03e5	36			1.198	10.007	26.03	26.02	1.023	1.024	NO	70.75	88.5	0.156	
36	13C-1,2,3,4-TCDD	1.03e5	1.03e5	36	0.80	NO	1.000	10.007	25.39	25.43	1.000	1.000	NO	199.9	100	0.643	
37	13C-1,2,3,4-TCDF	1.65e5	1.65e5	37	0.79	NO	1.000	10.007	23.93	23.97	1.000	1.000	NO	199.9	100	0.608	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.007	33.37	33.38	1.000	1.000	NO	199.9	100	1.15	
39	Total Tetra-Dioxins		1.14e5				0.901	10.007	25.50			0.000	NO	2.096		0.262	2.495
40	Total Penta-Dioxins		8.86e4				0.872	10.007	30.00			0.000	NO	1.341		0.330	1.579
41	Total Hexa-Dioxins		0.00e0				0.976	10.007	33.80			0.000	NO	17.36		0.612	18.02
42	Total Hepta-Dioxins		6.34e4				0.989	10.007	37.75			0.000	NO	90.92		0.830	90.92
43	Total Tetra-Furans		1.58e5				0.943	10.007	24.00			0.000	NO	22.53		0.356	24.87
44	1st Func. Penta-Furans		0.00e0				0.940	10.007	27.63			0.000	NO	0.0000		0.0451	2.599

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc
1	45 Total Penta-Furans	30.00	28.48	6.217e3	3.905e3	1.550	1.58	NO	14.671	14.671
2	45 Total Penta-Furans	30.00	29.01	7.366e2	5.239e2	1.550	1.41	NO	1.8271	1.8271
3	45 Total Penta-Furans	30.00	29.22	5.910e2	3.533e2	1.550	1.67	NO	1.3687	1.3687
4	9 1,2,3,7,8-PeCDF	29.39	29.39	1.287e4	7.995e3	1.550	1.61	NO	29.031	29.031
5	45 Total Penta-Furans	30.00	29.63	2.950e3	1.868e3	1.550	1.58	NO	6.9826	6.9826
6	10 2,3,4,7,8-PeCDF	30.31	30.30	3.670e3	2.984e3	1.550	1.53	NO	8.2988	8.2988

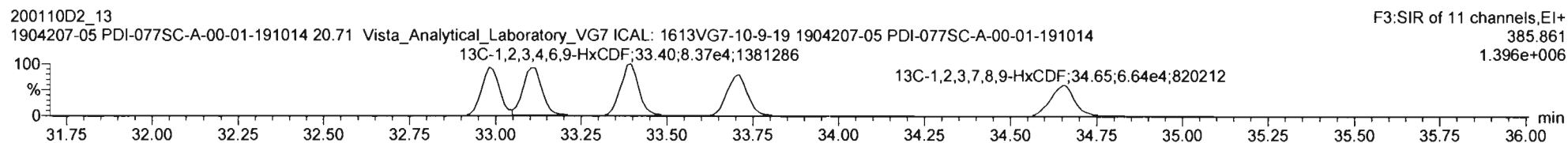
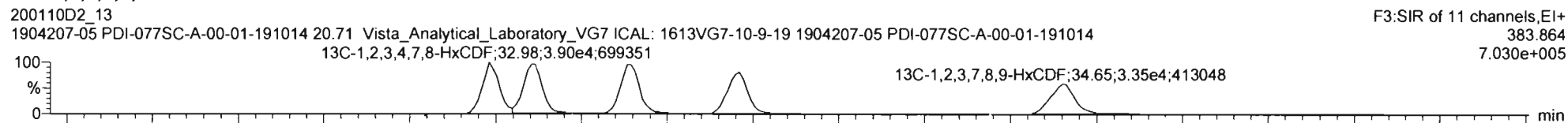


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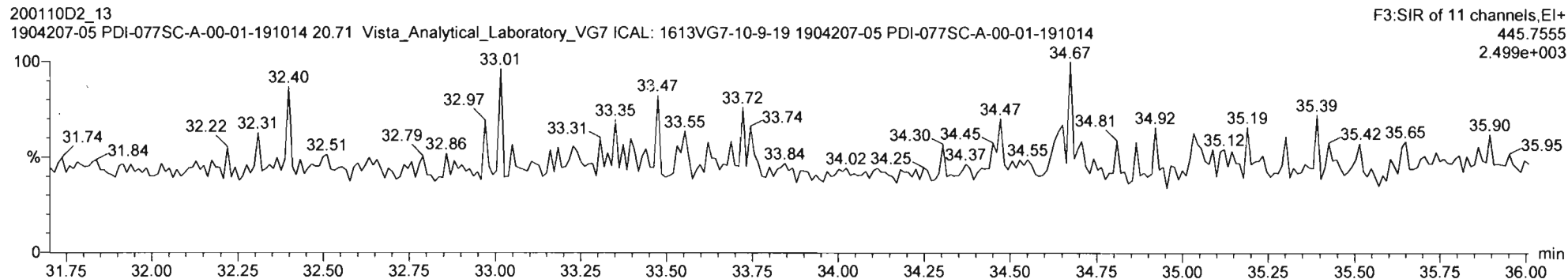
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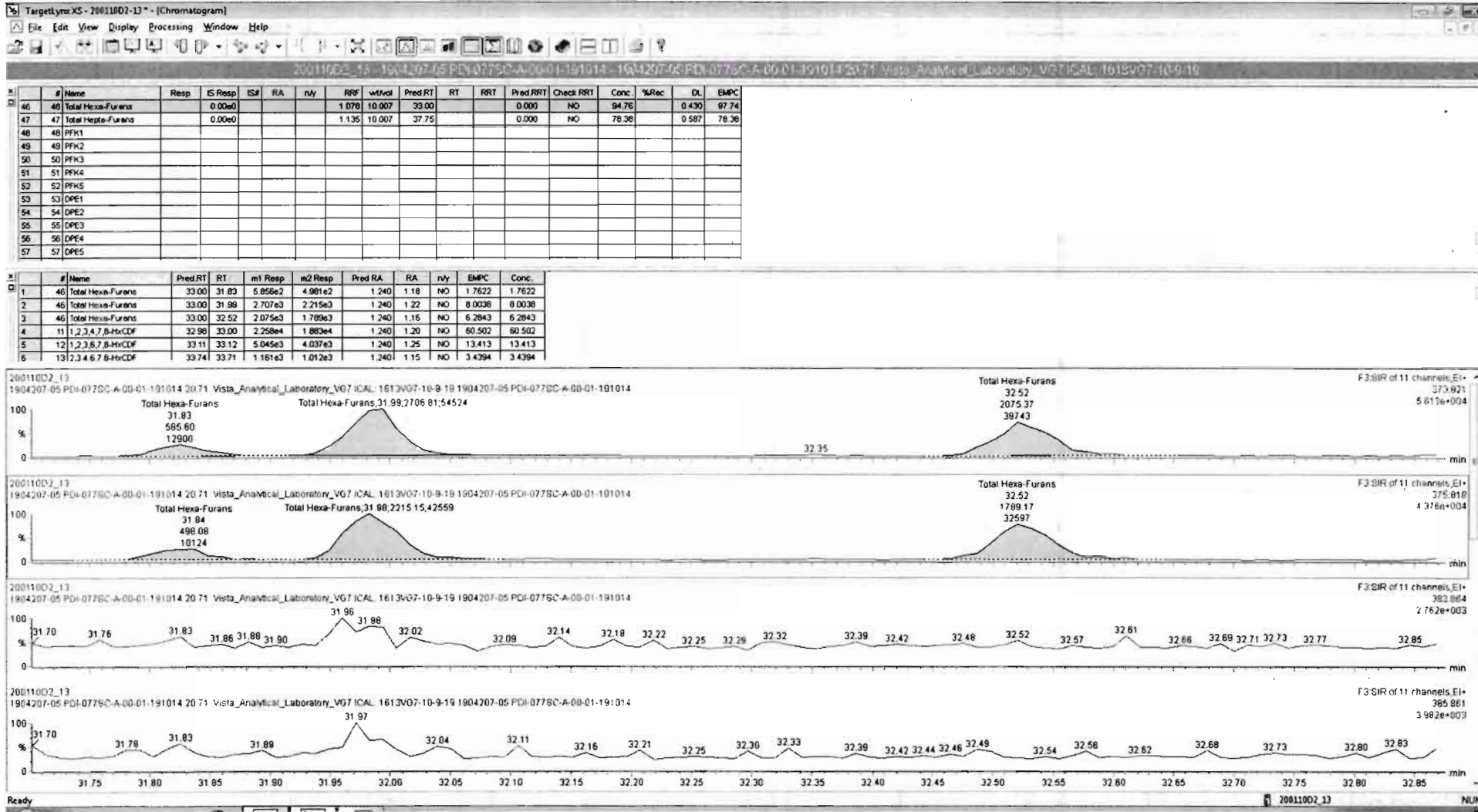


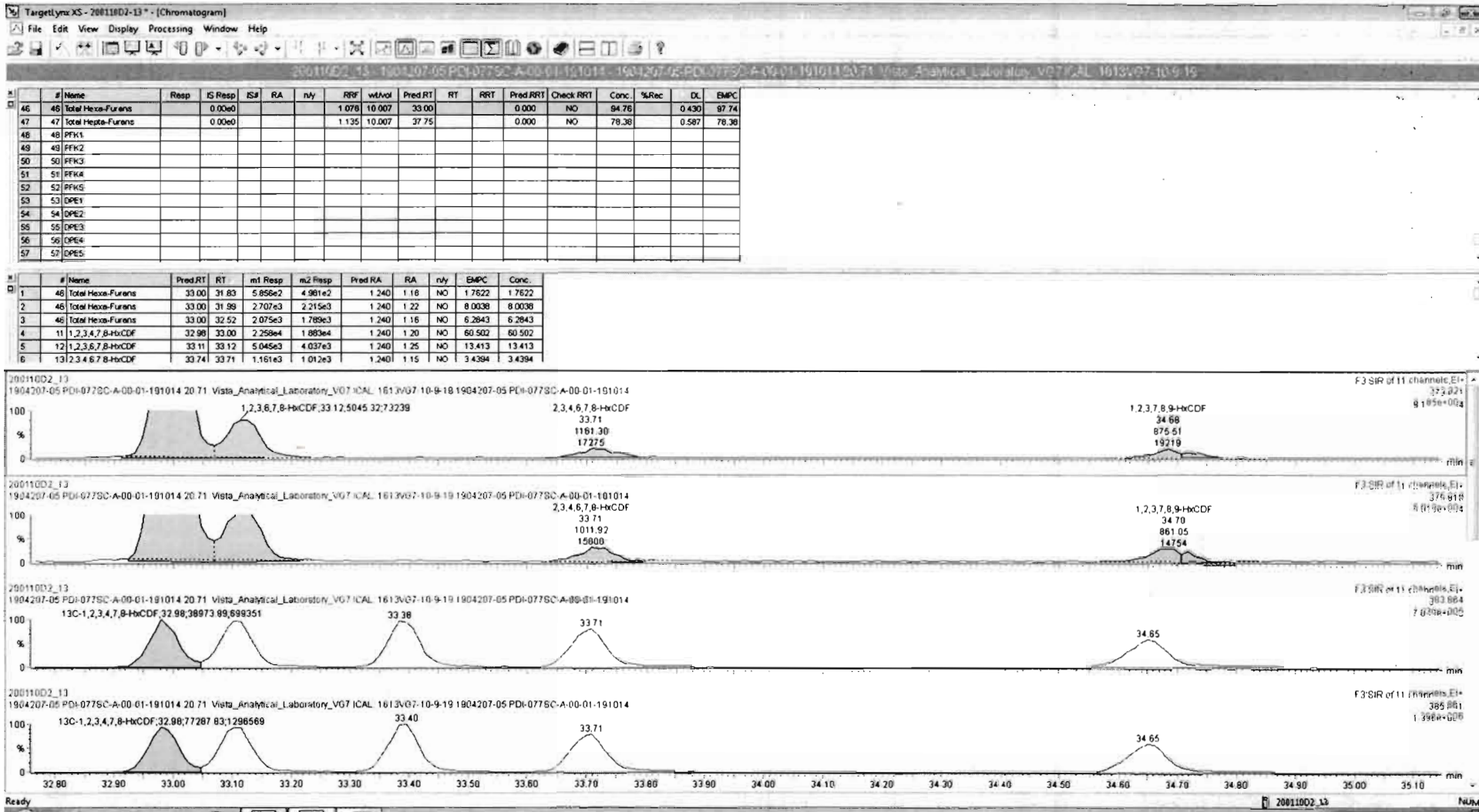
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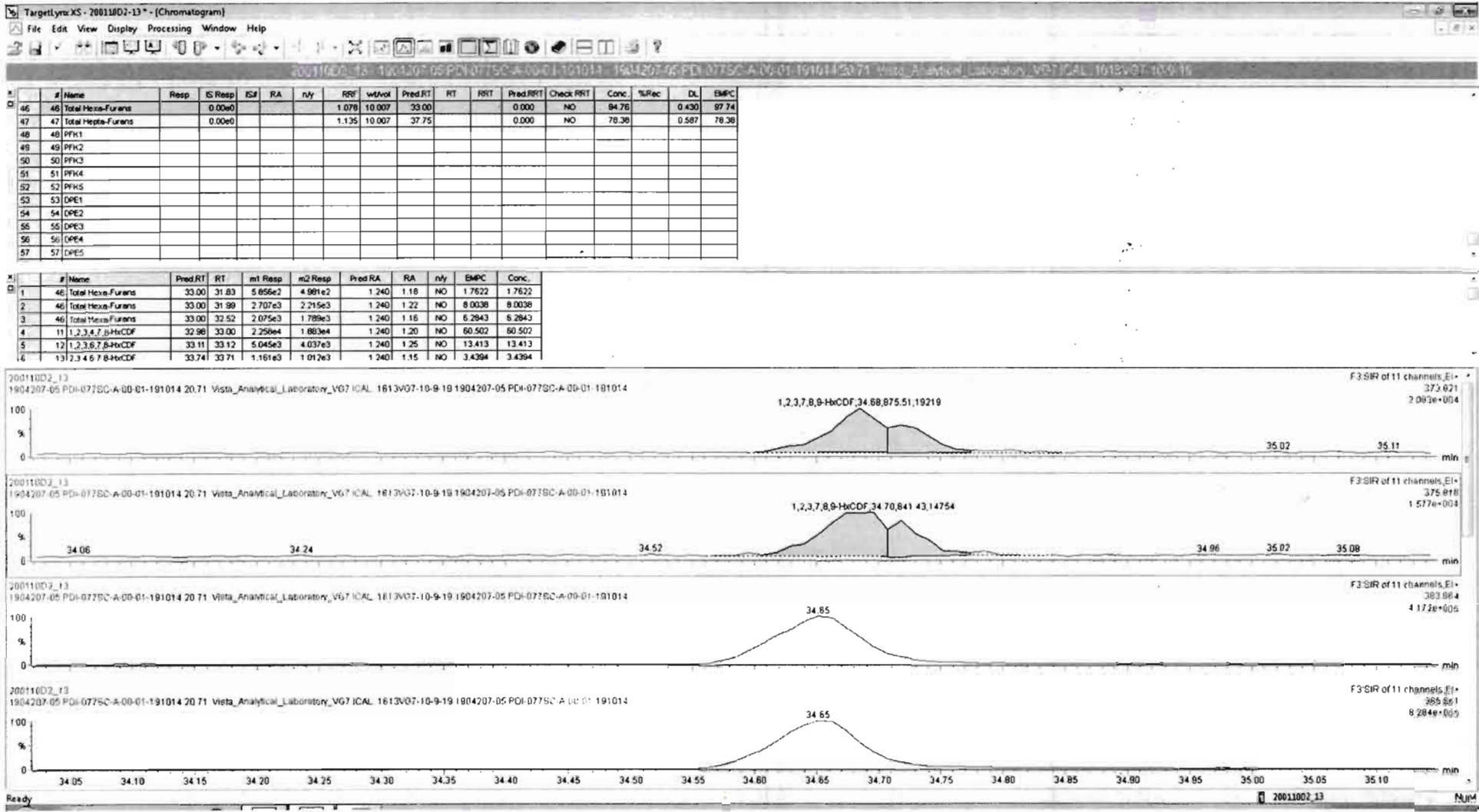


### DPE3









Vista Analytical Laboratory

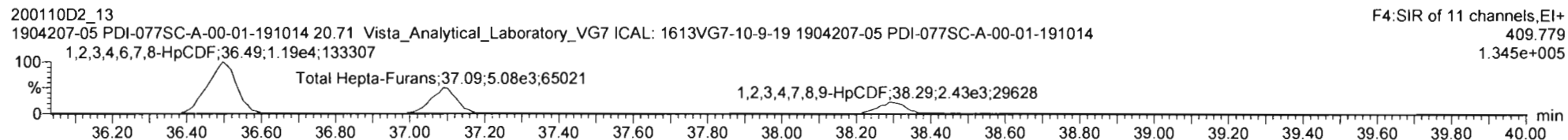
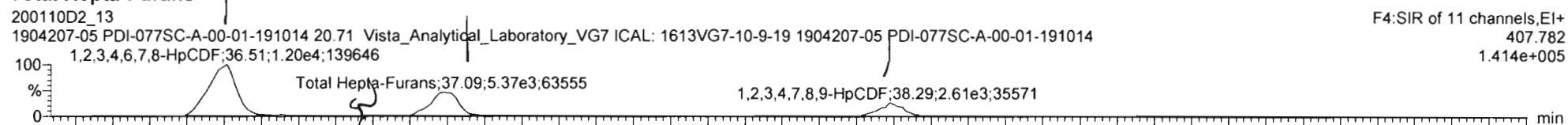
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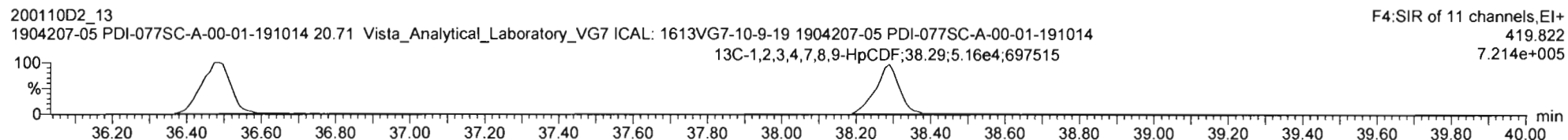
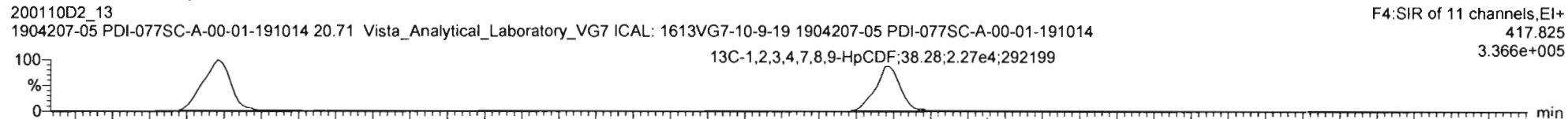
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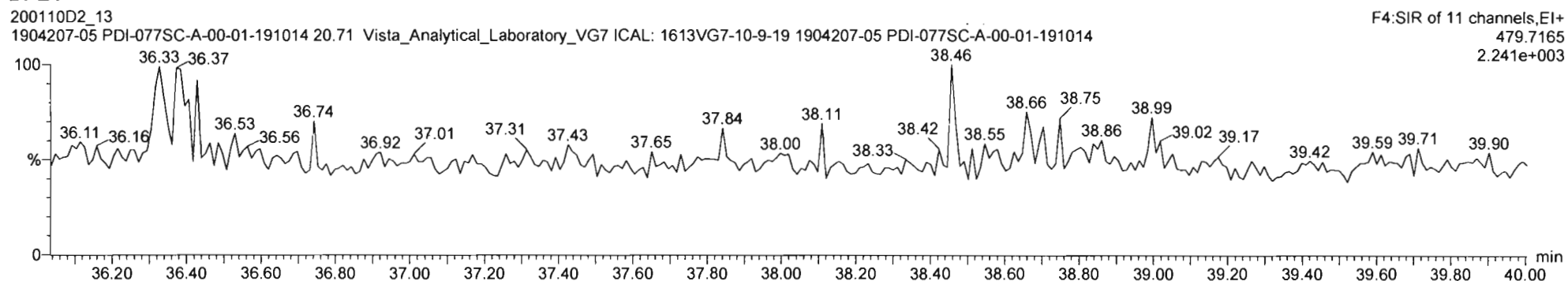
Total Hepta-Furans



13C-1,2,3,4,6,7,8-HpCDF



DPE4



Vista Analytical Laboratory

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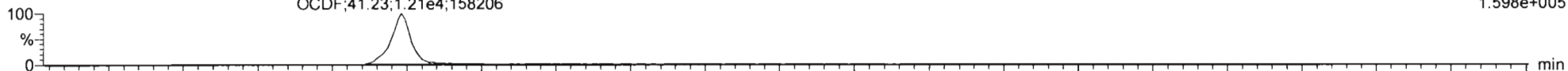
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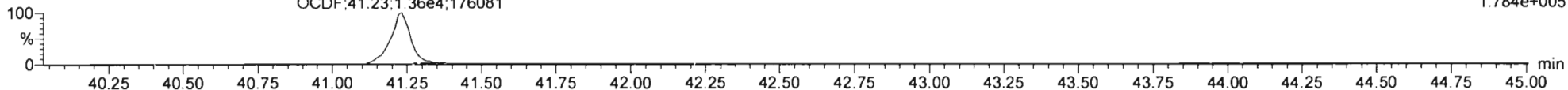
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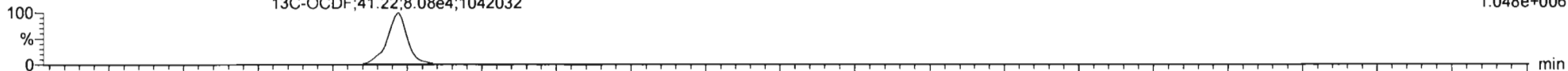
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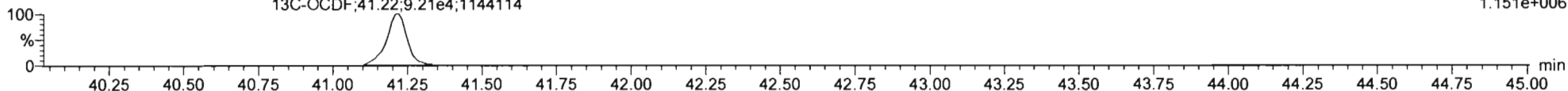
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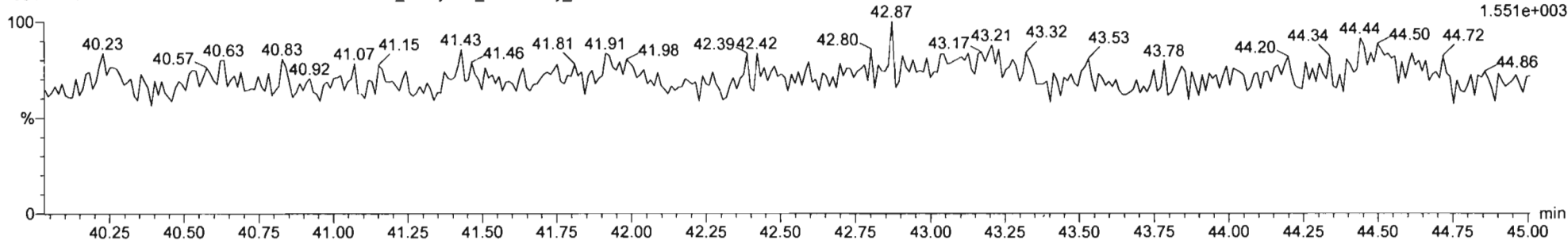
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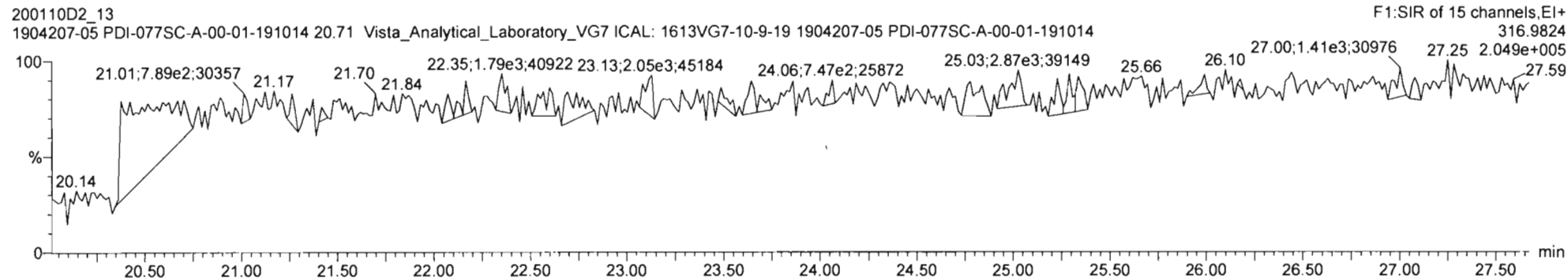
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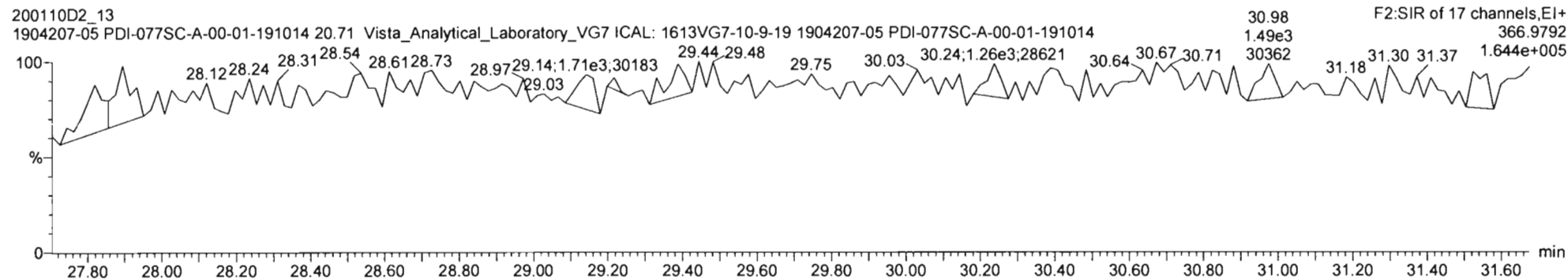


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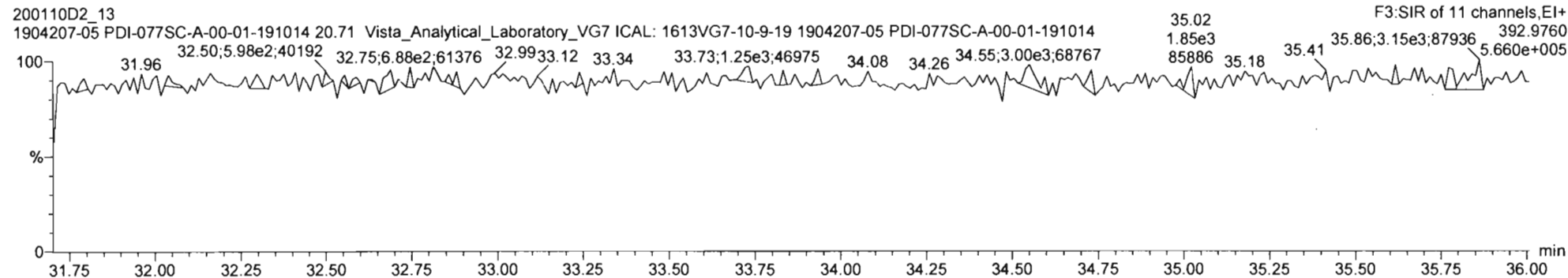
**PFK1**



**PFK2**



**PFK3**





Vista Analytical Laboratory

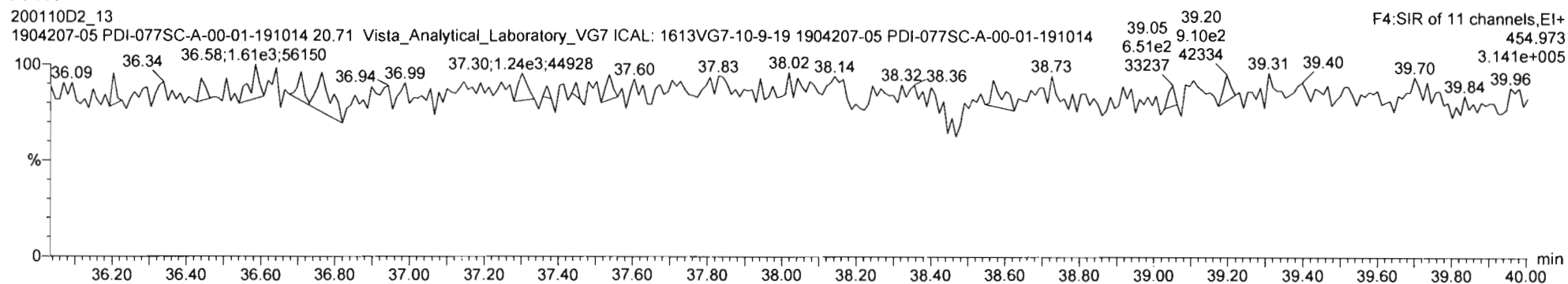
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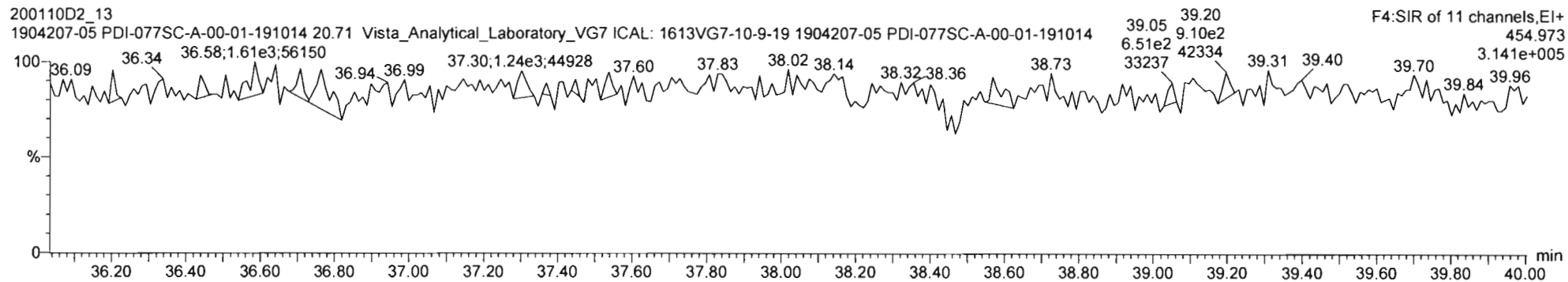
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PFK4



PFK5



Vista Analytical Laboratory

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Printed: Wednesday, January 15, 2020 17:49:04 Pacific Standard Time

HL 1-15-20

CT 01/20/2020

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Calibration: 15 Jan 2020 17:28:52

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,

Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

#	Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
1	1 2,3,7,8-TCDD		1.00e5												0.234
2	2 1,2,3,7,8-PeCDD	1.86e2	8.18e4	9.9989	0.903	0.882	YES	1.001	1.000	30.58	30.56	0.50254		0.435	0.360
3	3 1,2,3,4,7,8-HxCDD		7.70e4	9.9989	1.101			1.000		33.88					0.537
4	4 1,2,3,6,7,8-HxCDD	1.45e3	9.30e4	9.9989	0.939	1.228	NO	1.000	1.001	33.97	33.99	3.3129		3.31	0.552
5	5 1,2,3,7,8,9-HxCDD	5.68e2	9.03e4	9.9989	0.961	1.234	NO	1.001	1.001	34.30	34.29	1.3081		1.31	0.592
6	6 1,2,3,4,6,7,8-HpCDD	1.50e4	8.26e4	9.9989	0.979	1.015	NO	1.000	1.001	37.75	37.76	37.161		37.2	0.816
7	7 OCDD	1.14e5	1.39e5	9.9989	0.959	0.900	NO	1.000	1.000	40.99	41.00	340.68		341	0.843
8	8 2,3,7,8-TCDF	4.66e3	1.44e5	9.9989	0.950	0.680	NO	1.001	1.001	25.22	25.21	6.8278 (5.94)		6.83	0.356
9	9 1,2,3,7,8-PeCDF	6.14e3	1.19e5	9.9989	0.960	1.679	NO	1.001	1.001	29.39	29.39	10.725		10.7	0.303
10	10 2,3,4,7,8-PeCDF	2.40e3	1.34e5	9.9989	1.015	1.465	NO	1.001	1.001	30.31	30.30	3.5390		3.54	0.247
11	11 1,2,3,4,7,8-HxCDF	1.19e4	1.09e5	9.9989	1.177	1.289	NO	1.000	1.001	32.98	33.00	18.555		18.6	0.245
12	12 1,2,3,6,7,8-HxCDF	2.90e3	1.26e5	9.9989	1.069	1.224	NO	1.000	1.000	33.11	33.12	4.3118		4.31	0.252
13	13 2,3,4,6,7,8-HxCDF	6.92e2	1.08e5	9.9989	1.114	1.416	NO	1.001	1.000	33.73	33.71	1.1462		1.15	0.299
14	14 1,2,3,7,8,9-HxCDF	4.66e2	1.02e5	9.9989	1.062	1.191	NO	1.000	1.001	34.65	34.67	0.86405		0.864	0.432
15	15 1,2,3,4,6,7,8-HpCDF	4.92e3	9.26e4	9.9989	1.128	1.003	NO	1.001	1.001	36.51	36.50	9.4136		9.41	0.381
16	16 1,2,3,4,7,8,9-HpCDF	1.22e3	7.28e4	9.9989	1.280	0.915	NO	1.000	1.000	38.29	38.29	2.6256		2.63	0.370
17	17 OCDF	7.05e3	1.69e5	9.9989	0.947	0.879	NO	1.000	1.001	41.21	41.23	17.593		17.6	0.364
18	18 13C-2,3,7,8-TCDD	1.00e5	1.04e5	9.9989	1.095	0.784	NO	1.023	1.022	26.01	25.99	176.48	88.2		0.546
19	19 13C-1,2,3,7,8-PeCDD	8.18e4	1.04e5	9.9989	0.881	0.640	NO	1.203	1.202	30.59	30.56	179.37	89.7		0.759
20	20 13C-1,2,3,4,7,8-Hx...	7.70e4	1.26e5	9.9989	0.642	1.246	NO	1.014	1.014	33.86	33.87	191.13	95.6		0.993
21	21 13C-1,2,3,6,7,8-Hx...	9.30e4	1.26e5	9.9989	0.856	1.303	NO	1.017	1.017	33.98	33.97	173.24	86.6		0.745
22	22 13C-1,2,3,7,8,9-Hx...	9.03e4	1.26e5	9.9989	0.807	1.316	NO	1.026	1.026	34.27	34.27	178.38	89.2		0.791
23	23 13C-1,2,3,4,6,7,8-H...	8.26e4	1.26e5	9.9989	0.654	1.069	NO	1.131	1.130	37.77	37.74	201.20	100.6		1.24
24	24 13C-OCDD	1.39e5	1.26e5	9.9989	0.580	0.918	NO	1.228	1.227	41.02	40.99	382.76	95.7		0.840
25	25 13C-2,3,7,8-TCDF	1.44e5	1.71e5	9.9989	1.035	0.780	NO	0.992	0.991	25.22	25.20	162.08	81.0		0.710
26	26 13C-1,2,3,7,8-PeCDF	1.19e5	1.71e5	9.9989	0.854	1.592	NO	1.156	1.155	29.40	29.37	162.68	81.3		1.01
27	27 13C-2,3,4,7,8-PeCDF	1.34e5	1.71e5	9.9989	0.847	1.589	NO	1.192	1.191	30.31	30.28	184.28	92.1		1.02
28	28 13C-1,2,3,4,7,8-Hx...	1.09e5	1.26e5	9.9989	0.832	0.506	NO	0.987	0.988	32.97	32.98	209.34	104.7		1.39
29	29 13C-1,2,3,6,7,8-Hx...	1.26e5	1.26e5	9.9989	1.034	0.525	NO	0.991	0.991	33.09	33.10	194.21	97.1		1.12
30	30 13C-2,3,4,6,7,8-Hx...	1.08e5	1.26e5	9.9989	0.953	0.514	NO	1.009	1.009	33.70	33.70	181.24	90.6		1.22
31	31 13C-1,2,3,7,8,9-Hx...	1.02e5	1.26e5	9.9989	0.828	0.517	NO	1.038	1.038	34.66	34.65	195.63	97.8		1.40

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-14.qld

Last Altered: Wednesday, January 15, 2020 17:48:12 Pacific Standard Time

Printed: Wednesday, January 15, 2020 17:49:04 Pacific Standard Time

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,

Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

	# Name	Area	IS Area	Wt./Vol.	RRF	RA	Y/N	Pred...	RRT	Pred.RT	RT	Conc.	%Rec	EMPC	DL
32	32 13C-1,2,3,4,6,7,8-H...	9.26e4	1.26e5	9.9989	0.757	0.431	NO	1.093	1.092	36.50	36.47	194.90	97.4		1.32
33	33 13C-1,2,3,4,7,8,9-H...	7.28e4	1.26e5	9.9989	0.581	0.446	NO	1.147	1.146	38.30	38.29	199.74	99.9		1.72
34	34 13C-OCDF	1.69e5	1.26e5	9.9989	0.689	0.879	NO	1.235	1.234	41.24	41.21	391.54	97.9		0.698
35	35 37Cl-2,3,7,8-TCDD	3.93e4	1.04e5	9.9989	1.198			1.024	1.023	26.03	26.01	63.399	79.2		0.183
36	36 13C-1,2,3,4-TCDD	1.04e5	1.04e5	9.9989	1.000	0.789	NO	1.000	1.000	25.39	25.43	200.02	100.0		0.599
37	37 13C-1,2,3,4-TCDF	1.71e5	1.71e5	9.9989	1.000	0.806	NO	1.000	1.000	23.93	23.97	200.02	100.0		0.735
38	38 13C-1,2,3,4,6,9-Hx...	1.26e5	1.26e5	9.9989	1.000	0.511	NO	1.000	1.000	33.37	33.40	200.02	100.0		1.16
39	39 Total Tetra-Dioxins		1.00e5	9.9989	0.901			0.000		25.50					0.115
40	40 Total Penta-Dioxins		8.18e4	9.9989	0.872			0.000		30.00		1.7021		2.95	0.372
41	41 Total Hexa-Dioxins		0.00e0	9.9989	0.976			0.000		33.80		21.675		22.3	0.572
42	42 Total Hepta-Dioxins		8.26e4	9.9989	0.989			0.000		37.75		80.344		80.3	0.808
43	43 Total Tetra-Furans		1.44e5	9.9989	0.943			0.000		24.00		15.879		18.8	0.358
44	44 1st Func. Penta-Fur...		0.00e0	9.9989	0.940			0.000		27.63		3.2655		3.27	0.118
45	45 Total Penta-Furans		0.00e0	9.9989	0.940			0.000		30.00		25.982		27.7	0.287
46	46 Total Hexa-Furans		0.00e0	9.9989	1.078			0.000		33.00		37.455		37.5	0.309
47	47 Total Hepta-Furans		0.00e0	9.9989	1.135			0.000		37.75		23.451		23.5	0.396

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-14.qld

Last Altered: Wednesday, January 15, 2020 17:48:12 Pacific Standard Time

Printed: Wednesday, January 15, 2020 17:49:04 Pacific Standard Time

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Calibration: 15 Jan 2020 17:28:52

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,

Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1									

**Penta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	40 Total Penta-Dioxins	NO	28.48	148.937	31932.703	10.263	MM	1.1768	1.18
2	40 Total Penta-Dioxins	YES	28.95	52.091	31932.703	0.000	bb	0.0000	0.28
3	40 Total Penta-Dioxins	NO	29.56	68.574	31932.703	4.581	db	0.5253	0.53
4	40 Total Penta-Dioxins	YES	29.86	73.990	31932.703	0.000	MM	0.0000	0.54
5	2 1,2,3,7,8-PeCDD	YES	30.56	87.007	31932.703	0.000	MM	0.0000	0.44

**Hexa-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	41 Total Hexa-Dioxins	NO	32.36	1198.406	48881.708	52.105	bb	5.3398	5.34
2	41 Total Hexa-Dioxins	YES	32.94	190.742	48881.708	0.000	MM	0.0000	0.61
3	41 Total Hexa-Dioxins	NO	33.17	2731.236	48881.708	114.309	MM	11.7145	11.71
4	4 1,2,3,6,7,8-HxCDD	NO	33.99	796.781	52615.504	31.091	MM	3.3129	3.31
5	5 1,2,3,7,8,9-HxCDD	NO	34.29	313.549	51308.773	12.573	MM	1.3081	1.31

**Hepta-Dioxins**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	42 Total Hepta-Dioxins	NO	36.90	8753.292	42655.480	426.904	bb	43.1831	43.18
2	6 1,2,3,4,6,7,8-HpCDD	NO	37.76	7565.735	42655.480	363.914	bb	37.1609	37.16

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-14.qld

Last Altered: Wednesday, January 15, 2020 17:48:12 Pacific Standard Time

Printed: Wednesday, January 15, 2020 17:49:04 Pacific Standard Time

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,  
 Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Tetra-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	43 Total Tetra-Furans	NO	21.64	253.554	63000.363	7.917	MM	0.8399	0.84
2	43 Total Tetra-Furans	YES	22.15	203.977	63000.363	0.000	MM	0.0000	0.59
3	43 Total Tetra-Furans	NO	22.54	471.104	63000.363	15.367	MM	1.6301	1.63
4	43 Total Tetra-Furans	NO	22.94	184.930	63000.363	5.484	MM	0.5817	0.58
5	43 Total Tetra-Furans	YES	23.24	118.120	63000.363	0.000	bb	0.0000	0.31
6	43 Total Tetra-Furans	YES	23.84	88.206	63000.363	0.000	bd	0.0000	0.20
7	43 Total Tetra-Furans	YES	23.95	215.538	63000.363	0.000	db	0.0000	0.73
8	43 Total Tetra-Furans	NO	24.40	1534.351	63000.363	51.482	MM	5.4612	5.46
9	43 Total Tetra-Furans	YES	24.64	78.748	63000.363	0.000	MM	0.0000	0.27
10	43 Total Tetra-Furans	YES	25.14	286.049	63000.363	0.000	MM	0.0000	0.79
11	8 2,3,7,8-TCDF	NO	25.21	1888.543	63000.363	64.864	MM	6.8278	6.83
12	43 Total Tetra-Furans	NO	27.05	151.205	63000.363	5.077	bb	0.5386	0.54

**Penta-Furans function 1**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	44 1st Func. Penta-Furans	NO	27.03	1207.305	77661.988	30.679	bb	3.2655	3.27

**Penta-Furans**

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	45 Total Penta-Furans	NO	28.48	2335.335	77661.988	59.227	MM	6.3041	6.30
2	45 Total Penta-Furans	NO	29.03	344.175	77661.988	8.523	MM	0.9071	0.91
3	45 Total Penta-Furans	NO	29.22	343.005	77661.988	8.618	MM	0.9173	0.92
4	9 1,2,3,7,8-PeCDF	NO	29.39	3845.266	73169.242	102.991	MM	10.7249	10.72
5	45 Total Penta-Furans	NO	29.63	1259.820	77661.988	33.723	MM	3.5894	3.59
6	10 2,3,4,7,8-PeCDF	NO	30.30	1428.239	82154.734	35.910	MM	3.5390	3.54
7	45 Total Penta-Furans	YES	30.31	730.114	77661.988	0.000	MM	0.0000	1.74

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\200110D2\200110D2-14.qld

Last Altered: Wednesday, January 15, 2020 17:48:12 Pacific Standard Time

Printed: Wednesday, January 15, 2020 17:49:04 Pacific Standard Time

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,  
 Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Hexa-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	46 Total Hexa-Furans	NO	31.84 ~	543.337	37887.770	18.457	bd	1.7130	1.71
2	46 Total Hexa-Furans	NO	31.98 ~	1715.314	37887.770	55.200	db	5.1231	5.12
3	46 Total Hexa-Furans	NO	32.52 ~	1542.592	37887.770	52.317	bb	4.8555	4.86
4	11 1,2,3,4,7,8-HxCDF	NO	33.00 ~	6717.131	36719.375	218.332	dd	18.5551	18.56
5	12 1,2,3,6,7,8-HxCDF	NO	33.12 ~	1598.360	43384.430	46.083	MM	4.3118	4.31
6	13 2,3,4,6,7,8-HxCDF	NO	33.71 ~	405.474	36798.281	12.762	MM	1.1462	1.15
7	14 1,2,3,7,8,9-HxCDF	NO	34.67 ~	253.340	34648.996	9.172	MM	0.8641	0.86
8	46 Total Hexa-Furans	NO	34.71 ~	293.885	37887.770	9.553	MM	0.8866	0.89

Hepta-Furans

#	Name	N/Y	RT	Area	IS Area	Response	Primary Flags	Conc.	EMPC
1	15 1,2,3,4,6,7,8-HpCDF	NO	36.50 ~	2461.550	27915.734	106.136	bb	9.4136	9.41
2	47 Total Hepta-Furans	NO	37.10 ~	2732.849	25199.535	129.475	bb	11.4118	11.41
3	16 1,2,3,4,7,8,9-HpCDF	NO	38.29 ~	584.813	22483.336	33.602	bb	2.6256	2.63

Vista Analytical Laboratory

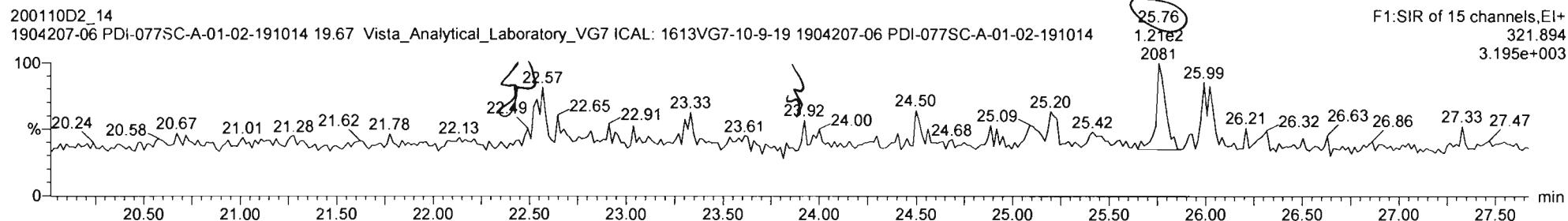
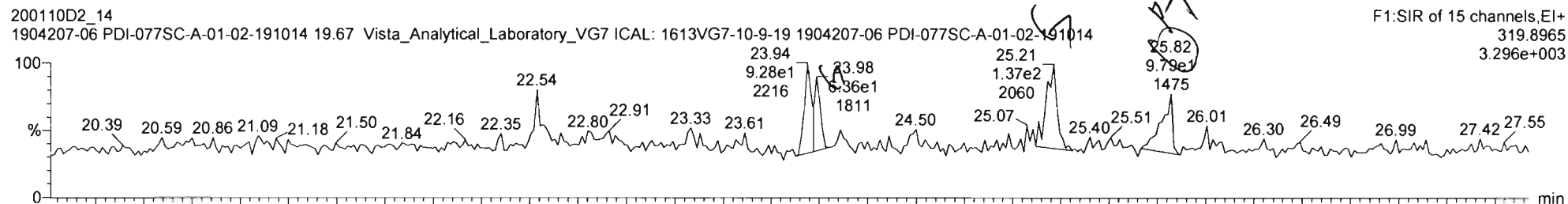
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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

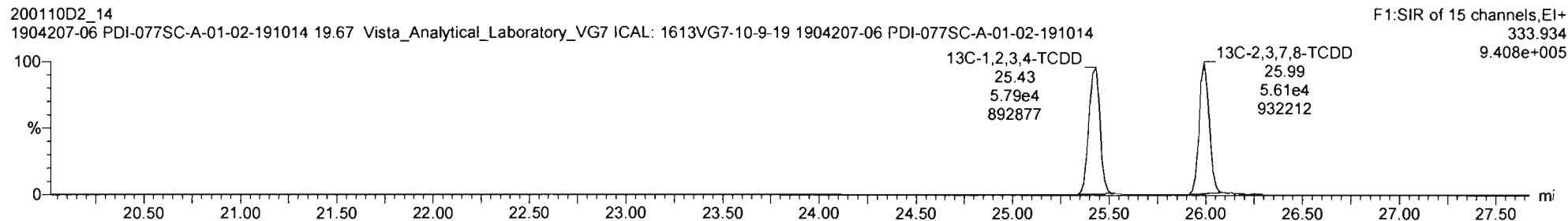
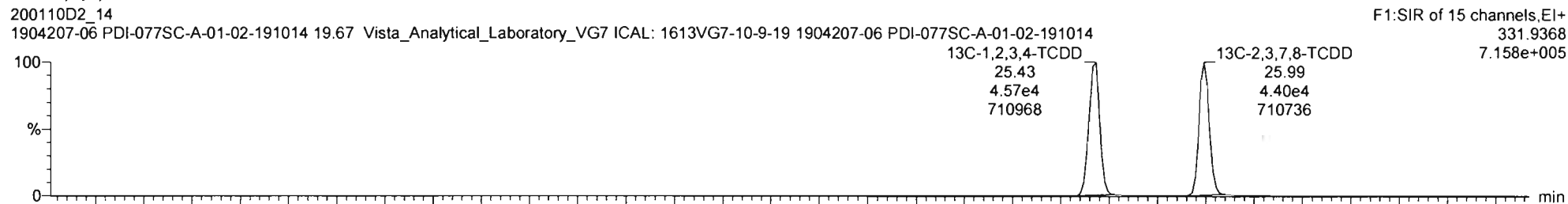
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Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014, Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

Total Tetra-Dioxins



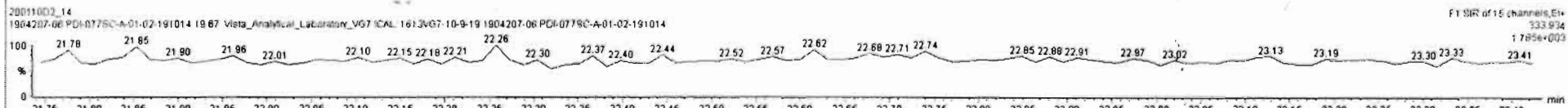
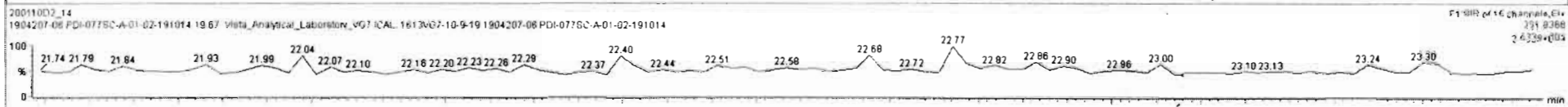
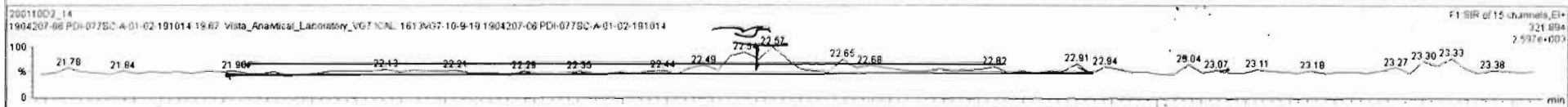
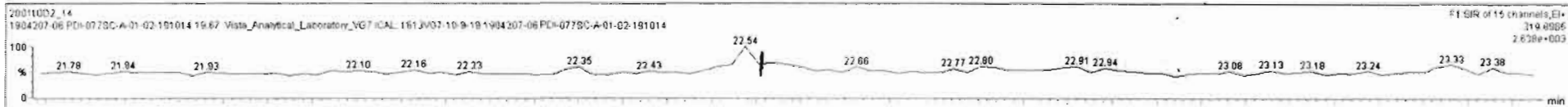
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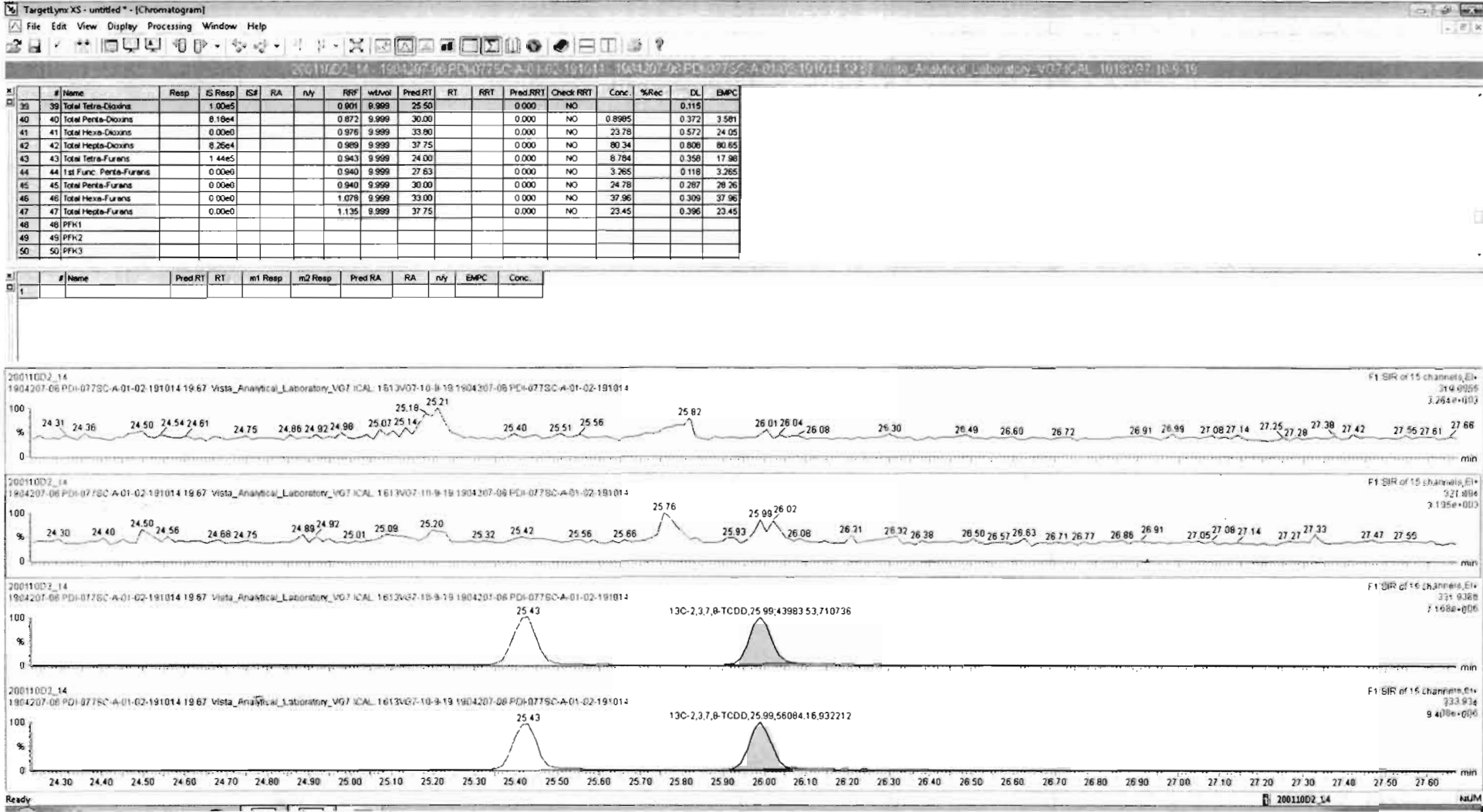
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#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
39	Total Tetra-Dioxins		1.00e5				0.901	9.999	25.50			0.000	NO			0.115	
40	Total Penta-Dioxins		8.18e4				0.872	9.999	30.00			0.000	NO	0.8985		0.372	2.581
41	Total Hexa-Dioxins		0.00e0				0.976	9.999	33.80			0.000	NO	23.78		0.572	24.05
42	Total Hepta-Dioxins		8.26e4				0.969	9.999	37.75			0.000	NO	80.34		0.608	80.65
43	Total Tetra-Furans		1.44e5				0.943	9.999	24.00			0.000	NO	6.794		0.358	17.96
44	1st Func. Penta-Furanc		0.00e0				0.940	9.999	27.63			0.000	NO	3.265		0.118	3.265
45	Total Penta-Furans		0.00e0				0.940	9.999	30.00			0.000	NO	24.78		0.287	28.26
46	Total Hexa-Furans		0.00e0				1.078	9.999	33.00			0.000	NO	37.96		0.309	37.96
47	Total Hepta-Furans		0.00e0				1.135	9.999	37.75			0.000	NO	23.45		0.386	23.45
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc
1										

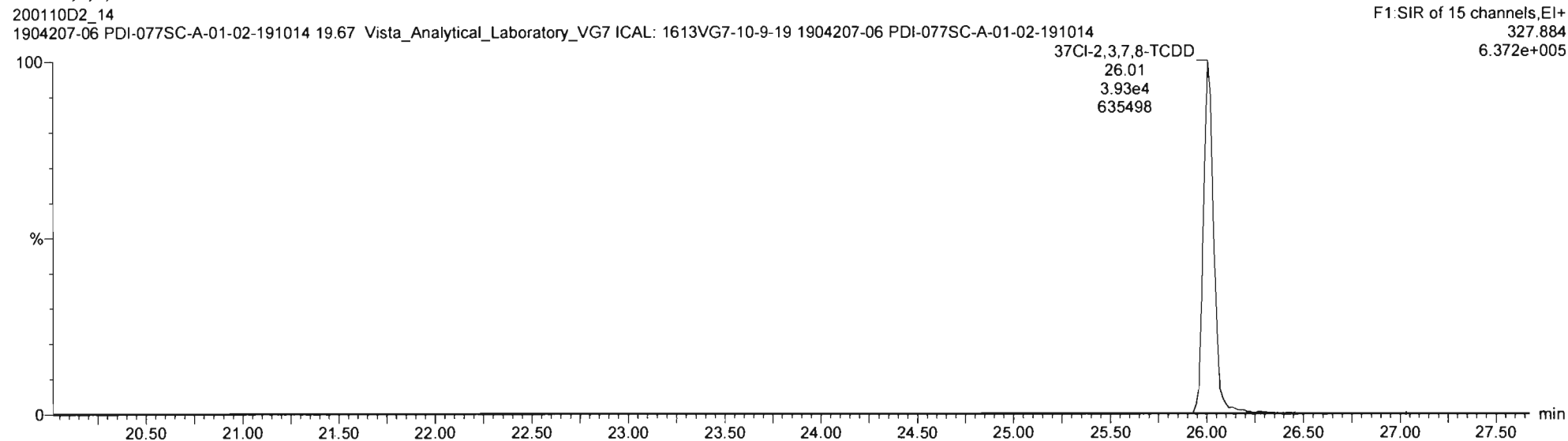




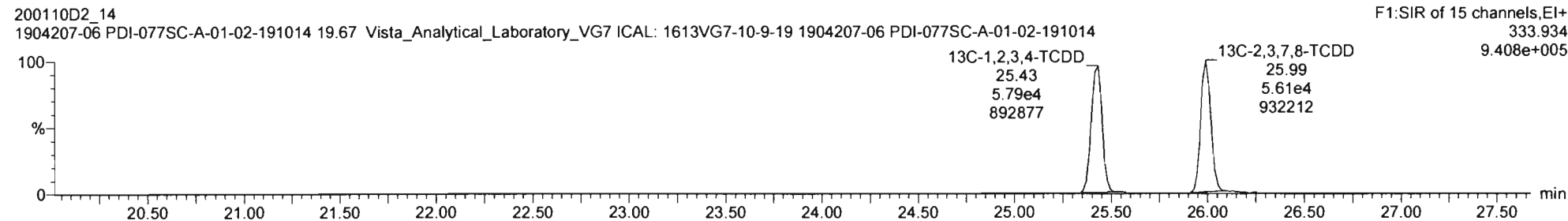
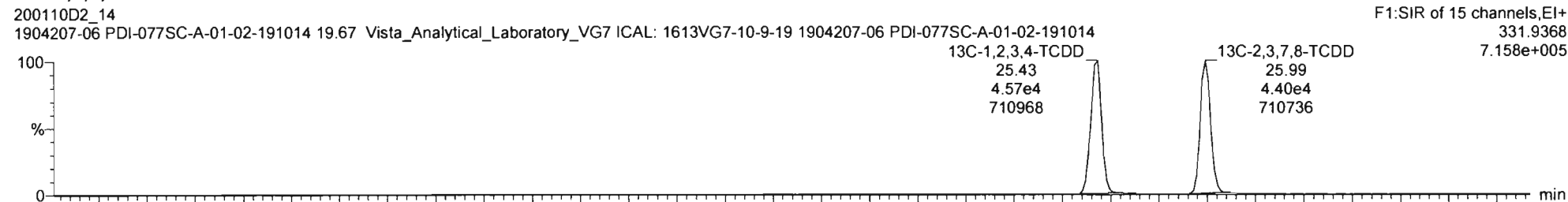


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Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

37Cl-2,3,7,8-TCDD



13C-1,2,3,4-TCDD



Vista Analytical Laboratory

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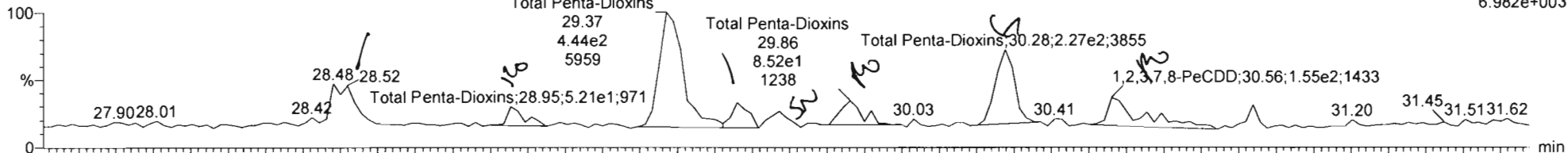
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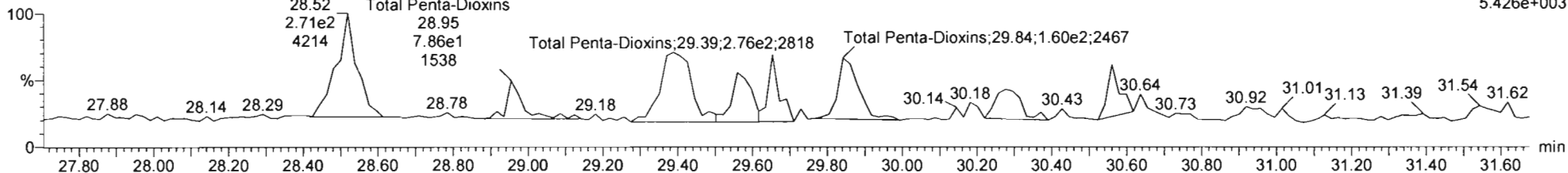
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Total Penta-Dioxins

200110D2\_14 F2:SIR of 17 channels,EI+  
1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-06 PDI-077SC-A-01-02-191014 353.8576  
6.982e+003



200110D2\_14 F2:SIR of 17 channels,EI+  
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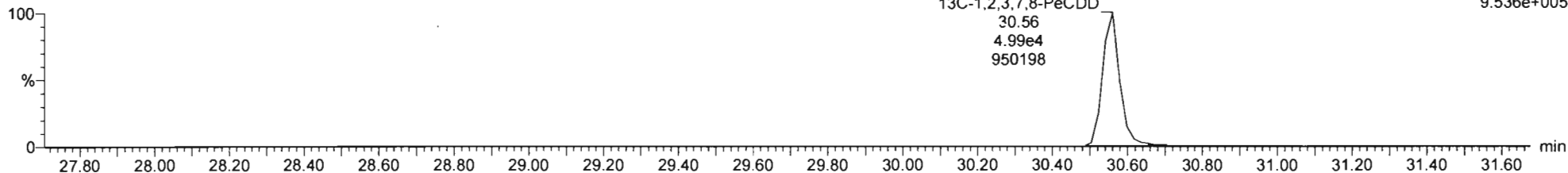


13C-1,2,3,7,8-PeCDD

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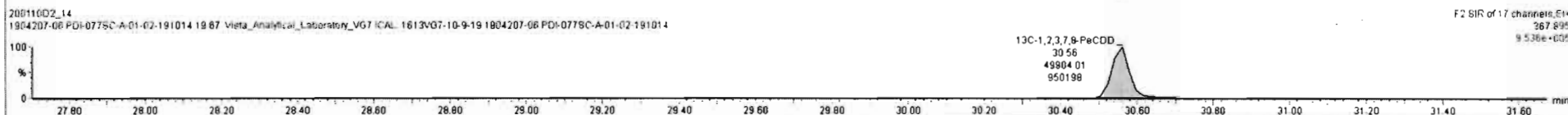
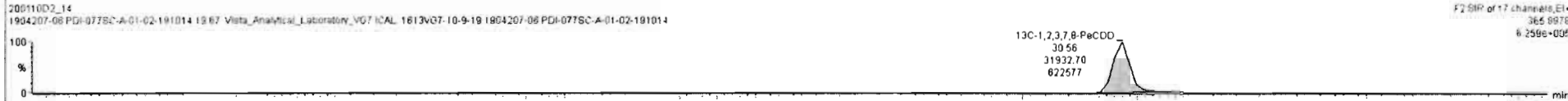
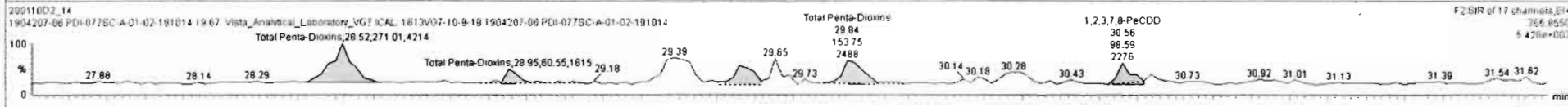
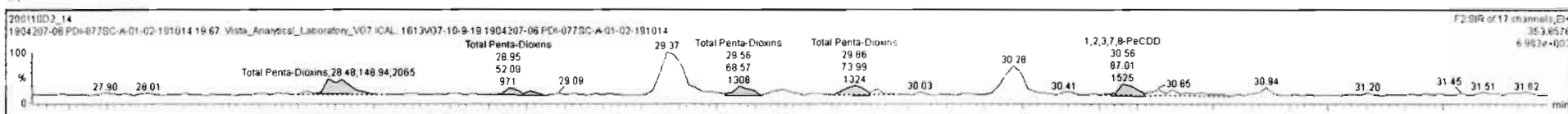
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9.536e+005



200110D2\_14 1904207-06 PDI-0775C-A-01-02-191014 1904207-06 PDI-0775C-A-01-02-191014 1904207-06 PDI-0775C-A-01-02-191014 1904207-06 PDI-0775C-A-01-02-191014

#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wtVol	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc	%Rec	DL	EMPC
34	13C-OCDF	1.69e5	1.26e5	36	0.88	NO	0.689	9.999	41.24	41.21	1.234	1.235	NO	391.5	97.9	0.698	
35	37Cl-2,3,7,8-TCDD	3.93e4	1.04e5	36			1.198	9.999	26.03	26.01	1.023	1.024	NO	63.40	79.2	0.183	
36	13C-1,2,3,4-TCDD	1.04e5	1.04e5	36	0.79	NO	1.000	9.999	25.39	25.43	1.000	1.000	NO	200.0	100	0.599	
37	13C-1,2,3,4-TCDF	1.71e5	1.71e5	37	0.81	NO	1.000	9.999	23.93	23.97	1.000	1.000	NO	200.0	100	0.735	
38	13C-1,2,3,4,6,9-HxCDF	1.26e5	1.26e5	38	0.51	NO	1.000	9.999	33.37	33.40	1.000	1.000	NO	200.0	100	1.16	
39	Total Tetra-Dioxins	1.00e5					0.901	9.999	25.50			0.000	NO			0.115	
40	Total Penta-Dioxins	8.18e4					0.873	9.999	30.00			0.000	NO	1.702		0.372	2.980
41	Total Hexa-Dioxins	0.00e0					0.976	9.999	33.80			0.000	NO	23.78		0.572	24.05
42	Total Hepta-Dioxins	8.26e4					0.989	9.999	37.75			0.000	NO	80.34		0.808	80.65
43	Total Tetra-Furans	1.44e5					0.943	9.999	24.00			0.000	NO	8.784		0.358	17.98
44	1st Func. Penta-Furans	0.00e0					0.940	9.999	27.83			0.000	NO	3.265		0.118	3.265
45	Total Penta-Furans	0.00e0					0.940	9.999	30.00			0.000	NO	24.78		0.287	28.26

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.48	1.489e2	2.710e2	0.630	0.55	NO	1.1768	1.1768
2	40 Total Penta-Dioxins	30.00	29.95	5.209e1	6.055e1	0.630	0.86	YES	0.27556	0.00000
3	40 Total Penta-Dioxins	30.00	29.56	6.857e1	1.189e2	0.630	0.58	NO	0.52528	0.52528
4	40 Total Penta-Dioxins	30.00	29.86	7.399e1	1.537e2	0.630	0.48	YES	0.53646	0.00000
5	2,1,2,3,7,8-PeCDD	30.56	30.56	8.701e1	9.859e1	0.630	0.88	YES	0.43514	0.00000



Vista Analytical Laboratory

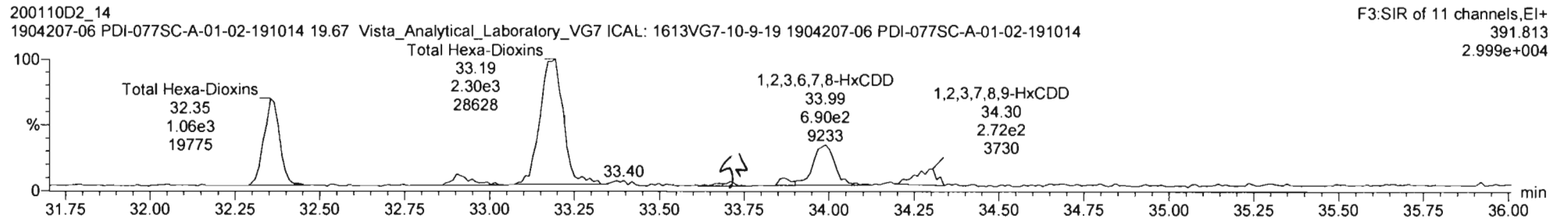
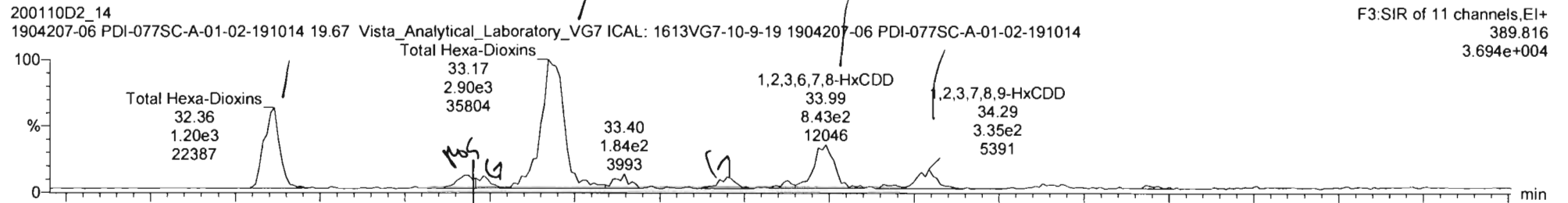
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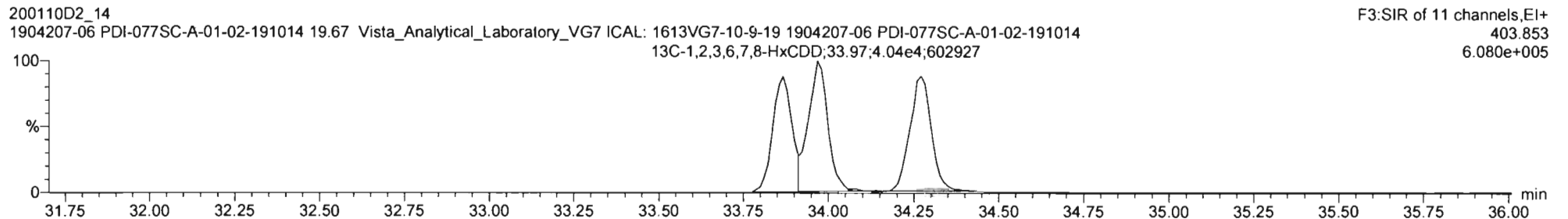
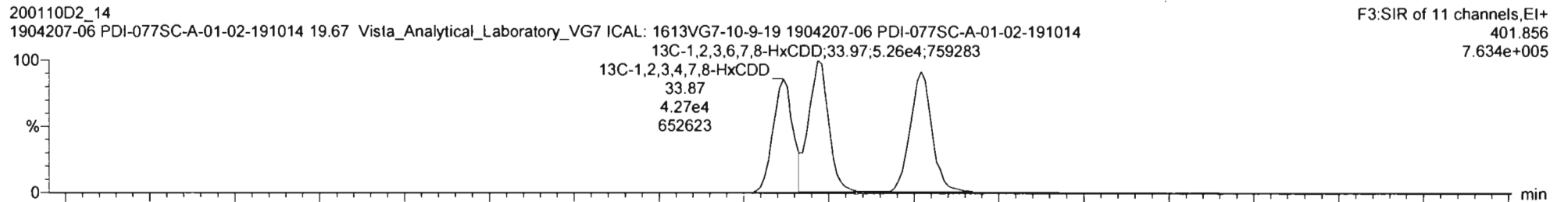
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 Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

**Total Hexa-Dioxins**



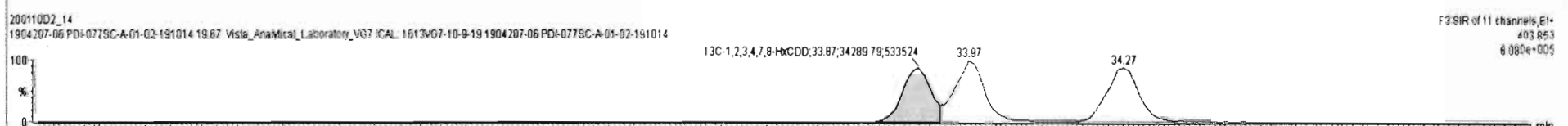
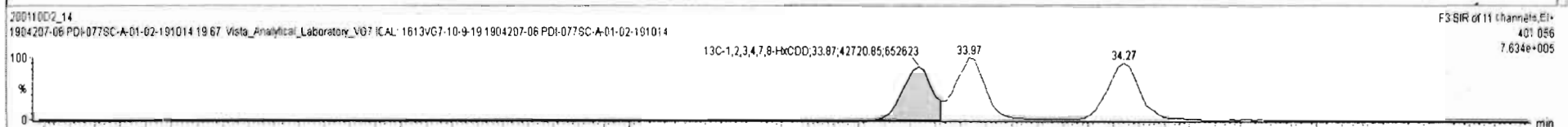
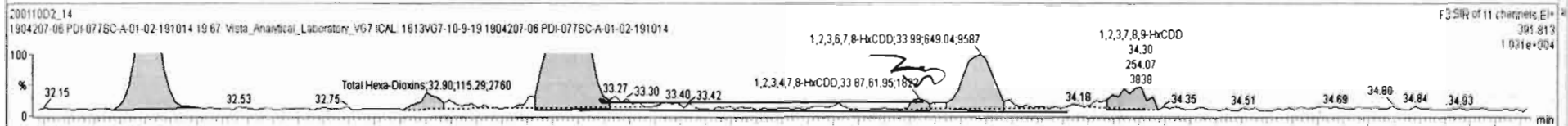
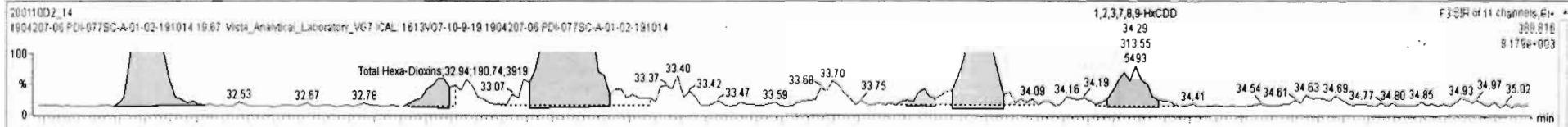
**13C-1,2,3,4,7,8-HxCDD**



200110D2\_14\_1904207-06 PDI-077SC-A-01-02-191014\_1904207-06 PDI-077SC-A-01-02-191014\_1904207-06 Vista\_Analytical\_Laboratory\_VG7ICAL\_1613VG7-10-9-19

#	Name	Resp	IS Resp	ISF	RA	n/y	RFf	w/Vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc	%Rec	DL	EMPC
27	13C-2,3,4,7,8-PeCDF	1.34e5	1.71e5	37	1.59	NO	0.847	9.999	30.31	30.28	1.191	1.192	NO	184.3	92.1	1.02	
28	13C-1,2,3,4,7,8-HxCDF	1.09e5	1.26e5	36	0.51	NO	0.832	9.999	32.97	32.98	0.988	0.987	NO	209.3	105	1.39	
29	13C-1,2,3,6,7,8-HxCDF	1.26e5	1.26e5	38	0.52	NO	1.034	9.999	33.09	33.10	0.991	0.991	NO	194.2	97.1	1.12	
30	13C-2,3,4,6,7,8-HxCDF	1.08e5	1.26e5	38	0.51	NO	0.953	9.999	33.70	33.70	1.009	1.009	NO	181.2	90.6	1.22	
31	13C-1,2,3,7,8,9-HxCDF	1.02e5	1.26e5	38	0.52	NO	0.828	9.999	34.66	34.65	1.038	1.038	NO	195.6	97.8	1.40	
32	13C-1,2,3,4,6,7,8-HpCDF	9.28e4	1.26e5	38	0.43	NO	0.757	9.999	36.50	36.47	1.092	1.093	NO	194.9	97.4	1.32	
33	13C-1,2,3,4,7,8-HpCDF	7.28e4	1.26e5	38	0.45	NO	0.581	9.999	38.30	38.29	1.146	1.147	NO	199.7	99.9	1.72	
34	13C-OCDF	1.69e5	1.26e5	38	0.88	NO	0.689	9.999	41.24	41.21	1.234	1.235	NO	391.5	97.9	0.698	
35	37Cl-2,3,7,8-TCDD	3.93e4	1.04e5	36			1.198	9.999	26.03	26.01	1.023	1.024	NO	63.40	79.2	0.183	
36	13C-1,2,3,4-TCDD	1.04e5	1.04e5	36	0.79	NO	1.000	9.999	25.39	25.43	1.000	1.000	NO	200.0	100	0.599	
37	13C-1,2,3,4-TCDF	1.71e5	1.71e5	37	0.81	NO	1.000	9.999	23.93	23.97	1.000	1.000	NO	200.0	100	0.735	
38	13C-1,2,3,4,6,9-HxCDF	1.26e5	1.26e5	38	0.51	NO	1.000	9.999	33.37	33.40	1.000	1.000	NO	200.0	100	1.16	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.36	1.198e3	1.062e3	1.240	1.13	NO	5.3398	5.3398
2	41 Total Hexa-Dioxins	33.80	32.94	1.907e2	1.153e2	1.240	1.85	YES	0.61002	0.00000
3	41 Total Hexa-Dioxins	33.80	33.17	2.731e3	2.228e3	1.240	1.23	NO	11.714	11.714
4	3 1,2,3,4,7,8-HxCDD	33.88	33.88	7.992e1	6.195e1	1.240	1.29	NO	0.33460	0.33460
5	4 1,2,3,6,7,8-HxCDD	33.97	33.99	7.968e2	6.490e2	1.240	1.23	NO	3.3129	3.3129
6	5 1,2,3,7,8,9-HxCDD	34.30	34.29	3.135e2	2.541e2	1.240	1.23	NO	1.3081	1.3081



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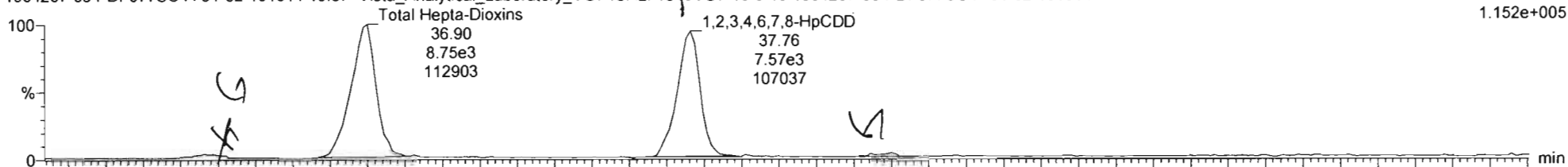
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Total Hepta-Dioxins

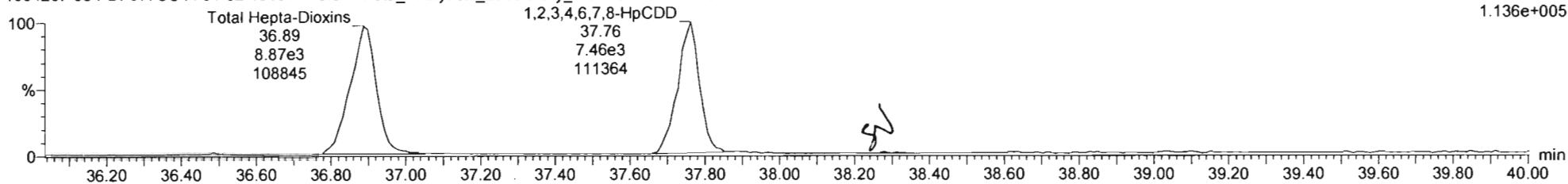
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F4:SIR of 11 channels,EI+  
423.777  
1.152e+005



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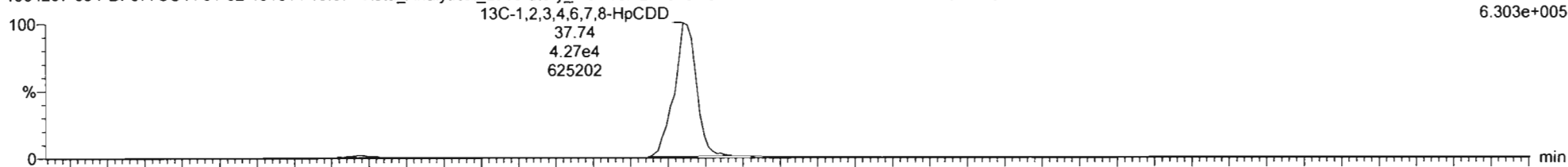
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13C-1,2,3,4,6,7,8-HpCDD

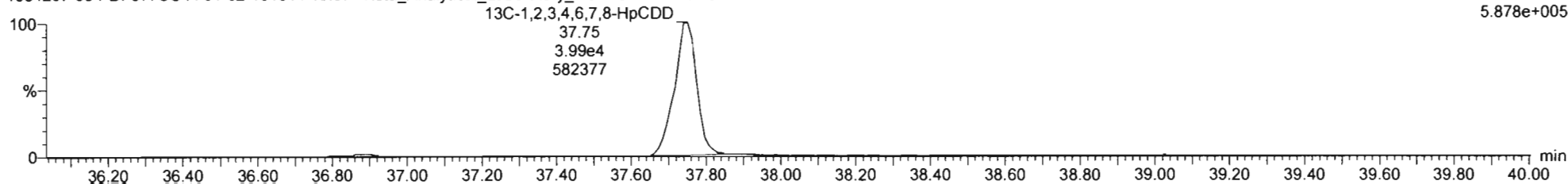
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F4:SIR of 11 channels,EI+  
435.817  
6.303e+005



200110D2\_14  
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F4:SIR of 11 channels,EI+  
437.814  
5.878e+005



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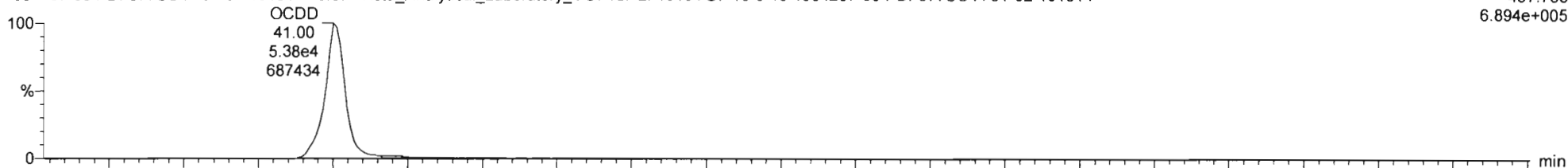
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OCDD

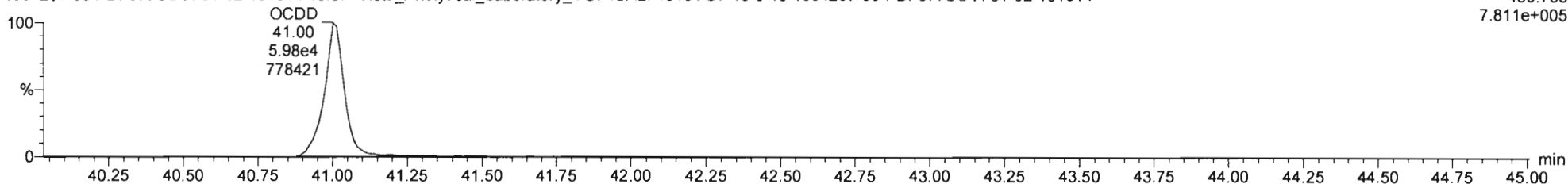
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F5:SIR of 11 channels,EI+  
457.738  
6.894e+005



200110D2\_14  
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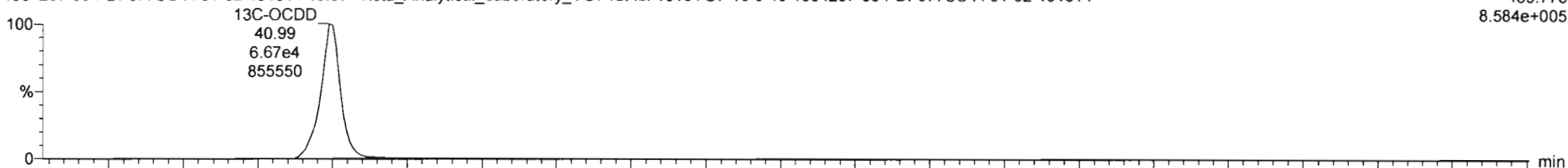
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7.811e+005



13C-OCDD

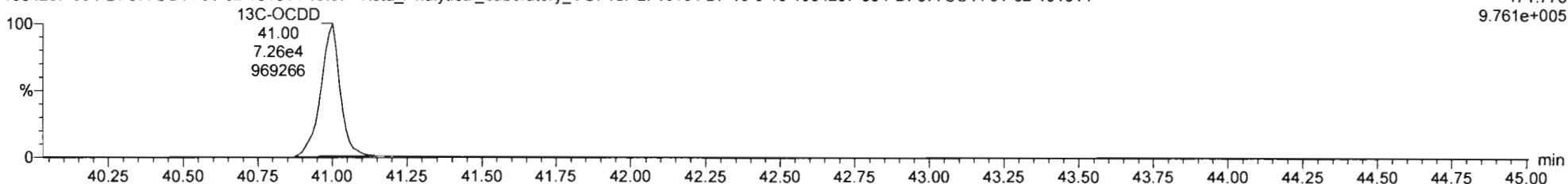
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F5:SIR of 11 channels,EI+  
469.778  
8.584e+005



200110D2\_14  
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F5:SIR of 11 channels,EI+  
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9.761e+005





Vista Analytical Laboratory

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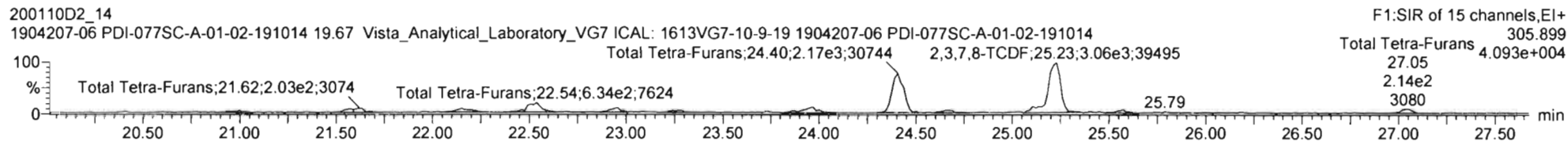
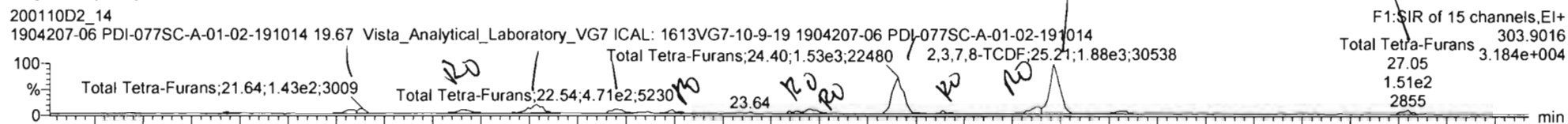
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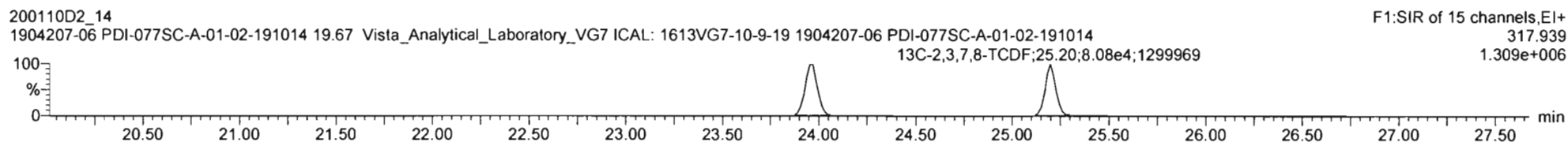
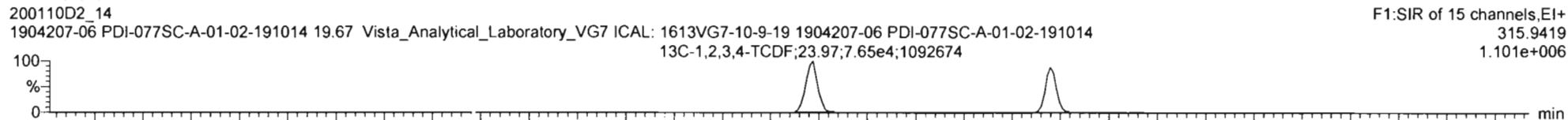
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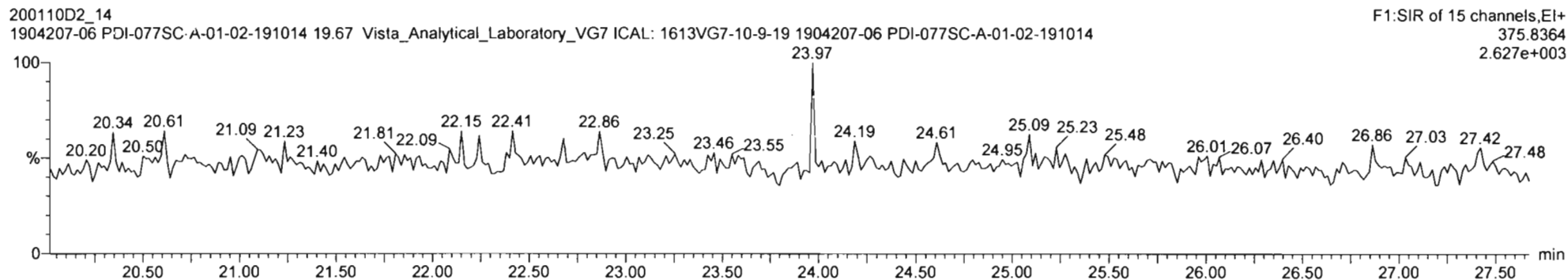
Total Tetra-Furans

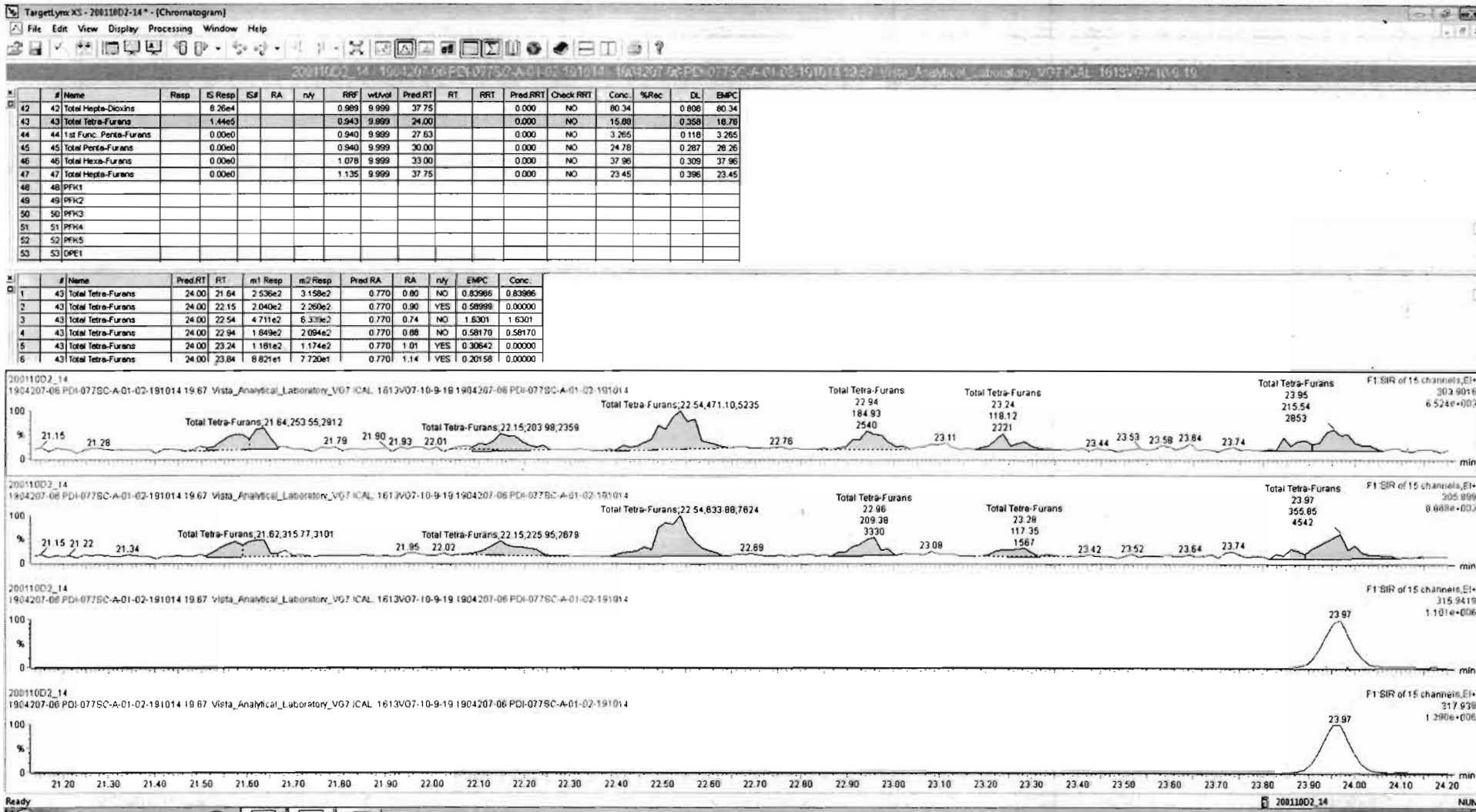


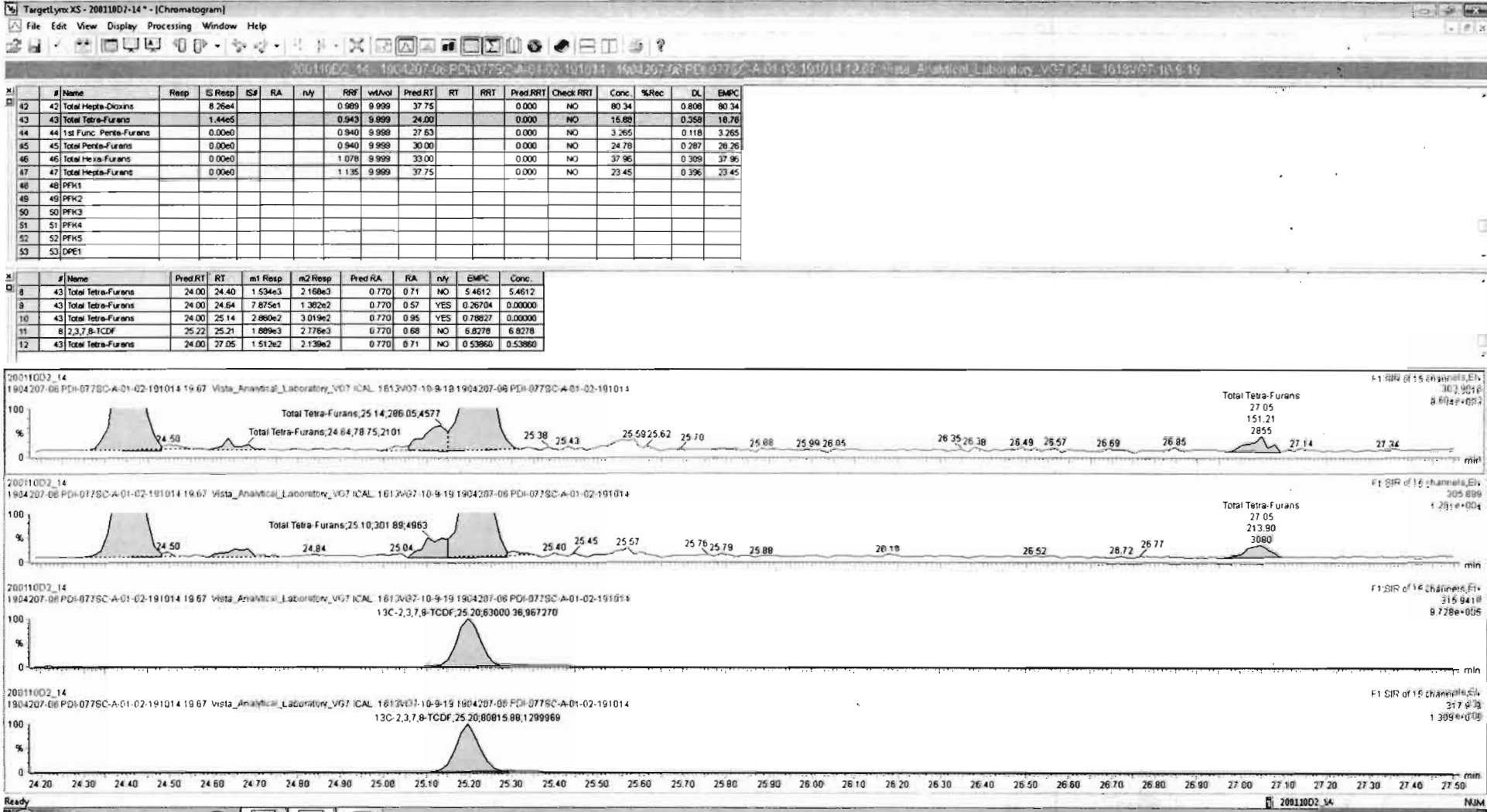
13C-2,3,7,8-TCDF



DPE1







Vista Analytical Laboratory

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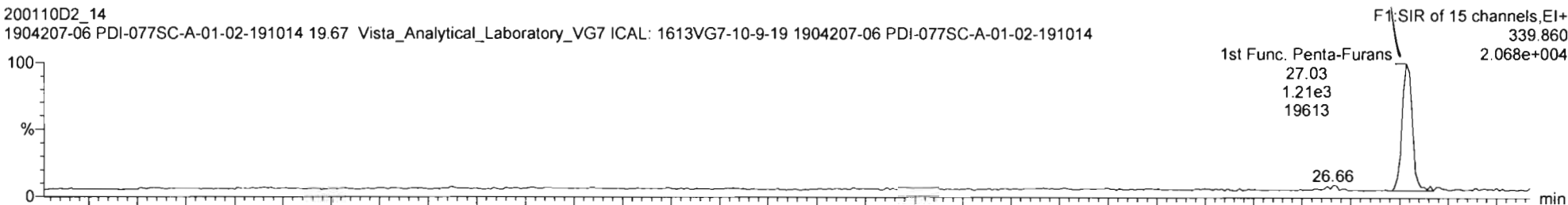
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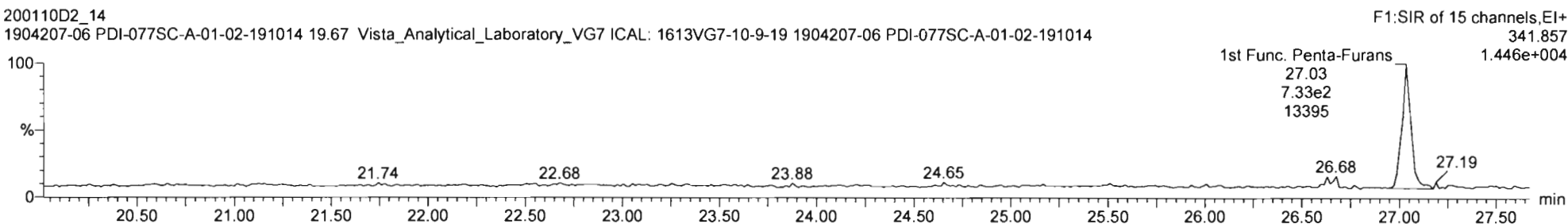
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1st Func. Penta-Furans

200110D2\_14  
1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-06 PDI-077SC-A-01-02-191014

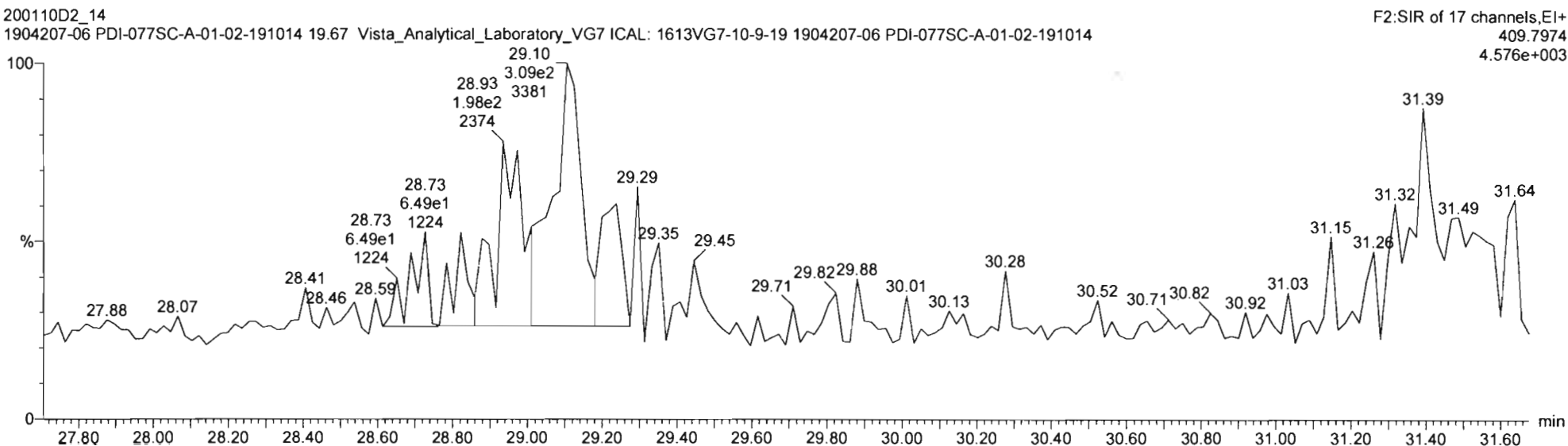


200110D2\_14  
1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-06 PDI-077SC-A-01-02-191014



DPE6

200110D2\_14  
1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19 1904207-06 PDI-077SC-A-01-02-191014



Vista Analytical Laboratory

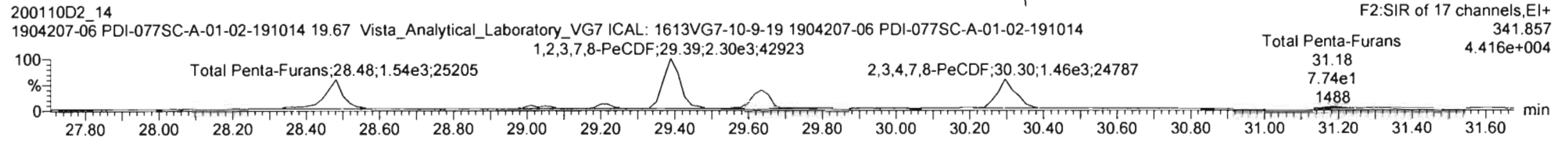
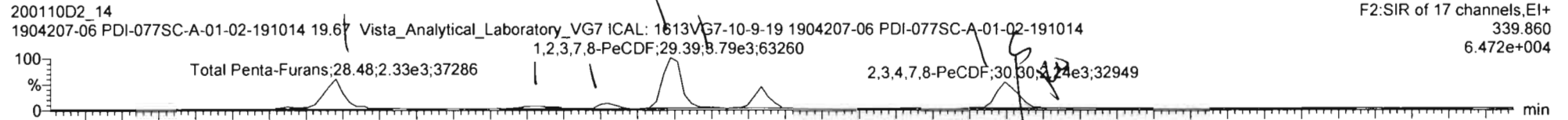
Dataset: Untitled

Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

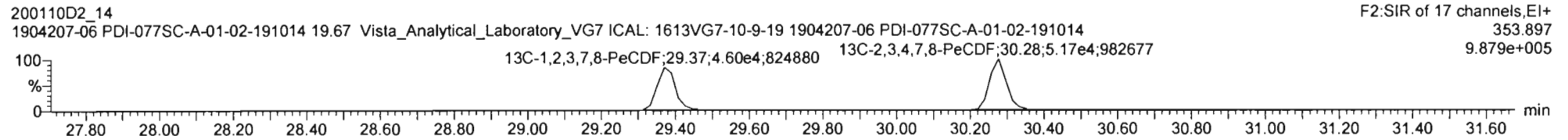
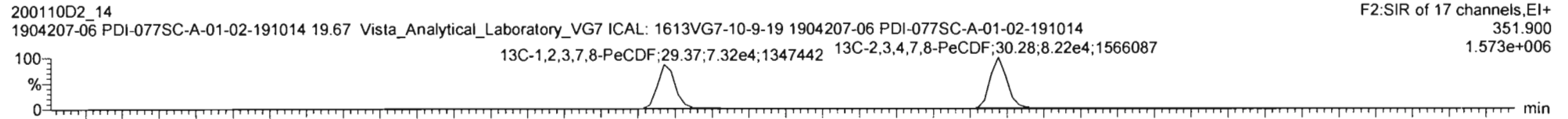
Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014, Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

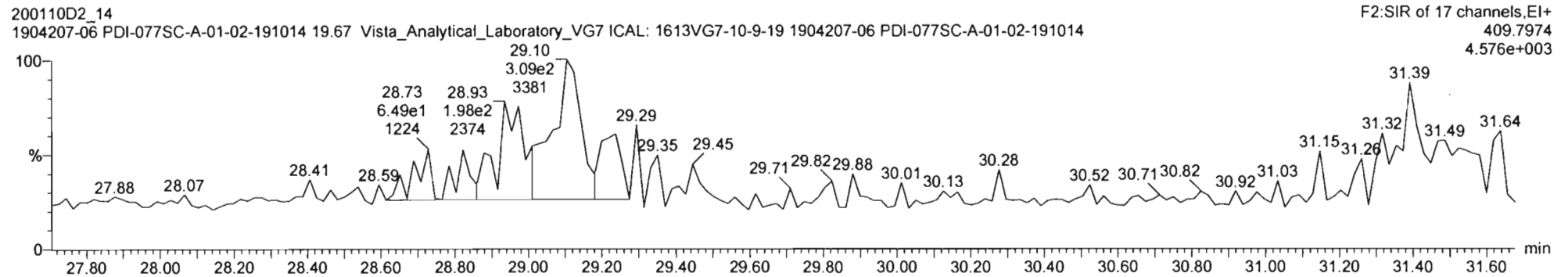
Total Penta-Furans

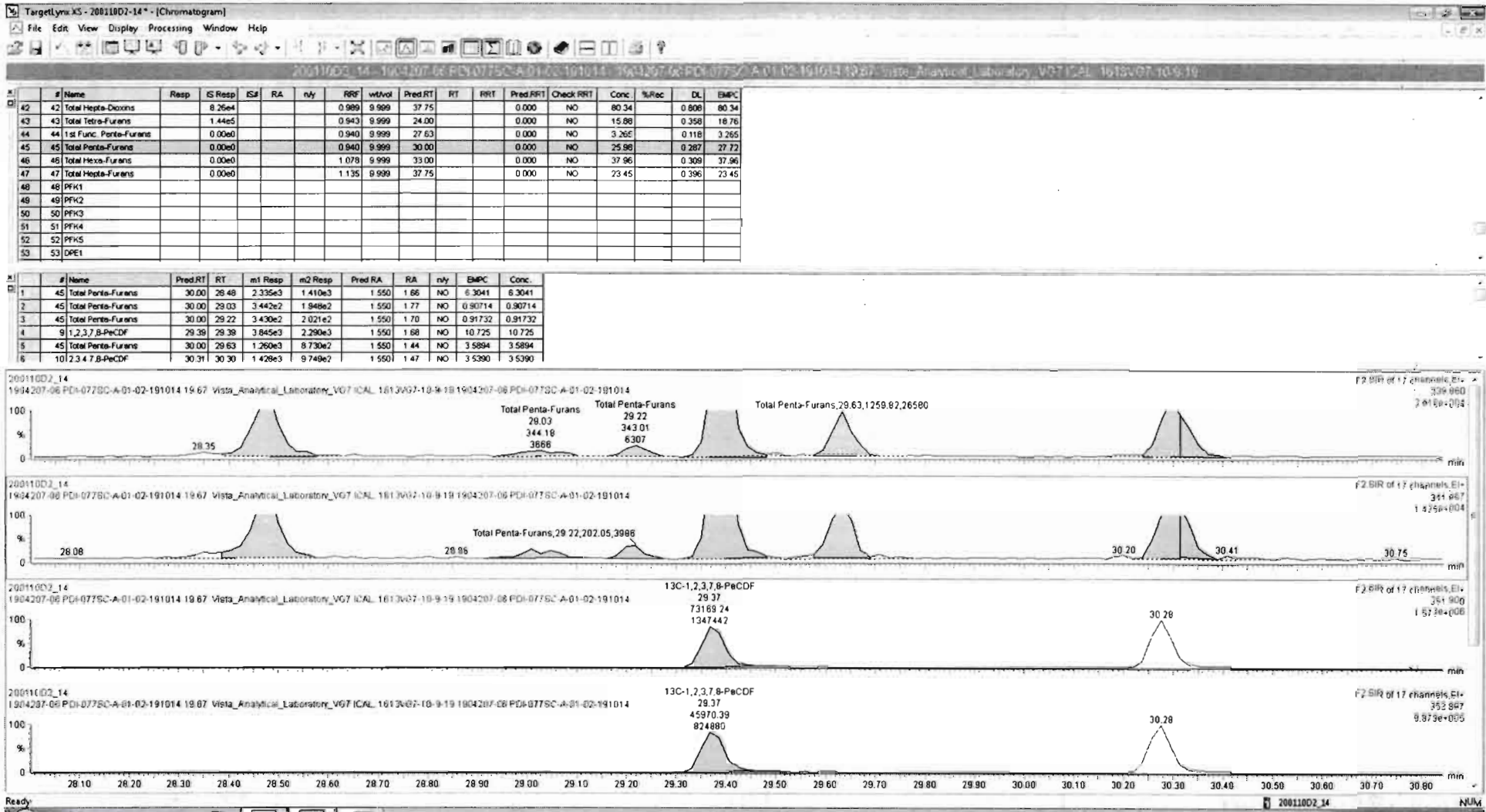


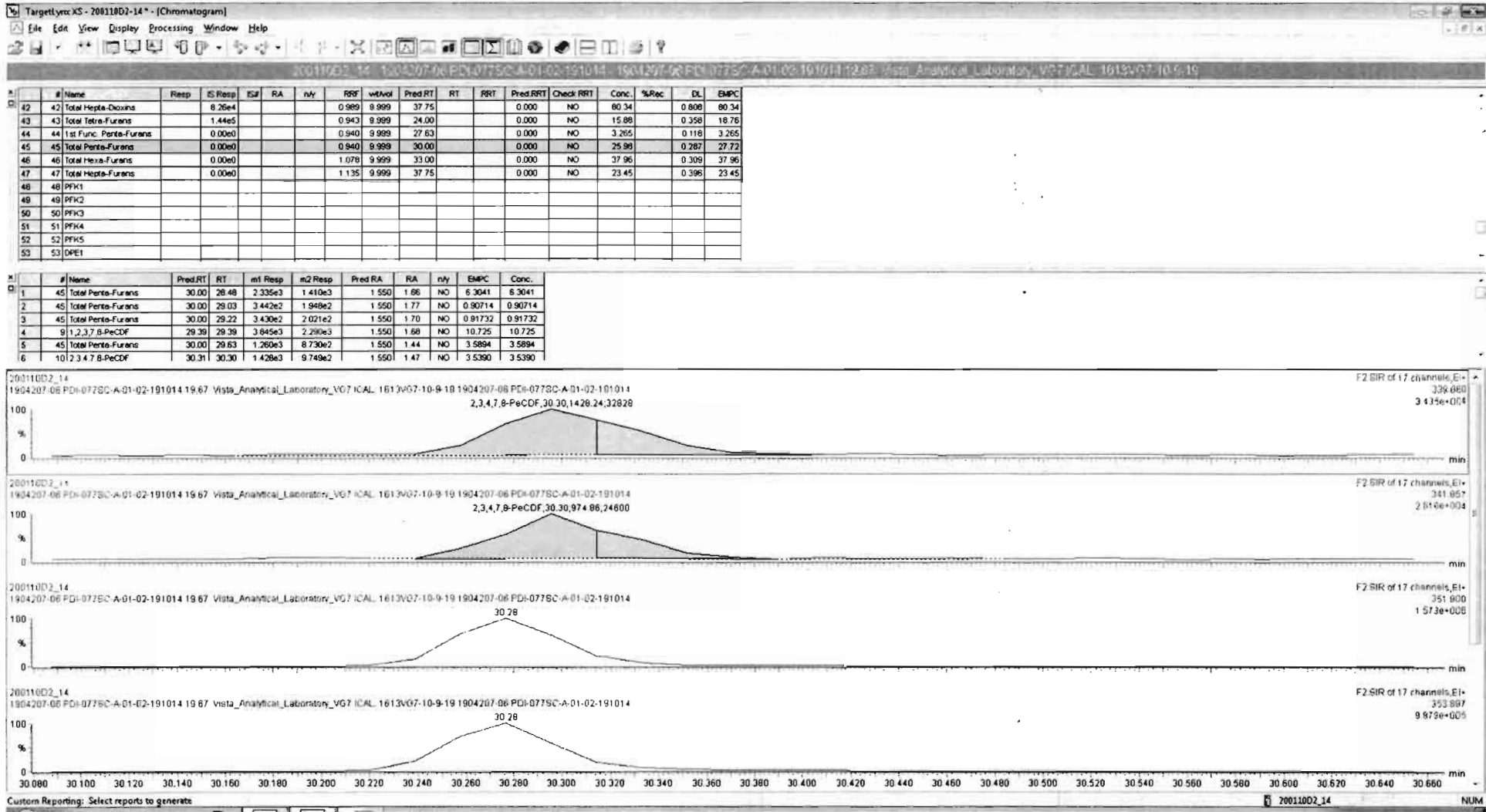
13C-1,2,3,7,8-PeCDF



DPE2







Vista Analytical Laboratory

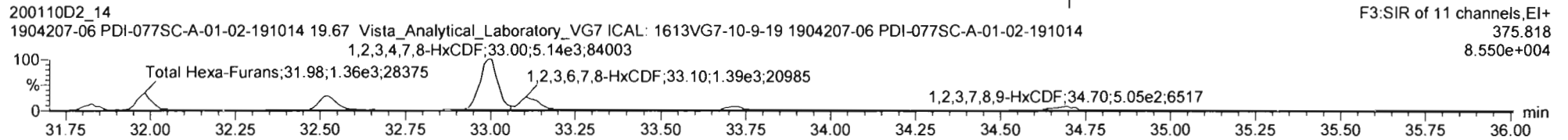
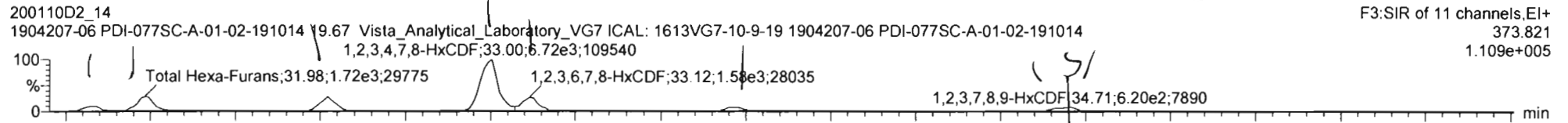
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Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

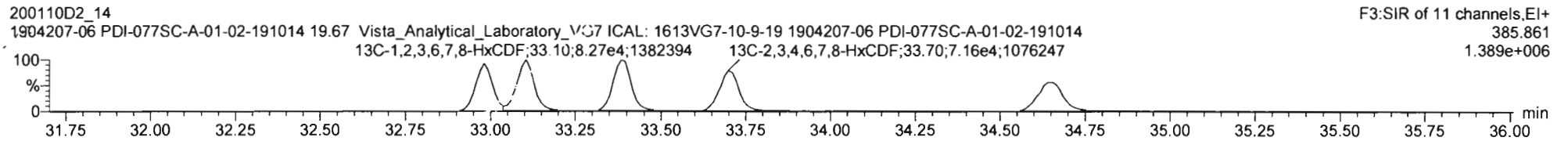
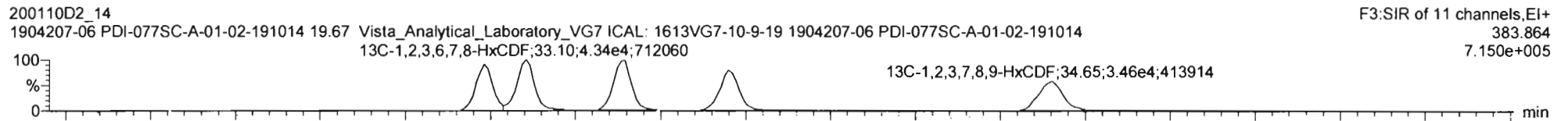
Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

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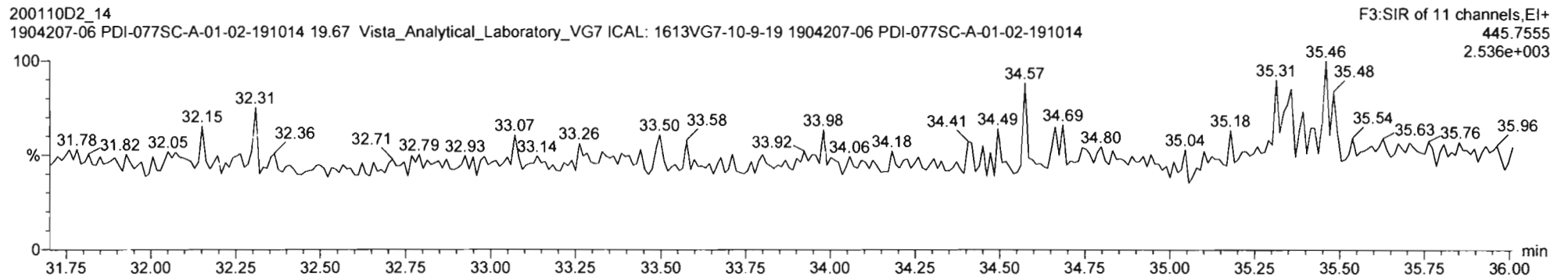
Total Hexa-Furans



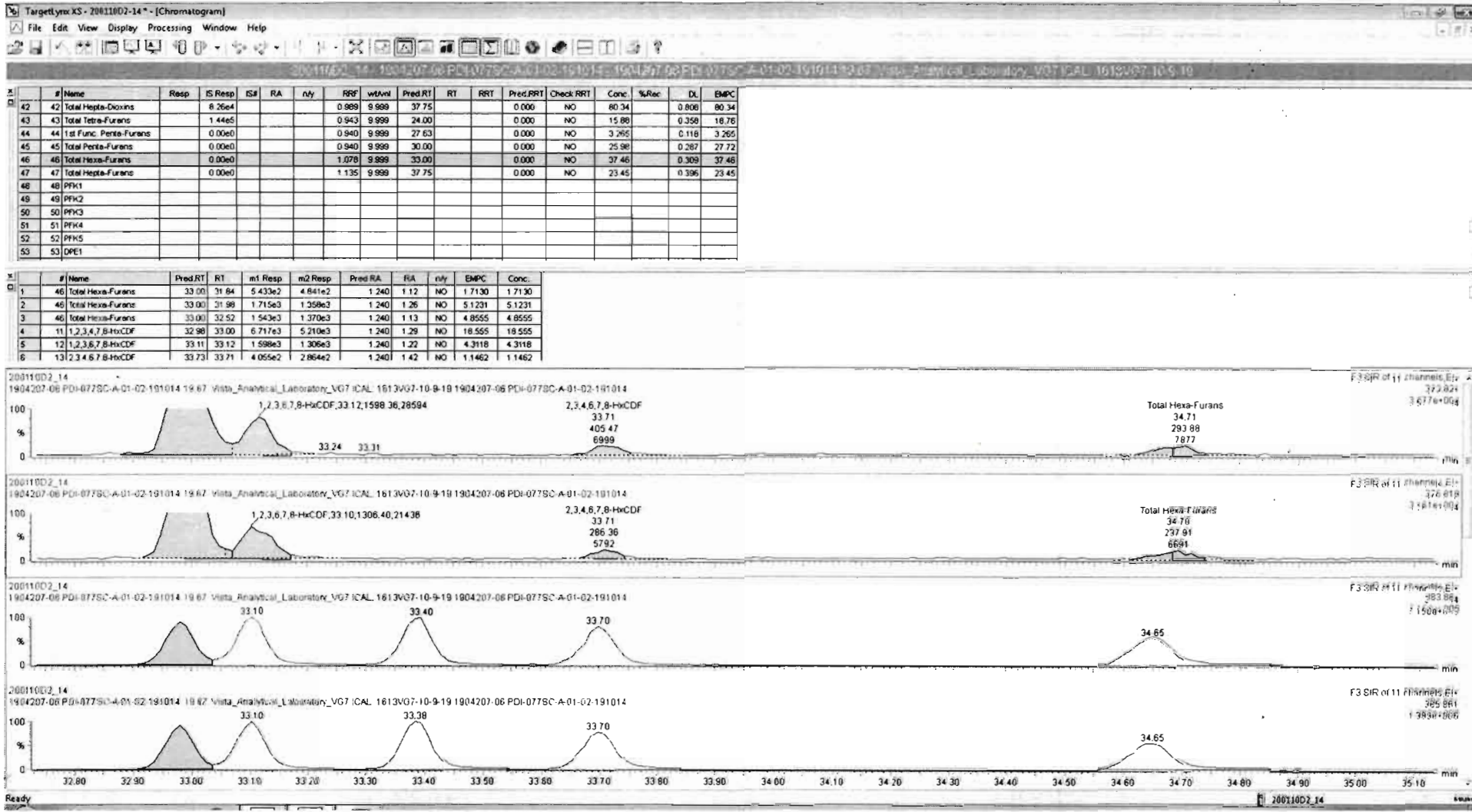
13C-1,2,3,4,7,8-HxCDF

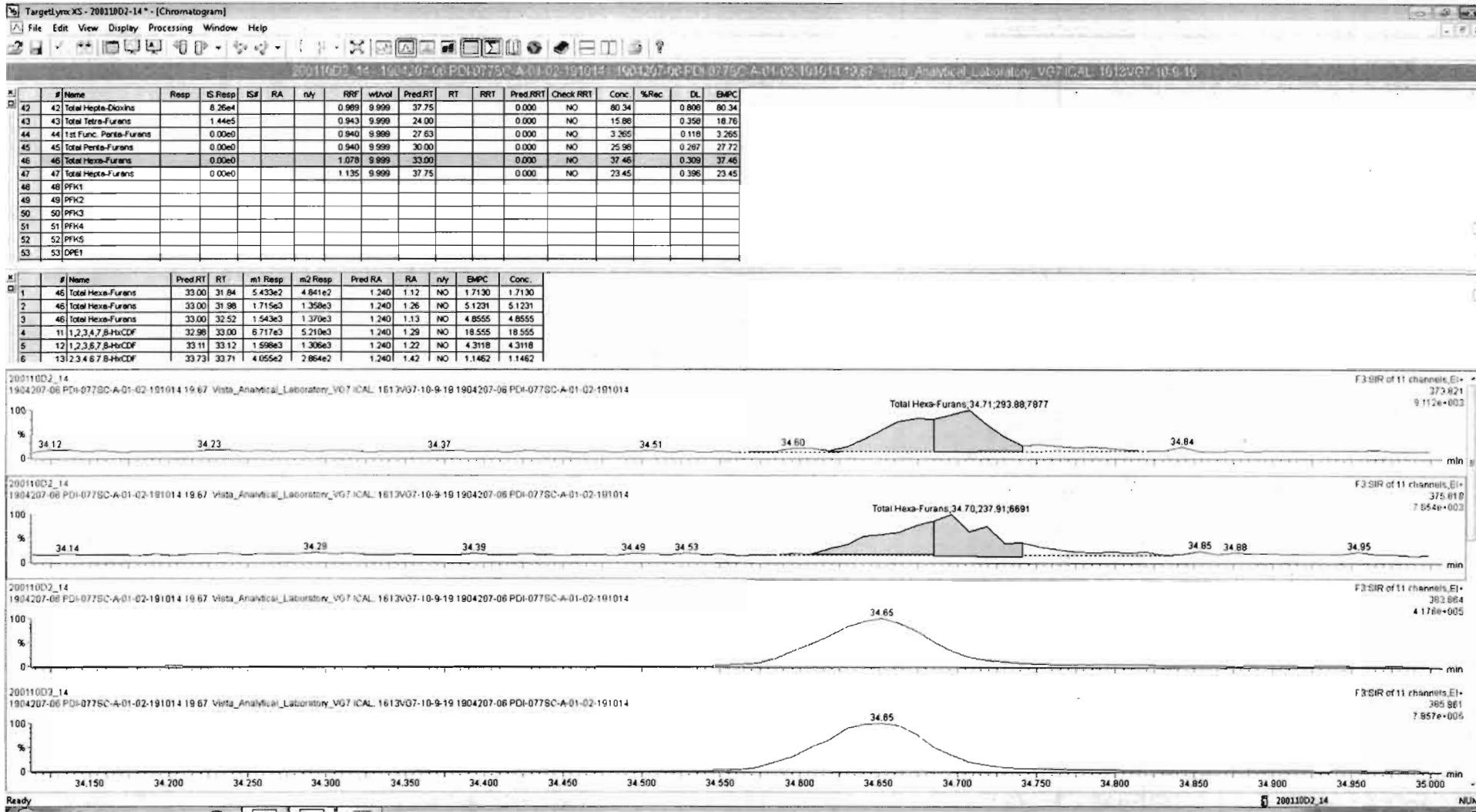


DPE3



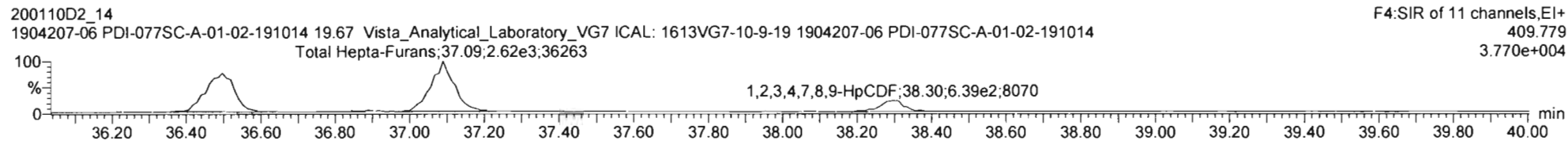
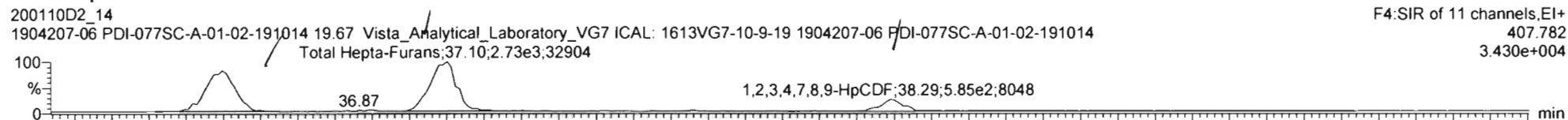




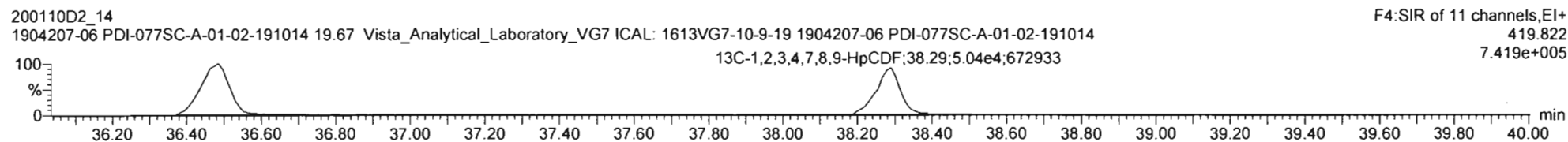
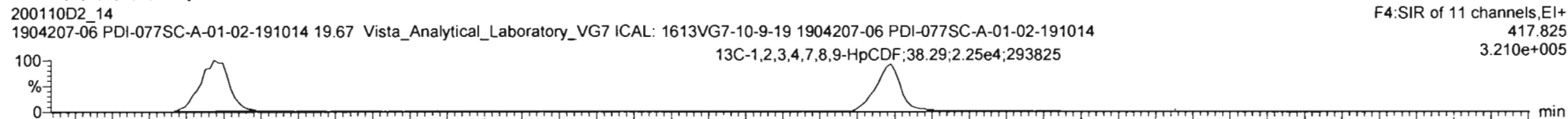


Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014,  
Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

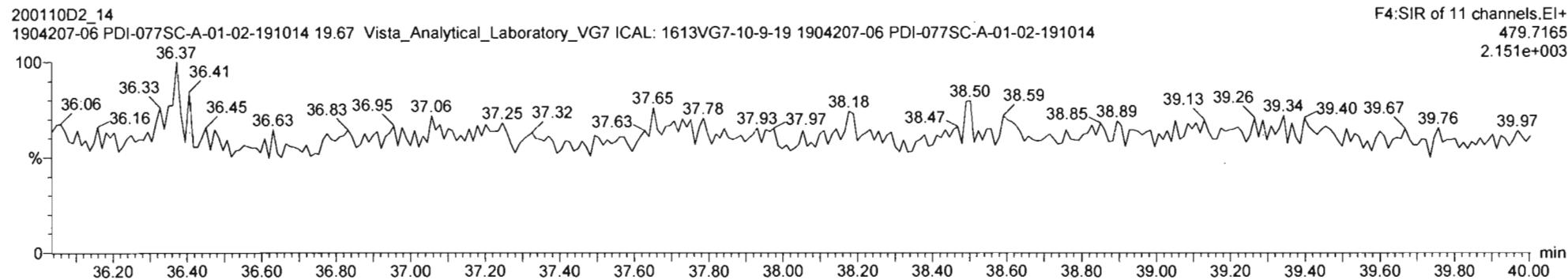
### Total Hepta-Furans



### 13C-1,2,3,4,6,7,8-HpCDF



### DPE4



Vista Analytical Laboratory

Dataset: Untitled

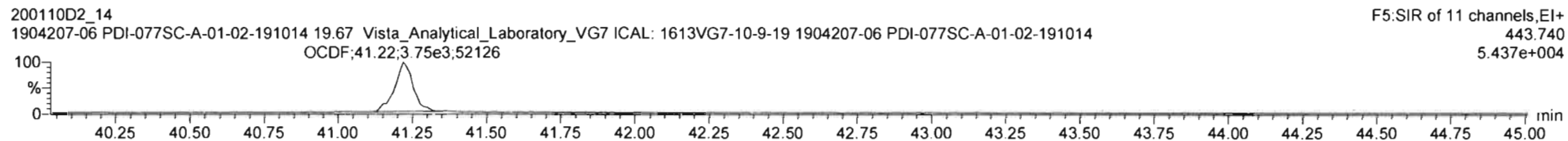
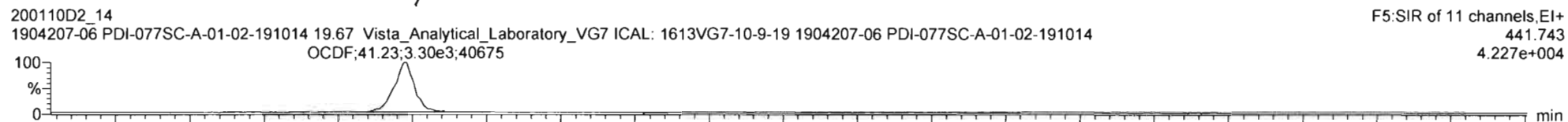
Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

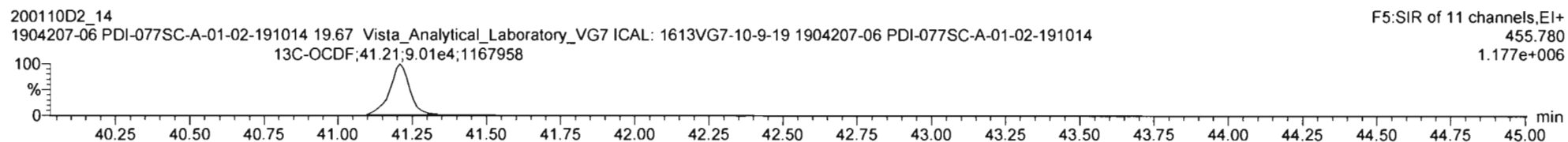
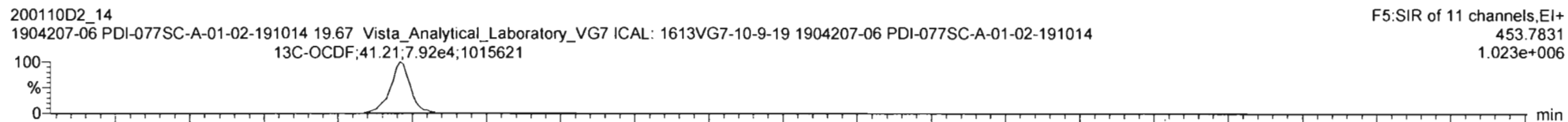
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Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

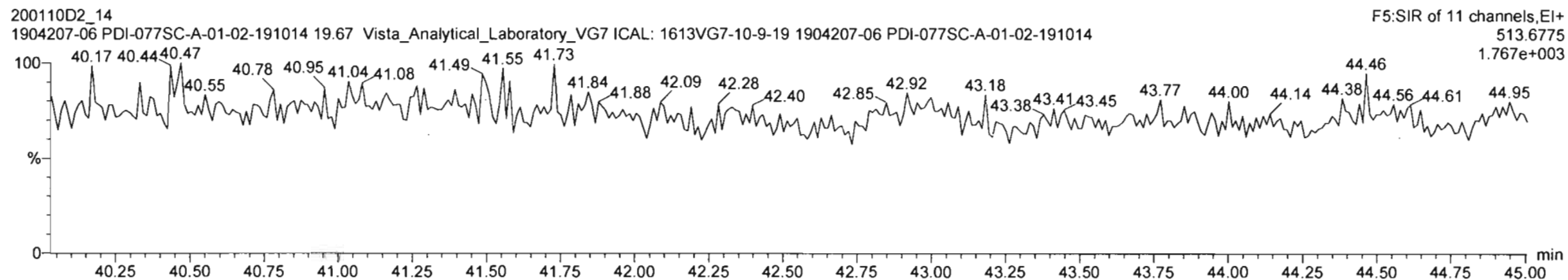
OCDF



13C-OCDF



DPE5



Vista Analytical Laboratory

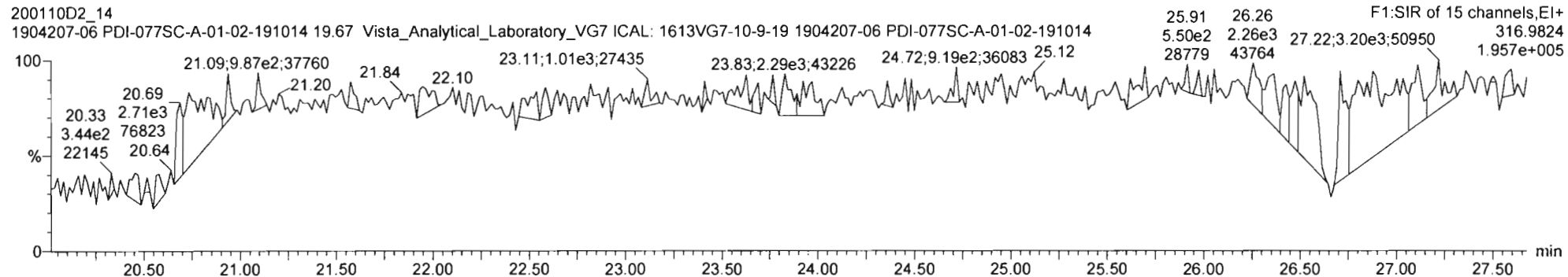
Dataset: Untitled

Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

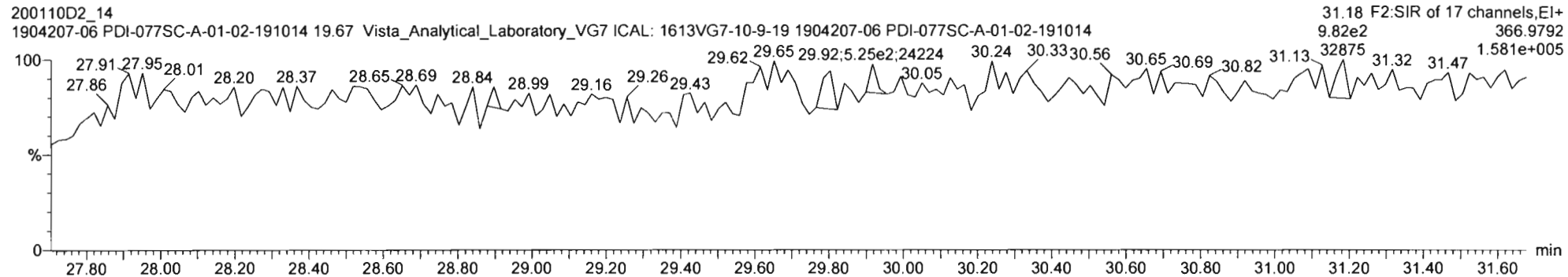
Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

Name: VG7 200110D2-14, Date: 11-JAN-2020, Time: 10:56:05, ID: 1904207-06 PDI-077SC-A-01-02-191014, Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

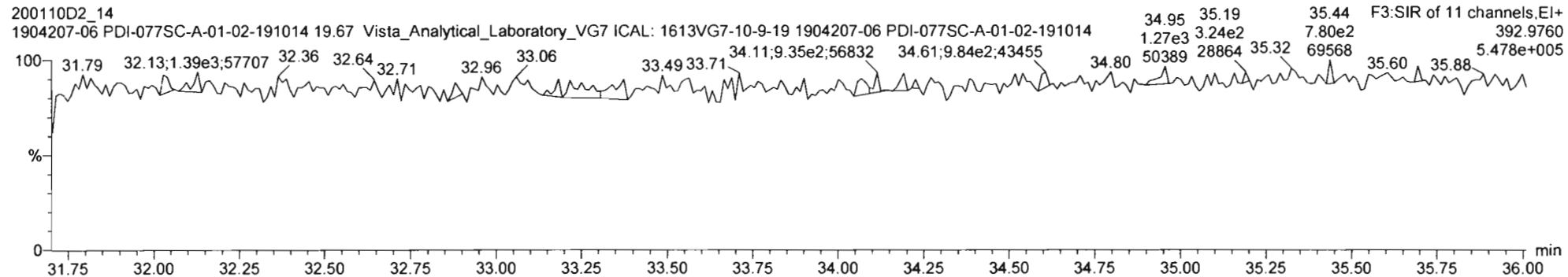
PFK1



PFK2



PFK3



Vista Analytical Laboratory

Dataset: Untitled

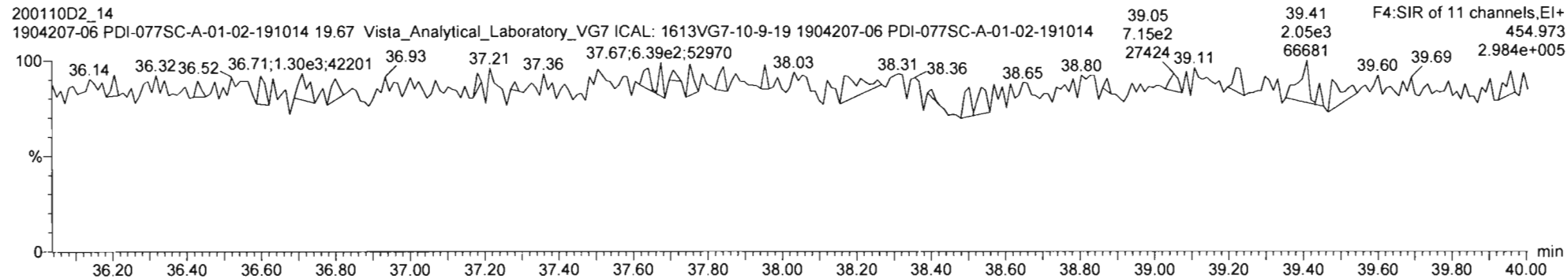
Last Altered: Tuesday, January 14, 2020 15:43:46 Pacific Standard Time

Printed: Tuesday, January 14, 2020 16:07:30 Pacific Standard Time

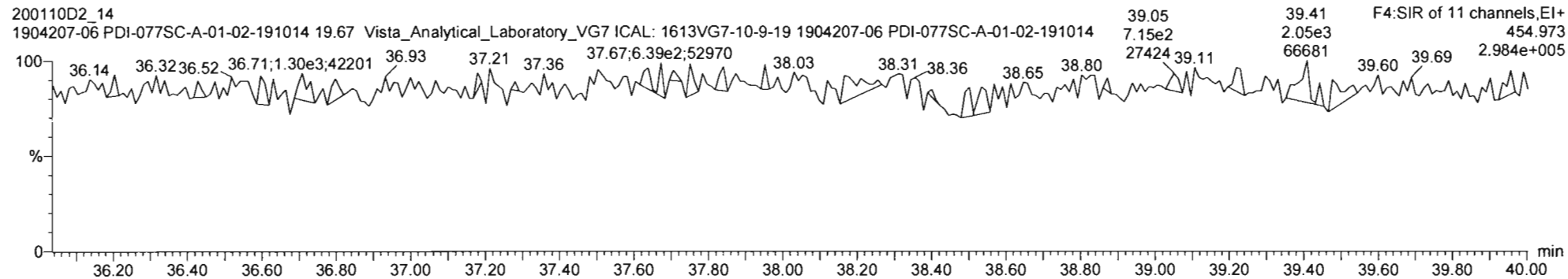
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Description: 1904207-06 PDI-077SC-A-01-02-191014 19.67 Vista\_Analytical\_Laboratory\_VG7 ICAL: 1613VG7-10-9-19

PFK4



PFK5



## **CONFIRMATION**

Dataset: U:\VG11.PRO\Results\200131K1\200131K1-26.qld

Last Altered: Saturday, February 01, 2020 09:00:33 Pacific Standard Time

Printed: Saturday, February 01, 2020 09:01:05 Pacific Standard Time

*Hc 2-1-2020*

*CT 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Name: 200131K1\_26, Date: 31-Jan-2020, Time: 23:13:28, ID: 1904207-03RE1 PDI-076SC-A-04-05-191013 15.2, Description: PDI-076SC-A-04-05-191013

#	Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	2,3,7,8-TCDF	7.91e5	0.78	NO	1.04	10.011	16.41	87.324		0.170
2	13C-2,3,7,8-TCDF	1.75e6	0.78	NO	1.02	10.011	16.39	165.82	83.0	0.207
3	13C-1,2,3,4-TCDF	2.06e6	0.81	NO	1.00	10.011	14.49	199.79	100	0.211
4	13C-1,2,3,4-TCDD	1.27e6	0.78	NO		10.011	15.06			



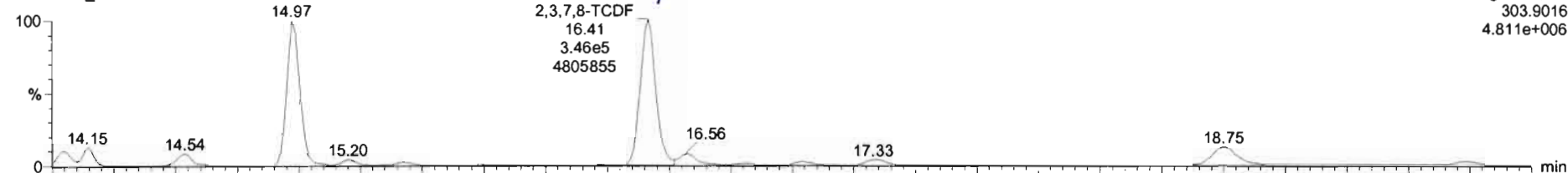
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

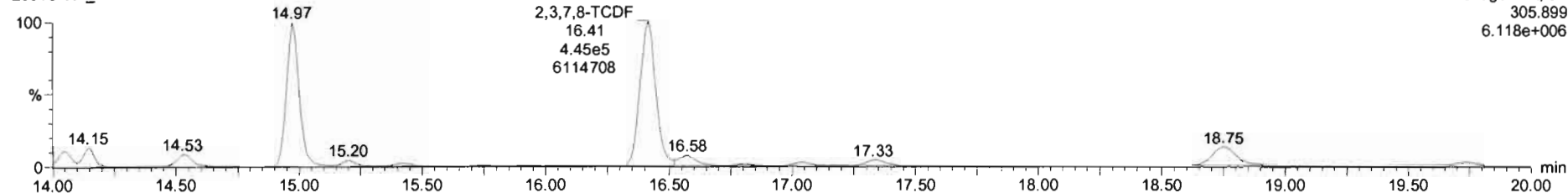
Name: 200131K1\_26, Date: 31-Jan-2020, Time: 23:13:28, ID: 1904207-03RE1 PDI-076SC-A-04-05-191013 15.2, Description: PDI-076SC-A-04-05-191013

2,3,7,8-TCDF

200131K1\_26

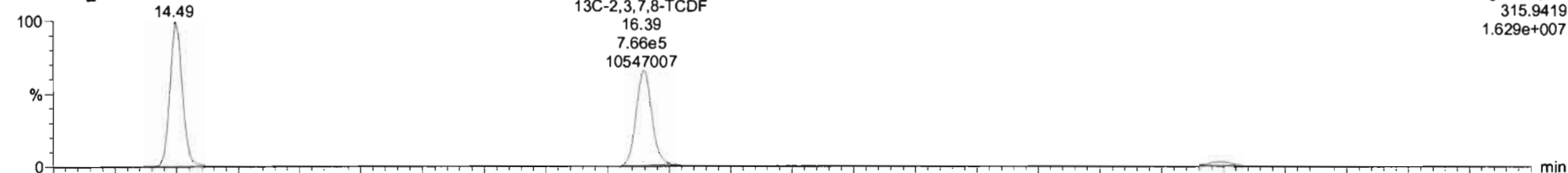


200131K1\_26

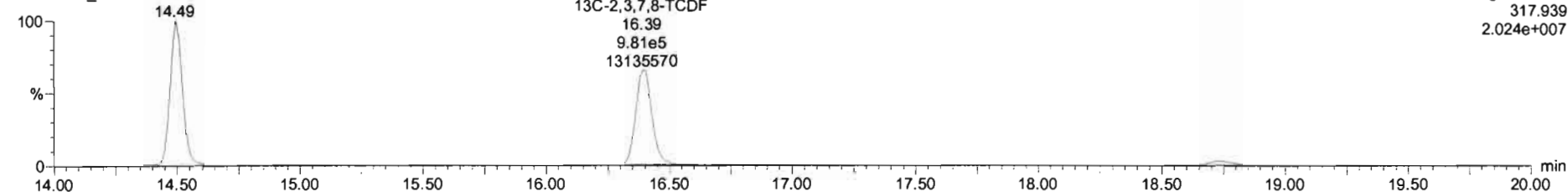


13C-2,3,7,8-TCDF

200131K1\_26



200131K1\_26



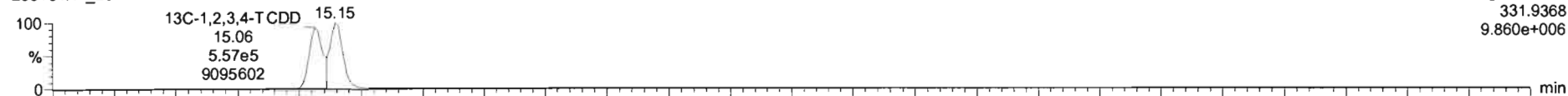
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

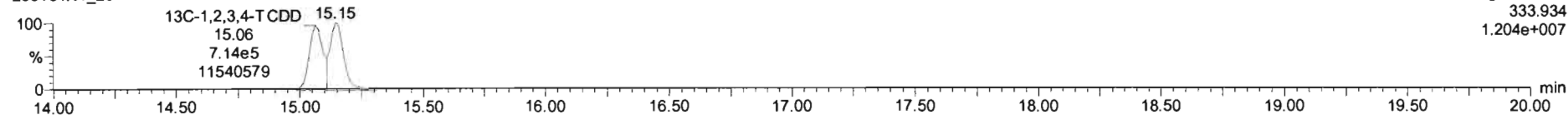
Name: 200131K1\_26, Date: 31-Jan-2020, Time: 23:13:28, ID: 1904207-03RE1 PDI-076SC-A-04-05-191013 15.2, Description: PDI-076SC-A-04-05-191013

**13C-1,2,3,4-TCDD**

200131K1\_26

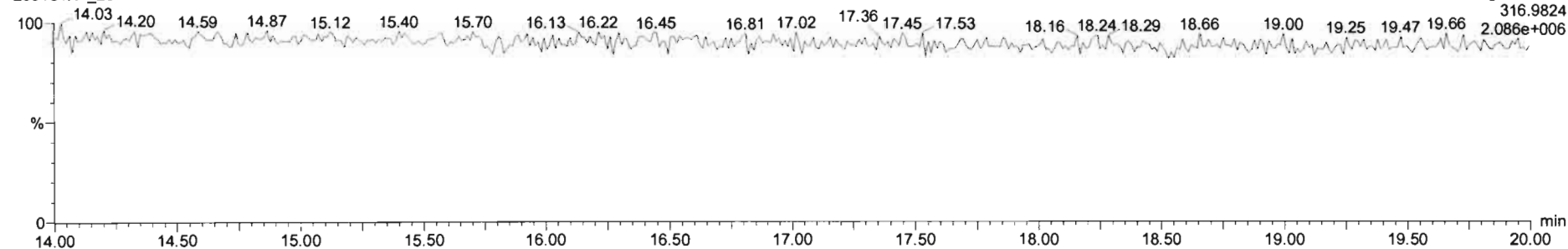


200131K1\_26



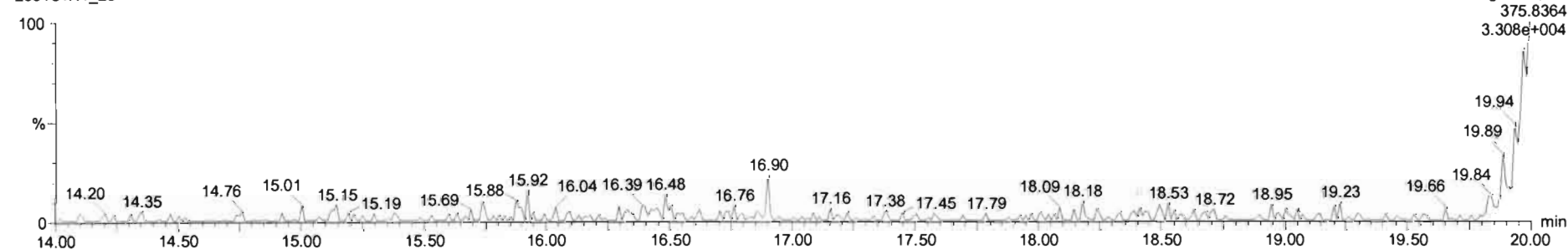
**PFK1**

200131K1\_26



**DPE1**

200131K1\_26



Dataset: U:\VG11.PRO\Results\200130K1\200130K1-26.qld

Last Altered: Friday, January 31, 2020 07:56:35 Pacific Standard Time

Printed: Friday, January 31, 2020 07:56:51 Pacific Standard Time

*HC 1.31.2020*

*CT 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-30-20.cdb 31 Jan 2020 07:22:32

Name: 200130K1\_26, Date: 31-Jan-2020, Time: 06:42:36, ID: 1904207-04RE2 PDI-076SC-A-05-06-191013 1.7@5X, Description: PDI-076SC-A-05-06-191013

	#-Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	1 2,3,7,8-TCDF	3.67e4	0.80	NO	1.00	1.026	16.35	171.21		5.14
2	2 13C-2,3,7,8-TCDF	4.17e5	0.78	NO	1.07	1.026	16.34	1737.9	89.2	11.3
3	3 13C-1,2,3,4-TCDF	4.37e5	0.79	NO	1.00	1.026	14.45	1949.1	100	12.1
4	4 13C-1,2,3,4-TCDD	3.26e5	0.79	NO		1.026	15.10			

Dataset: Untitled

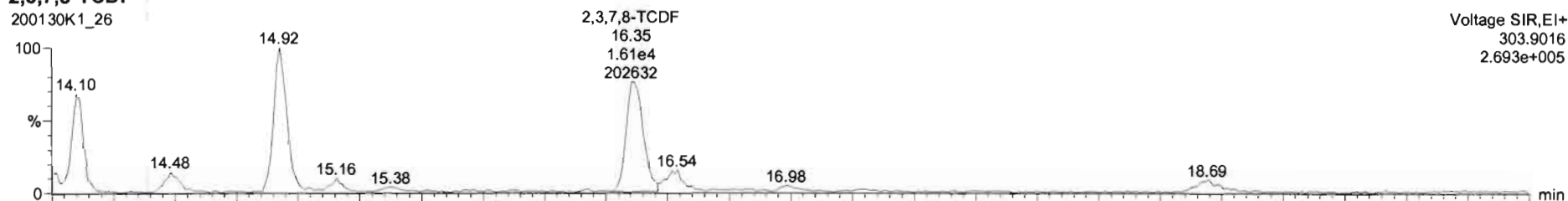
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_26, Date: 31-Jan-2020, Time: 06:42:36, ID: 1904207-04RE2 PDI-076SC-A-05-06-191013 1.7@5X, Description: PDI-076SC-A-05-06-191013

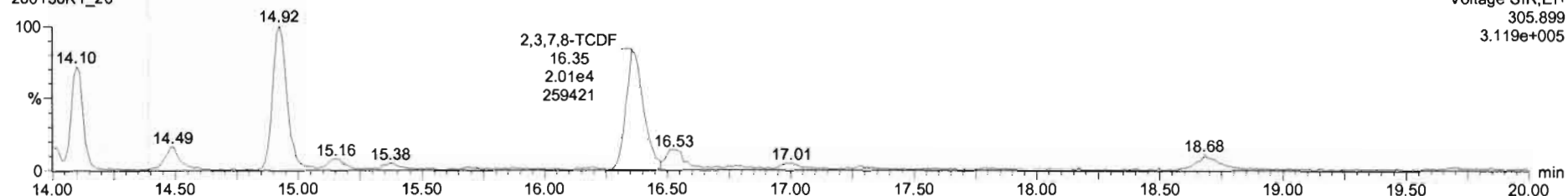
**2,3,7,8-TCDF**

200130K1\_26



Voltage SIR,EI+  
303.9016  
2.693e+005

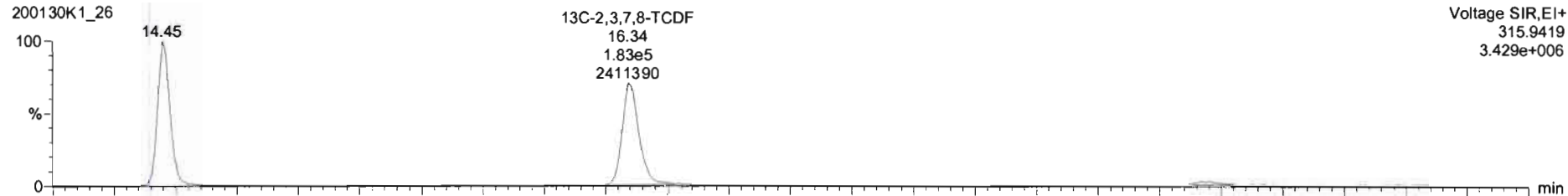
200130K1\_26



Voltage SIR,EI+  
305.899  
3.119e+005

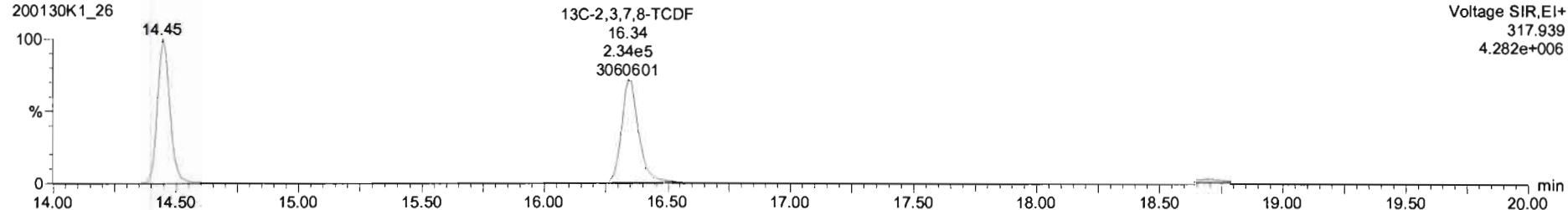
**13C-2,3,7,8-TCDF**

200130K1\_26



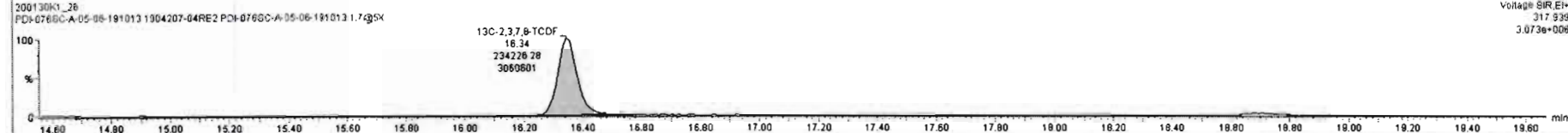
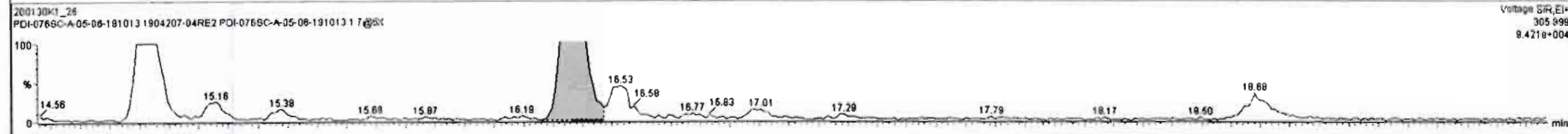
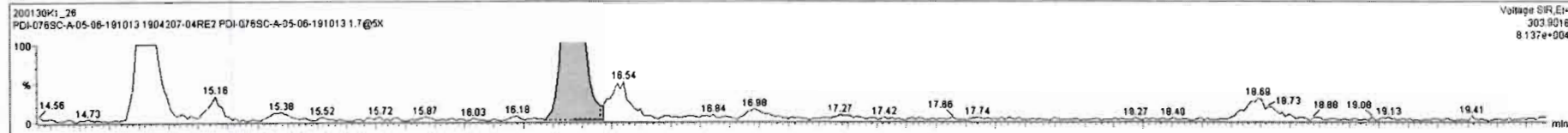
Voltage SIR,EI+  
315.9419  
3.429e+006

200130K1\_26



Voltage SIR,EI+  
317.939  
4.282e+006

#	Name	Resp	RA	ry	R/R'	w/nd	RT	Conc	%Rec	DL
1	2,3,7,8-TCDF	3.67e4	0.80	NO	1.00	1.026	16.35	171		5.14
2	13C-2,3,7,8-TCDF	4.17e5	0.78	NO	1.07	1.026	16.34	1740	88.2	11.3
3	13C-1,2,3,4-TCDF	4.37e5	0.79	NO	1.00	1.026	14.45	1980	100	12.1
4	13C-1,2,3,4-TCDD	3.26e5	0.79	NO		1.026	15.10			
5	PPK1					1.000				
6	DPE1					1.000				



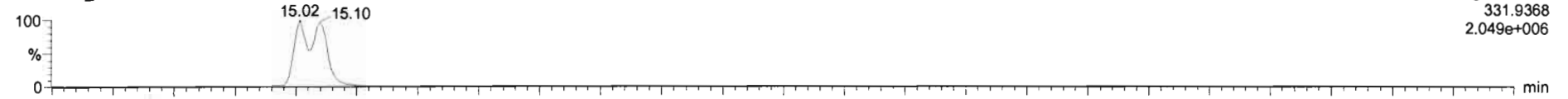
Dataset: Untitled

Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time  
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_26, Date: 31-Jan-2020, Time: 06:42:36, ID: 1904207-04RE2 PDI-076SC-A-05-06-191013 1.7@5X, Description: PDI-076SC-A-05-06-191013

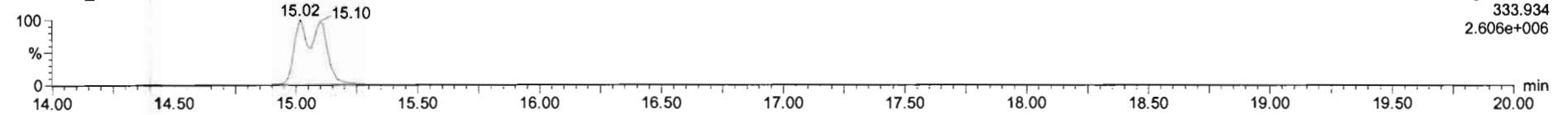
**13C-1,2,3,4-TCDD**

200130K1\_26



Voltage SIR,EI+  
331.9368  
2.049e+006

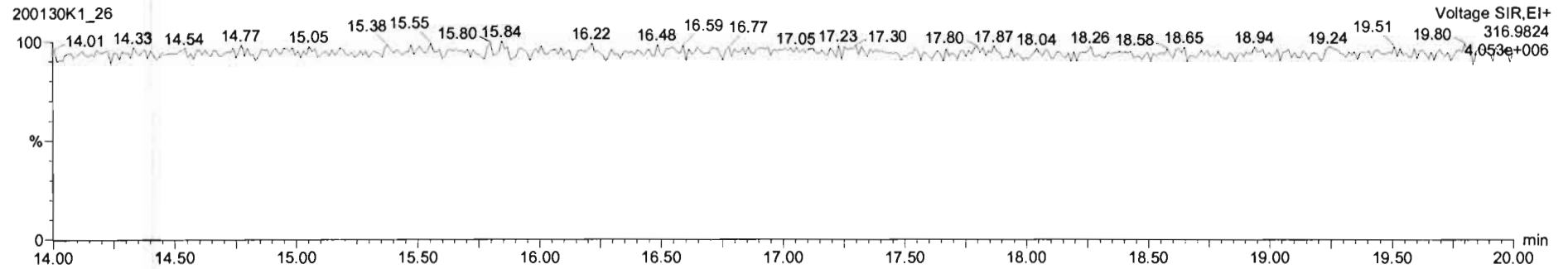
200130K1\_26



Voltage SIR,EI+  
333.934  
2.606e+006

**PFK1**

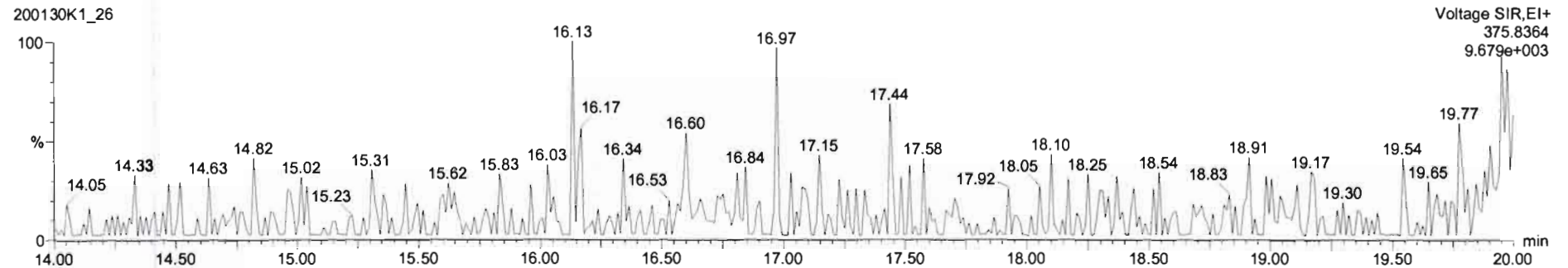
200130K1\_26



Voltage SIR,EI+  
316.9824  
4.053e+006

**DPE1**

200130K1\_26



Voltage SIR,EI+  
375.8364  
9.679e+003

Dataset: U:\VG11.PRO\Results\200131K1\200131K1-21.qld

Last Altered: Saturday, February 01, 2020 08:56:05 Pacific Standard Time

Printed: Saturday, February 01, 2020 08:56:57 Pacific Standard Time

*Hc 2/1/2020*

*CT 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Name: 200131K1\_21, Date: 31-Jan-2020, Time: 20:34:41, ID: 1904207-05RE1 PDI-077SC-A-00-01-191014 20.71, Description: PDI-077SC-A-00-01-191014

#	Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	1 2,3,7,8-TCDF	1.00e5	0.77	NO	1.04	10.007	16.39	7.4126		0.0940
2	2 13C-2,3,7,8-TCDF	2.61e6	0.79	NO	1.02	10.007	16.38	195.98	98.1	0.180
3	3 13C-1,2,3,4-TCDF	2.61e6	0.80	NO	1.00	10.007	14.48	199.86	100	0.184
4	4 13C-1,2,3,4-TCDD	1.80e6	0.77	NO		10.007	15.13			

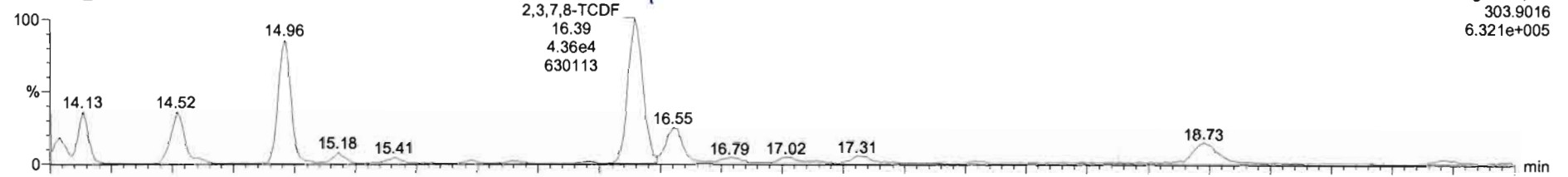
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

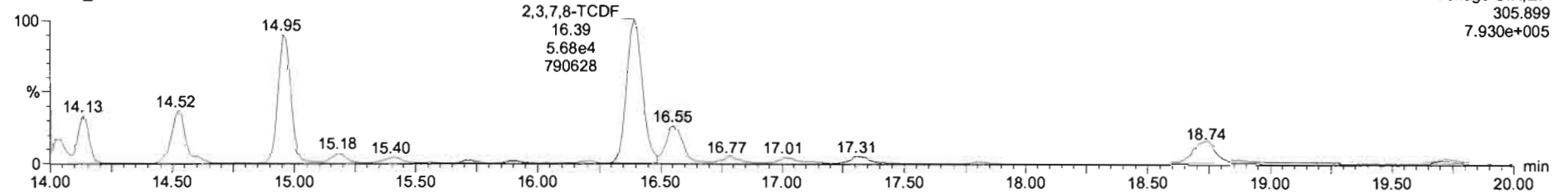
Name: 200131K1\_21, Date: 31-Jan-2020, Time: 20:34:41, ID: 1904207-05RE1 PDI-077SC-A-00-01-191014 20.71, Description: PDI-077SC-A-00-01-191014

**2,3,7,8-TCDF**

200131K1\_21

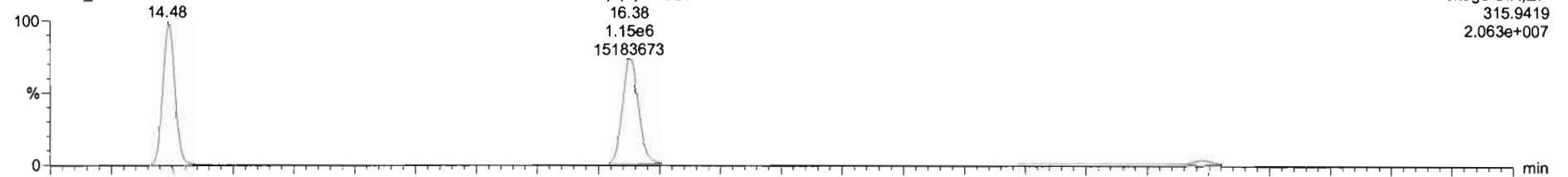


200131K1\_21

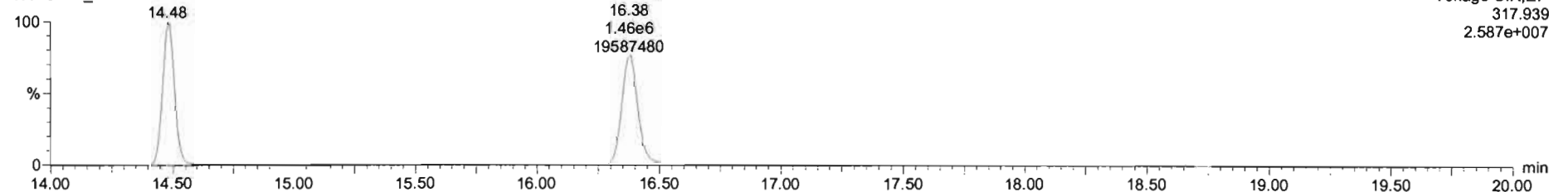


**13C-2,3,7,8-TCDF**

200131K1\_21



200131K1\_21





Dataset: Untitled

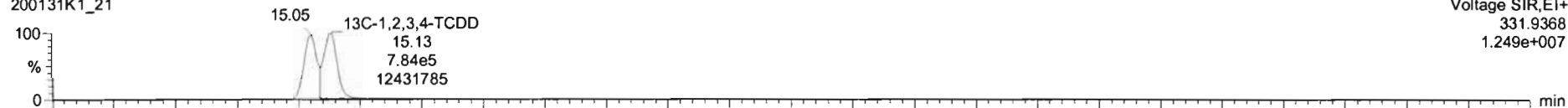
Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time

Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

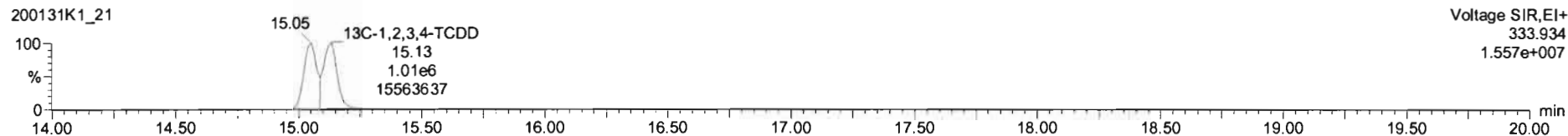
Name: 200131K1\_21, Date: 31-Jan-2020, Time: 20:34:41, ID: 1904207-05RE1 PDI-077SC-A-00-01-191014 20.71, Description: PDI-077SC-A-00-01-191014

**13C-1,2,3,4-TCDD**

200131K1\_21

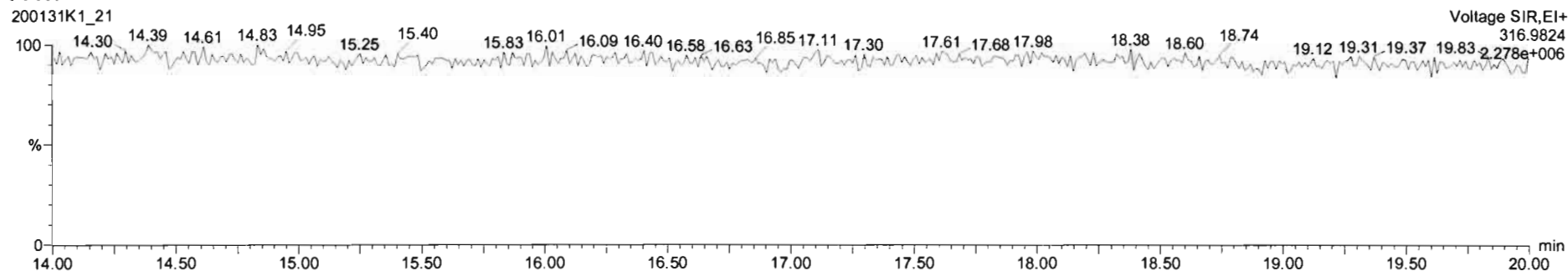


200131K1\_21



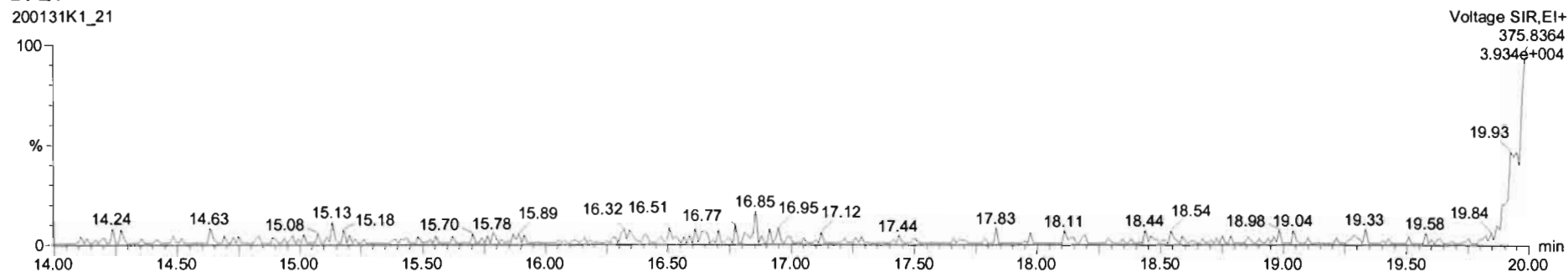
**PFK1**

200131K1\_21



**DPE1**

200131K1\_21



Dataset: U:\VG11.PRO\Results\200131K1\200131K1-22.qld

Last Altered: Saturday, February 01, 2020 08:57:43 Pacific Standard Time

Printed: Saturday, February 01, 2020 08:58:01 Pacific Standard Time

*Hu 2-1-2020*

*C-7 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Name: 200131K1\_22, Date: 31-Jan-2020, Time: 21:06:06, ID: 1904207-06RE1 PDI-077SC-A-01-02-191014 19.67, Description: PDI-077SC-A-01-02-191014

#	Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	1 2,3,7,8-TCDF	7.61e4	0.81	NO	1.04	9.999	16.39	5.9369		0.0993
2	2 13C-2,3,7,8-TCDF	2.47e6	0.81	NO	1.02	9.999	16.37	169.75	84.9	0.231
3	3 13C-1,2,3,4-TCDF	2.85e6	0.80	NO	1.00	9.999	14.48	200.02	100	0.236
4	4 13C-1,2,3,4-TCDD	2.12e6	0.80	NO		9.999	15.13			

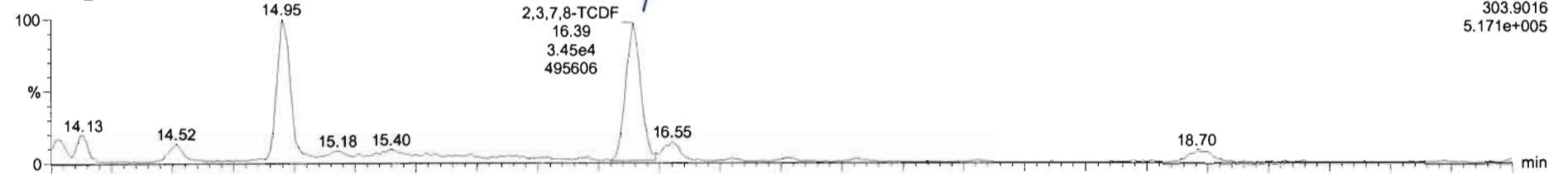
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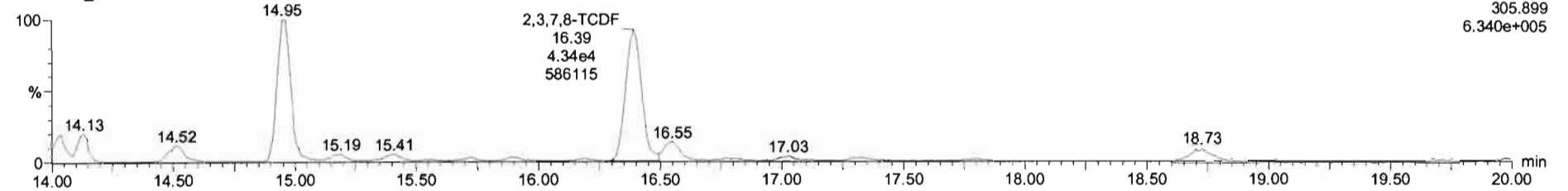
Name: 200131K1\_22, Date: 31-Jan-2020, Time: 21:06:06, ID: 1904207-06RE1 PDI-077SC-A-01-02-191014 19.67, Description: PDI-077SC-A-01-02-191014

**2,3,7,8-TCDF**

200131K1\_22

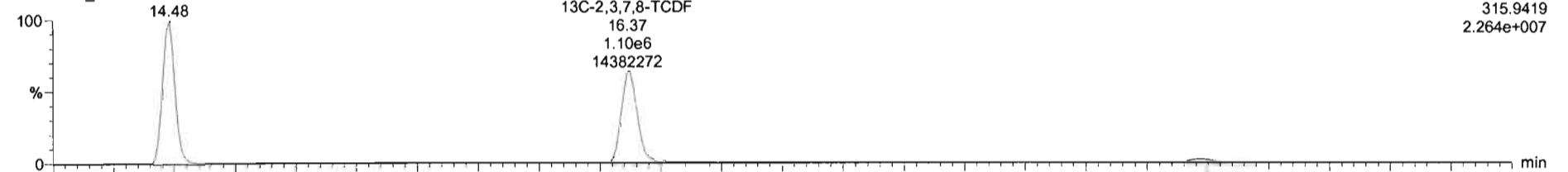


200131K1\_22

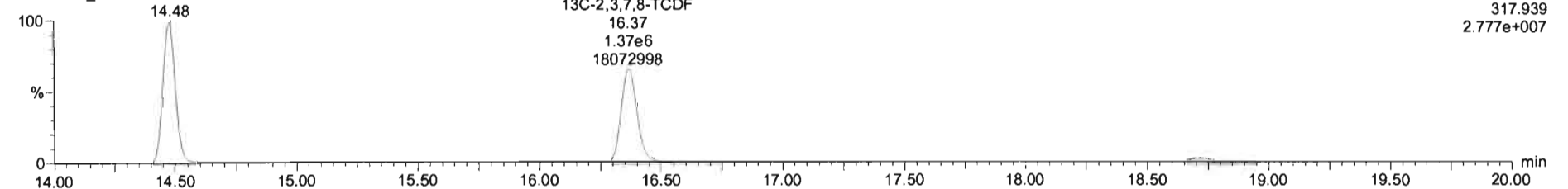


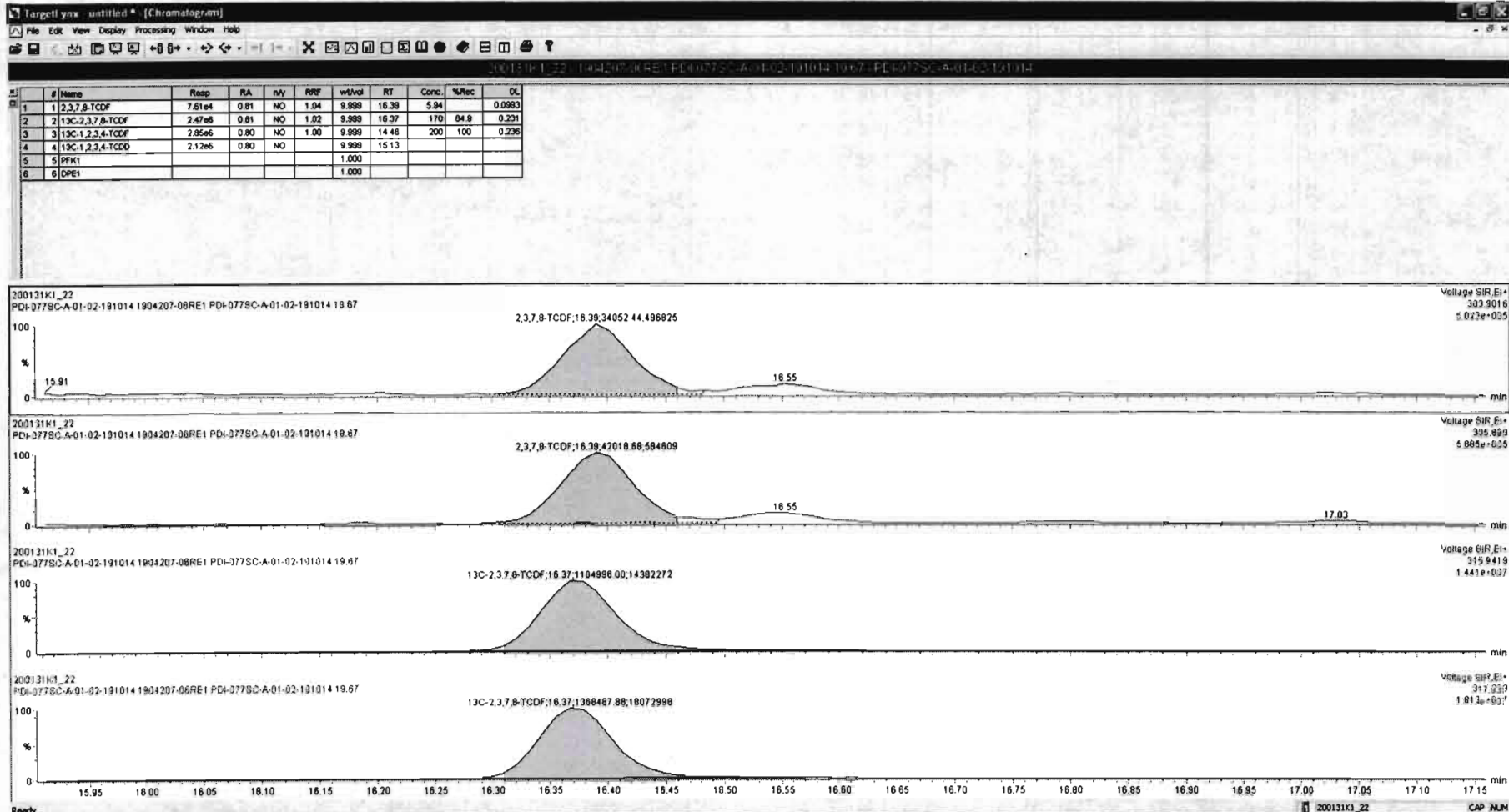
**13C-2,3,7,8-TCDF**

200131K1\_22



200131K1\_22





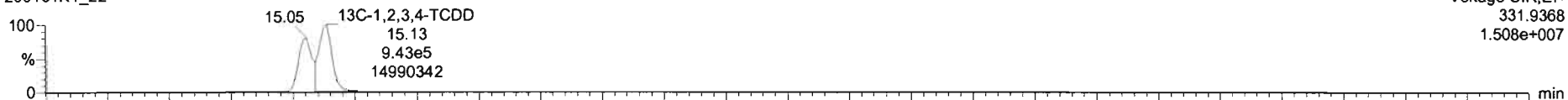
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Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

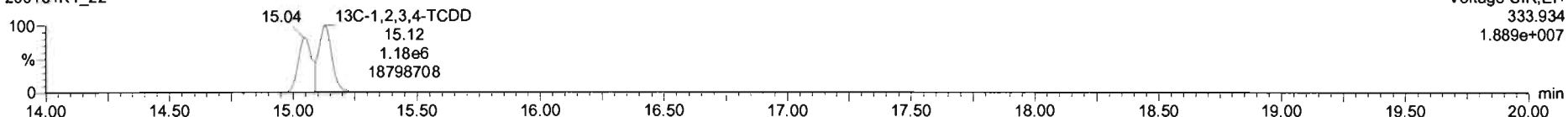
Name: 200131K1\_22, Date: 31-Jan-2020, Time: 21:06:06, ID: 1904207-06RE1 PDI-077SC-A-01-02-191014 19.67, Description: PDI-077SC-A-01-02-191014

### 13C-1,2,3,4-TCDD

200131K1\_22

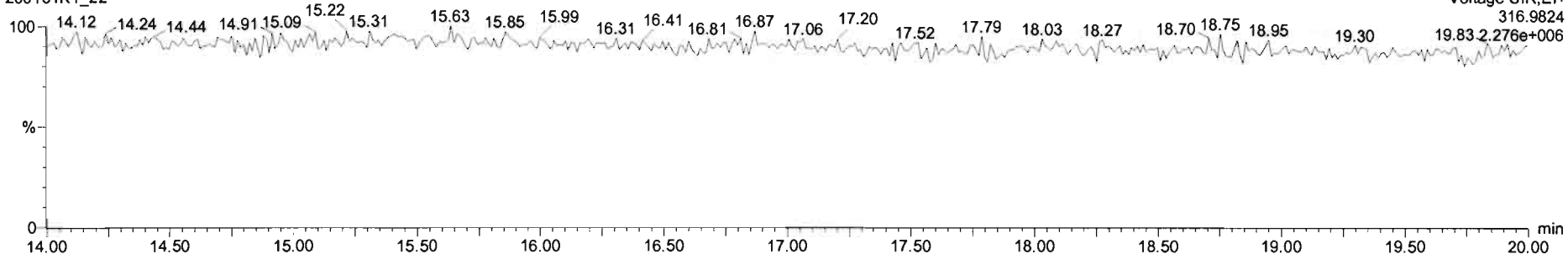


200131K1\_22



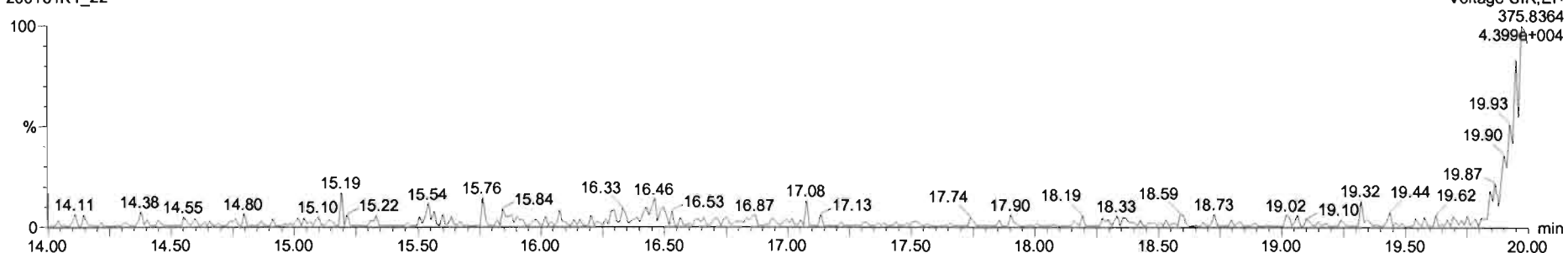
### PFK1

200131K1\_22



### DPE1

200131K1\_22



**CONTINUING CALIBRATION**

# HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

**Beg. Calibration ID:** ST200109D2-1

**Reviewed By:** CT 01/10/2020  
*Initials & Date*

**End Calibration ID:** NA

	<u>Beg.</u>	<u>End</u>
<b>Ion abundance within QC limits?</b>	<input checked="" type="checkbox"/>	<input type="checkbox" value="NA"/>
<b>Concentrations within criteria?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>TCDD/TCDF Valleys &lt;25%</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>First and last eluters present?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Retention Times within criteria?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Verification Std. named correctly?</b> (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Forms signed and dated?</b>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>Correct ICAL referenced?</b>	<u>DB</u>	<u>          </u>
<b><u>Run Log:</u></b>		
- Correct Instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox" value="Y"/>
- Samples within 12 hour clock?	<input type="checkbox" value="Y"/>	<input type="checkbox" value="N"/>
- Bottle position verified?	<u>DB</u>	<u>          </u>

	<u>Beg.</u>	<u>End</u>
<b>Mass resolution <math>\geq</math></b>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/> 5k <input type="checkbox"/> 6-8K <input type="checkbox"/> 8K <input checked="" type="checkbox"/> 10K 1614   1699   429   1613/1668/8280		
<b>Intergrated peaks display correctly?</b>	<input checked="" type="checkbox"/>	<input type="checkbox" value="NA"/>
<b>GC Break &lt;20%</b>		<input type="checkbox" value="NA"/>
<b><u>8280 CS1 End Standard:</u></b>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox" value="NA"/>

**Comments:**

FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST200109D2-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	y	11.2	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	53.8	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	49.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	54.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.22	1.05-1.43	y	53.1	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	47.7	43.0 - 58.0
OCDD	M+2/M+4	0.87	0.76-1.02	y	101	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.76	0.65-0.89	y	9.57	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.52	1.32-1.78	y	54.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.49	1.32-1.78	y	52.5	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	46.0	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	45.8	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	y	47.9	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	y	46.8	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	45.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	y	45.2	43.0 - 58.0
OCDF	M+2/M+4	0.87	0.76-1.02	y	89.7	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 1/10/20



FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: 2B-SMS

VER Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

LABELLED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	110	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	109	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	115	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	94.6	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	103	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.07	0.88-1.20	y	122	72.0 - 138.0
13C-OCDD	M/M+2	0.89	0.76-1.02	y	268	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	y	110	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.65	1.32-1.78	y	109	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	109	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	113	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	106	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	105	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	113	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.45	0.37-0.51	y	109	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.45	0.37-0.51	y	123	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	268	96.0 - 415.0
CLEANUP STANDARD (3)						
37C1-2,3,7,8-TCDD					9.81	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 1/10/20

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 10-9-19

RT Window Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

ZB-5MS IS Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

DB\_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:32	1,3,6,8-TCDF (F)	20:23
1,2,8,9-TCDD (L)	26:52	1,2,8,9-TCDF (L)	27:01
1,2,4,7,9-PeCDD (F)	28:30	1,3,4,6,8-PeCDF (F)	26:59
1,2,3,8,9-PeCDD (L)	30:56	1,2,3,8,9-PeCDF (L)	31:10
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:17	1,2,3,7,8,9-HxCDF (L)	34:40
1,2,3,4,6,7,9-HpCDD (F)	36:53	1,2,3,4,6,7,8-HpCDF (F)	36:30
1,2,3,4,6,7,8-HpCDD (L)	37:46	1,2,3,4,7,8,9-HpCDF (L)	38:18

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

‡ VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25‡

(1) To meet contract requirements, ‡Valley Height Between Compared Peaks shall not exceed 25‡ (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 1/10/20

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.202	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.991	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.156	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.191	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.989-1.052

Analyst: DB

Date: 1/10/20

FORM 6B  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 200109D2 S#1 Analysis Date: 9-JAN-20 Time: 22:42:55

NATIVE ANALYTBS	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE	RRT		
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001	
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005	
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001	
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001	
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001	
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004	
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004	
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001	
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001	
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001	
OCDD	13C-OCDD	1.000	0.999-1.001	
OCDF	13C-OCDF	1.000	0.999-1.001	

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.147	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.131	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 1/10/20

Client ID: 1613 CS3 19I1604  
Lab ID: ST200109D2-1

Filename: 200109D2 S:1 Acq: 9-JAN-20 22:42:55  
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST200109D2-1  
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	7.95e+05	0.78 y	0.91	26:00	11.181			* 2.5	*	Total Tetra-Dioxins	90.4	91.3		*	*
1,2,3,7,8-PeCDD	3.05e+06	0.62 y	0.90	30:34	53.838			* 2.5	*	Total Penta-Dioxins	222	222		*	*
1,2,3,4,7,8-HxCDD	3.32e+06	1.23 y	1.10	33:52	49.871			* 2.5	*	Total Hexa-Dioxins	243	244		*	*
1,2,3,6,7,8-HxCDD	3.37e+06	1.25 y	0.94	33:59	54.391			* 2.5	*	Total Hepta-Dioxins	118	120		*	*
1,2,3,7,8,9-HxCDD	3.47e+06	1.22 y	0.96	34:17	53.131			* 2.5	*	Total Tetra-Furans	40.5	41.4		*	*
1,2,3,4,6,7,8-HpCDD	3.05e+06	1.05 y	0.98	37:46	47.699			* 2.5	*	Total Penta-Furans	247.06	248.10		*	*
OCDD	6.11e+06	0.87 y	0.96	41:01	100.58			* 2.5	*	Total Hexa-Furans	257	258		*	*
2,3,7,8-TCDF	1.06e+06	0.76 y	0.95	25:12	9.5715			* 2.5	*	Total Hepta-Furans	90.6	91.2		*	*
1,2,3,7,8-PeCDF	4.97e+06	1.52 y	0.96	29:23	54.419			* 2.5	*						
2,3,4,7,8-PeCDF	5.03e+06	1.49 y	1.01	30:17	52.547			* 2.5	*						
1,2,3,4,7,8-HxCDF	4.14e+06	1.25 y	1.18	32:59	45.972			* 2.5	*						
1,2,3,6,7,8-HxCDF	4.37e+06	1.20 y	1.07	33:07	45.750			* 2.5	*						
2,3,4,6,7,8-HxCDF	4.36e+06	1.21 y	1.11	33:43	47.929			* 2.5	*						
1,2,3,7,8,9-HxCDF	3.79e+06	1.20 y	1.06	34:40	46.770			* 2.5	*						
1,2,3,4,6,7,8-HpCDF	3.41e+06	1.03 y	1.13	36:30	45.021			* 2.5	*						
1,2,3,4,7,8,9-HpCDF	3.36e+06	0.99 y	1.28	38:18	45.184			* 2.5	*						
OCDF	6.40e+06	0.87 y	0.95	41:14	89.673			* 2.5	*						
IS	13C-2,3,7,8-TCDD	7.86e+06	0.79 y	1.10	25:59	110.21				Rec		Qual			
IS	13C-1,2,3,7,8-PeCDD	6.27e+06	0.63 y	0.88	30:33	109.26				110					
IS	13C-1,2,3,4,7,8-HxCDD	6.05e+06	1.28 y	0.64	33:52	115.38				109					
IS	13C-1,2,3,6,7,8-HxCDD	6.60e+06	1.22 y	0.86	33:58	94.550				115					
IS	13C-1,2,3,7,8,9-HxCDD	6.80e+06	1.26 y	0.81	34:16	103.27				94.6					
IS	13C-1,2,3,4,6,7,8-HpCDD	6.54e+06	1.07 y	0.65	37:45	122.49				103					
IS	13C-OCDD	1.27e+07	0.89 y	0.58	41:00	267.99				122					
IS	13C-2,3,7,8-TCDF	1.16e+07	0.78 y	1.03	25:11	110.30				134					
IS	13C-1,2,3,7,8-PeCDF	9.51e+06	1.65 y	0.85	29:22	109.25				110					
IS	13C-2,3,4,7,8-PeCDF	9.43e+06	1.60 y	0.85	30:16	109.25				109					
IS	13C-1,2,3,4,7,8-HxCDF	7.65e+06	0.50 y	0.83	32:59	112.72				109					
IS	13C-1,2,3,6,7,8-HxCDF	8.94e+06	0.52 y	1.03	33:06	105.90				113					
IS	13C-2,3,4,6,7,8-HxCDF	8.18e+06	0.52 y	0.95	33:42	105.11				106					
IS	13C-1,2,3,7,8,9-HxCDF	7.64e+06	0.51 y	0.83	34:39	113.11				105					
IS	13C-1,2,3,4,6,7,8-HpCDF	6.71e+06	0.45 y	0.76	36:29	108.61				113					
IS	13C-1,2,3,4,7,8,9-HpCDF	5.81e+06	0.45 y	0.58	38:17	122.58				109					
IS	13C-OCDF	1.51e+07	0.89 y	0.69	41:13	268.26				123					
C/Up	37C1-2,3,7,8-TCDD	7.65e+05		1.20	25:60	9.8119				134					
RS/RT	13C-1,2,3,4-TCDD	6.51e+06	0.79 y	1.00	25:25	100.00				98.1					
RS	13C-1,2,3,4-TCDF	1.02e+07	0.79 y	1.00	23:57	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	8.16e+06	0.52 y	1.00	33:23	100.00									

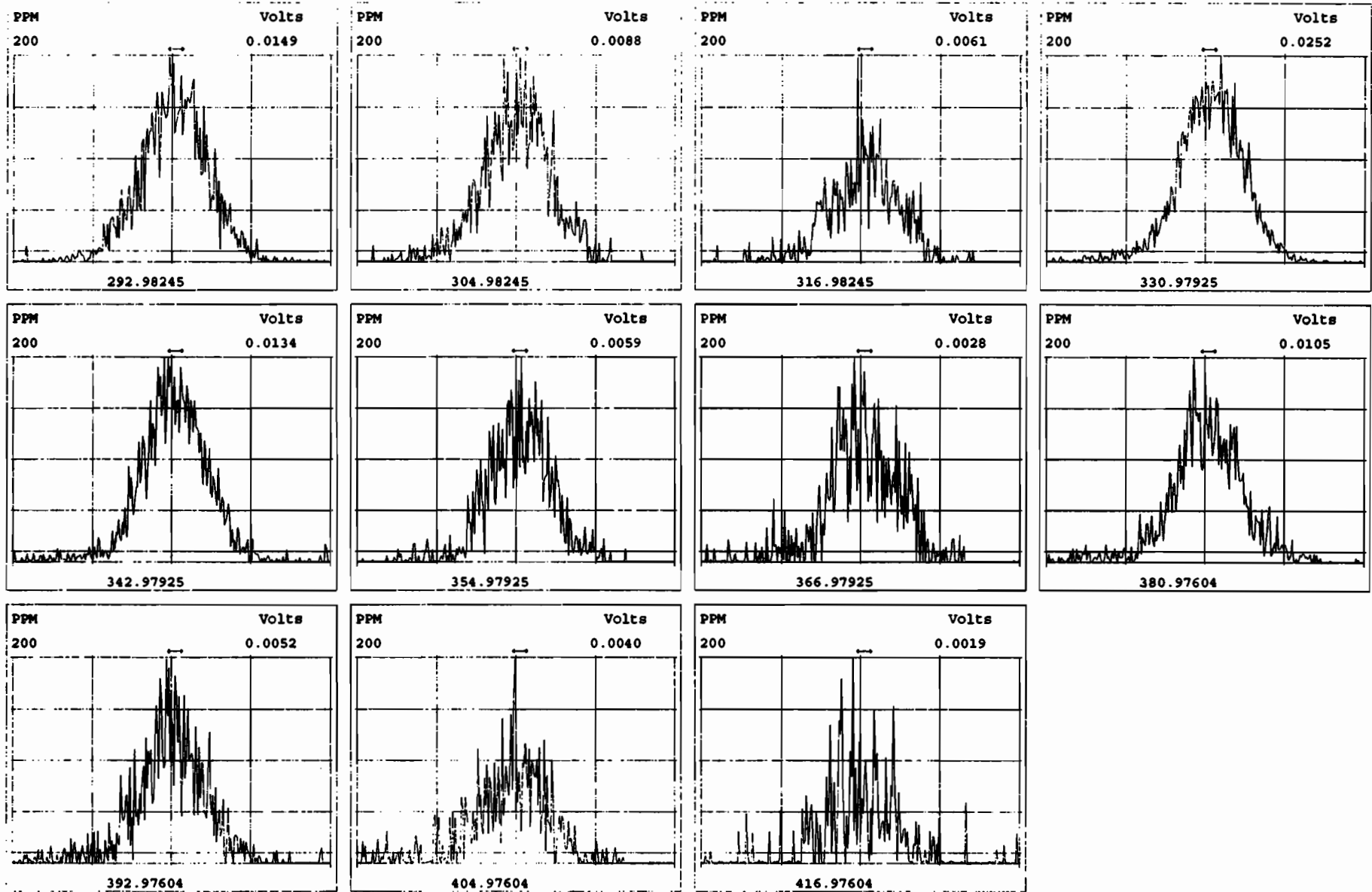
Integrations Reviewed  
by DB by CT  
Analyst: DB Analyst: CT  
Date: 1/10/20 Date: 01/10/2020

Vista Analytical Laboratory - Injection Log Run file: 200109D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
200109D2	1	ST200109D2-1	DB	9-JAN-20	22:42:55	ST200109D2-1	NA
200109D2	2	B9L0200-B81	DB	9-JAN-20	23:30:46	ST200109D2-1	NA
200109D2	3	B9L0173-B81	DB	10-JAN-20	00:18:43	ST200109D2-1	NA
200109D2	4	SOLVENT BLANK	DB	10-JAN-20	01:06:38	ST200109D2-1	NA
200109D2	5	B9L0200-BLK1	DB	10-JAN-20	01:54:35	ST200109D2-1	NA
200109D2	6	B9L0173-BLK1	DB	10-JAN-20	02:42:32	ST200109D2-1	NA
200109D2	7	1904021-06RE1	DB	10-JAN-20	03:30:28	ST200109D2-1	NA
200109D2	8	1904246-01	DB	10-JAN-20	04:18:25	ST200109D2-1	NA
200109D2	9	1904246-02	DB	10-JAN-20	05:06:22	ST200109D2-1	NA
200109D2	10	1904246-03@20X	DB	10-JAN-20	05:54:18	ST200109D2-1	NA
200109D2	11	1904246-04	DB	10-JAN-20	06:42:14	ST200109D2-1	NA
200109D2	12	1904246-05	DB	10-JAN-20	07:30:10	ST200109D2-1	NA
200109D2	13	1904246-06	DB	10-JAN-20	08:18:05	ST200109D2-1	NA
200109D2	14	1904246-07@20X	DB	10-JAN-20	09:06:00	ST200109D2-1	NA
200109D2	15	1904246-08	DB	10-JAN-20	09:53:56	ST200109D2-1	NA

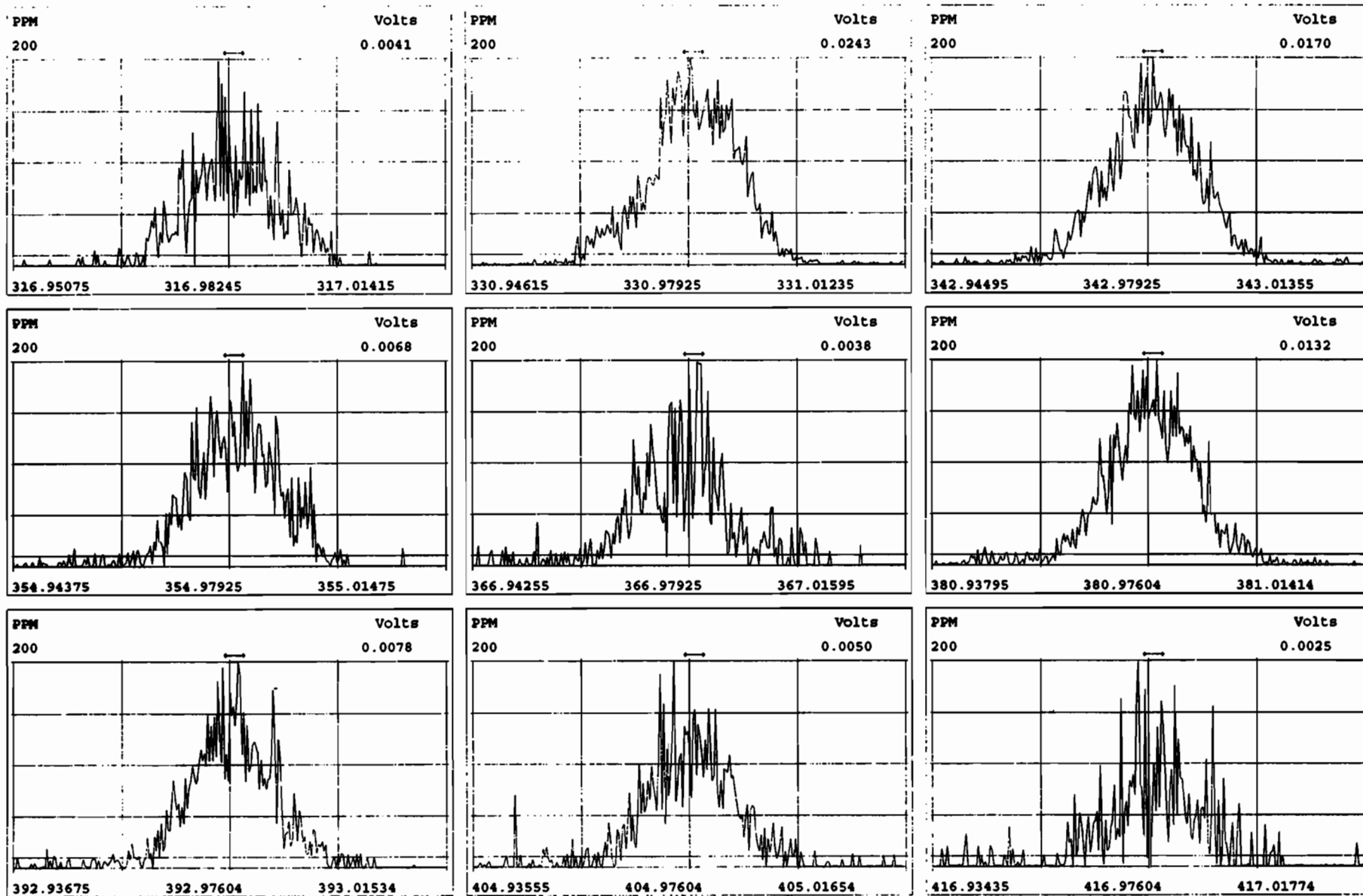
Peak Locate Examination: 9-JAN-2020:22:38 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:1 Reference:PFK



Peak Locate Examination: 9-JAN-2020:22:39 File:RES\_CHECK

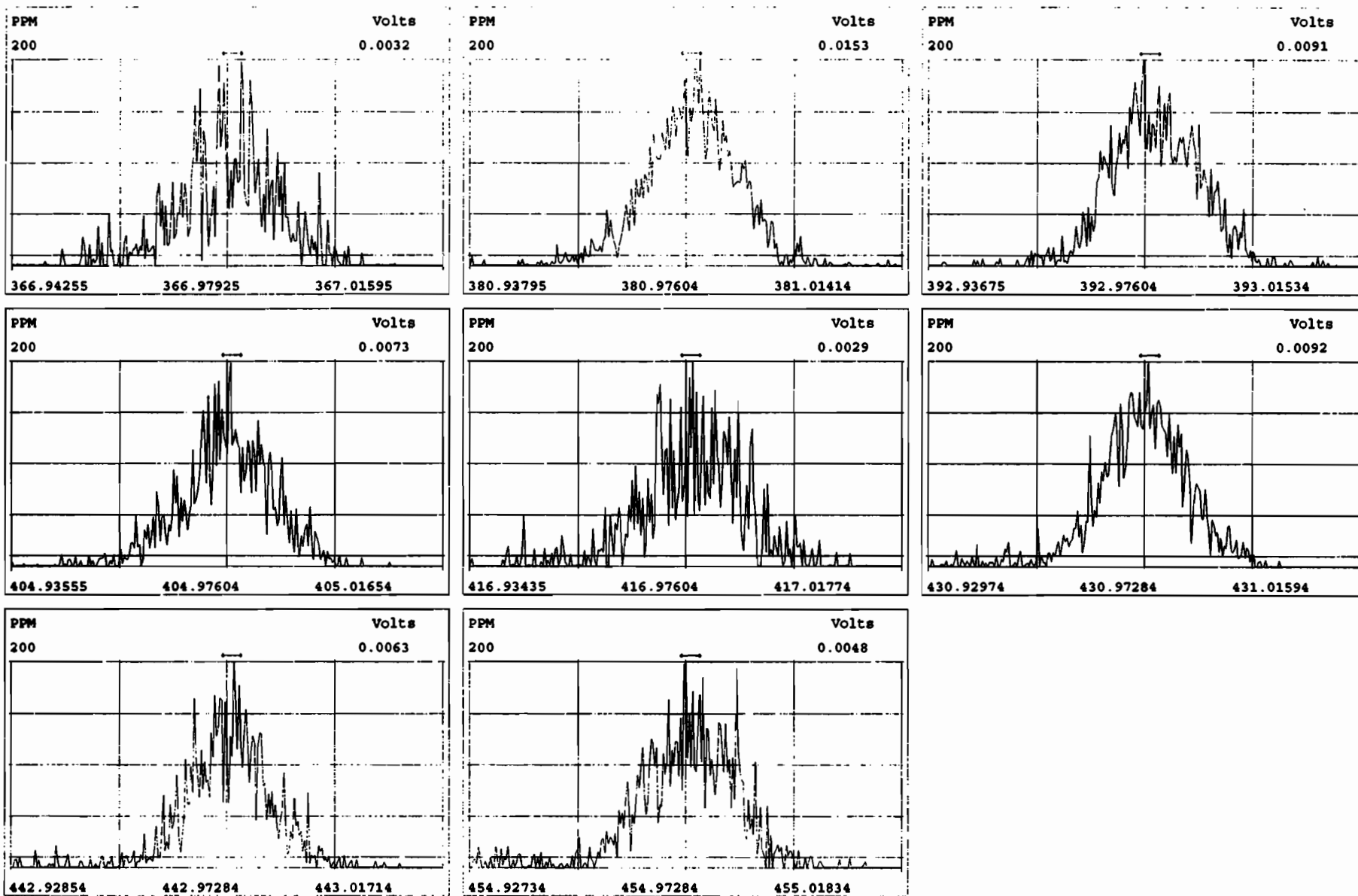
Experiment:OCDD\_DB5 Function:2 Reference:PFK





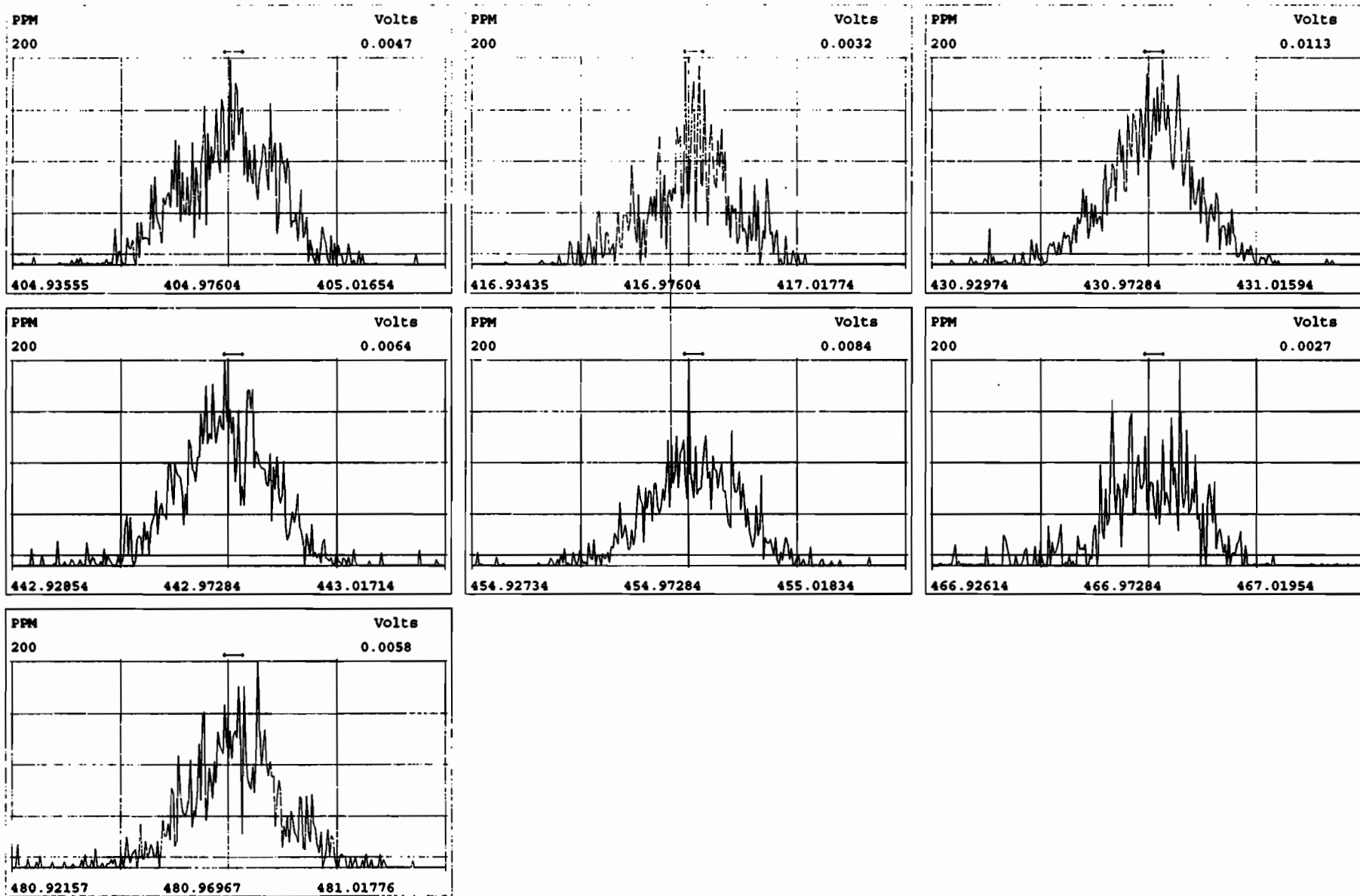
Peak Locate Examination: 9-JAN-2020:22:40 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:3 Reference:PFK



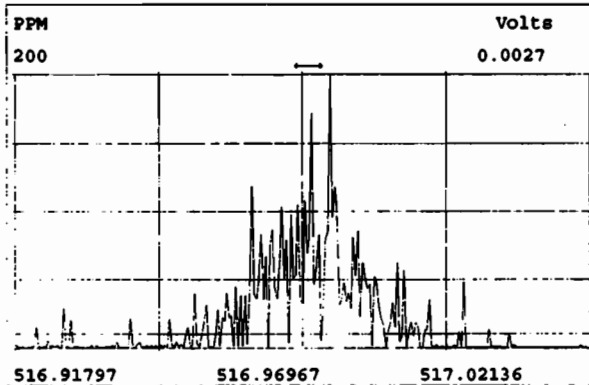
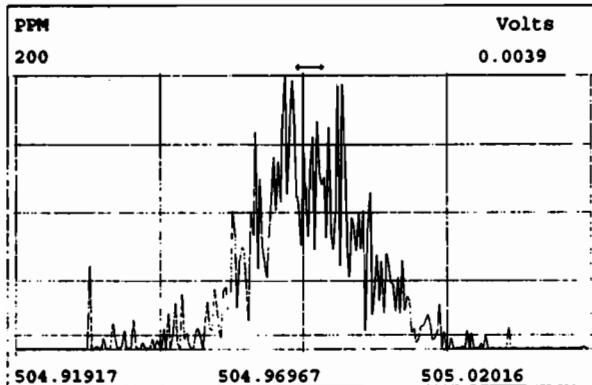
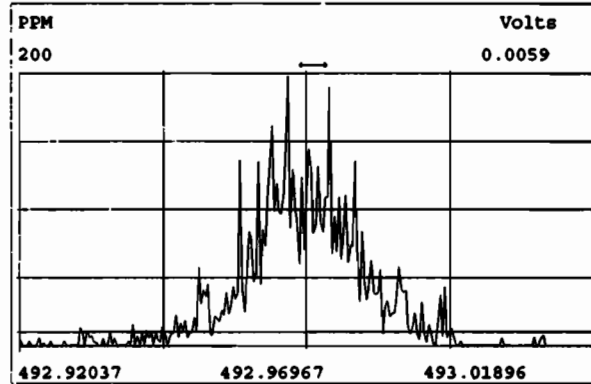
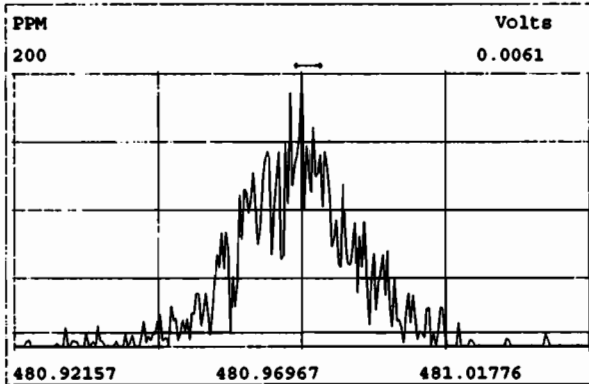
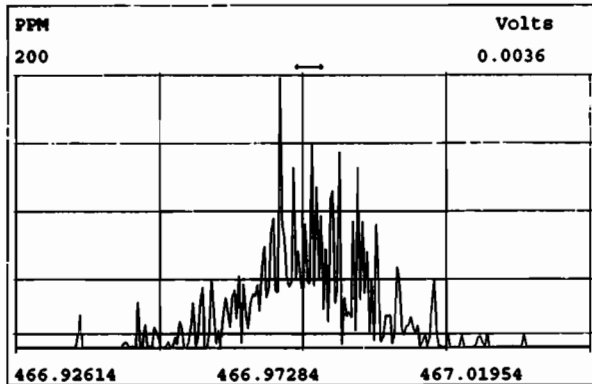
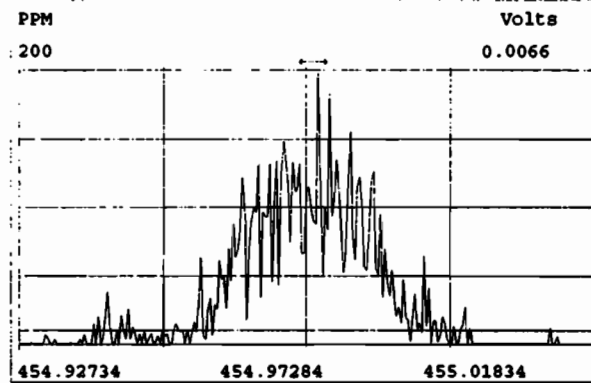
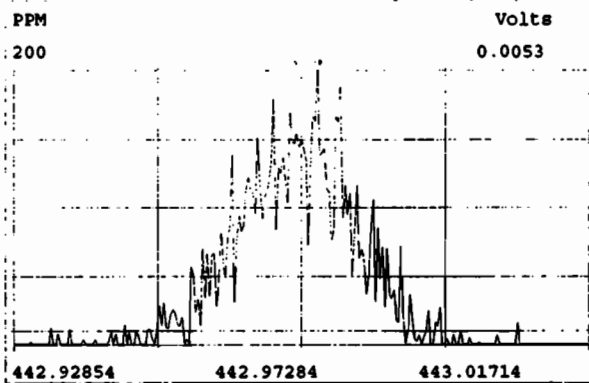
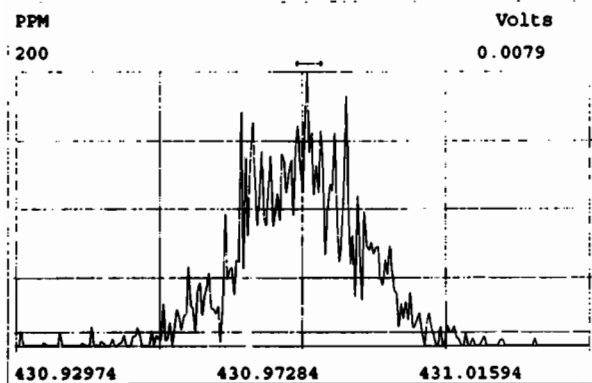
Peak Locate Examination: 9-JAN-2020:22:41 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:4 Reference:PFK

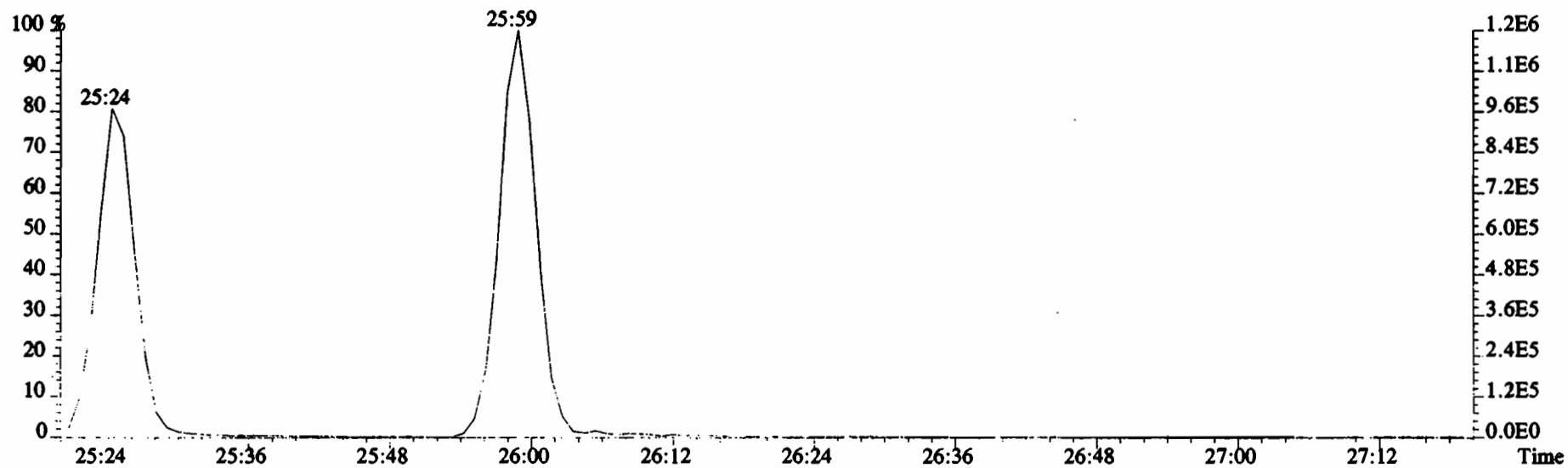
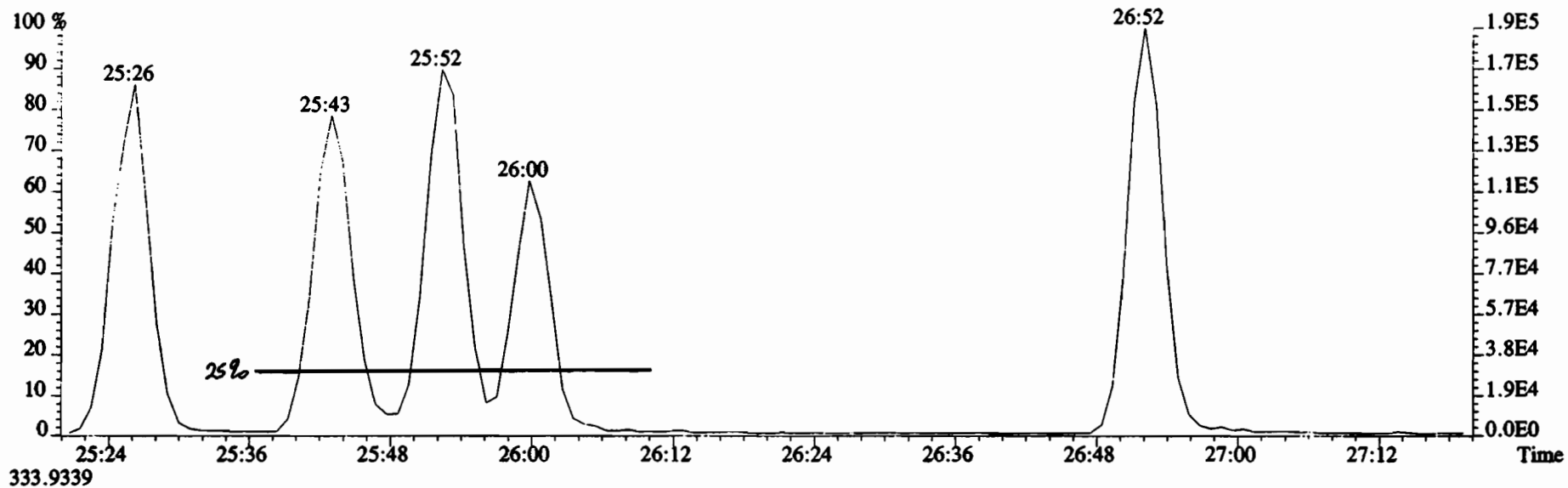


Peak Locate Examination: 9-JAN-2020:22:42 File:RES\_CHECK

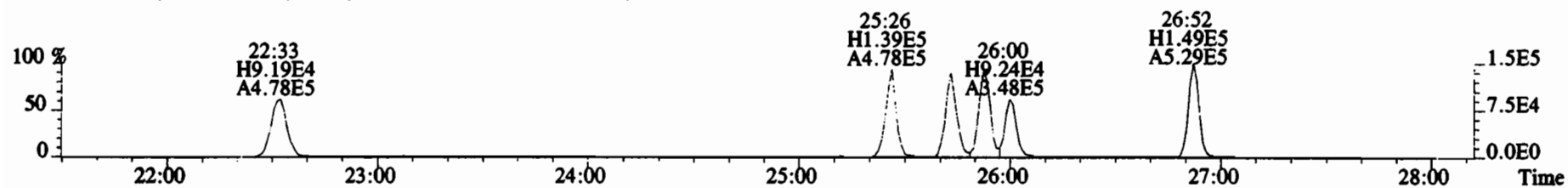
Experiment:OCDD\_DB5 Function:5 Reference:PFK



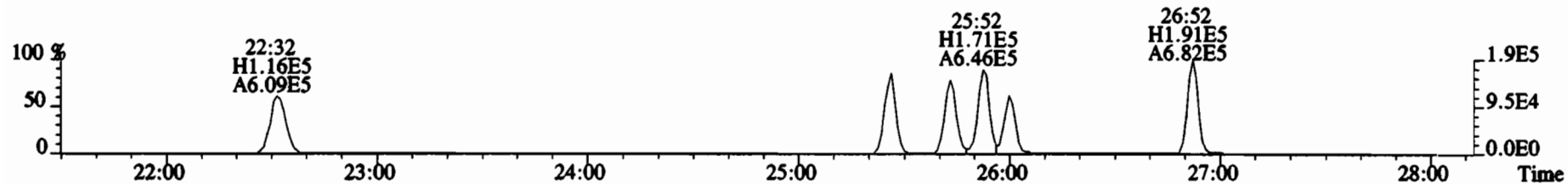
File:200109D2 #1-493 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
321.8936



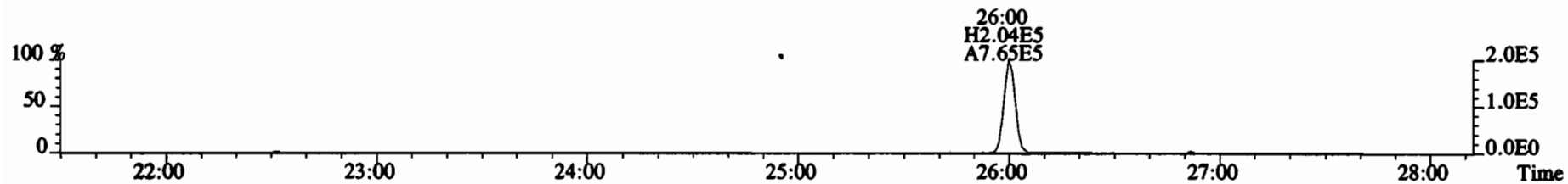
File:200109D2 #1-493 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



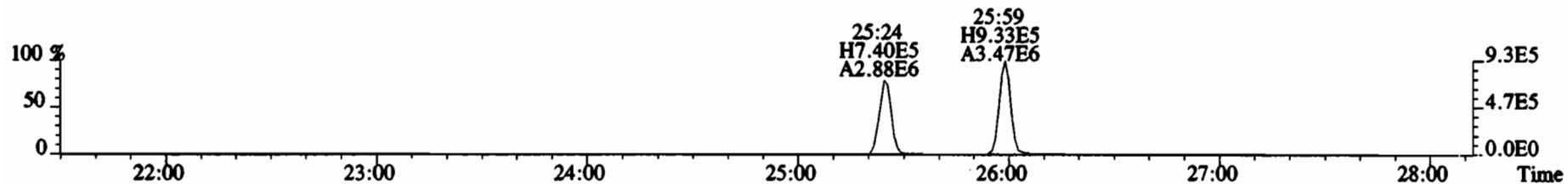
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



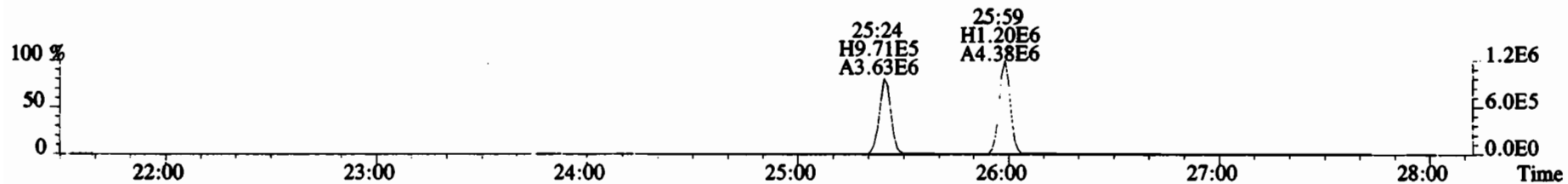
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



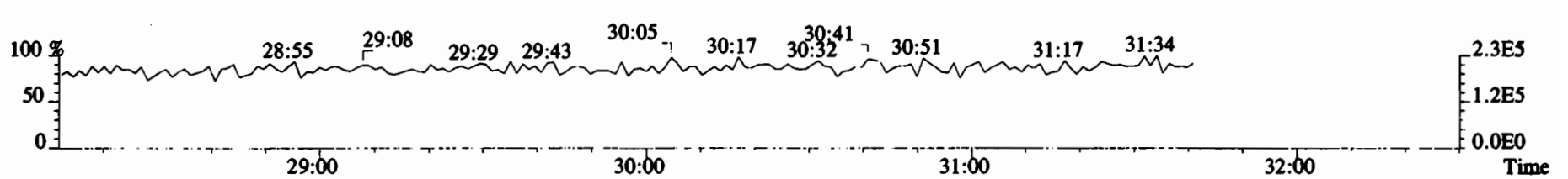
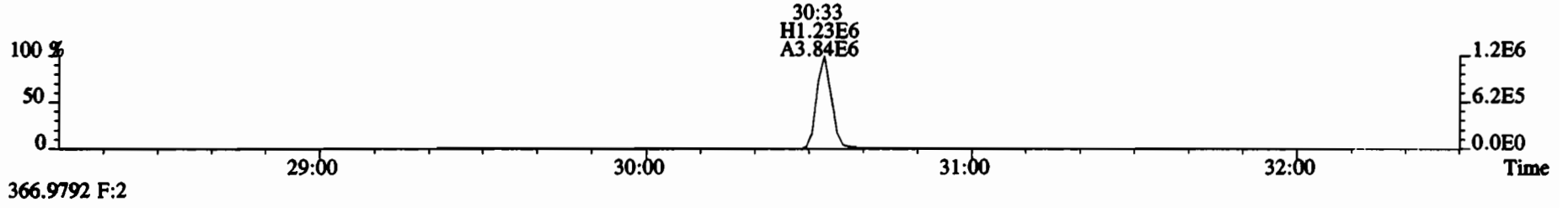
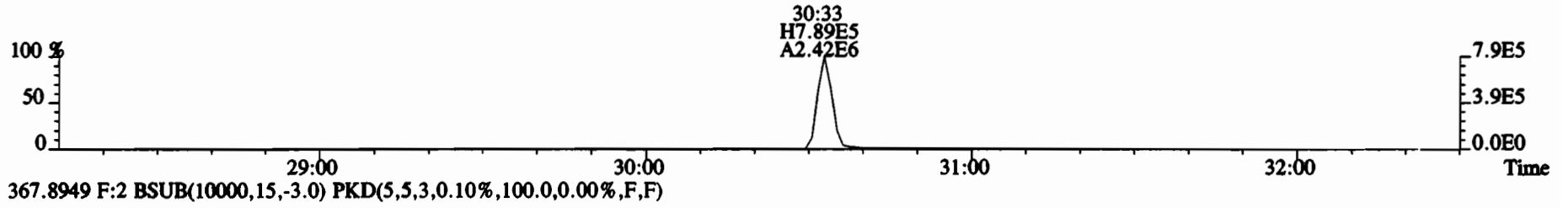
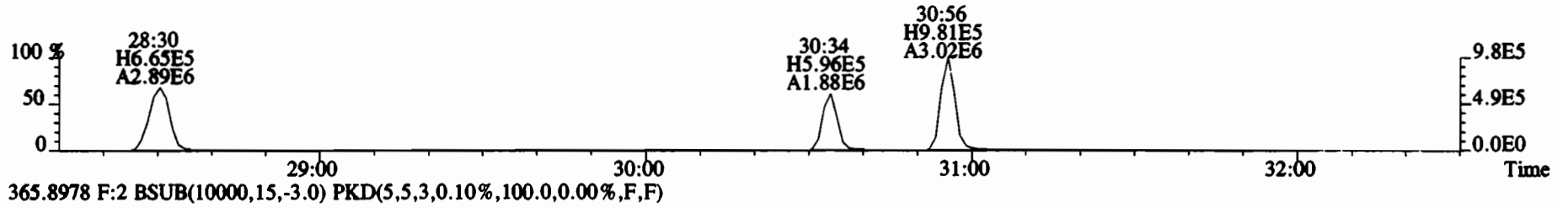
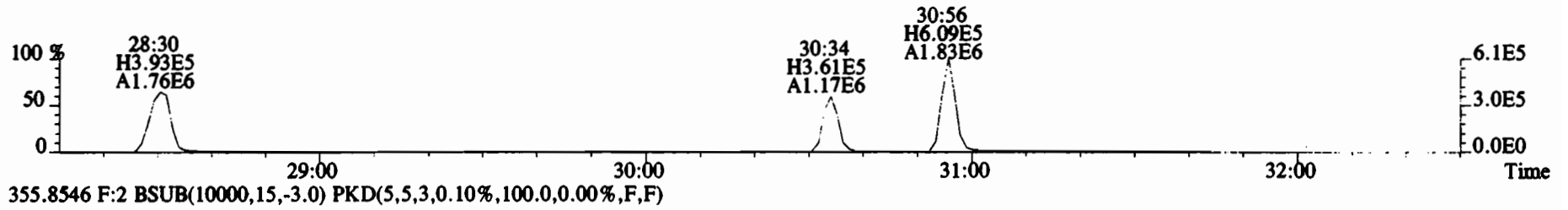
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



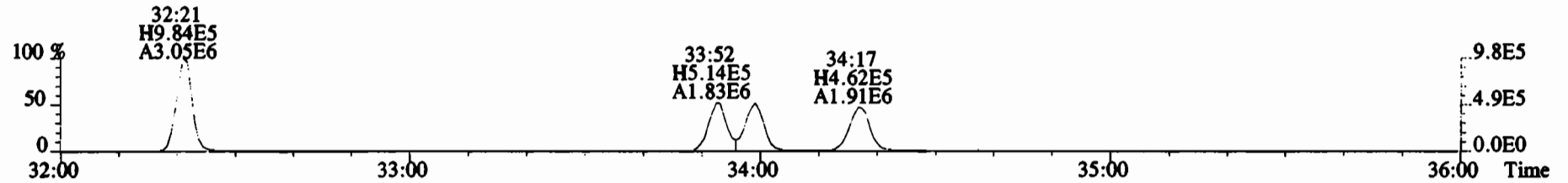
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



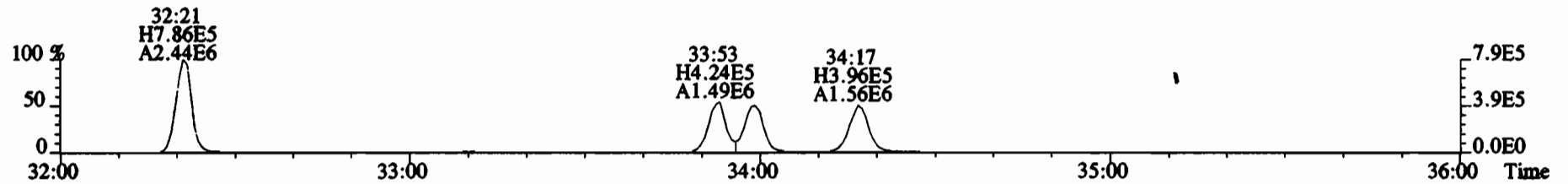
File:200109D2 #1-211 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista\_Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



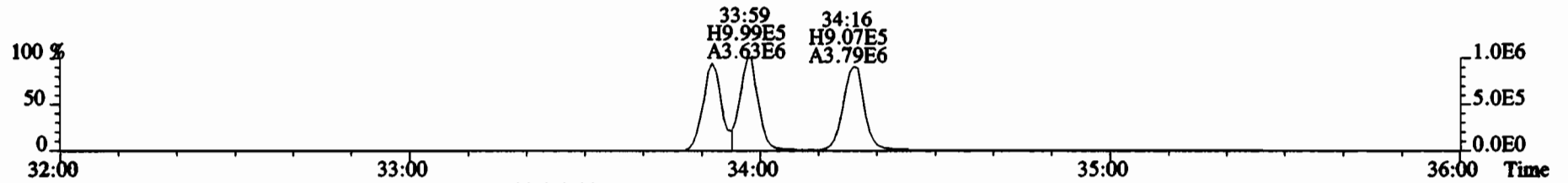
File:200109D2 #1-384 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



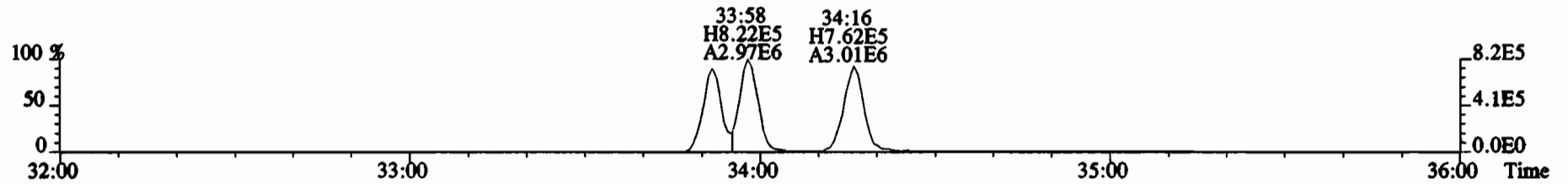
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



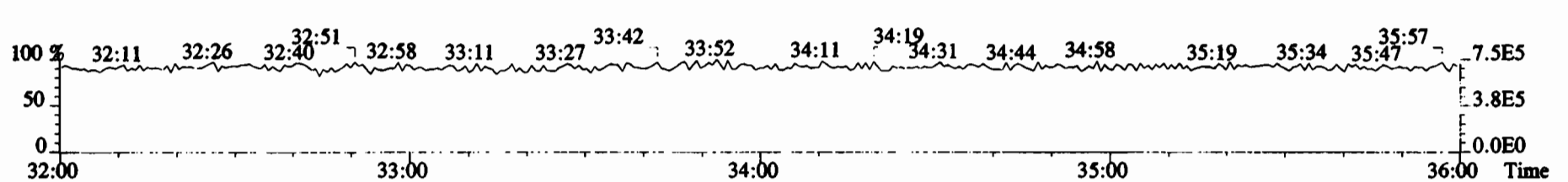
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



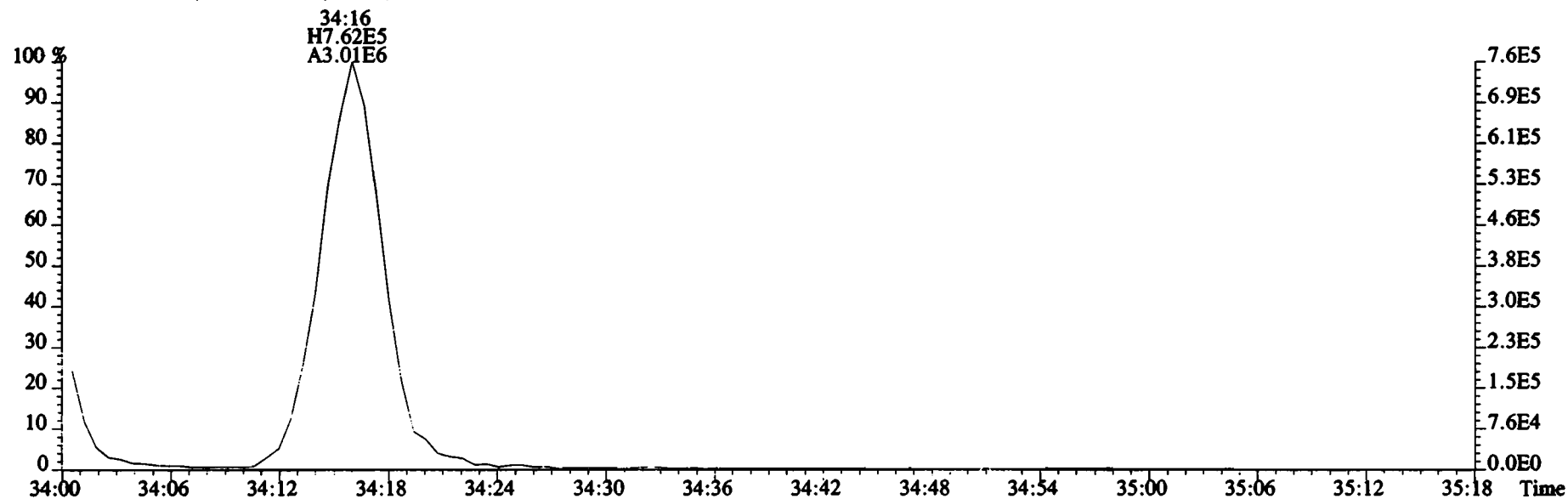
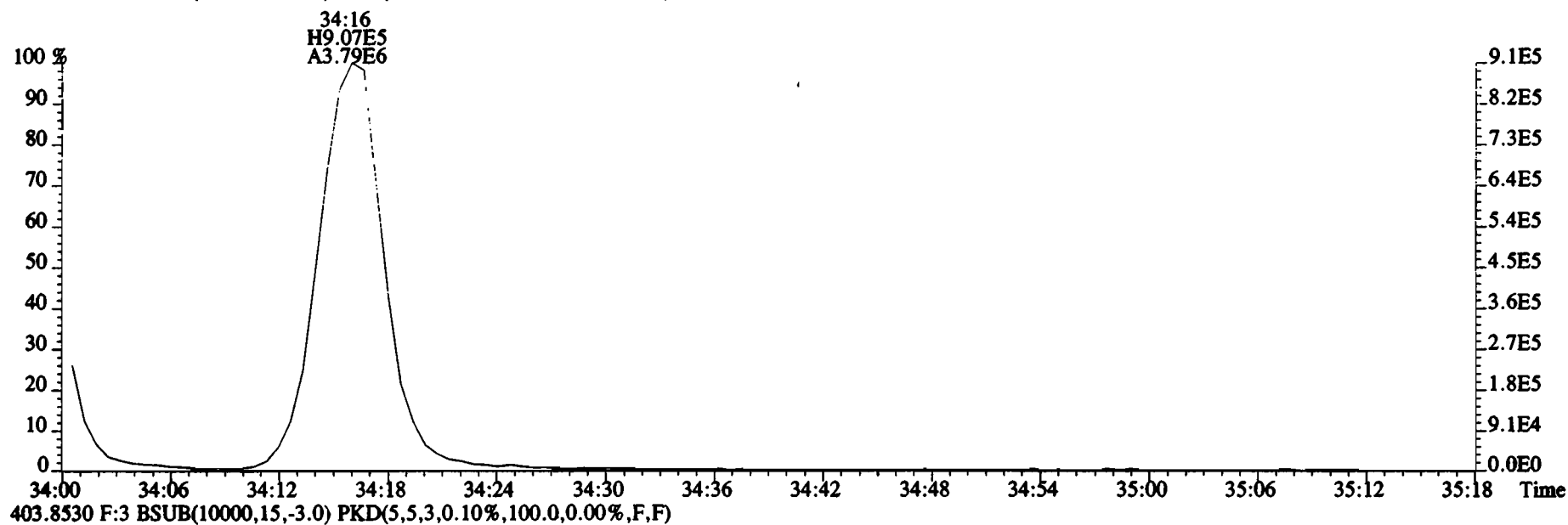
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 F:3

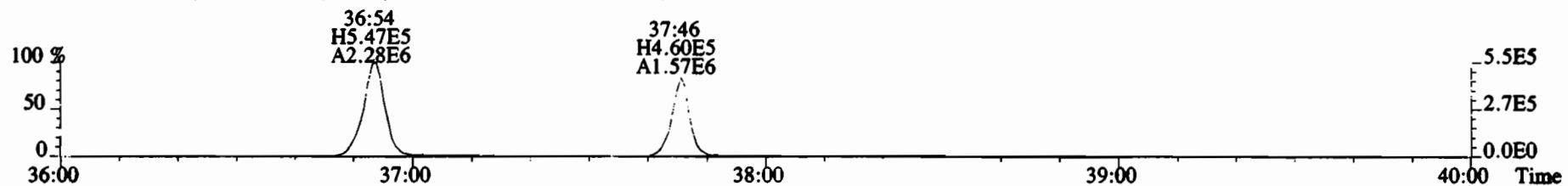


File:200109D2 #1-384 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

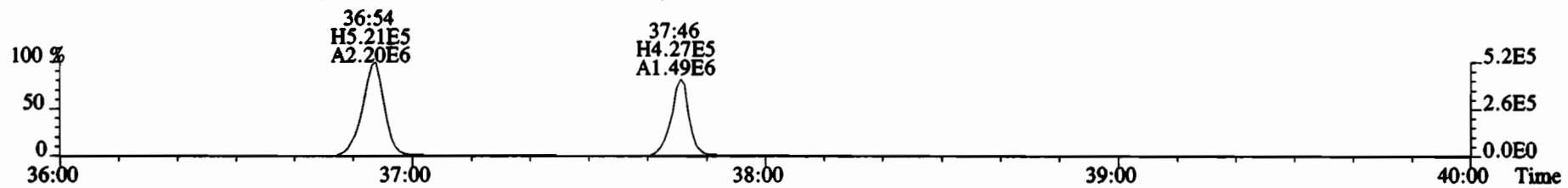




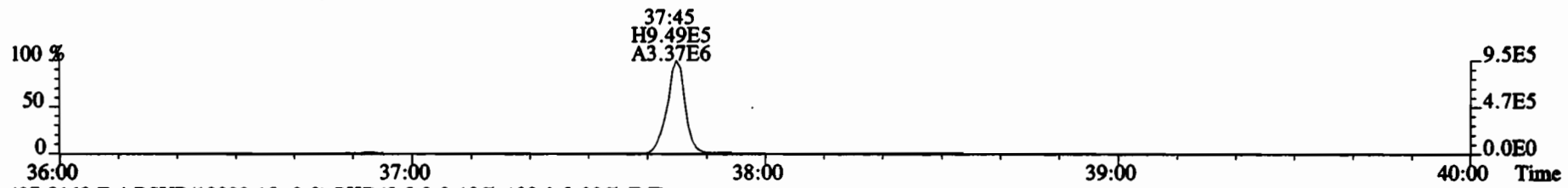
File:200109D2 #1-355 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



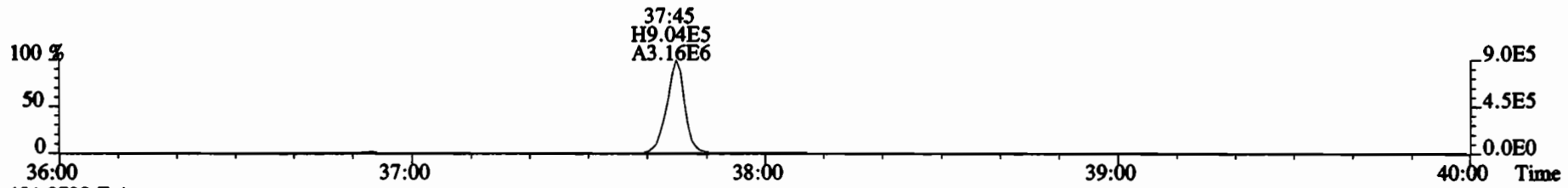
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



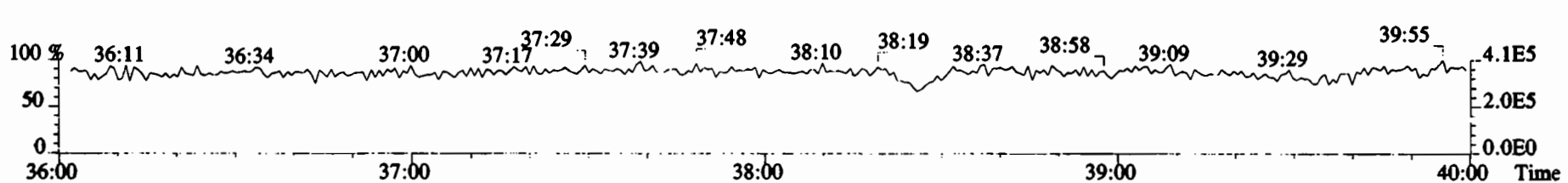
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



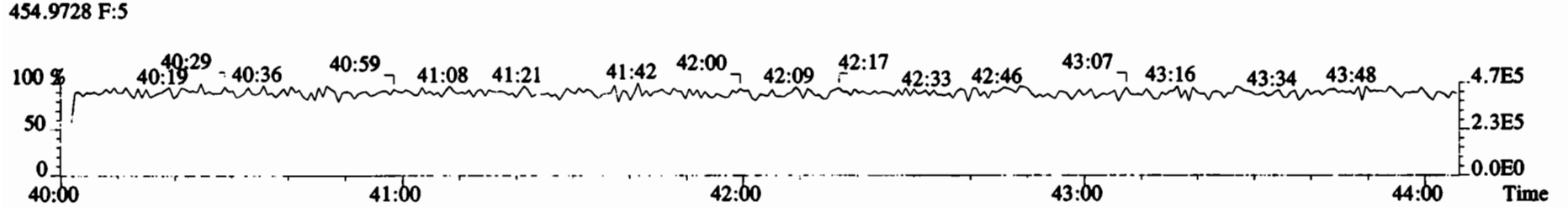
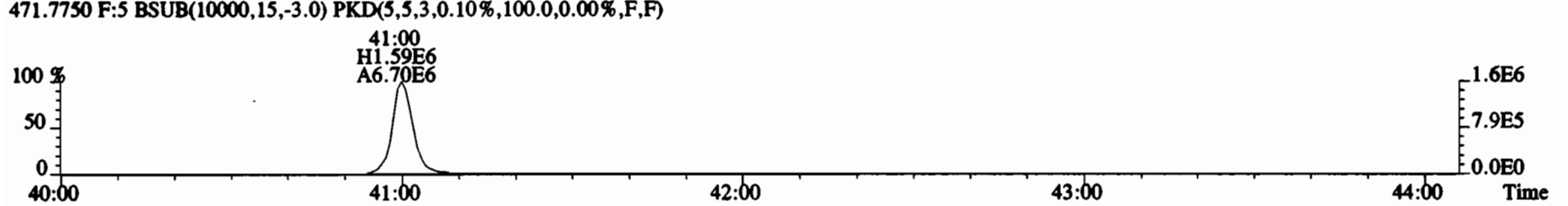
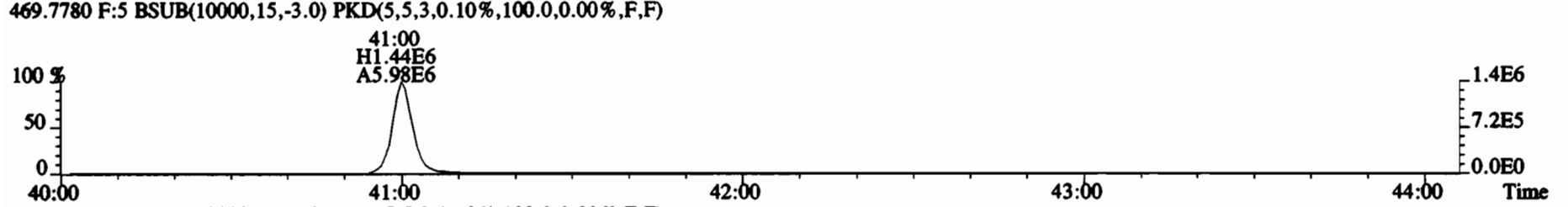
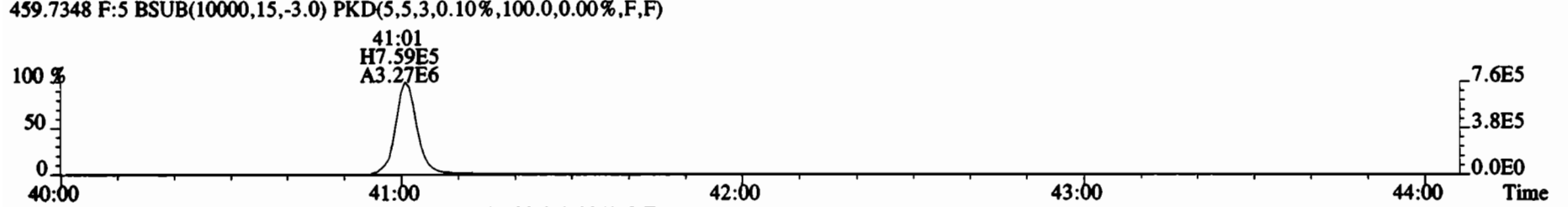
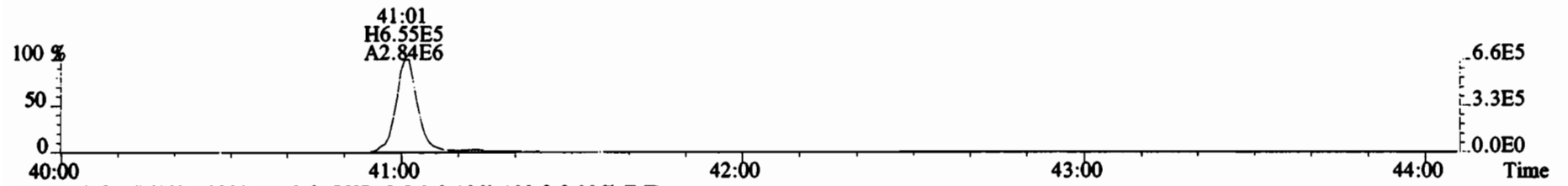
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



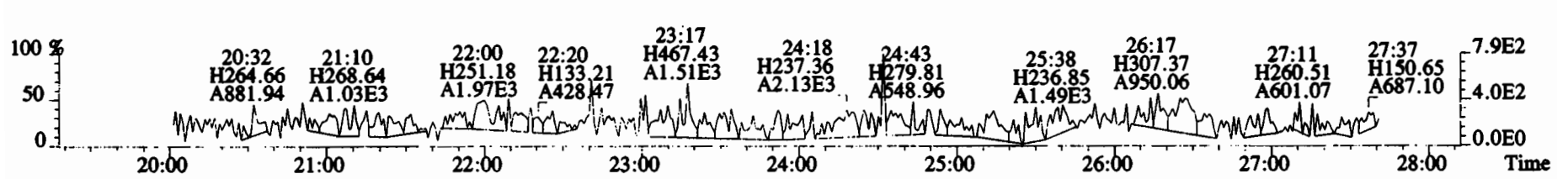
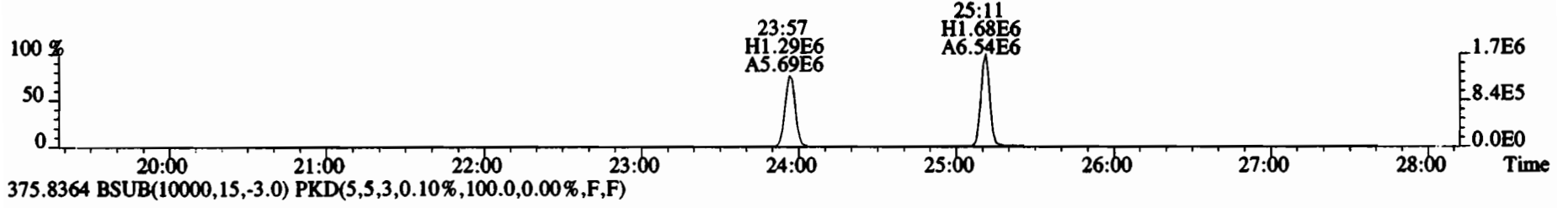
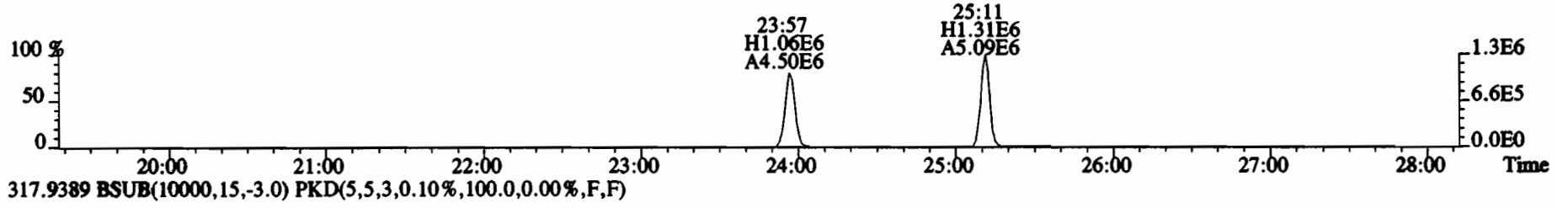
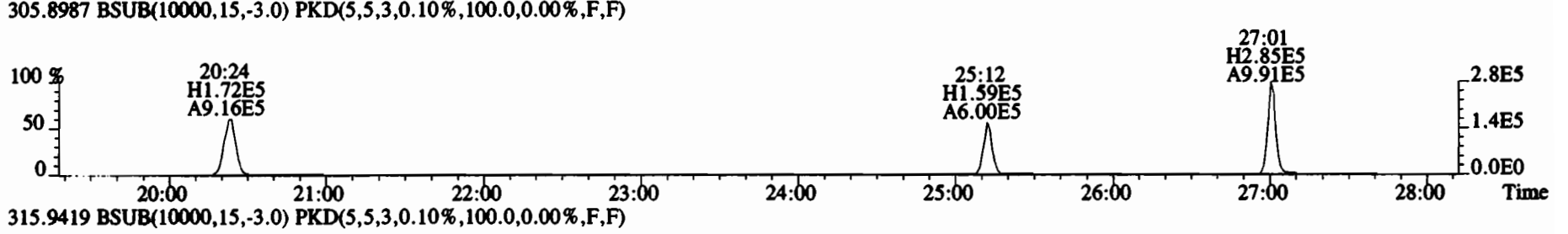
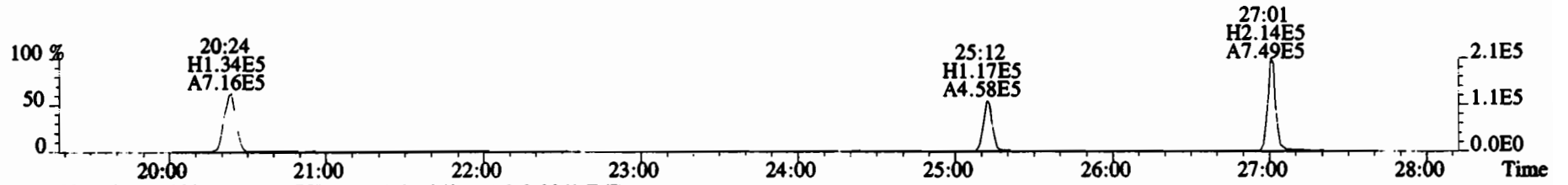
454.9728 F:4



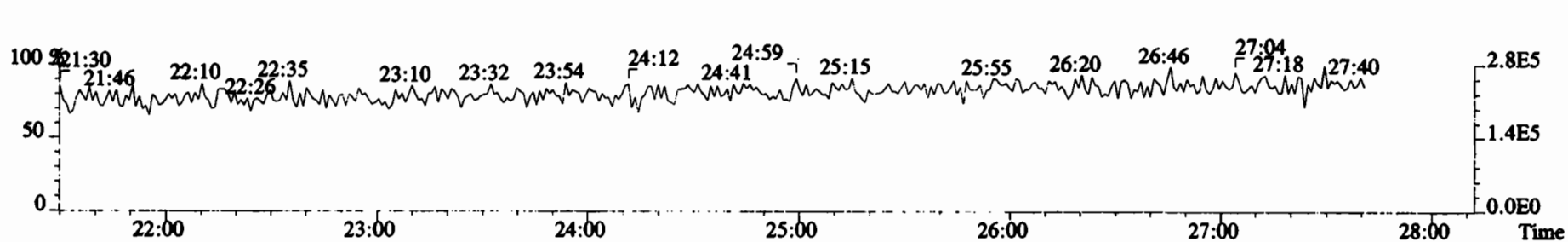
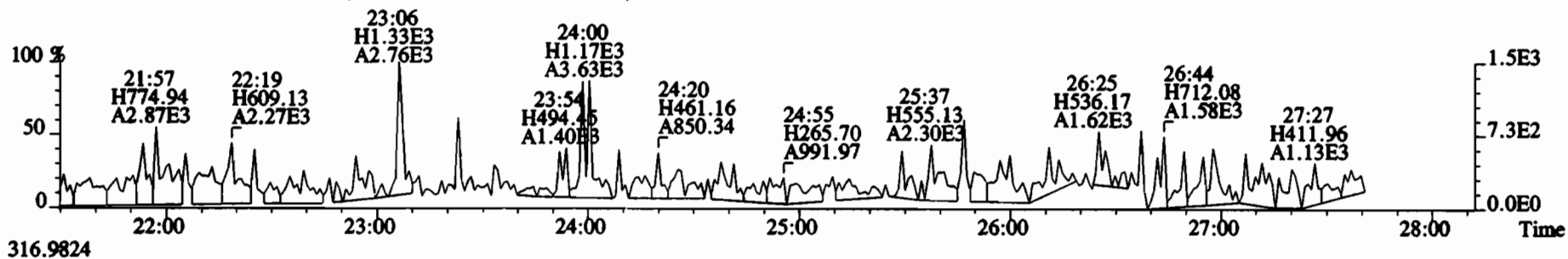
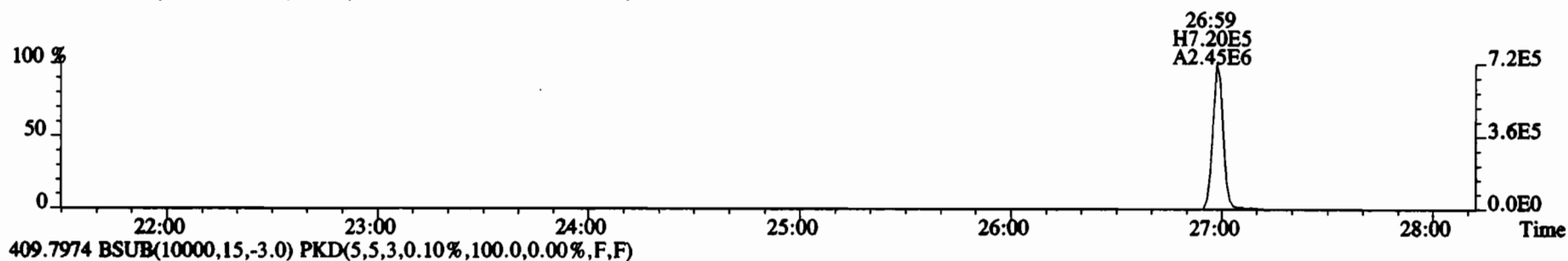
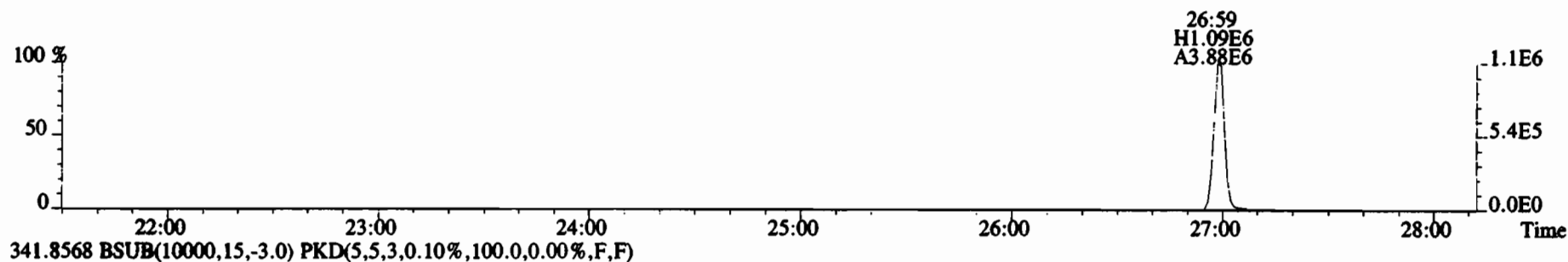
File:200109D2 #1-432 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



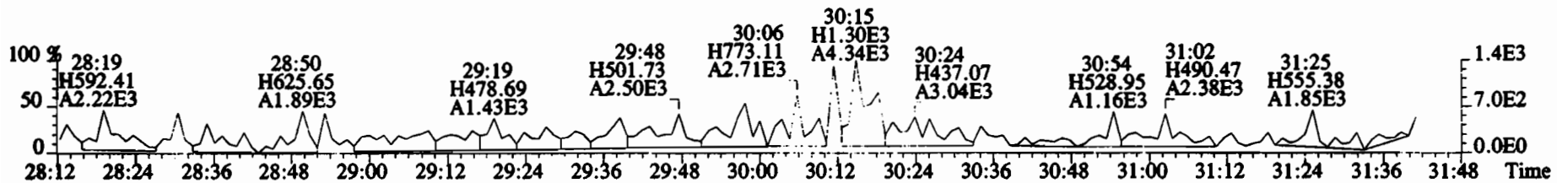
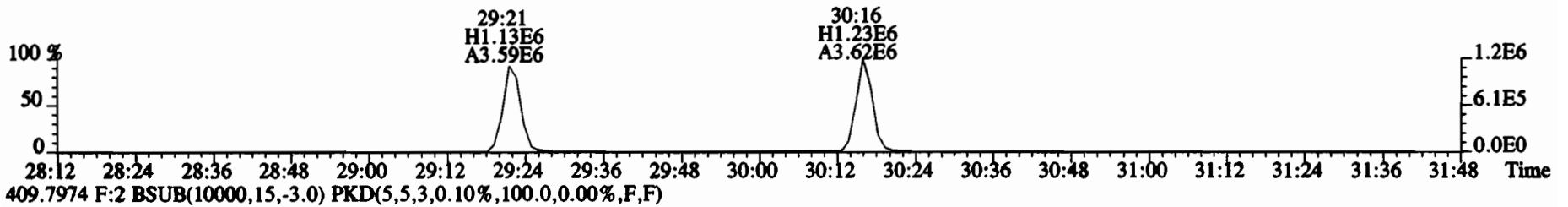
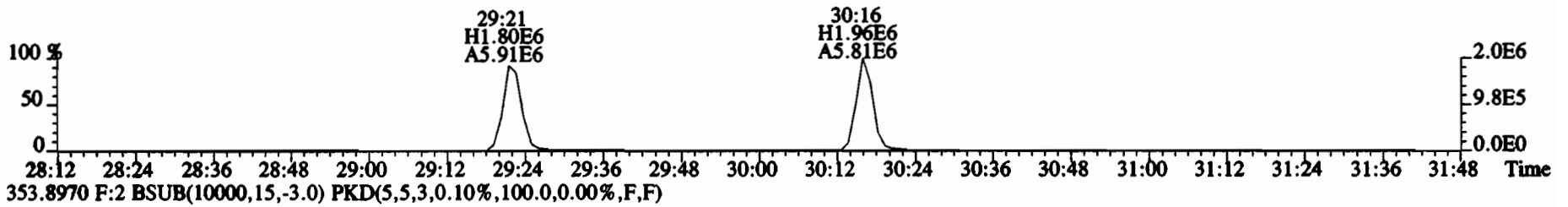
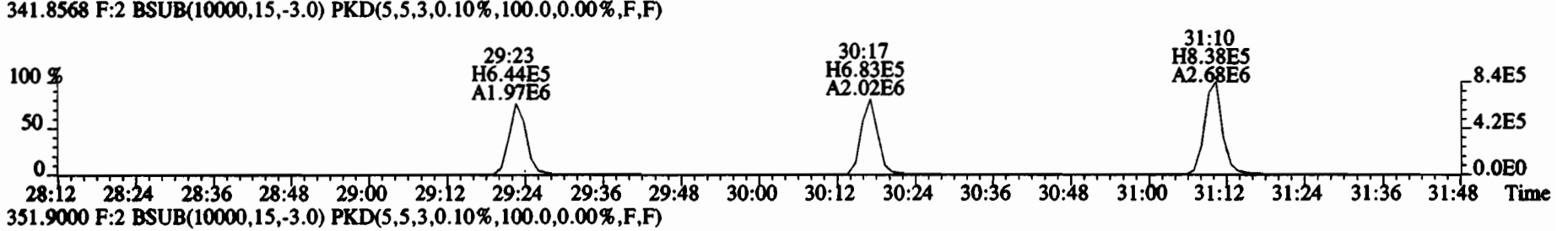
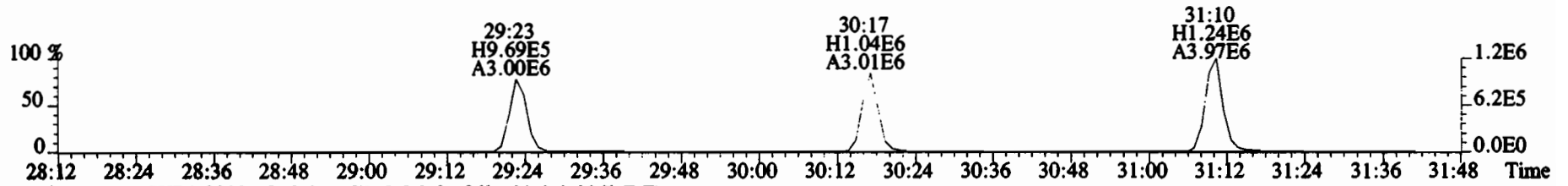
File:200109D2 #1-493 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



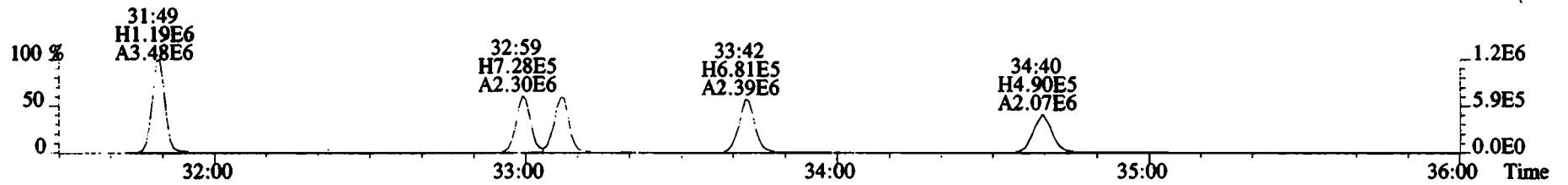
File:200109D2 #1-493 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



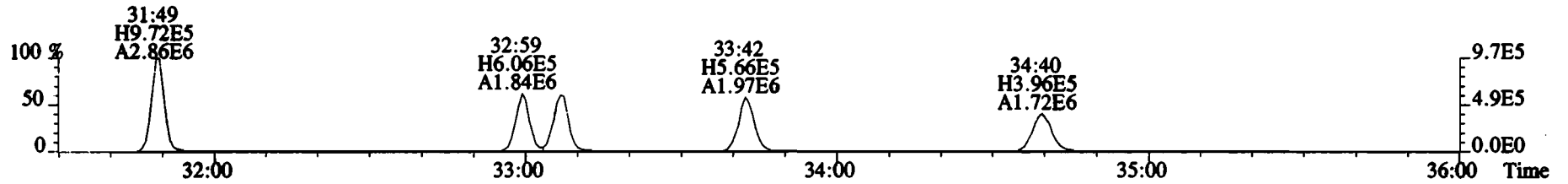
File:200109D2 #1-211 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 19I1604 Exp:OCDD\_DB5  
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



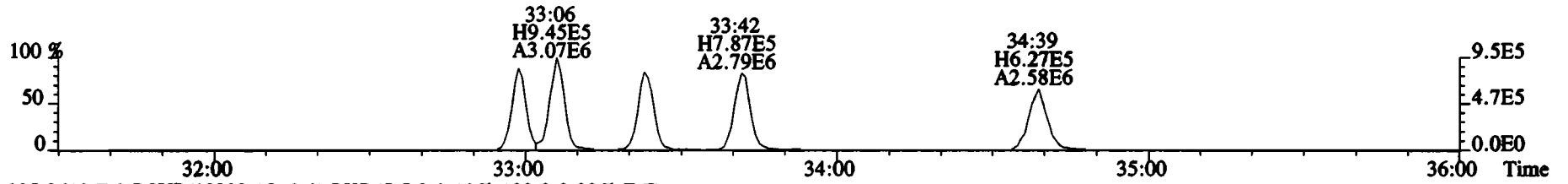
File:200109D2 #1-384 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 19I1604 Exp:OCDD\_DB5  
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



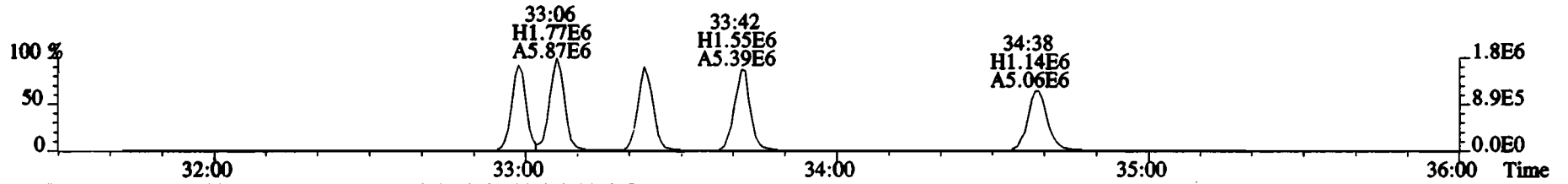
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



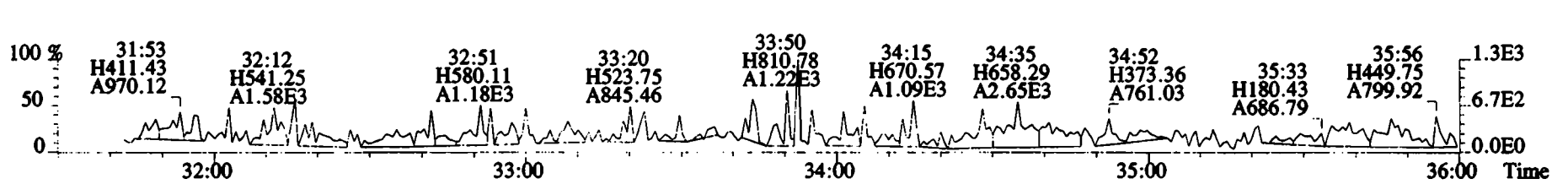
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



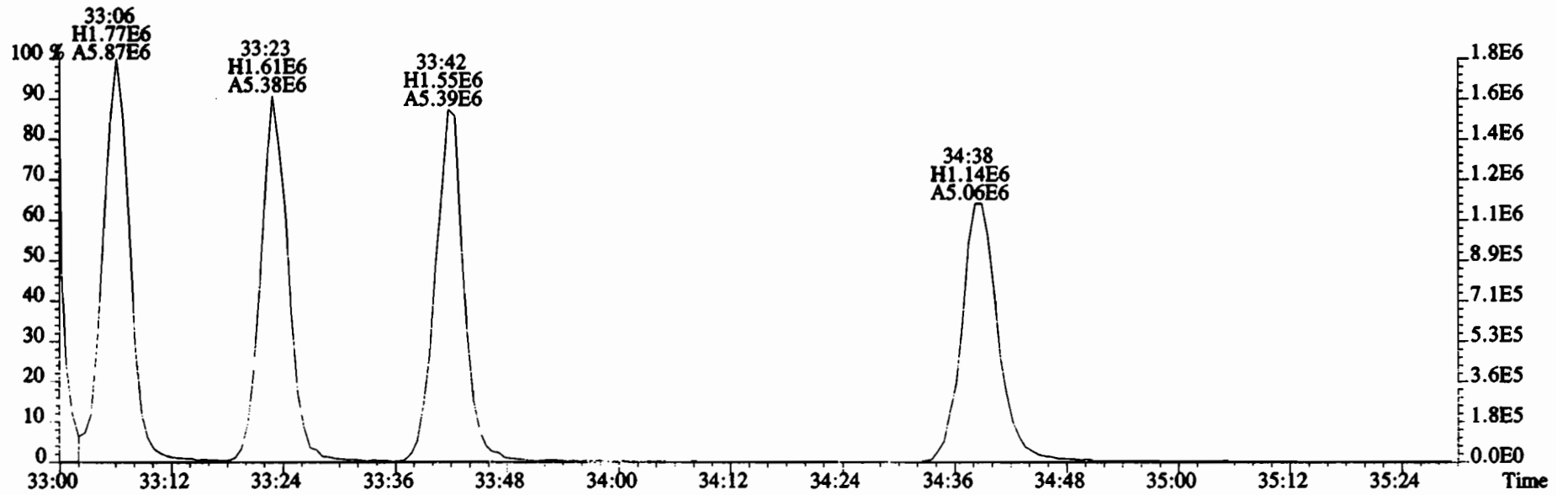
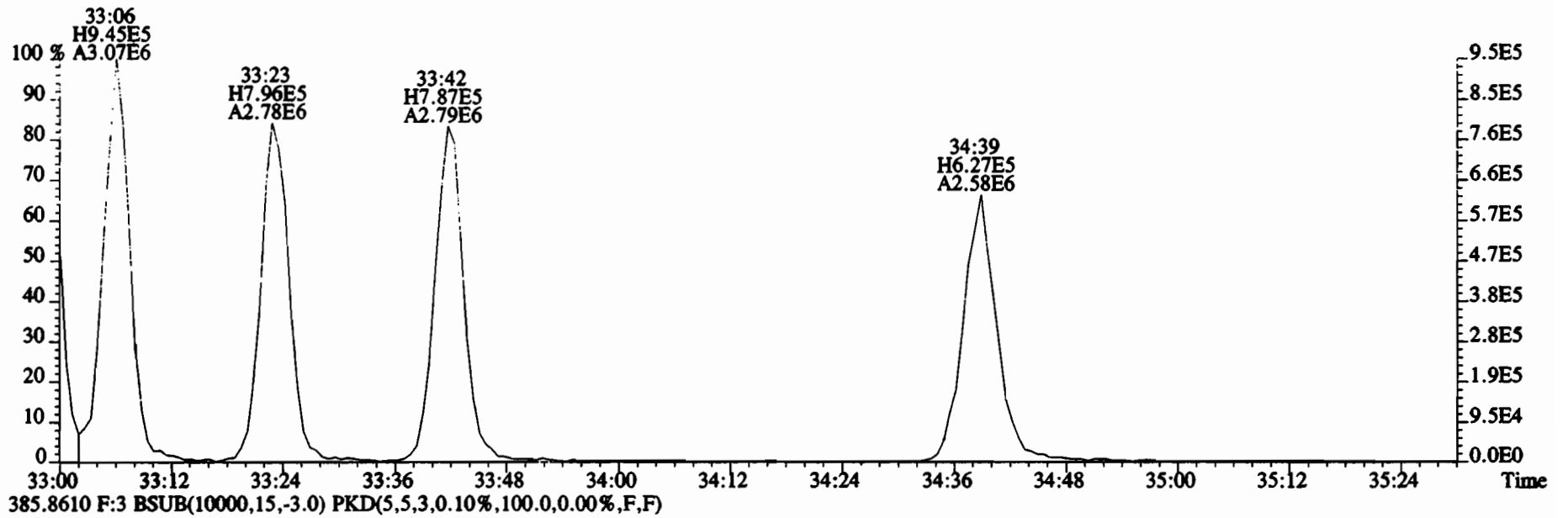
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



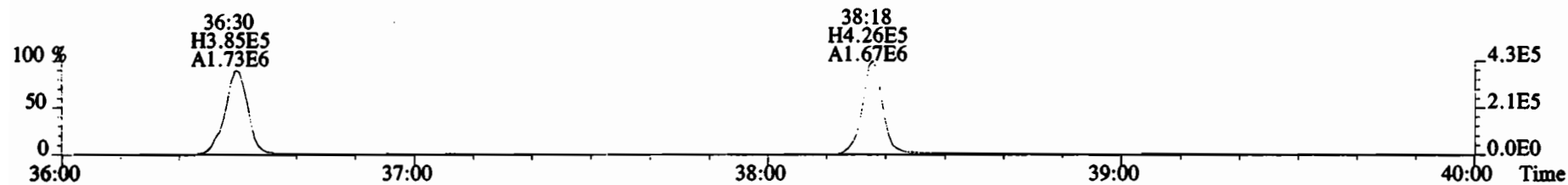
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



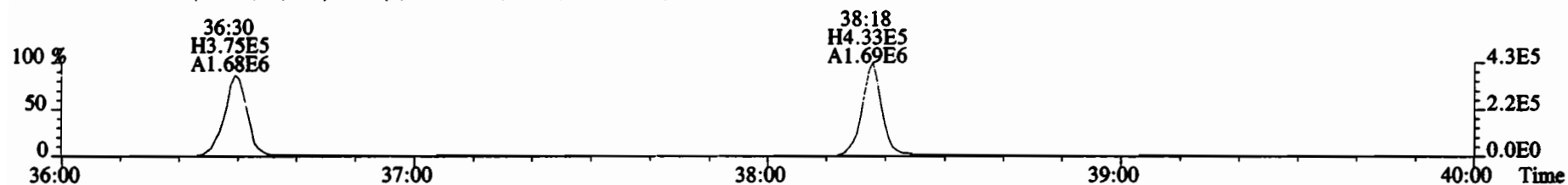
File:200109D2 #1-384 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST200109D2-1 1613 CS3 19I1604 Exp:OCDD\_DB5  
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



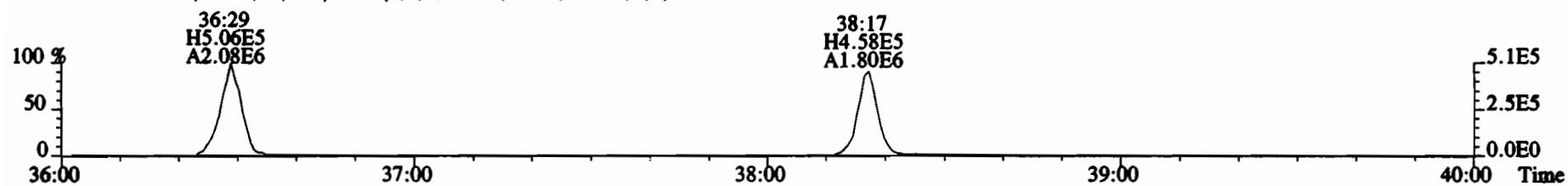
File:200109D2 #1-355 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



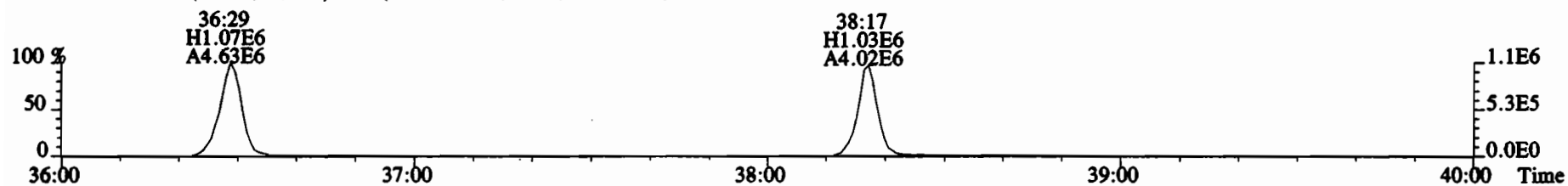
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



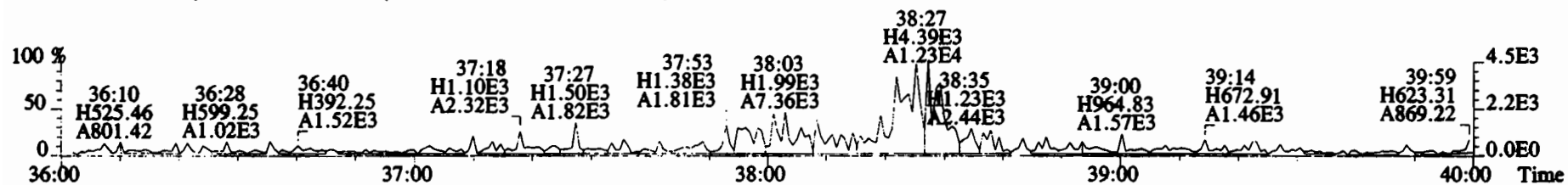
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

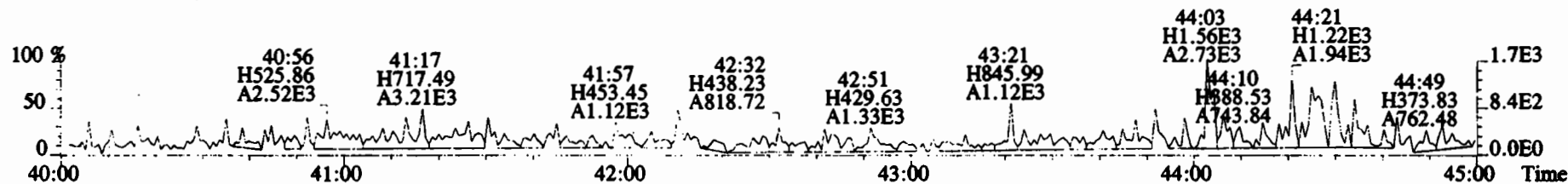
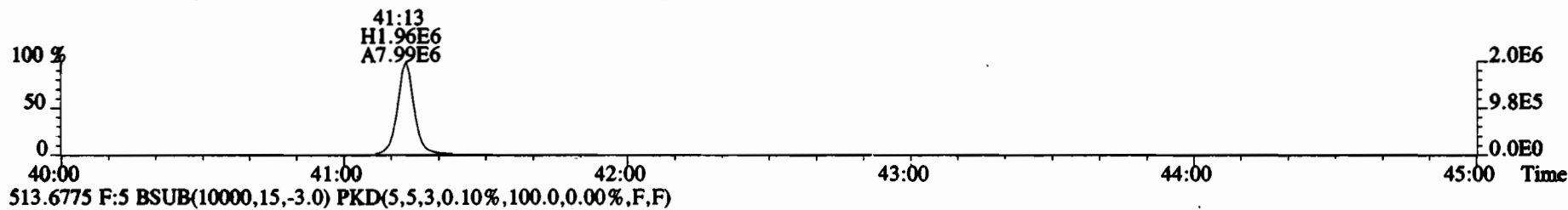
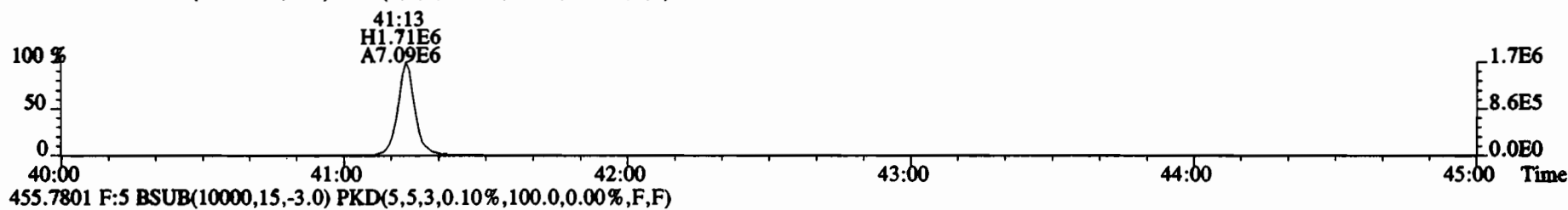
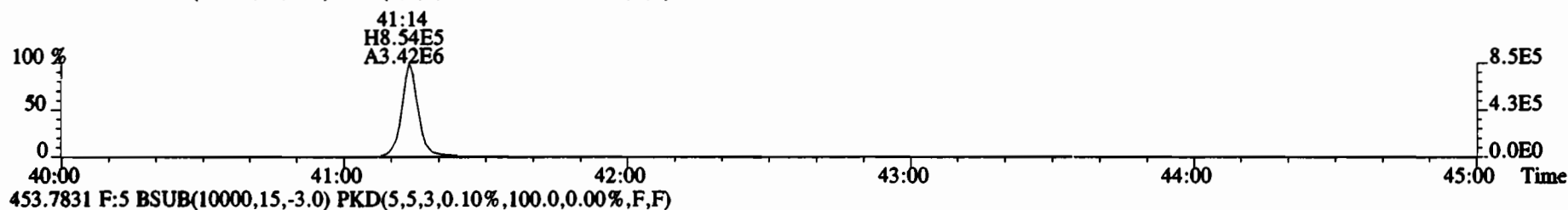
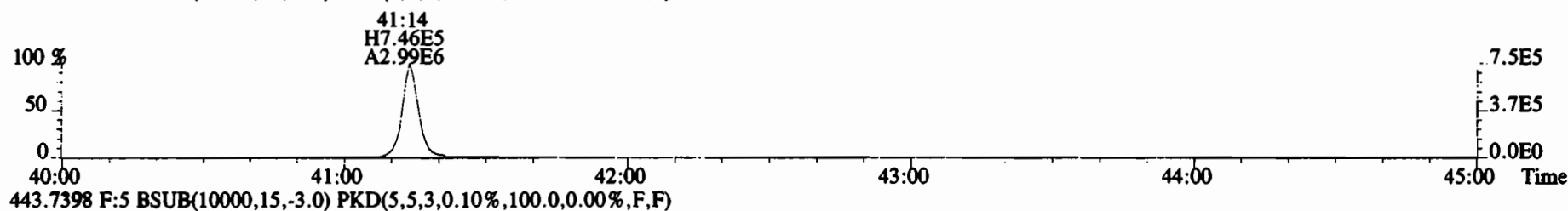


479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



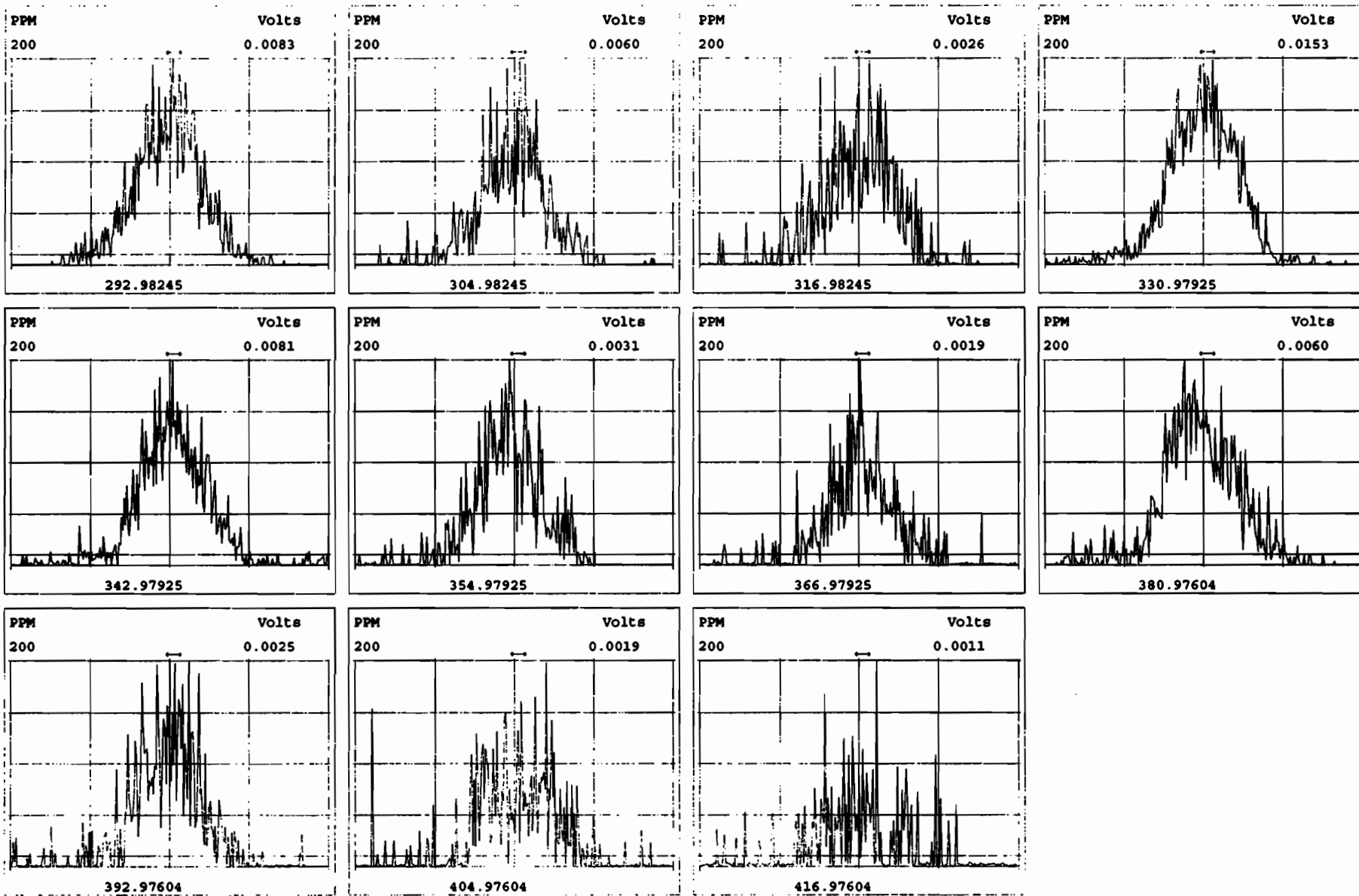


File:200109D2 #1-432 Acq: 9-JAN-2020 22:42:55 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200109D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



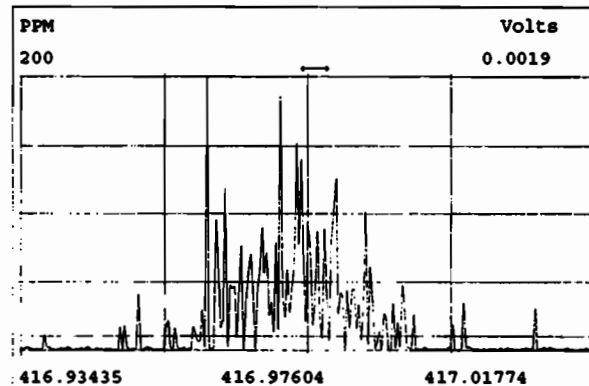
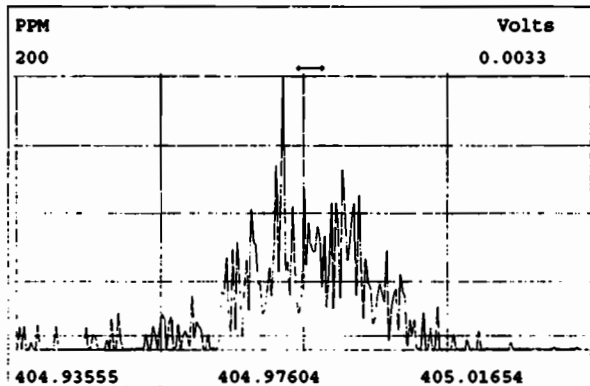
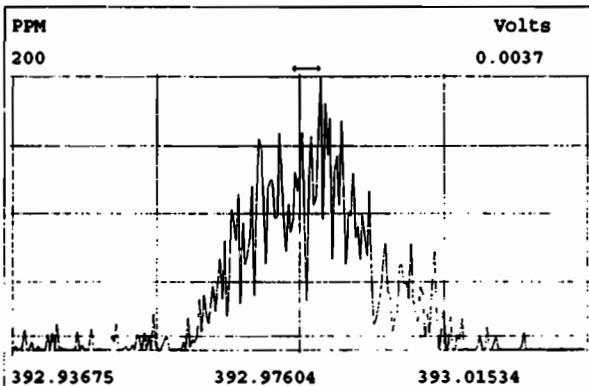
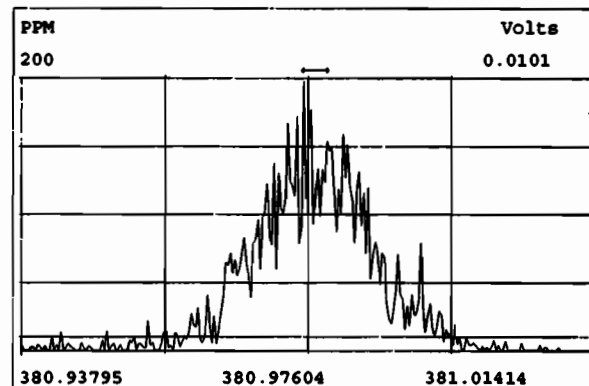
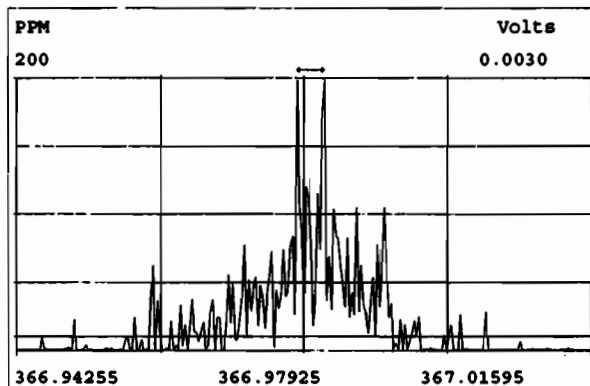
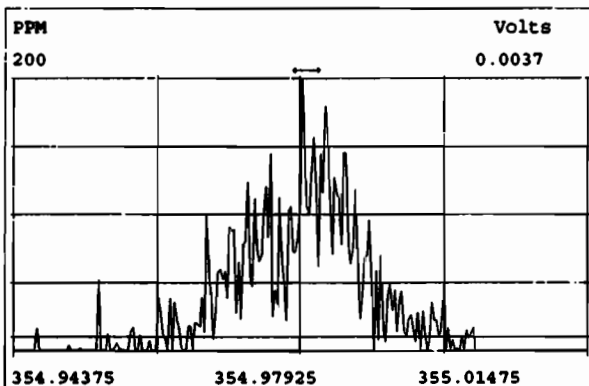
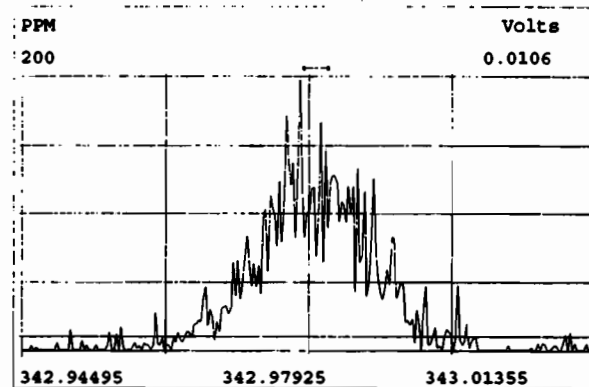
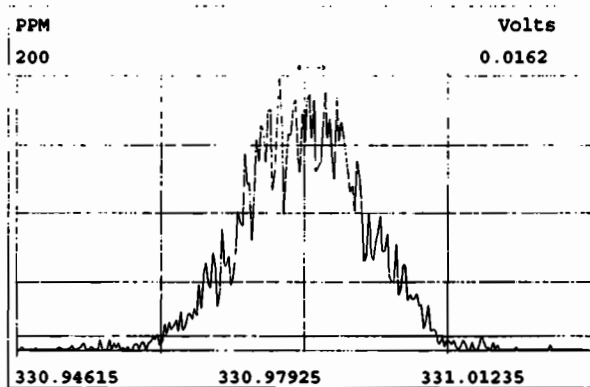
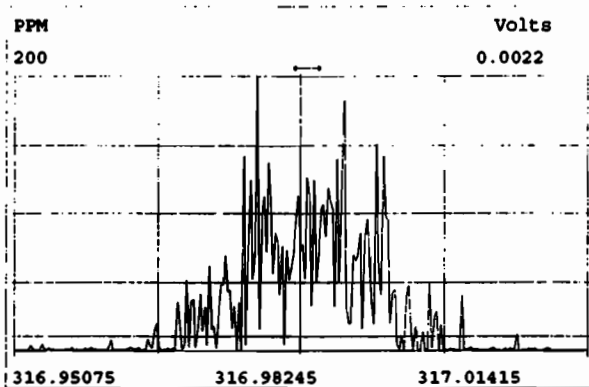
Peak Locate Examination:10-JAN-2020:10:51 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:1 Reference:PFK



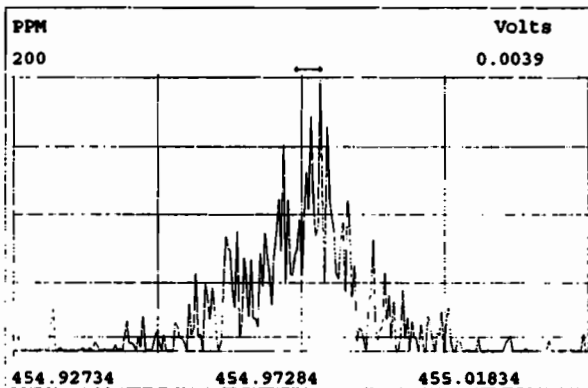
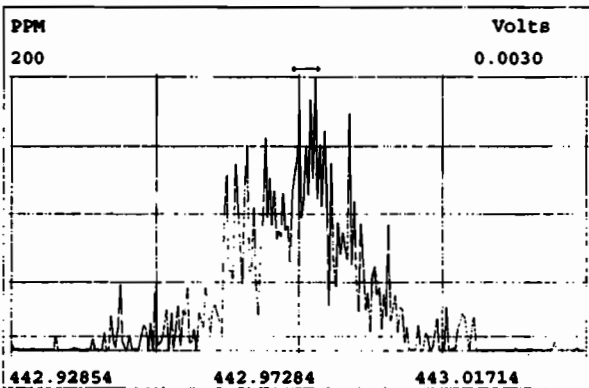
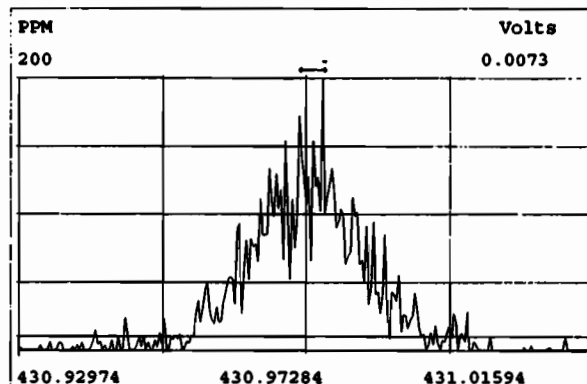
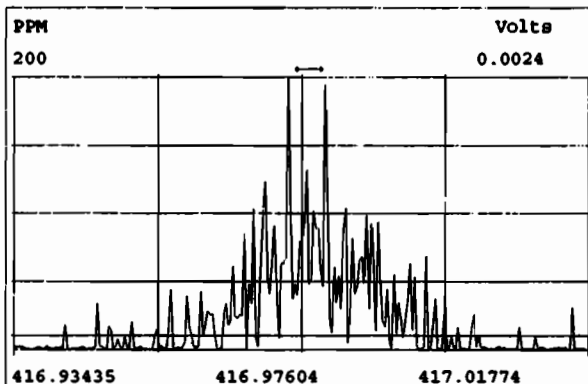
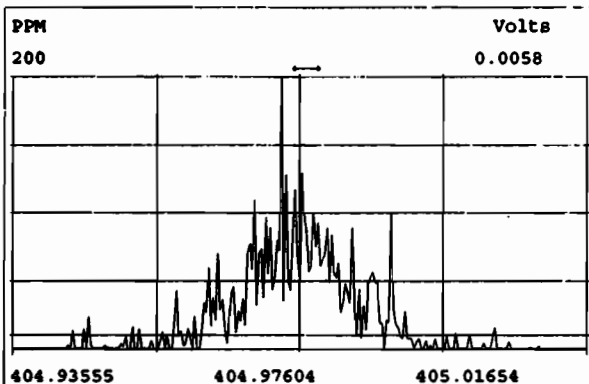
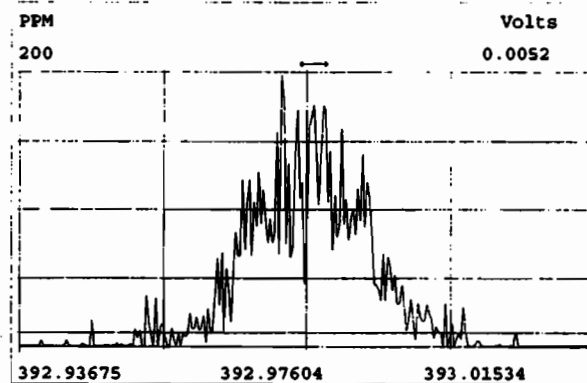
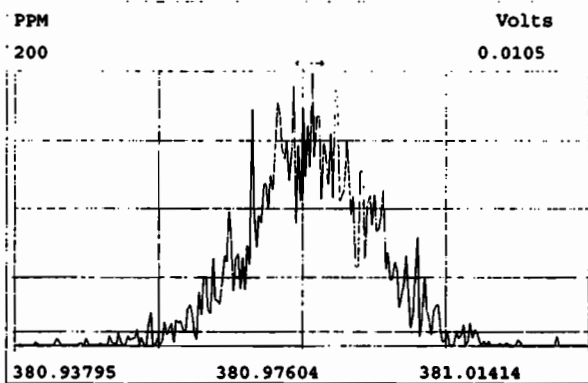
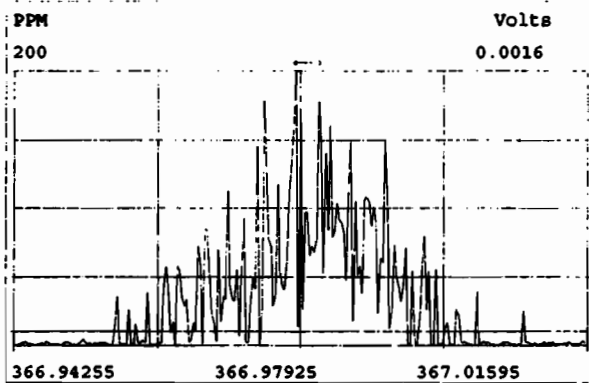
Peak Locate Examination:10-JAN-2020:10:52 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:2 Reference:PFK



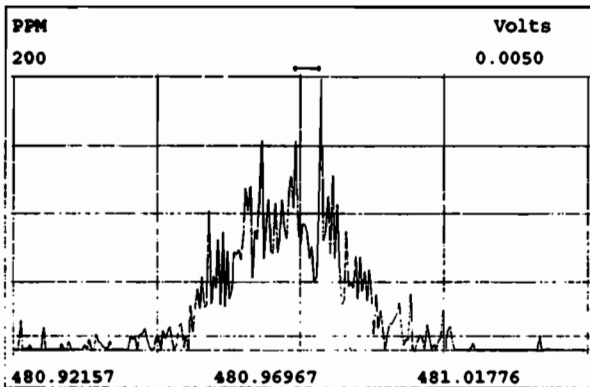
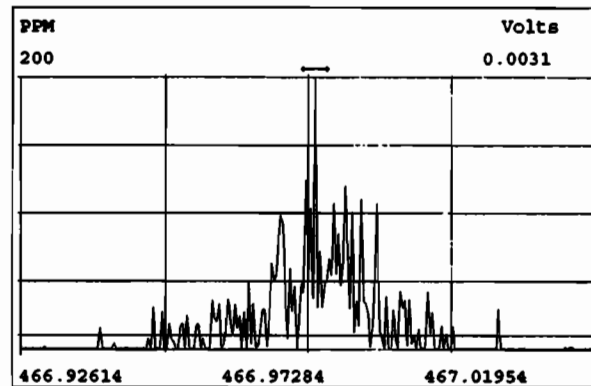
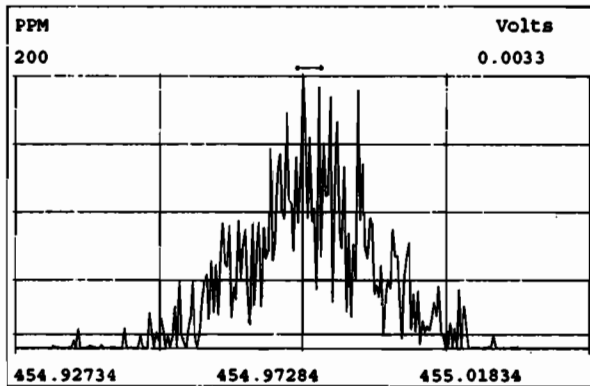
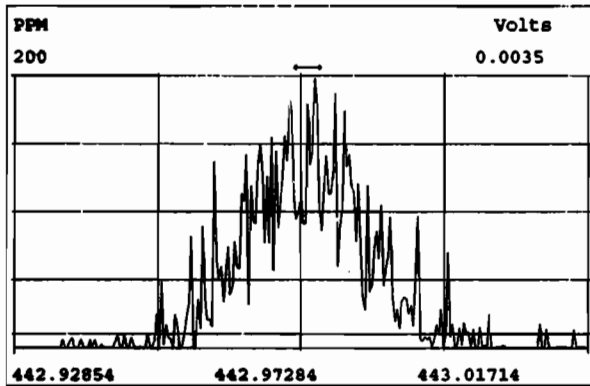
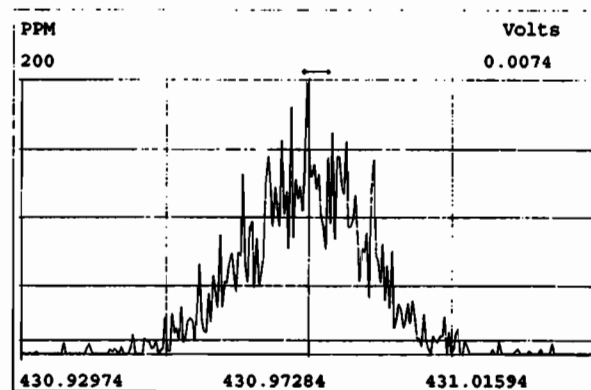
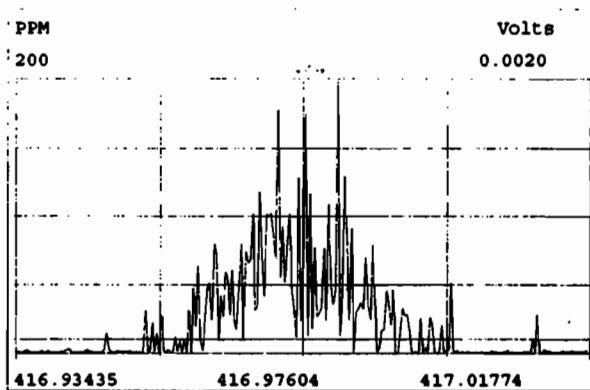
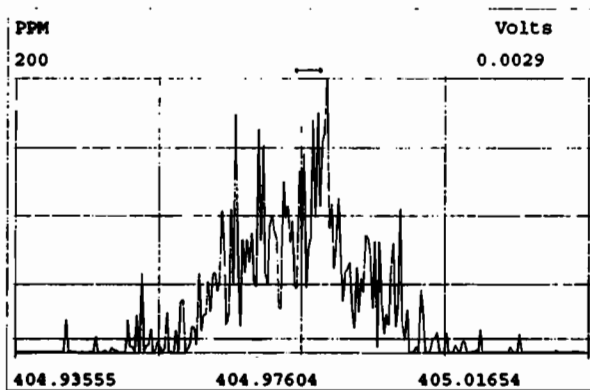
Peak Locate Examination:10-JAN-2020:10:53 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:3 Reference:PFK



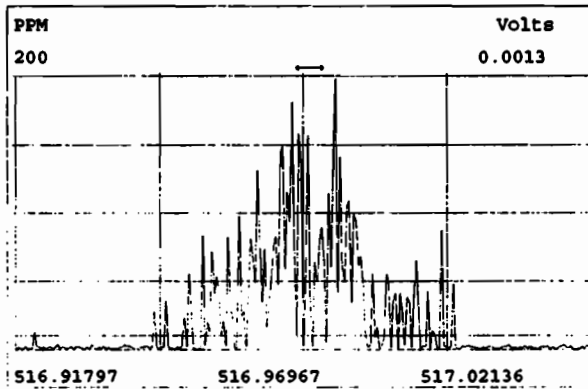
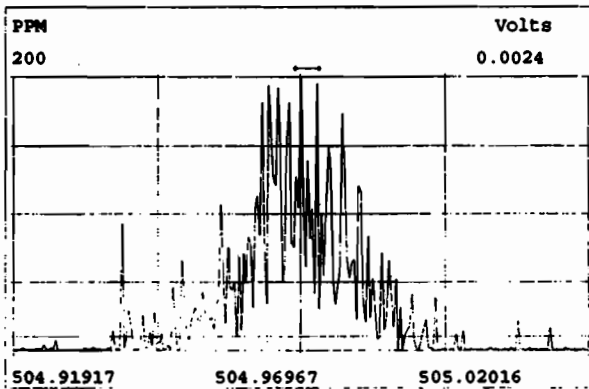
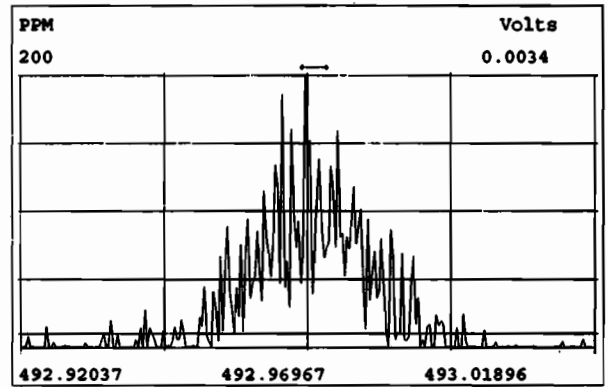
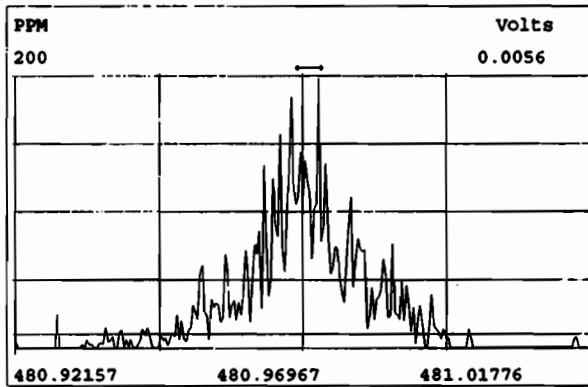
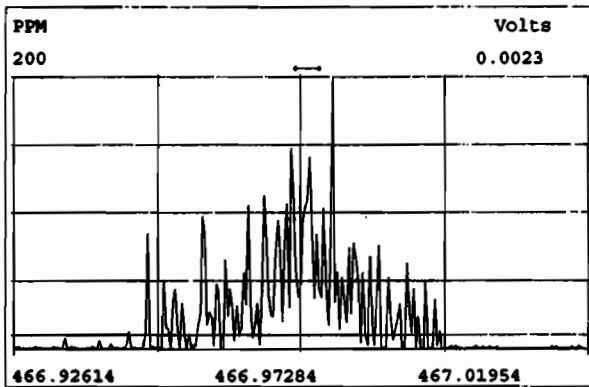
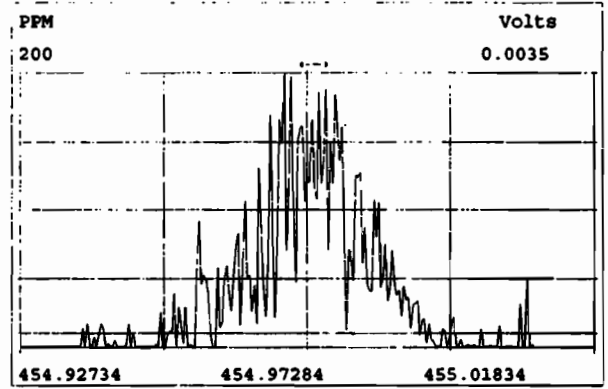
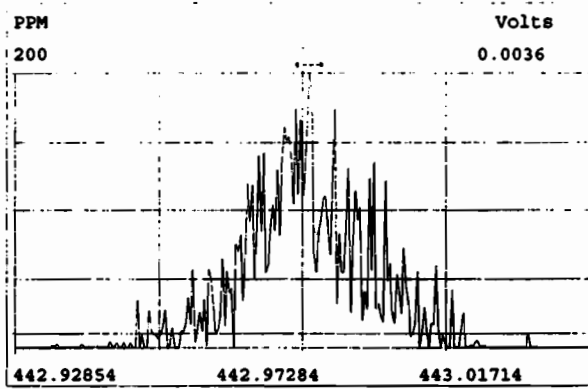
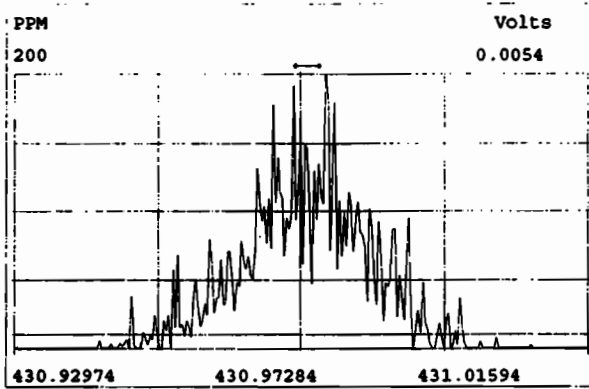
Peak Locate Examination:10-JAN-2020:10:54 File:RBS\_CHECK

Experiment:OCDD\_DB5 Function:4 Reference:PFK



Peak Locate Examination:10-JAN-2020:10:55 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:5 Reference:PFK



# HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST200110DZ-1

Reviewed By: CT 01/13/2020  
*Initials & Date*

End Calibration ID: NA

	<u>Beg.</u>	<u>End</u>
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>DB</u>	<u>          </u>
<b><u>Run Log:</u></b>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/> V
- Samples within 12 hour clock?	(Y)	N
- Bottle position verified?	<u>DB</u>	<u>          </u>

Mass resolution ≥

5k    6-8K    8K    10K

1614   1699   429   1613/1668/8280

Intergrated peaks display correctly?   NA

GC Break <20%  NA

**8280 CS1 End Standard:**

- Ratios within limits, S/N <2.5:1, CS1 within 12 hours  NA

**Comments:**

Vista Analytical Laboratory - Injection Log Run file: 200110D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
200110D2	1	ST200110D2-1	DB	11-JAN-20	00:33:18	ST200110D2-1	NA
200110D2	2	B9L0257-BS1	DB	11-JAN-20	01:21:14	ST200110D2-1	NA
200110D2	3	SOLVENT BLANK	DB	11-JAN-20	02:09:00	ST200110D2-1	NA
200110D2	4	B9L0257-BLK1	DB	11-JAN-20	02:56:56	ST200110D2-1	NA
200110D2	5	1904342-01	DB	11-JAN-20	03:44:42	ST200110D2-1	NA
200110D2	6	1904342-02	DB	11-JAN-20	04:32:40	ST200110D2-1	NA
200110D2	7	1904270-01	DB	11-JAN-20	05:20:36	ST200110D2-1	NA
200110D2	8	B9L0200-DUP2	DB	11-JAN-20	06:08:33	ST200110D2-1	NA
200110D2	9	1904207-01	DB	11-JAN-20	06:56:31	ST200110D2-1	NA
200110D2	10	1904207-02	DB	11-JAN-20	07:44:27	ST200110D2-1	NA
200110D2	11	1904207-03	DB	11-JAN-20	08:32:18	ST200110D2-1	NA
200110D2	12	1904207-04	DB	11-JAN-20	09:20:14	ST200110D2-1	NA
200110D2	13	1904207-05	DB	11-JAN-20	10:08:09	ST200110D2-1	NA
200110D2	14	1904207-06	DB	11-JAN-20	10:56:05	ST200110D2-1	NA



FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

Episode No.:

CCAL ID: ST200110D2-1

Contract No.:

SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 200110D2 S#1 Analysis Date: 11-JAN-20 Time: 00:33:18

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	11.5	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	57.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	48.8	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	54.5	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.23	1.05-1.43	y	52.6	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	y	49.0	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	103	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	y	9.58	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.55	1.32-1.78	y	52.9	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	52.5	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	46.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	47.2	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.26	1.05-1.43	y	47.2	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	y	47.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	46.8	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	45.2	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	92.2	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DBDate: 1/13/20

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 200110D2 S#1 Analysis Date: 11-JAN-20 Time: 00:33:18

LABELED COMPOUNDS	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
13C-2,3,7,8-TCDD	M/M+2	0.78	0.65-0.89	y	111	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	103	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	105	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	95.4	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	y	97.5	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	111	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	229	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.81	0.65-0.89	y	107	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	109	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	105	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	111	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.49	0.43-0.59	y	105	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	104	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.50	0.43-0.59	y	104	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	104	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	y	112	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	y	226	96.0 - 415.0
CLEANUP STANDARD (3) 37Cl-2,3,7,8-TCDD					10.5	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 1/13/20

FORM 5  
PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 10-9-19

RT Window Data Filename: 200110D2 S#1 Analysis Date: 11-JAN-20 Time: 00:33:18

ZB-5MS IS Data Filename: 200110D2 S#1 Analysis Date: 11-JAN-20 Time: 00:33:18

DB\_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	22:31	1,3,6,8-TCDF (F)	20:22
1,2,8,9-TCDD (L)	26:52	1,2,8,9-TCDF (L)	27:01
1,2,4,7,9-PeCDD (F)	28:30	1,3,4,6,8-PeCDF (F)	26:59
1,2,3,8,9-PeCDD (L)	30:55	1,2,3,8,9-PeCDF (L)	31:10
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:16	1,2,3,7,8,9-HxCDF (L)	34:39
1,2,3,4,6,7,9-HpCDD (F)	36:53	1,2,3,4,6,7,8-HpCDF (F)	36:28
1,2,3,4,6,7,8-HpCDD (L)	37:45	1,2,3,4,7,8,9-HpCDF (L)	38:17

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 1/13/20

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 200110D2 S#1 Analysis Date: 11-JAN-20 Time: 00:33:18

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.203	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.991	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.156	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.192	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.024	0.989-1.052

Analyst: DB  
Date: 1/13/20

FORM 6B  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 200110D2 #1 Analysis Date: 11-JAN-20 Time: 00:33:18

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.001	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.992	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.092	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.147	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.131	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 1/13/20

Client ID: 1613 CS3 1911604  
Lab ID: ST200110D2-1

Filename: 200110D2 S:1 Acq:11-JAN-20 00:33:18  
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST200110D2-1  
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	6.71e+05	0.79 y	0.91	25:59	11.472		* 2.5		*	Total Tetra-Dioxins	91.8	93.6		*	*
1,2,3,7,8-PeCDD	2.51e+06	0.61 y	0.90	30:34	57.706		* 2.5		*	Total Penta-Dioxins	243	244		*	*
1,2,3,4,7,8-HxCDD	2.32e+06	1.21 y	1.10	33:52	48.846		* 2.5		*	Total Hexa-Dioxins	244	247		*	*
1,2,3,6,7,8-HxCDD	2.66e+06	1.24 y	0.94	33:58	54.452		* 2.5		*	Total Hepta-Dioxins	124	126		*	*
1,2,3,7,8,9-HxCDD	2.54e+06	1.23 y	0.96	34:16	52.579		* 2.5		*	Total Tetra-Furans	41.3	42.4		*	*
1,2,3,4,6,7,8-HpCDD	2.21e+06	1.01 y	0.98	37:45	49.003		* 2.5		*	Total Penta-Furans	246.88	247.52		*	*
OCDD	4.20e+06	0.91 y	0.96	41:01	103.47		* 2.5		*	Total Hexa-Furans	263	264		*	*
										Total Hepta-Furans	93.0	93.9		*	*
2,3,7,8-TCDF	8.76e+05	0.83 y	0.95	25:12	9.5847		* 2.5		*						
1,2,3,7,8-PeCDF	4.13e+06	1.55 y	0.96	29:22	52.874		* 2.5		*						
2,3,4,7,8-PeCDF	4.11e+06	1.61 y	1.01	30:17	52.466		* 2.5		*						
1,2,3,4,7,8-HxCDF	3.23e+06	1.22 y	1.18	32:59	46.614		* 2.5		*						
1,2,3,6,7,8-HxCDF	3.50e+06	1.24 y	1.07	33:06	47.172		* 2.5		*						
2,3,4,6,7,8-HxCDF	3.34e+06	1.26 y	1.11	33:42	47.163		* 2.5		*						
1,2,3,7,8,9-HxCDF	2.80e+06	1.20 y	1.06	34:39	47.947		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	2.66e+06	1.03 y	1.13	36:28	46.842		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	2.41e+06	1.02 y	1.28	38:17	45.243		* 2.5		*						
OCDF	4.33e+06	0.90 y	0.95	41:13	92.204		* 2.5		*						
IS	13C-2,3,7,8-TCDD	6.46e+06	0.78 y	1.10	25:58	111.39				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	4.81e+06	0.64 y	0.88	30:32	103.20				111					
IS	13C-1,2,3,4,7,8-HxCDD	4.32e+06	1.26 y	0.64	33:51	105.34				103					
IS	13C-1,2,3,6,7,8-HxCDD	5.21e+06	1.28 y	0.86	33:57	95.392				105					
IS	13C-1,2,3,7,8,9-HxCDD	5.02e+06	1.25 y	0.81	34:16	97.512				95.4					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.61e+06	1.04 y	0.65	37:44	110.52				97.5					
IS	13C-OCDD	8.46e+06	0.91 y	0.58	40:60	228.69				111					
IS	13C-2,3,7,8-TCDF	9.62e+06	0.81 y	1.03	25:11	106.90				114					
IS	13C-1,2,3,7,8-PeCDF	8.13e+06	1.56 y	0.85	29:22	109.43				107					
IS	13C-2,3,4,7,8-PeCDF	7.72e+06	1.62 y	0.85	30:15	104.71				109					
IS	13C-1,2,3,4,7,8-HxCDF	5.89e+06	0.51 y	0.83	32:58	111.01				105					
IS	13C-1,2,3,6,7,8-HxCDF	6.93e+06	0.49 y	1.03	33:06	105.03				111					
IS	13C-2,3,4,6,7,8-HxCDF	6.35e+06	0.51 y	0.95	33:41	104.45				105					
IS	13C-1,2,3,7,8,9-HxCDF	5.50e+06	0.50 y	0.83	34:38	104.03				111					
IS	13C-1,2,3,4,6,7,8-HpCDF	5.05e+06	0.44 y	0.76	36:28	104.36				105					
IS	13C-1,2,3,4,7,8,9-HpCDF	4.17e+06	0.43 y	0.58	38:16	112.33				104					
IS	13C-OCDF	9.93e+06	0.88 y	0.69	41:13	225.75				112					
C/Up	37C1-2,3,7,8-TCDD	6.63e+05		1.20	25:60	10.466				113					
RS/RT	13C-1,2,3,4-TCDD	5.29e+06	0.81 y	1.00	25:24	100.00									
RS	13C-1,2,3,4-TCDF	8.70e+06	0.79 y	1.00	23:56	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	6.38e+06	0.50 y	1.00	33:22	100.00									

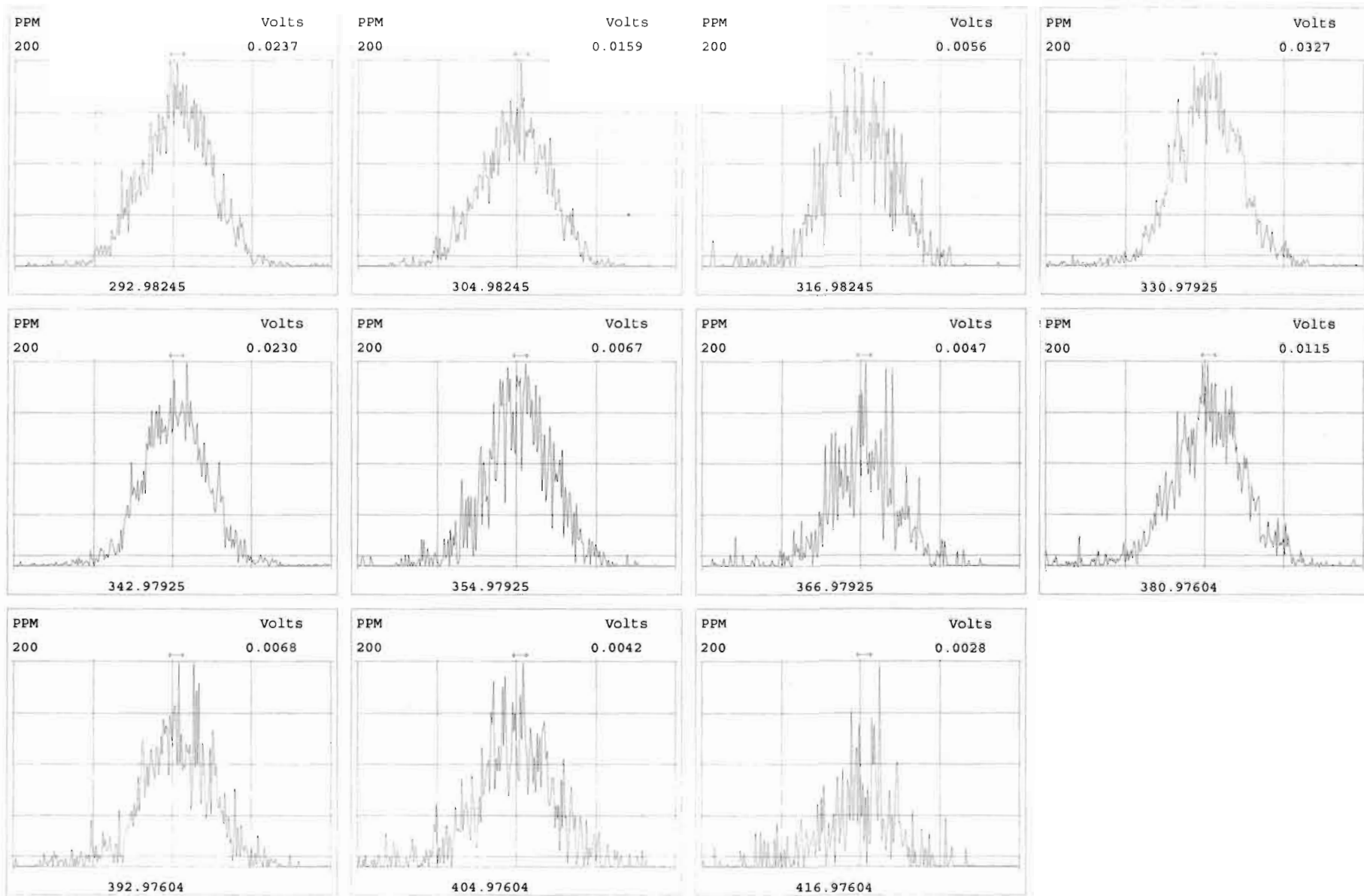
Integrations Reviewed  
by Analyst: DB by Analyst: CT  
Date: 1/13/20 Date: 01/13/2020

Vista Analytical Laboratory - Injection Log Run file: 200110D2 Instrument ID: VG-7 GC Column ID: 2B-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
200110D2	1	ST200110D2-1	DB	11-JAN-20	00:33:18	ST200110D2-1	NA
200110D2	2	B9L0257-BS1	DB	11-JAN-20	01:21:14	ST200110D2-1	NA
200110D2	3	SOLVENT BLANK	DB	11-JAN-20	02:09:00	ST200110D2-1	NA
200110D2	4	B9L0257-BLK1	DB	11-JAN-20	02:56:56	ST200110D2-1	NA
200110D2	5	1904342-01	DB	11-JAN-20	03:44:42	ST200110D2-1	NA
200110D2	6	1904342-02	DB	11-JAN-20	04:32:40	ST200110D2-1	NA
200110D2	7	1904270-01	DB	11-JAN-20	05:20:36	ST200110D2-1	NA
200110D2	8	B9L0200-DUP2	DB	11-JAN-20	06:08:33	ST200110D2-1	NA
200110D2	9	1904207-01	DB	11-JAN-20	06:56:31	ST200110D2-1	NA
200110D2	10	1904207-02	DB	11-JAN-20	07:44:27	ST200110D2-1	NA
200110D2	11	1904207-03	DB	11-JAN-20	08:32:18	ST200110D2-1	NA
200110D2	12	1904207-04	DB	11-JAN-20	09:20:14	ST200110D2-1	NA
200110D2	13	1904207-05	DB	11-JAN-20	10:08:09	ST200110D2-1	NA
200110D2	14	1904207-06	DB	11-JAN-20	10:56:05	ST200110D2-1	NA

Peak Locate Examination:11-JAN-2020:00:28 File:RES\_CHECK

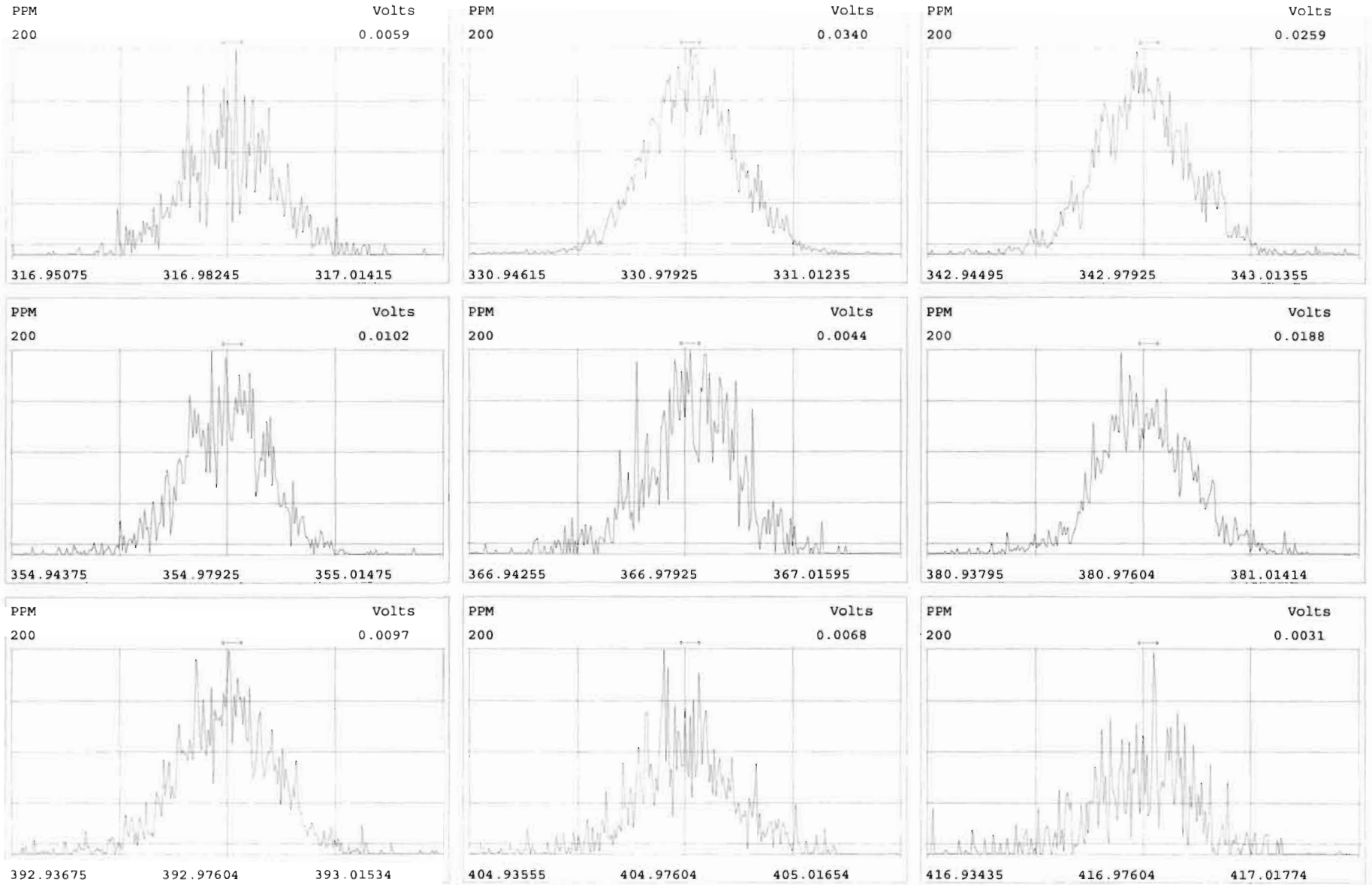
Experiment:OCDD\_DB5 Function:1 Reference:PFK





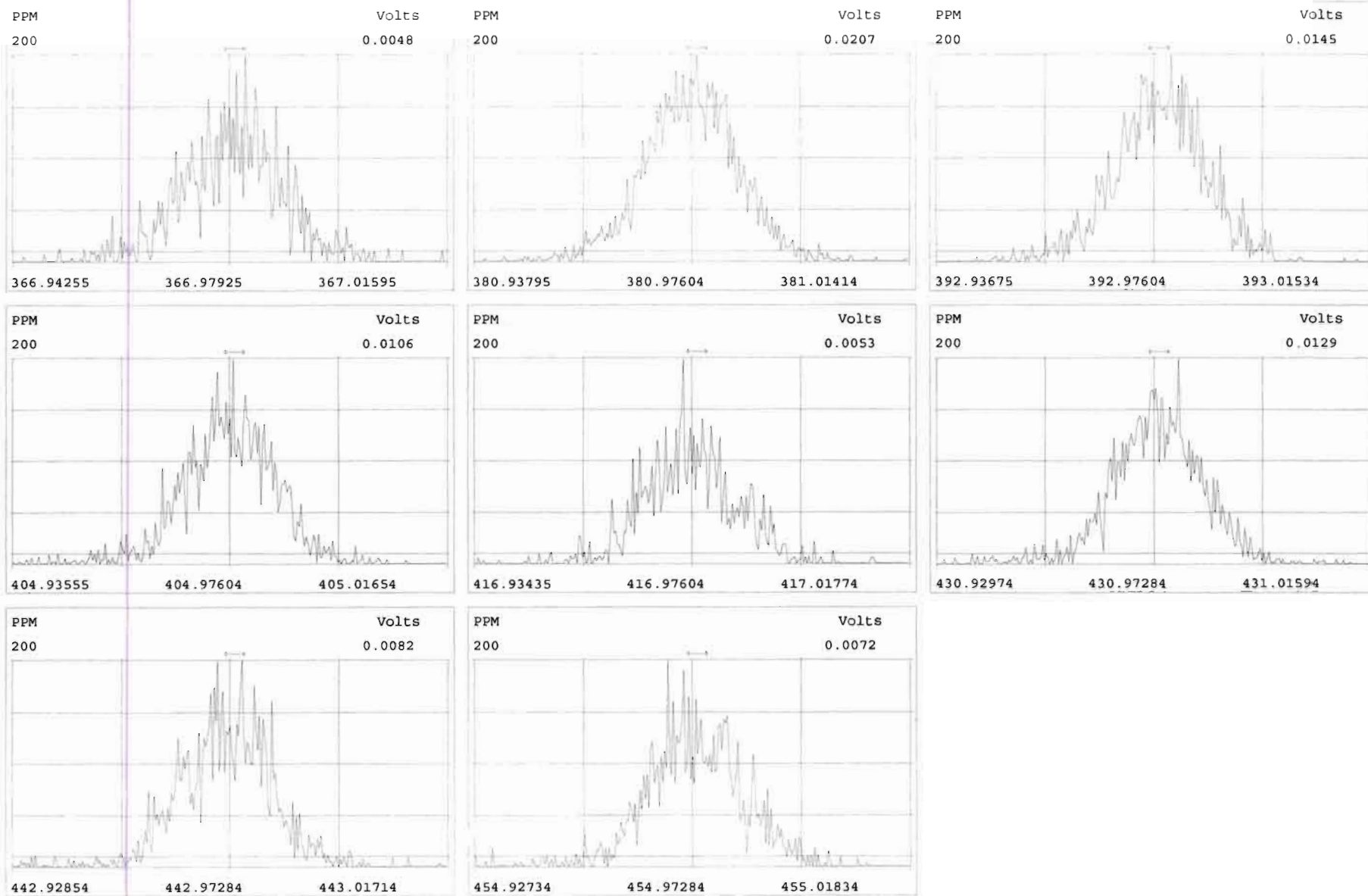
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Experiment:OCDD\_DB5 Function:2 Reference:PPK



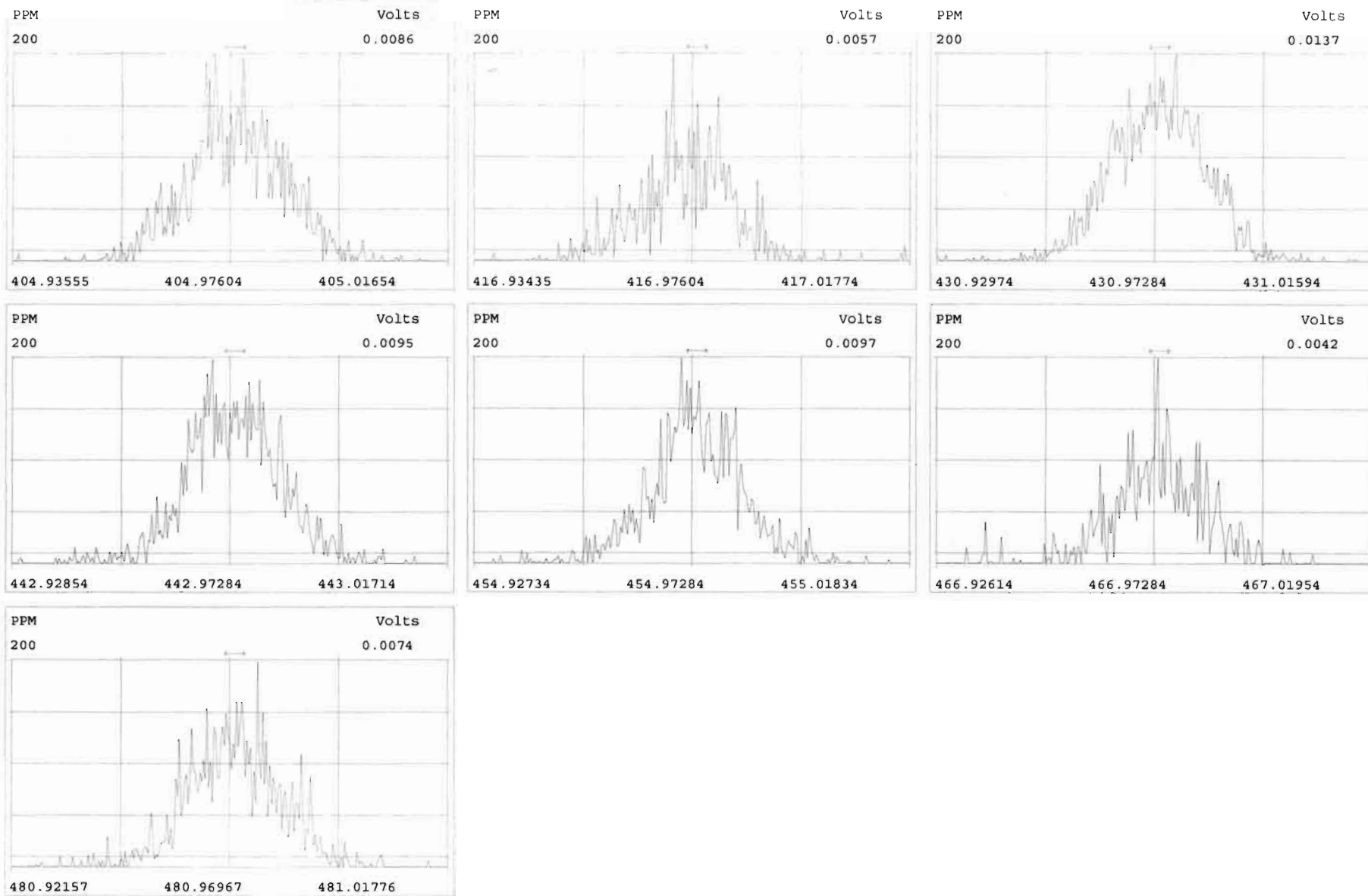
Peak Locate Examination:11-JAN-2020:00:30 File:RES\_CHRCK

Experiment:OCDD\_DB5 Function:3 Reference:PFK



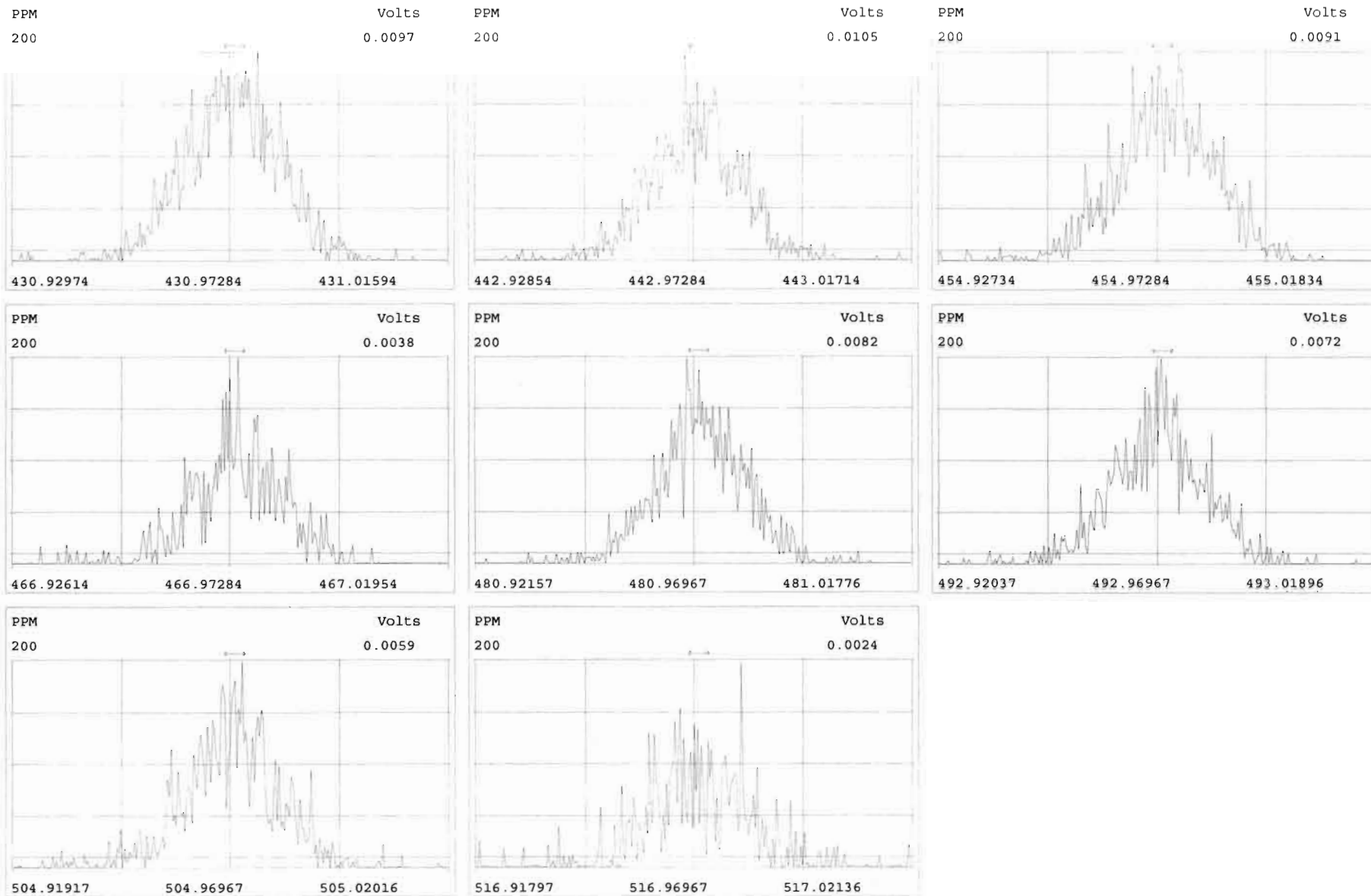
Peak Locate Examination:11-JAN-2020:00:31 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:4 Reference:PFK

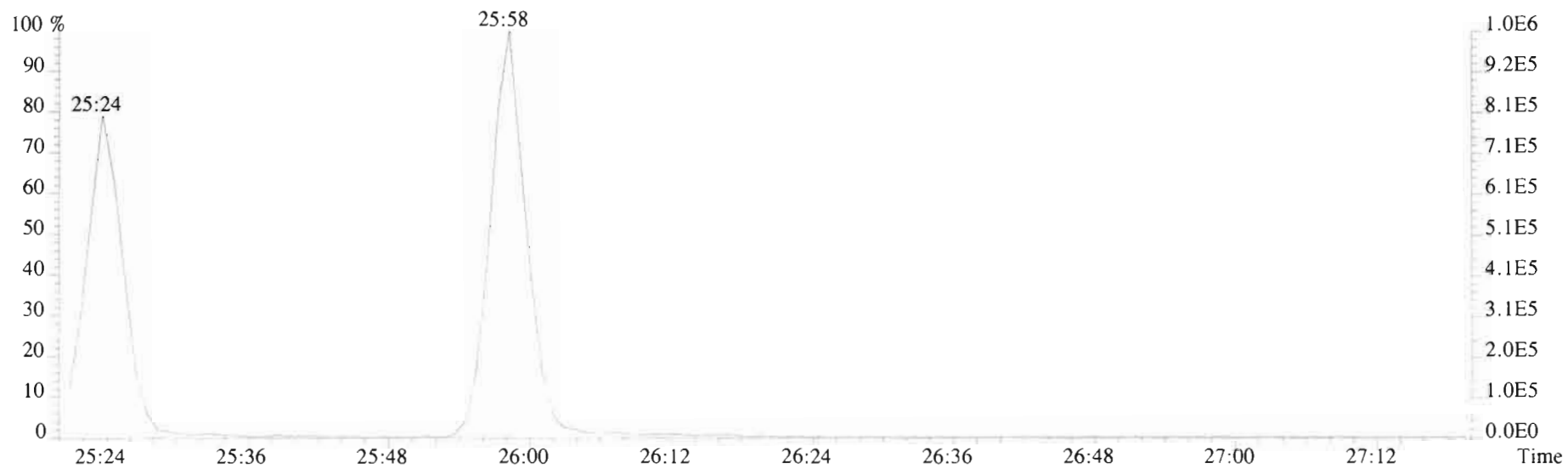
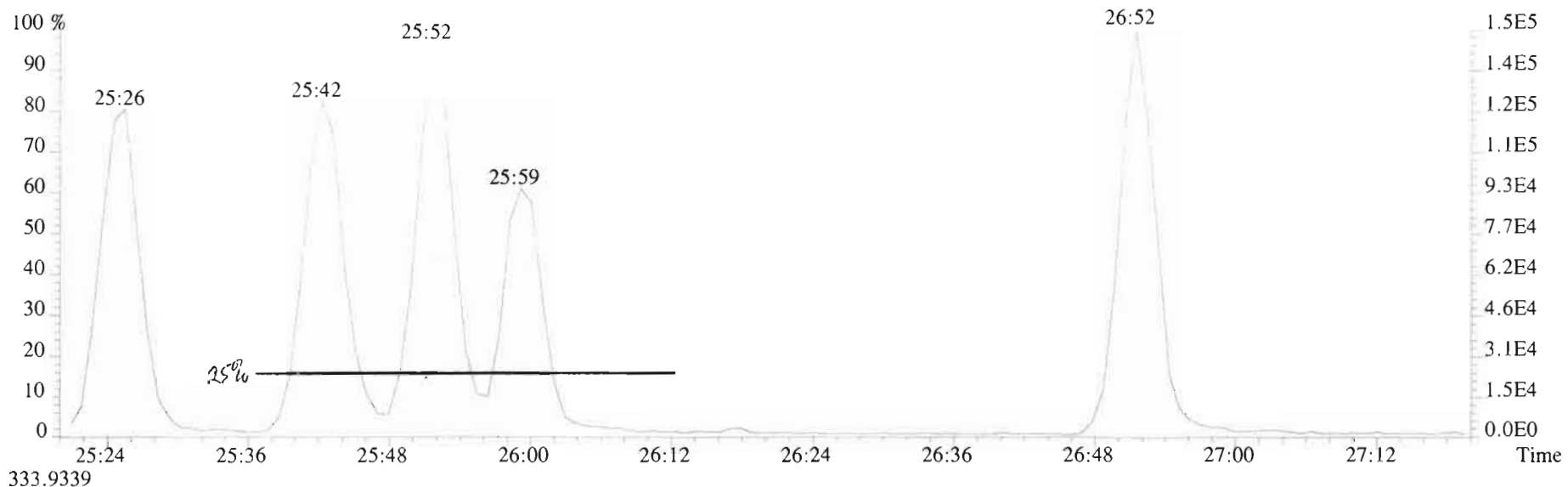


Peak Locate Examination: 11-JAN-2020:00:32 File: RES\_CHECK

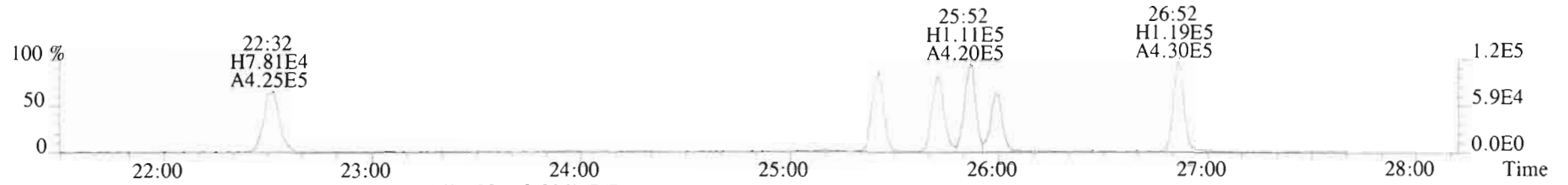
Experiment: OCDD\_DB5 Function: 5 Reference: PFK



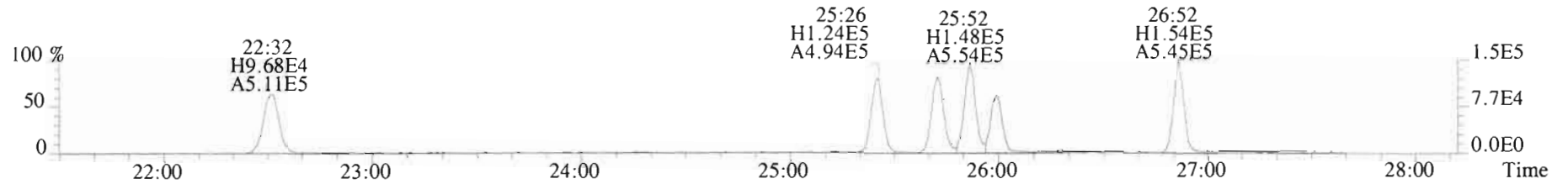
File:200110D2 #1-492 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
321.8936



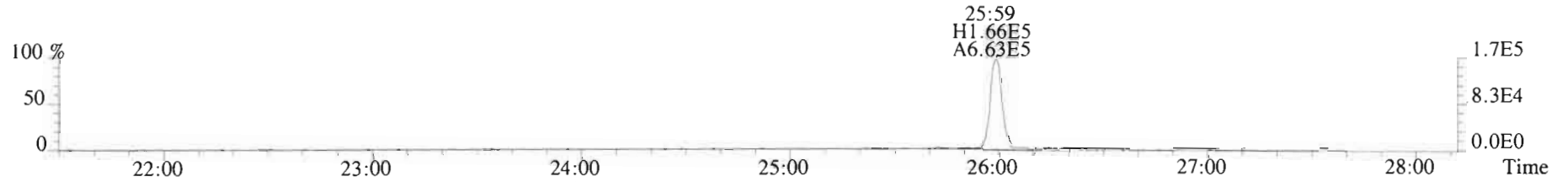
File:200110D2 #1-492 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



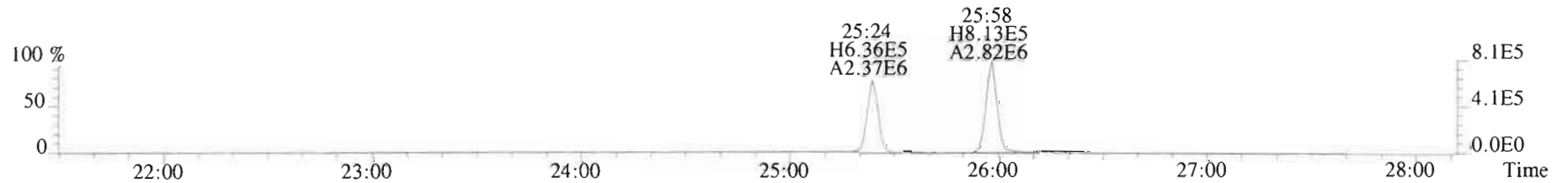
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



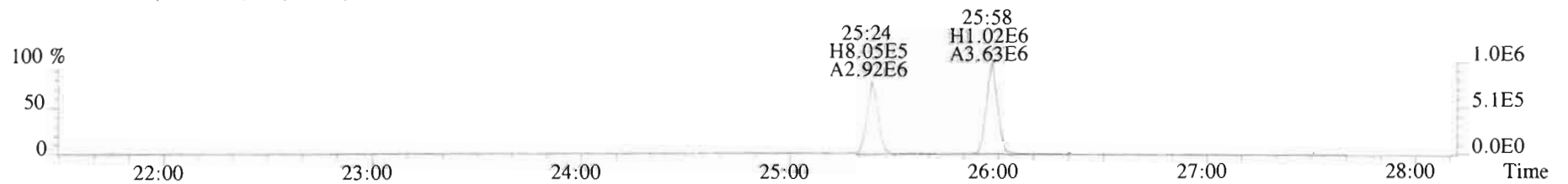
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



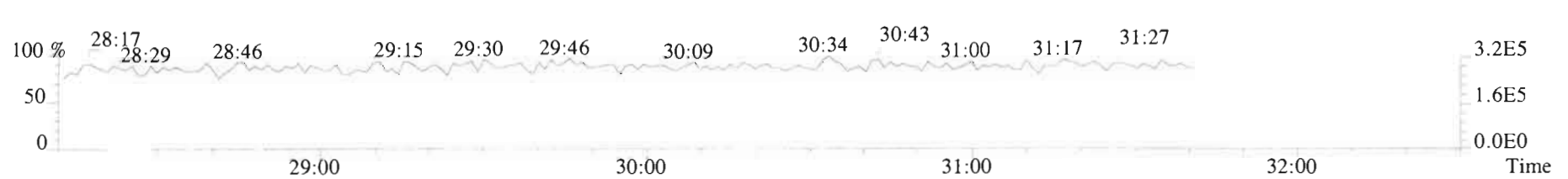
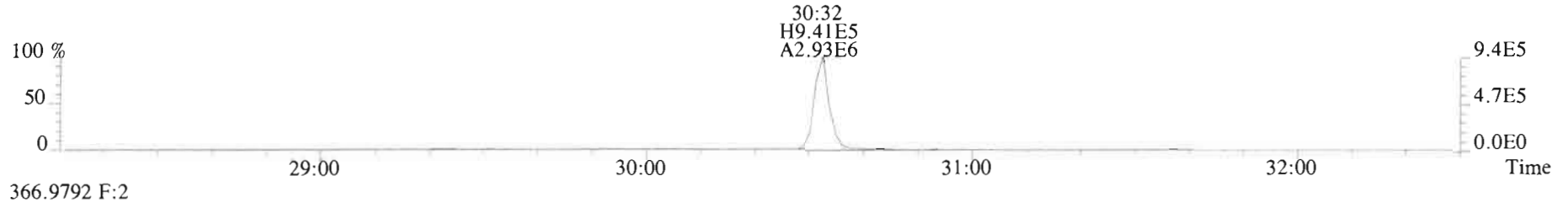
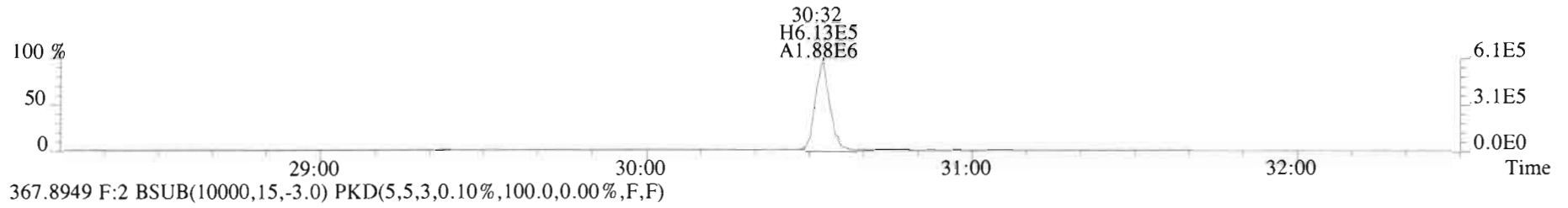
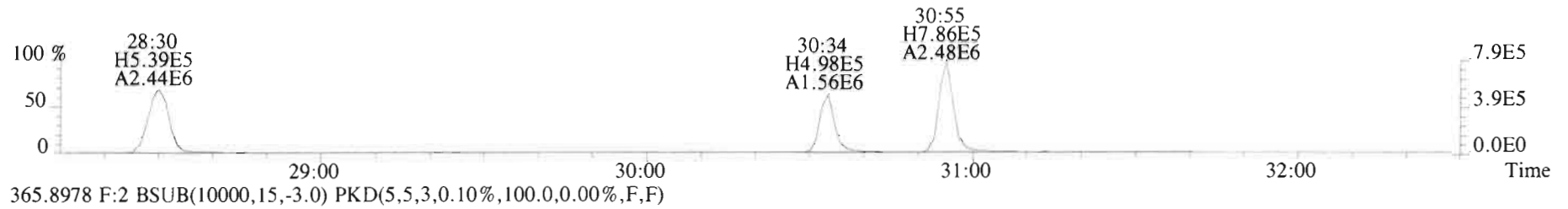
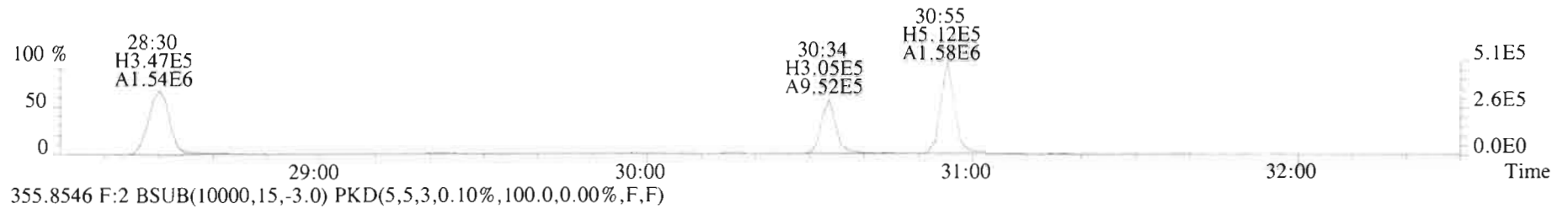
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



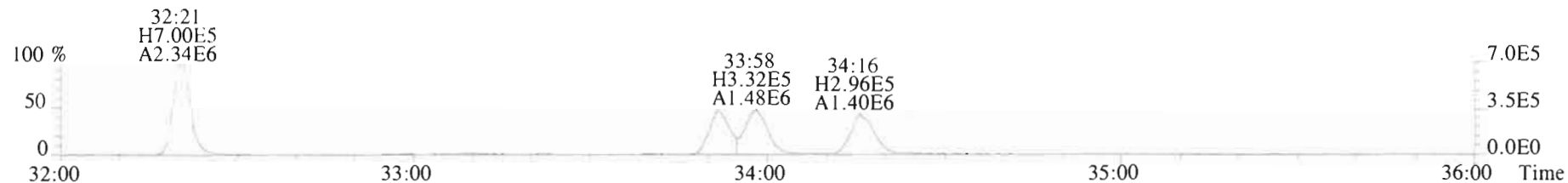
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



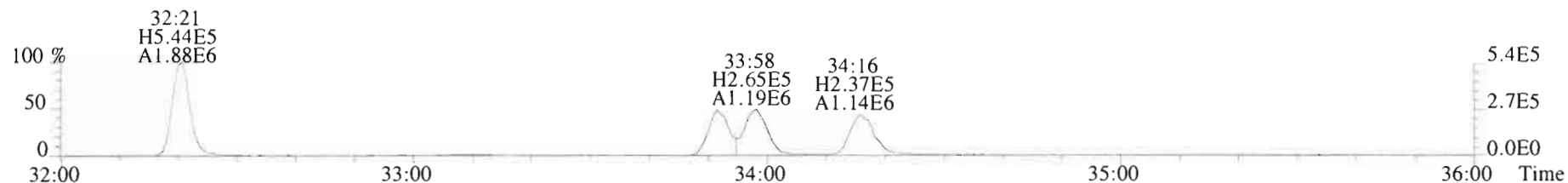
File: 200110D2 #1-211 Acq: 11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory\_VG7 Text: ST200110D2-1 1613 CS3 1911604 Exp: OCDD\_DB5  
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



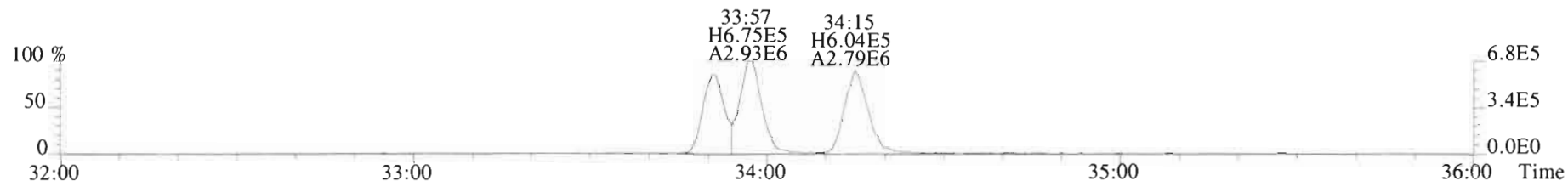
File:200110D2 #1-385 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



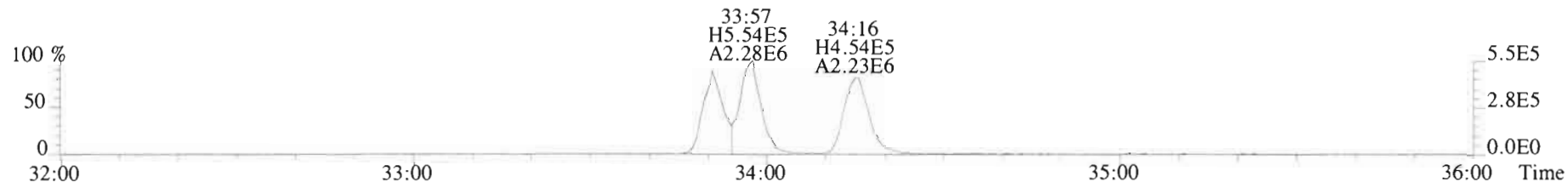
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



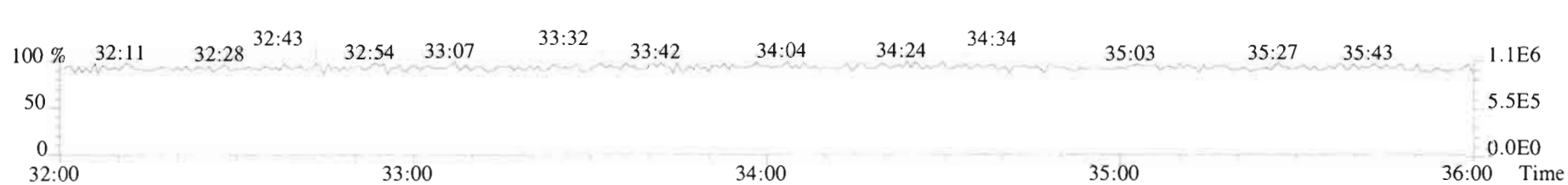
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

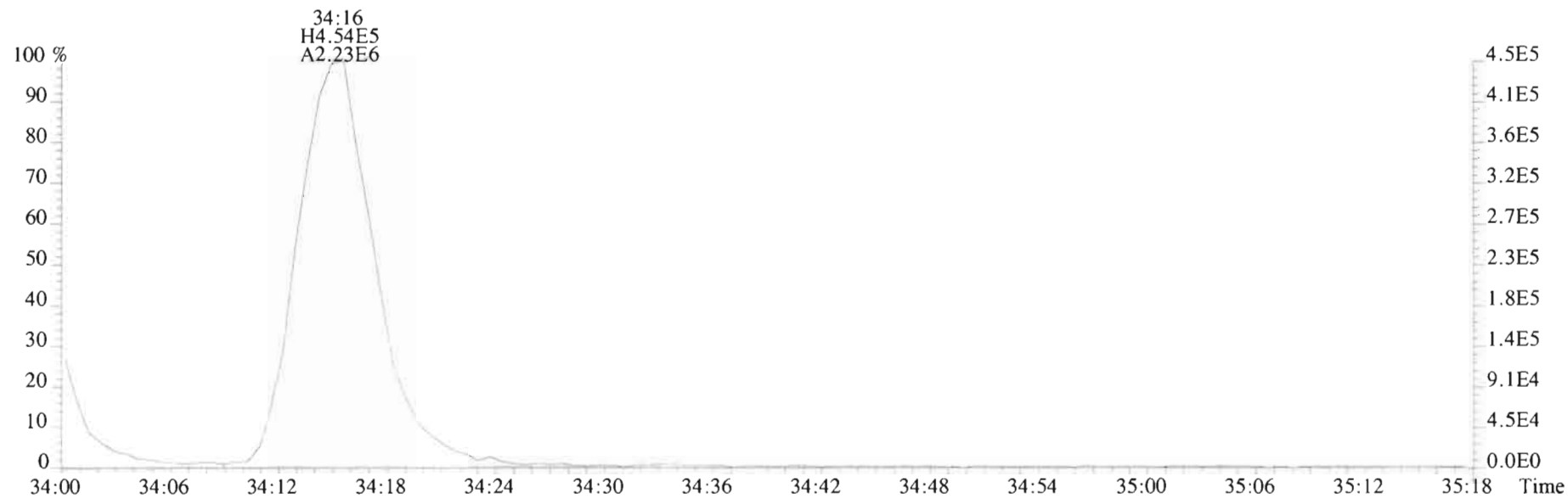
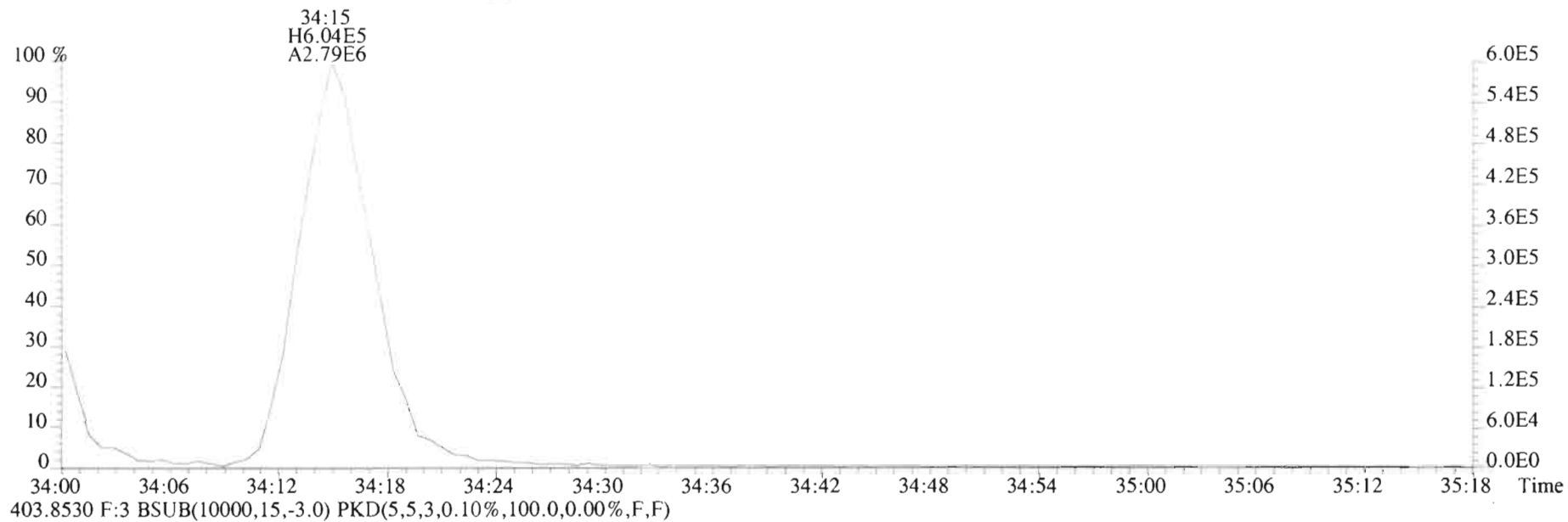


392.9760 F:3

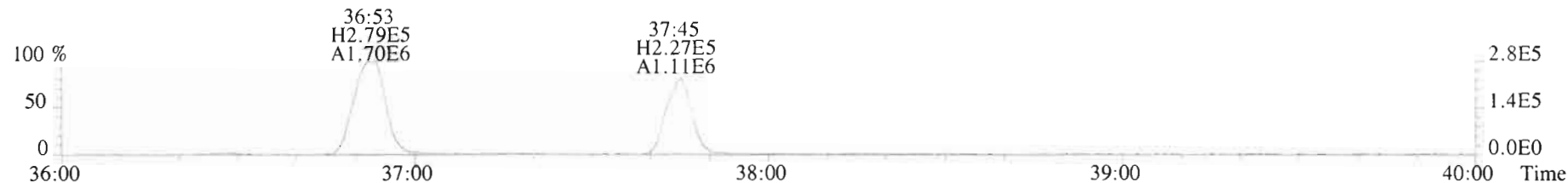




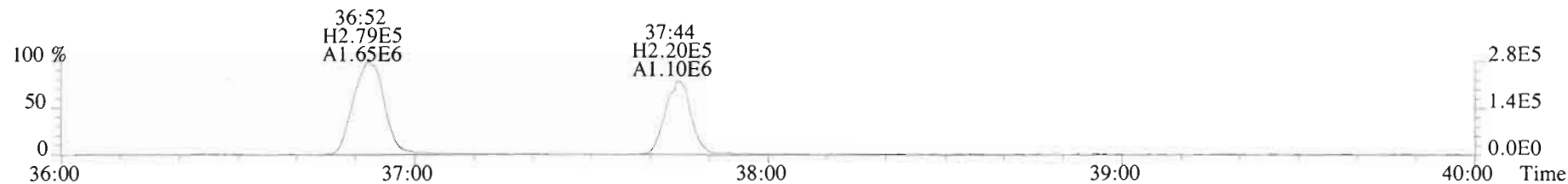
File:200110D2 #1-385 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



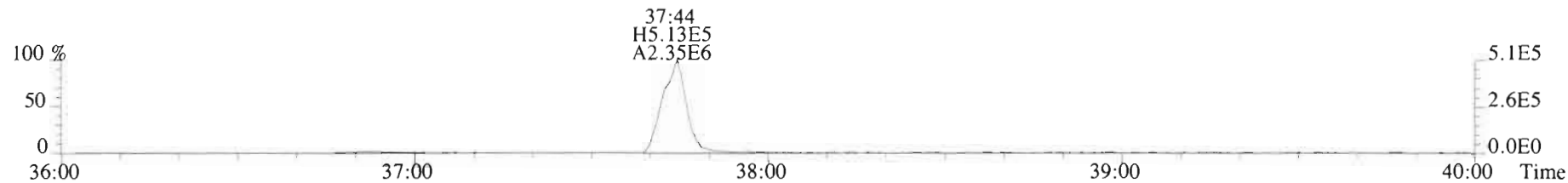
File:200110D2 #1-355 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



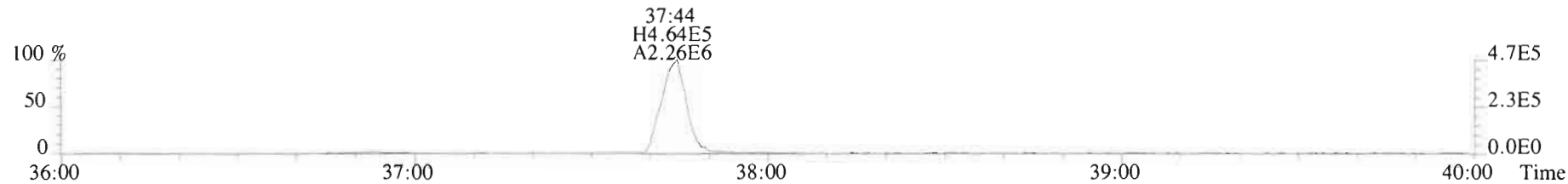
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



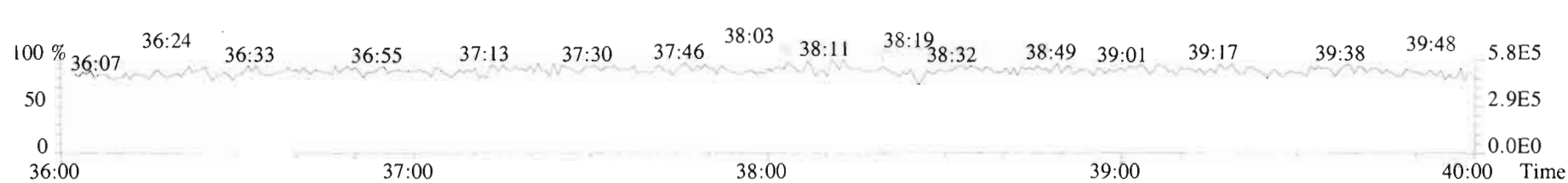
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



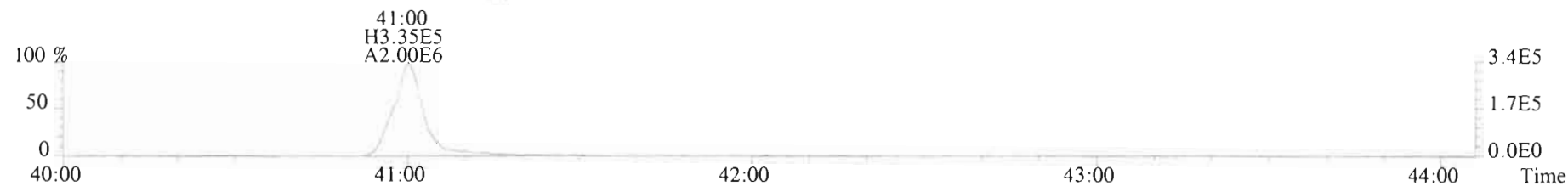
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



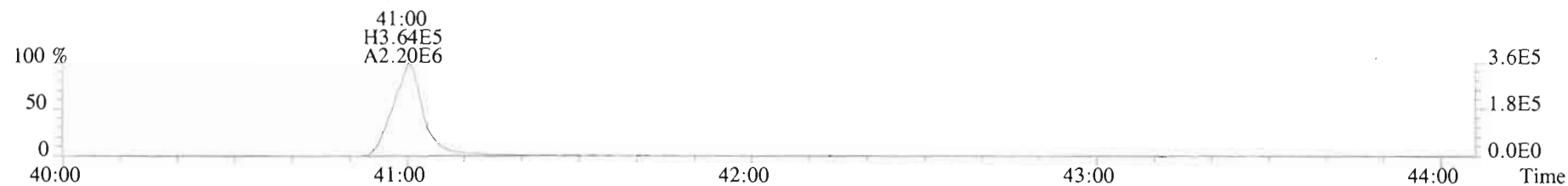
454.9728 F:4



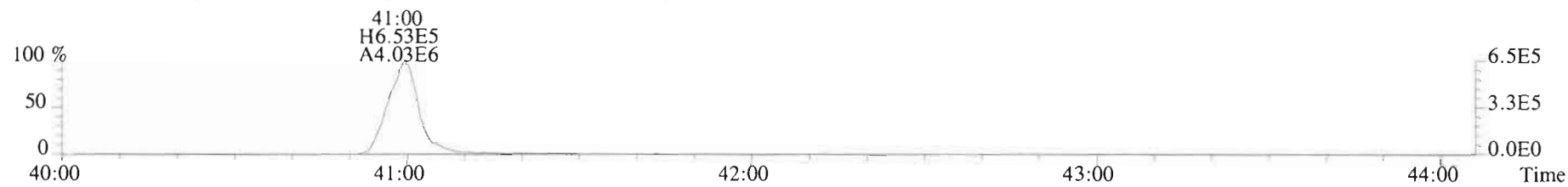
File:200110D2 #1-432 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F)



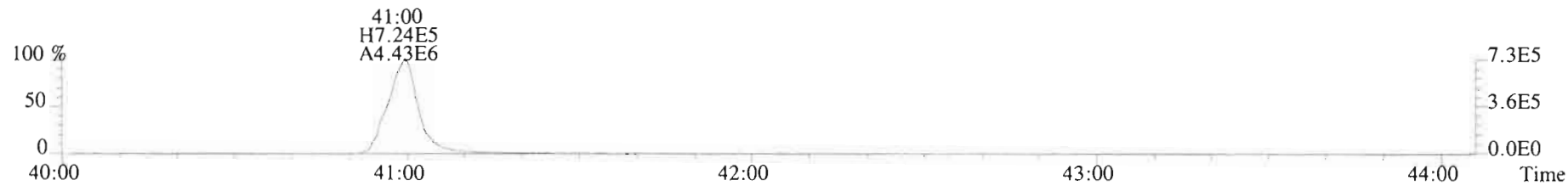
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



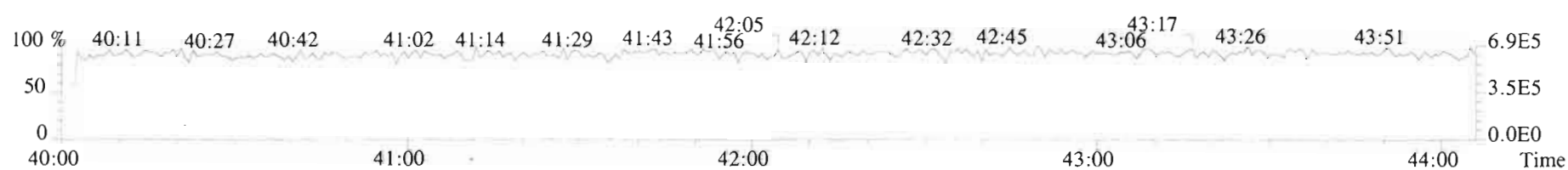
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



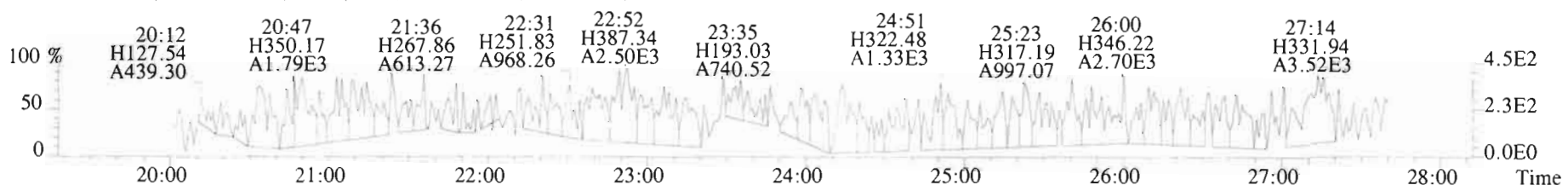
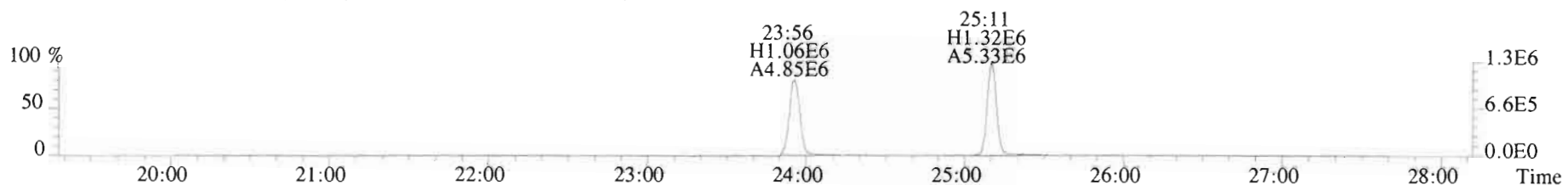
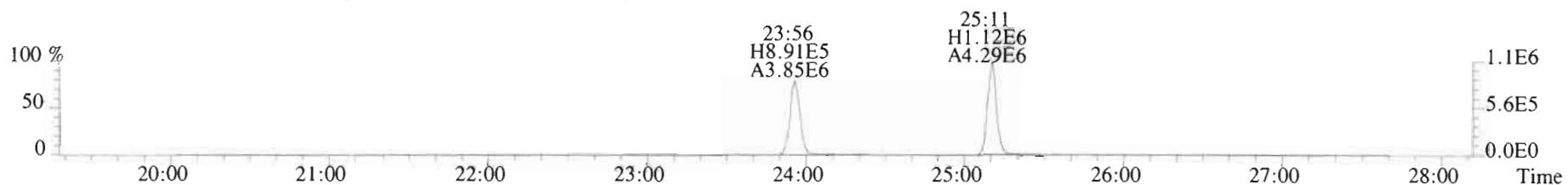
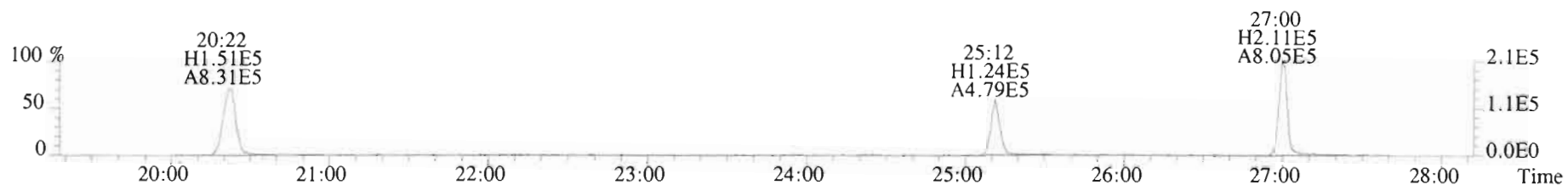
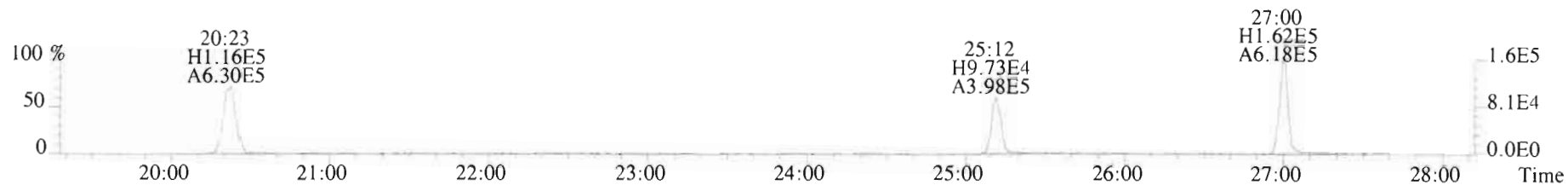
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



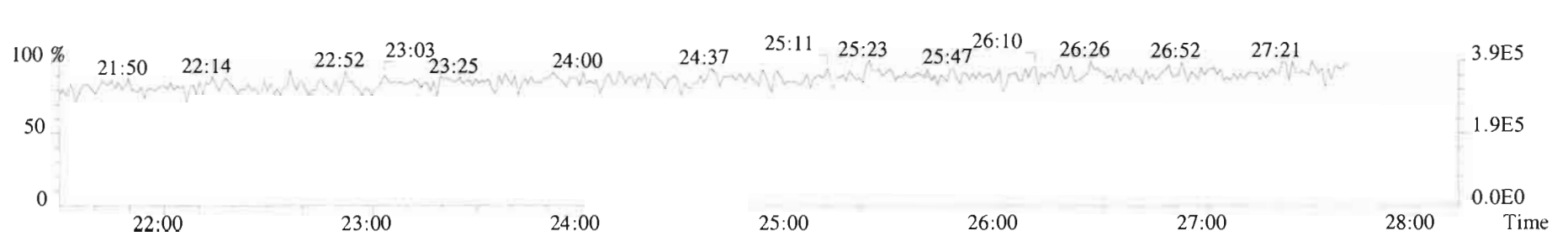
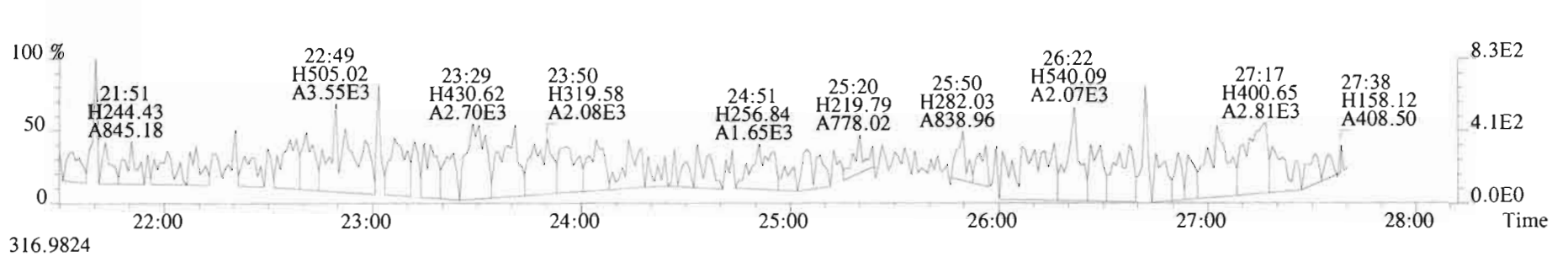
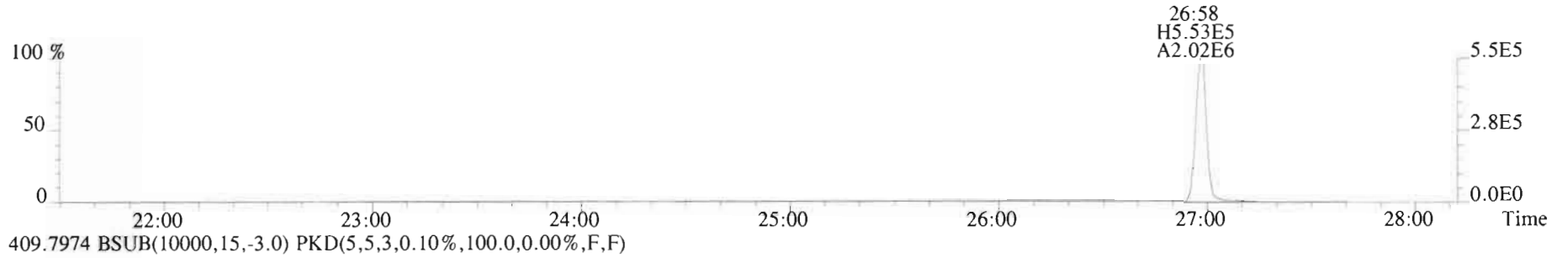
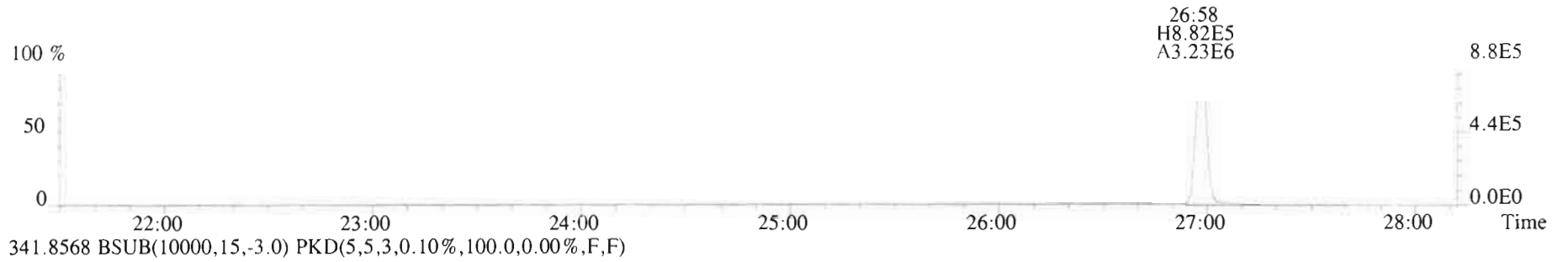
454.9728 F:5



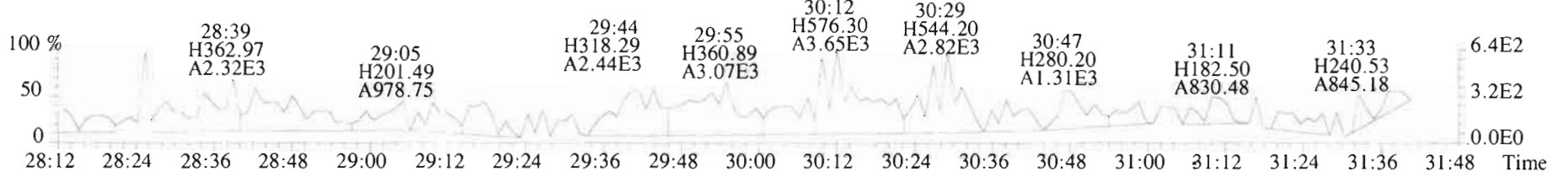
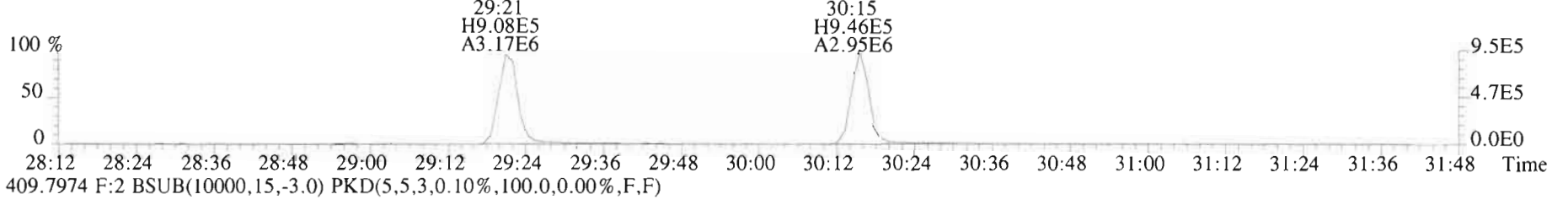
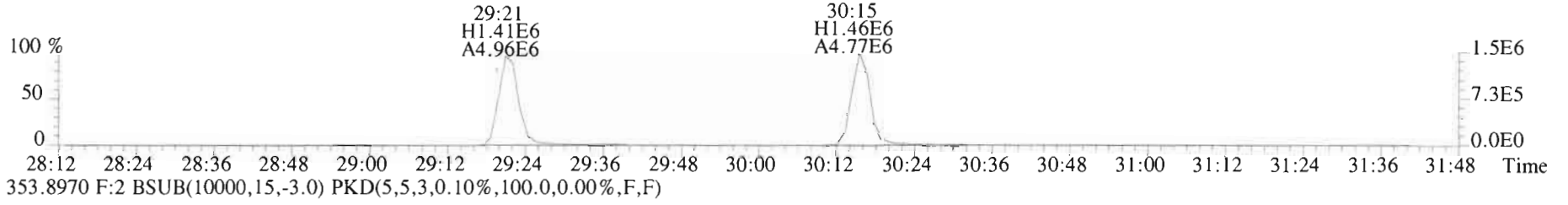
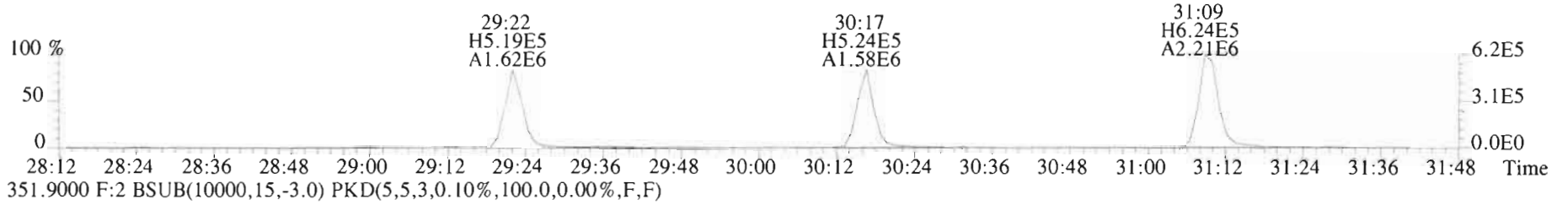
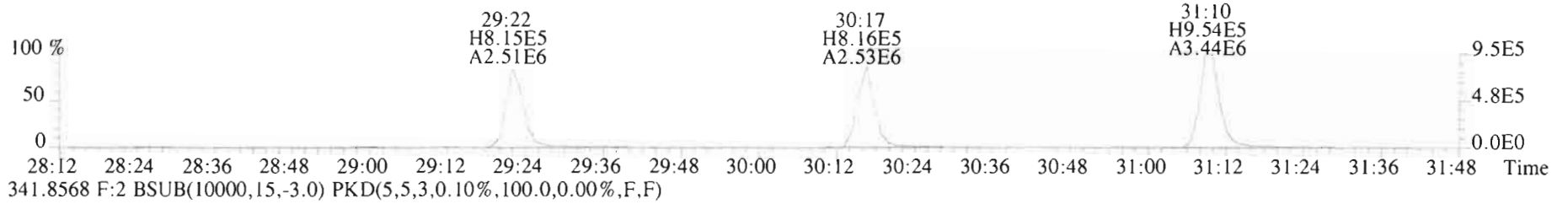
File:200110D2 #1-492 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



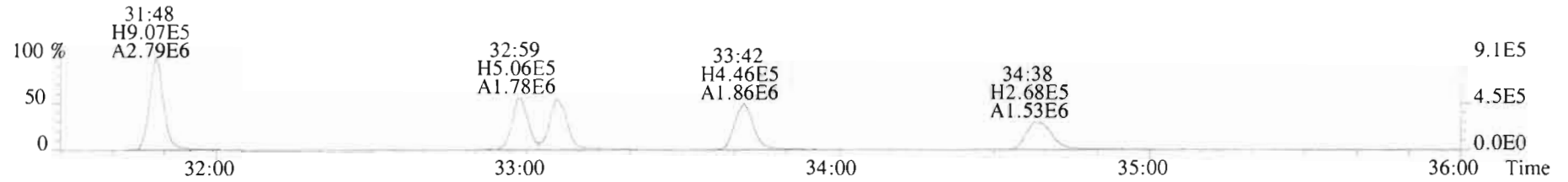
File:200110D2 #1-492 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



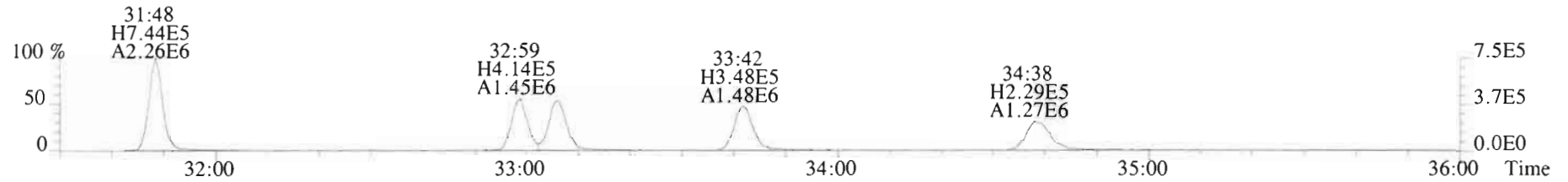
File:200110D2 #1-211 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



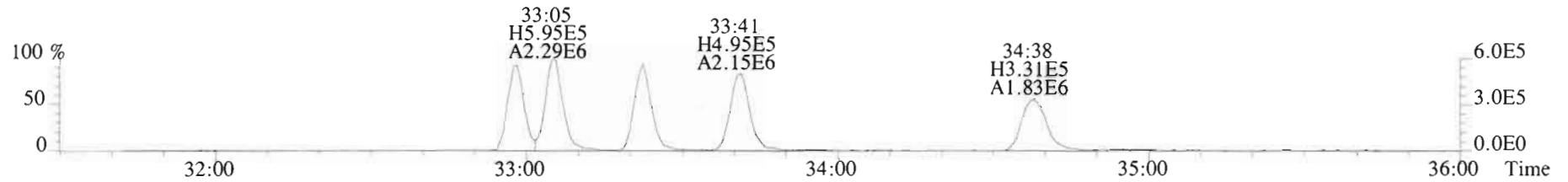
File:200110D2 #1-385 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaF  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



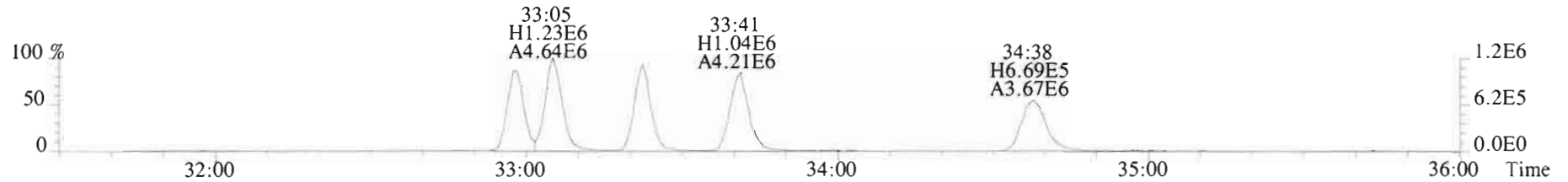
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



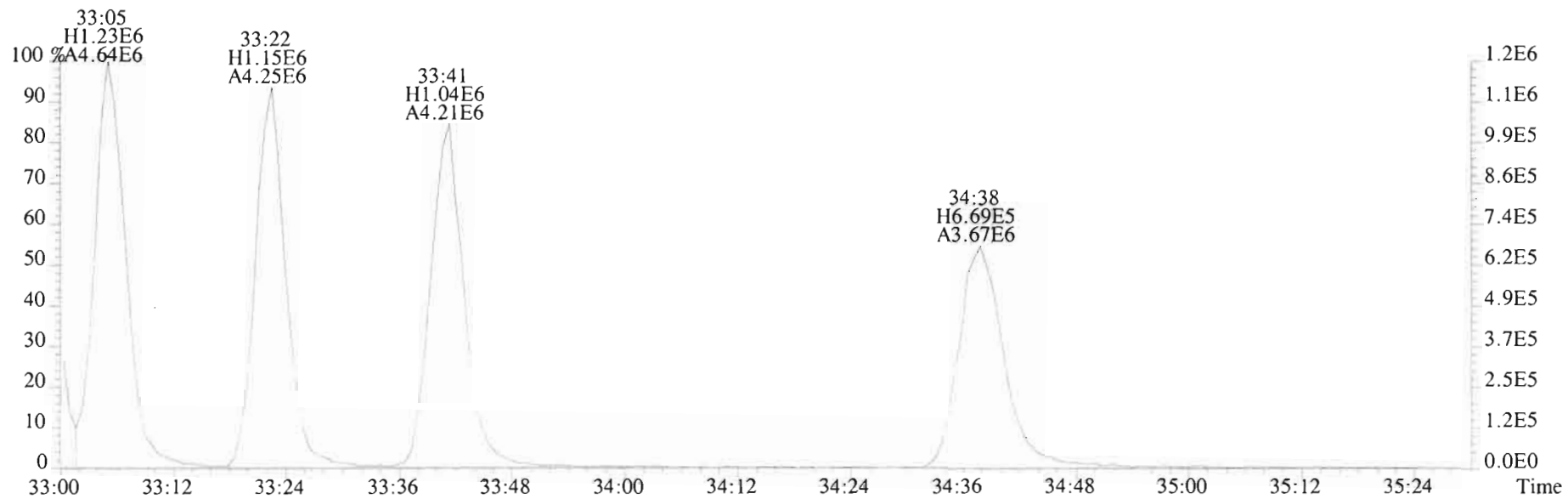
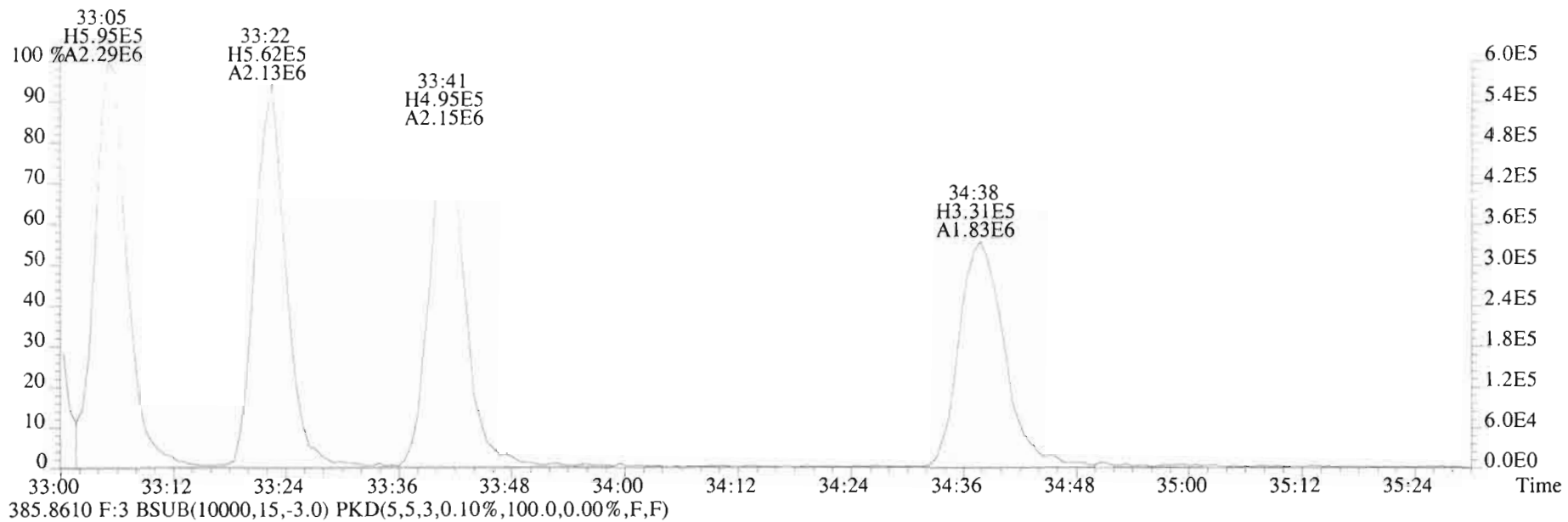
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

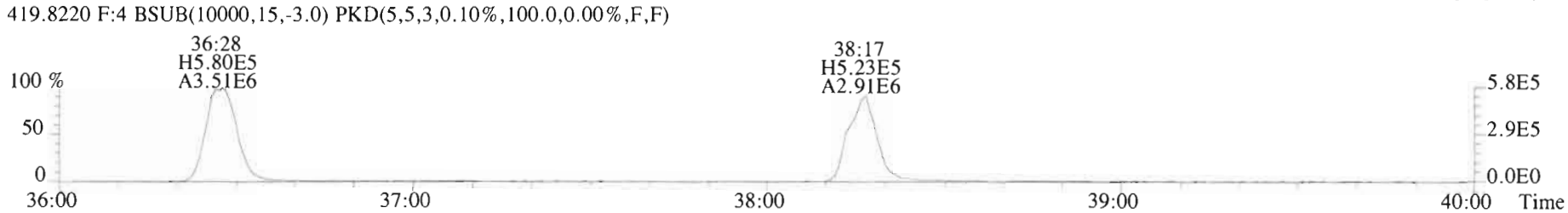
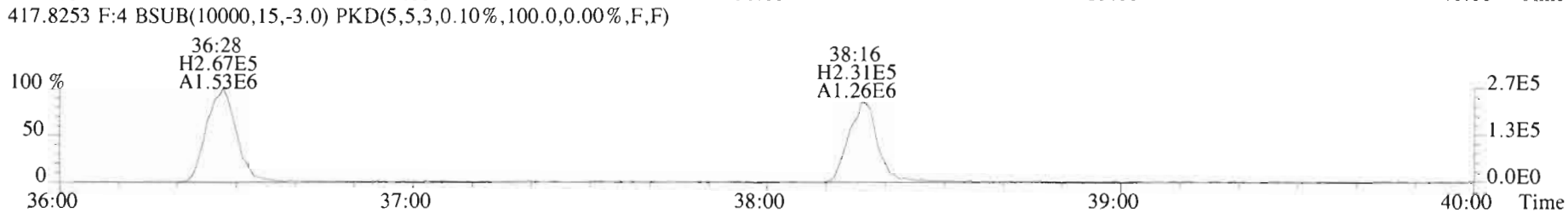
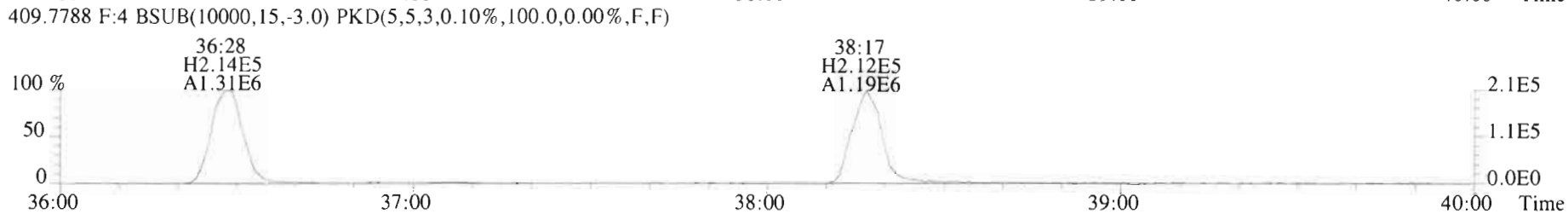
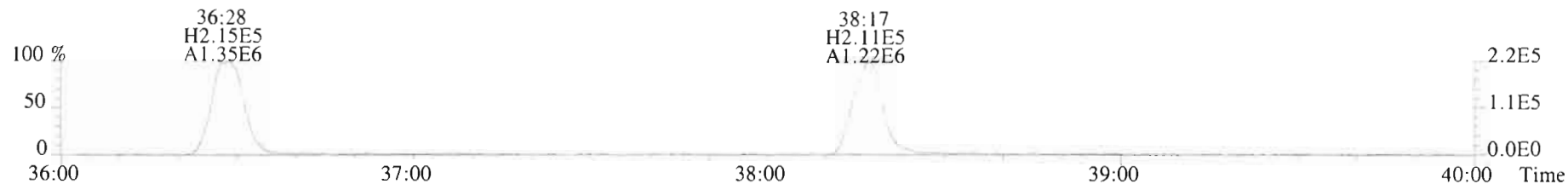


File:200110D2 #1-385 Acq:11-JAN 2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





File:200110D2 #1-355 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST200110D2-1 1613 CS3 1911604 Exp:OCDD\_DB5  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5.5,3.0,10%,100.0,0.00%,F,F)



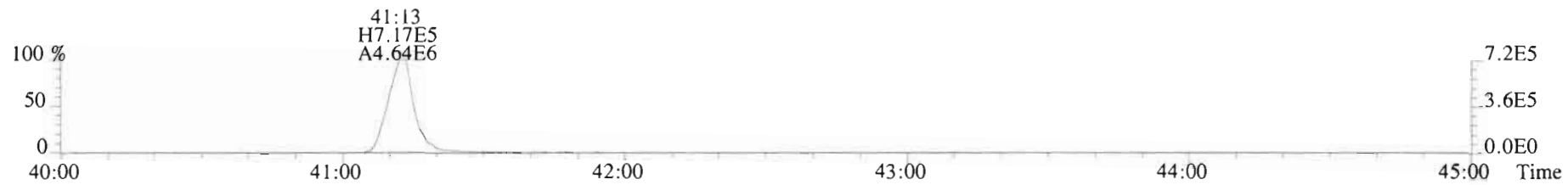
File:200110D2 #1-432 Acq:11-JAN-2020 00:33:18 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST200110D2-1 1613 C:S3 1911604 Exp:OCDD\_DB5  
 441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



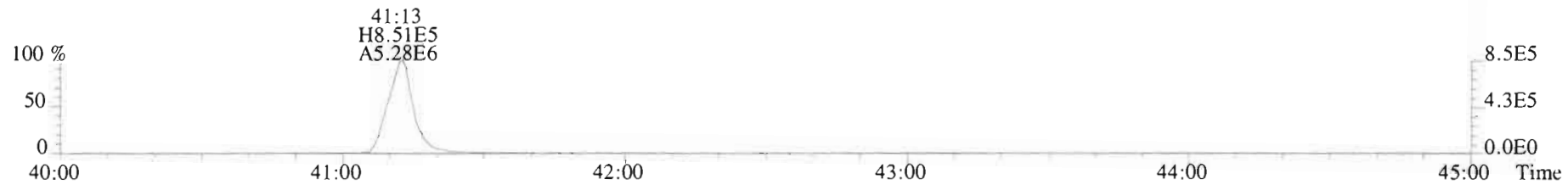
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

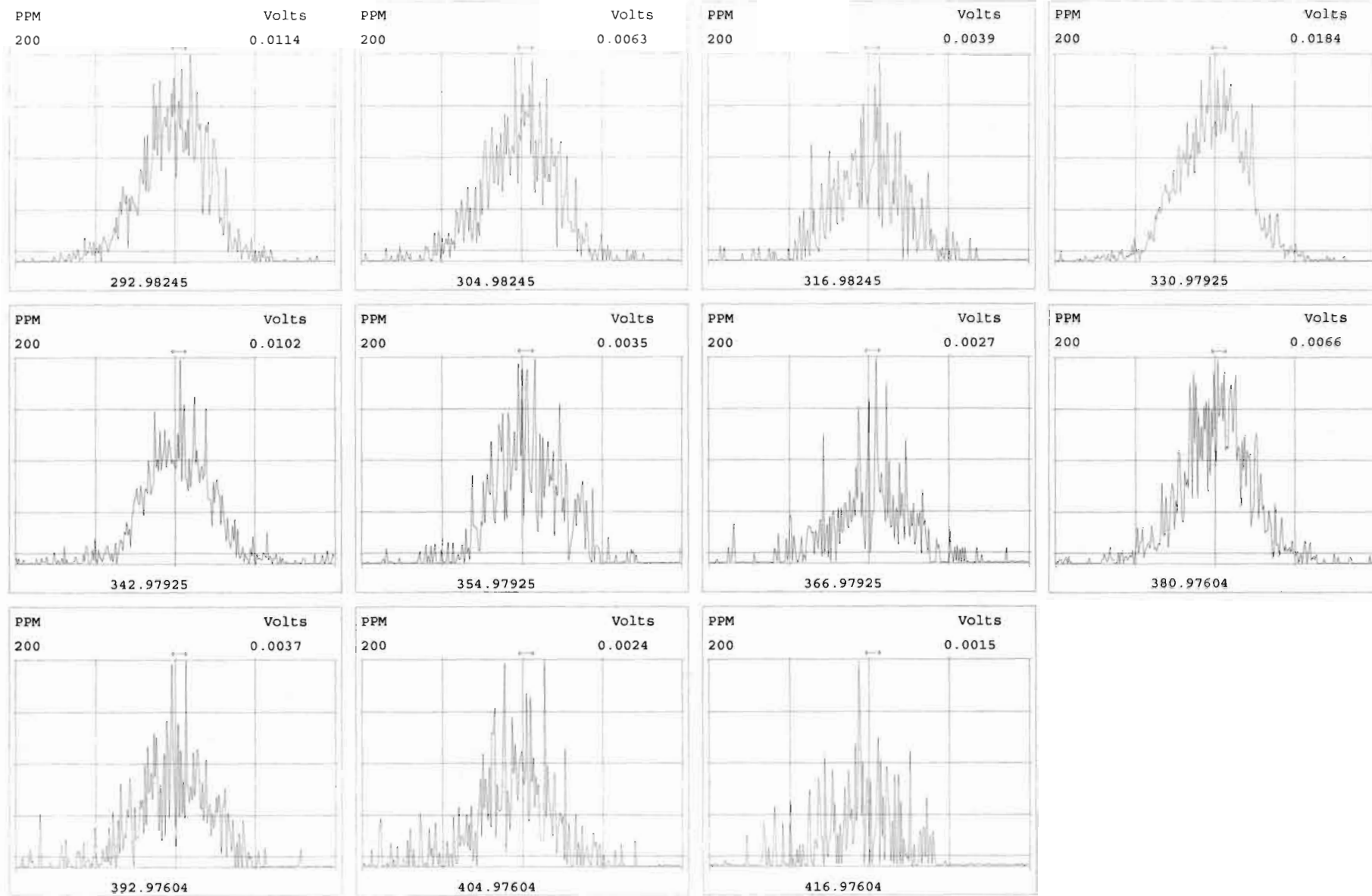


455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



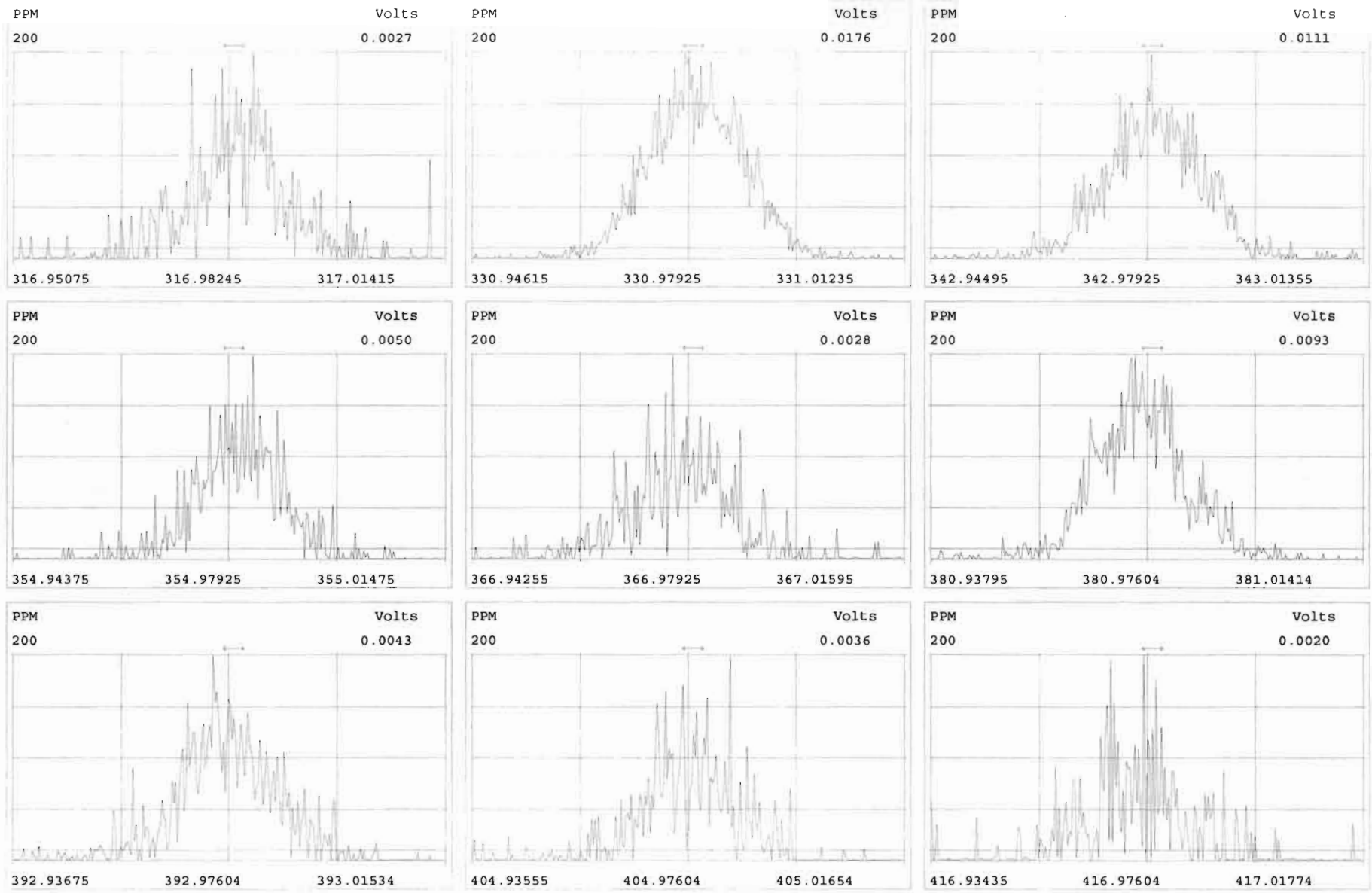
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





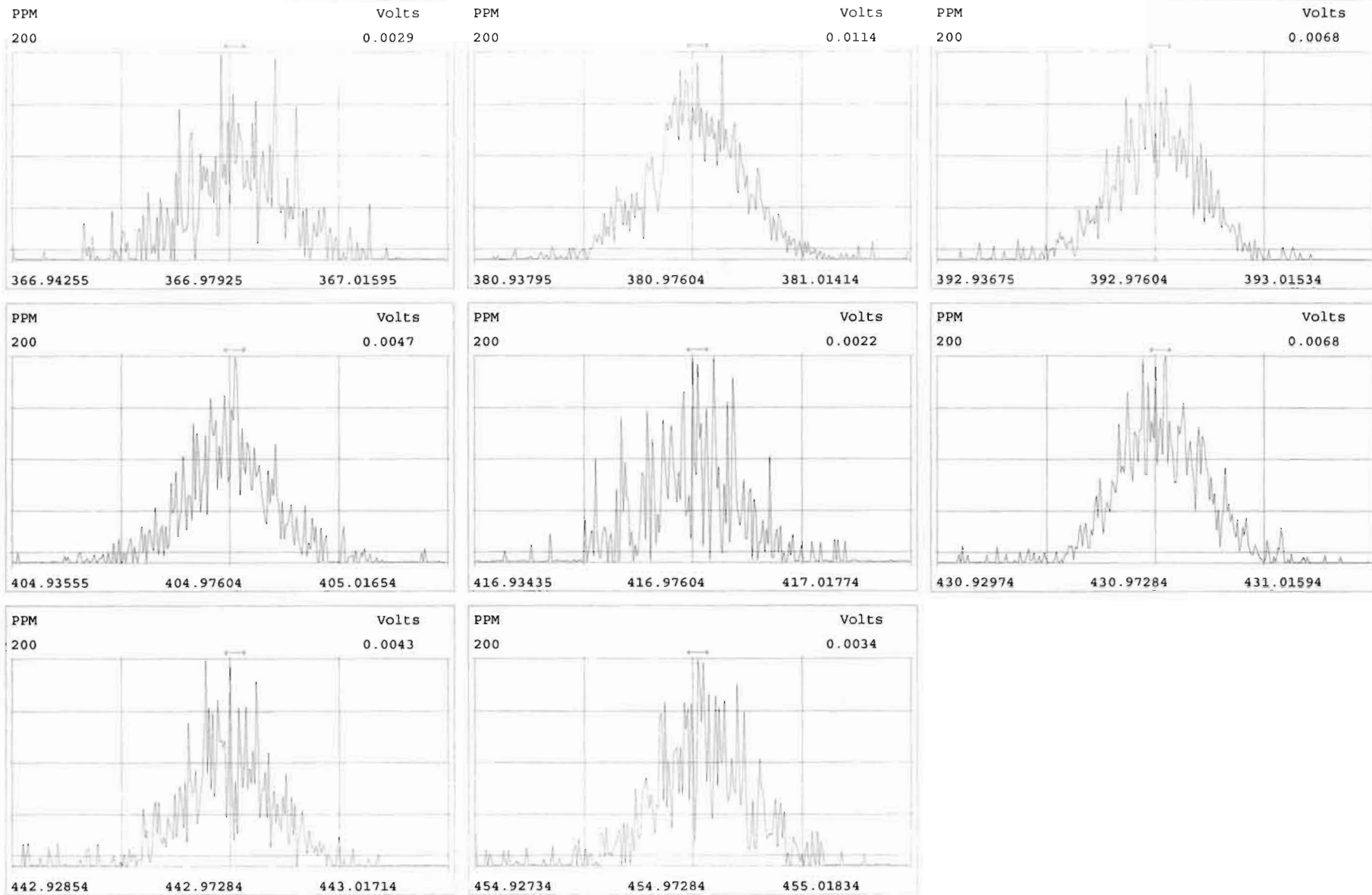
Peak Locate Examination:11-JAN-2020:11:54 File:RES\_CHECK

Experiment:OCDD DB5 Function:2 Reference:PFK



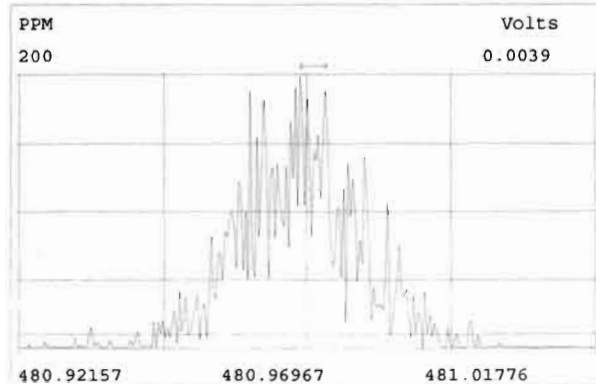
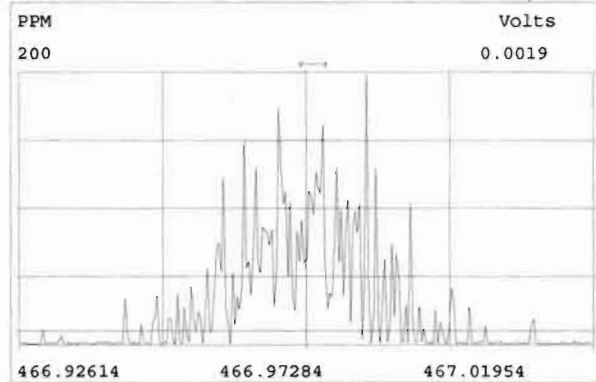
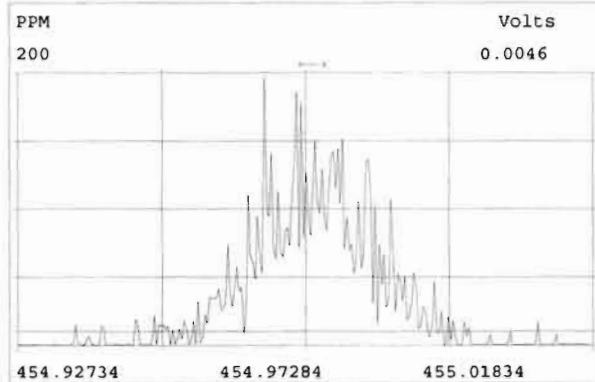
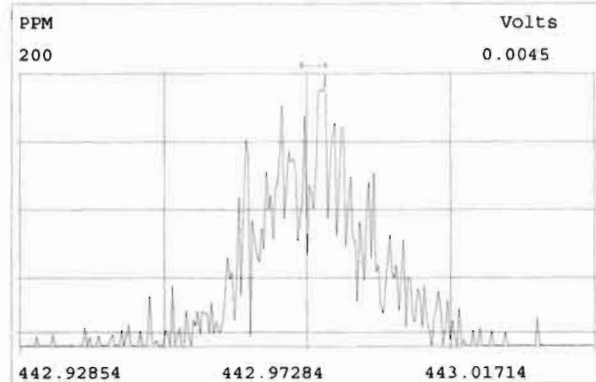
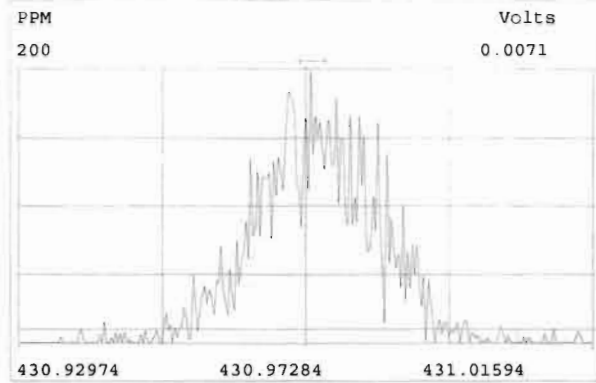
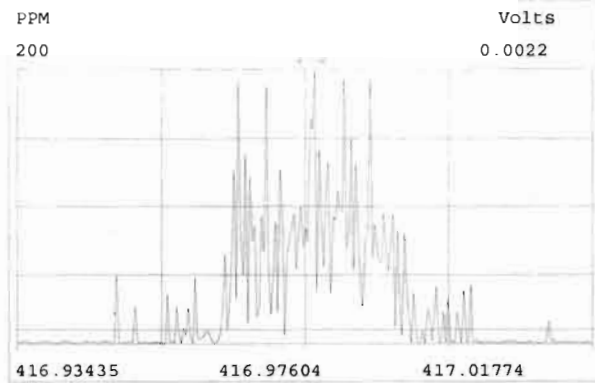
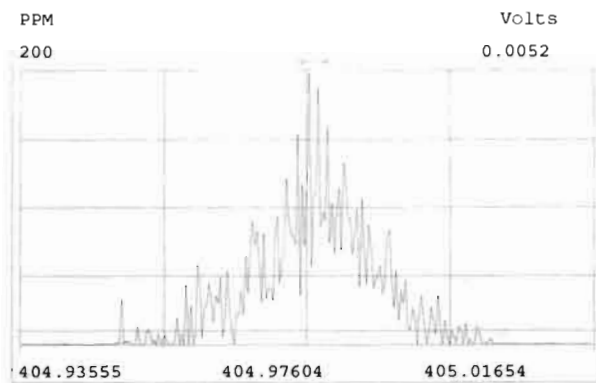
Peak Locate Examination:11-JAN-2020:11:55 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:3 Reference:PFK



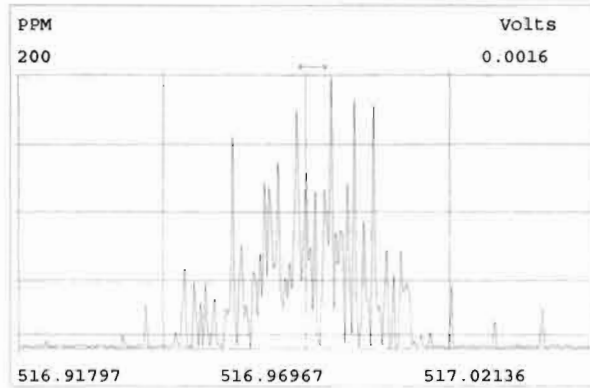
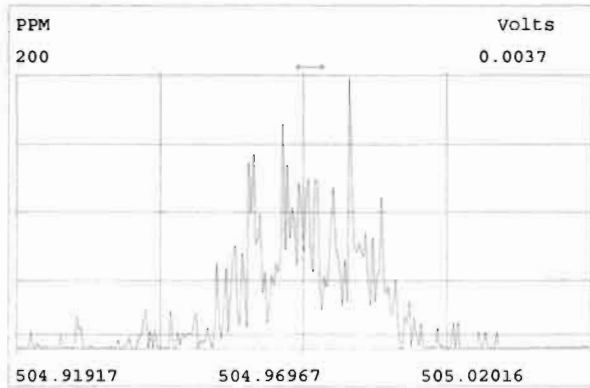
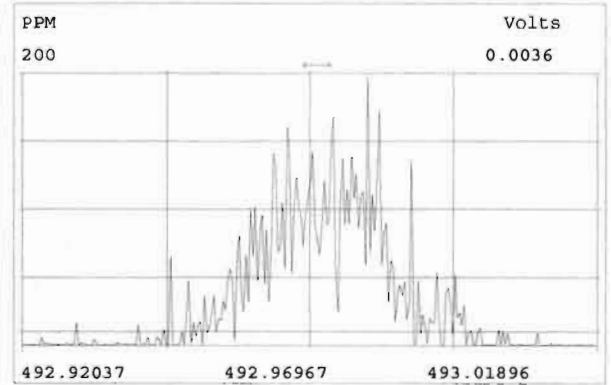
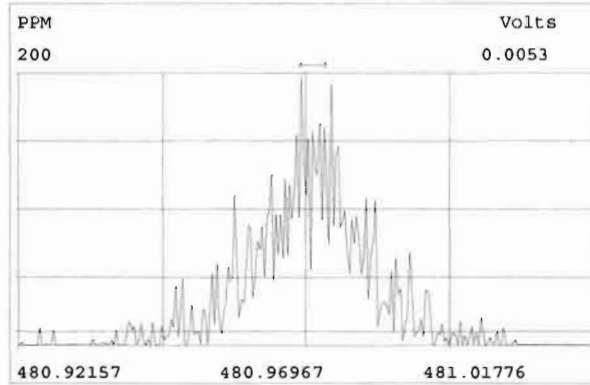
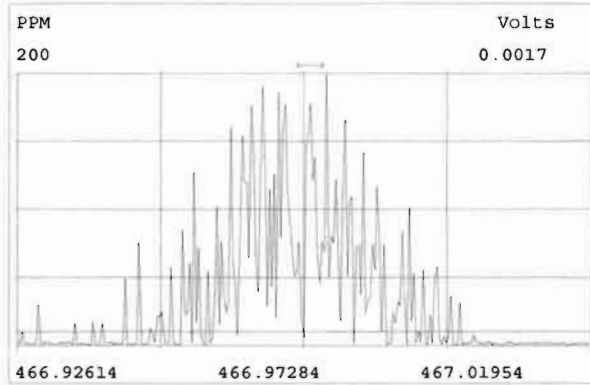
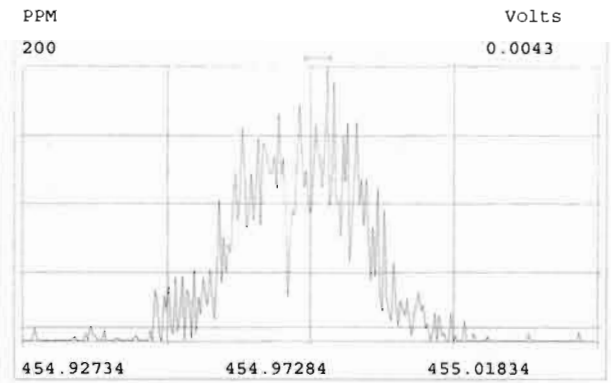
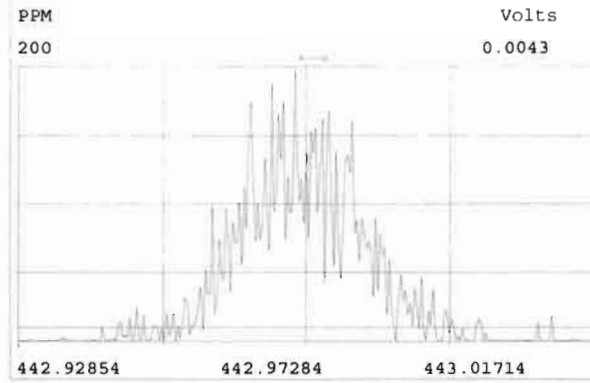
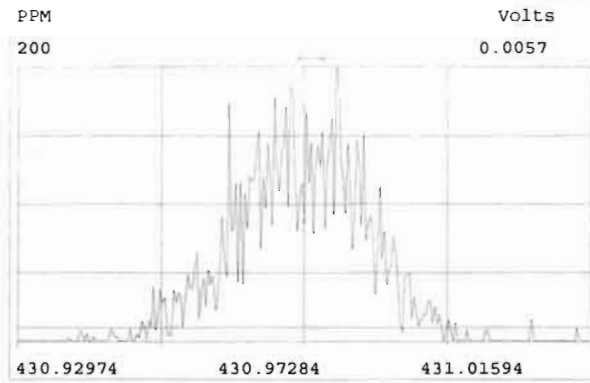
Peak Locate Examination:11-JAN-2020:11:56 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:4 Reference:PFK



Peak Locate Examination:11-JAN-2020:11:57 File:RES\_CHECK

Experiment:OCDD\_DB5 Function:5 Reference:PFK



## **INITIAL CALIBRATION**



Data filename: 191009D1  
 Samp# 1 0.25 Samp# 2 0.50 Samp# 3 2.0 Samp# 4 10 Samp# 5 40 Samp# 6 300

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
1,2,3,7,8-PeCDD	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
1,2,3,4,7,8-HxCDD	1.1013	3.97 %	1.12	1.13	1.03	1.08	1.09	1.15
1,2,3,6,7,8-HxCDD	0.9386	7.68 %	0.83	0.88	1.01	0.92	0.98	1.00
1,2,3,7,8,9-HxCDD	0.9613	4.62 %	0.95	0.90	0.93	0.95	1.00	1.03
1,2,3,4,6,7,8-HpCDD	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
OCDD	0.9585	4.07 %	0.93	0.94	0.92	0.94	1.01	1.01
2,3,7,8-TCDF	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1,2,3,7,8-PeCDF	0.9603	4.05 %	0.94	0.94	0.92	0.95	1.00	1.01
2,3,4,7,8-PeCDF	1.0148	3.01 %	1.00	0.99	1.00	1.00	1.03	1.07
1,2,3,4,7,8-HxCDF	1.1768	4.35 %	1.23	1.11	1.15	1.14	1.20	1.24
1,2,3,6,7,8-HxCDF	1.0689	3.63 %	1.01	1.07	1.06	1.05	1.12	1.11
2,3,4,6,7,8-HxCDF	1.1136	5.58 %	1.06	1.03	1.12	1.11	1.16	1.20
1,2,3,7,8,9-HxCDF	1.0616	3.91 %	1.05	1.02	1.02	1.06	1.08	1.13
1,2,3,4,6,7,8-HpCDF	1.1276	3.90 %	1.13	1.13	1.06	1.10	1.17	1.18
1,2,3,4,7,8,9-HpCDF	1.2799	3.29 %	1.30	1.24	1.25	1.25	1.31	1.34
OCDF	0.9472	3.80 %	0.95	0.92	0.91	0.92	1.00	0.98
13C-2,3,7,8-TCDD	1.0954	1.91 %	1.11	1.08	1.06	1.10	1.12	1.11
13C-1,2,3,7,8-PeCDD	0.8814	5.11 %	0.89	0.86	0.83	0.86	0.89	0.96
13C-1,2,3,4,7,8-HxCDD	0.6421	10.35 %	0.65	0.60	0.58	0.61	0.65	0.77
13C-1,2,3,6,7,8-HxCDD	0.8555	4.13 %	0.86	0.87	0.82	0.87	0.80	0.90
13C-1,2,3,7,8,9-HxCDD	0.8066	5.57 %	0.84	0.80	0.76	0.80	0.76	0.88
13C-1,2,3,4,6,7,8-HpCDD	0.6539	9.07 %	0.70	0.63	0.59	0.62	0.63	0.75
13C-OCDD	0.5797	10.98 %	0.60	0.52	0.53	0.55	0.59	0.69
13C-2,3,7,8-TCDF	1.0349	1.62 %	1.04	1.00	1.03	1.05	1.04	1.04
13C-1,2,3,7,8-PeCDF	0.8542	4.58 %	0.84	0.82	0.82	0.87	0.86	0.92
13C-2,3,4,7,8-PeCDF	0.8471	3.79 %	0.81	0.84	0.83	0.84	0.85	0.91
13C-1,2,3,4,7,8-HxCDF	0.8317	8.50 %	0.76	0.80	0.79	0.86	0.83	0.96
13C-1,2,3,6,7,8-HxCDF	1.0344	5.35 %	1.00	1.03	1.03	1.03	0.98	1.14
13C-2,3,4,6,7,8-HxCDF	0.9533	6.17 %	0.94	0.94	0.90	0.93	0.93	1.07
13C-1,2,3,7,8,9-HxCDF	0.8277	8.68 %	0.82	0.80	0.77	0.78	0.83	0.96
13C-1,2,3,4,6,7,8-HpCDF	0.7575	6.47 %	0.76	0.73	0.72	0.75	0.73	0.85
13C-1,2,3,4,7,8,9-HpCDF	0.5812	8.97 %	0.62	0.54	0.52	0.55	0.58	0.66
13C-OCDF	0.6890	12.48 %	0.69	0.62	0.62	0.65	0.72	0.85
37Cl-2,3,7,8-TCDD	1.1977	8.83 %	1.40	1.16	1.16	1.11	1.15	1.21
13C-1,2,3,4-TCDD	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

DB CT  
 10/10/19 10/10/19

Filename: 191009D1 S: 1      Acquired: 9-OCT-19 16:13:04  
 Run: 191009D1    Analyte:            Cal: 1613VG7-10-9-19      Results:  
 Sample text: ST191009D1-1 1613 CS0 19C2201

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.25	1.97e+04	0.80 y	26:32	-	0.84
2	Unk	1,2,3,7,8-PeCDD	1.25	8.06e+04	0.62 y	30:54	-	0.86
3	Unk	1,2,3,4,7,8-HxCDD	1.25	7.34e+04	1.23 y	34:16	-	1.12
4	Unk	1,2,3,6,7,8-HxCDD	1.25	7.23e+04	1.12 y	34:23	-	0.83
5	Unk	1,2,3,7,8,9-HxCDD	1.25	8.01e+04	1.19 y	34:43	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	1.25	6.39e+04	1.06 y	38:05	-	0.90
7	Unk	OCDD	2.50	1.14e+05	0.95 y	41:28	-	0.93
8	Unk	2,3,7,8-TCDF	0.25	3.62e+04	0.85 y	25:49	-	1.09
9	Unk	1,2,3,7,8-PeCDF	1.25	1.26e+05	1.52 y	29:46	-	0.94
10	Unk	2,3,4,7,8-PeCDF	1.25	1.31e+05	1.52 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	1.25	9.36e+04	1.22 y	33:22	-	1.23
12	Unk	1,2,3,6,7,8-HxCDF	1.25	1.02e+05	1.11 y	33:29	-	1.01
13	Unk	2,3,4,6,7,8-HxCDF	1.25	1.01e+05	1.30 y	34:07	-	1.06
14	Unk	1,2,3,7,8,9-HxCDF	1.25	8.74e+04	1.10 y	35:08	-	1.05
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	8.63e+04	1.01 y	36:57	-	1.13
16	Unk	1,2,3,4,7,8,9-HpCDF	1.25	8.18e+04	1.14 y	38:40	-	1.30
17	Unk	OCDF	2.50	1.32e+05	0.94 y	41:43	-	0.95
36	IS	13C-2,3,7,8-TCDD	100.00	9.40e+06	0.78 y	26:32	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.48e+06	0.62 y	30:55	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.24e+06	1.19 y	34:15	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.96e+06	1.32 y	34:22	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.74e+06	1.31 y	34:42	-	0.84
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.68e+06	1.05 y	38:05	-	0.70
42	IS	13C-OCDD	200.00	9.75e+06	0.88 y	41:28	-	0.60
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.79 y	25:49	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.07e+07	1.58 y	29:46	-	0.84
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.05e+07	1.58 y	30:39	-	0.81
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.11e+06	0.51 y	33:21	-	0.76
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.04e+06	0.50 y	33:29	-	1.00
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.61e+06	0.50 y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.66e+06	0.48 y	35:07	-	0.82
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.12e+06	0.42 y	36:57	-	0.76
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.02e+06	0.45 y	38:41	-	0.62
52	IS	13C-OCDF	200.00	1.11e+07	0.90 y	41:43	-	0.69
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.97e+04		26:33	-	1.40
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.45e+06	0.80 y	25:59	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.28e+07	0.79 y	24:39	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.07e+06	0.52 y	33:47	-	1.00

*DB*  
*10/10/14*

Filename: 191009D1 S: 2 Acquired: 9-OCT-19 17:00:45  
 Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19 Results:  
 Sample text: ST191009D1-2 1613 CS1 19C2202

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	3.54e+04	0.78 y	26:34	-	0.83
2	Unk	1,2,3,7,8-PeCDD	2.50	1.46e+05	0.60 y	30:56	-	0.87
3	Unk	1,2,3,4,7,8-HxCDD	2.50	1.25e+05	1.20 y	34:16	-	1.13
4	Unk	1,2,3,6,7,8-HxCDD	2.50	1.40e+05	1.22 y	34:23	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	2.50	1.33e+05	1.15 y	34:43	-	0.90
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	1.13e+05	0.97 y	38:06	-	0.97
7	Unk	OCDD	5.00	1.78e+05	0.90 y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	0.50	5.25e+04	0.74 y	25:51	-	0.90
9	Unk	1,2,3,7,8-PeCDF	2.50	2.25e+05	1.59 y	29:48	-	0.94
10	Unk	2,3,4,7,8-PeCDF	2.50	2.42e+05	1.50 y	30:40	-	0.99
11	Unk	1,2,3,4,7,8-HxCDF	2.50	1.62e+05	1.16 y	33:22	-	1.11
12	Unk	1,2,3,6,7,8-HxCDF	2.50	2.03e+05	1.20 y	33:30	-	1.07
13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.79e+05	1.30 y	34:07	-	1.03
14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.49e+05	1.24 y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.51e+05	0.91 y	36:57	-	1.13
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.23e+05	0.94 y	38:41	-	1.24
17	Unk	OCDF	5.00	2.09e+05	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.50e+06	0.78 y	26:34	-	1.08
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.74e+06	0.63 y	30:56	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.41e+06	1.38 y	34:16	-	0.60
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.35e+06	1.20 y	34:23	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.87e+06	1.26 y	34:42	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.64e+06	1.05 y	38:05	-	0.63
42	IS	13C-OCDD	200.00	7.58e+06	0.89 y	41:28	-	0.52
43	IS	13C-2,3,7,8-TCDF	100.00	1.17e+07	0.80 y	25:51	-	1.00
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.60e+06	1.59 y	29:48	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.80e+06	1.58 y	30:40	-	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.84e+06	0.52 y	33:21	-	0.80
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.58e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.92e+06	0.51 y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.84e+06	0.49 y	35:08	-	0.80
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.38e+06	0.43 y	36:57	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.43 y	38:41	-	0.54
52	IS	13C-OCDF	200.00	9.05e+06	0.88 y	41:43	-	0.62
53	C/Up	37Cl-2,3,7,8-TCDD	0.50	4.55e+04		26:34	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.86e+06	0.77 y	26:01	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.17e+07	0.83 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.33e+06	0.52 y	33:47	-	1.00

DB  
10/10/19

Filename: 191009D1 S: 3 Acquired: 9-OCT-19 17:48:27

Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19

Results:

Sample text: ST191009D1-3 1613 CS2 19C2203

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	1.35e+05	0.74 y	26:33	-	0.87
2	Unk	1,2,3,7,8-PeCDD	10.00	5.33e+05	0.64 y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	10.00	3.94e+05	1.22 y	34:16	-	1.03
4	Unk	1,2,3,6,7,8-HxCDD	10.00	5.50e+05	1.25 y	34:23	-	1.01
5	Unk	1,2,3,7,8,9-HxCDD	10.00	4.71e+05	1.36 y	34:43	-	0.93
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	3.70e+05	1.02 y	38:06	-	0.95
7	Unk	OCDD	20.00	6.41e+05	0.90 y	41:29	-	0.92
8	Unk	2,3,7,8-TCDF	2.00	1.90e+05	0.83 y	25:49	-	0.89
9	Unk	1,2,3,7,8-PeCDF	10.00	7.88e+05	1.58 y	29:47	-	0.92
10	Unk	2,3,4,7,8-PeCDF	10.00	8.71e+05	1.56 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	10.00	6.02e+05	1.14 y	33:22	-	1.15
12	Unk	1,2,3,6,7,8-HxCDF	10.00	7.20e+05	1.27 y	33:30	-	1.06
13	Unk	2,3,4,6,7,8-HxCDF	10.00	6.66e+05	1.26 y	34:08	-	1.12
14	Unk	1,2,3,7,8,9-HxCDF	10.00	5.16e+05	1.16 y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	1.05 y	36:57	-	1.06
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.31e+05	1.08 y	38:41	-	1.25
17	Unk	OCDF	20.00	7.38e+05	0.91 y	41:44	-	0.91
36	IS	13C-2,3,7,8-TCDD	100.00	7.73e+06	0.78 y	26:33	-	1.06
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.03e+06	0.62 y	30:55	-	0.83
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.81e+06	1.24 y	34:15	-	0.58
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.44e+06	1.28 y	34:22	-	0.82
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.03e+06	1.21 y	34:42	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.89e+06	1.09 y	38:05	-	0.59
42	IS	13C-OCDD	200.00	6.97e+06	0.90 y	41:28	-	0.53
43	IS	13C-2,3,7,8-TCDF	100.00	1.08e+07	0.82 y	25:49	-	1.03
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.55e+06	1.59 y	29:47	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.70e+06	1.59 y	30:40	-	0.83
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.22e+06	0.49 y	33:21	-	0.79
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	6.80e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	5.93e+06	0.52 y	34:07	-	0.90
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.05e+06	0.51 y	35:08	-	0.77
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.73e+06	0.44 y	36:57	-	0.72
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.46e+06	0.45 y	38:41	-	0.52
52	IS	13C-OCDF	200.00	8.15e+06	0.92 y	41:44	-	0.62
53	C/Up	37Cl-2,3,7,8-TCDD	2.00	1.69e+05		26:33	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.29e+06	0.77 y	25:59	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.04e+07	0.82 y	24:39	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	6.60e+06	0.52 y	33:47	-	1.00

DB  
10/10/19

Filename: 191009D1 S: 4 Acquired: 9-OCT-19 18:36:09  
 Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19 Results:  
 Sample text: ST191009D1-4 1613 CS3 19C2204

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	8.37e+05	0.80 y	26:35	-	0.99
2	Unk	1,2,3,7,8-PeCDD	50.00	2.94e+06	0.61 y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	50.00	2.38e+06	1.21 y	34:16	-	1.08
4	Unk	1,2,3,6,7,8-HxCDD	50.00	2.90e+06	1.19 y	34:23	-	0.92
5	Unk	1,2,3,7,8,9-HxCDD	50.00	2.74e+06	1.24 y	34:42	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	2.15e+06	1.03 y	38:05	-	0.96
7	Unk	OCDD	100.00	3.73e+06	0.91 y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	10.00	1.05e+06	0.80 y	25:51	-	0.89
9	Unk	1,2,3,7,8-PeCDF	50.00	4.65e+06	1.59 y	29:47	-	0.95
10	Unk	2,3,4,7,8-PeCDF	50.00	4.70e+06	1.68 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	50.00	3.52e+06	1.24 y	33:21	-	1.14
12	Unk	1,2,3,6,7,8-HxCDF	50.00	3.92e+06	1.25 y	33:29	-	1.05
13	Unk	2,3,4,6,7,8-HxCDF	50.00	3.74e+06	1.22 y	34:07	-	1.11
14	Unk	1,2,3,7,8,9-HxCDF	50.00	3.00e+06	1.19 y	35:07	-	1.06
15	Unk	1,2,3,4,6,7,8-HpCDF	50.00	2.97e+06	1.04 y	36:57	-	1.10
16	Unk	1,2,3,4,7,8,9-HpCDF	50.00	2.49e+06	1.07 y	38:41	-	1.25
17	Unk	OCDF	100.00	4.33e+06	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.46e+06	0.74 y	26:33	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.66e+06	0.62 y	30:55	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.42e+06	1.25 y	34:15	-	0.61
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.30e+06	1.28 y	34:22	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.76e+06	1.27 y	34:41	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.47e+06	1.05 y	38:05	-	0.62
42	IS	13C-OCDD	200.00	7.90e+06	0.94 y	41:27	-	0.55
43	IS	13C-2,3,7,8-TCDF	100.00	1.18e+07	0.79 y	25:50	-	1.05
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.79e+06	1.62 y	29:47	-	0.87
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.43e+06	1.61 y	30:39	-	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.19e+06	0.50 y	33:21	-	0.86
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.75e+06	0.49 y	34:06	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.64e+06	0.49 y	35:07	-	0.78
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.40e+06	0.43 y	36:55	-	0.75
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.44 y	38:40	-	0.55
52	IS	13C-OCDF	200.00	9.37e+06	0.89 y	41:43	-	0.65
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	8.56e+05		26:35	-	1.11
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.70e+06	0.75 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.13e+07	0.82 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.23e+06	0.51 y	33:47	-	1.00

DB  
10/10/19

Filename: 191009D1 S: 5      Acquired: 9-OCT-19 19:23:46  
Run: 191009D1    Analyte:            Cal: 1613VG7-10-9-19      Results:  
Sample text: ST191009D1-5 1613 CS4 19C2205

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	40.00	3.53e+06	0.81 y	26:35	-	0.92
2	Unk	1,2,3,7,8-PeCDD	200.00	1.48e+07	0.63 y	30:55	-	0.96
3	Unk	1,2,3,4,7,8-HxCDD	200.00	1.19e+07	1.19 y	34:15	-	1.09
4	Unk	1,2,3,6,7,8-HxCDD	200.00	1.34e+07	1.20 y	34:22	-	0.98
5	Unk	1,2,3,7,8,9-HxCDD	200.00	1.30e+07	1.18 y	34:41	-	1.00
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	1.10e+07	1.03 y	38:04	-	1.03
7	Unk	OCDD	400.00	2.03e+07	0.91 y	41:26	-	1.01
8	Unk	2,3,7,8-TCDF	40.00	5.17e+06	0.77 y	25:52	-	0.95
9	Unk	1,2,3,7,8-PeCDF	200.00	2.24e+07	1.58 y	29:47	-	1.00
10	Unk	2,3,4,7,8-PeCDF	200.00	2.29e+07	1.55 y	30:40	-	1.03
11	Unk	1,2,3,4,7,8-HxCDF	200.00	1.69e+07	1.21 y	33:21	-	1.20
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.85e+07	1.21 y	33:29	-	1.12
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.83e+07	1.21 y	34:06	-	1.16
14	Unk	1,2,3,7,8,9-HxCDF	200.00	1.53e+07	1.22 y	35:06	-	1.08
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	1.46e+07	1.04 y	36:56	-	1.17
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	1.30e+07	1.05 y	38:39	-	1.31
17	Unk	OCDF	400.00	2.42e+07	0.91 y	41:41	-	1.00
36	IS	13C-2,3,7,8-TCDD	100.00	9.63e+06	0.75 y	26:34	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.72e+06	0.63 y	30:54	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.48e+06	1.31 y	34:14	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.83e+06	1.22 y	34:21	-	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.48e+06	1.26 y	34:40	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.36e+06	1.08 y	38:03	-	0.63
42	IS	13C-OCDD	200.00	1.01e+07	0.91 y	41:25	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	1.36e+07	0.80 y	25:51	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.12e+07	1.57 y	29:46	-	0.86
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.11e+07	1.52 y	30:39	-	0.85
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.05e+06	0.50 y	33:20	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.28e+06	0.49 y	33:28	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.90e+06	0.51 y	34:05	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.08e+06	0.51 y	35:06	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.23e+06	0.46 y	36:55	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.95e+06	0.44 y	38:38	-	0.58
52	IS	13C-OCDF	200.00	1.22e+07	0.90 y	41:40	-	0.72
53	C/Up	37Cl-2,3,7,8-TCDD	40.00	3.96e+06		26:35	-	1.15
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.64e+06	0.78 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.30e+07	0.83 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.48e+06	0.51 y	33:46	-	1.00

DB  
10/10/19

Filename: 191009D1 S: 6 Acquired: 9-OCT-19 20:11:17  
 Run: 191009D1 Analyte: Cal: 1613VG7-10-9-19 Results:  
 Sample text: ST191009D1-6 1613 CS5 19C2206

Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	300.00	2.80e+07	0.81 y	26:35	- 0.98
2	Unk	1,2,3,7,8-PeCDD	1500.00	1.19e+08	0.62 y	30:55	- 0.96
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	1.04e+08	1.22 y	34:15	- 1.15
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	1.07e+08	1.21 y	34:22	- 1.00
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	1.06e+08	1.23 y	34:41	- 1.03
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	9.32e+07	1.05 y	38:03	- 1.06
7	Unk	OCDD	3000.00	1.64e+08	0.92 y	41:25	- 1.01
8	Unk	2,3,7,8-TCDF	300.00	3.95e+07	0.79 y	25:52	- 0.99
9	Unk	1,2,3,7,8-PeCDF	1500.00	1.79e+08	1.58 y	29:47	- 1.01
10	Unk	2,3,4,7,8-PeCDF	1500.00	1.86e+08	1.57 y	30:39	- 1.07
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	1.40e+08	1.20 y	33:21	- 1.24
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	1.48e+08	1.21 y	33:29	- 1.11
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	1.51e+08	1.22 y	34:06	- 1.20
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	1.28e+08	1.25 y	35:06	- 1.13
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	1.18e+08	1.03 y	36:55	- 1.18
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	1.04e+08	1.05 y	38:38	- 1.34
17	Unk	OCDF	3000.00	1.96e+08	0.91 y	41:40	- 0.98
36	IS	13C-2,3,7,8-TCDD	100.00	9.53e+06	0.73 y	26:33	- 1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	8.28e+06	0.64 y	30:54	- 0.96
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	6.01e+06	1.21 y	34:14	- 0.77
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	7.08e+06	1.32 y	34:21	- 0.90
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.90e+06	1.26 y	34:39	- 0.88
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.86e+06	1.08 y	38:03	- 0.75
42	IS	13C-OCDD	200.00	1.08e+07	0.92 y	41:25	- 0.69
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.80 y	25:51	- 1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.18e+07	1.59 y	29:46	- 0.92
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.16e+07	1.60 y	30:38	- 0.91
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.52e+06	0.51 y	33:20	- 0.96
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.92e+06	0.50 y	33:28	- 1.14
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	8.38e+06	0.51 y	34:05	- 1.07
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.57e+06	0.52 y	35:05	- 0.96
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.70e+06	0.43 y	36:54	- 0.85
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.19e+06	0.43 y	38:37	- 0.66
52	IS	13C-OCDF	200.00	1.33e+07	0.89 y	41:39	- 0.85
53	C/Up	37Cl-2,3,7,8-TCDD	199.98	2.09e+07		26:35	- 1.21
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.62e+06	0.76 y	26:01	- 1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.27e+07	0.84 y	24:41	- 1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.85e+06	0.49 y	33:45	- 1.00

DB

10/10/19

Run: 191009D1 Analyte: Cal: 1613VG7-10 9-19 Inst. ID: VG-7

Data filename: 191009D1

Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6
0.25	0.50	2.0	10	40	300

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
Total Tetra-Dioxins	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
TCDD EMPC	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
Total Penta-Dioxins	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
PeCDD EMPC	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
Total Hexa-Dioxins	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06
HxCDD EMPC	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06
Total Hepta-Dioxins	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
HpCDD EMPC	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
Total Tetra-Furans	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
TCDF EMPC	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1st Func. Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
1st Func. PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
Total Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
Total Hexa-Furans	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17
HxCDF EMPC	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17
Total Hepta-Furans	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25
HpCDF EMPC	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25

DB  
10/10/19



Run: 191009D1

Analyte:

Cal: 1613VG7-10-9-19

Inst. ID: VG-7

Data filename: 191009D1

Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6
0.25	0.50	2.0	10	40	300

RRT Limits

Name	Lower	Upper	RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6
2,3,7,8-TCDD	0.999	-1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999	-1.002	0.999	1.000	1.001	1.001	1.001	1.001
1,2,3,4,7,8-HxCDD	0.999	-1.001	1.000	1.000	1.001	1.000	1.000	1.000
1,2,3,6,7,8-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.001	1.001	1.000
1,2,3,7,8,9-HxCDD	0.998	-1.004	1.001	1.000	1.000	1.000	1.001	1.001
1,2,3,4,6,7,8-HpCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
2,3,7,8-TCDF	0.999	-1.003	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.000	1.000	1.001
2,3,4,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,4,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDF	0.997	-1.005	1.000	1.000	1.001	1.000	1.000	1.000
2,3,4,6,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.001	1.001	1.000
1,2,3,7,8,9-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,6,7,8-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.001	1.000	1.000
1,2,3,4,7,8,9-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
13C-2,3,7,8-TCDD	0.976	-1.043	1.022	1.022	1.022	1.021	1.021	1.021
13C-1,2,3,7,8-PeCDD	1.000	-1.567	1.190	1.189	1.190	1.189	1.188	1.188
13C-1,2,3,4,7,8-HxCDD	1.002	-1.026	1.014	1.014	1.014	1.014	1.014	1.014
13C-1,2,3,6,7,8-HxCDD	1.007	-1.029	1.017	1.018	1.018	1.017	1.017	1.018
13C-1,2,3,7,8,9-HxCDD	1.014	-1.038	1.027	1.027	1.027	1.027	1.027	1.027
13C-1,2,3,4,6,7,8-HpCDD	1.117	-1.141	1.127	1.127	1.128	1.127	1.127	1.127
13C-OCDD	1.085	-1.365	1.227	1.227	1.228	1.227	1.227	1.227
13C-2,3,7,8-TCDF	0.923	-1.103	0.994	0.994	0.994	0.994	0.994	0.994
13C-1,2,3,7,8-PeCDF	1.000	-1.425	1.146	1.146	1.146	1.145	1.145	1.144
13C-2,3,4,7,8-PeCDF	1.011	-1.526	1.180	1.179	1.180	1.179	1.178	1.178
13C-1,2,3,4,7,8-HxCDF	0.975	-1.001	0.987	0.987	0.987	0.987	0.987	0.987
13C-1,2,3,6,7,8-HxCDF	0.979	-1.005	0.991	0.991	0.991	0.991	0.991	0.991
13C-2,3,4,6,7,8-HxCDF	1.001	-1.020	1.010	1.010	1.010	1.009	1.009	1.010
13C-1,2,3,7,8,9-HxCDF	1.002	-1.072	1.040	1.040	1.040	1.039	1.039	1.039
13C-1,2,3,4,6,7,8-HpCDF	1.069	-1.111	1.093	1.093	1.094	1.093	1.093	1.093
13C-1,2,3,4,7,8,9-HpCDF	1.098	-1.192	1.145	1.145	1.145	1.145	1.144	1.144
13C-OCDF	1.091	-1.371	1.235	1.234	1.235	1.235	1.234	1.234
37Cl-2,3,7,8-TCDD	0.989	-1.052	1.022	1.021	1.022	1.022	1.022	1.022
13C-1,2,3,4-TCDD	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4-TCDF	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4,6,9-HxCDF	0.000	-0.000	*	*	*	*	*	*

D)B  
10/10/19

FORM 5

PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Instrument ID: VG-7 Initial Calibration Date: 10-9-19

RT Window Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

ZB-5MS IS Data Filename: 191009D1 S#4 Analysis Date: 9-OCT-19 Time: 18:36:09

DB\_225 IS Data Filename: Analysis Date: Time:

ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS

ISOMERS	ABSOLUTE RT	ISOMERS	ABSOLUTE RT
1,3,6,8-TCDD (F)	23:24	1,3,6,8-TCDF (F)	21:25
1,2,8,9-TCDD (L)	27:24	1,2,8,9-TCDF (L)	27:33
1,2,4,7,9-PeCDD (F)	28:55	1,3,4,6,8-PeCDF (F)	27:28
1,2,3,8,9-PeCDD (L)	31:17	1,2,3,8,9-PeCDF (L)	31:32
1,2,4,6,7,9-HxCDD (F)	32:41	1,2,3,4,6,8-HxCDF (F)	32:08
1,2,3,7,8,9-HxCDD (L)	34:42	1,2,3,7,8,9-HxCDF (L)	35:07
1,2,3,4,6,7,9-HpCDD (F)	37:16	1,2,3,4,6,7,8-HpCDF (F)	36:57
1,2,3,4,6,7,8,9-HpCDD (L)	38:05	1,2,3,4,7,8,9-HpCDF (L)	38:41

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

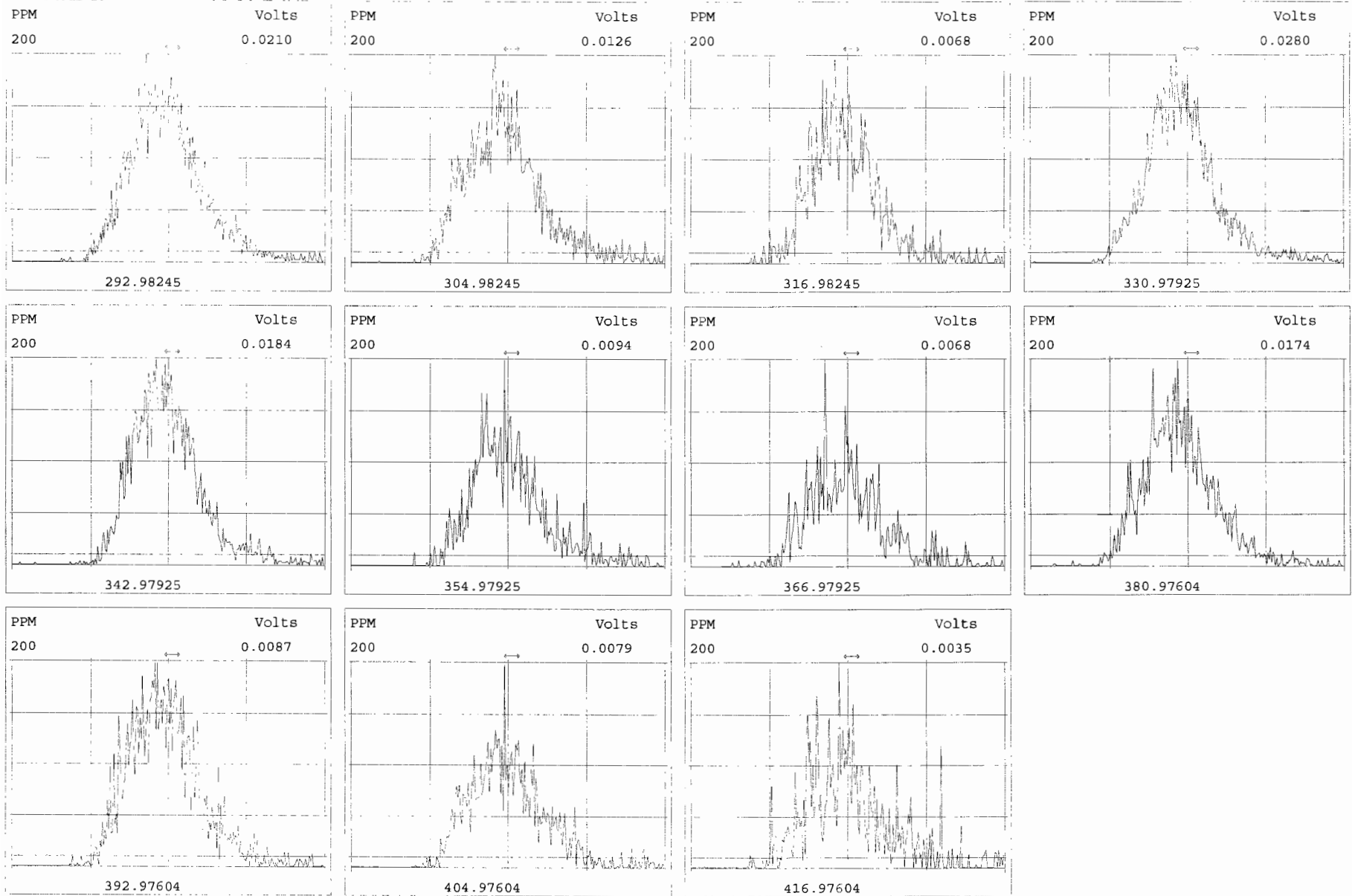
% VALLEY HEIGHT  
BETWEEN  
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

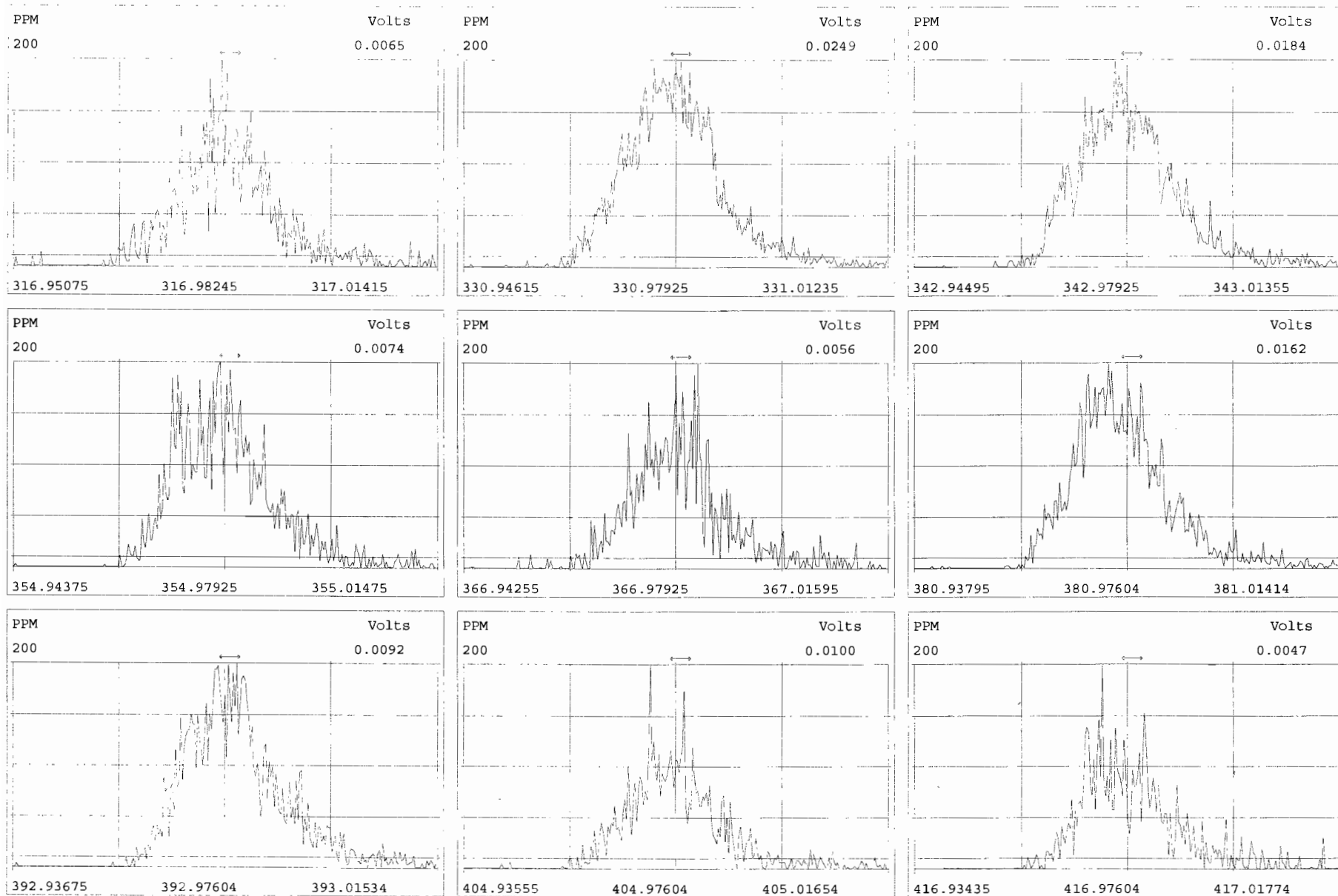
Analyst: DB

Date: 10/10/19



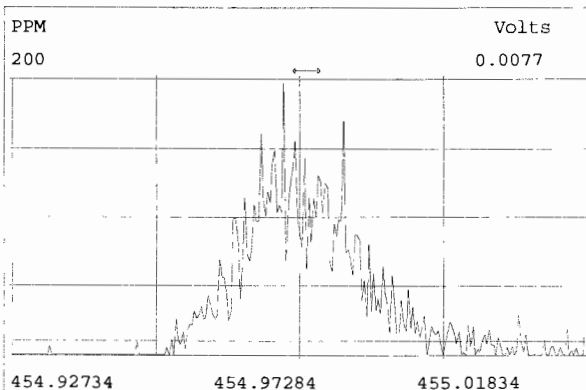
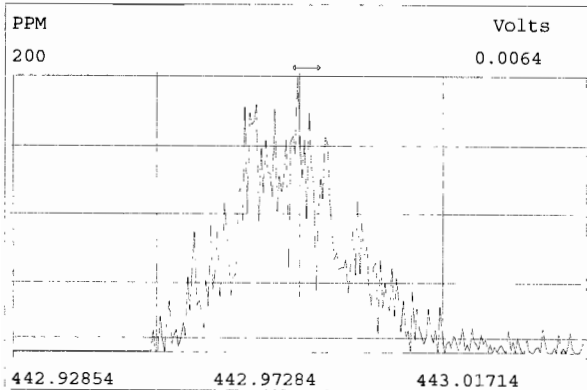
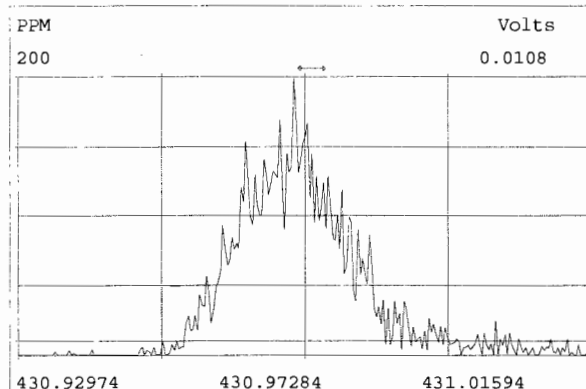
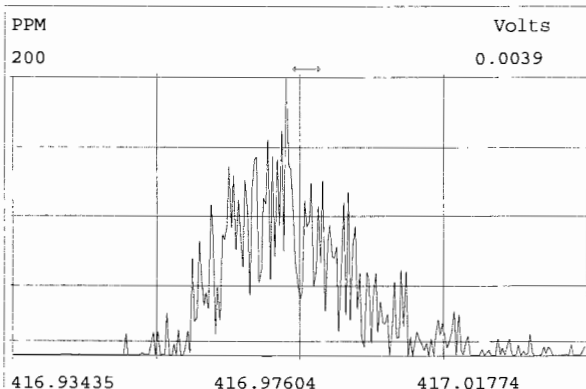
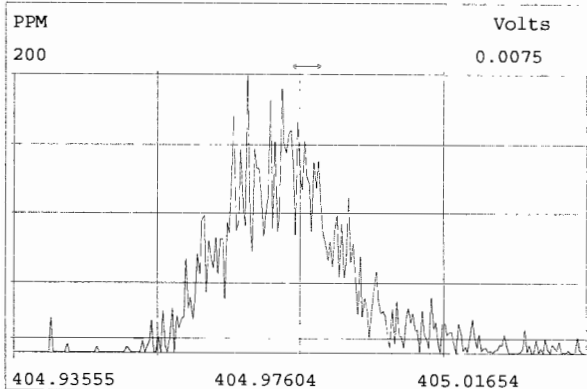
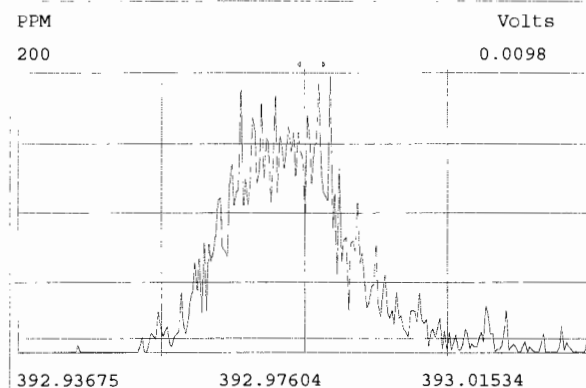
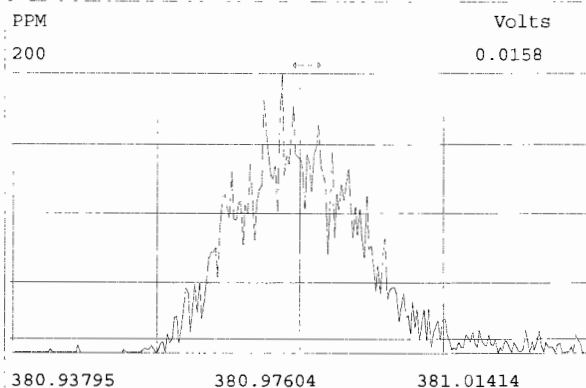
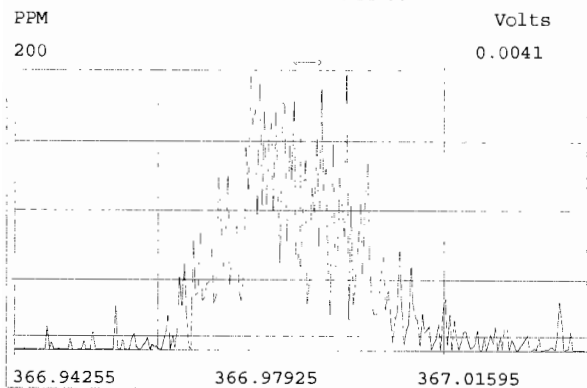
Peak Locate Examination: 9-OCT-2019:16:10 File:191009D1

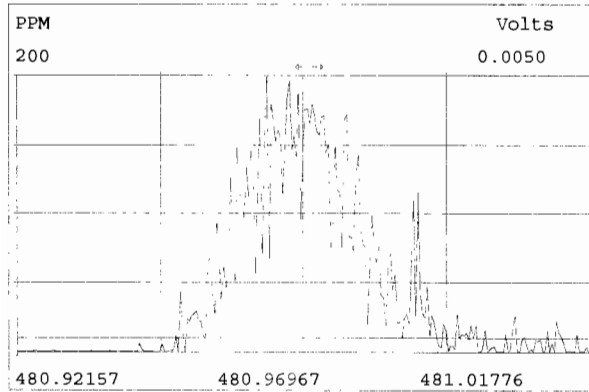
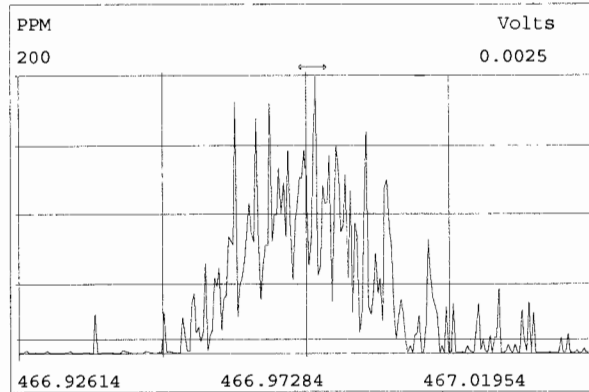
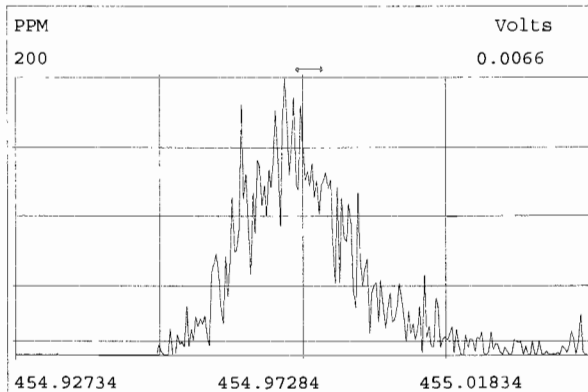
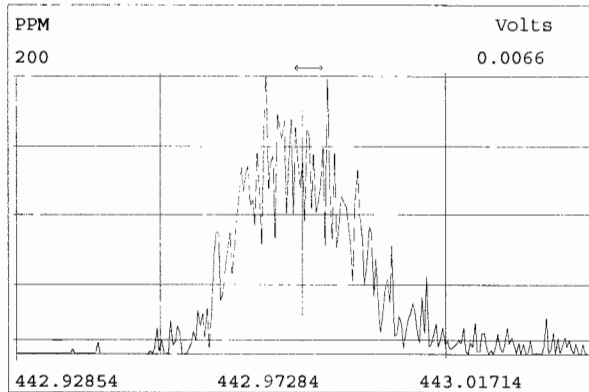
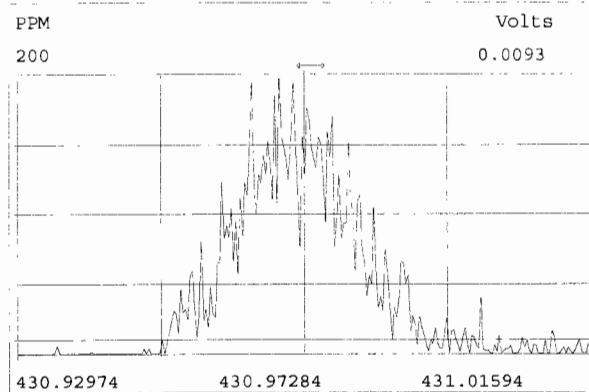
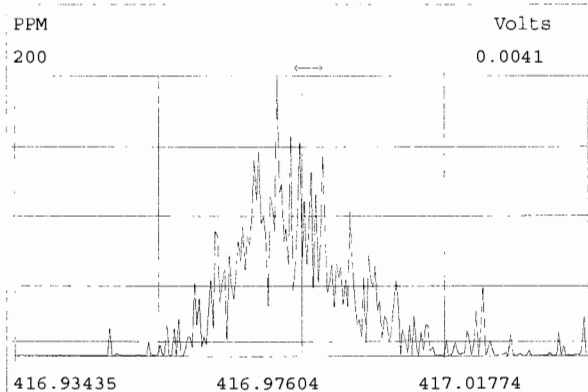
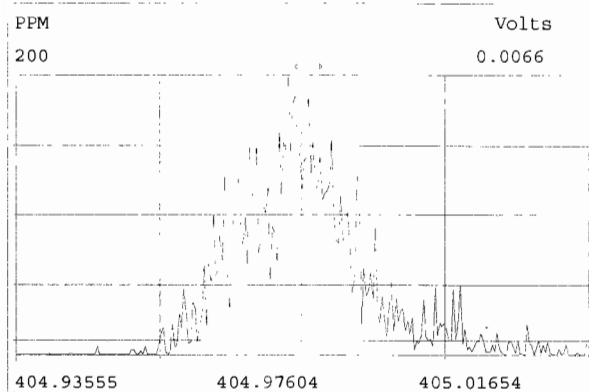
Experiment:OCDD\_DB5 Function:2 Reference:PFK

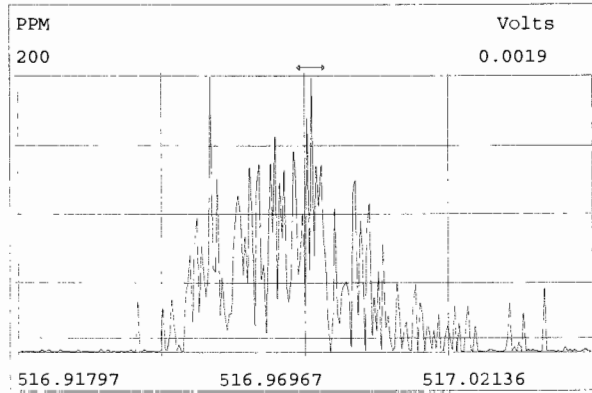
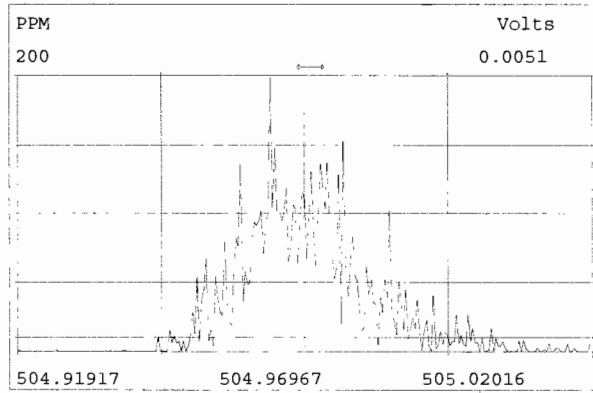
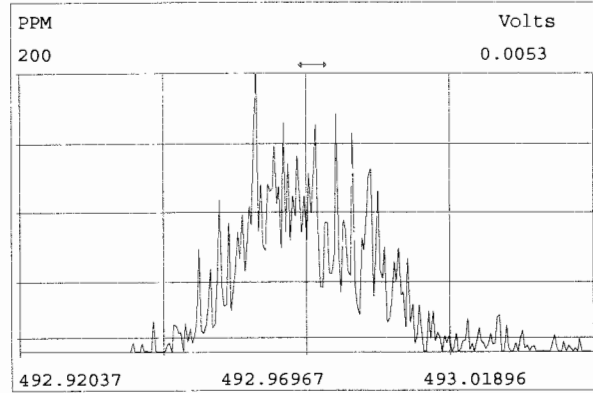
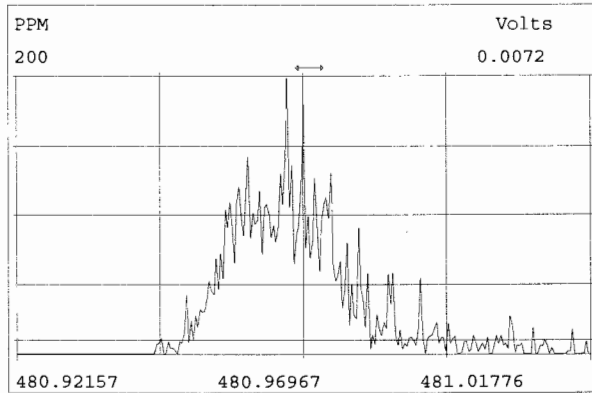
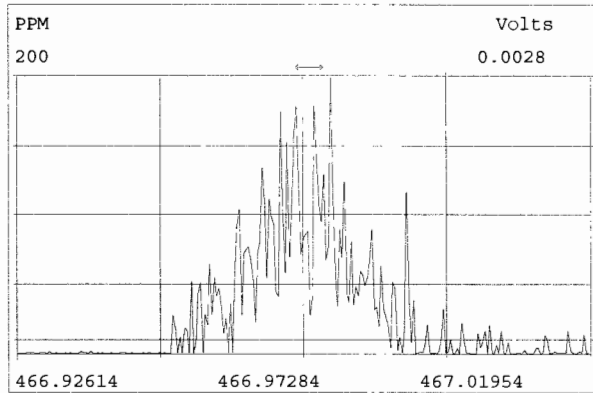
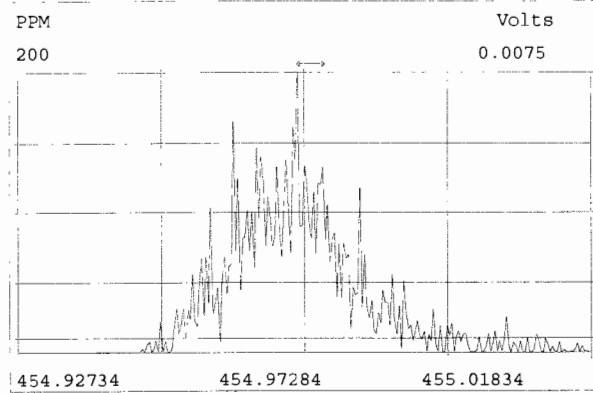
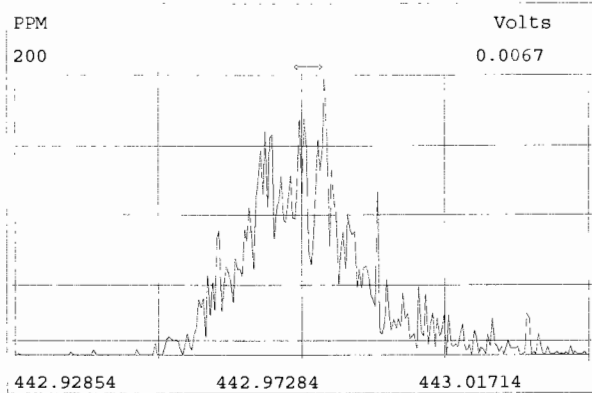
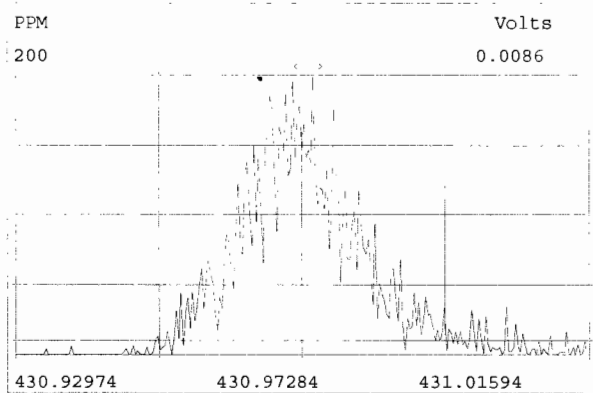


Peak Locate Examination: 9-OCT-2019:16:11 File:191009D1

Experiment:OCDD\_DB5 Function:3 Reference:PFK





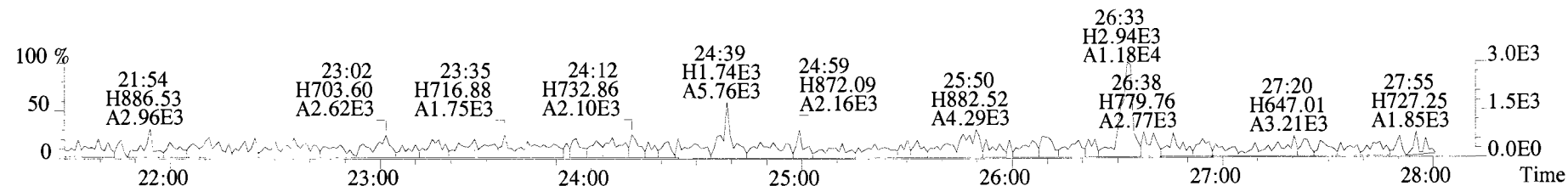


Vista Analytical Laboratory - Injection Log Run file: 191009D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

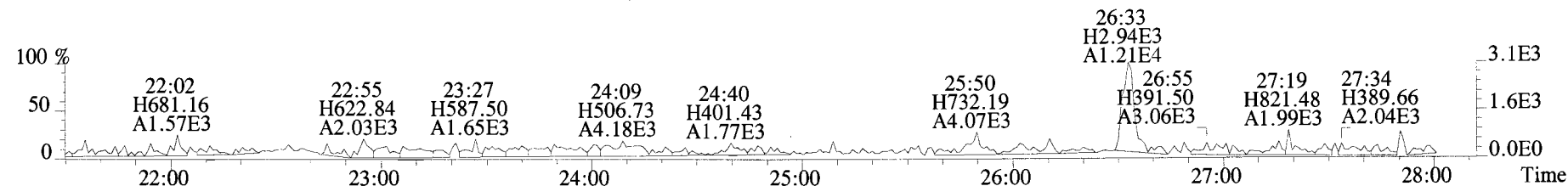
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191009D1	1	ST191009D1-1	DB	9-OCT-19	16:13:04	ST191009D1-4	NA
191009D1	2	ST191009D1-2	DB	9-OCT-19	17:00:45	ST191009D1-4	NA
191009D1	3	ST191009D1-3	DB	9-OCT-19	17:48:27	ST191009D1-4	NA
191009D1	4	ST191009D1-4	DB	9-OCT-19	18:36:09	ST191009D1-4	NA
191009D1	5	ST191009D1-5	DB	9-OCT-19	19:23:46	ST191009D1-4	NA
191009D1	6	ST191009D1-6	DB	9-OCT-19	20:11:17	ST191009D1-4	NA
191009D1	7	SOLVENT BLANK	DB	9-OCT-19	20:58:57	ST191009D1-4	NA
191009D1	8	SS191009D1-1	DB	9-OCT-19	21:46:34	ST191009D1-4	NA
191009D1	9	B9J0001-BS1	DB	9-OCT-19	22:34:09	ST191009D1-4	NA
191009D1	10	SOLVENT BLANK	DB	9-OCT-19	23:21:45	ST191009D1-4	NA
191009D1	11	B9J0001-BLK1	DB	10-OCT-19	00:09:30	ST191009D1-4	NA
191009D1	12	QC191007D1-1	DB	10-OCT-19	00:57:00	ST191009D1-4	NA
191009D1	13	1903285-08	DB	10-OCT-19	01:44:36	ST191009D1-4	NA
191009D1	14	1903285-09	DB	10-OCT-19	02:32:11	ST191009D1-4	NA
191009D1	15	1903285-10	DB	10-OCT-19	03:19:47	ST191009D1-4	NA
191009D1	16	1903103-02@5X	DB	10-OCT-19	04:07:23	ST191009D1-4	NA
191009D1	17	1903103-01@5X	DB	10-OCT-19	04:54:54	ST191009D1-4	NA
191009D1	18	B9I0240-DUP1@5X	DB	10-OCT-19	05:42:38	ST191009D1-4	NA



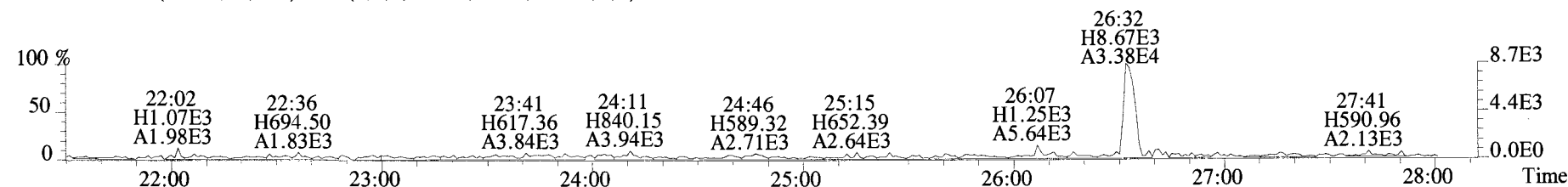
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



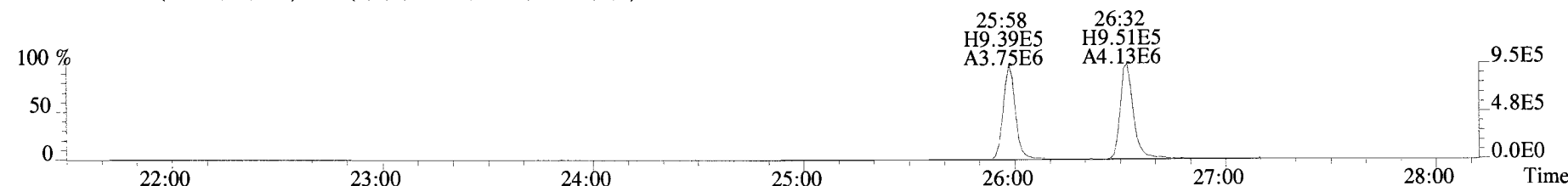
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



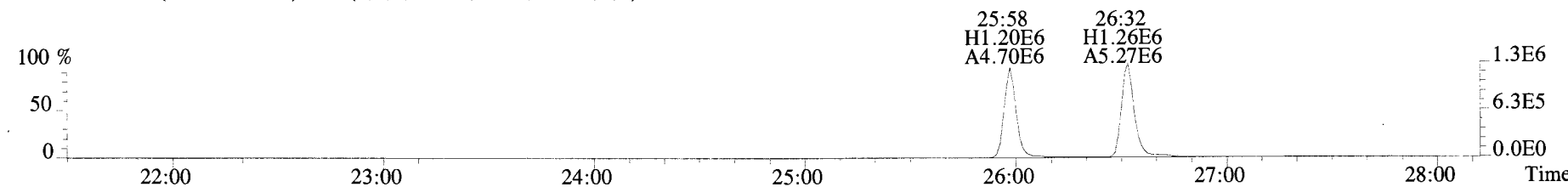
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



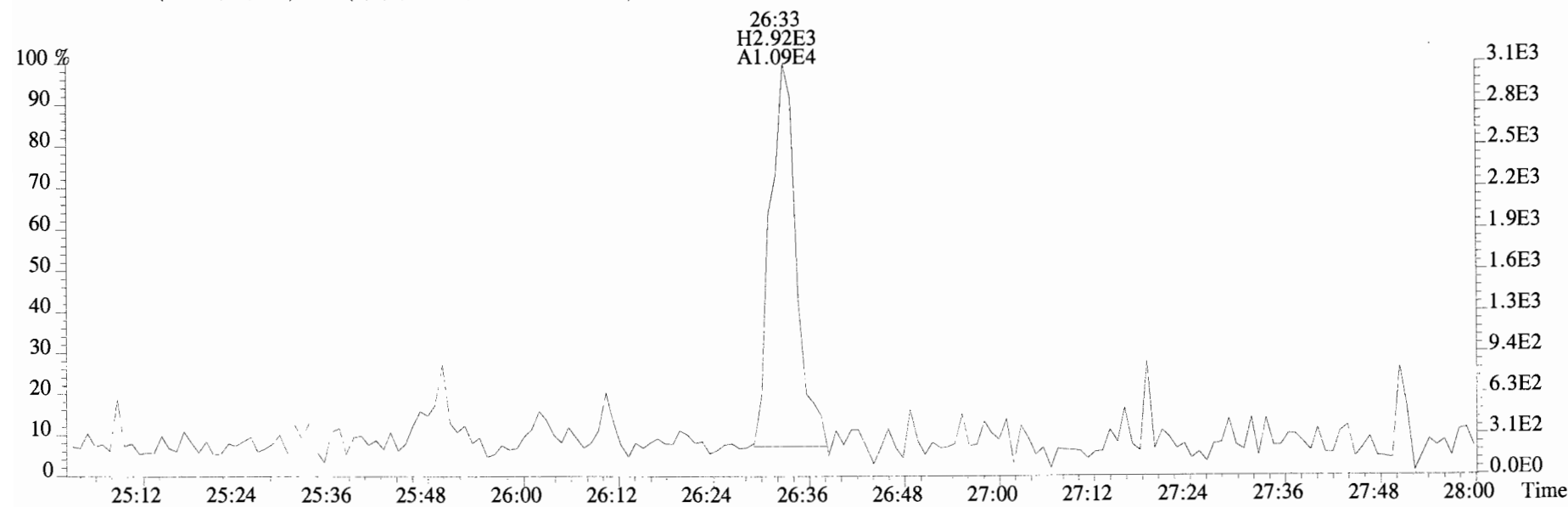
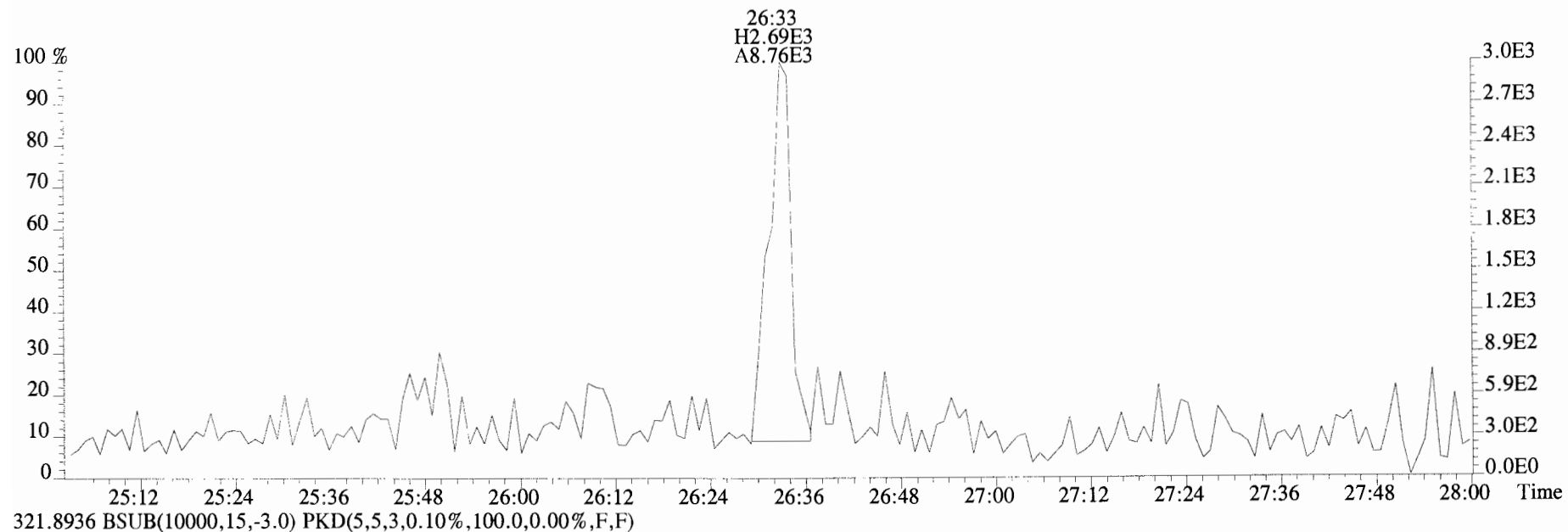
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



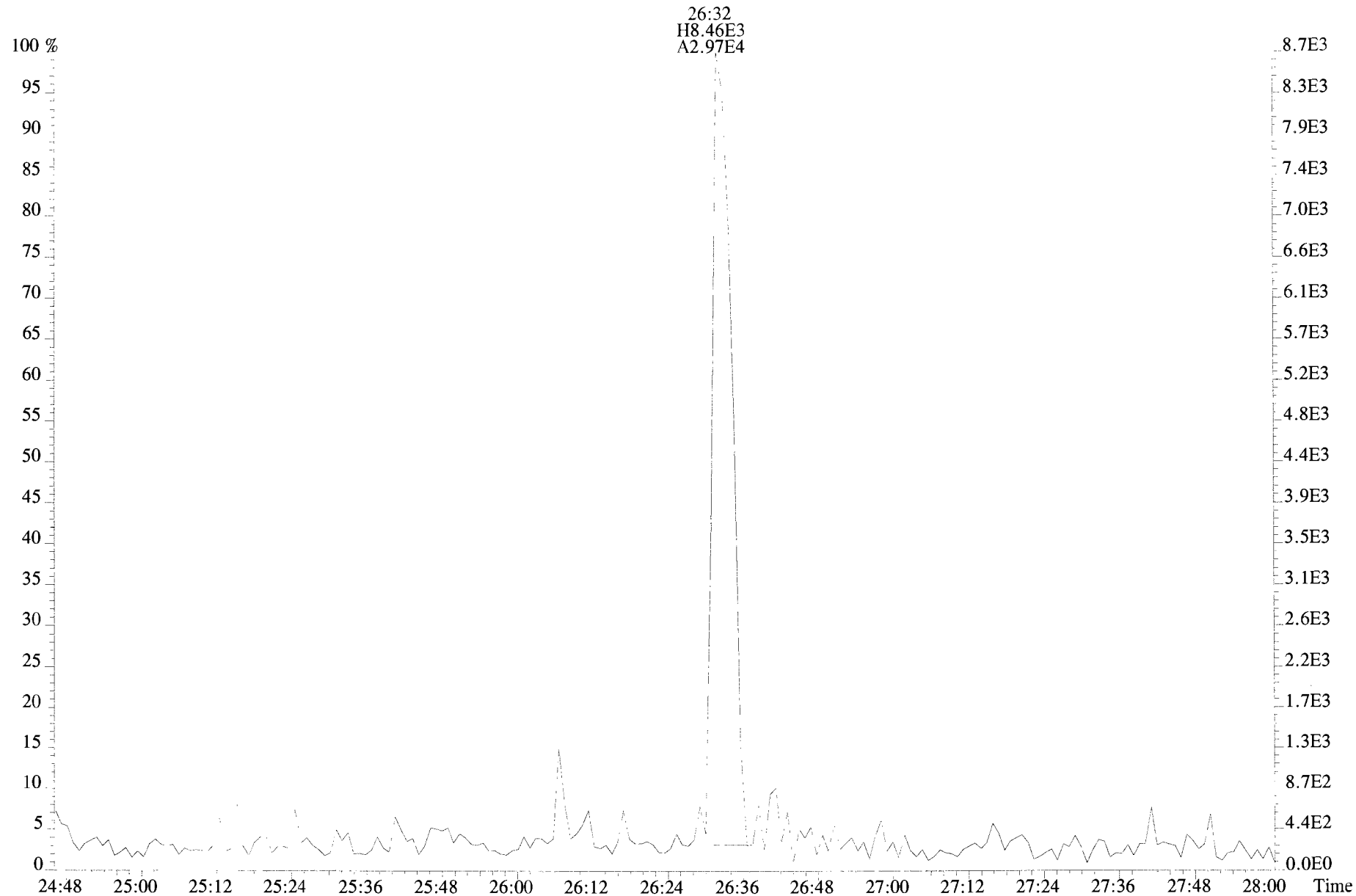
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



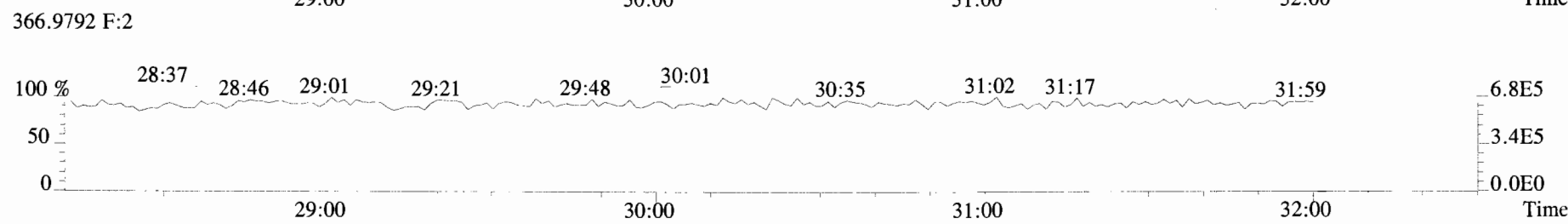
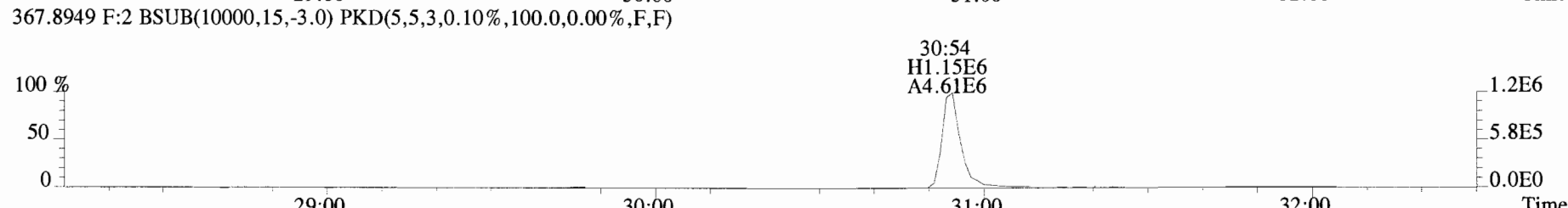
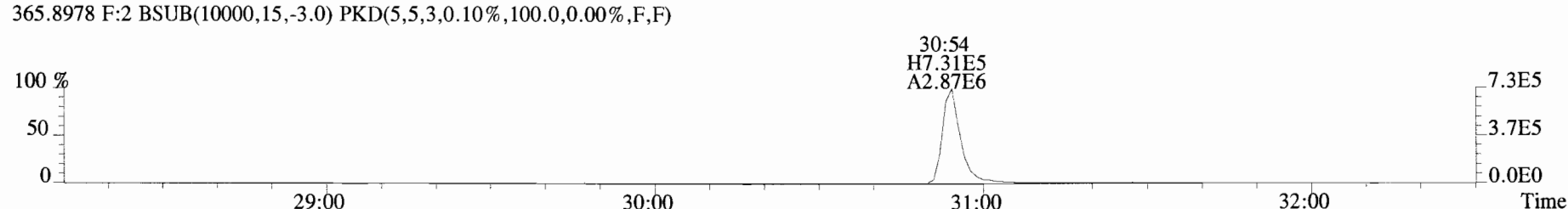
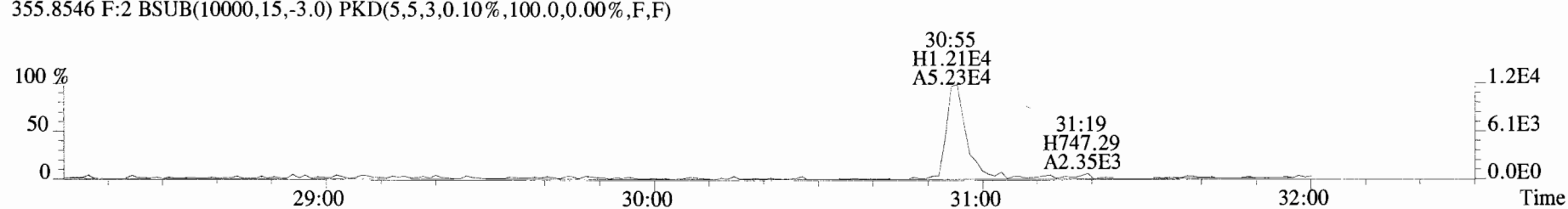
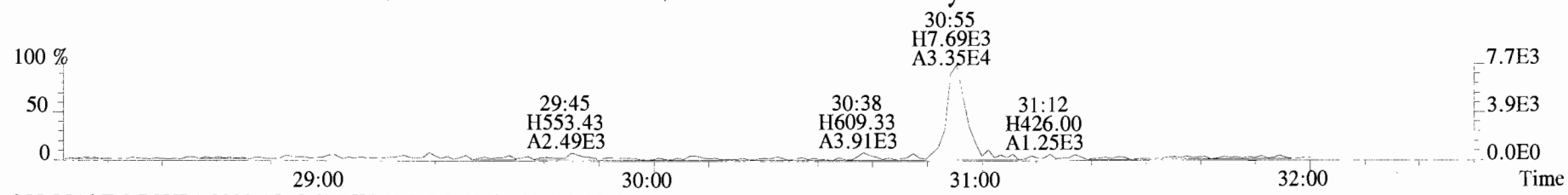
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



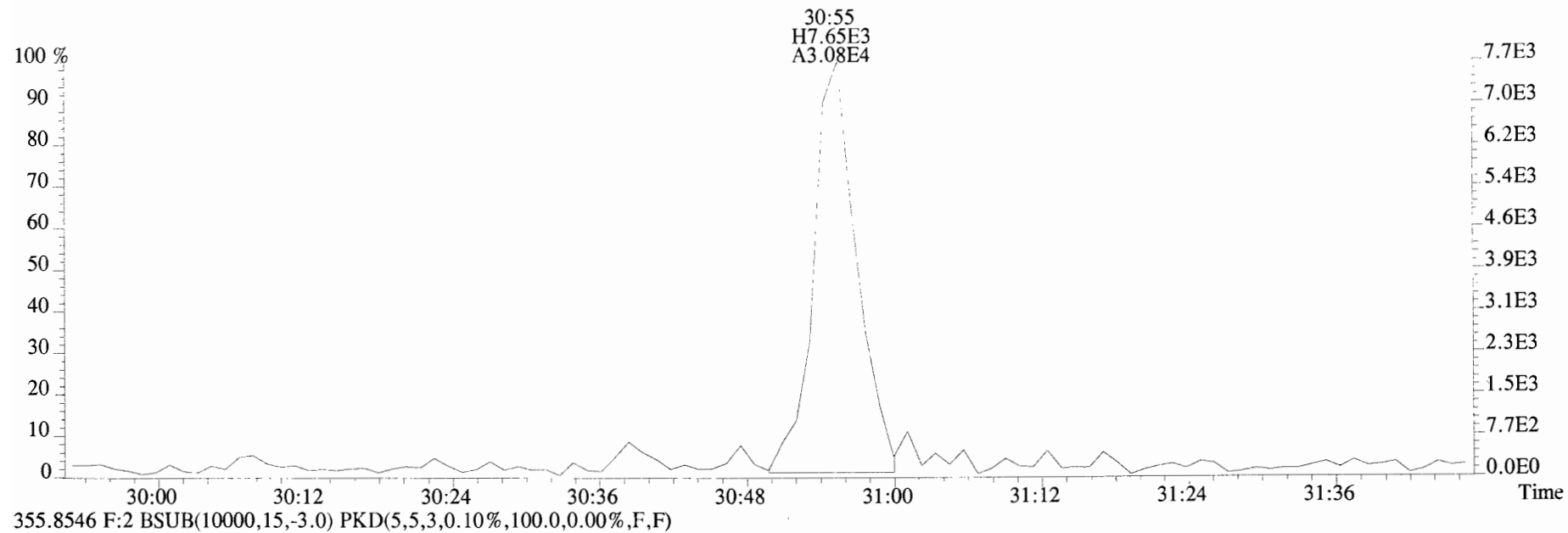
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
327.8847 BSUB(10000,15,-3.0)



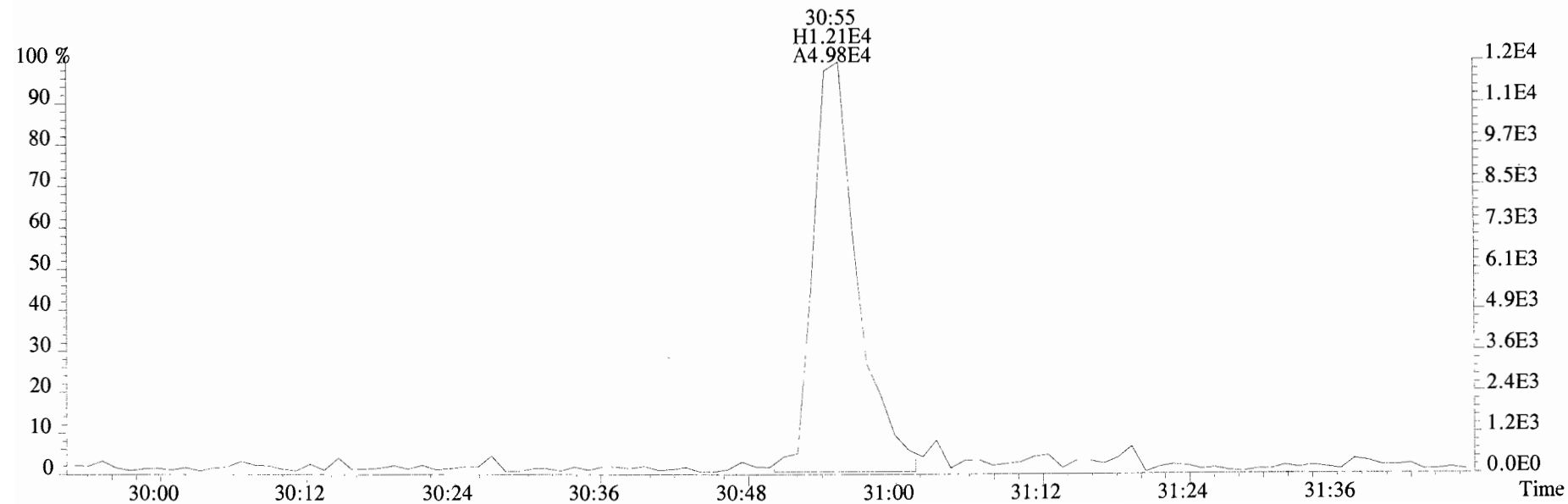
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



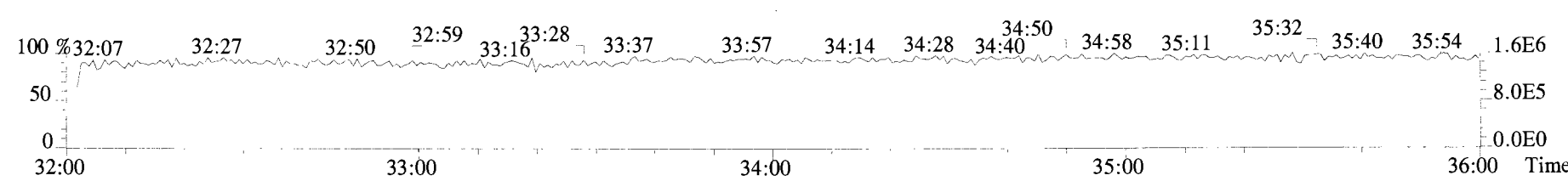
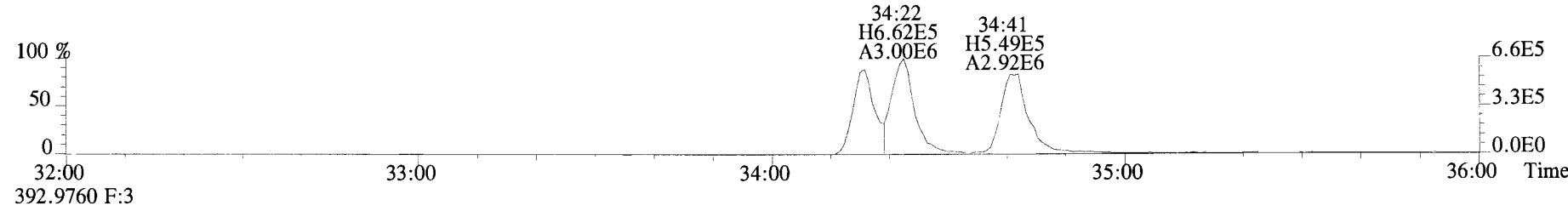
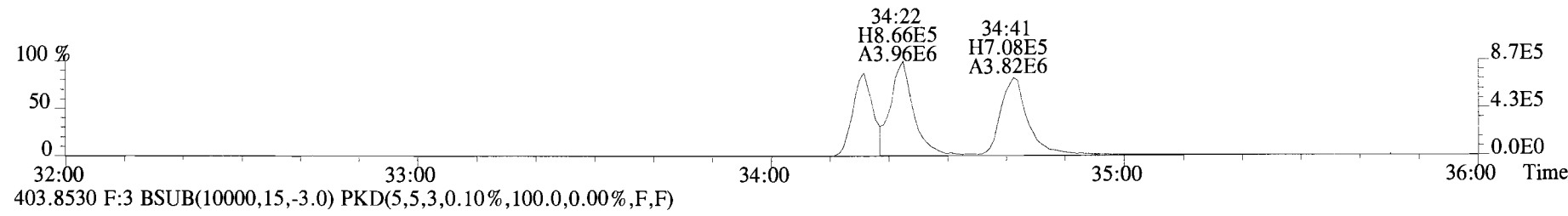
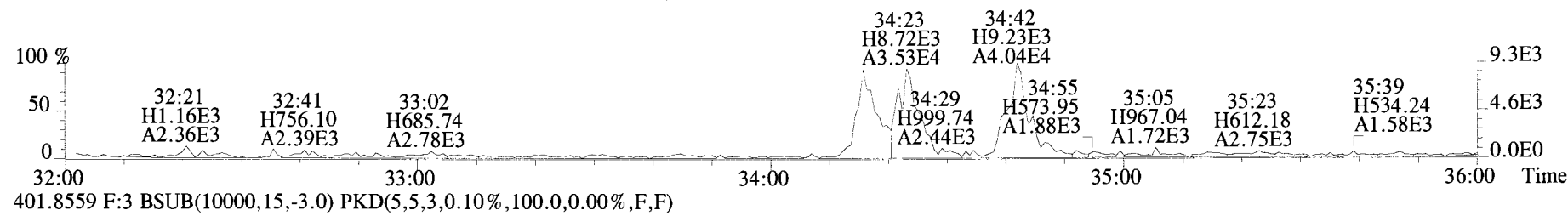
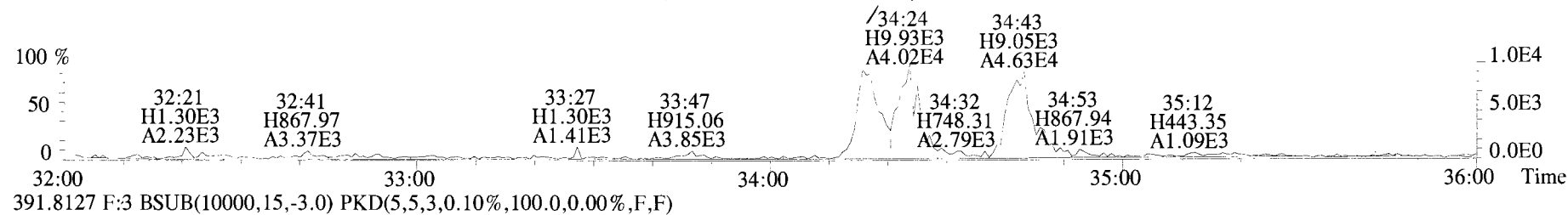
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



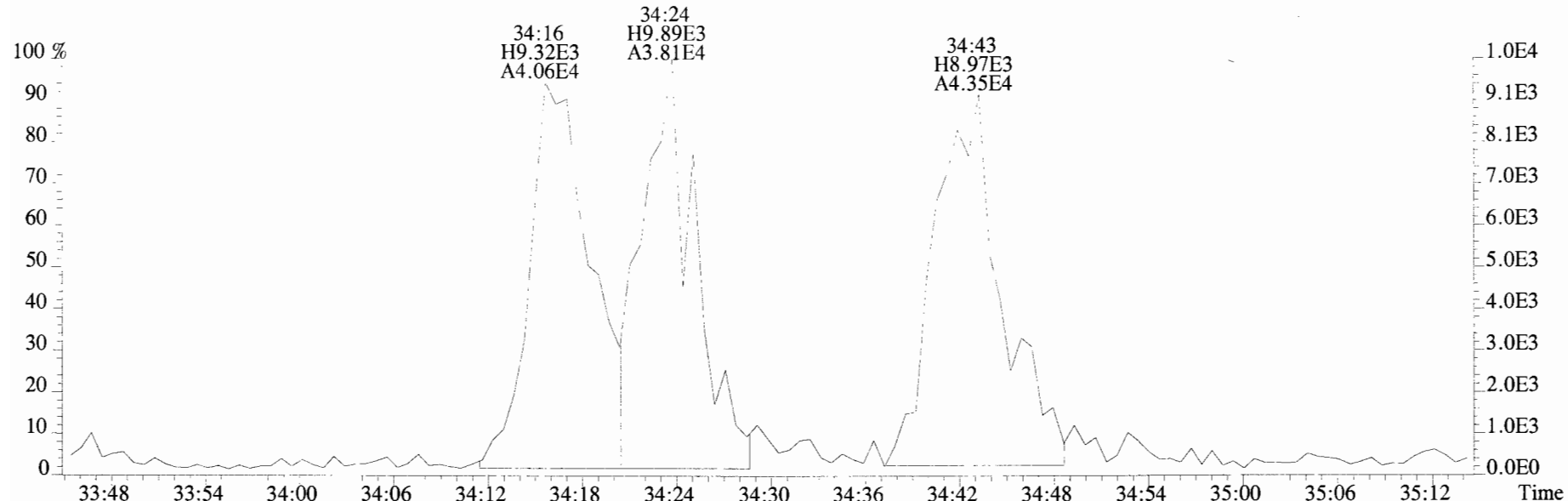
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



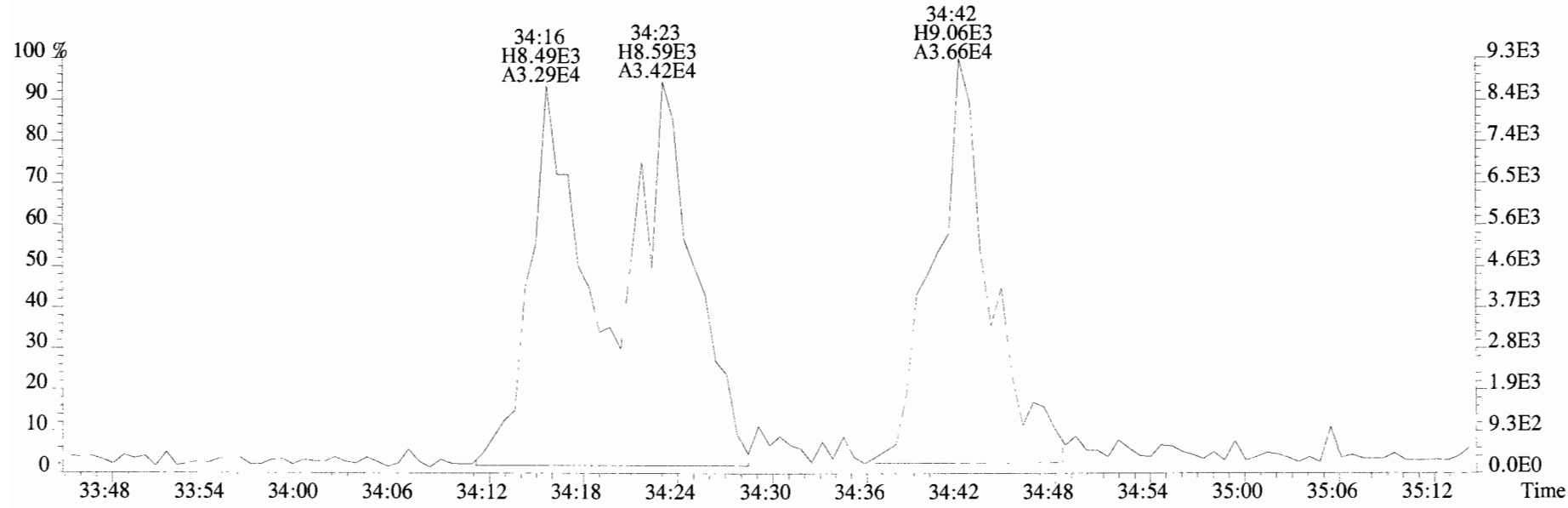
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



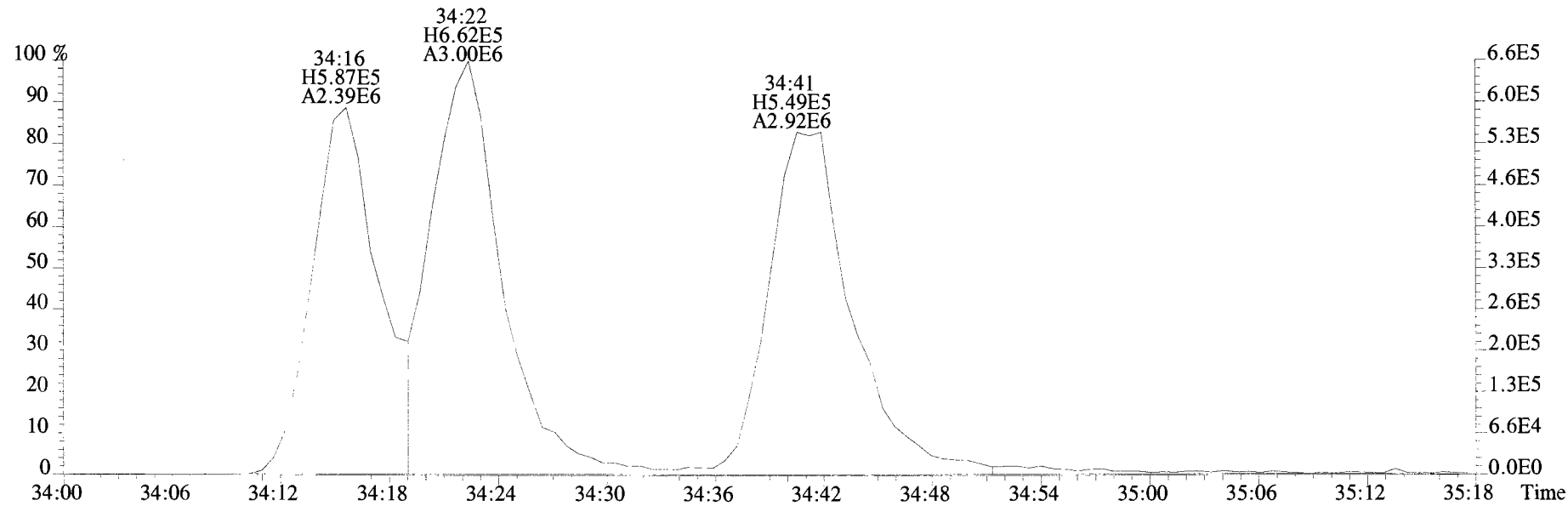
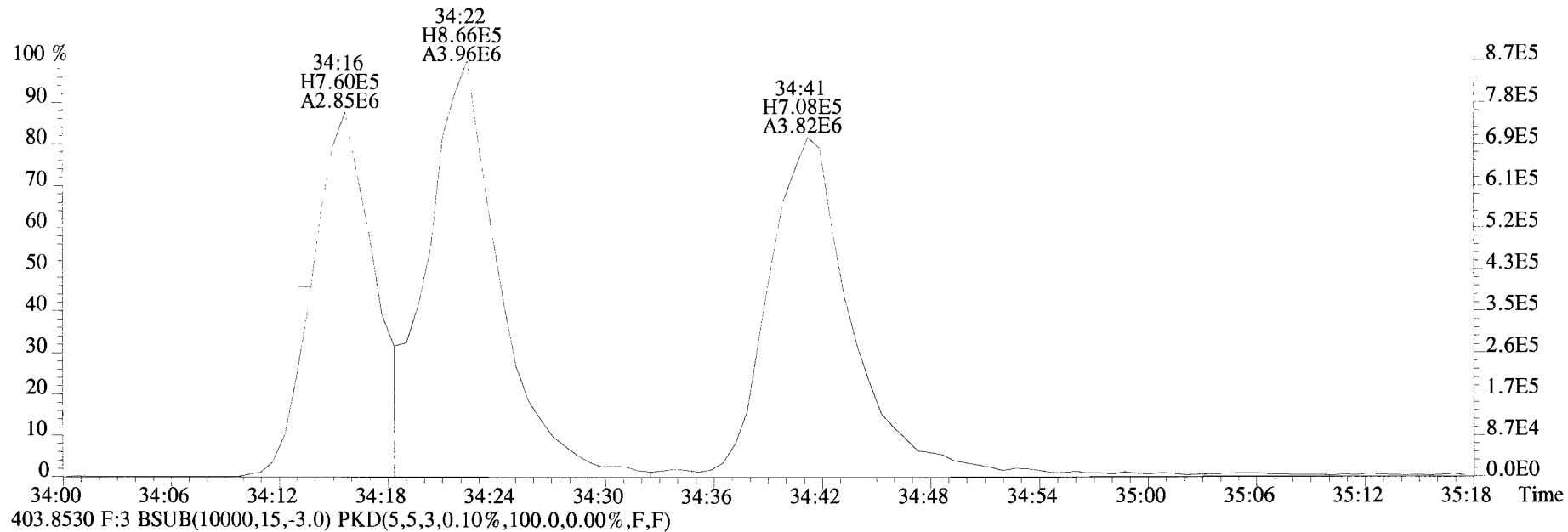
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

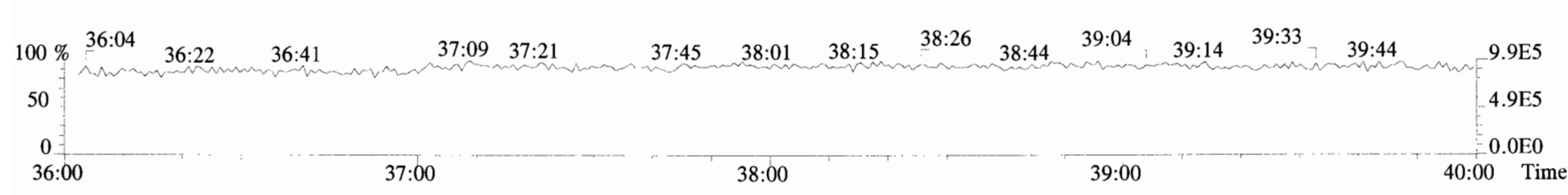
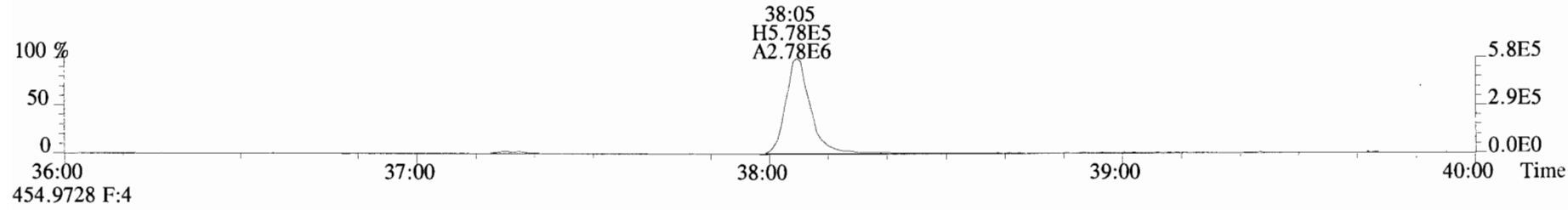
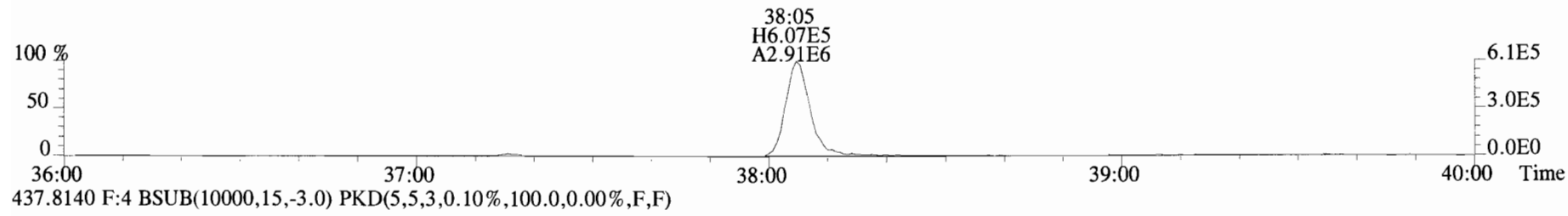
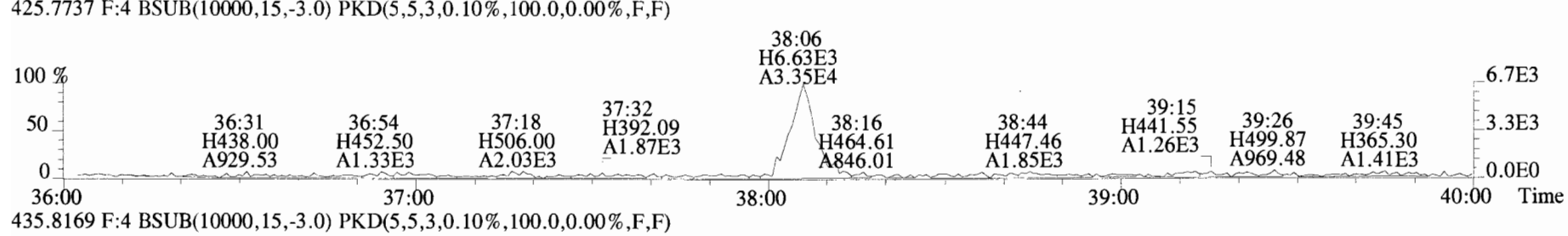
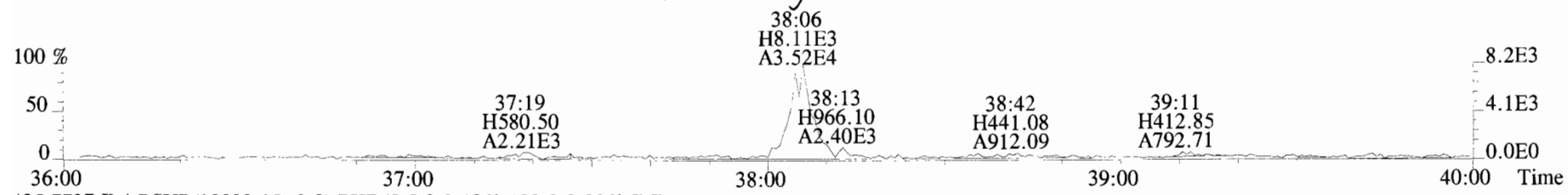


File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

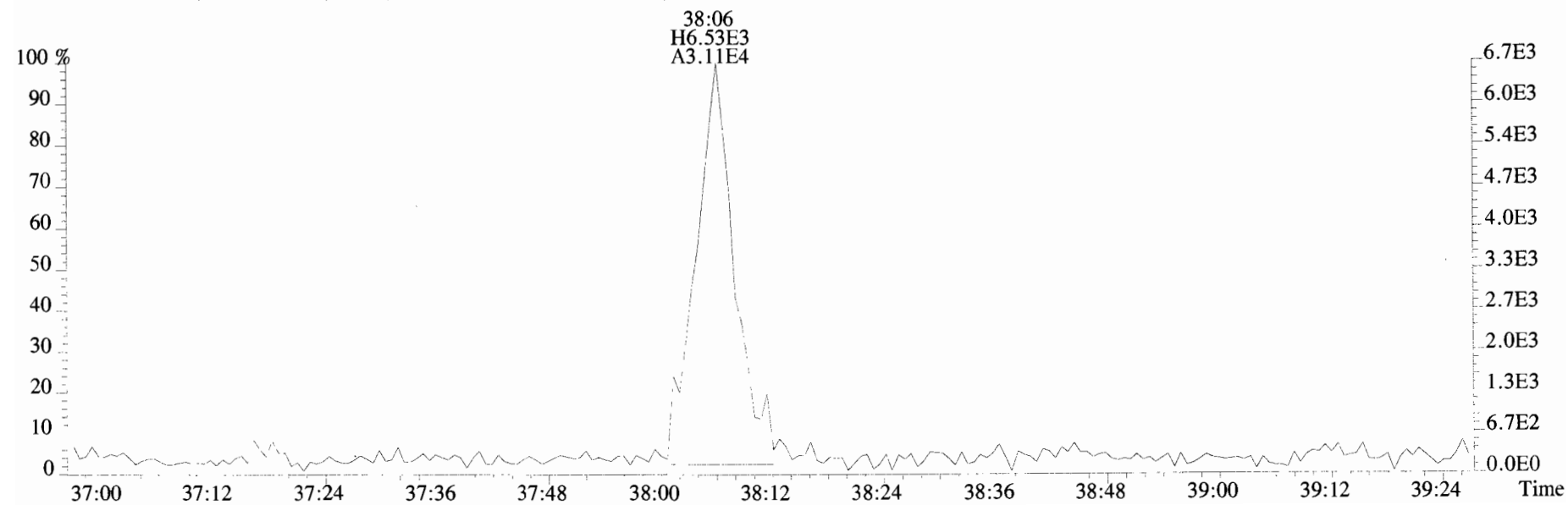
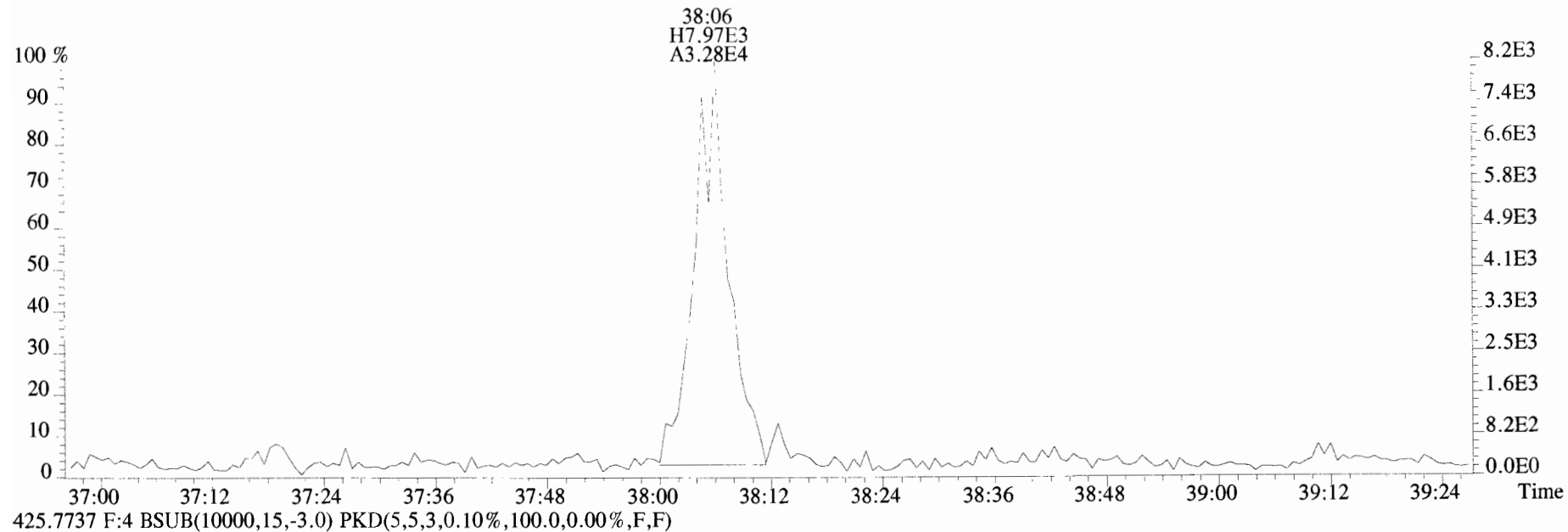




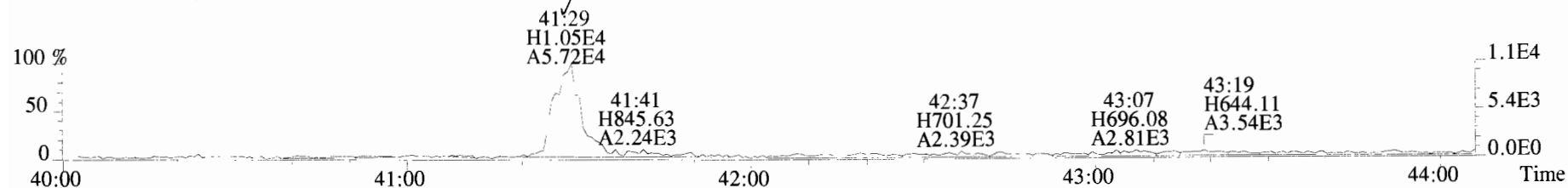
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
 423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



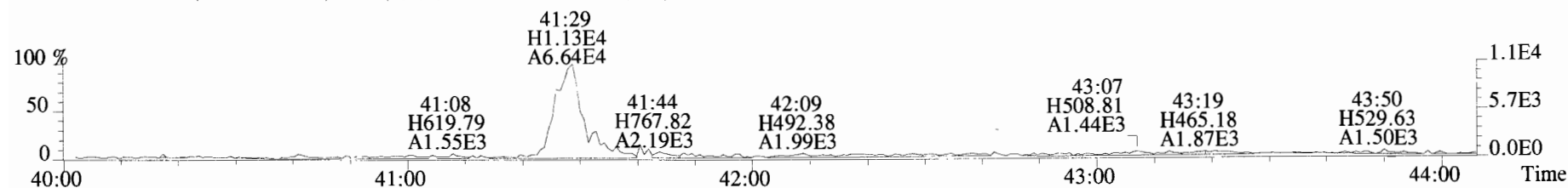
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



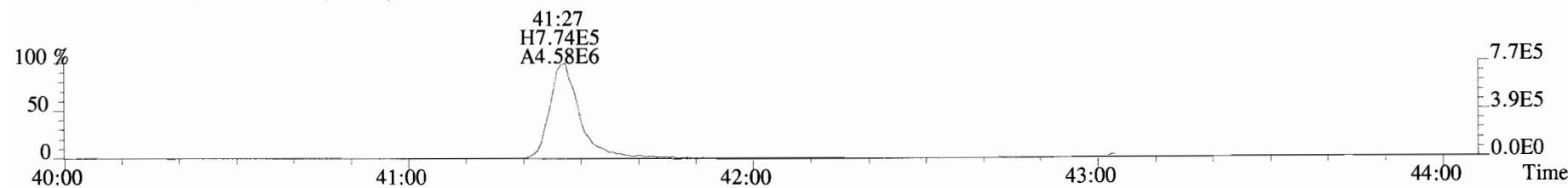
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



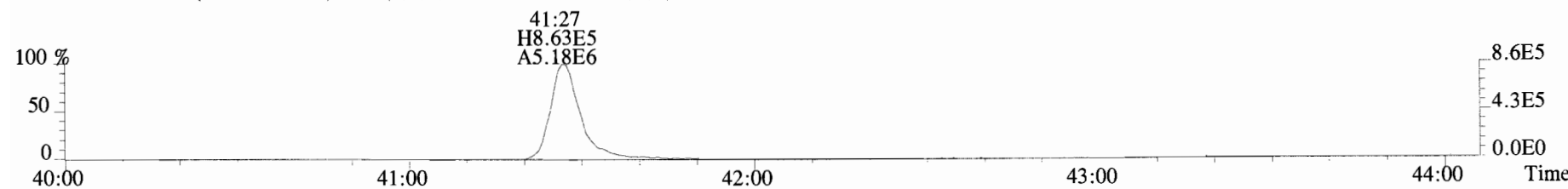
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



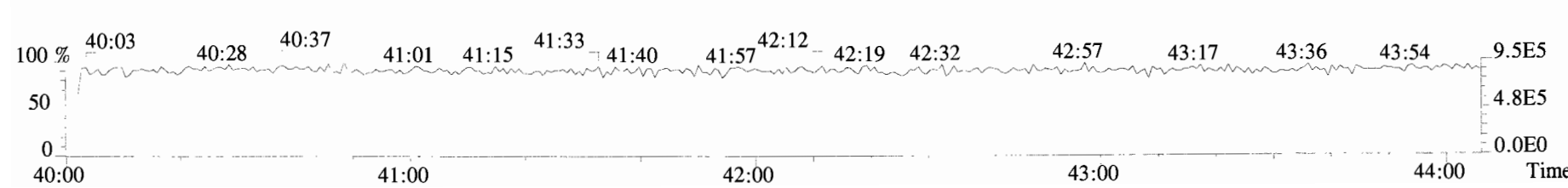
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



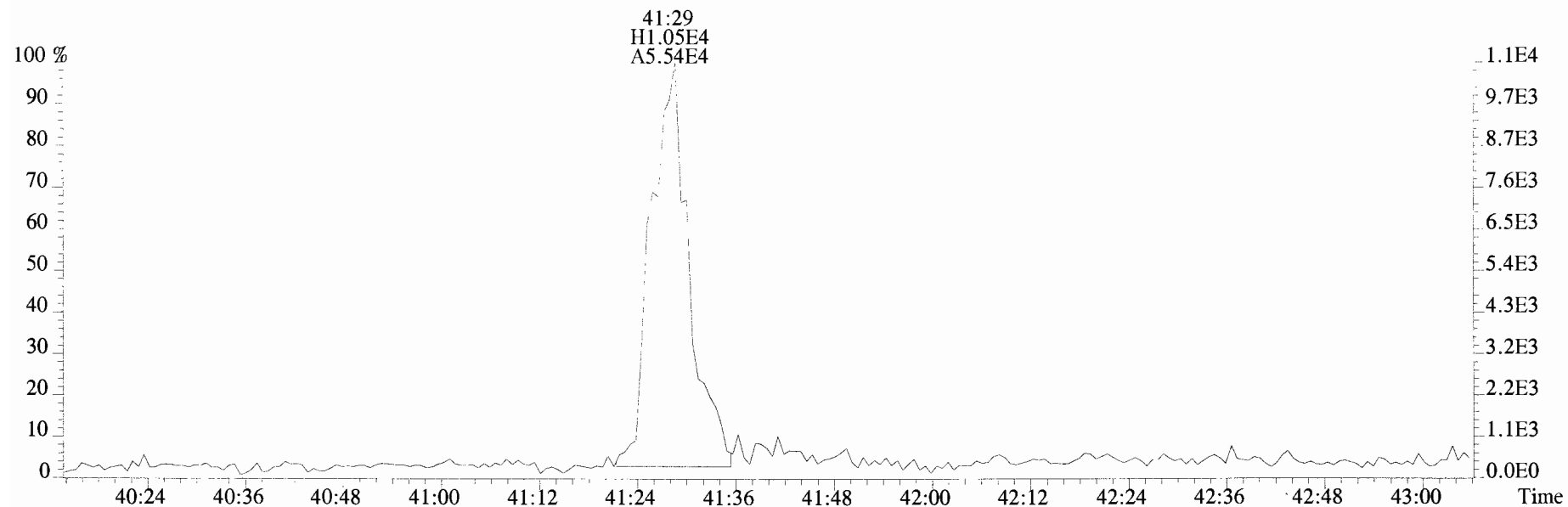
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



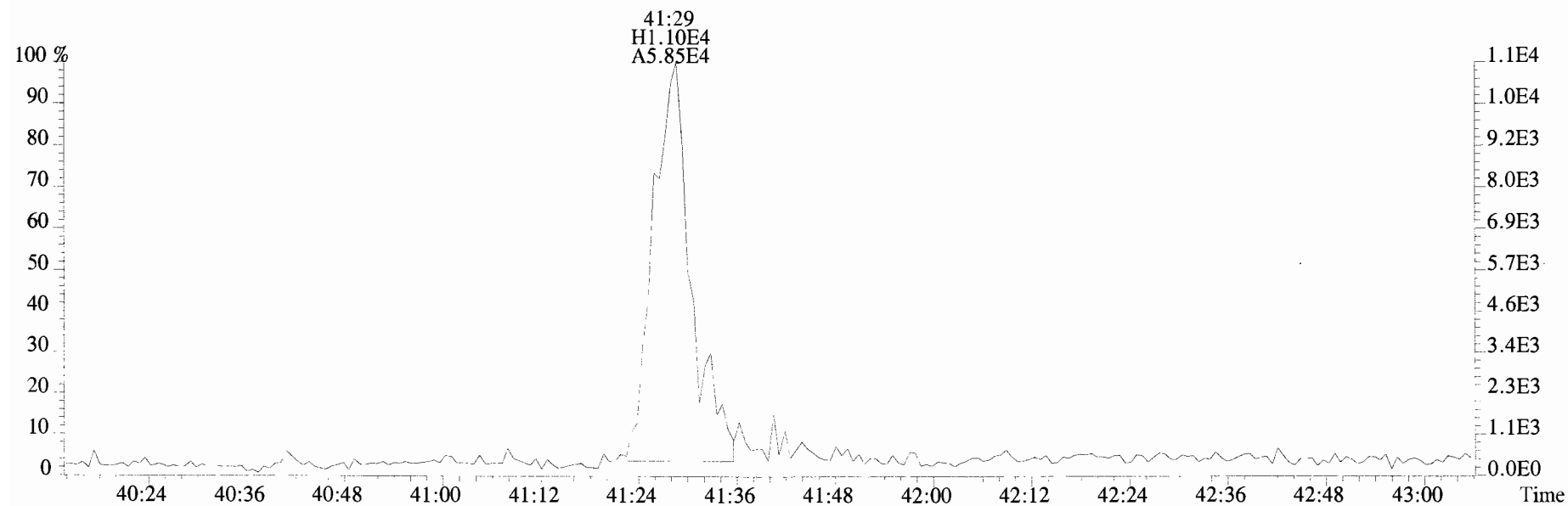
454.9728 F:5



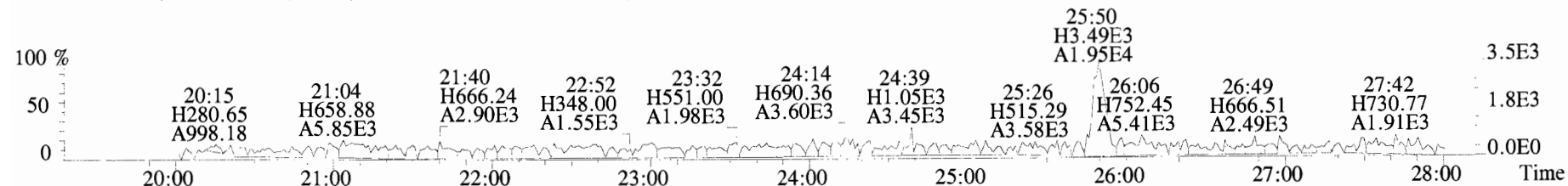
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



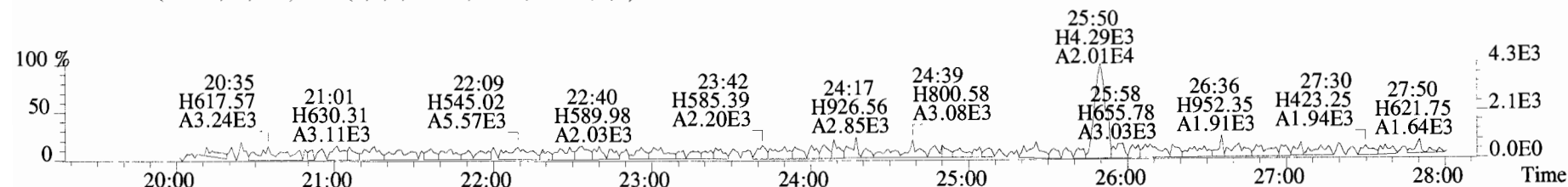
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



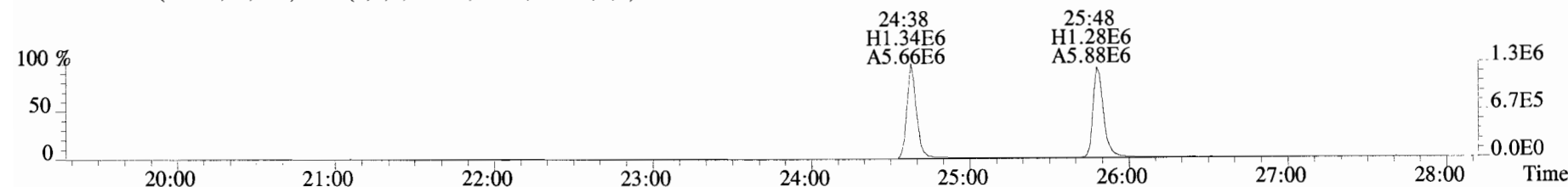
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



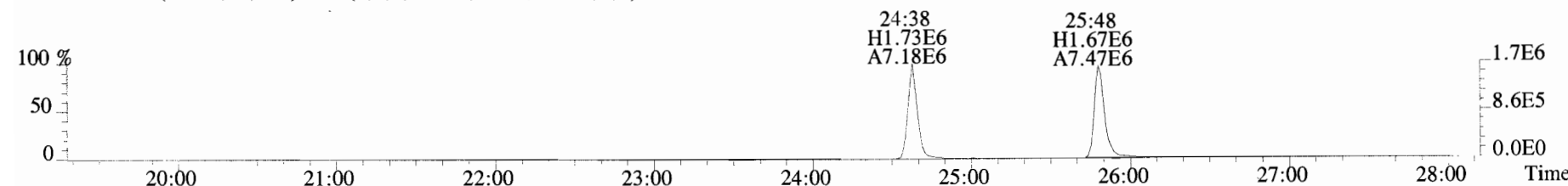
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



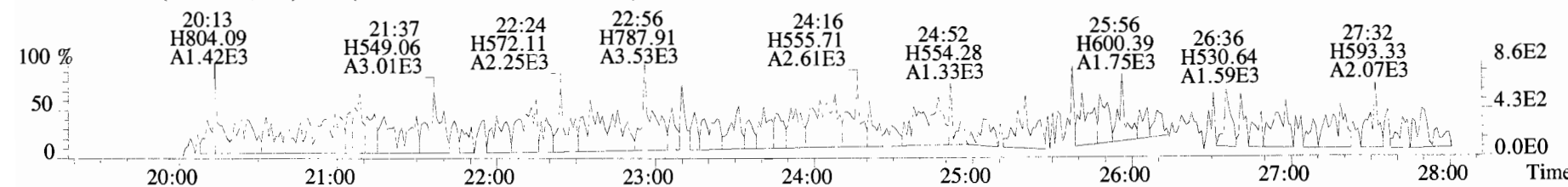
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



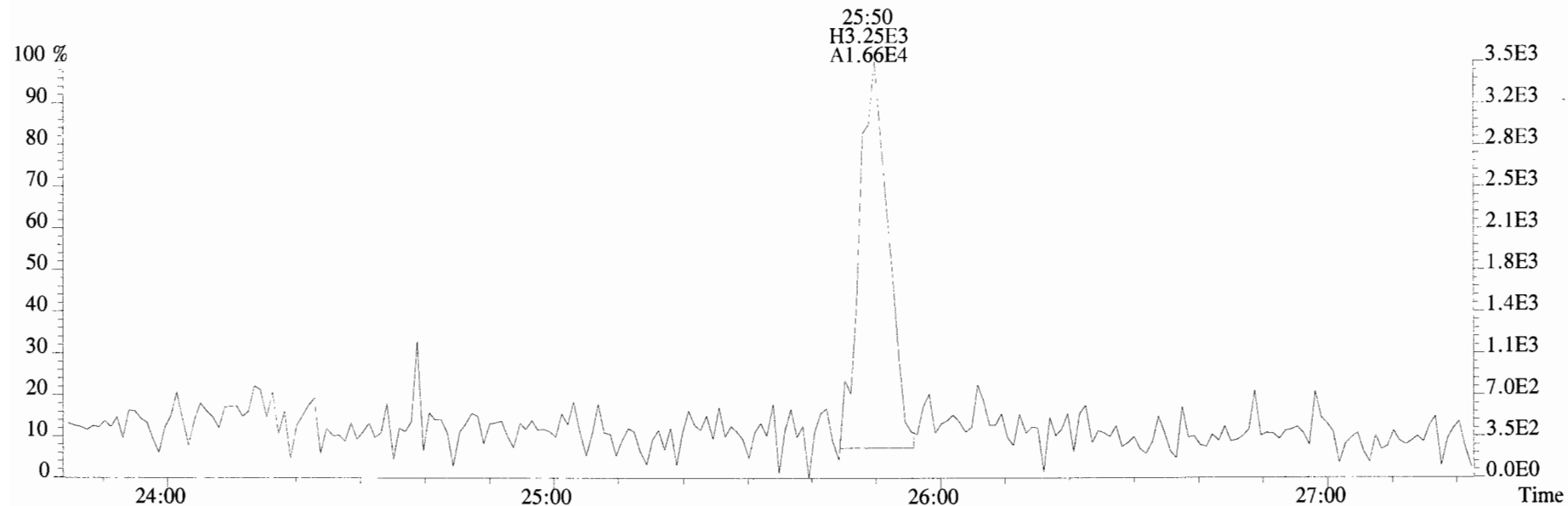
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



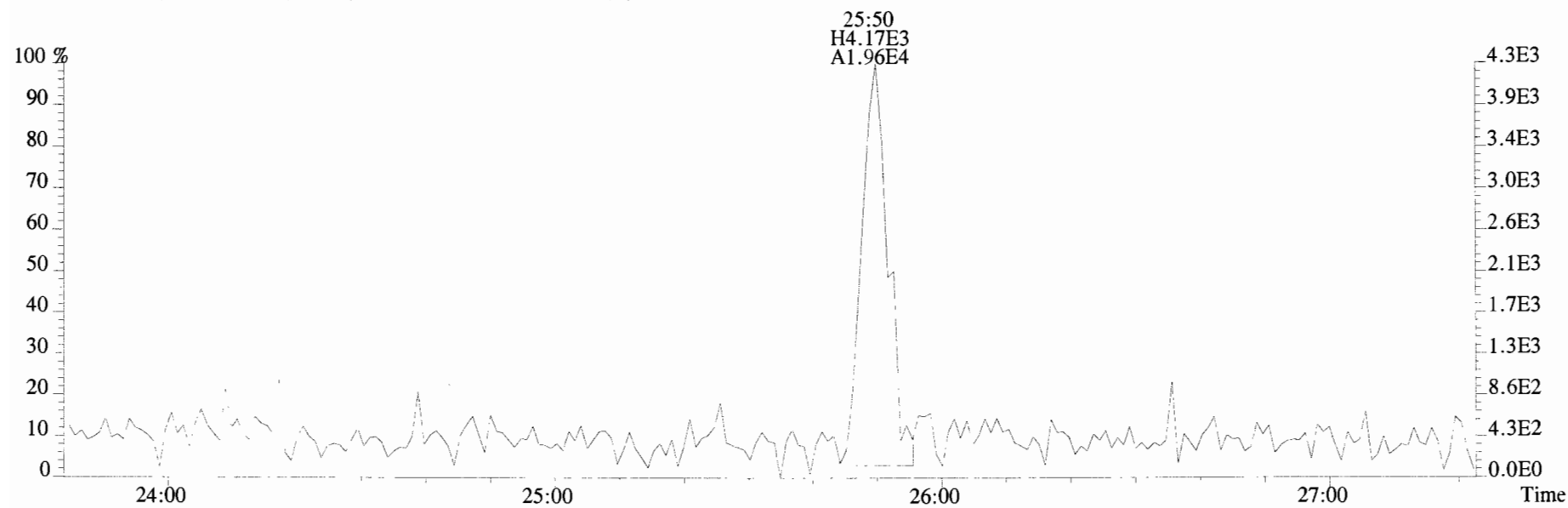
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



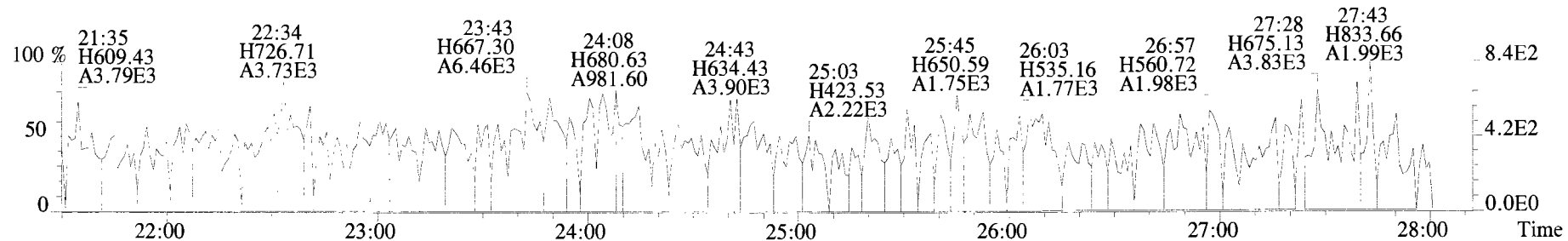
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



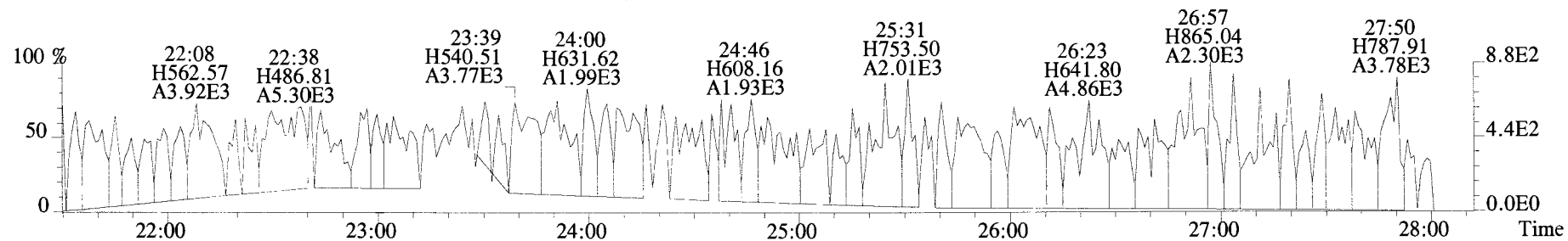
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



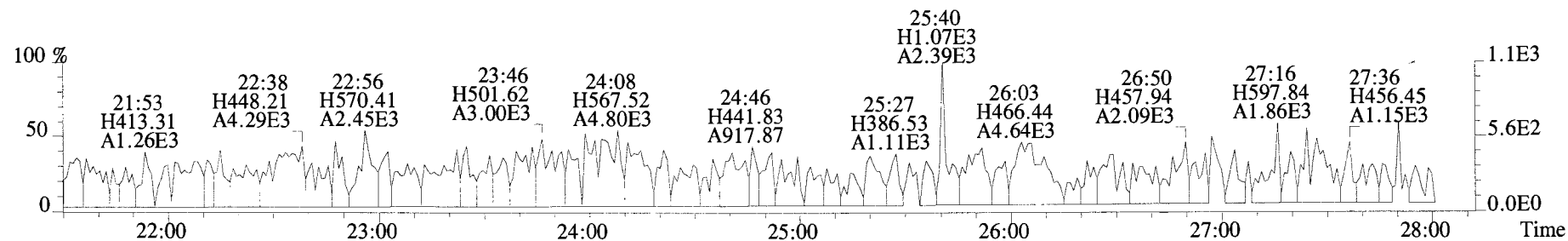
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



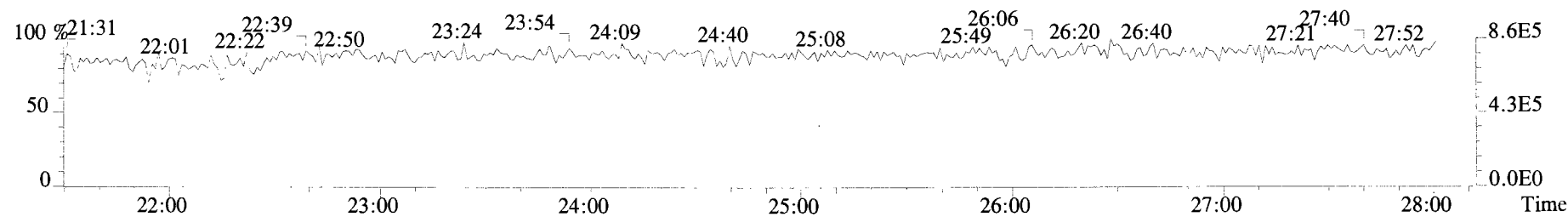
341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



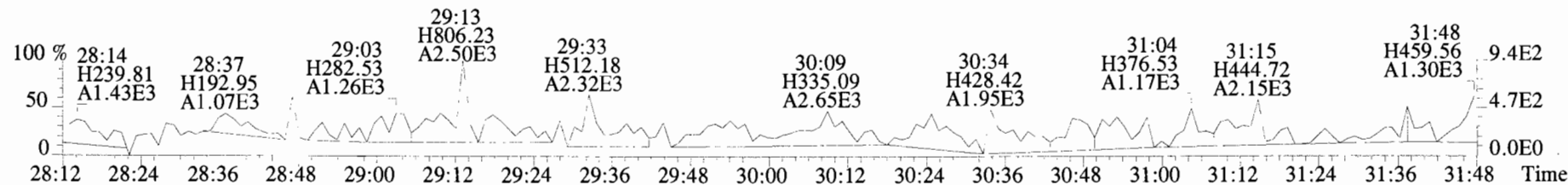
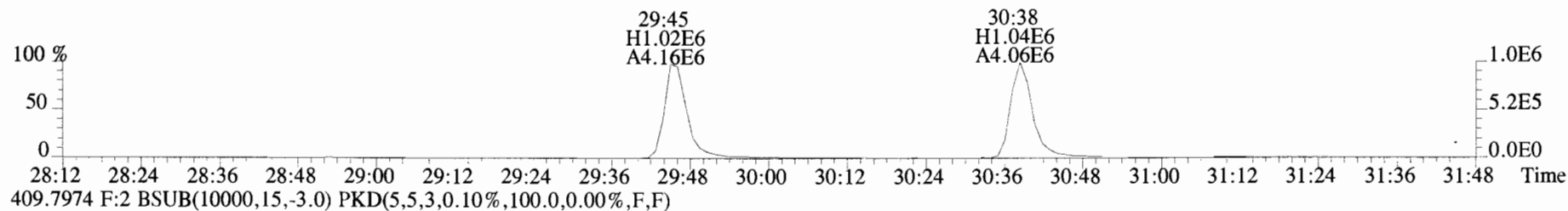
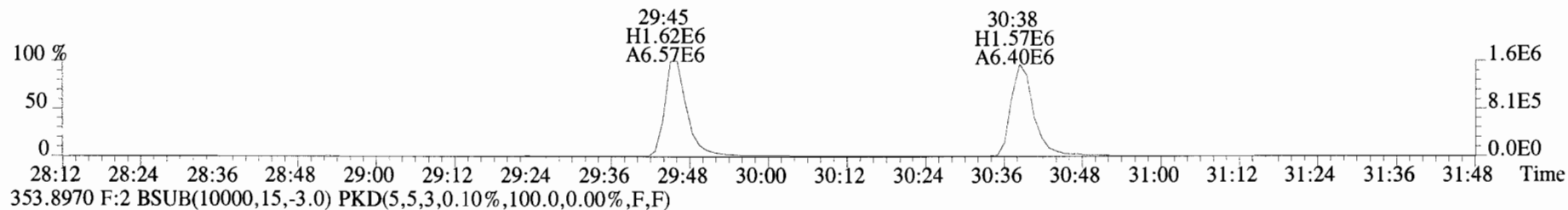
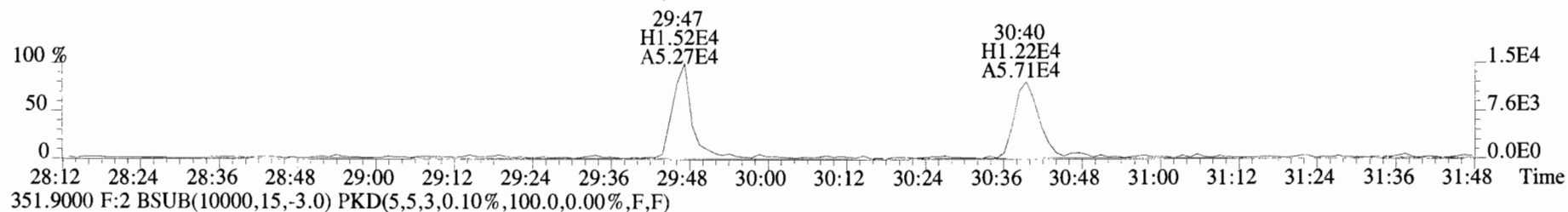
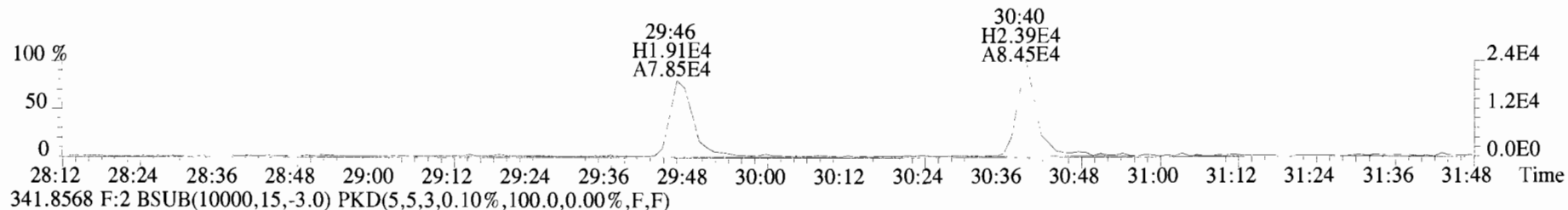
409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



316.9824

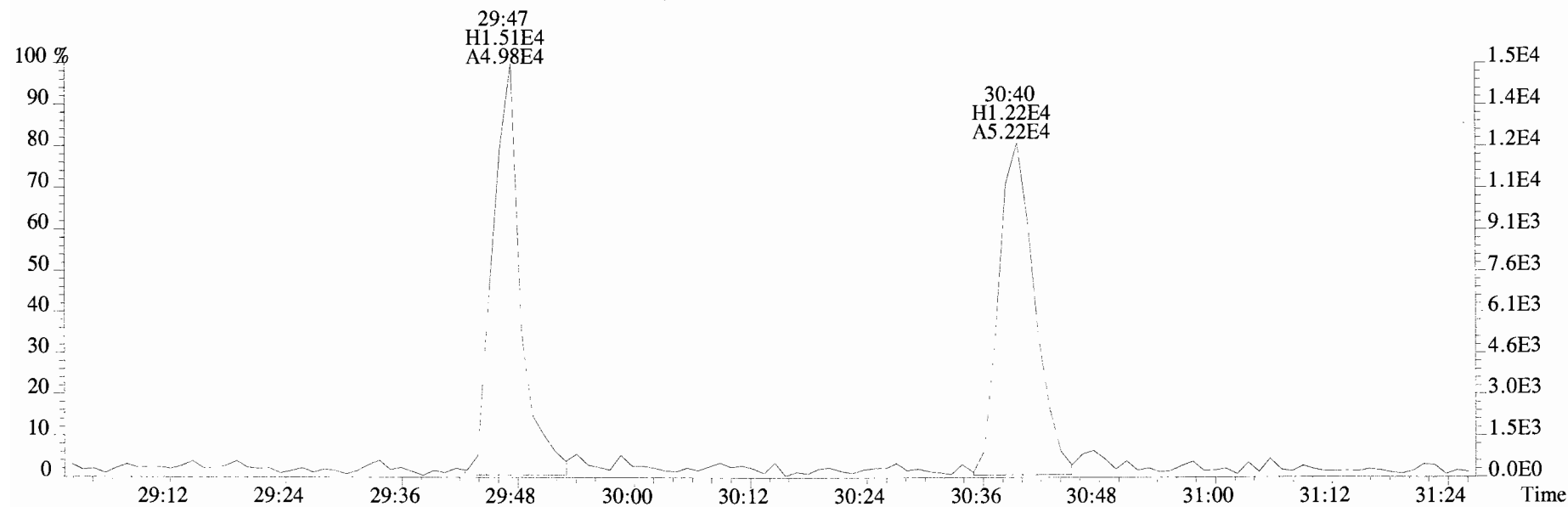
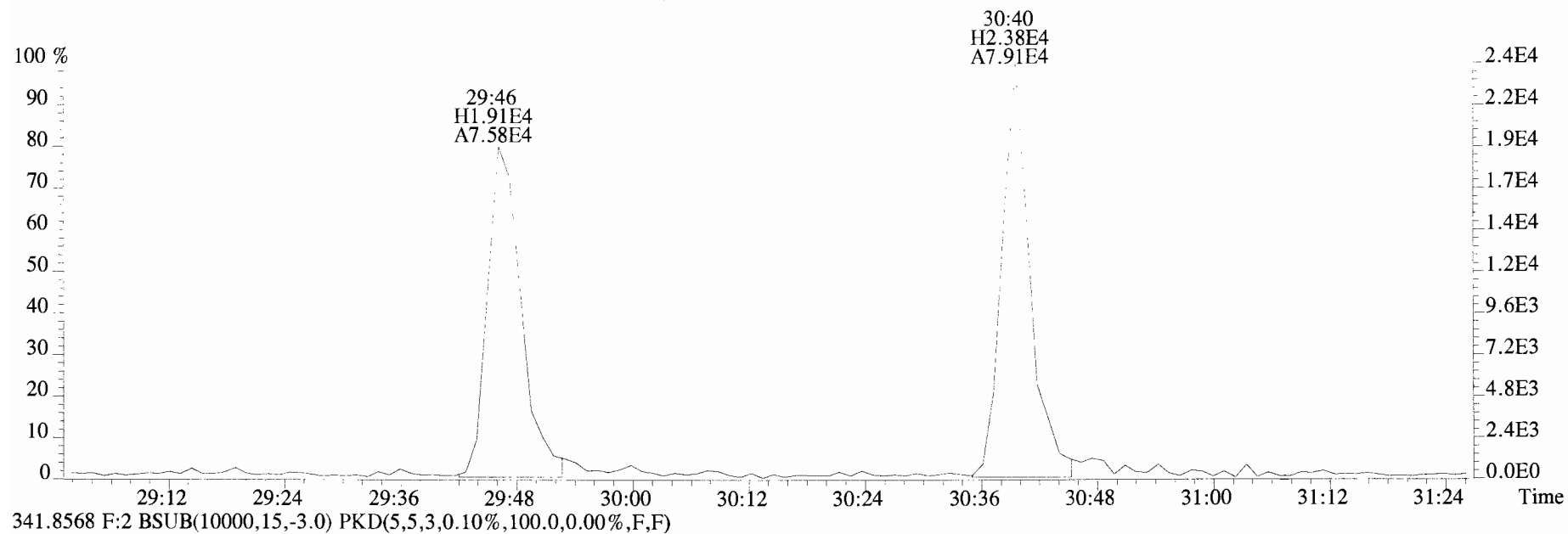


File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

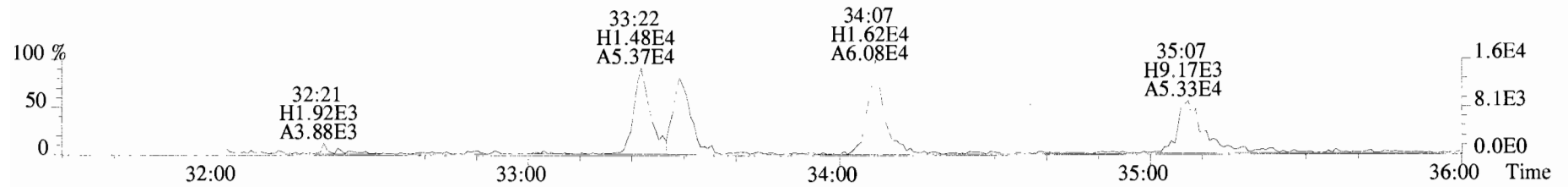




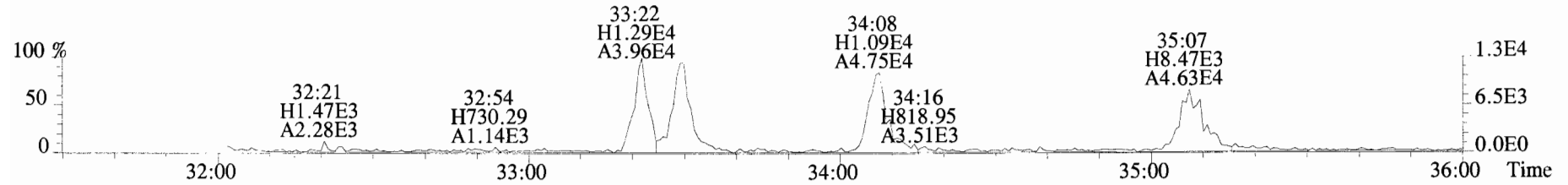
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



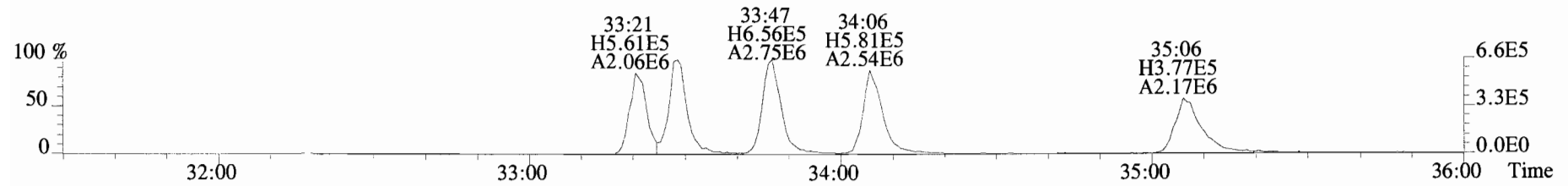
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



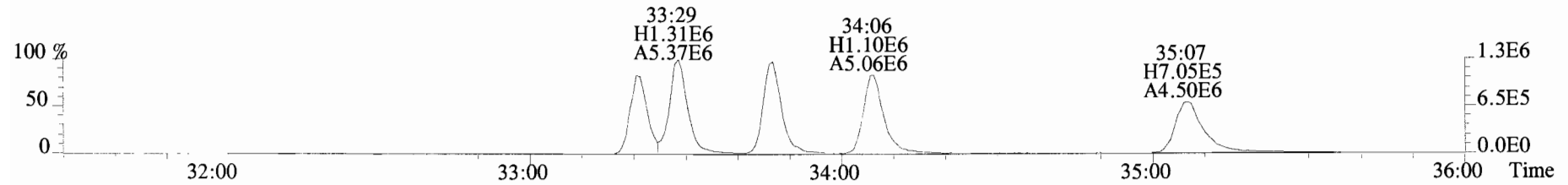
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



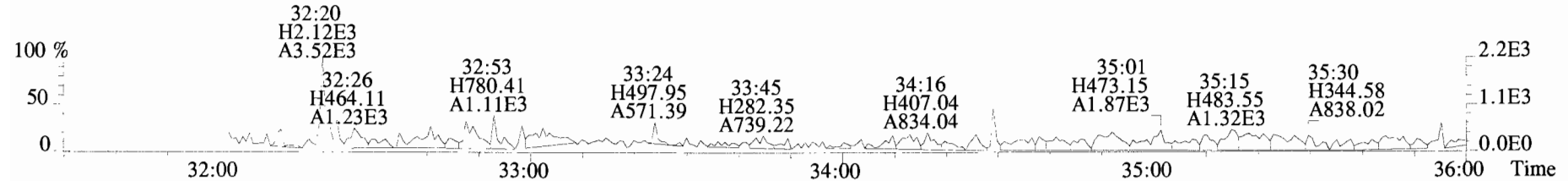
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



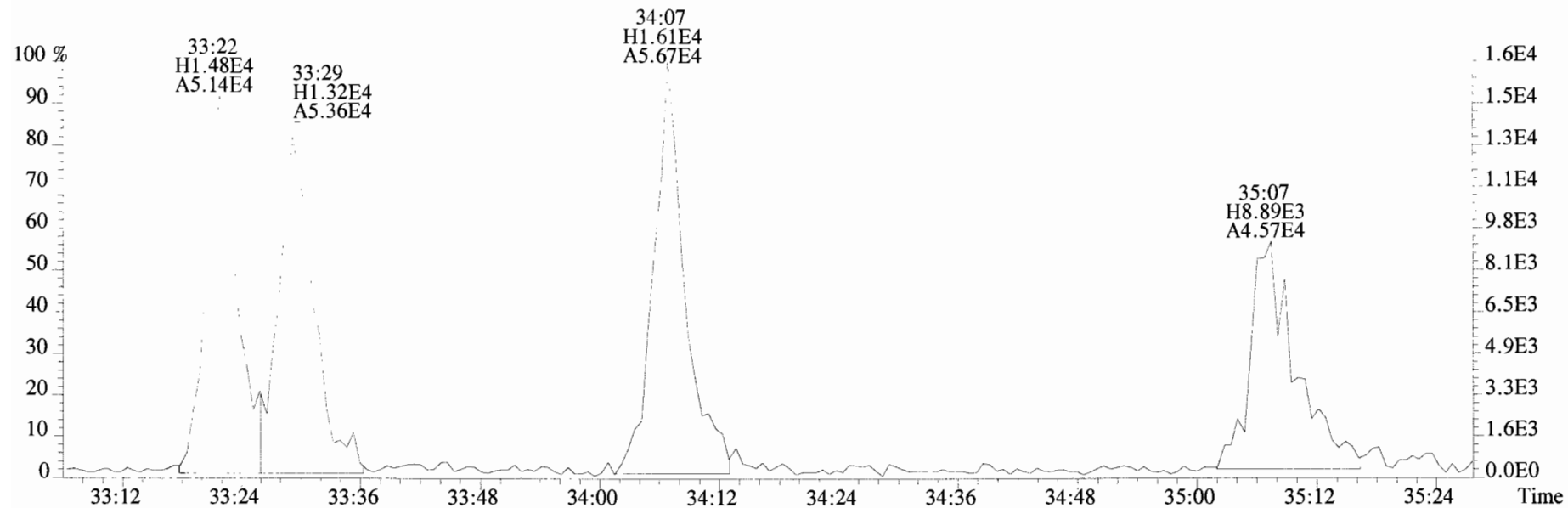
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



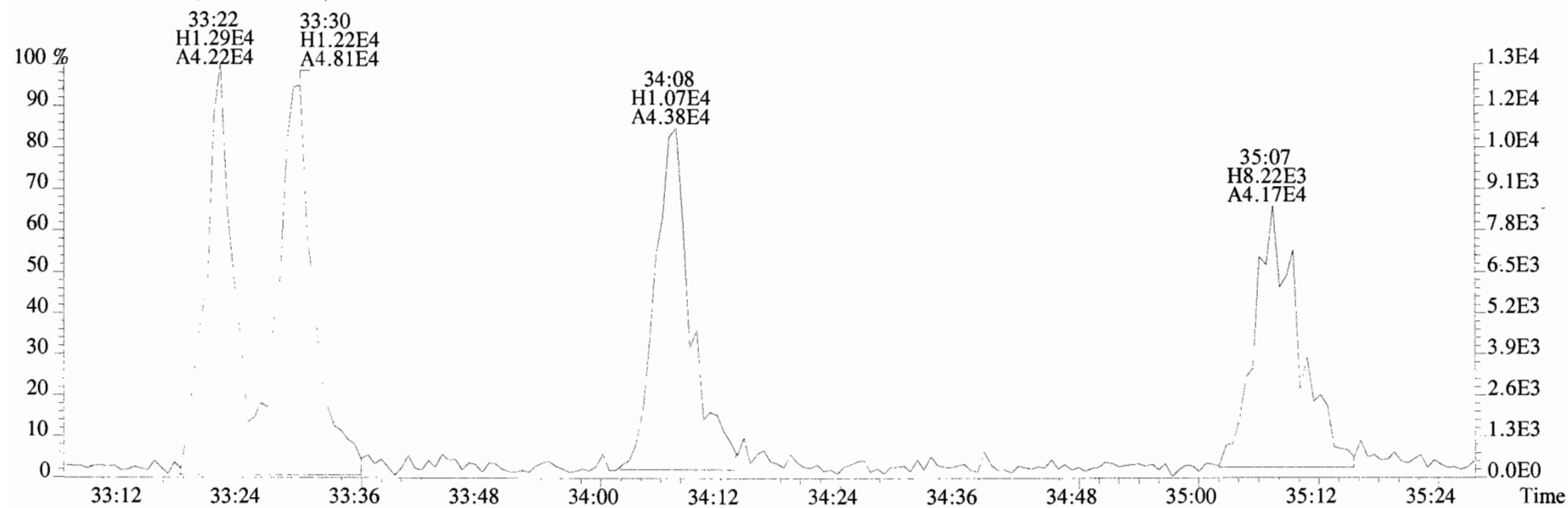
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



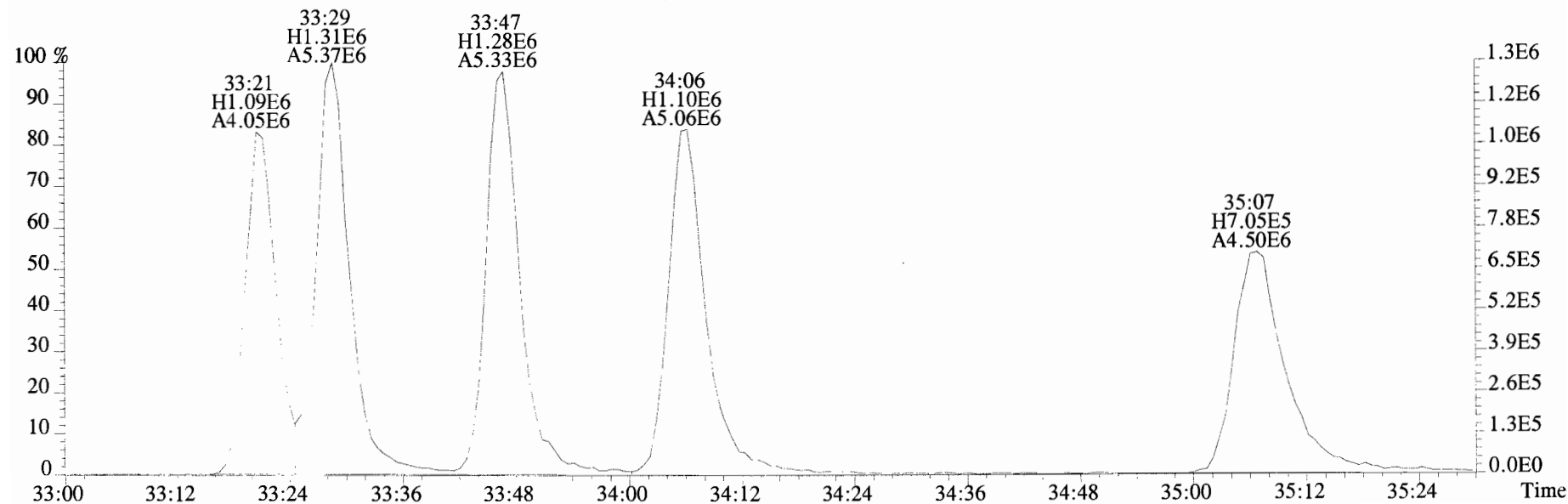
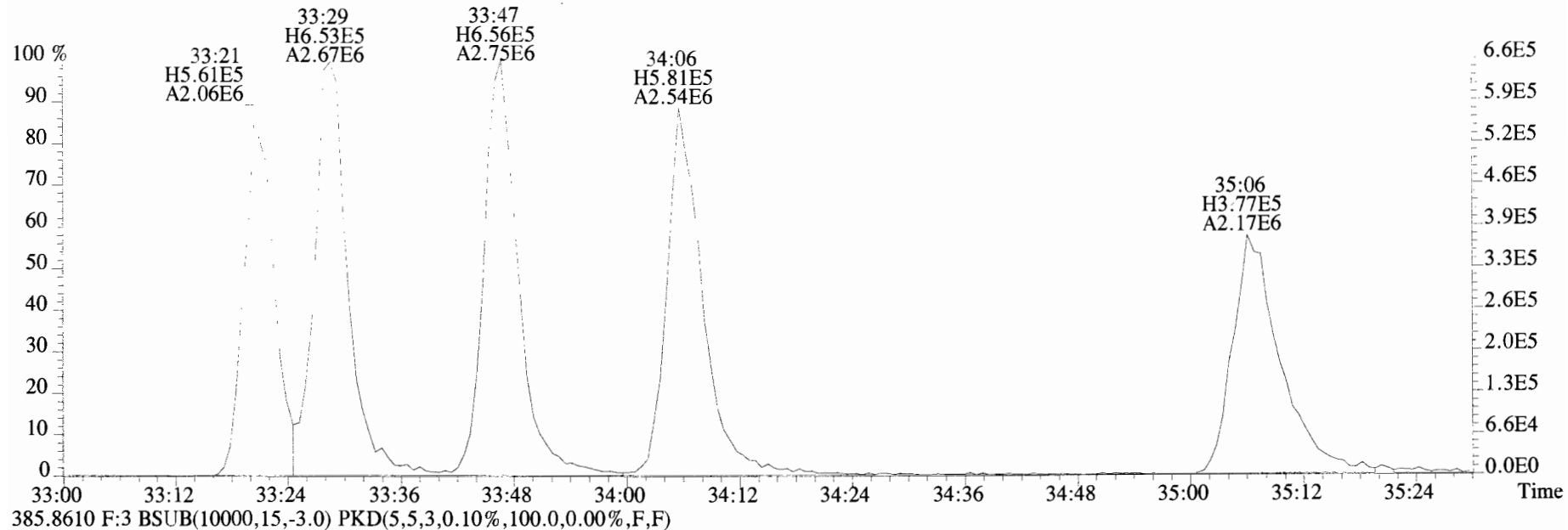
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
373.8207 F:3 BSUB(10000,15,-3.0)



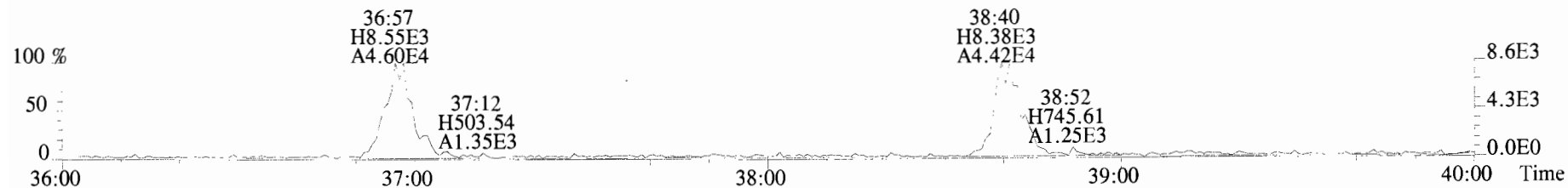
375.8178 F:3 BSUB(10000,15,-3.0)



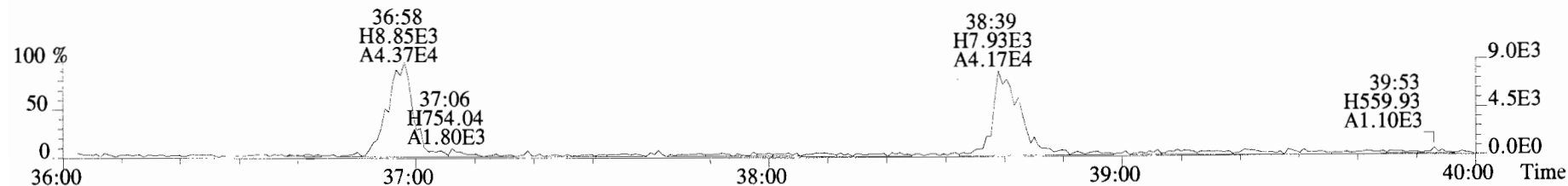
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



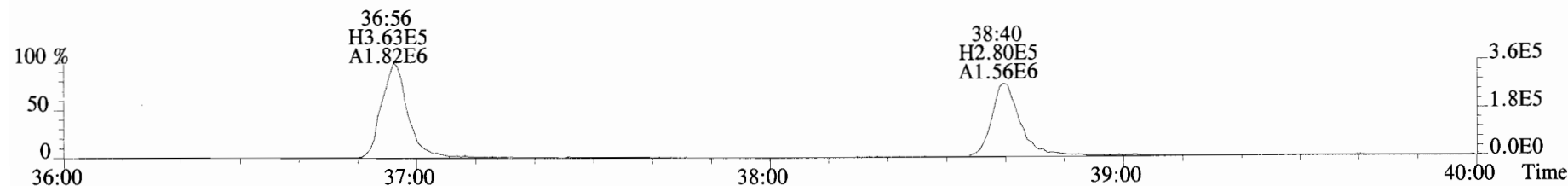
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



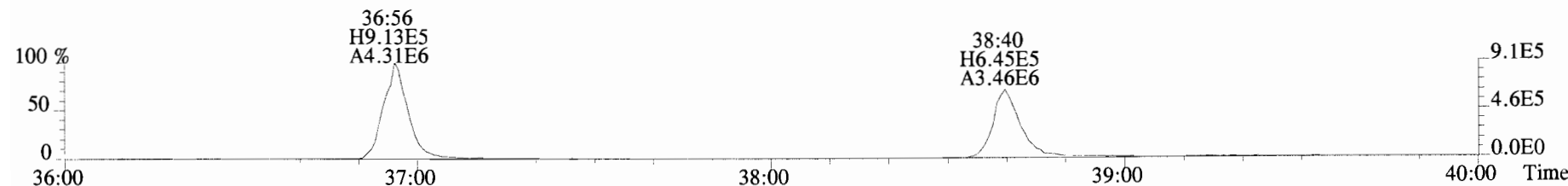
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



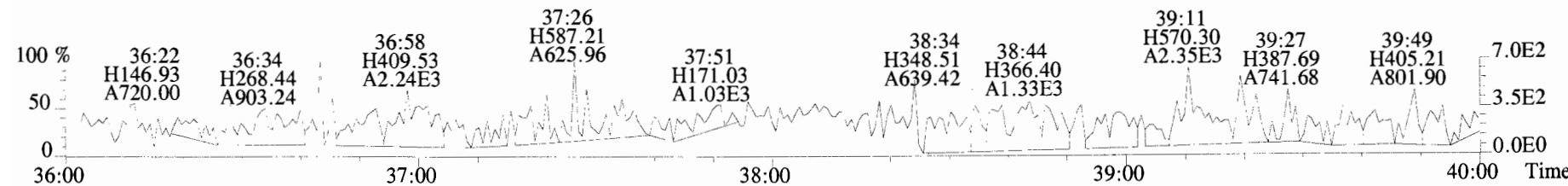
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



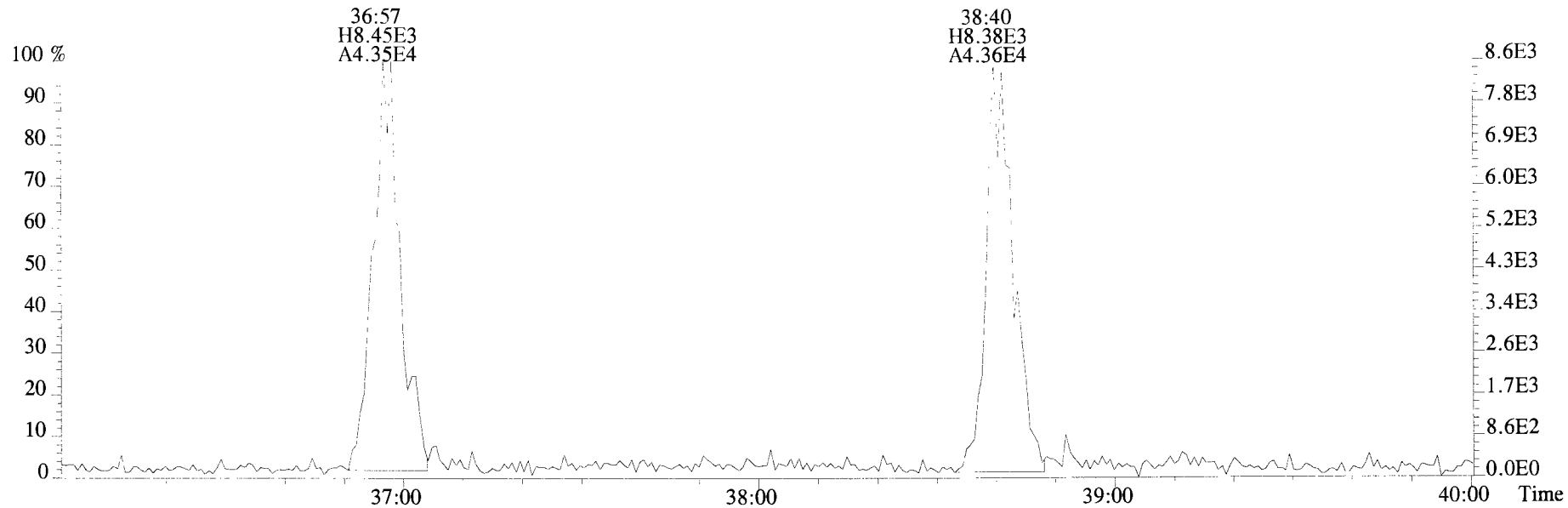
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



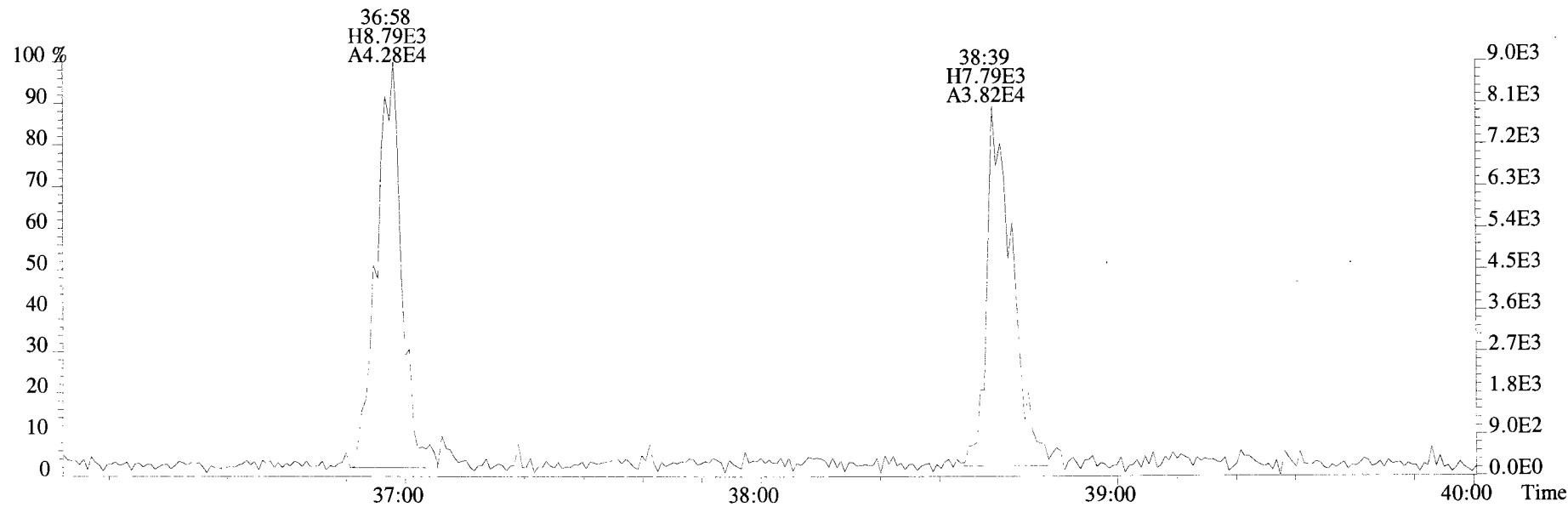
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



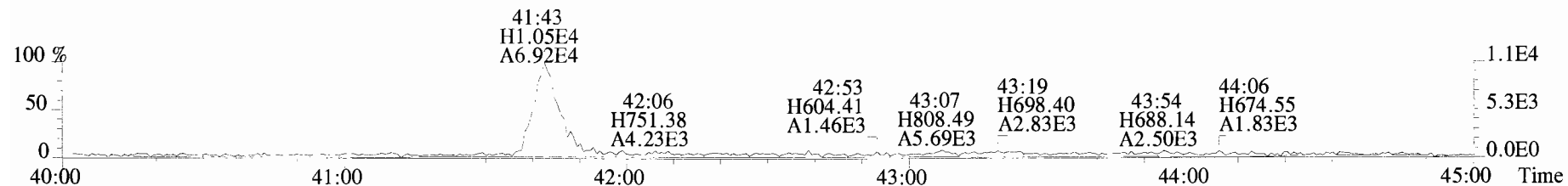
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



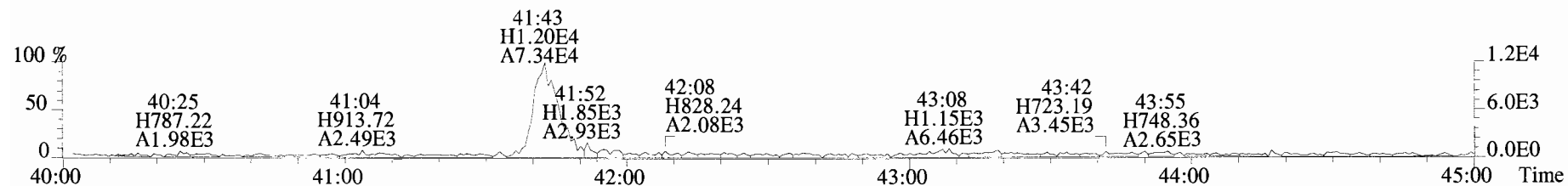
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



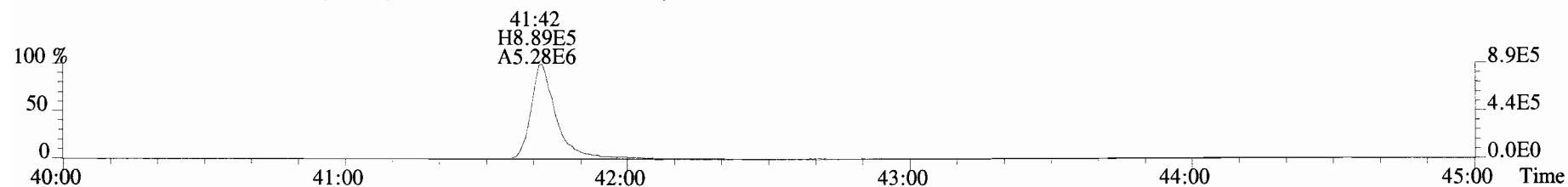
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



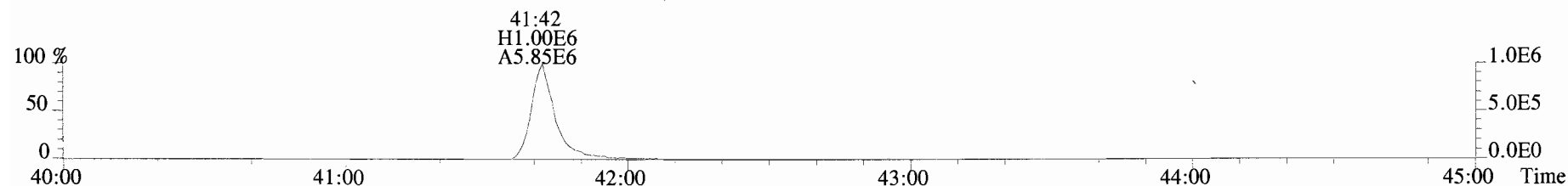
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



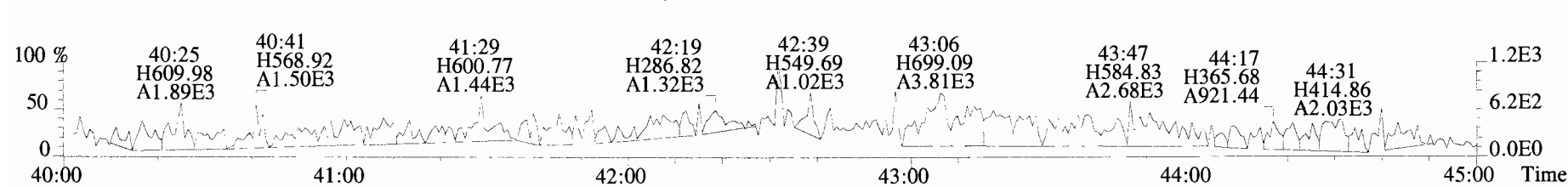
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



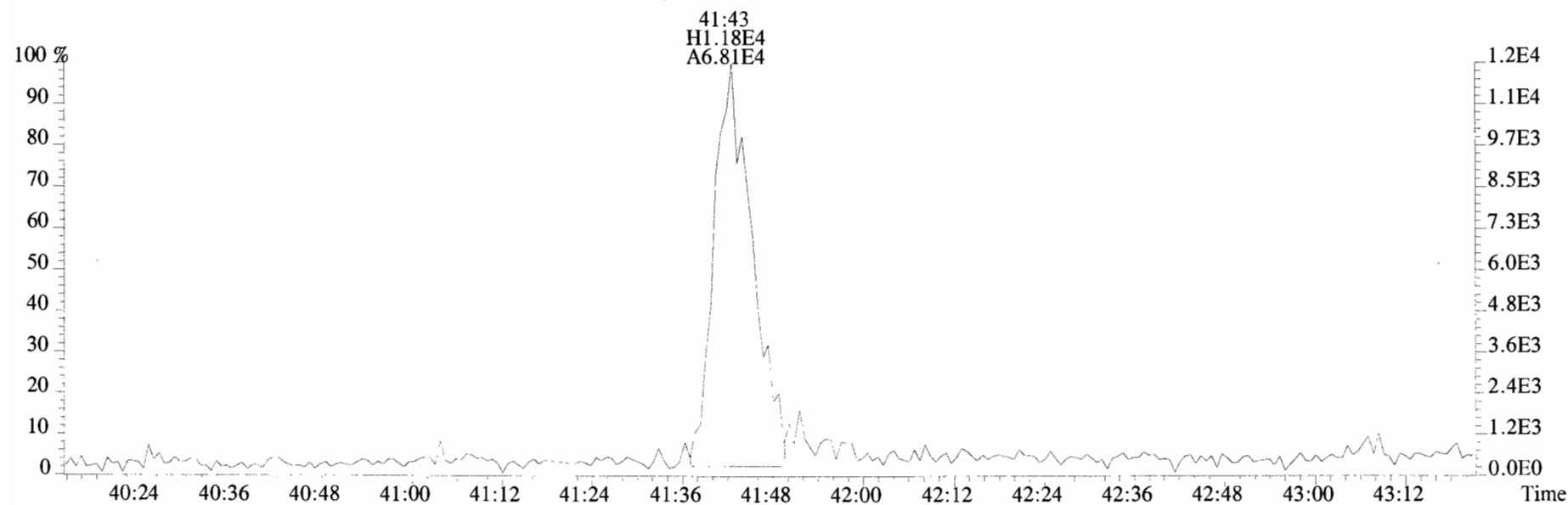
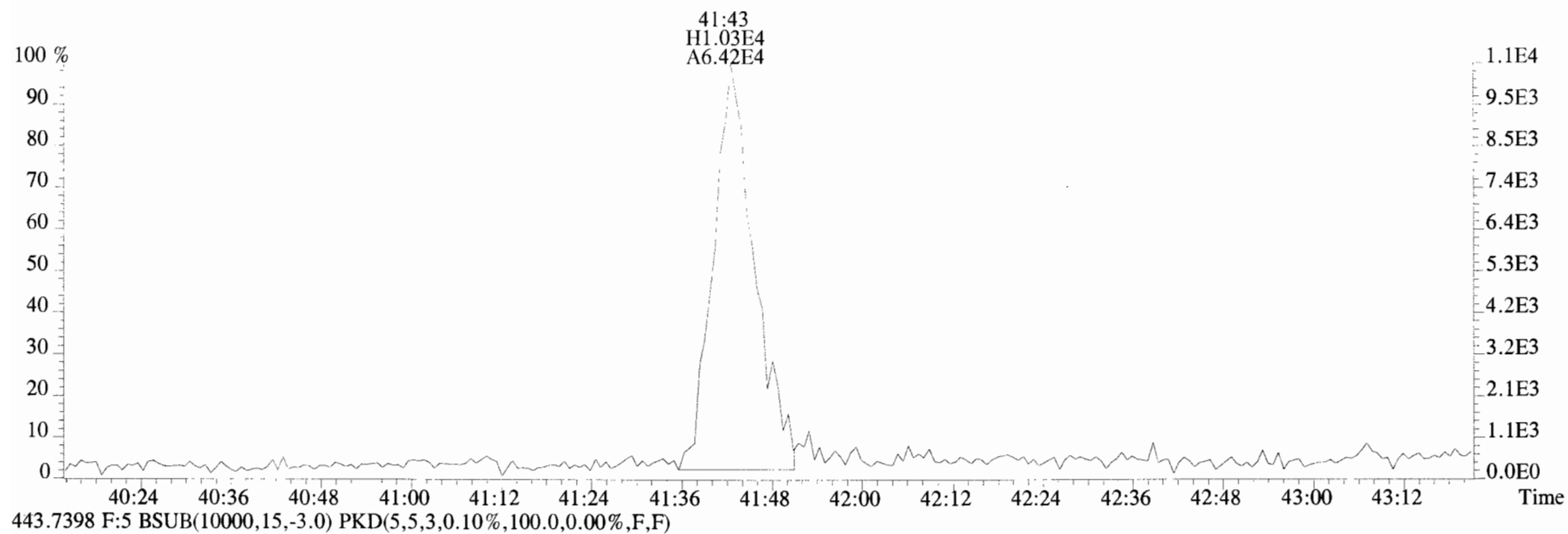
455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

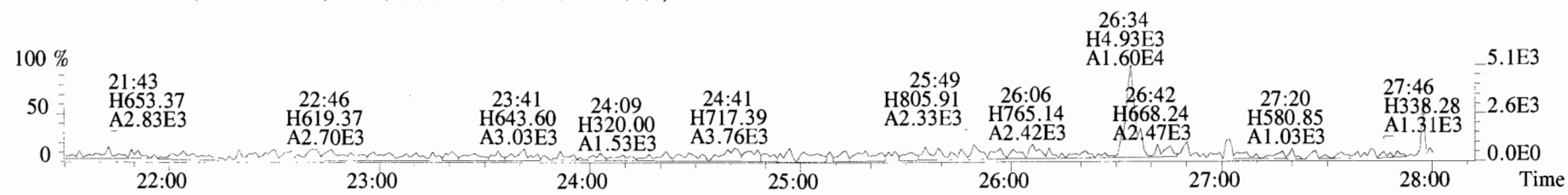


File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD\_DB5  
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

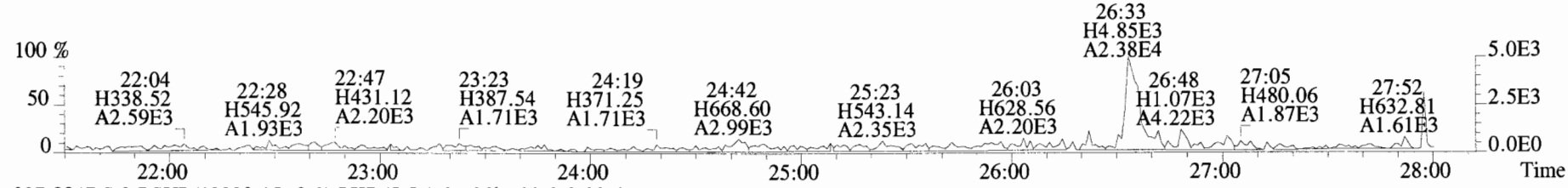




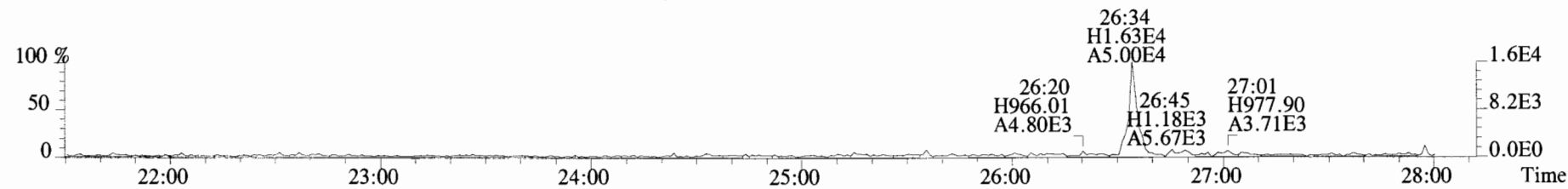
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
 319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



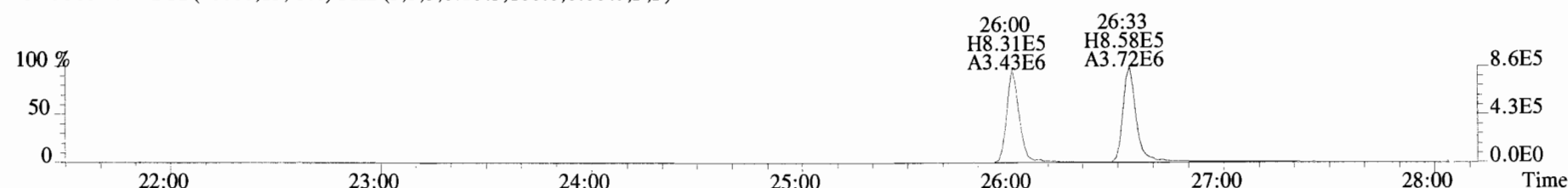
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



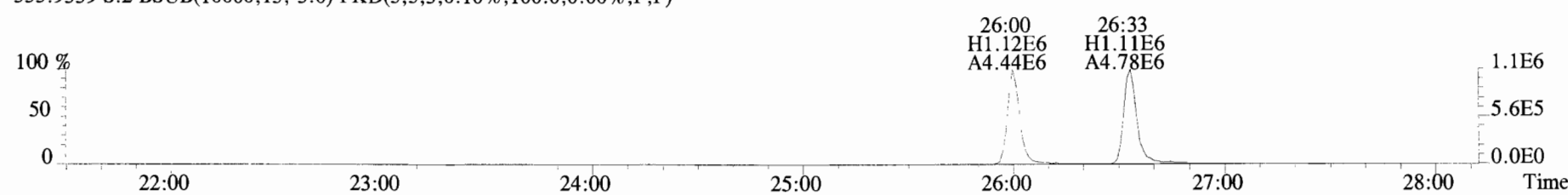
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



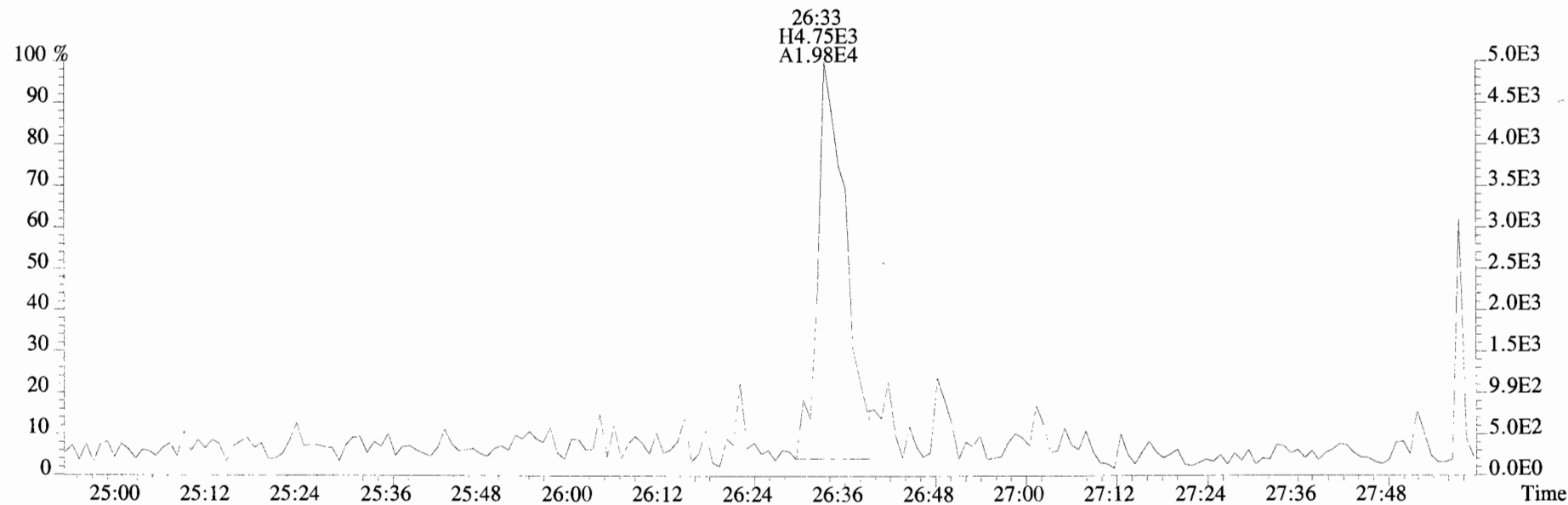
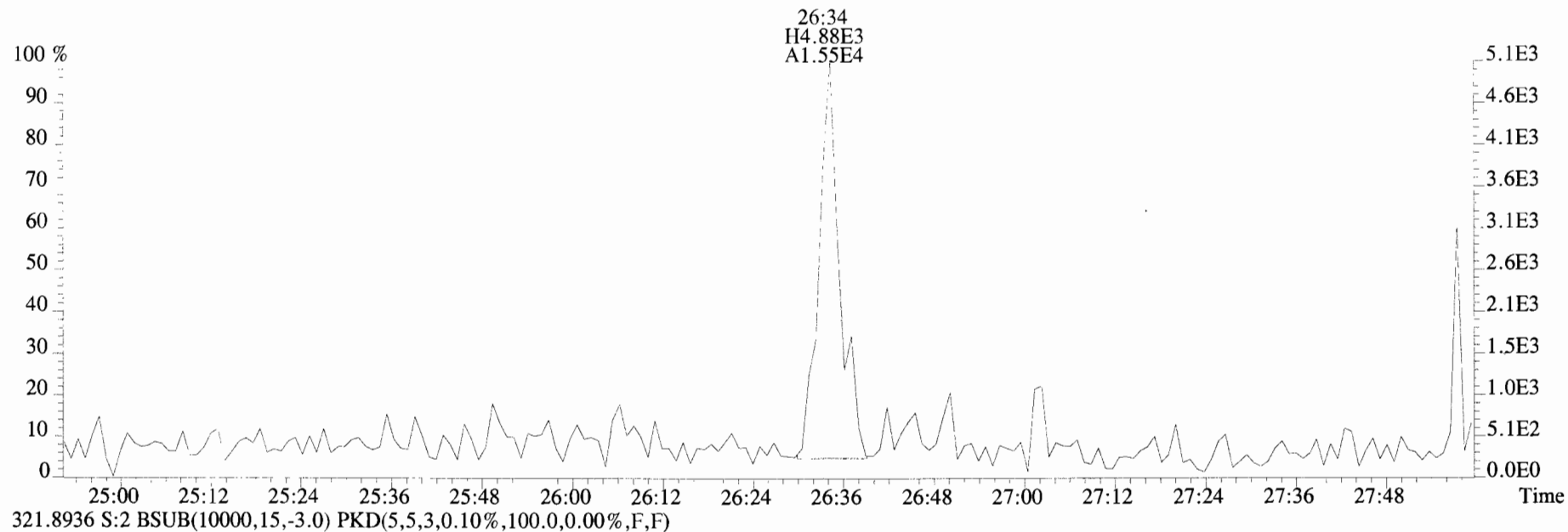
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



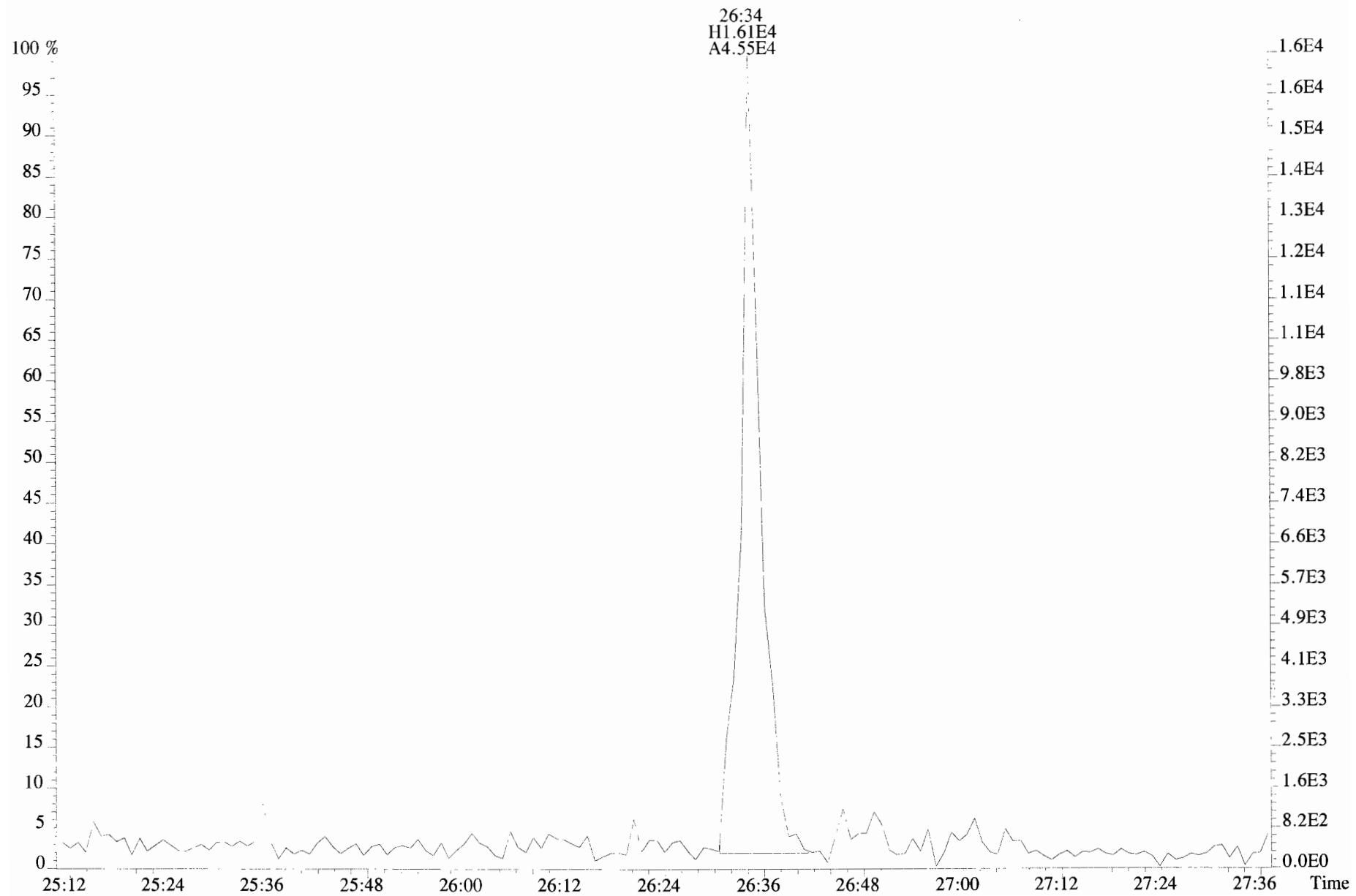
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



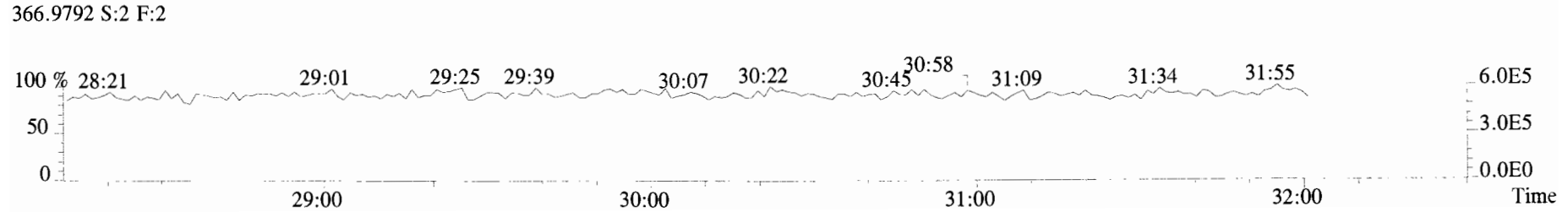
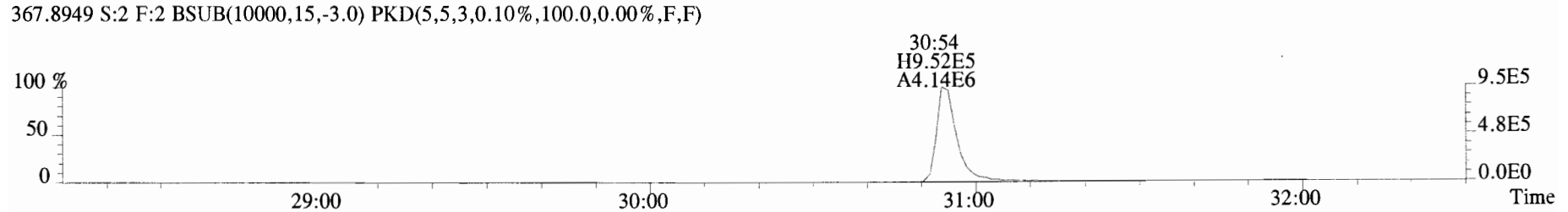
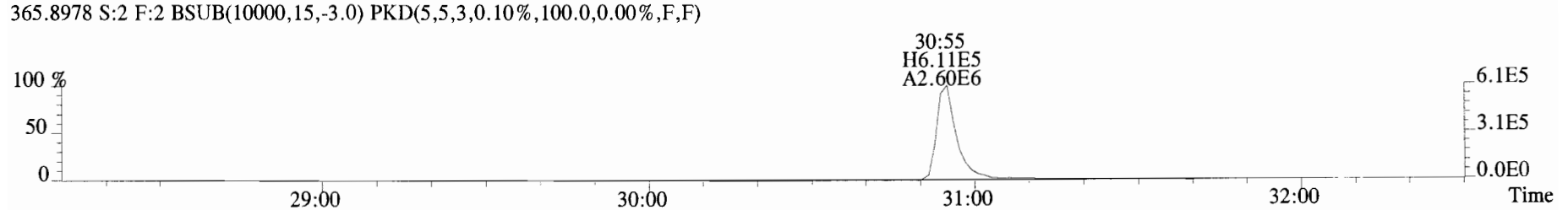
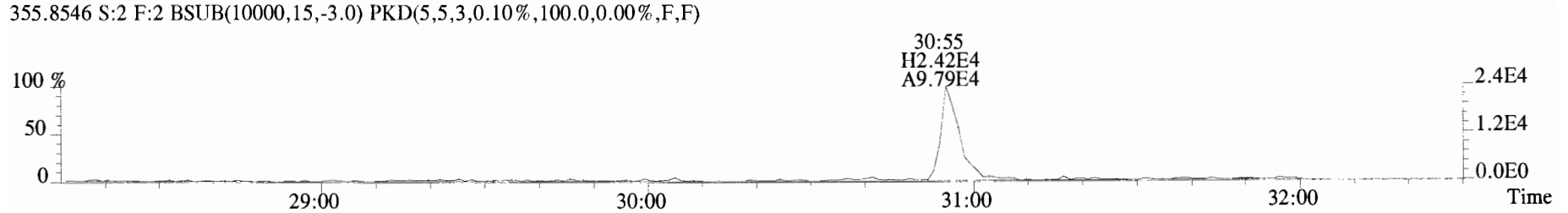
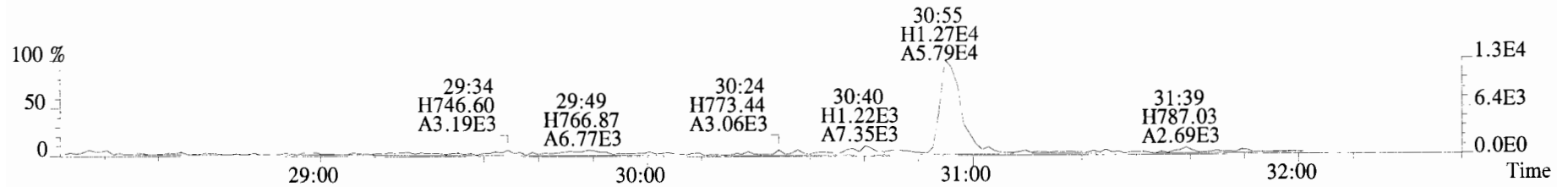
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



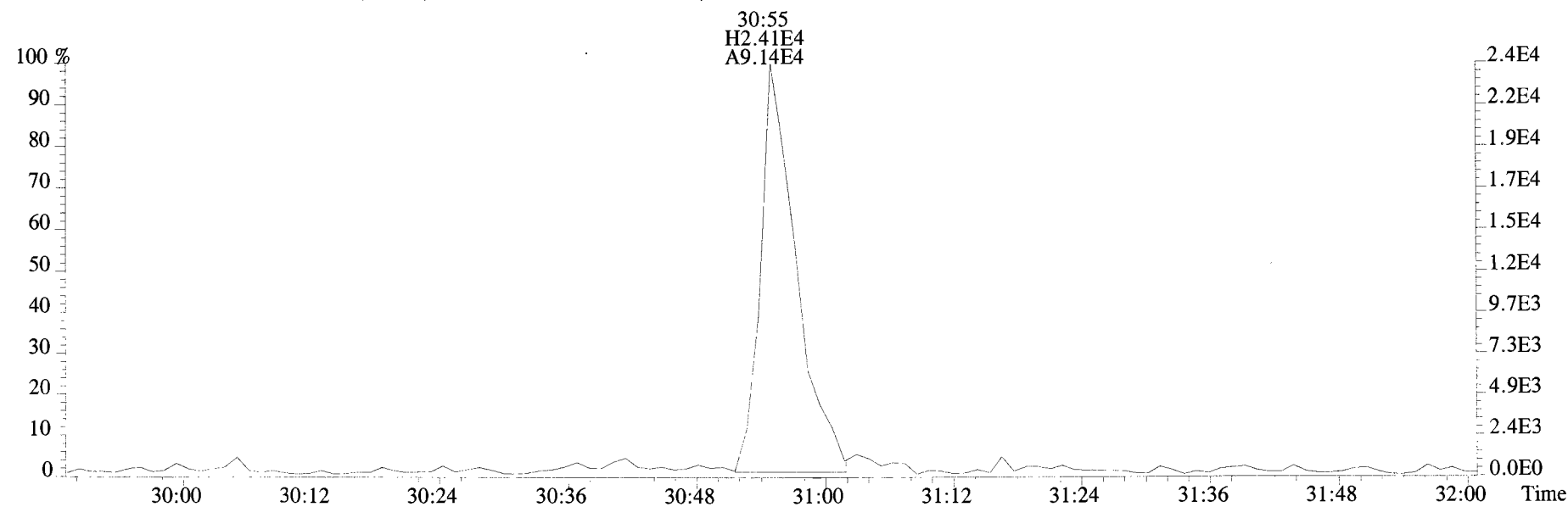
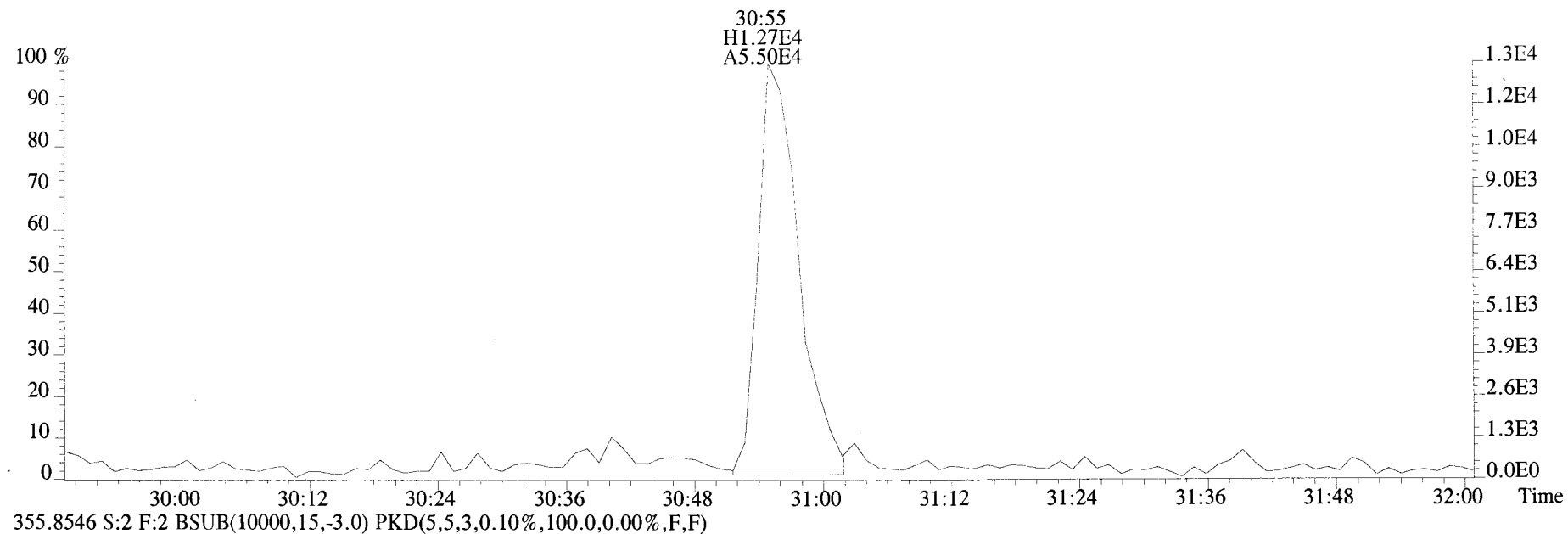
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



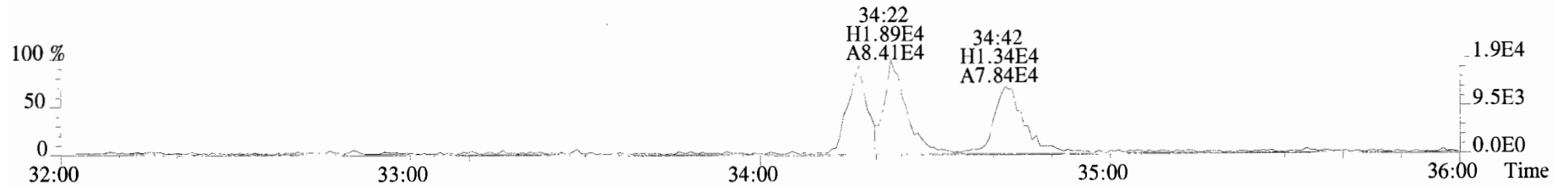
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text: Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



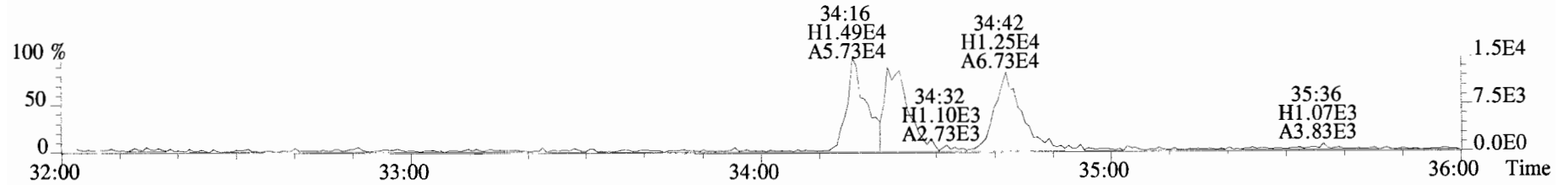
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



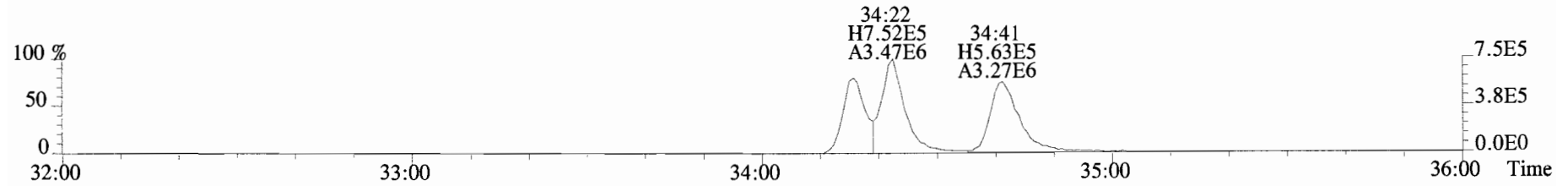
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



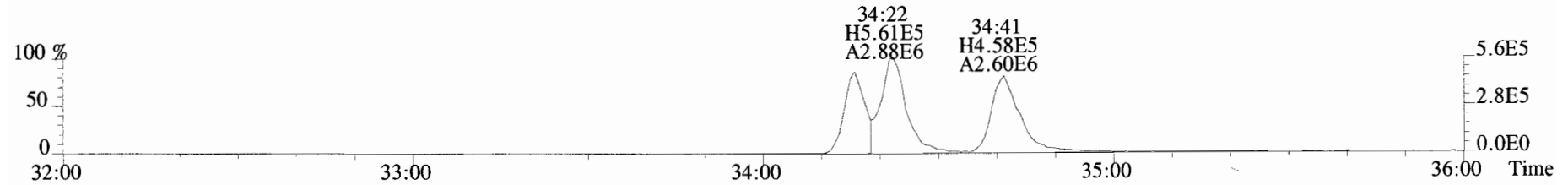
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



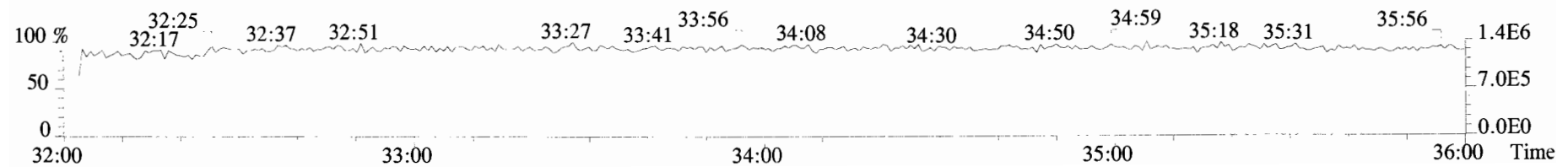
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



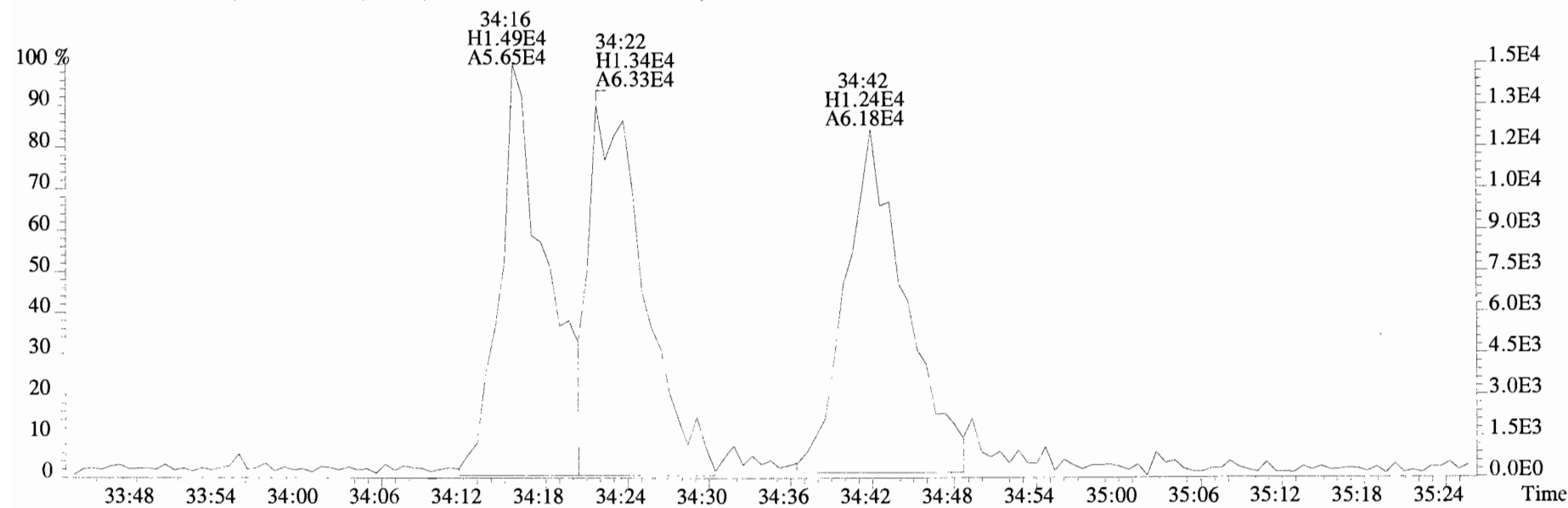
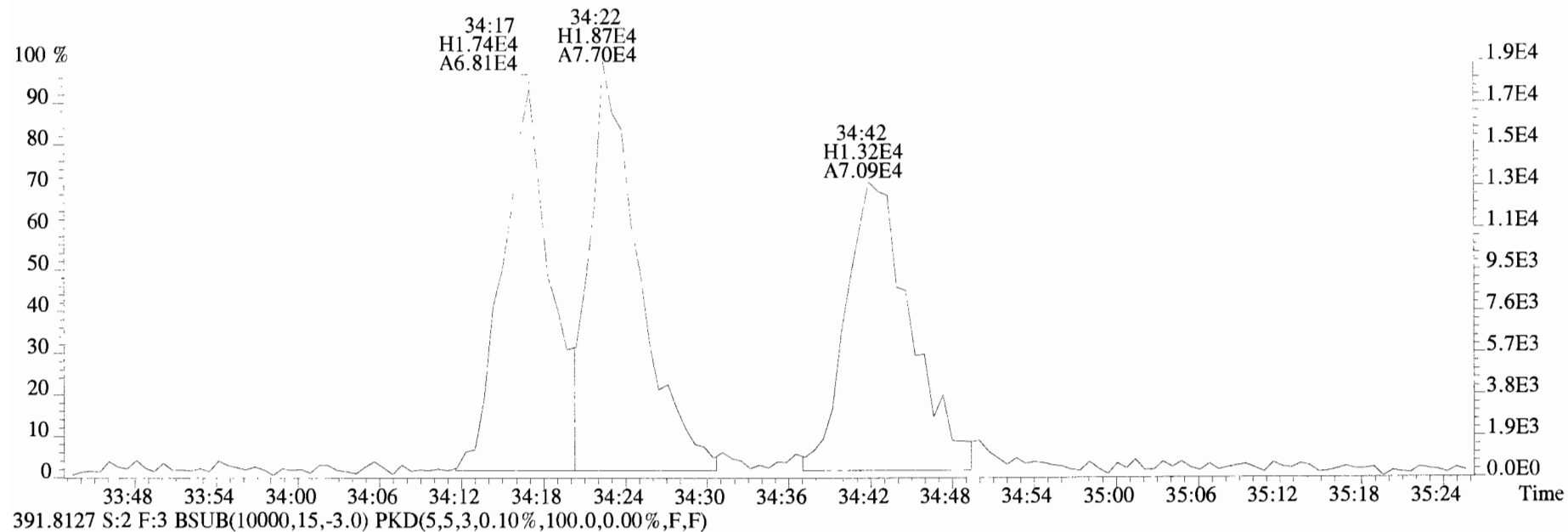
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



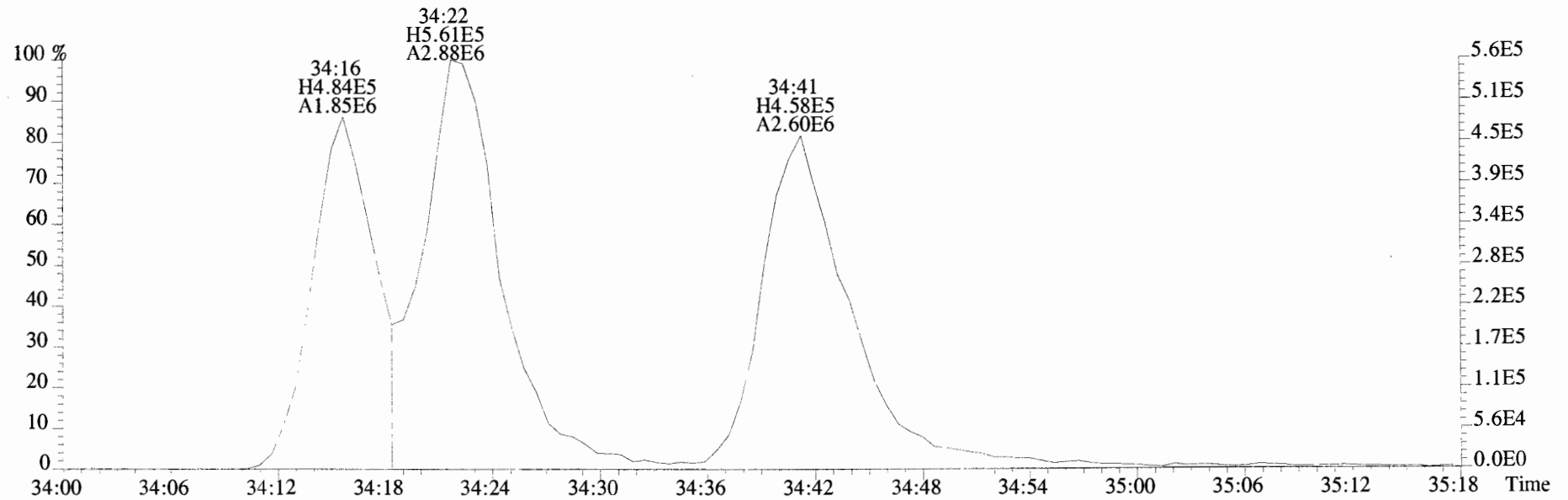
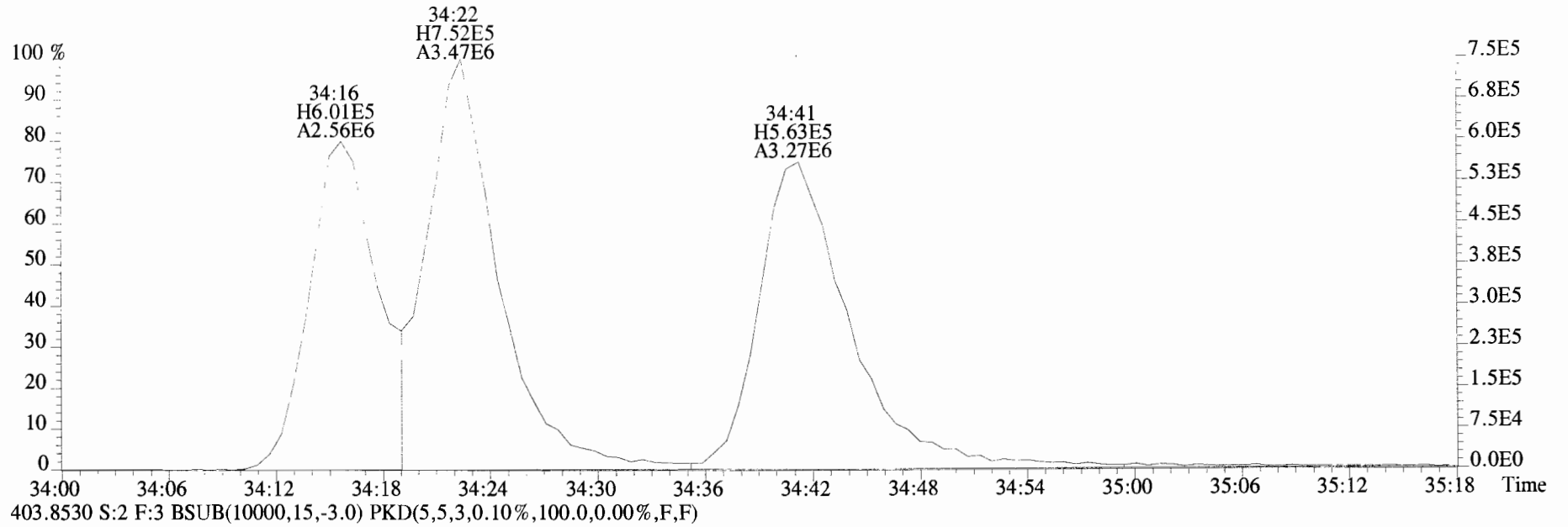
392.9760 S:2 F:3



File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

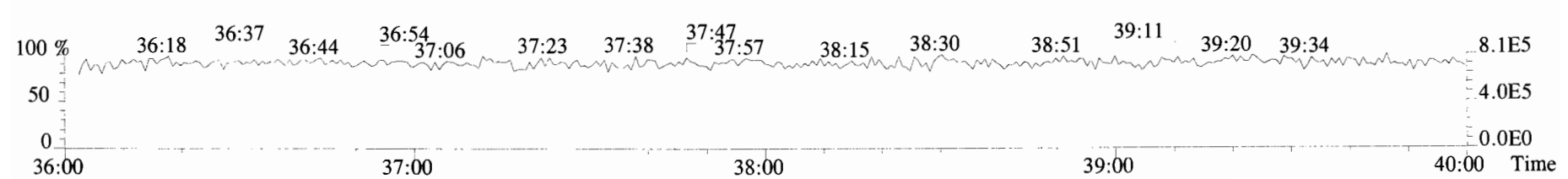
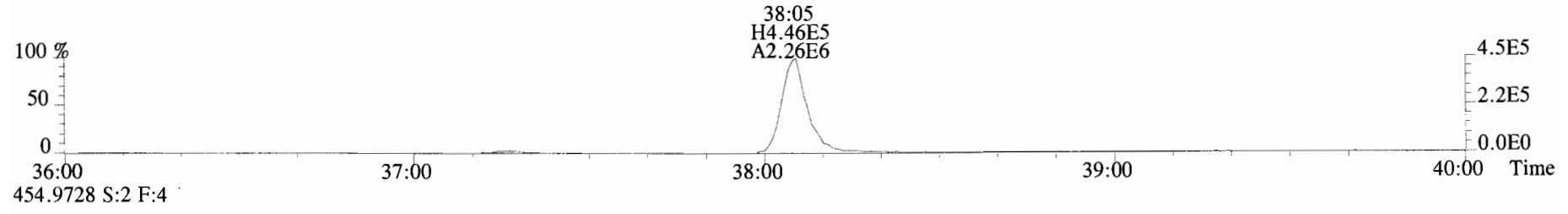
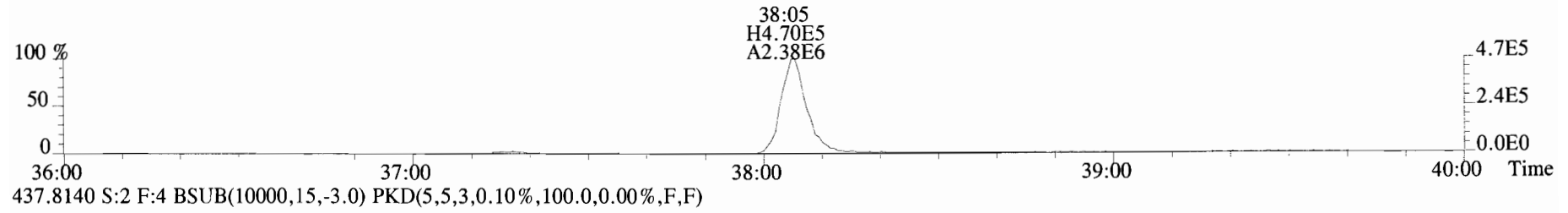
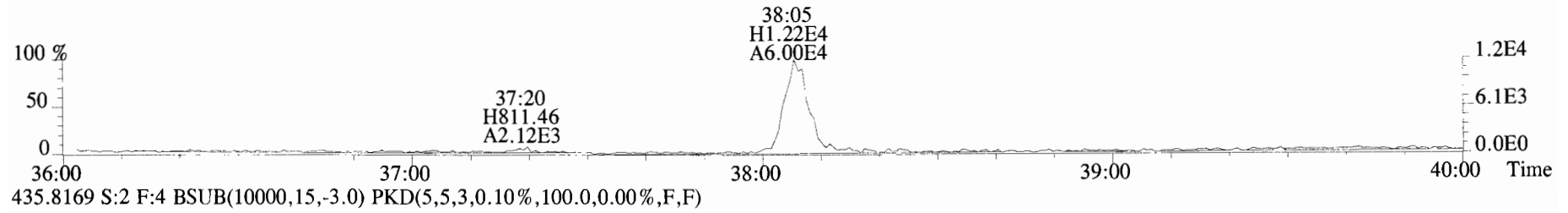
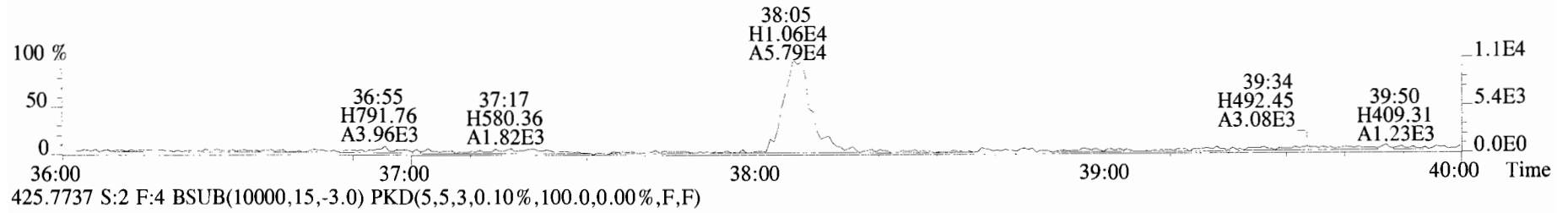


File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

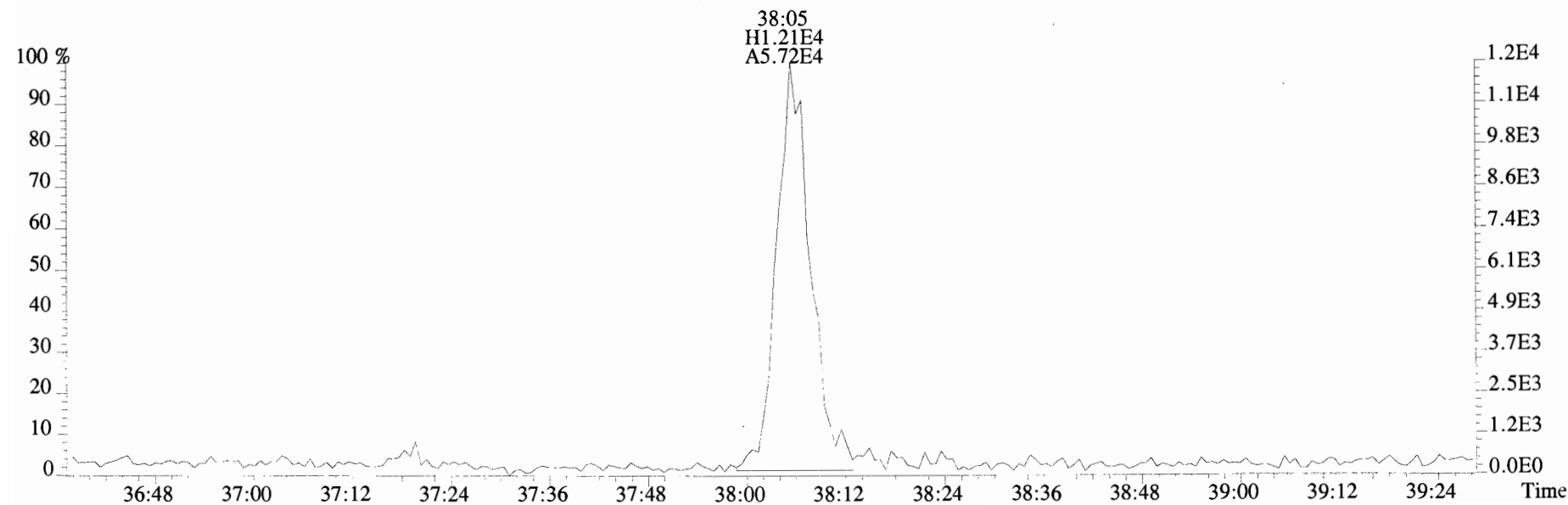
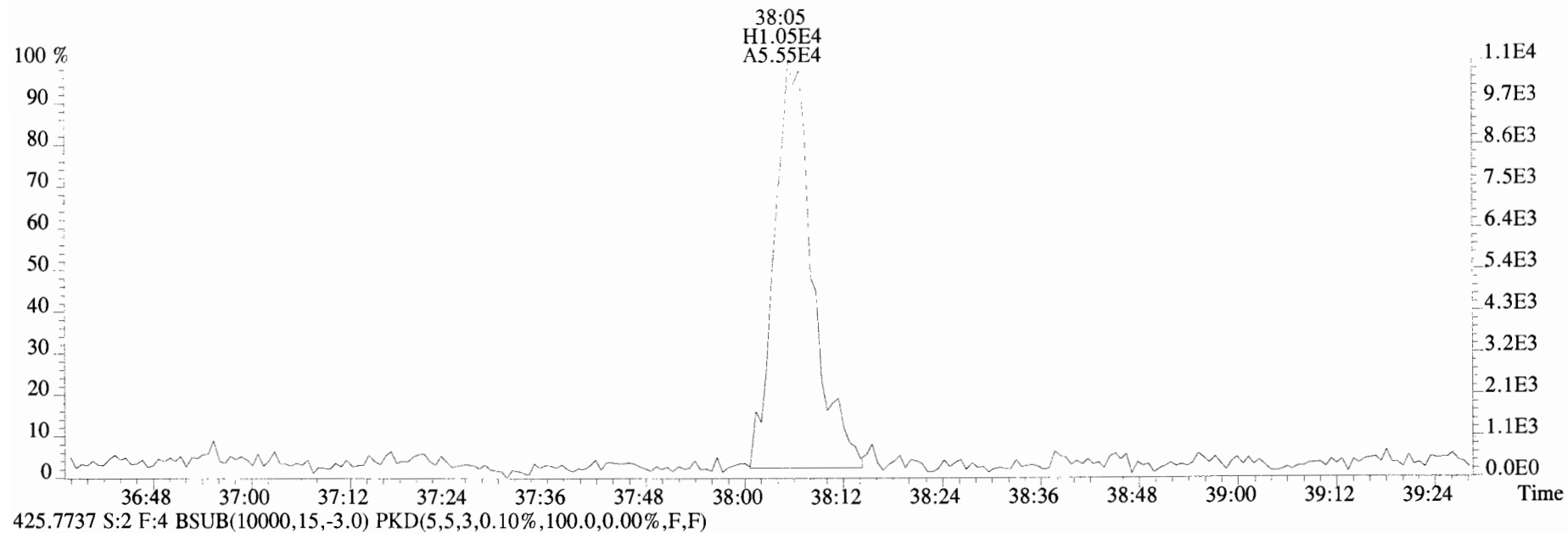




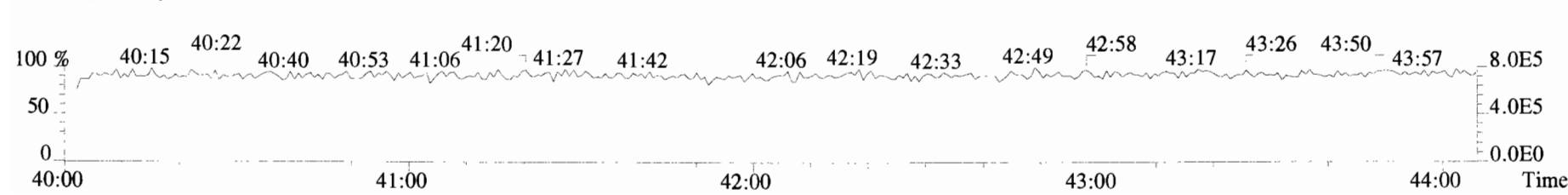
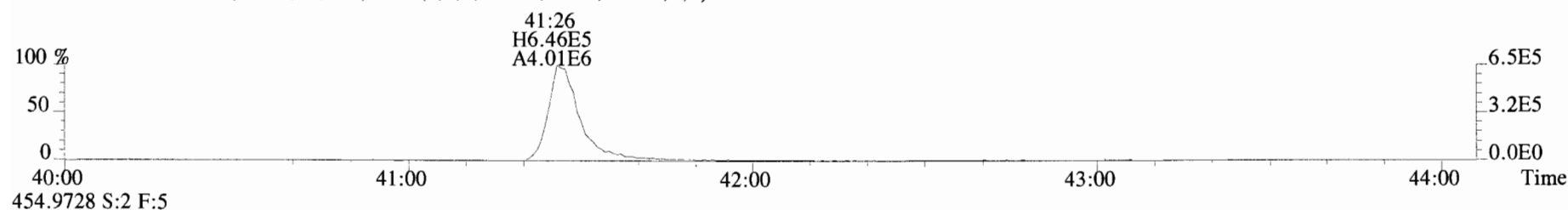
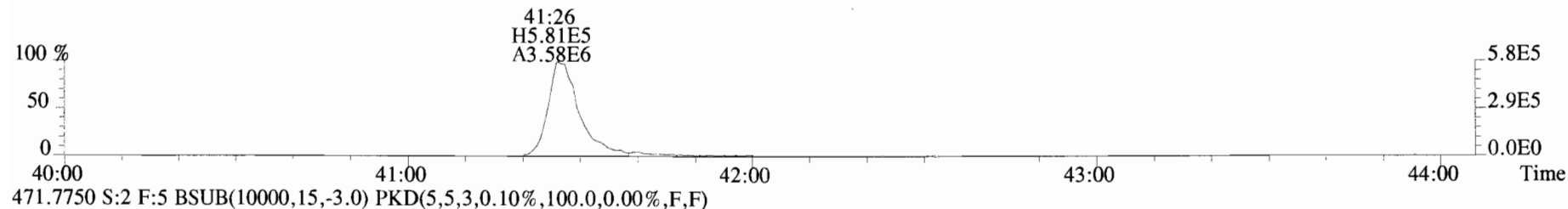
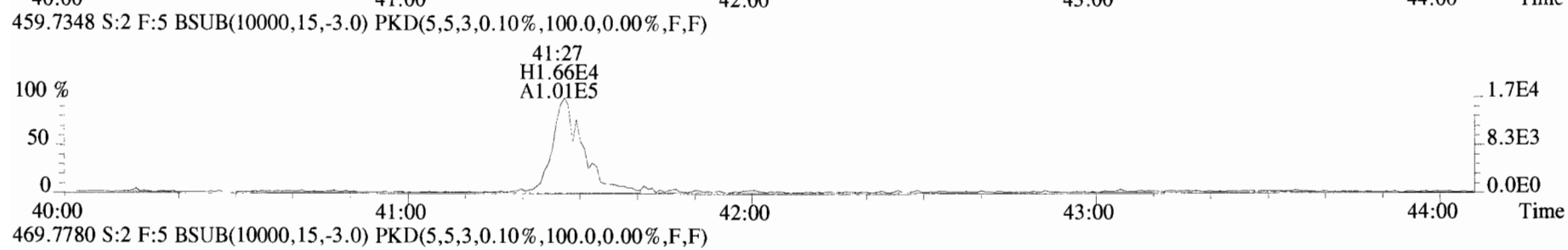
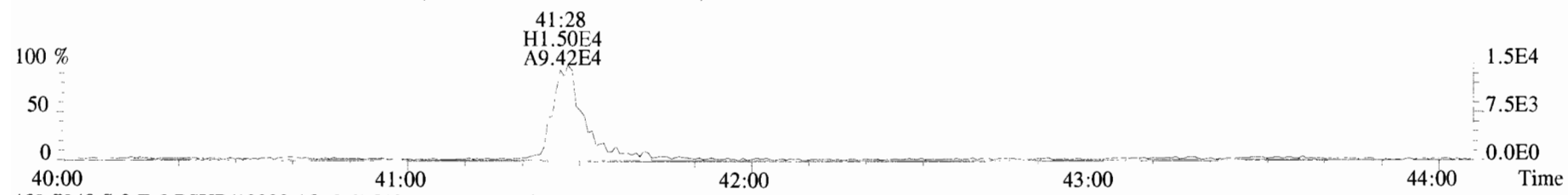
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



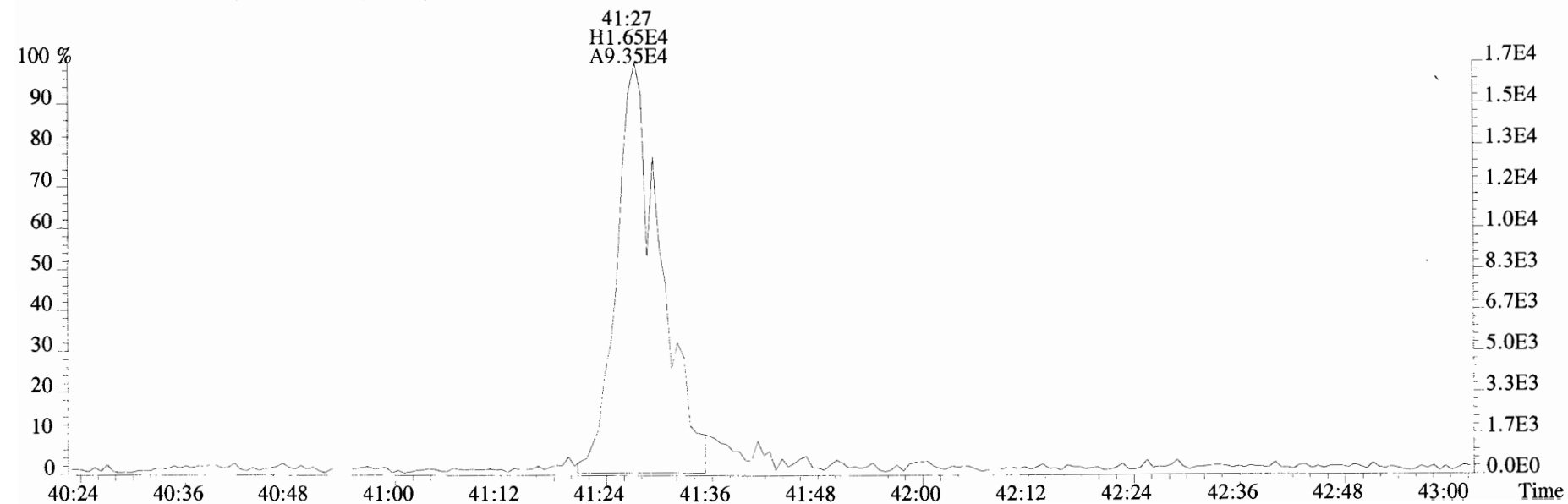
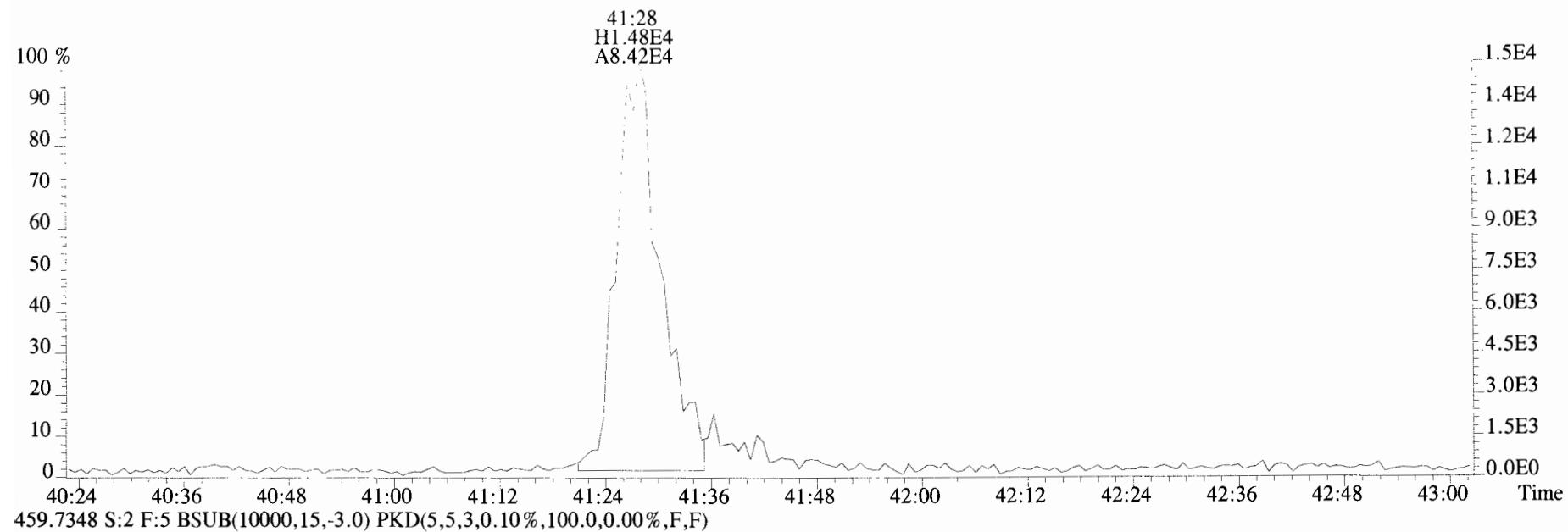
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
423.7767 S:2 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



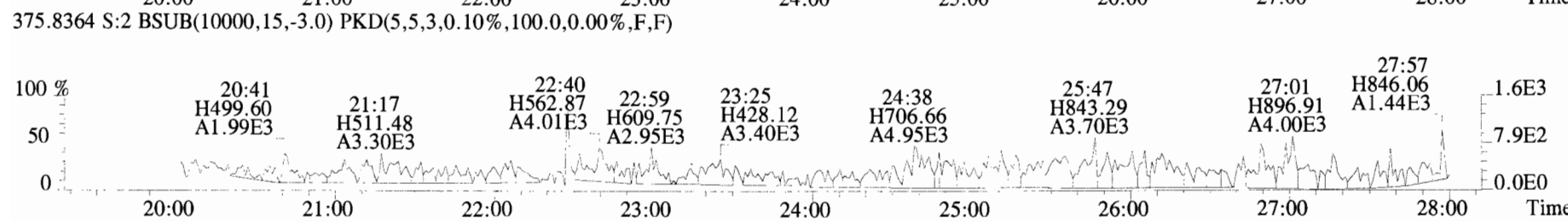
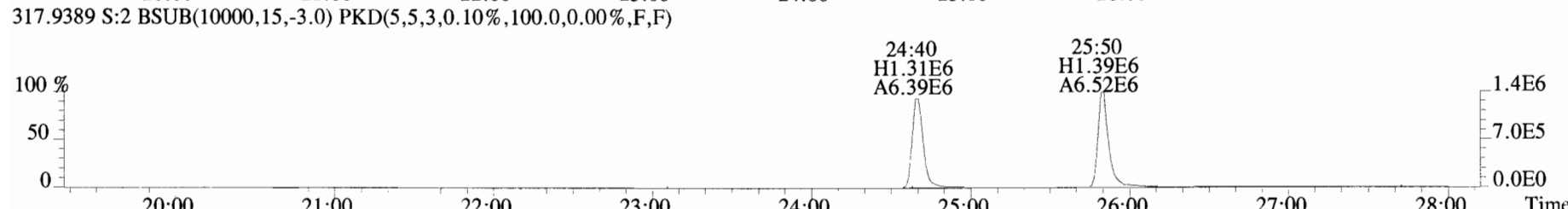
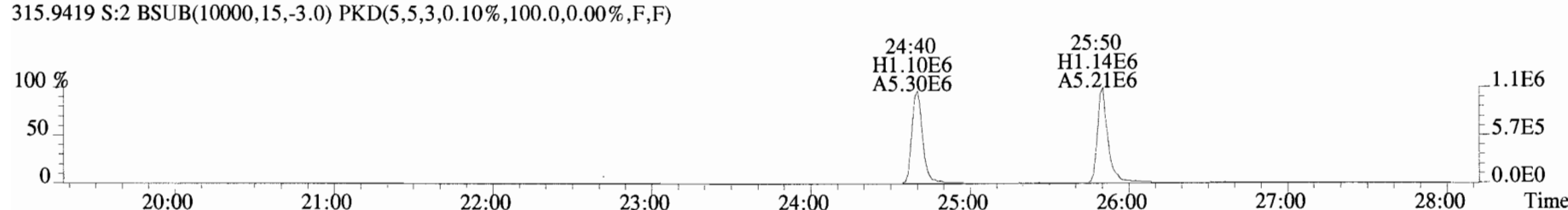
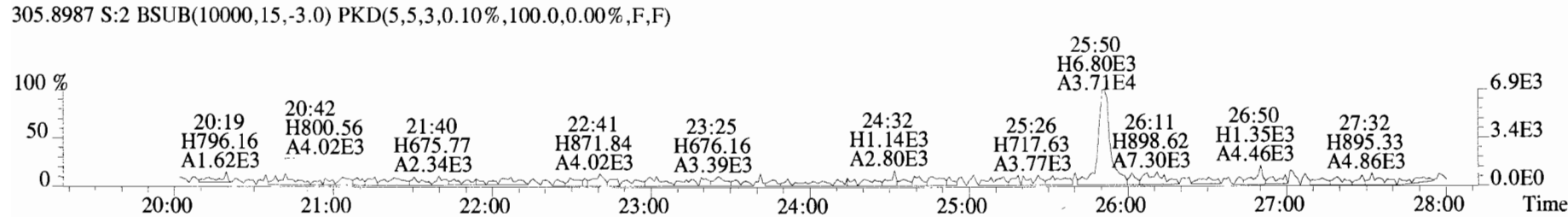
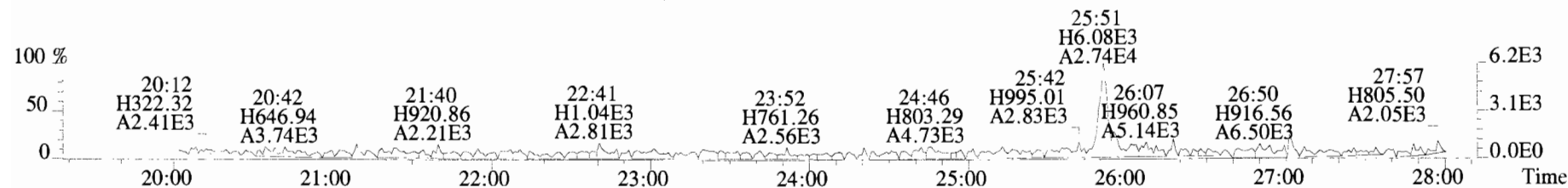
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



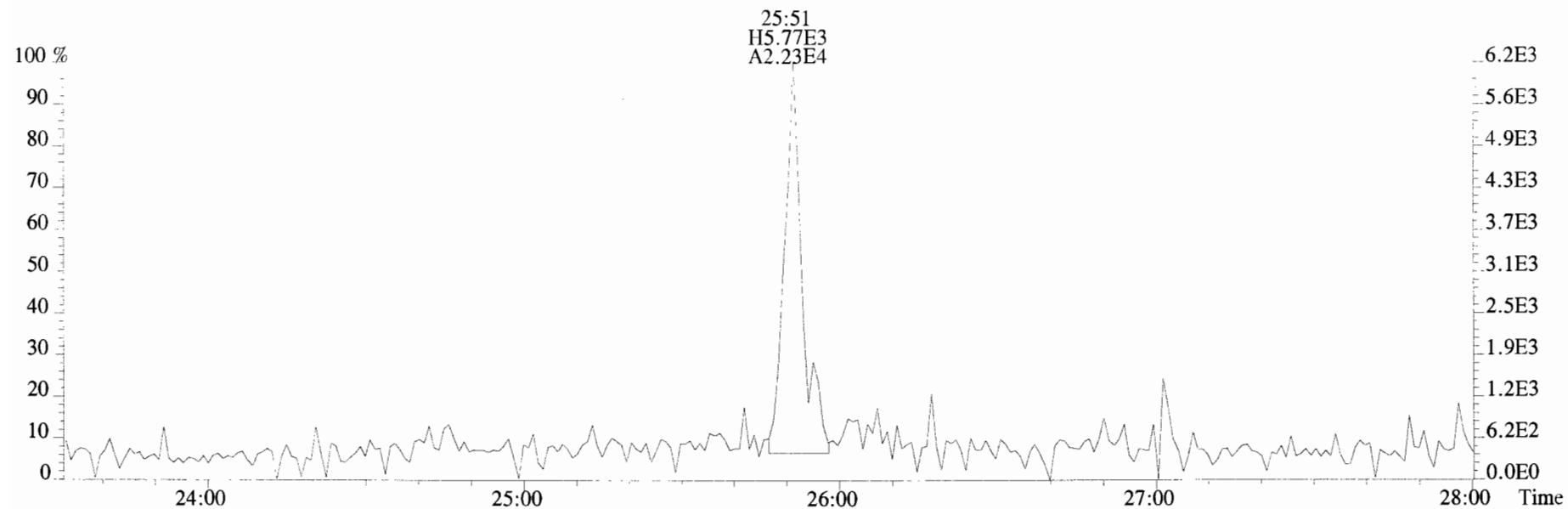
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



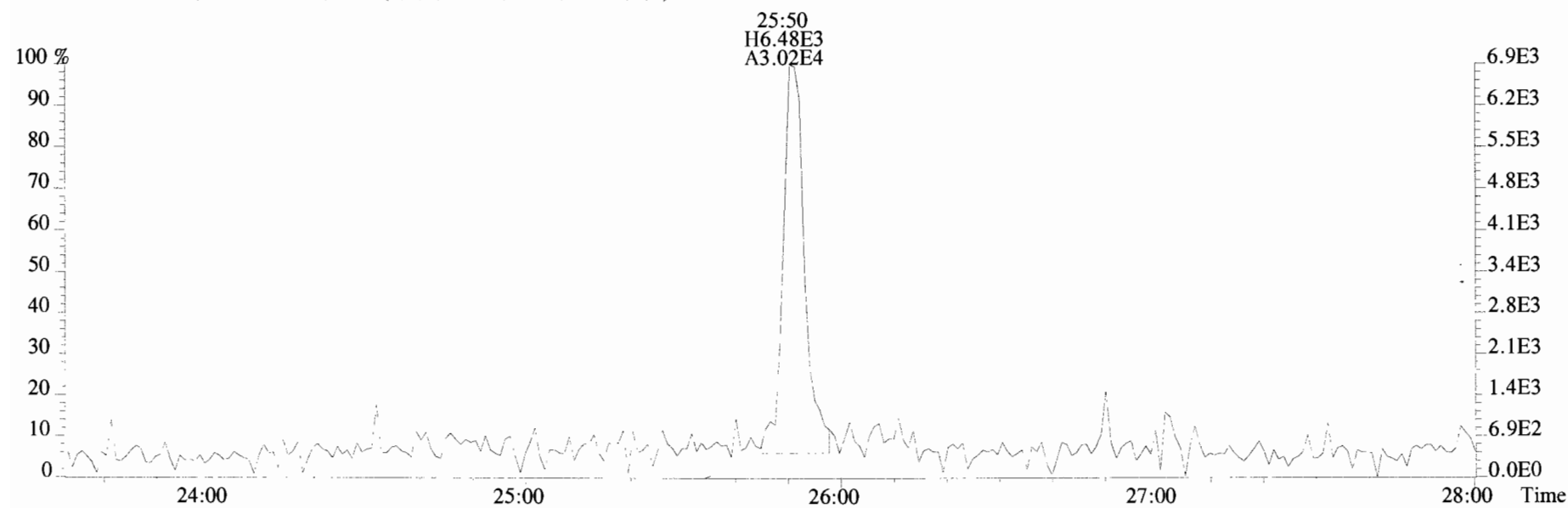
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



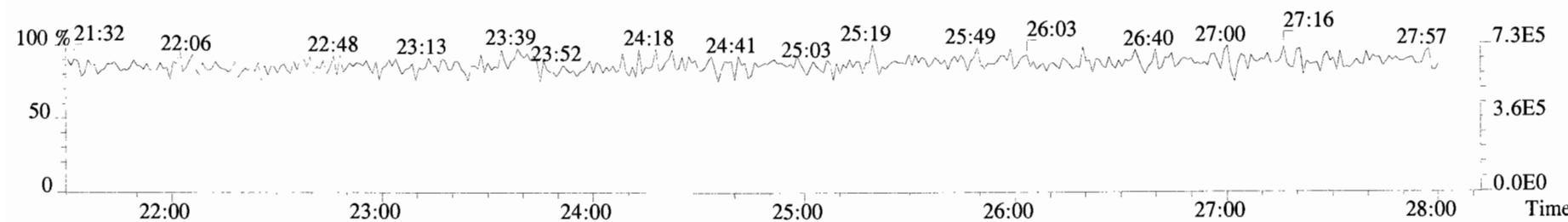
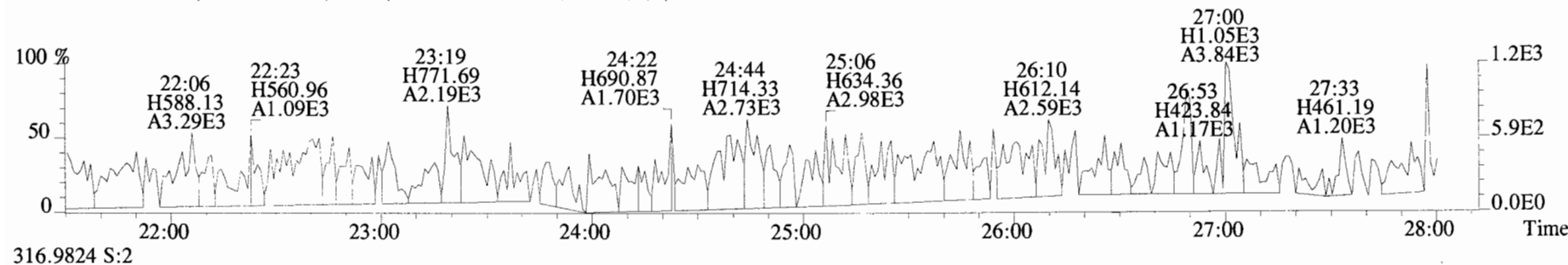
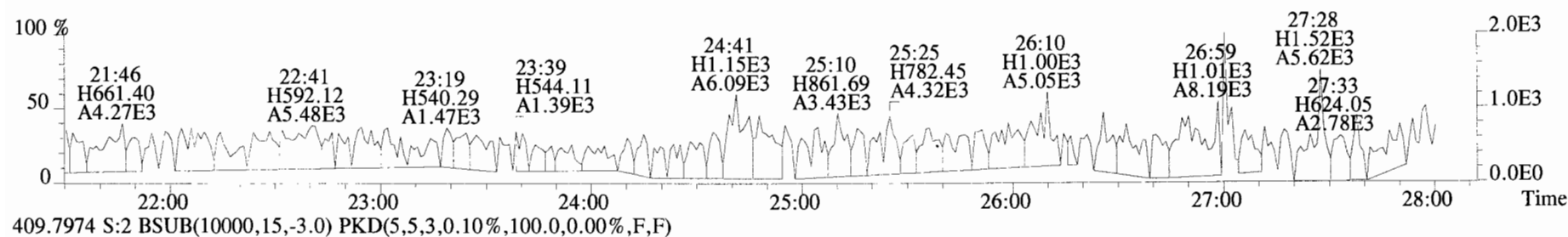
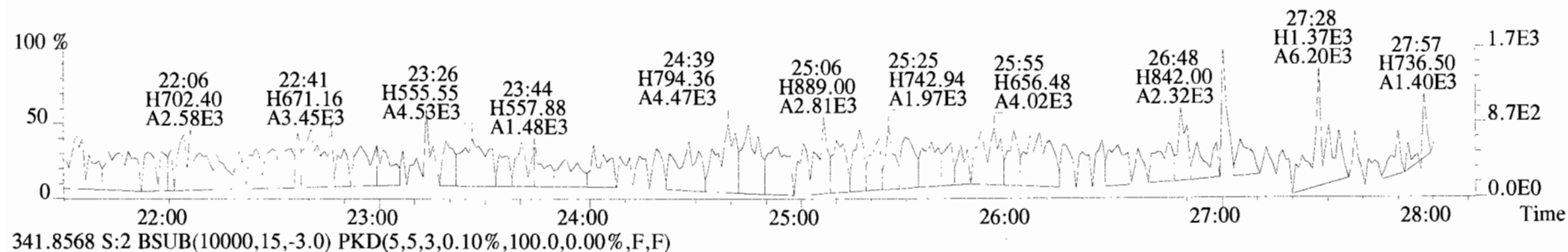
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



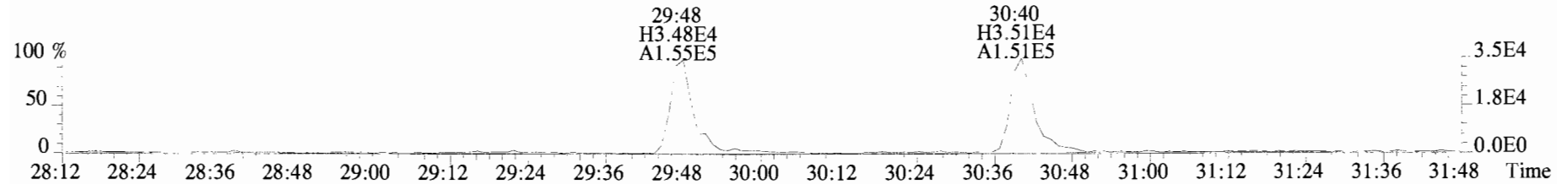
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



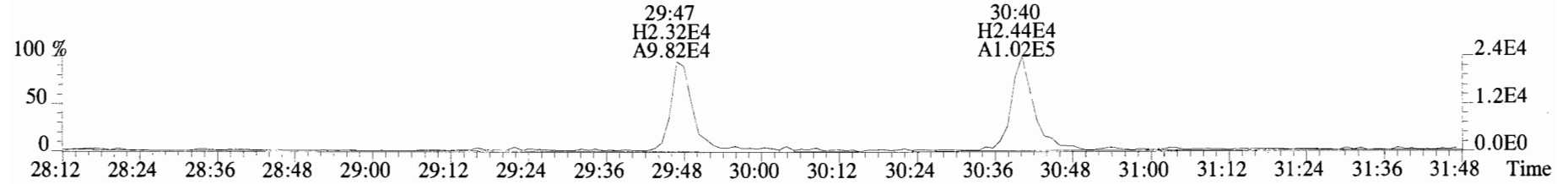
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



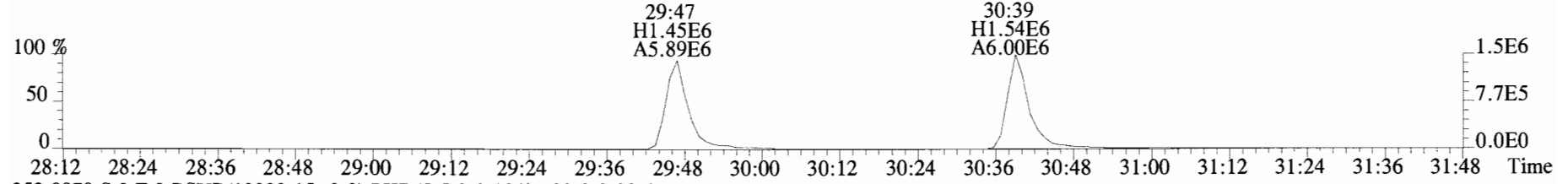
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



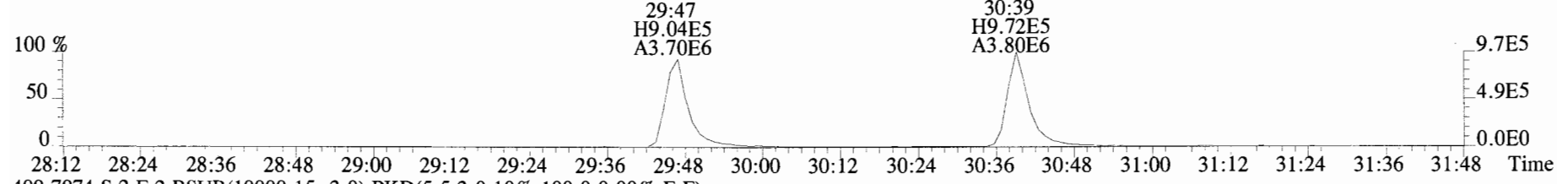
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



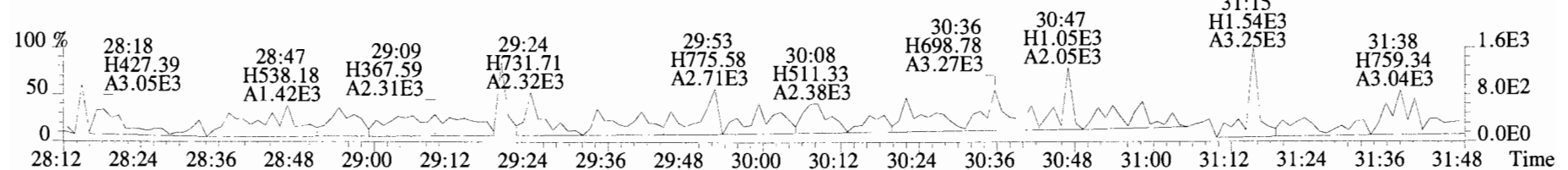
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

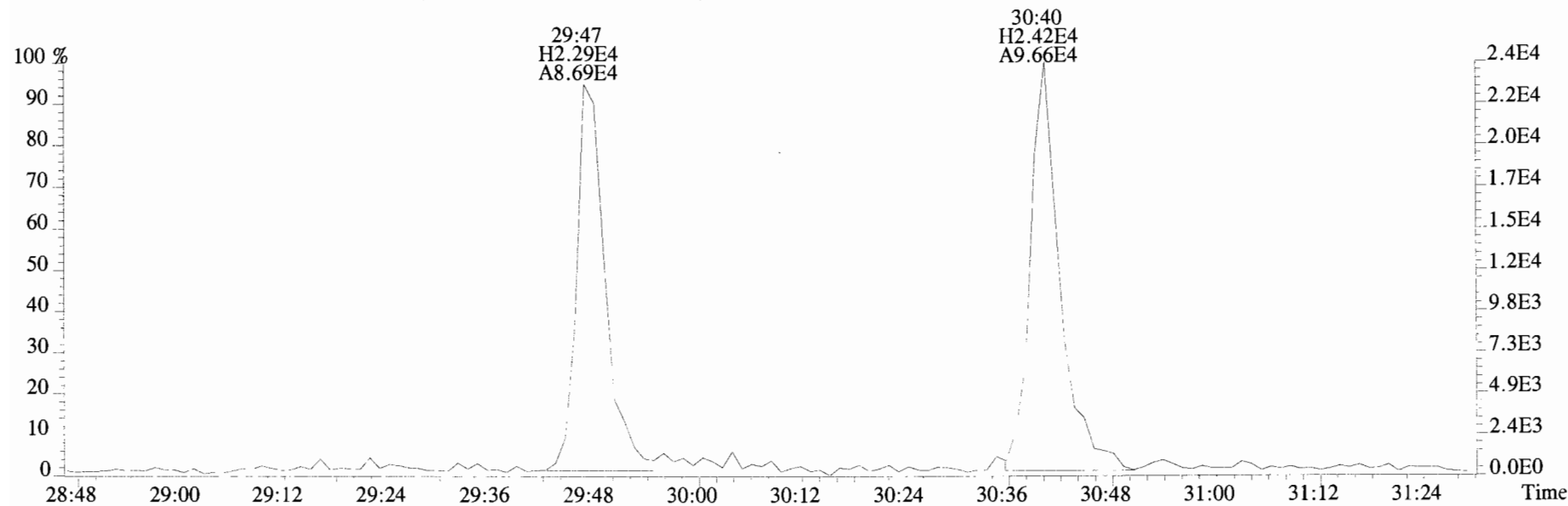
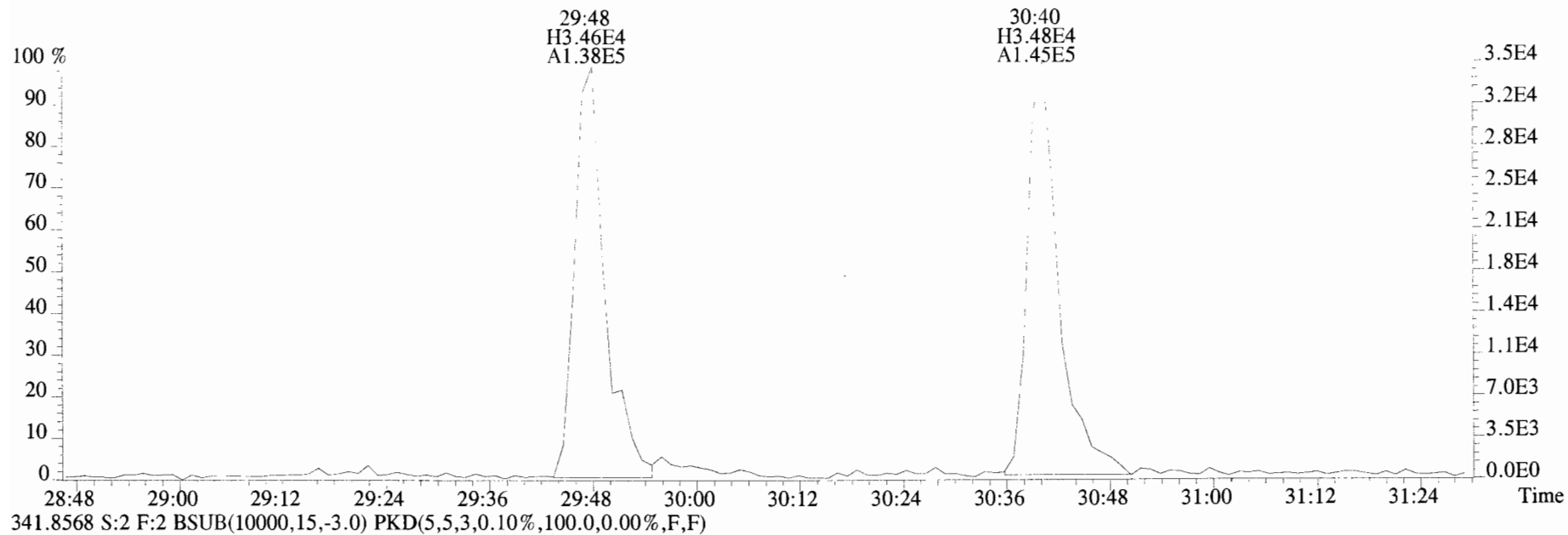


409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

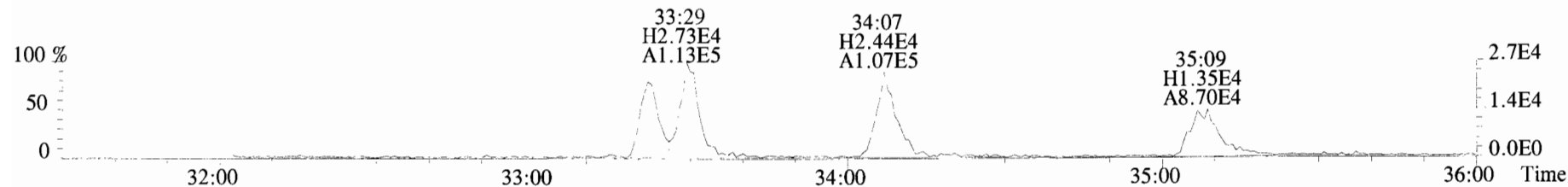




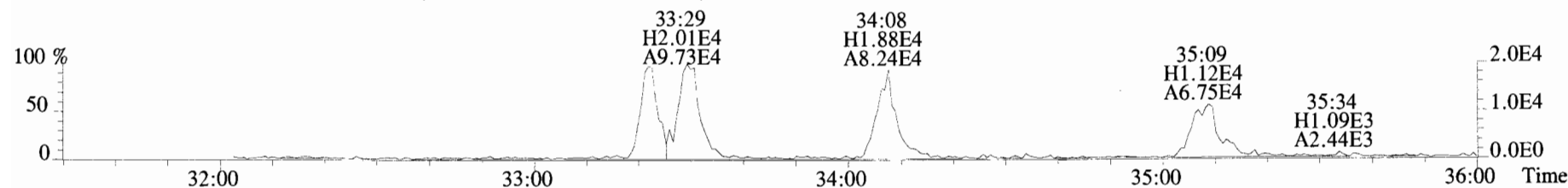
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



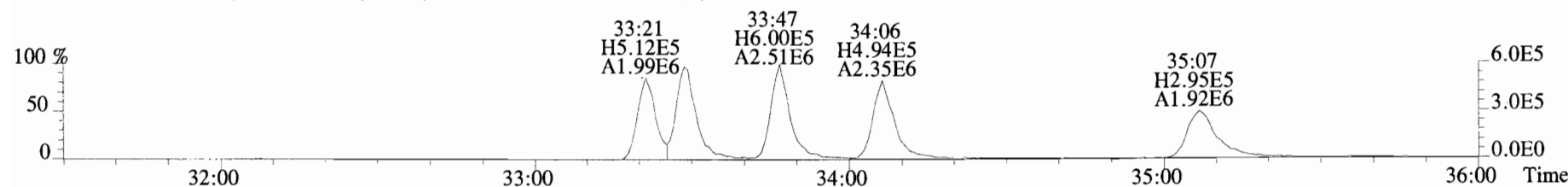
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



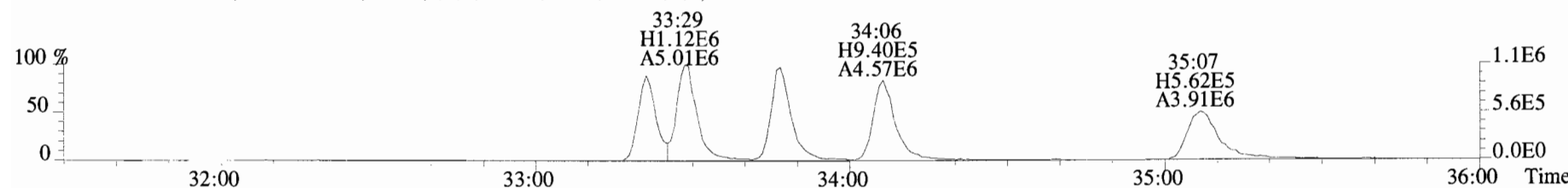
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



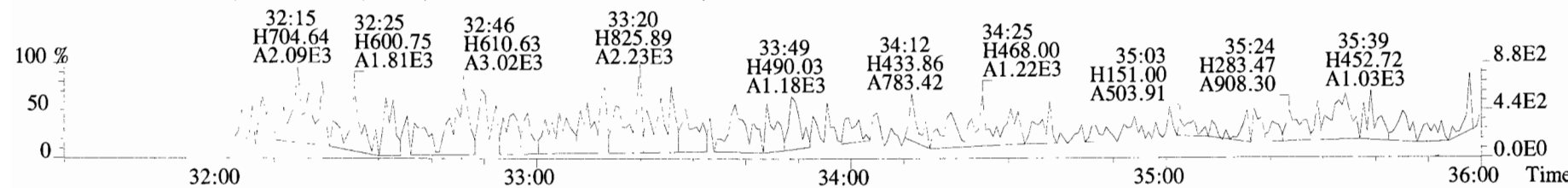
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



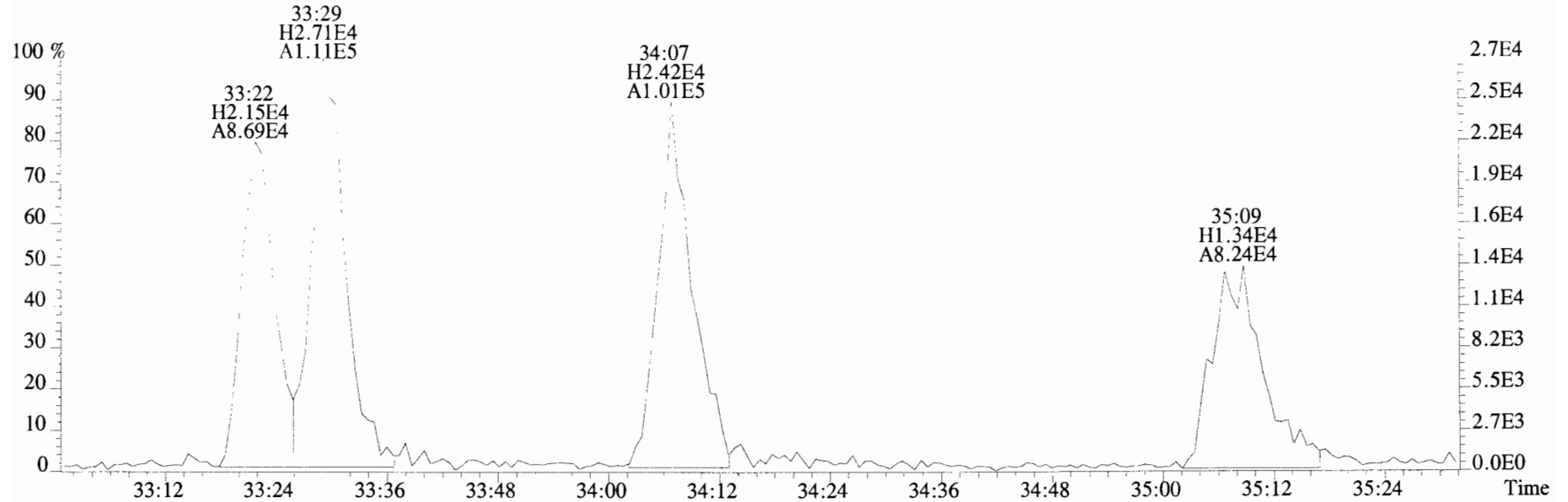
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



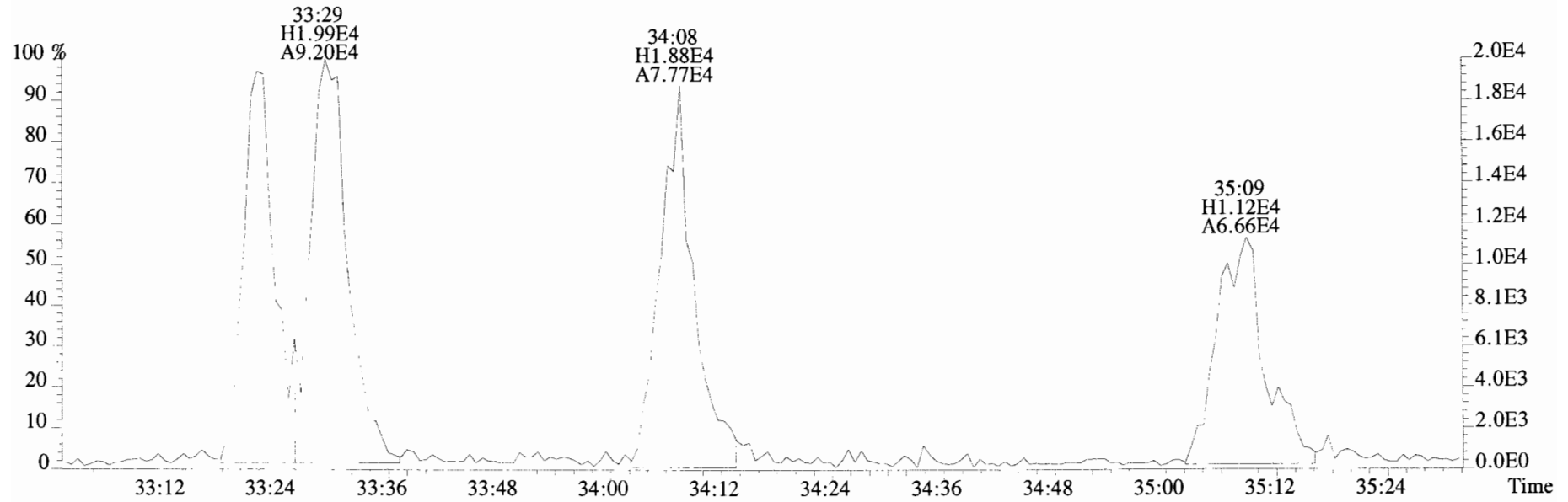
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



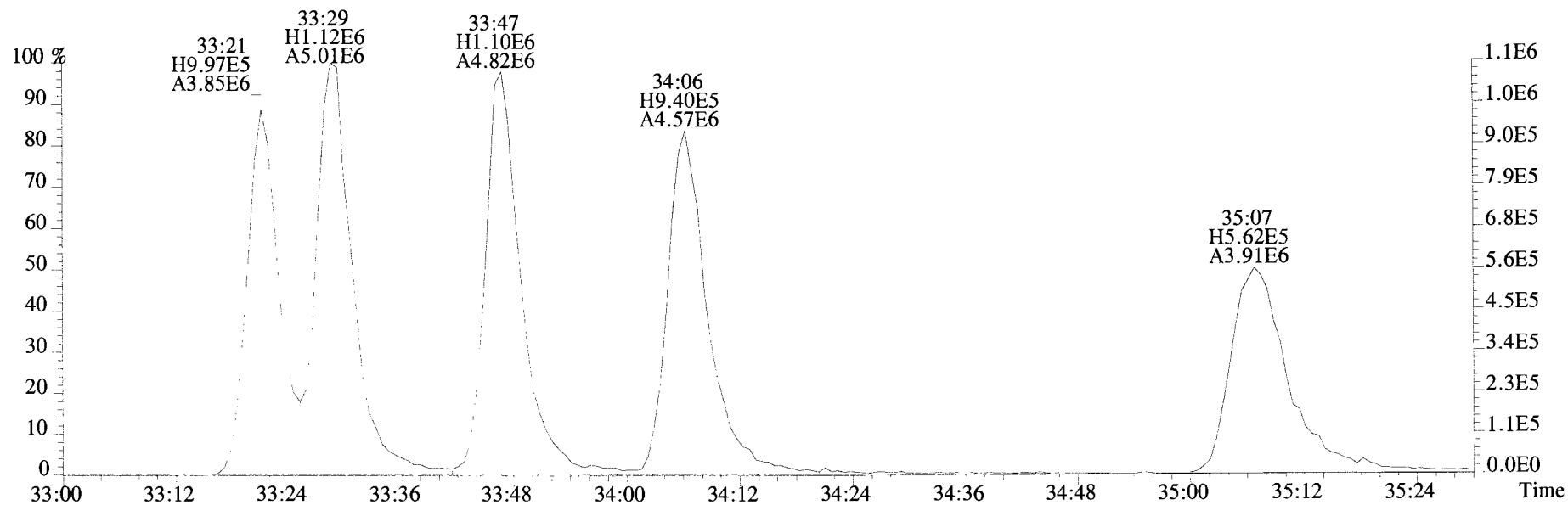
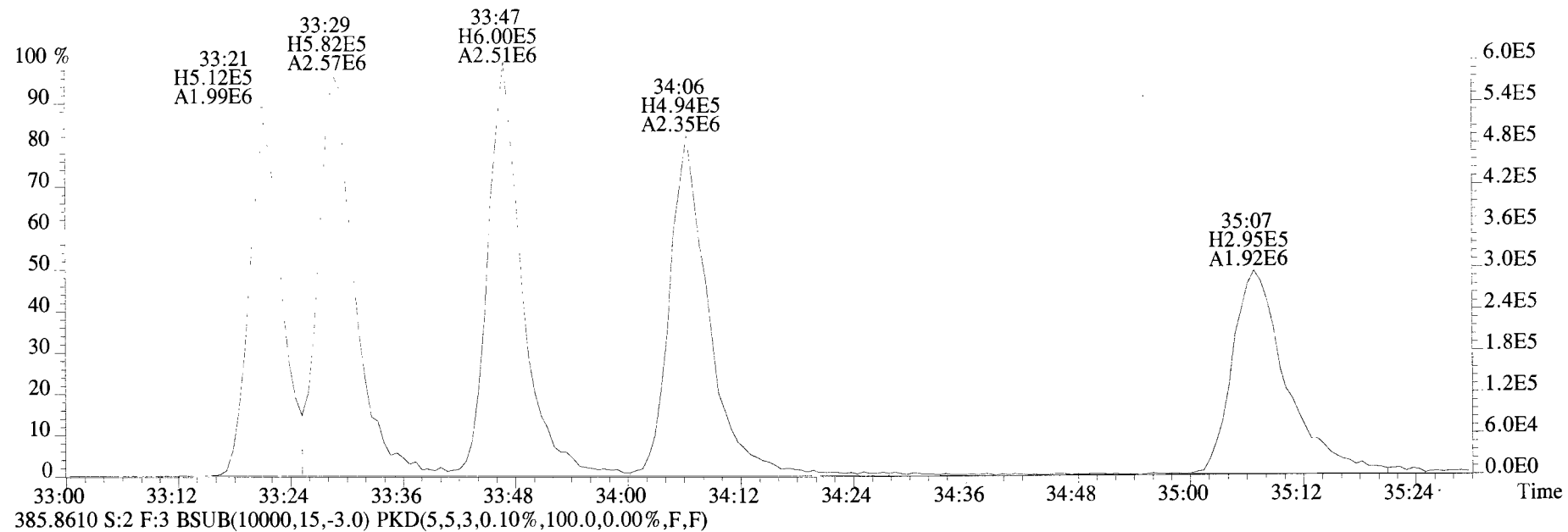
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



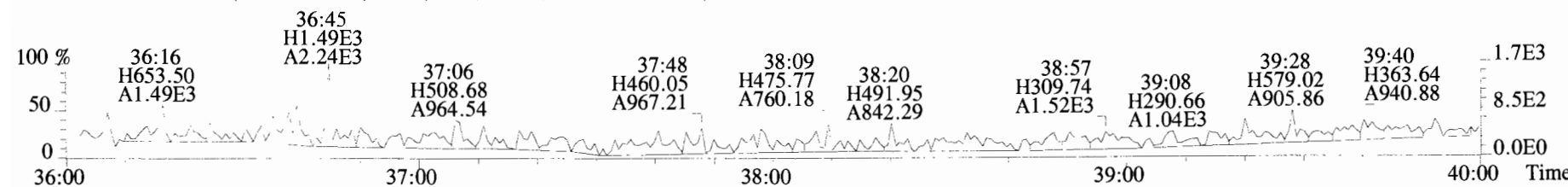
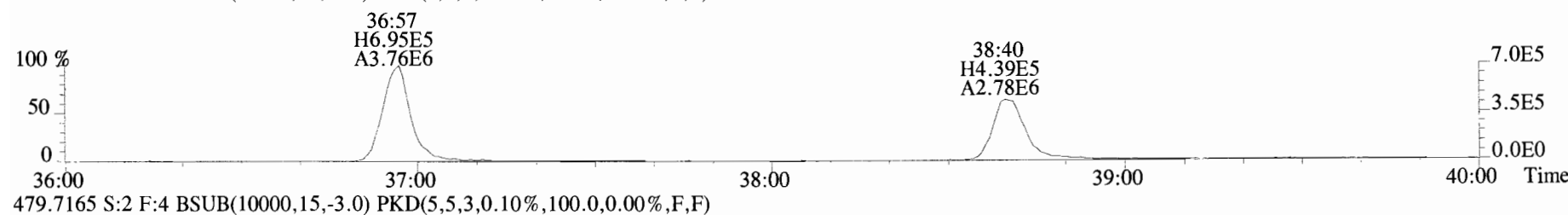
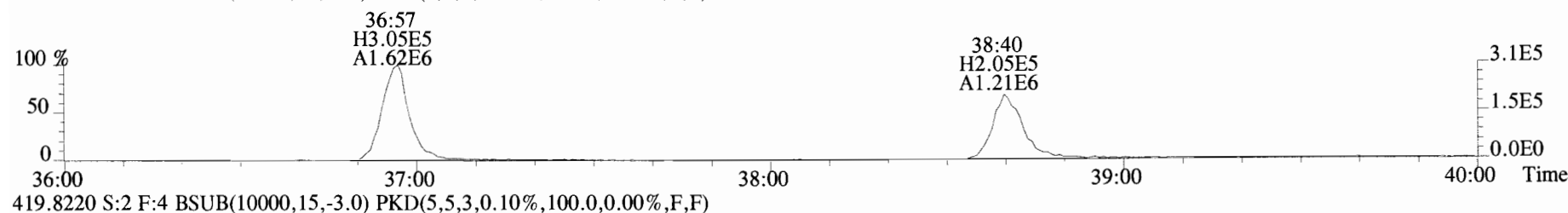
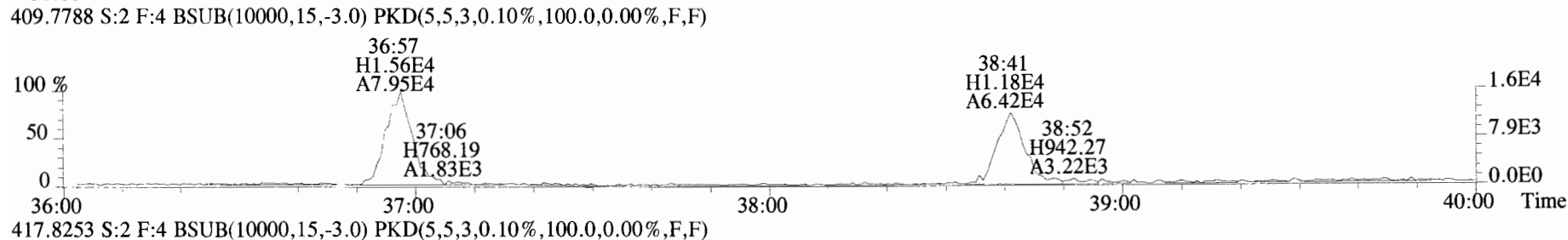
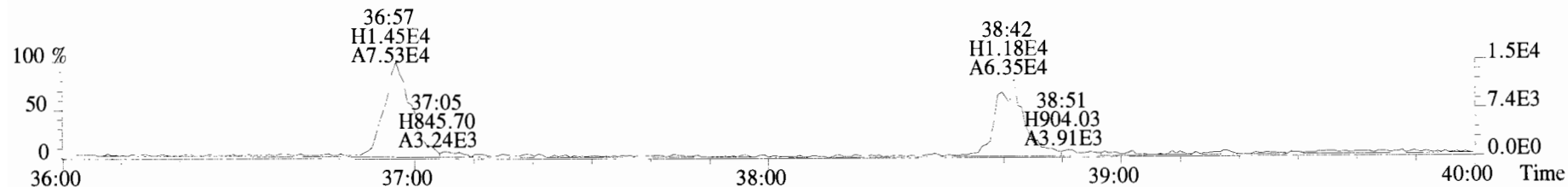
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



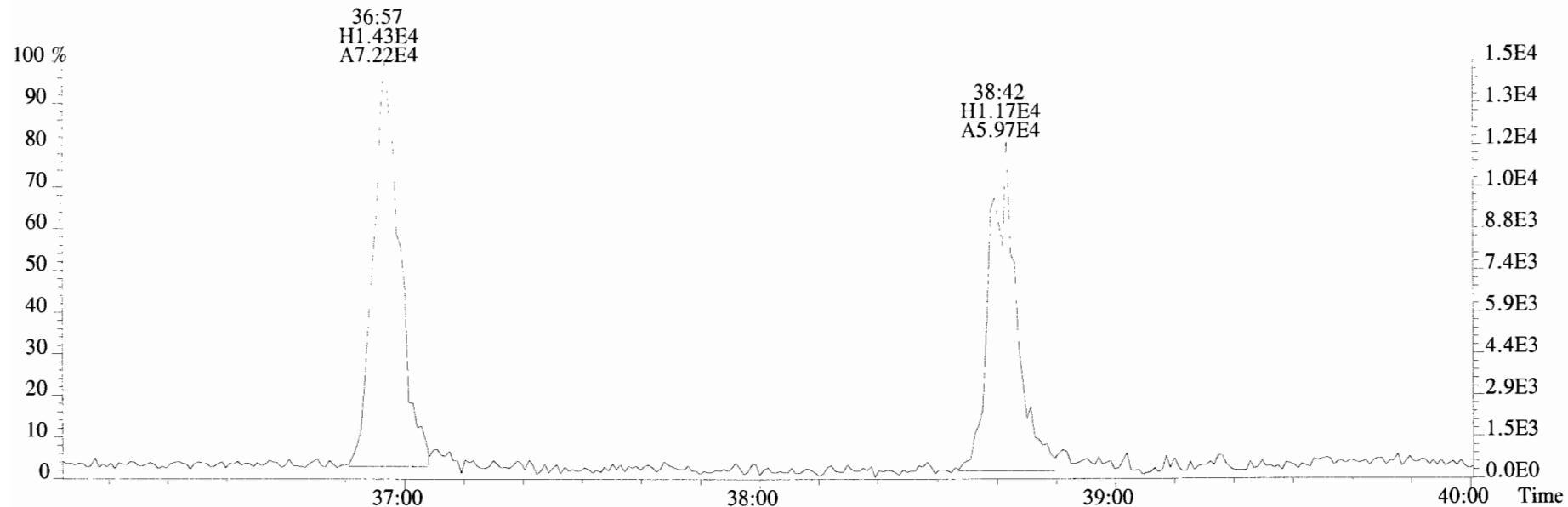
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



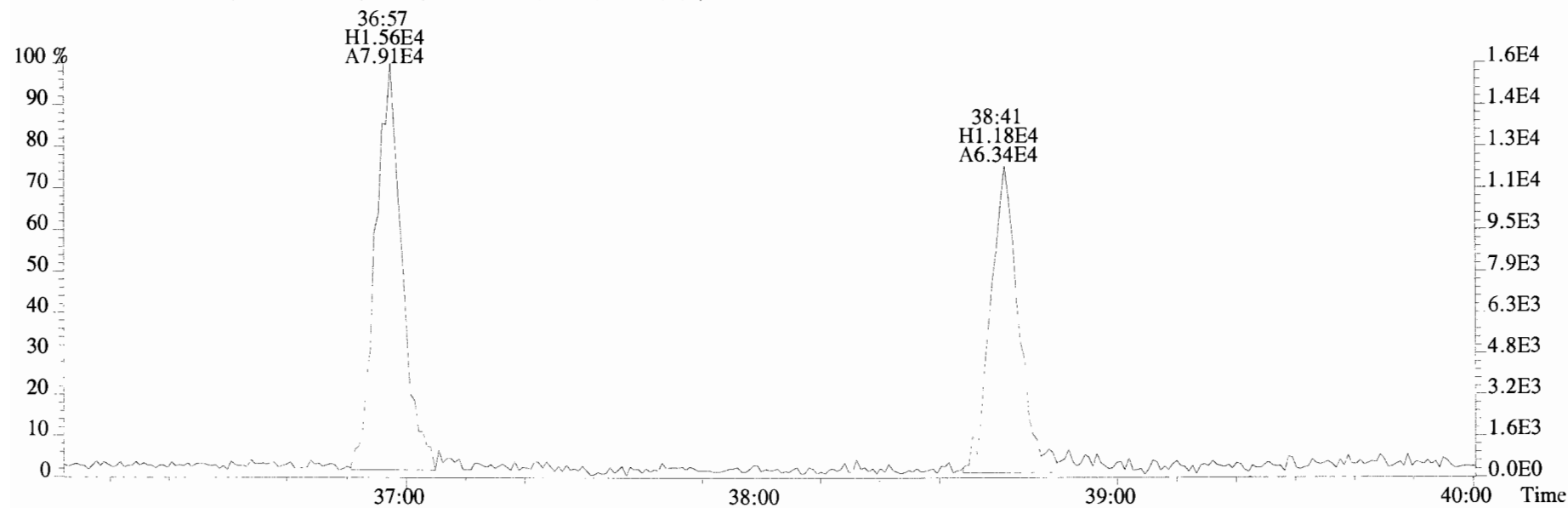
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text: Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
 407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



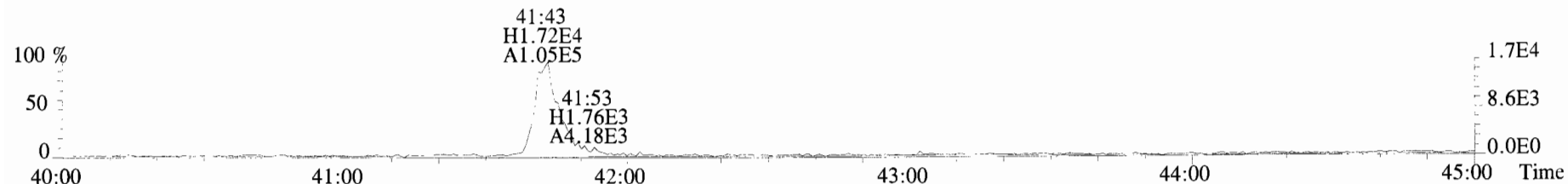
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



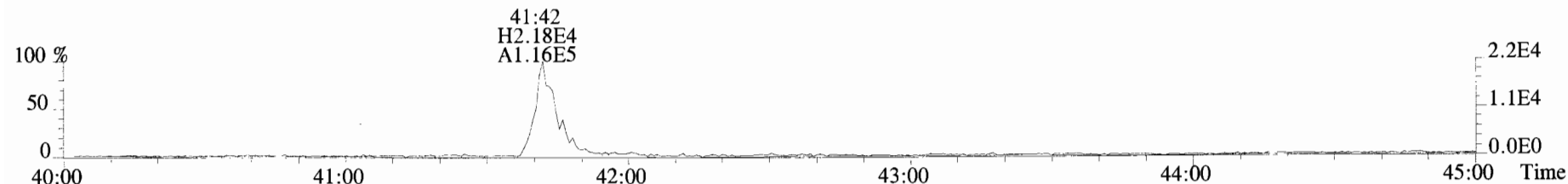
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



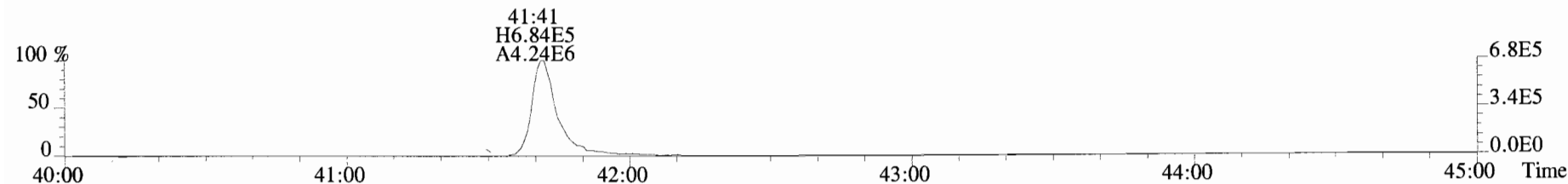
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
 441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



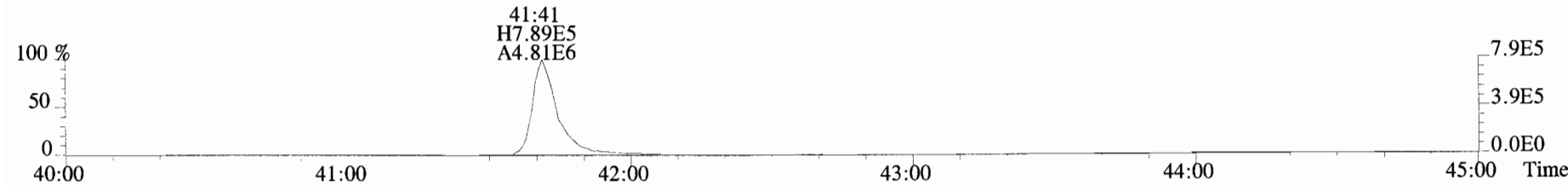
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



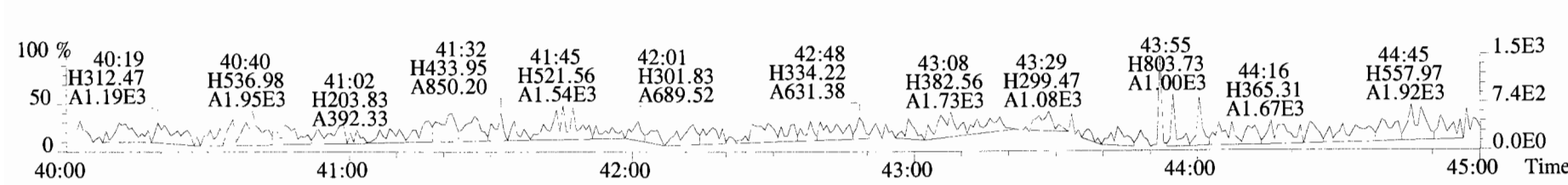
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



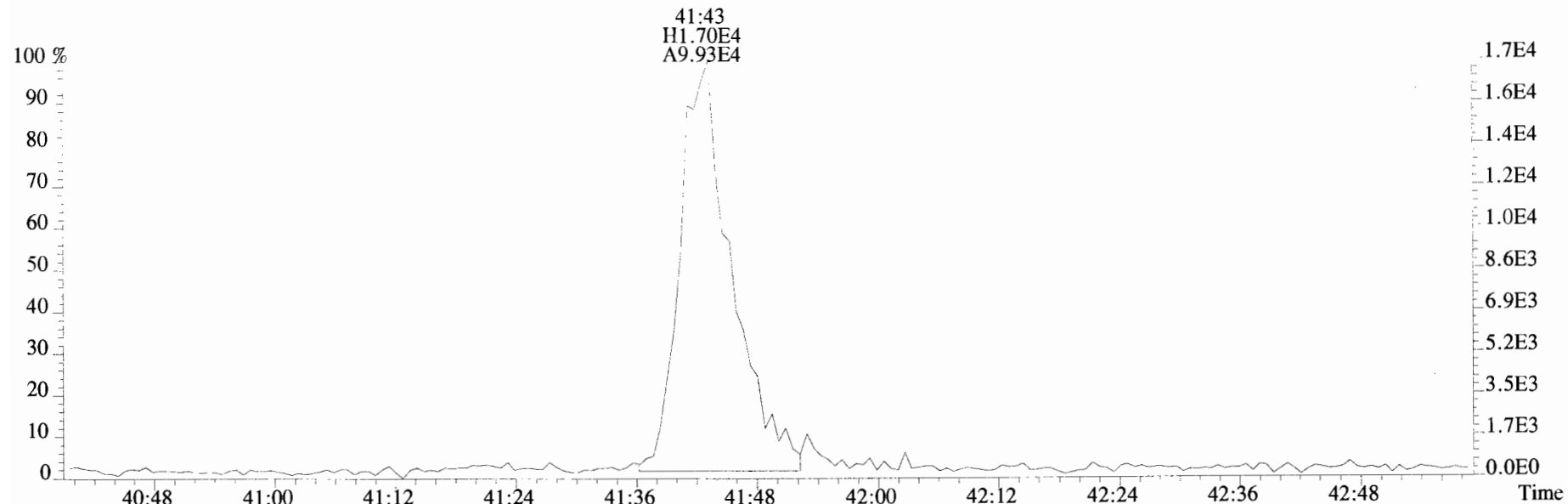
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



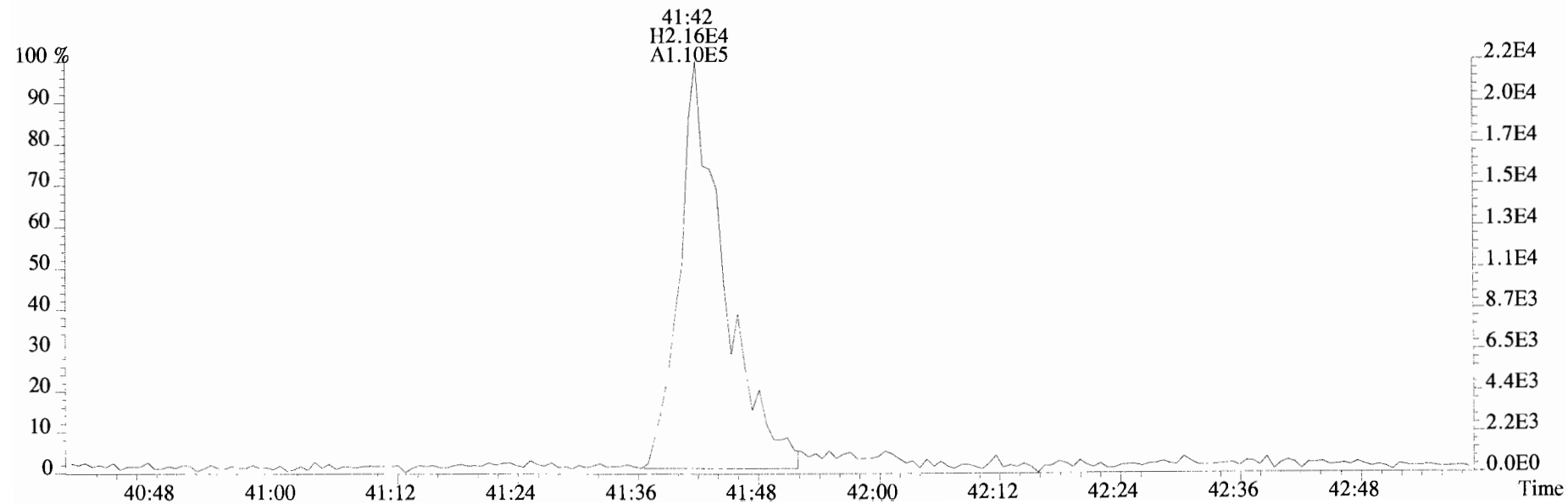
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#2 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD\_DB5  
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

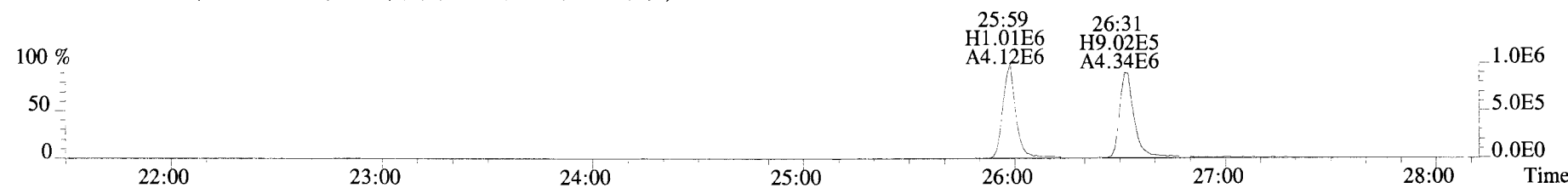
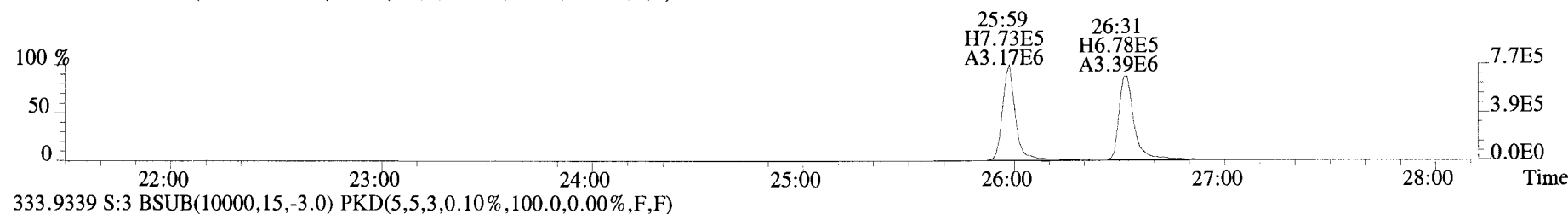
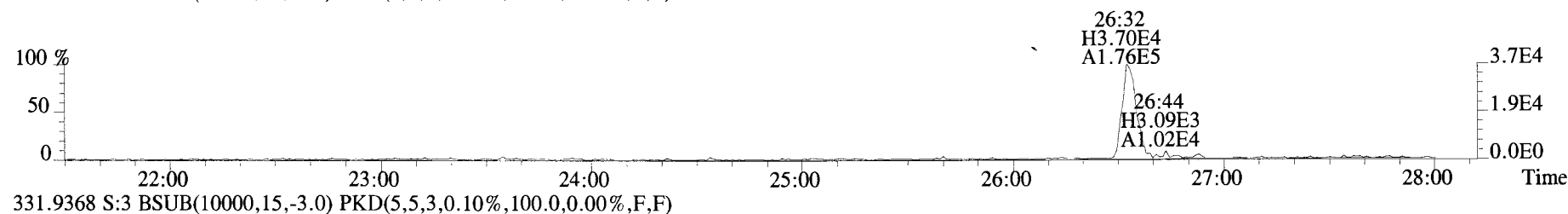
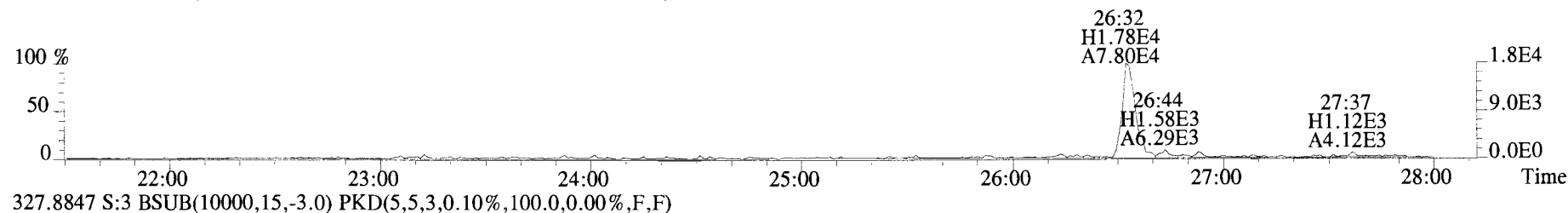
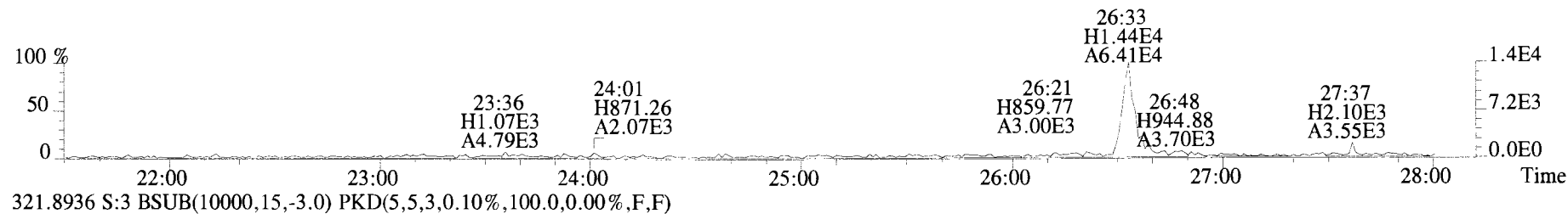


443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

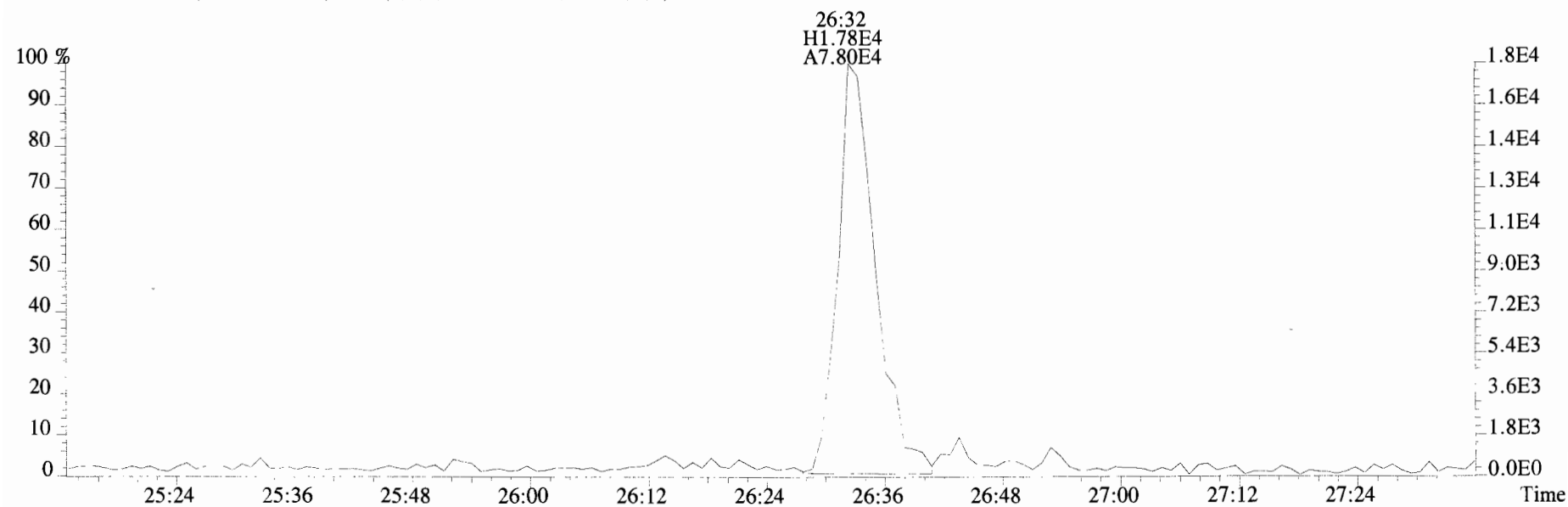
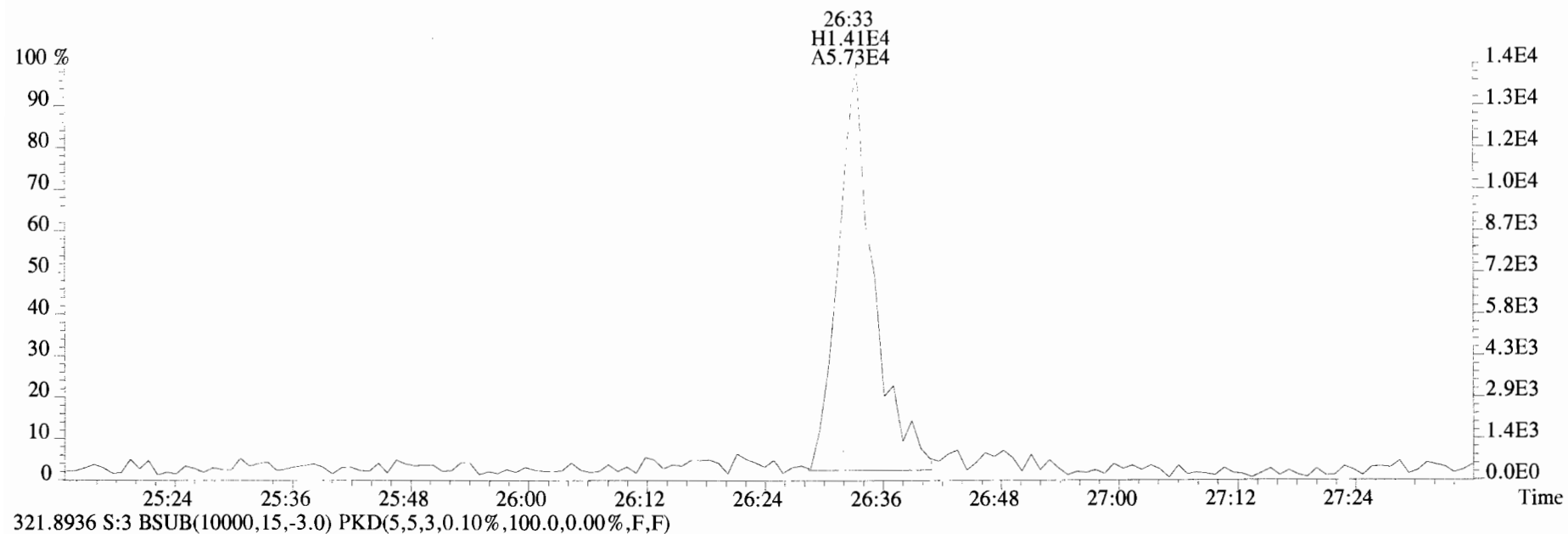




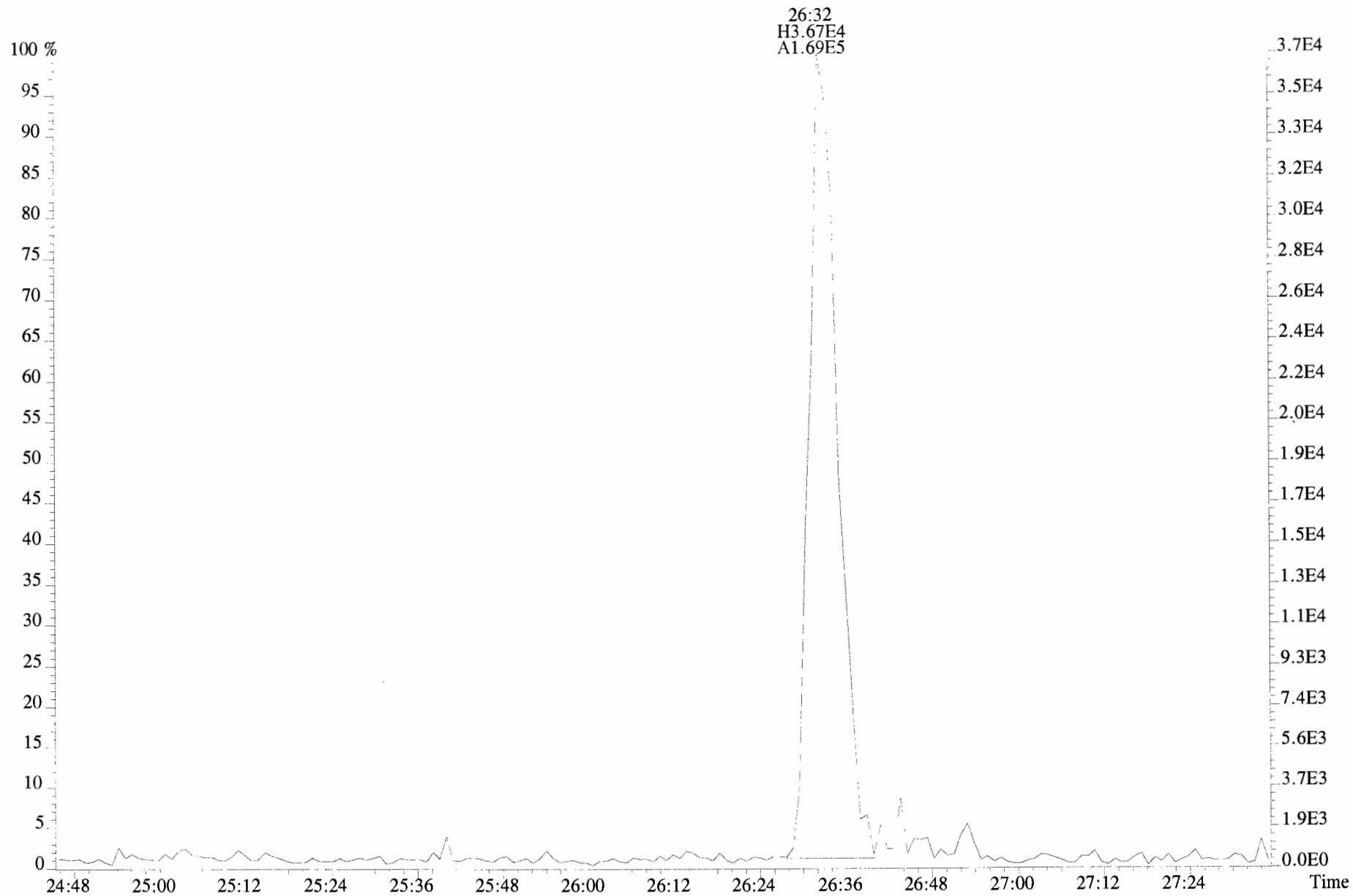
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



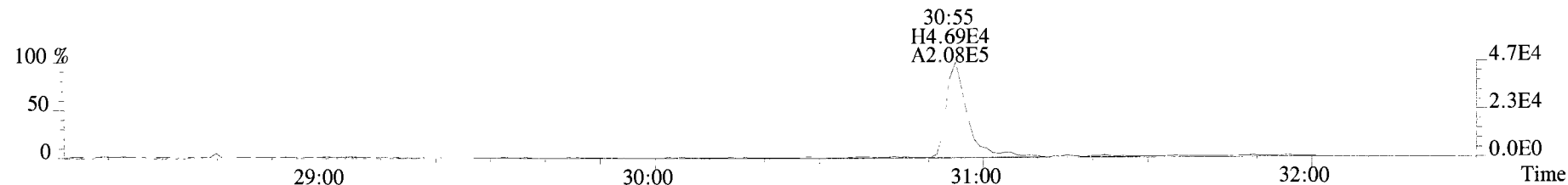
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



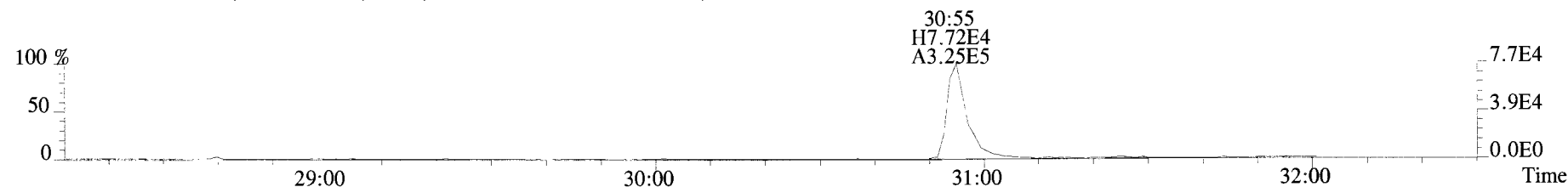
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
327.8847 S:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



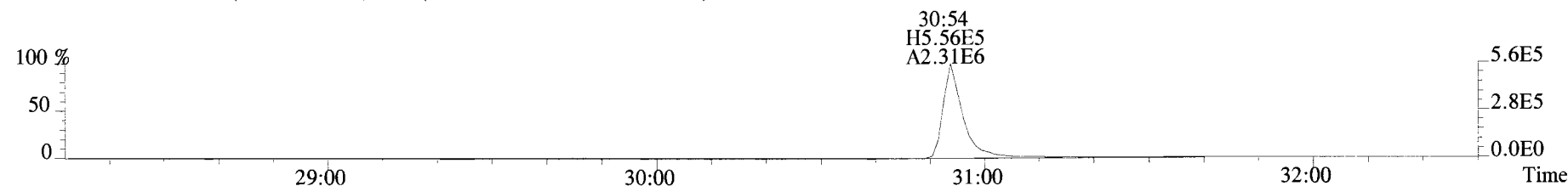
File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



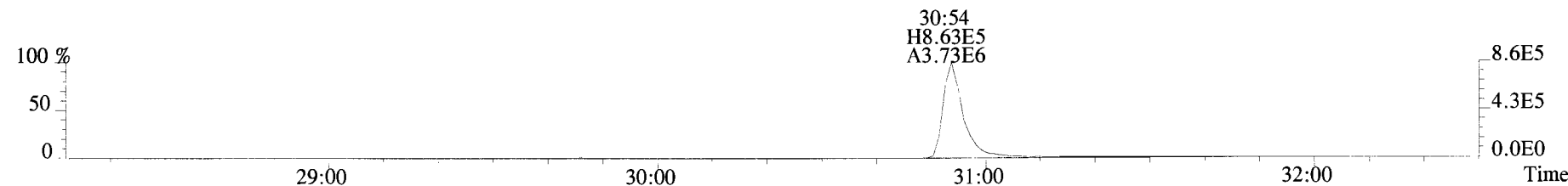
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



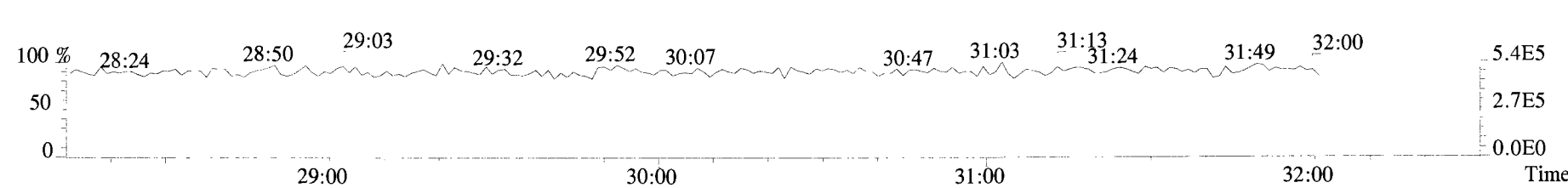
365.8978 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



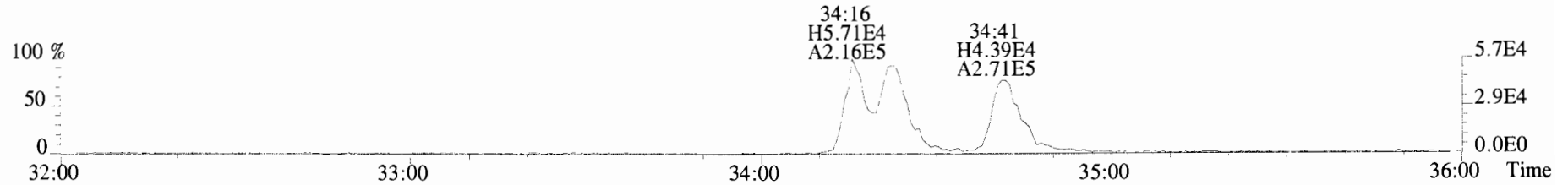
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



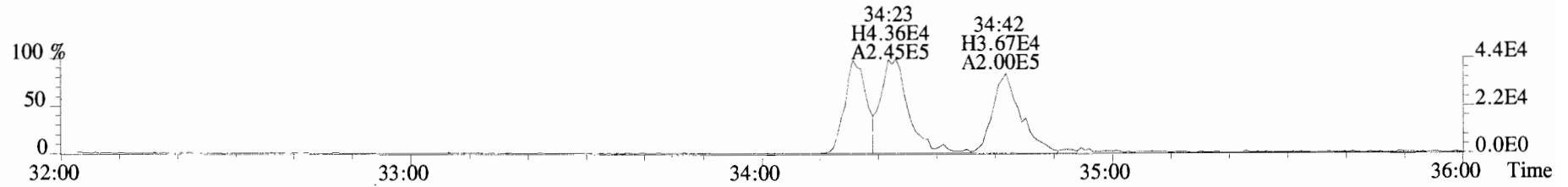
366.9792 S:3 F:2



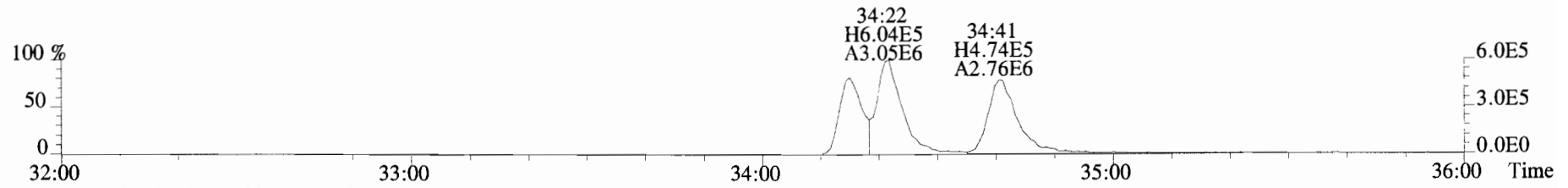
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



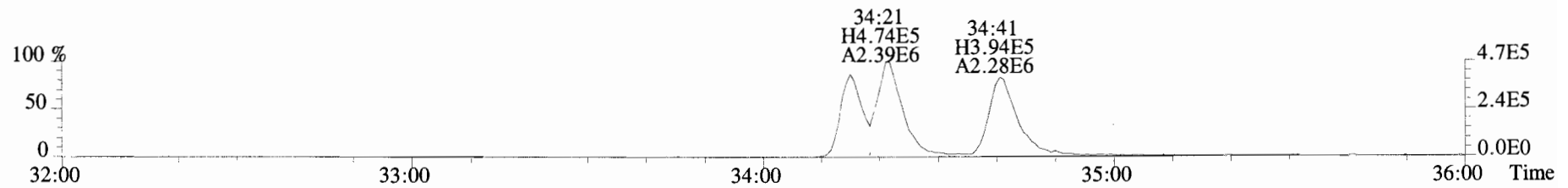
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



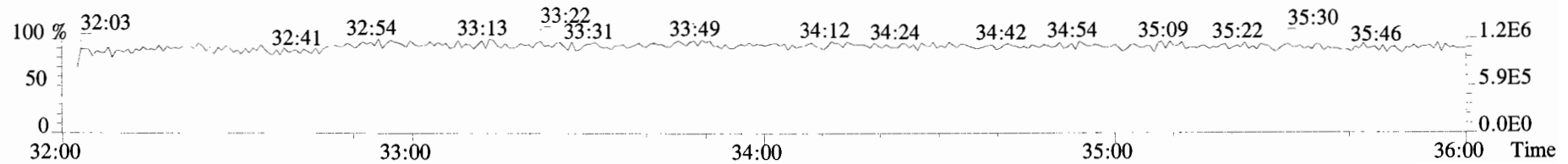
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



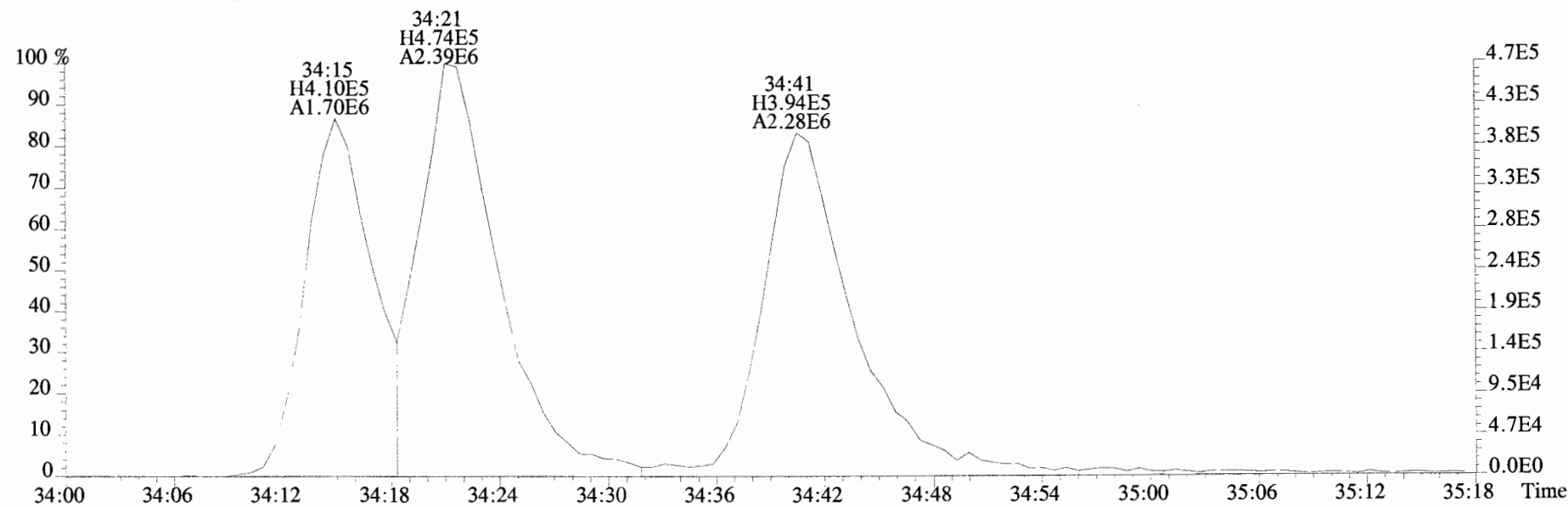
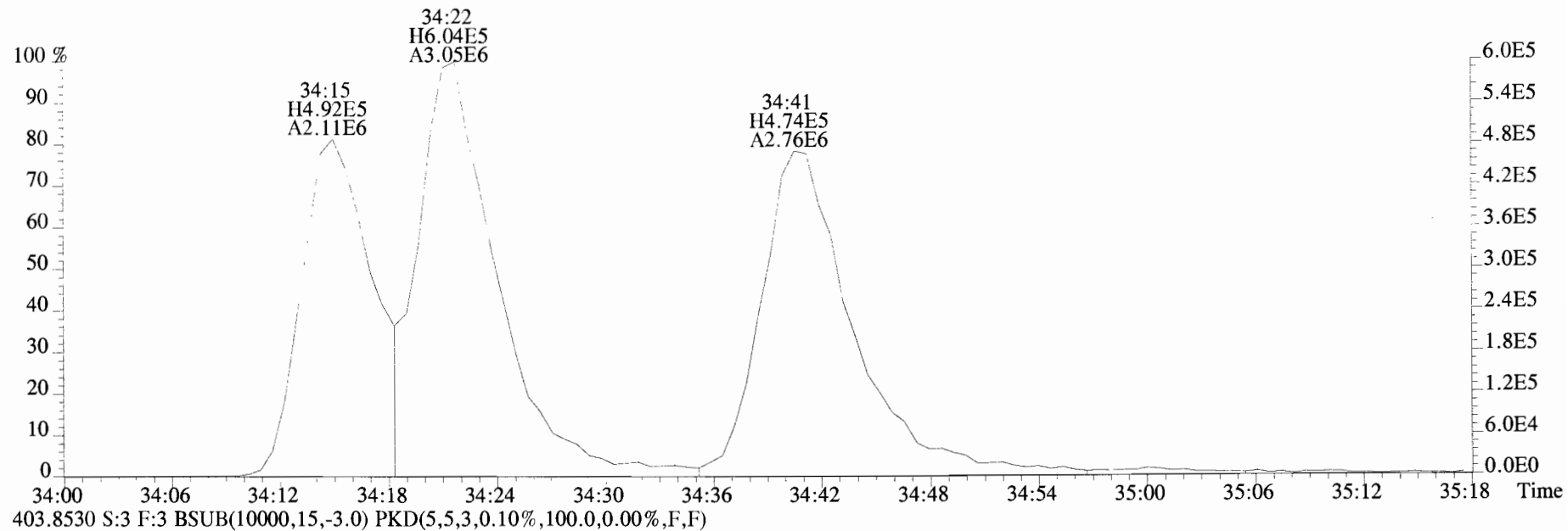
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



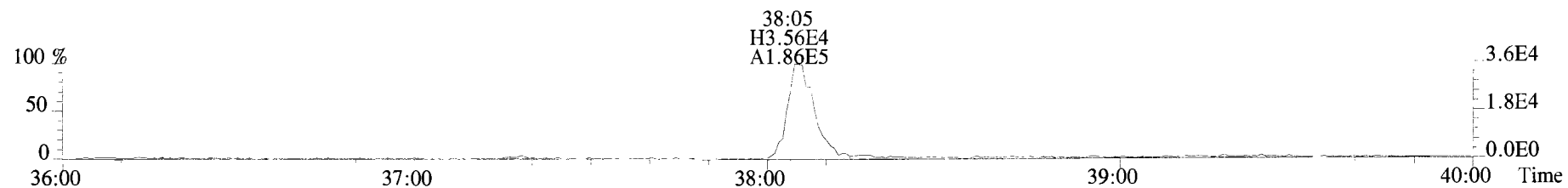
392.9760 S:3 F:3



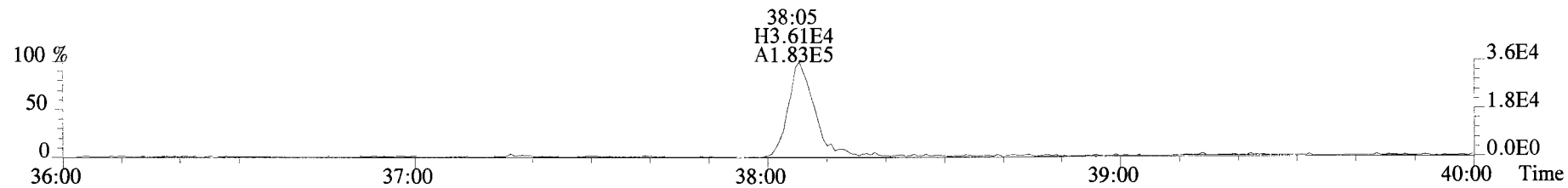
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



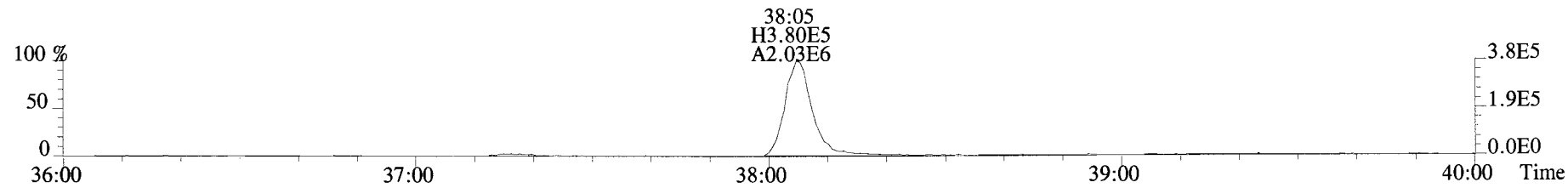
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



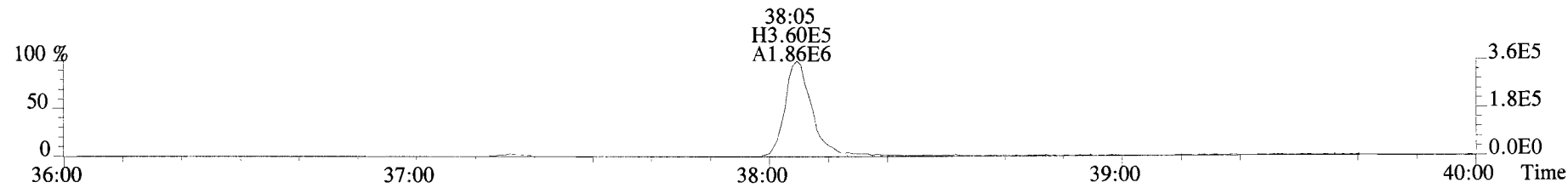
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



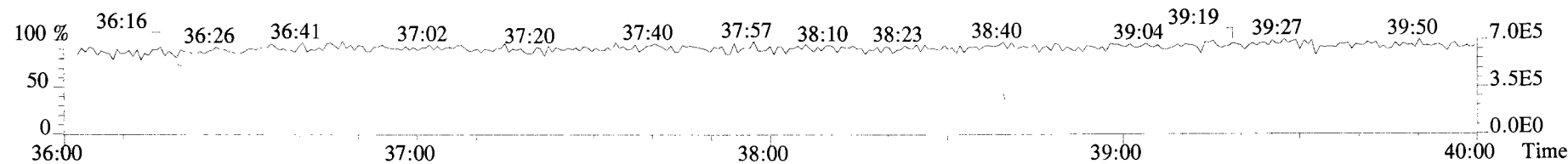
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



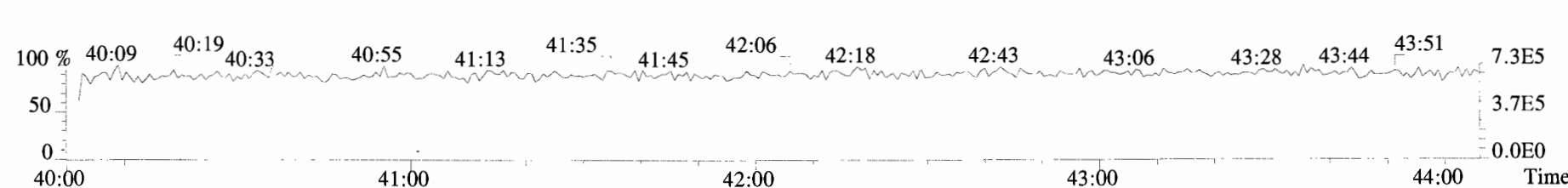
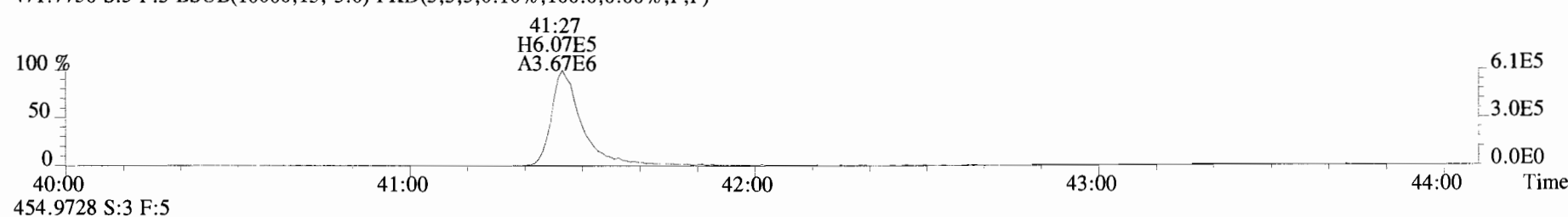
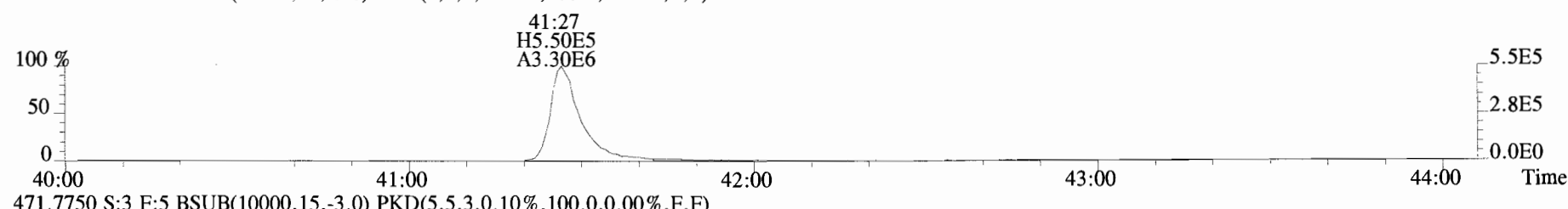
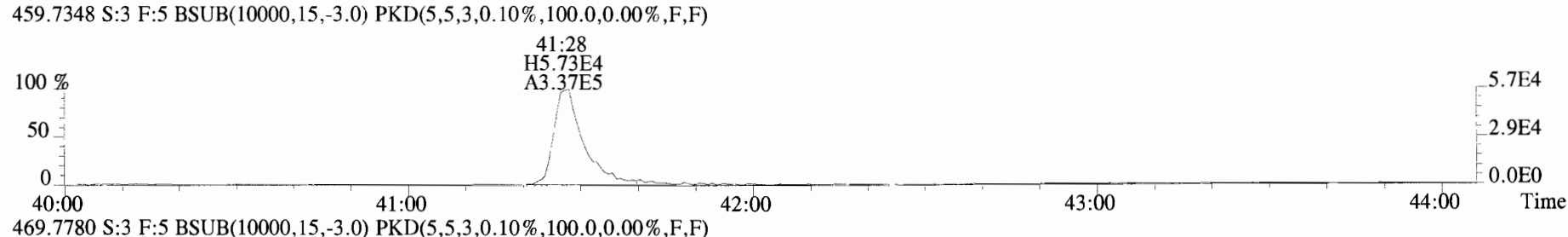
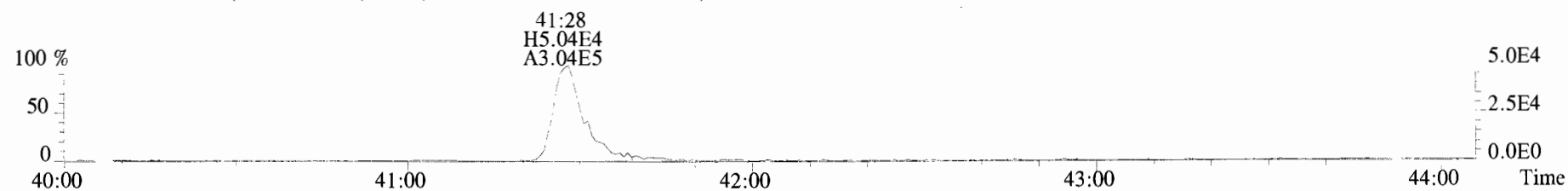
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



454.9728 S:3 F:4

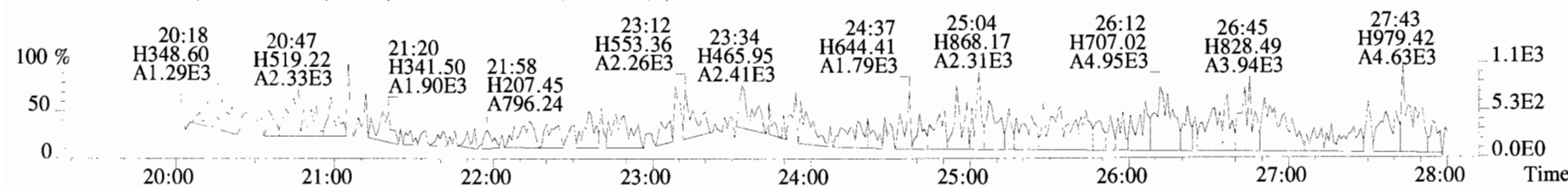
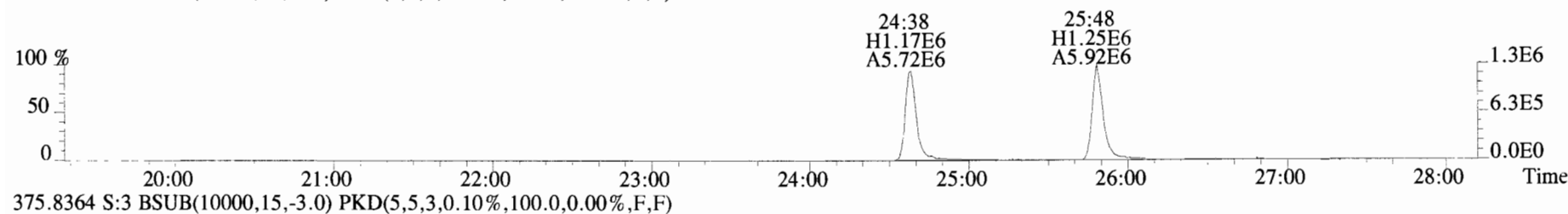
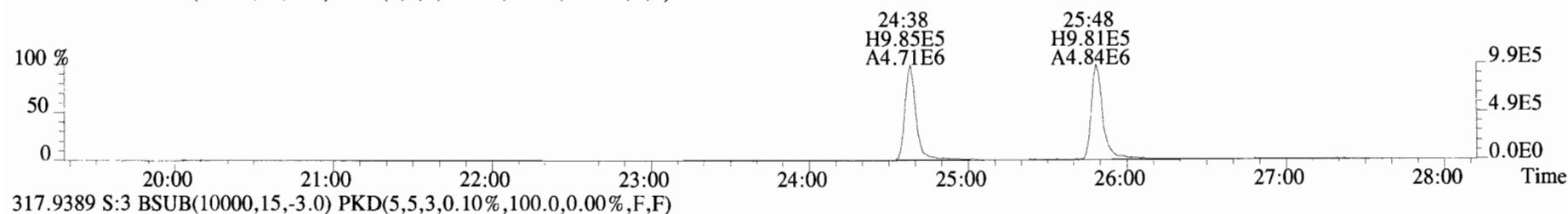
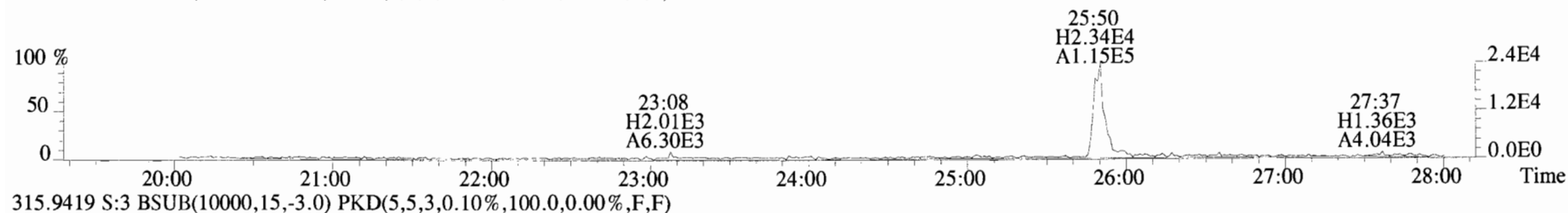
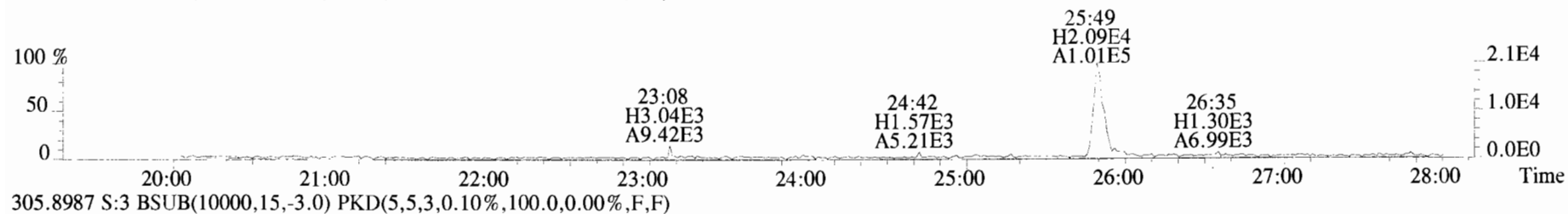


File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

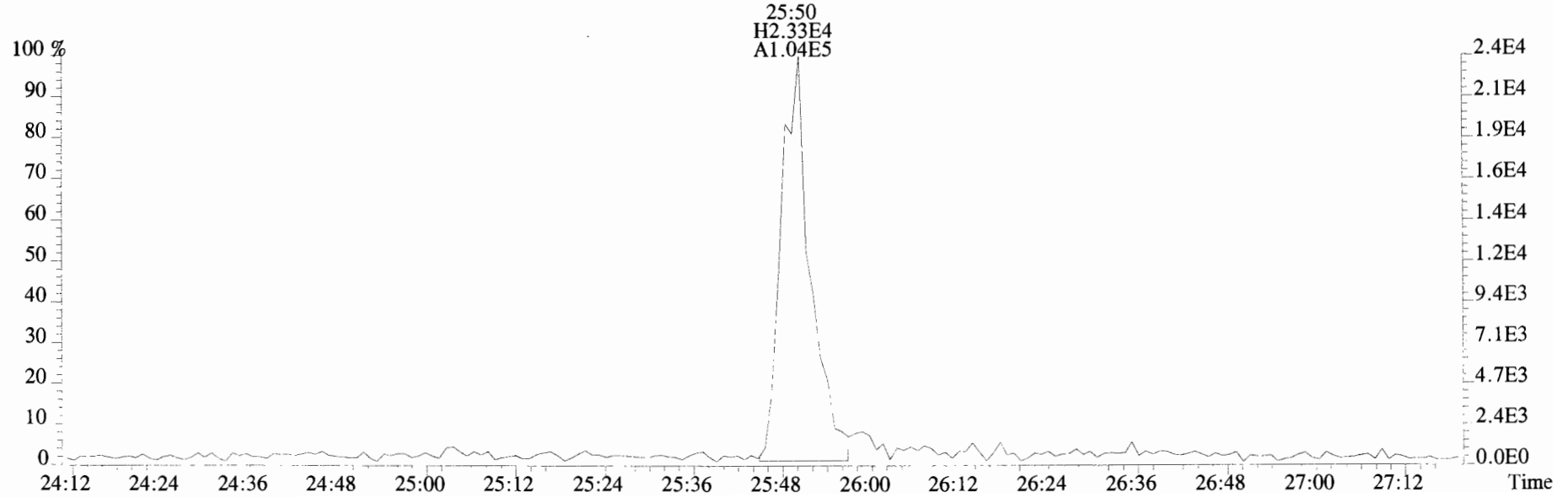
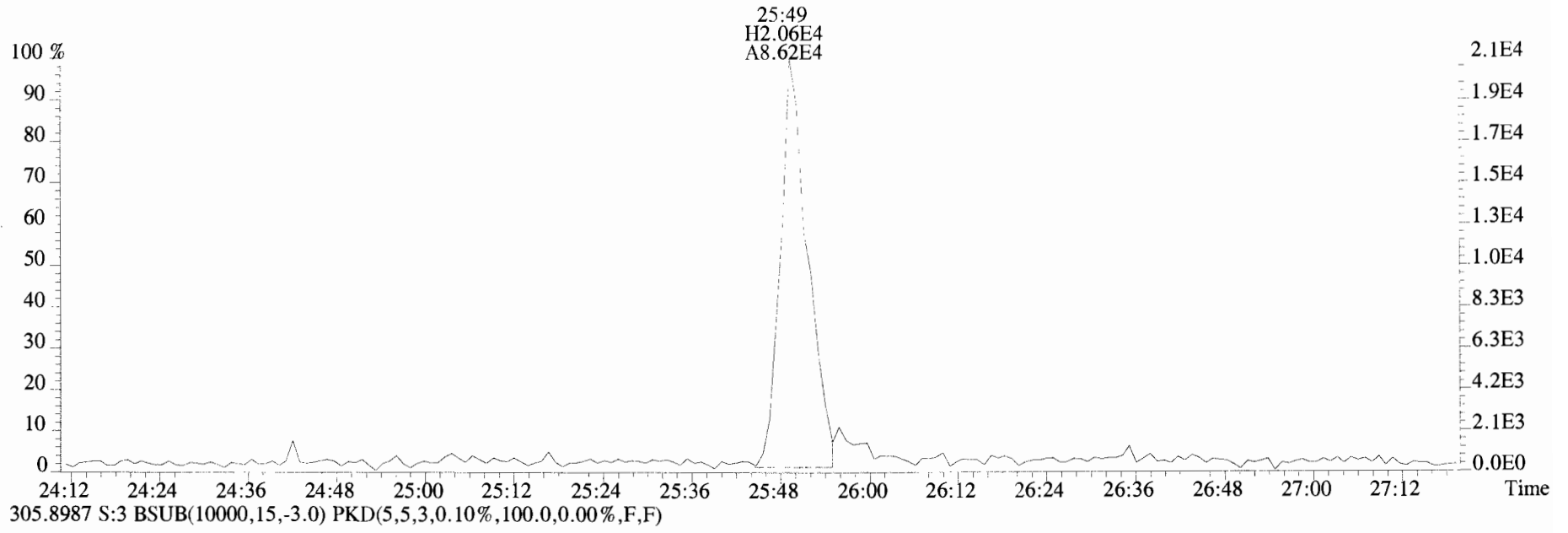




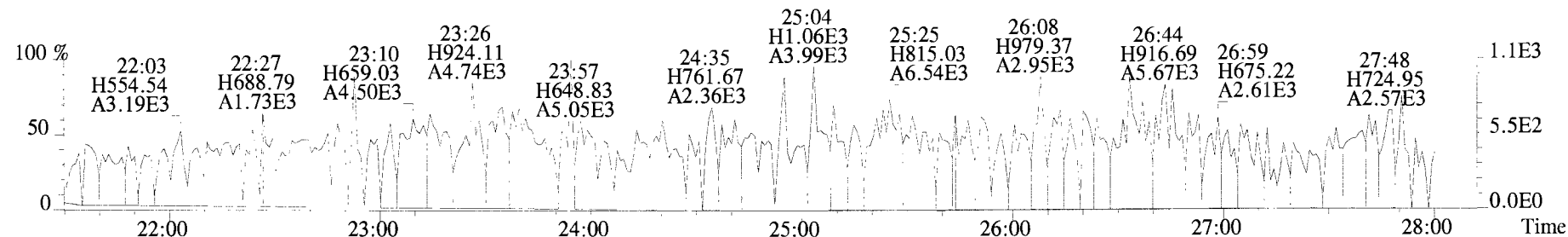
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



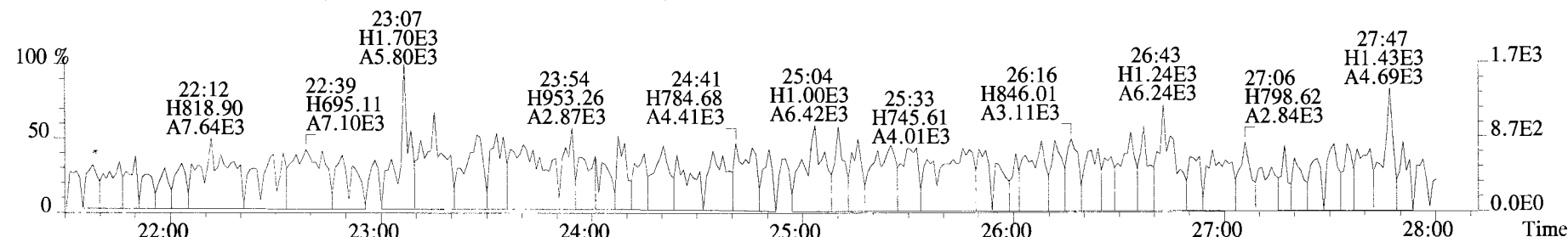
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



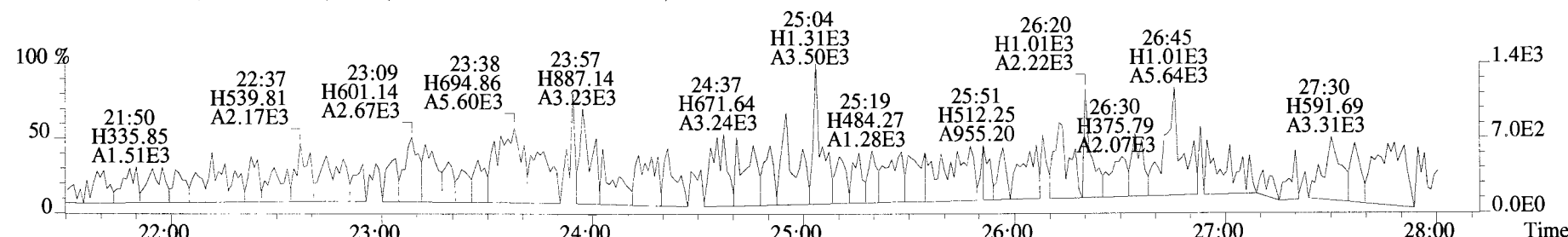
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



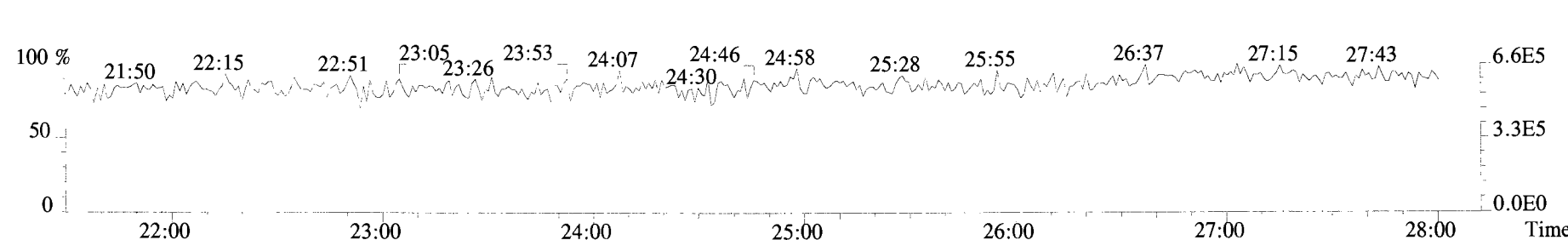
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



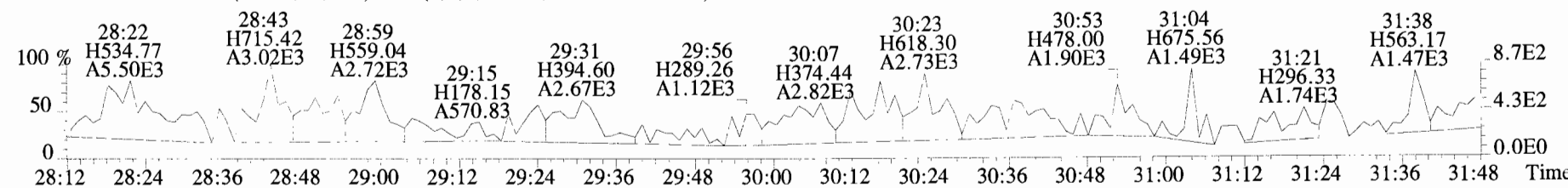
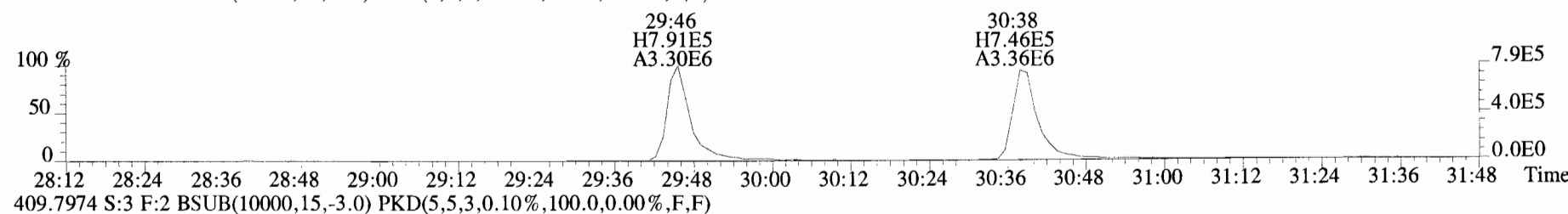
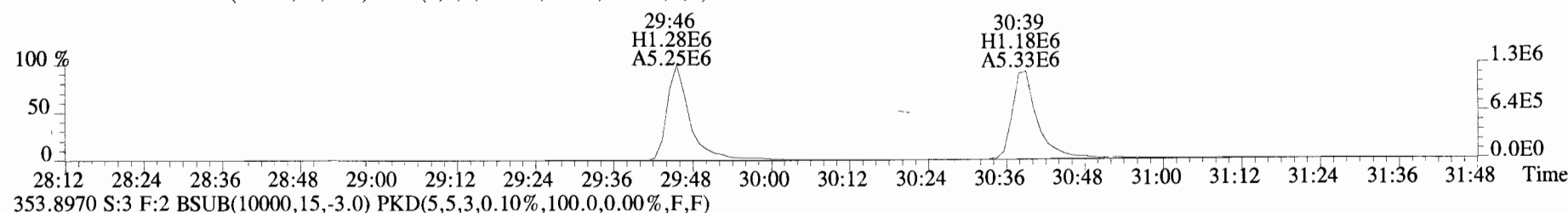
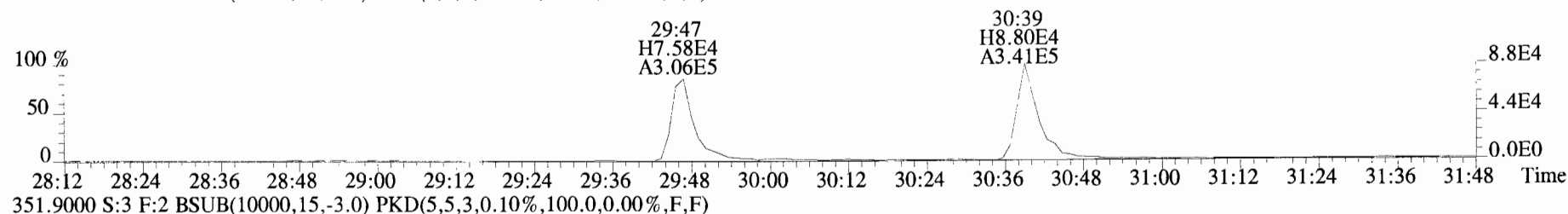
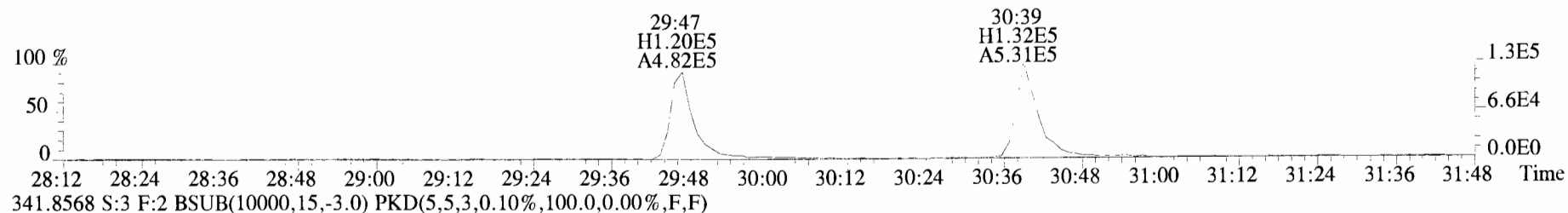
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



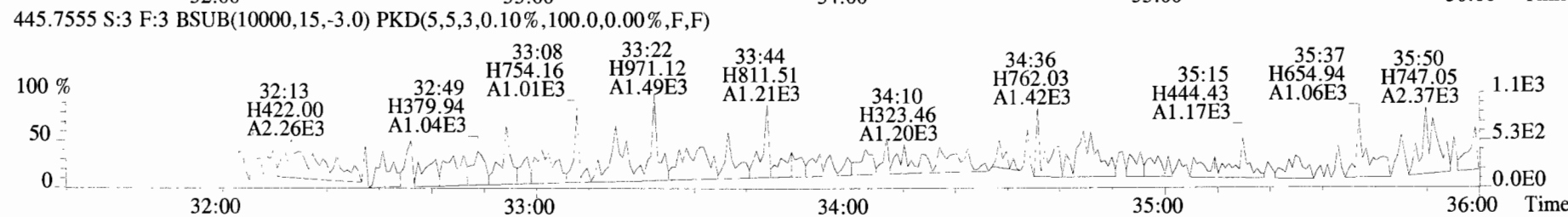
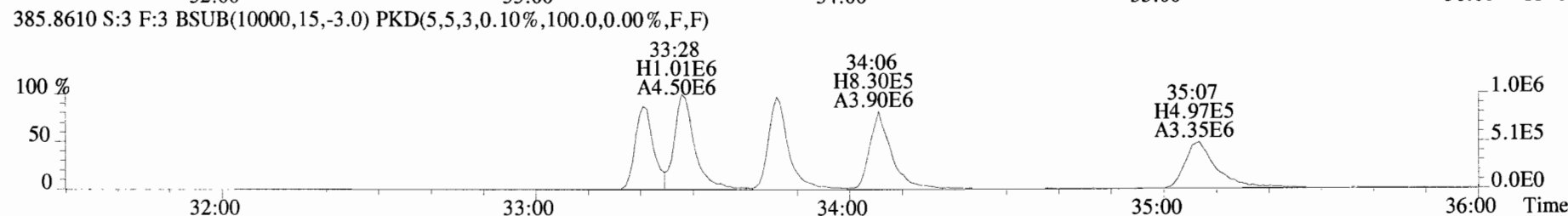
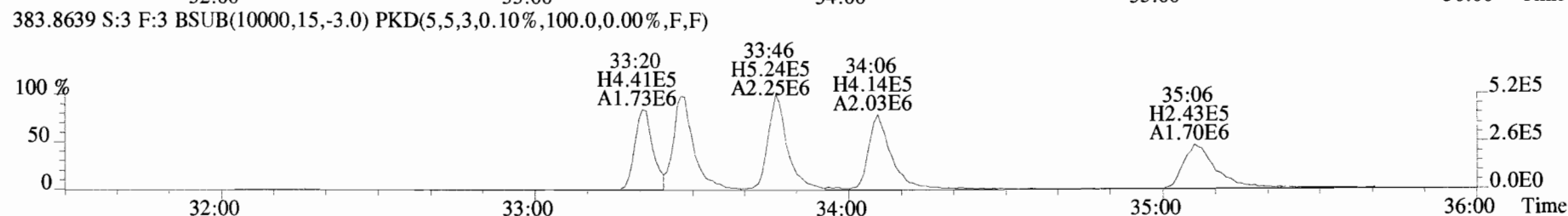
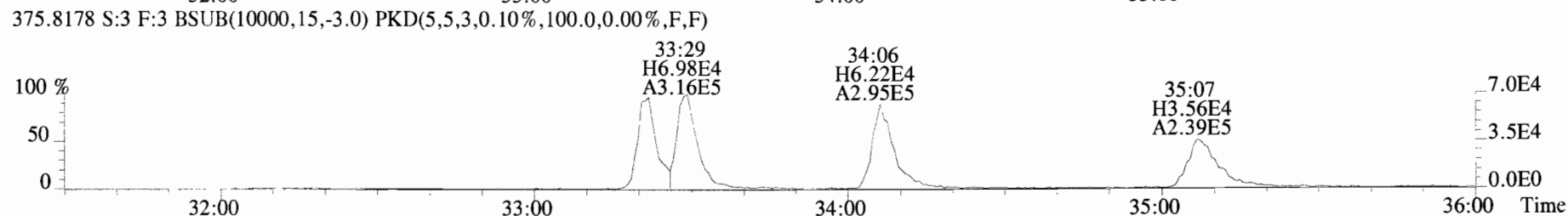
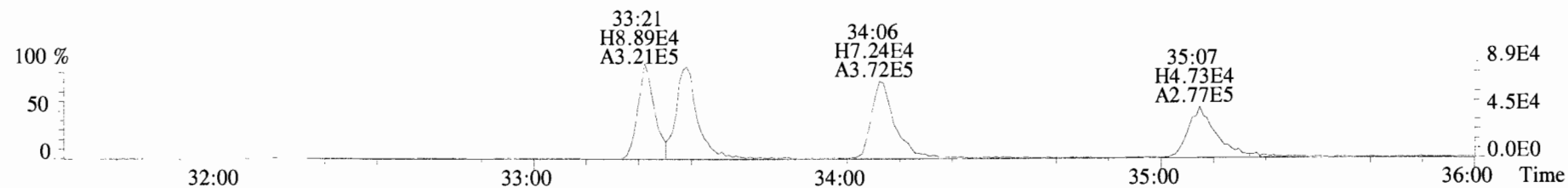
316.9824 S:3



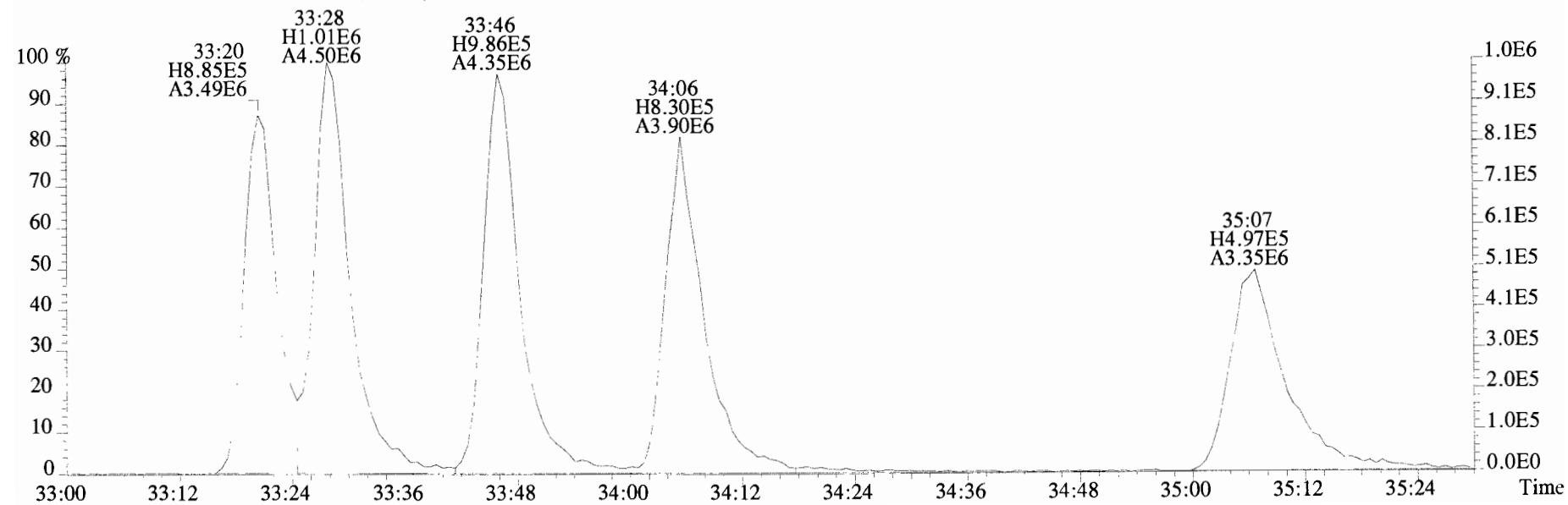
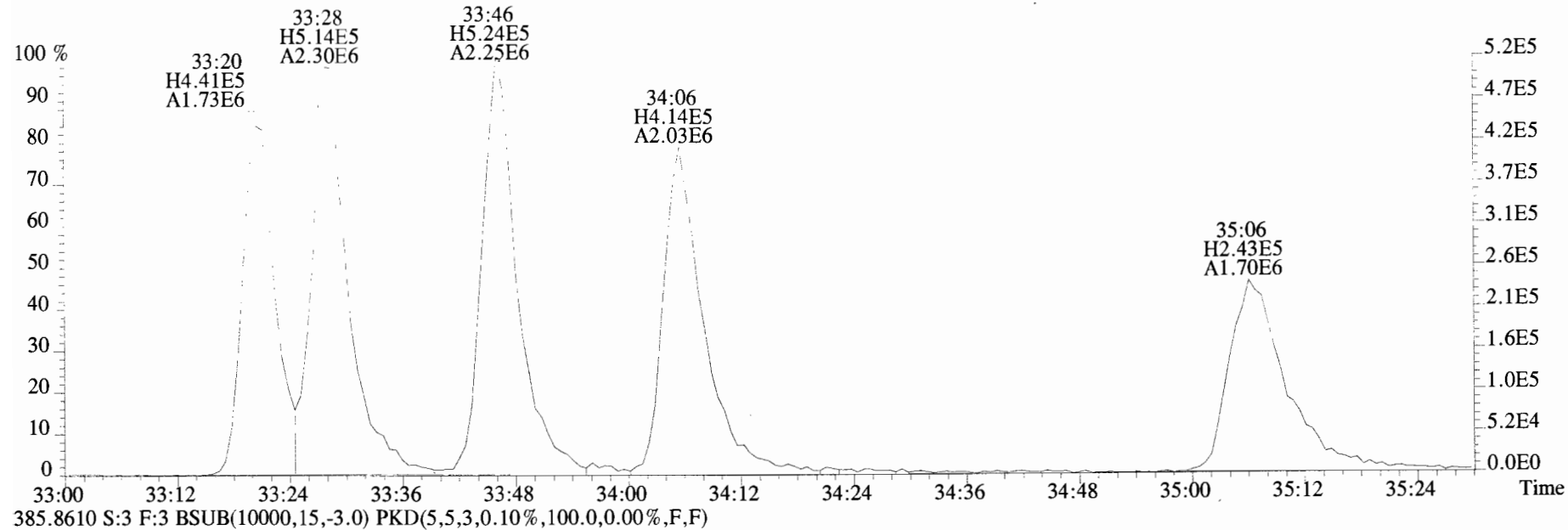
File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



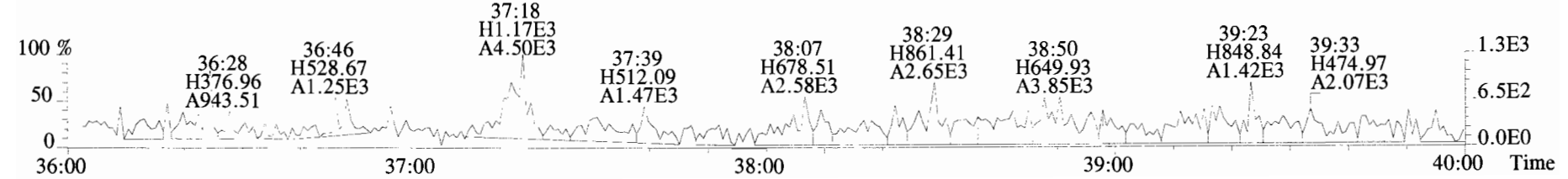
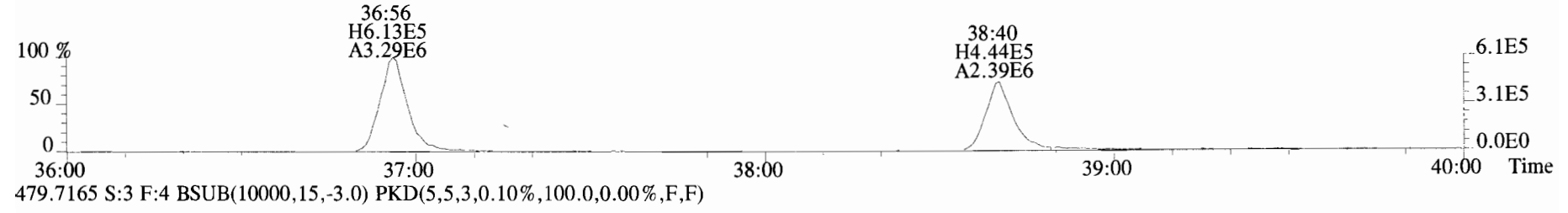
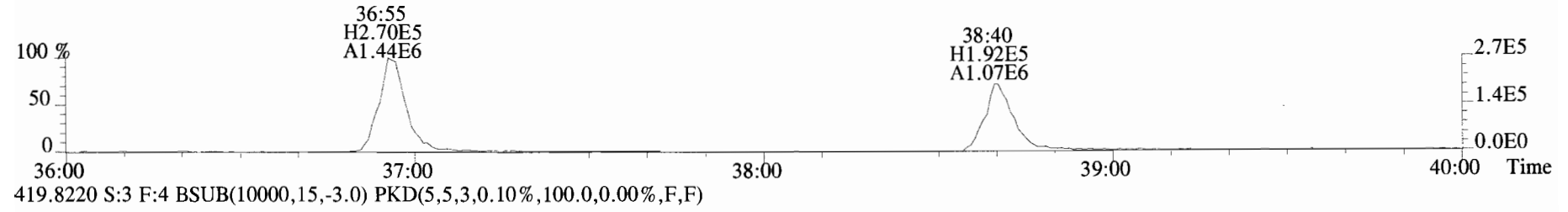
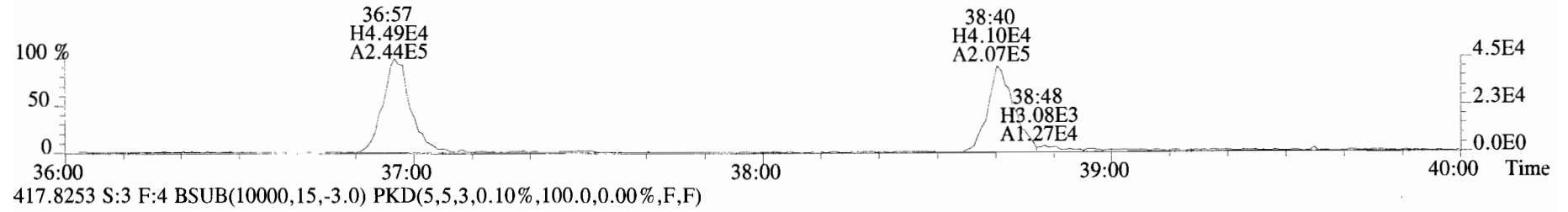
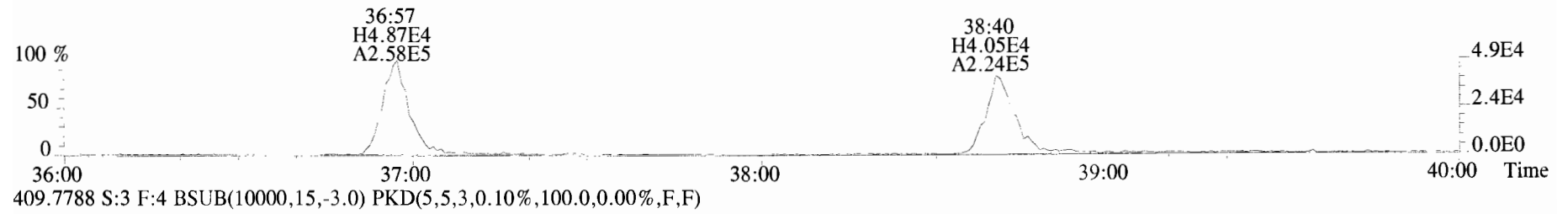
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



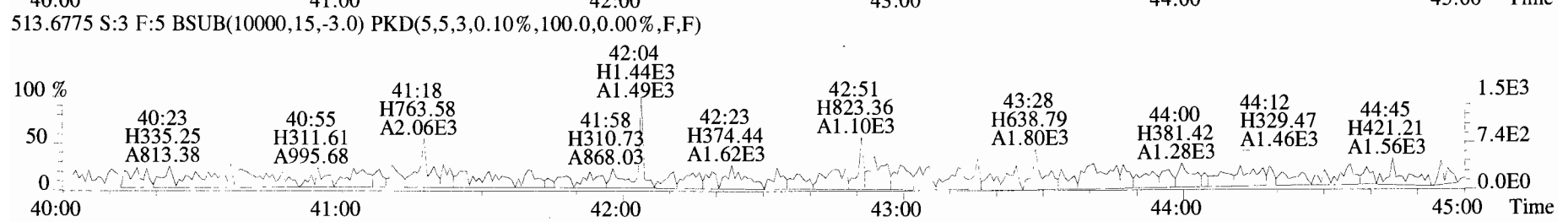
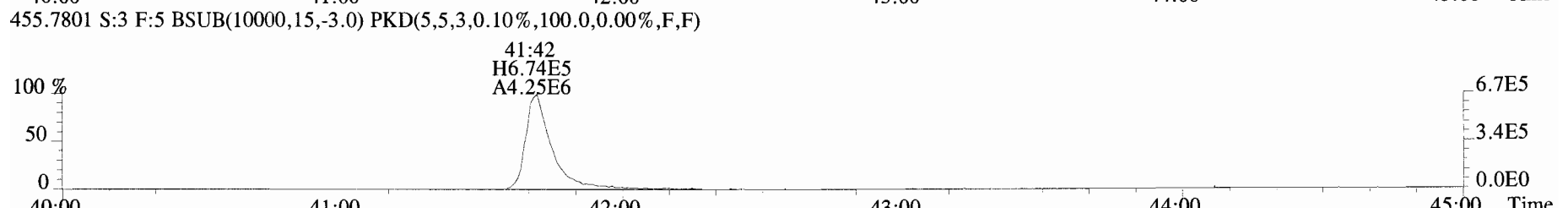
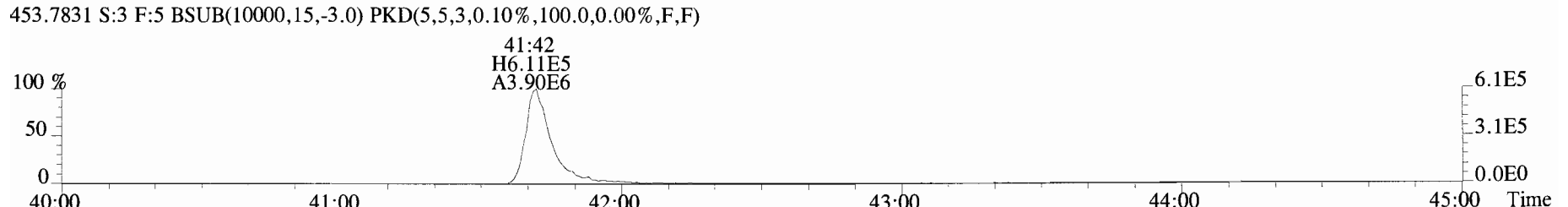
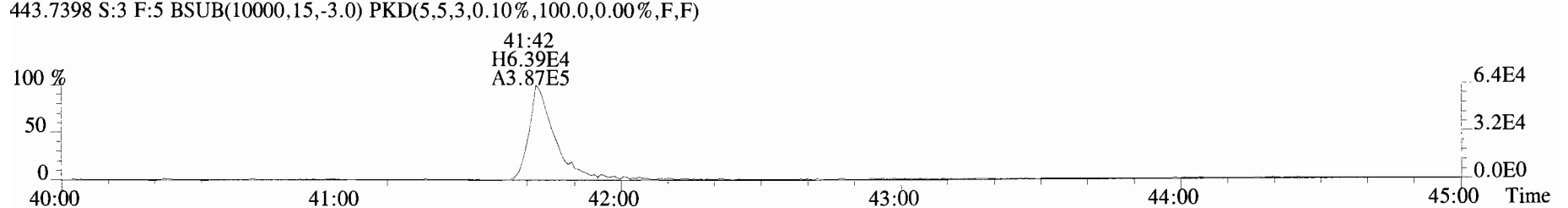
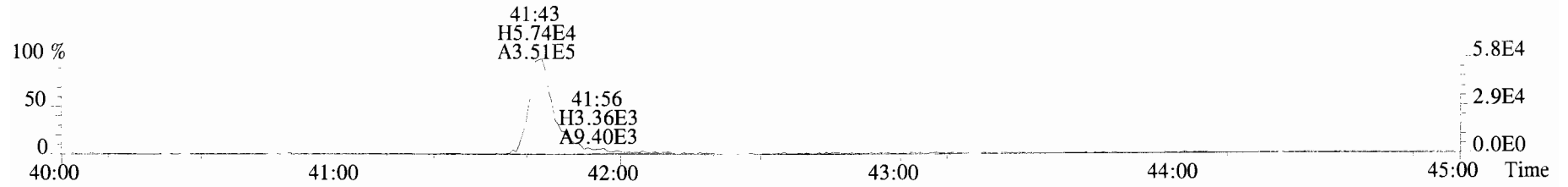
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

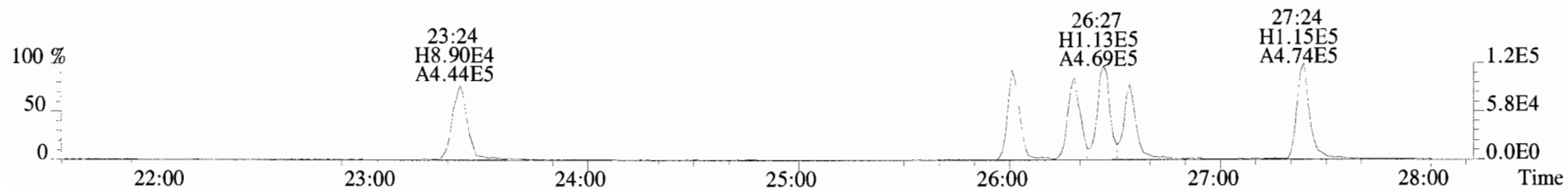


File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#3 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD\_DB5  
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

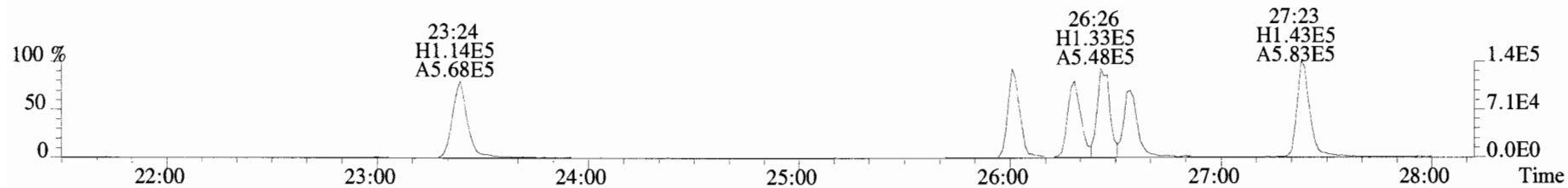




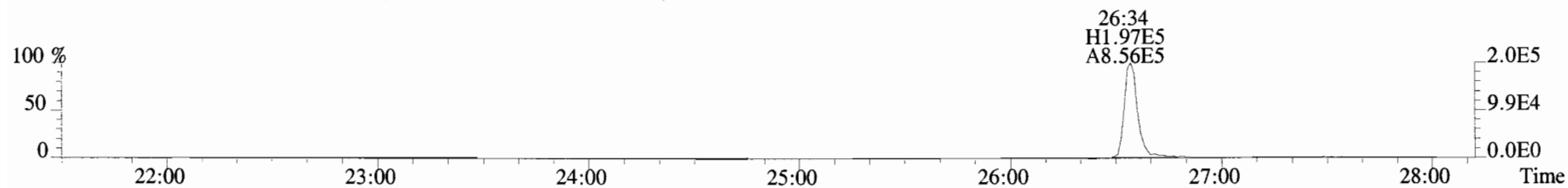
File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



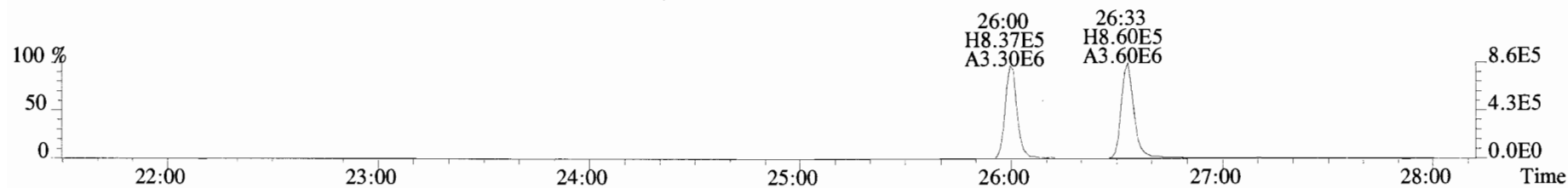
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



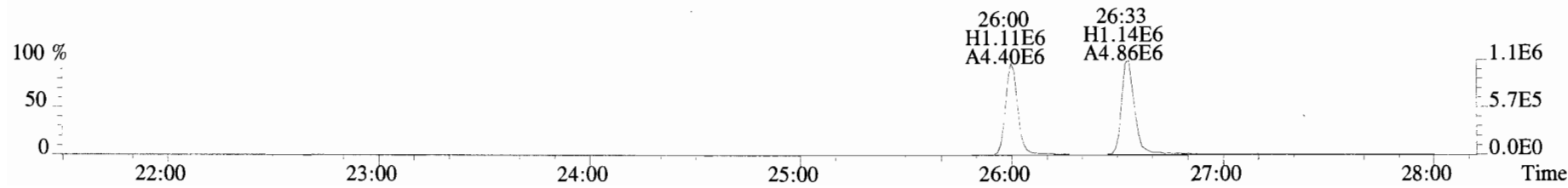
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



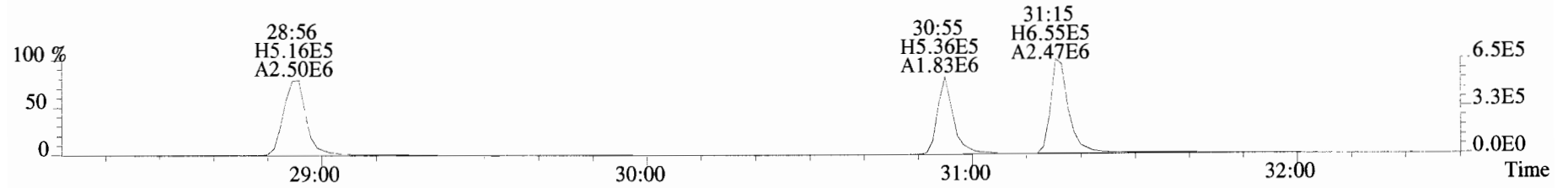
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



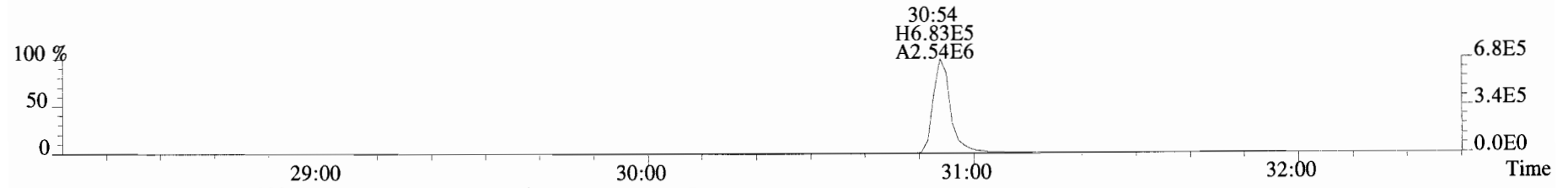
File:191009D1 #1-211 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



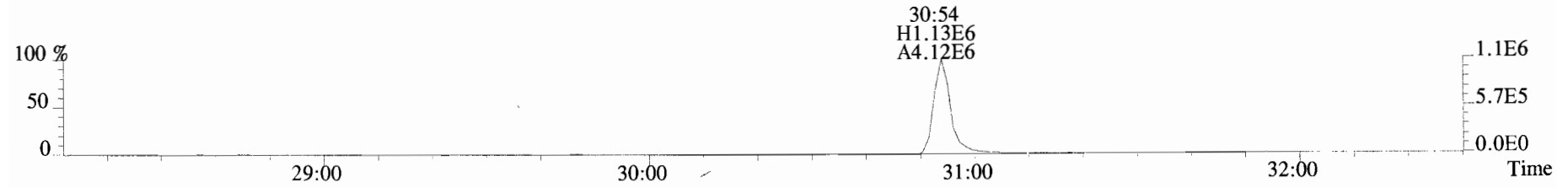
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



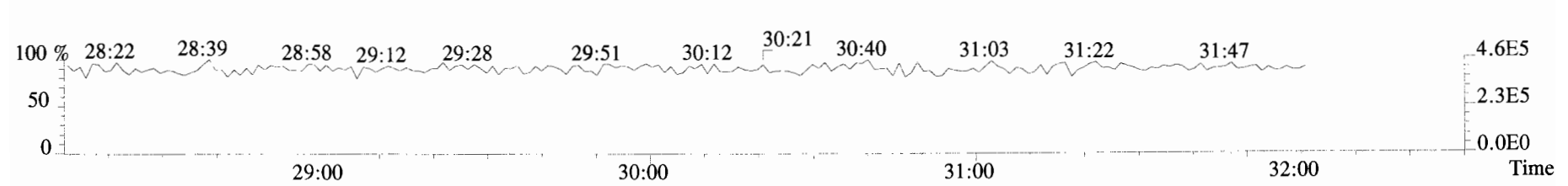
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



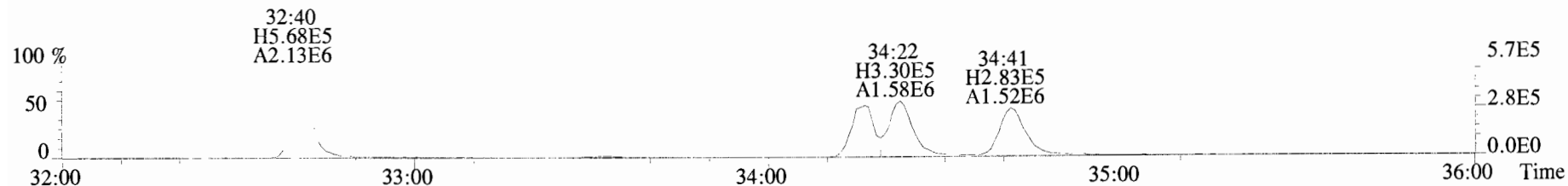
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



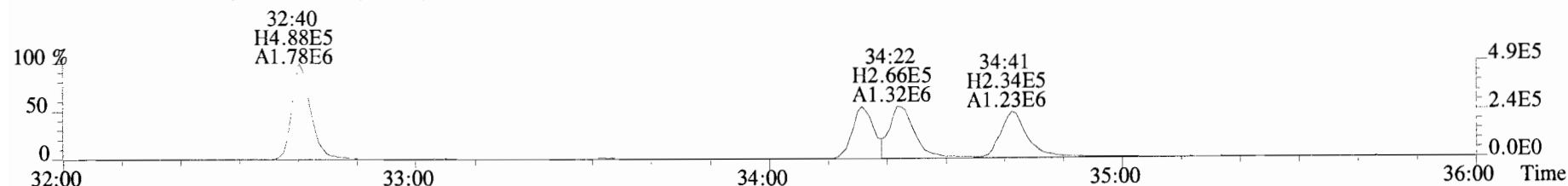
366.9792 S:4 F:2



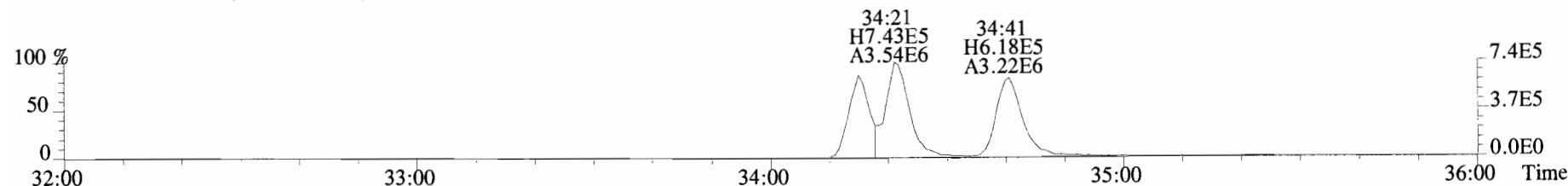
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



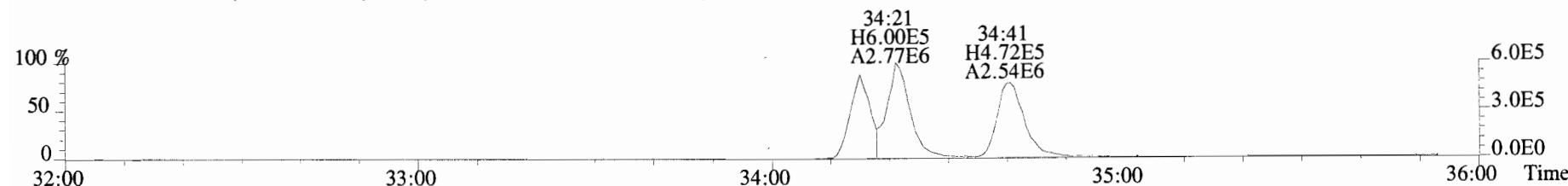
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



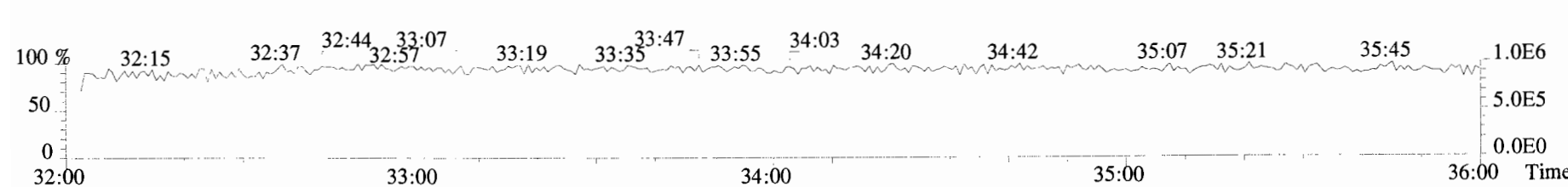
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



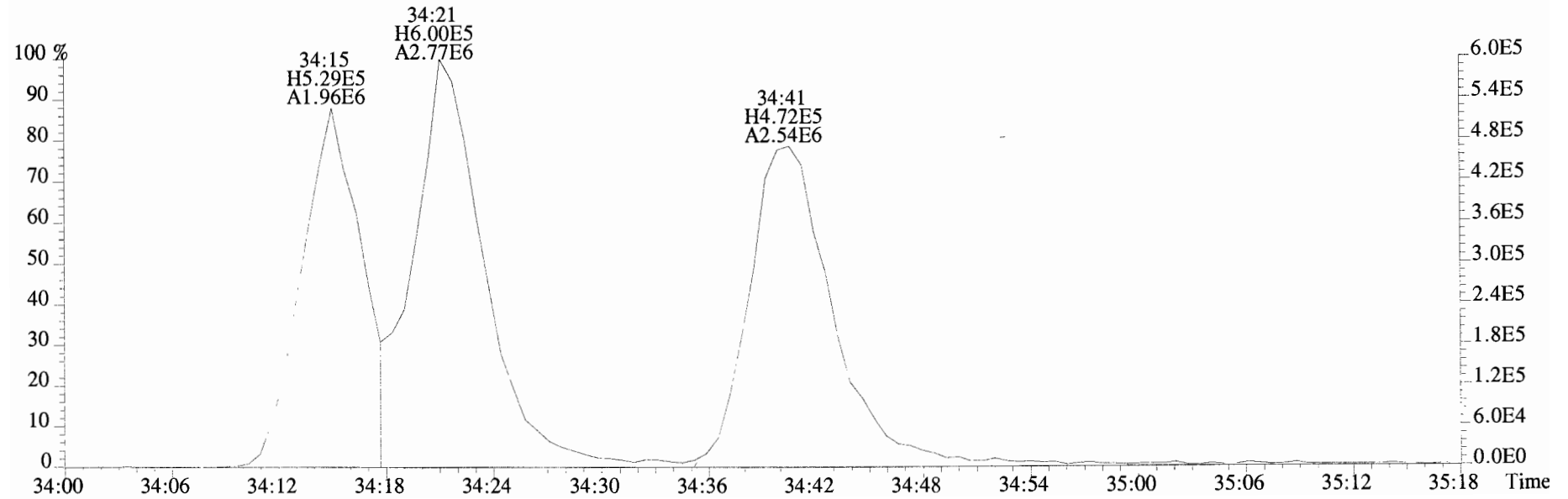
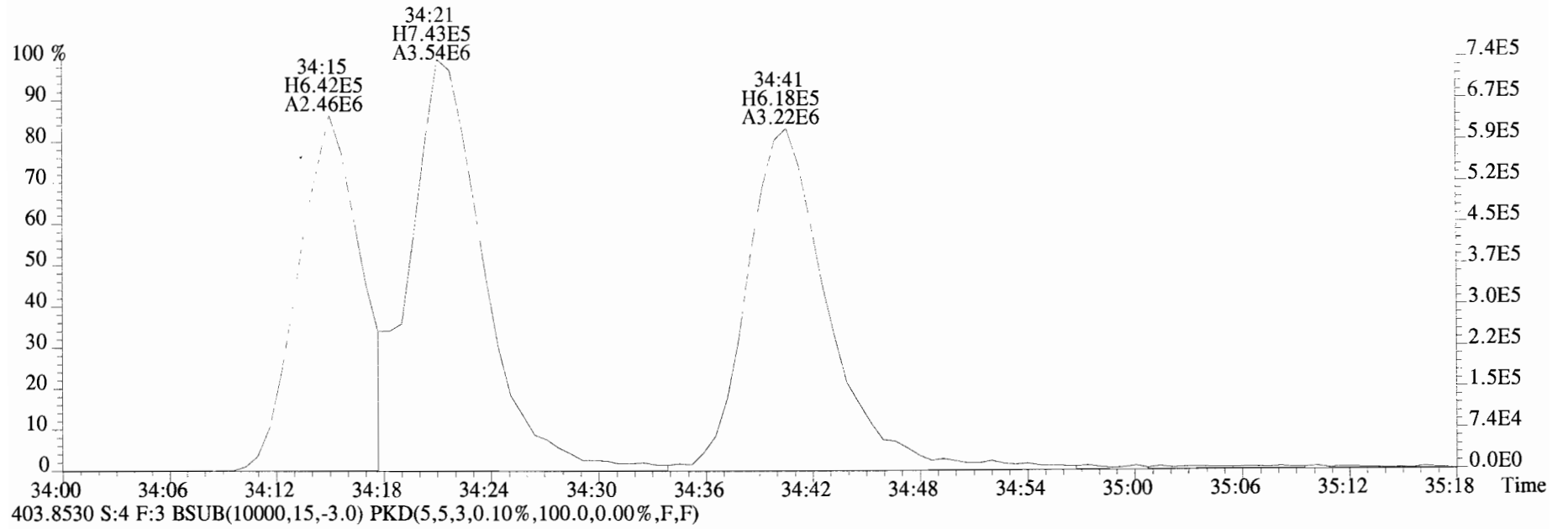
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



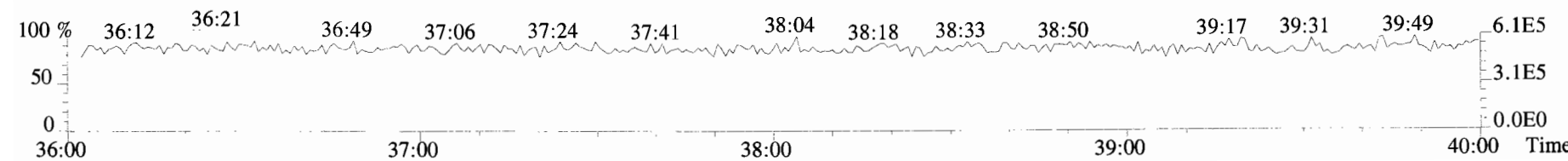
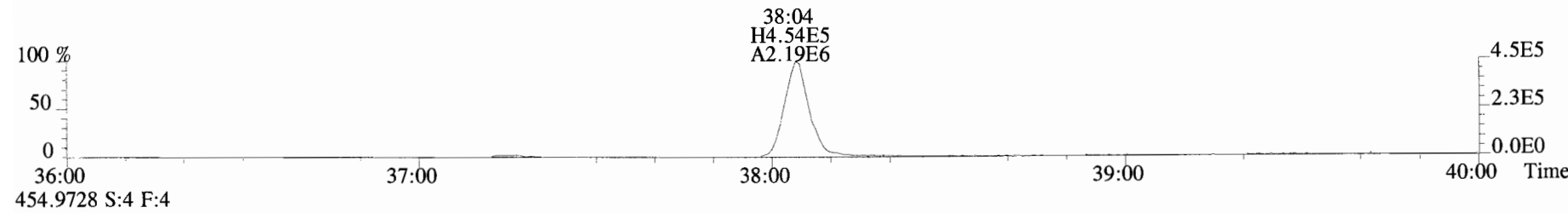
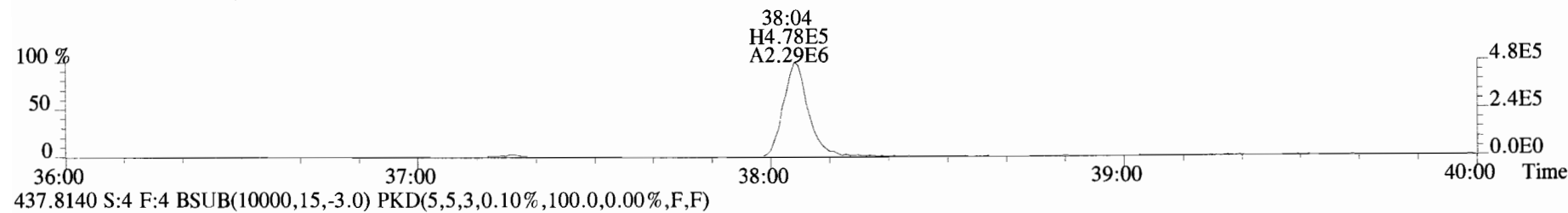
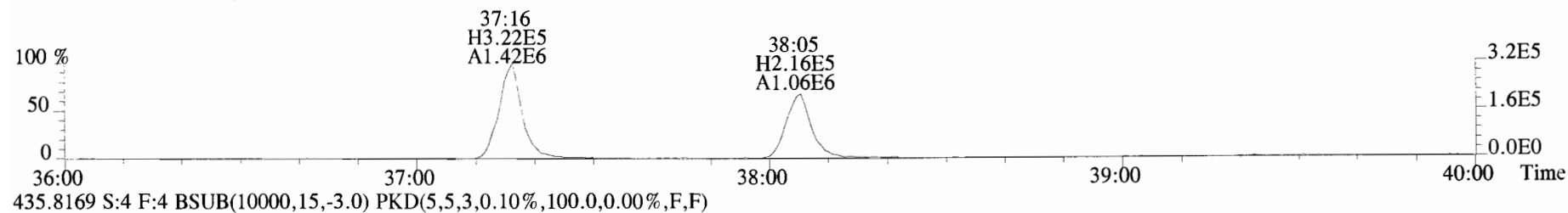
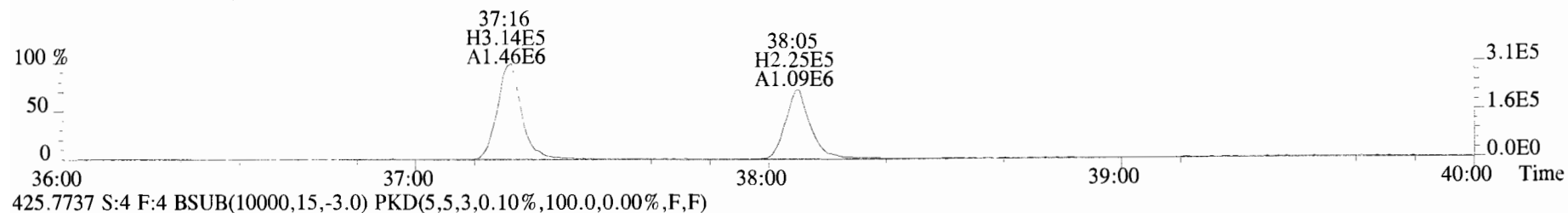
392.9760 S:4 F:3



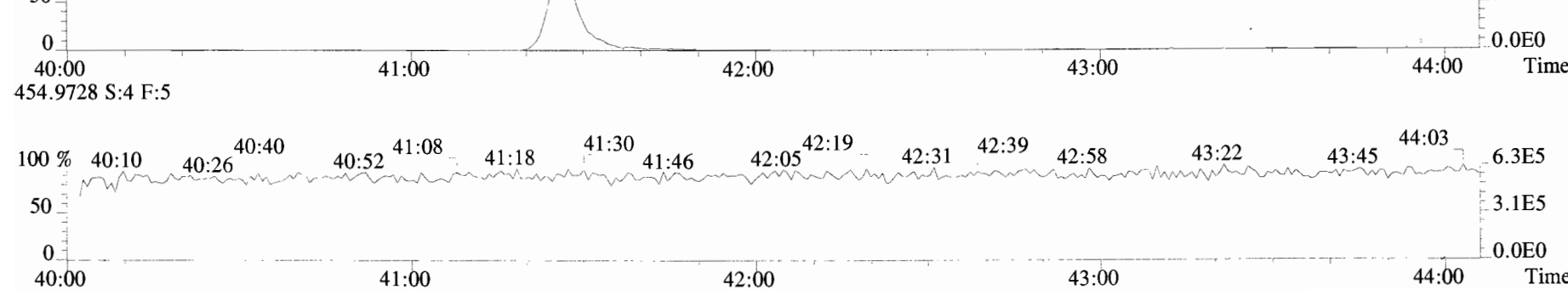
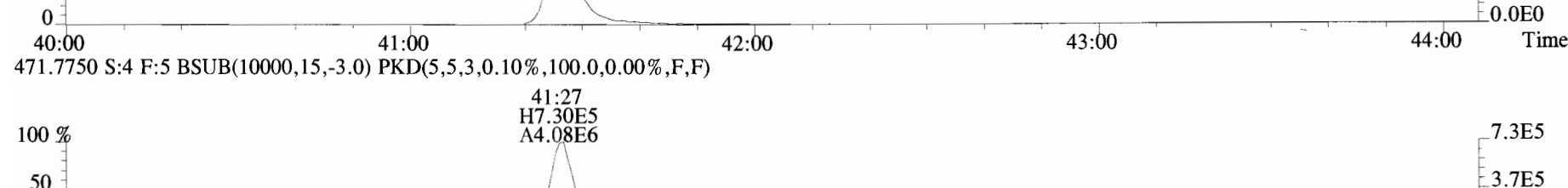
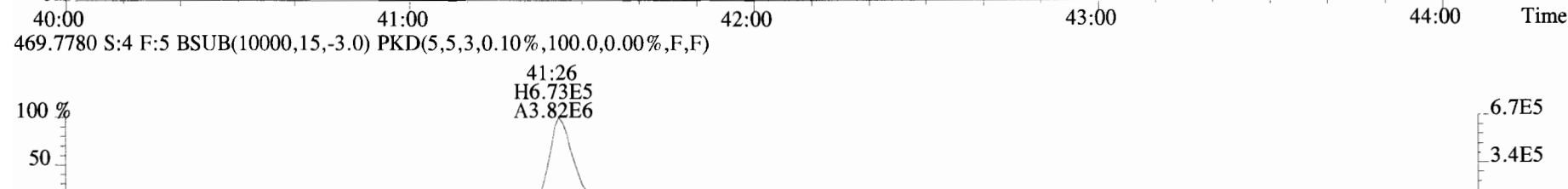
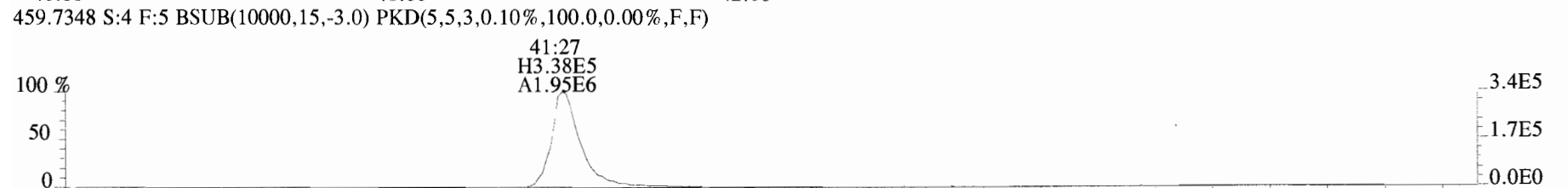
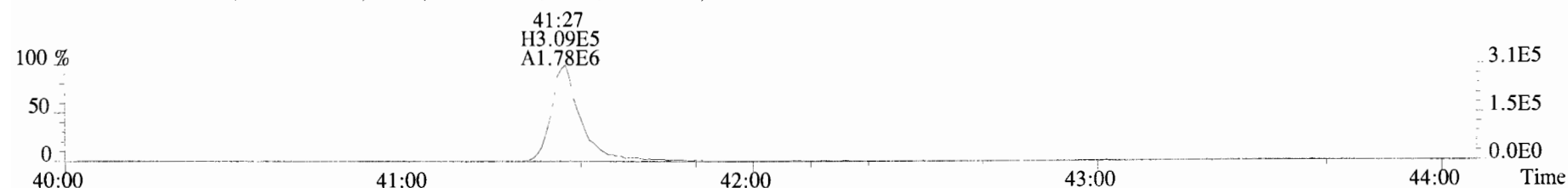
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



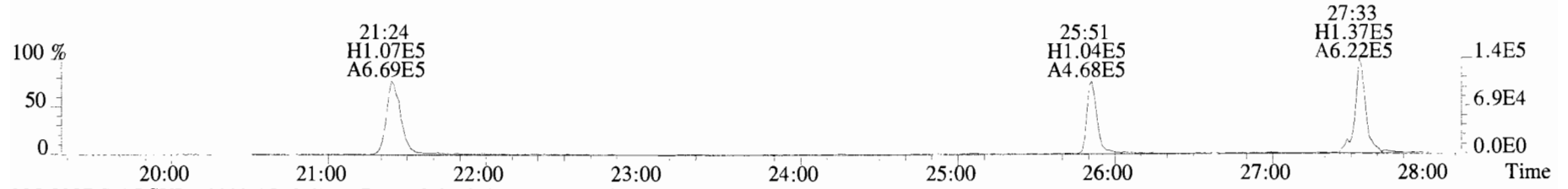
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



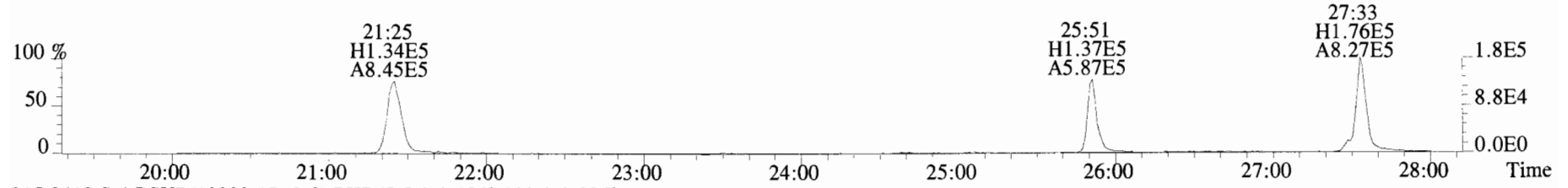
File:191009D1 #1-432 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



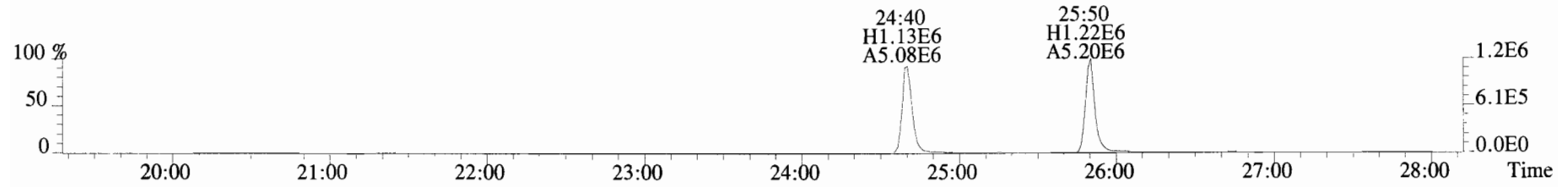
File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#4 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
 303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



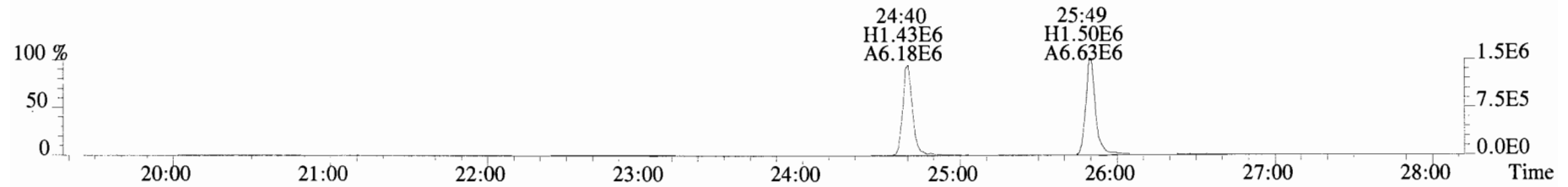
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



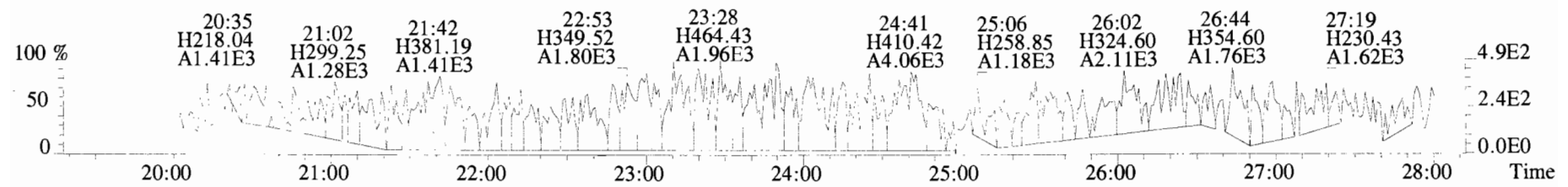
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



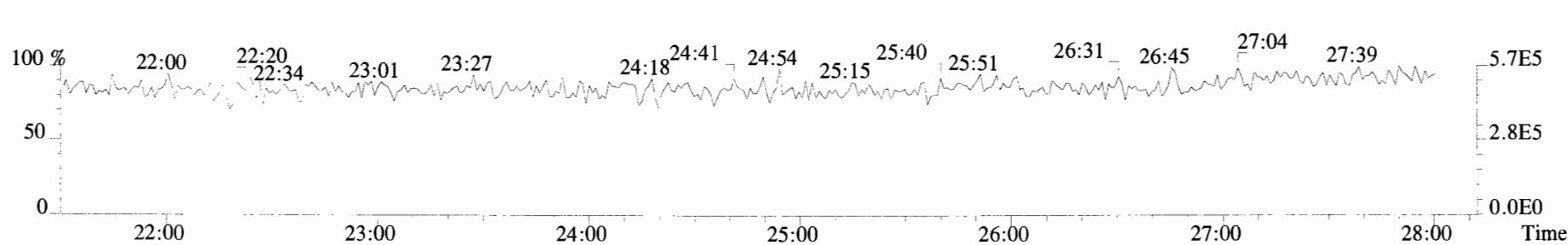
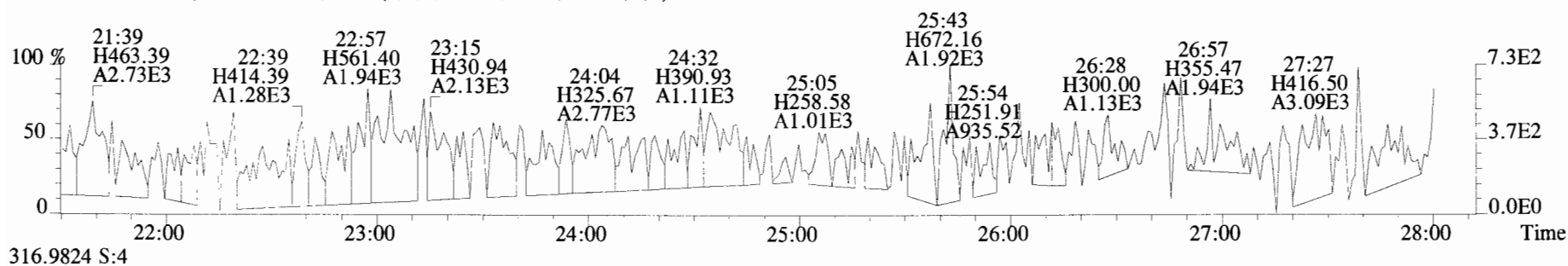
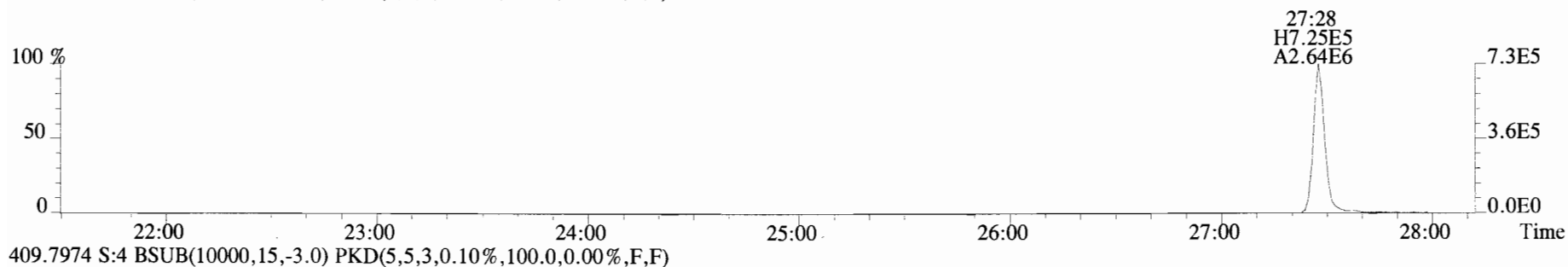
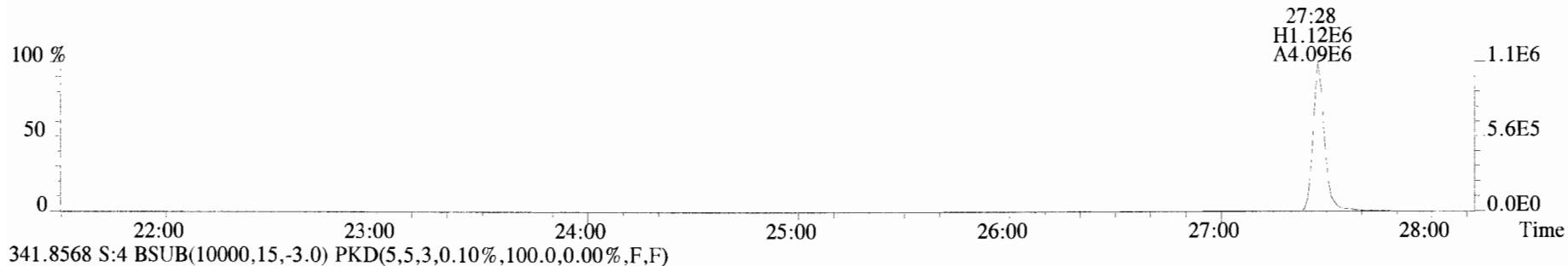
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

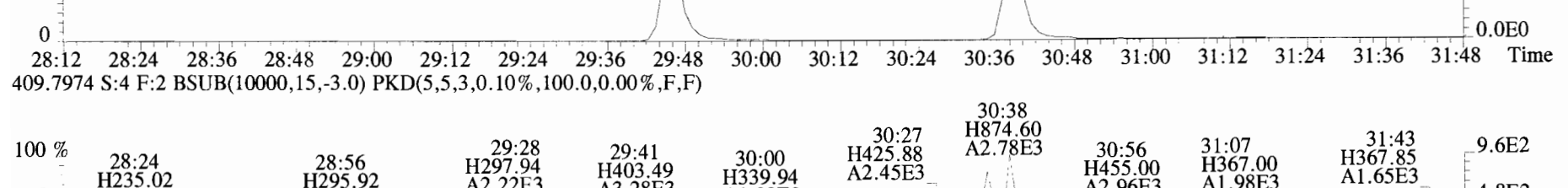
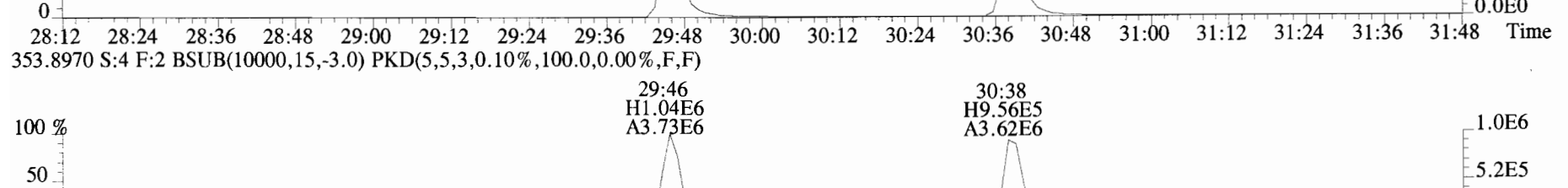
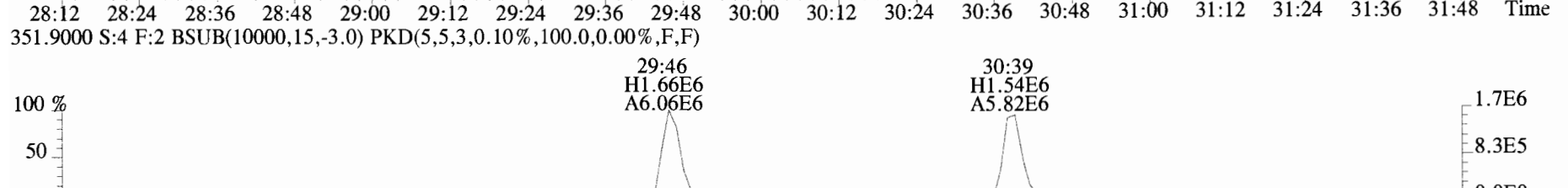
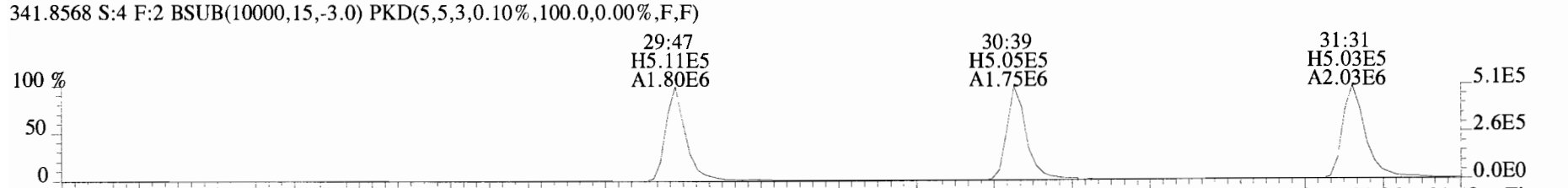
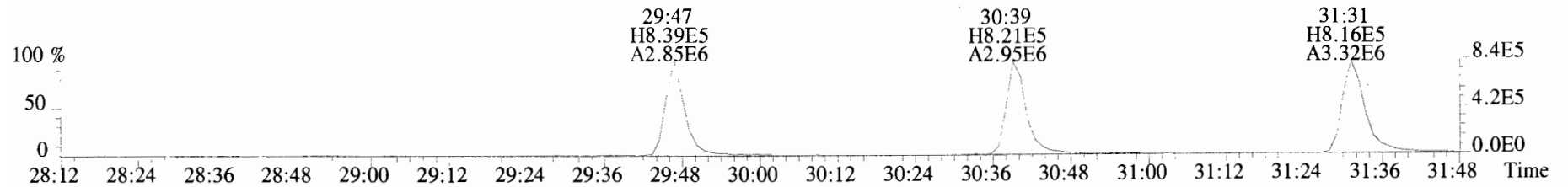


File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

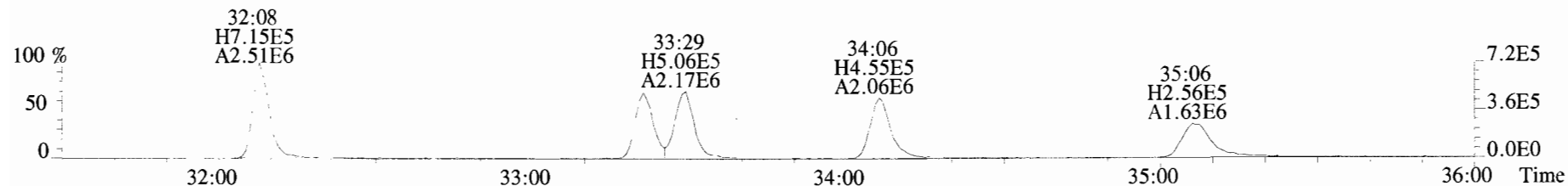




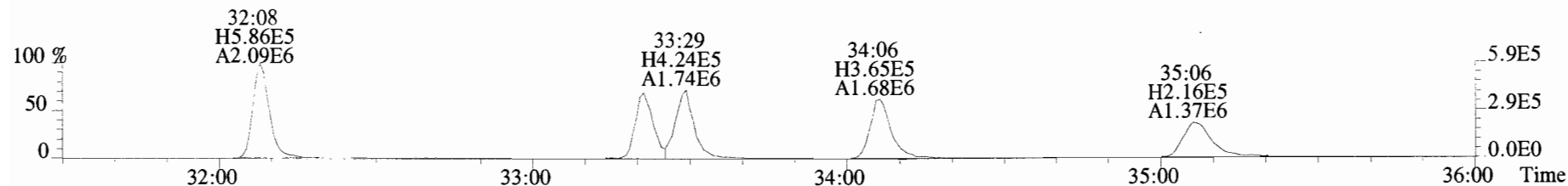
File:191009D1 #1-211 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



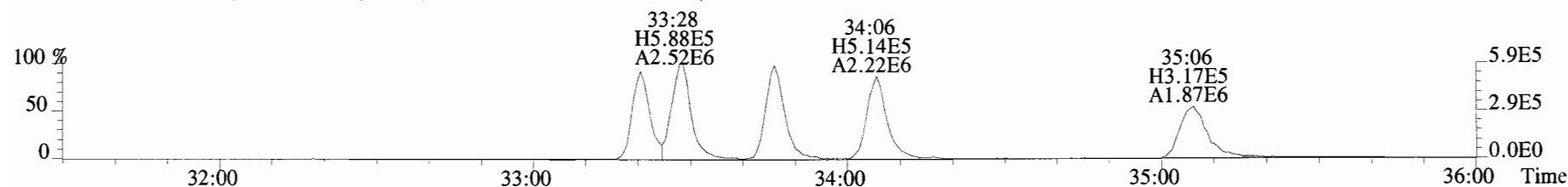
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#4 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



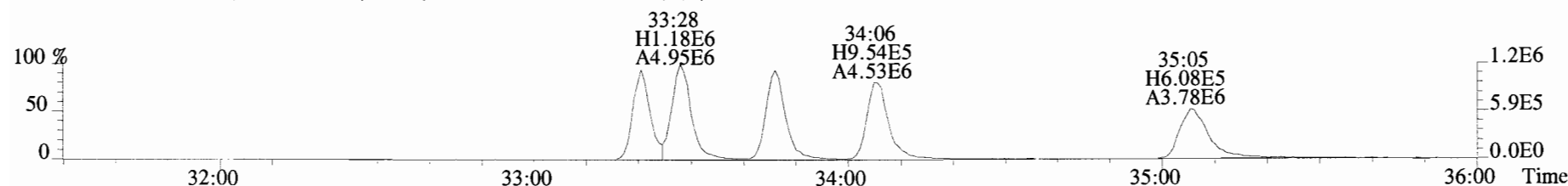
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



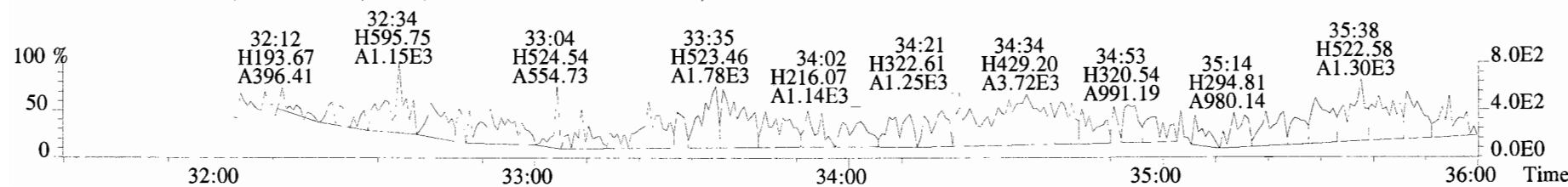
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



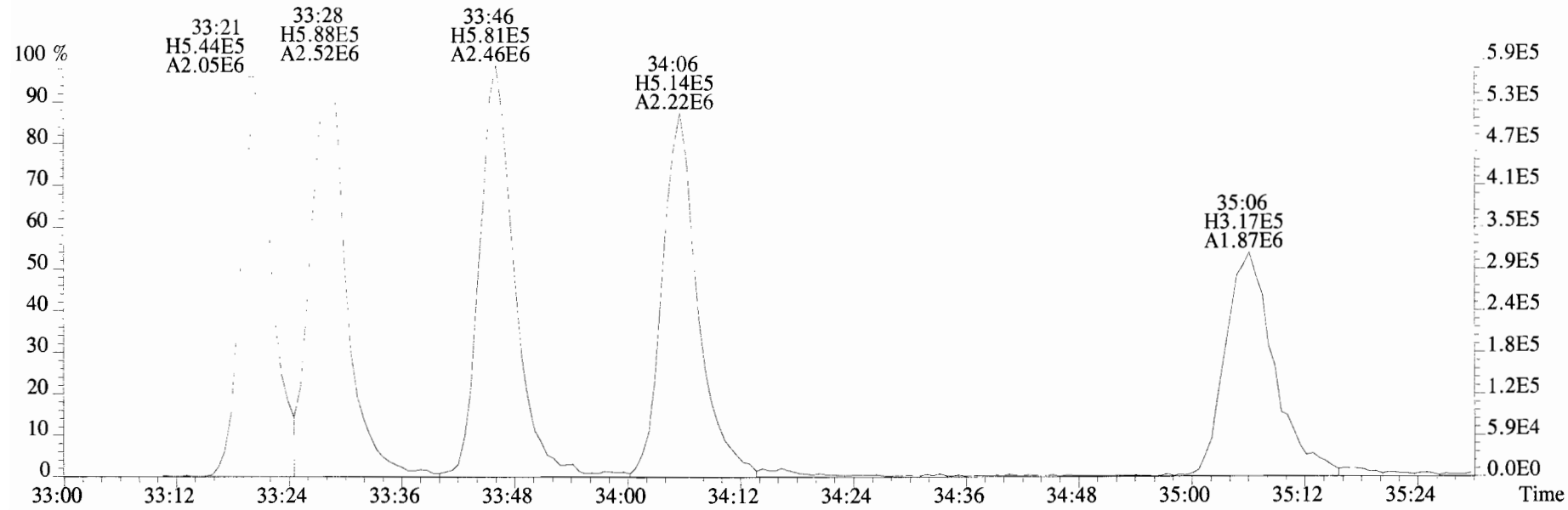
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



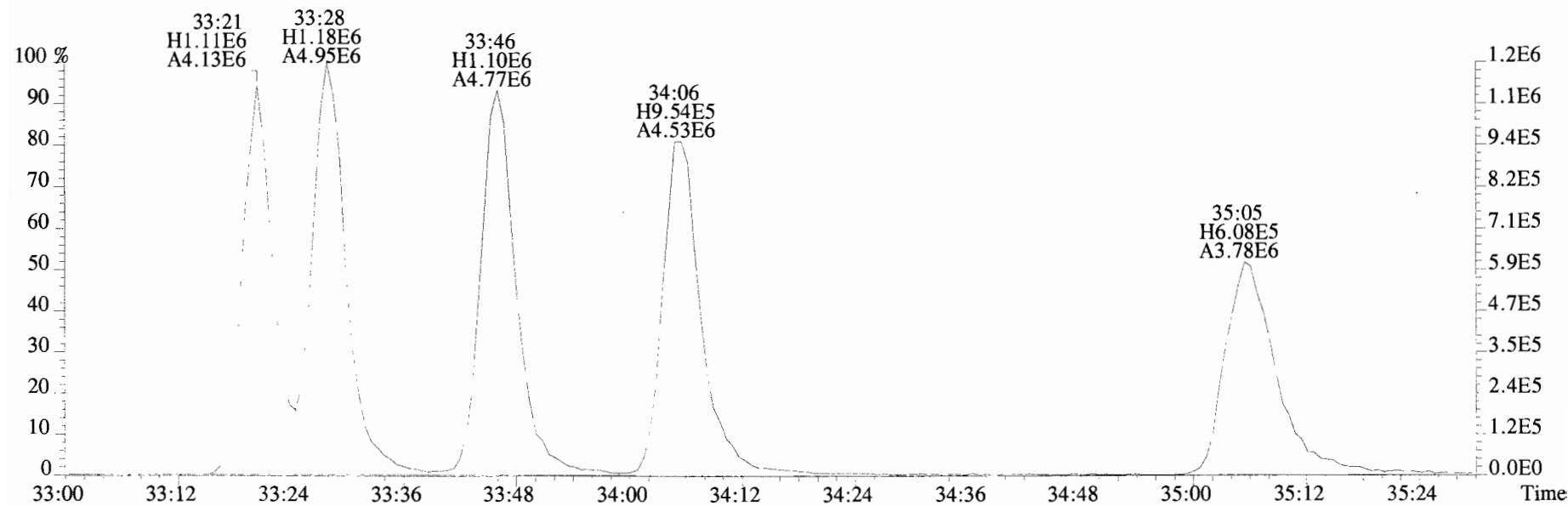
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



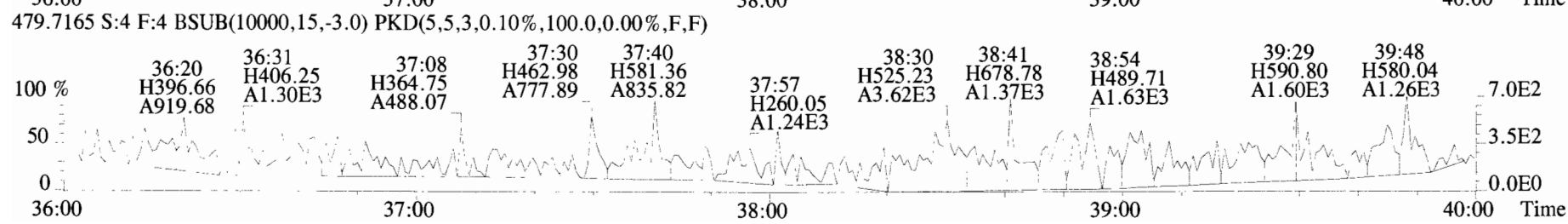
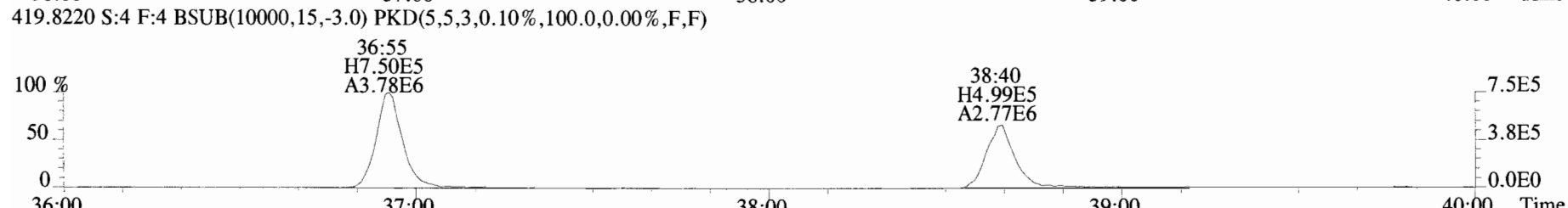
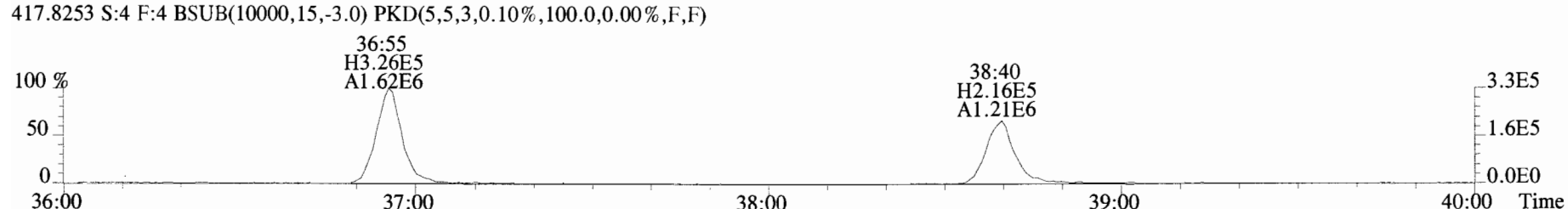
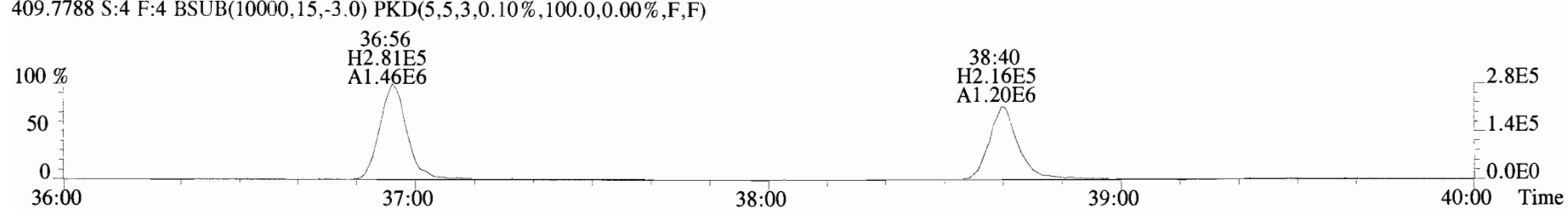
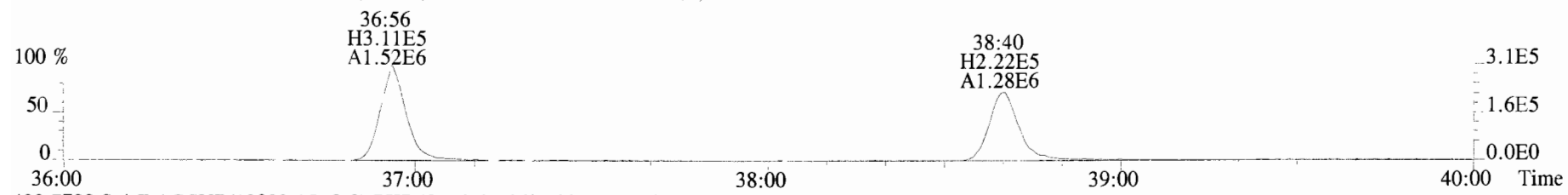
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
 383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



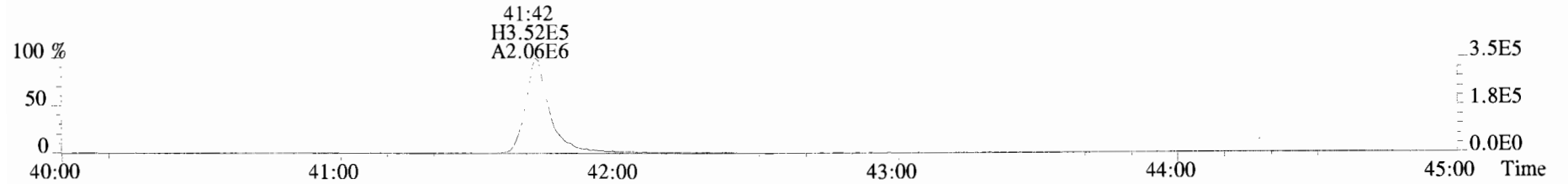
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



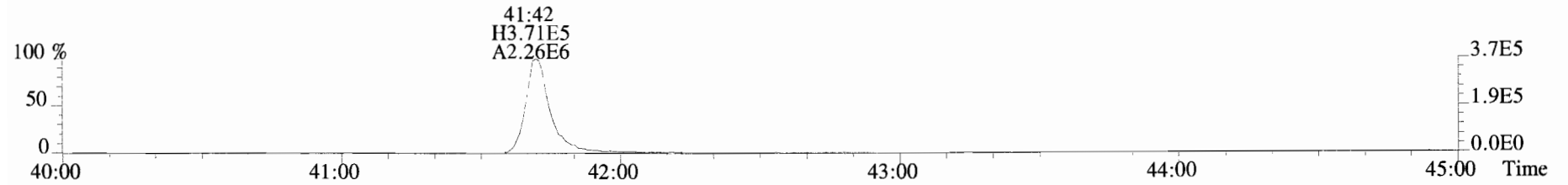
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#4 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
 407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



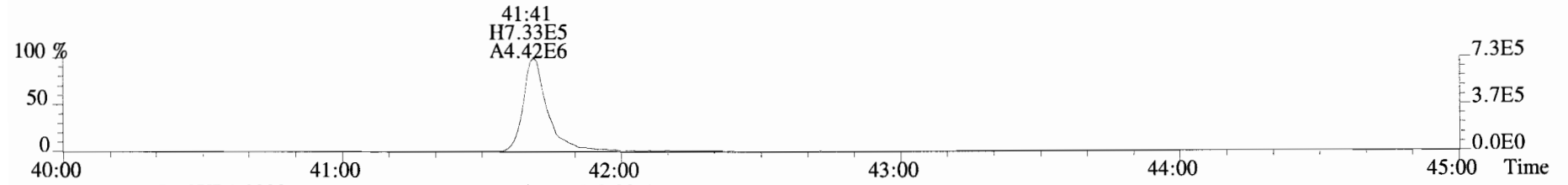
File:191009D1 #1-432 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#4 File Text:Vista Analytical\_Laboratory\_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD\_DB5  
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



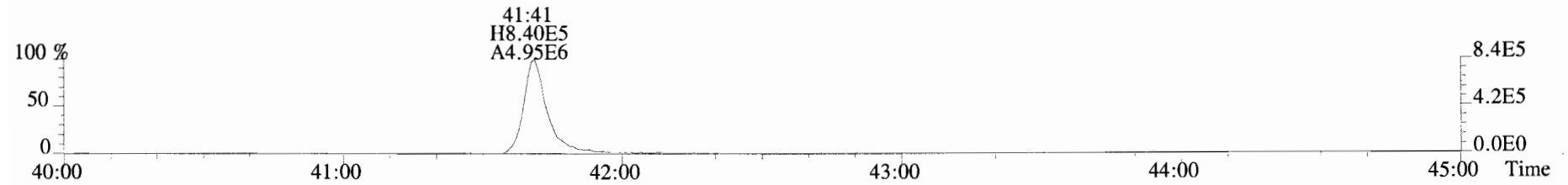
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



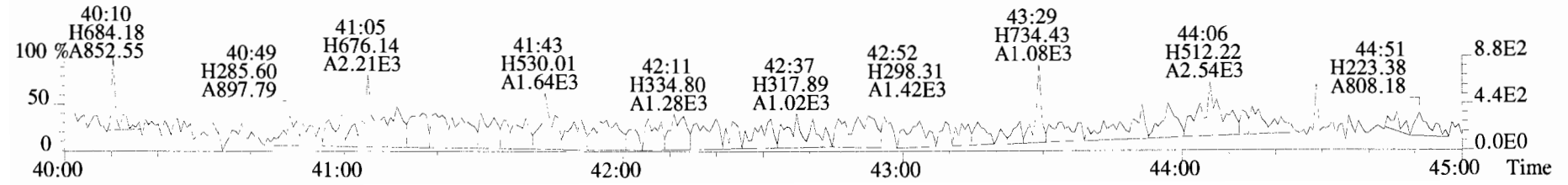
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



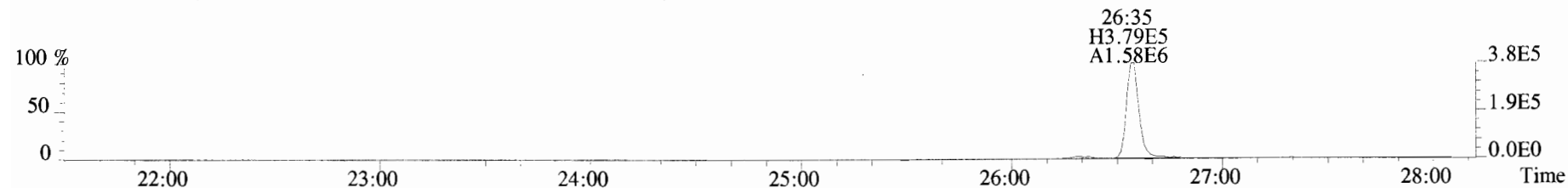
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



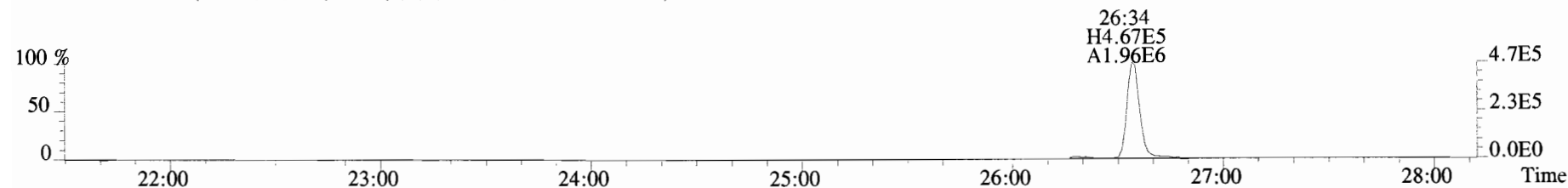
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



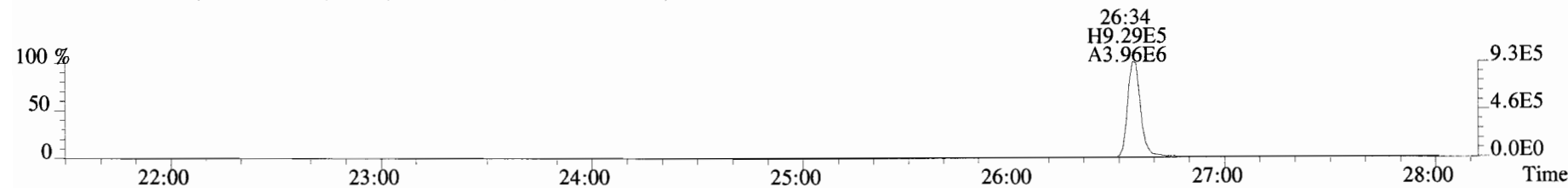
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



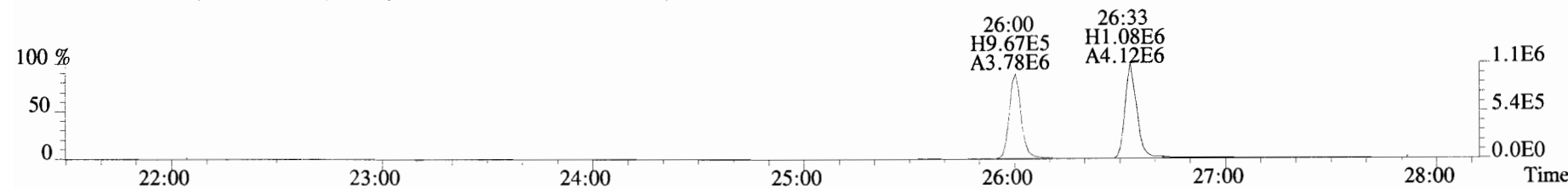
321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



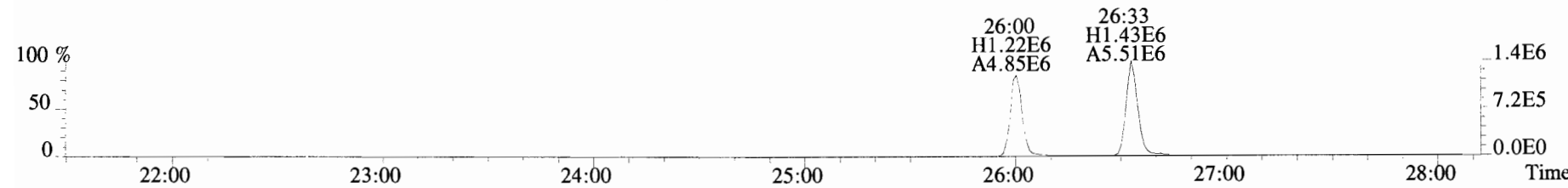
327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



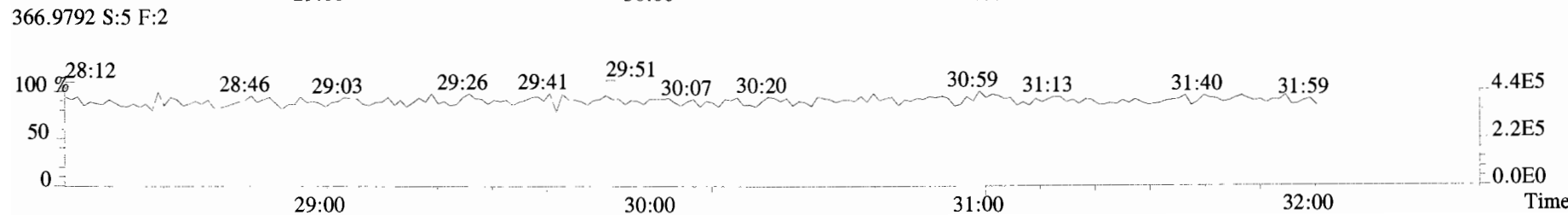
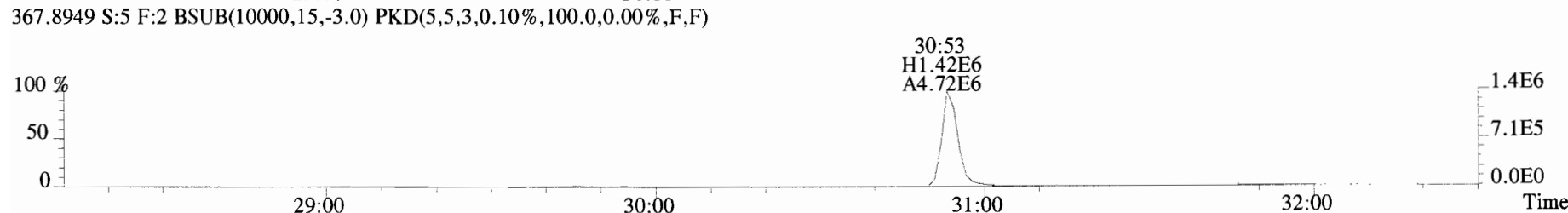
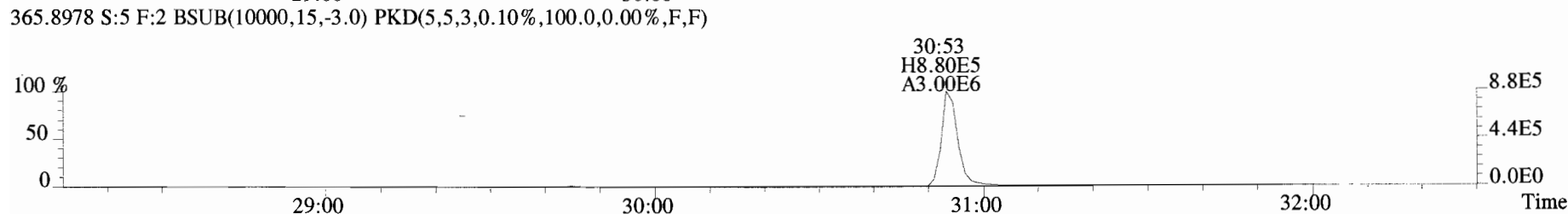
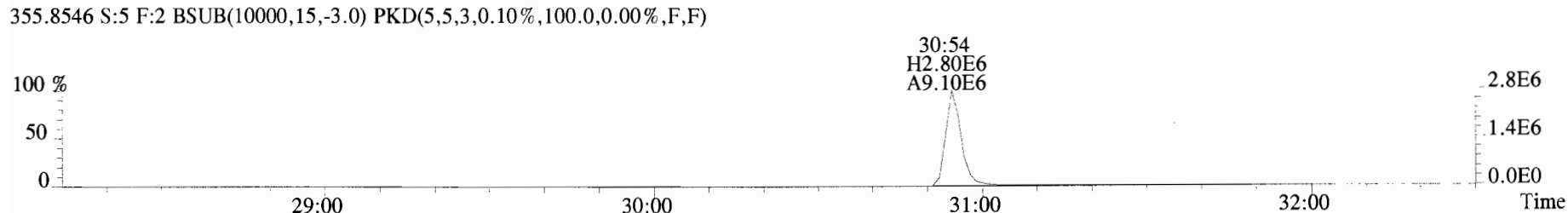
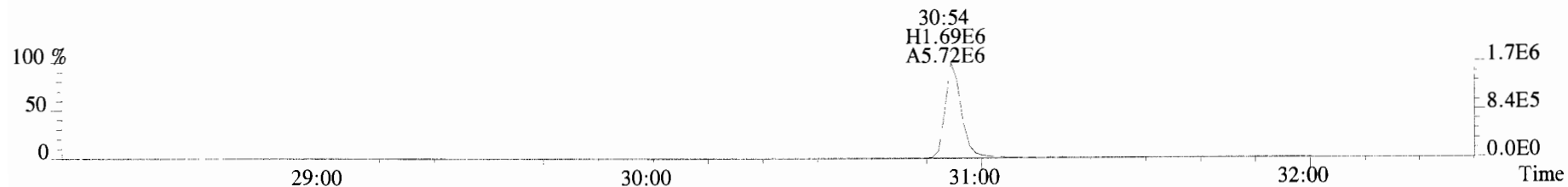
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



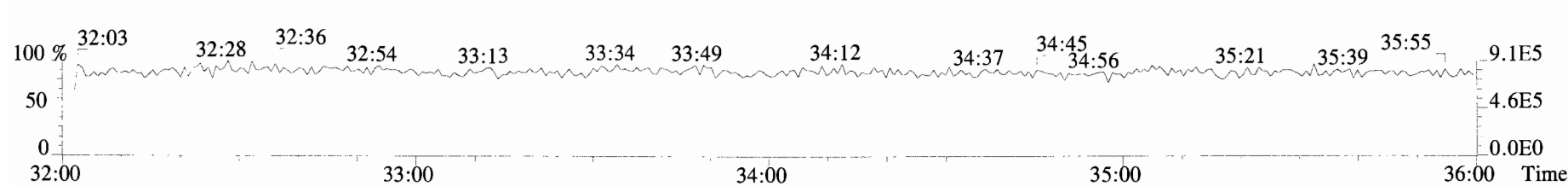
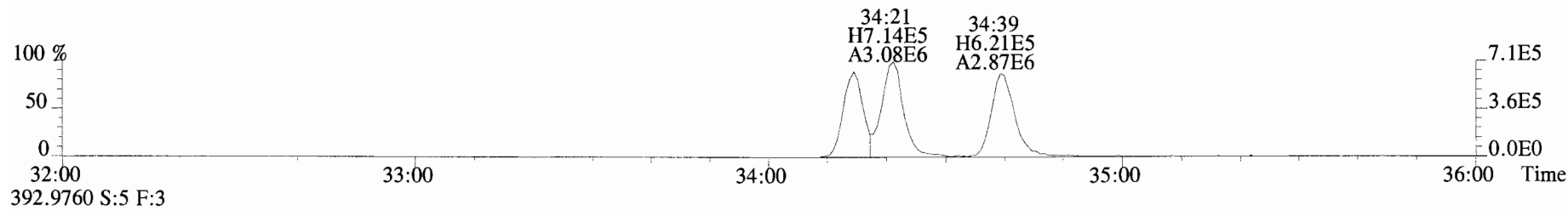
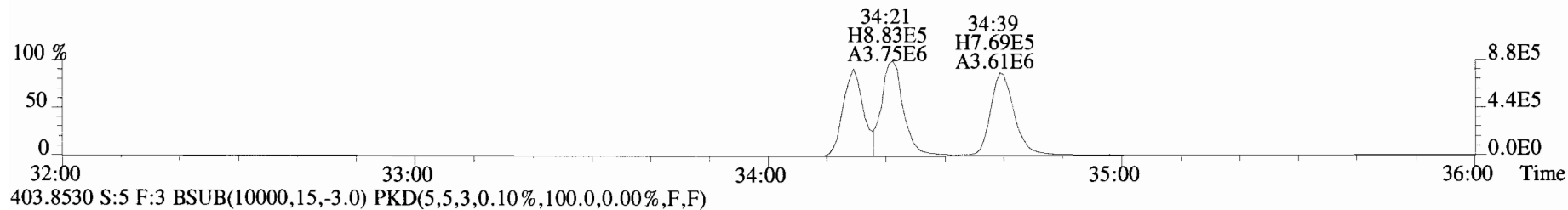
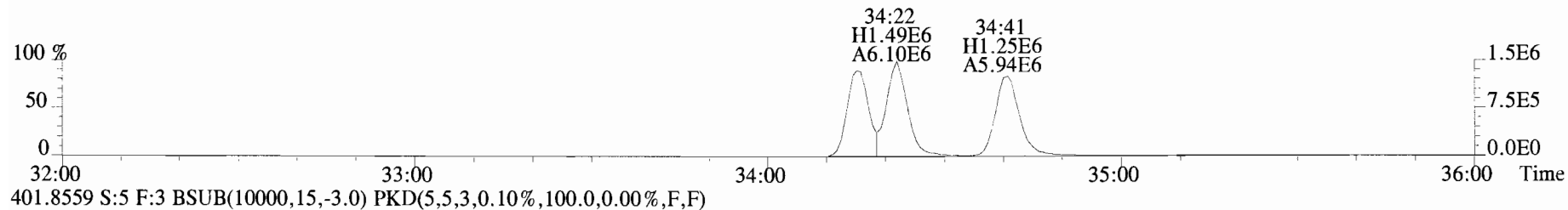
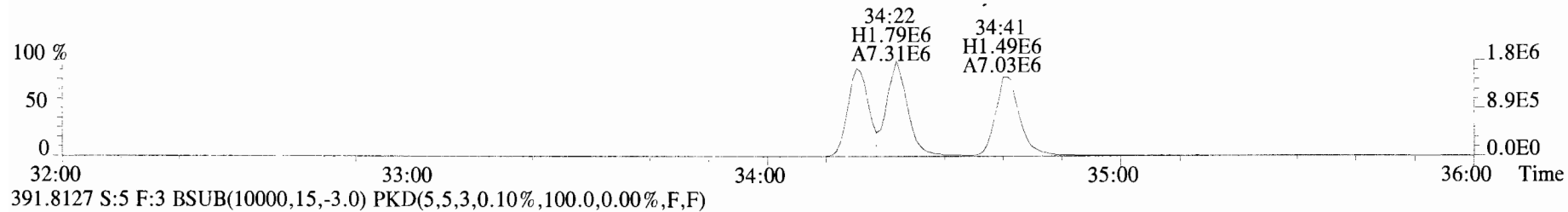
333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-210 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

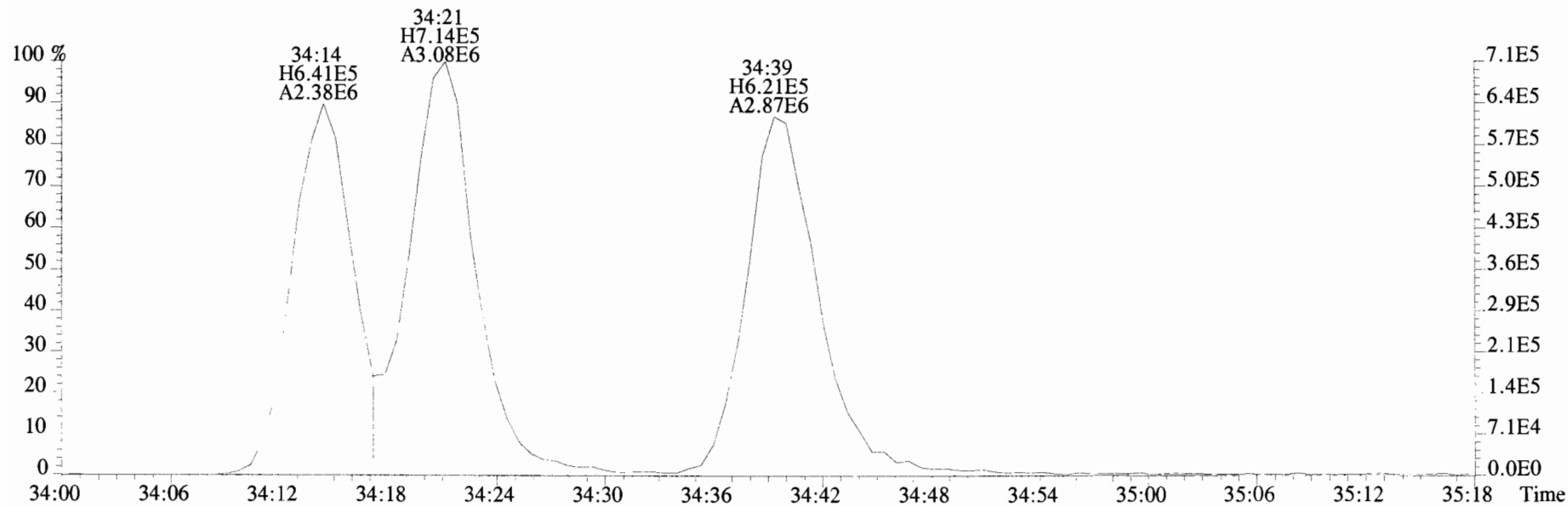
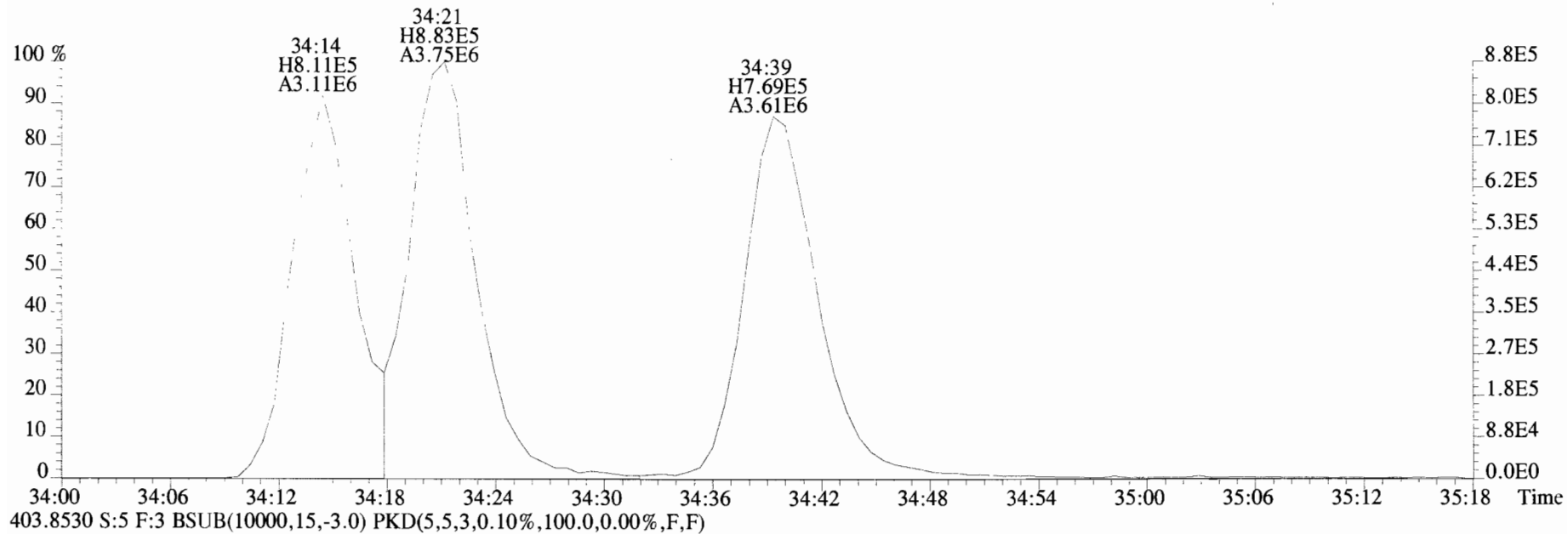


File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

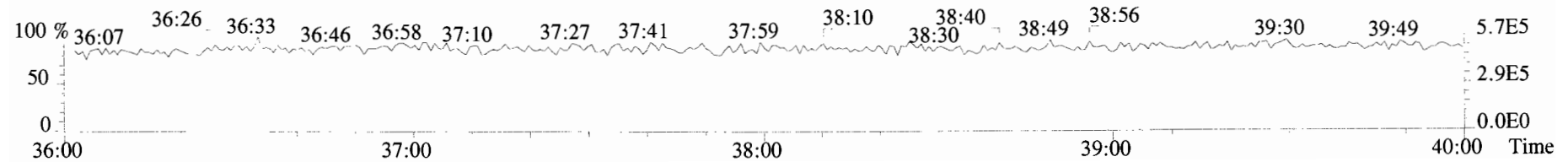
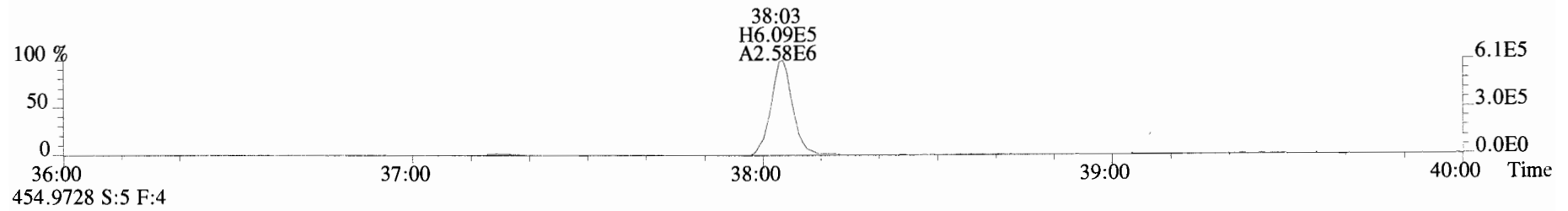
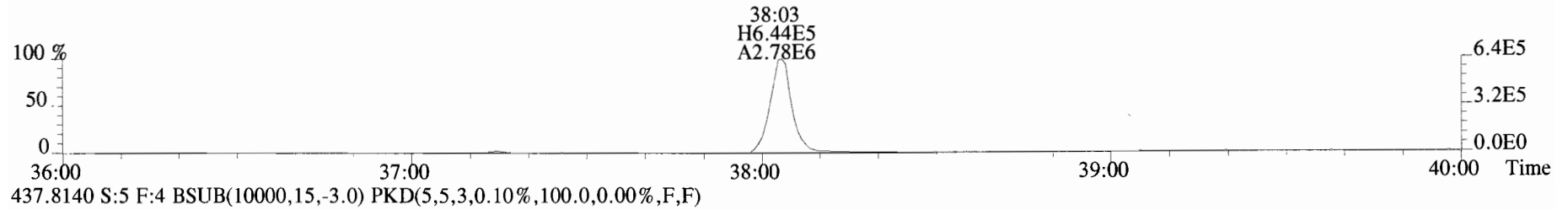
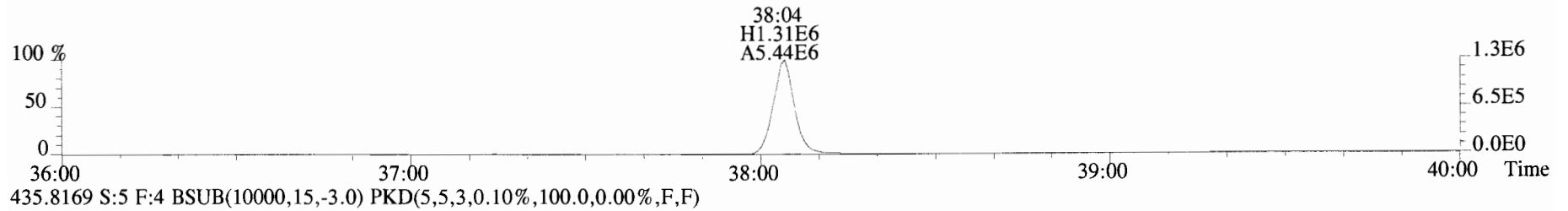
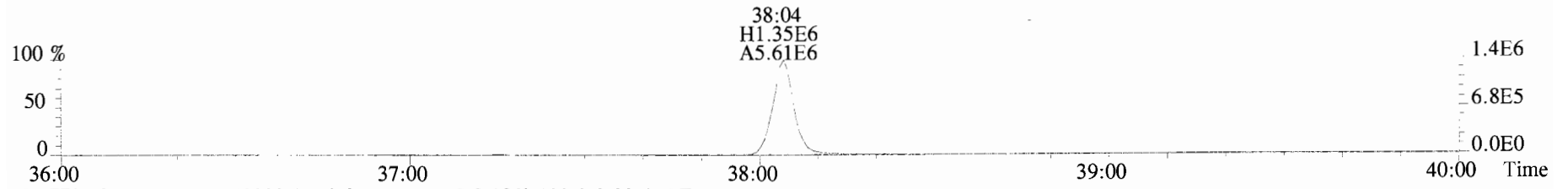




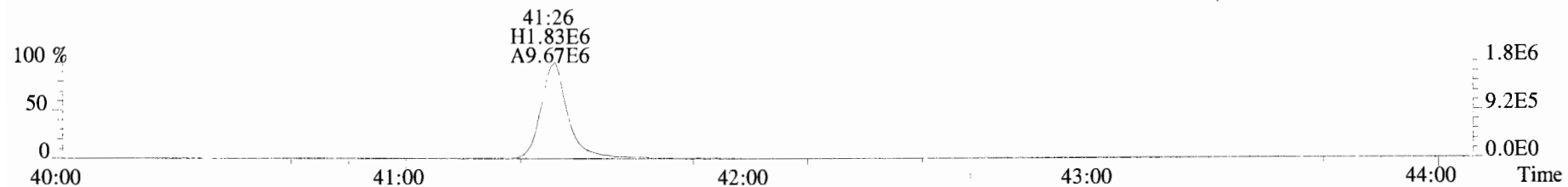
File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



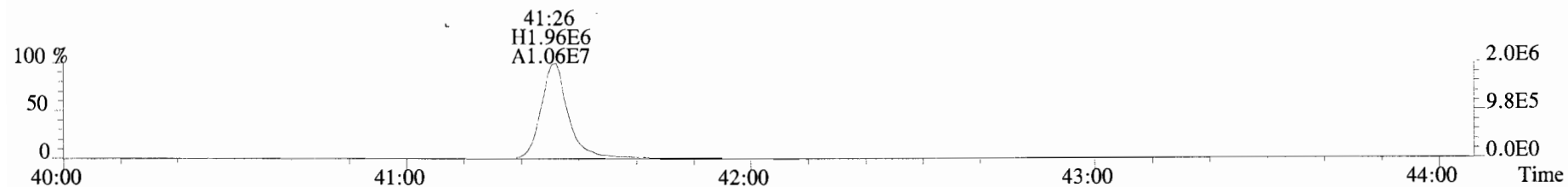
File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text: Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



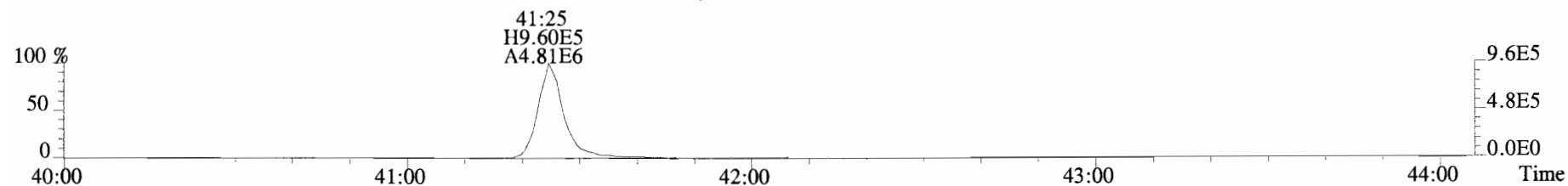
File:191009D1 #1-431 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



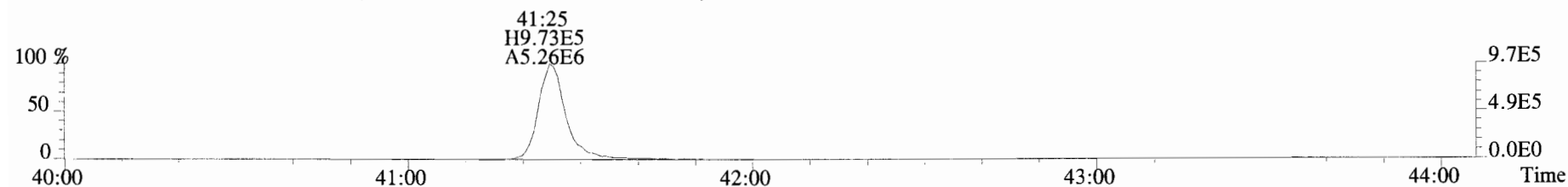
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



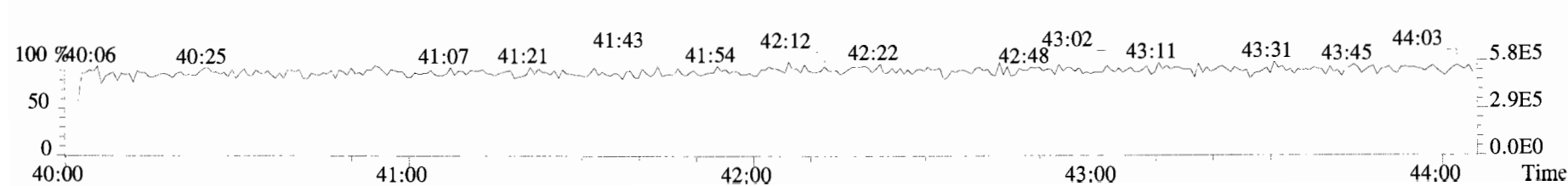
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



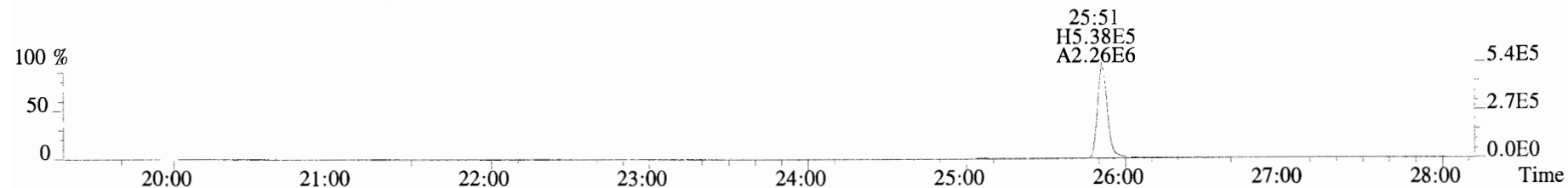
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



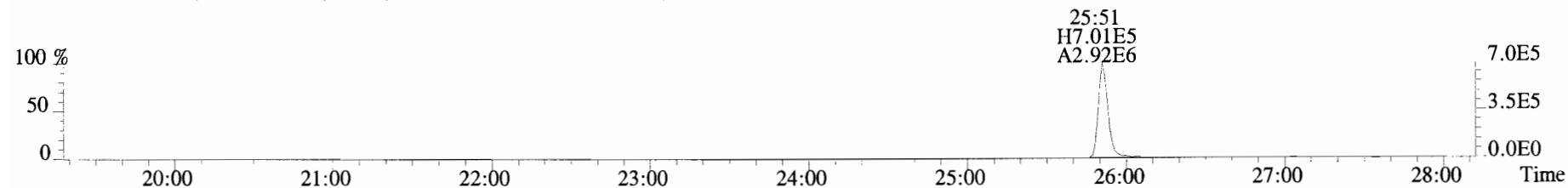
454.9728 S:5 F:5



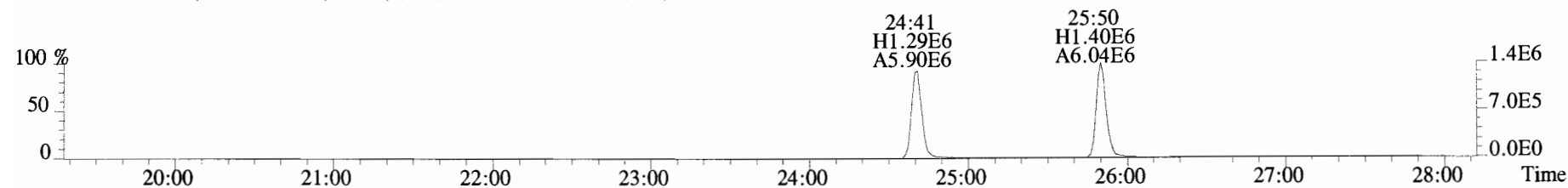
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



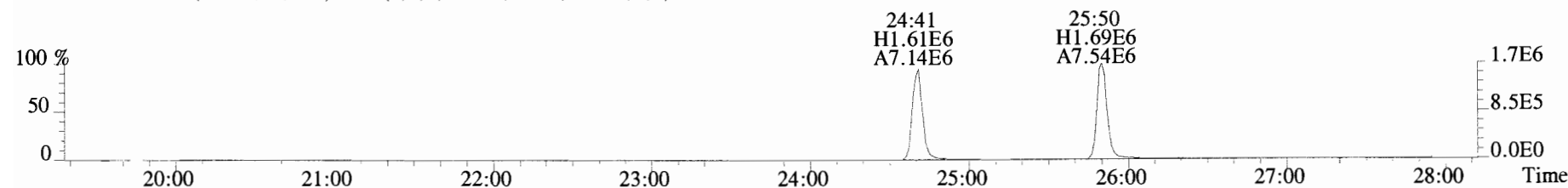
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



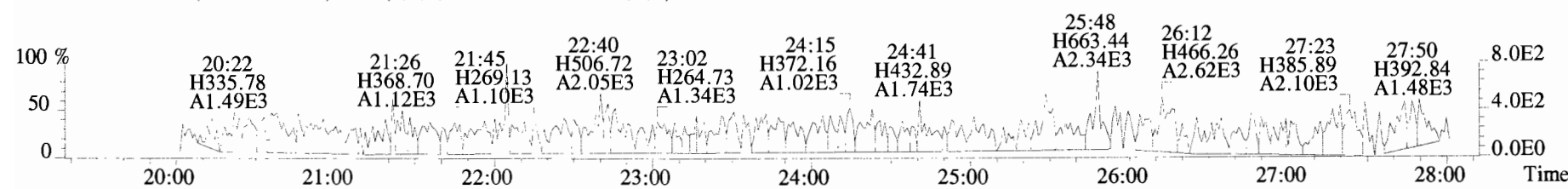
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



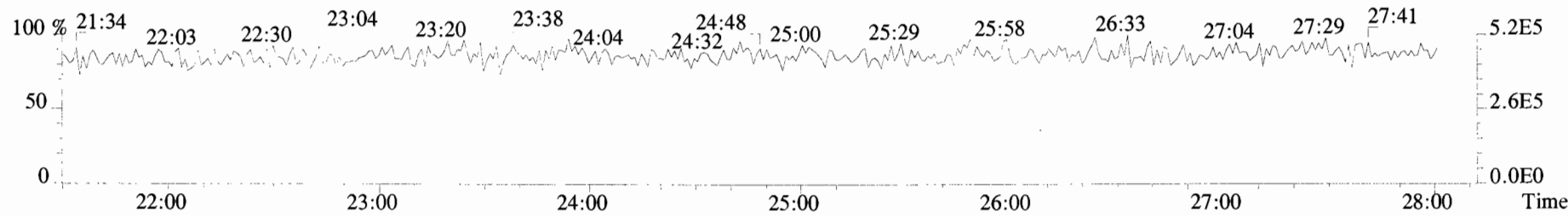
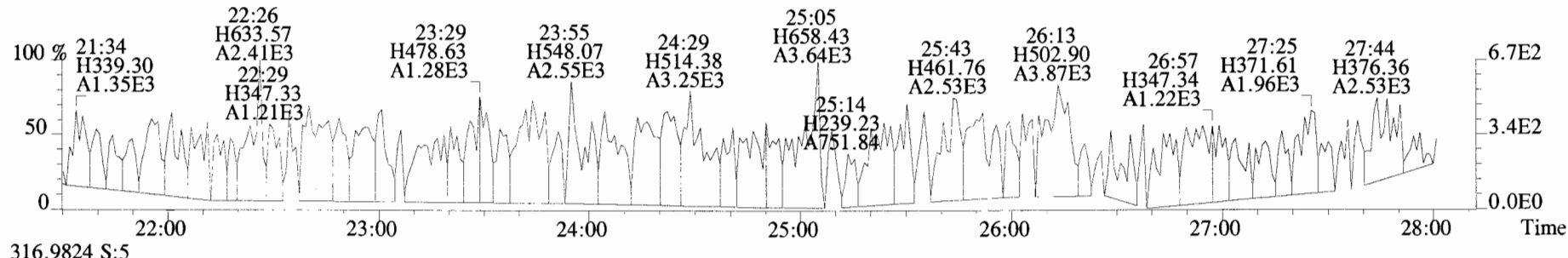
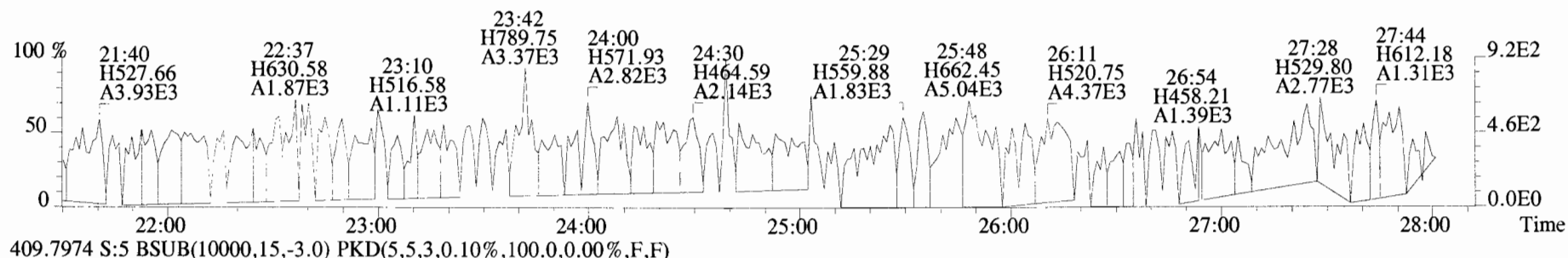
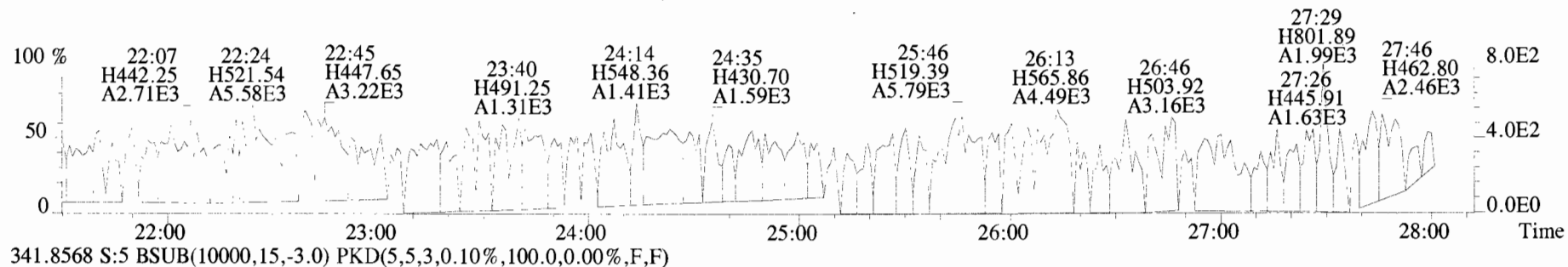
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



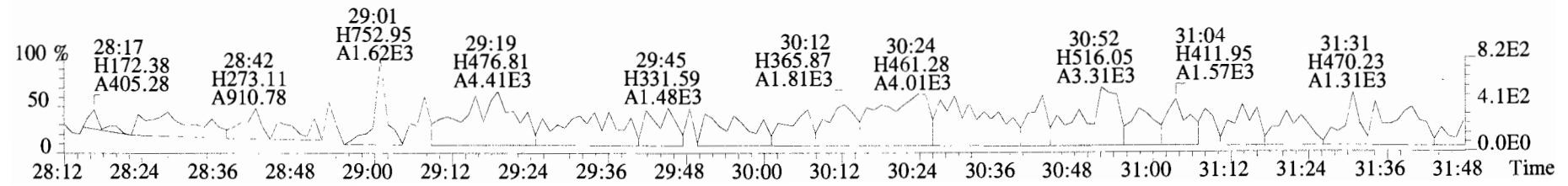
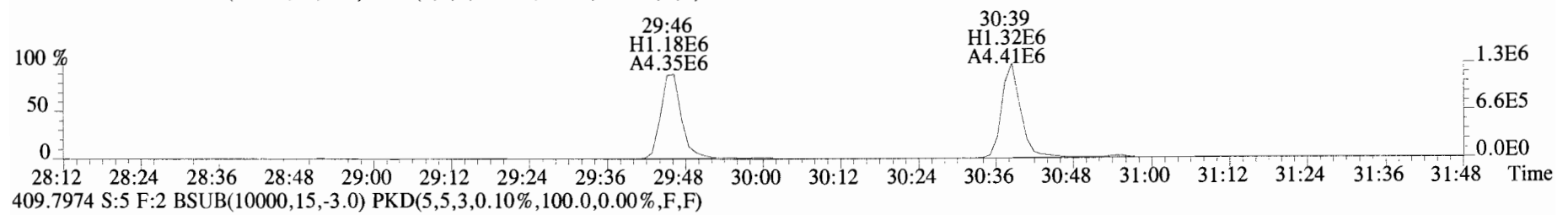
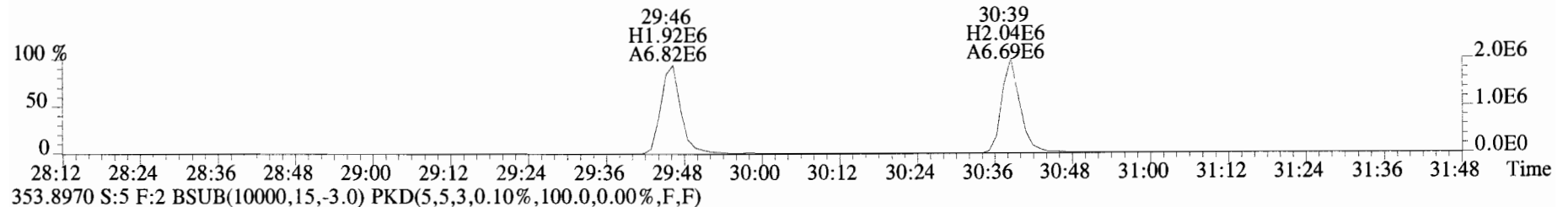
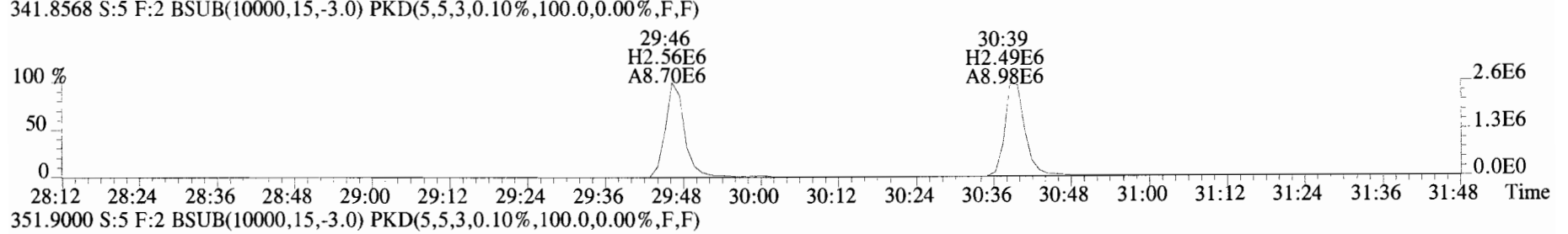
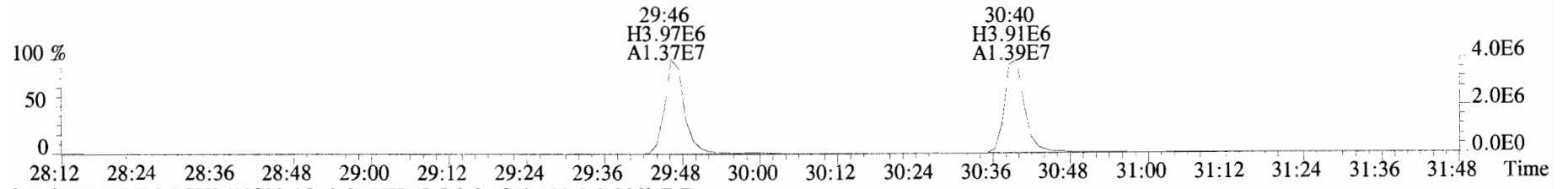
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



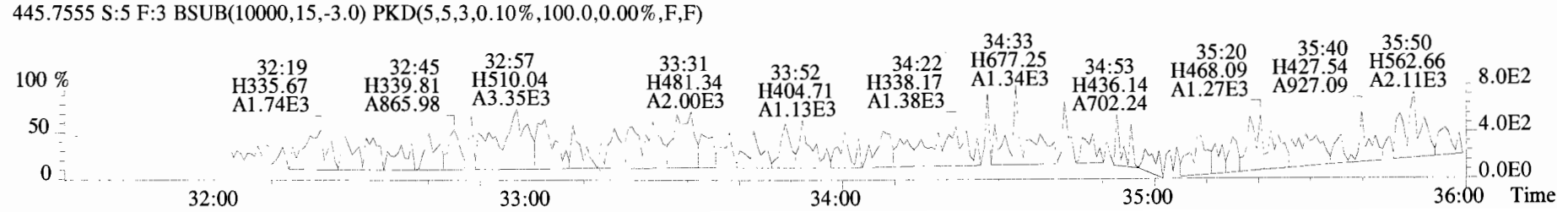
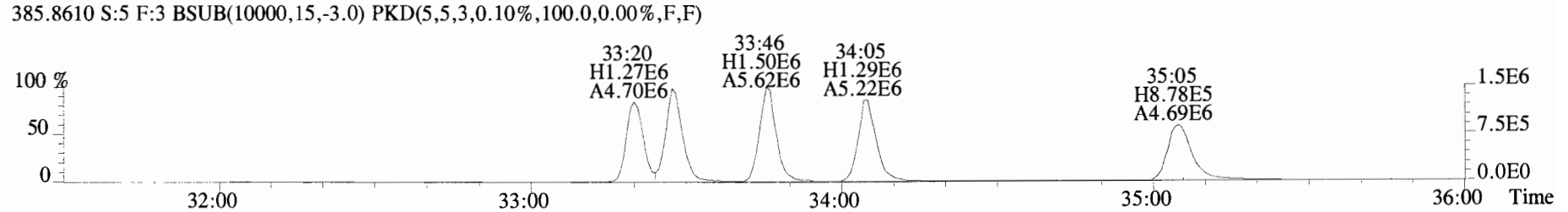
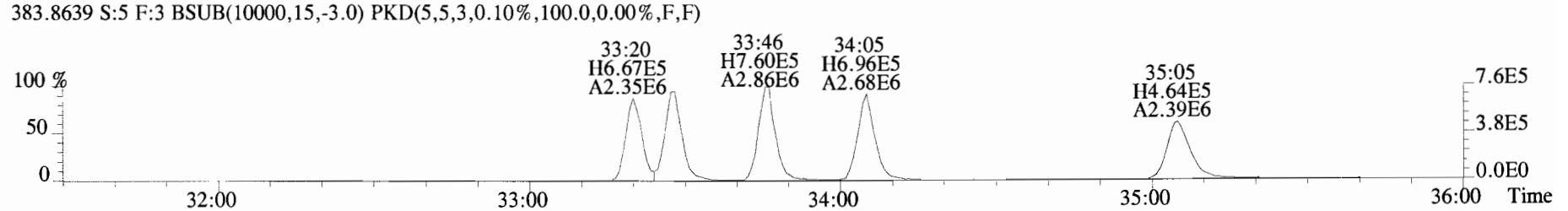
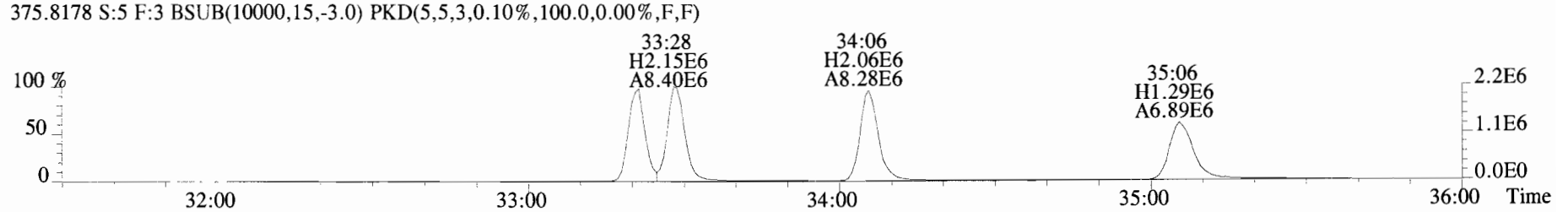
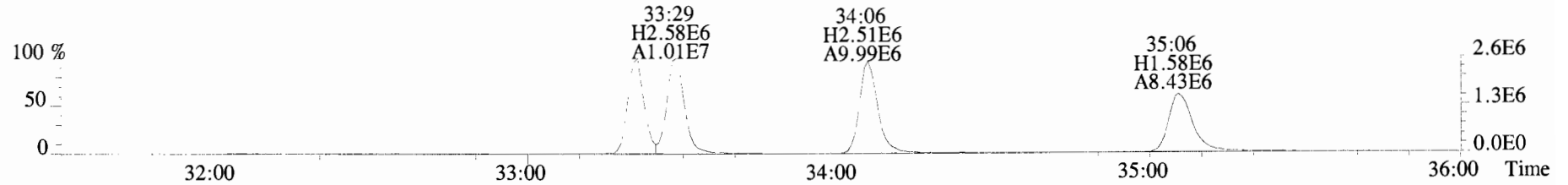
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



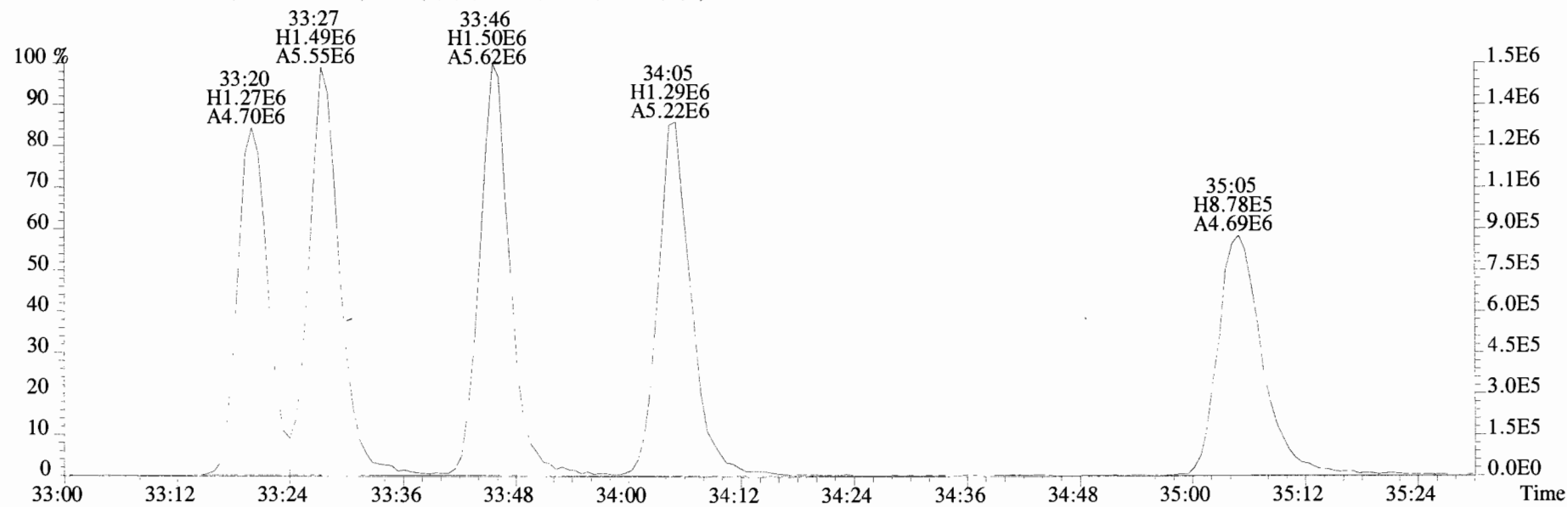
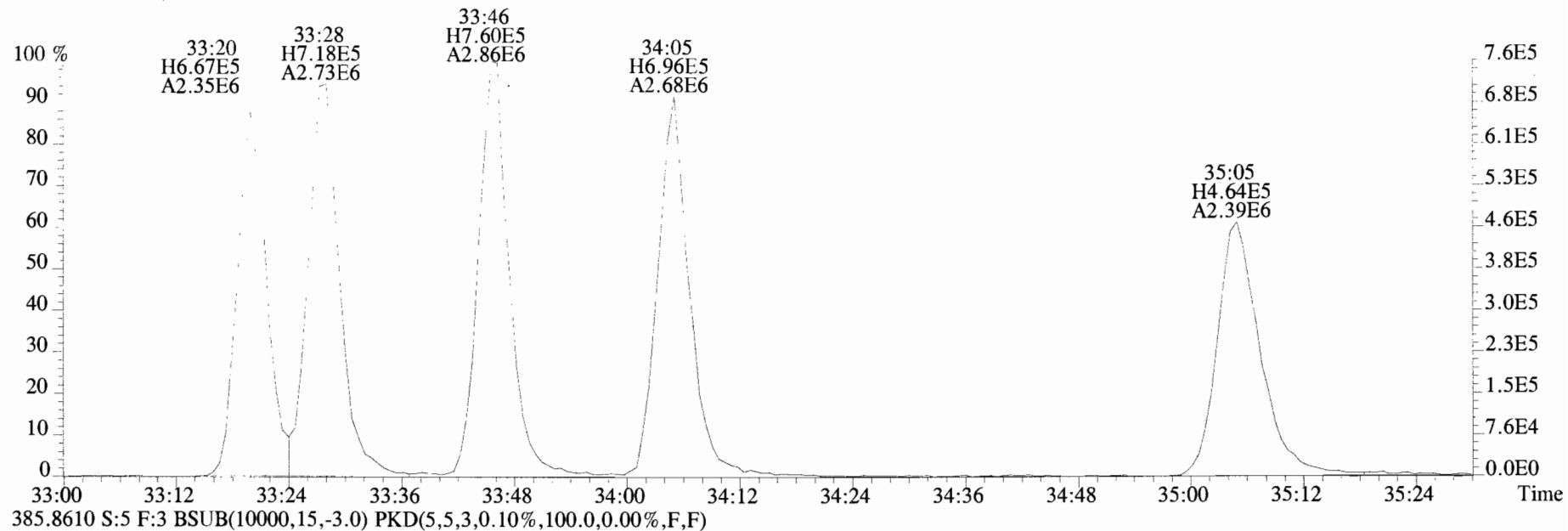
File:191009D1 #1-210 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#5 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

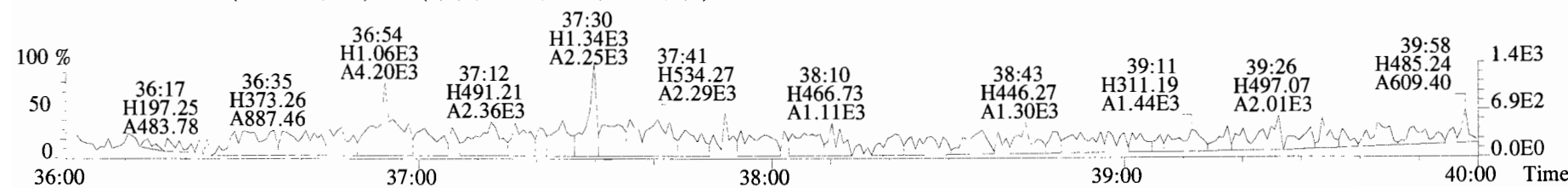
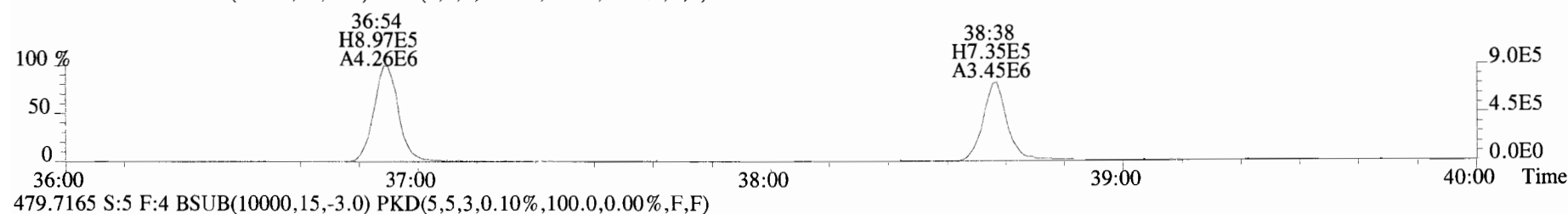
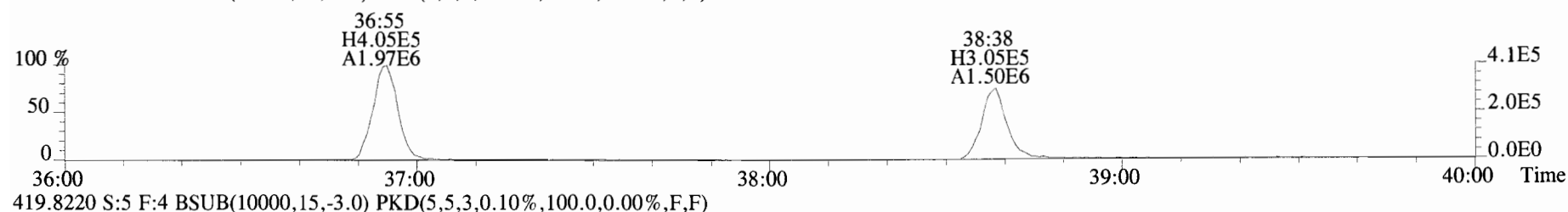
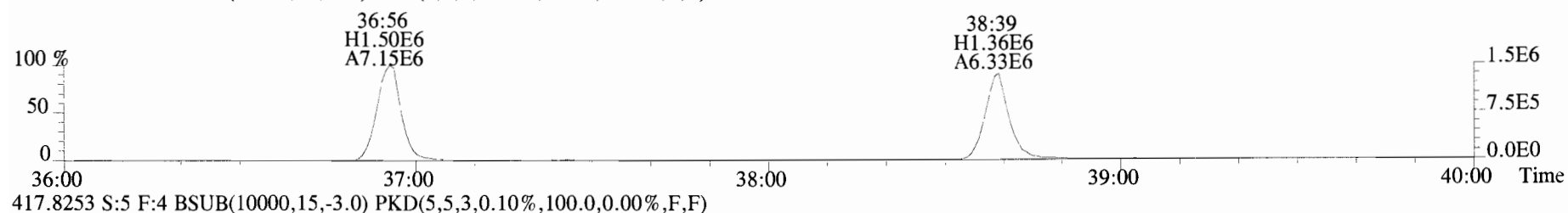
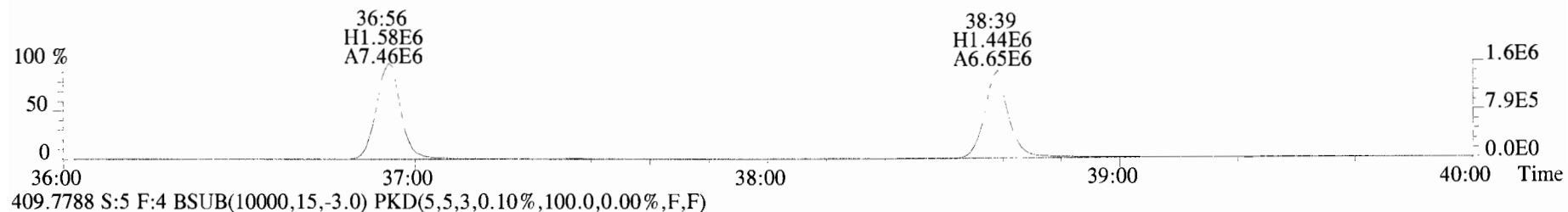


File: 191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text: Vista Analytical Laboratory VG7 Text: ST191009D1-5 1613 CS4 19C2205 Exp: OCDD\_DB5  
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

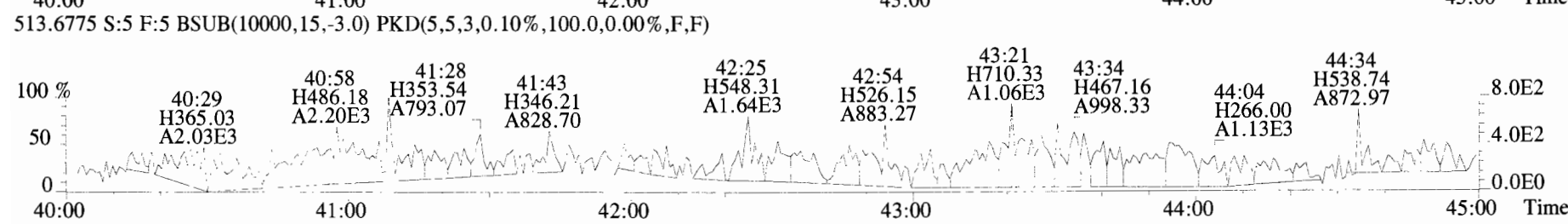
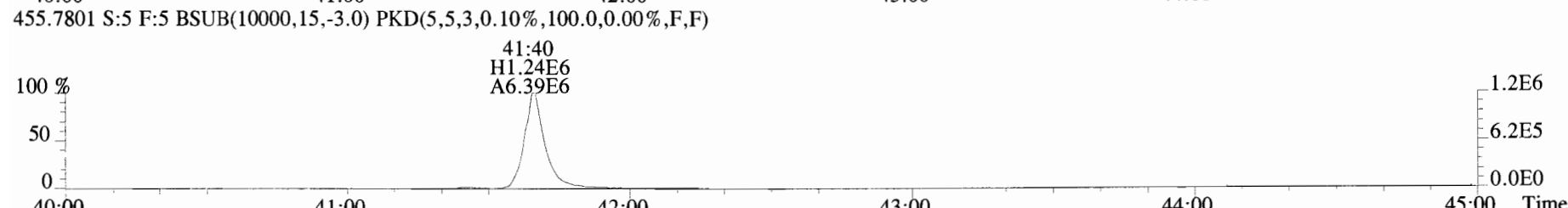
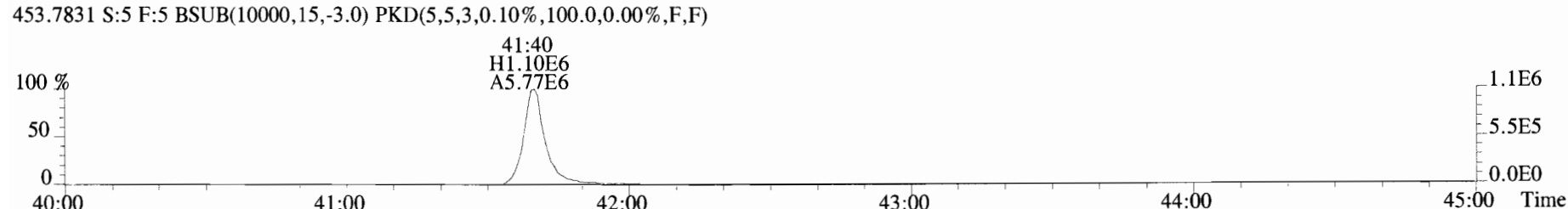
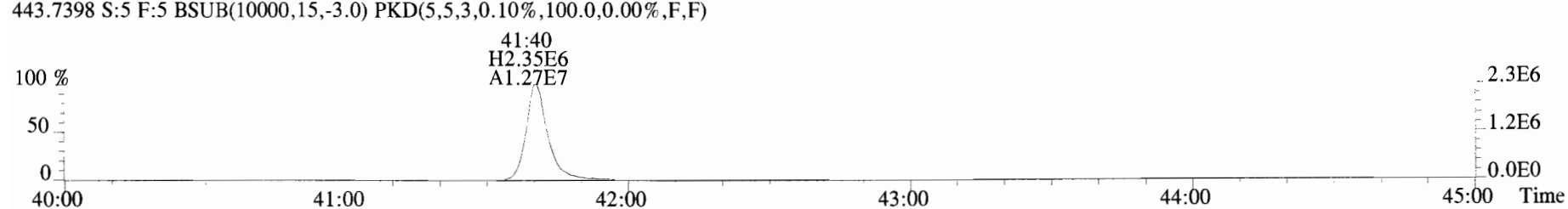
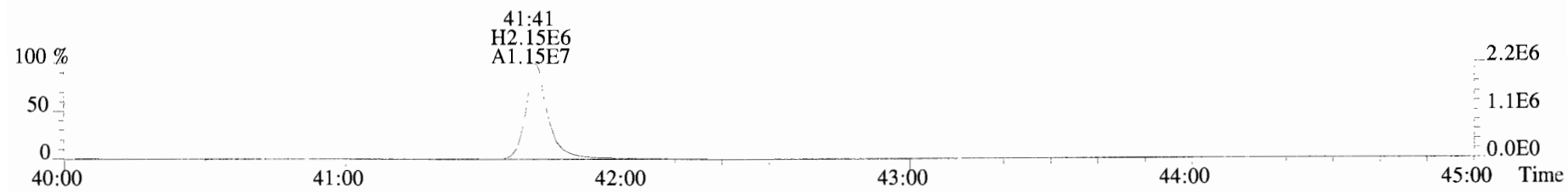




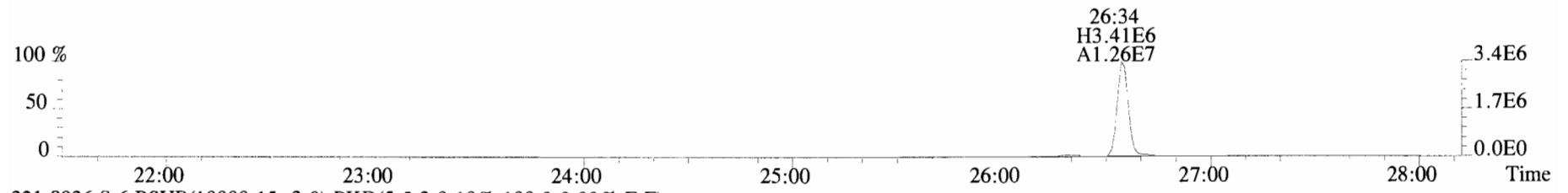
File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text: Vista Analytical Laboratory\_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



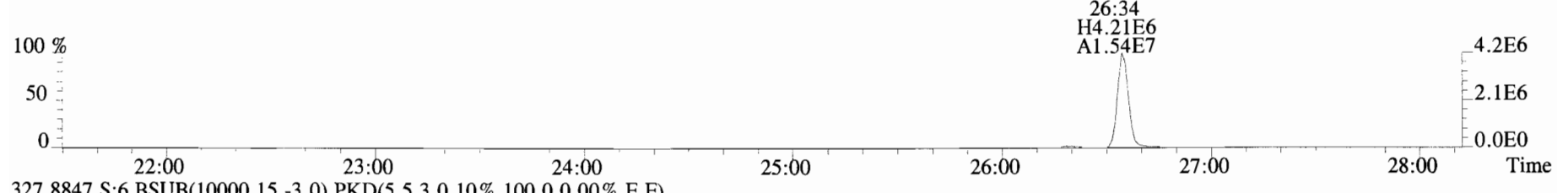
File:191009D1 #1-431 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD\_DB5  
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



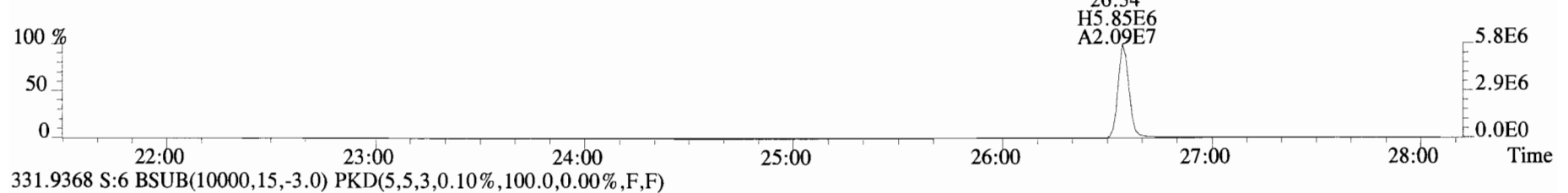
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



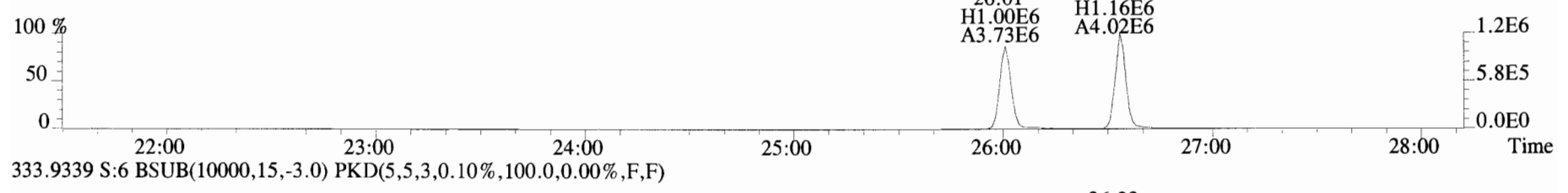
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



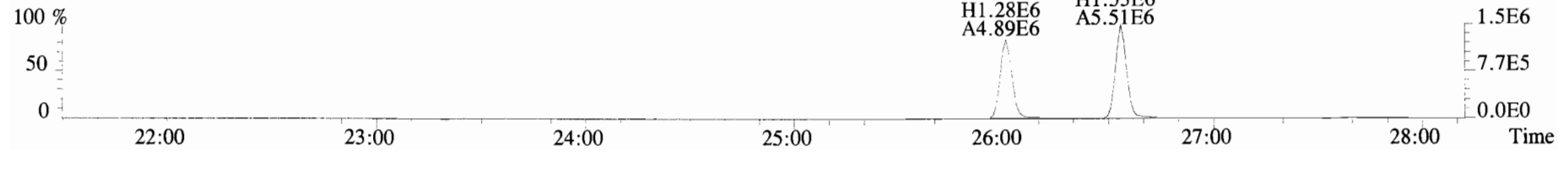
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



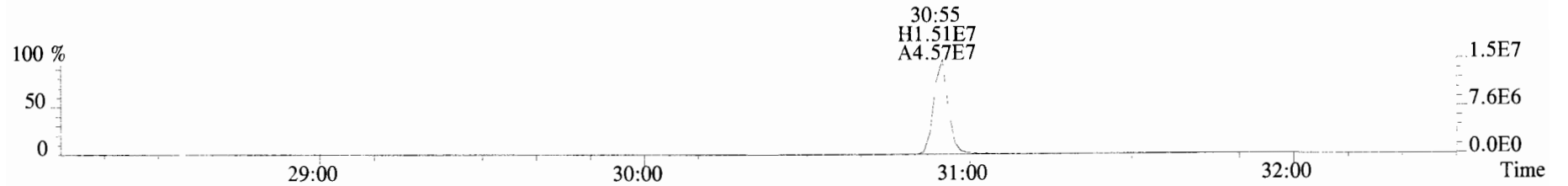
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



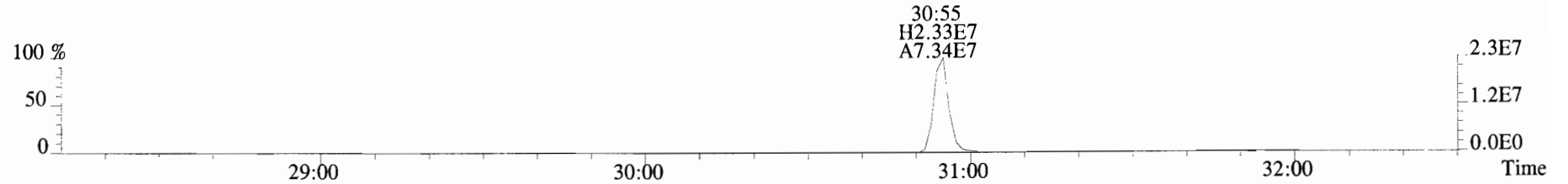
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



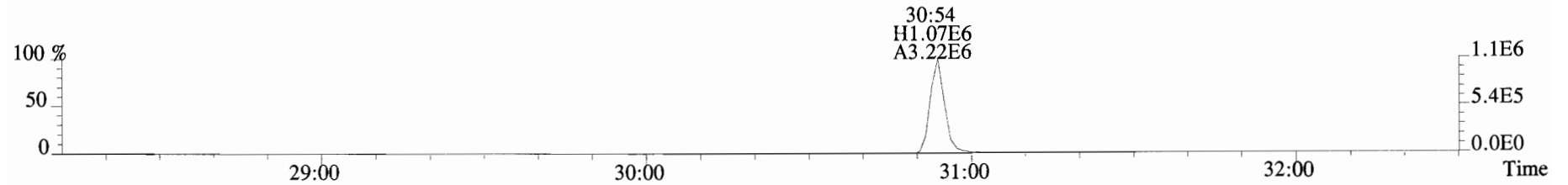
File:191009D1 #1-211 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



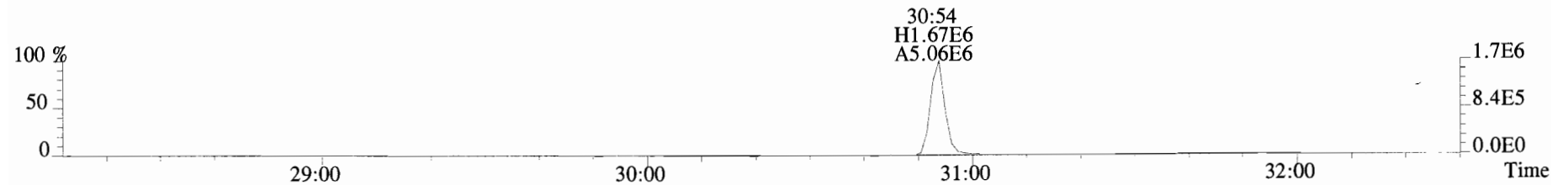
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



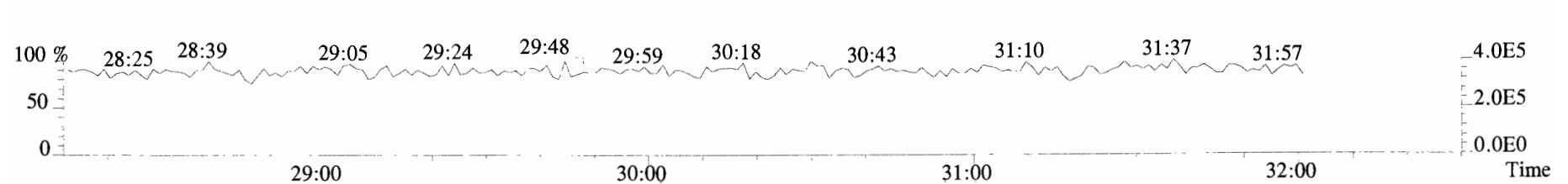
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



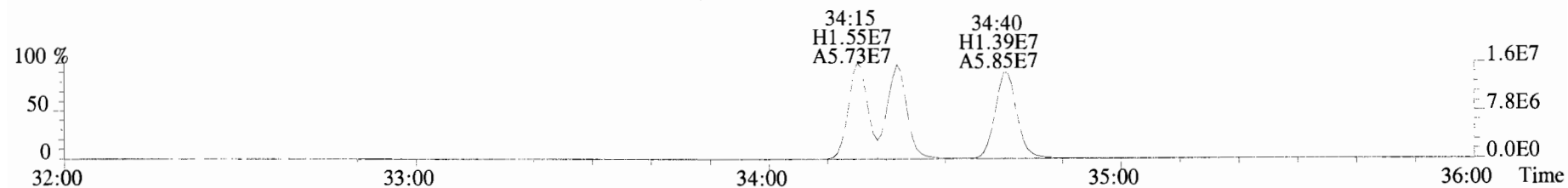
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



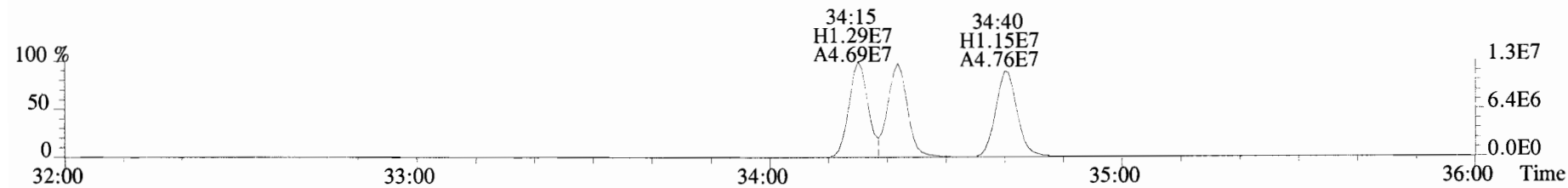
366.9792 S:6 F:2



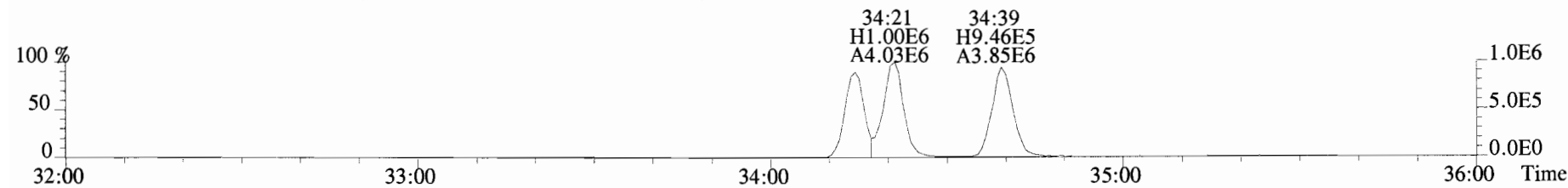
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#6 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



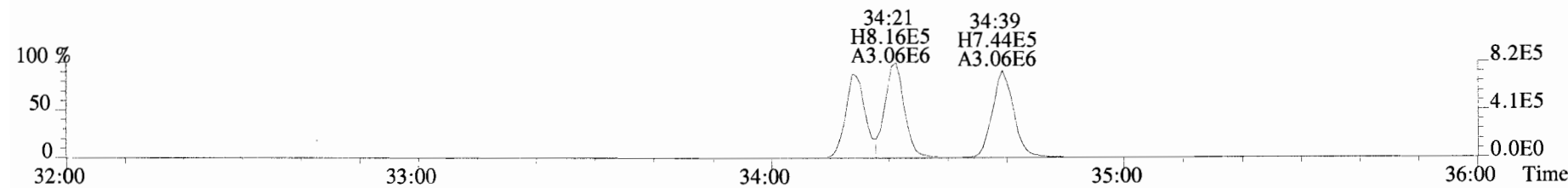
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



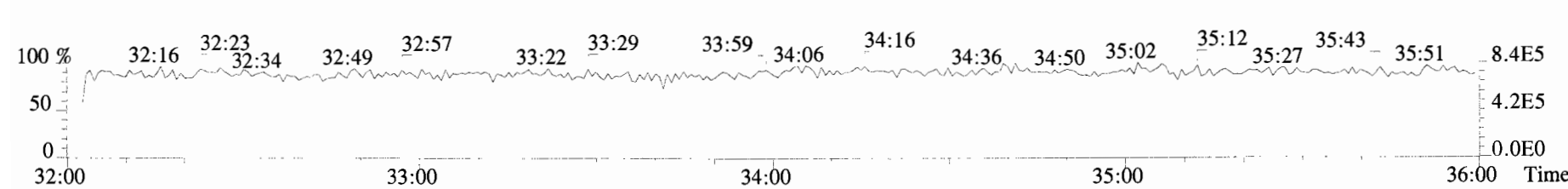
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



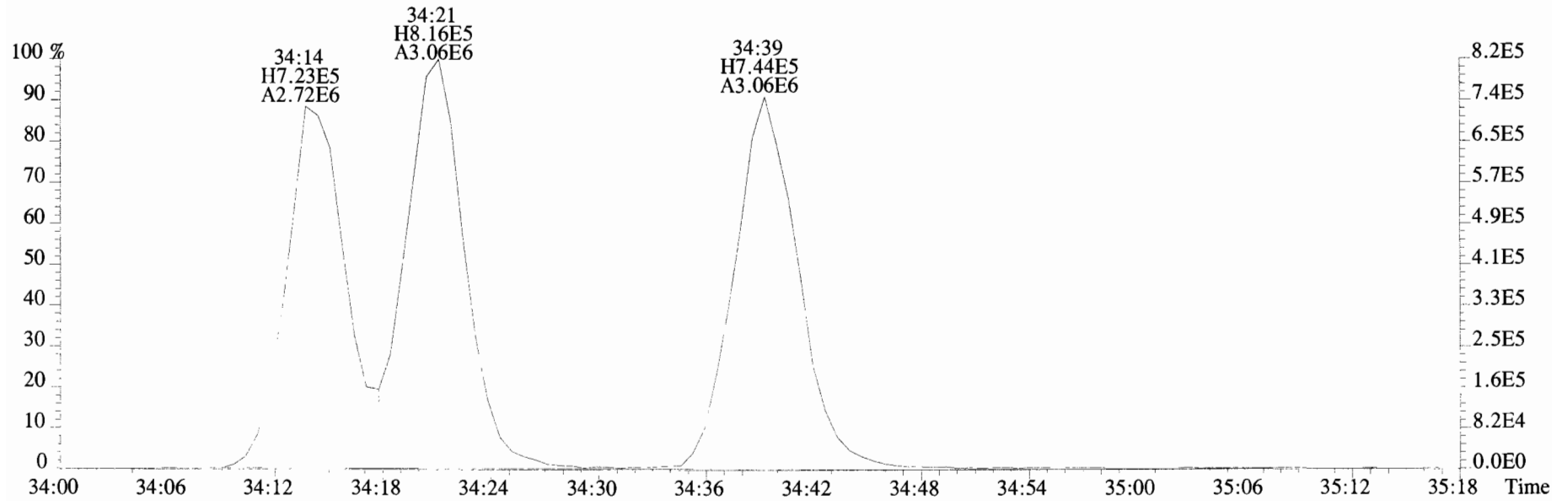
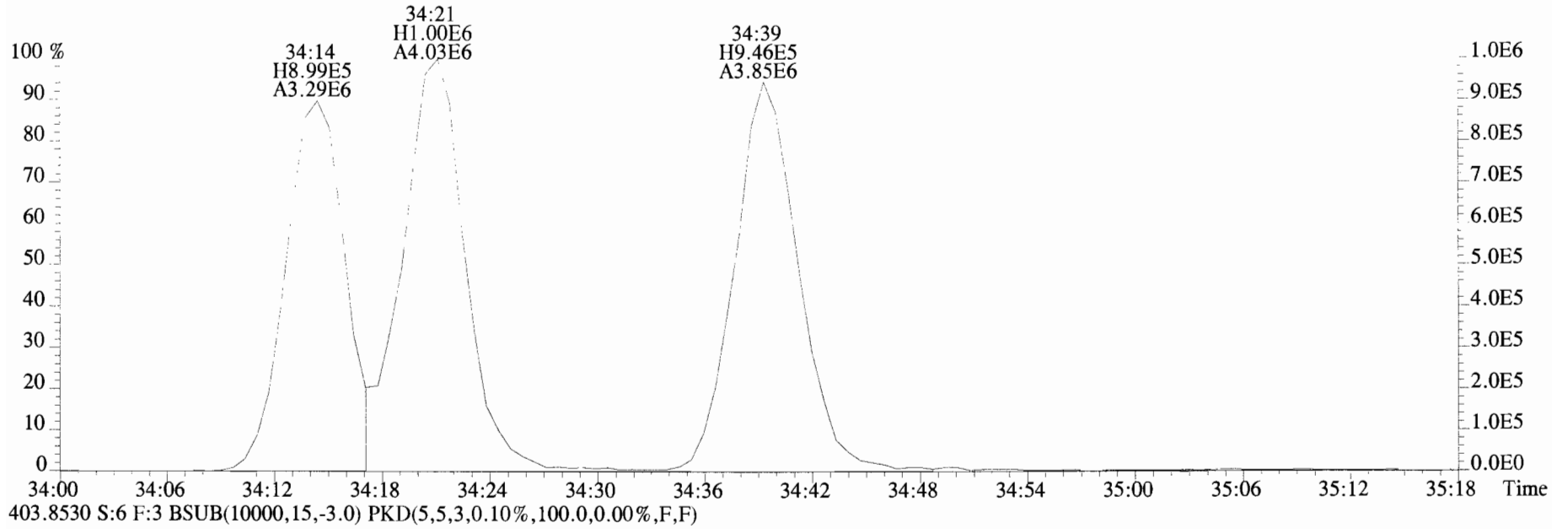
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



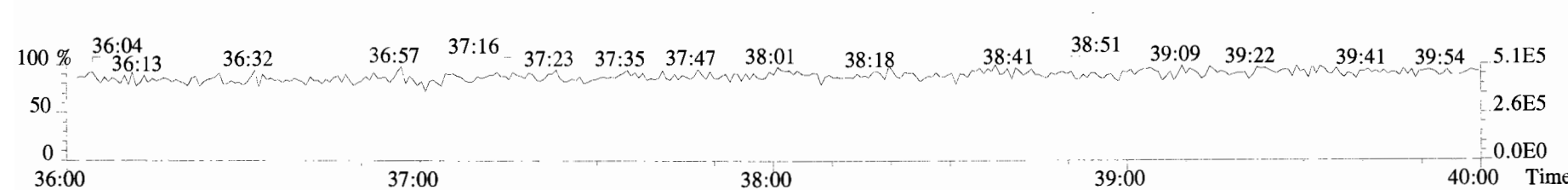
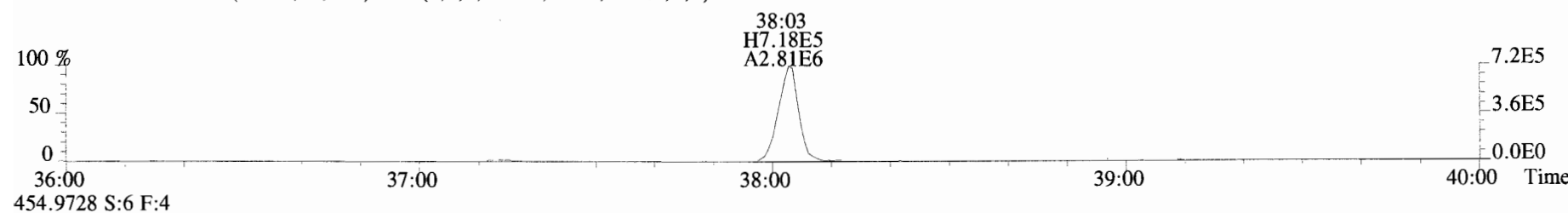
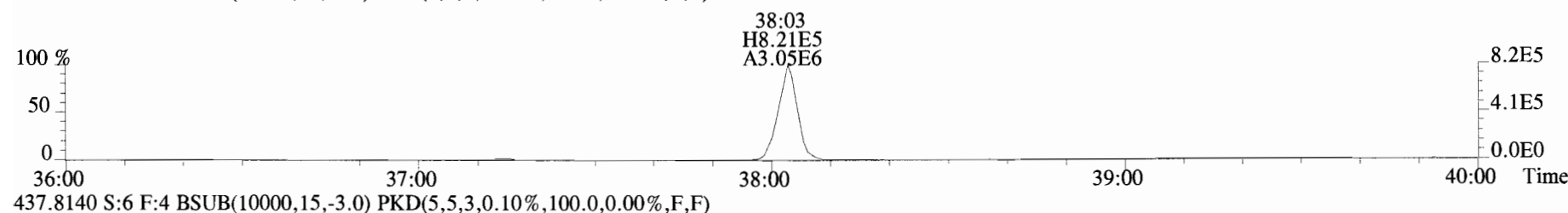
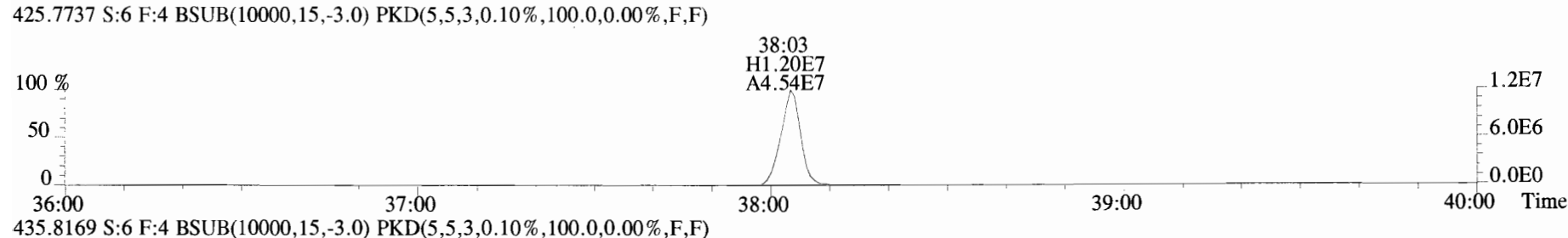
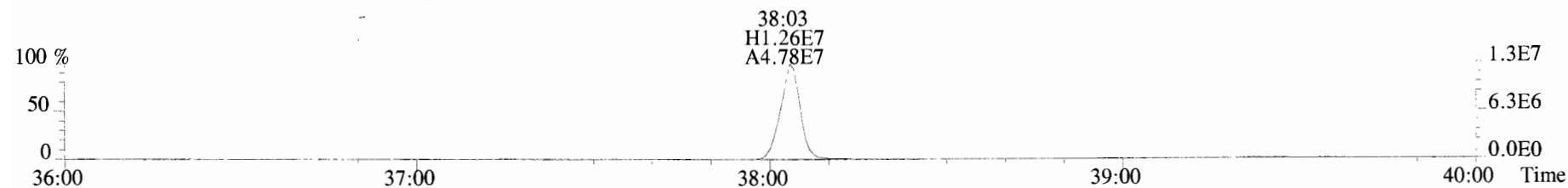
392.9760 S:6 F:3



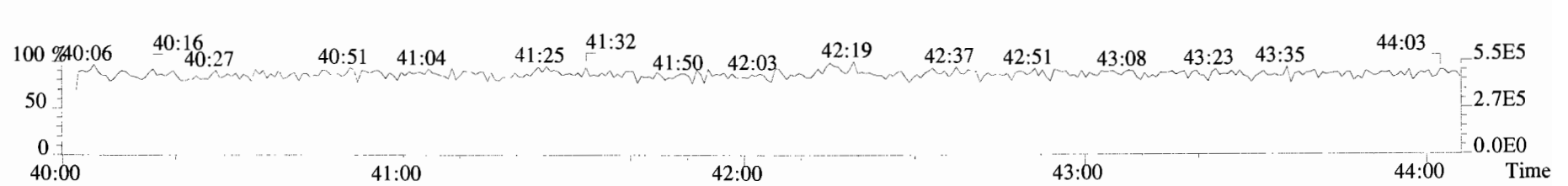
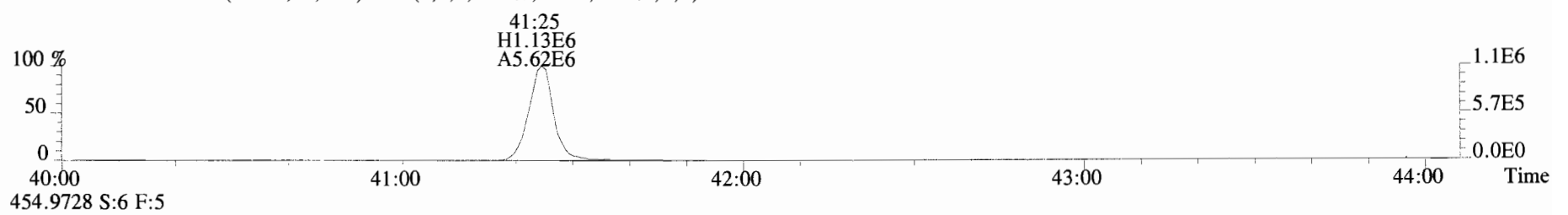
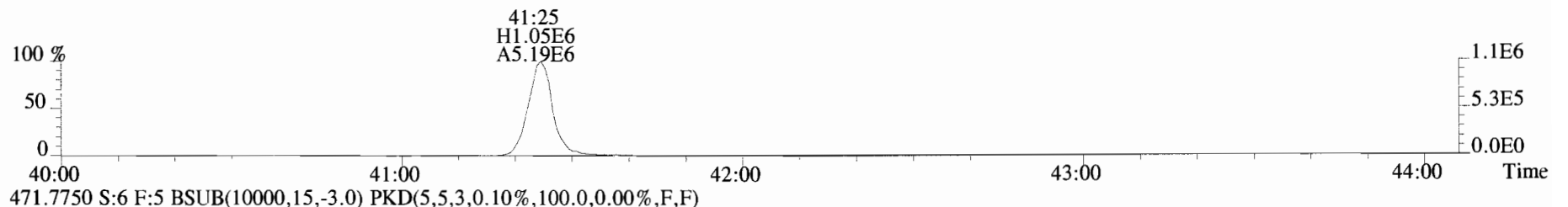
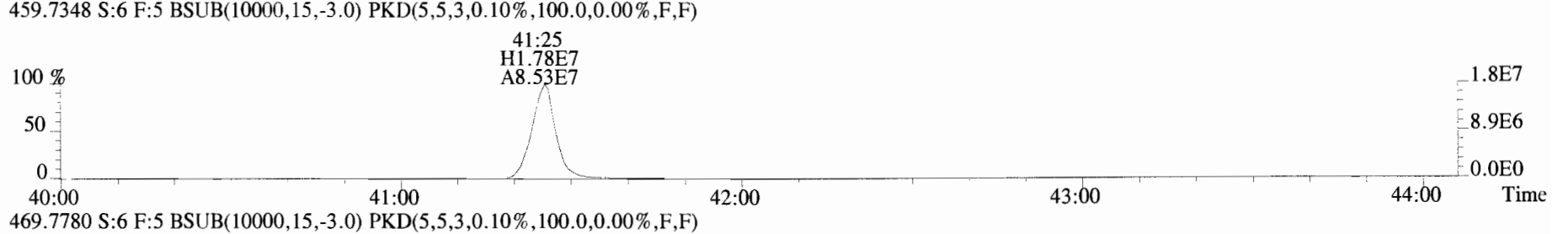
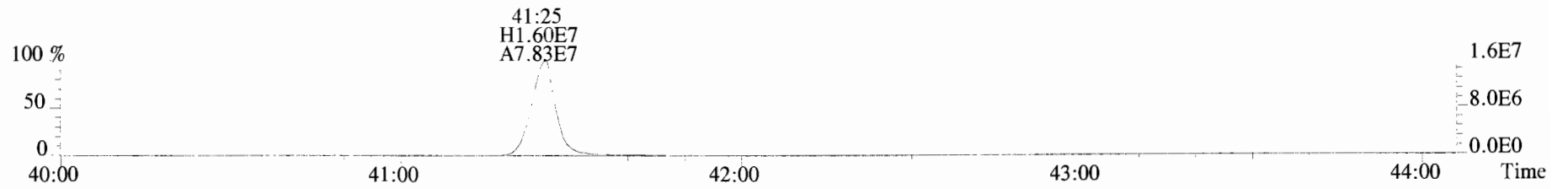
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-356 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

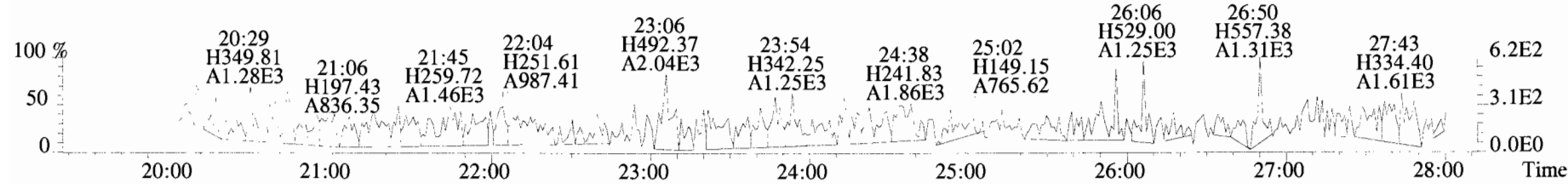
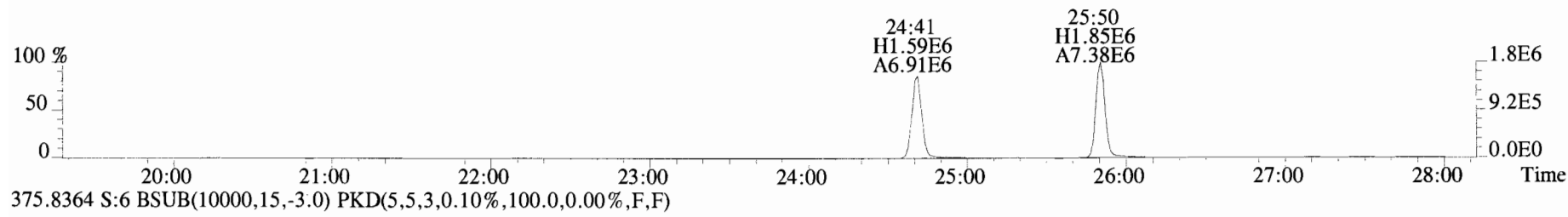
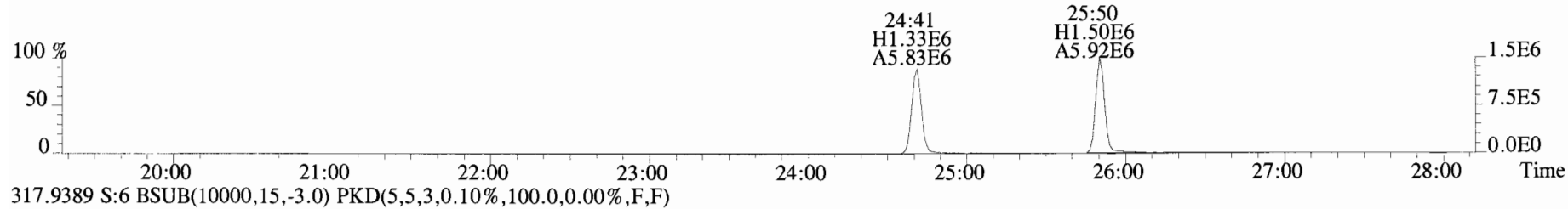
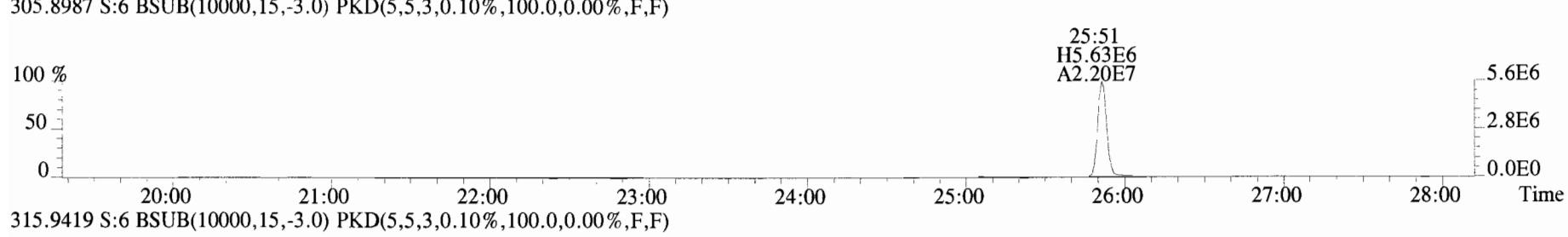
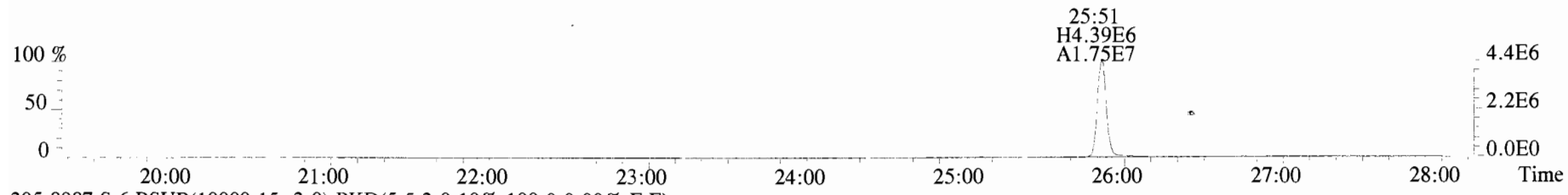


File:191009D1 #1-431 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

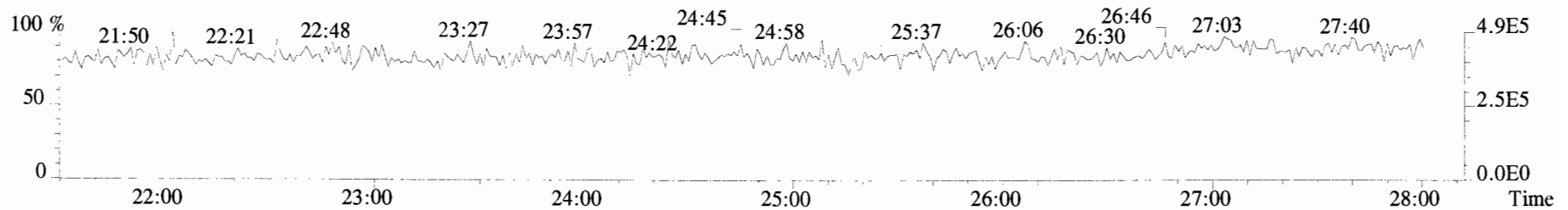
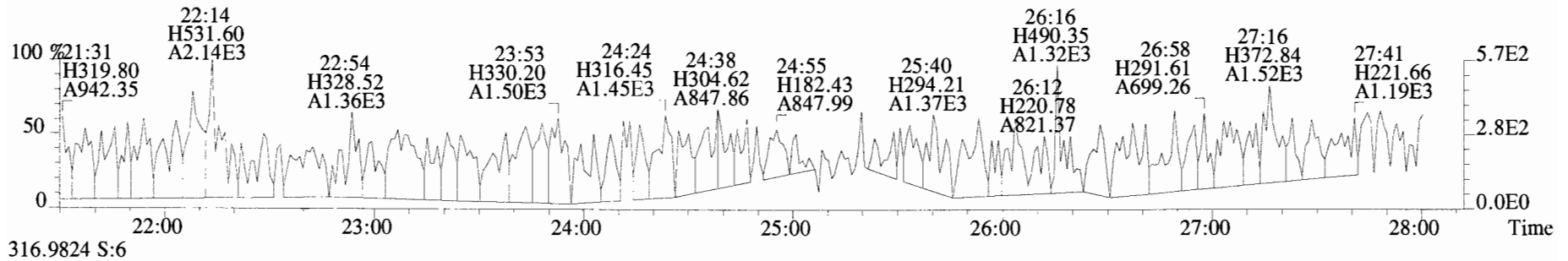
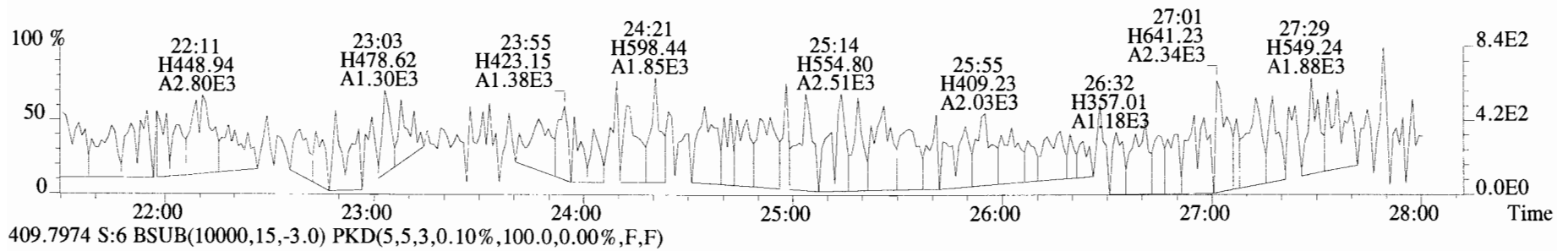
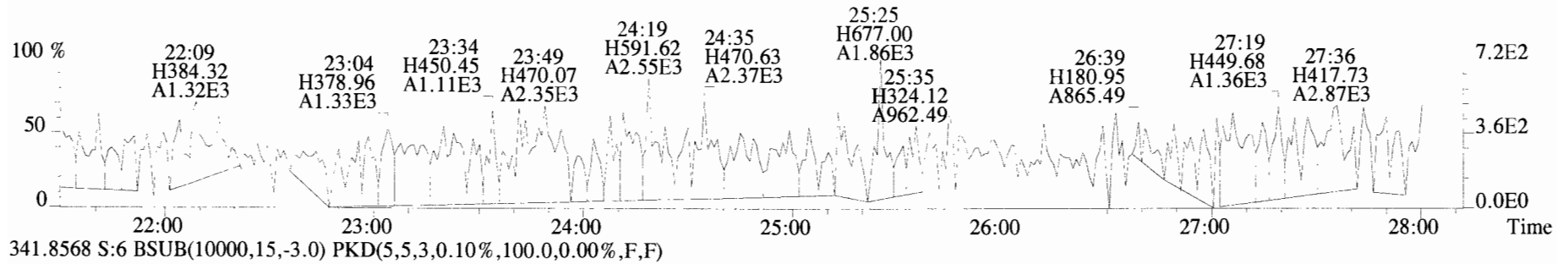




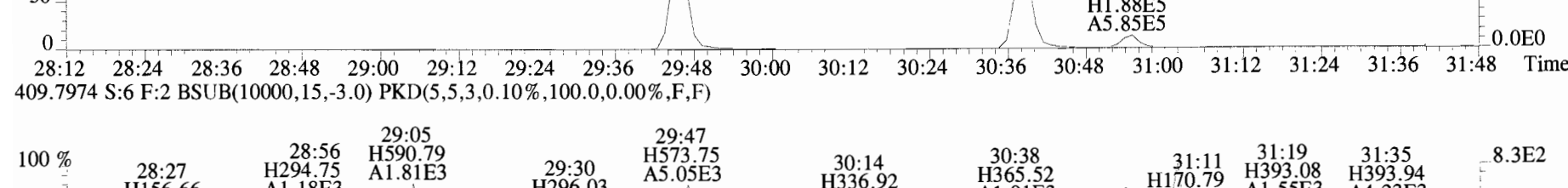
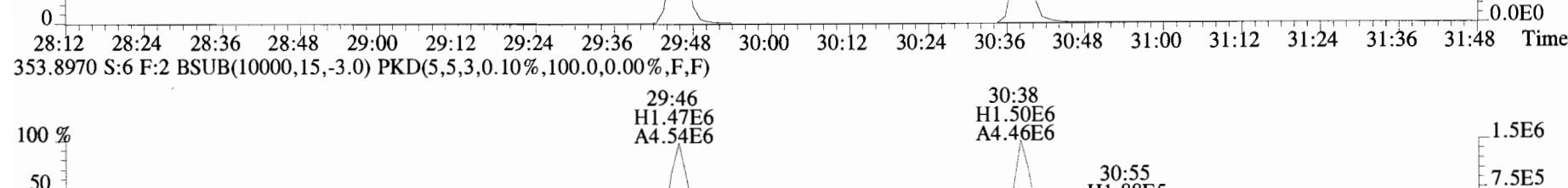
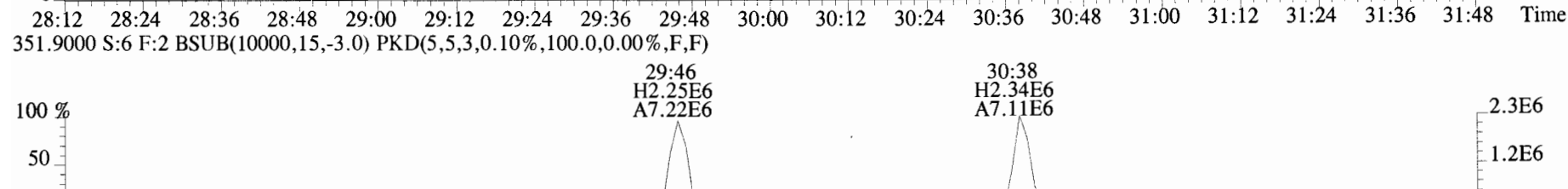
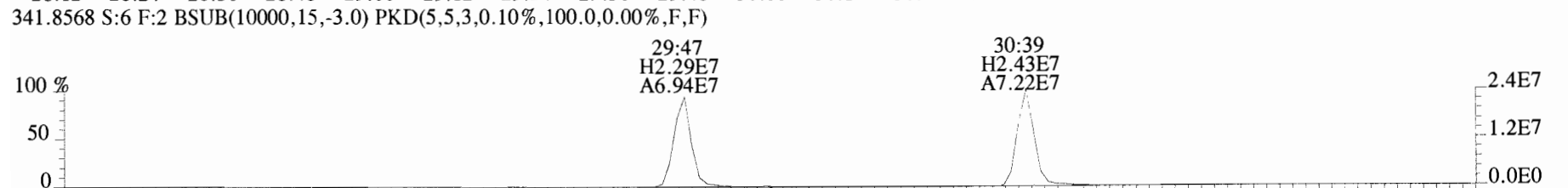
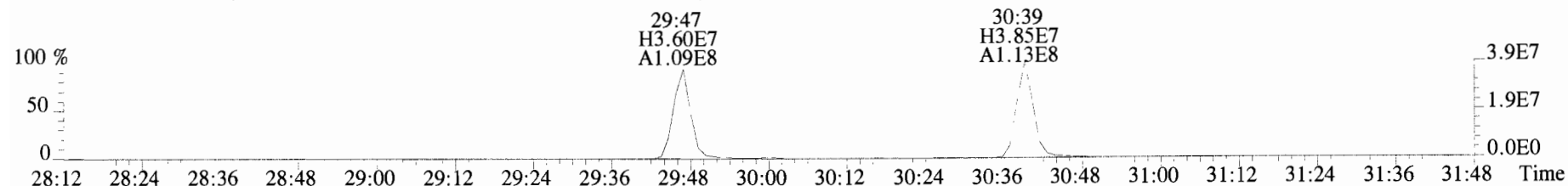
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



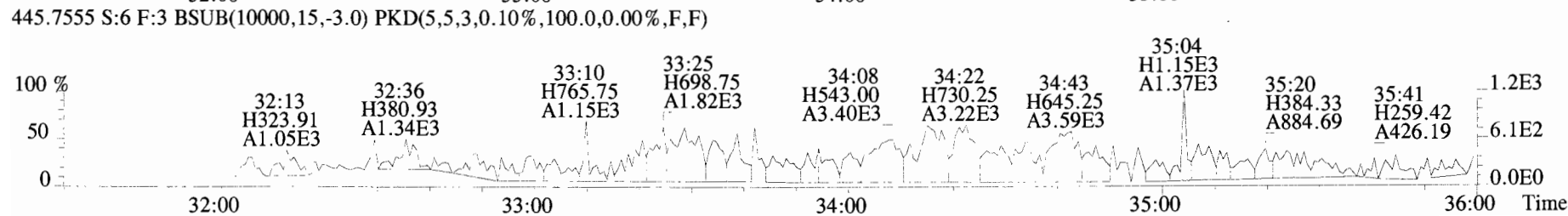
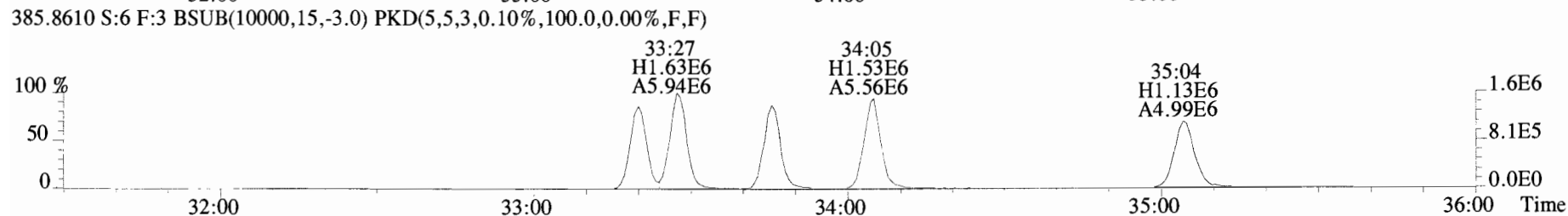
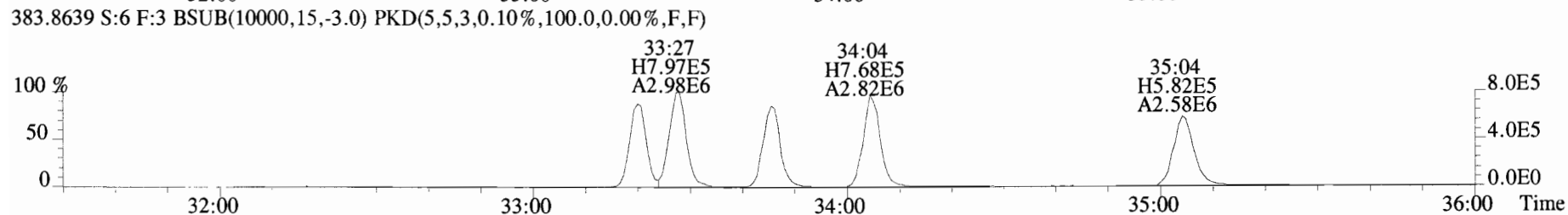
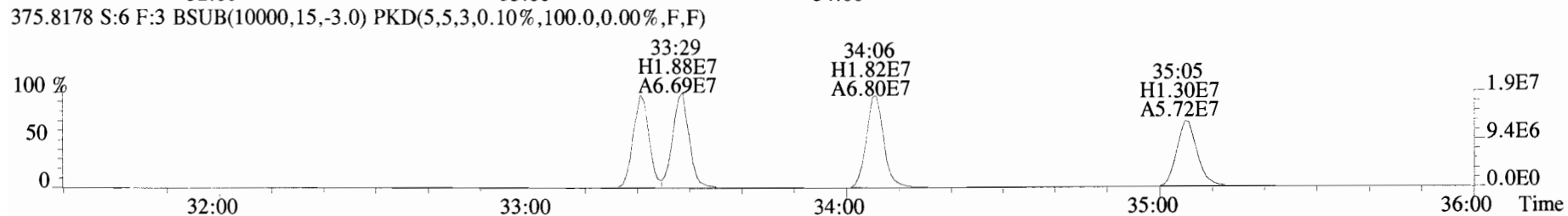
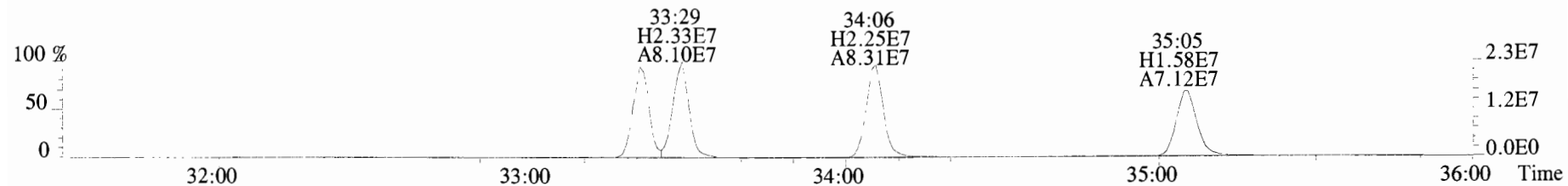
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



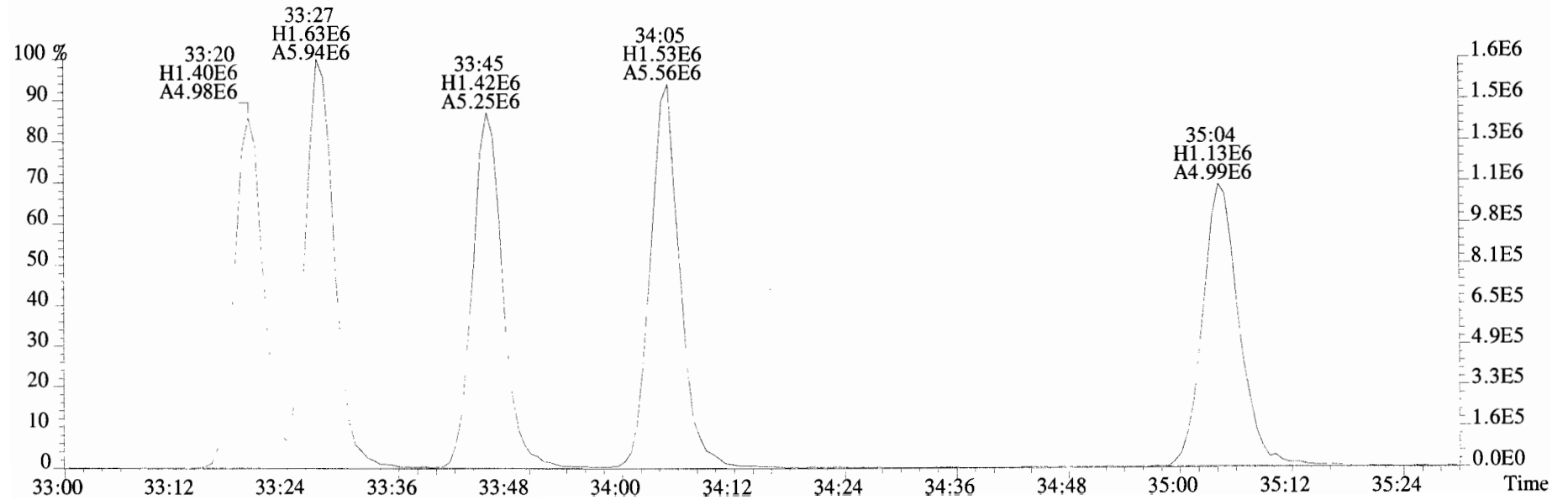
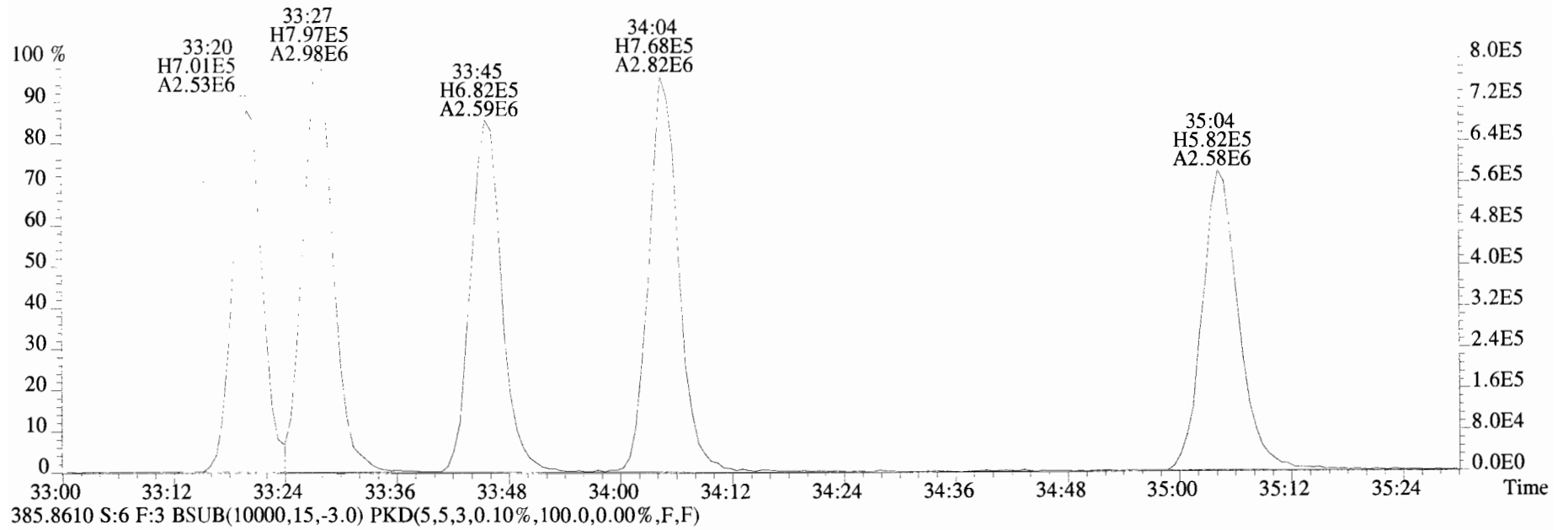
File:191009D1 #1-211 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#6 File Text:Vista Analytical Laboratory\_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



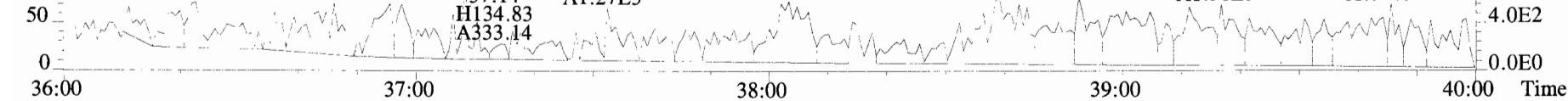
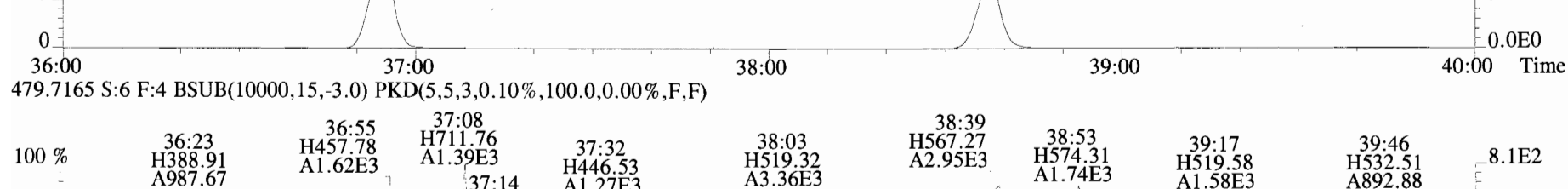
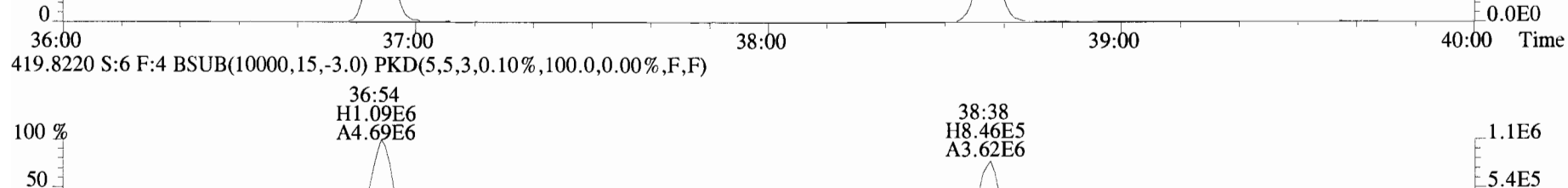
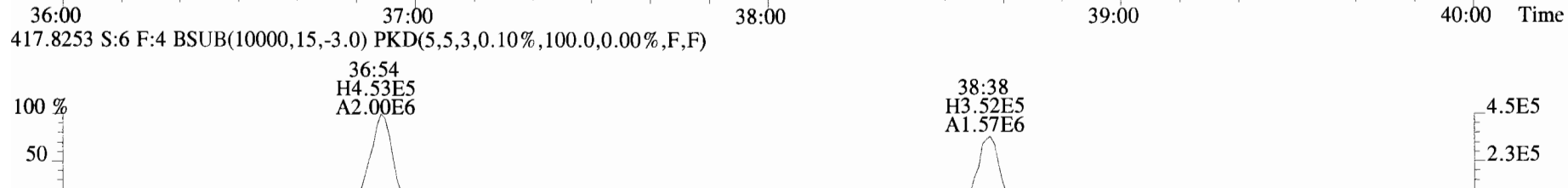
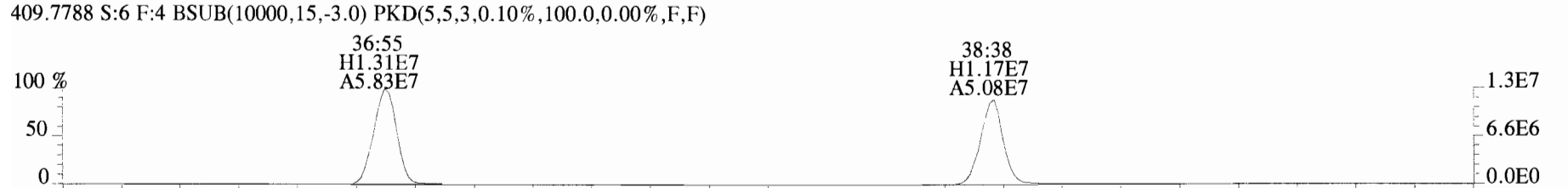
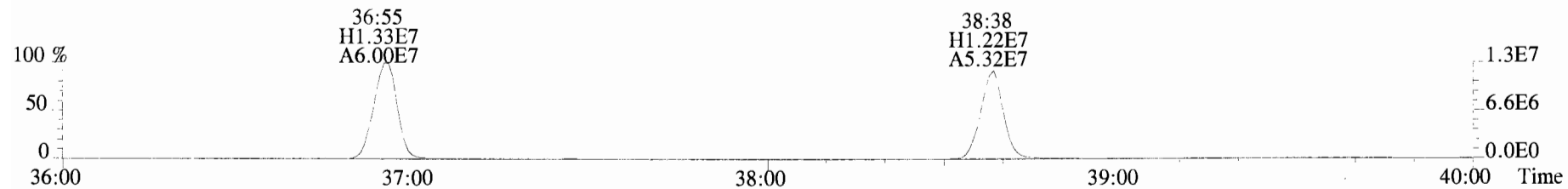
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
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 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



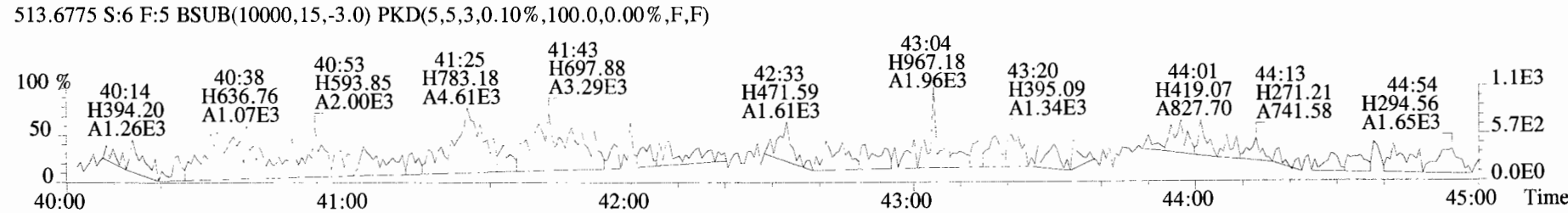
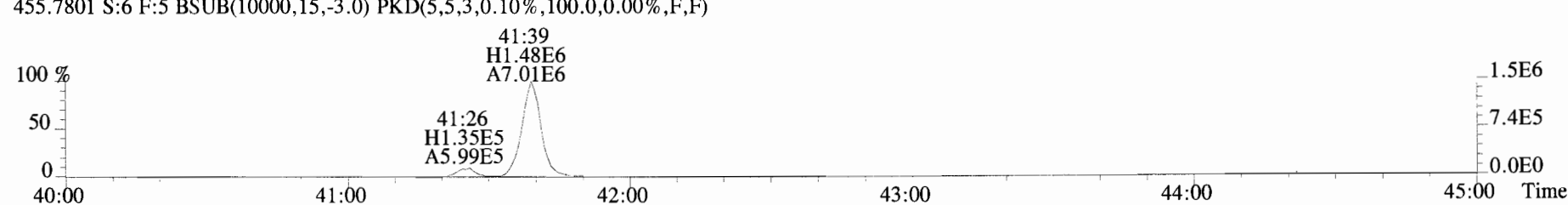
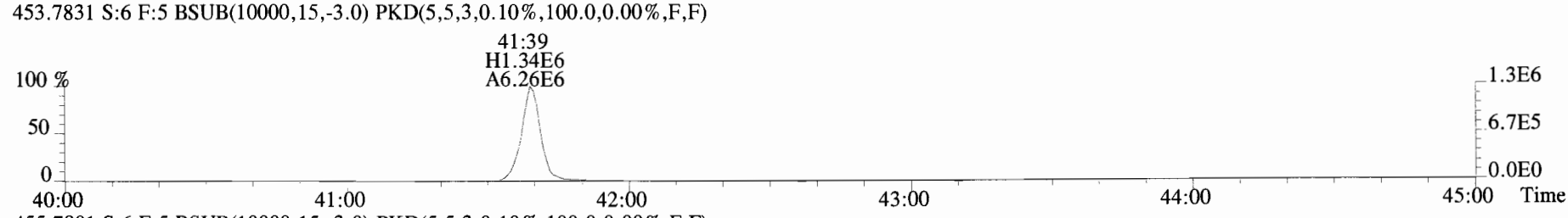
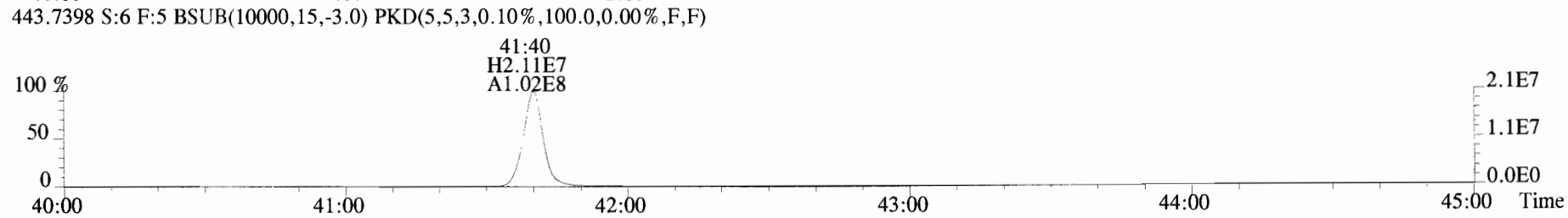
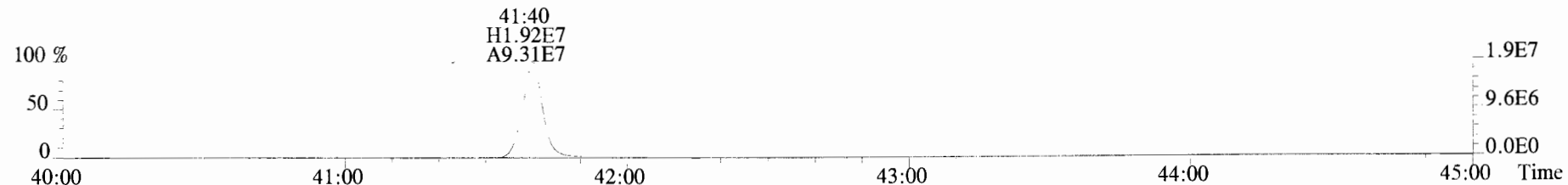
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD\_DB5  
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-356 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE  
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 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

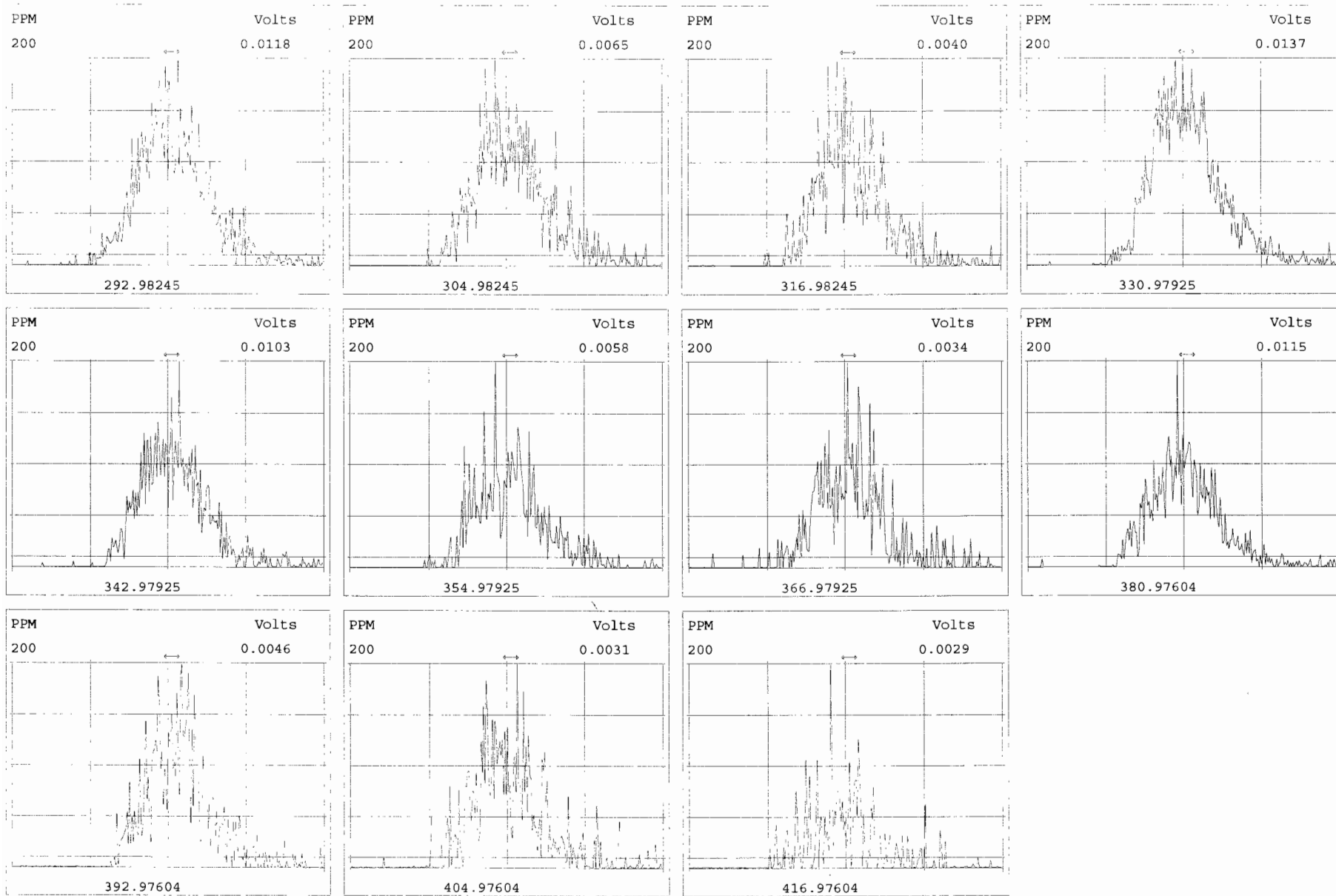


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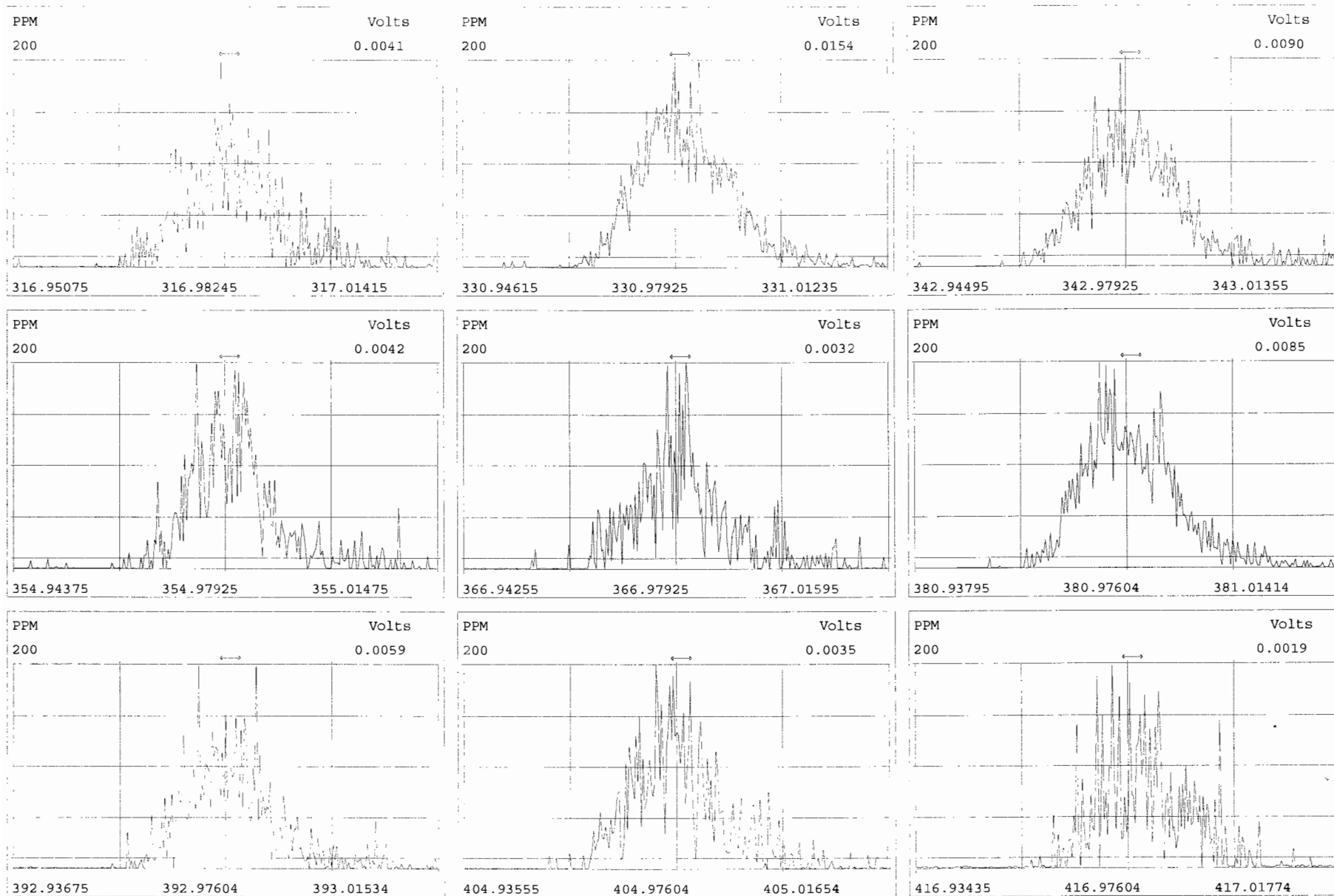


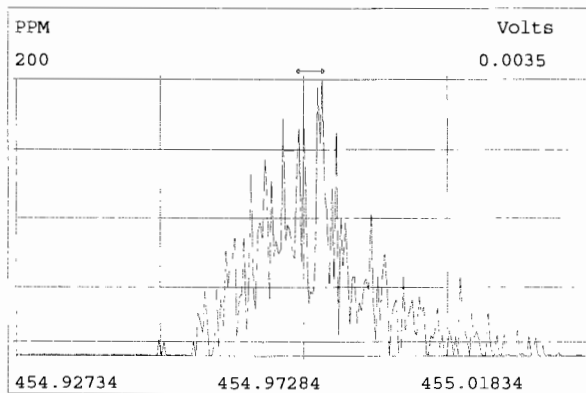
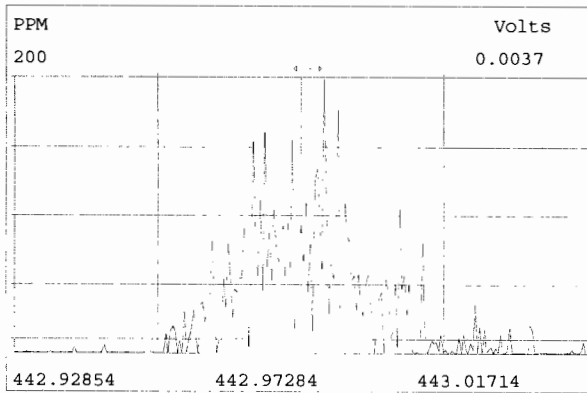
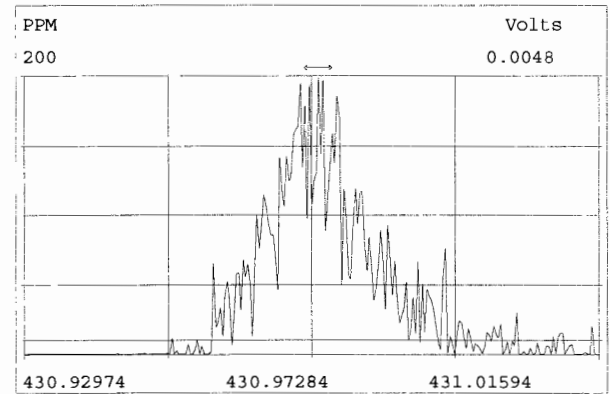
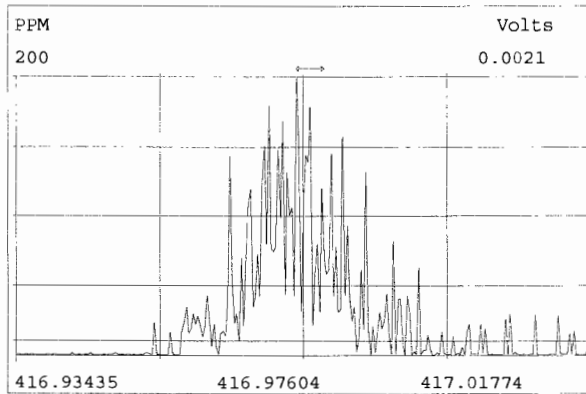
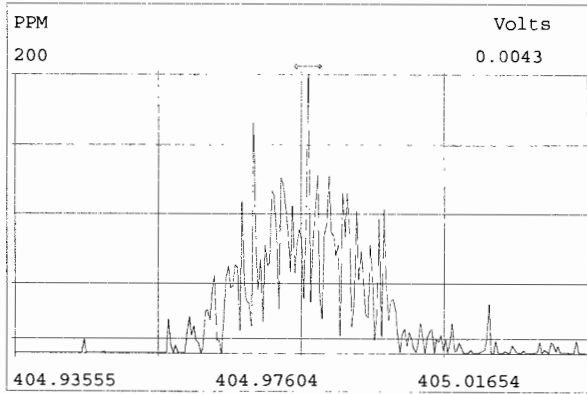
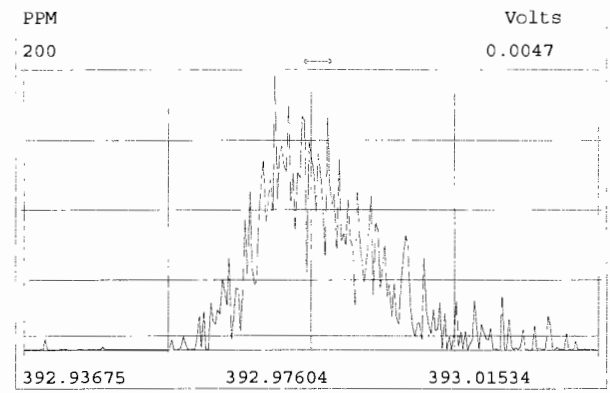
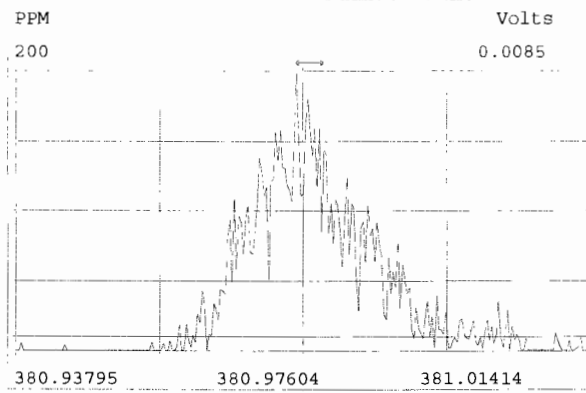
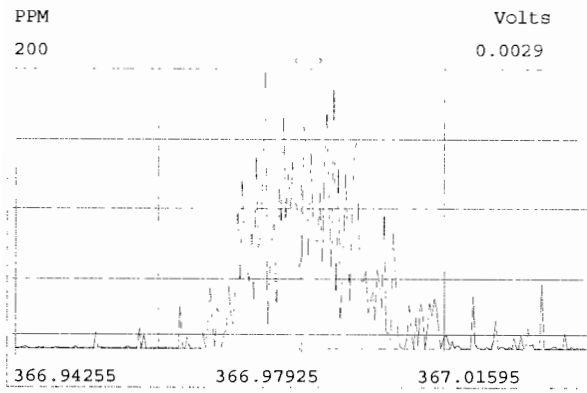
Peak Locate Examination:10-OCT-2019:06:40 File:RES\_CHECK

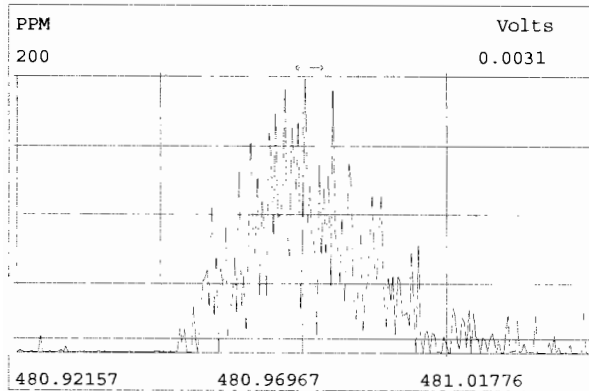
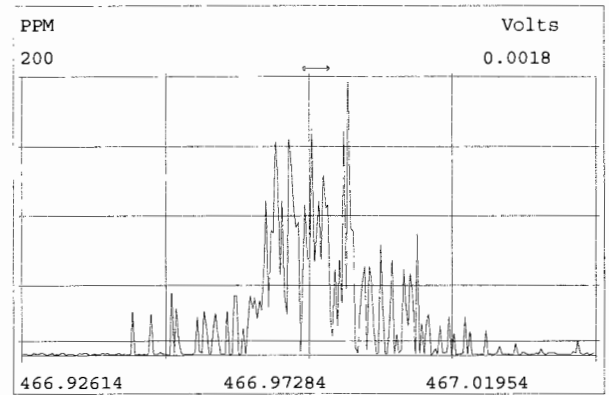
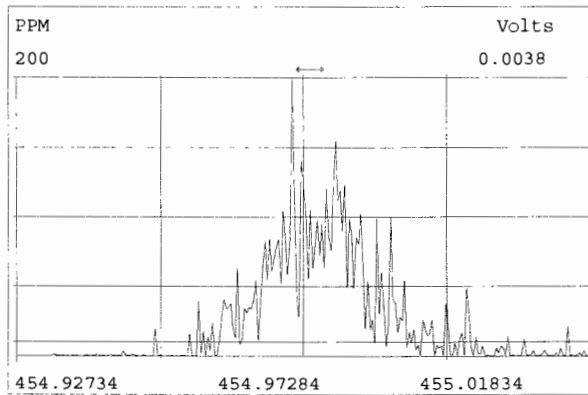
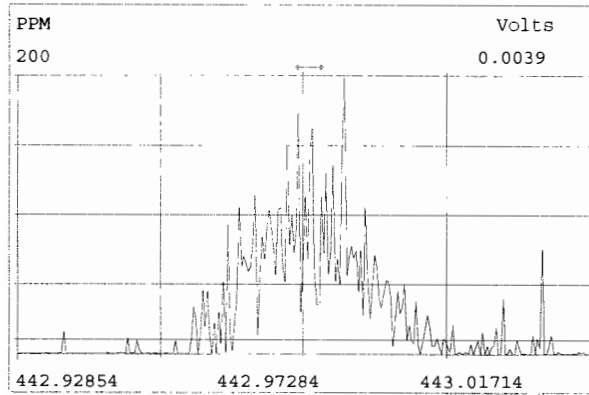
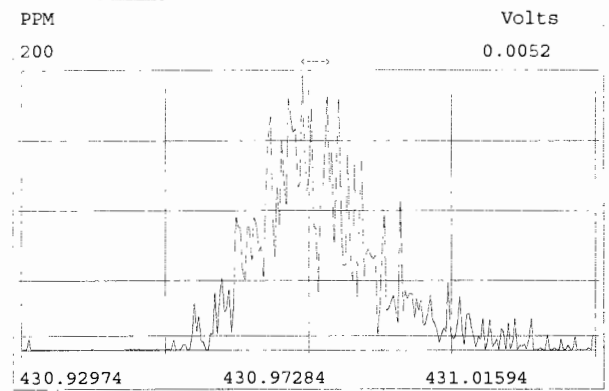
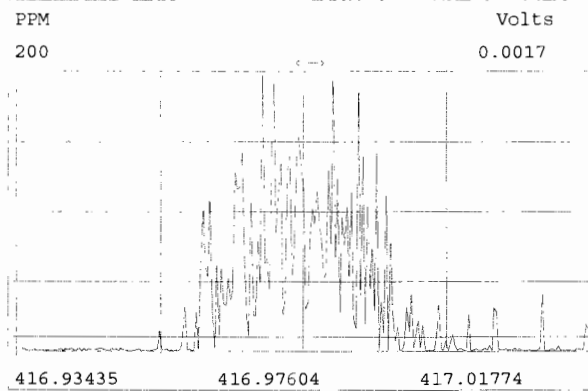
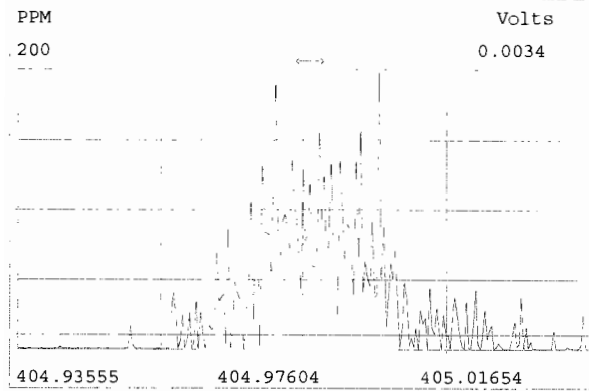
Experiment:OCDD\_DB5 Function:1 Reference:PFK

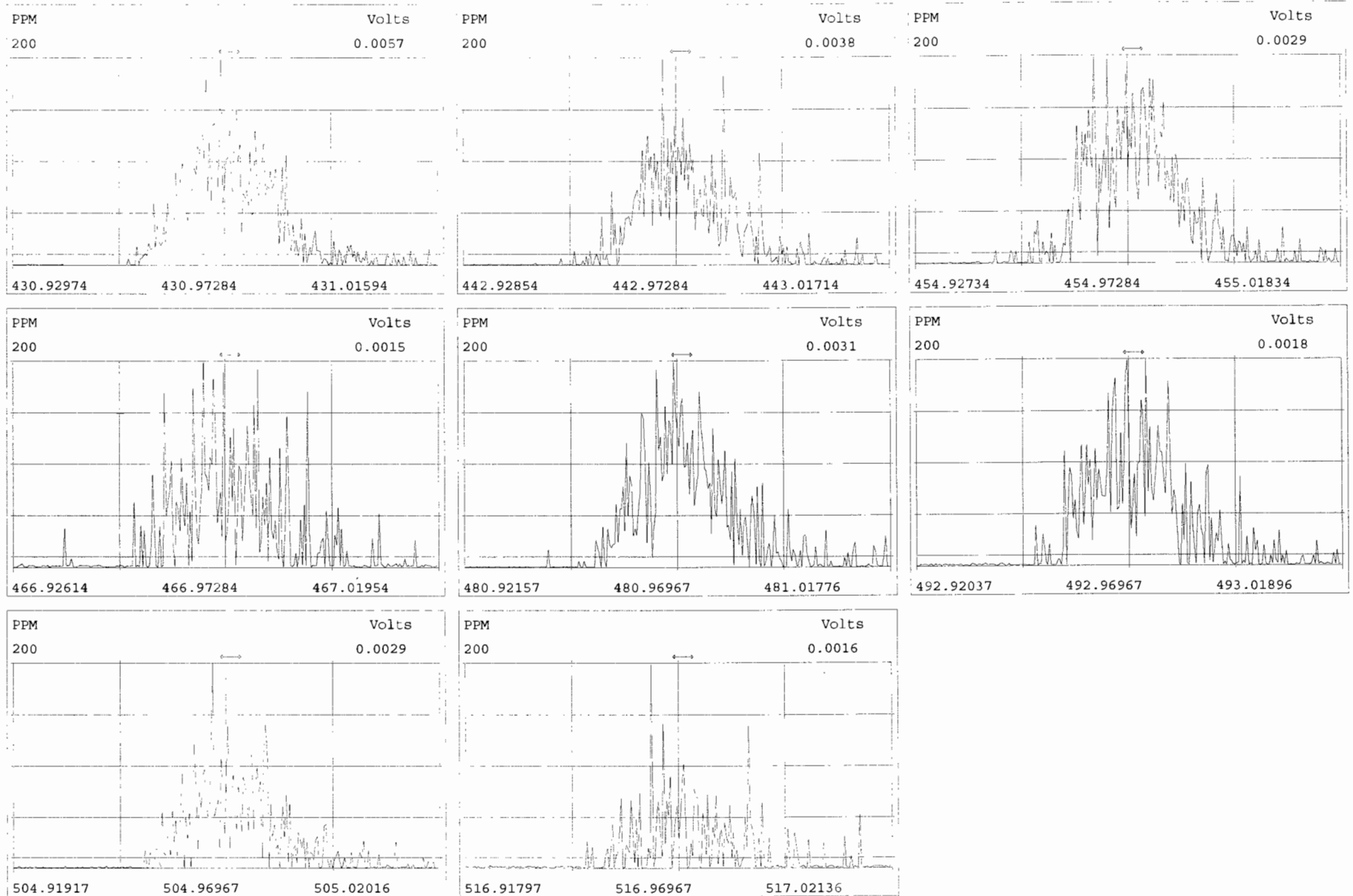












FORM 4A  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: SS191009D1-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC.	CONC.
	FORMING	ABUND.	LIMITS		FOUND	RANGE (3)
	RATIO (1)	RATIO	(2)		FOUND	(ng/mL)
2,3,7,8-TCDD	M/M+2	0.83	0.65-0.89	y	10.2	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	51.3	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	y	48.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	y	52.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.17	1.05-1.43	y	50.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	51.9	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	105	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	10.3	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	y	50.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	56.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	51.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	51.5	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	51.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	50.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	y	53.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	y	50.2	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	y	102	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 10/10/19

FORM 4B  
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

LABELED COMPOUNDS	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)			
13C-2,3,7,8-TCDD	M/M+2	0.72	0.65-0.89	y	100	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	95.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	95.6	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	94.3	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	91.7	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	y	190	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	y	97.2	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	97.4	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	96.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	97.1	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	99.0	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	96.6	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	102	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	y	197	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.08	7.9 - 12.7

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 10/10/19

FORM 6A  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE	RRT		
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002	
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.000	0.999-1.002	
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003	
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002	
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002	
LABELED COMPOUNDS				
13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043	
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.189	1.000-1.567	
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.994	0.923-1.103	
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.145	1.000-1.425	
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.179	1.011-1.526	
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052	

Analyst: DB

Date: 10/10/19

FORM 6B  
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191009D1 S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.040	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.018	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.127	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 10/10/19



Client ID: 1613 SSS 19C2207  
Lab ID: SS191009D1-1

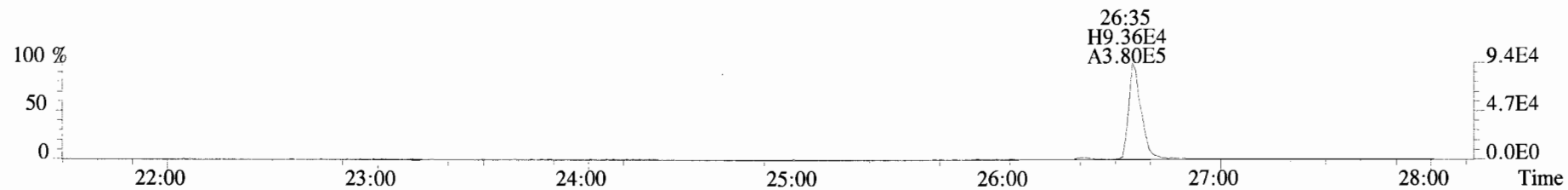
Filename: 191009D1 S:8 Acq: 9-OCT-19 21:46:34  
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST191009D1-4  
EndCAL: NA

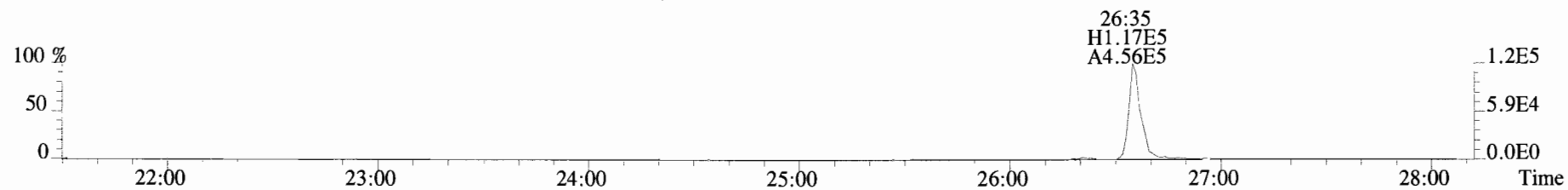
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	8.36e+05	0.83 y	0.91	26:36	10.234		* 2.5		*	Total Tetra-Dioxins	10.4	11.4		*	*
1,2,3,7,8-PeCDD	3.38e+06	0.63 y	0.90	30:57	51.323		* 2.5		*	Total Penta-Dioxins	51.4	51.7		*	*
1,2,3,4,7,8-HxCDD	2.55e+06	1.31 y	1.10	34:18	48.909		* 2.5		*	Total Hexa-Dioxins	153	153		*	*
1,2,3,6,7,8-HxCDD	3.09e+06	1.18 y	0.94	34:24	52.378		* 2.5		*	Total Hepta-Dioxins	53.5	54.4		*	*
1,2,3,7,8,9-HxCDD	2.83e+06	1.17 y	0.96	34:44	50.434		* 2.5		*	Total Tetra-Furans	10.7	11.4		*	*
1,2,3,4,6,7,8-HpCDD	2.34e+06	1.02 y	0.98	38:07	51.915		* 2.5		*	Total Penta-Furans	110.38	111.73		*	*
OCDD	4.27e+06	0.92 y	0.96	41:30	105.37		* 2.5		*	Total Hexa-Furans	205	207		*	*
										Total Hepta-Furans	104	106		*	*
2,3,7,8-TCDF	1.24e+06	0.78 y	0.95	25:53	10.342		* 2.5		*						
1,2,3,7,8-PeCDF	5.03e+06	1.54 y	0.96	29:48	50.200		* 2.5		*						
2,3,4,7,8-PeCDF	5.90e+06	1.60 y	1.01	30:42	56.719		* 2.5		*						
1,2,3,4,7,8-HxCDF	3.94e+06	1.22 y	1.18	33:23	51.086		* 2.5		*						
1,2,3,6,7,8-HxCDF	4.44e+06	1.23 y	1.07	33:31	51.491		* 2.5		*						
2,3,4,6,7,8-HxCDF	4.08e+06	1.20 y	1.11	34:08	51.474		* 2.5		*						
1,2,3,7,8,9-HxCDF	3.40e+06	1.24 y	1.06	35:10	50.903		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	3.36e+06	1.05 y	1.13	36:58	53.010		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	2.94e+06	1.05 y	1.28	38:42	50.216		* 2.5		*						
OCDF	5.04e+06	0.92 y	0.95	41:45	102.23		* 2.5		*						
IS	13C-2,3,7,8-TCDD	9.02e+06	0.72 y	1.10	26:35	100.49				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	7.29e+06	0.64 y	0.88	30:56	100.87				100					
IS	13C-1,2,3,4,7,8-HxCDD	4.73e+06	1.23 y	0.64	34:16	95.948				101					
IS	13C-1,2,3,6,7,8-HxCDD	6.28e+06	1.25 y	0.86	34:24	95.558				95.9					
IS	13C-1,2,3,7,8,9-HxCDD	5.85e+06	1.26 y	0.81	34:43	94.306				95.6					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.61e+06	1.06 y	0.65	38:06	91.680				94.3					
IS	13C-OCDD	8.45e+06	0.92 y	0.58	41:29	189.68				91.7					
IS	13C-2,3,7,8-TCDF	1.26e+07	0.78 y	1.03	25:52	97.199				94.8					
IS	13C-1,2,3,7,8-PeCDF	1.04e+07	1.62 y	0.85	29:48	97.425				97.2					
IS	13C-2,3,4,7,8-PeCDF	1.03e+07	1.59 y	0.85	30:41	96.649				97.4					
IS	13C-1,2,3,4,7,8-HxCDF	6.55e+06	0.51 y	0.83	33:22	102.43				96.6					
IS	13C-1,2,3,6,7,8-HxCDF	8.06e+06	0.51 y	1.03	33:30	101.42				102					
IS	13C-2,3,4,6,7,8-HxCDF	7.11e+06	0.51 y	0.95	34:08	97.073				101					
IS	13C-1,2,3,7,8,9-HxCDF	6.30e+06	0.51 y	0.83	35:09	98.999				97.1					
IS	13C-1,2,3,4,6,7,8-HpCDF	5.62e+06	0.43 y	0.76	36:57	96.588				99.0					
IS	13C-1,2,3,4,7,8,9-HpCDF	4.58e+06	0.44 y	0.58	38:42	102.46				96.6					
IS	13C-OCDF	1.04e+07	0.88 y	0.69	41:44	196.65				102					
C/Up	37Cl-2,3,7,8-TCDD	8.91e+05		1.20	26:36	9.0817				98.3					
RS/RT	13C-1,2,3,4-TCDD	8.20e+06	0.76 y	1.00	26:01	100.00									
RS	13C-1,2,3,4-TCDF	1.25e+07	0.82 y	1.00	24:42	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.68e+06	0.50 y	1.00	33:48	100.00									

Integrations  
by DB  
Analyst: DB  
Reviewed  
by CT  
Analyst: CT  
Date: 10/10/19  
Date: 10/10/19

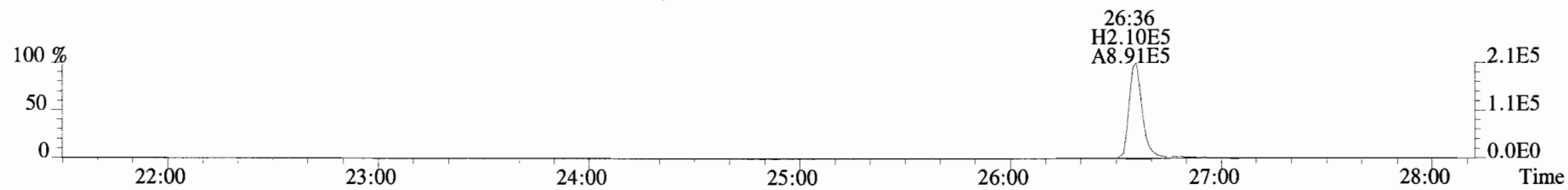
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



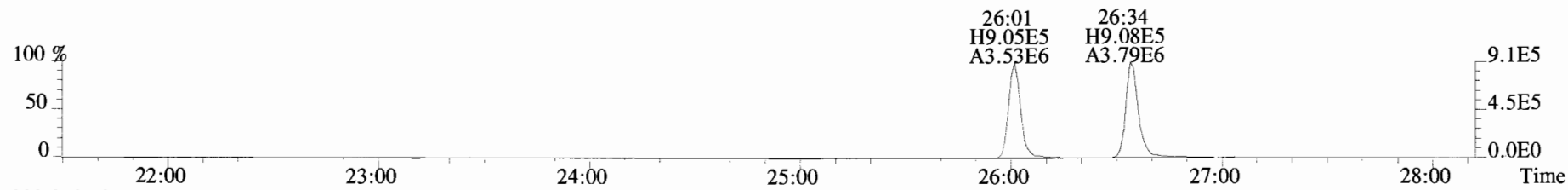
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



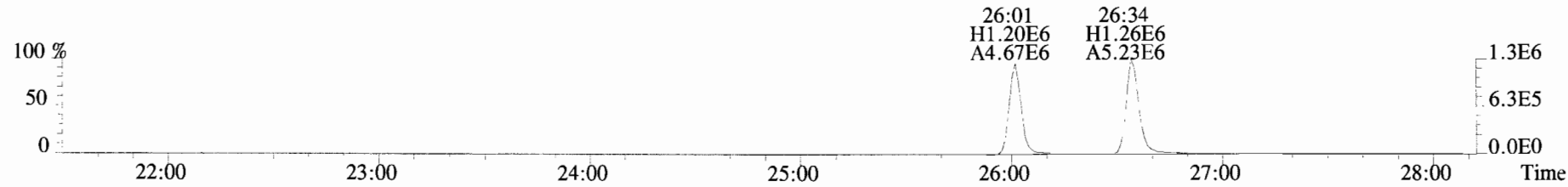
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



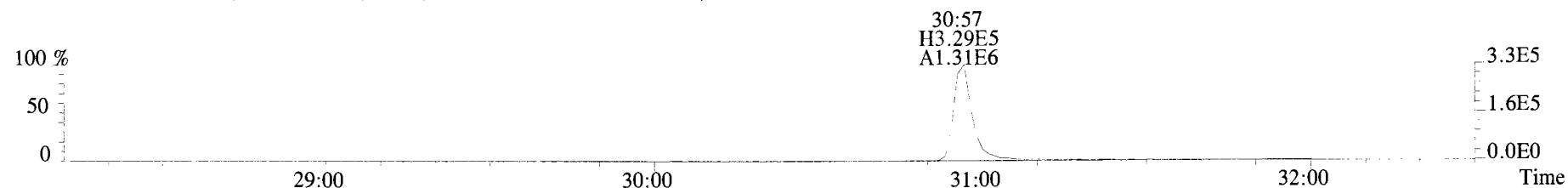
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



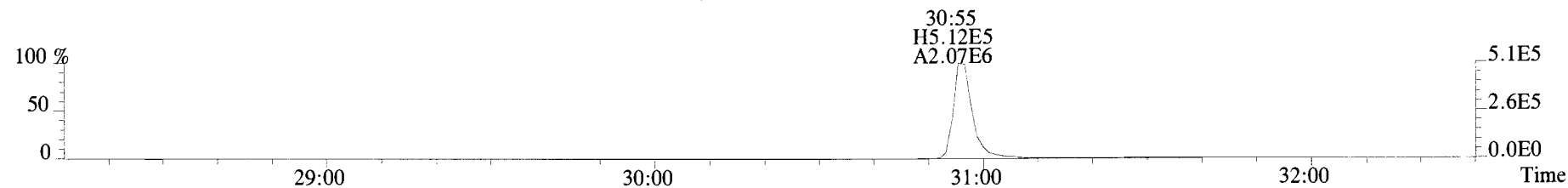
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



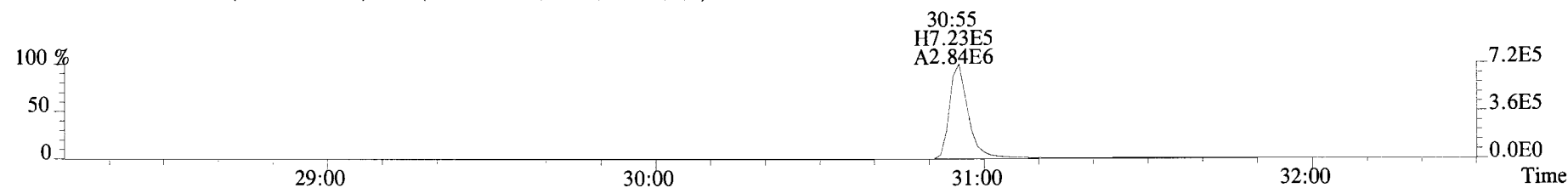
File:191009D1 #1-210 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



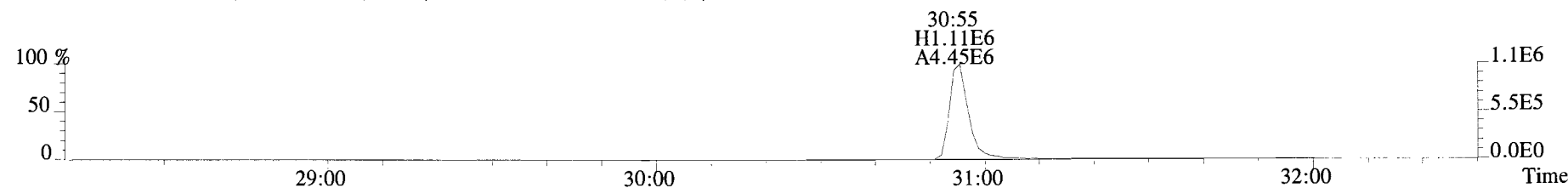
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



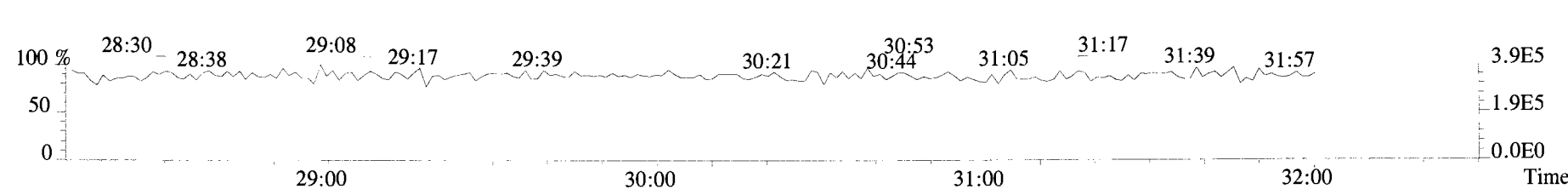
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



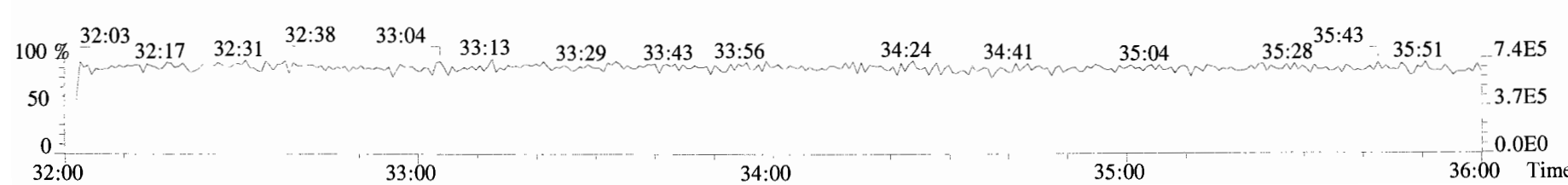
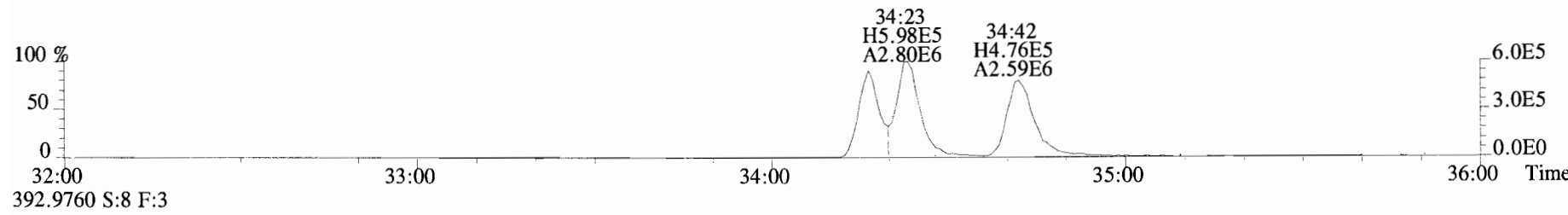
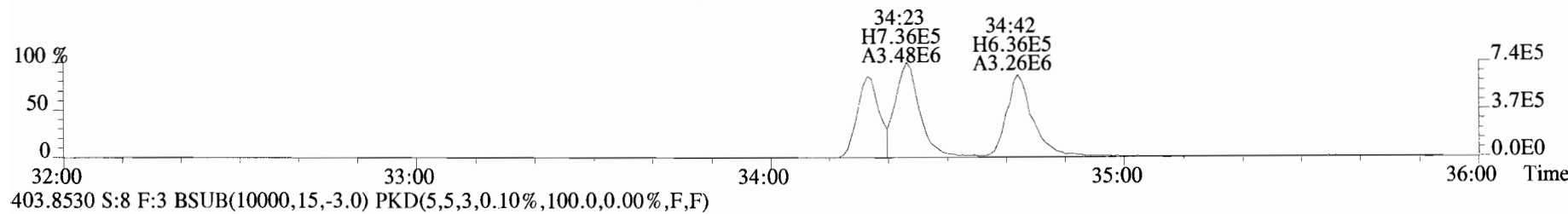
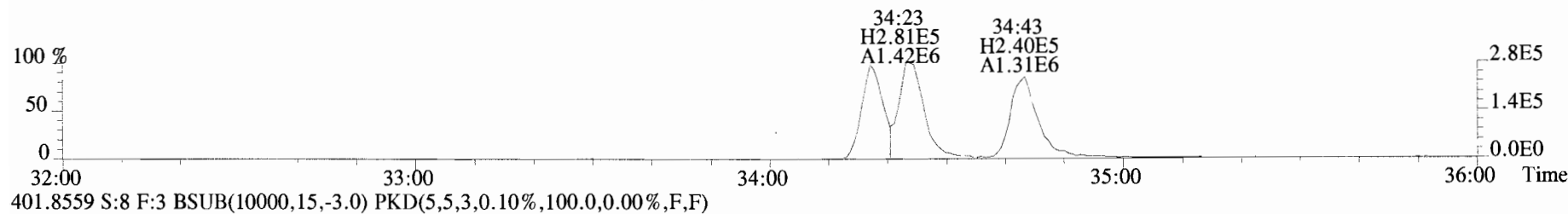
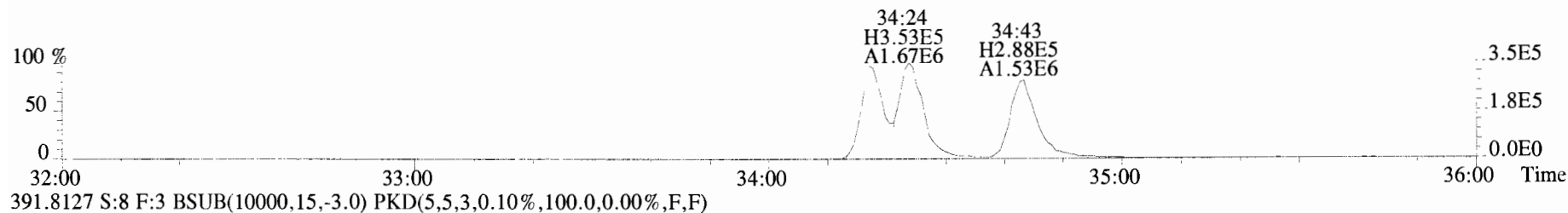
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



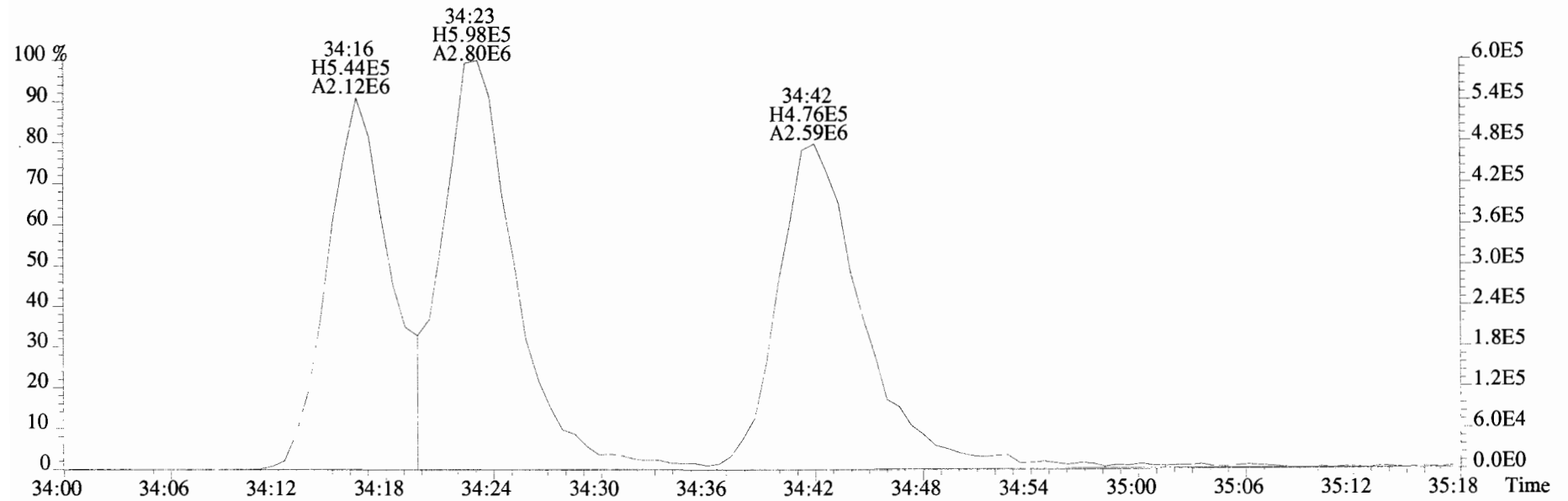
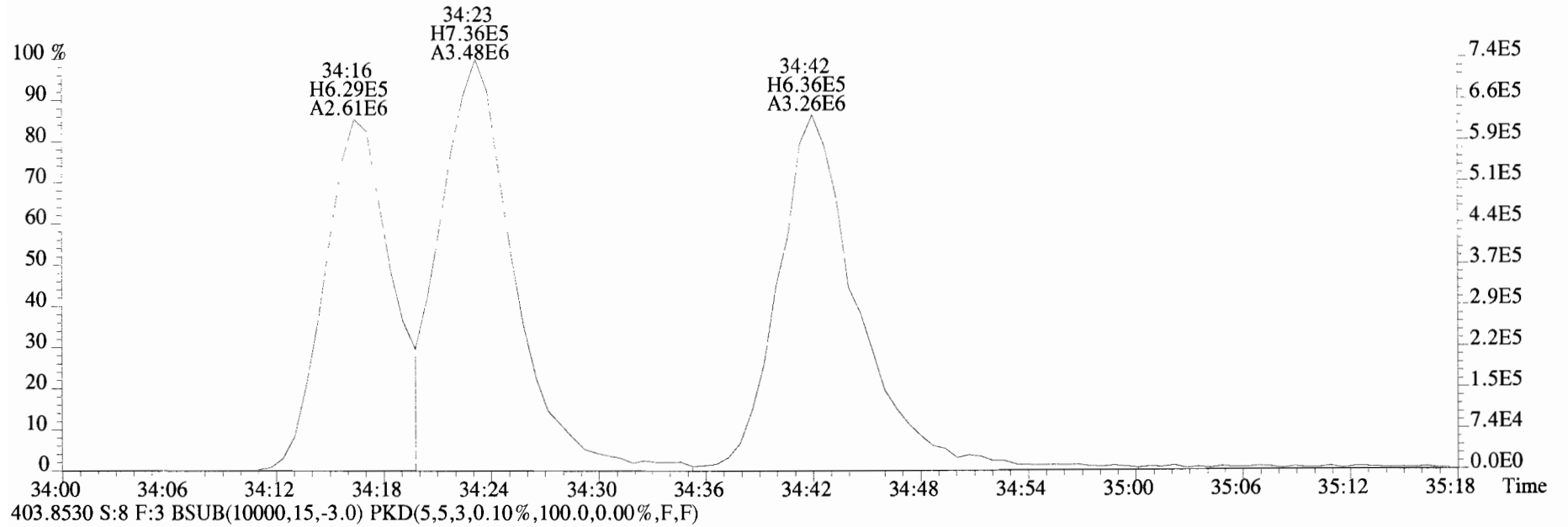
366.9792 S:8 F:2



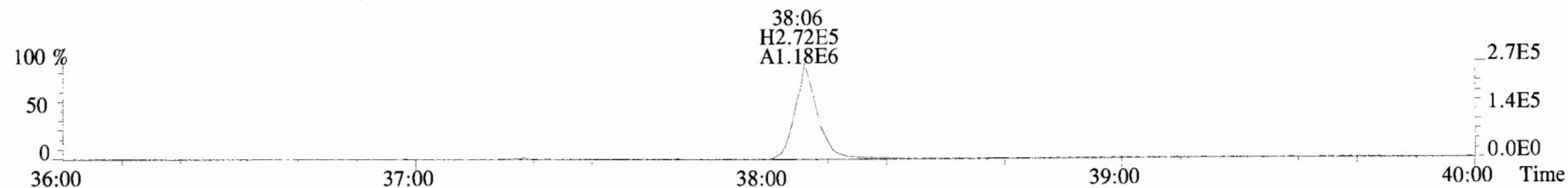
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



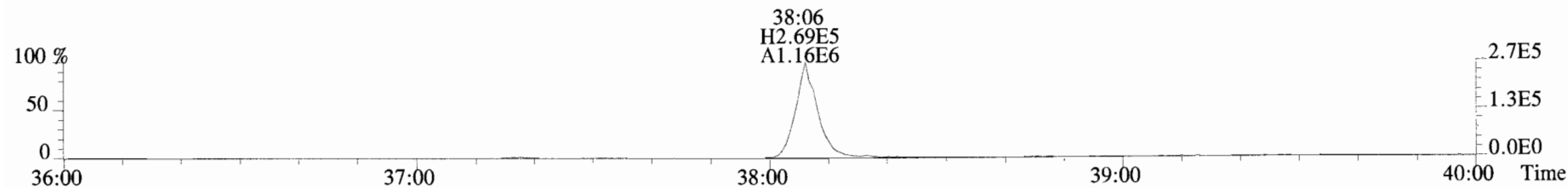
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



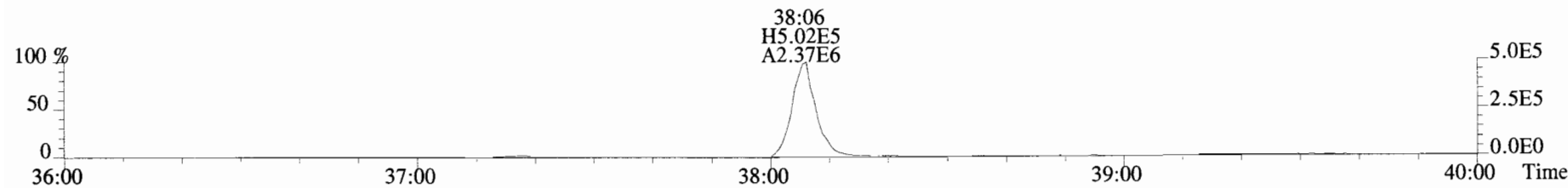
File:191009D1 #1-356 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



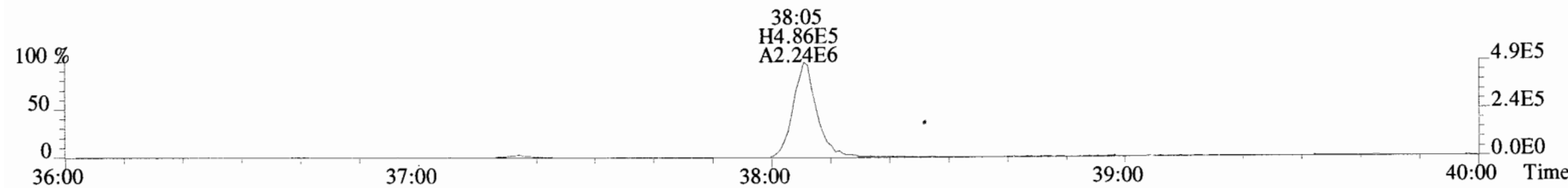
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



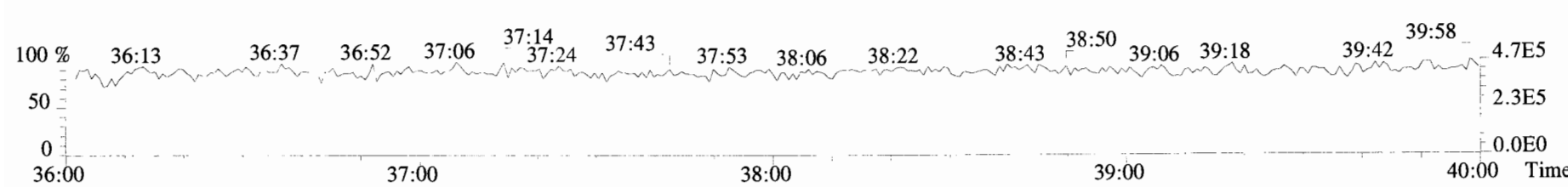
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



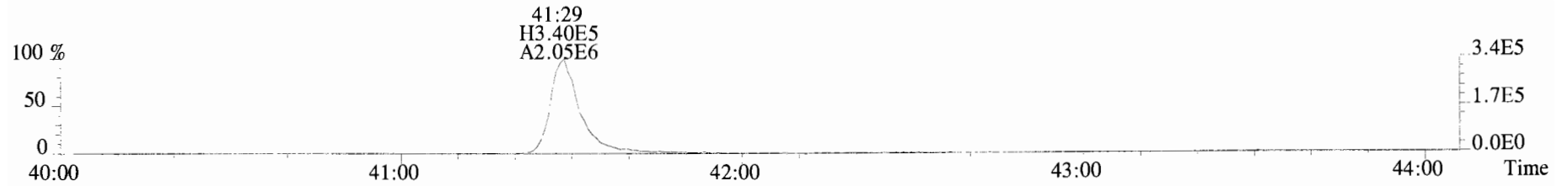
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



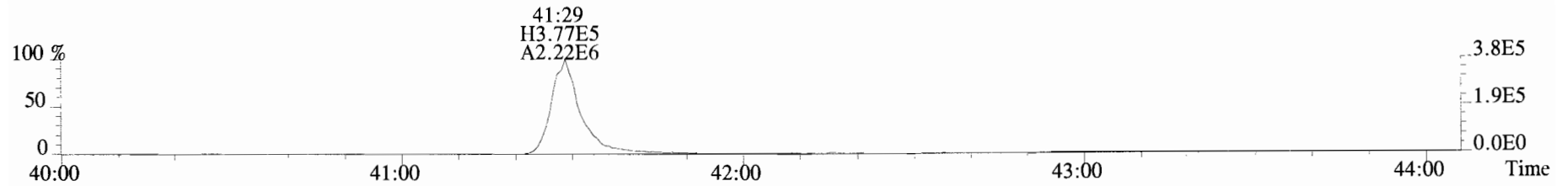
454.9728 S:8 F:4



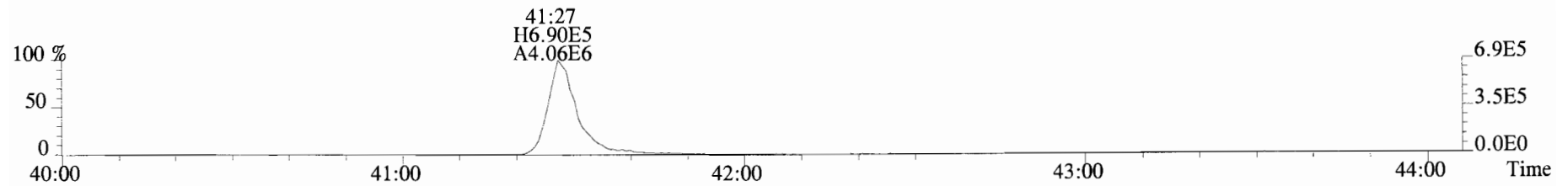
File:191009D1 #1-431 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



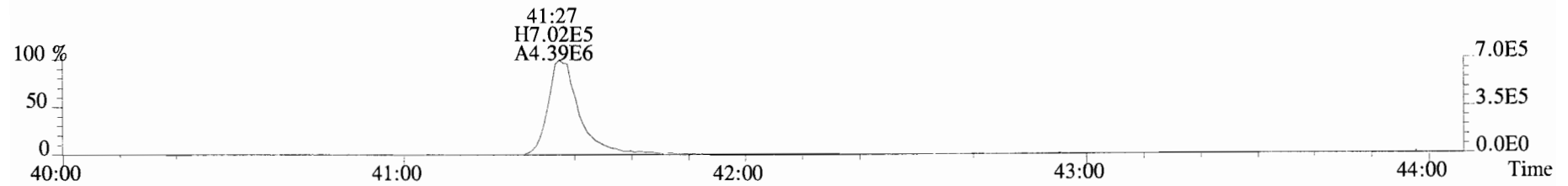
459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



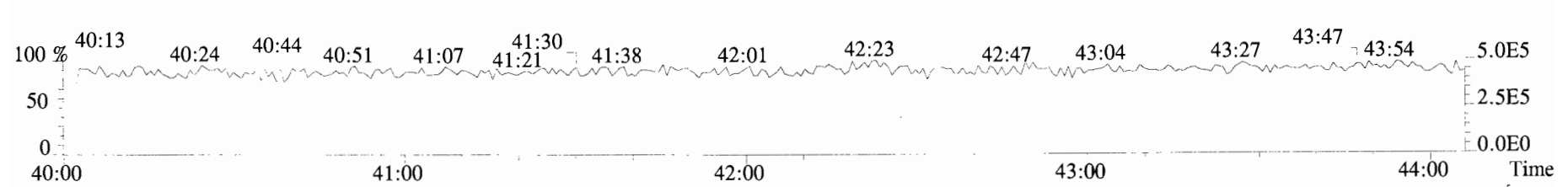
469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



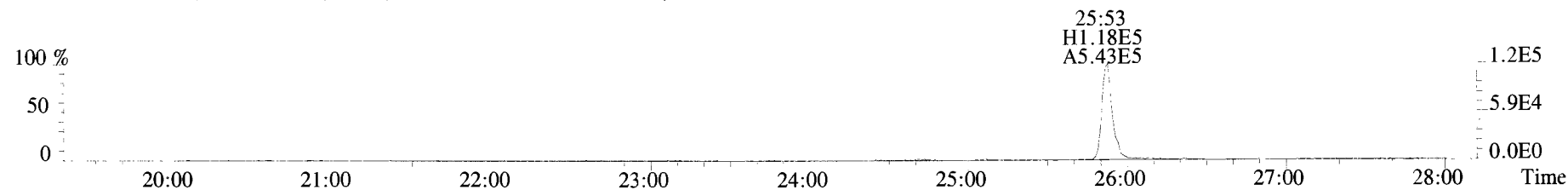
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



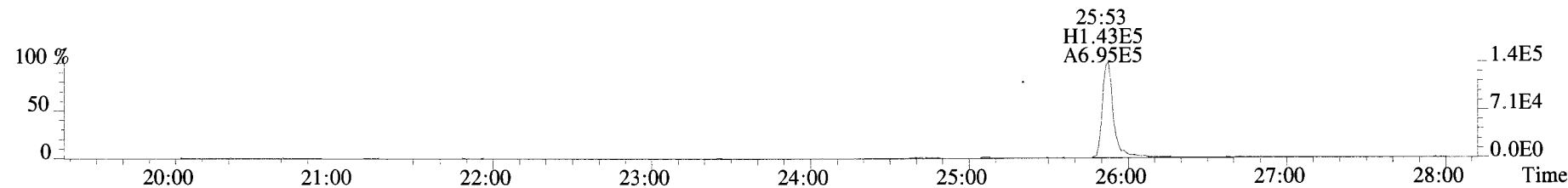
454.9728 S:8 F:5



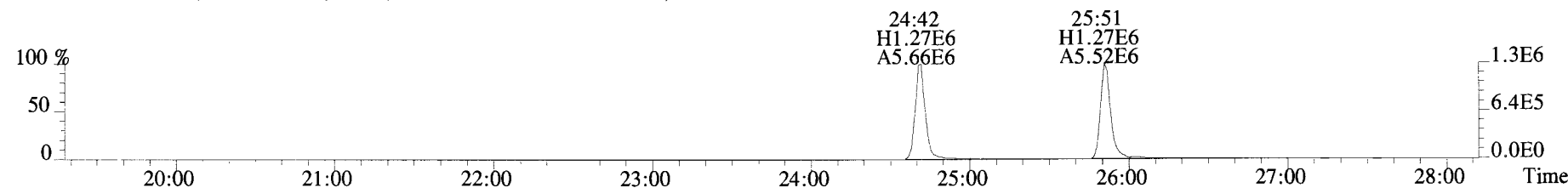
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



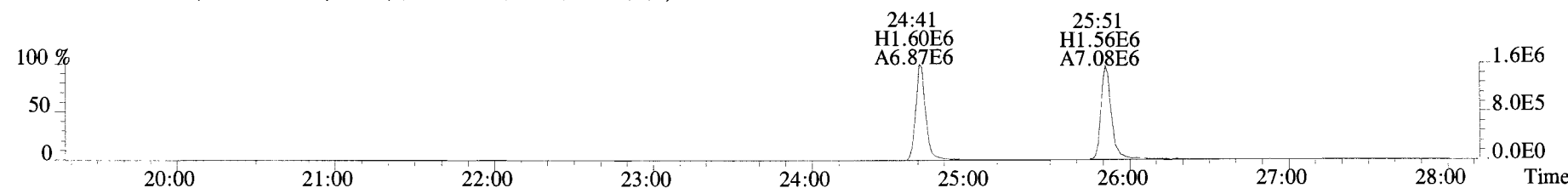
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



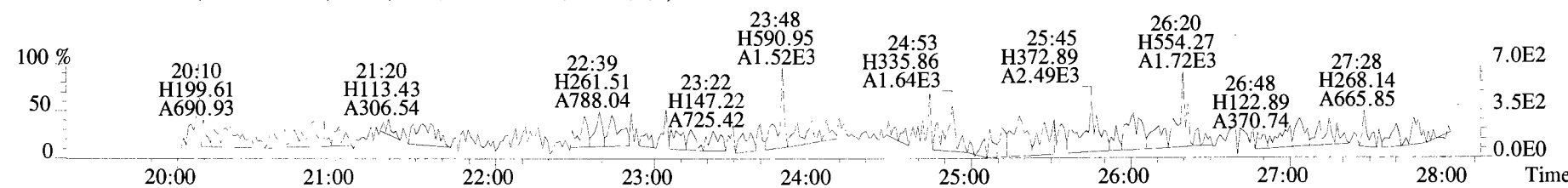
315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

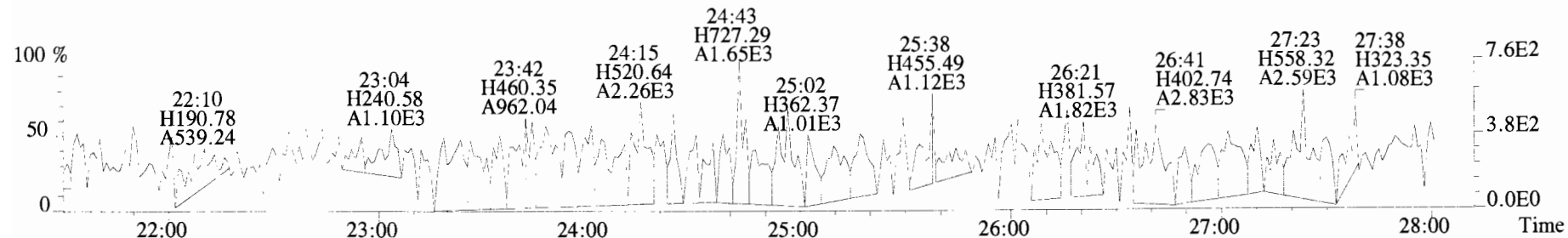


375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

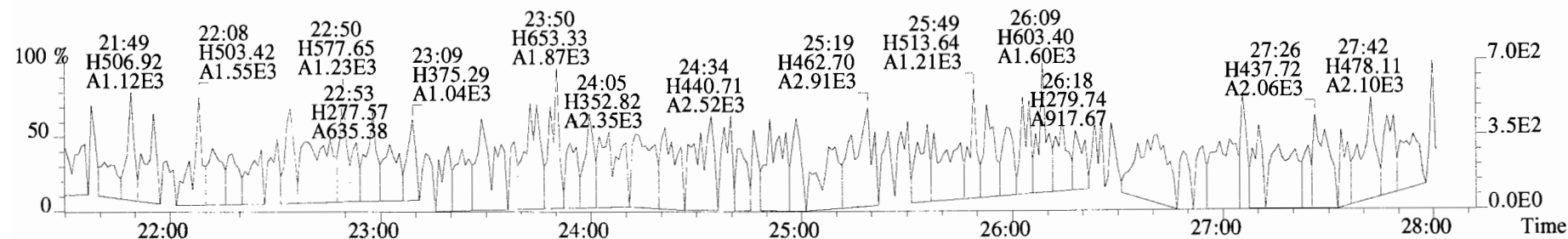




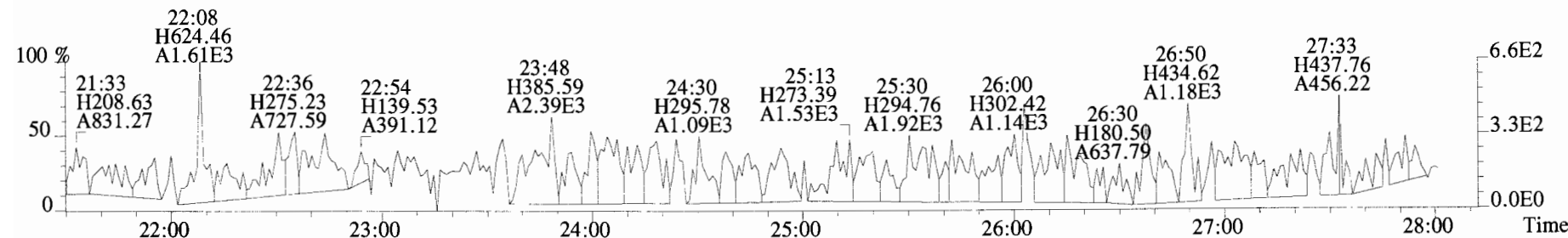
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
 Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



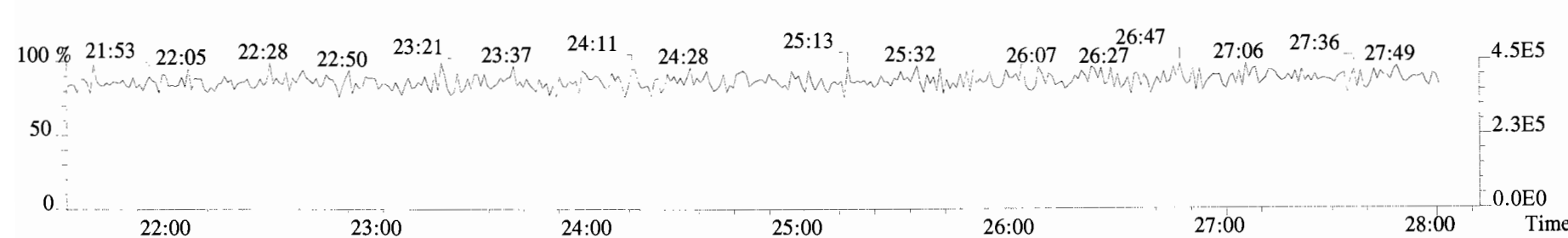
341.8568 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



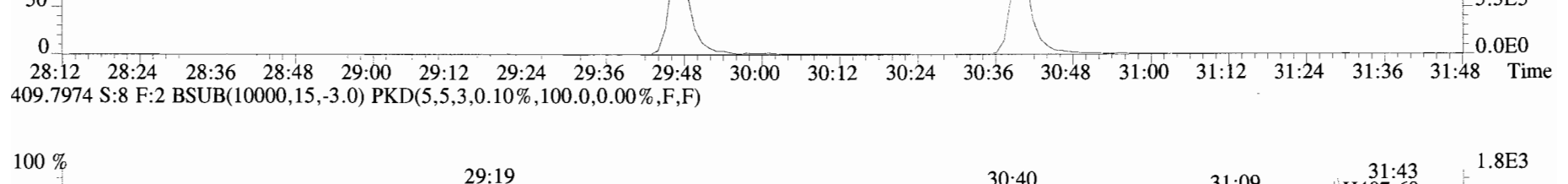
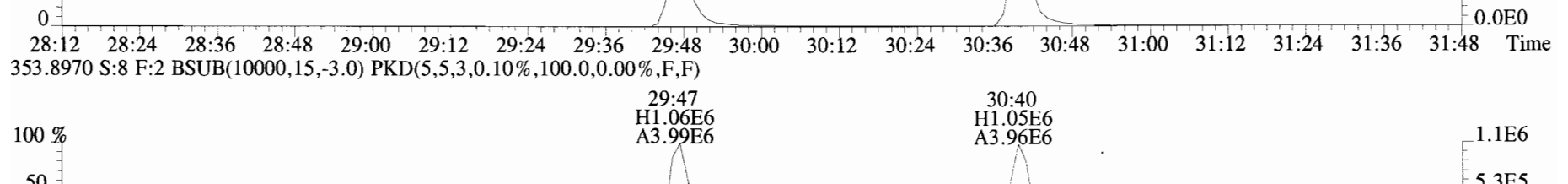
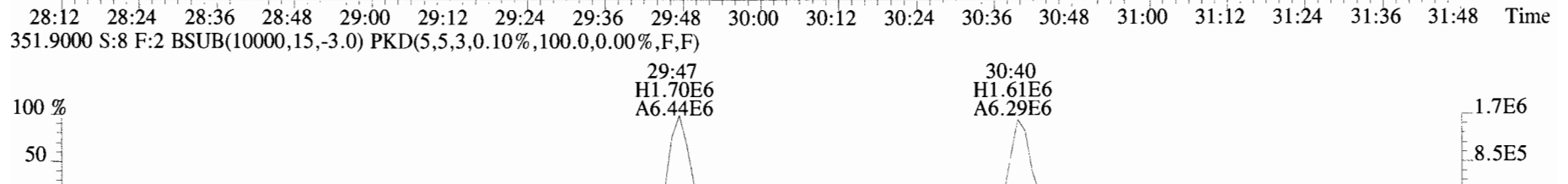
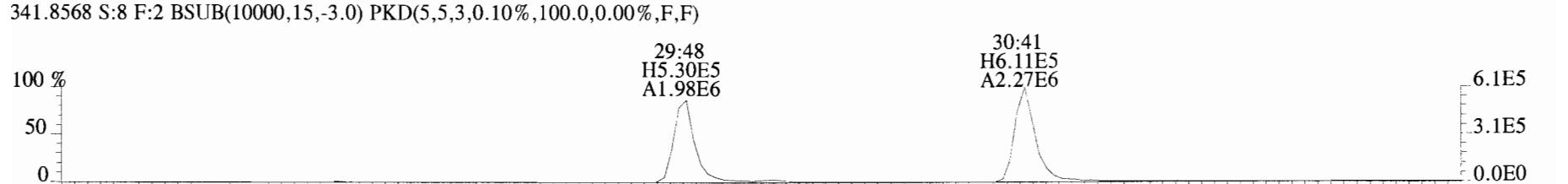
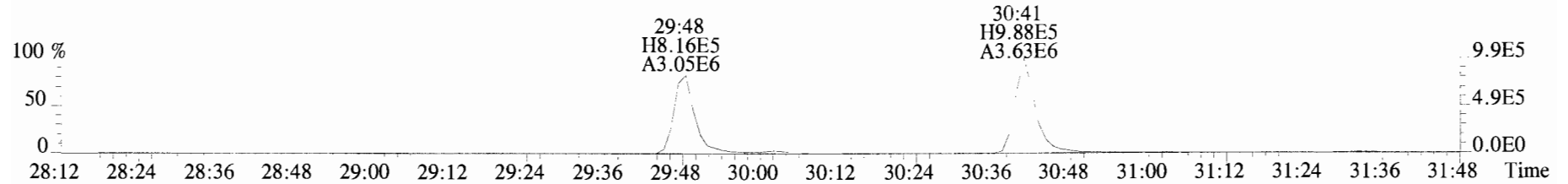
409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



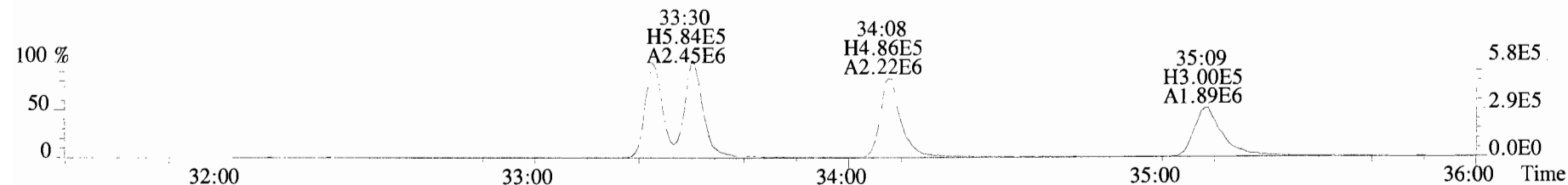
316.9824 S:8



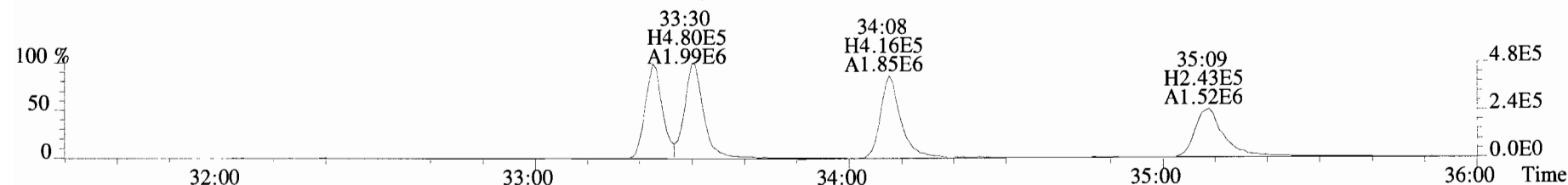
File:191009D1 #1-210 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



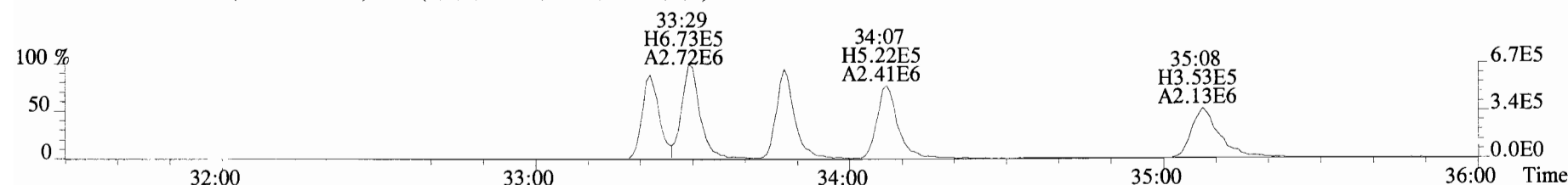
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



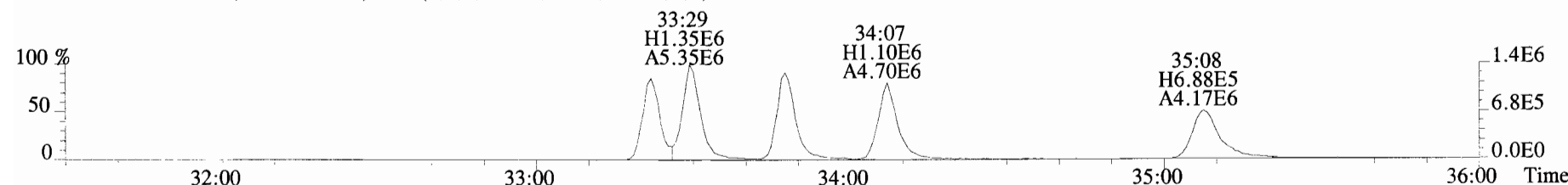
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



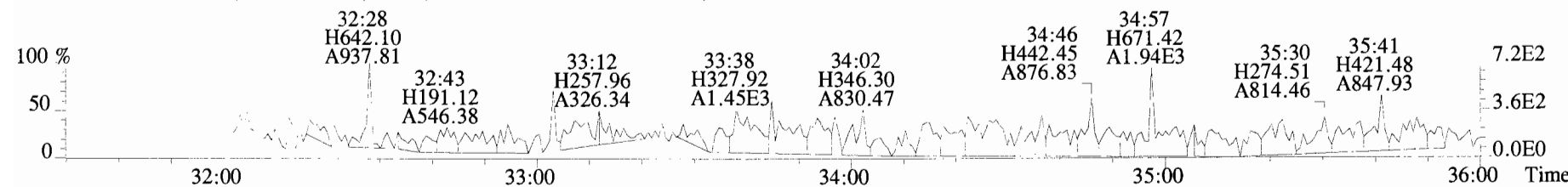
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



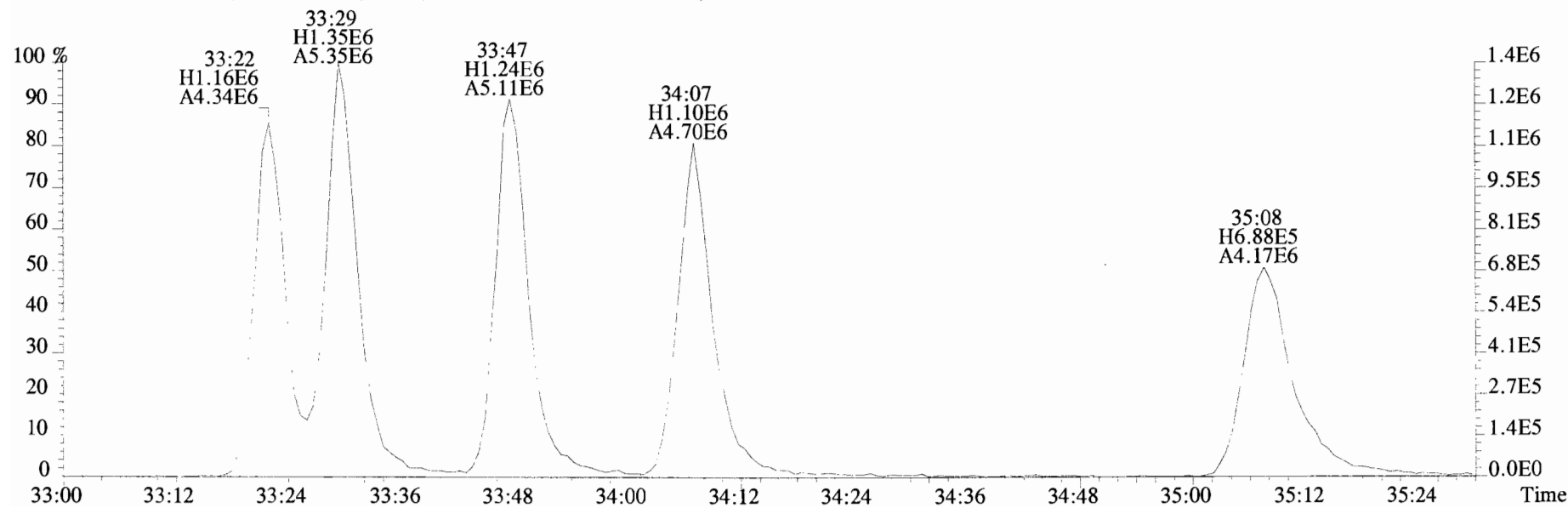
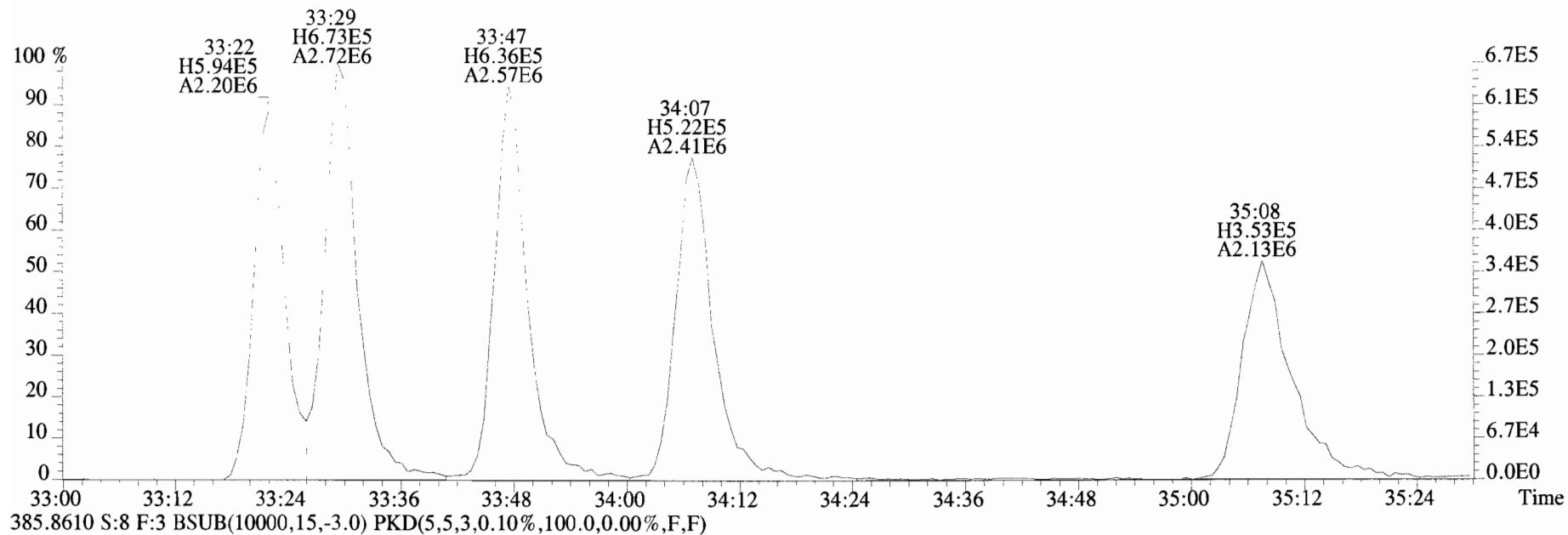
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



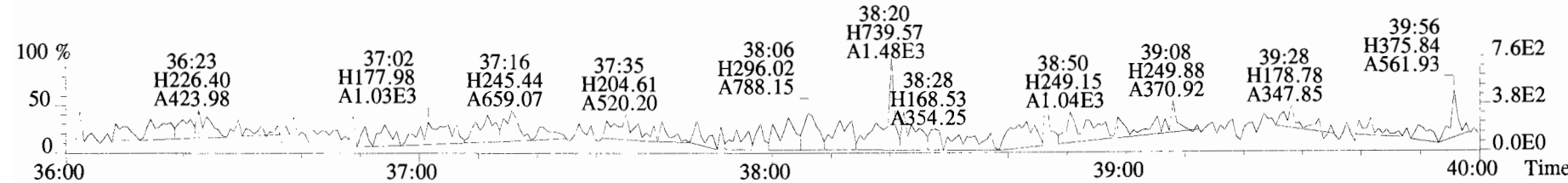
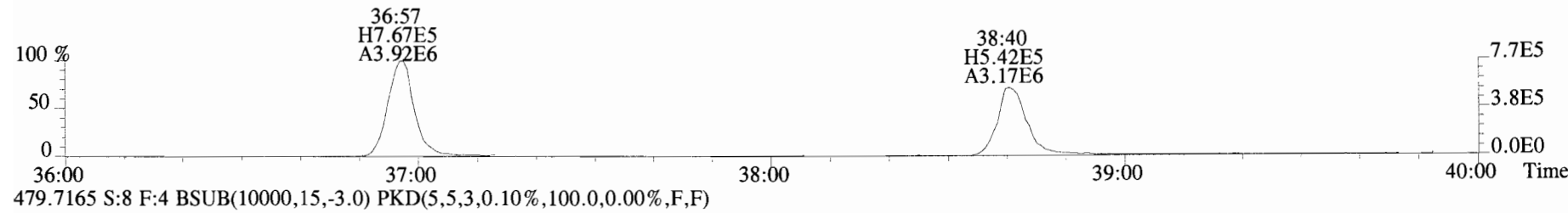
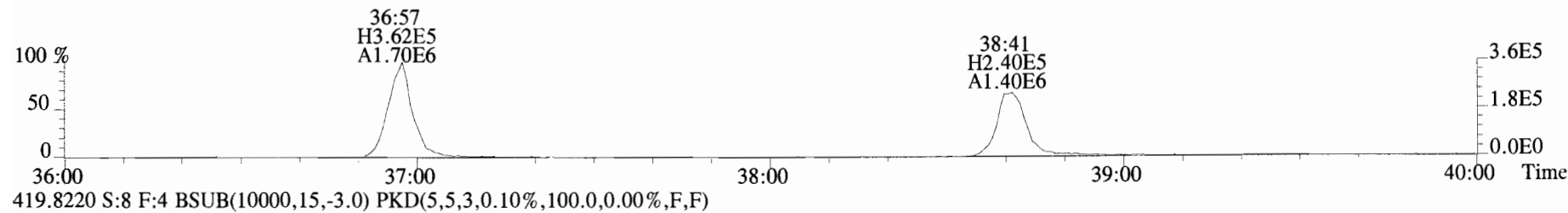
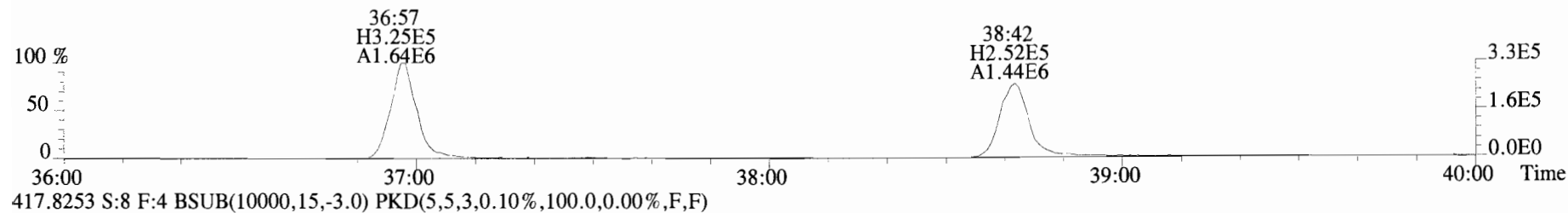
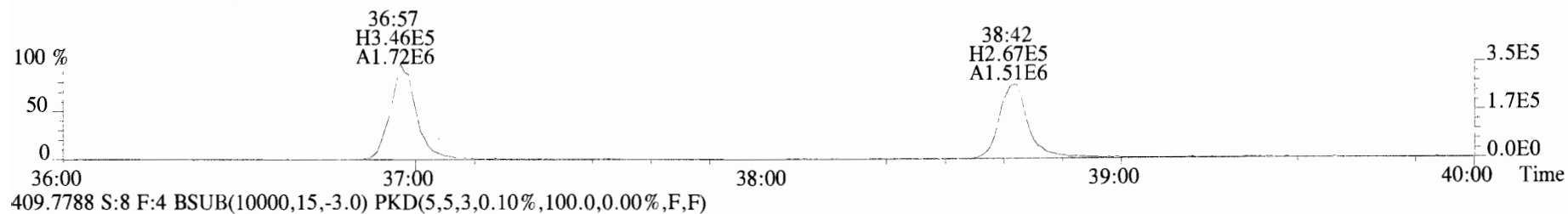
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



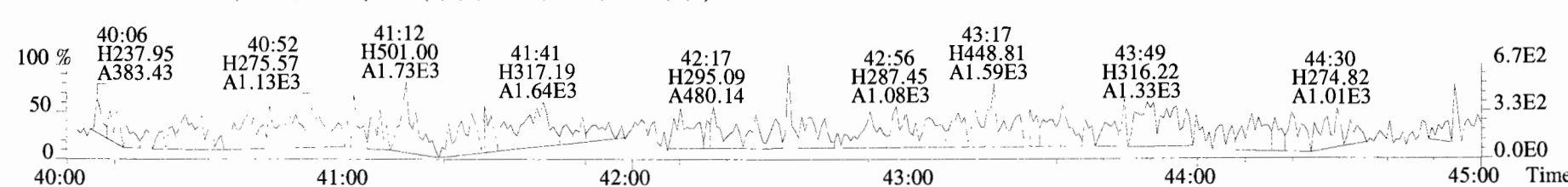
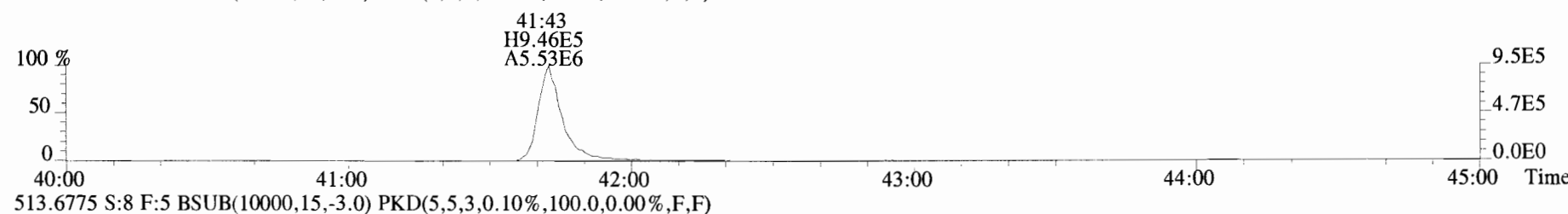
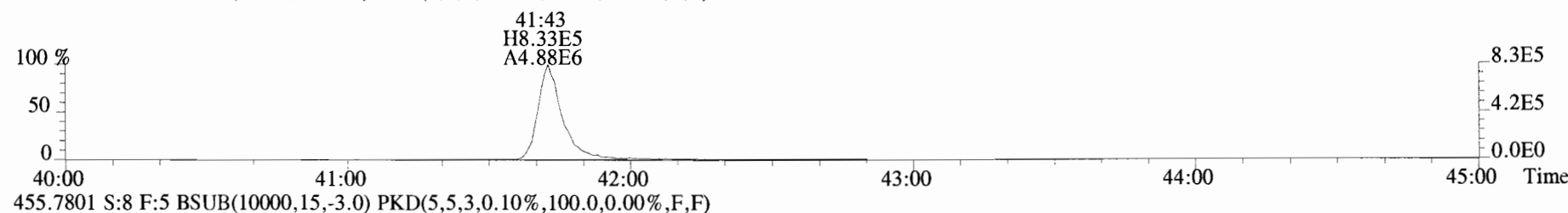
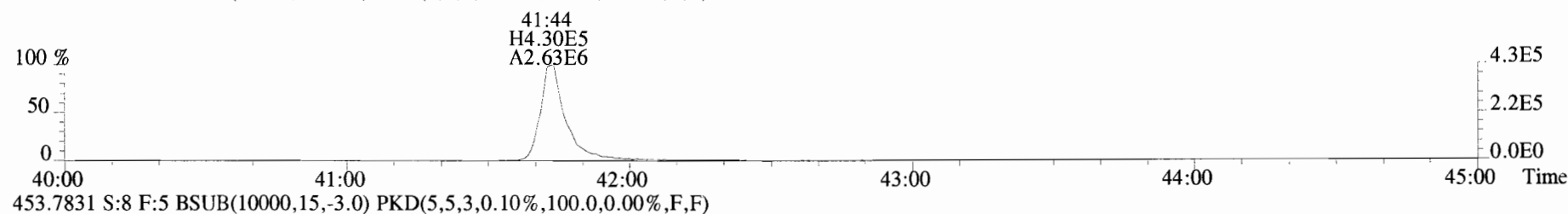
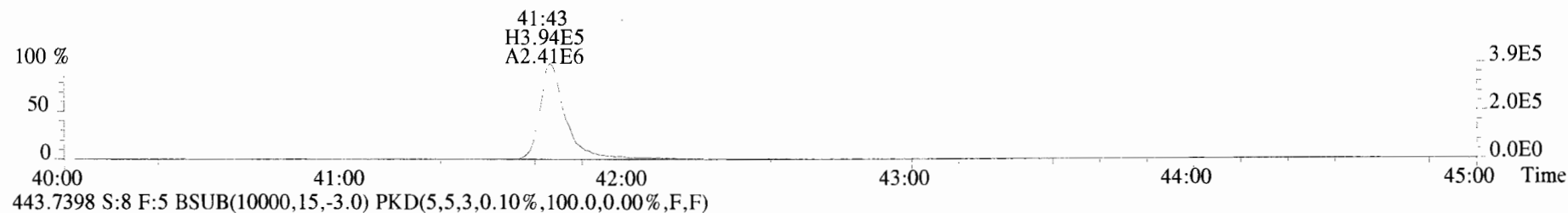
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-356 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista Analytical Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-431 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE  
Sample#8 File Text:Vista\_Analytical\_Laboratory\_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD\_DB5  
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

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GRB 02/02/2020

C: 02/04/2020

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\cb5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Compound name: 2,3,7,8-TCDD

Response Factor: 0.988069

RRF SD: 0.0483829, Relative SD: 4.89671

Response type: Internal Std ( Ref 18 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	0.250	0.83	NO	25.74	1.001	2.87e3	1.21e6	0.239	-4.3	0.945	bb
2	200131R1_2	0.500	0.77	NO	25.69	1.001	7.22e3	1.37e6	0.532	6.5	1.05	bb
3	200131R1_3	2.00	0.80	NO	25.70	1.001	3.00e4	1.44e6	2.11	5.7	1.04	bb
4	200131R1_4	10.0	0.78	NO	25.70	1.001	1.39e5	1.42e6	9.92	-0.8	0.980	db
5	200131R1_5	40.0	0.77	NO	25.69	1.001	5.51e5	1.45e6	38.3	-4.2	0.946	bb
6	200131R1_6	300	0.78	NO	25.70	1.001	5.05e6	1.75e6	291	-2.9	0.960	bb

Compound name: 1,2,3,7,8-PeCDD

Response Factor: 0.972284

RRF SD: 0.054098, Relative SD: 5.56402

Response type: Internal Std ( Ref 19 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	0.57	NO	30.67	1.000	1.12e4	9.52e5	1.21	-3.0	0.943	bb
2	200131R1_2	2.50	0.60	NO	30.64	1.001	2.75e4	1.05e6	2.70	7.9	1.05	bb
3	200131R1_3	10.0	0.63	NO	30.64	1.000	1.18e5	1.14e6	10.6	6.4	1.03	bb
4	200131R1_4	50.0	0.63	NO	30.64	1.000	5.09e5	1.09e6	48.2	-3.7	0.936	bb
5	200131R1_5	200	0.63	NO	30.62	1.000	2.30e6	1.23e6	192	-4.2	0.931	bb
6	200131R1_6	1500	0.63	NO	30.64	1.000	2.16e7	1.53e6	1450	-3.4	0.940	bb

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

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**Compound name: 1,2,3,4,7,8-HxCDD**

Response Factor: 1.07079  
 RRF SD: 0.0439702, Relative SD: 4.10634  
 Response type: Internal Std ( Ref 20 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.18	NO	34.01	1.001	9.84e3	7.72e5	1.19	-4.8	1.02	MM
2	200131R1_2	2.50	1.28	NO	33.98	1.001	2.47e4	8.79e5	2.62	4.9	1.12	bd
3	200131R1_3	10.0	1.23	NO	33.98	1.000	1.09e5	9.69e5	10.5	5.2	1.13	bd
4	200131R1_4	50.0	1.22	NO	33.99	1.000	4.82e5	9.08e5	49.6	-0.8	1.06	bd
5	200131R1_5	200	1.27	NO	33.97	1.000	2.18e6	1.04e6	195	-2.7	1.04	bd
6	200131R1_6	1500	1.21	NO	33.99	1.000	2.05e7	1.30e6	1470	-1.8	1.05	bd

**Compound name: 1,2,3,6,7,8-HxCDD**

Response Factor: 0.921124  
 RRF SD: 0.0705821, Relative SD: 7.66261  
 Response type: Internal Std ( Ref 21 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.14	NO	34.10	1.000	1.01e4	9.31e5	1.18	-5.8	0.868	MM
2	200131R1_2	2.50	1.28	NO	34.08	1.001	2.68e4	1.05e6	2.78	11.2	1.02	db
3	200131R1_3	10.0	1.21	NO	34.08	1.000	1.13e5	1.13e6	10.8	8.3	0.998	db
4	200131R1_4	50.0	1.22	NO	34.09	1.001	4.87e5	1.11e6	47.7	-4.7	0.878	db
5	200131R1_5	200	1.17	NO	34.07	1.000	2.21e6	1.24e6	193	-3.4	0.890	db
6	200131R1_6	1500	1.22	NO	34.09	1.001	2.03e7	1.56e6	1410	-5.7	0.868	db

**Compound name: 1,2,3,7,8,9-HxCDD**

Response Factor: 0.9182  
 RRF SD: 0.0596016, Relative SD: 6.49114  
 Response type: Internal Std ( Ref 22 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.36	NO	34.38	1.000	9.78e3	9.08e5	1.17	-6.1	0.862	MM
2	200131R1_2	2.50	1.21	NO	34.35	1.000	2.43e4	9.77e5	2.71	8.3	0.995	bb



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**Compound name: 1,2,3,7,8,9-HxCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	10.0	1.18	NO	34.36	1.000	1.03e5	1.04e6	10.8	8.0	0.991	bb
4	200131R1_4	50.0	1.22	NO	34.37	1.001	4.43e5	1.02e6	47.4	-5.3	0.870	bb
5	200131R1_5	200	1.22	NO	34.35	1.001	2.05e6	1.15e6	195	-2.7	0.893	bb
6	200131R1_6	1500	1.22	NO	34.37	1.001	1.94e7	1.44e6	1470	-2.2	0.898	bb

**Compound name: 1,2,3,4,6,7,8-HpCDD**

Response Factor: 0.923064  
 RRF SD: 0.0512135, Relative SD: 5.54821  
 Response type: Internal Std ( Ref 23 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.04	NO	37.92	1.000	8.20e3	7.05e5	1.26	0.7	0.930	bb
2	200131R1_2	2.50	1.06	NO	37.88	1.000	1.88e4	7.60e5	2.69	7.4	0.991	bb
3	200131R1_3	10.0	1.02	NO	37.90	1.001	7.44e4	7.62e5	10.6	5.8	0.976	bb
4	200131R1_4	50.0	1.01	NO	37.90	1.000	3.45e5	7.83e5	47.7	-4.7	0.880	bb
5	200131R1_5	200	1.00	NO	37.88	1.000	1.57e6	8.87e5	192	-4.0	0.886	bb
6	200131R1_6	1500	1.01	NO	37.91	1.001	1.45e7	1.10e6	1420	-5.2	0.875	bb

**Compound name: OCDD**

Response Factor: 0.974578  
 RRF SD: 0.0610366, Relative SD: 6.26287  
 Response type: Internal Std ( Ref 24 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	2.50	0.90	NO	40.92	1.000	1.61e4	1.29e6	2.55	2.2	0.996	bd
2	200131R1_2	5.00	0.89	NO	40.90	1.000	3.84e4	1.46e6	5.41	8.2	1.05	bd
3	200131R1_3	20.0	0.88	NO	40.90	1.000	1.46e5	1.41e6	21.2	5.9	1.03	bd
4	200131R1_4	100	0.86	NO	40.90	1.000	6.76e5	1.48e6	93.7	-6.3	0.914	MM
5	200131R1_5	400	0.87	NO	40.90	1.000	3.13e6	1.69e6	379	-5.2	0.924	bb
6	200131R1_6	3000	0.83	NO	40.92	1.000	2.97e7	2.14e6	2850	-4.8	0.927	bb

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**Compound name: 2,3,7,8-TCDF**

Response Factor: 0.801975

RRF SD: 0.0524877, Relative SD: 6.54481

Response type: Internal Std ( Ref 25 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	0.250	0.73	NO	24.85	1.001	3.48e3	1.69e6	0.257	2.8	0.824	bb
2	200131R1_2	0.500	0.74	NO	24.82	1.001	8.24e3	1.87e6	0.549	9.9	0.881	bb
3	200131R1_3	2.00	0.71	NO	24.82	1.001	3.25e4	1.95e6	2.08	4.0	0.834	bb
4	200131R1_4	10.0	0.73	NO	24.82	1.001	1.47e5	1.92e6	9.50	-5.0	0.762	bb
5	200131R1_5	40.0	0.74	NO	24.81	1.001	5.87e5	1.96e6	37.3	-6.7	0.748	bb
6	200131R1_6	300	0.74	NO	24.82	1.001	5.37e6	2.35e6	285	-4.9	0.763	bb

**Compound name: 1,2,3,7,8-PeCDF**

Response Factor: 0.907368

RRF SD: 0.0556686, Relative SD: 6.13518

Response type: Internal Std ( Ref 26 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.54	NO	29.39	1.000	1.54e4	1.46e6	1.16	-7.1	0.843	MM
2	200131R1_2	2.50	1.49	NO	29.35	1.000	4.02e4	1.66e6	2.66	6.5	0.967	bb
3	200131R1_3	10.0	1.55	NO	29.35	1.000	1.82e5	1.85e6	10.8	8.5	0.984	bb
4	200131R1_4	50.0	1.54	NO	29.37	1.000	7.66e5	1.72e6	49.2	-1.7	0.892	bb
5	200131R1_5	200	1.53	NO	29.34	1.000	3.44e6	1.96e6	193	-3.5	0.875	bb
6	200131R1_6	1500	1.52	NO	29.37	1.000	3.24e7	2.45e6	1460	-2.7	0.883	bb

**Compound name: 2,3,4,7,8-PeCDF**

Response Factor: 0.951581

RRF SD: 0.0710528, Relative SD: 7.46682

Response type: Internal Std ( Ref 27 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.39	NO	30.36	1.000	1.52e4	1.40e6	1.14	-9.0	0.866	bb
2	200131R1_2	2.50	1.49	NO	30.33	1.000	4.18e4	1.60e6	2.74	9.7	1.04	bb

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**Compound name: 2,3,4,7,8-PeCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	10.0	1.52	NO	30.33	1.000	1.83e5	1.77e6	10.9	8.5	1.03	bb
4	200131R1_4	50.0	1.52	NO	30.33	1.000	7.42e5	1.63e6	48.0	-4.1	0.913	bb
5	200131R1_5	200	1.52	NO	30.32	1.000	3.55e6	1.92e6	195	-2.7	0.926	bb
6	200131R1_6	1500	1.53	NO	30.33	1.000	3.27e7	2.35e6	1460	-2.5	0.928	bb

**Compound name: 1,2,3,4,7,8-HxCDF**

Response Factor: 0.862294

RRF SD: 0.0432122, Relative SD: 5.0113

Response type: Internal Std ( Ref 28 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.16	NO	33.13	1.000	1.04e4	9.82e5	1.22	-2.1	0.844	MM
2	200131R1_2	2.50	1.16	NO	33.10	1.000	2.37e4	1.03e6	2.66	6.4	0.917	bd
3	200131R1_3	10.0	1.18	NO	33.11	1.000	1.05e5	1.14e6	10.6	6.5	0.918	bd
4	200131R1_4	50.0	1.16	NO	33.13	1.000	4.53e5	1.09e6	48.4	-3.3	0.834	dd
5	200131R1_5	200	1.16	NO	33.10	1.001	2.04e6	1.23e6	192	-4.1	0.827	bd
6	200131R1_6	1500	1.16	NO	33.12	1.000	1.94e7	1.55e6	1450	-3.4	0.833	bd

**Compound name: 1,2,3,6,7,8-HxCDF**

Response Factor: 0.841382

RRF SD: 0.0466581, Relative SD: 5.54541

Response type: Internal Std ( Ref 29 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.21	NO	33.26	1.001	1.06e4	1.07e6	1.17	-6.2	0.789	MM
2	200131R1_2	2.50	1.19	NO	33.23	1.001	2.67e4	1.18e6	2.69	7.5	0.904	MM
3	200131R1_3	10.0	1.15	NO	33.24	1.001	1.15e5	1.29e6	10.6	6.3	0.894	db
4	200131R1_4	50.0	1.16	NO	33.24	1.000	5.01e5	1.23e6	48.3	-3.3	0.813	db
5	200131R1_5	200	1.15	NO	33.22	1.000	2.41e6	1.46e6	196	-1.9	0.825	db
6	200131R1_6	1500	1.16	NO	33.24	1.000	2.16e7	1.75e6	1470	-2.3	0.822	db

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**Compound name: 2,3,4,6,7,8-HxCDF**

Response Factor: 0.898194

RRF SD: 0.0533025, Relative SD: 5.9344

Response type: Internal Std ( Ref 30 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.07	NO	33.84	1.000	1.01e4	9.62e5	1.17	-6.1	0.844	bb
2	200131R1_2	2.50	1.21	NO	33.81	1.000	2.55e4	1.06e6	2.67	6.7	0.958	bb
3	200131R1_3	10.0	1.14	NO	33.82	1.001	1.14e5	1.17e6	10.8	8.3	0.972	bb
4	200131R1_4	50.0	1.16	NO	33.82	1.000	4.82e5	1.11e6	48.4	-3.3	0.869	bb
5	200131R1_5	200	1.17	NO	33.80	1.000	2.21e6	1.27e6	194	-2.8	0.873	bb
6	200131R1_6	1500	1.17	NO	33.82	1.000	2.08e7	1.59e6	1460	-2.8	0.873	bb

**Compound name: 1,2,3,7,8,9-HxCDF**

Response Factor: 0.857779

RRF SD: 0.0530165, Relative SD: 6.18067

Response type: Internal Std ( Ref 31 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	1.12	NO	34.74	1.000	9.51e3	8.96e5	1.24	-1.0	0.849	bb
2	200131R1_2	2.50	1.18	NO	34.71	1.000	2.15e4	9.11e5	2.76	10.2	0.946	bb
3	200131R1_3	10.0	1.17	NO	34.72	1.001	8.71e4	9.71e5	10.5	4.6	0.897	MM
4	200131R1_4	50.0	1.15	NO	34.72	1.000	3.90e5	9.57e5	47.6	-4.9	0.816	bb
5	200131R1_5	200	1.16	NO	34.70	1.000	1.74e6	1.06e6	191	-4.6	0.818	bb
6	200131R1_6	1500	1.17	NO	34.72	1.000	1.68e7	1.37e6	1430	-4.4	0.820	bb

**Compound name: 1,2,3,4,6,7,8-HpCDF**

Response Factor: 0.851072

RRF SD: 0.0458765, Relative SD: 5.39044

Response type: Internal Std ( Ref 32 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	0.94	NO	36.48	1.000	7.60e3	7.37e5	1.21	-3.0	0.826	bb
2	200131R1_2	2.50	0.99	NO	36.47	1.001	1.79e4	7.82e5	2.70	7.9	0.918	bd

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**Compound name: 1,2,3,4,6,7,8-HpCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	10.0	0.96	NO	36.46	1.000	7.21e4	8.00e5	10.6	5.9	0.901	bd
4	200131R1_4	50.0	0.96	NO	36.47	1.001	3.29e5	8.01e5	48.2	-3.5	0.821	bb
5	200131R1_5	200	0.97	NO	36.45	1.000	1.46e6	8.88e5	193	-3.4	0.822	bb
6	200131R1_6	1500	0.96	NO	36.47	1.000	1.37e7	1.12e6	1440	-3.9	0.818	bb

**Compound name: 1,2,3,4,7,8,9-HpCDF**

Response Factor: 0.979894

RRF SD: 0.0488516, Relative SD: 4.9854

Response type: Internal Std ( Ref 33 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	1.25	0.96	NO	38.50	1.000	5.89e3	5.04e5	1.19	-4.7	0.934	MM
2	200131R1_2	2.50	0.97	NO	38.48	1.000	1.47e4	5.63e5	2.66	6.4	1.04	bb
3	200131R1_3	10.0	0.96	NO	38.49	1.000	5.91e4	5.68e5	10.6	6.2	1.04	bb
4	200131R1_4	50.0	0.97	NO	38.50	1.000	2.74e5	5.80e5	48.2	-3.6	0.945	bb
5	200131R1_5	200	0.96	NO	38.48	1.000	1.25e6	6.58e5	194	-2.9	0.952	bb
6	200131R1_6	1500	0.96	NO	38.50	1.000	1.20e7	8.31e5	1480	-1.5	0.966	bb

**Compound name: OCDF**

Response Factor: 0.805548

RRF SD: 0.0471476, Relative SD: 5.85286

Response type: Internal Std ( Ref 34 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	2.50	0.85	NO	41.10	1.000	1.39e4	1.44e6	2.40	-4.0	0.773	bb
2	200131R1_2	5.00	0.87	NO	41.08	1.000	3.50e4	1.59e6	5.46	9.2	0.880	bb
3	200131R1_3	20.0	0.87	NO	41.09	1.000	1.37e5	1.61e6	21.1	5.5	0.850	MM
4	200131R1_4	100	0.85	NO	41.10	1.000	6.45e5	1.67e6	95.6	-4.4	0.770	bb
5	200131R1_5	400	0.86	NO	41.09	1.000	2.92e6	1.87e6	388	-3.1	0.781	bb
6	200131R1_6	3000	0.86	NO	41.10	1.000	2.81e7	2.40e6	2900	-3.3	0.779	bb

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

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**Compound name: 13C-2,3,7,8-TCDD**

Response Factor: 1.19852

RRF SD: 0.0939444, Relative SD: 7.83835

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.79	NO	25.72	1.026	1.21e6	9.30e5	109	9.0	1.31	bb
2	200131R1_2	100	0.79	NO	25.67	1.026	1.37e6	1.27e6	90.2	-9.8	1.08	bb
3	200131R1_3	100	0.79	NO	25.67	1.026	1.44e6	1.31e6	91.3	-8.7	1.09	bb
4	200131R1_4	100	0.79	NO	25.67	1.026	1.42e6	1.19e6	99.9	-0.1	1.20	bb
5	200131R1_5	100	0.80	NO	25.66	1.026	1.45e6	1.18e6	103	2.7	1.23	bb
6	200131R1_6	100	0.78	NO	25.69	1.026	1.75e6	1.37e6	107	6.9	1.28	bb

**Compound name: 13C-1,2,3,7,8-PeCDD**

Response Factor: 0.966657

RRF SD: 0.113301, Relative SD: 11.7209

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.64	NO	30.65	1.222	9.52e5	9.30e5	106	5.9	1.02	bb
2	200131R1_2	100	0.63	NO	30.61	1.223	1.05e6	1.27e6	85.4	-14.6	0.826	bb
3	200131R1_3	100	0.64	NO	30.62	1.223	1.14e6	1.31e6	90.0	-10.0	0.870	bb
4	200131R1_4	100	0.65	NO	30.62	1.223	1.09e6	1.19e6	95.0	-5.0	0.918	bb
5	200131R1_5	100	0.64	NO	30.61	1.223	1.23e6	1.18e6	108	7.9	1.04	bb
6	200131R1_6	100	0.64	NO	30.62	1.223	1.53e6	1.37e6	116	15.8	1.12	bb

**Compound name: 13C-1,2,3,4,7,8-HxCDD**

Response Factor: 0.873915

RRF SD: 0.0797425, Relative SD: 9.12474

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.26	NO	33.99	1.014	7.72e5	8.41e5	105	5.1	0.918	bd
2	200131R1_2	100	1.27	NO	33.96	1.014	8.79e5	1.13e6	89.1	-10.9	0.778	bd

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**Compound name: 13C-1,2,3,4,7,8-HxCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	100	1.28	NO	33.97	1.014	9.69e5	1.23e6	90.5	-9.5	0.791	bd
4	200131R1_4	100	1.26	NO	33.98	1.014	9.08e5	1.05e6	98.8	-1.2	0.863	bd
5	200131R1_5	100	1.27	NO	33.96	1.014	1.04e6	1.15e6	104	3.8	0.907	bd
6	200131R1_6	100	1.28	NO	33.98	1.014	1.30e6	1.32e6	113	12.8	0.986	bd

**Compound name: 13C-1,2,3,6,7,8-HxCDD**

Response Factor: 1.04579  
 RRF SD: 0.10317, Relative SD: 9.86527  
 Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.24	NO	34.09	1.017	9.31e5	8.41e5	106	5.9	1.11	db
2	200131R1_2	100	1.25	NO	34.06	1.017	1.05e6	1.13e6	88.6	-11.4	0.927	db
3	200131R1_3	100	1.25	NO	34.07	1.017	1.13e6	1.23e6	88.2	-11.8	0.923	db
4	200131R1_4	100	1.25	NO	34.07	1.017	1.11e6	1.05e6	101	0.9	1.05	db
5	200131R1_5	100	1.26	NO	34.06	1.017	1.24e6	1.15e6	103	3.3	1.08	db
6	200131R1_6	100	1.27	NO	34.07	1.017	1.56e6	1.32e6	113	13.1	1.18	db

**Compound name: 13C-1,2,3,7,8,9-HxCDD**

Response Factor: 0.974375  
 RRF SD: 0.10254, Relative SD: 10.5236  
 Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.26	NO	34.37	1.025	9.08e5	8.41e5	111	10.8	1.08	bb
2	200131R1_2	100	1.24	NO	34.34	1.025	9.77e5	1.13e6	88.8	-11.2	0.865	bb
3	200131R1_3	100	1.23	NO	34.35	1.025	1.04e6	1.23e6	87.1	-12.9	0.848	bb
4	200131R1_4	100	1.26	NO	34.35	1.025	1.02e6	1.05e6	99.4	-0.6	0.968	bb
5	200131R1_5	100	1.22	NO	34.33	1.025	1.15e6	1.15e6	102	2.1	0.995	bb
6	200131R1_6	100	1.27	NO	34.35	1.025	1.44e6	1.32e6	112	11.8	1.09	bb

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**Compound name: 13C-1,2,3,4,6,7,8-HpCDD**

Response Factor: 0.747228

RRF SD: 0.0868418, Relative SD: 11.6219

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.04	NO	37.91	1.131	7.05e5	8.41e5	112	12.3	0.839	bb
2	200131R1_2	100	1.03	NO	37.88	1.131	7.60e5	1.13e6	90.0	-10.0	0.673	bb
3	200131R1_3	100	1.05	NO	37.88	1.131	7.62e5	1.23e6	83.2	-16.8	0.622	bb
4	200131R1_4	100	1.05	NO	37.88	1.131	7.83e5	1.05e6	99.7	-0.3	0.745	bb
5	200131R1_5	100	1.05	NO	37.88	1.131	8.87e5	1.15e6	103	3.2	0.771	bb
6	200131R1_6	100	1.03	NO	37.88	1.131	1.10e6	1.32e6	112	11.6	0.834	bb

**Compound name: 13C-OCDD**

Response Factor: 0.706533

RRF SD: 0.0850665, Relative SD: 12.04

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	200	0.89	NO	40.90	1.220	1.29e6	8.41e5	218	8.9	0.770	bb
2	200131R1_2	200	0.92	NO	40.88	1.221	1.46e6	1.13e6	183	-8.6	0.646	bd
3	200131R1_3	200	0.90	NO	40.89	1.221	1.41e6	1.23e6	163	-18.5	0.575	bb
4	200131R1_4	200	0.90	NO	40.90	1.221	1.48e6	1.05e6	199	-0.4	0.704	bb
5	200131R1_5	200	0.86	NO	40.89	1.221	1.69e6	1.15e6	208	4.0	0.735	bb
6	200131R1_6	200	0.84	NO	40.90	1.221	2.14e6	1.32e6	229	14.6	0.809	bb

**Compound name: 13C-2,3,7,8-TCDF**

Response Factor: 1.06529

RRF SD: 0.0915828, Relative SD: 8.59701

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.77	NO	24.84	0.990	1.69e6	1.42e6	112	11.8	1.19	bb
2	200131R1_2	100	0.78	NO	24.79	0.990	1.87e6	1.95e6	89.9	-10.1	0.958	bb



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**Compound name: 13C-2,3,7,8-TCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	100	0.76	NO	24.79	0.990	1.95e6	2.03e6	90.3	-9.7	0.962	bb
4	200131R1_4	100	0.77	NO	24.79	0.990	1.92e6	1.80e6	100	0.3	1.07	bb
5	200131R1_5	100	0.77	NO	24.78	0.990	1.96e6	1.80e6	103	2.6	1.09	bb
6	200131R1_6	100	0.77	NO	24.81	0.990	2.35e6	2.10e6	105	5.1	1.12	bb

**Compound name: 13C-1,2,3,7,8-PeCDF**

Response Factor: 1.00172

RRF SD: 0.117905, Relative SD: 11.7703

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.57	NO	29.37	1.171	1.46e6	1.42e6	103	3.0	1.03	bb
2	200131R1_2	100	1.56	NO	29.34	1.172	1.66e6	1.95e6	84.9	-15.1	0.851	bb
3	200131R1_3	100	1.61	NO	29.34	1.172	1.85e6	2.03e6	91.2	-8.8	0.914	bb
4	200131R1_4	100	1.59	NO	29.35	1.173	1.72e6	1.80e6	95.2	-4.8	0.953	bb
5	200131R1_5	100	1.60	NO	29.32	1.172	1.96e6	1.80e6	109	9.1	1.09	bb
6	200131R1_6	100	1.59	NO	29.35	1.172	2.45e6	2.10e6	117	16.5	1.17	bb

**Compound name: 13C-2,3,4,7,8-PeCDF**

Response Factor: 0.961692

RRF SD: 0.117094, Relative SD: 12.1758

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	1.59	NO	30.35	1.210	1.40e6	1.42e6	103	2.7	0.988	db
2	200131R1_2	100	1.59	NO	30.32	1.211	1.60e6	1.95e6	85.2	-14.8	0.820	db
3	200131R1_3	100	1.56	NO	30.32	1.211	1.77e6	2.03e6	90.8	-9.2	0.873	bb
4	200131R1_4	100	1.61	NO	30.32	1.211	1.63e6	1.80e6	93.8	-6.2	0.902	db
5	200131R1_5	100	1.59	NO	30.30	1.211	1.92e6	1.80e6	111	10.9	1.07	db
6	200131R1_6	100	1.62	NO	30.33	1.211	2.35e6	2.10e6	117	16.5	1.12	db

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**Compound name: 13C-1,2,3,4,7,8-HxCDF**

Response Factor: 1.0492

RRF SD: 0.111678, Relative SD: 10.6441

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.51	NO	33.13	0.988	9.82e5	8.41e5	111	11.3	1.17	bd
2	200131R1_2	100	0.50	NO	33.09	0.988	1.03e6	1.13e6	87.3	-12.7	0.915	bd
3	200131R1_3	100	0.51	NO	33.10	0.988	1.14e6	1.23e6	88.8	-11.2	0.932	bd
4	200131R1_4	100	0.50	NO	33.11	0.988	1.09e6	1.05e6	98.5	-1.5	1.03	bd
5	200131R1_5	100	0.51	NO	33.08	0.988	1.23e6	1.15e6	102	2.0	1.07	bd
6	200131R1_6	100	0.50	NO	33.11	0.989	1.55e6	1.32e6	112	12.1	1.18	bd

**Compound name: 13C-1,2,3,6,7,8-HxCDF**

Response Factor: 1.18988

RRF SD: 0.120357, Relative SD: 10.1151

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.51	NO	33.24	0.992	1.07e6	8.41e5	107	7.4	1.28	db
2	200131R1_2	100	0.50	NO	33.21	0.992	1.18e6	1.13e6	88.0	-12.0	1.05	db
3	200131R1_3	100	0.51	NO	33.22	0.992	1.29e6	1.23e6	88.2	-11.8	1.05	db
4	200131R1_4	100	0.51	NO	33.23	0.992	1.23e6	1.05e6	98.5	-1.5	1.17	db
5	200131R1_5	100	0.51	NO	33.21	0.992	1.46e6	1.15e6	107	6.7	1.27	db
6	200131R1_6	100	0.51	NO	33.23	0.992	1.75e6	1.32e6	111	11.2	1.32	db

**Compound name: 13C-2,3,4,6,7,8-HxCDF**

Response Factor: 1.06623

RRF SD: 0.103589, Relative SD: 9.71549

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.51	NO	33.83	1.009	9.62e5	8.41e5	107	7.2	1.14	bb
2	200131R1_2	100	0.50	NO	33.80	1.009	1.06e6	1.13e6	88.4	-11.6	0.943	bb

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**Compound name: 13C-2,3,4,6,7,8-HxCDF**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	100	0.51	NO	33.79	1.009	1.17e6	1.23e6	89.3	-10.7	0.953	bb
4	200131R1_4	100	0.51	NO	33.81	1.009	1.11e6	1.05e6	99.0	-1.0	1.06	bb
5	200131R1_5	100	0.51	NO	33.78	1.009	1.27e6	1.15e6	103	3.4	1.10	bb
6	200131R1_6	100	0.50	NO	33.81	1.009	1.59e6	1.32e6	113	12.6	1.20	bb

**Compound name: 13C-1,2,3,7,8,9-HxCDF**

Response Factor: 0.922357

RRF SD: 0.112781, Relative SD: 12.2275

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.52	NO	34.73	1.036	8.96e5	8.41e5	115	15.5	1.07	bd
2	200131R1_2	100	0.50	NO	34.70	1.036	9.11e5	1.13e6	87.5	-12.5	0.807	bb
3	200131R1_3	100	0.50	NO	34.70	1.036	9.71e5	1.23e6	85.9	-14.1	0.793	bb
4	200131R1_4	100	0.51	NO	34.71	1.036	9.57e5	1.05e6	98.7	-1.3	0.910	bb
5	200131R1_5	100	0.50	NO	34.69	1.036	1.06e6	1.15e6	100	0.1	0.923	bb
6	200131R1_6	100	0.52	NO	34.71	1.036	1.37e6	1.32e6	112	12.3	1.04	bb

**Compound name: 13C-1,2,3,4,6,7,8-HpCDF**

Response Factor: 0.767165

RRF SD: 0.0861255, Relative SD: 11.2265

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.44	NO	36.47	1.088	7.37e5	8.41e5	114	14.2	0.876	bb
2	200131R1_2	100	0.43	NO	36.44	1.088	7.82e5	1.13e6	90.2	-9.8	0.692	bb
3	200131R1_3	100	0.42	NO	36.45	1.088	8.00e5	1.23e6	85.1	-14.9	0.653	bb
4	200131R1_4	100	0.43	NO	36.45	1.088	8.01e5	1.05e6	99.3	-0.7	0.762	bb
5	200131R1_5	100	0.44	NO	36.44	1.088	8.88e5	1.15e6	101	0.6	0.772	bb
6	200131R1_6	100	0.44	NO	36.46	1.088	1.12e6	1.32e6	111	10.6	0.848	bb

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

Last Altered: Sunday, February 02, 2020 11:05:29 AM Pacific Standard Time  
 Printed: Sunday, February 02, 2020 11:14:39 AM Pacific Standard Time

**Compound name: 13C-1,2,3,4,7,8,9-HpCDF**

Response Factor: 0.552323  
 RRF SD: 0.0621028, Relative SD: 11.2439  
 Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.44	NO	38.50	1.149	5.04e5	8.41e5	109	8.5	0.600	MM
2	200131R1_2	100	0.43	NO	38.47	1.149	5.63e5	1.13e6	90.3	-9.7	0.499	bb
3	200131R1_3	100	0.44	NO	38.48	1.149	5.68e5	1.23e6	83.9	-16.1	0.464	bb
4	200131R1_4	100	0.43	NO	38.48	1.148	5.80e5	1.05e6	99.8	-0.2	0.551	bb
5	200131R1_5	100	0.43	NO	38.47	1.149	6.58e5	1.15e6	104	3.6	0.572	bb
6	200131R1_6	100	0.43	NO	38.49	1.149	8.31e5	1.32e6	114	13.9	0.629	bb

**Compound name: 13C-OCDF**

Response Factor: 0.78941  
 RRF SD: 0.0937006, Relative SD: 11.8697  
 Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	200	0.88	NO	41.10	1.226	1.44e6	8.41e5	217	8.5	0.856	bb
2	200131R1_2	200	0.86	NO	41.07	1.226	1.59e6	1.13e6	178	-10.8	0.704	bb
3	200131R1_3	200	0.84	NO	41.08	1.226	1.61e6	1.23e6	167	-16.6	0.658	bb
4	200131R1_4	200	0.87	NO	41.08	1.226	1.67e6	1.05e6	202	0.8	0.796	bb
5	200131R1_5	200	0.86	NO	41.07	1.227	1.87e6	1.15e6	206	2.8	0.812	bb
6	200131R1_6	200	0.87	NO	41.09	1.227	2.40e6	1.32e6	230	15.2	0.910	bb

**Compound name: 37Cl-2,3,7,8-TCDD**

Response Factor: 1.17626  
 RRF SD: 0.0677436, Relative SD: 5.75926  
 Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	0.250			25.74	1.026	2.61e3	9.30e5	0.239	-4.6	1.12	bb
2	200131R1_2	0.500			25.70	1.027	7.49e3	1.27e6	0.502	0.3	1.18	bb

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

Last Altered: Sunday, February 02, 2020 11:05:29 AM Pacific Standard Time  
 Printed: Sunday, February 02, 2020 11:14:39 AM Pacific Standard Time

**Compound name: 37Cl-2,3,7,8-TCDD**

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
3	200131R1_3	2.00			25.70	1.027	2.85e4	1.31e6	1.85	-7.7	1.09	bb
4	200131R1_4	10.0			25.70	1.027	1.40e5	1.19e6	10.0	0.4	1.18	bb
5	200131R1_5	40.0			25.69	1.027	5.71e5	1.18e6	41.0	2.6	1.21	bb
6	200131R1_6	200			25.70	1.026	3.51e6	1.37e6	218	8.9	1.28	bb

**Compound name: 13C-1,2,3,4-TCDD**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 36 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.78	NO	25.08	1.000	9.30e5	9.30e5	100	0.0	1.00	bb
2	200131R1_2	100	0.80	NO	25.03	1.000	1.27e6	1.27e6	100	0.0	1.00	bb
3	200131R1_3	100	0.80	NO	25.03	1.000	1.31e6	1.31e6	100	0.0	1.00	bb
4	200131R1_4	100	0.80	NO	25.03	1.000	1.19e6	1.19e6	100	0.0	1.00	bb
5	200131R1_5	100	0.80	NO	25.02	1.000	1.18e6	1.18e6	100	0.0	1.00	bb
6	200131R1_6	100	0.80	NO	25.05	1.000	1.37e6	1.37e6	100	0.0	1.00	bb

**Compound name: 13C-1,2,3,4-TCDF**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 37 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.79	NO	23.42	1.000	1.42e6	1.42e6	100	0.0	1.00	bd
2	200131R1_2	100	0.79	NO	23.35	1.000	1.95e6	1.95e6	100	0.0	1.00	bb
3	200131R1_3	100	0.79	NO	23.37	1.000	2.03e6	2.03e6	100	0.0	1.00	bb
4	200131R1_4	100	0.79	NO	23.37	1.000	1.80e6	1.80e6	100	0.0	1.00	bb
5	200131R1_5	100	0.80	NO	23.35	1.000	1.80e6	1.80e6	100	0.0	1.00	bb
6	200131R1_6	100	0.79	NO	23.39	1.000	2.10e6	2.10e6	100	0.0	1.00	bb

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-CRV.qld

Last Altered: Sunday, February 02, 2020 11:05:29 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:14:39 AM Pacific Standard Time

**Compound name: 13C-1,2,3,4,6,9-HxCDF**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 38 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131R1_1	100	0.51	NO	33.52	1.000	8.41e5	8.41e5	100	0.0	1.00	bb
2	200131R1_2	100	0.51	NO	33.49	1.000	1.13e6	1.13e6	100	0.0	1.00	bb
3	200131R1_3	100	0.51	NO	33.50	1.000	1.23e6	1.23e6	100	0.0	1.00	bb
4	200131R1_4	100	0.51	NO	33.51	1.000	1.05e6	1.05e6	100	0.0	1.00	bb
5	200131R1_5	100	0.51	NO	33.49	1.000	1.15e6	1.15e6	100	0.0	1.00	bb
6	200131R1_6	100	0.51	NO	33.50	1.000	1.32e6	1.32e6	100	0.0	1.00	bb

Vista Analytical Laboratory VG-11

Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:18:48 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:18:51 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23

Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Compound name: 2,3,7,8-TCDD

	Name	ID	Acq.Date	Acq.Time
1	200131R1_1	ST200131R1_1 1613 CS0 19L2302	31-Jan-20	16:48:41
2	200131R1_2	ST200131R1_2 1613 CS1 19L2303	31-Jan-20	17:37:04
3	200131R1_3	ST200131R1_3 1613 CS2 19L2304	31-Jan-20	18:23:19
4	200131R1_4	ST200131R1_4 1613 CS3 19L2305	31-Jan-20	19:10:18
5	200131R1_5	ST200131R1_5 1613 CS4 19L2306	31-Jan-20	19:57:17
6	200131R1_6	ST200131R1_6 1613 CS5 19L2307	31-Jan-20	20:44:23
7	200131R1_7	SOLVENT BLANK	31-Jan-20	21:31:31
8	200131R1_8	SS200131R1_1 1613 SSS 19L2308	31-Jan-20	22:18:30
9	200131R1_9	ST200131R1_7 1613 CS3 19I1604	31-Jan-20	23:05:36
10	200131R1_10	B0A0133-BS1 OPR 1	31-Jan-20	23:52:35
11	200131R1_11	B0A0226-BS1 OPR 10	01-Feb-20	00:39:35
12	200131R1_12	SOLVENT BLANK	01-Feb-20	01:26:32
13	200131R1_13	B0A0133-BLK1 Method Blank 1	01-Feb-20	02:13:32
14	200131R1_14	B0A0226-BLK1 Method Blank 10	01-Feb-20	03:00:32
15	200131R1_15	1904161-10RE1 PDI-046SC-A-02-03-191001 ...	01-Feb-20	03:47:38
16	200131R1_16	1904161-16RE1 PDI-066SC-A-06-07-191011 ...	01-Feb-20	04:34:37
17	200131R1_17	1904207-04RE1 PDI-076SC-A-05-06-191013 ...	01-Feb-20	05:21:38
18	200131R1_18	1903647-05@2X PDI-067SC-B-06-08-191010 ...	01-Feb-20	06:08:35
19	200131R1_19	1903647-02@10X PDI-067SC-B-00-02-19101...	01-Feb-20	06:55:34

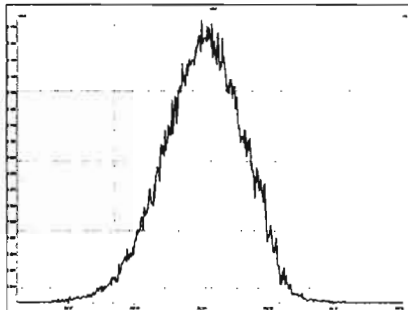
Experiment Calibration Report

MassLynx 4.1 SCN815

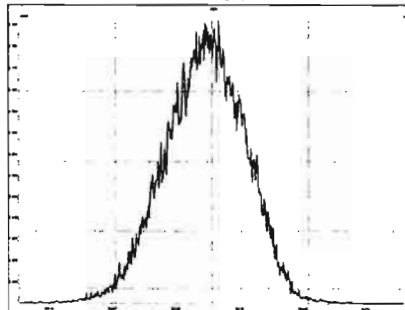
File: Experiment: OCDD\_DB5.exp Reference: pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, January 31, 2020 16:41:39 Pacific Standard Time

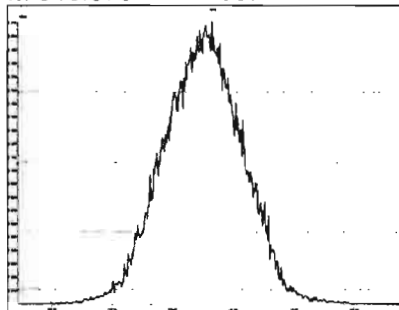
M 292.9824 R 10370



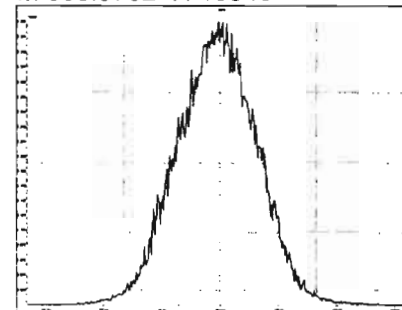
M 304.9824 R 10917



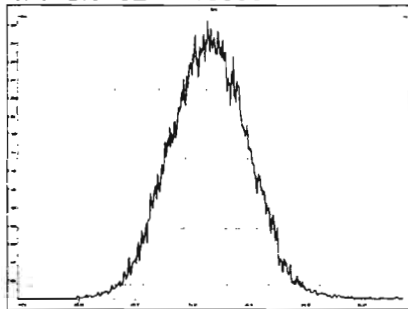
M 318.9792 R 10637



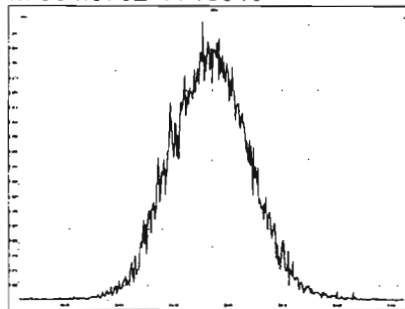
M 330.9792 R 10640



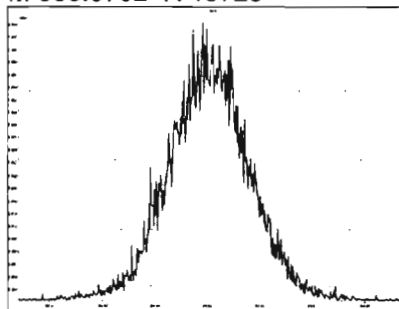
M 342.9792 R 10593



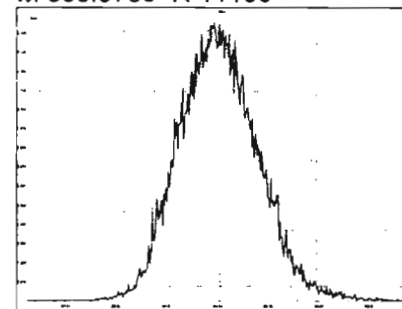
M 354.9792 R 10919



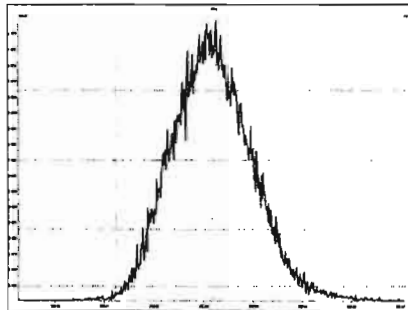
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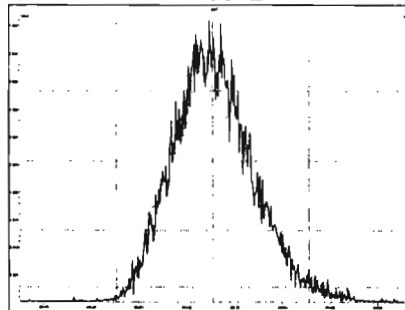
M 380.9760 R 11160



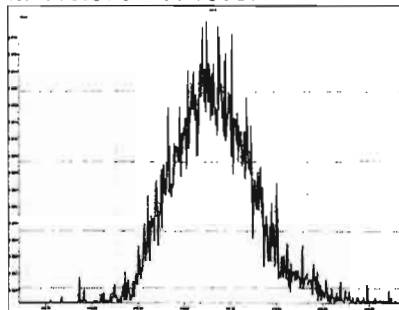
M 392.9760 R 11015



M 404.9760 R 10822



M 416.9760 R 10507





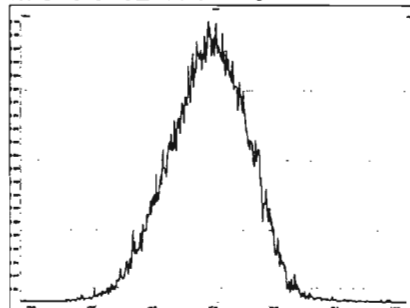
Experiment Calibration Report

MassLynx 4.1 SCN815

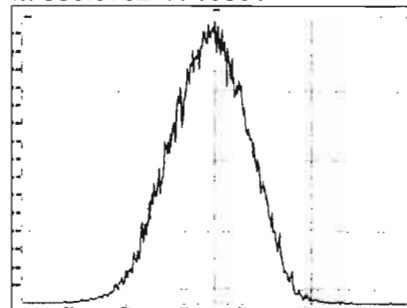
File: Experiment: OCDD\_DB5.exp Reference: pfk.ref Function: 2 @ 200 (ppm)

Printed: Friday, January 31, 2020 16:42:23 Pacific Standard Time

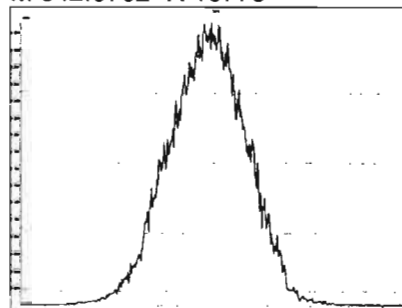
M 318.9792 R 11110



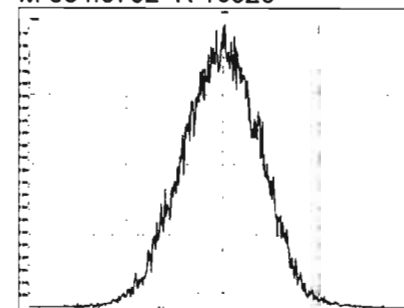
M 330.9792 R 10681



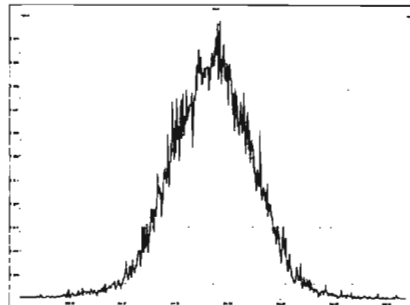
M 342.9792 R 10776



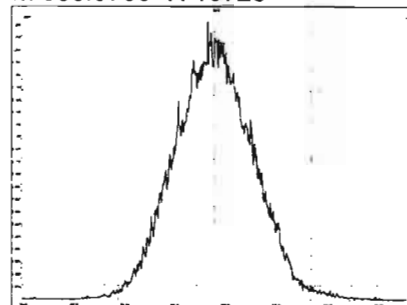
M 354.9792 R 10920



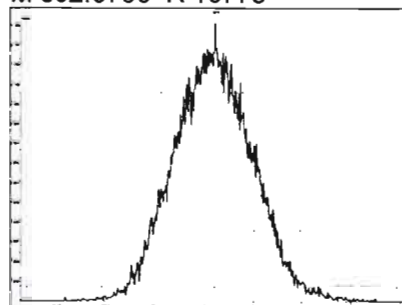
M 366.9792 R 10730



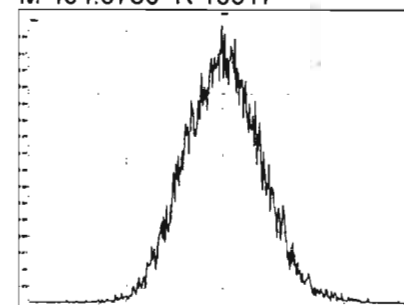
M 380.9760 R 10729



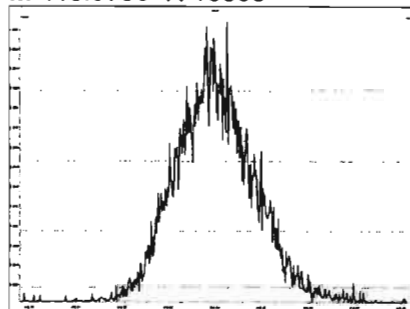
M 392.9760 R 10778



M 404.9760 R 10917



M 416.9760 R 10503



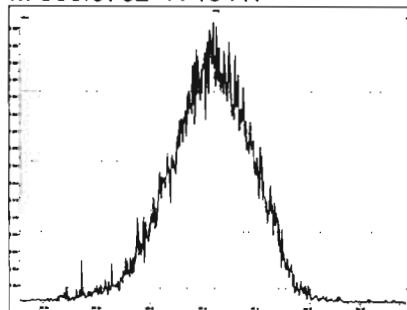
Experiment Calibration Report

MassLynx 4.1 SCN815

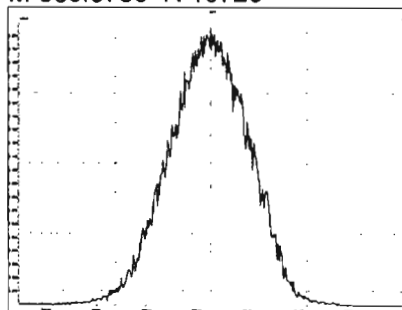
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Printed: Friday, January 31, 2020 16:43:30 Pacific Standard Time

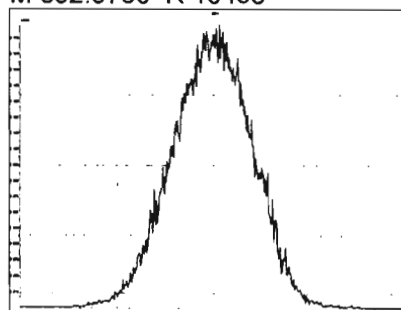
M 366.9792 R 10417



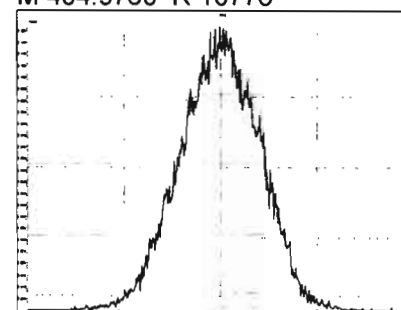
M 380.9760 R 10729



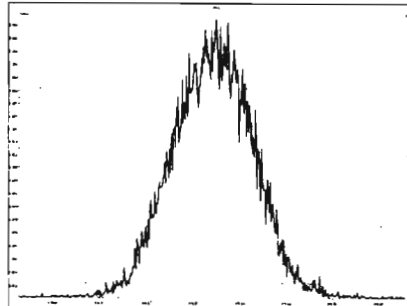
M 392.9760 R 10458



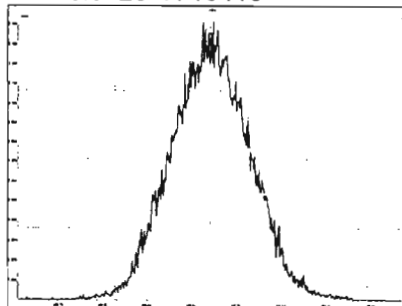
M 404.9760 R 10776



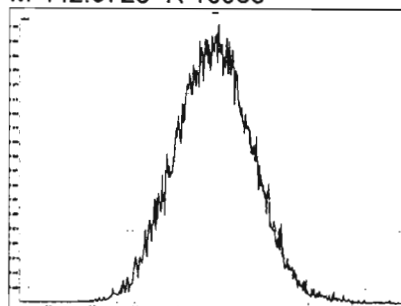
M 416.9760 R 10728



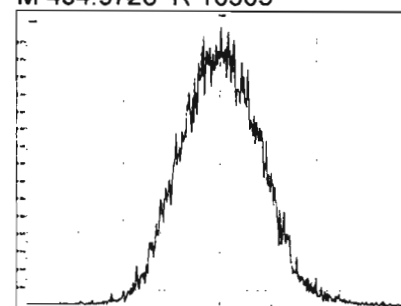
M 430.9728 R 10418



M 442.9728 R 10965



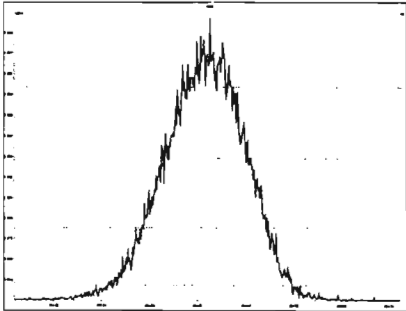
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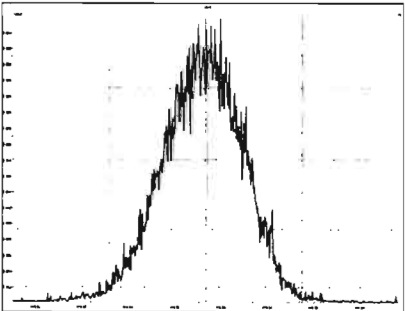
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Printed: Friday, January 31, 2020 16:44:27 Pacific Standard Time

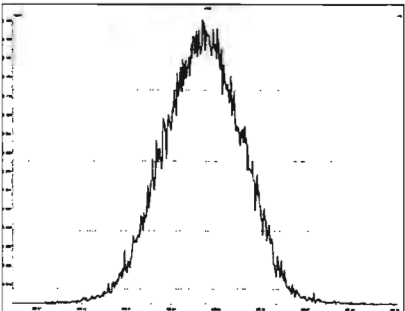
M 404.9760 R 10461



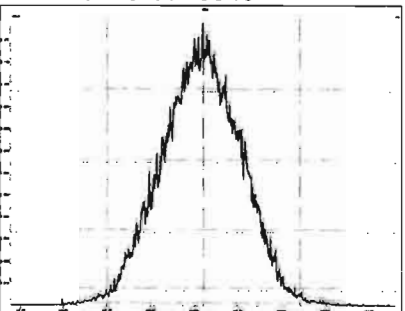
M 416.9760 R 10503



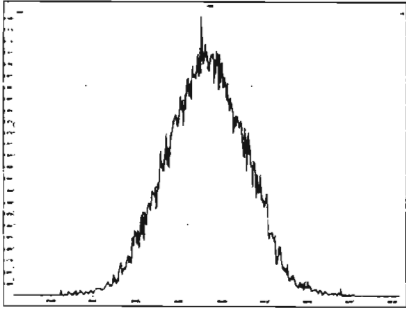
M 430.9728 R 10820



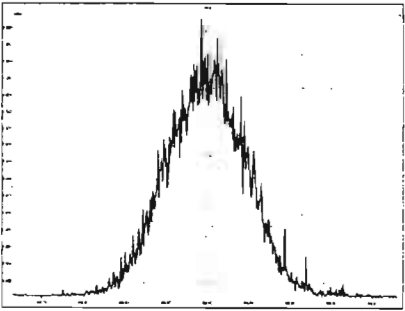
M 442.9728 R 10545



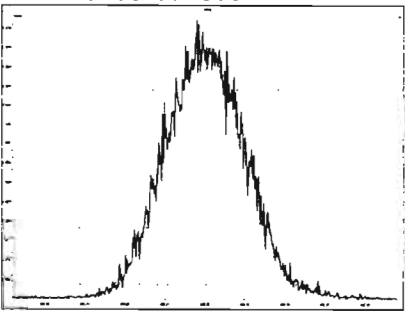
M 454.9728 R 10637



M 466.9728 R 11014



M 480.9696 R 10965



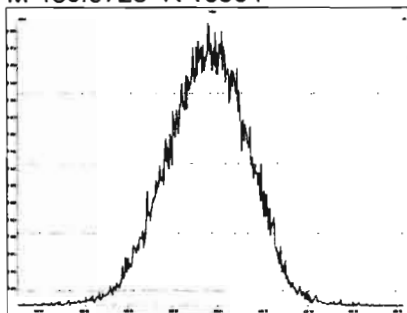
Experiment Calibration Report

MassLynx 4.1 SCN815

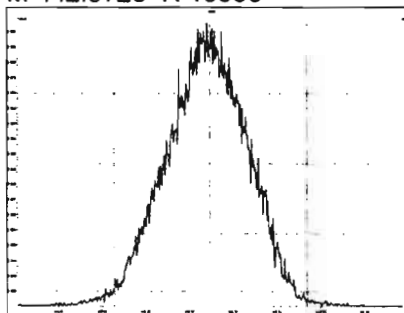
File: Experiment: OCDD\_DB5.exp Reference: pfk.ref Function: 5 @ 200 (ppm)

Printed: Friday, January 31, 2020 16:45:52 Pacific Standard Time

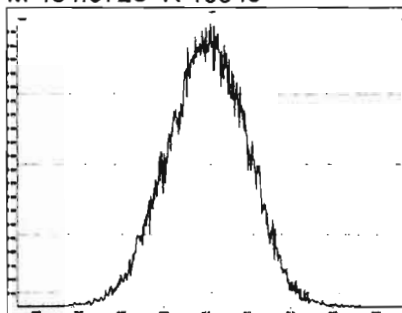
M 430.9728 R 10504



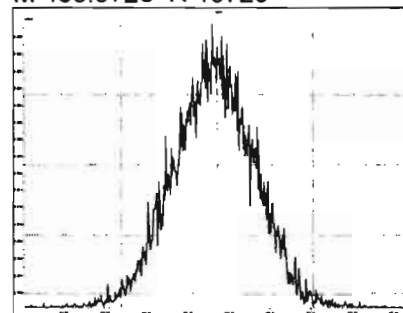
M 442.9728 R 10550



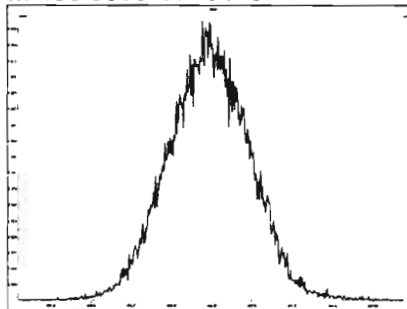
M 454.9728 R 10549



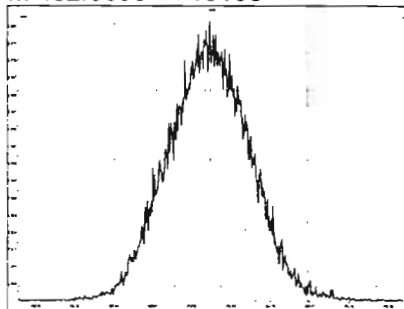
M 466.9728 R 10729



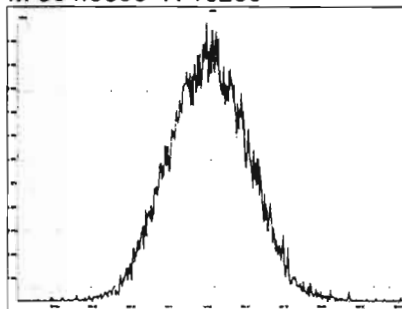
M 480.9696 R 10415



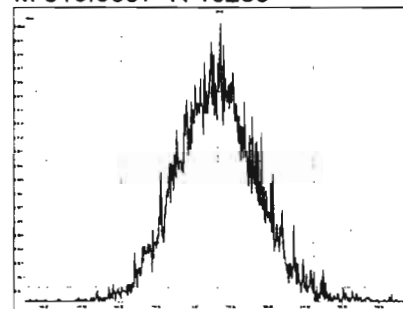
M 492.9696 R 10163



M 504.9696 R 10290



M 516.9697 R 10286



Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:18:10 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:18:19 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\CPSM.mdb 23 Jan 2020 15:01:26

Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_4, Date: 31-Jan-2020, Time: 19:10:18, ID: ST200131R1\_4 1613 CS3 19L2305, Description: 1613 CS3 19L2305

#	Name	RT
1	1 1,3,6,8-TCDD (First)	21.72
2	2 1,2,8,9-TCDD (Last)	26.66
3	3 1,2,4,7,9-PeCDD (First)	28.44
4	4 1,2,3,8,9-PeCDD (Last)	31.02
5	5 1,2,4,6,7,9-HxCDD (First)	32.51
6	6 1,2,3,7,8,9-HxCDD (Last)	34.37
7	7 1,2,3,4,6,7,9-HpCDD (First)	36.85
8	8 1,2,3,4,6,7,8-HpCDD (Last)	37.90
9	9 1,3,6,8-TCDF (First)	19.63
10	10 1,2,8,9-TCDF (Last)	26.81
11	11 1,3,4,6,8-PeCDF (First)	26.77
12	12 1,2,3,8,9-PeCDF (Last)	31.26
13	13 1,2,3,4,6,8-HxCDF (First)	31.95
14	14 1,2,3,7,8,9-HxCDF (Last)	34.72
15	15 1,2,3,4,6,7,8-HpCDF (First)	36.47
16	16 1,2,3,4,7,8,9-HpCDF (Last)	38.50

Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:18:10 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:18:19 AM Pacific Standard Time

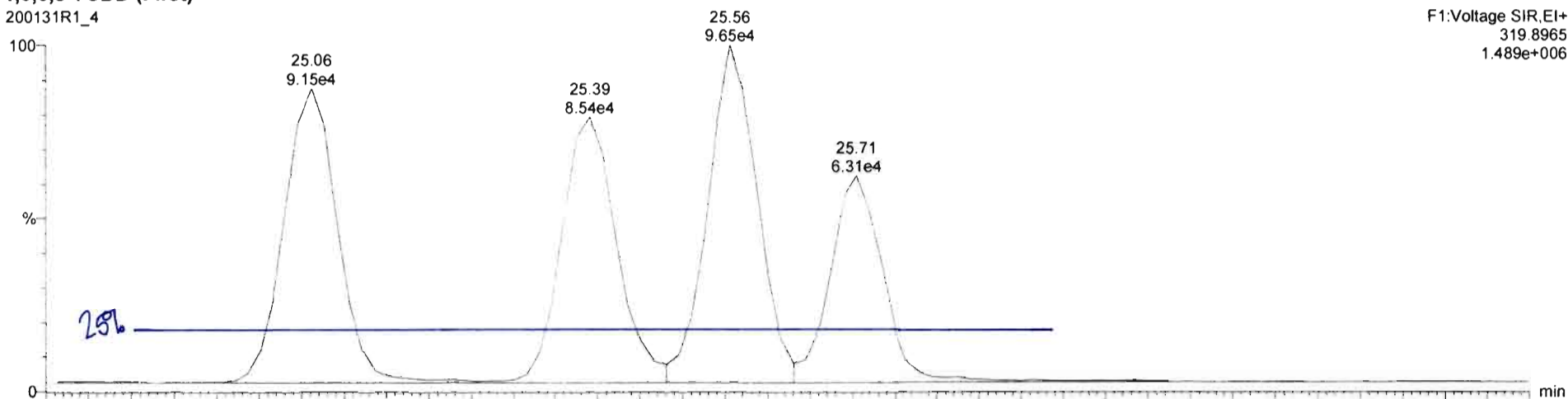
Method: U:\VG12.PRO\MethDB\CPSM.mdb 23 Jan 2020 15:01:26  
Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_4, Date: 31-Jan-2020, Time: 19:10:18, ID: ST200131R1\_4 1613 CS3 19L2305, Description: 1613 CS3 19L2305

1,3,6,8-TCDD (First)

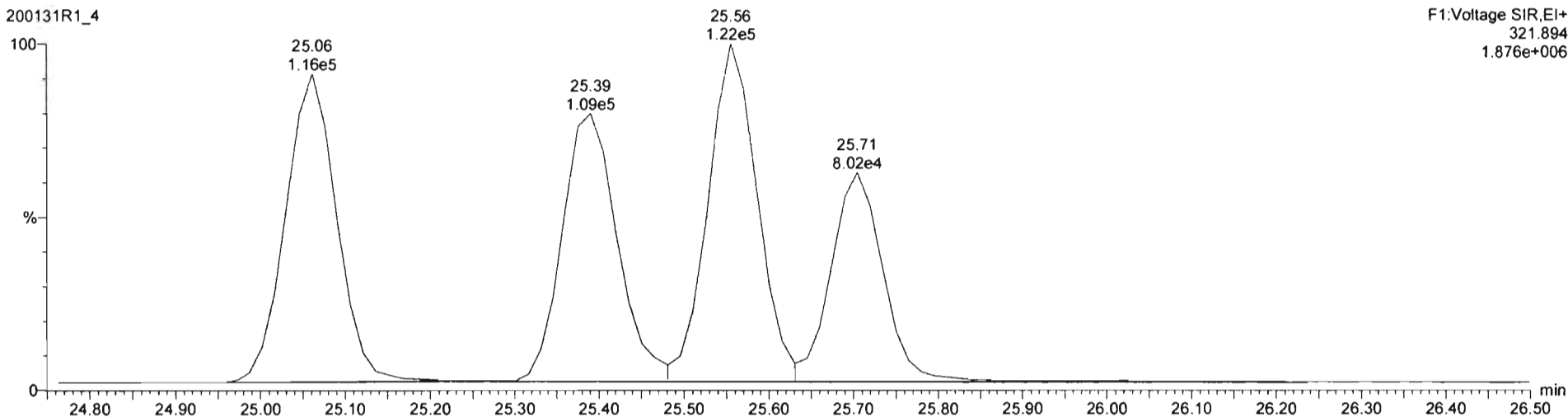
200131R1\_4

F1:Voltage SIR,EI+  
319.8965  
1.489e+006



200131R1\_4

F1:Voltage SIR,EI+  
321.894  
1.876e+006



Dataset: Untitled

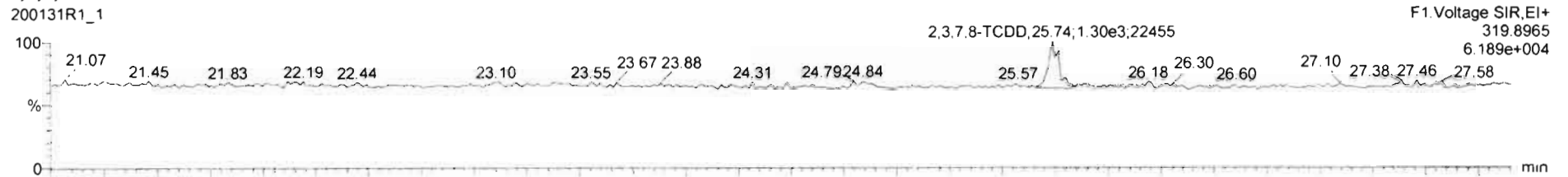
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23  
Calibration: 02 Feb 2020 11:06:20

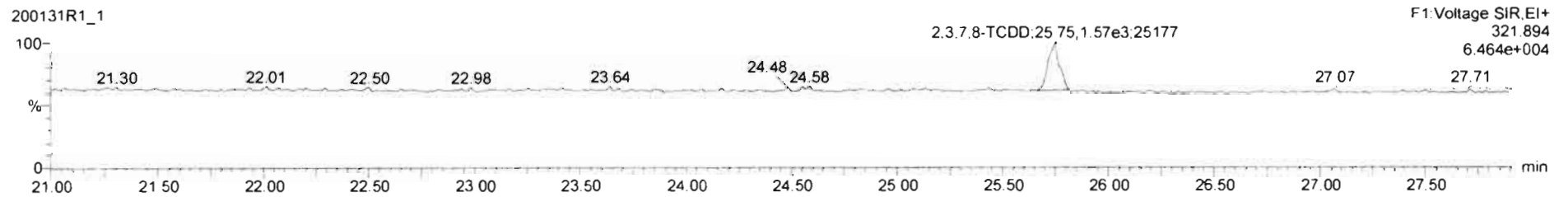
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

2,3,7,8-TCDD

200131R1\_1

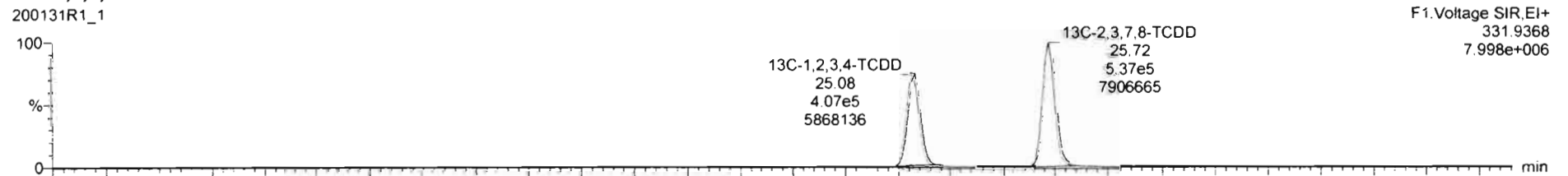


200131R1\_1

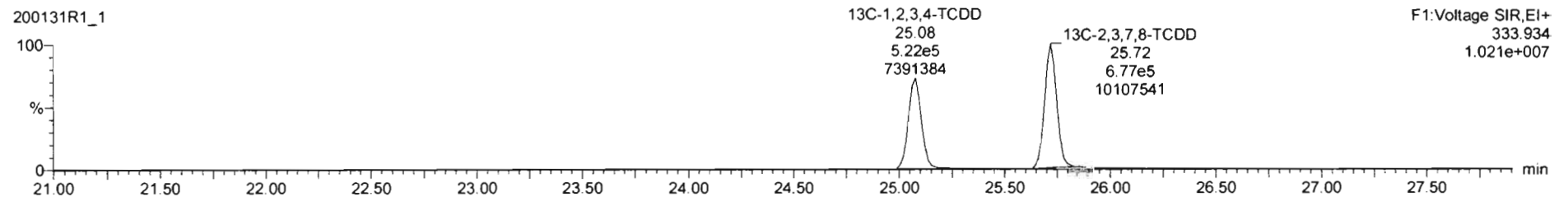


13C-2,3,7,8-TCDD

200131R1\_1



200131R1\_1



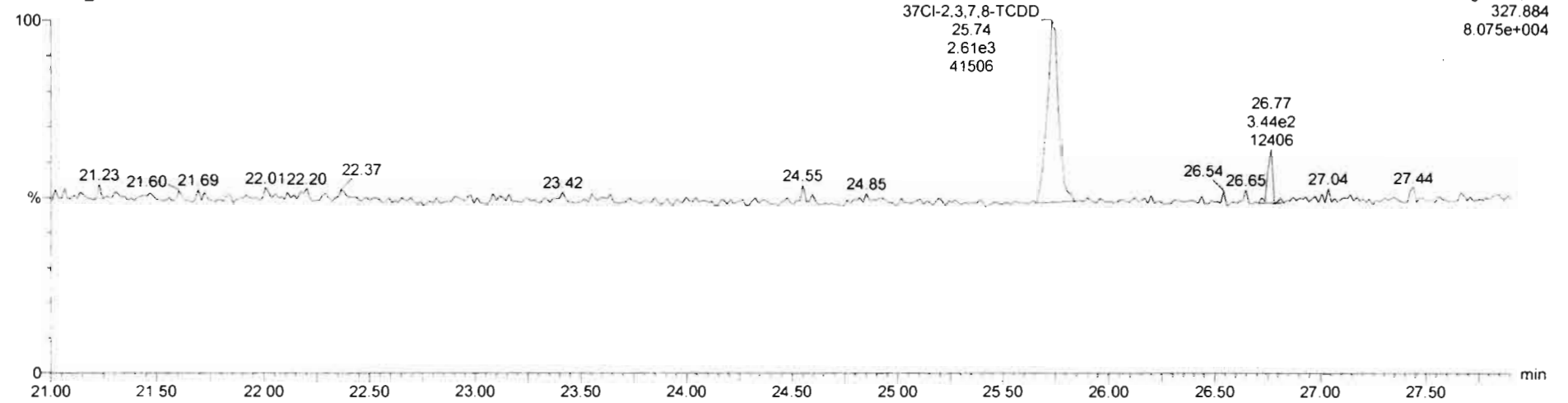
Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

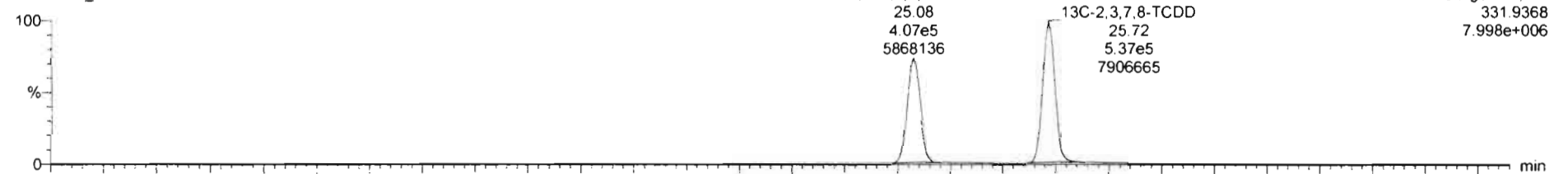
**37Cl-2,3,7,8-TCDD**

200131R1\_1

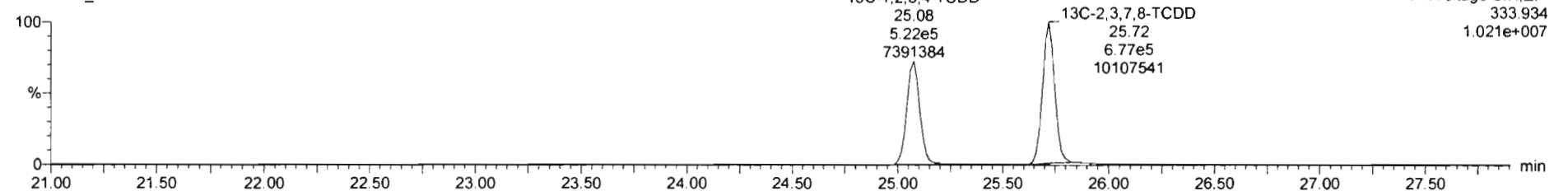


**13C-1,2,3,4-TCDD**

200131R1\_1



200131R1\_1





Dataset: Untitled

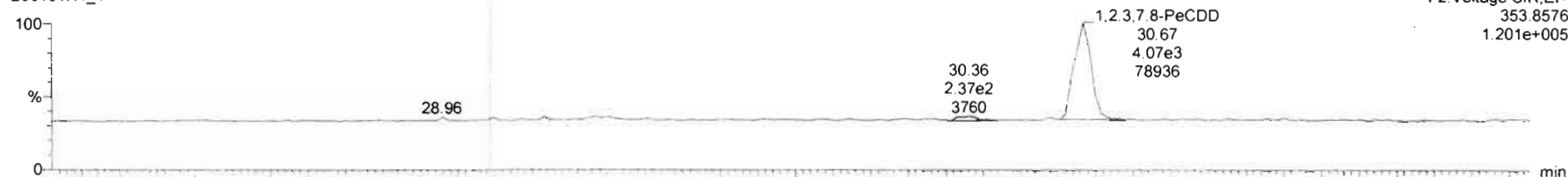
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

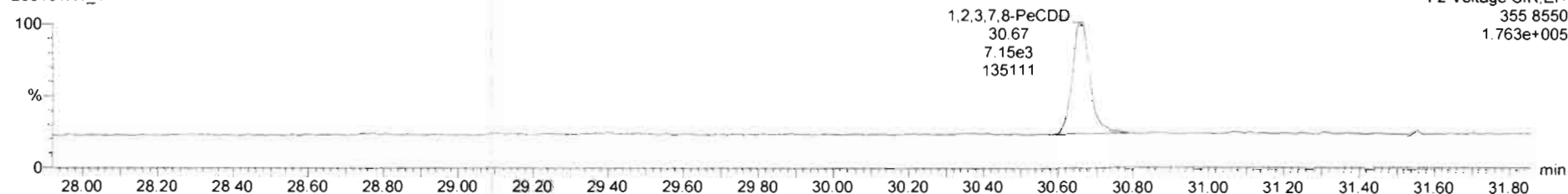
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

**1,2,3,7,8-PeCDD**

200131R1\_1

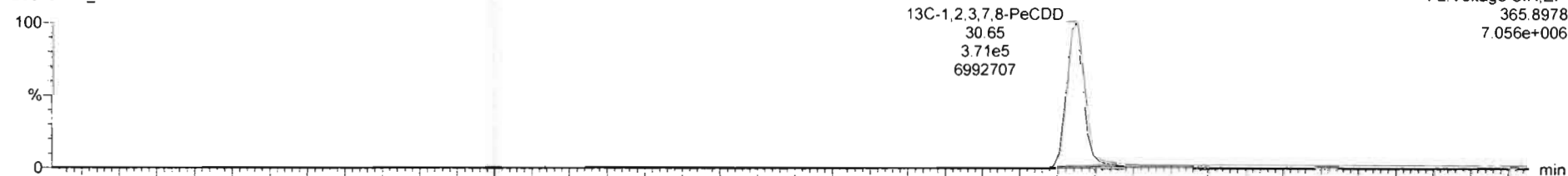


200131R1\_1

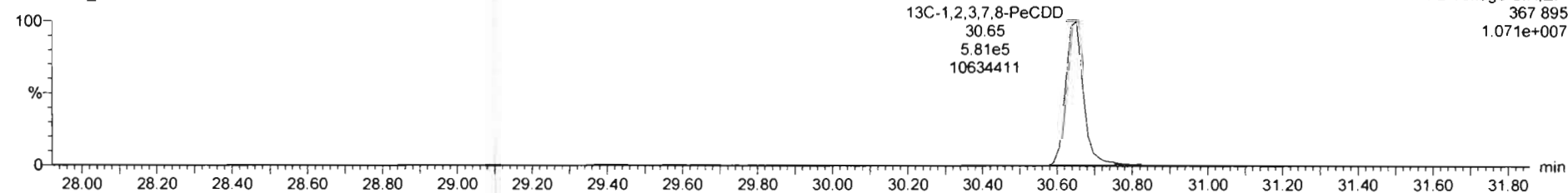


**13C-1,2,3,7,8-PeCDD**

200131R1\_1



200131R1\_1



Dataset: Untitled

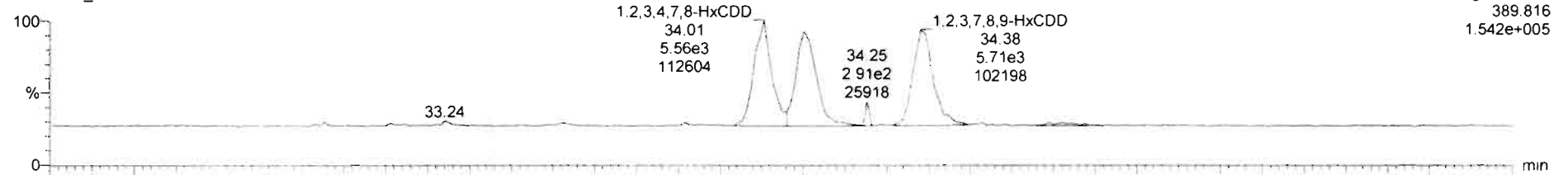
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

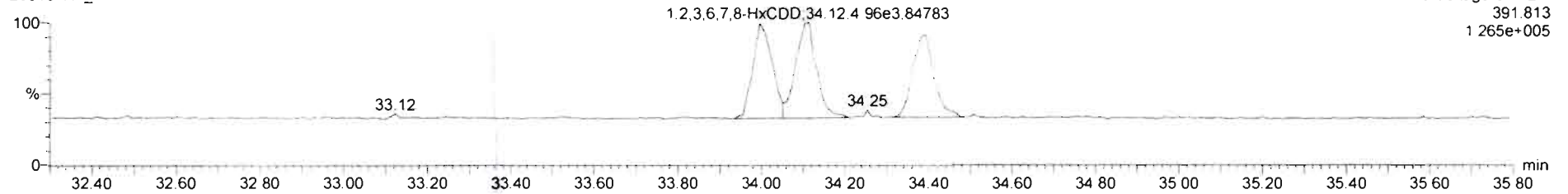
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

**1,2,3,4,7,8-HxCDD**

200131R1\_1

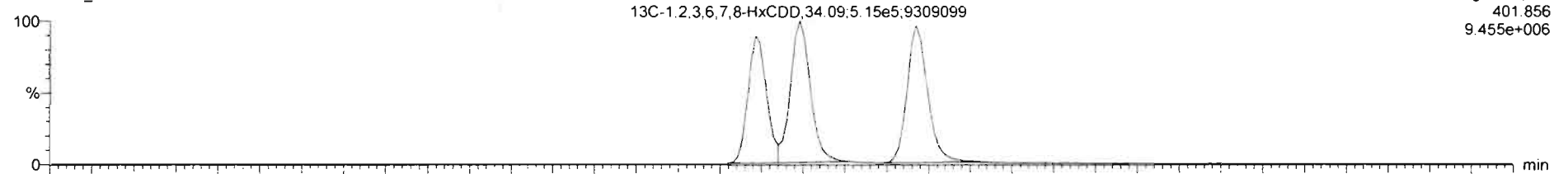


200131R1\_1

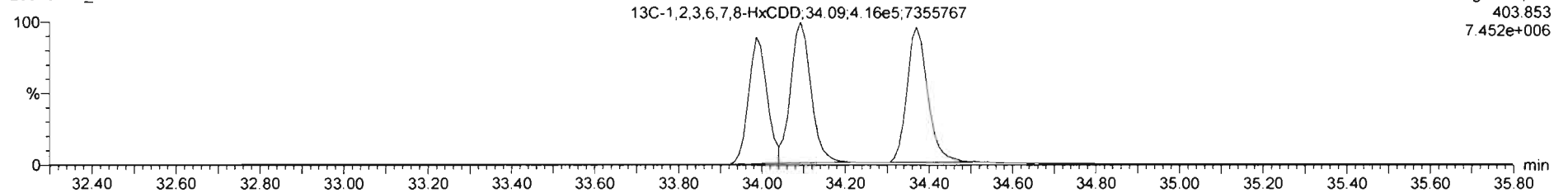


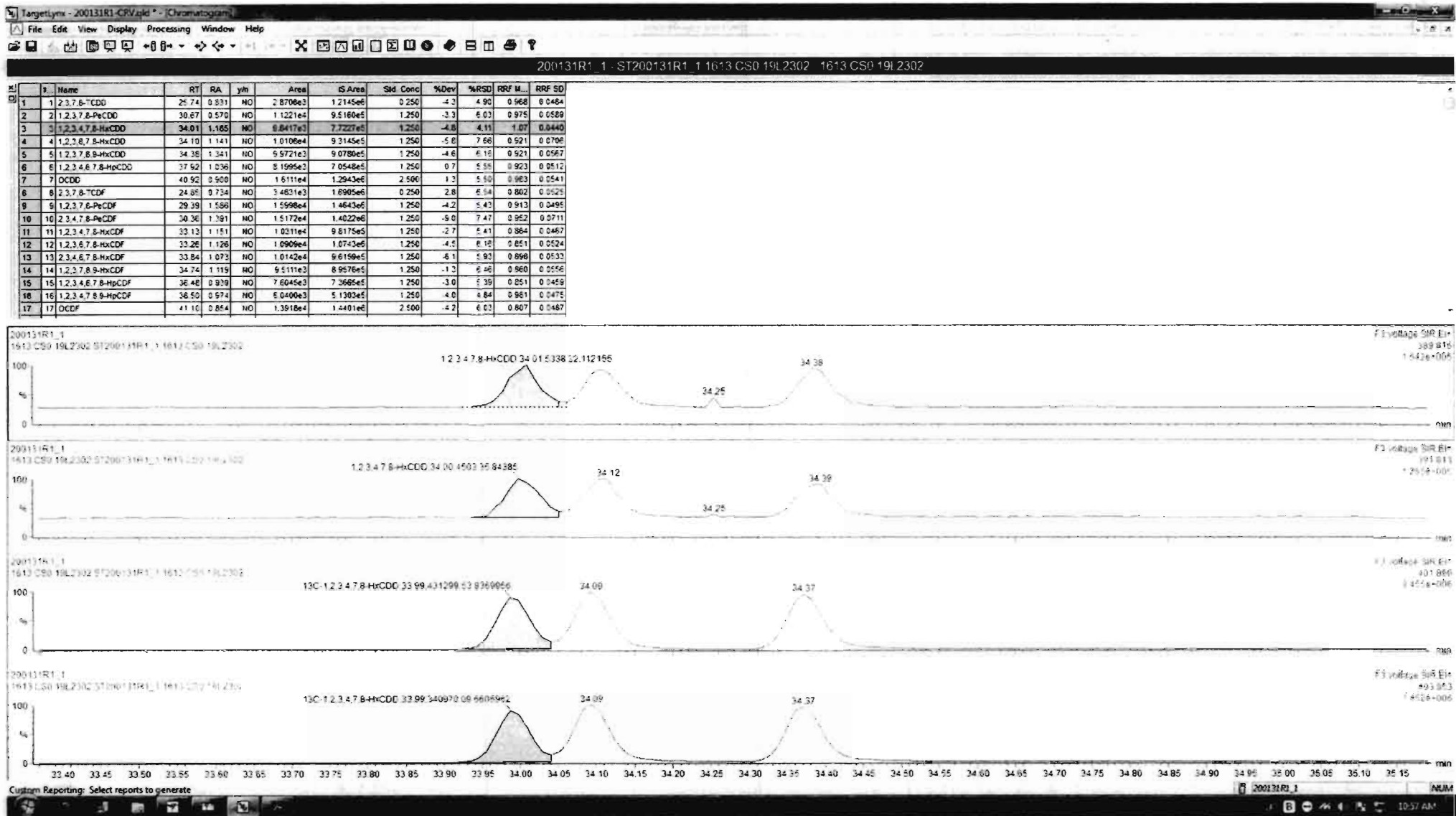
**13C-1,2,3,4,7,8-HxCDD**

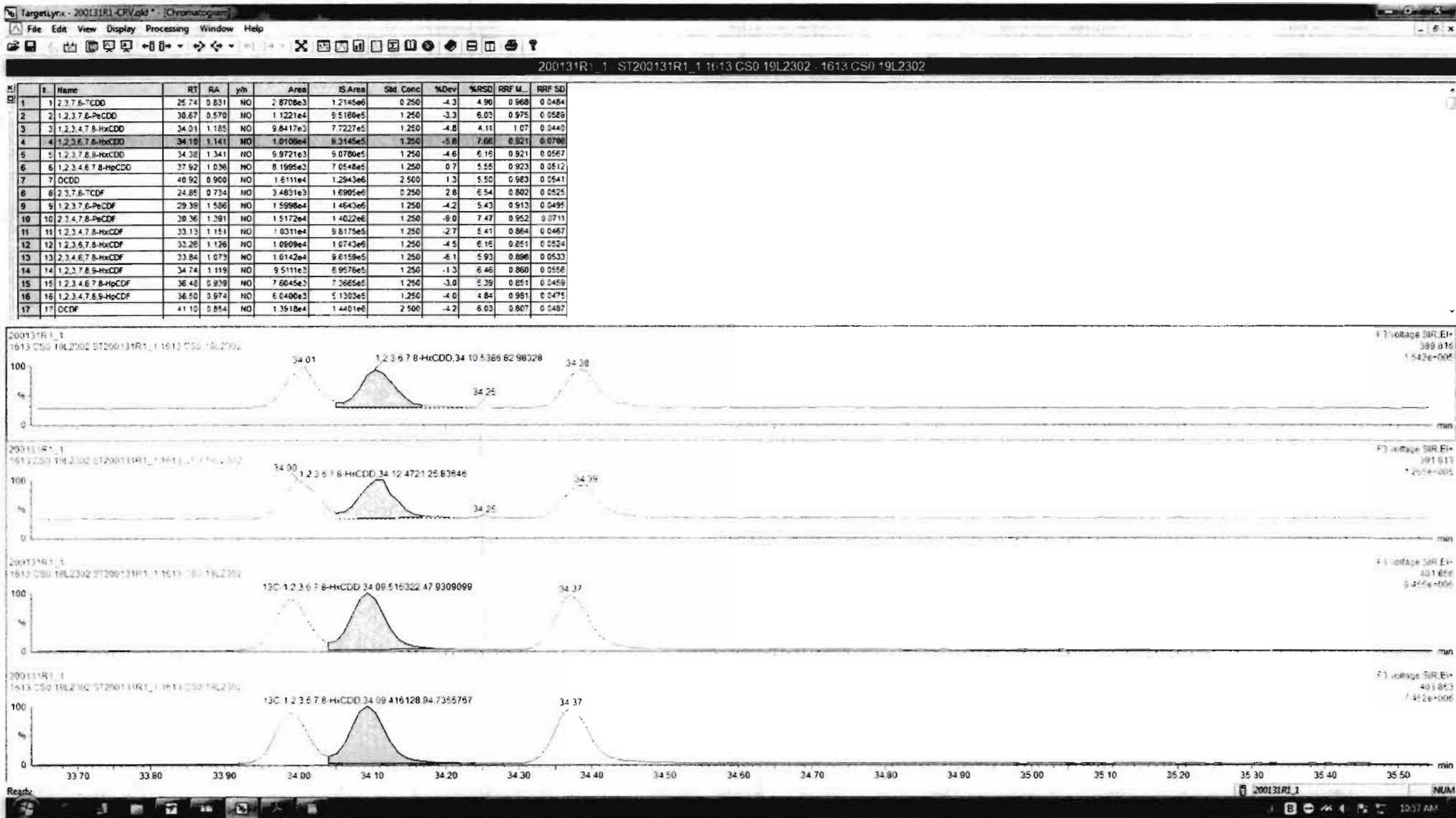
200131R1\_1

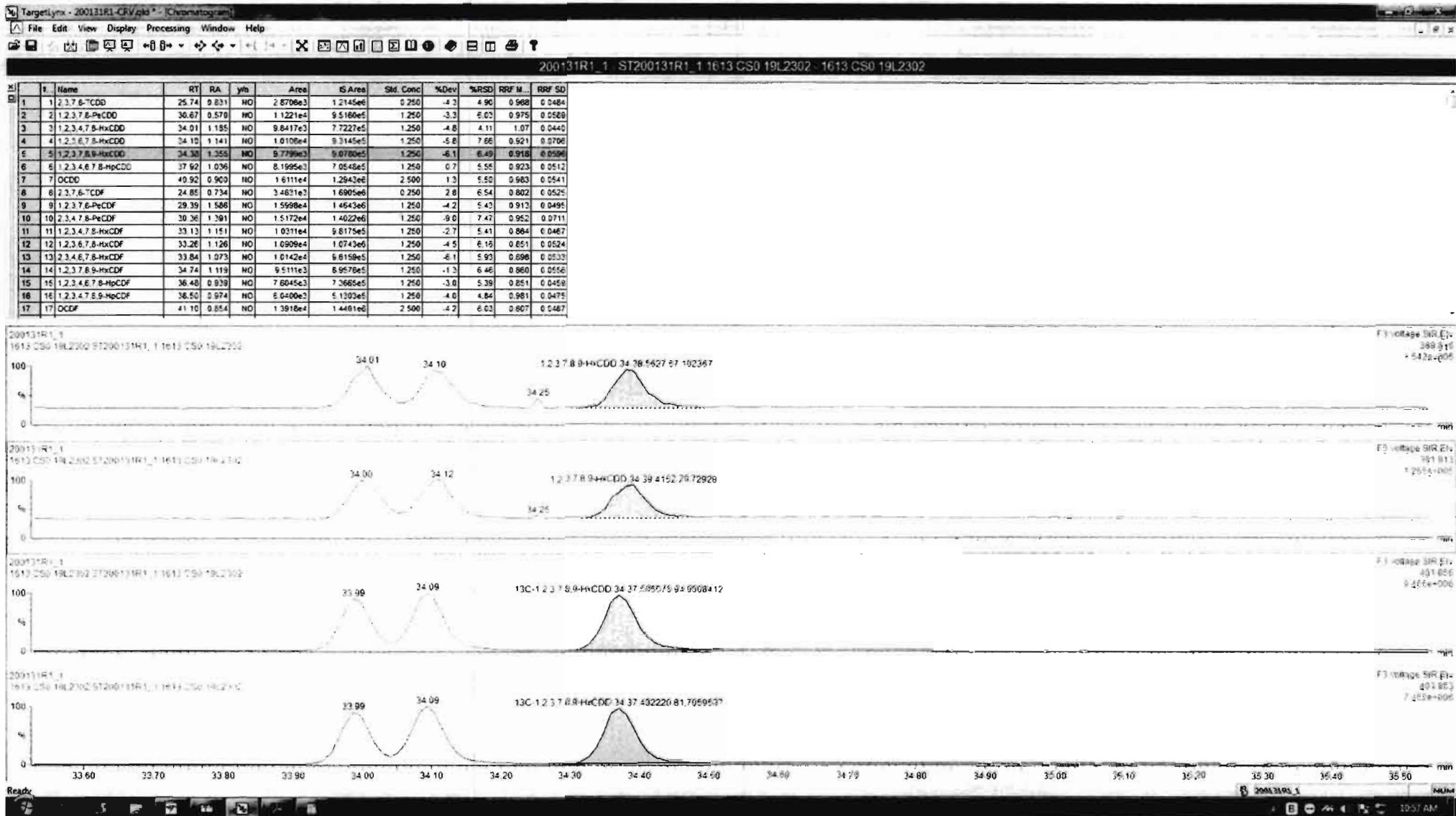


200131R1\_1









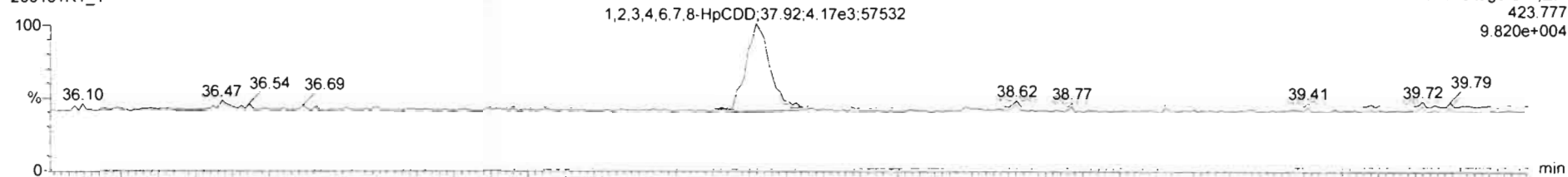
Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

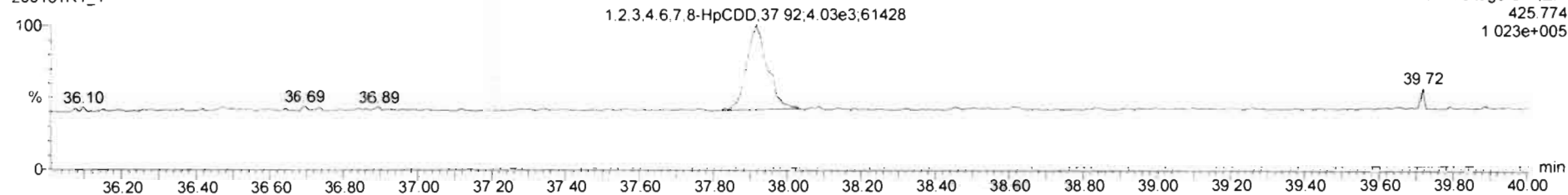
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

1,2,3,4,6,7,8-HpCDD

200131R1\_1

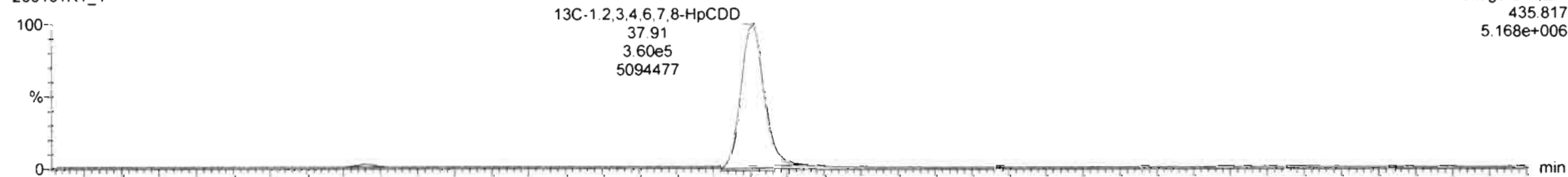


200131R1\_1

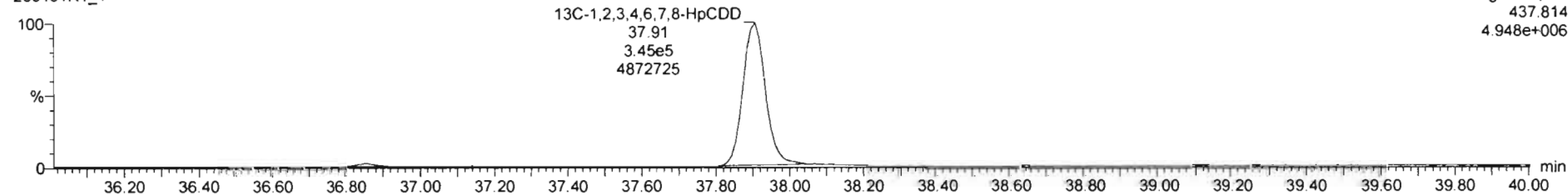


13C-1,2,3,4,6,7,8-HpCDD

200131R1\_1



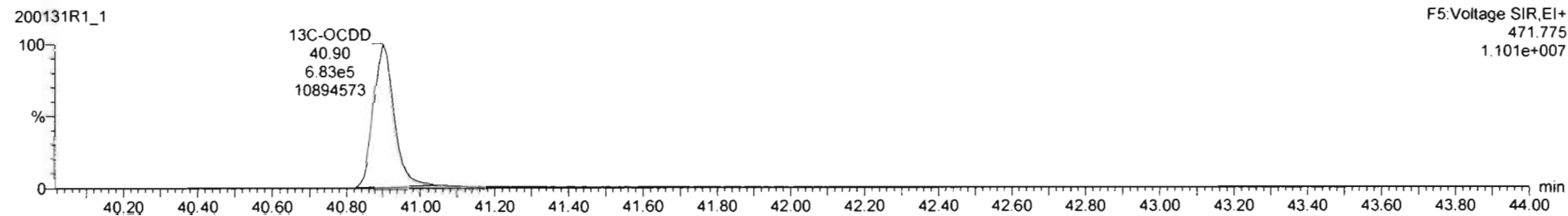
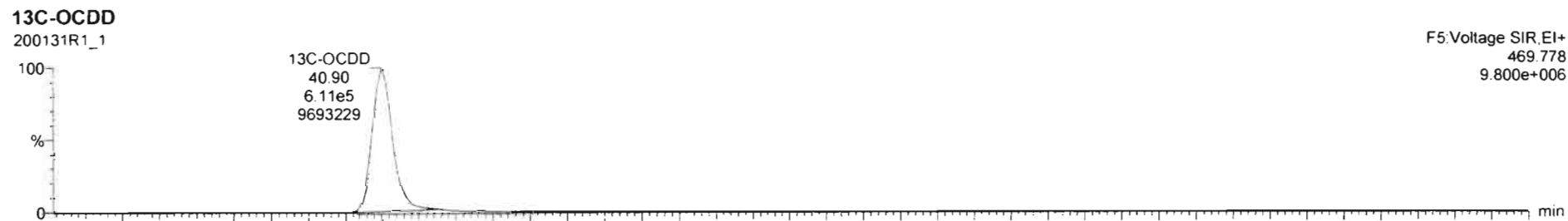
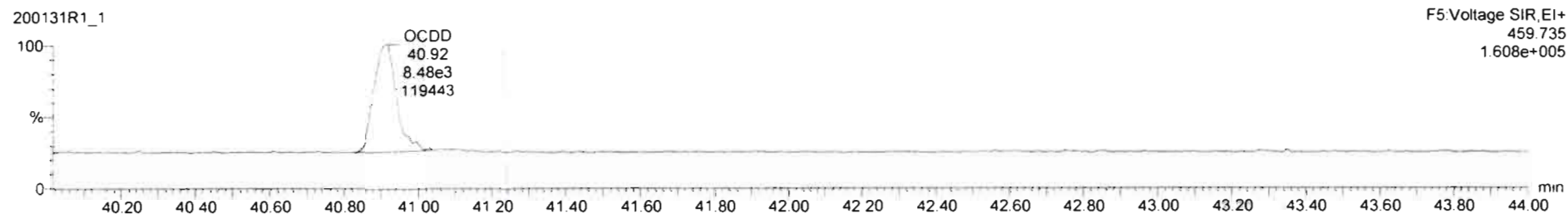
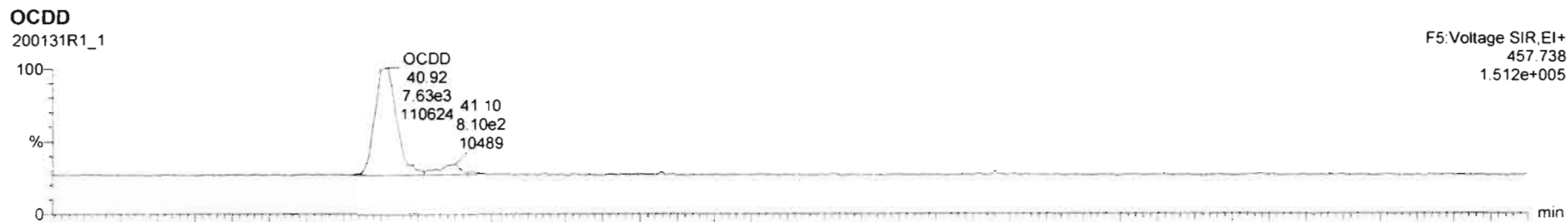
200131R1\_1



Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302



Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

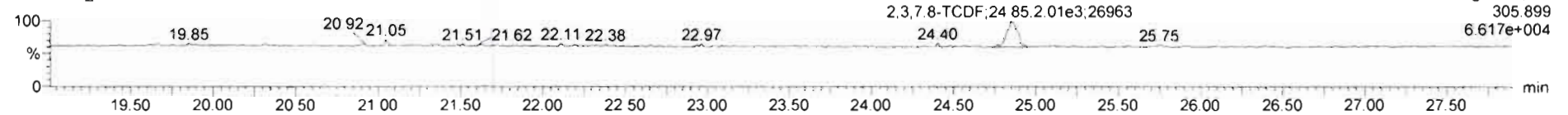
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

**2,3,7,8-TCDF**

200131R1\_1

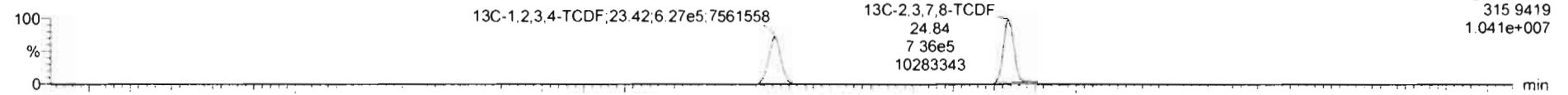


200131R1\_1

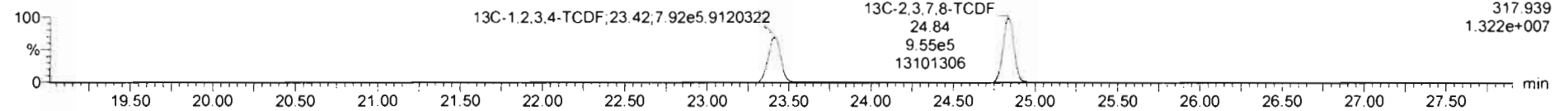


**13C-2,3,7,8-TCDF**

200131R1\_1

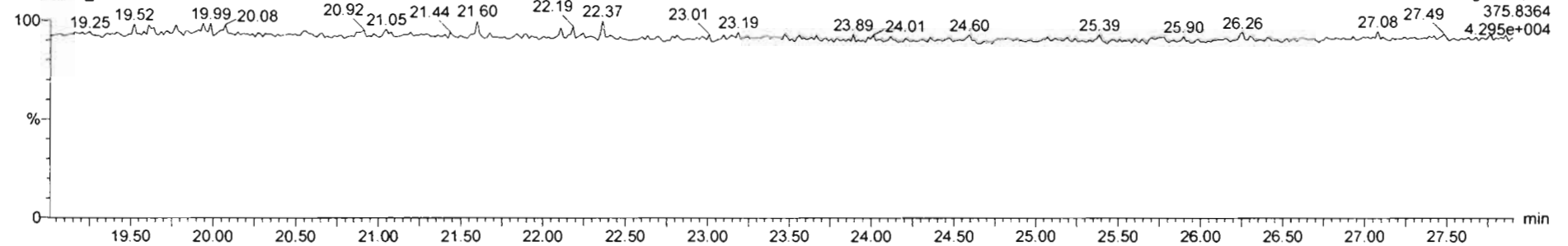


200131R1\_1



**DPE1**

200131R1\_1



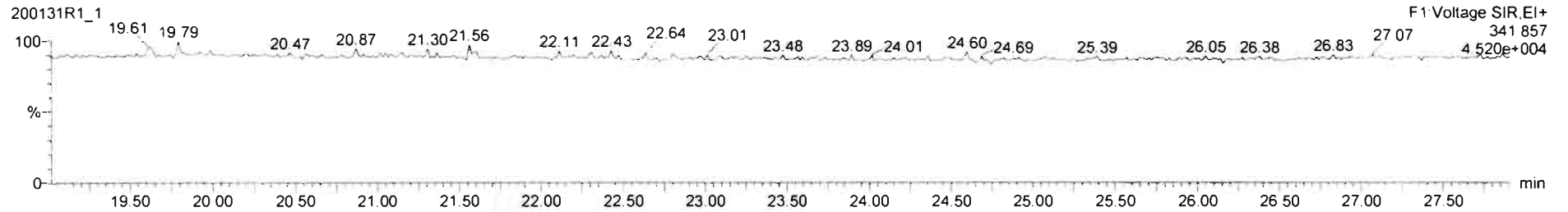
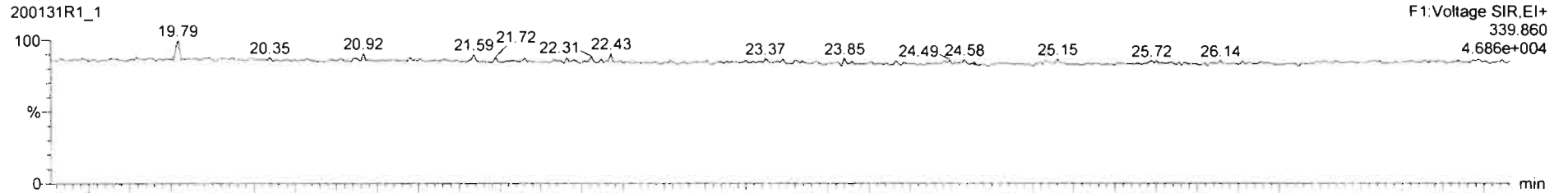


Dataset: Untitled

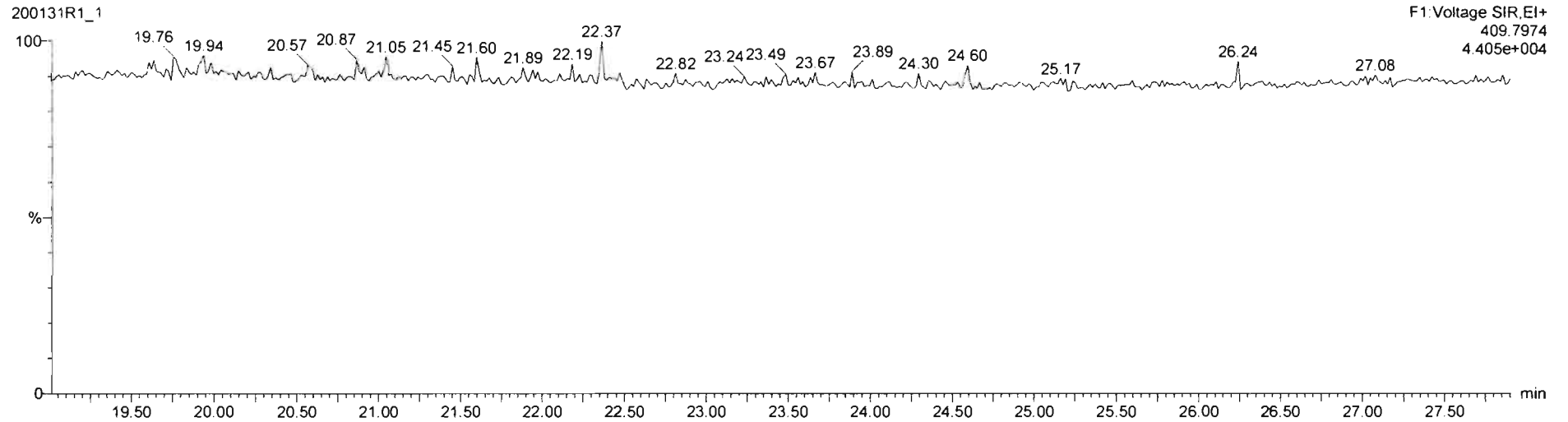
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

1st Func. Penta-Furans



DPE6



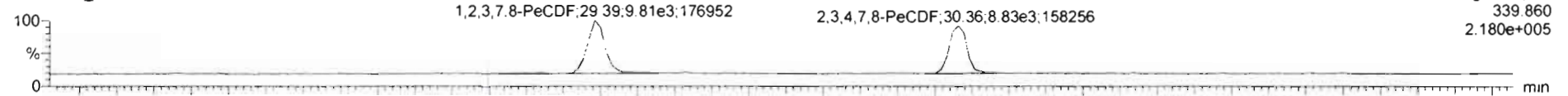
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

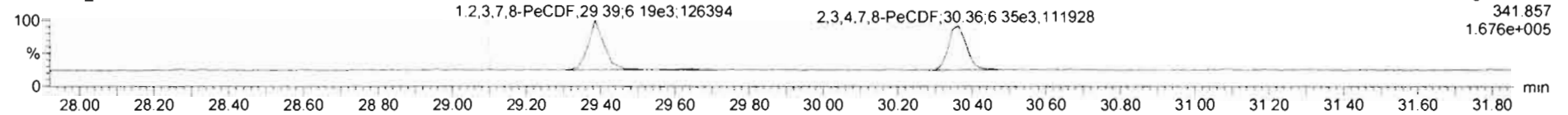
Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

**1,2,3,7,8-PeCDF**

200131R1\_1

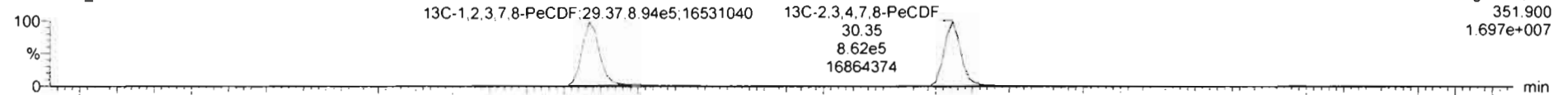


200131R1\_1

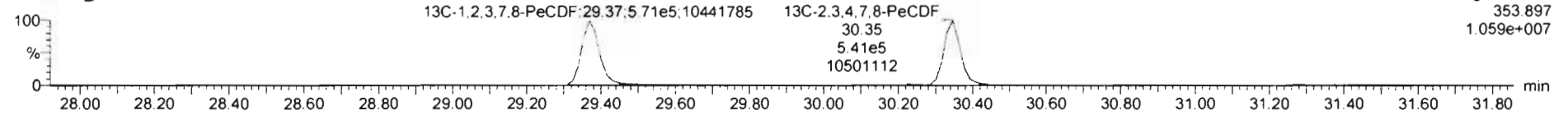


**13C-1,2,3,7,8-PeCDF**

200131R1\_1

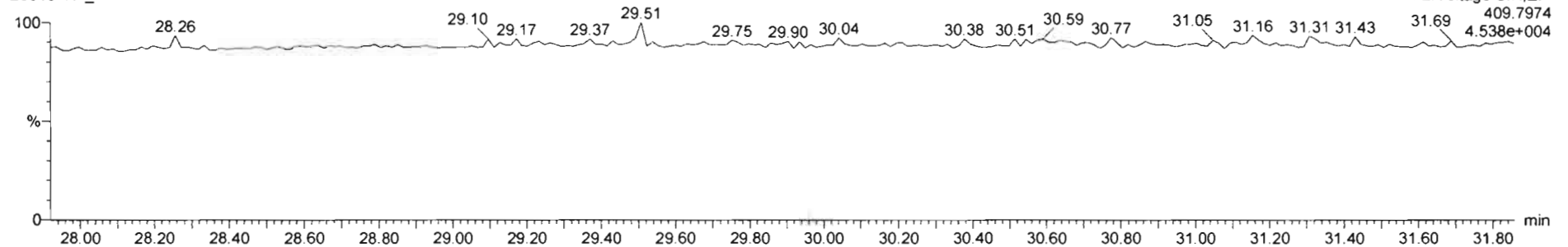


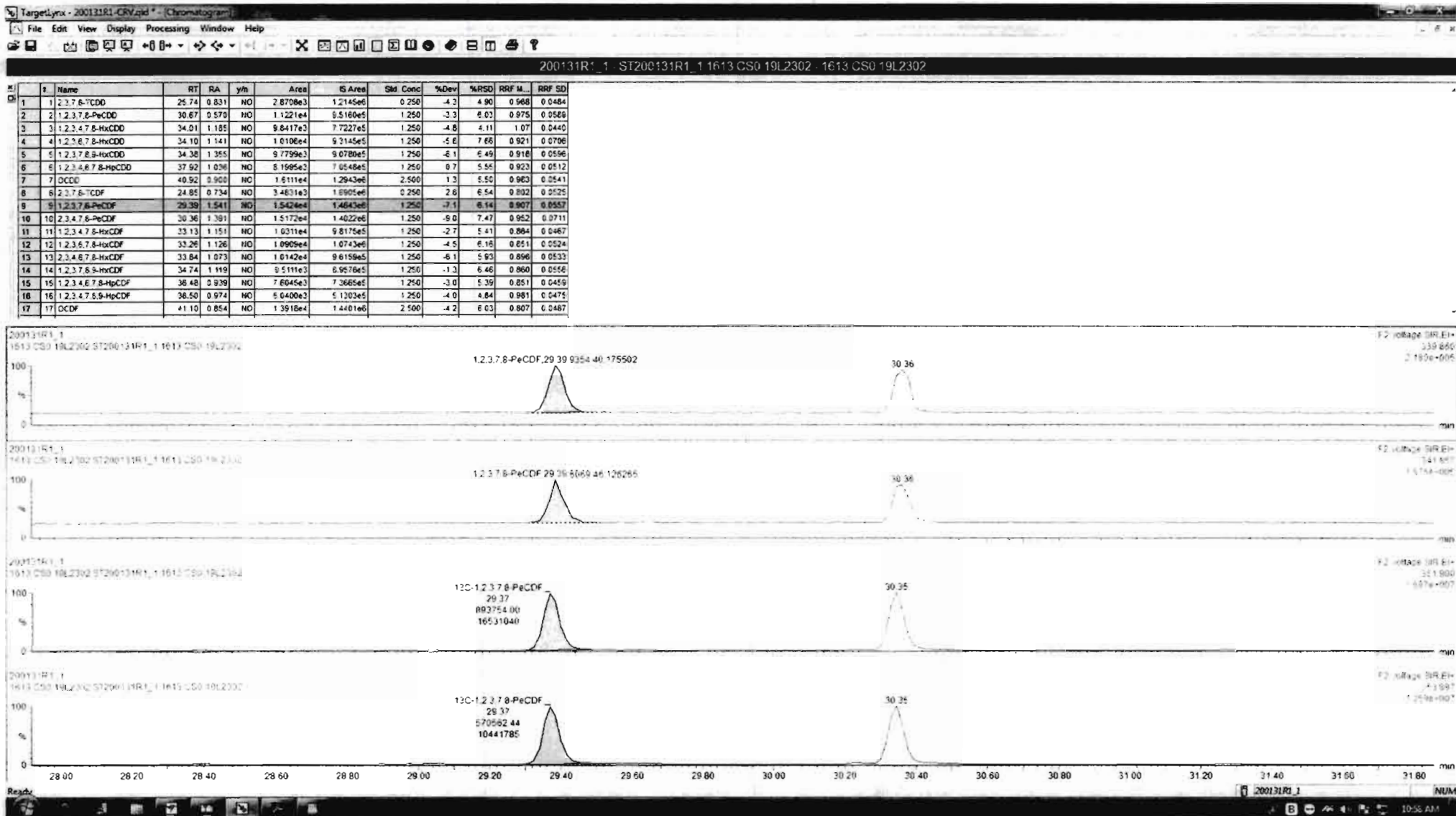
200131R1\_1



**DPE2**

200131R1\_1





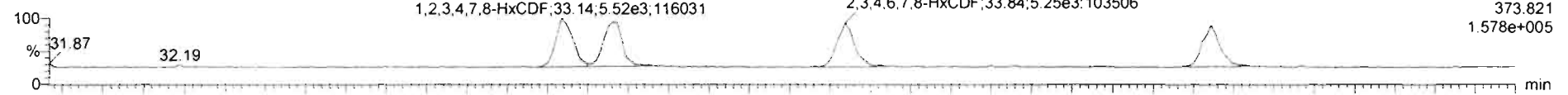
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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

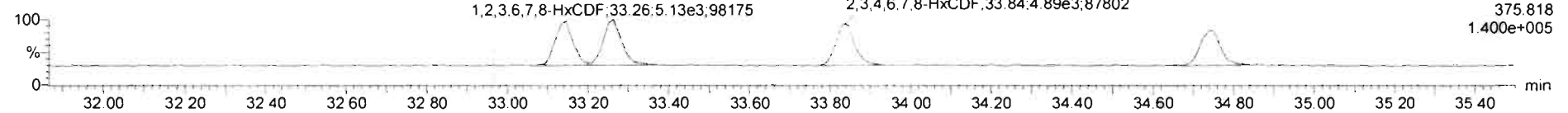
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**1,2,3,4,7,8-HxCDF**

200131R1\_1

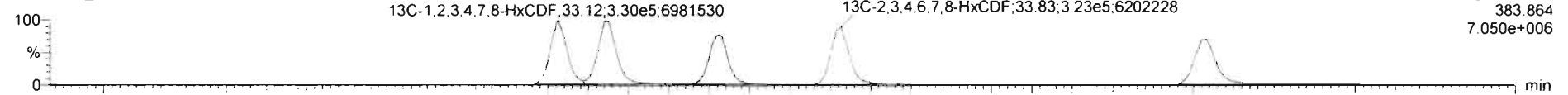


200131R1\_1

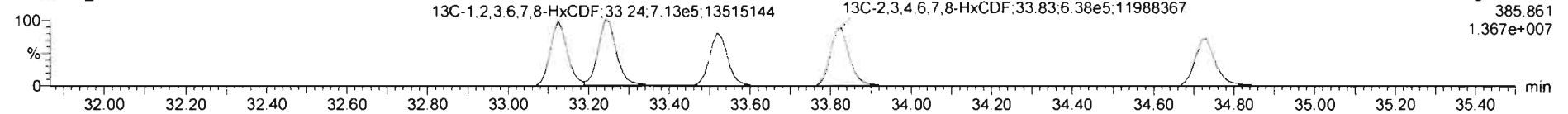


**13C-1,2,3,4,7,8-HxCDF**

200131R1\_1

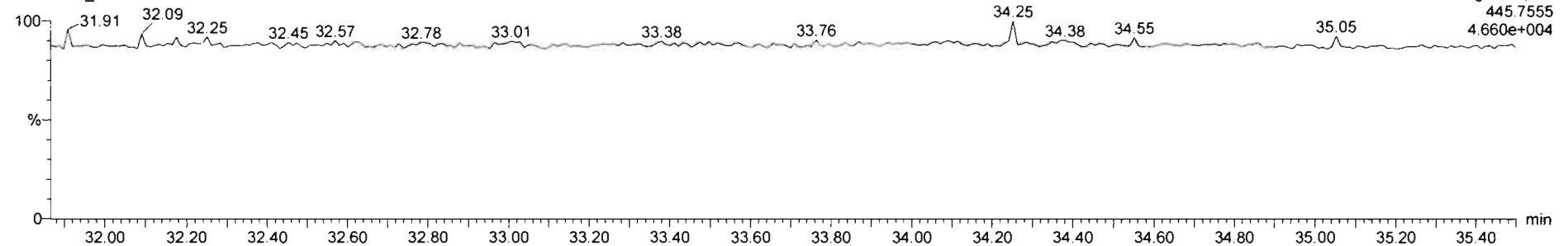


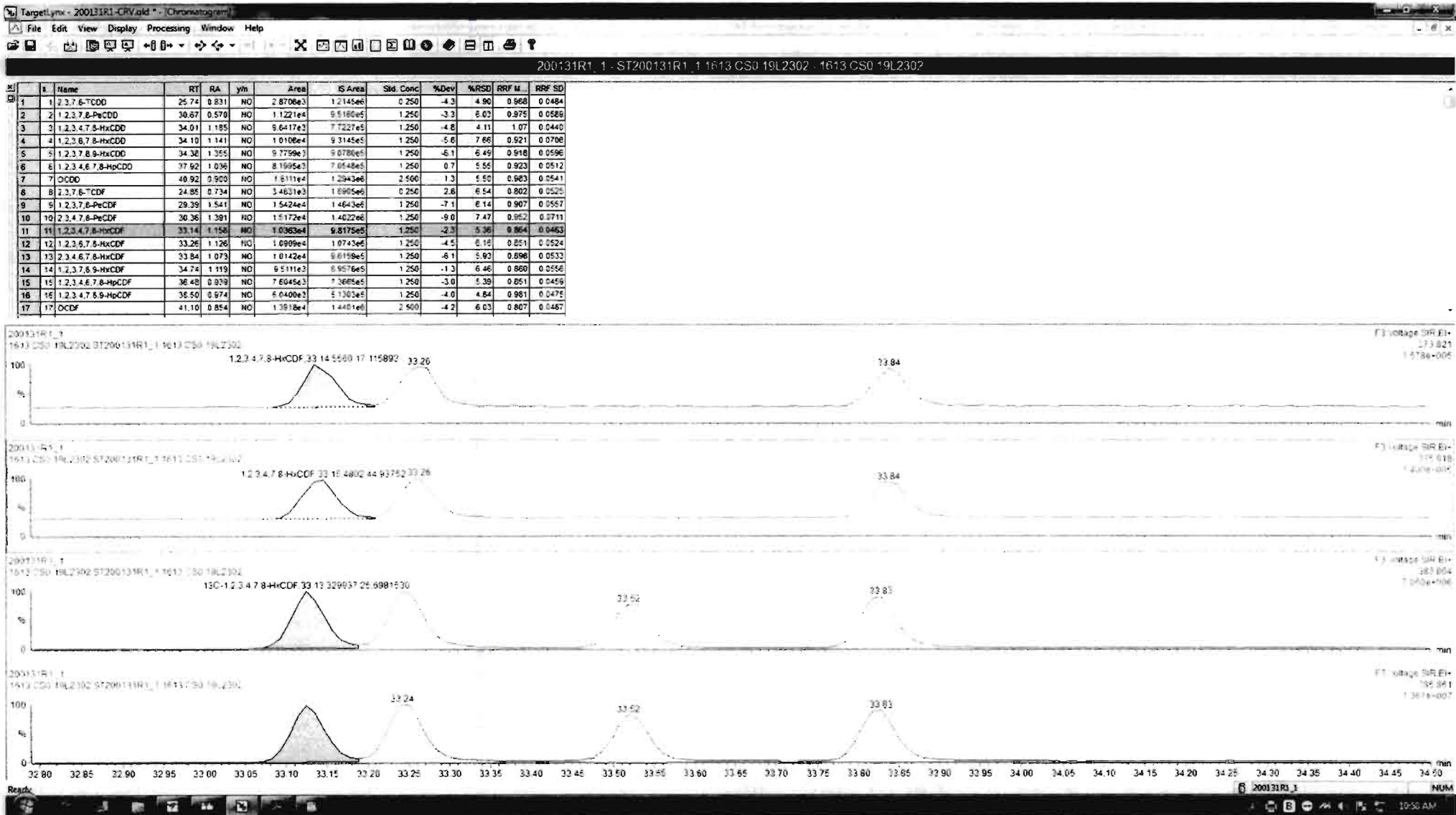
200131R1\_1

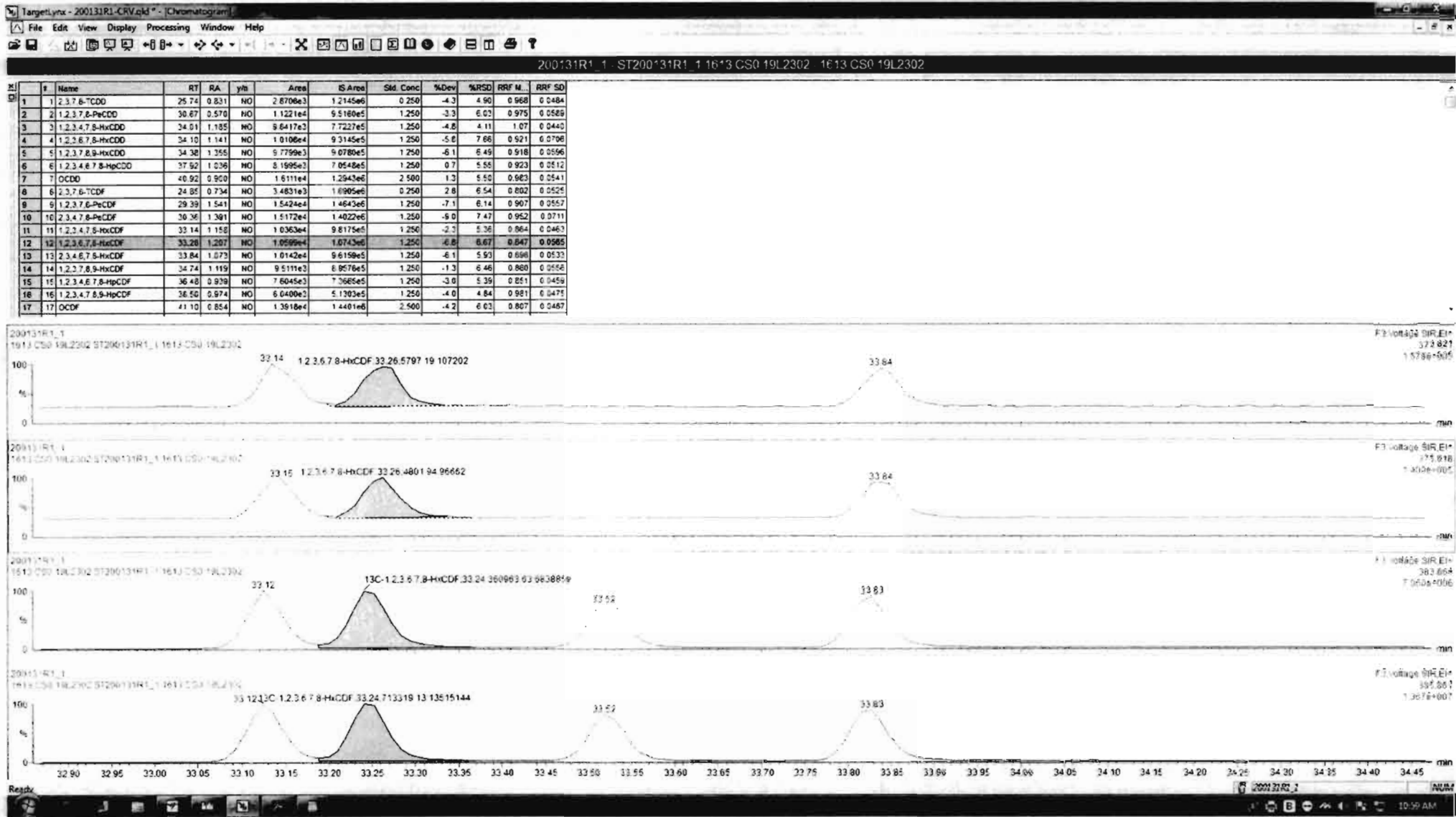


**DPE3**

200131R1\_1





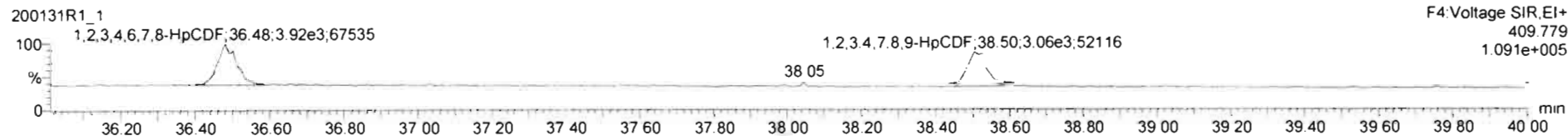
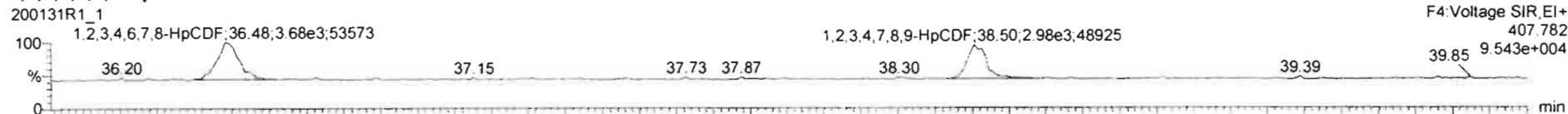


Dataset: Untitled

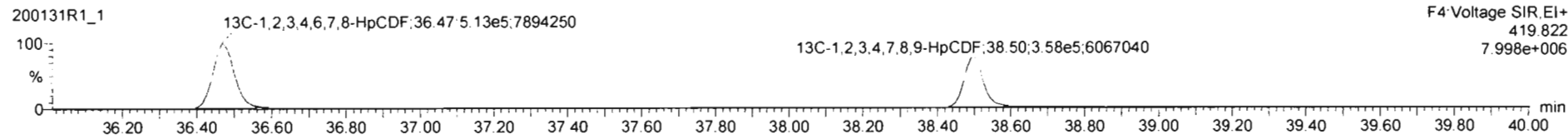
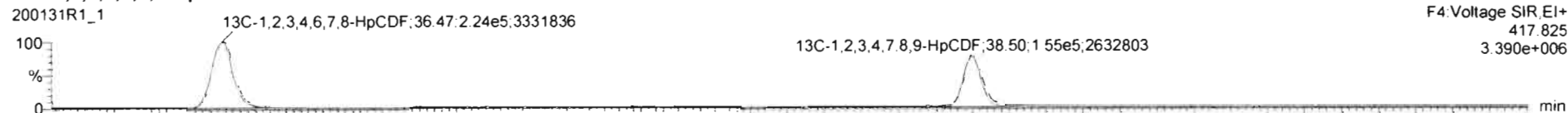
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_1, Date: 31-Jan-2020, Time: 16:48:41, ID: ST200131R1\_1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

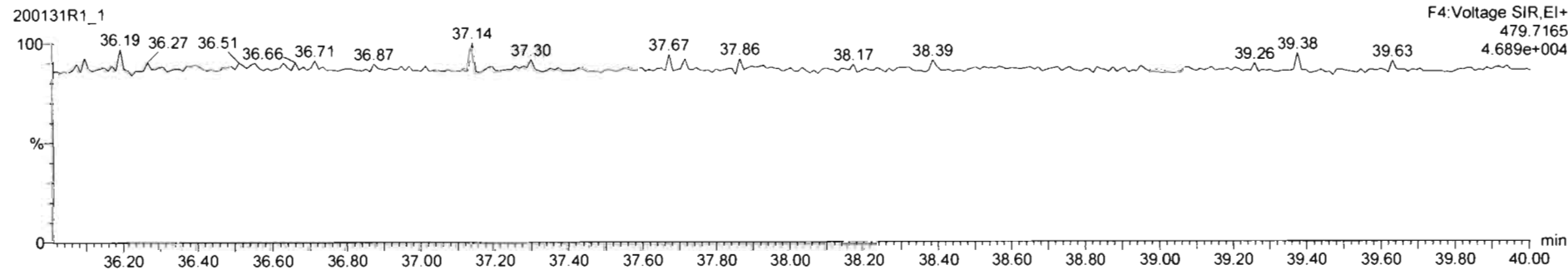
**1,2,3,4,6,7,8-HpCDF**

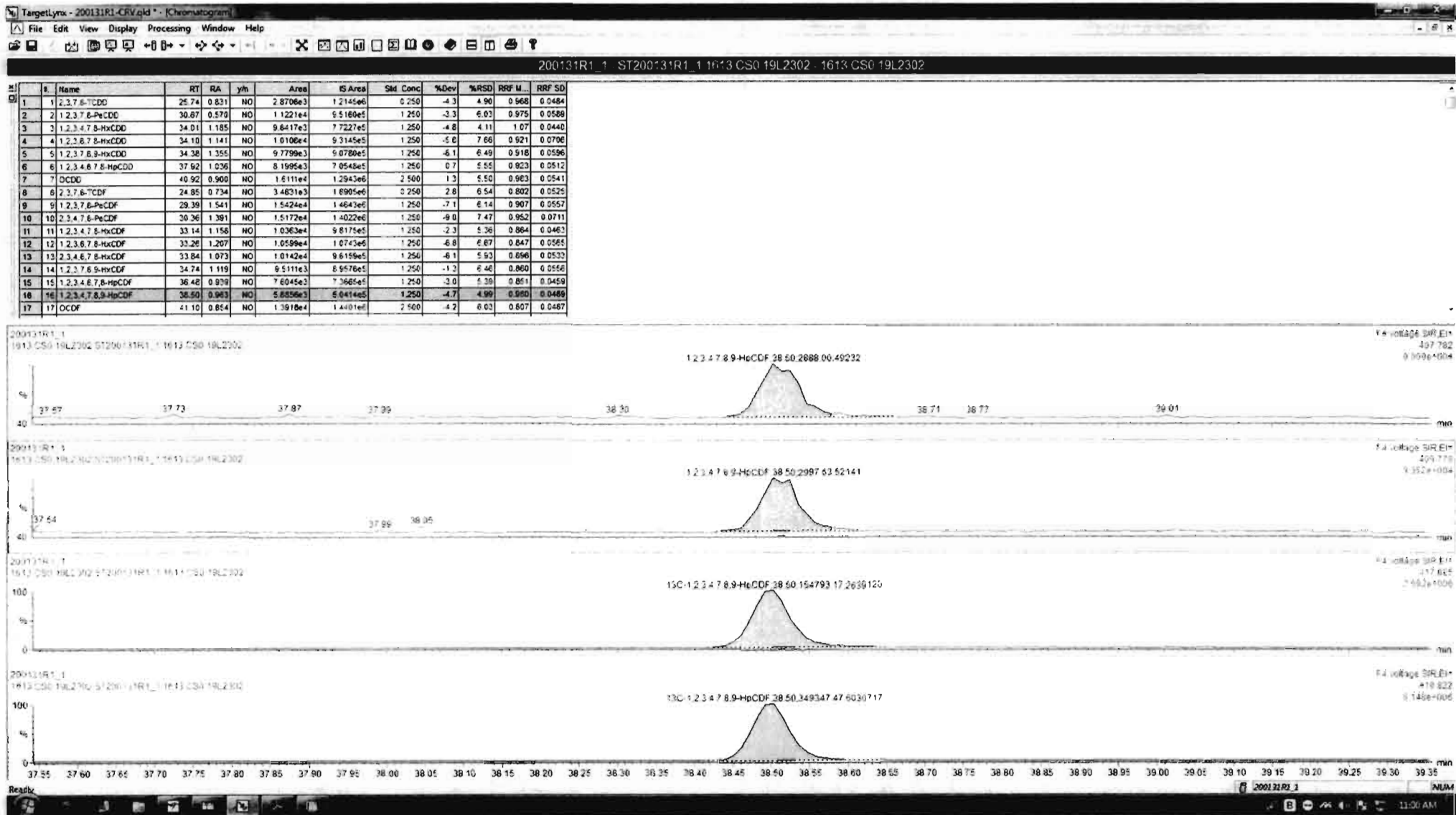


**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**



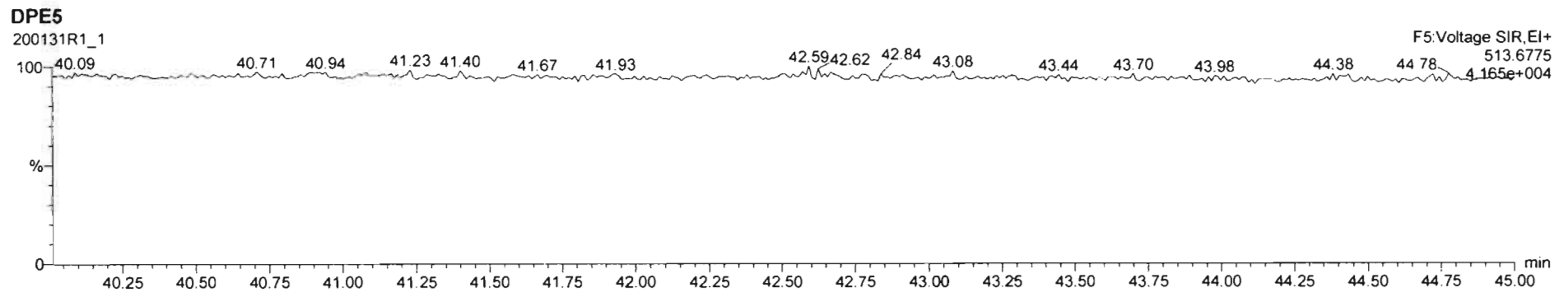
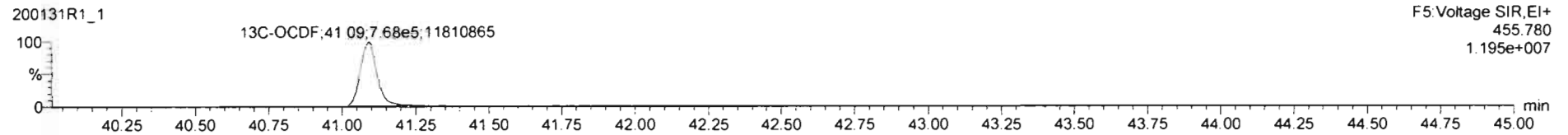
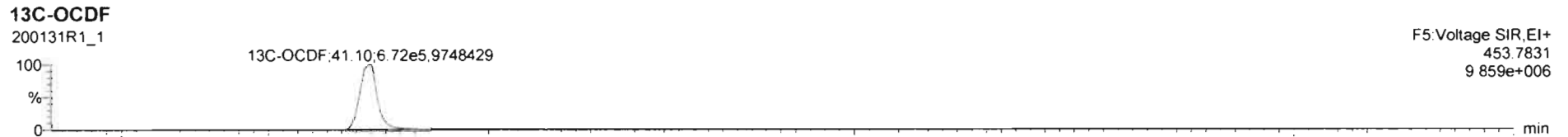
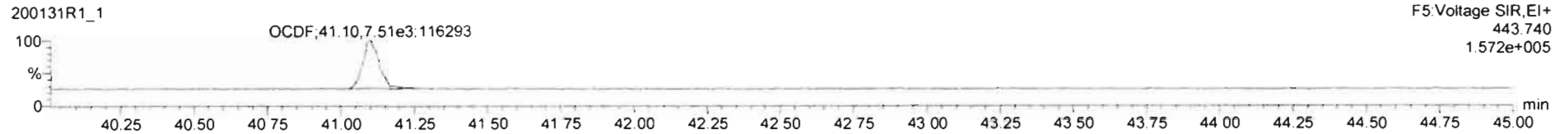
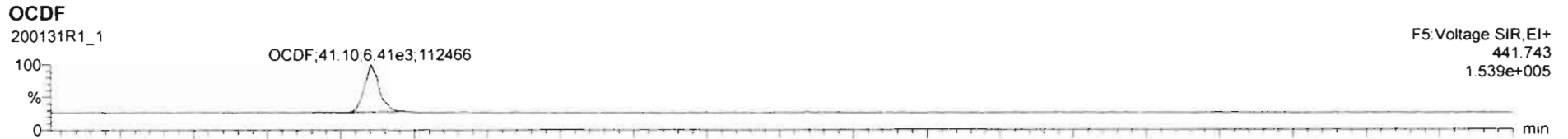




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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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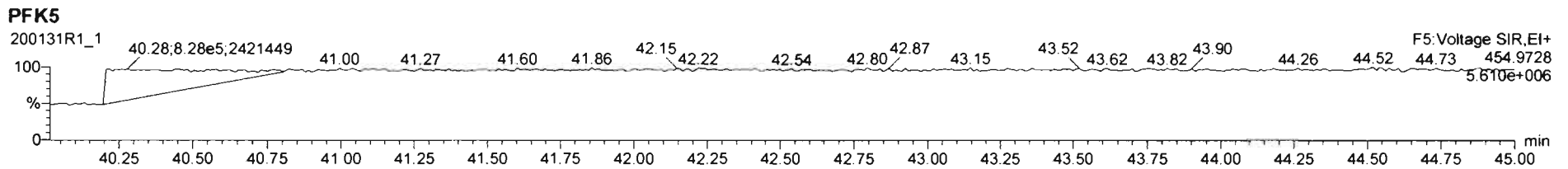
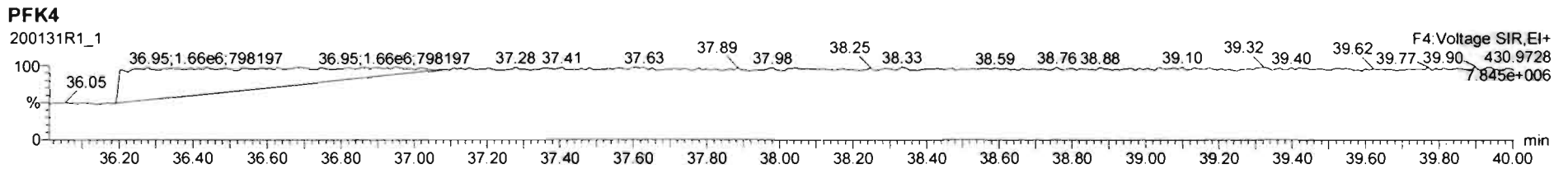
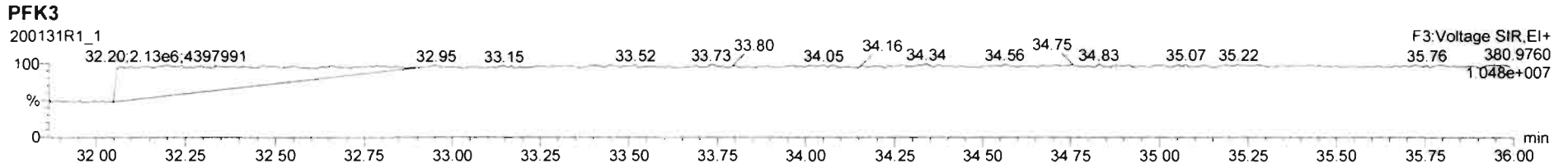
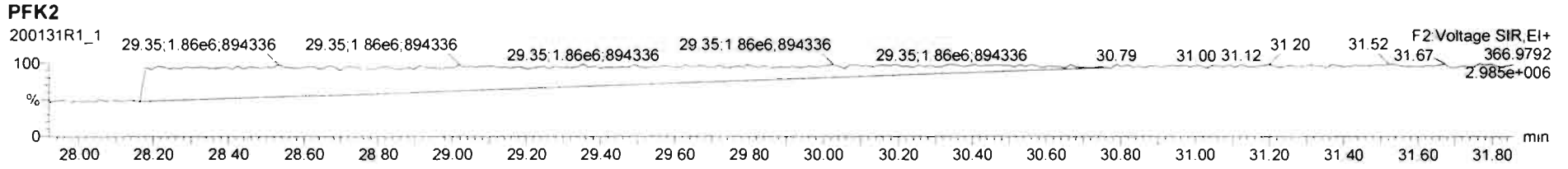
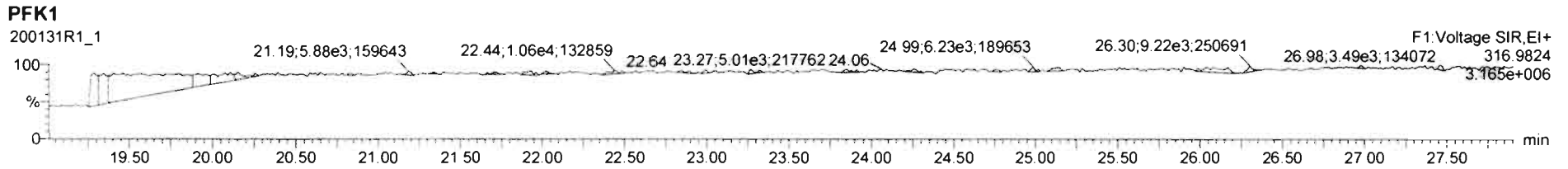


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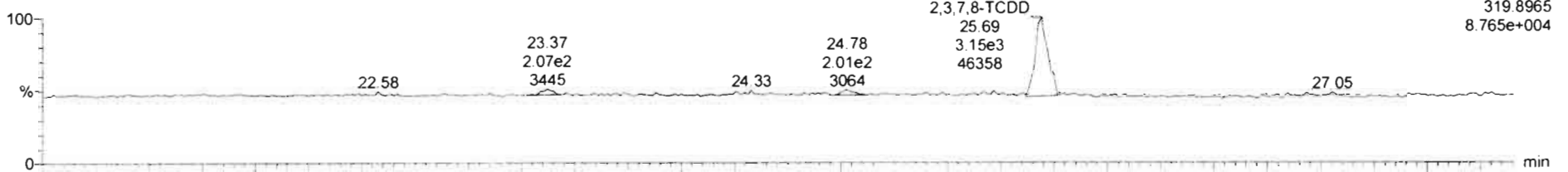
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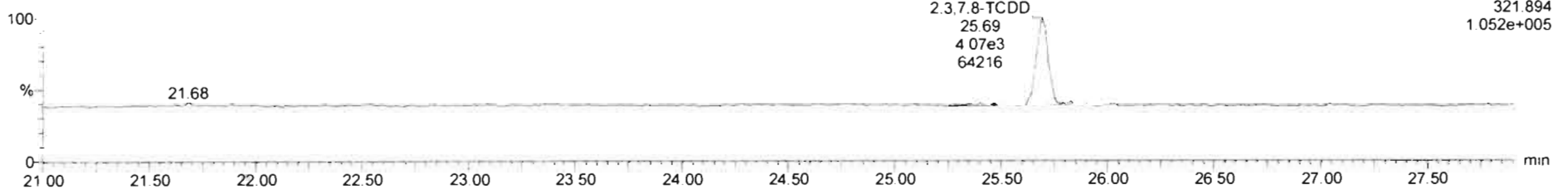
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**2,3,7,8-TCDD**

200131R1\_2

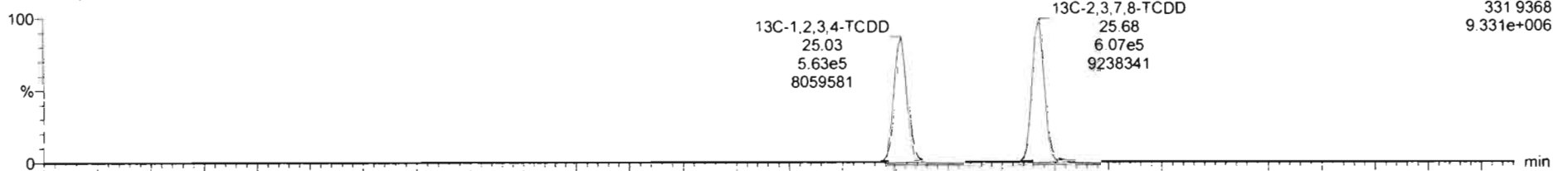


200131R1\_2

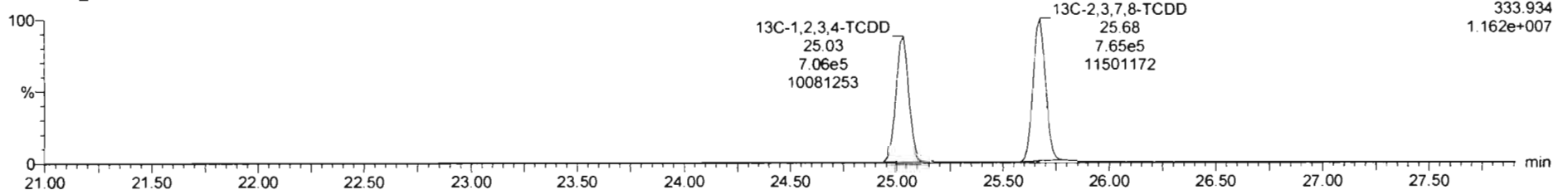


**13C-2,3,7,8-TCDD**

200131R1\_2



200131R1\_2



Dataset: Untitled

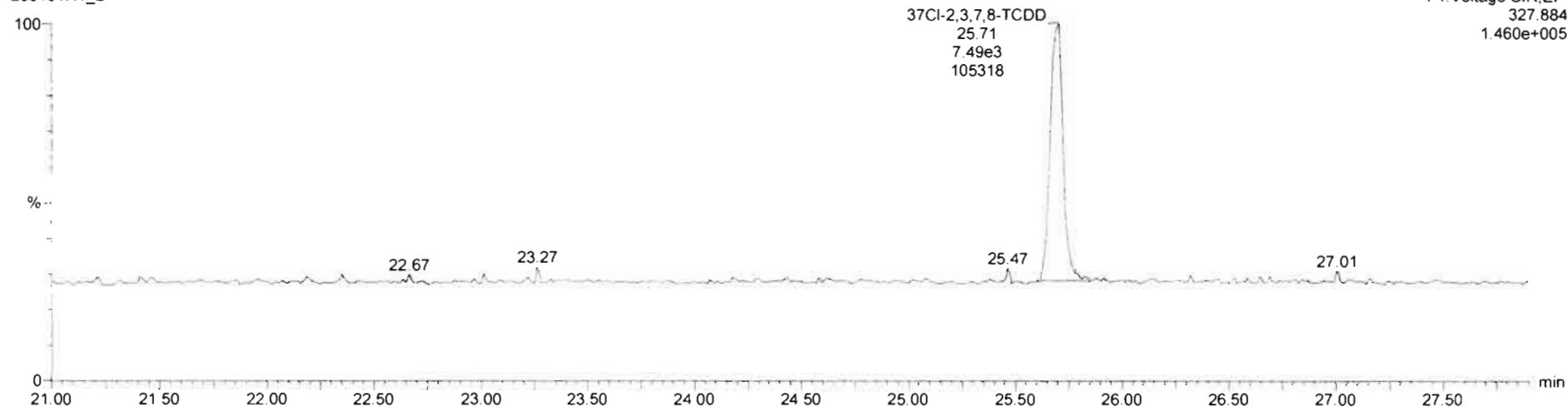
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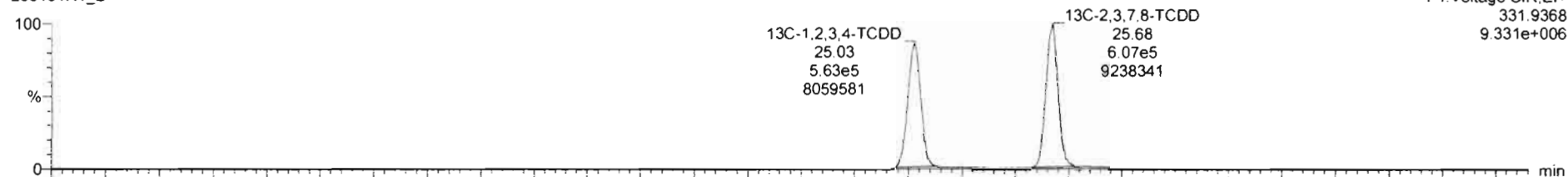
**37Cl-2,3,7,8-TCDD**

200131R1\_2

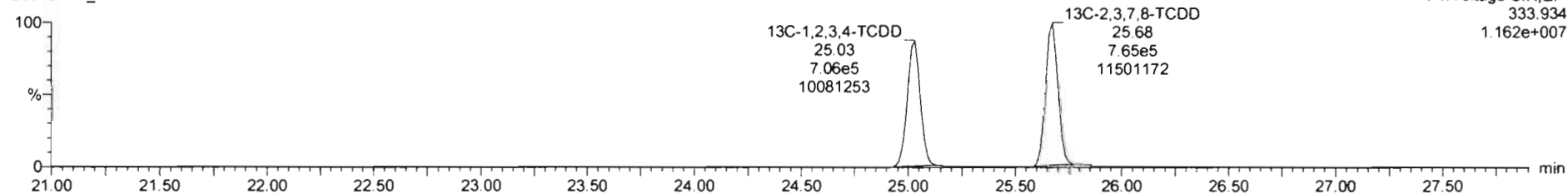


**13C-1,2,3,4-TCDD**

200131R1\_2



200131R1\_2



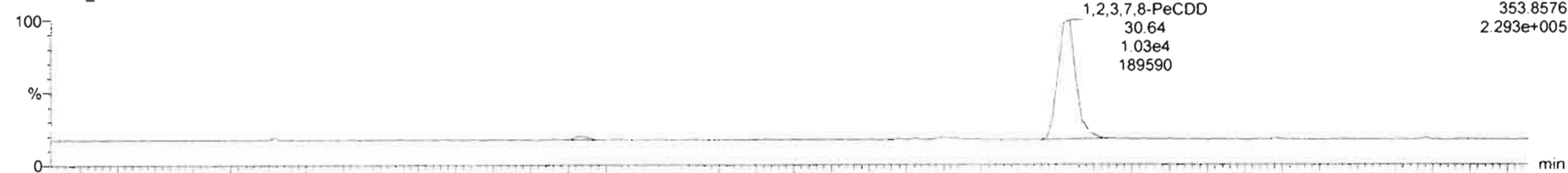
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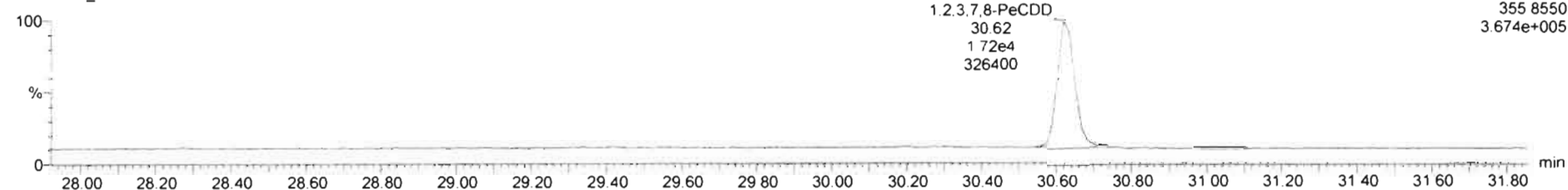
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**1,2,3,7,8-PeCDD**

200131R1\_2

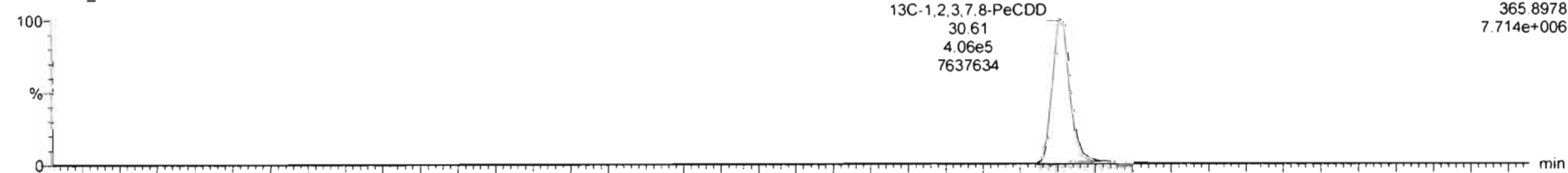


200131R1\_2

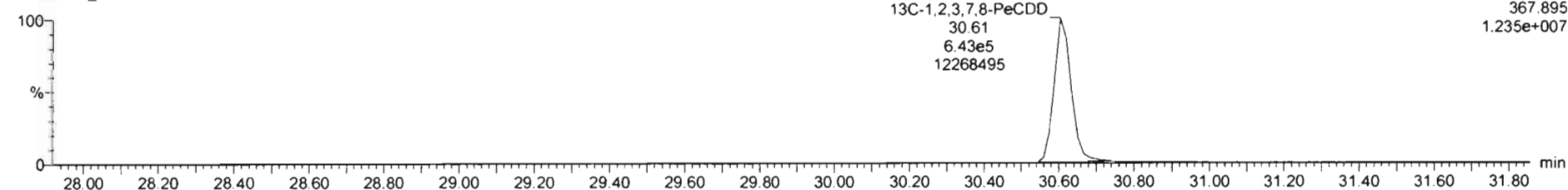


**13C-1,2,3,7,8-PeCDD**

200131R1\_2



200131R1\_2



Dataset: Untitled

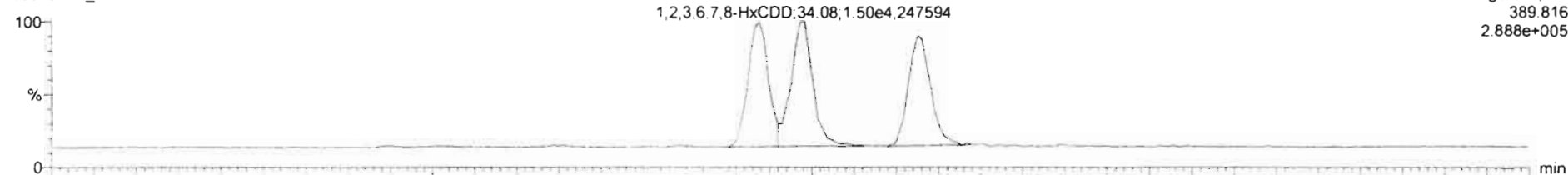
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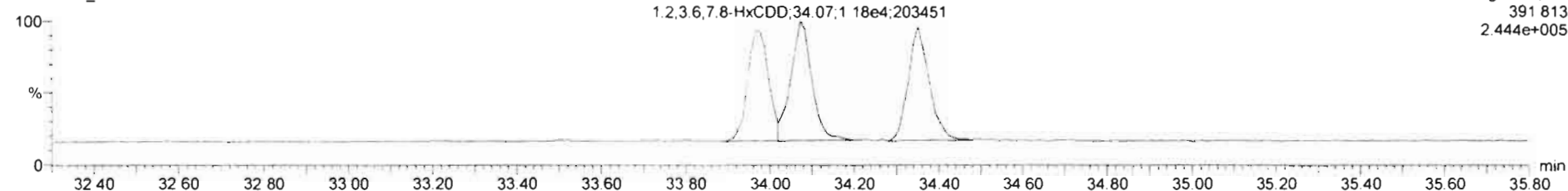
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**1,2,3,4,7,8-HxCDD**

200131R1\_2

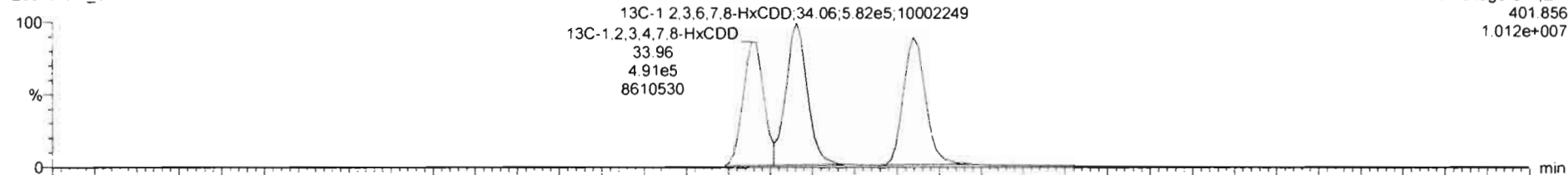


200131R1\_2

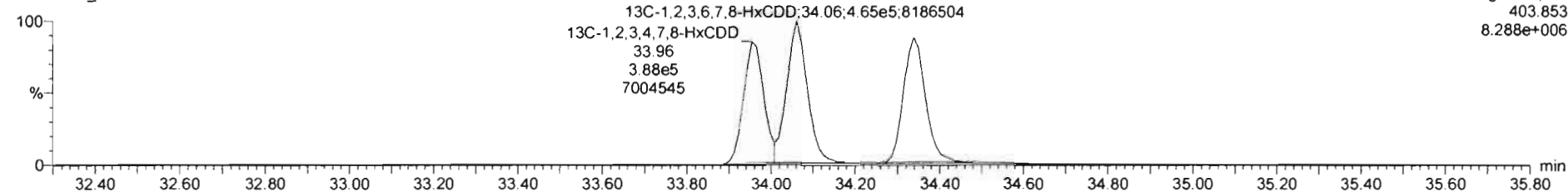


**13C-1,2,3,4,7,8-HxCDD**

200131R1\_2



200131R1\_2



Dataset: Untitled

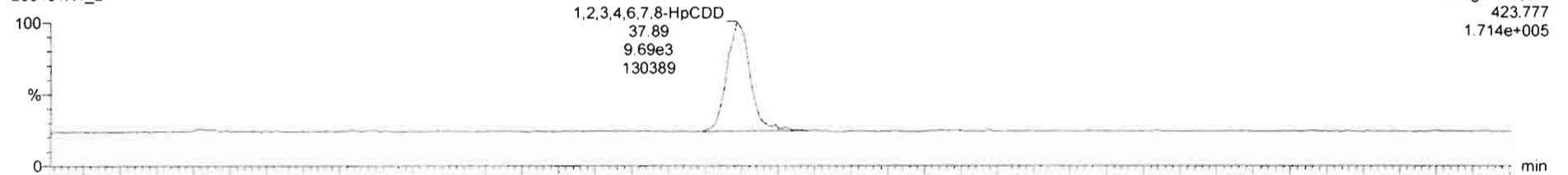
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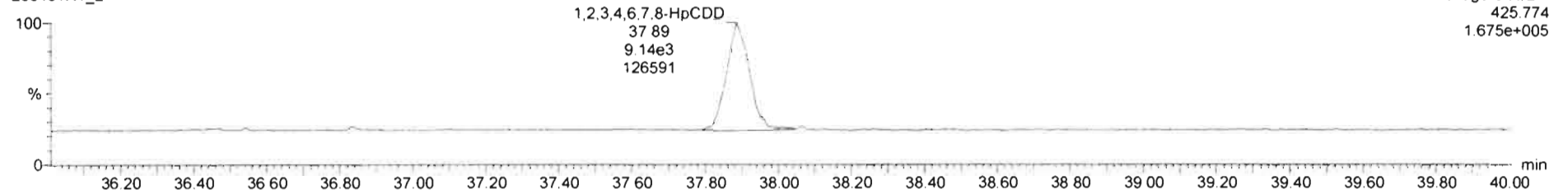
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**1,2,3,4,6,7,8-HpCDD**

200131R1\_2

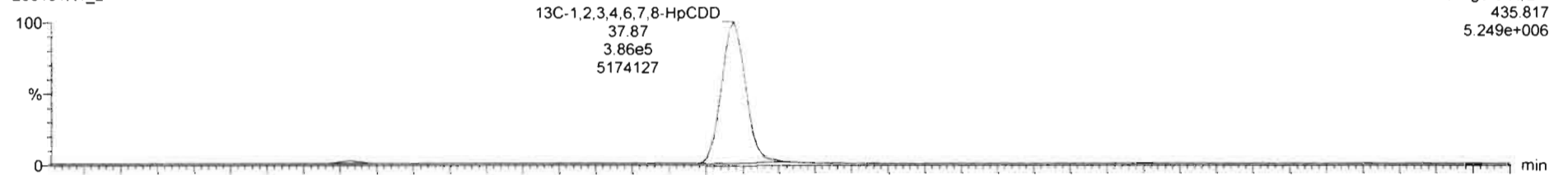


200131R1\_2

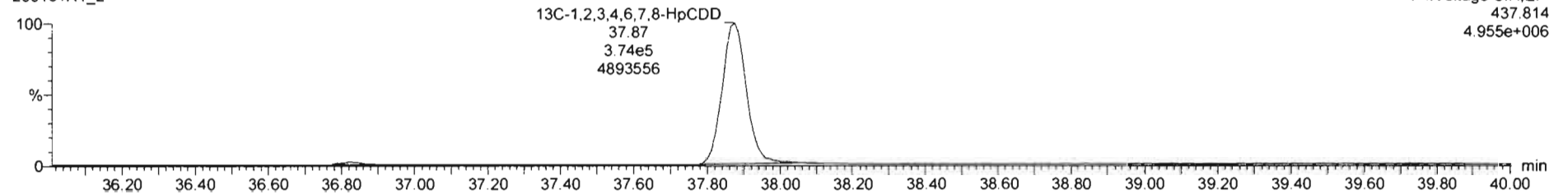


**13C-1,2,3,4,6,7,8-HpCDD**

200131R1\_2



200131R1\_2

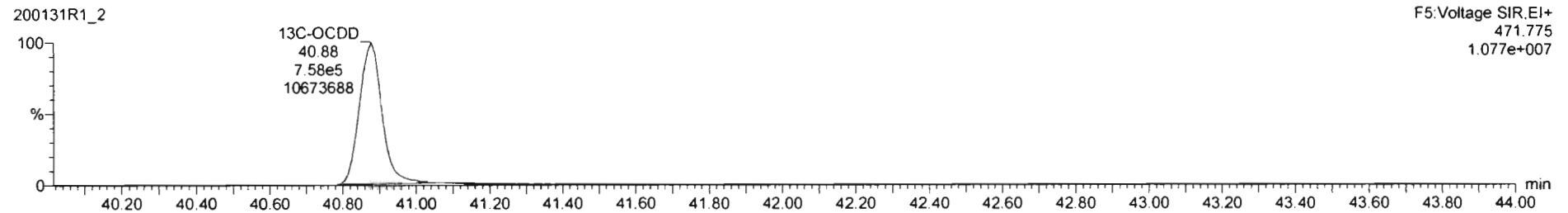
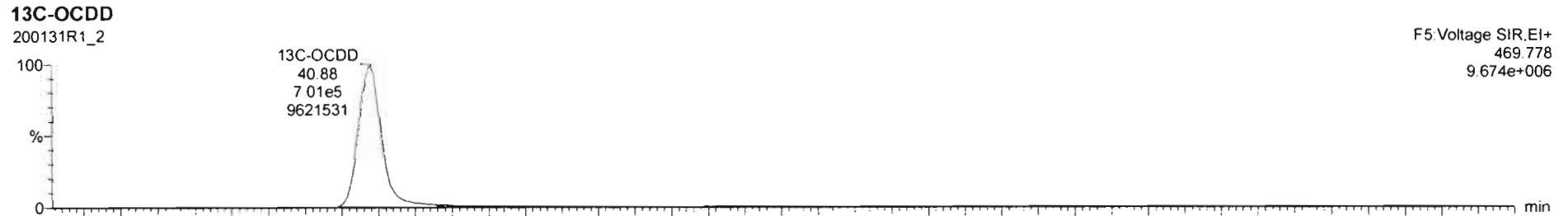
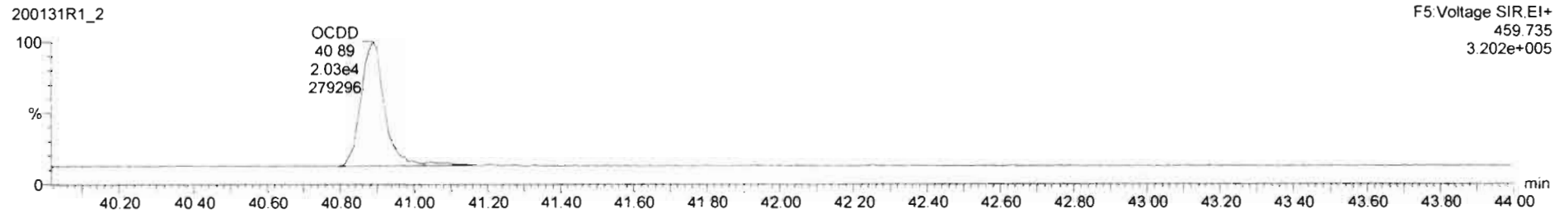
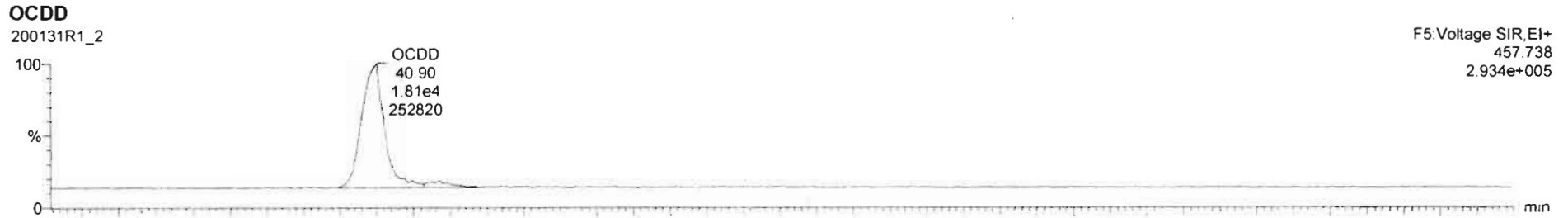


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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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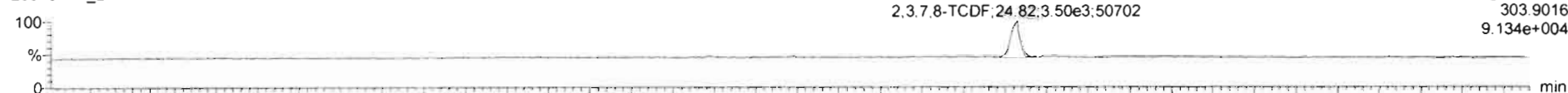
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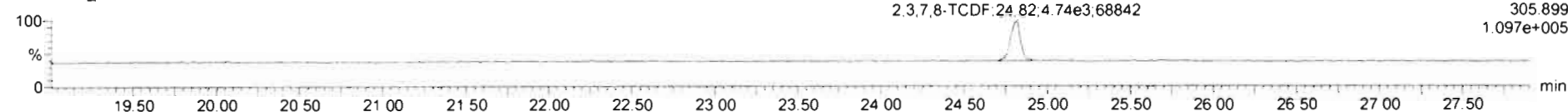
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**2,3,7,8-TCDF**

200131R1\_2

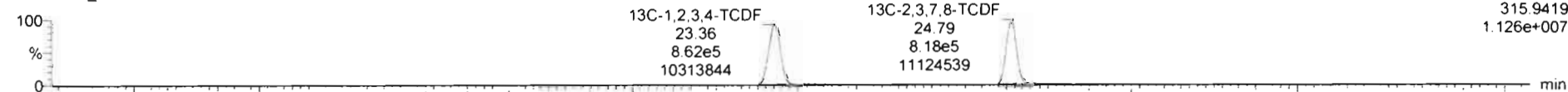


200131R1\_2

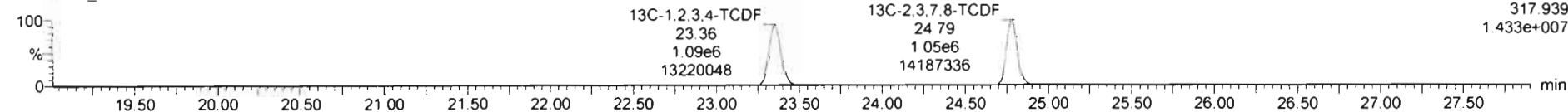


**13C-2,3,7,8-TCDF**

200131R1\_2

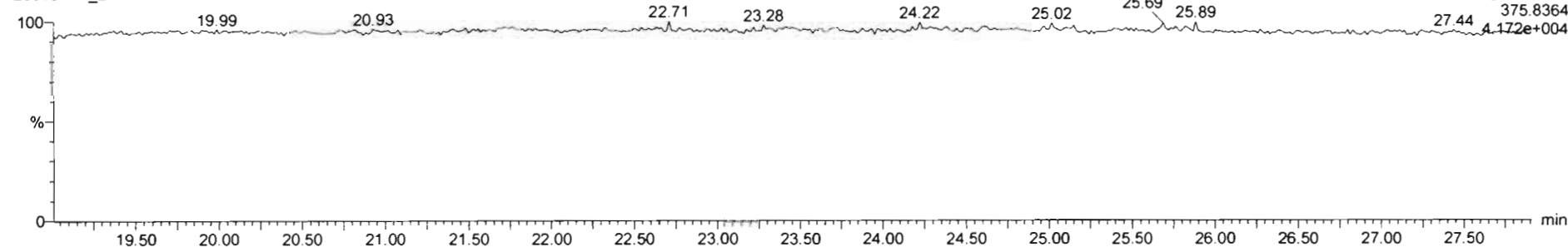


200131R1\_2



**DPE1**

200131R1\_2



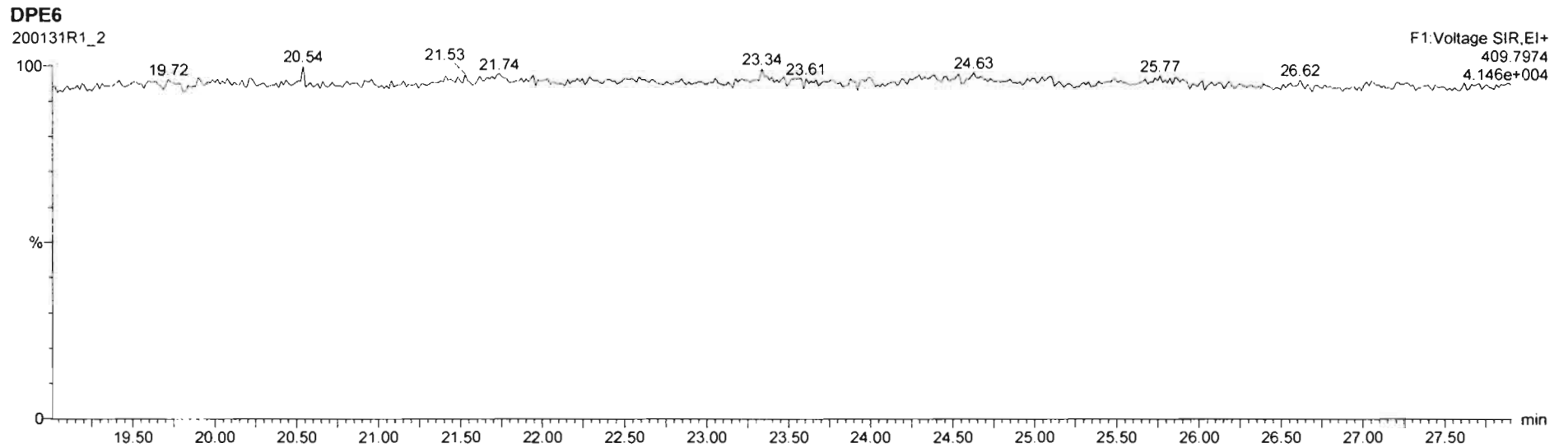
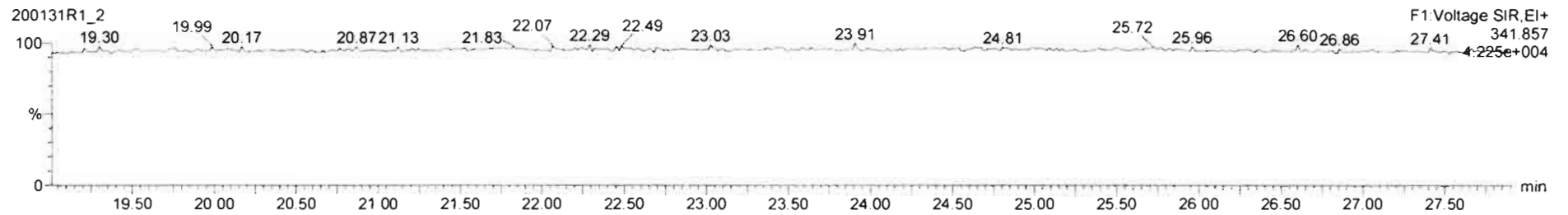
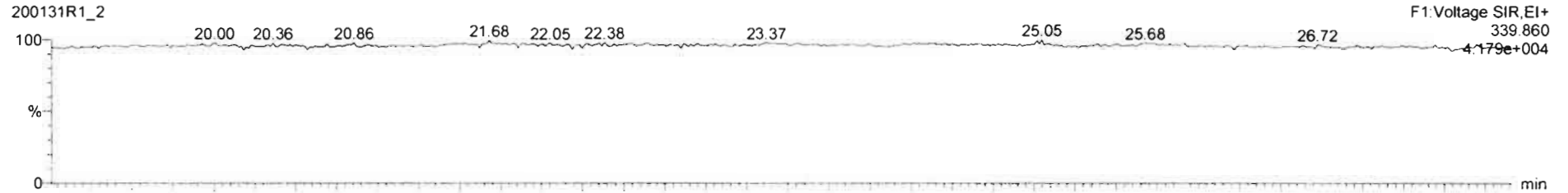
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_2, Date: 31-Jan-2020, Time: 17:37:04, ID: ST200131R1\_2 1613 CS1 19L2303, Description: 1613 CS1 19L2303

1st Func. Penta-Furans



Dataset: Untitled

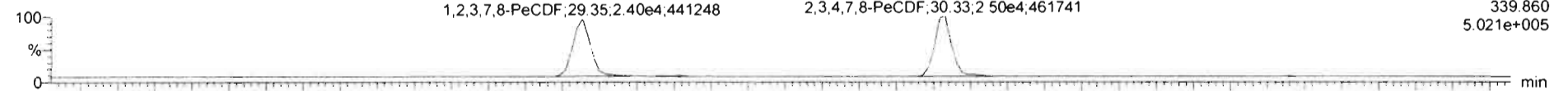
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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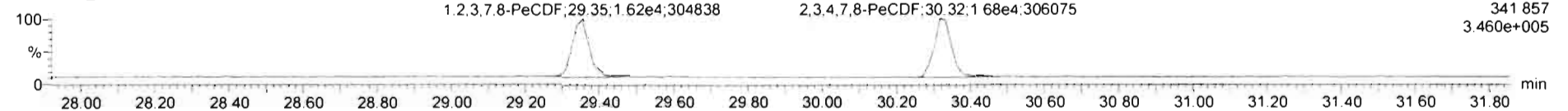
**1,2,3,7,8-PeCDF**

200131R1\_2



F2: Voltage SIR, EI+  
339.860  
5.021e+005

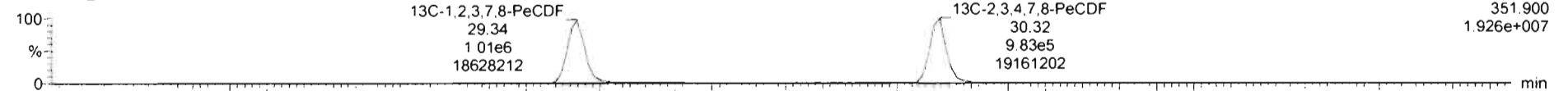
200131R1\_2



F2: Voltage SIR, EI+  
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3.460e+005

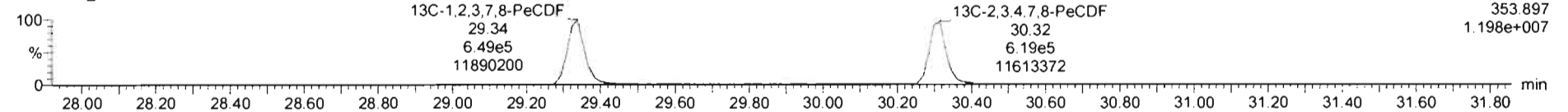
**13C-1,2,3,7,8-PeCDF**

200131R1\_2



F2: Voltage SIR, EI+  
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1.926e+007

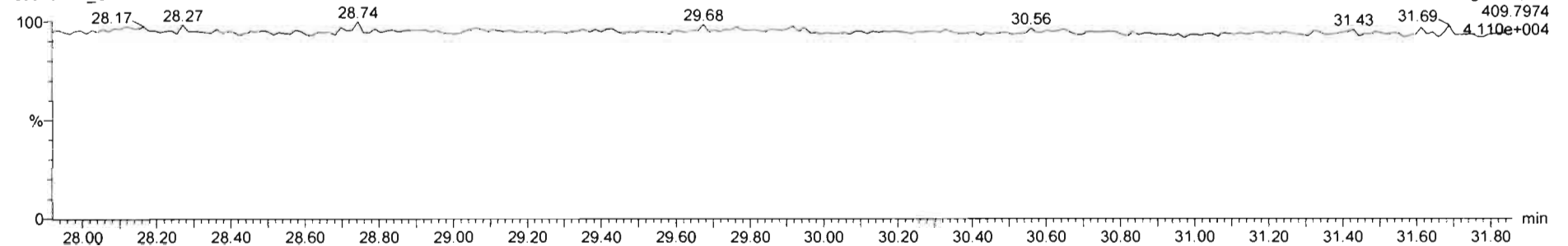
200131R1\_2



F2: Voltage SIR, EI+  
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**DPE2**

200131R1\_2



F2: Voltage SIR, EI+  
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Dataset: Untitled

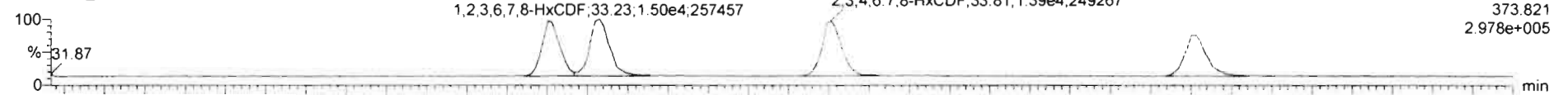
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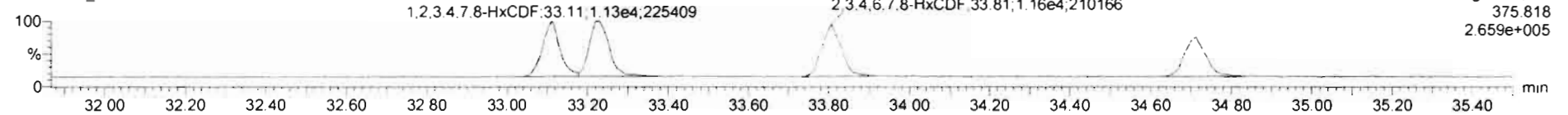
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**1,2,3,4,7,8-HxCDF**

200131R1\_2

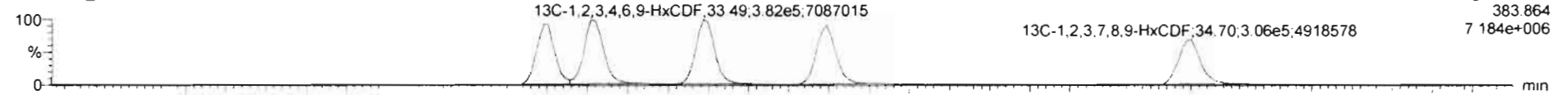


200131R1\_2

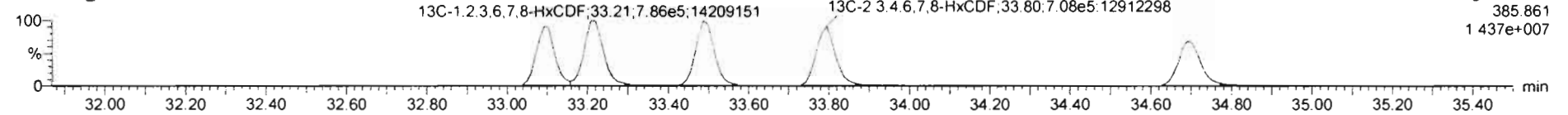


**13C-1,2,3,4,7,8-HxCDF**

200131R1\_2

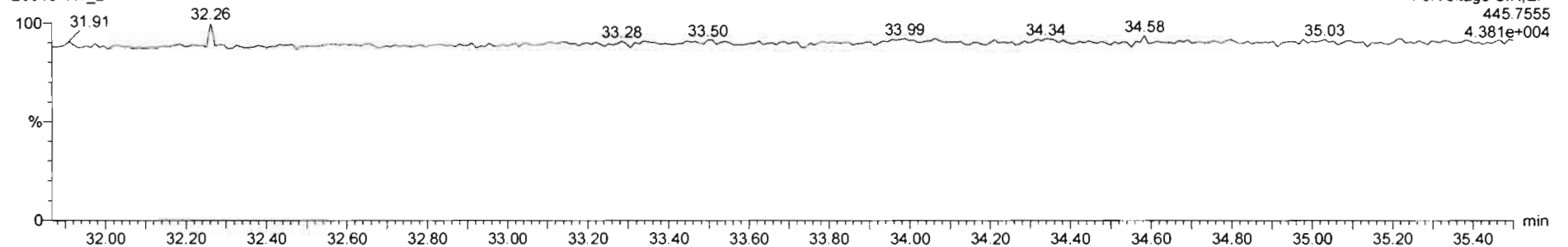


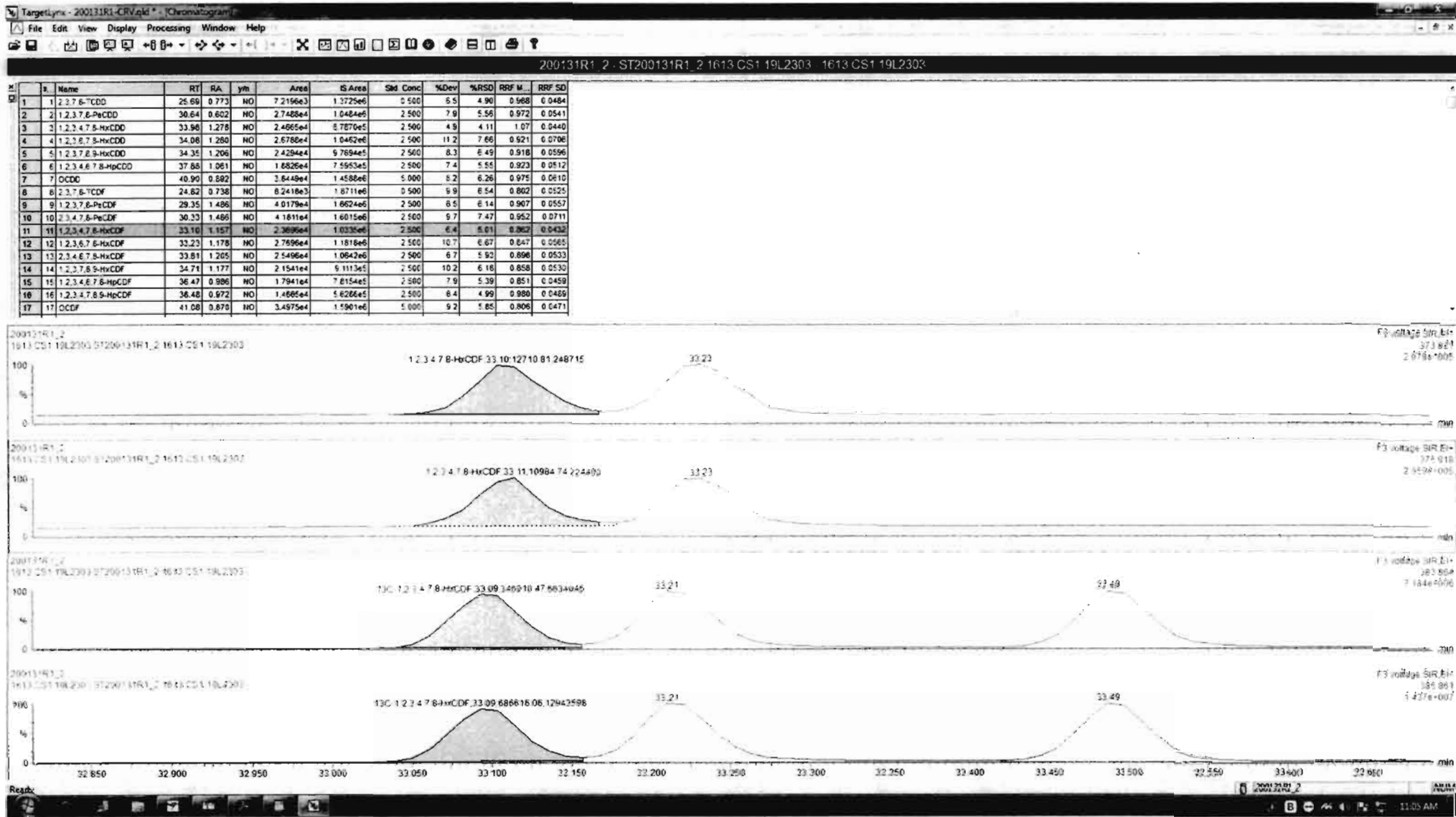
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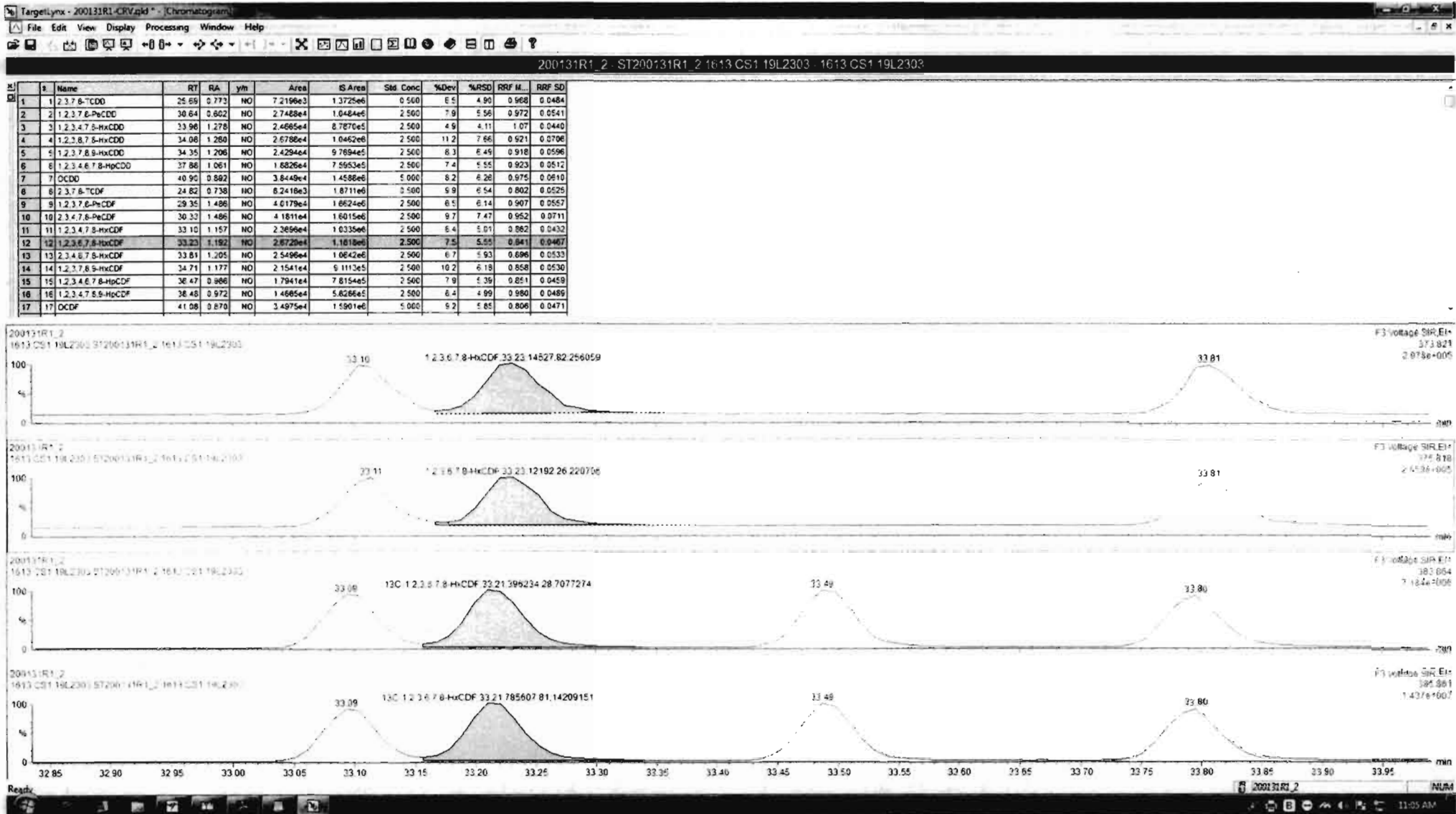


**DPE3**

200131R1\_2





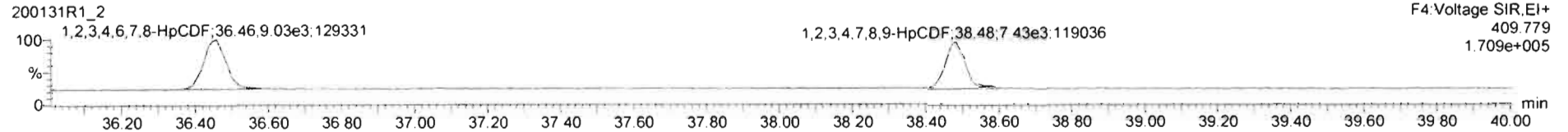
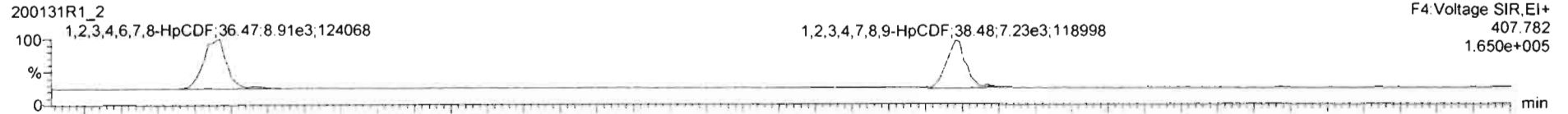


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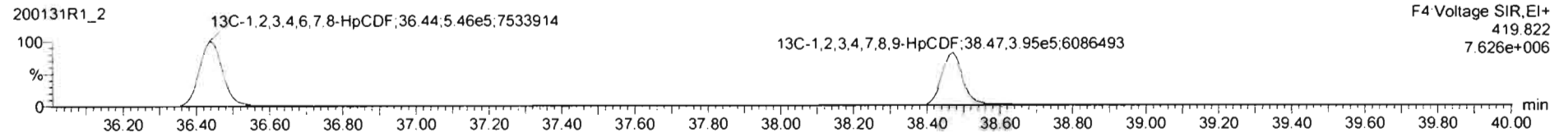
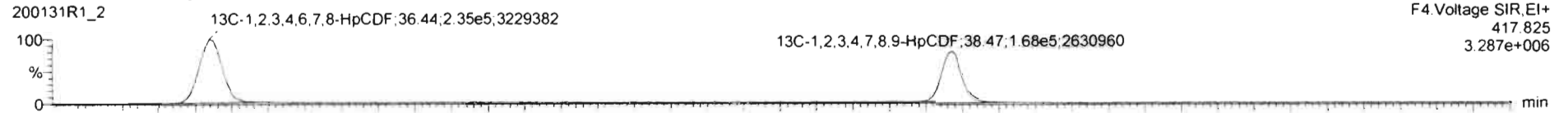
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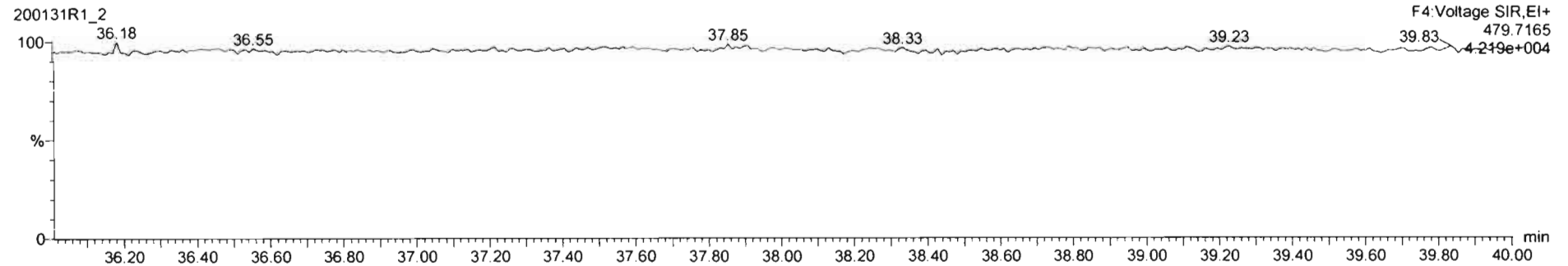
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



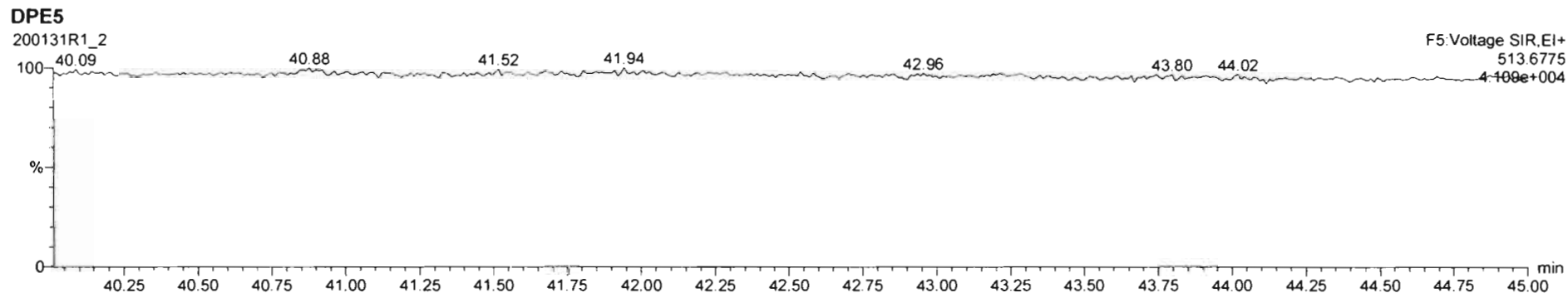
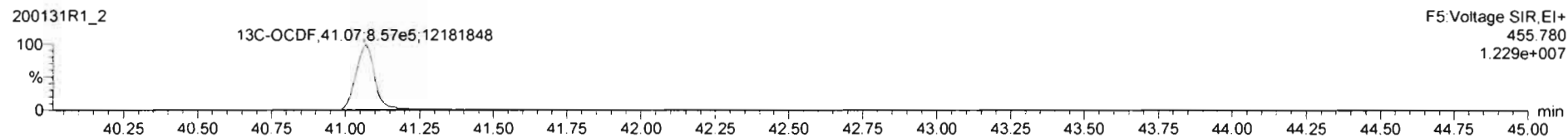
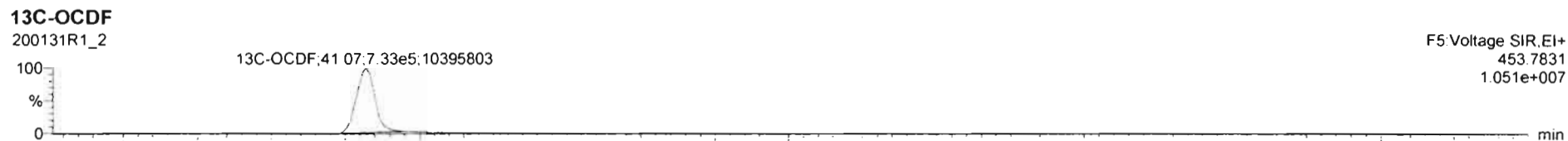
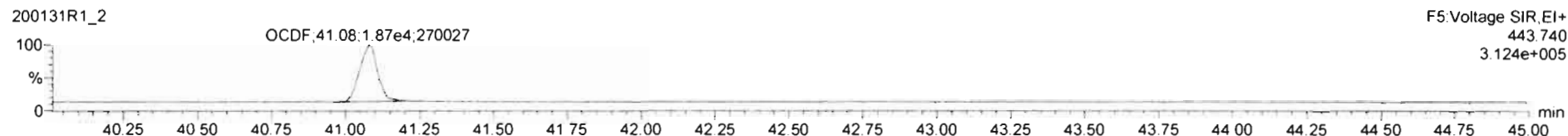
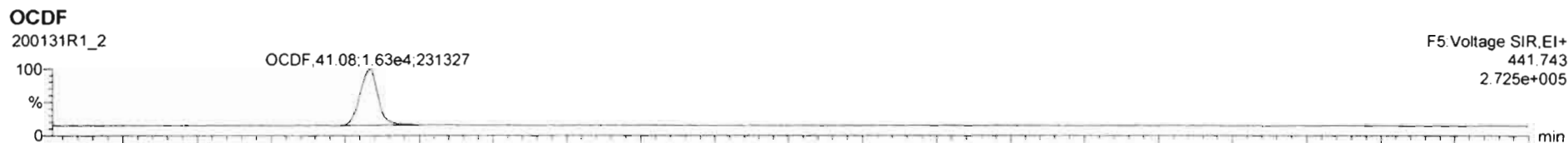
**DPE4**



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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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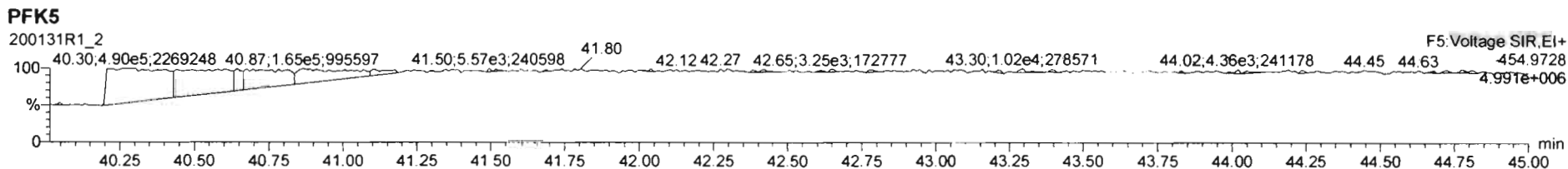
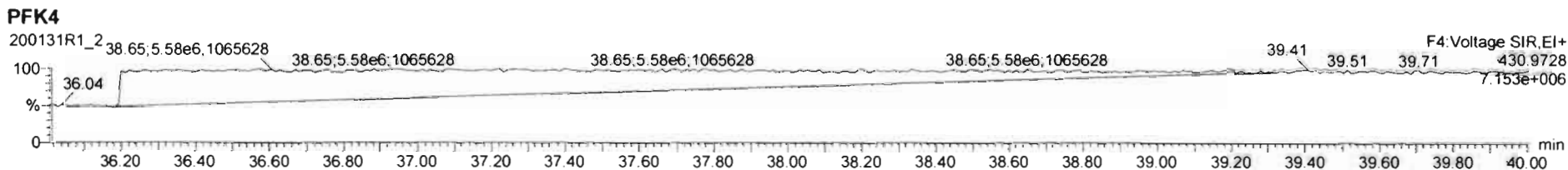
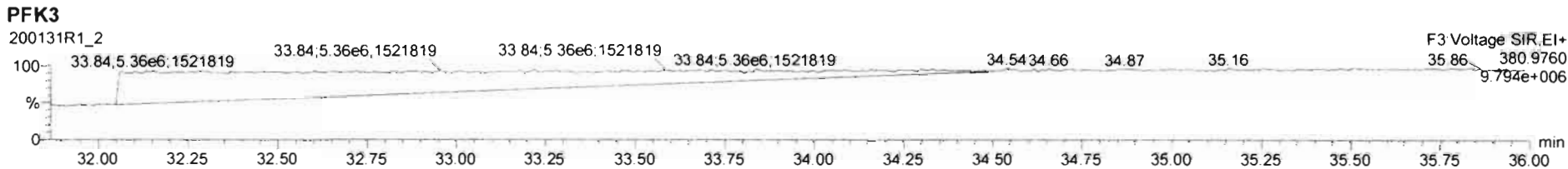
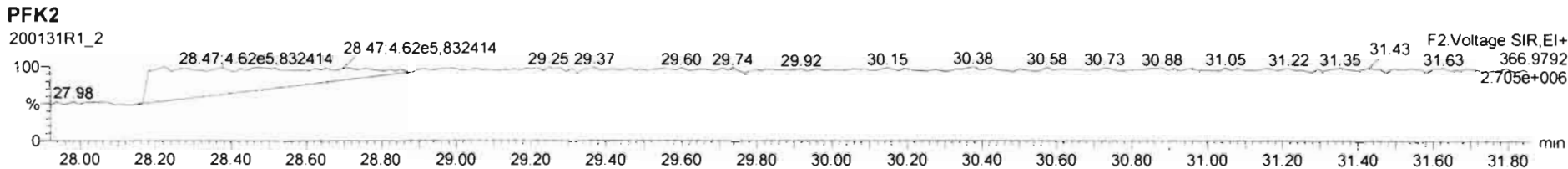
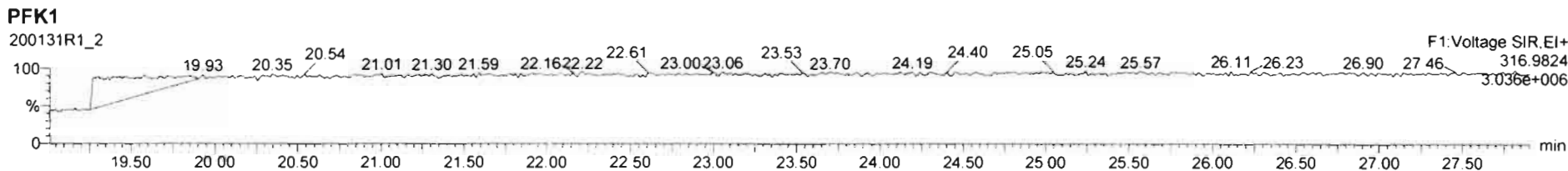


Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_2, Date: 31-Jan-2020, Time: 17:37:04, ID: ST200131R1\_2 1613 CS1 19L2303, Description: 1613 CS1 19L2303



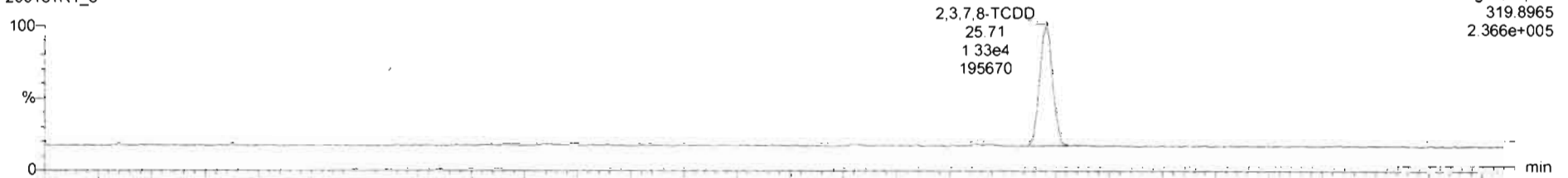
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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
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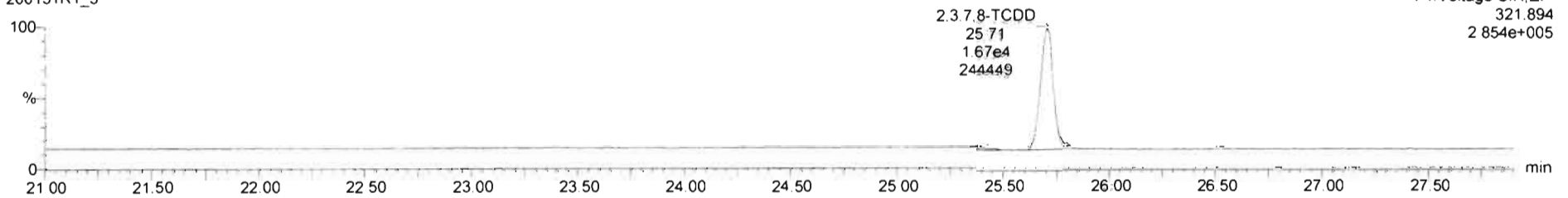
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**2,3,7,8-TCDD**

200131R1\_3

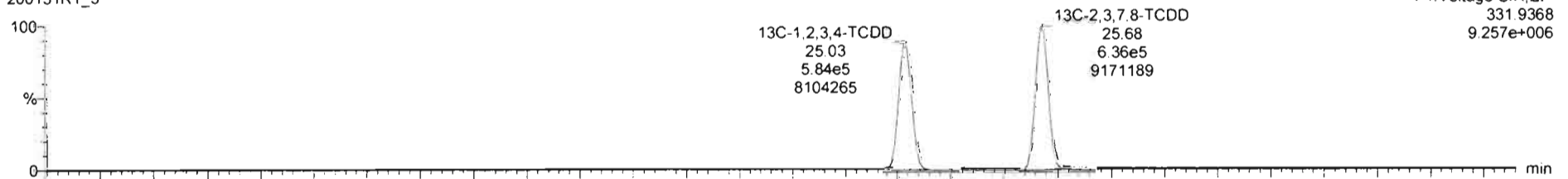


200131R1\_3

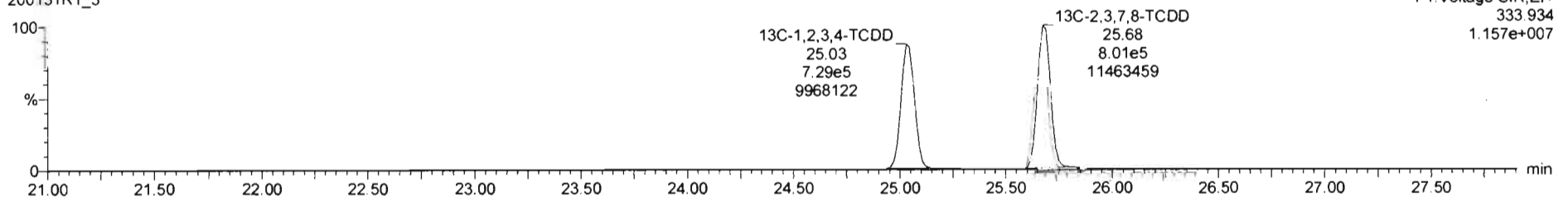


**13C-2,3,7,8-TCDD**

200131R1\_3



200131R1\_3



Dataset: Untitled

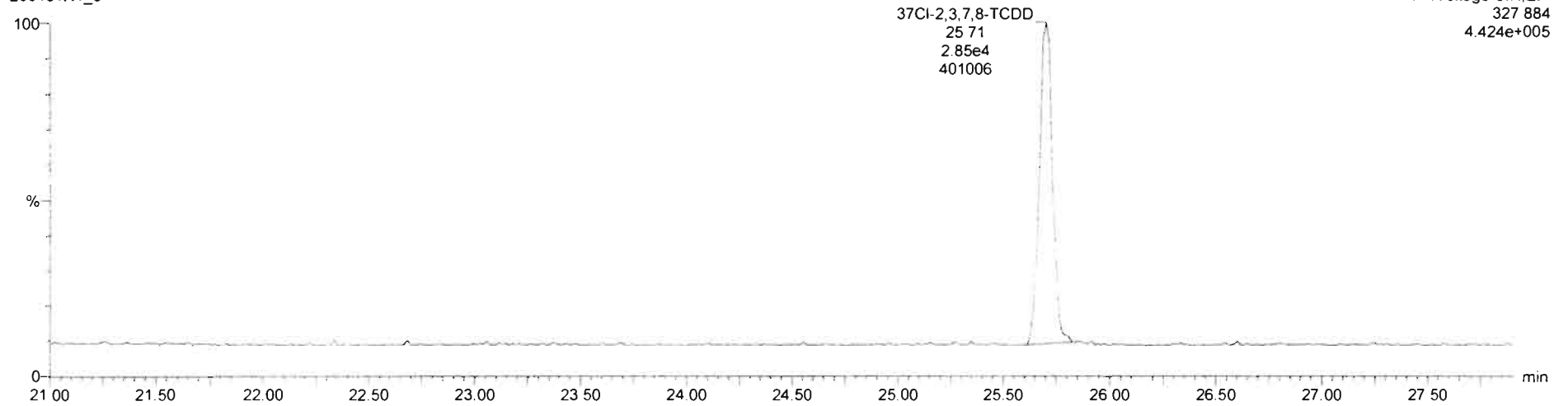
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304

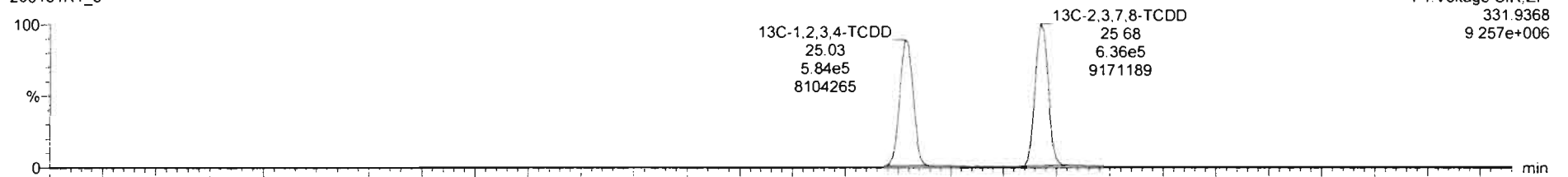
**37Cl-2,3,7,8-TCDD**

200131R1\_3

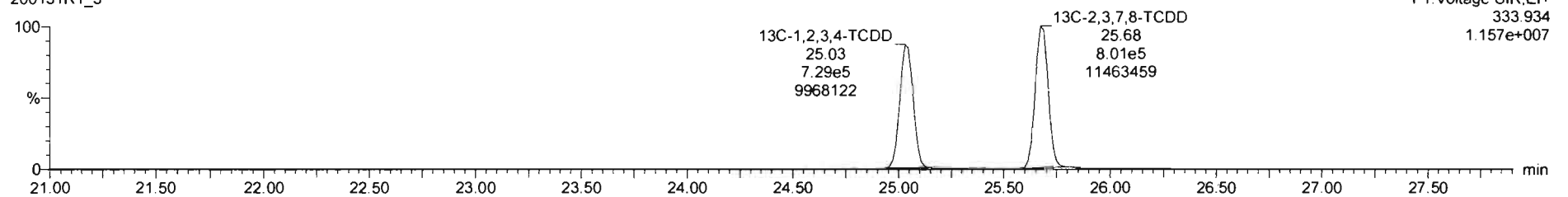


**13C-1,2,3,4-TCDD**

200131R1\_3



200131R1\_3



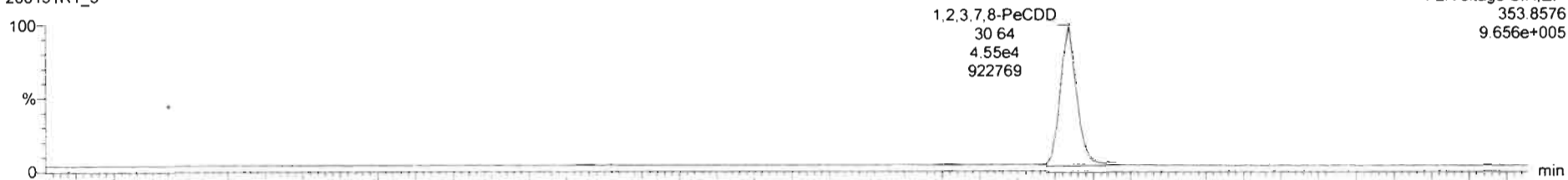
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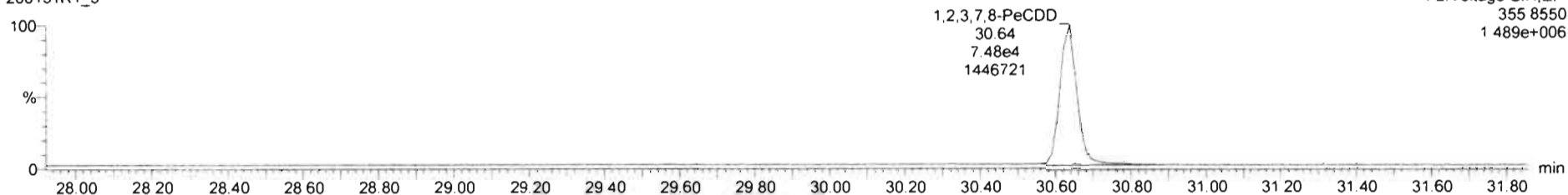
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**1,2,3,7,8-PeCDD**

200131R1\_3

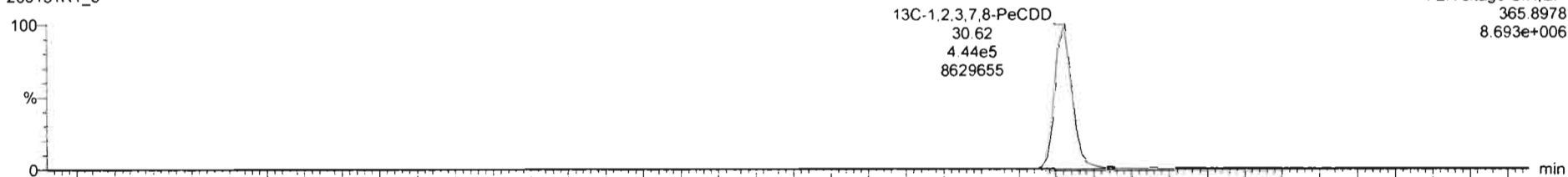


200131R1\_3

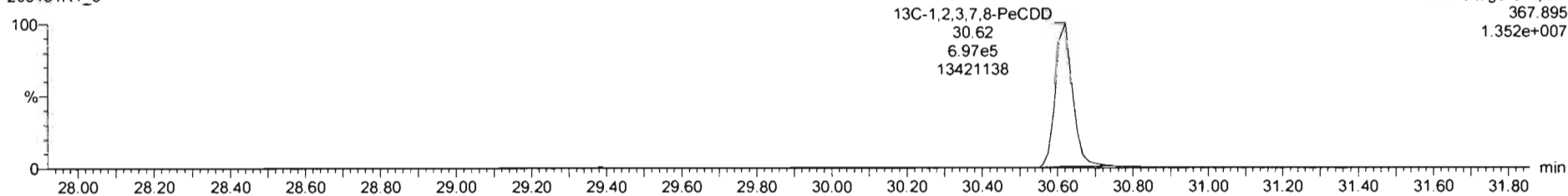


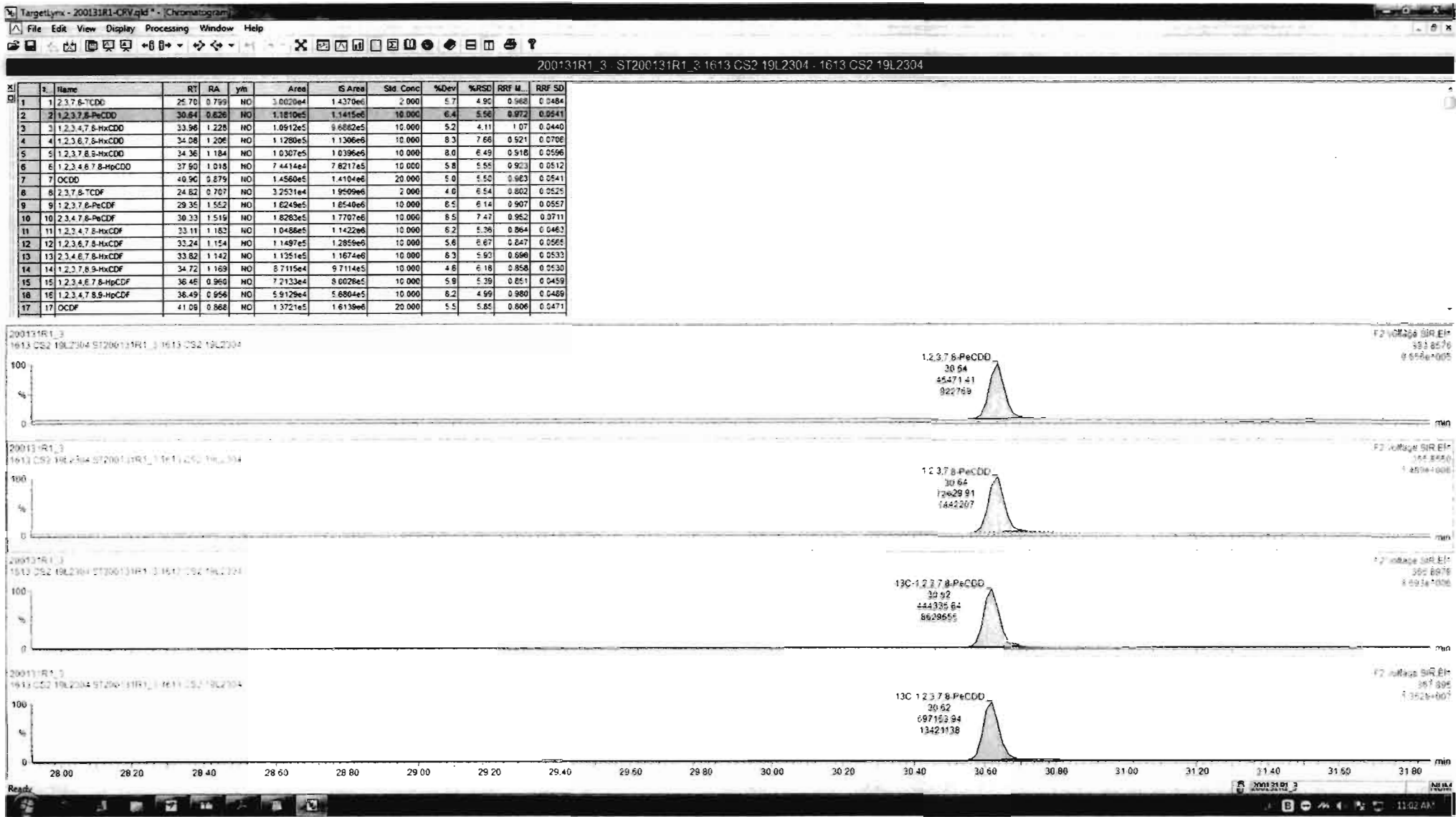
**13C-1,2,3,7,8-PeCDD**

200131R1\_3



200131R1\_3





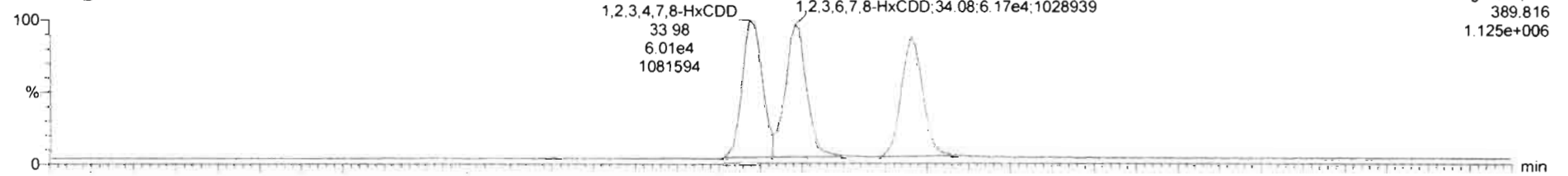
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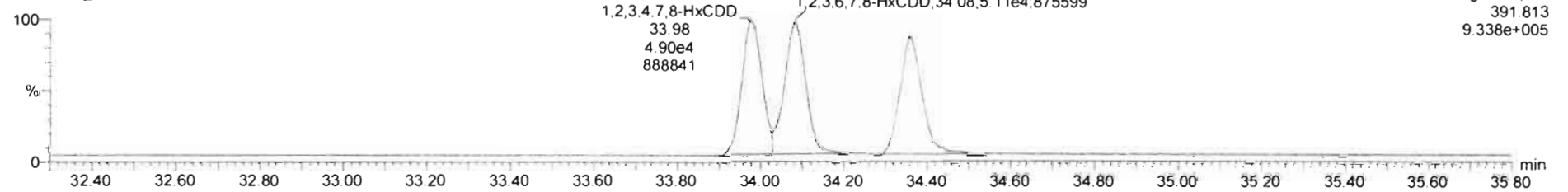
Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304

**1,2,3,4,7,8-HxCDD**

200131R1\_3

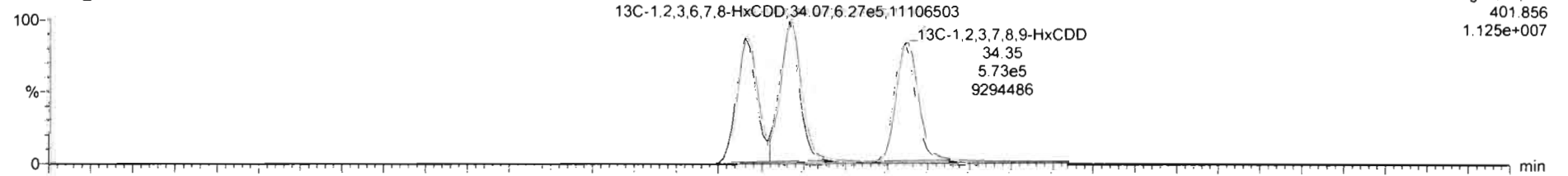


200131R1\_3

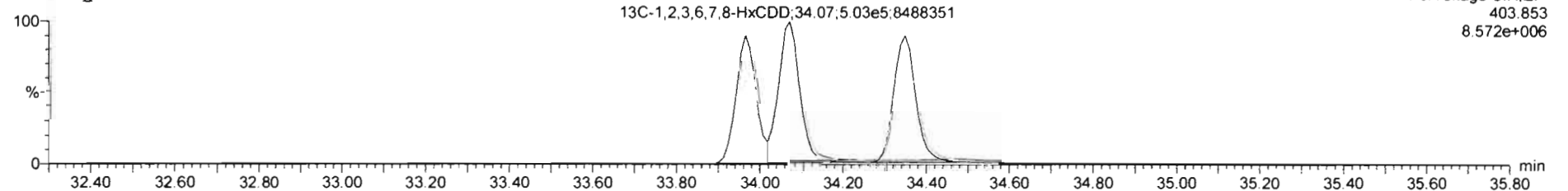


**13C-1,2,3,4,7,8-HxCDD**

200131R1\_3



200131R1\_3



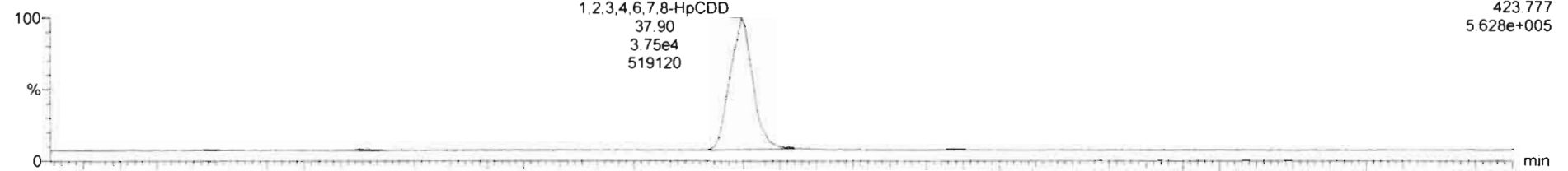
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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304

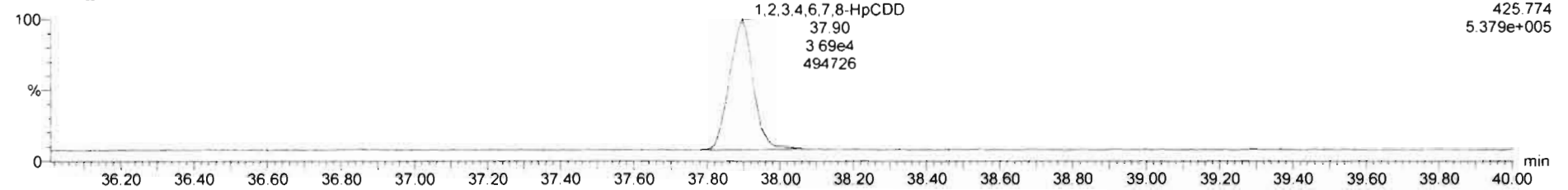
1,2,3,4,6,7,8-HpCDD

200131R1\_3



F4: Voltage SIR, EI+  
423.777  
5.628e+005

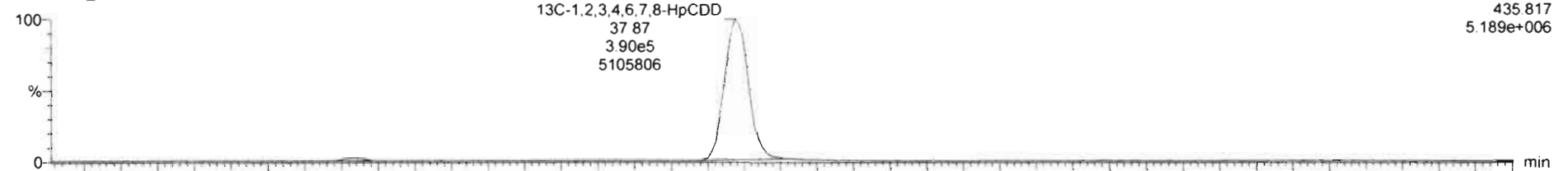
200131R1\_3



F4: Voltage SIR, EI+  
425.774  
5.379e+005

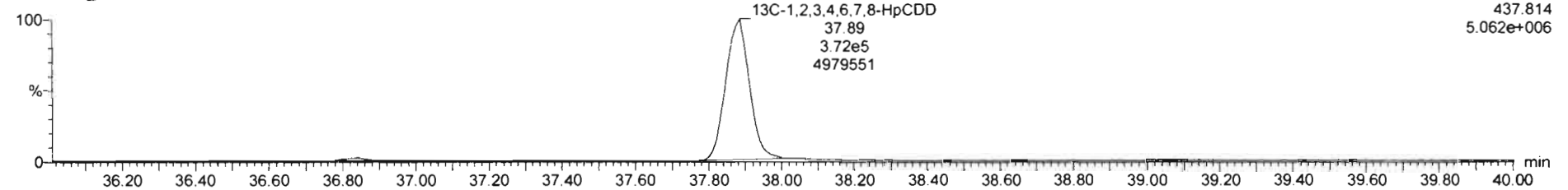
13C-1,2,3,4,6,7,8-HpCDD

200131R1\_3



F4: Voltage SIR, EI+  
435.817  
5.189e+006

200131R1\_3

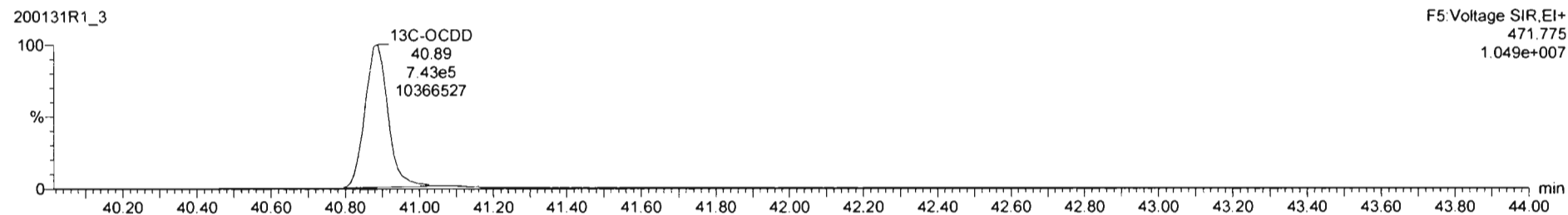
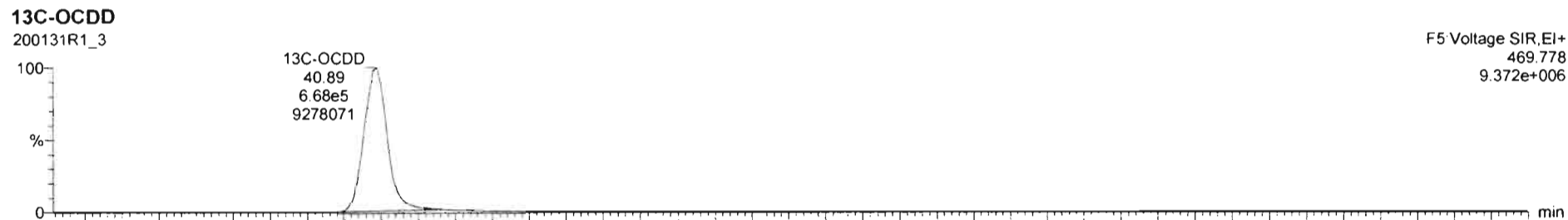
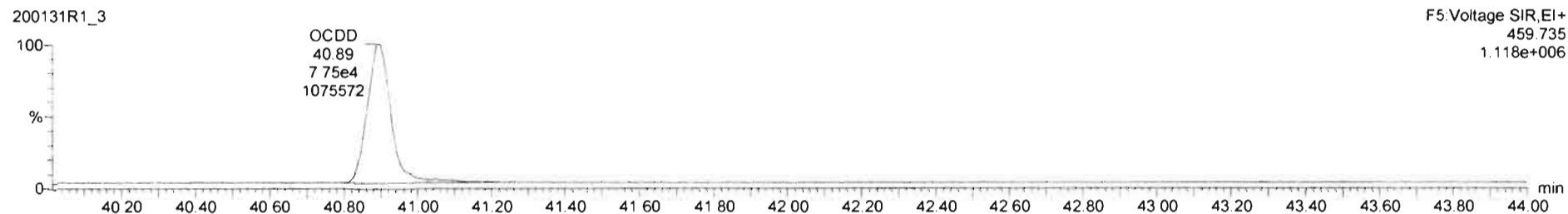
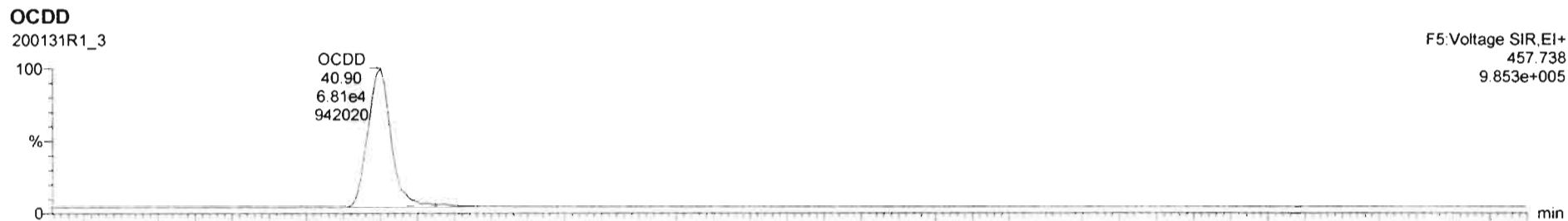


F4: Voltage SIR, EI+  
437.814  
5.062e+006

Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304





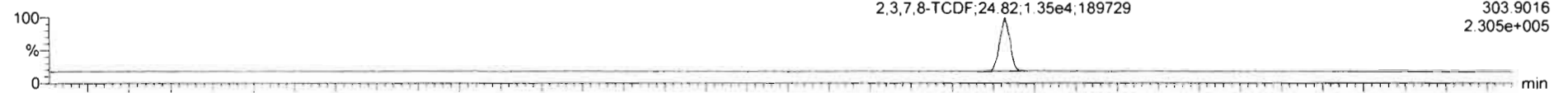
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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304

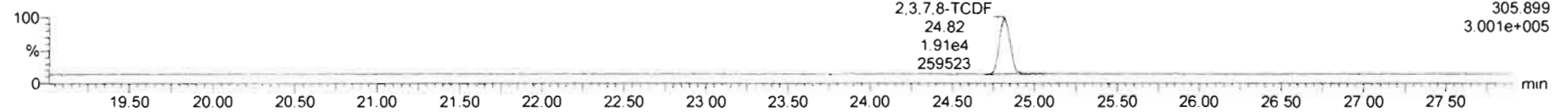
**2,3,7,8-TCDF**

200131R1\_3



F1: Voltage SIR, EI+  
303.9016  
2.305e+005

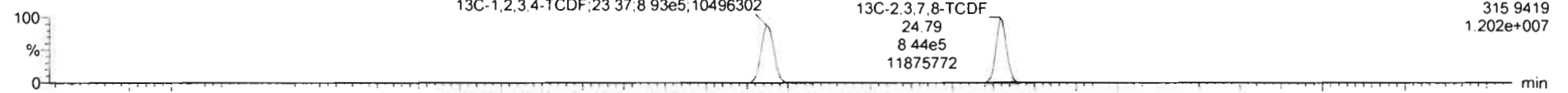
200131R1\_3



F1: Voltage SIR, EI+  
305.899  
3.001e+005

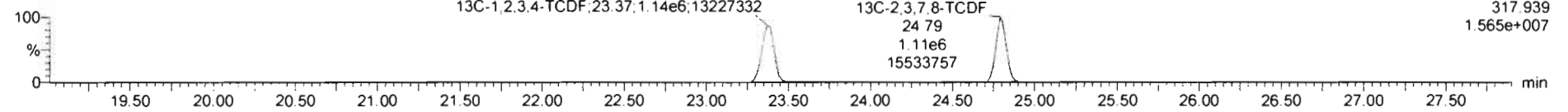
**13C-2,3,7,8-TCDF**

200131R1\_3



F1: Voltage SIR, EI+  
315.9419  
1.202e+007

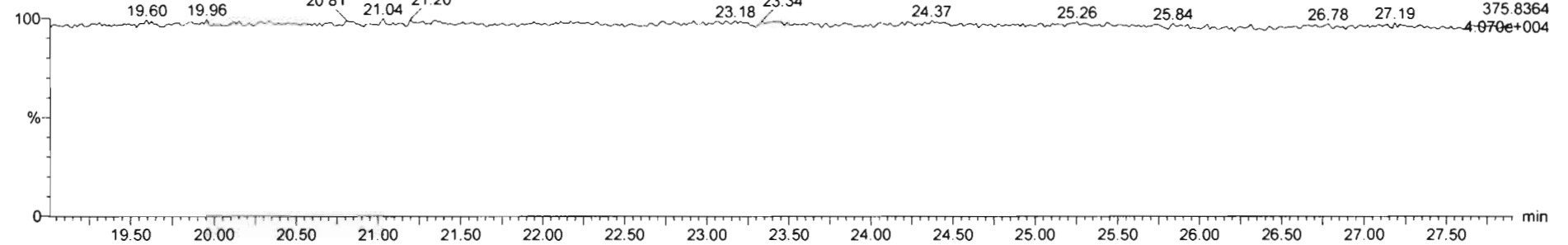
200131R1\_3



F1: Voltage SIR, EI+  
317.939  
1.565e+007

**DPE1**

200131R1\_3



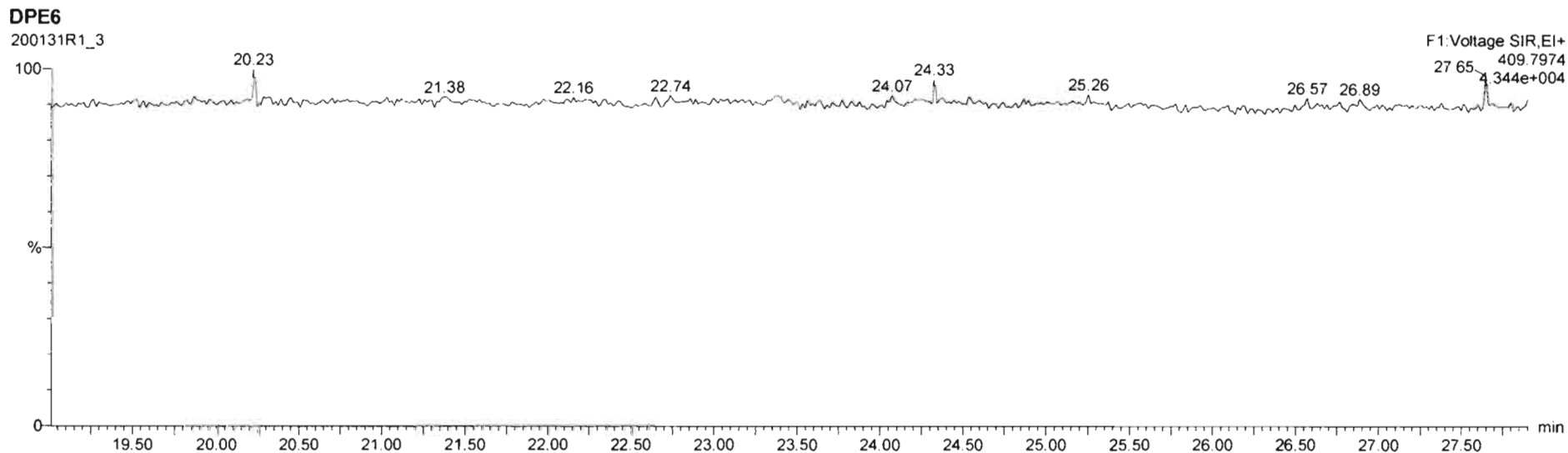
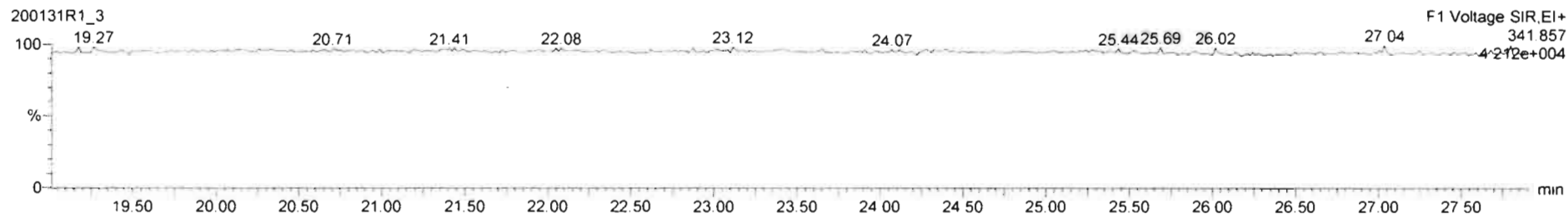
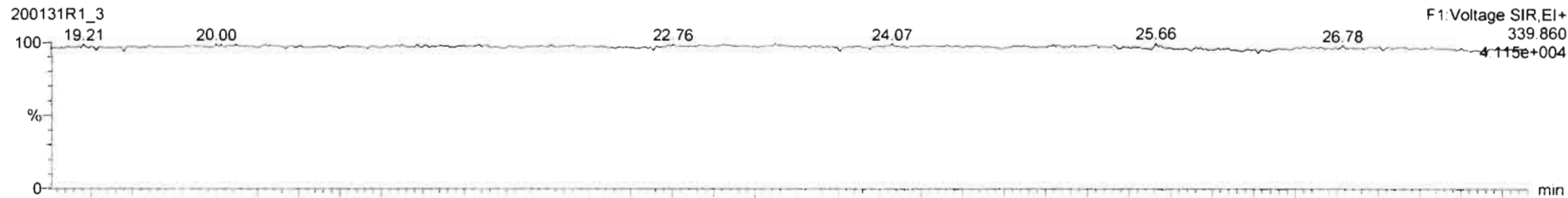
F1: Voltage SIR, EI+  
375.8364  
4.070e+004

Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_3, Date: 31-Jan-2020, Time: 18:23:19, ID: ST200131R1\_3 1613 CS2 19L2304, Description: 1613 CS2 19L2304

1st Func. Penta-Furans



Dataset: Untitled

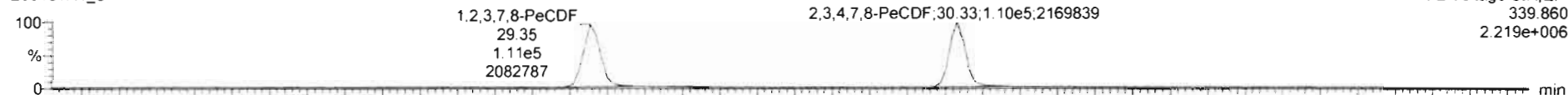
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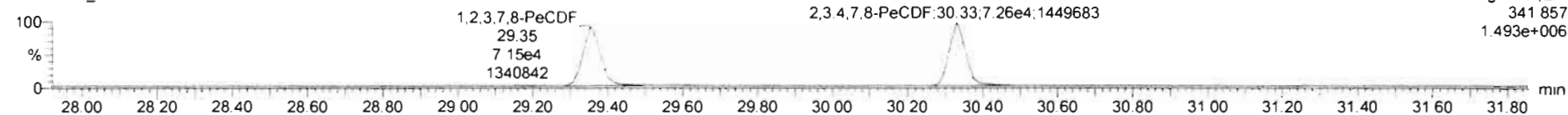
**1,2,3,7,8-PeCDF**

200131R1\_3



F2: Voltage SIR, EI+  
339.860  
2.219e+006

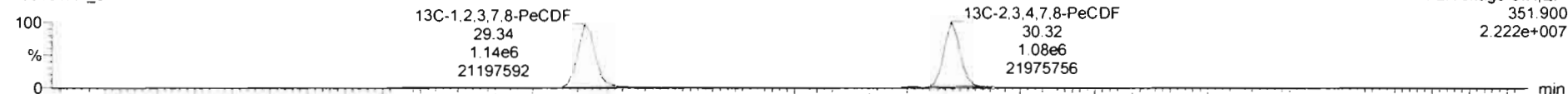
200131R1\_3



F2: Voltage SIR, EI+  
341.857  
1.493e+006

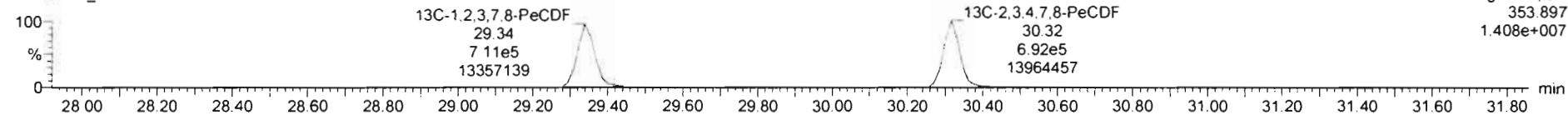
**13C-1,2,3,7,8-PeCDF**

200131R1\_3



F2: Voltage SIR, EI+  
351.900  
2.222e+007

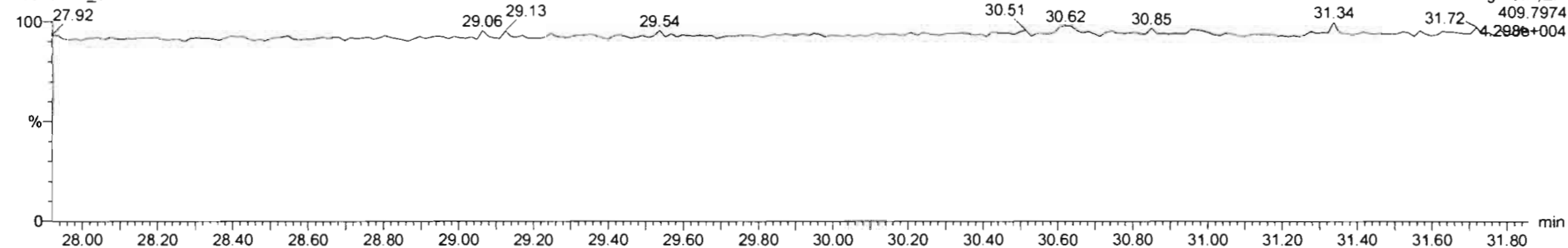
200131R1\_3



F2: Voltage SIR, EI+  
353.897  
1.408e+007

**DPE2**

200131R1\_3



F2: Voltage SIR, EI+  
409.7974  
4.29e+004

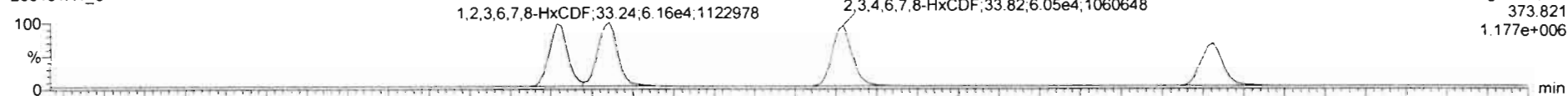
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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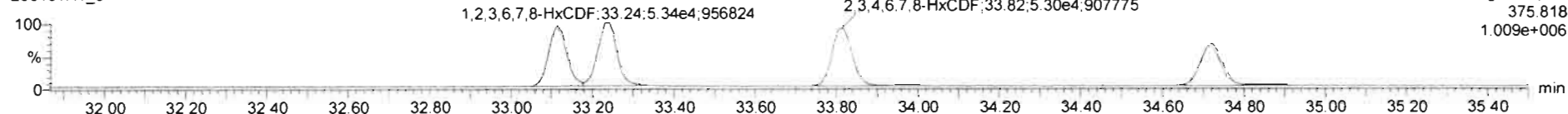
**1,2,3,4,7,8-HxCDF**

200131R1\_3



F3: Voltage SIR, EI+  
373.821  
1.177e+006

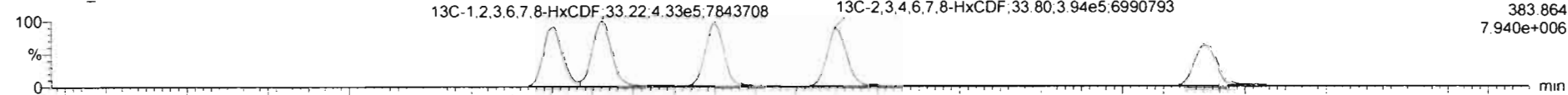
200131R1\_3



F3: Voltage SIR, EI+  
375.818  
1.009e+006

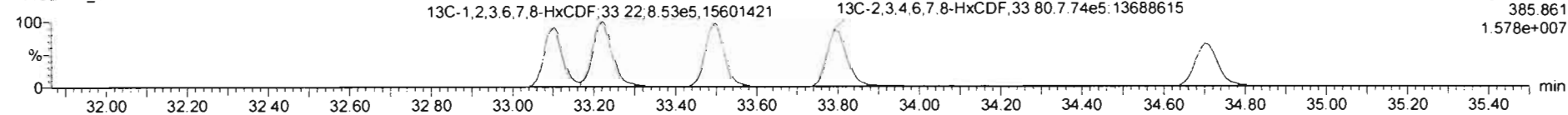
**13C-1,2,3,4,7,8-HxCDF**

200131R1\_3



F3: Voltage SIR, EI+  
383.864  
7.940e+006

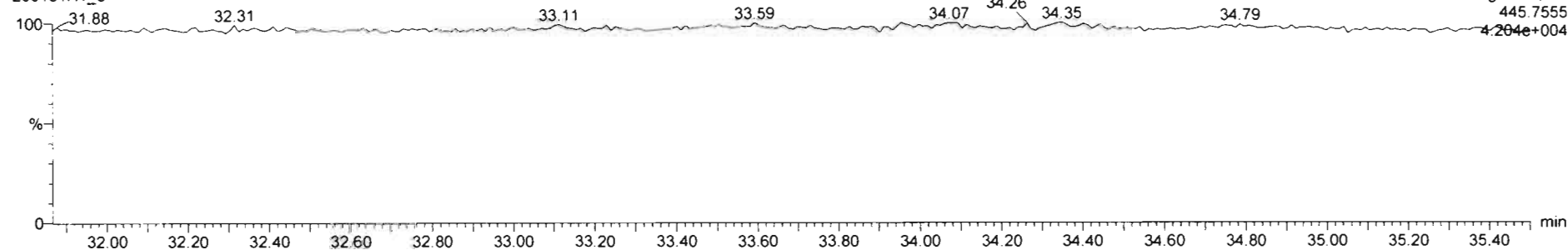
200131R1\_3



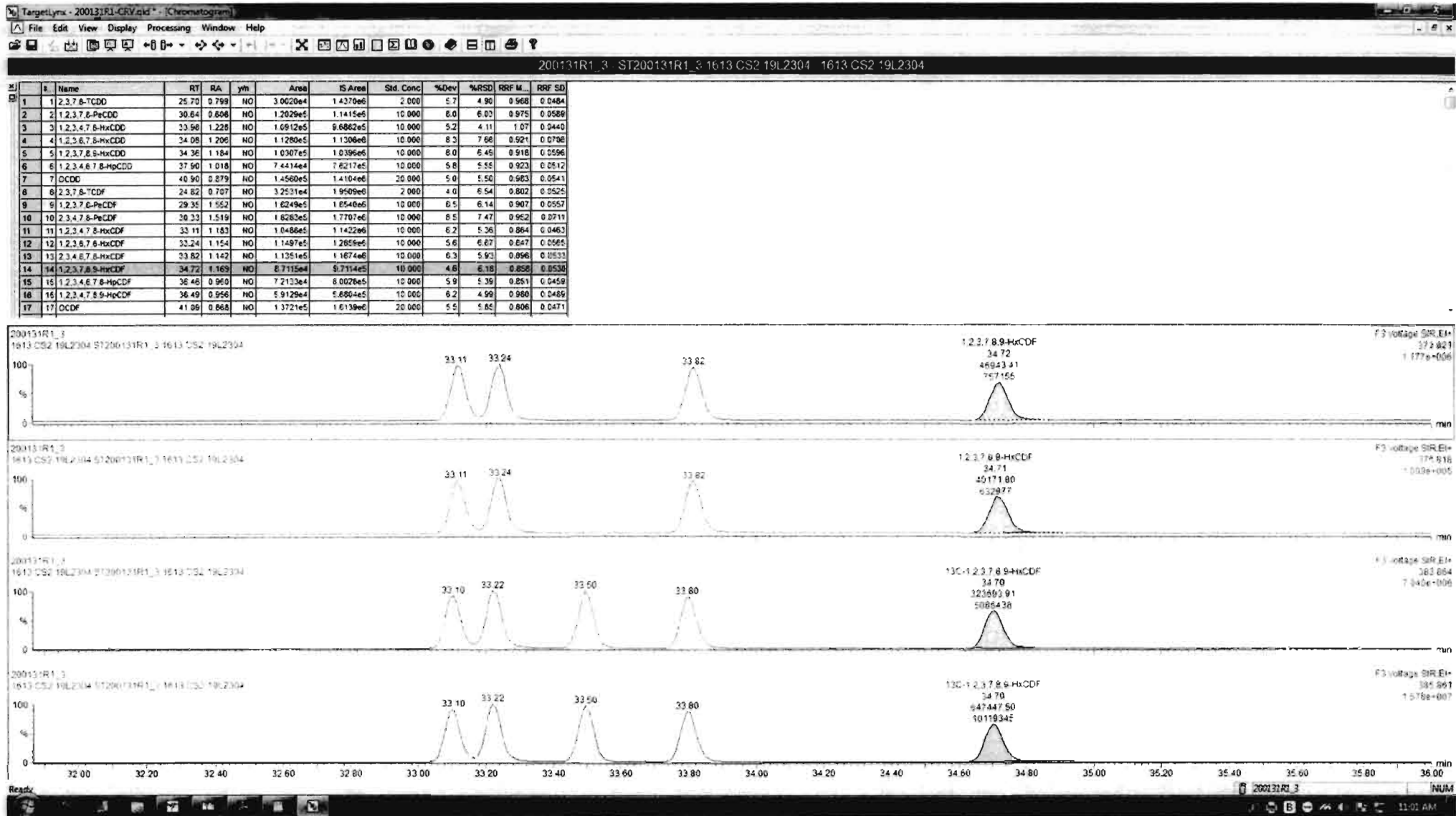
F3: Voltage SIR, EI+  
385.861  
1.578e+007

**DPE3**

200131R1\_3



F3: Voltage SIR, EI+  
445.7555  
4.204e+004

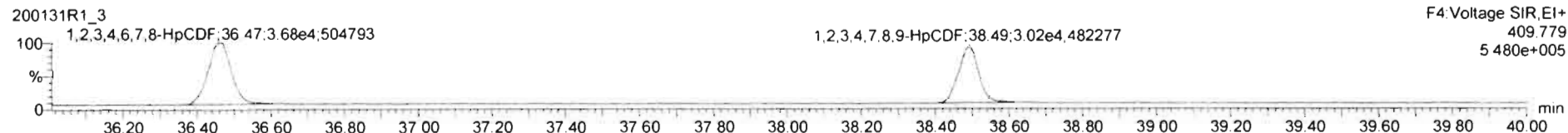


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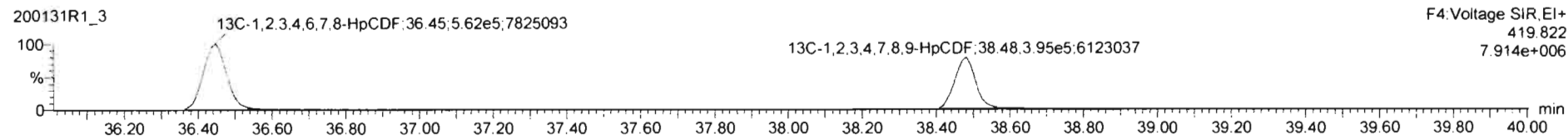
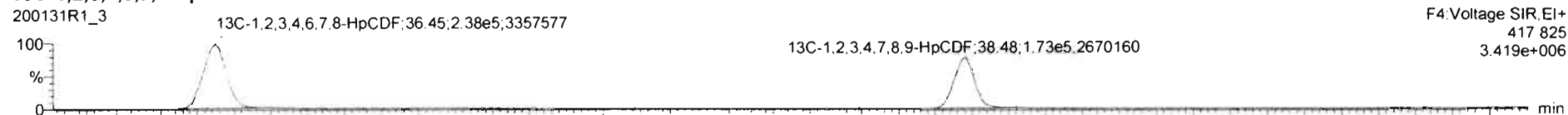
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

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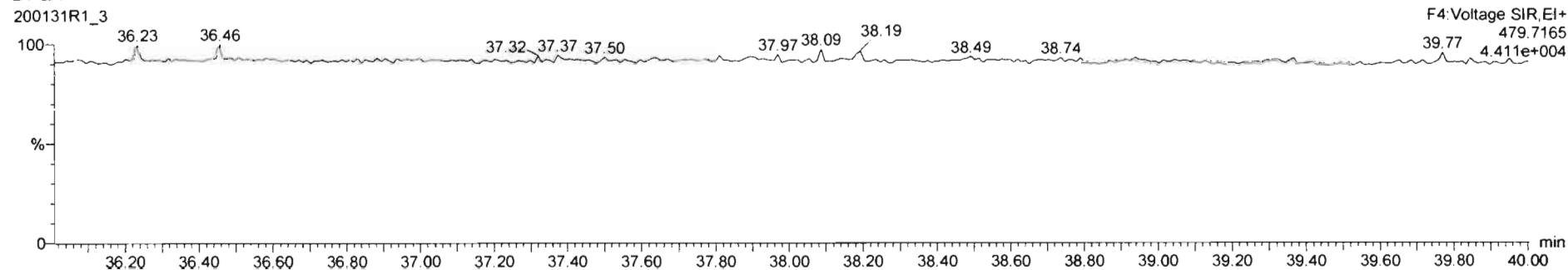
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**



Dataset: Untitled

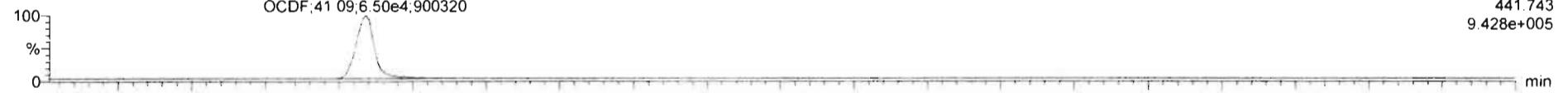
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

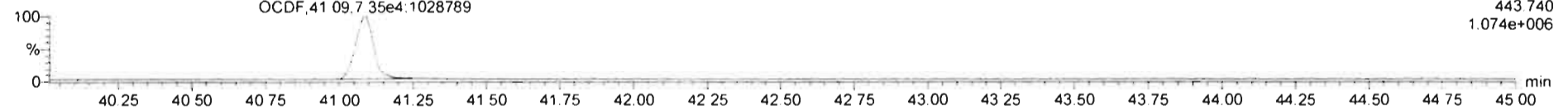
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**OCDF**

200131R1\_3

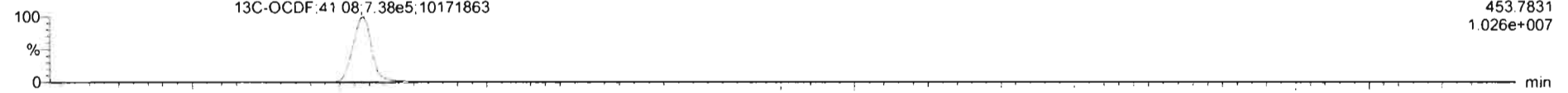


200131R1\_3

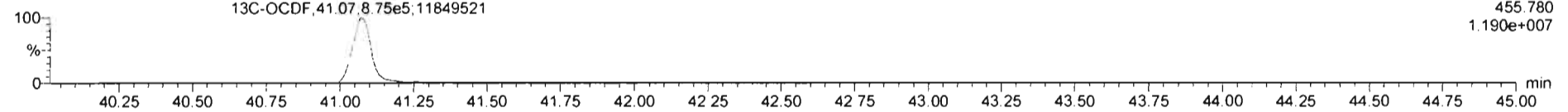


**13C-OCDF**

200131R1\_3

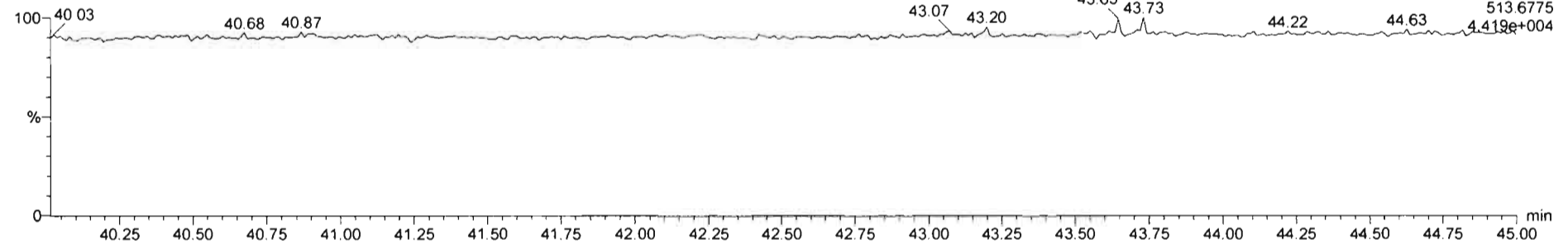


200131R1\_3



**DPE5**

200131R1\_3

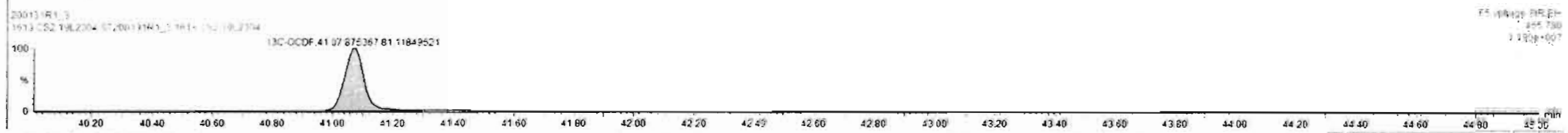


TargetLynx - 200131R1 - CRV.cld - Chromatogram

File Edit View Display Processing Window Help

200131R1\_3 - ST200131R1\_3 1613 CS2 19L2304 1613 CS2 19L2304

#	Name	RT	RA	ym	Area	IS Area	Std. Conc	%Dev	%RSD	RRF M...	RRF SD
1	1,2,3,7,8-TCDD	25.70	0.759	NO	3.0020e4	1.4370e6	2.000	5.7	4.90	0.968	0.0484
2	1,2,3,7,8-PeCDD	30.64	0.608	NO	1.2029e5	1.1415e5	10.000	8.0	6.03	0.975	0.0589
3	1,2,3,4,7,8-HxCDD	33.96	1.228	NO	1.0912e5	9.6882e5	10.000	5.2	4.11	1.07	0.0440
4	1,2,3,6,7,8-HxCDD	34.08	1.202	NO	1.1280e5	1.1306e6	10.000	8.3	7.66	0.921	0.0706
5	1,2,3,7,8,9-HxCDD	34.36	1.184	NO	1.0307e5	1.0396e6	10.000	8.0	6.45	0.918	0.0596
6	1,2,3,4,6,7,8-HpCDD	37.90	1.018	NO	7.4414e4	7.6217e5	10.000	5.8	5.55	0.923	0.0512
7	OCDD	40.90	0.879	NO	1.4560e5	1.4104e6	20.000	5.0	5.50	0.963	0.0541
8	1,2,3,7,8-TCDF	24.82	0.707	NO	3.2531e4	1.9509e6	2.000	4.0	6.54	0.802	0.0525
9	1,2,3,7,8-PeCDF	29.35	1.552	NO	1.6249e5	1.6540e6	10.000	6.5	6.14	0.907	0.0557
10	1,2,3,4,7,8-PeCDF	30.33	1.519	NO	1.6283e5	1.7707e6	10.000	8.5	7.47	0.952	0.0711
11	1,2,3,4,7,8-HxCDF	33.11	1.183	NO	1.0486e5	1.1422e6	10.000	6.2	5.36	0.884	0.0463
12	1,2,3,6,7,8-HxCDF	33.24	1.154	NO	1.1497e5	1.2859e6	10.000	5.6	6.67	0.847	0.0586
13	1,2,3,4,6,7,8-HxCDF	33.82	1.142	NO	1.1351e5	1.1674e6	10.000	6.3	5.90	0.890	0.0533
14	1,2,3,7,8,9-HxCDF	34.72	1.147	NO	8.8587e4	9.7114e5	10.000	6.0	6.46	0.860	0.0556
15	1,2,3,4,6,7,8-HpCDF	36.46	0.950	NO	7.2133e4	8.0026e5	10.000	5.9	5.39	0.851	0.0459
16	1,2,3,4,7,8,9-HpCDF	38.49	0.956	NO	5.9129e4	5.6804e5	10.000	6.2	4.99	0.980	0.0485
17	OCDF	41.09	0.868	NO	1.3721e5	1.6139e6	20.000	5.5	5.85	0.806	0.0471



Custom Reporting: Select reports to generate

200131R1\_3 NUM

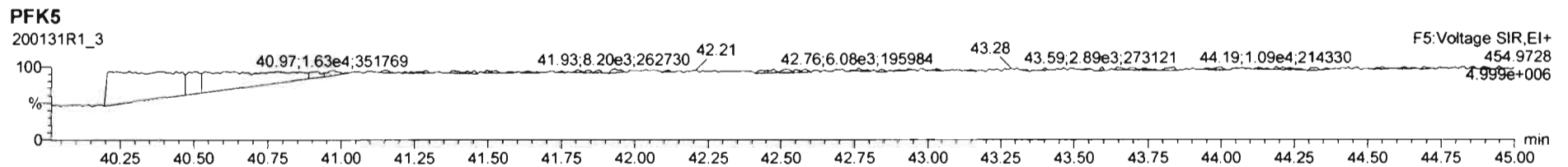
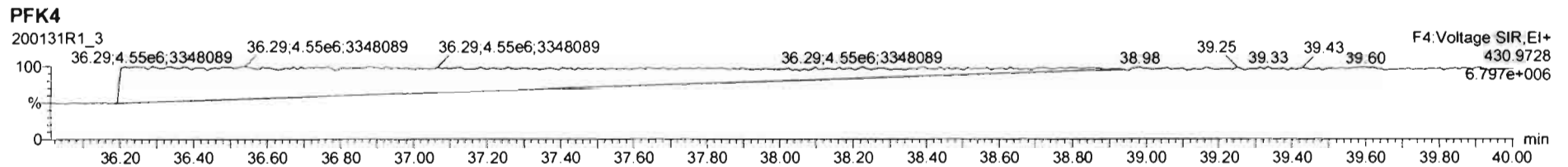
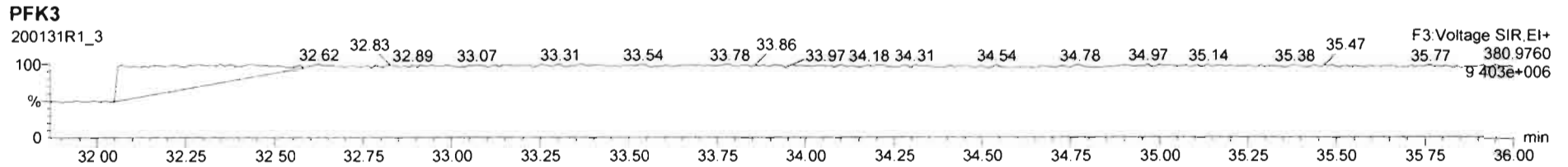
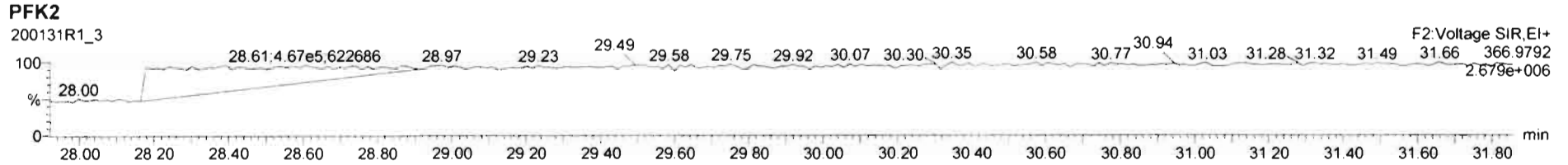
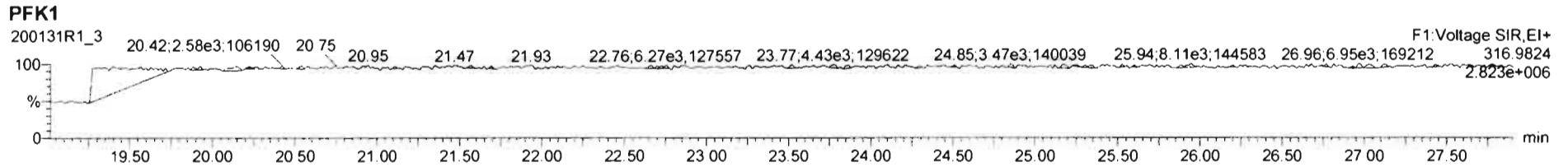


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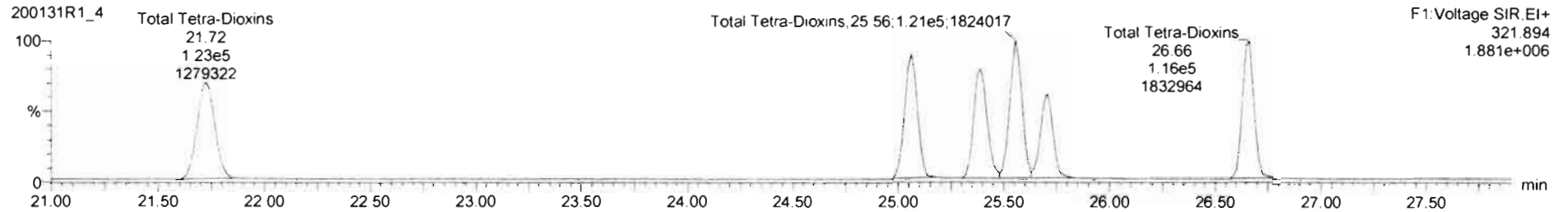
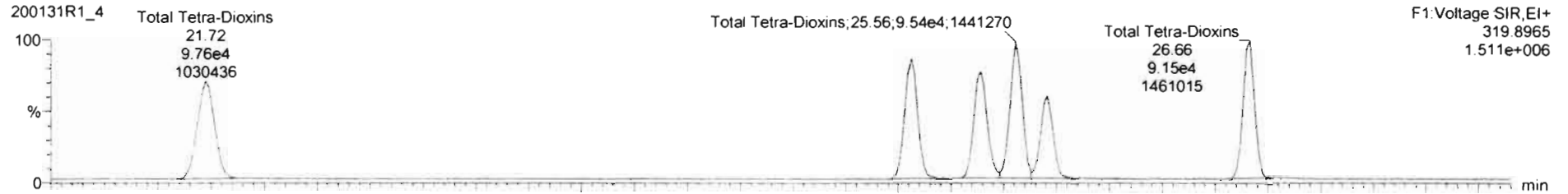


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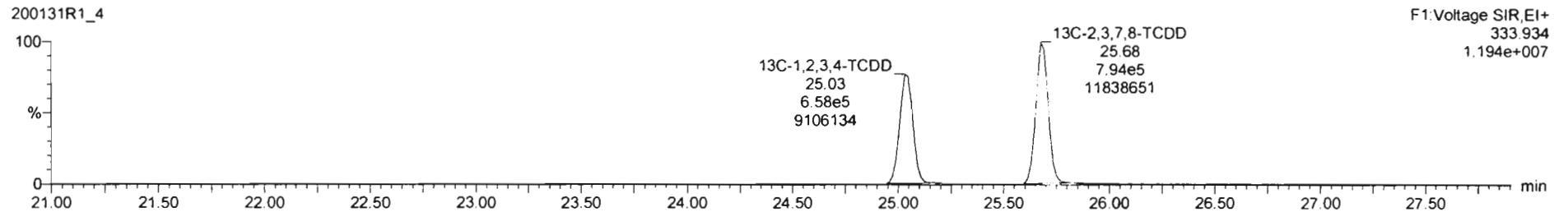
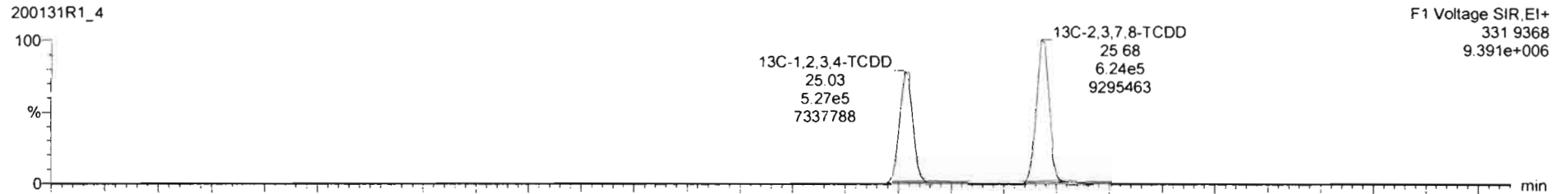
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**2,3,7,8-TCDD**



**13C-2,3,7,8-TCDD**



Dataset: Untitled

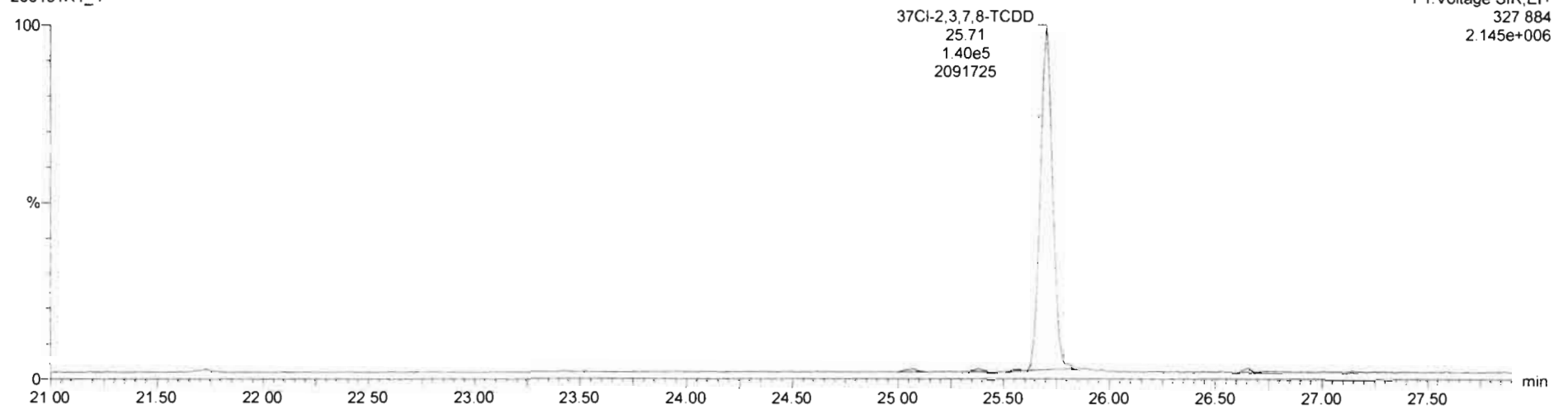
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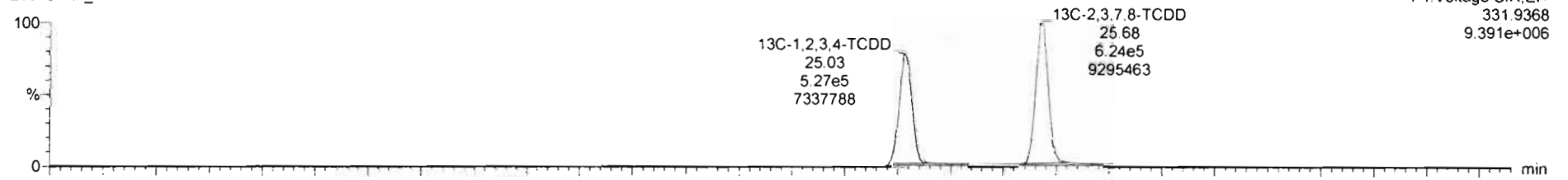
**37Cl-2,3,7,8-TCDD**

200131R1\_4

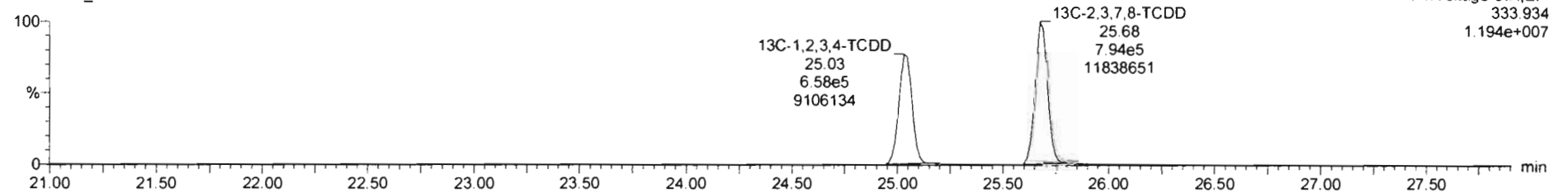


**13C-1,2,3,4-TCDD**

200131R1\_4



200131R1\_4



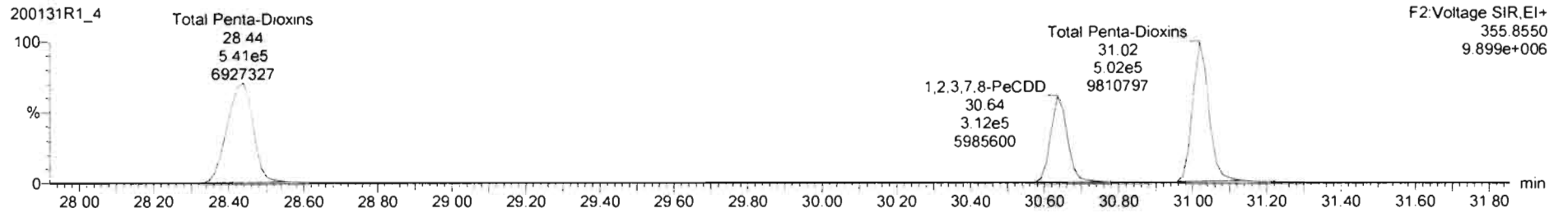
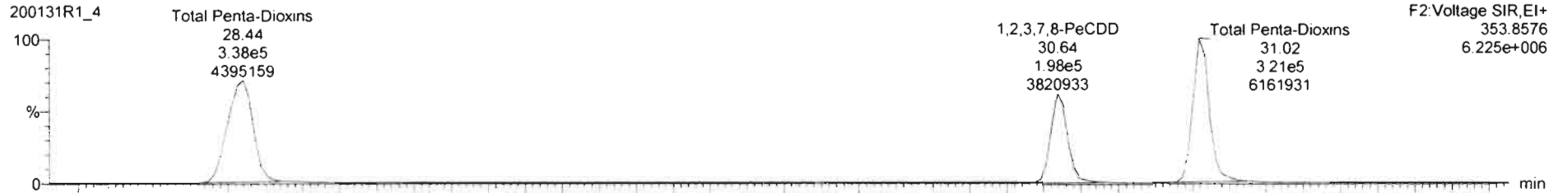
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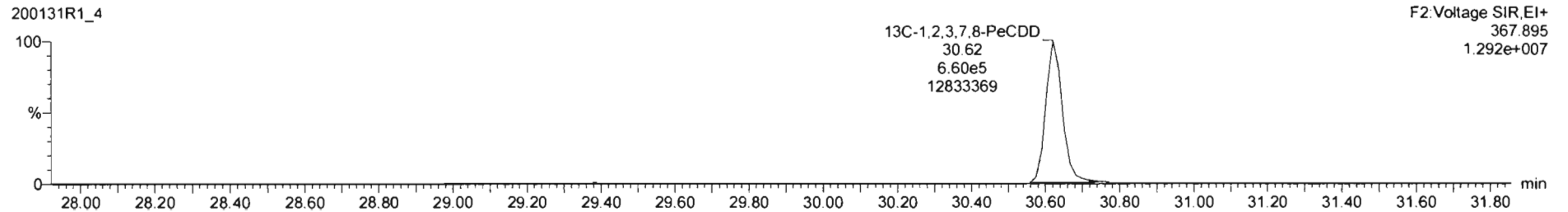
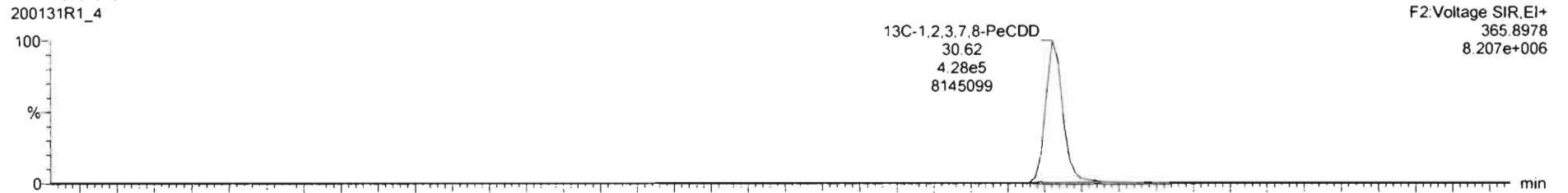
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**1,2,3,7,8-PeCDD**



**13C-1,2,3,7,8-PeCDD**



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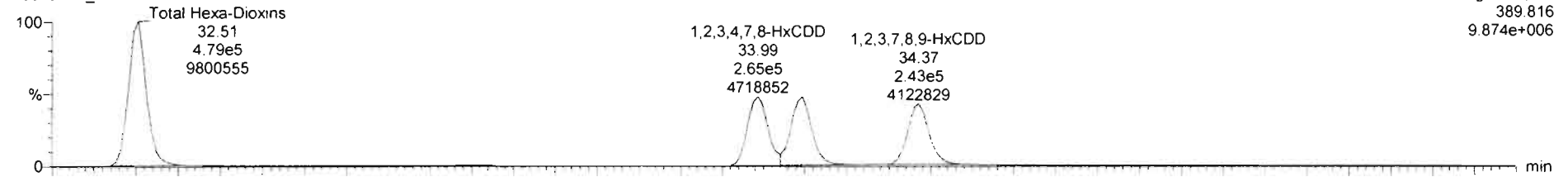
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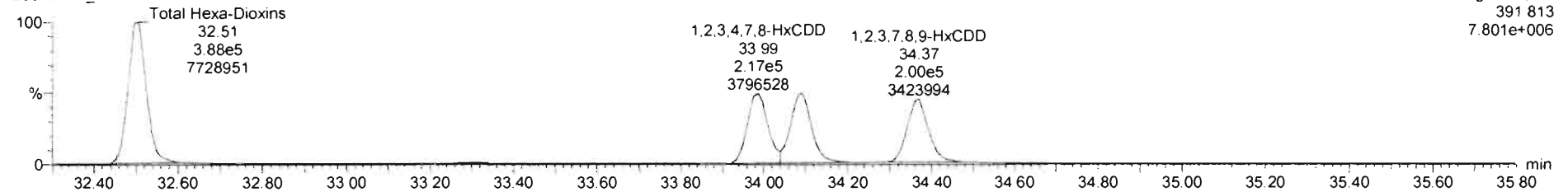
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1,2,3,4,7,8-HxCDD

200131R1\_4

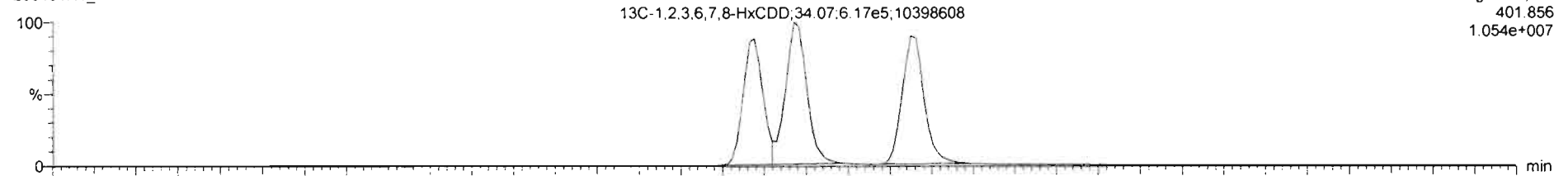


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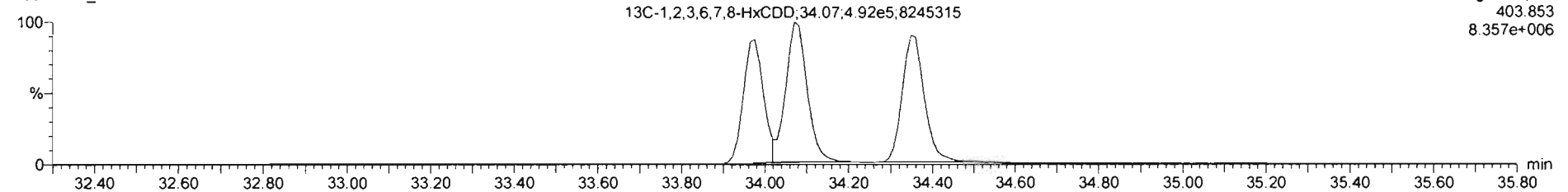


13C-1,2,3,4,7,8-HxCDD

200131R1\_4



200131R1\_4



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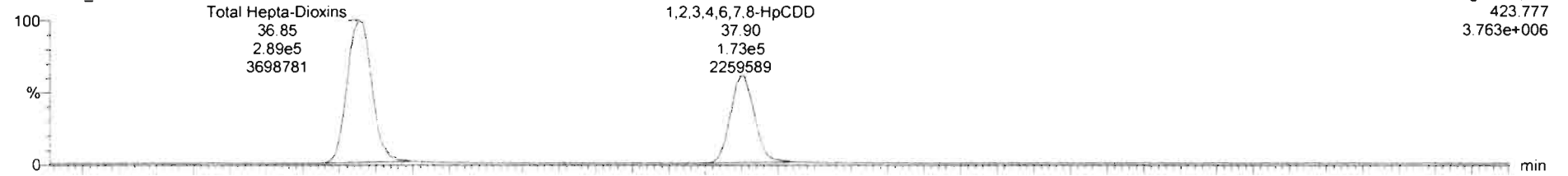
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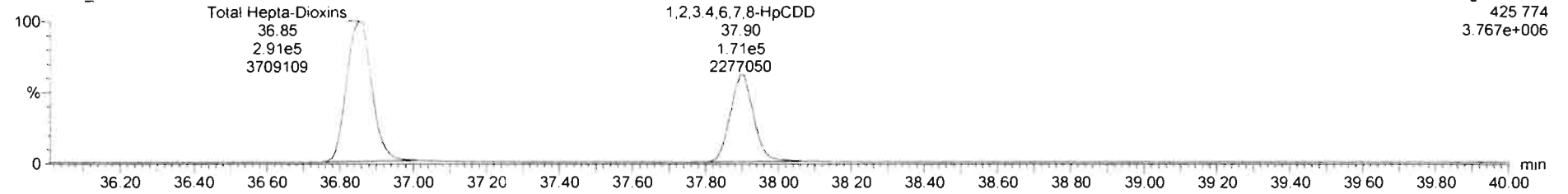
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1,2,3,4,6,7,8-HpCDD

200131R1\_4

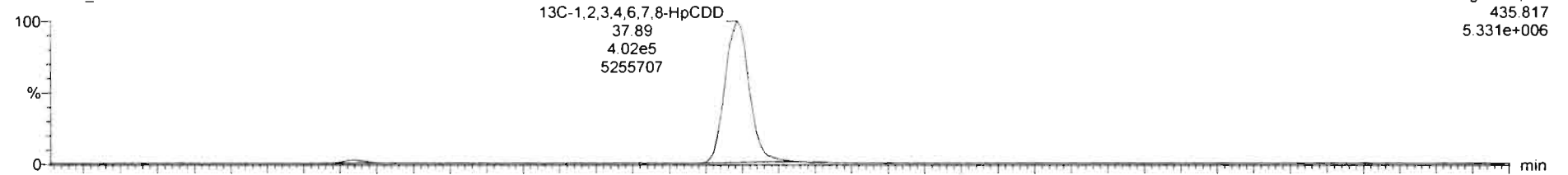


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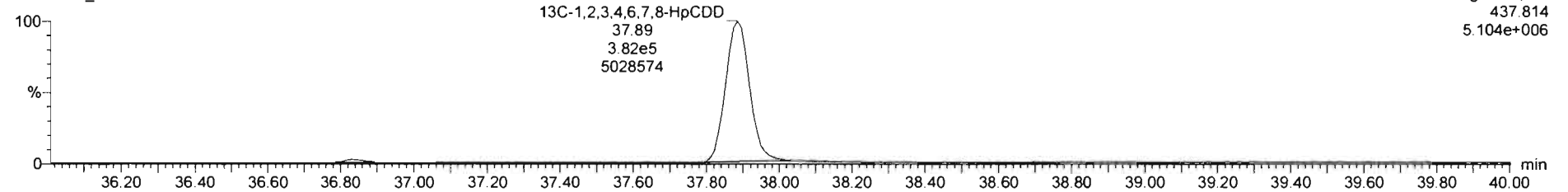


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200131R1\_4



200131R1\_4

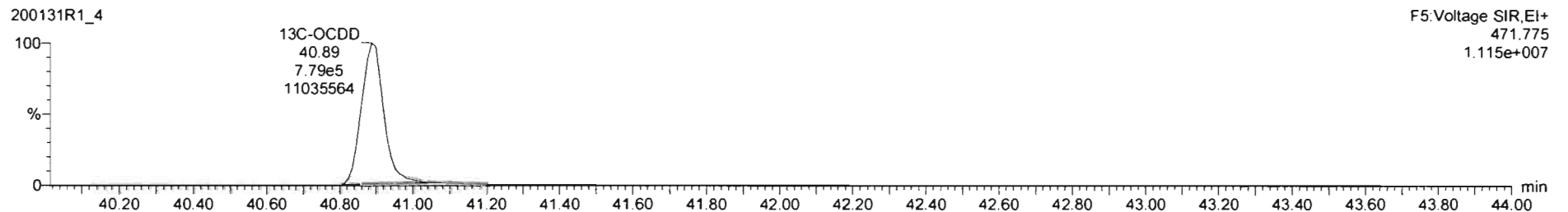
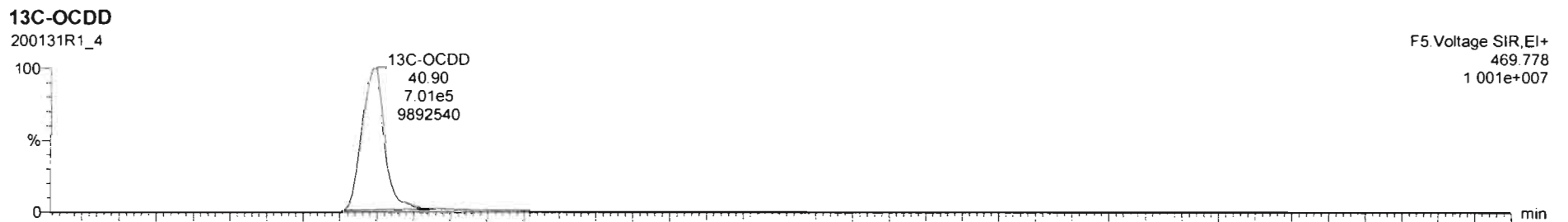
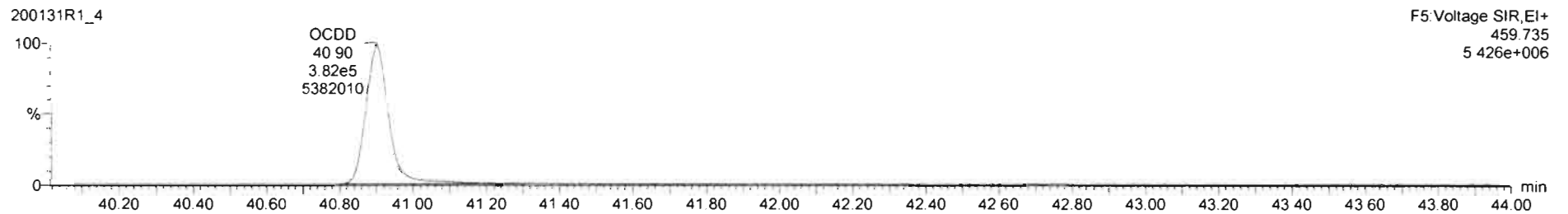
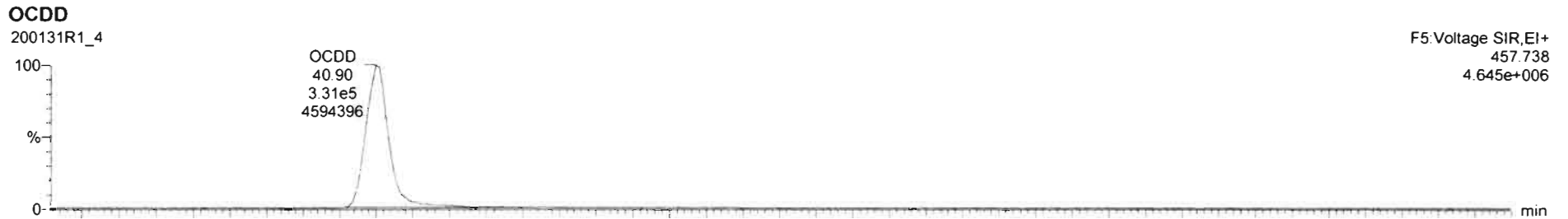


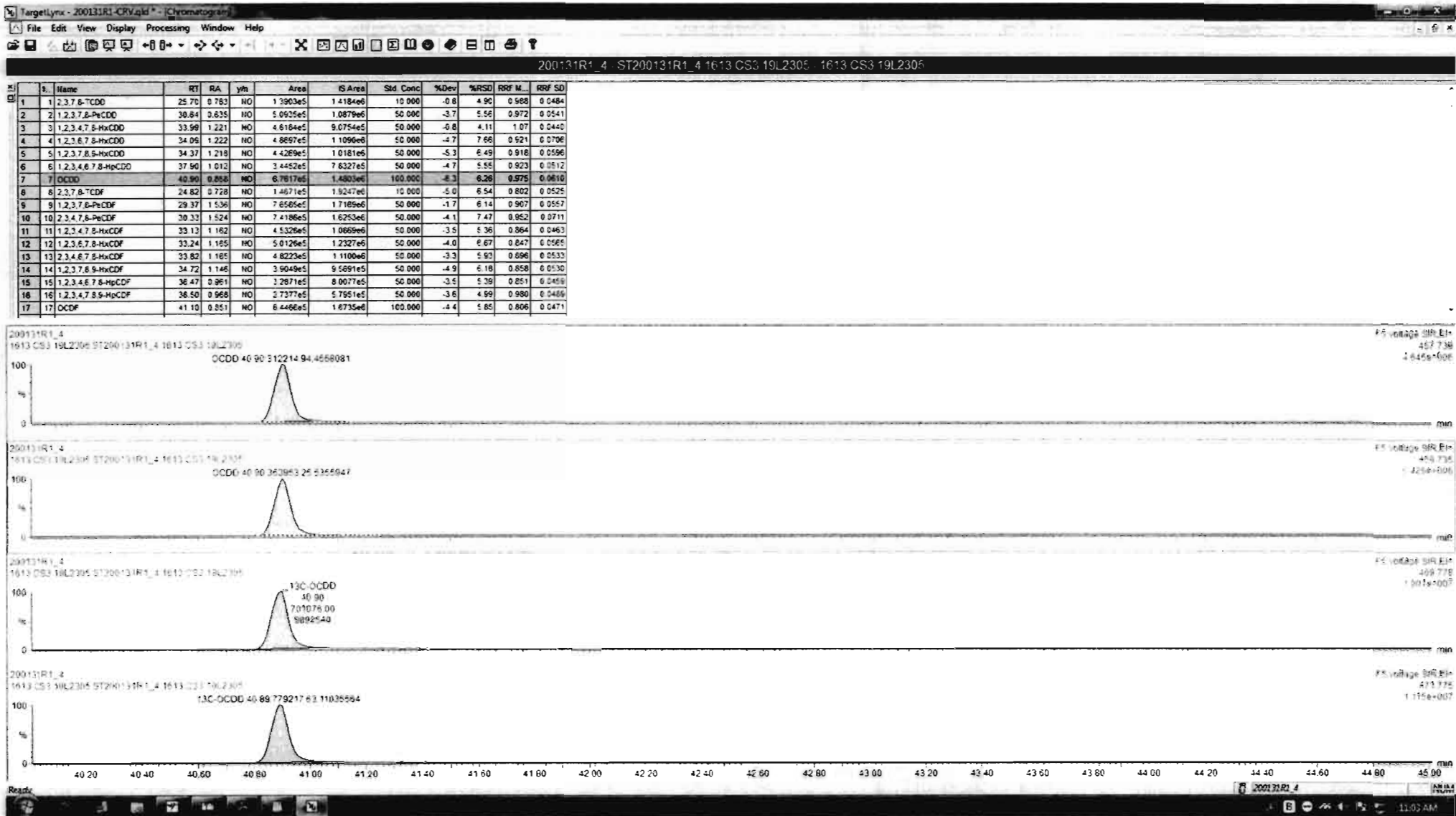
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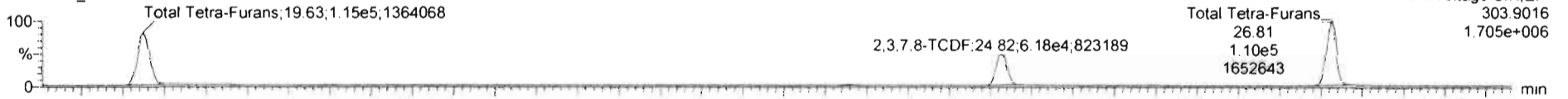
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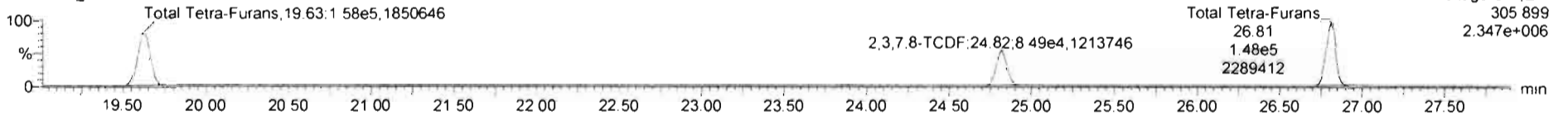
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**2,3,7,8-TCDF**

200131R1\_4

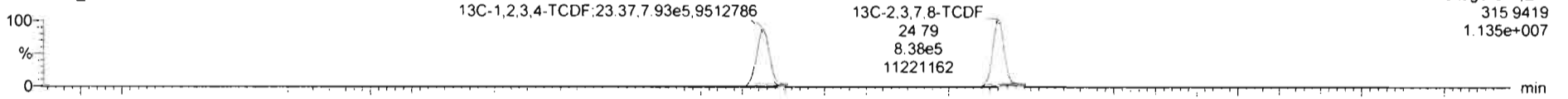


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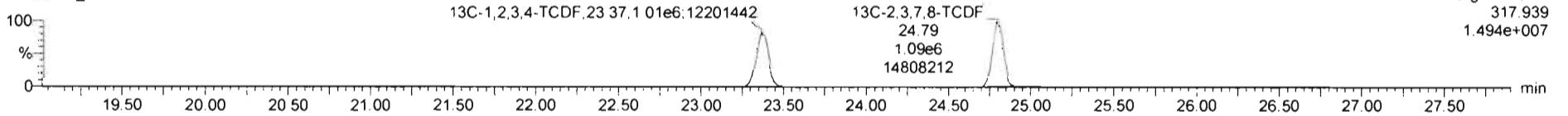


**13C-2,3,7,8-TCDF**

200131R1\_4

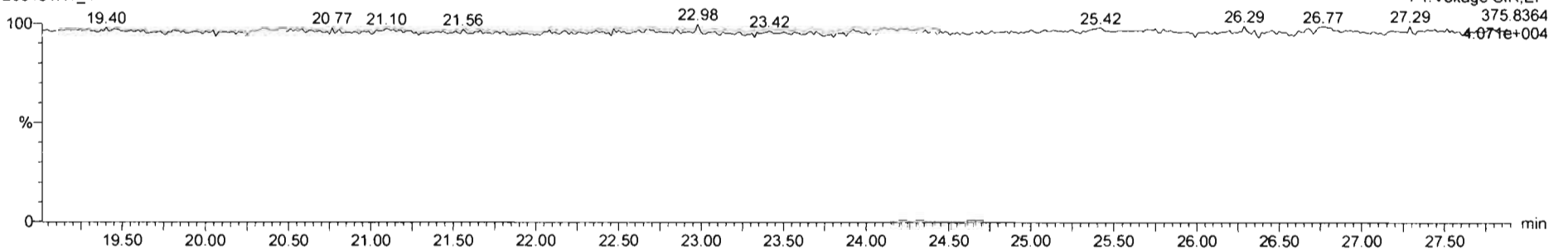


200131R1\_4



**DPE1**

200131R1\_4



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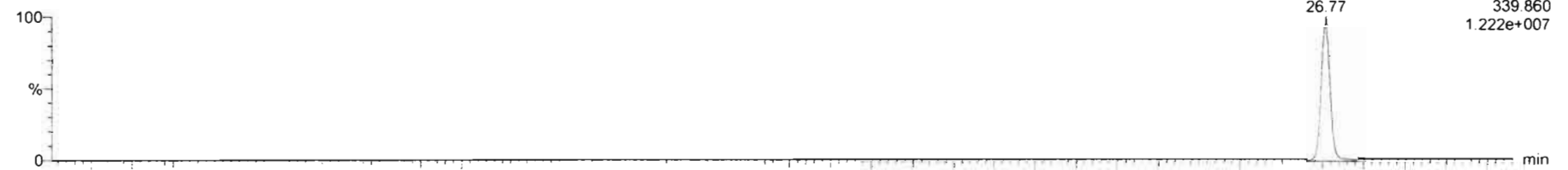
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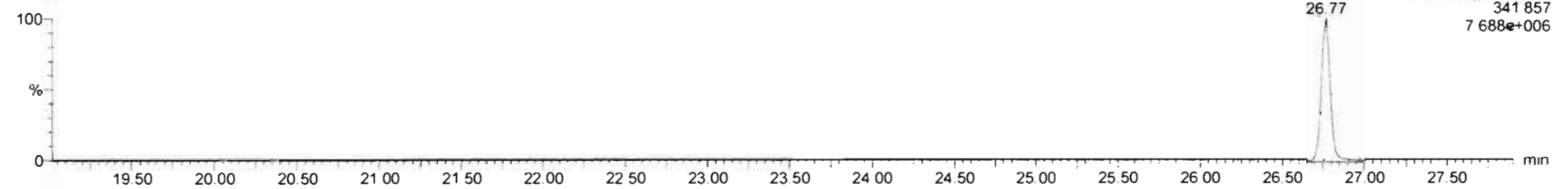
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200131R1\_4

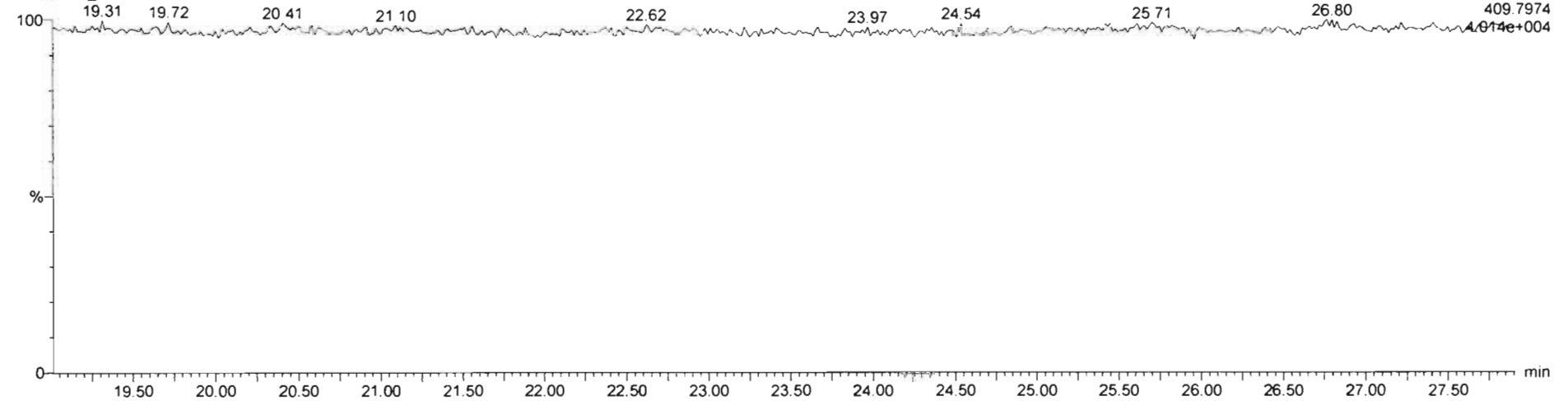


200131R1\_4



DPE6

200131R1\_4



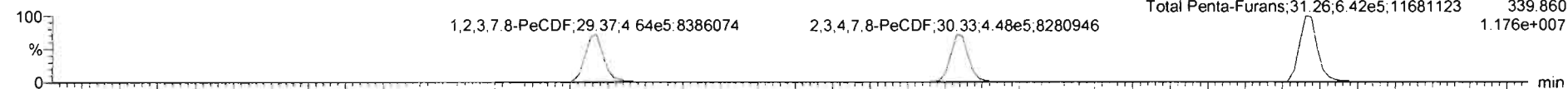
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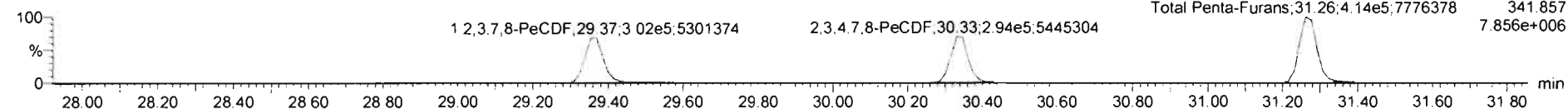
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**1,2,3,7,8-PeCDF**

200131R1\_4

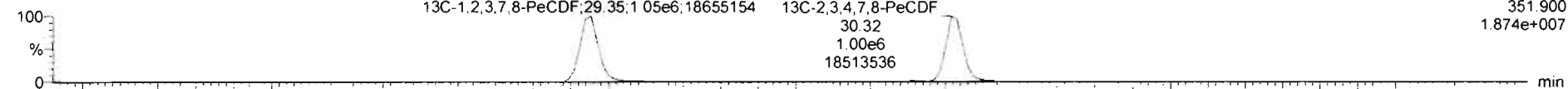


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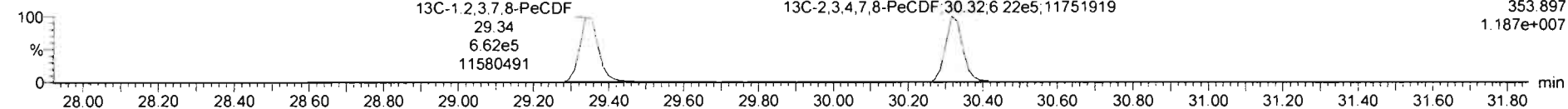


**13C-1,2,3,7,8-PeCDF**

200131R1\_4

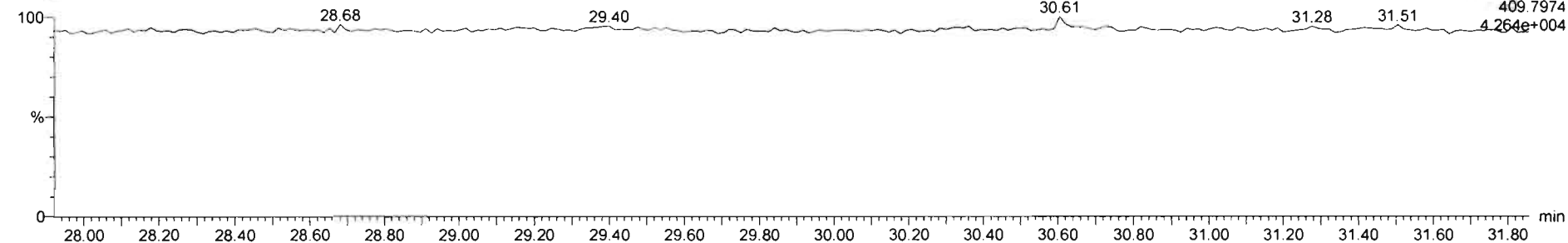


200131R1\_4



**DPE2**

200131R1\_4



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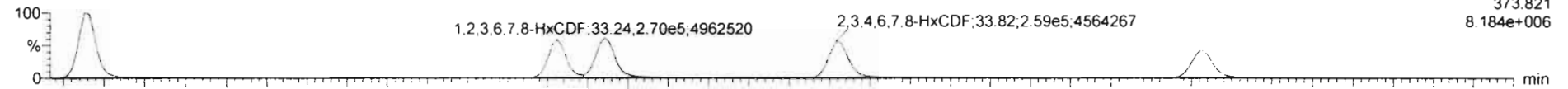
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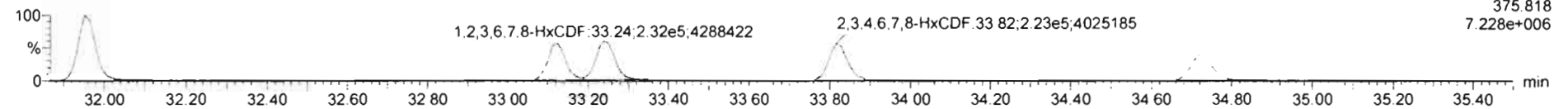
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**1,2,3,4,7,8-HxCDF**

200131R1\_4

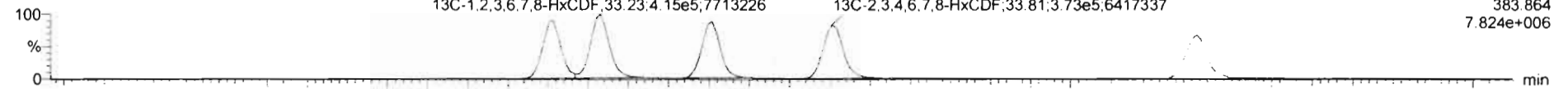


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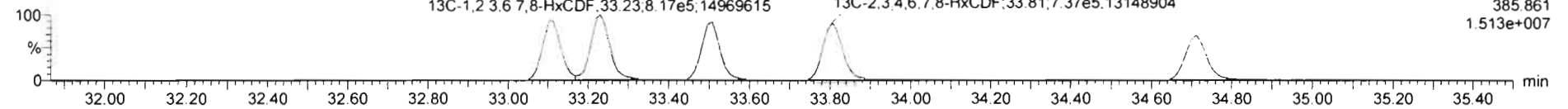


**13C-1,2,3,4,7,8-HxCDF**

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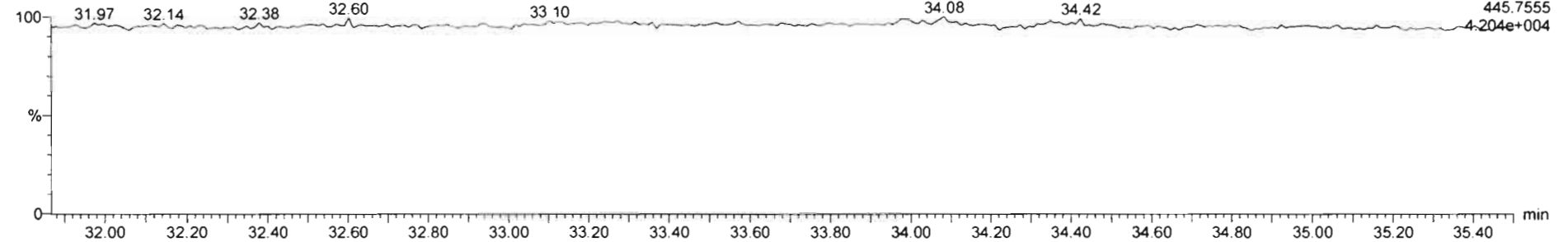


200131R1\_4



**DPE3**

200131R1\_4

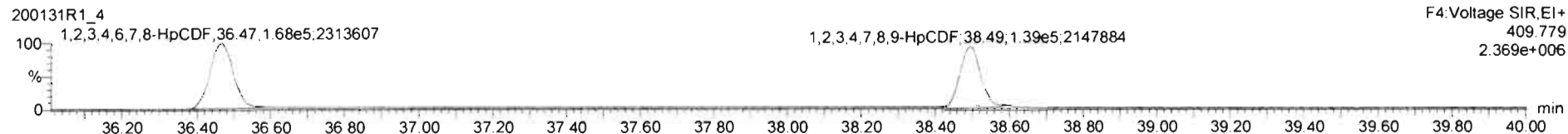
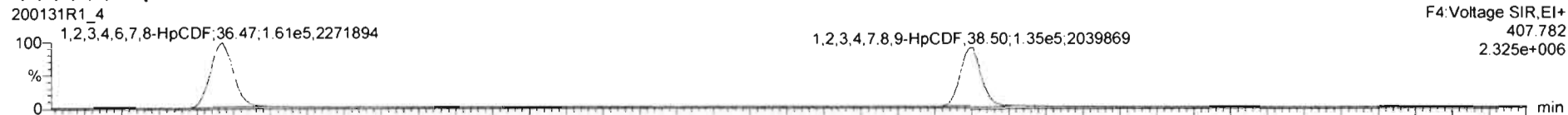


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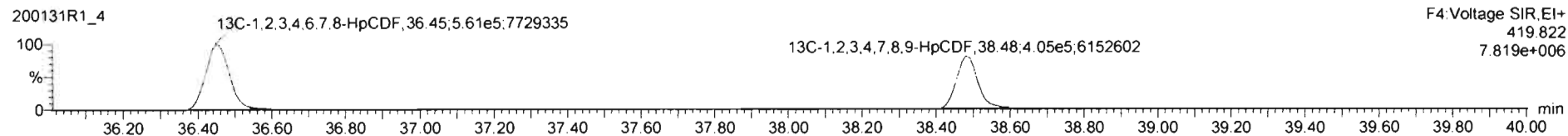
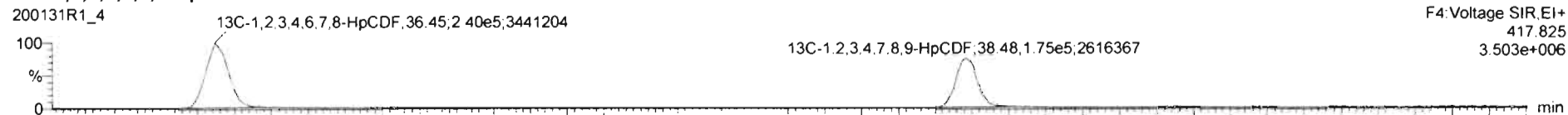
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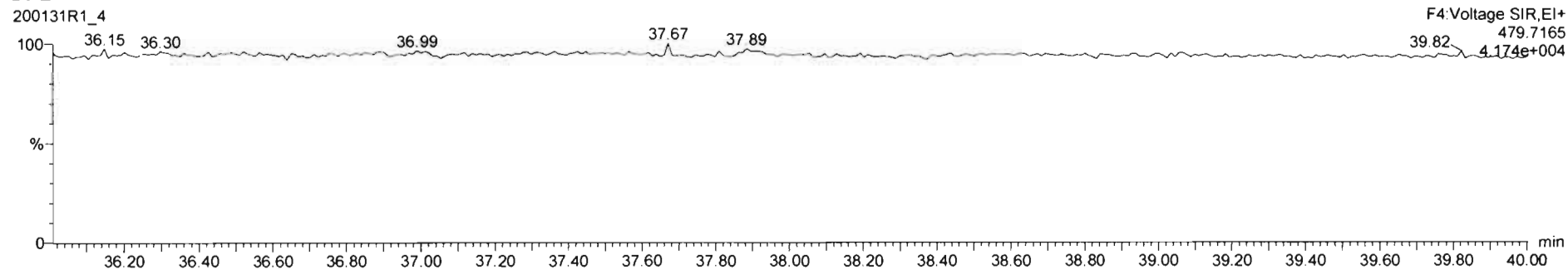
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**

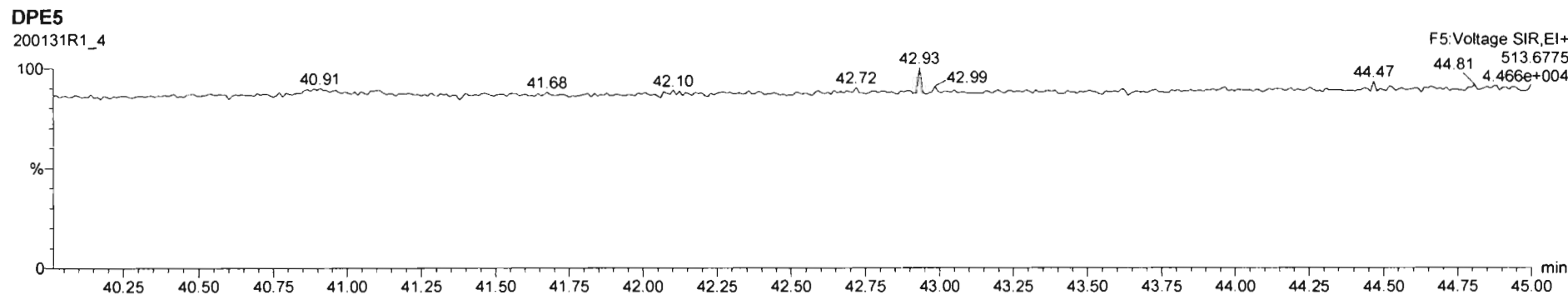
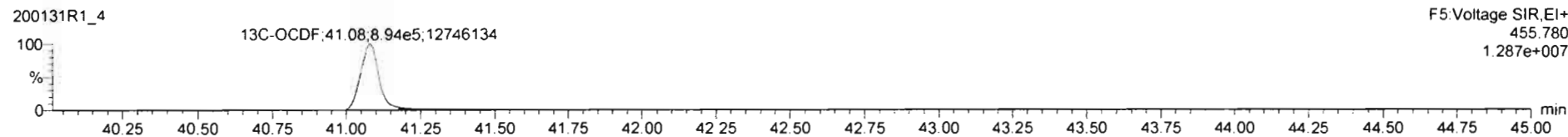
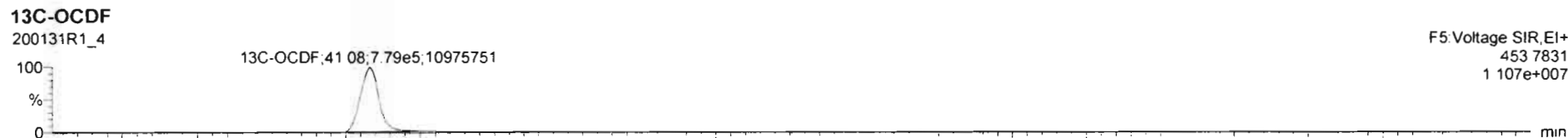
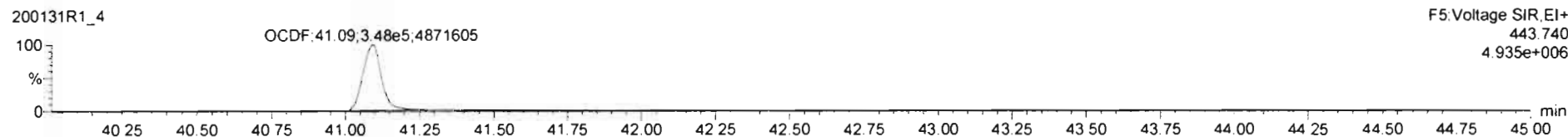
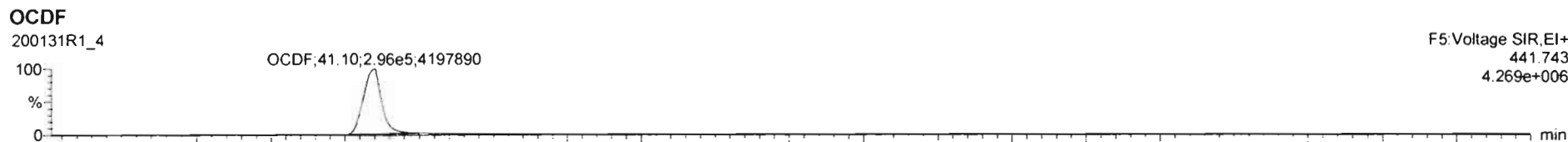


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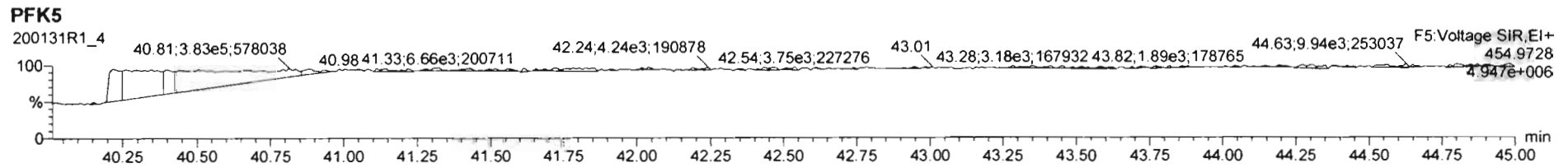
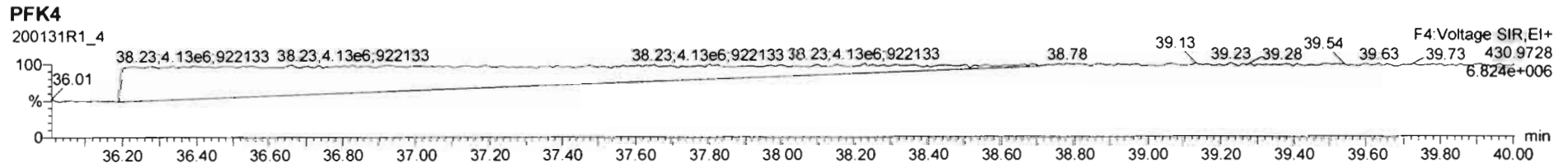
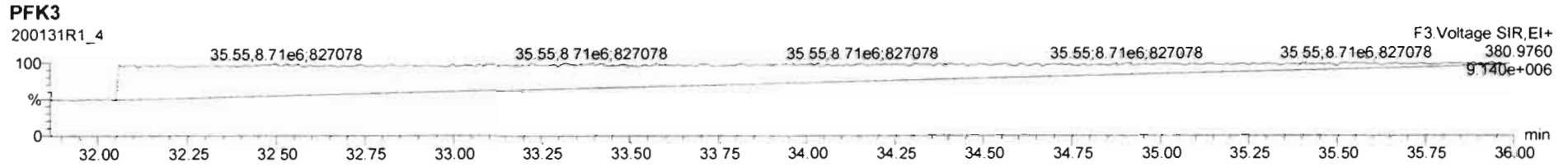
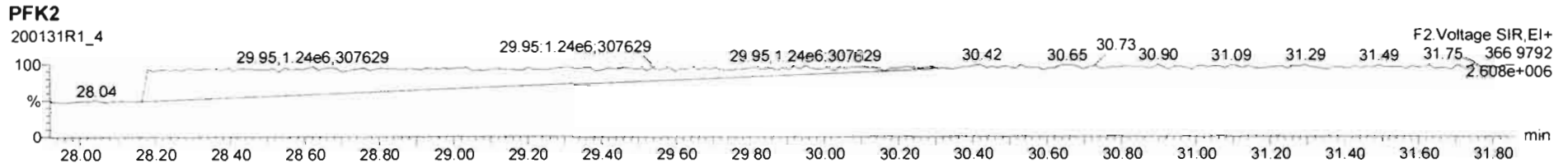
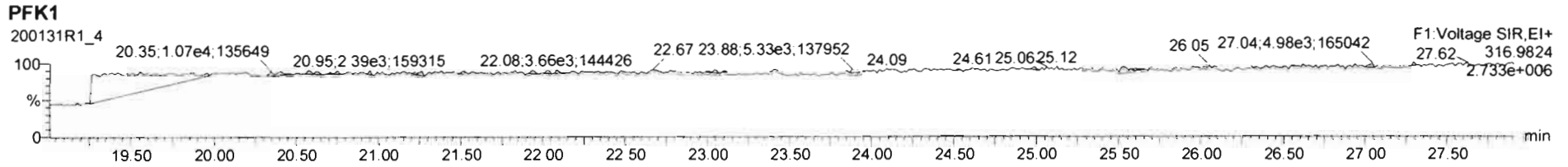


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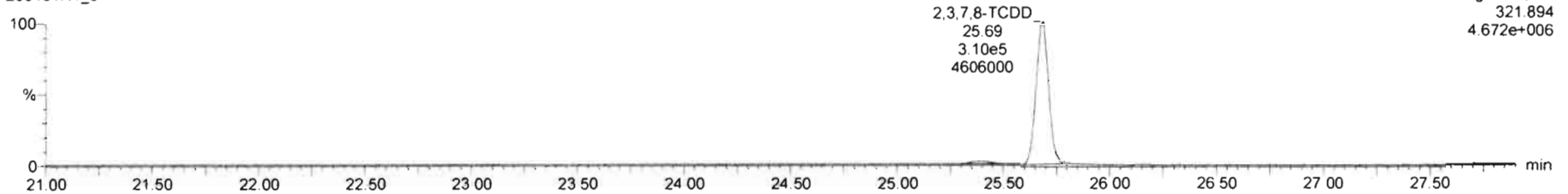
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**2,3,7,8-TCDD**

200131R1\_5

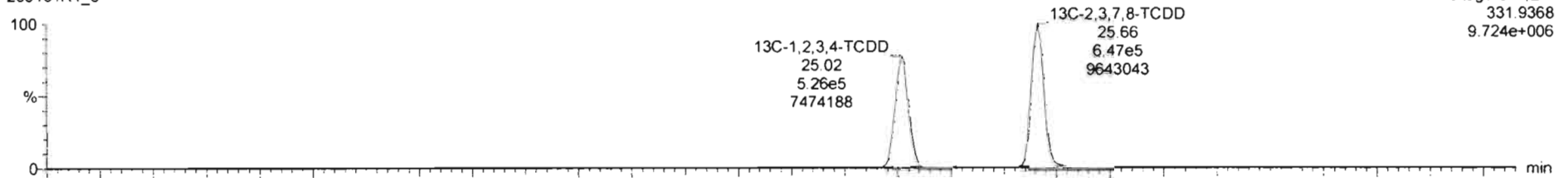


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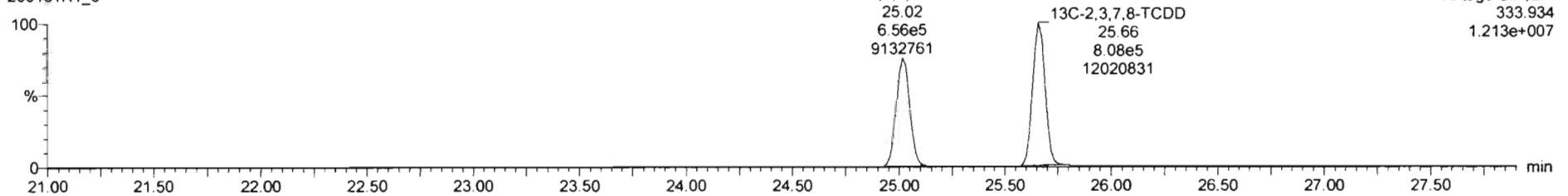


**13C-2,3,7,8-TCDD**

200131R1\_5



200131R1\_5





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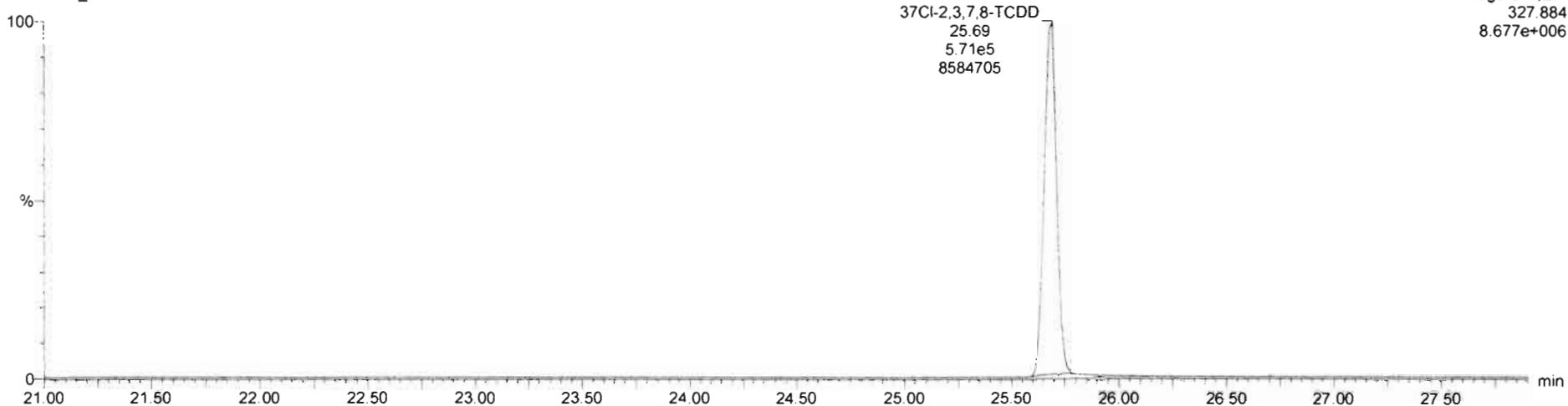
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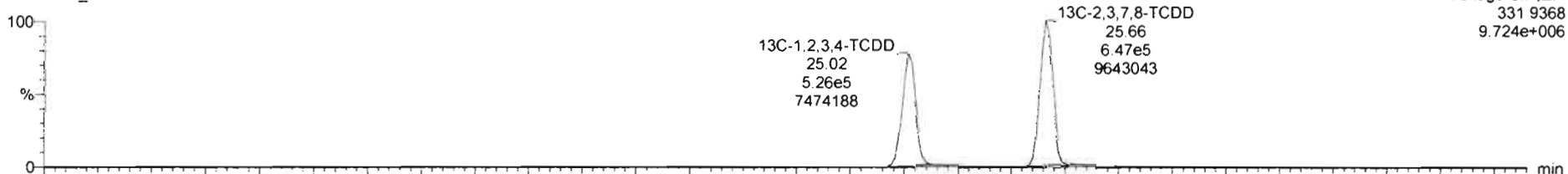
**37Cl-2,3,7,8-TCDD**

200131R1\_5

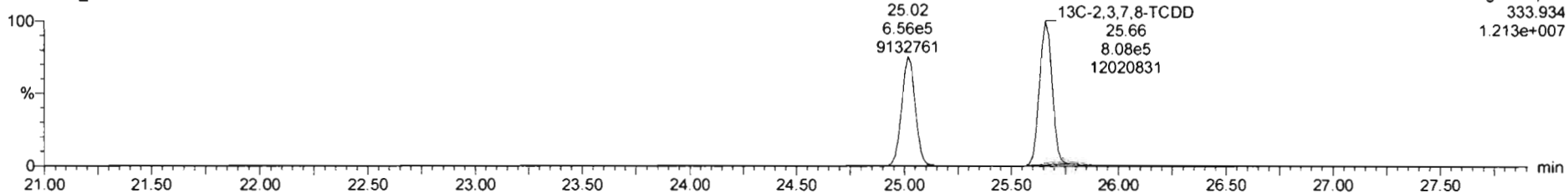


**13C-1,2,3,4-TCDD**

200131R1\_5



200131R1\_5



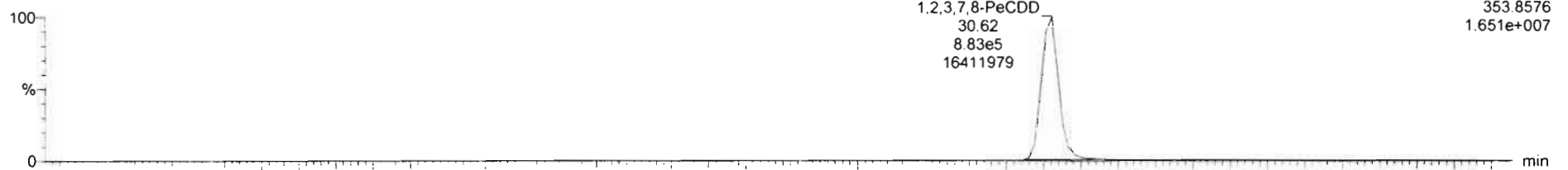
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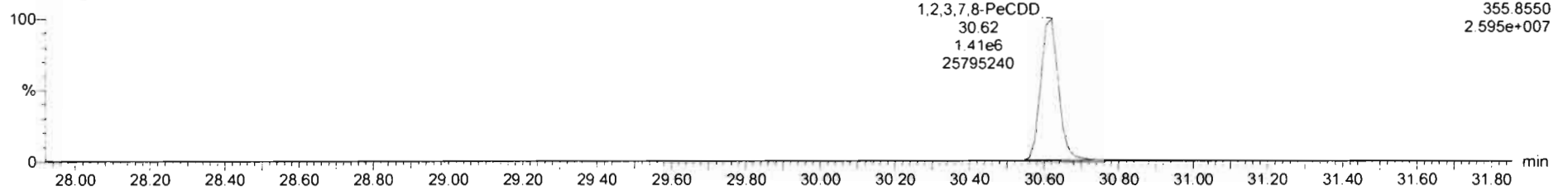
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**1,2,3,7,8-PeCDD**

200131R1\_5

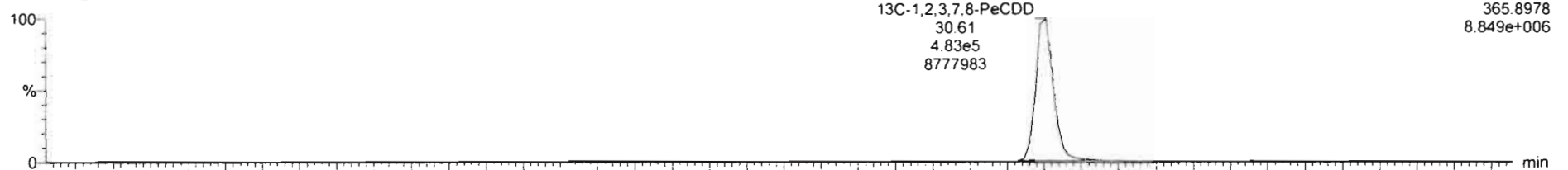


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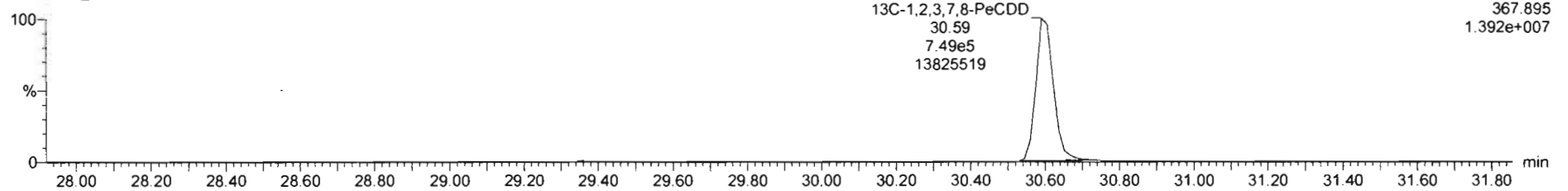


**13C-1,2,3,7,8-PeCDD**

200131R1\_5



200131R1\_5



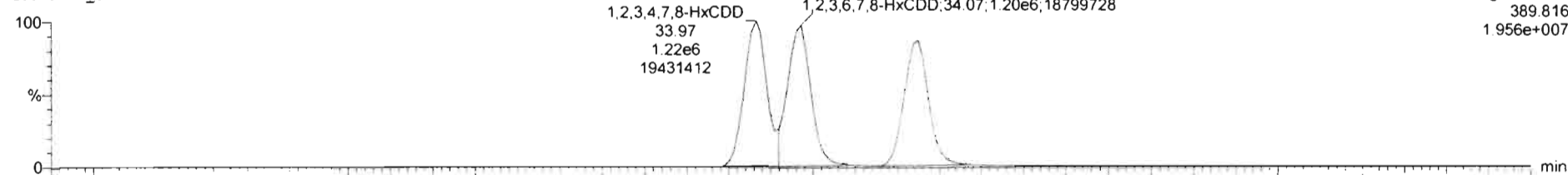
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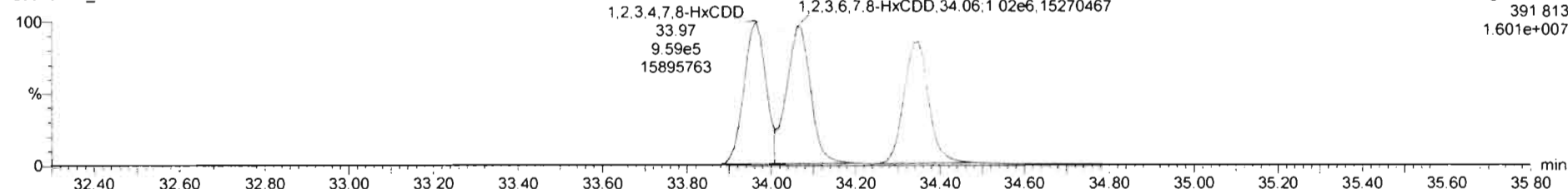
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1,2,3,4,7,8-HxCDD

200131R1\_5

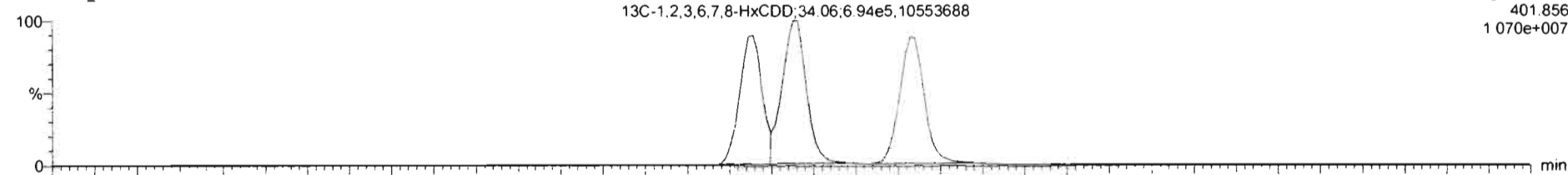


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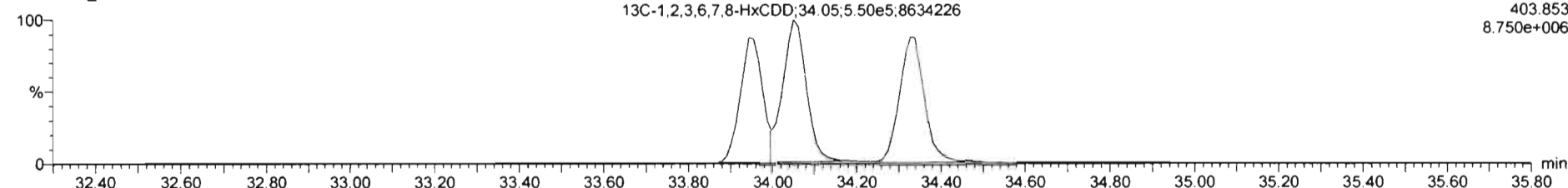


13C-1,2,3,4,7,8-HxCDD

200131R1\_5



200131R1\_5



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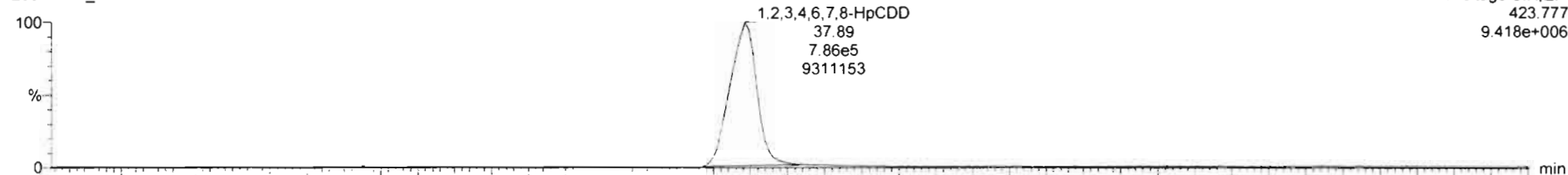
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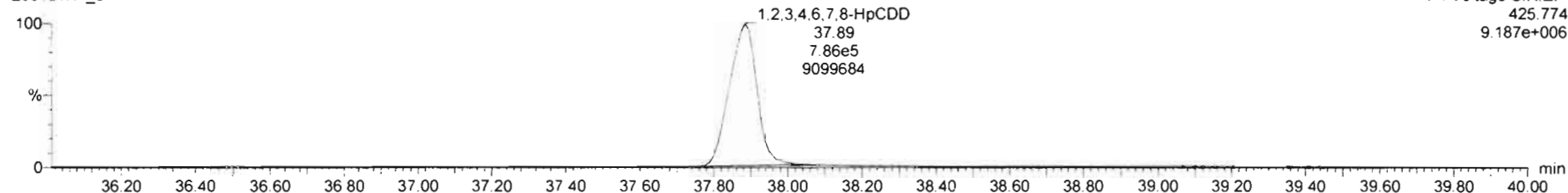
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**1,2,3,4,6,7,8-HpCDD**

200131R1\_5

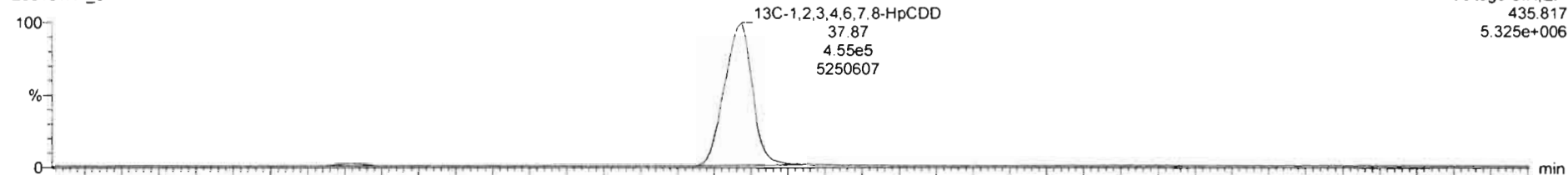


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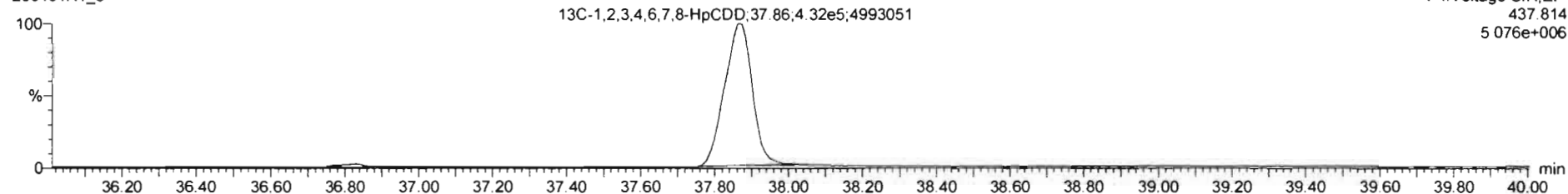


**13C-1,2,3,4,6,7,8-HpCDD**

200131R1\_5



200131R1\_5



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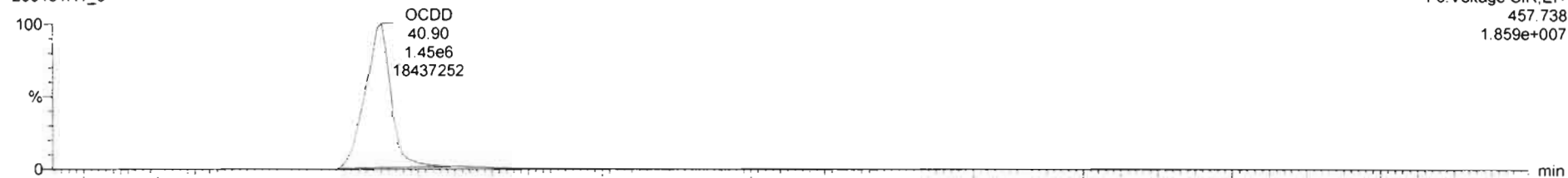
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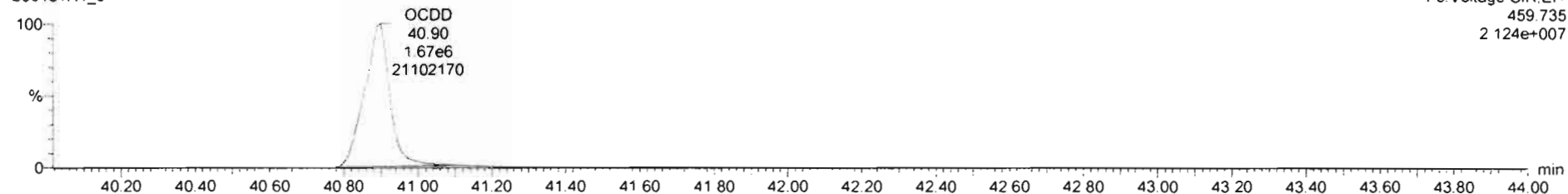
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**OCDD**

200131R1\_5

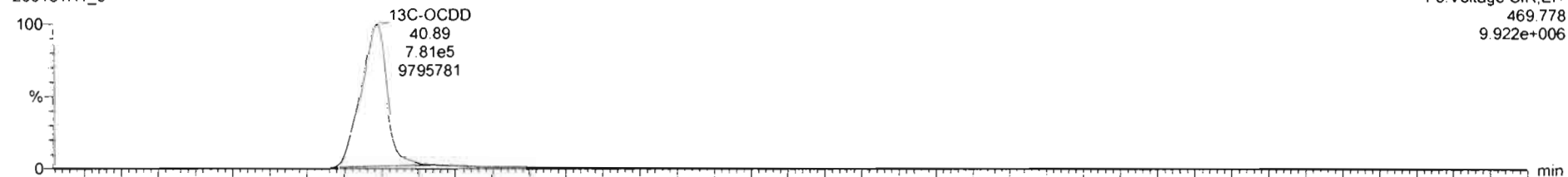


200131R1\_5

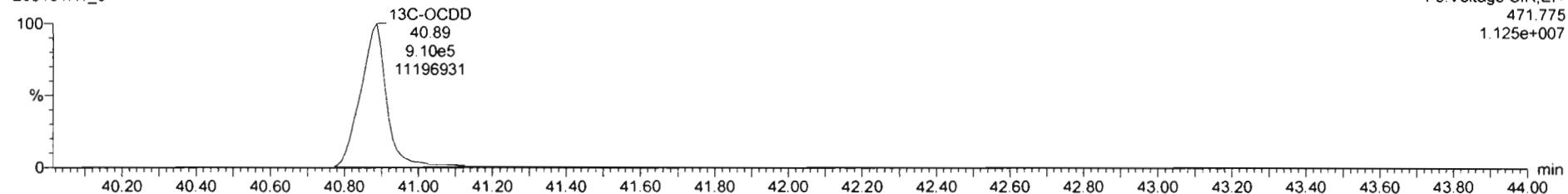


**13C-OCDD**

200131R1\_5



200131R1\_5



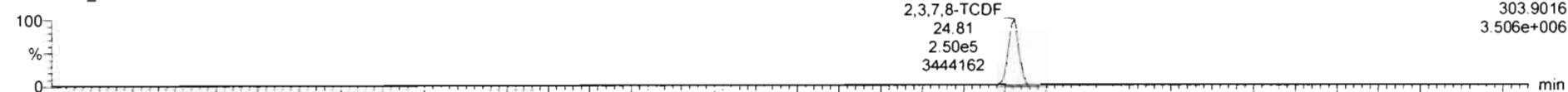
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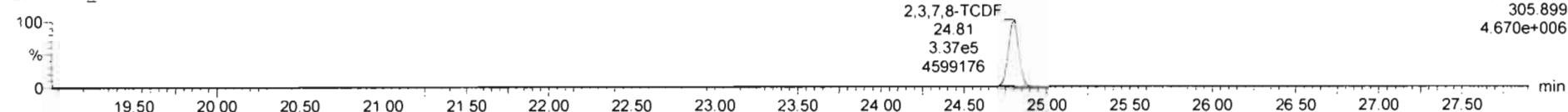
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**2,3,7,8-TCDF**

200131R1\_5

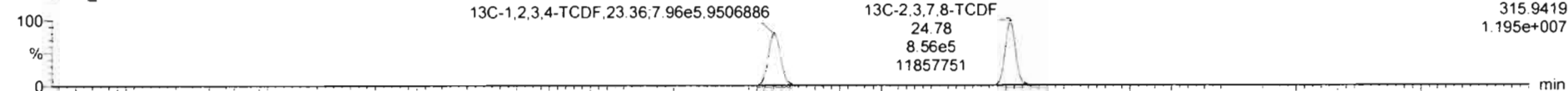


200131R1\_5

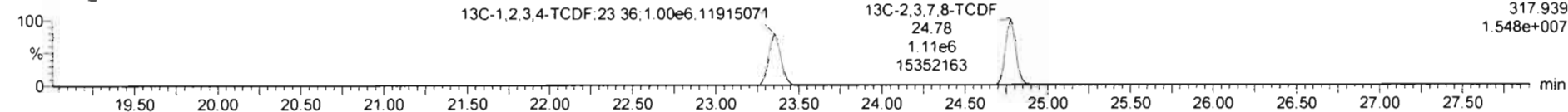


**13C-2,3,7,8-TCDF**

200131R1\_5

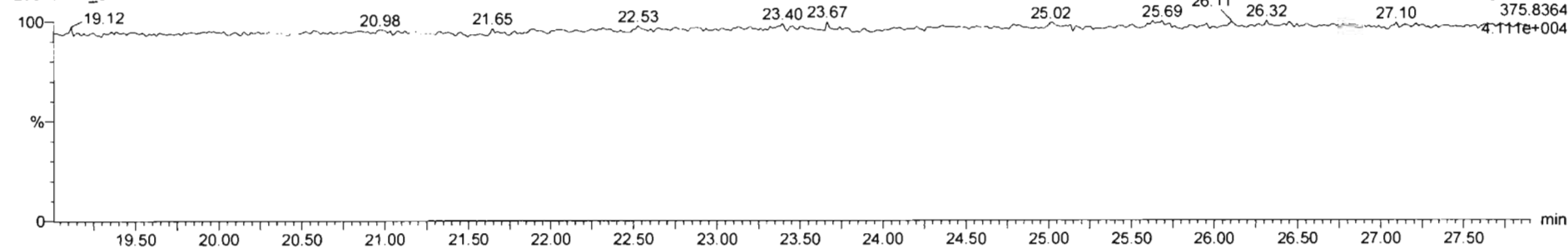


200131R1\_5



**DPE1**

200131R1\_5



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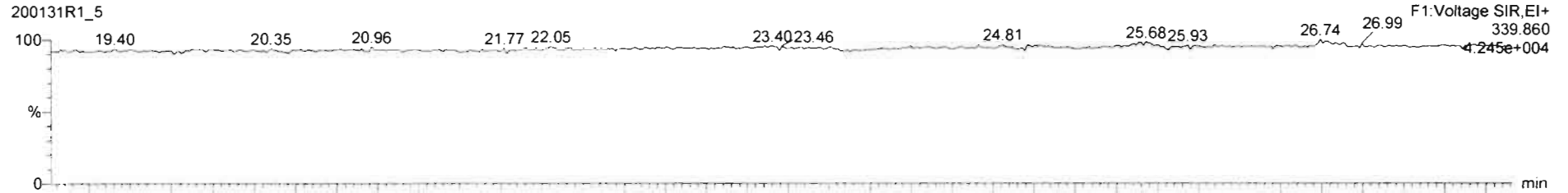
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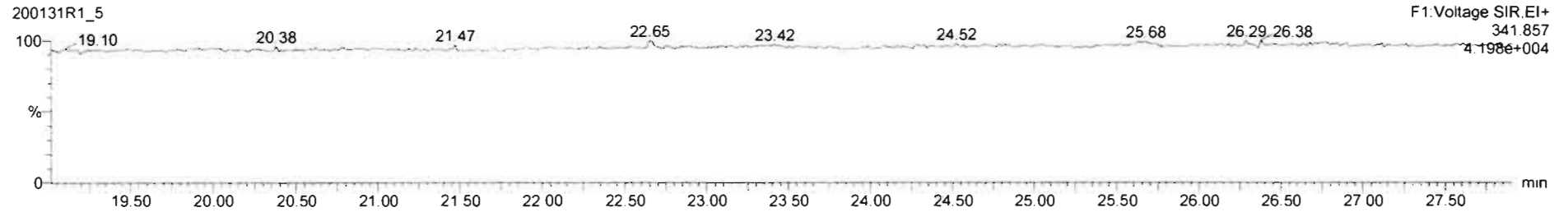
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200131R1\_5

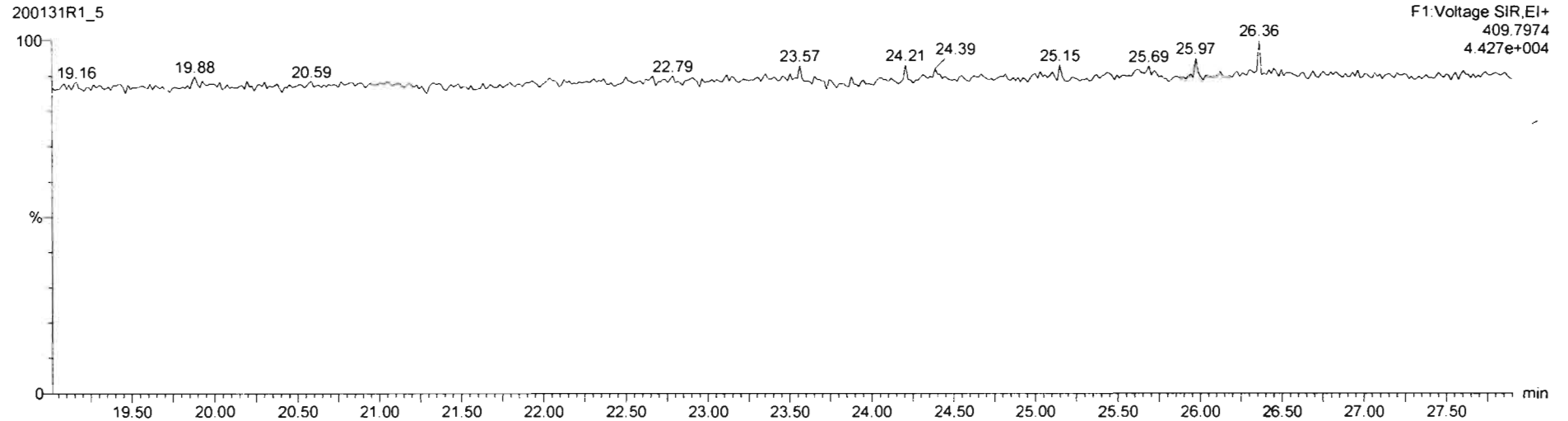


200131R1\_5



DPE6

200131R1\_5



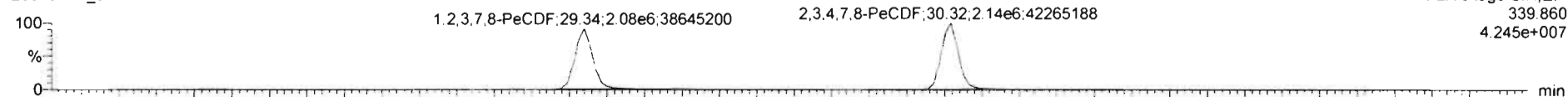
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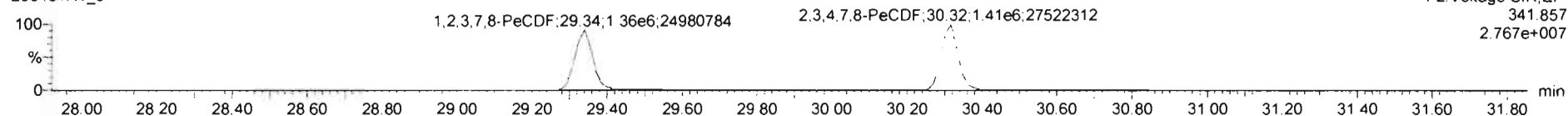
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**1,2,3,7,8-PeCDF**

200131R1\_5

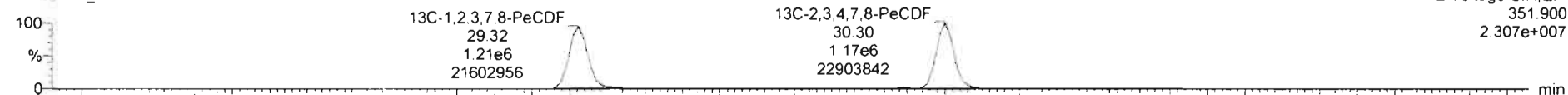


200131R1\_5

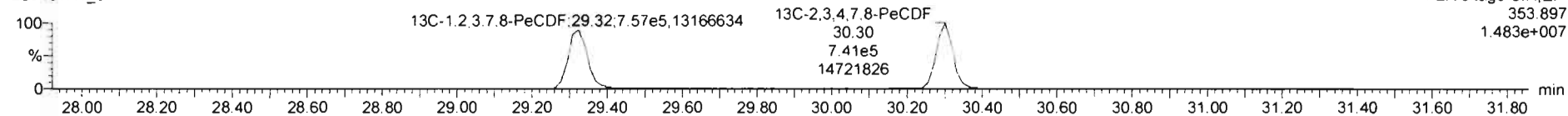


**13C-1,2,3,7,8-PeCDF**

200131R1\_5

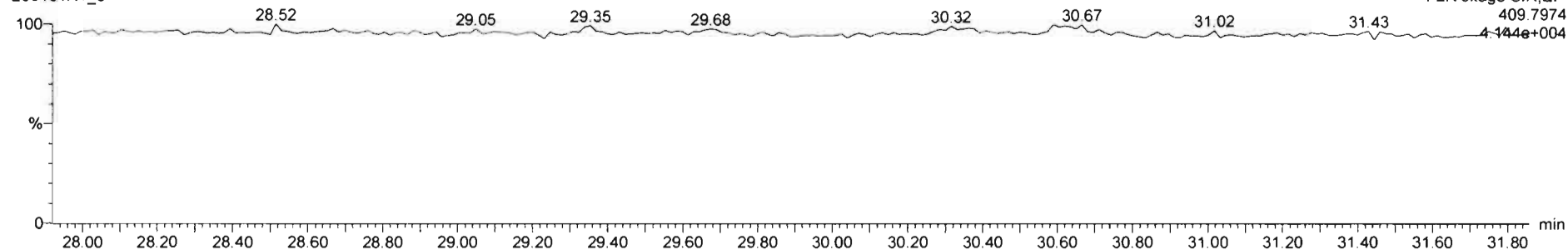


200131R1\_5



**DPE2**

200131R1\_5





Dataset: Untitled

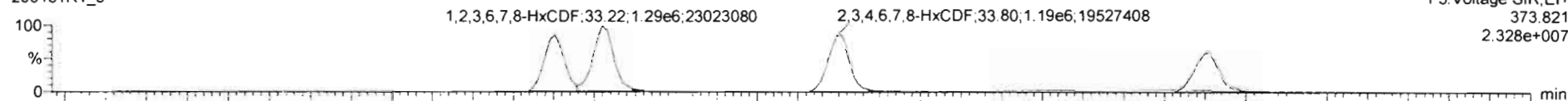
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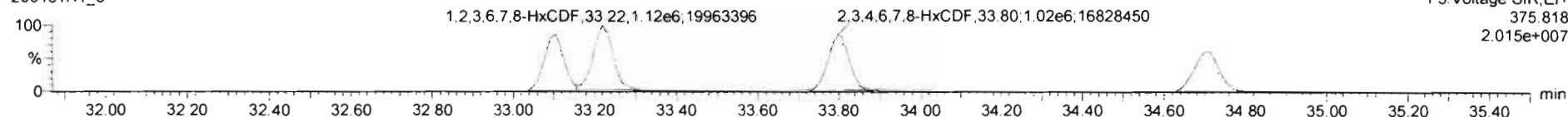
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**1,2,3,4,7,8-HxCDF**

200131R1\_5

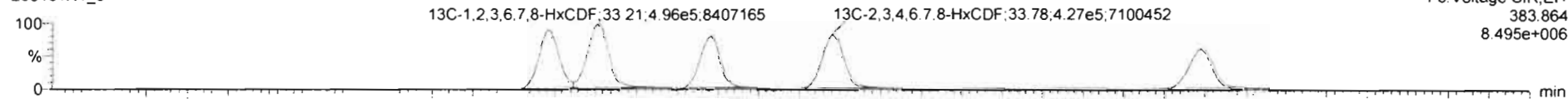


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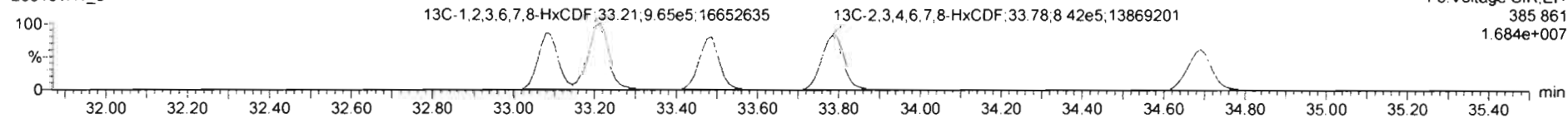


**13C-1,2,3,4,7,8-HxCDF**

200131R1\_5

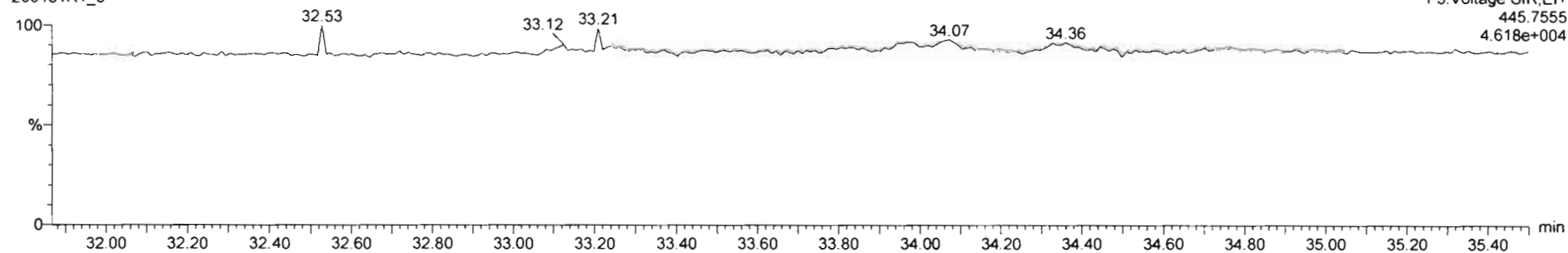


200131R1\_5



**DPE3**

200131R1\_5

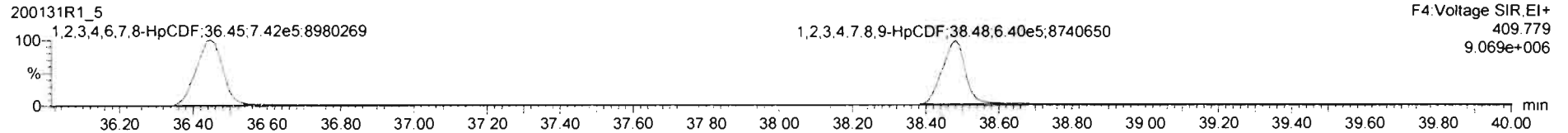
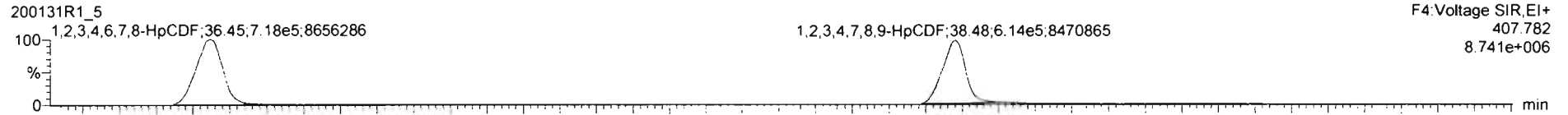


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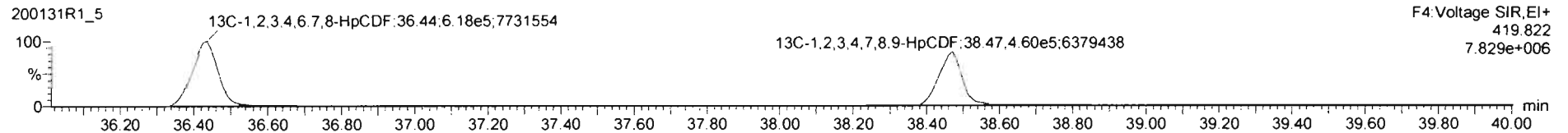
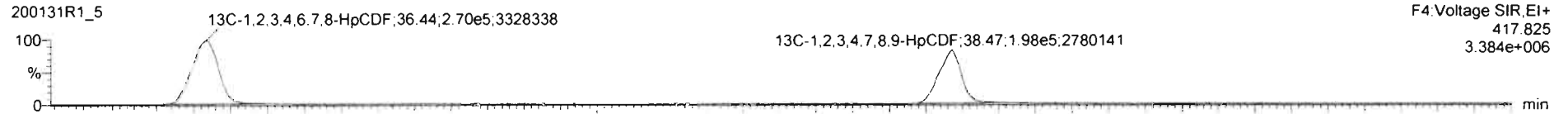
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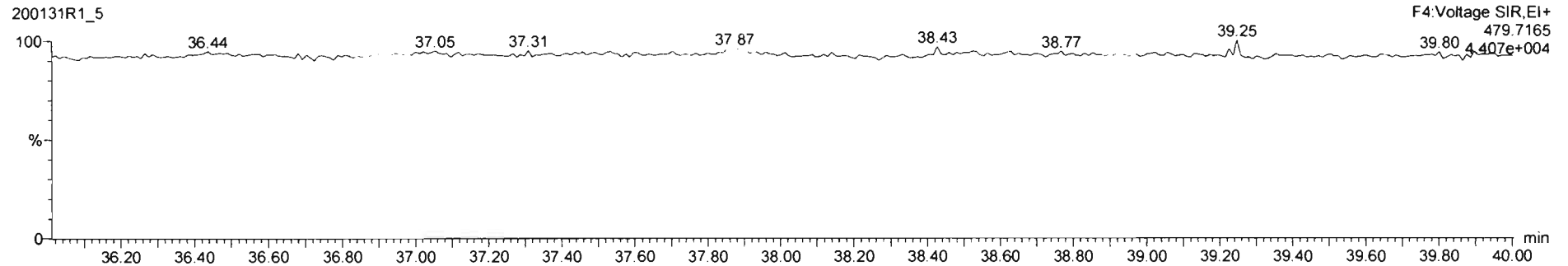
**1,2,3,4,6,7,8-HpCDF**



**13C-1,2,3,4,6,7,8-HpCDF**



**DPE4**

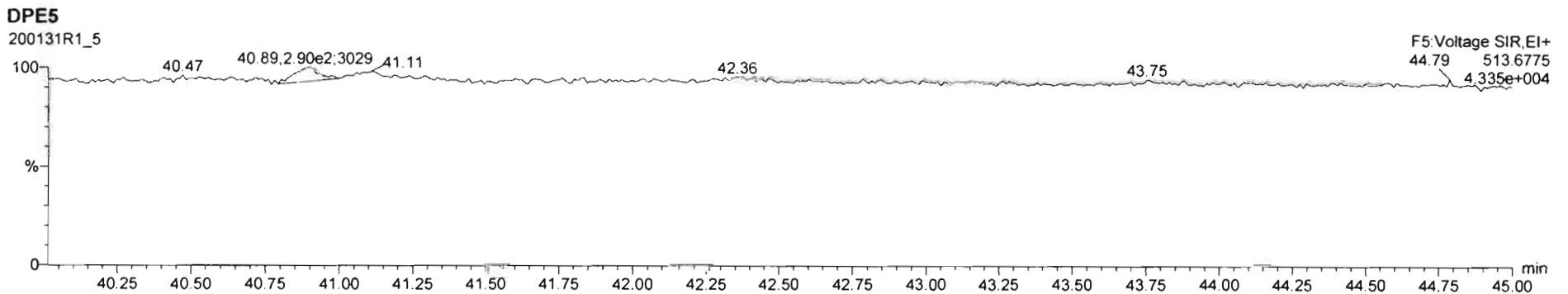
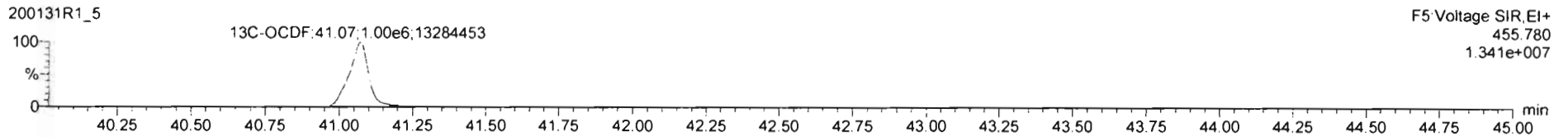
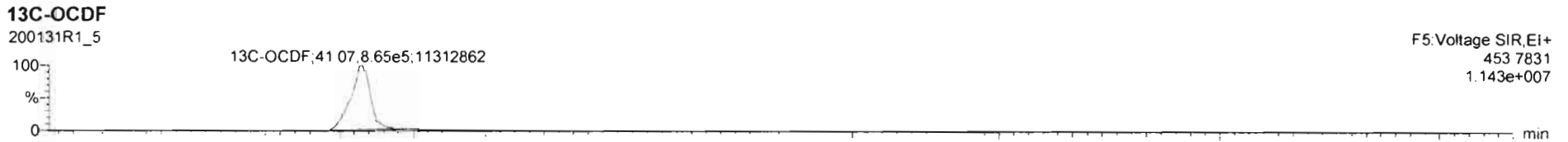
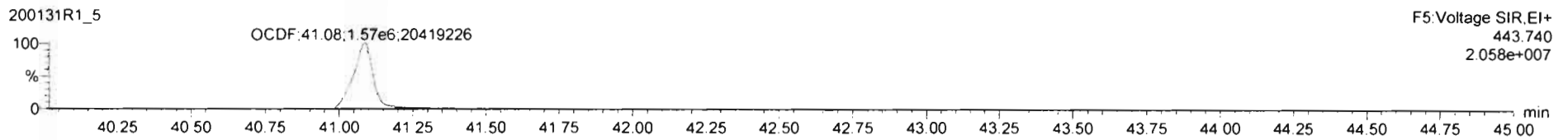
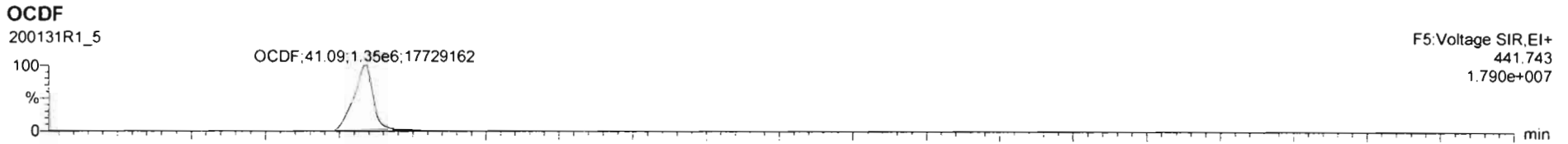


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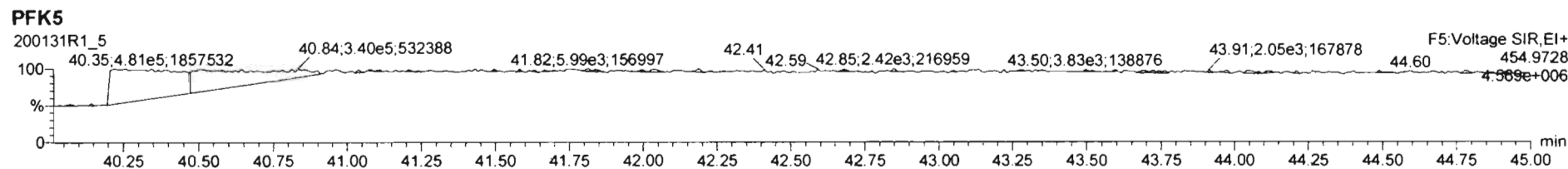
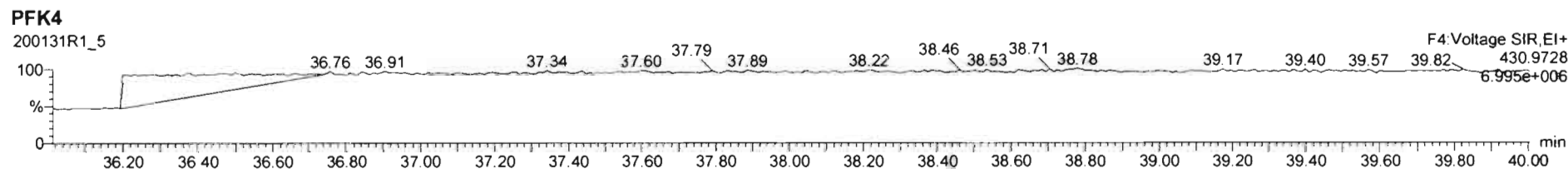
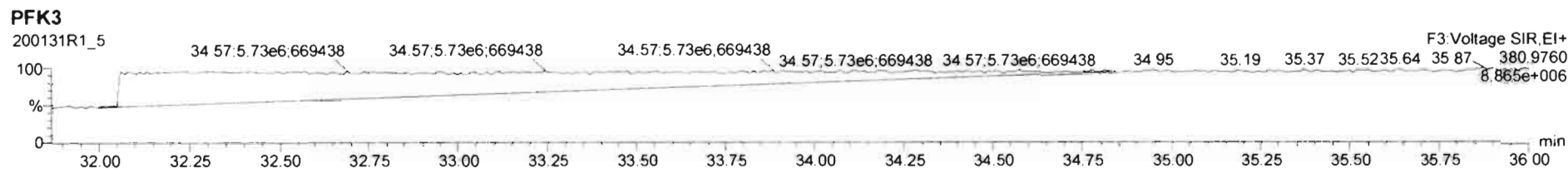
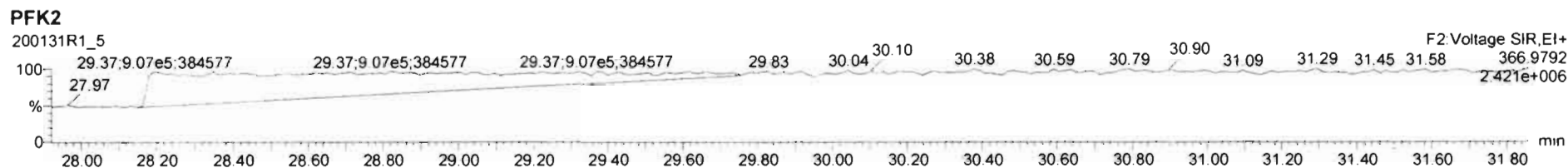
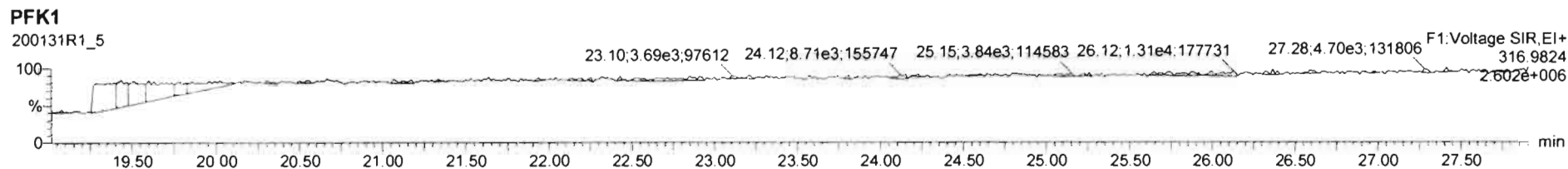
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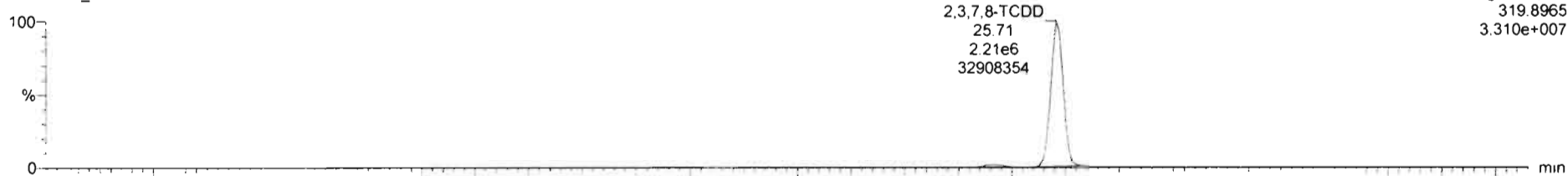
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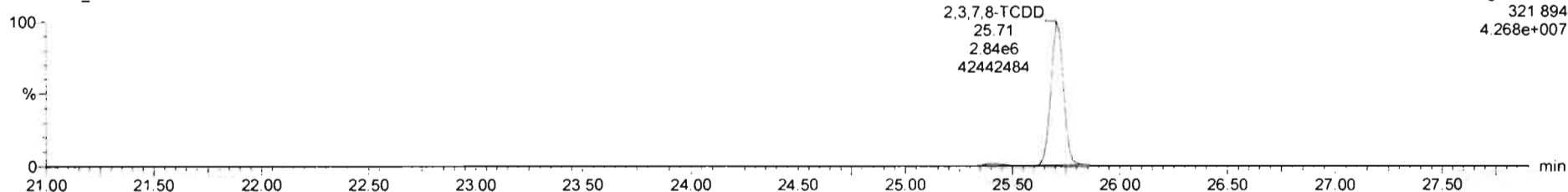
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**2,3,7,8-TCDD**

200131R1\_6

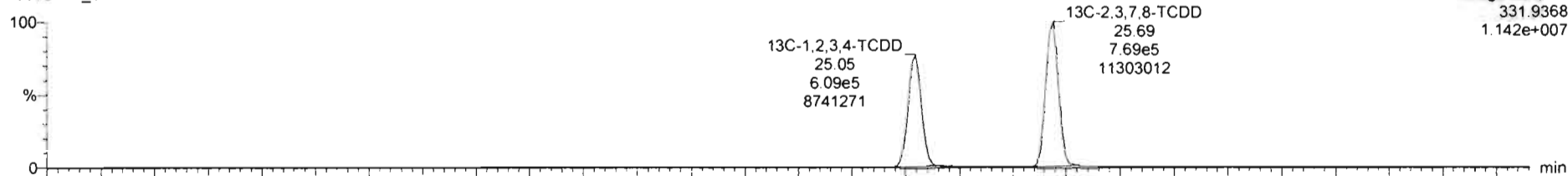


200131R1\_6

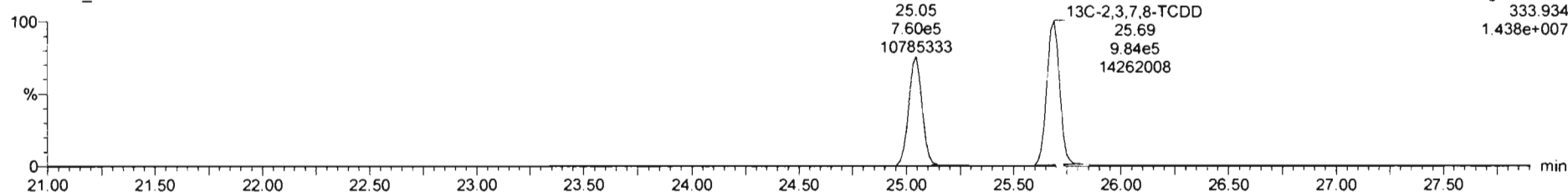


**13C-2,3,7,8-TCDD**

200131R1\_6



200131R1\_6



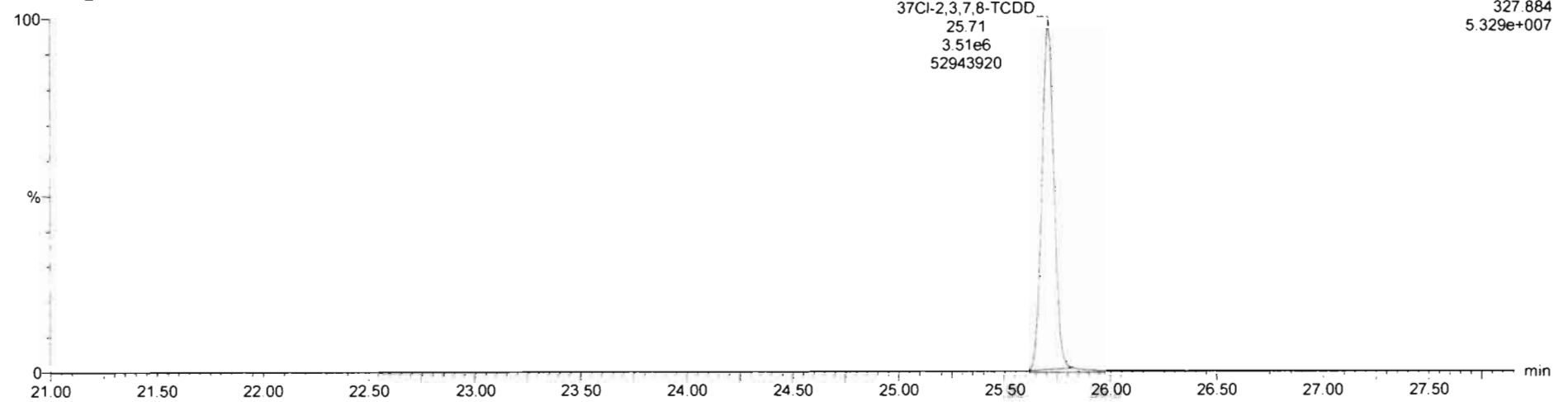
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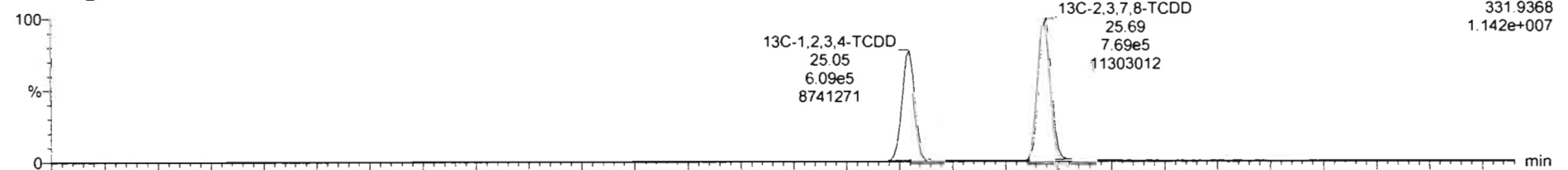
**37Cl-2,3,7,8-TCDD**

200131R1\_6

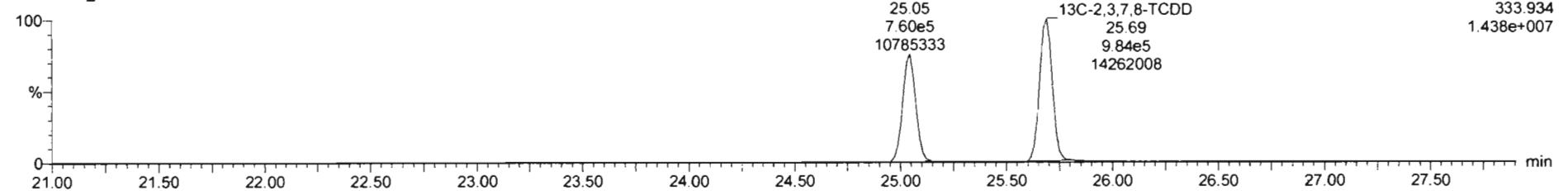


**13C-1,2,3,4-TCDD**

200131R1\_6



200131R1\_6



Dataset: Untitled

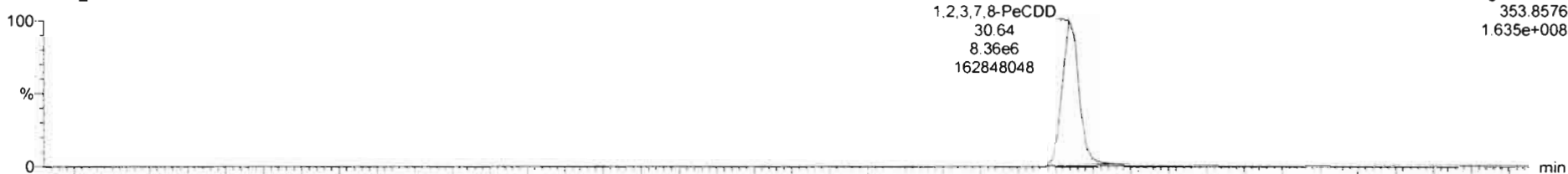
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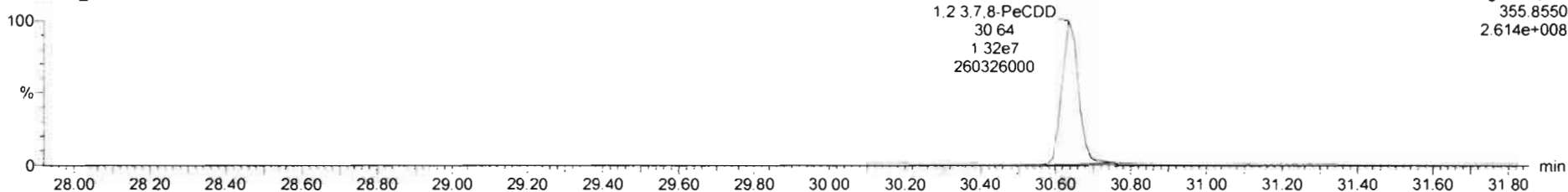
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**1,2,3,7,8-PeCDD**

200131R1\_6

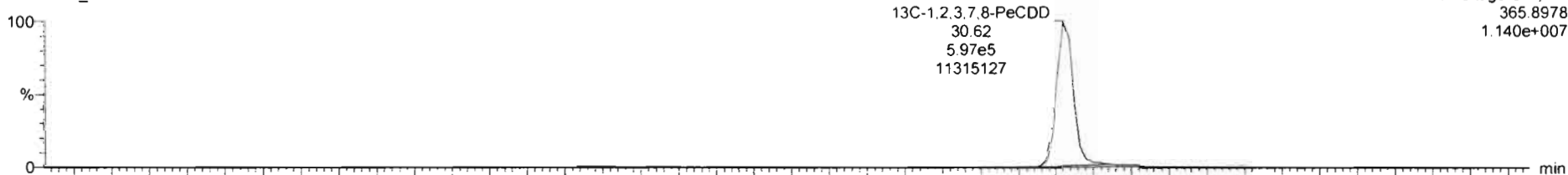


200131R1\_6

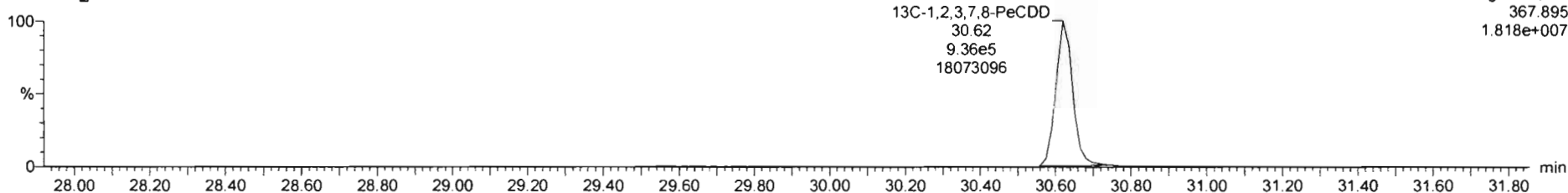


**13C-1,2,3,7,8-PeCDD**

200131R1\_6



200131R1\_6



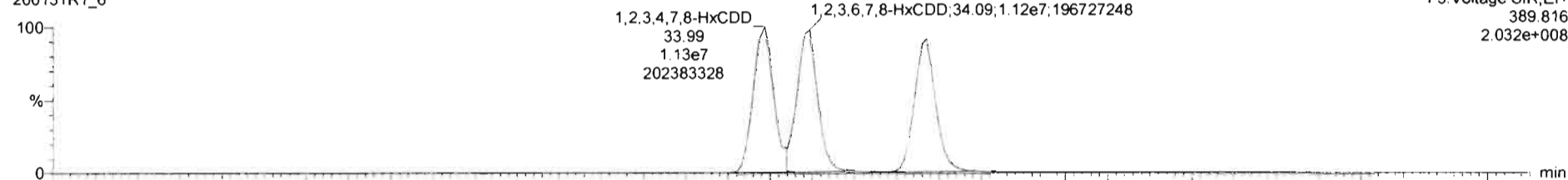
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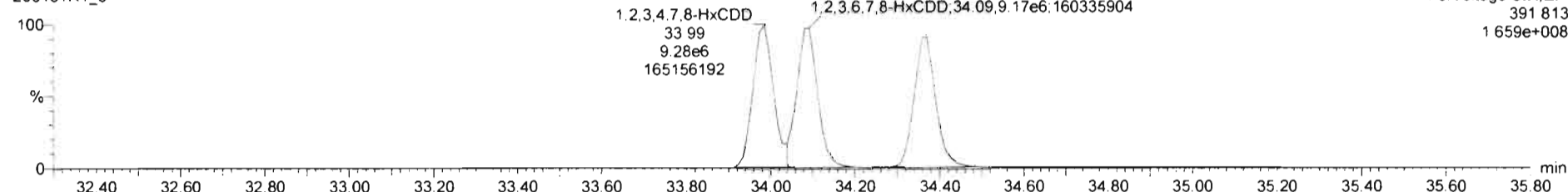
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**1,2,3,4,7,8-HxCDD**

200131R1\_6

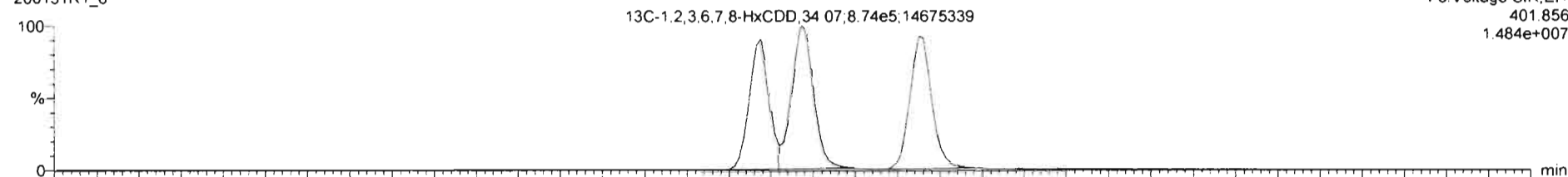


200131R1\_6

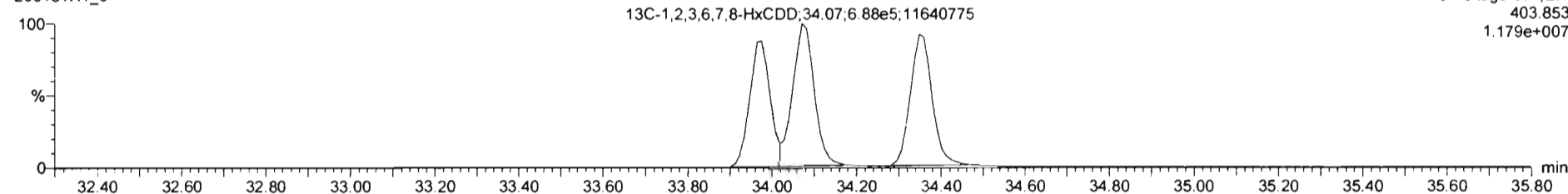


**13C-1,2,3,4,7,8-HxCDD**

200131R1\_6



200131R1\_6





Dataset: Untitled

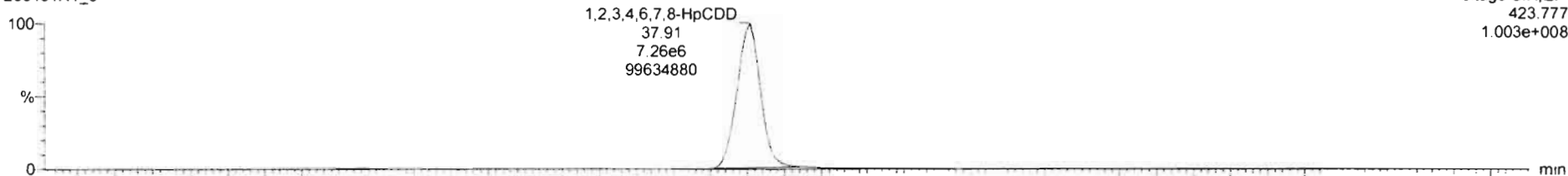
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

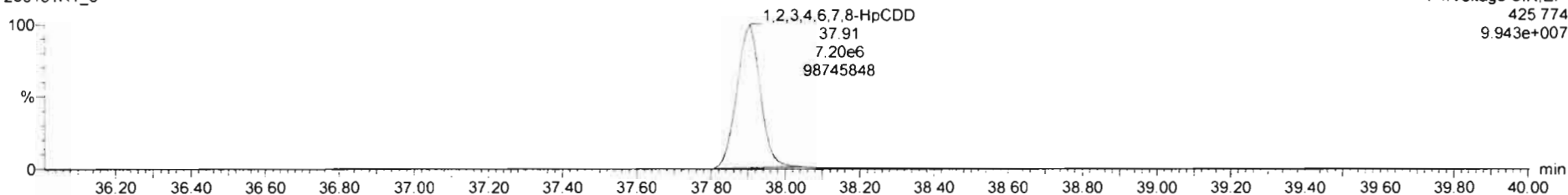
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**1,2,3,4,6,7,8-HpCDD**

200131R1\_6

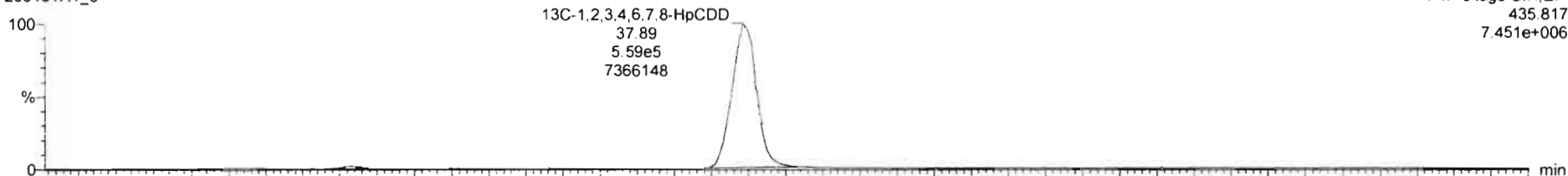


200131R1\_6

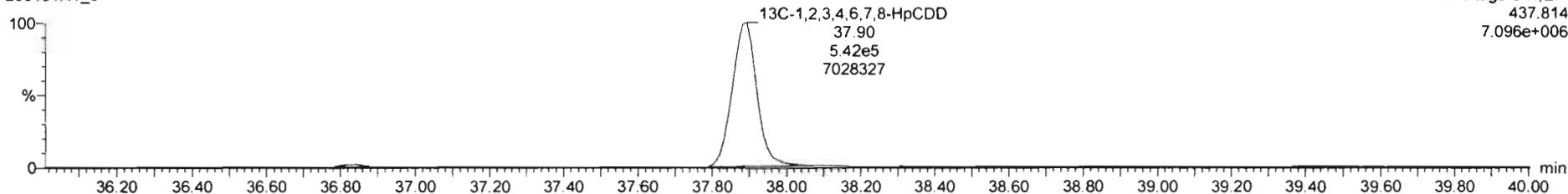


**13C-1,2,3,4,6,7,8-HpCDD**

200131R1\_6



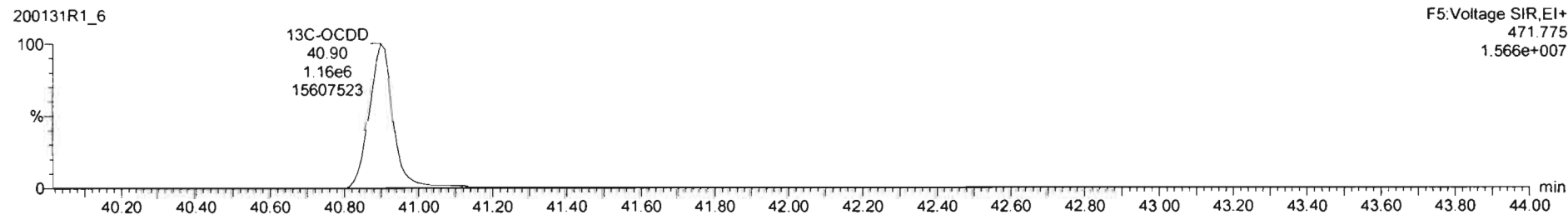
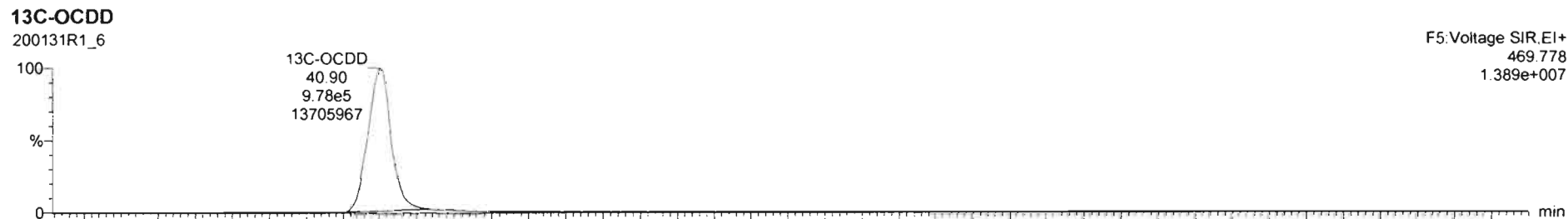
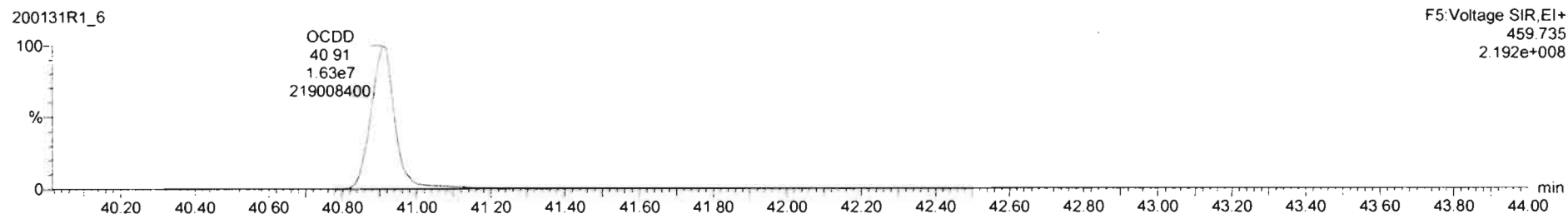
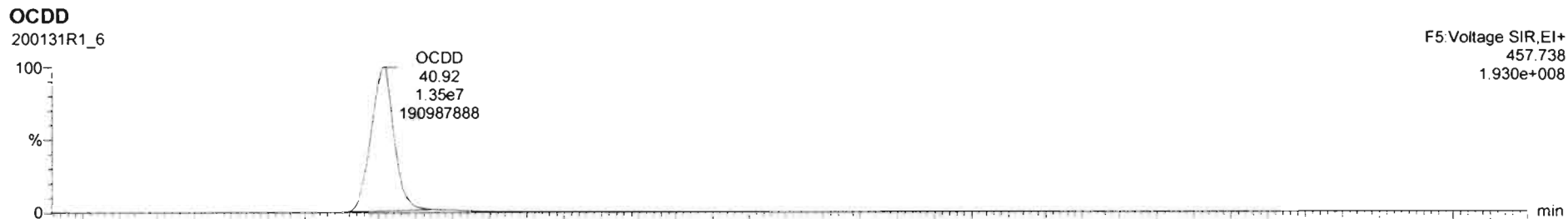
200131R1\_6



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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_6, Date: 31-Jan-2020, Time: 20:44:23, ID: ST200131R1\_6 1613 CS5 19L2307, Description: 1613 CS5 19L2307



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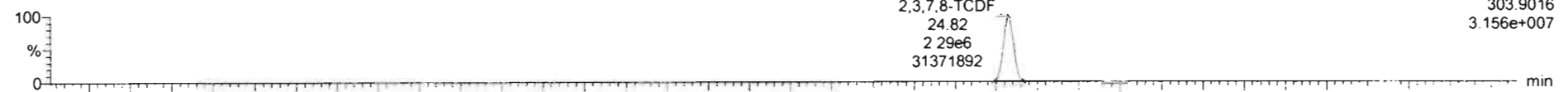
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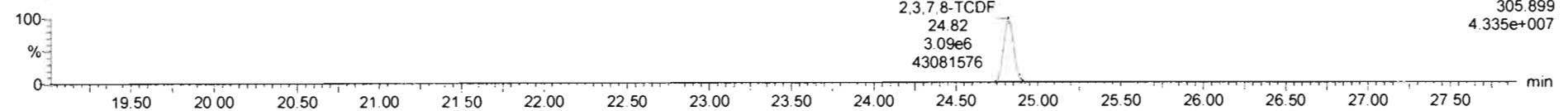
**2,3,7,8-TCDF**

200131R1\_6



F1: Voltage SIR, EI+  
303.9016  
3.156e+007

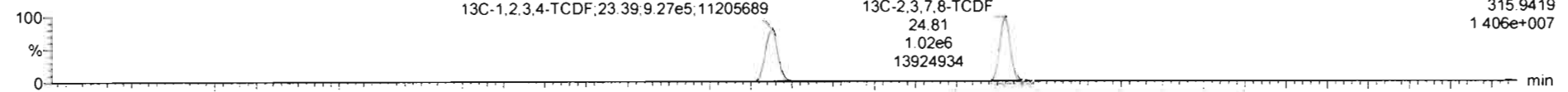
200131R1\_6



F1: Voltage SIR, EI+  
305.899  
4.335e+007

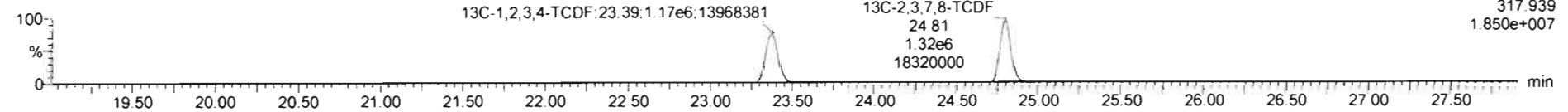
**13C-2,3,7,8-TCDF**

200131R1\_6



F1: Voltage SIR, EI+  
315.9419  
1.406e+007

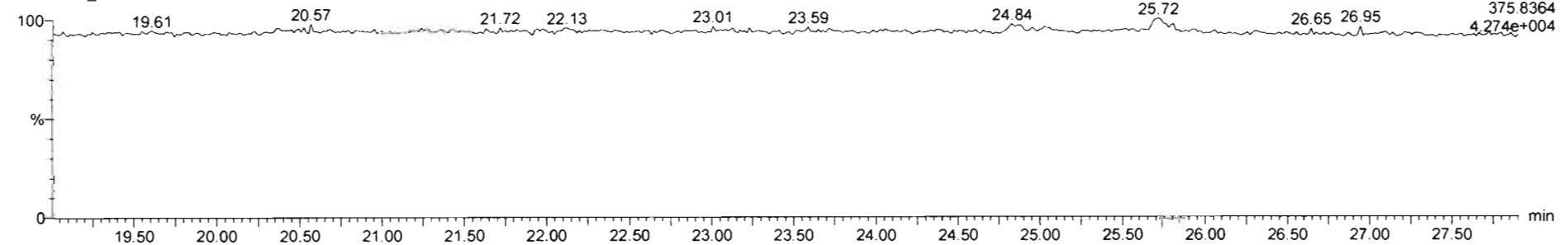
200131R1\_6



F1: Voltage SIR, EI+  
317.939  
1.850e+007

**DPE1**

200131R1\_6



F1: Voltage SIR, EI+  
375.8364  
4.274e+004

Dataset: Untitled

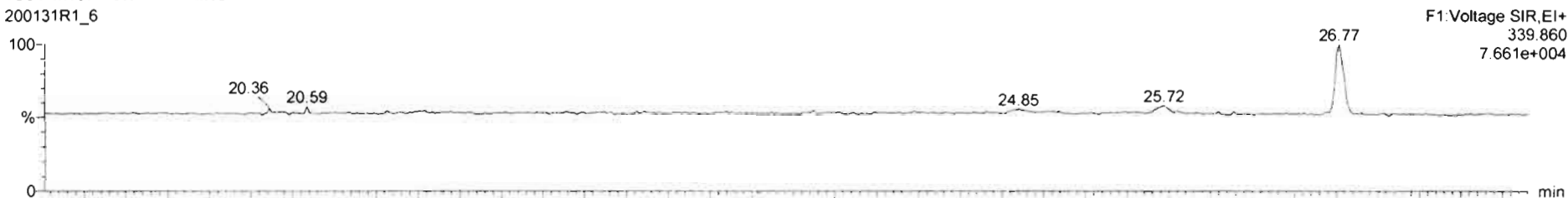
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

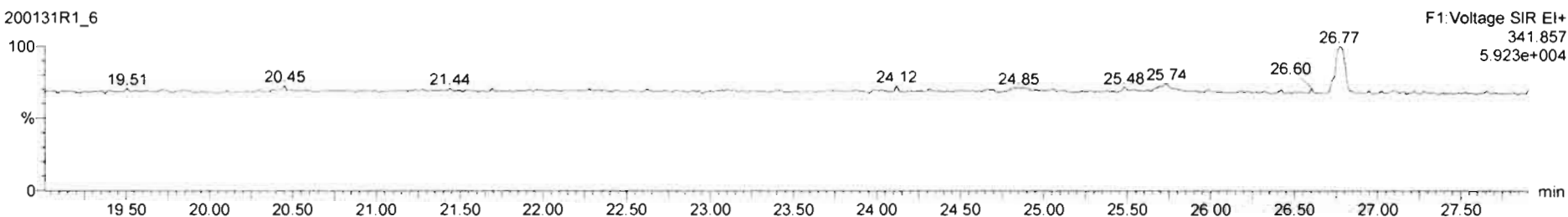
Name: 200131R1\_6, Date: 31-Jan-2020, Time: 20:44:23, ID: ST200131R1\_6 1613 CS5 19L2307, Description: 1613 CS5 19L2307

1st Func. Penta-Furans

200131R1\_6

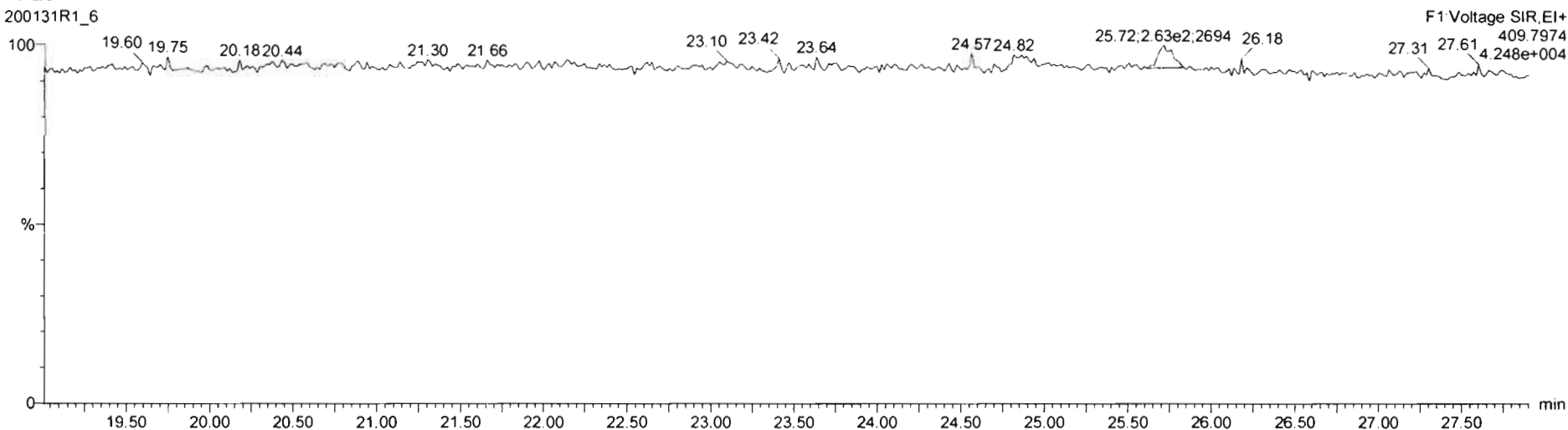


200131R1\_6



DPE6

200131R1\_6



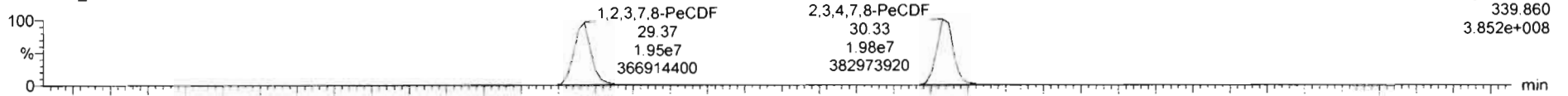
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Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

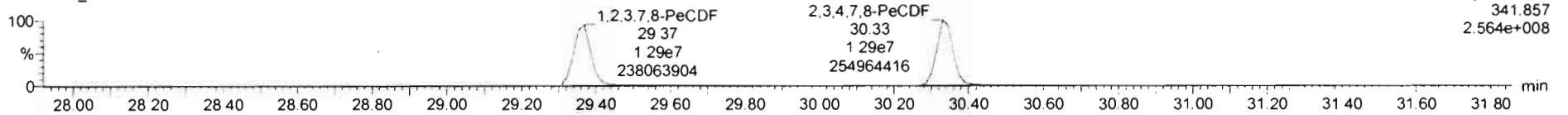
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**1,2,3,7,8-PeCDF**

200131R1\_6

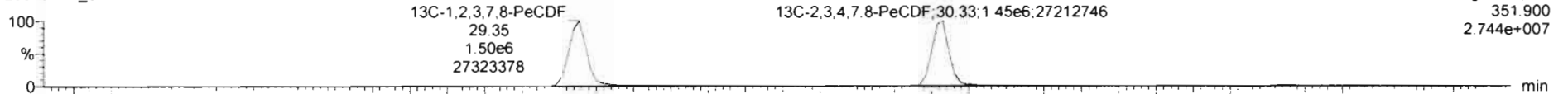


200131R1\_6

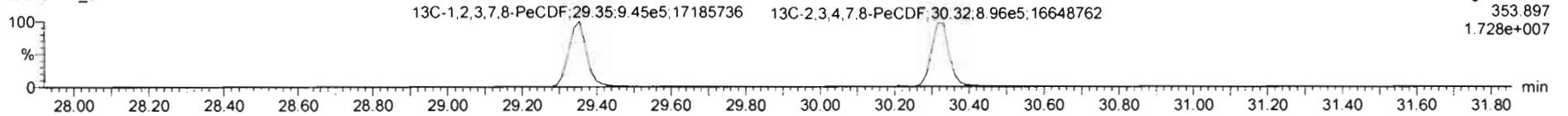


**13C-1,2,3,7,8-PeCDF**

200131R1\_6

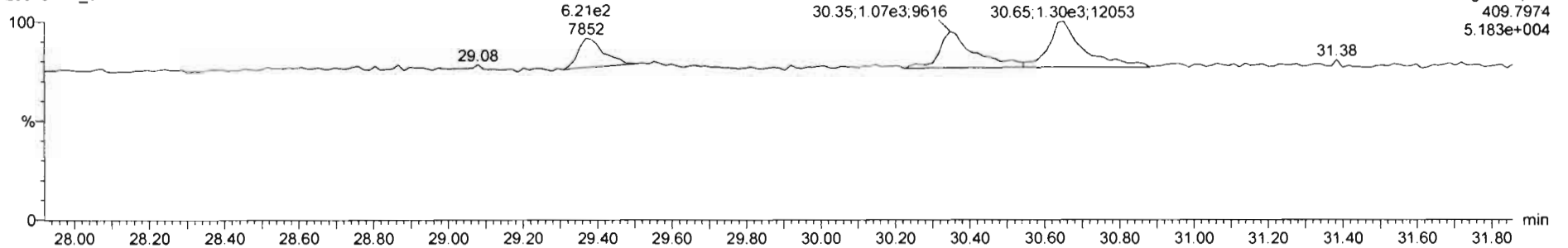


200131R1\_6



**DPE2**

200131R1\_6



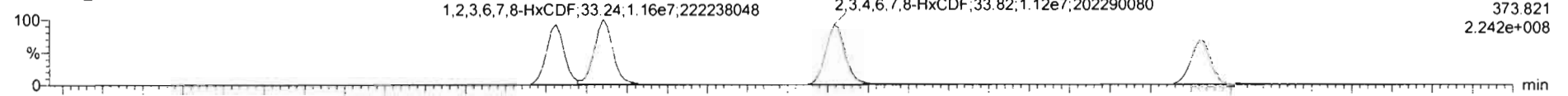
Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_6, Date: 31-Jan-2020, Time: 20:44:23, ID: ST200131R1\_6 1613 CS5 19L2307, Description: 1613 CS5 19L2307

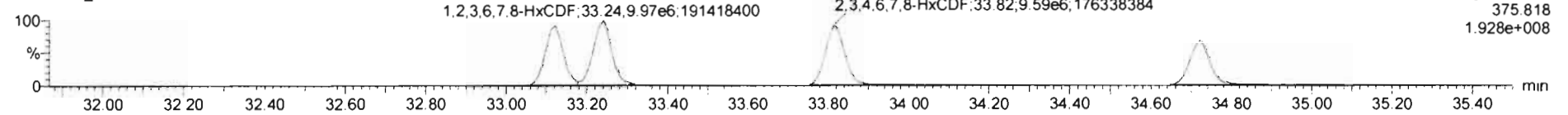
**1,2,3,4,7,8-HxCDF**

200131R1\_6



F3: Voltage SIR, EI+  
373 821  
2.242e+008

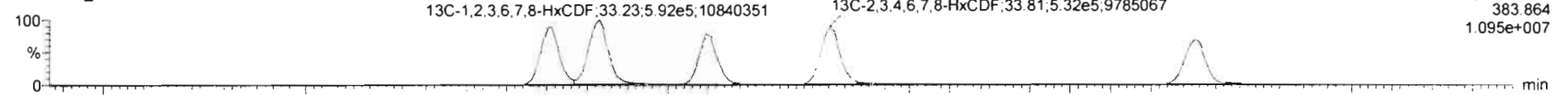
200131R1\_6



F3: Voltage SIR, EI+  
375 818  
1.928e+008

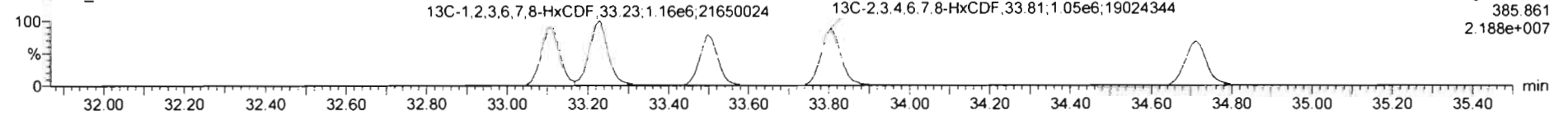
**13C-1,2,3,4,7,8-HxCDF**

200131R1\_6



F3: Voltage SIR, EI+  
383 864  
1.095e+007

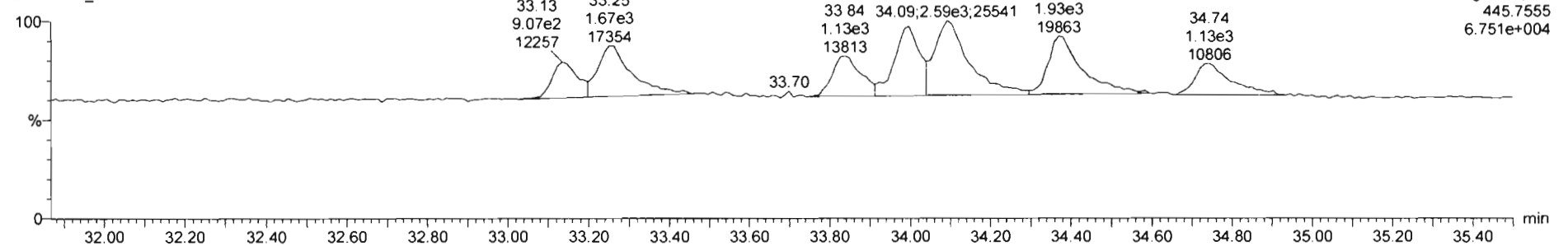
200131R1\_6



F3: Voltage SIR, EI+  
385 861  
2.188e+007

**DPE3**

200131R1\_6



F3: Voltage SIR, EI+  
445 7555  
6.751e+004

Dataset: Untitled

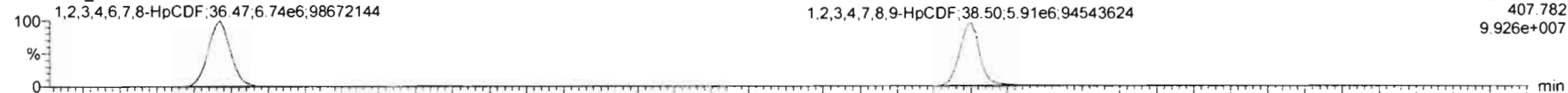
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

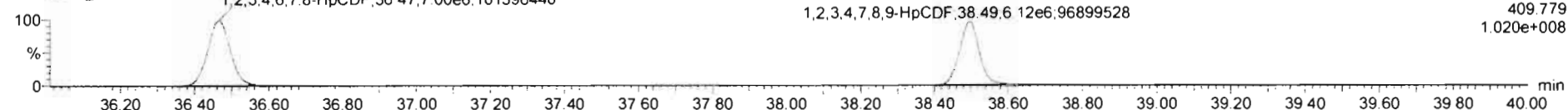
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**1,2,3,4,6,7,8-HpCDF**

200131R1\_6

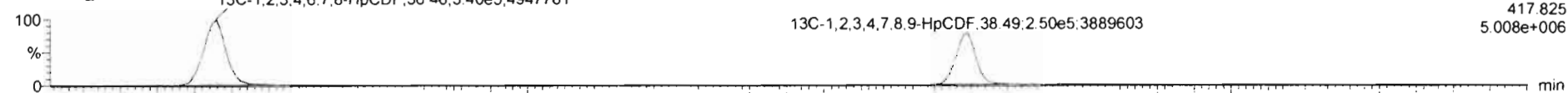


200131R1\_6

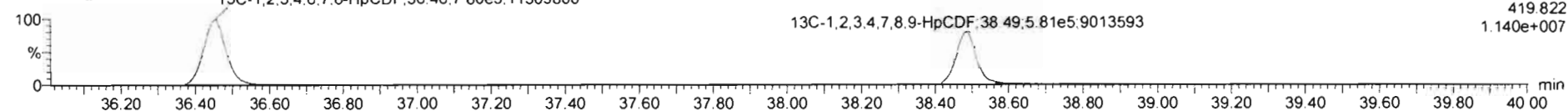


**13C-1,2,3,4,6,7,8-HpCDF**

200131R1\_6

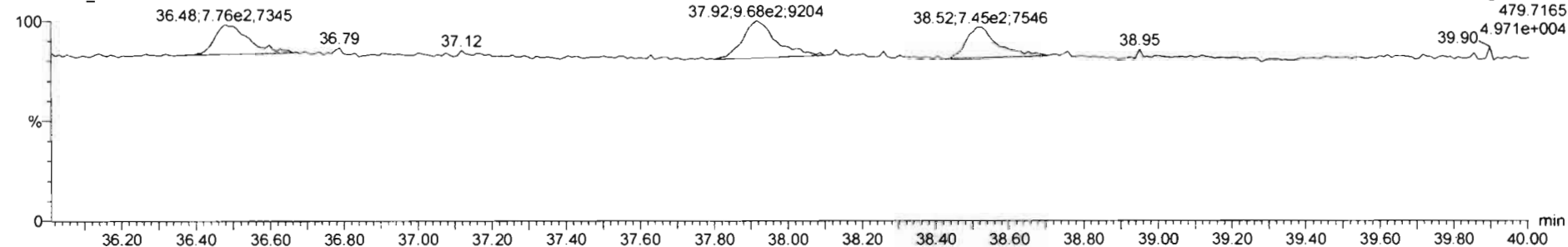


200131R1\_6



**DPE4**

200131R1\_6

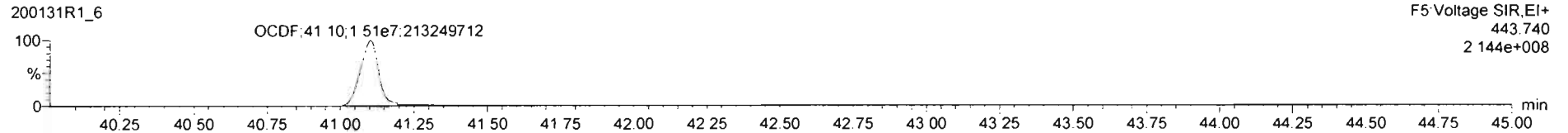
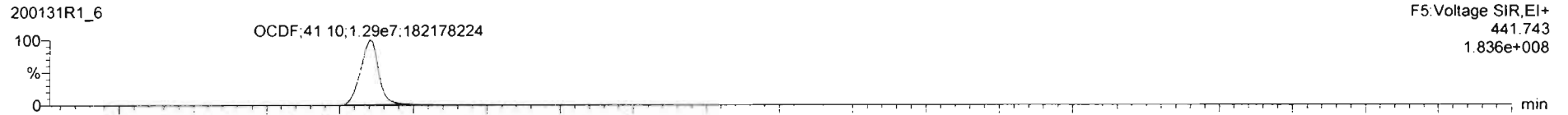


Dataset: Untitled

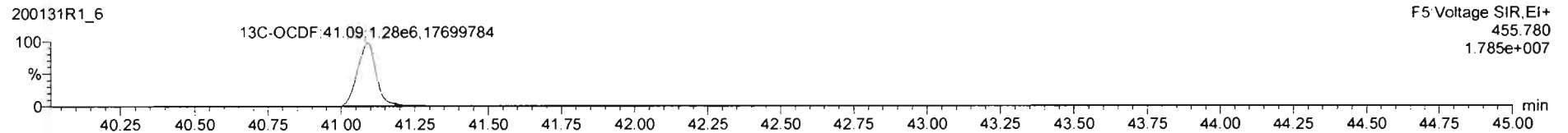
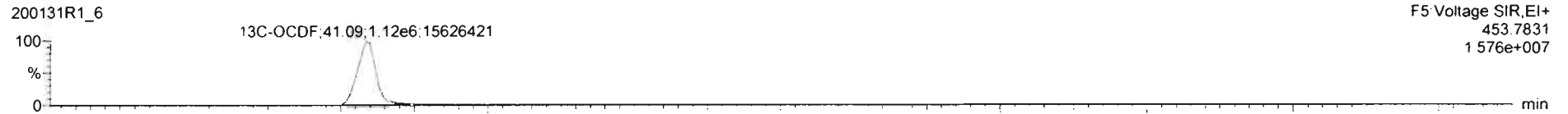
Last Altered: Sunday, February 02, 2020 11:06:20 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_6, Date: 31-Jan-2020, Time: 20:44:23, ID: ST200131R1\_6 1613 CS5 19L2307, Description: 1613 CS5 19L2307

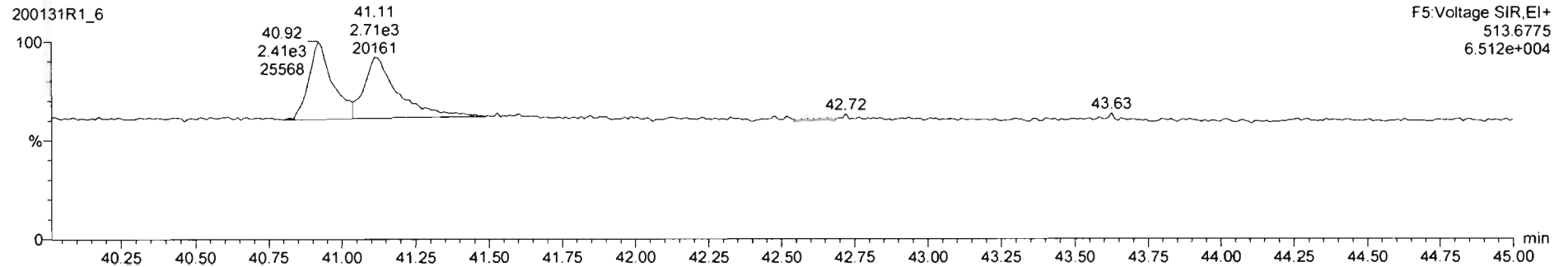
**OCDF**



**13C-OCDF**



**DPES**

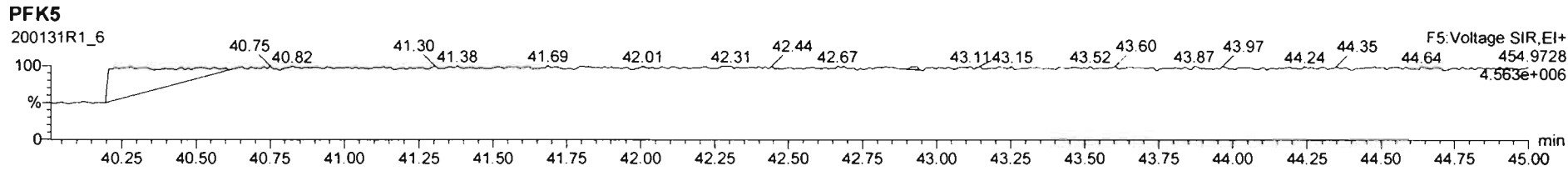
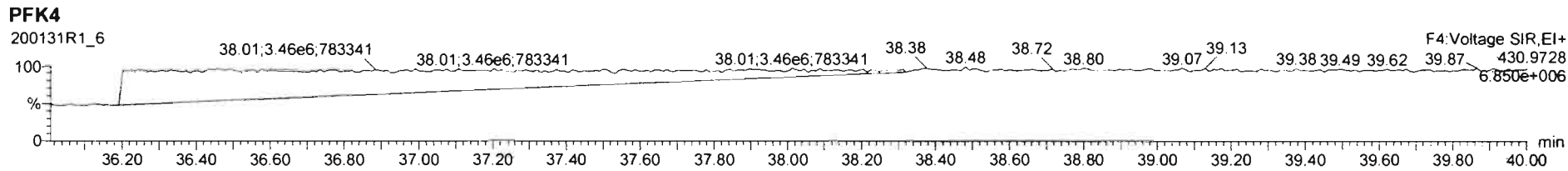
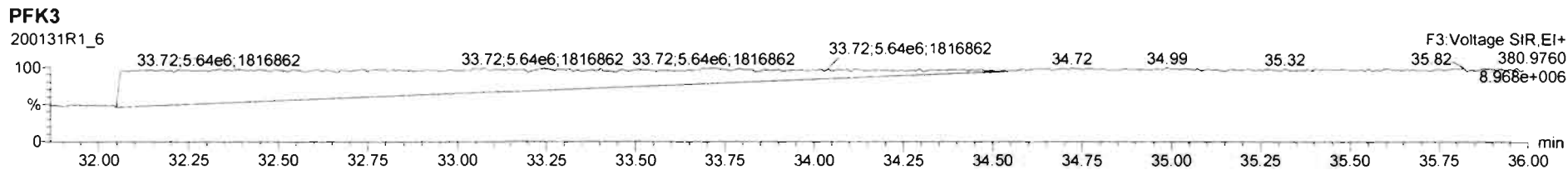
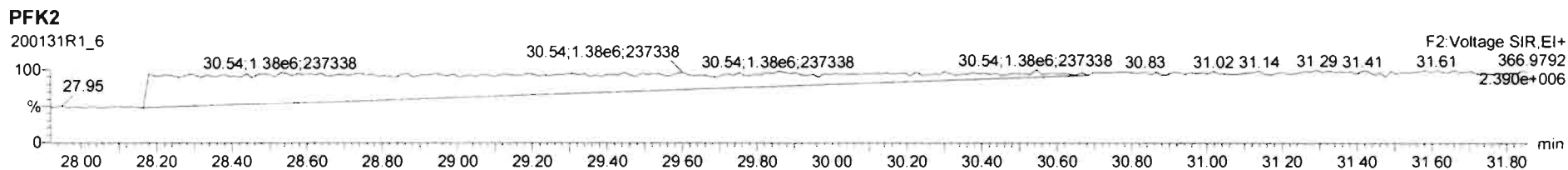
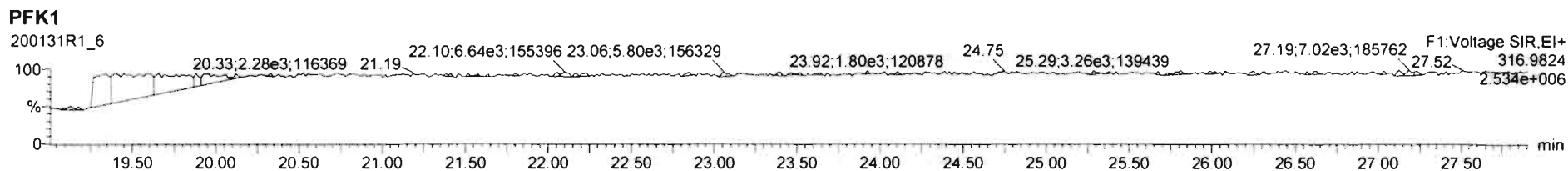




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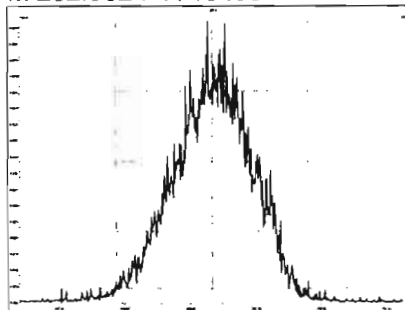
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Printed: Sunday, February 02, 2020 11:06:35 AM Pacific Standard Time

Name: 200131R1\_6, Date: 31-Jan-2020, Time: 20:44:23, ID: ST200131R1\_6 1613 CS5 19L2307, Description: 1613 CS5 19L2307

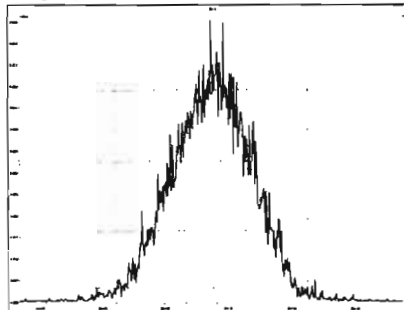


Printed: Saturday, February 01, 2020 07:51:26 Pacific Standard Time

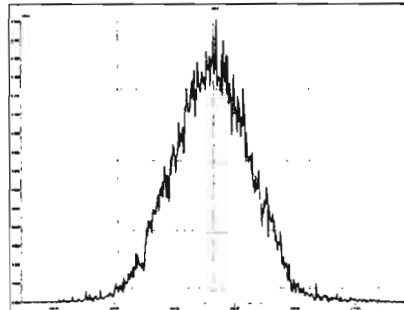
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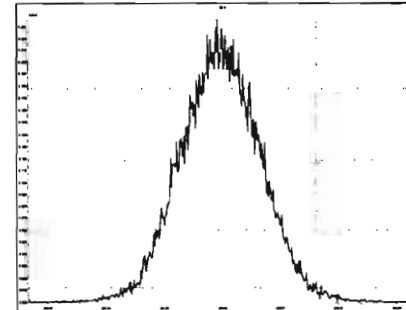
M 304.9824 R 11062



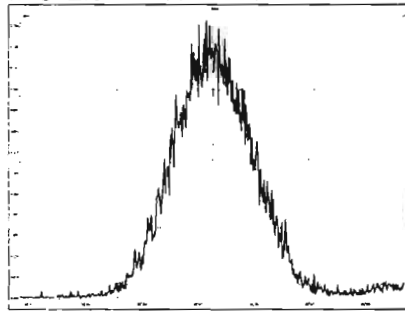
M 318.9792 R 11312



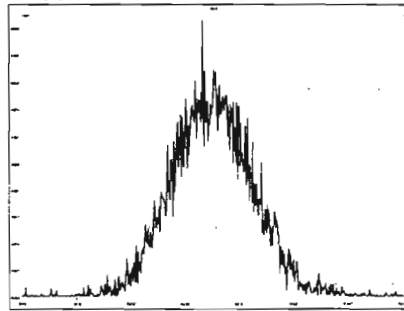
M 330.9792 R 10988



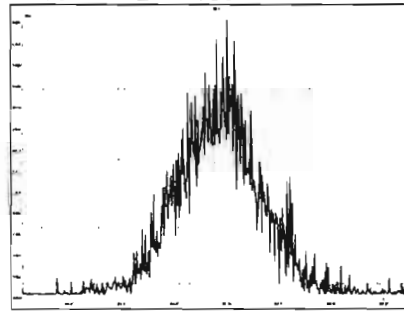
M 342.9792 R 10869



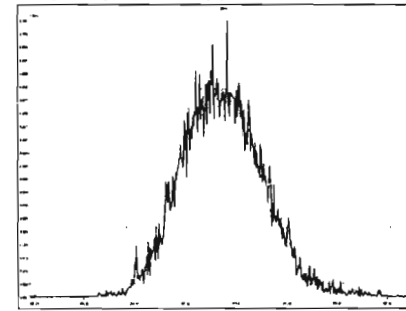
M 354.9792 R 11633



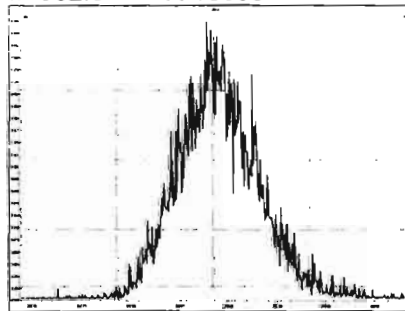
M 366.9792 R 10852



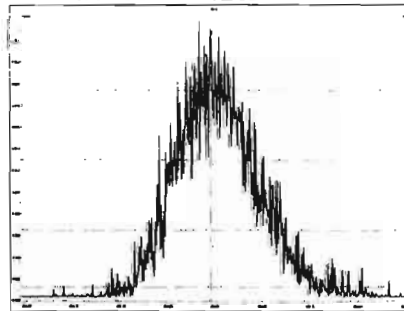
M 380.9760 R 10686



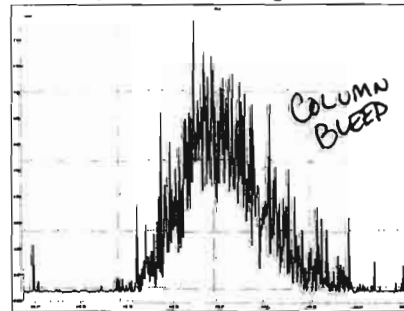
M 392.9760 R 10593



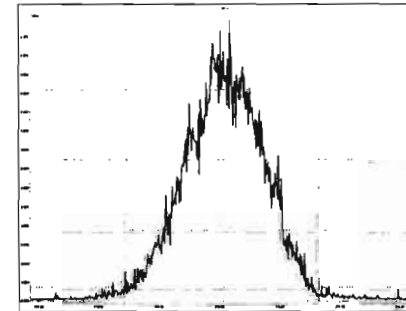
M 404.9760 R 11252



M 416.9760 R 6578 ok

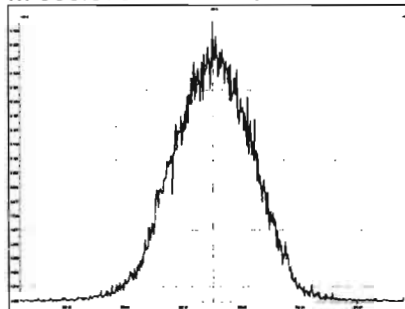


M 318.9792 R 10639

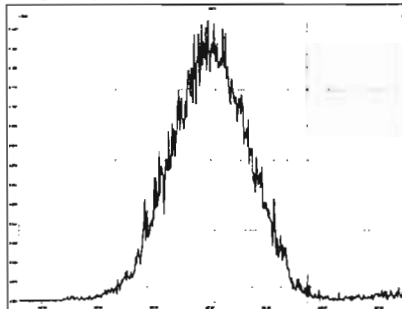


Printed: Saturday, February 01, 2020 07:51:26 Pacific Standard Time

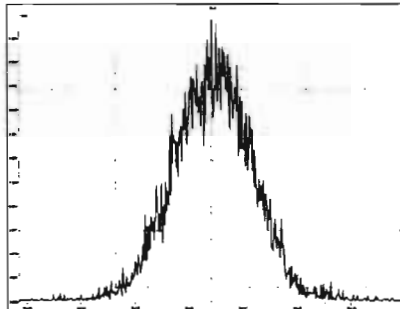
M 330.9792 R 11210



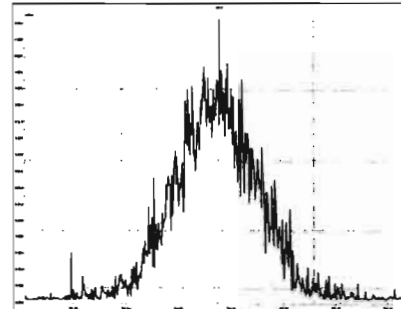
M 342.9792 R 10967



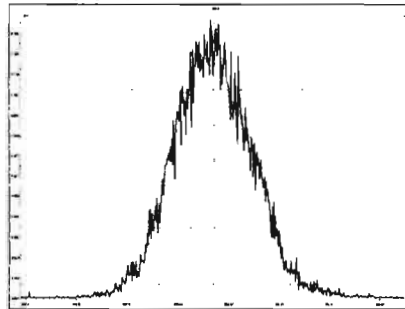
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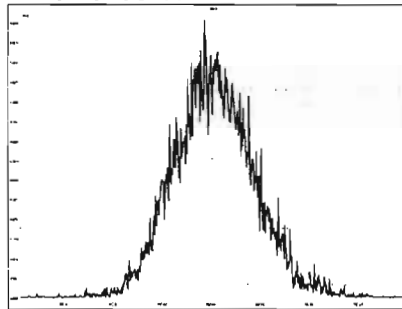
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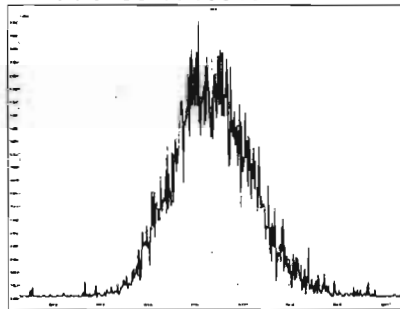
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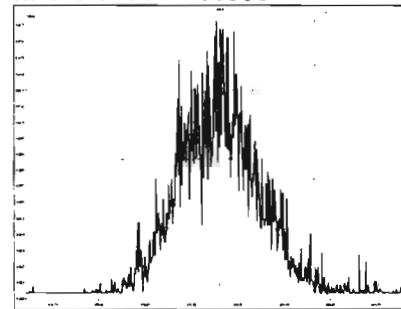
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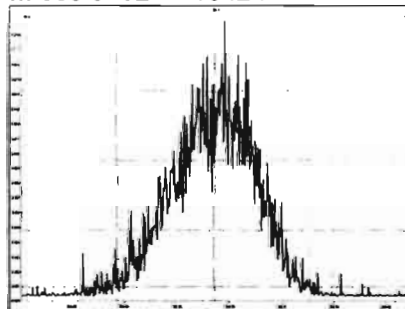
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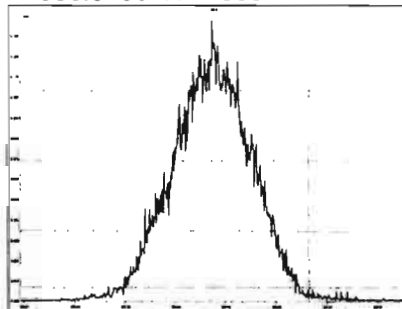
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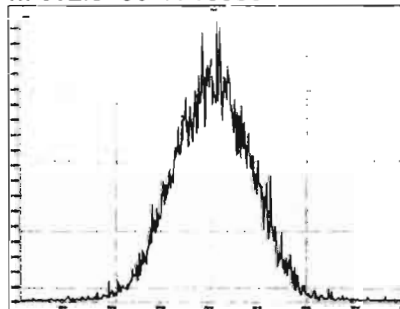
M 366.9792 R 10424



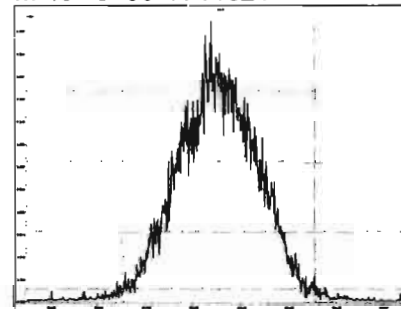
M 380.9760 R 11086



M 392.9760 R 10930

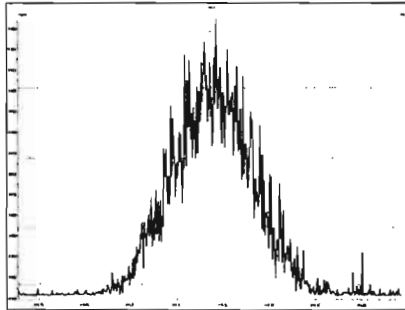


M 404.9760 R 11521

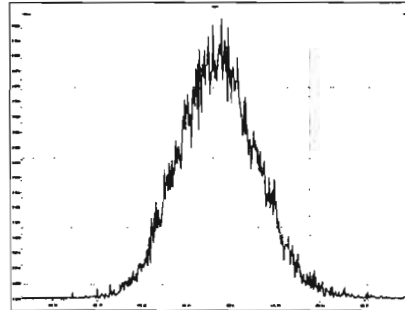


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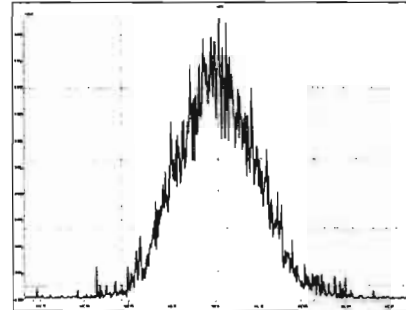
M 416.9760 R 11014



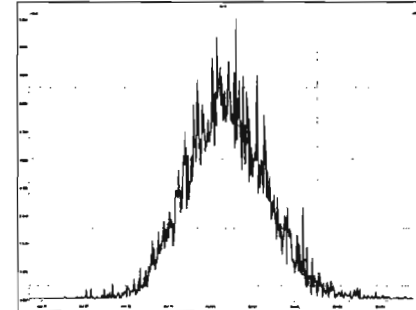
M 430.9728 R 10686



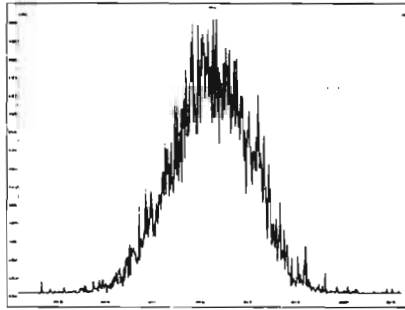
M 442.9728 R 10762



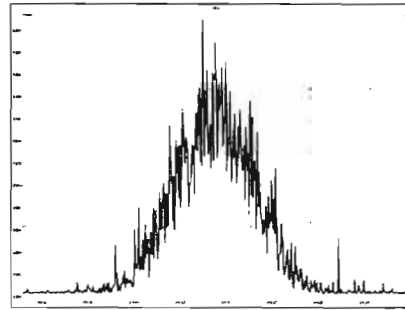
M 454.9728 R 11261



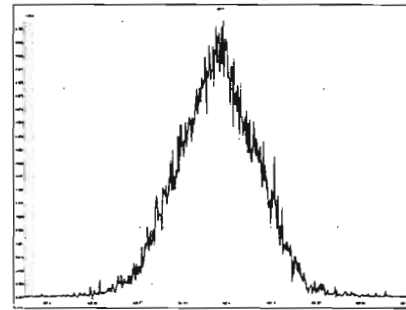
M 404.9760 R 10356



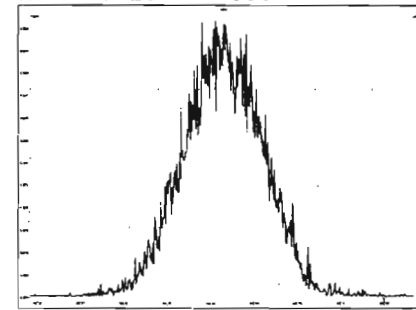
M 416.9760 R 10817



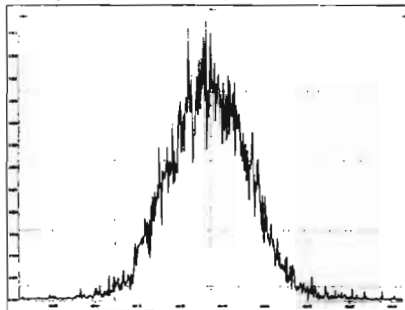
M 430.9728 R 10732



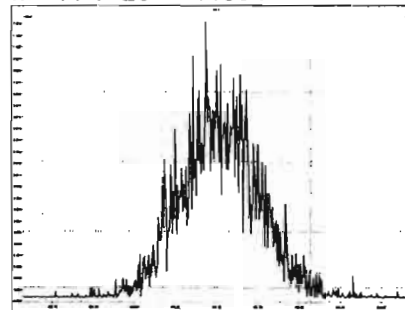
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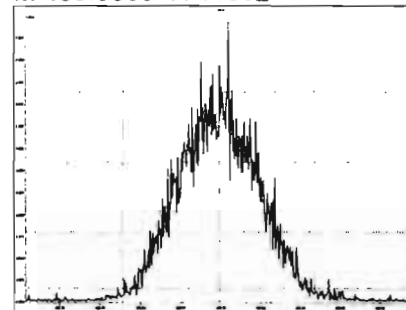
M 454.9728 R 11574



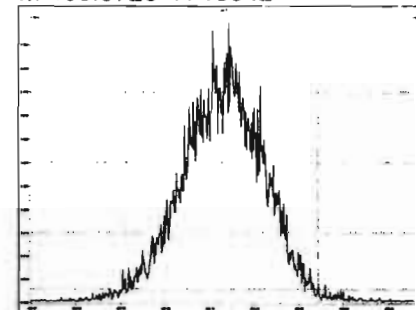
M 466.9728 R 11854



M 480.9696 R 11062

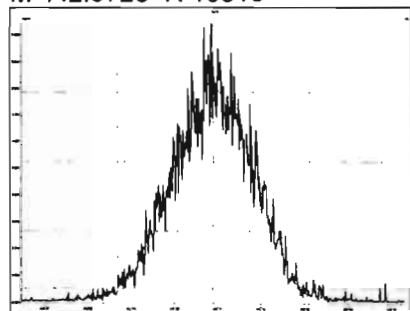


M 430.9728 R 10642

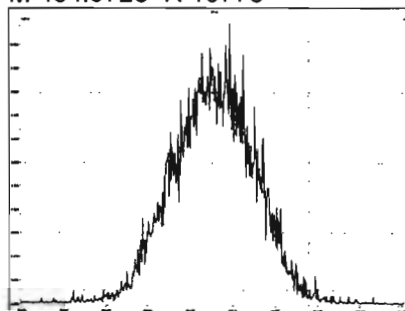


Printed: Saturday, February 01, 2020 07:51:26 Pacific Standard Time

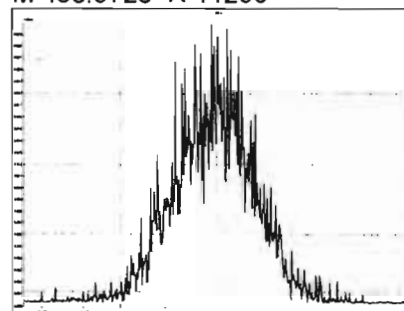
M 442.9728 R 10615



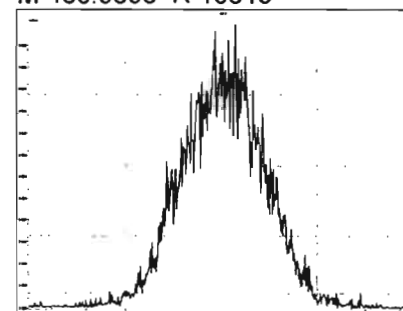
M 454.9728 R 10778



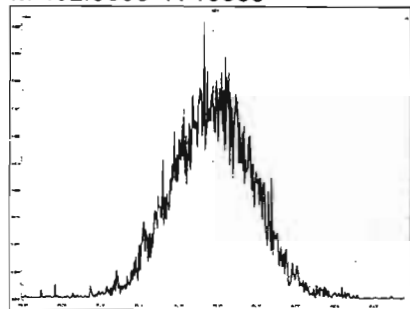
M 466.9728 R 11290



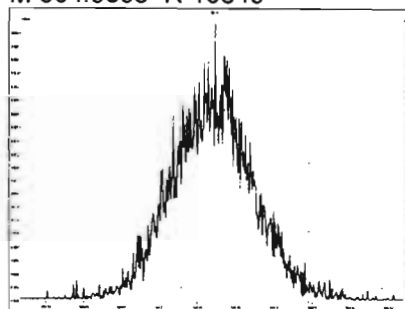
M 480.9696 R 10615



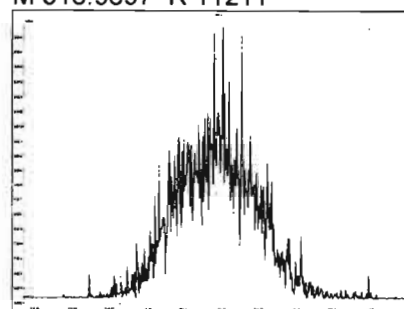
M 492.9696 R 10685



M 504.9696 R 10849



M 516.9697 R 11211



Dataset: U:\VG12.PRO\Results\200131R1\200131R1-8.qld

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:24:45 AM Pacific Standard Time

*GPB 02/02/2020*

*C7 02/04/2020*

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23  
Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
1	1 2,3,7,8-TCDD	1.56e5	0.77	NO	0.988	1.000	25.691	25.69	1.001	1.001	10.621	106	0.0312	10.6
2	2 1,2,3,7,8-PeCDD	6.38e5	0.61	NO	0.972	1.000	30.627	30.62	1.001	1.001	53.028	106	0.0615	53.0
3	3 1,2,3,4,7,8-HxCDD	5.69e5	1.22	NO	1.07	1.000	33.966	33.97	1.000	1.000	53.501	107	0.0848	53.5
4	4 1,2,3,6,7,8-HxCDD	6.05e5	1.23	NO	0.921	1.000	34.062	34.07	1.000	1.000	57.295	115	0.0864	57.3
5	5 1,2,3,7,8,9-HxCDD	5.57e5	1.21	NO	0.918	1.000	34.373	34.35	1.001	1.000	55.837	112	0.0961	55.8
6	6 1,2,3,4,6,7,8-HpCDD	4.04e5	1.06	NO	0.923	1.000	37.886	37.90	1.000	1.001	54.330	109	0.220	54.3
7	7 OCDD	7.74e5	0.92	NO	0.975	1.000	40.878	40.89	1.000	1.000	108.30	108	0.139	108
8	8 2,3,7,8-TCDF	1.73e5	0.74	NO	0.802	1.000	24.802	24.79	1.001	1.001	10.751	108	0.0280	10.8
9	9 1,2,3,7,8-PeCDF	9.70e5	1.53	NO	0.907	1.000	29.345	29.34	1.001	1.001	54.081	108	0.0886	54.1
10	10 2,3,4,7,8-PeCDF	1.11e6	1.53	NO	0.952	1.000	30.331	30.32	1.001	1.001	60.939	122	0.0845	60.9
11	11 1,2,3,4,7,8-HxCDF	5.97e5	1.15	NO	0.862	1.000	33.093	33.10	1.000	1.000	56.486	113	0.117	56.5
12	12 1,2,3,6,7,8-HxCDF	6.65e5	1.16	NO	0.841	1.000	33.220	33.22	1.000	1.000	55.919	112	0.104	55.9
13	13 2,3,4,6,7,8-HxCDF	5.96e5	1.17	NO	0.898	1.000	33.819	33.81	1.001	1.001	53.809	108	0.119	53.8
14	14 1,2,3,7,8,9-HxCDF	4.82e5	1.16	NO	0.858	1.000	34.690	34.71	1.000	1.001	54.259	109	0.175	54.3
15	15 1,2,3,4,6,7,8-HpCDF	4.07e5	0.95	NO	0.851	1.000	36.473	36.45	1.001	1.000	56.639	113	0.174	56.6
16	16 1,2,3,4,7,8,9-HpCDF	3.25e5	0.98	NO	0.980	1.000	38.471	38.48	1.000	1.000	55.517	111	0.189	55.5
17	17 OCDF	7.18e5	0.86	NO	0.806	1.000	41.070	41.08	1.000	1.000	105.51	106	0.148	106
18	18 13C-2,3,7,8-TCDD	1.49e6	0.78	NO	1.20	1.000	25.660	25.66	1.026	1.026	92.060	92.1	0.106	
19	19 13C-1,2,3,7,8-PeCDD	1.24e6	0.64	NO	0.967	1.000	30.395	30.61	1.215	1.223	95.149	95.1	0.134	
20	20 13C-1,2,3,4,7,8-HxCDD	9.93e5	1.27	NO	0.874	1.000	33.955	33.96	1.014	1.014	87.678	87.7	0.159	
21	21 13C-1,2,3,6,7,8-HxCDD	1.15e6	1.25	NO	1.05	1.000	34.056	34.06	1.017	1.017	84.618	84.6	0.133	
22	22 13C-1,2,3,7,8,9-HxCDD	1.09e6	1.25	NO	0.974	1.000	34.357	34.34	1.026	1.025	86.118	86.1	0.143	
23	23 13C-1,2,3,4,6,7,8-HpCDD	8.06e5	1.06	NO	0.747	1.000	37.907	37.87	1.132	1.131	83.254	83.3	0.245	
24	24 13C-OCDD	1.47e6	0.89	NO	0.707	1.000	40.787	40.88	1.218	1.221	160.15	80.1	0.173	
25	25 13C-2,3,7,8-TCDF	2.01e6	0.78	NO	1.07	1.000	24.842	24.78	0.993	0.990	91.210	91.2	0.143	
26	26 13C-1,2,3,7,8-PeCDF	1.98e6	1.58	NO	1.00	1.000	29.170	29.32	1.166	1.172	95.322	95.3	0.190	
27	27 13C-2,3,4,7,8-PeCDF	1.91e6	1.60	NO	0.962	1.000	30.120	30.30	1.204	1.211	96.164	96.2	0.198	
28	28 13C-1,2,3,4,7,8-HxCDF	1.23e6	0.52	NO	1.05	1.000	33.085	33.09	0.988	0.988	90.119	90.1	0.194	
29	29 13C-1,2,3,6,7,8-HxCDF	1.41e6	0.50	NO	1.19	1.000	33.185	33.21	0.991	0.992	91.687	91.7	0.171	
30	30 13C-2,3,4,6,7,8-HxCDF	1.23e6	0.51	NO	1.07	1.000	33.791	33.78	1.009	1.009	89.274	89.3	0.190	
31	31 13C-1,2,3,7,8,9-HxCDF	1.04e6	0.51	NO	0.922	1.000	34.692	34.69	1.036	1.036	86.700	86.7	0.220	

Dataset: U:\VG12.PRO\Results\200131R1\200131R1-8.qld

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:24:45 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.RRT	RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	8.43e5	0.43	NO	0.767	1.000	36.433	36.44	1.088	1.088	84.846	84.8	0.232	
33	13C-1,2,3,4,7,8,9-HpCDF	5.98e5	0.43	NO	0.552	1.000	38.443	38.47	1.148	1.149	83.515	83.5	0.322	
34	13C-OCDF	1.69e6	0.90	NO	0.789	1.000	41.021	41.07	1.225	1.226	165.15	82.6	0.137	
35	37Cl-2,3,7,8-TCDD	1.57e5			1.18	1.000	25.692	25.69	1.027	1.027	9.9110	99.1	0.0232	
36	13C-1,2,3,4-TCDD	1.35e6	0.81	NO	1.00	1.000	25.080	25.02	1.000	1.000	100.00	100	0.128	
37	13C-1,2,3,4-TCDF	2.07e6	0.79	NO	1.00	1.000	23.420	23.36	1.000	1.000	100.00	100	0.152	
38	13C-1,2,3,4,6,9-HxCDF	1.30e6	0.51	NO	1.00	1.000	33.520	33.49	1.000	1.000	100.00	100	0.203	

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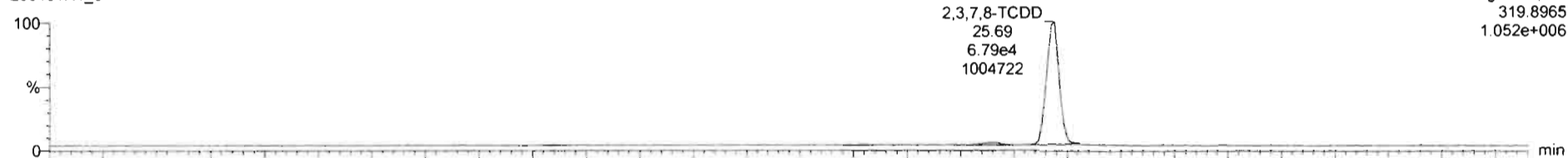
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Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Method: U:\VG12.PRO\MethDB\1613rrt-1-28-20.mdb 28 Jan 2020 16:09:23  
Calibration: U:\VG12.PRO\CurveDB\db5\_1613vg12-1-31-20.cdb 02 Feb 2020 11:05:29

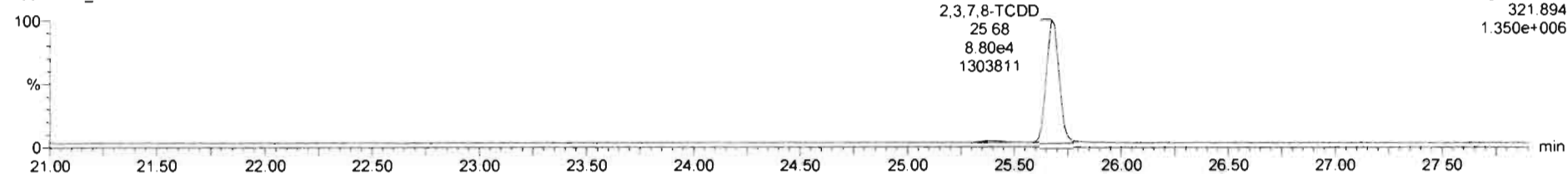
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**2,3,7,8-TCDD**

200131R1\_8

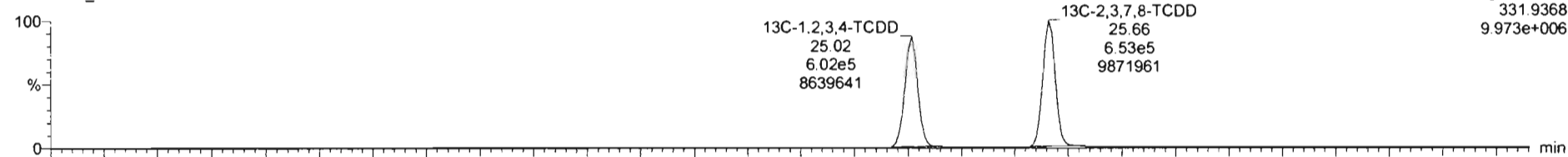


200131R1\_8

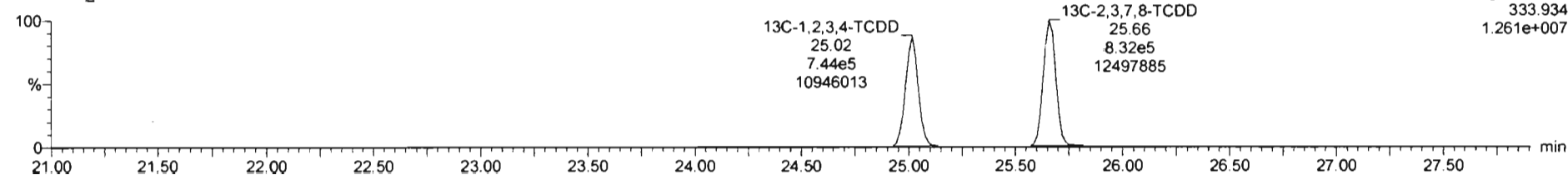


**13C-2,3,7,8-TCDD**

200131R1\_8



200131R1\_8





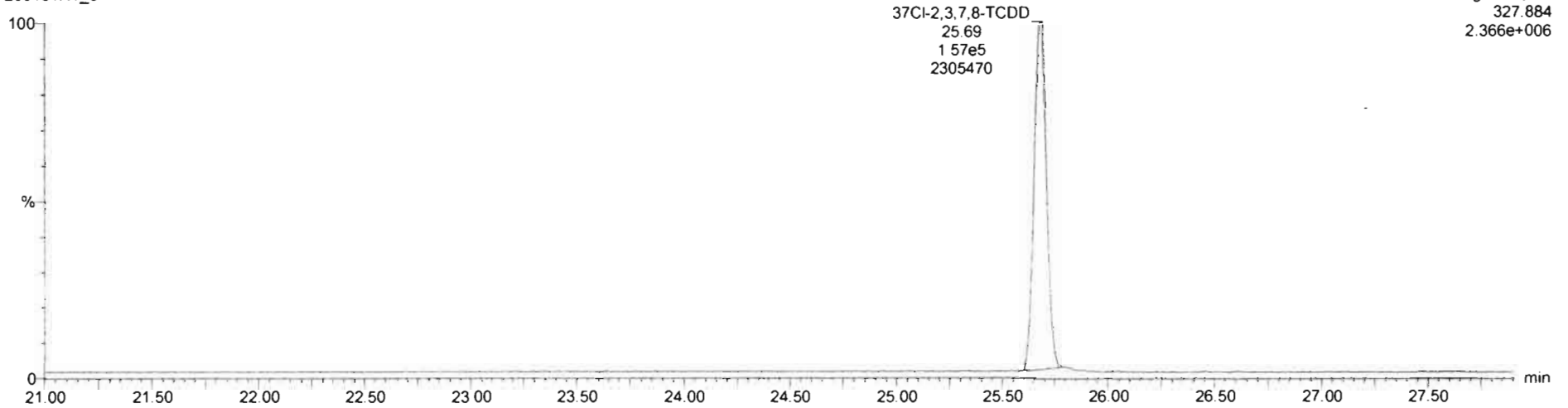
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Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

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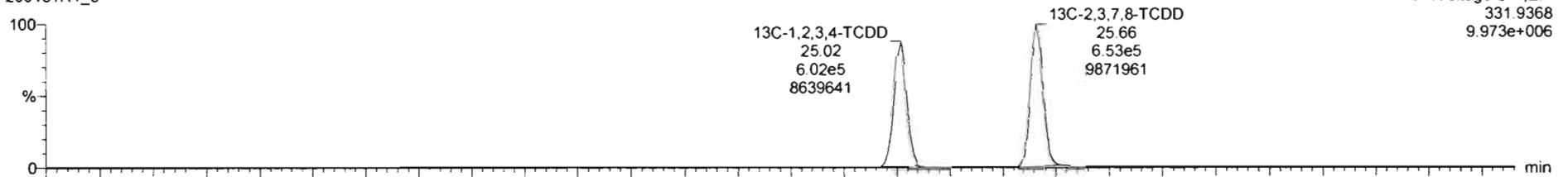
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200131R1\_8

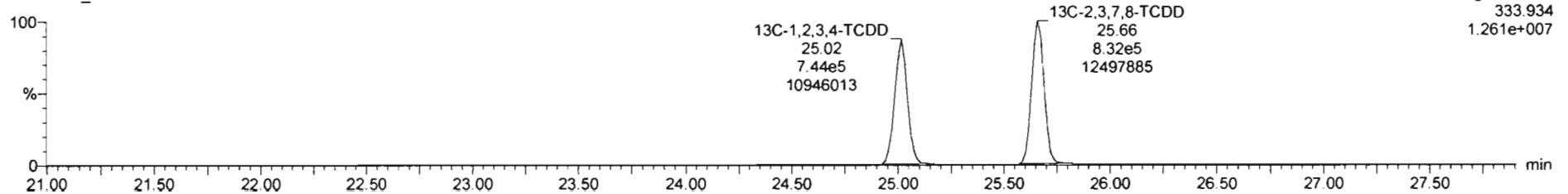


**13C-1,2,3,4-TCDD**

200131R1\_8



200131R1\_8



Dataset: Untitled

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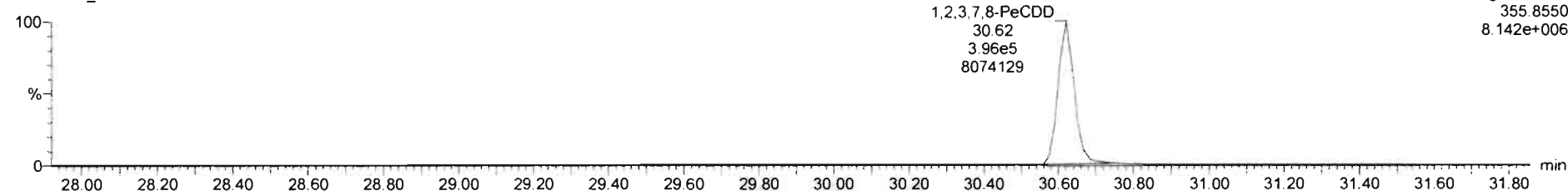
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**1,2,3,7,8-PeCDD**

200131R1\_8

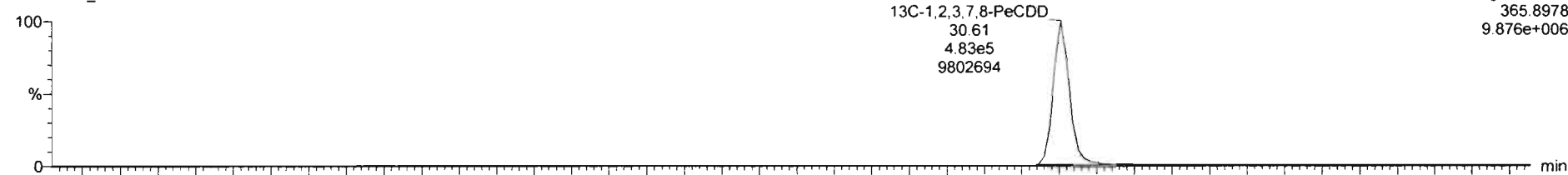


200131R1\_8

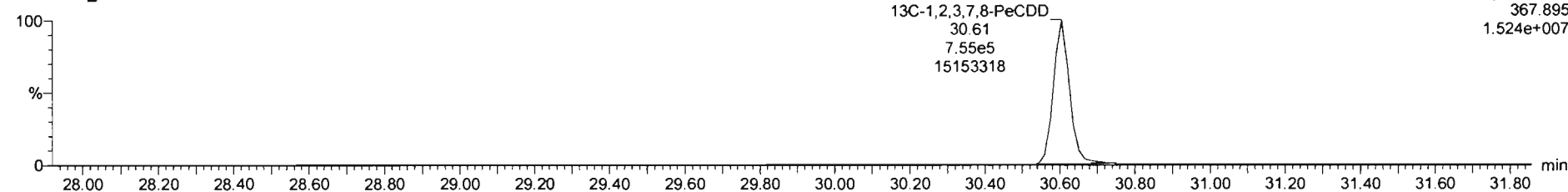


**13C-1,2,3,7,8-PeCDD**

200131R1\_8



200131R1\_8



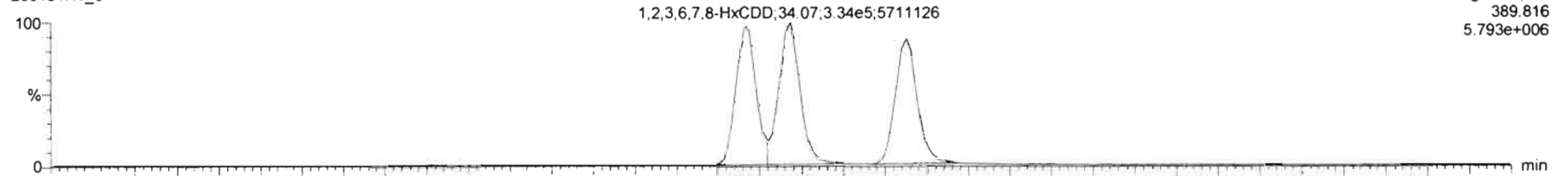
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Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

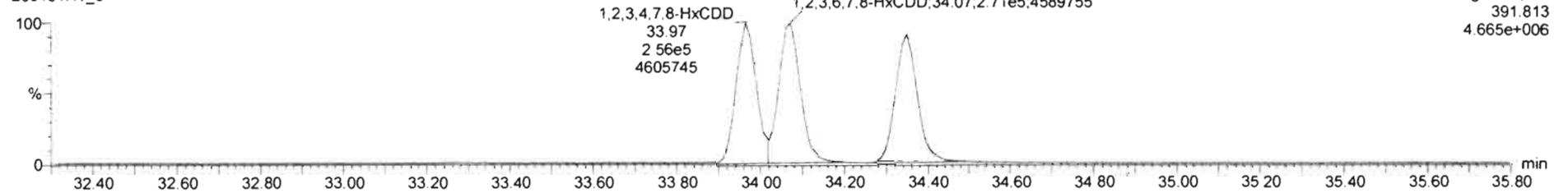
**1,2,3,4,7,8-HxCDD**

200131R1\_8



F3:Voltage SIR,EI+  
389.816  
5.793e+006

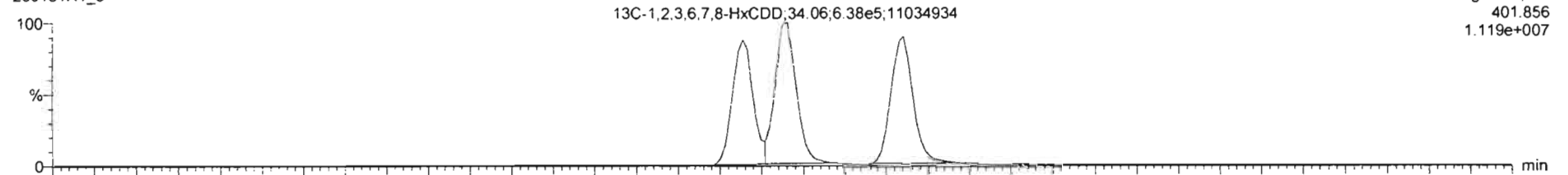
200131R1\_8



F3:Voltage SIR,EI+  
391.813  
4.665e+006

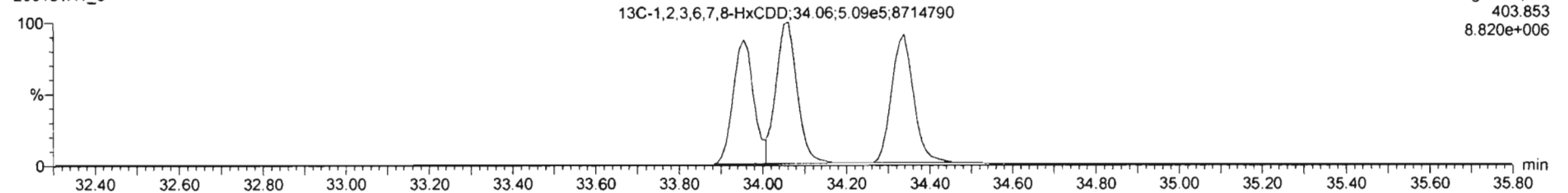
**13C-1,2,3,4,7,8-HxCDD**

200131R1\_8



F3:Voltage SIR,EI+  
401.856  
1.119e+007

200131R1\_8



F3:Voltage SIR,EI+  
403.853  
8.820e+006

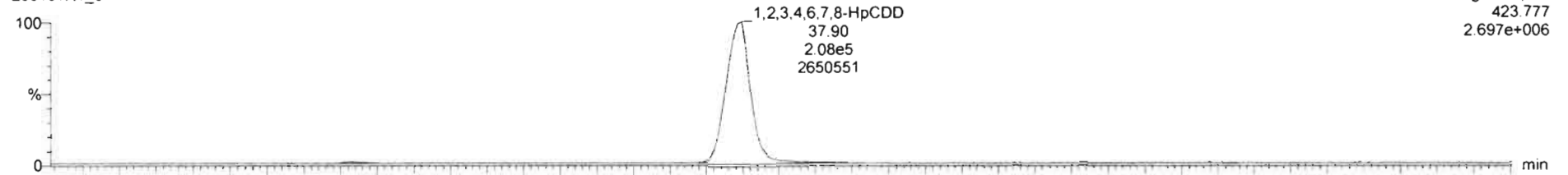
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Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

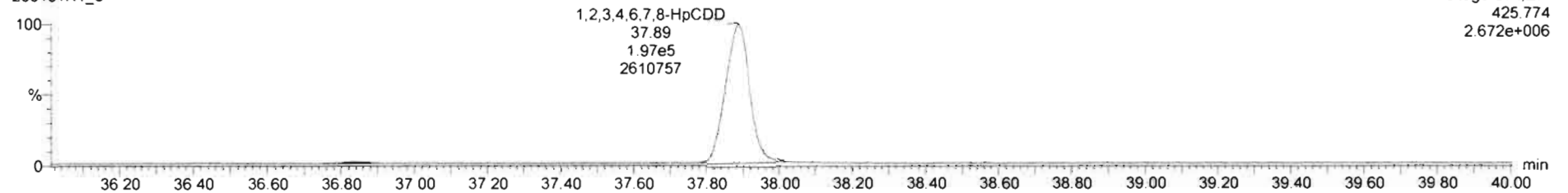
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**1,2,3,4,6,7,8-HpCDD**

200131R1\_8

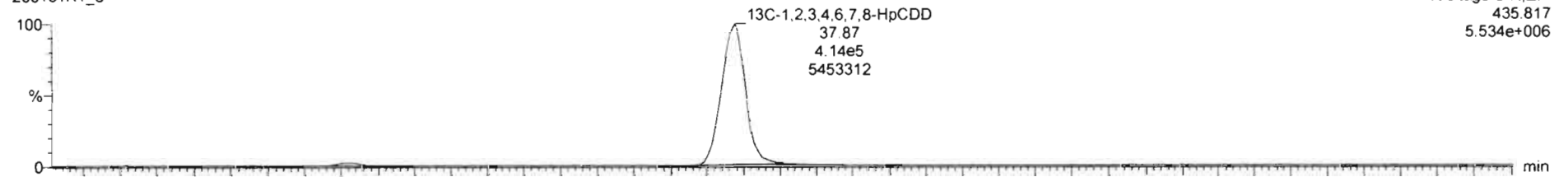


200131R1\_8

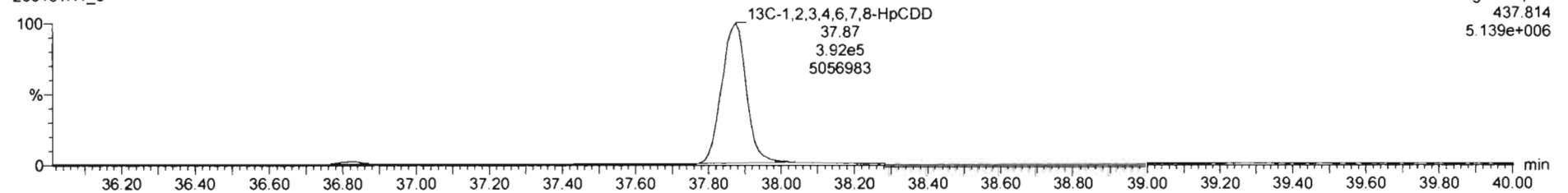


**<sup>13</sup>C-1,2,3,4,6,7,8-HpCDD**

200131R1\_8



200131R1\_8

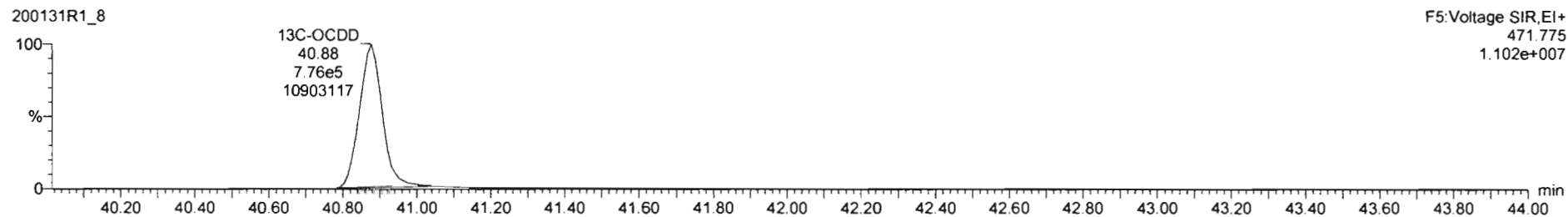
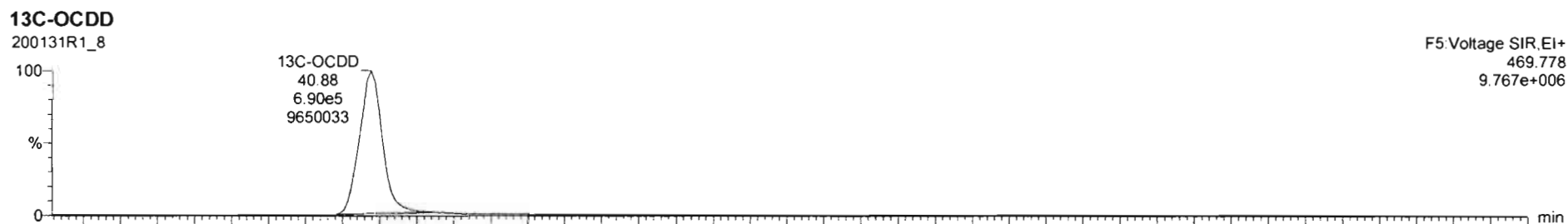
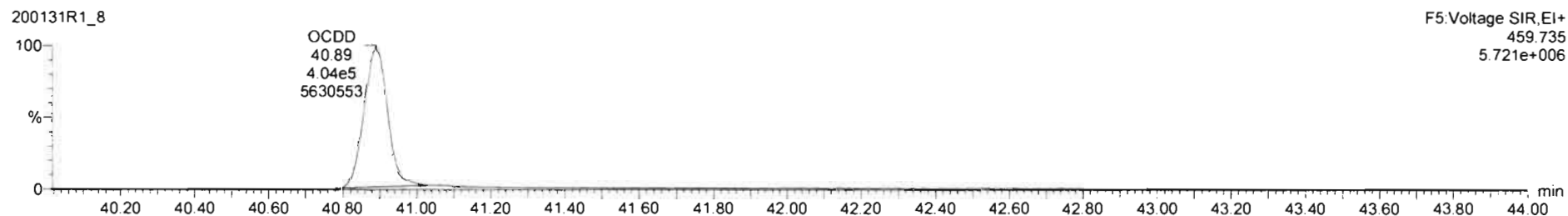
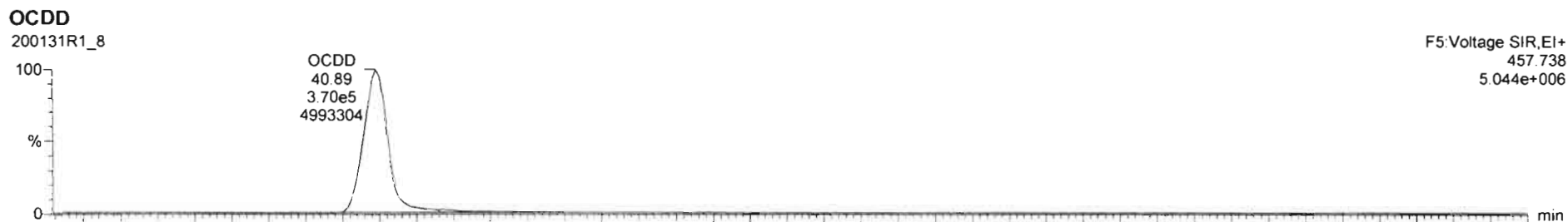


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Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308



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Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

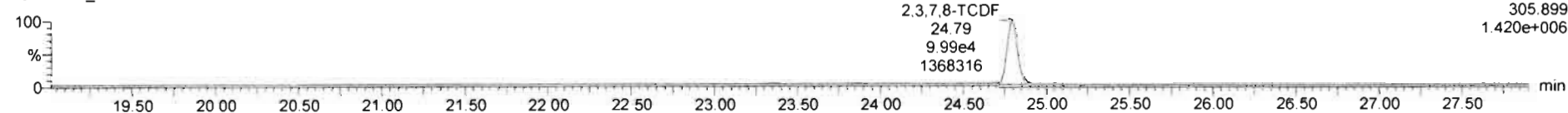
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**2,3,7,8-TCDF**

200131R1\_8

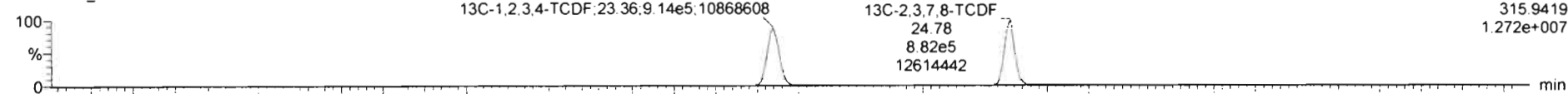


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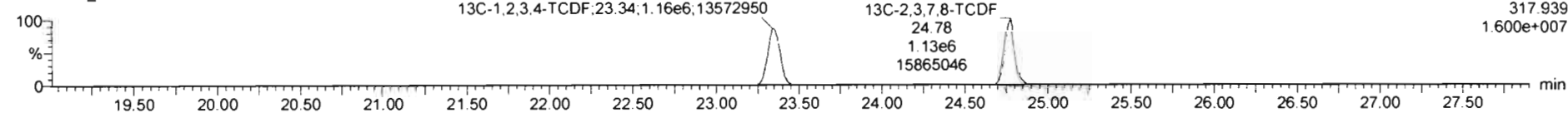


**13C-2,3,7,8-TCDF**

200131R1\_8

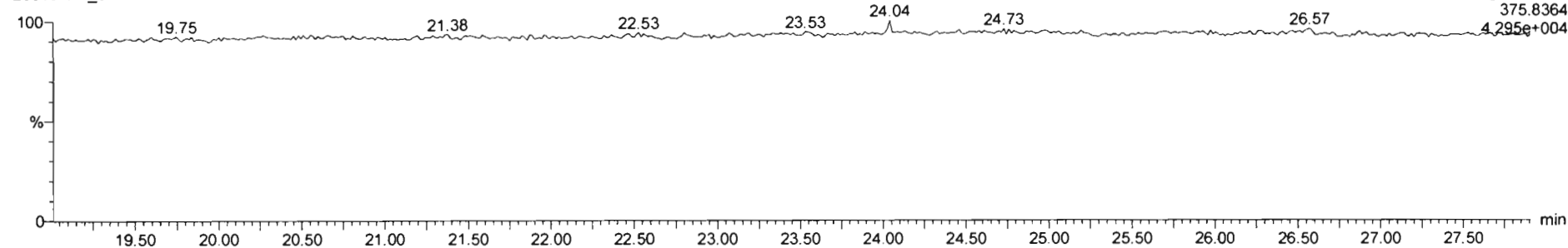


200131R1\_8



**DPE1**

200131R1\_8

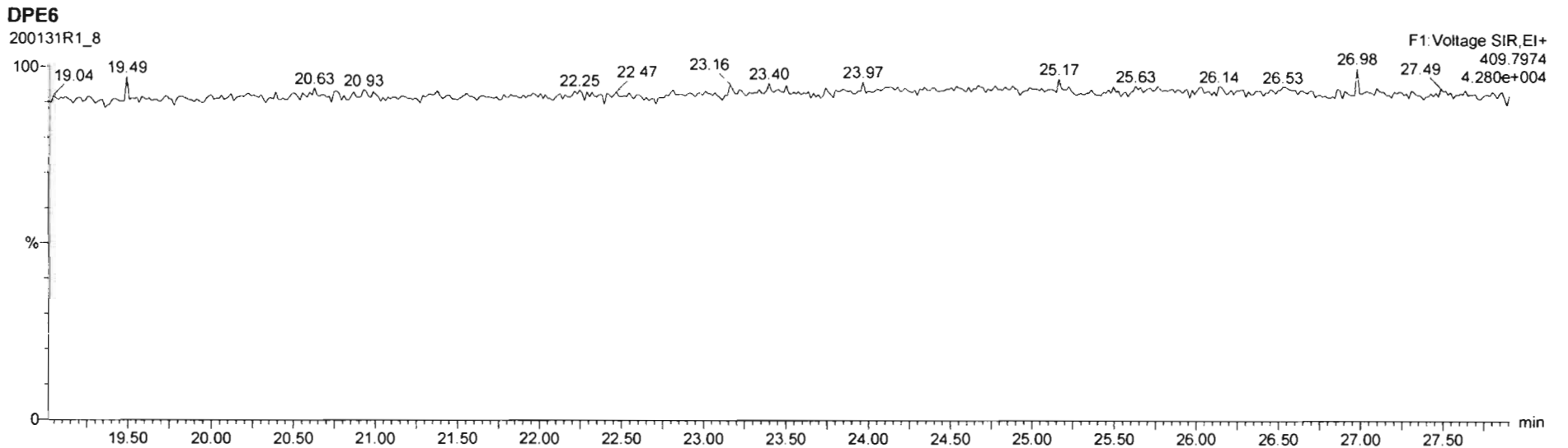
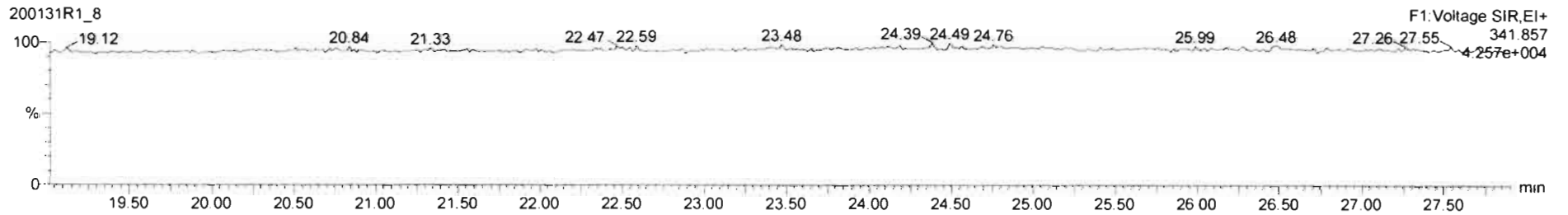
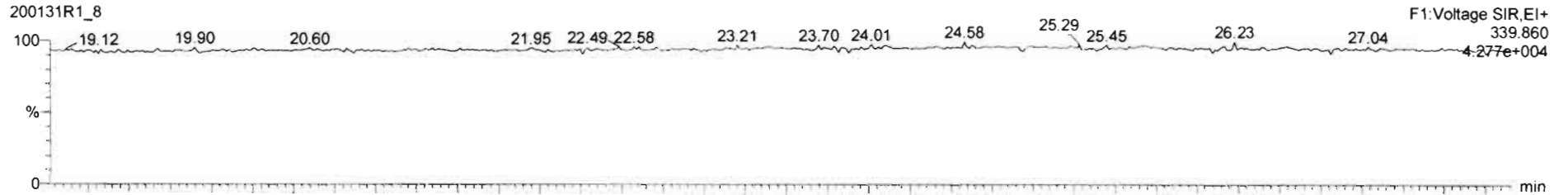


Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

1st Func. Penta-Furans



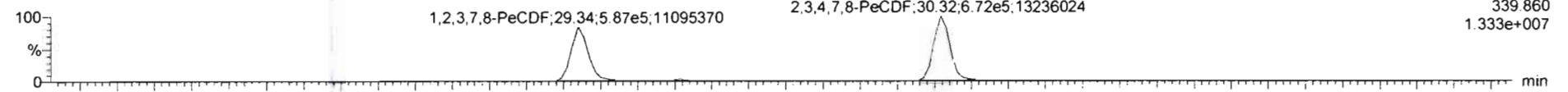
Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

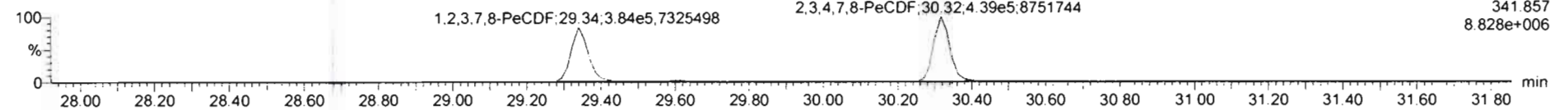
**1,2,3,7,8-PeCDF**

200131R1\_8



F2: Voltage SIR, EI+  
339.860  
1.333e+007

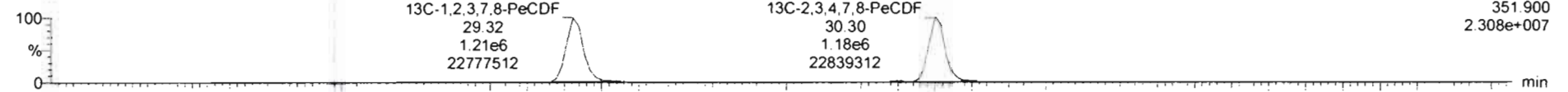
200131R1\_8



F2: Voltage SIR, EI+  
341.857  
8.828e+006

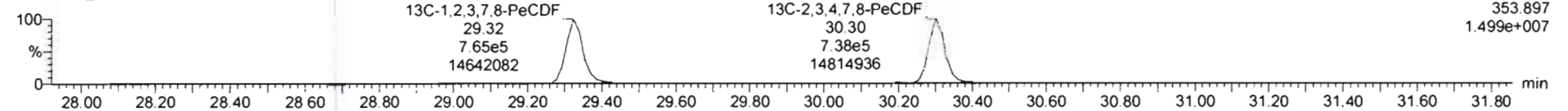
**13C-1,2,3,7,8-PeCDF**

200131R1\_8



F2: Voltage SIR, EI+  
351.900  
2.308e+007

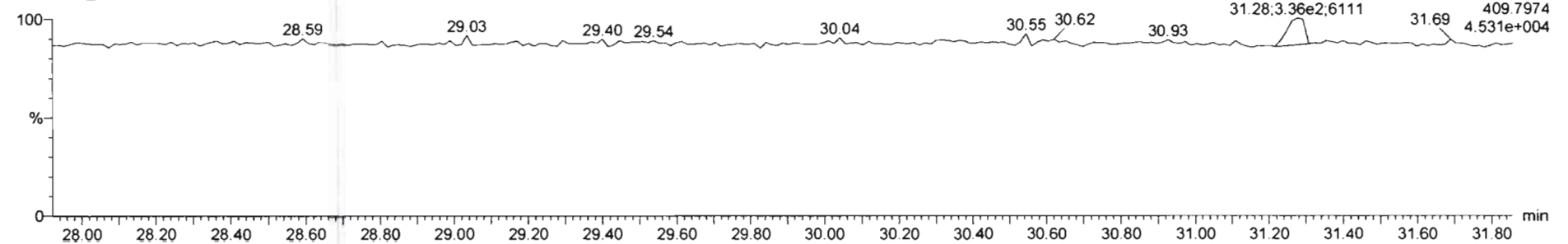
200131R1\_8



F2: Voltage SIR, EI+  
353.897  
1.499e+007

**DPE2**

200131R1\_8



F2: Voltage SIR, EI+  
409.7974  
4.531e+004



Dataset: Untitled

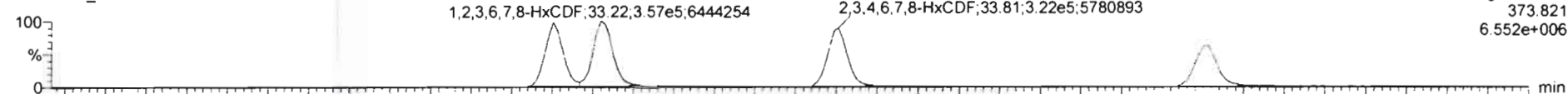
Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

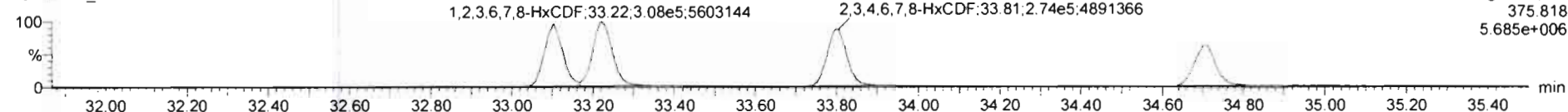
Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

**1,2,3,4,7,8-HxCDF**

200131R1\_8

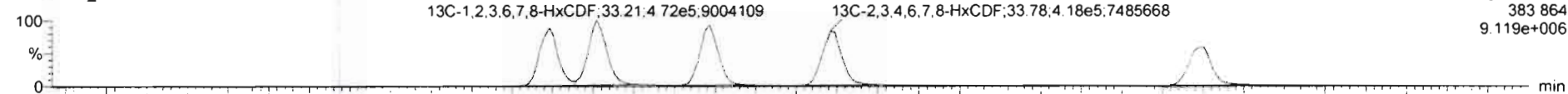


200131R1\_8

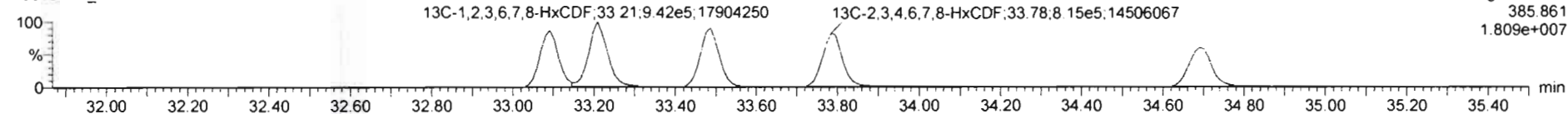


**13C-1,2,3,4,7,8-HxCDF**

200131R1\_8

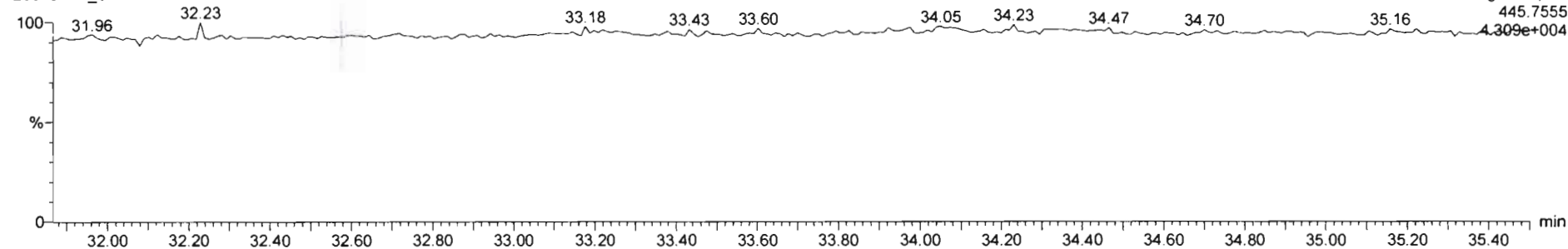


200131R1\_8



**DPE3**

200131R1\_8



Dataset: Untitled

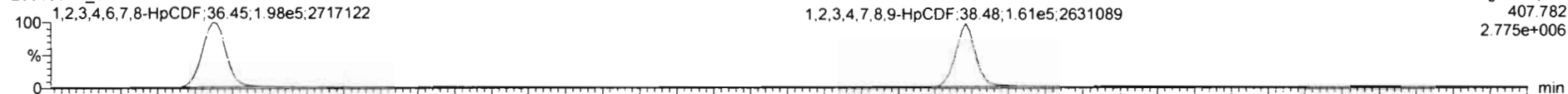
Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

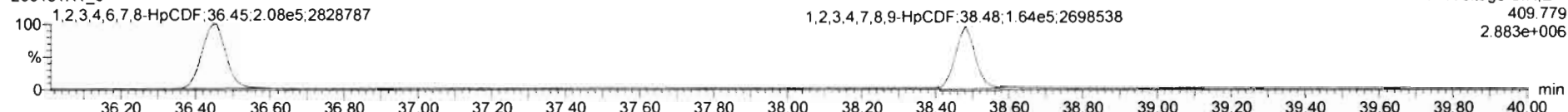
Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

**1,2,3,4,6,7,8-HpCDF**

200131R1\_8

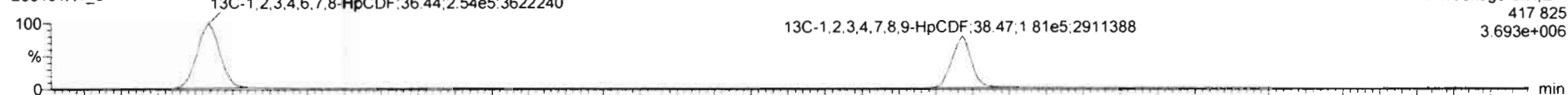


200131R1\_8

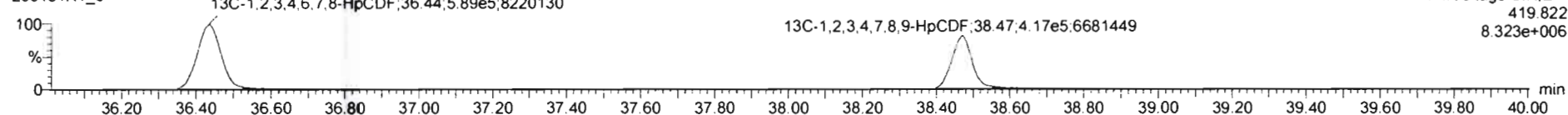


**13C-1,2,3,4,6,7,8-HpCDF**

200131R1\_8

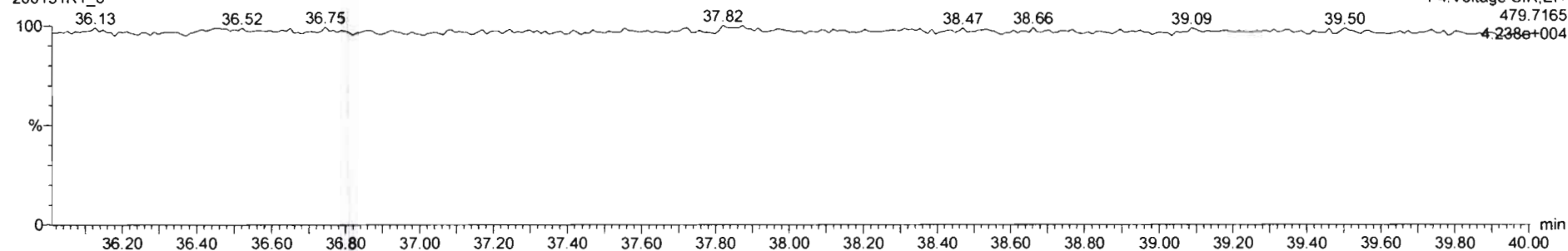


200131R1\_8



**DPE4**

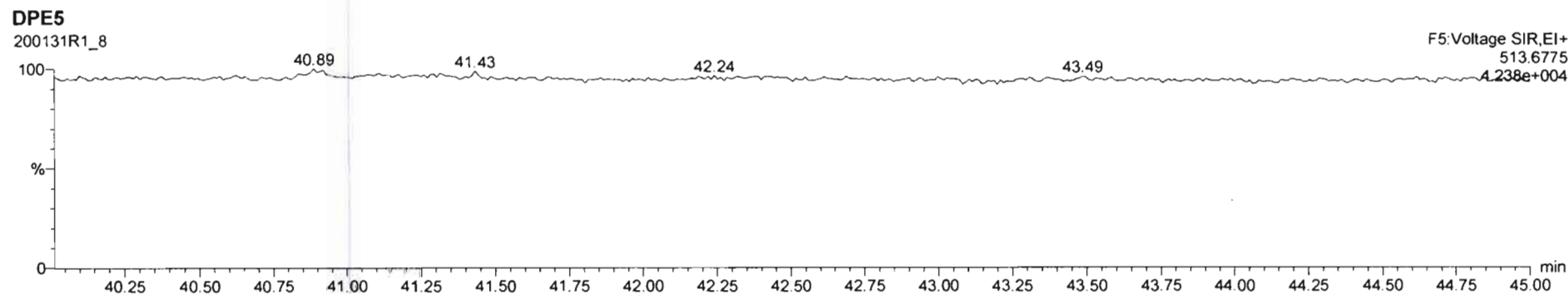
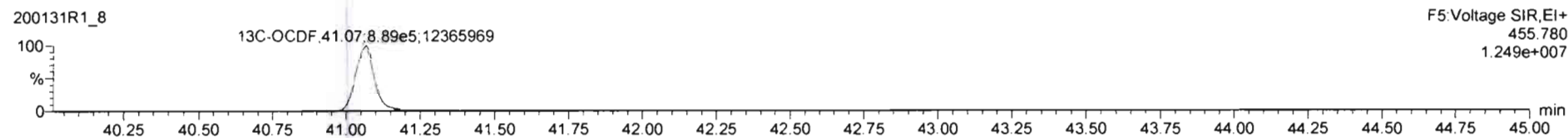
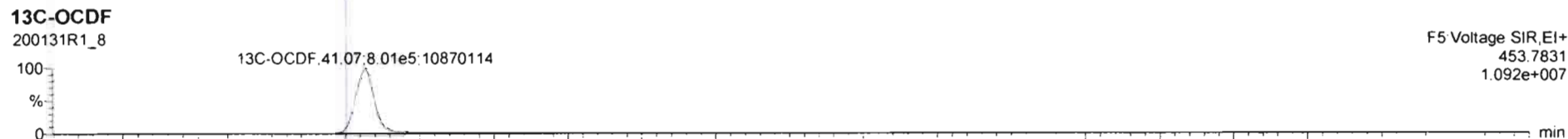
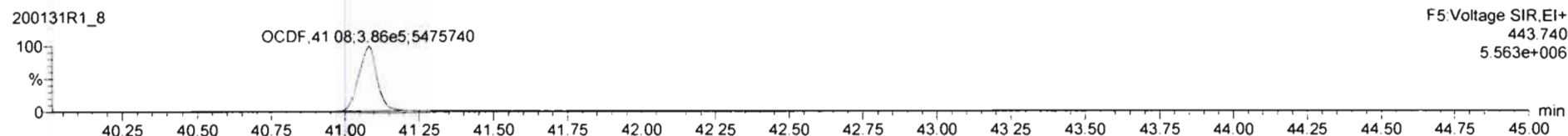
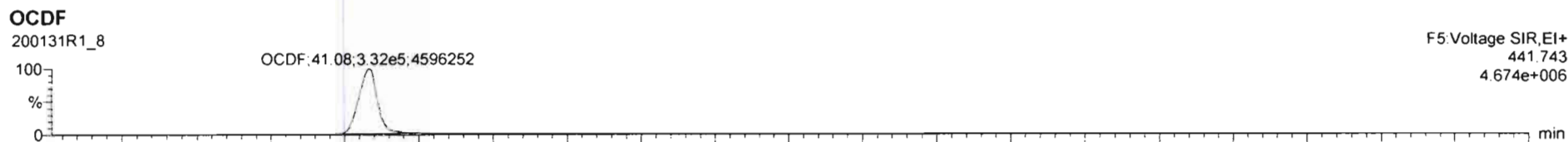
200131R1\_8



Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time  
Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

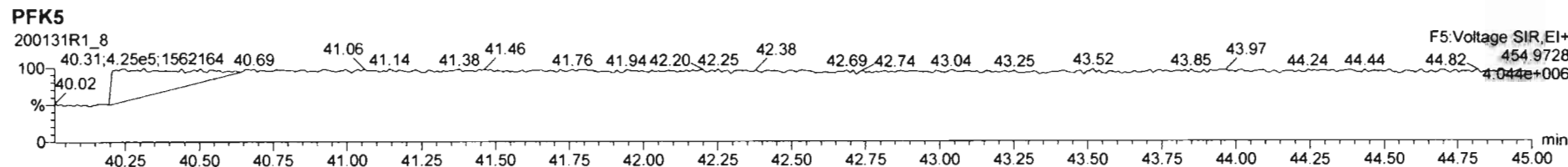
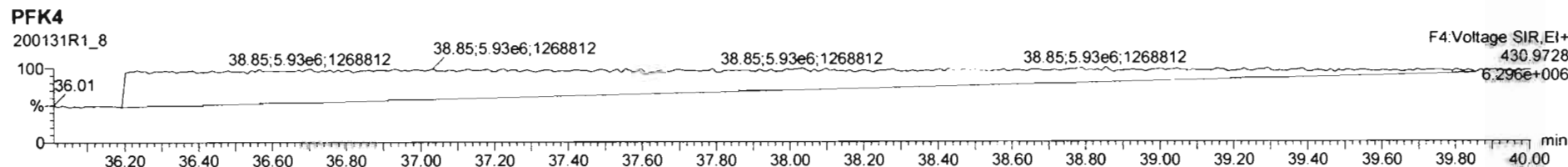
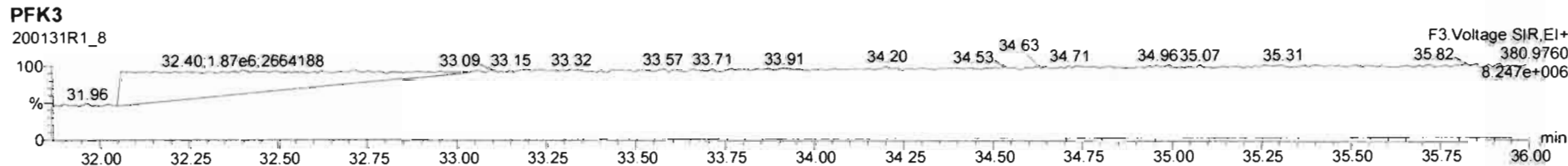
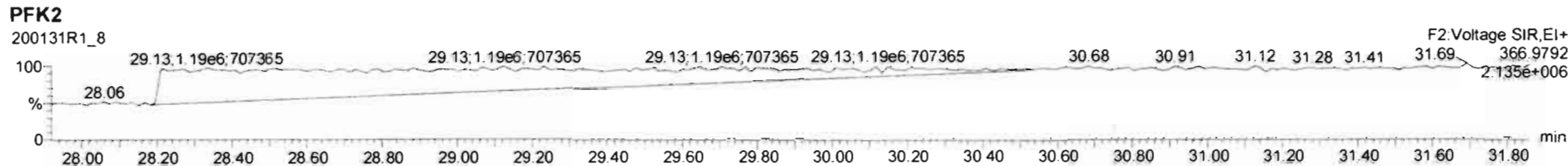
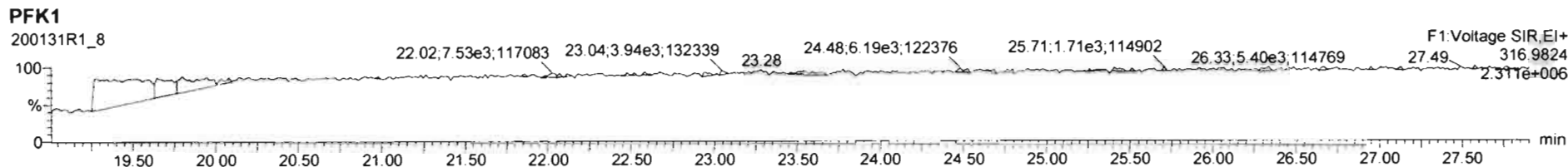


Dataset: Untitled

Last Altered: Sunday, February 02, 2020 11:21:34 AM Pacific Standard Time

Printed: Sunday, February 02, 2020 11:23:53 AM Pacific Standard Time

Name: 200131R1\_8, Date: 31-Jan-2020, Time: 22:18:30, ID: SS200131R1\_1 1613 SSS 19L2308, Description: 1613 SSS 19L2308



Dataset: U:\VG11.PRO\Results\200130K1\200130K1-CRV.qld

Last Altered: Friday, January 31, 2020 07:22:32 Pacific Standard Time  
 Printed: Friday, January 31, 2020 07:33:20 Pacific Standard Time

*HC 1-31-2020 CT 01/31/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 06 May 2019 14:09:24  
 Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-30-20.cdb 31 Jan 2020 07:22:32

Compound name: 2,3,7,8-TCDF  
 Response Factor: 1.00044  
 RRF SD: 0.0660431, Relative SD: 6.60142  
 Response type: Internal Std ( Ref 2 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
200130K1_2	0.250	0.75	NO	16.38	1.001	6.78e3	2.41e6	0.281	12.4	1.12	MM
200130K1_3	0.500	0.84	NO	16.39	1.001	1.43e4	2.95e6	0.485	-3.0	0.971	MM
200130K1_4	2.00	0.75	NO	16.38	1.001	5.51e4	2.68e6	2.05	2.6	1.03	bb
200130K1_5	10.0	0.77	NO	16.38	1.001	2.83e5	2.97e6	9.53	-4.7	0.953	bb
200130K1_6	40.0	0.78	NO	16.38	1.001	8.24e5	2.15e6	38.4	-4.0	0.961	bb
200130K1_7	300	0.78	NO	16.37	1.001	5.17e6	1.78e6	290	-3.4	0.967	bb

Compound name: 13C-2,3,7,8-TCDF  
 Response Factor: 1.0704  
 RRF SD: 0.0793967, Relative SD: 7.41747  
 Response type: Internal Std ( Ref 3 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
200130K1_2	100	0.79	NO	16.37	1.132	2.41e6	2.02e6	111	11.5	1.19	bb
200130K1_3	100	0.79	NO	16.38	1.132	2.95e6	2.90e6	94.9	-5.1	1.02	bb
200130K1_4	100	0.80	NO	16.35	1.131	2.68e6	2.75e6	91.2	-8.8	0.976	bb
200130K1_5	100	0.79	NO	16.35	1.131	2.97e6	2.73e6	102	1.6	1.09	bb
200130K1_6	100	0.78	NO	16.35	1.131	2.15e6	1.91e6	105	4.7	1.12	bb
200130K1_7	100	0.78	NO	16.35	1.132	1.78e6	1.73e6	96.1	-3.9	1.03	bb

Dataset: U:\VG11.PRO\Results\200130K1\200130K1-CRV.qld

Last Altered: Friday, January 31, 2020 07:22:32 Pacific Standard Time  
 Printed: Friday, January 31, 2020 07:33:20 Pacific Standard Time

**Compound name: 13C-1,2,3,4-TCDF**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 3 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200130K1_2	100	0.79	NO	14.46	1.000	2.02e6	2.02e6	100	0.0	1.00	bb
2	200130K1_3	100	0.79	NO	14.47	1.000	2.90e6	2.90e6	100	0.0	1.00	bb
3	200130K1_4	100	0.79	NO	14.46	1.000	2.75e6	2.75e6	100	0.0	1.00	bb
4	200130K1_5	100	0.80	NO	14.46	1.000	2.73e6	2.73e6	100	0.0	1.00	bb
5	200130K1_6	100	0.79	NO	14.46	1.000	1.91e6	1.91e6	100	0.0	1.00	bb
6	200130K1_7	100	0.80	NO	14.45	1.000	1.73e6	1.73e6	100	0.0	1.00	bb

**Compound name: 13C-1,2,3,4-TCDD**

No Calibration

Response type: External Std, Area

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200130K1_2	0.000	0.80	NO	15.11	0.000	1.41e6				0.000	db
2	200130K1_3	0.000	0.85	NO	15.13	0.000	2.05e6				0.000	db
3	200130K1_4	0.000	0.76	NO	15.11	0.000	1.85e6				0.000	db
4	200130K1_5	0.000	0.80	NO	15.11	0.000	1.88e6				0.000	db
5	200130K1_6	0.000	0.81	NO	15.11	0.000	1.30e6				0.000	dd
6	200130K1_7	0.000	0.80	NO	15.11	0.000	1.22e6				0.000	db

Dataset: Untitled

Last Altered: Friday, January 31, 2020 9:39:56 AM Pacific Standard Time  
Printed: Friday, January 31, 2020 9:40:16 AM Pacific Standard Time

Method: U:\VG11.PRO\MethDB\cdf.mdb 31 Jan 2020 07:42:36  
Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-30-20.cdb 31 Jan 2020 07:22:32

Compound name: 2,3,7,8-TCDF

	Name	ID	Acq.Date	Acq.Time
1	200130K1_1	CP200130K1-1 225 CPSM	30-Jan-20	17:33:37
2	200130K1_2	ST200130K1-1 1613 CS0 19L2302	30-Jan-20	18:05:16
3	200130K1_3	ST200130K1-2 1613 CS1 19L2303	30-Jan-20	18:41:12
4	200130K1_4	ST200130K1-3 1613 CS2 19L2304	30-Jan-20	19:11:58
5	200130K1_5	ST200130K1-4 1613 CS3 19L2305	30-Jan-20	19:43:17
6	200130K1_6	ST200130K1-5 1613 CS4 19L2306	30-Jan-20	20:14:31
7	200130K1_7	ST200130K1-6 1613 CS5 19L2307	30-Jan-20	20:45:48
8	200130K1_8	SOLVENT BLANK	30-Jan-20	21:17:05
9	200130K1_9	SS200130K1-1 1613 SSS 19L2308	30-Jan-20	21:48:22
10	200130K1_10	SOLVENT BLANK	30-Jan-20	22:20:43
11	200130K1_11	1904009-10RE3 PX-S23-SS48-0001 19.35	30-Jan-20	22:51:01
12	200130K1_12	1903973-08RE2 NEP C_20191101 12.52	30-Jan-20	23:23:16
13	200130K1_13	1903973-10RE2 SR B_20191101 12.35	30-Jan-20	23:53:32
14	200130K1_14	B0A0018-DUP1 Duplicate 17.02	31-Jan-20	00:24:48
15	200130K1_15	1903650-03RE1 PDI-066SC-B-04-06-191011 ...	31-Jan-20	00:56:04
16	200130K1_16	1903650-05RE1 PDI-088SC-B-00-02-191011 ...	31-Jan-20	01:28:40
17	200130K1_17	1903650-06RE1 PDI-088SC-B-02-04-191011 ...	31-Jan-20	02:00:12
18	200130K1_18	1903650-07RE1 PDI-088SC-B-04-06-191011 ...	31-Jan-20	02:31:25
19	200130K1_19	1903650-08RE1 PDI-088SC-B-06-08-191011 ...	31-Jan-20	03:01:48
20	200130K1_20	1903650-09RE1 PDI-1088SC-B-04-06-191011...	31-Jan-20	03:33:07
21	200130K1_21	1903650-10RE1 PDI-092SC-B-00-02-191011 ...	31-Jan-20	04:04:26
22	200130K1_22	1903650-11RE1 PDI-092SC-B-02-04-191011 ...	31-Jan-20	04:35:45
23	200130K1_23	1903650-12RE1 PDI-092SC-B-04-06-191011 ...	31-Jan-20	05:07:04
24	200130K1_24	1903650-02RE1 PDI-066SC-B-02-04-191011 ...	31-Jan-20	05:38:22
25	200130K1_25	1903650-01RE1 PDI-066SC-B-00-02-191011 ...	31-Jan-20	06:11:05
26	200130K1_26	1904207-04RE2 PDI-076SC-A-05-06-191013 ...	31-Jan-20	06:42:36
27	200130K1_27	SOLVENT BLANK	31-Jan-20	07:15:42
28	200130K1_28	SOLVENT BLANK	31-Jan-20	07:46:00
29	200130K1_29	ST200130K1-7 1613 CS3 19L2305	31-Jan-20	08:17:16
30	200130K1_30	CP200130K1-2 225 CPSM	31-Jan-20	08:48:34

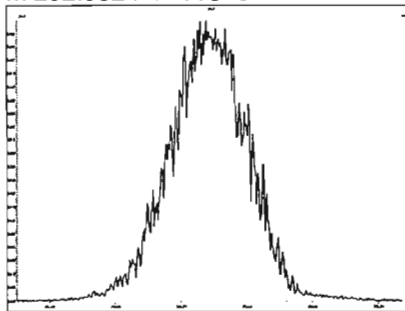
Experiment Calibration Report

MassLynx 4.1 SCN815

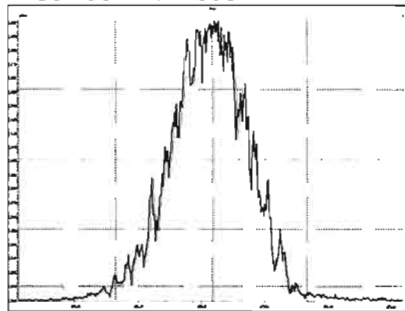
File: Experiment: tcdf\_db225.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Thursday, January 30, 2020 17:31:13 Pacific Standard Time

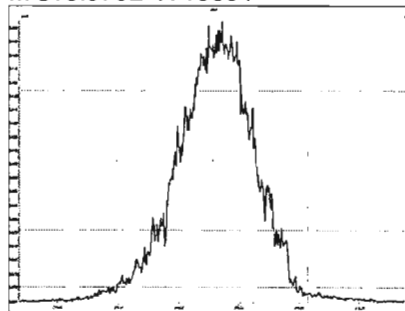
M 292.9824 R 11016



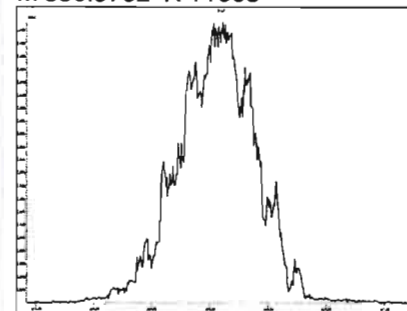
M 304.9824 R 10961



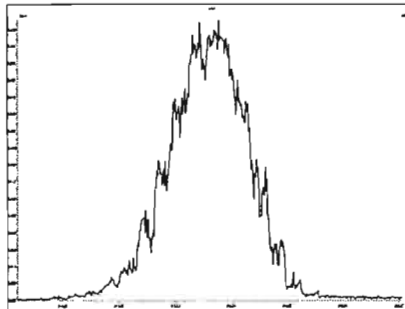
M 318.9792 R 10684



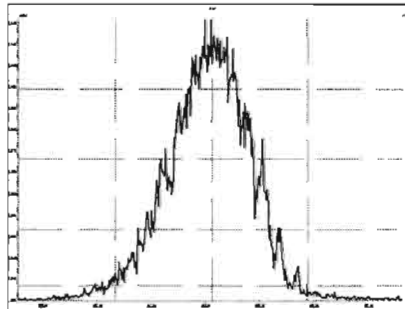
M 330.9792 R 11903



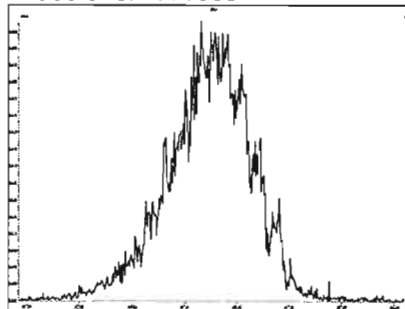
M 342.9792 R 11417



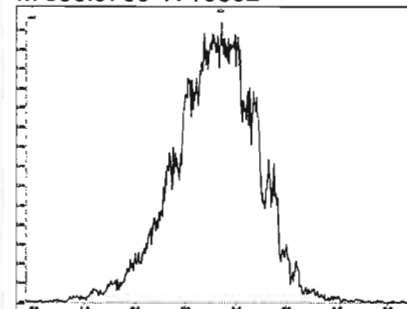
M 354.9792 R 10869



M 366.9792 R 10637



M 380.9760 R 10502

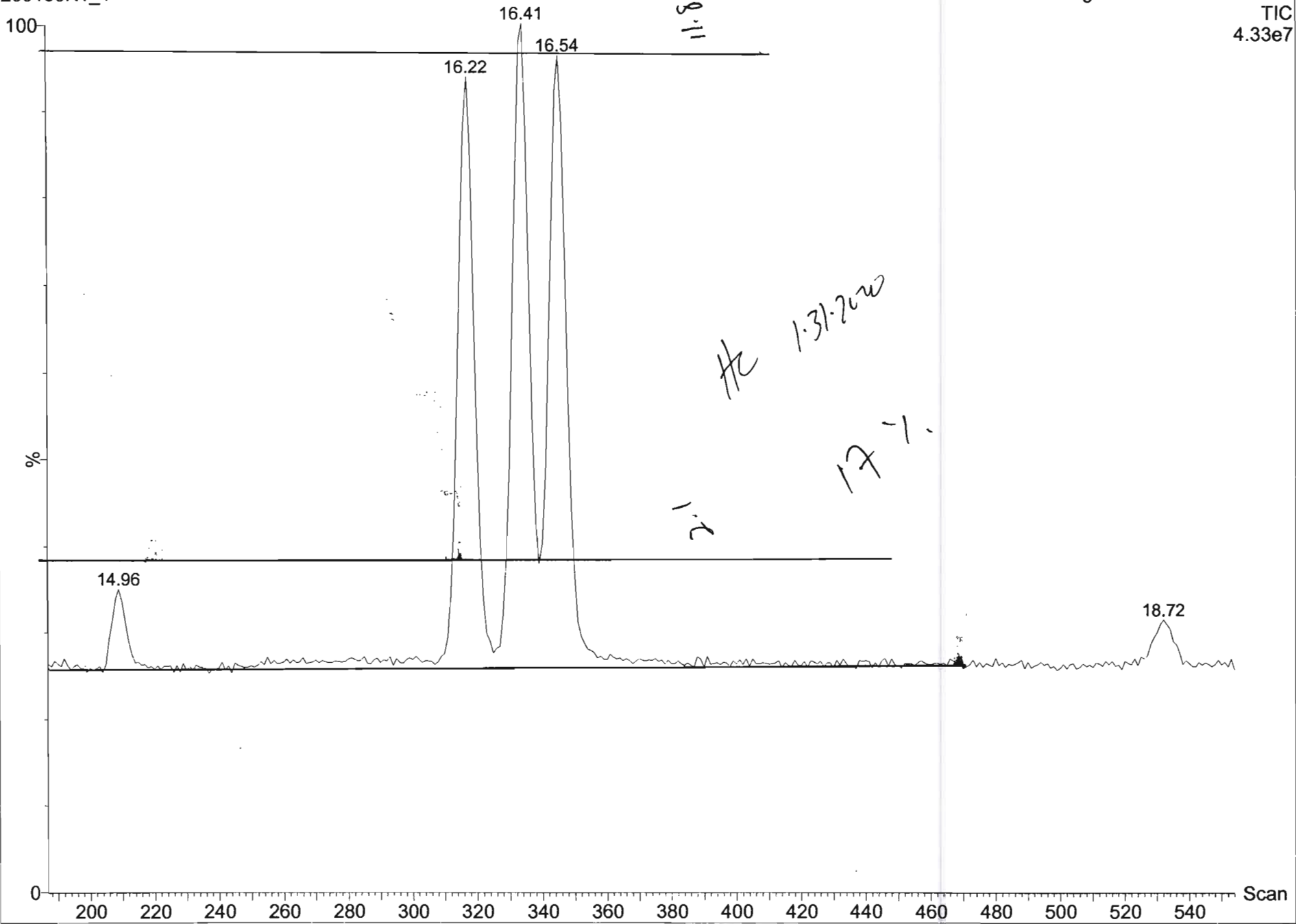




225 CPSM  
200130K1\_1

M658

30-Jan-2020 17:33:37  
Voltage SIR 12 Channels EI+  
TIC  
4.33e7



Dataset: Untitled

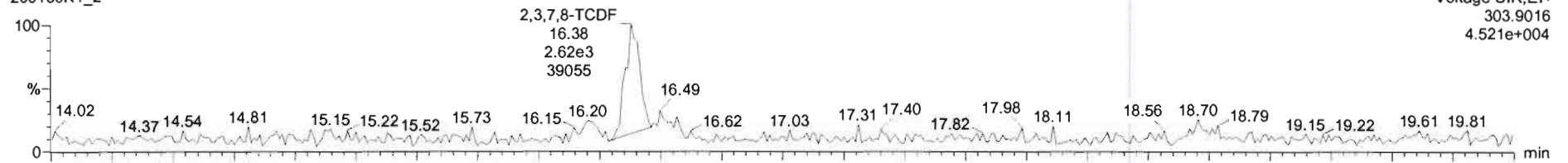
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time  
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\tcdf.mdb 06 May 2019 14:09:24  
Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-30-20.cdb 31 Jan 2020 07:22:32

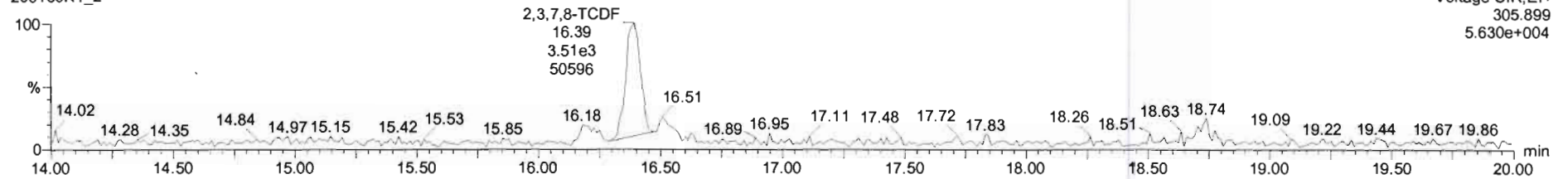
Name: 200130K1\_2, Date: 30-Jan-2020, Time: 18:05:16, ID: ST200130K1-1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

2,3,7,8-TCDF

200130K1\_2

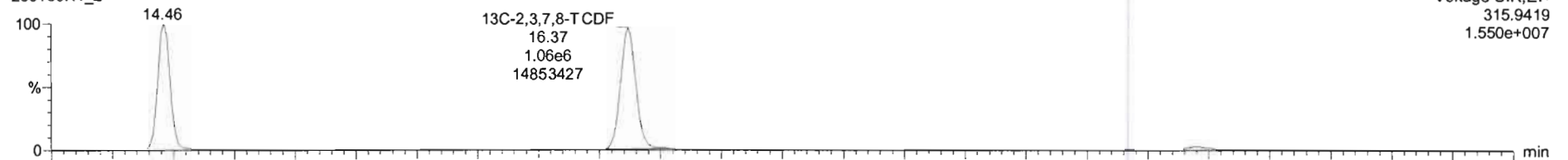


200130K1\_2

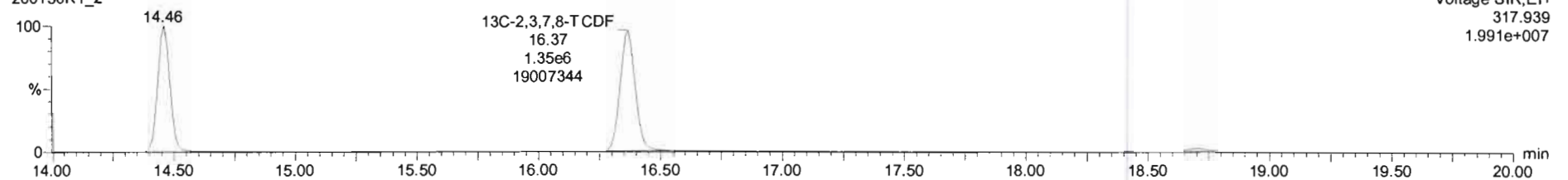


13C-2,3,7,8-TCDF

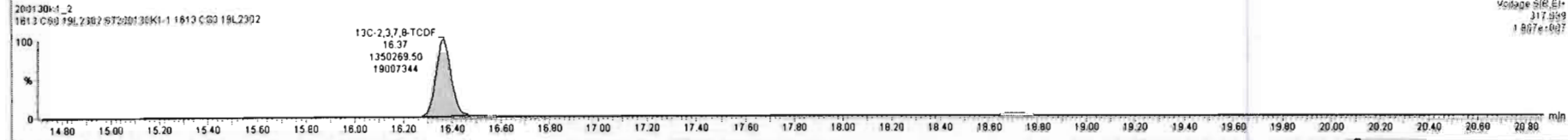
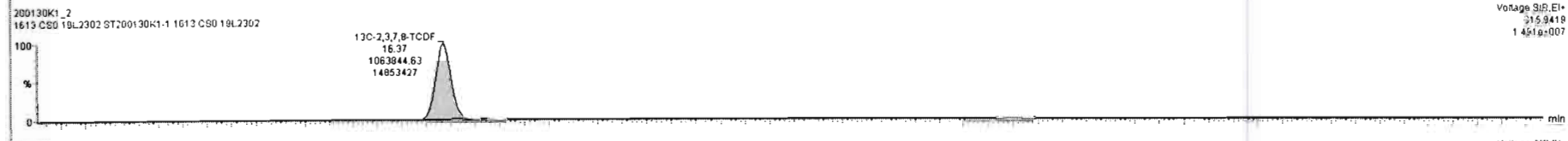
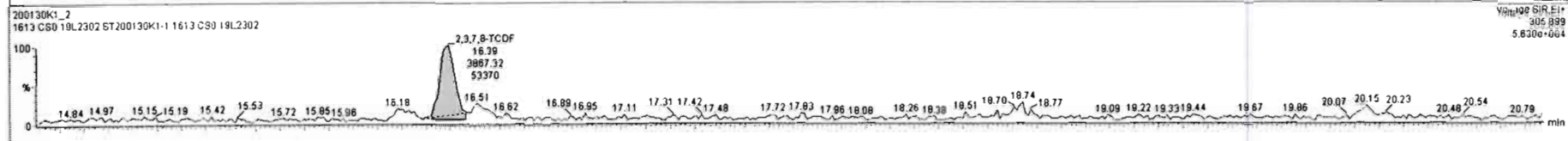
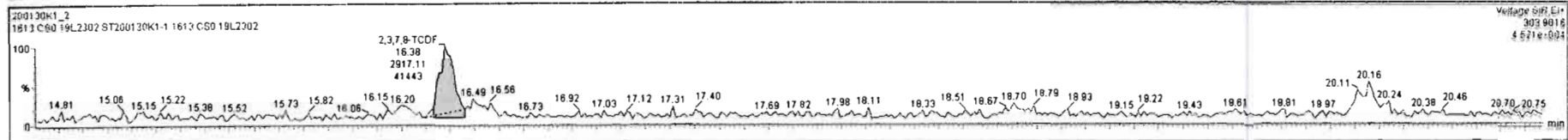
200130K1\_2



200130K1\_2



Name	Resp	RA	n/y	RRF	wtVol	RT	RRT	Conc.	%Rec	DL	EMPC
1 2,3,7,8-TCDF	6.78e3	0.75	NO	1.00	1.000	16.38	1.001	0.281	112	0.0535	0.281
2 13C-2,3,7,8-TCDF	2.41e6	0.79	NO	1.07	1.000	16.37	1.132	111	111	0.165	
3 13C-1,2,3,4-TCDF	2.02e6	0.79	NO	1.00	1.000	14.46	1.000	100	100	0.176	
4 13C-1,2,3,4-TCDD	1.41e6	0.80	NO		1.000	15.11	0.000				
5 PFK1					1.000						
6 OFE1					1.000						



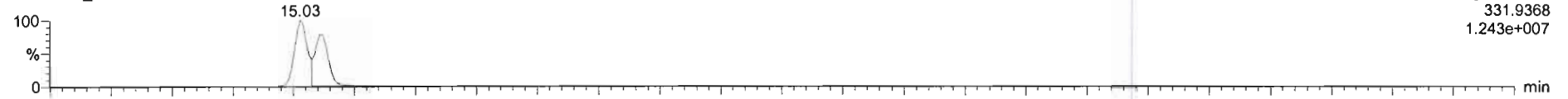
Dataset: Untitled

Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time  
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

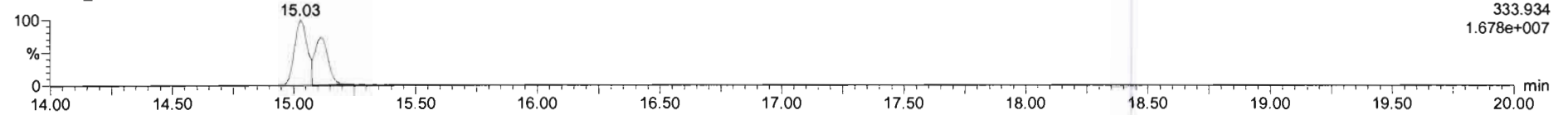
Name: 200130K1\_2, Date: 30-Jan-2020, Time: 18:05:16, ID: ST200130K1-1 1613 CS0 19L2302, Description: 1613 CS0 19L2302

**13C-1,2,3,4-TCDD**

200130K1\_2

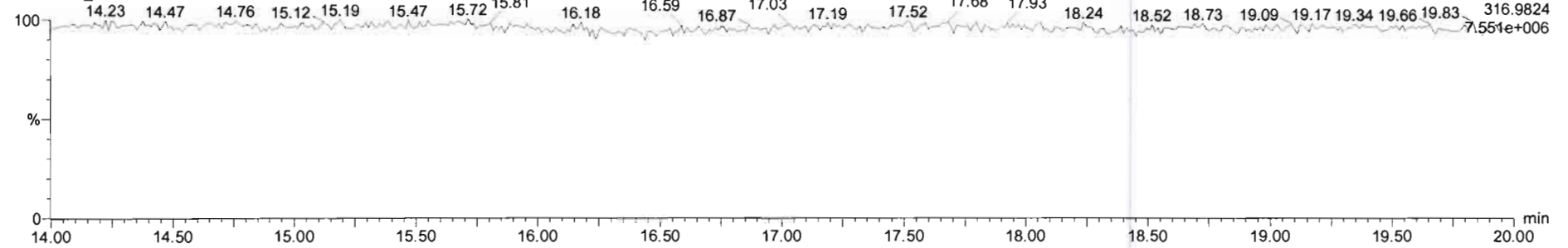


200130K1\_2



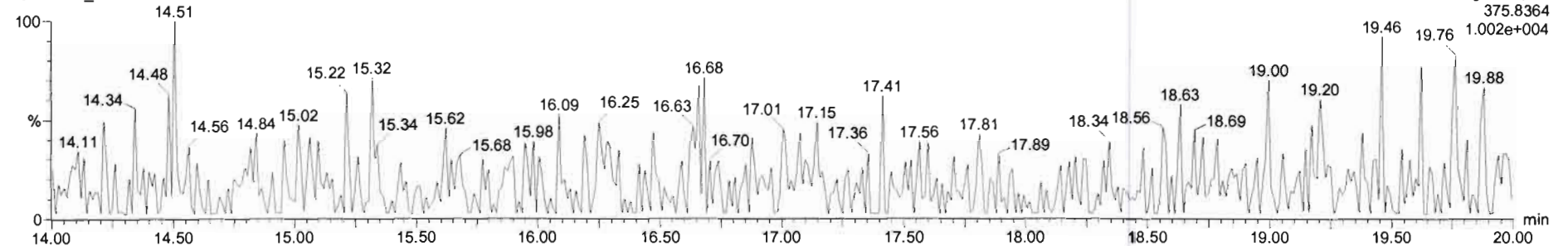
**PFK1**

200130K1\_2



**DPE1**

200130K1\_2



Dataset: Untitled

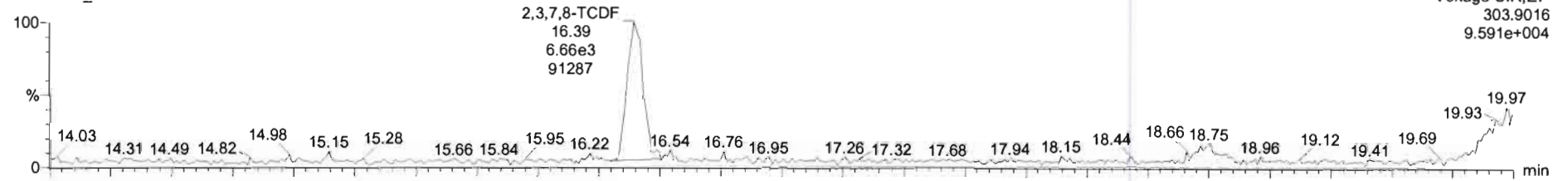
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Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

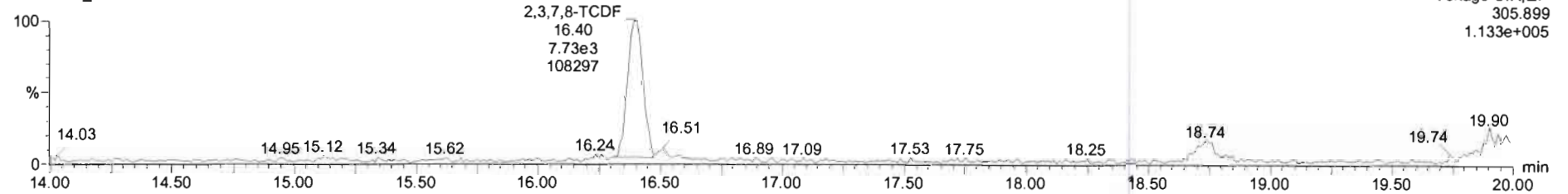
Name: 200130K1\_3, Date: 30-Jan-2020, Time: 18:41:12, ID: ST200130K1-2 1613 CS1 19L2303, Description: 1613 CS1 19L2303

**2,3,7,8-TCDF**

200130K1\_3

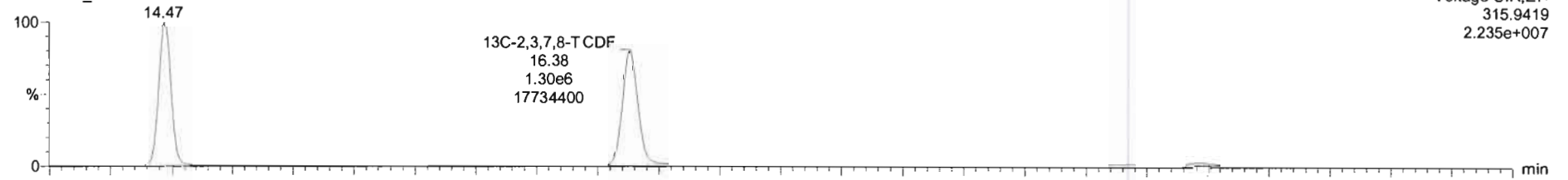


200130K1\_3

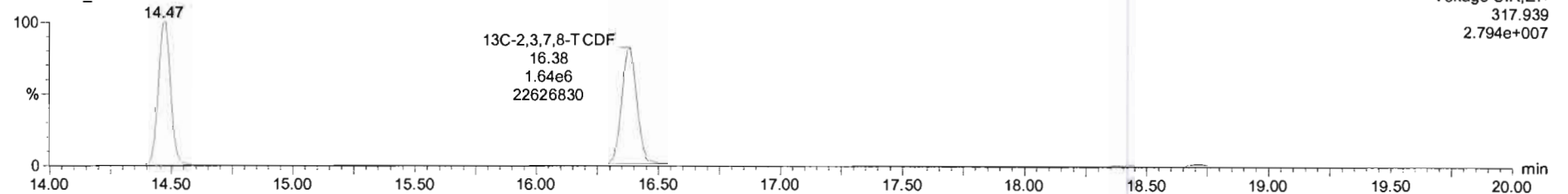


**13C-2,3,7,8-TCDF**

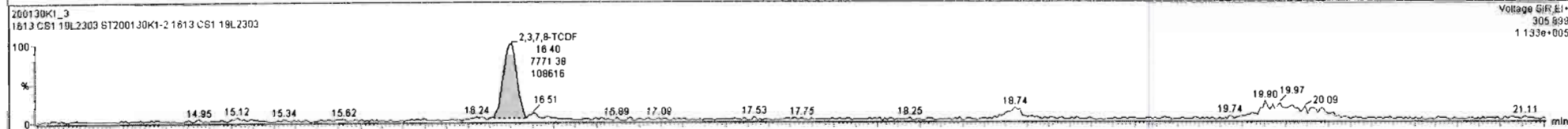
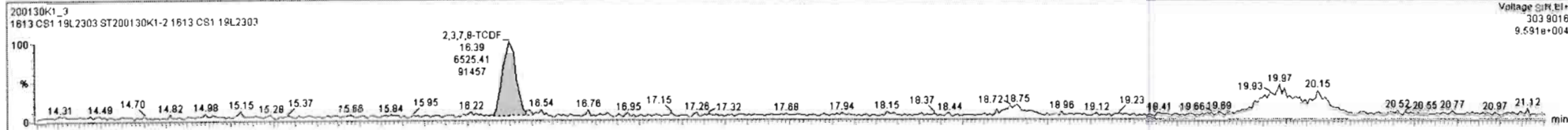
200130K1\_3



200130K1\_3



Name	Resp	RA	nly	RRF	wt/vol	RT	RRT	Conc.	%Rec	DL	EMPC
1 2,3,7,8-TCDF	1.43e4	0.84	NO	1.00	1.000	16.39	1.001	0.485	97.0	0.0476	0.485
2 13C-2,3,7,8-TCDF	2.95e6	0.79	NO	1.07	1.000	16.38	1.132	94.9	94.9	0.110	
3 13C-1,2,3,4-TCDF	2.90e6	0.79	NO	1.00	1.000	14.47	1.000	100	100	0.117	
4 13C-1,2,3,4-TCDD	2.05e6	0.85	NO		1.000	15.13	0.000				
5 PFK1					1.000						
6 DPE1					1.000						



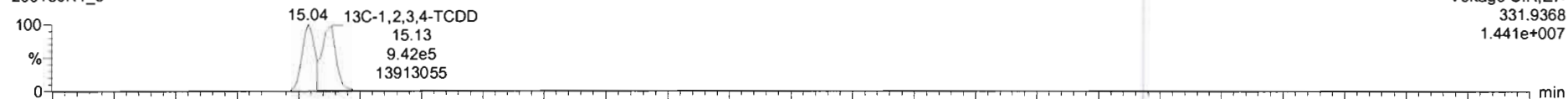
Dataset: Untitled

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Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

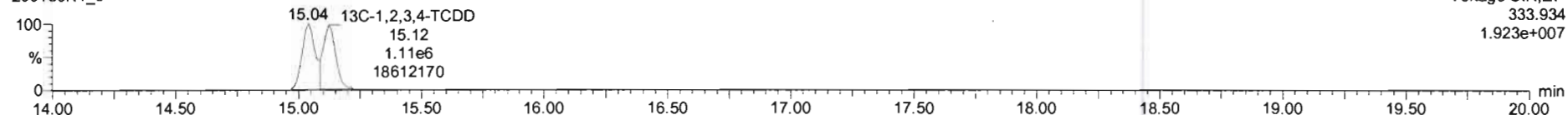
Name: 200130K1\_3, Date: 30-Jan-2020, Time: 18:41:12, ID: ST200130K1-2 1613 CS1 19L2303, Description: 1613 CS1 19L2303

13C-1,2,3,4-TCDD

200130K1\_3

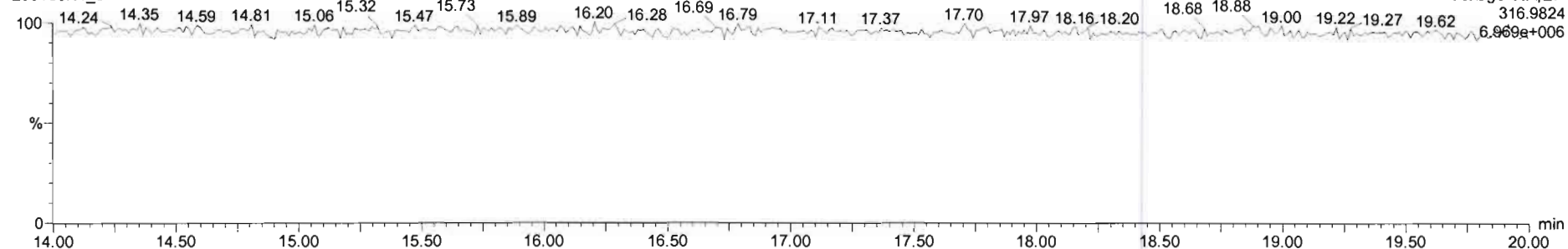


200130K1\_3



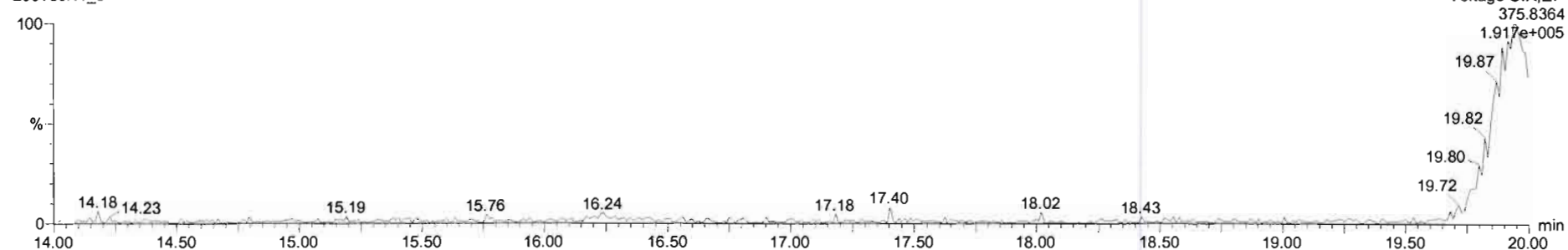
PFK1

200130K1\_3



DPE1

200130K1\_3



Dataset: Untitled

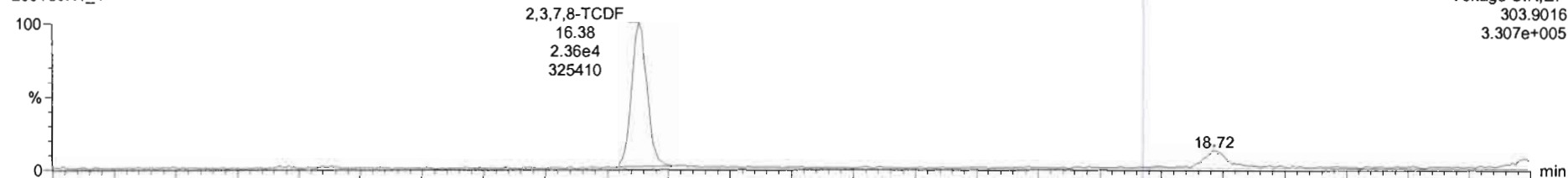
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Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

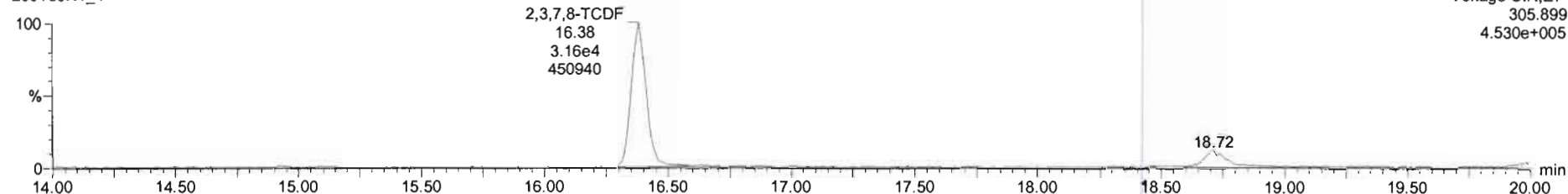
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**2,3,7,8-TCDF**

200130K1\_4

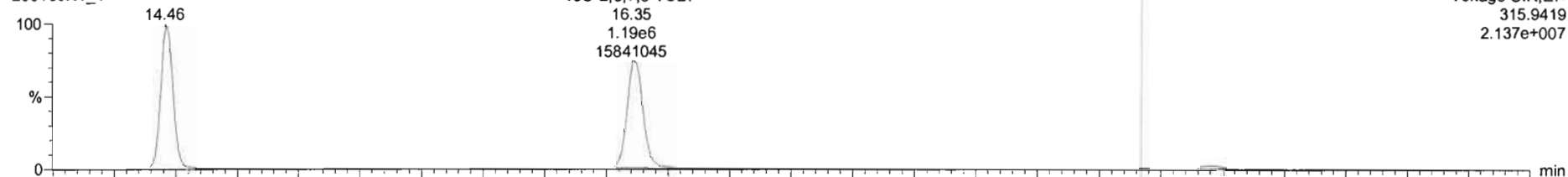


200130K1\_4

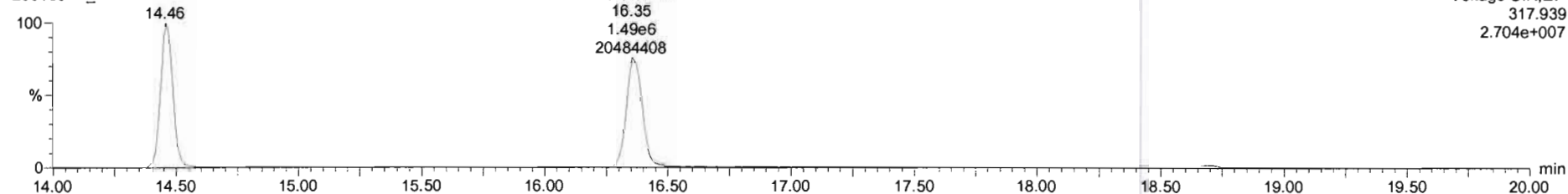


**13C-2,3,7,8-TCDF**

200130K1\_4



200130K1\_4





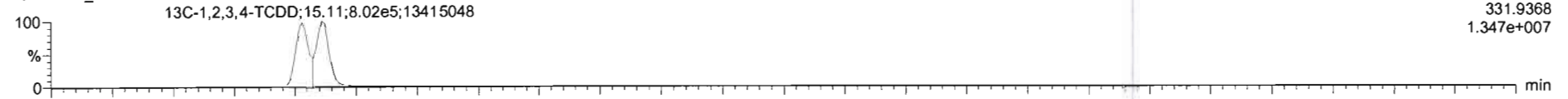
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Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

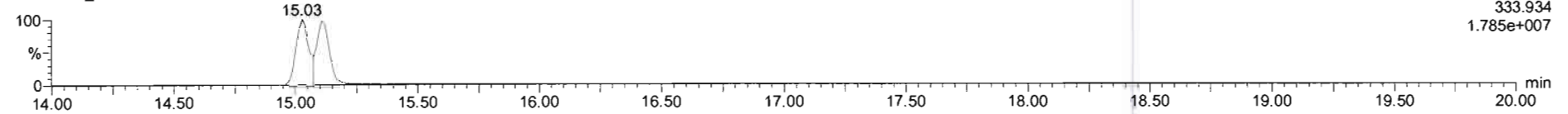
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**13C-1,2,3,4-TCDD**

200130K1\_4

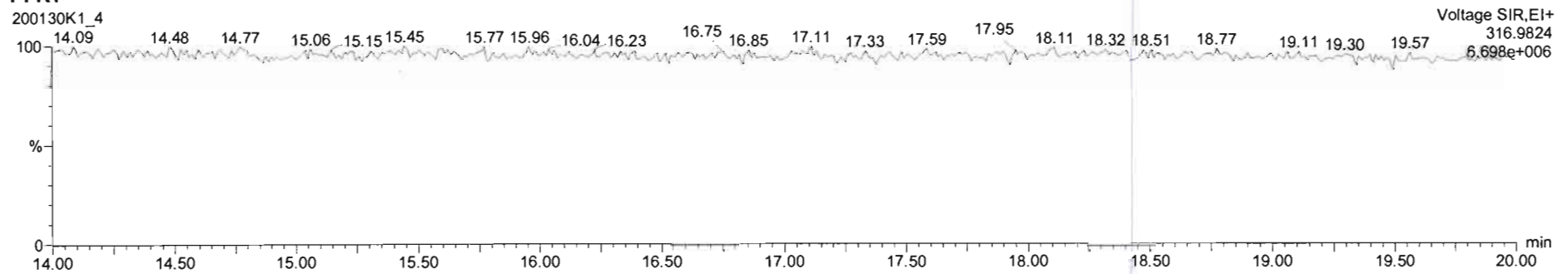


200130K1\_4



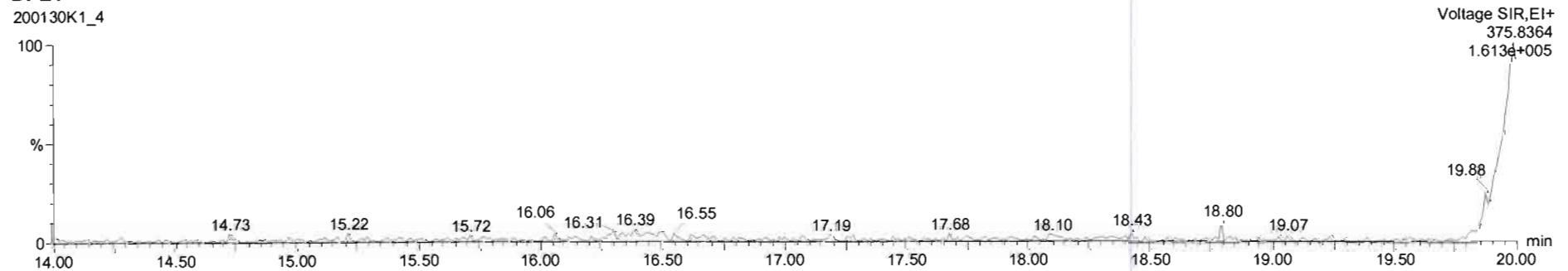
**PFK1**

200130K1\_4



**DPE1**

200130K1\_4



Dataset: Untitled

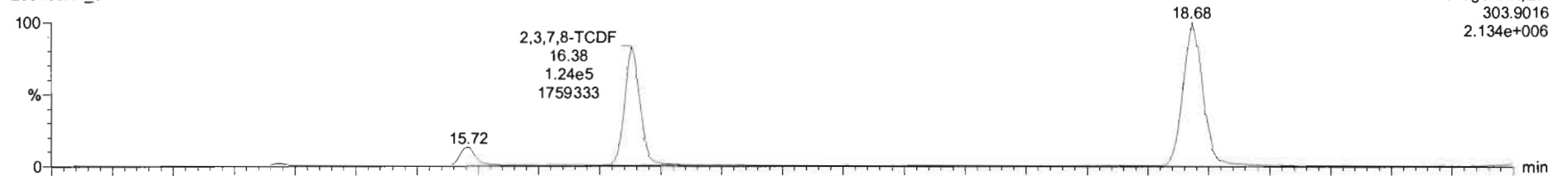
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Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

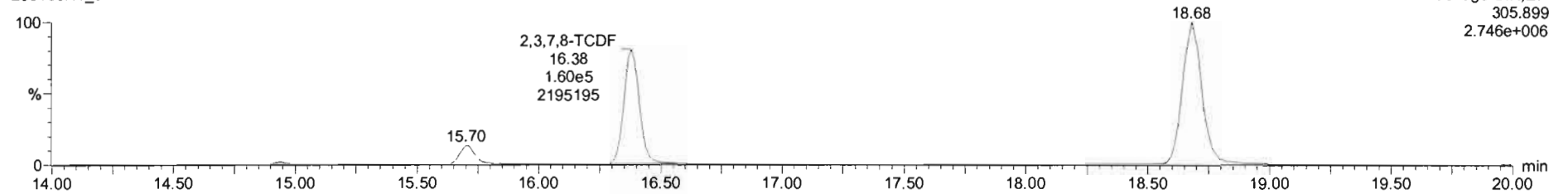
Name: 200130K1\_5, Date: 30-Jan-2020, Time: 19:43:17, ID: ST200130K1-4 1613 CS3 19L2305, Description: 1613 CS3 19L2305

2,3,7,8-TCDF

200130K1\_5

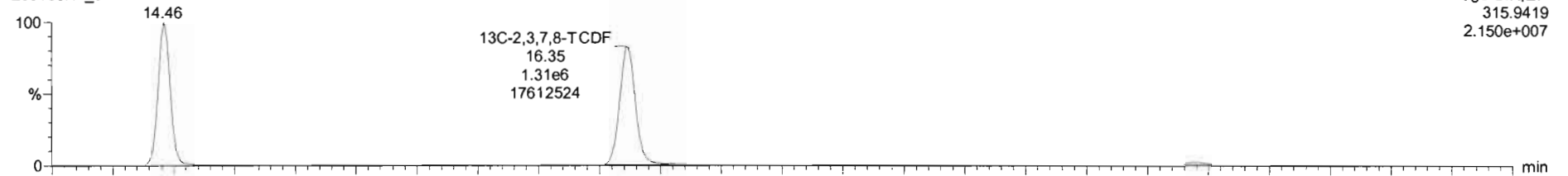


200130K1\_5

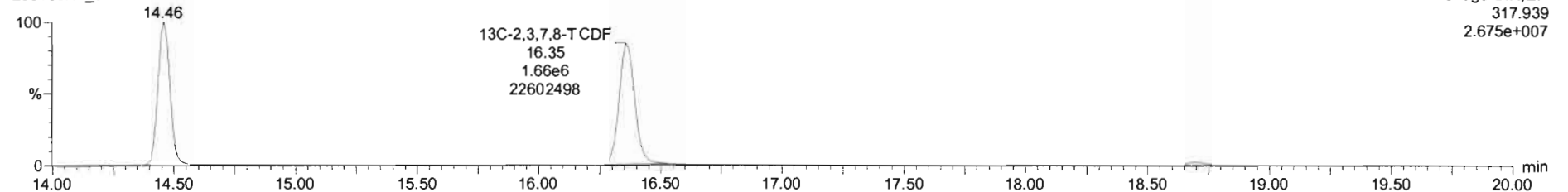


13C-2,3,7,8-TCDF

200130K1\_5



200130K1\_5



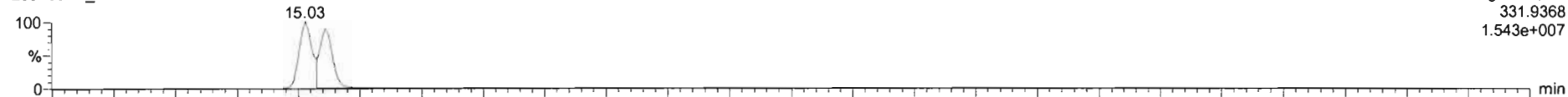
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Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time  
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

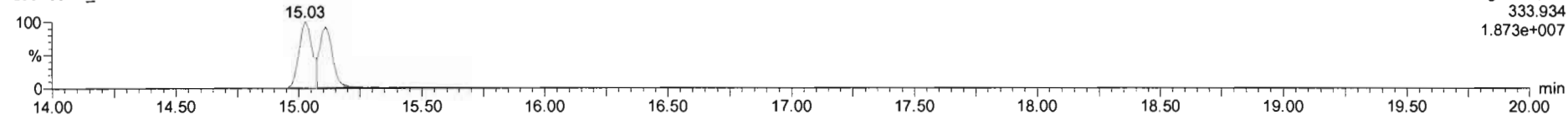
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13C-1,2,3,4-TCDD

200130K1\_5

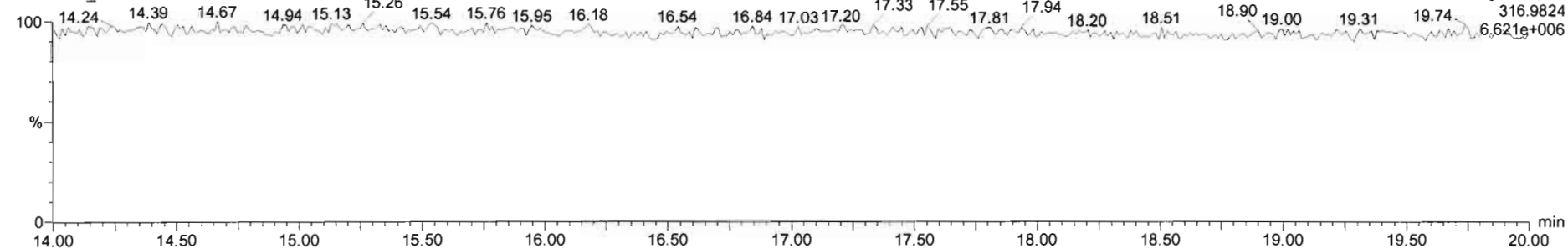


200130K1\_5



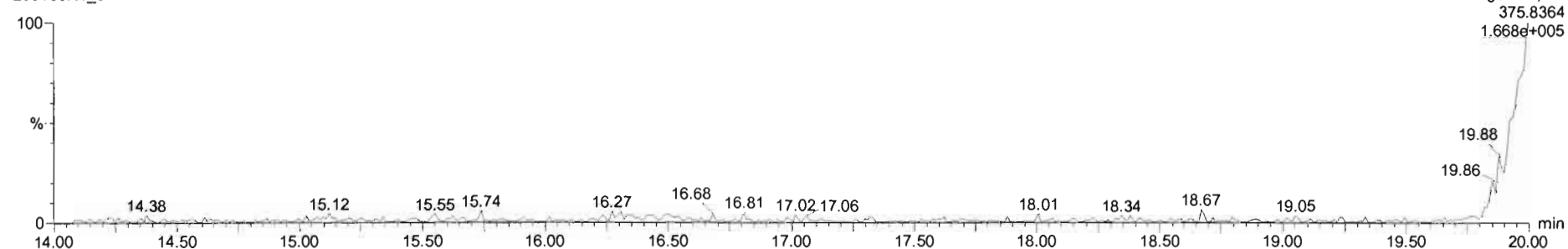
PFK1

200130K1\_5



DPE1

200130K1\_5



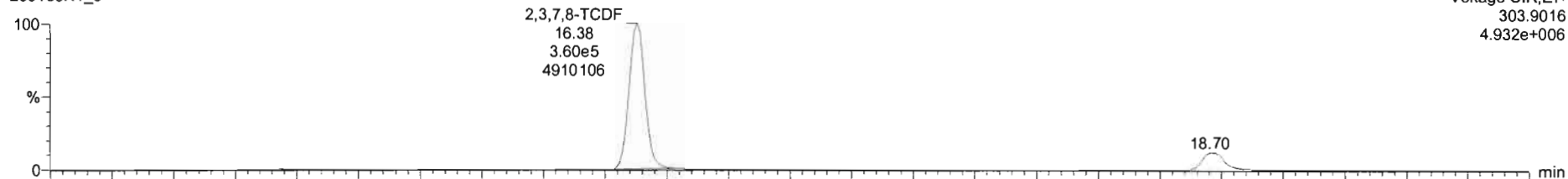
Dataset: Untitled

Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time  
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_6, Date: 30-Jan-2020, Time: 20:14:31, ID: ST200130K1-5 1613 CS4 19L2306, Description: 1613 CS4 19L2306

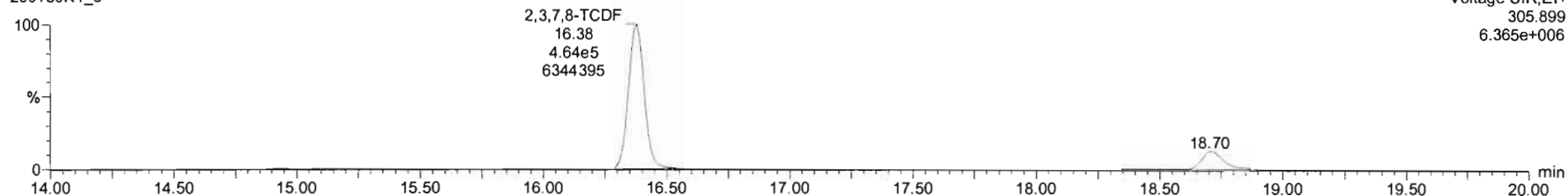
**2,3,7,8-TCDF**

200130K1\_6



Voltage SIR,EI+  
303.9016  
4.932e+006

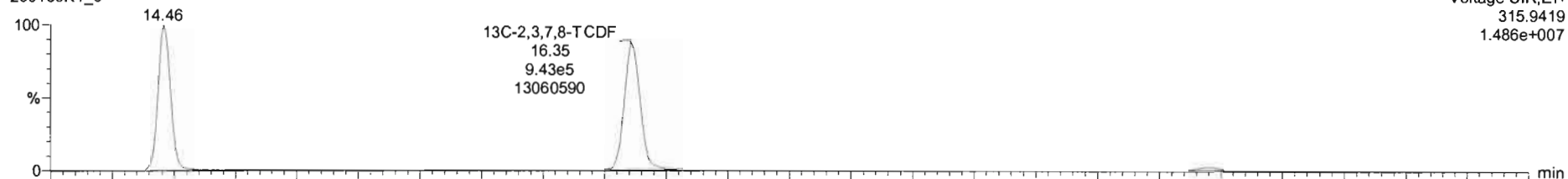
200130K1\_6



Voltage SIR,EI+  
305.899  
6.365e+006

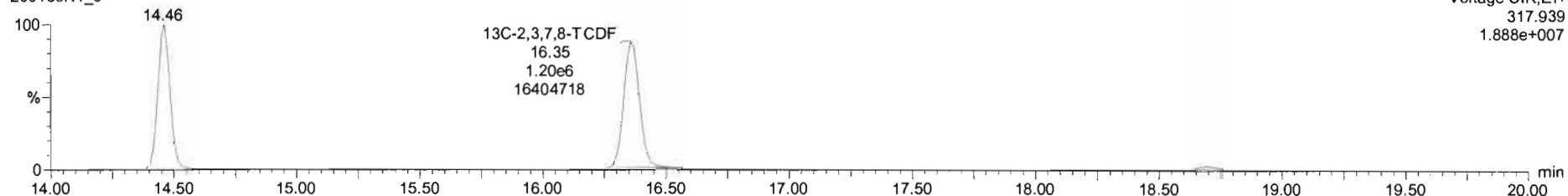
**13C-2,3,7,8-TCDF**

200130K1\_6



Voltage SIR,EI+  
315.9419  
1.486e+007

200130K1\_6



Voltage SIR,EI+  
317.939  
1.888e+007

Dataset: Untitled

Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

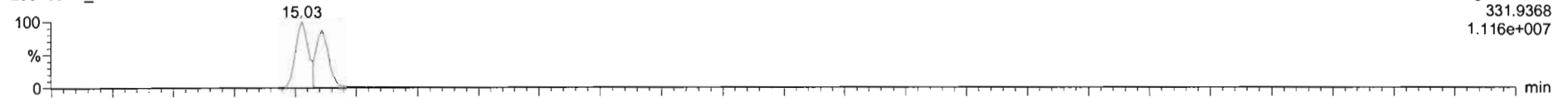
Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_6, Date: 30-Jan-2020, Time: 20:14:31, ID: ST200130K1-5 1613 CS4 19L2306, Description: 1613 CS4 19L2306

13C-1,2,3,4-TCDD

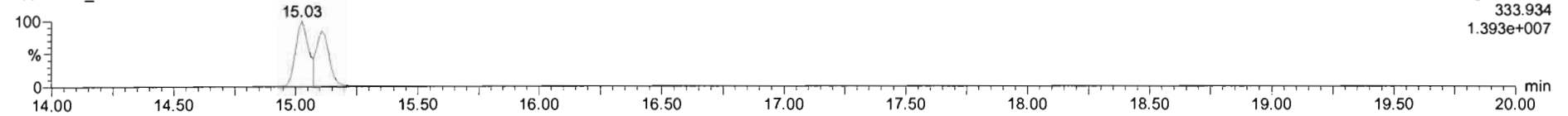
200130K1\_6

Voltage SIR,EI+  
331.9368  
1.116e+007



200130K1\_6

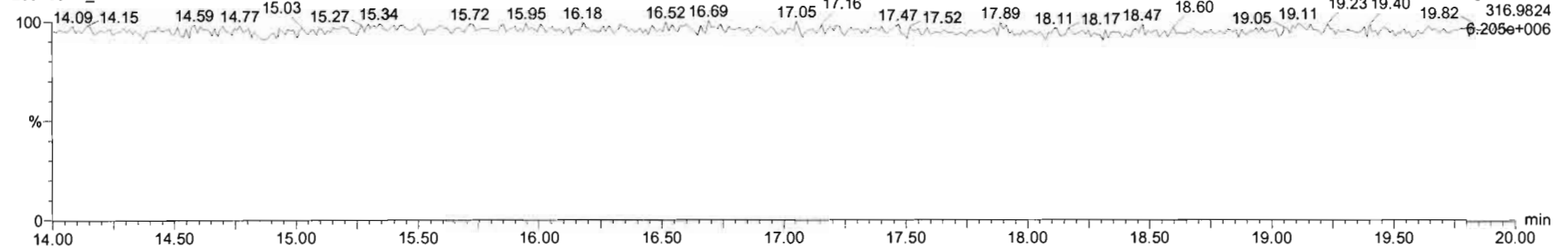
Voltage SIR,EI+  
333.934  
1.393e+007



PFK1

200130K1\_6

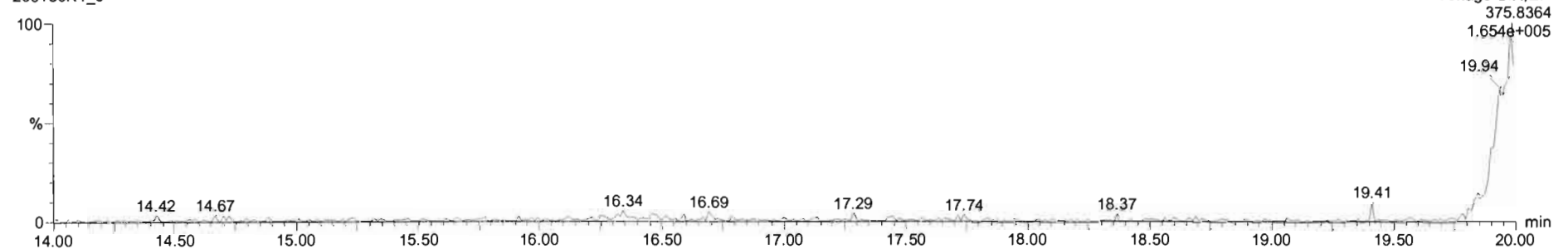
Voltage SIR,EI+  
316.9824  
6.205e+006



DPE1

200130K1\_6

Voltage SIR,EI+  
375.8364  
1.654e+005



Dataset: Untitled

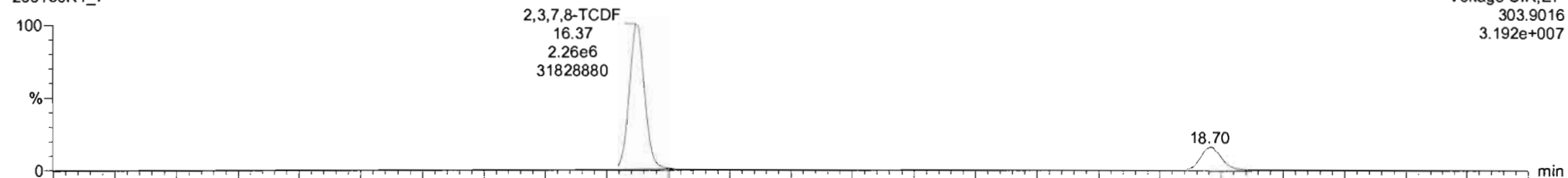
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_7, Date: 30-Jan-2020, Time: 20:45:48, ID: ST200130K1-6 1613 CS5 19L2307, Description: 1613 CS5 19L2307

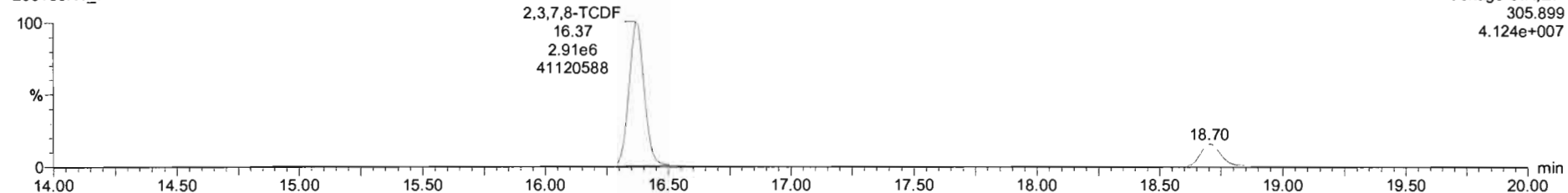
2,3,7,8-TCDF

200130K1\_7



Voltage SIR,EI+  
303.9016  
3.192e+007

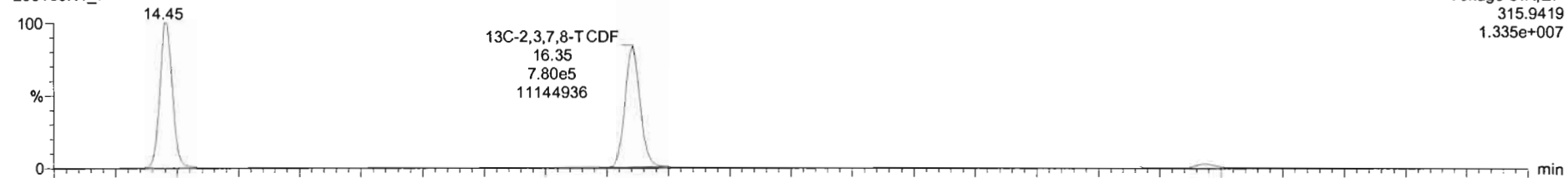
200130K1\_7



Voltage SIR,EI+  
305.899  
4.124e+007

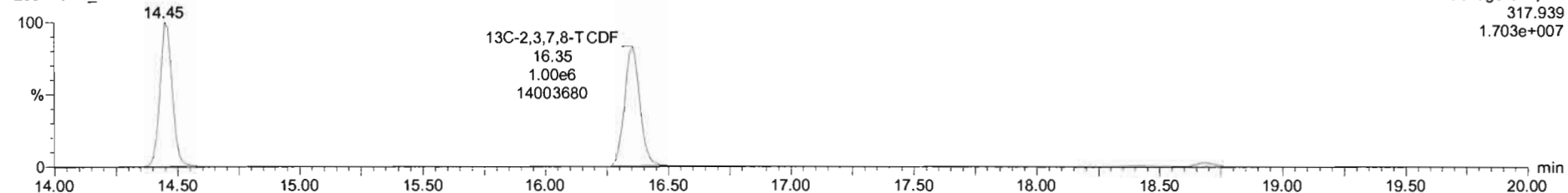
13C-2,3,7,8-TCDF

200130K1\_7



Voltage SIR,EI+  
315.9419  
1.335e+007

200130K1\_7



Voltage SIR,EI+  
317.939  
1.703e+007

Dataset: Untitled

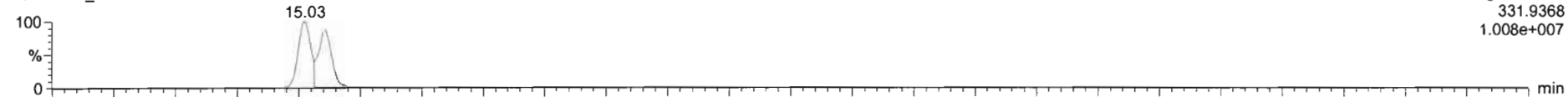
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

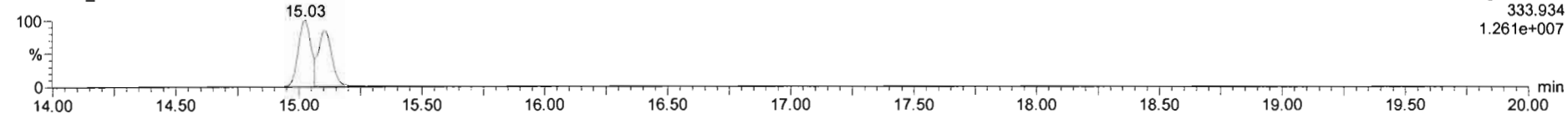
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13C-1,2,3,4-TCDD

200130K1\_7

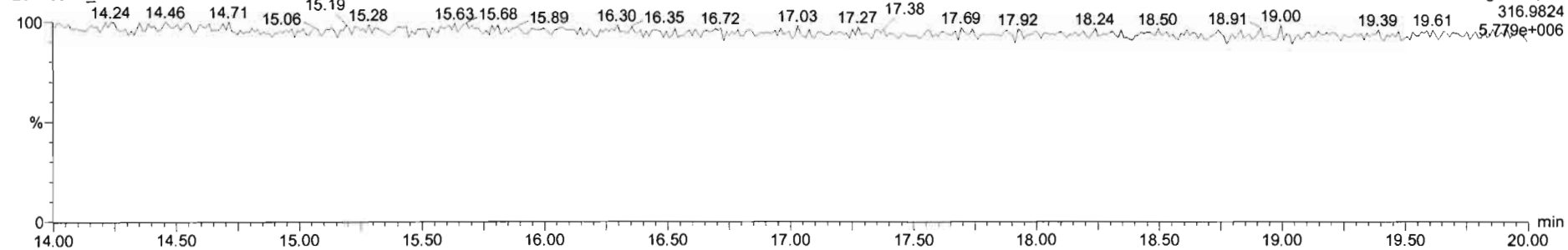


200130K1\_7



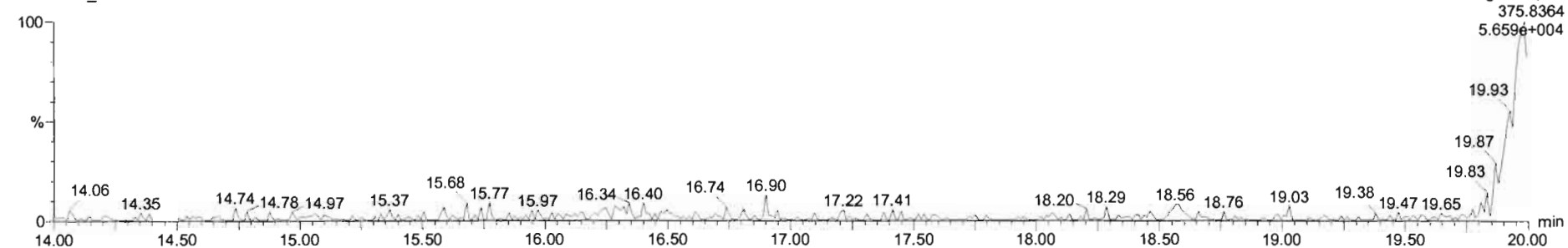
PFK1

200130K1\_7

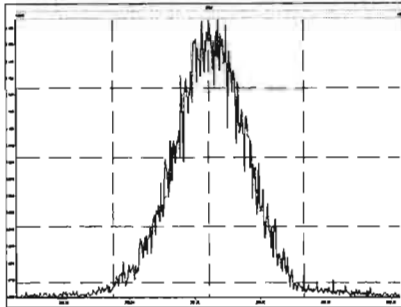


DPE1

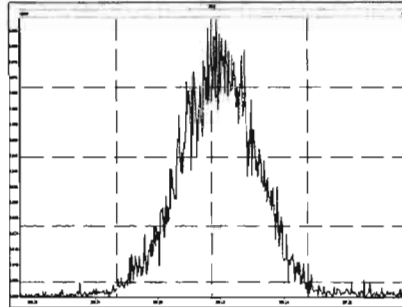
200130K1\_7



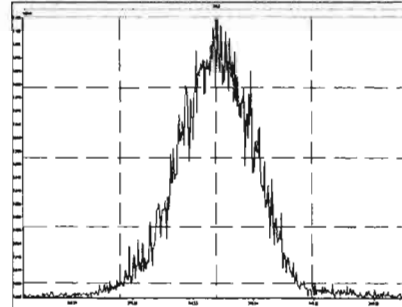
M 292.9824 R 11709



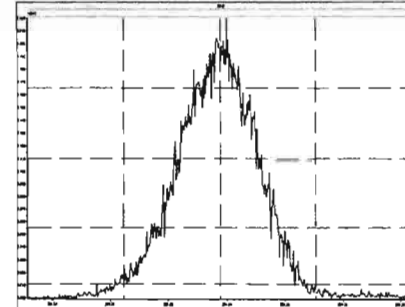
M 304.9824 R 11160



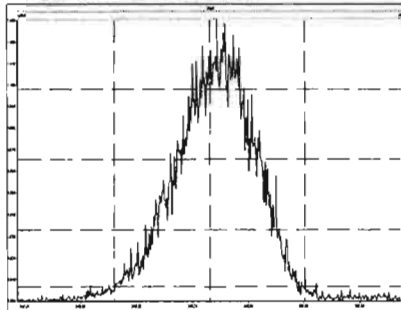
M 318.9792 R 10943



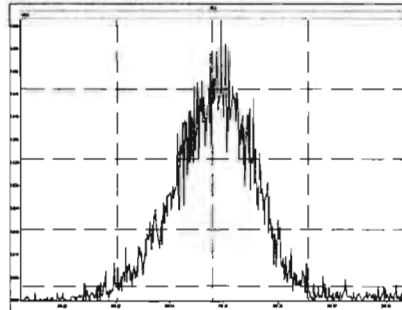
M 330.9792 R 10288



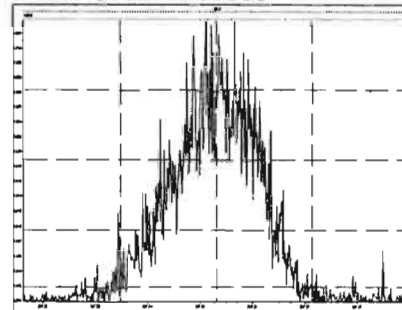
M 342.9792 R 10482



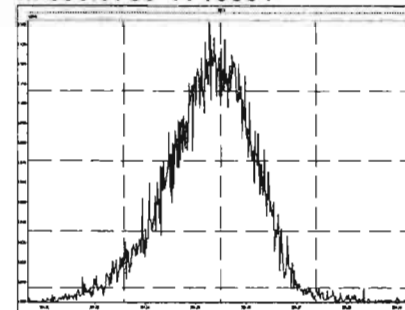
M 354.9792 R 11065



M 366.9792 R 10666

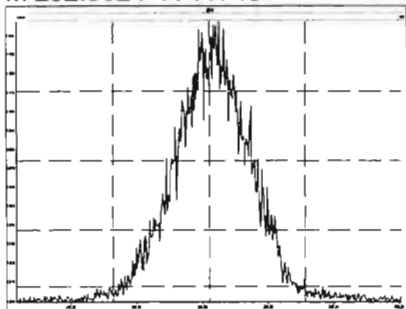


M 380.9760 R 10364

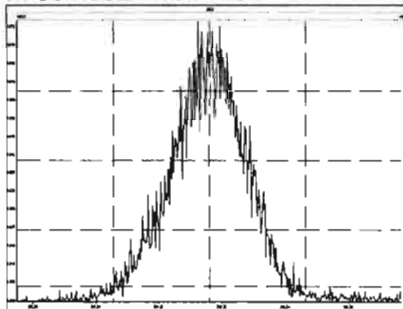




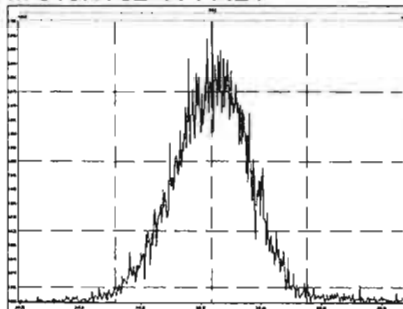
M 292.9824 R 11749



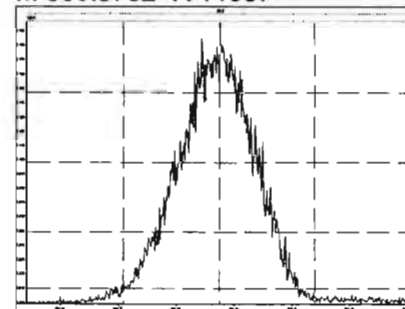
M 304.9824 R 11794



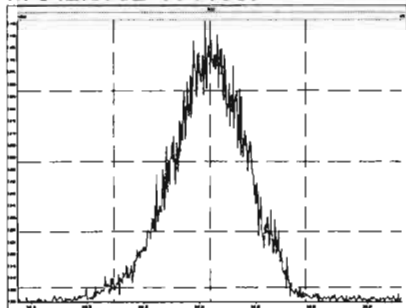
M 318.9792 R 11424



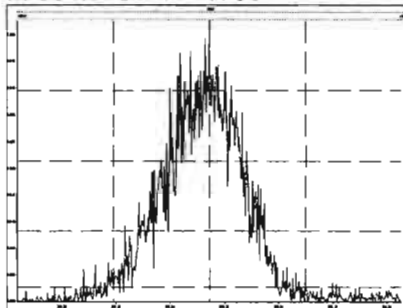
M 330.9792 R 11087



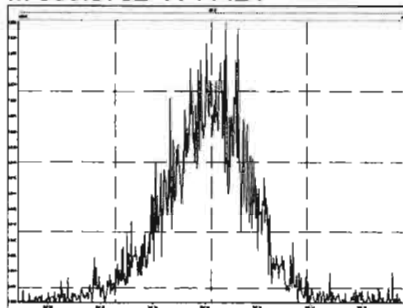
M 342.9792 R 11067



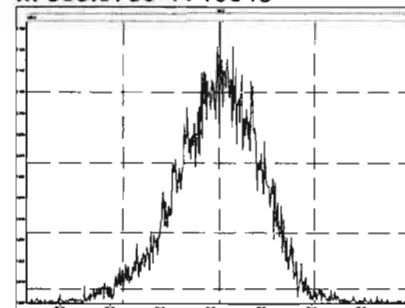
M 354.9792 R 11700



M 366.9792 R 11424



M 380.9760 R 10548



Dataset: U:\VG11.PRO\Results\200130K1\200130K1-9.qld

Last Altered: Friday, January 31, 2020 07:24:08 Pacific Standard Time

Printed: Friday, January 31, 2020 07:35:35 Pacific Standard Time

*He 1-31-2020*

*CT 01/31/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 06 May 2019 14:09:24

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-30-20.cdb 31 Jan 2020 07:22:32

Name: 200130K1\_9, Date: 30-Jan-2020, Time: 21:48:22, ID: SS200130K1-1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

#	Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	1 2,3,7,8-TCDF	2.25e5	0.76	NO	1.00	1.000	16.37	10.669	107	0.0628
2	2 13C-2,3,7,8-TCDF	2.11e6	0.77	NO	1.07	1.000	16.35	89.895	89.9	0.117
3	3 13C-1,2,3,4-TCDF	2.19e6	0.79	NO	1.00	1.000	14.45	100.00	100	0.126

*8-14-7%*

Dataset: Untitled

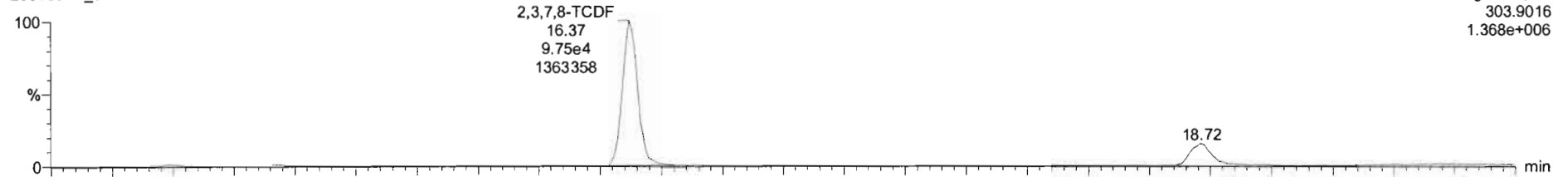
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

Name: 200130K1\_9, Date: 30-Jan-2020, Time: 21:48:22, ID: SS200130K1-1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

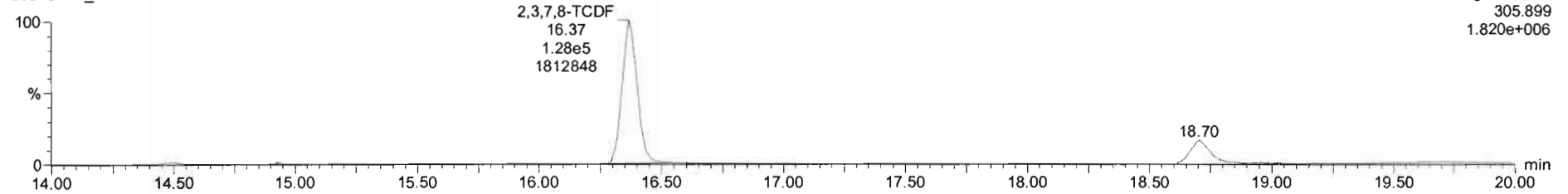
**2,3,7,8-TCDF**

200130K1\_9



Voltage SIR,EI+  
303.9016  
1.368e+006

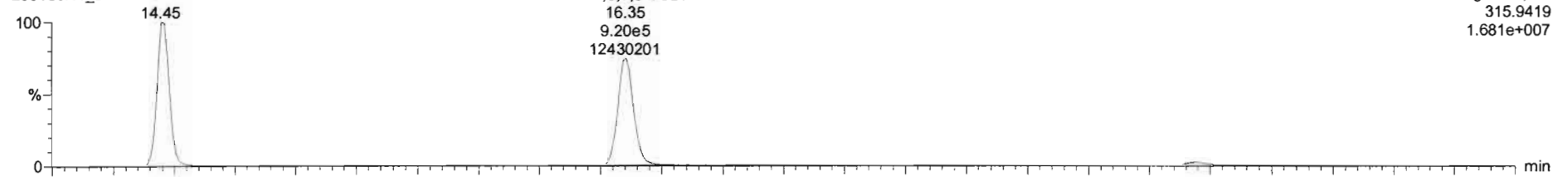
200130K1\_9



Voltage SIR,EI+  
305.899  
1.820e+006

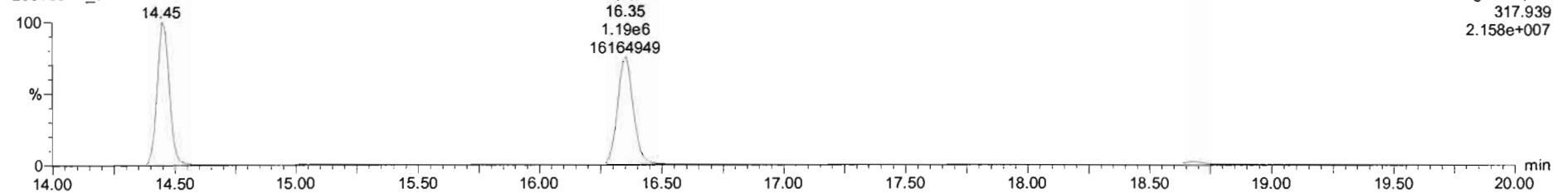
**13C-2,3,7,8-TCDF**

200130K1\_9



Voltage SIR,EI+  
315.9419  
1.681e+007

200130K1\_9



Voltage SIR,EI+  
317.939  
2.158e+007

Dataset: Untitled

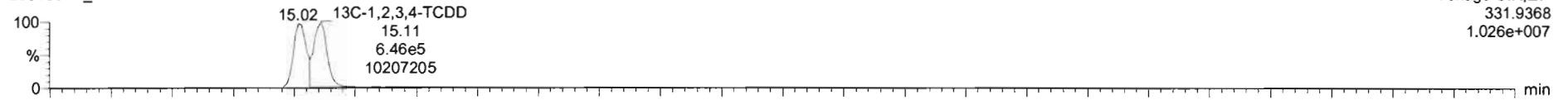
Last Altered: Friday, January 31, 2020 07:25:32 Pacific Standard Time

Printed: Friday, January 31, 2020 07:26:56 Pacific Standard Time

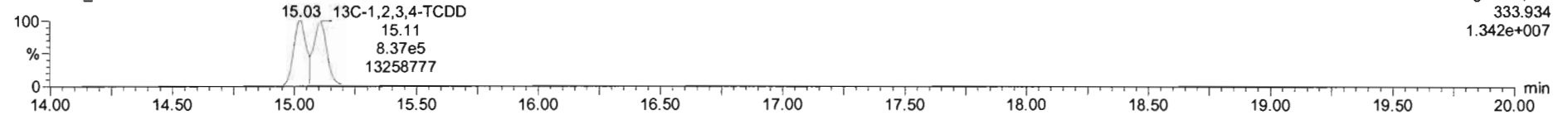
Name: 200130K1\_9, Date: 30-Jan-2020, Time: 21:48:22, ID: SS200130K1-1 1613 SSS 19L2308, Description: 1613 SSS 19L2308

**13C-1,2,3,4-TCDD**

200130K1\_9

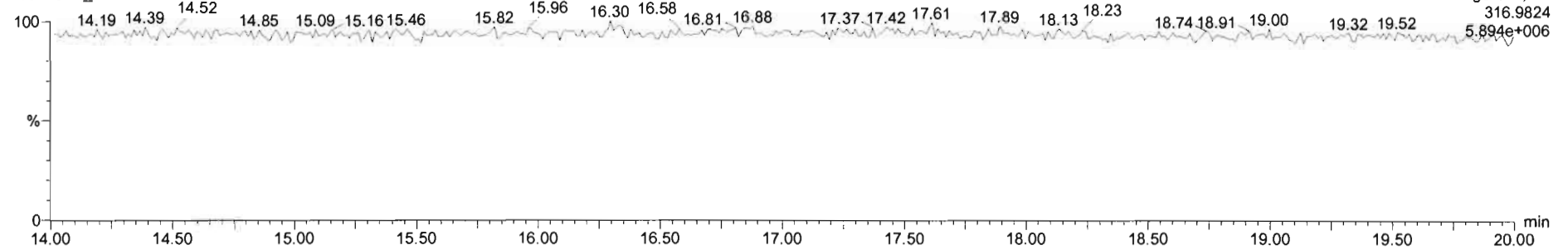


200130K1\_9



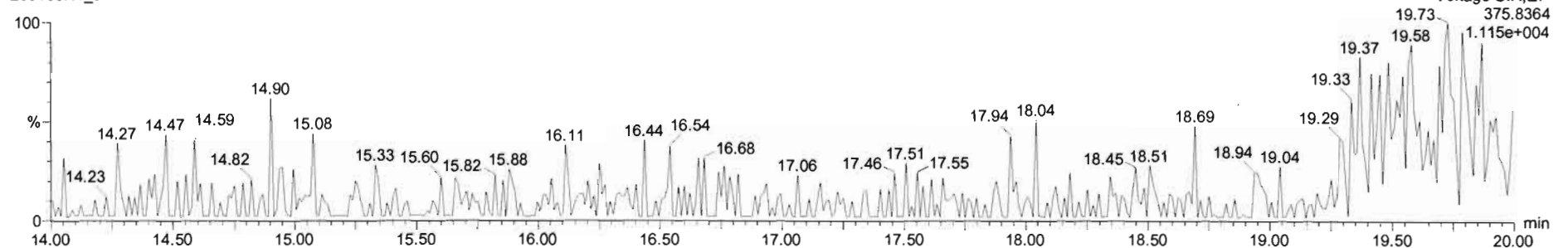
**PFK1**

200130K1\_9



**DPE1**

200130K1\_9



Dataset: U:\VG11.PRO\Results\200131K1\200131K1-CRV.qld

Last Altered: Friday, January 31, 2020 13:49:37 Pacific Standard Time  
 Printed: Saturday, February 01, 2020 08:27:10 Pacific Standard Time

*HC 2-1-2020 C1 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36  
 Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Compound name: 2,3,7,8-TCDF  
 Response Factor: 1.03616  
 RRF SD: 0.0951655, Relative SD: 9.1844  
 Response type: Internal Std ( Ref 2 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
200131K1_2	0.250	0.80	NO	16.38	1.001	9.45e3	3.12e6	0.292	16.8	1.21	MM
200131K1_3	0.500	0.76	NO	16.38	1.000	1.03e4	2.13e6	0.470	-6.1	0.973	MM
200131K1_4	2.00	0.77	NO	16.39	1.001	5.32e4	2.79e6	1.84	-7.9	0.954	bb
200131K1_5	10.0	0.78	NO	16.39	1.001	1.80e5	1.84e6	9.43	-5.7	0.977	bb
200131K1_6	40.0	0.79	NO	16.39	1.001	1.05e6	2.53e6	40.1	0.2	1.04	bb
200131K1_7	300	0.79	NO	16.40	1.001	7.90e6	2.47e6	308	2.7	1.06	bb

Compound name: 13C-2,3,7,8-TCDF  
 Response Factor: 1.02222  
 RRF SD: 0.0218203, Relative SD: 2.1346  
 Response type: Internal Std ( Ref 3 ), Area \* ( IS Conc. / IS Area )  
 Curve type: RF

Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
200131K1_2	100	0.79	NO	16.37	1.131	3.12e6	3.08e6	99.2	-0.8	1.01	bb
200131K1_3	100	0.79	NO	16.38	1.132	2.13e6	2.14e6	97.4	-2.6	0.996	bb
200131K1_4	100	0.77	NO	16.37	1.131	2.79e6	2.75e6	99.1	-0.9	1.01	bb
200131K1_5	100	0.79	NO	16.38	1.131	1.84e6	1.78e6	101	1.2	1.03	bd
200131K1_6	100	0.78	NO	16.38	1.132	2.53e6	2.48e6	99.5	-0.5	1.02	bb
200131K1_7	100	0.77	NO	16.39	1.131	2.47e6	2.34e6	104	3.6	1.06	bb

Dataset: U:\VG11.PRO\Results\200131K1\200131K1-CRV.qld

Last Altered: Friday, January 31, 2020 13:49:37 Pacific Standard Time  
 Printed: Saturday, February 01, 2020 08:27:10 Pacific Standard Time

**Compound name: 13C-1,2,3,4-TCDF**

Response Factor: 1

RRF SD: 0, Relative SD: 0

Response type: Internal Std ( Ref 3 ), Area \* ( IS Conc. / IS Area )

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131K1_2	100	0.78	NO	14.47	1.000	3.08e6	3.08e6	100	0.0	1.00	bb
2	200131K1_3	100	0.80	NO	14.47	1.000	2.14e6	2.14e6	100	0.0	1.00	bb
3	200131K1_4	100	0.79	NO	14.47	1.000	2.75e6	2.75e6	100	0.0	1.00	bb
4	200131K1_5	100	0.79	NO	14.48	1.000	1.78e6	1.78e6	100	0.0	1.00	bb
5	200131K1_6	100	0.79	NO	14.47	1.000	2.48e6	2.48e6	100	0.0	1.00	bb
6	200131K1_7	100	0.79	NO	14.49	1.000	2.34e6	2.34e6	100	0.0	1.00	bb

**Compound name: 13C-1,2,3,4-TCDD**

No Calibration

Response type: External Std, Area

Curve type: RF

	Name	Std. Conc	RA	n/y	RT	RRT	Resp	IS Resp	Conc.	%Dev	RRF	X = dropped
1	200131K1_2	0.000	0.79	NO	15.12	0.000	2.23e6				0.000	db
2	200131K1_3	0.000	0.77	NO	15.13	0.000	1.53e6				0.000	db
3	200131K1_4	0.000	0.80	NO	15.12	0.000	1.90e6				0.000	db
4	200131K1_5	0.000	0.79	NO	15.13	0.000	1.30e6				0.000	dd
5	200131K1_6	0.000	0.78	NO	15.13	0.000	1.74e6				0.000	db
6	200131K1_7	0.000	0.76	NO	15.06	0.000	1.62e6				0.000	bd

Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:56:50 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36  
Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Compound name: 2,3,7,8-TCDF

	Name	ID	Acq.Date	Acq.Time
1	200131K1_1	CP200131K1-1 225 CPSM	31-Jan-20	10:07:42
2	200131K1_2	ST200131K1-1 1613 CS0 19C2201	31-Jan-20	10:37:56
3	200131K1_3	ST200131K1-2 1613 CS1 19C2202	31-Jan-20	11:09:19
4	200131K1_4	ST200131K1-3 1613 CS2 19C2203	31-Jan-20	11:40:42
5	200131K1_5	ST200131K1-4 1613 CS3 19C2204	31-Jan-20	12:13:33
6	200131K1_6	ST200131K1-5 1613 CS4 19C2205	31-Jan-20	12:43:47
7	200131K1_7	ST200131K1-6 1613 CS5 19C2206	31-Jan-20	13:16:14
8	200131K1_8	SOLVENT BLANK	31-Jan-20	13:46:37
9	200131K1_9	SS200131K1-1 1613 SSS 19C2207	31-Jan-20	14:19:06
10	200131K1_10	SOLVENT BLANK	31-Jan-20	14:49:31
11	200131K1_11	1903647-03RE1 PDI-067SC-B-02-04-191010 ...	31-Jan-20	15:20:42
12	200131K1_12	1904160-04RE1 PDI-032SC-A-01-02-191010 ...	31-Jan-20	15:52:01
13	200131K1_13	B0A0001-DUP1 Duplicate	31-Jan-20	16:23:24
14	200131K1_14	1904159-01RE1 PDI-013SC-A-02-03-190925 ...	31-Jan-20	16:54:44
15	200131K1_15	1904159-03RE1 PDI-015SC-A-07-08-191012 ...	31-Jan-20	17:26:05
16	200131K1_16	1904159-06RE1 PDI-016SC-A-01-02-191009 ...	31-Jan-20	17:57:25
17	200131K1_17	1904159-07RE1 PDI-018SC-A-06-07-190926 ...	31-Jan-20	18:30:13
18	200131K1_18	1904159-16RE1 PDI-024SC-A-03-04-190927 ...	31-Jan-20	19:00:33
19	200131K1_19	1904159-17RE1 PDI-025SC-A-02-03-190927 ...	31-Jan-20	19:32:58
20	200131K1_20	1904159-19RE1 PDI-026SC-A-04-05-191014 ...	31-Jan-20	20:03:17
21	200131K1_21	1904207-05RE1 PDI-077SC-A-00-01-191014 ...	31-Jan-20	20:34:41
22	200131K1_22	1904207-06RE1 PDI-077SC-A-01-02-191014 ...	31-Jan-20	21:06:06
23	200131K1_23	1904159-11RE1 PDI-020SC-A-02-03-191008 ...	31-Jan-20	21:37:30
24	200131K1_24	1904159-15RE1 PDI-024SC-A-02-03-190927 ...	31-Jan-20	22:10:18
25	200131K1_25	1904159-05RE1 PDI-016SC-A-00-01-191009 ...	31-Jan-20	22:41:56
26	200131K1_26	1904207-03RE1 PDI-076SC-A-04-05-191013 ...	31-Jan-20	23:13:28
27	200131K1_27	1903647-02RE1 PDI-067SC-B-00-02-191010 ...	31-Jan-20	23:44:04

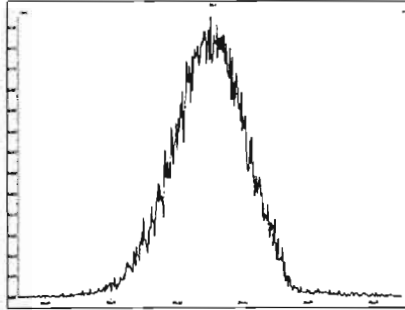
Experiment Calibration Report

MassLynx 4.1 SCN815

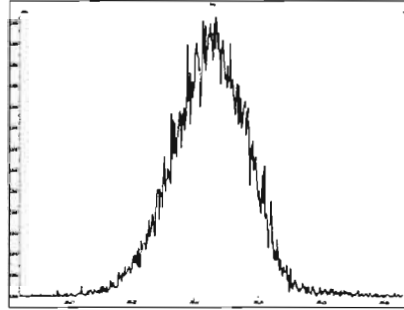
File: Experiment: tcdf\_db225.exp Reference: Pfk.ref Function: 1 @ 200 (ppm)

Printed: Friday, January 31, 2020 10:05:02 Pacific Standard Time

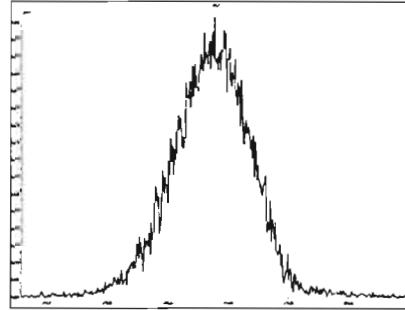
M 292.9824 R 11361



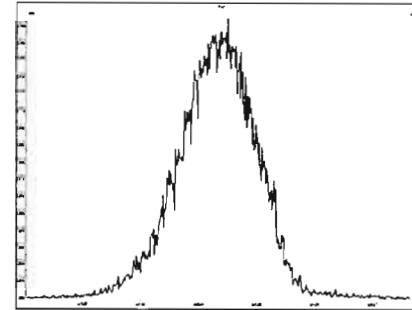
M 304.9824 R 11263



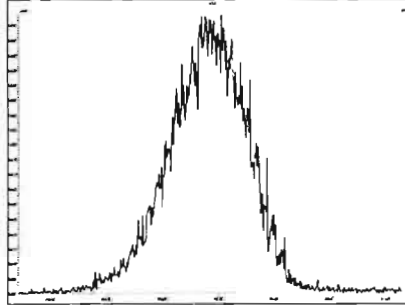
M 318.9792 R 11732



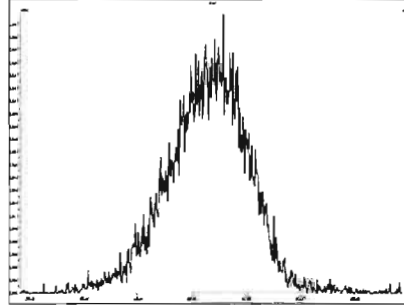
M 330.9792 R 10868



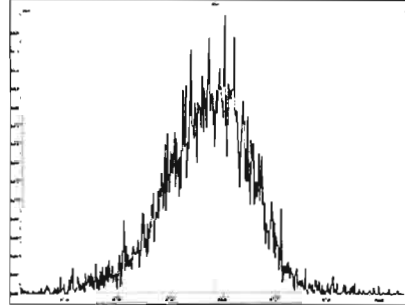
M 342.9792 R 10967



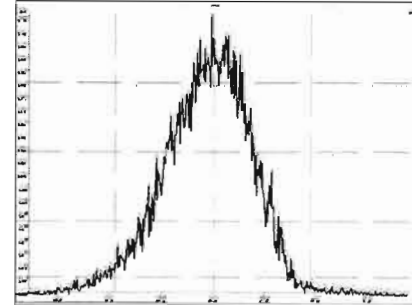
M 354.9792 R 12020



M 366.9792 R 11164



M 380.9760 R 10123



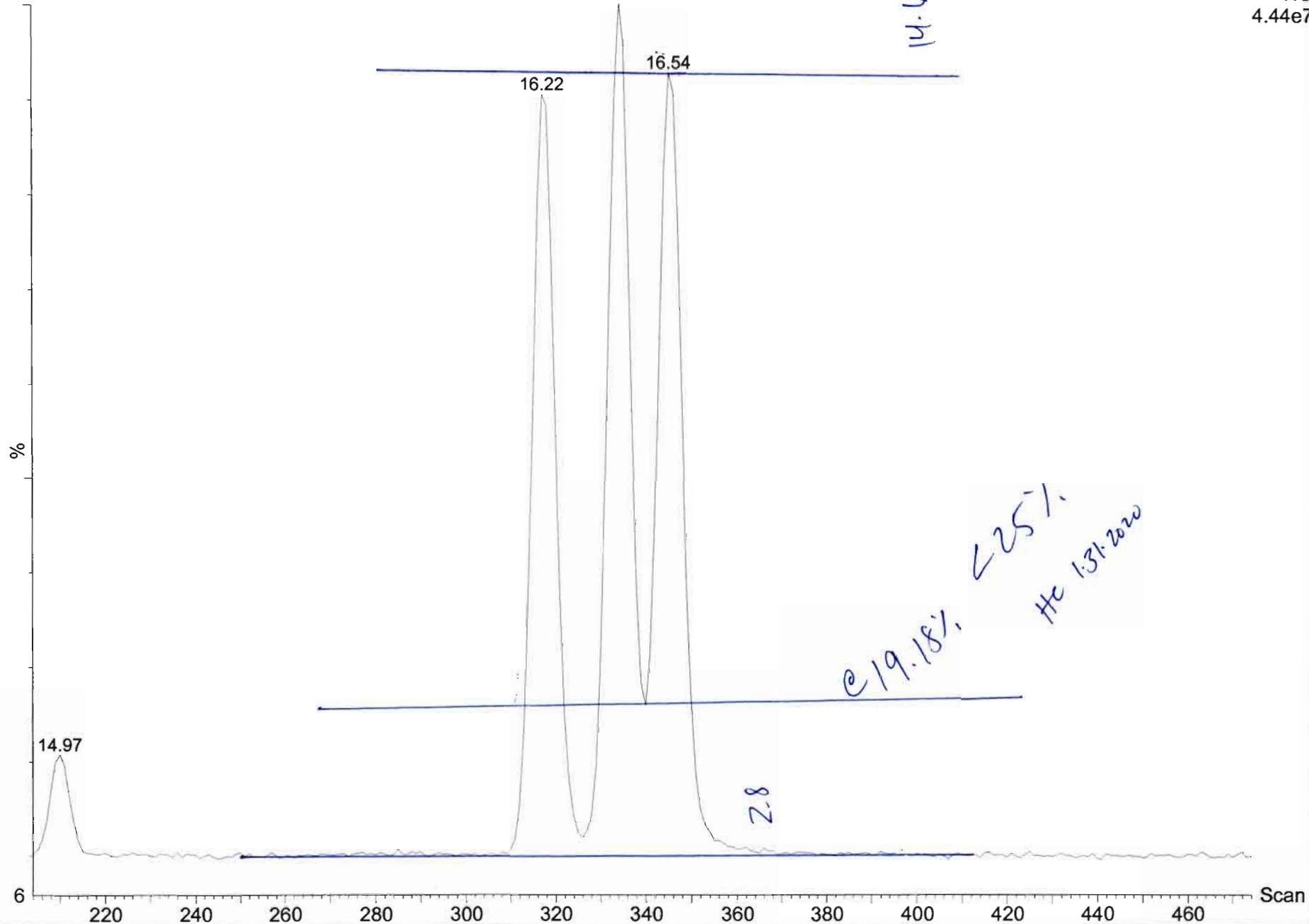


225 CPSM  
200131K1\_1

M658

31-Jan-2020 10:07:42  
Voltage SIR 12 Channels EI+  
TIC  
4.44e7

14.6



Dataset: Untitled

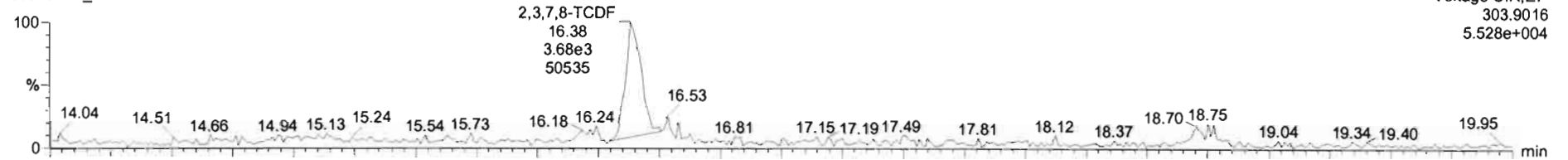
Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36  
Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

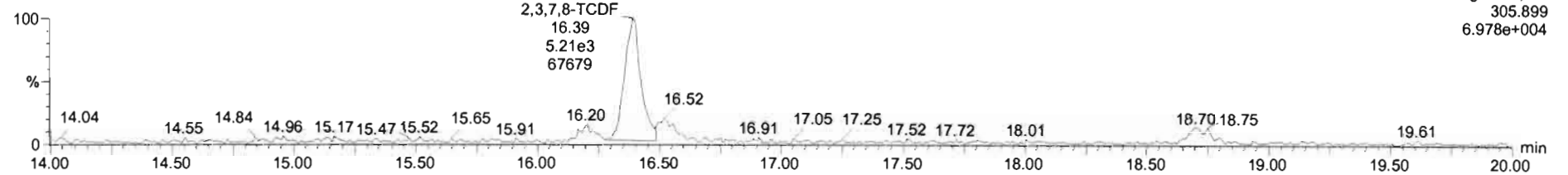
Name: 200131K1\_2, Date: 31-Jan-2020, Time: 10:37:56, ID: ST200131K1-1 1613 CS0 19C2201, Description: 1613 CS0 19C2201

2,3,7,8-TCDF

200131K1\_2

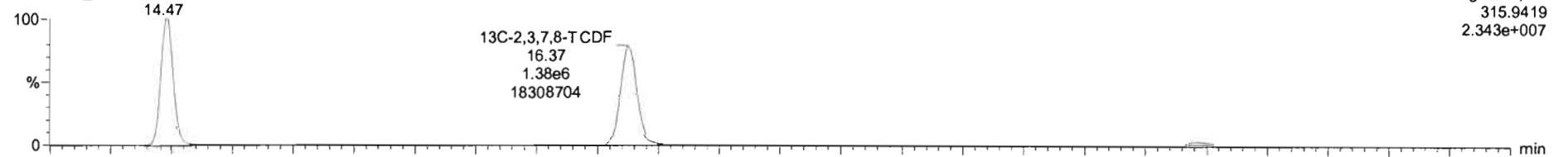


200131K1\_2

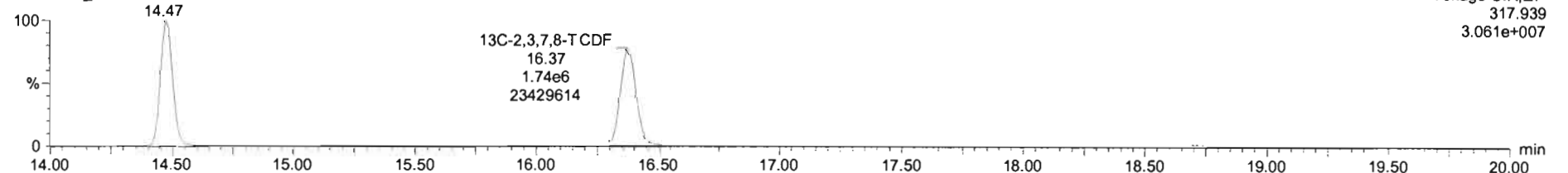


13C-2,3,7,8-TCDF

200131K1\_2



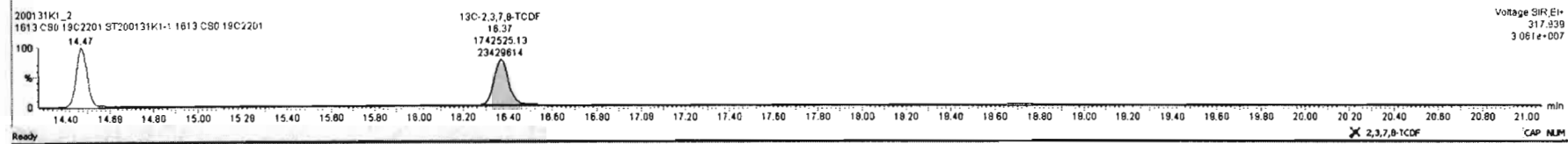
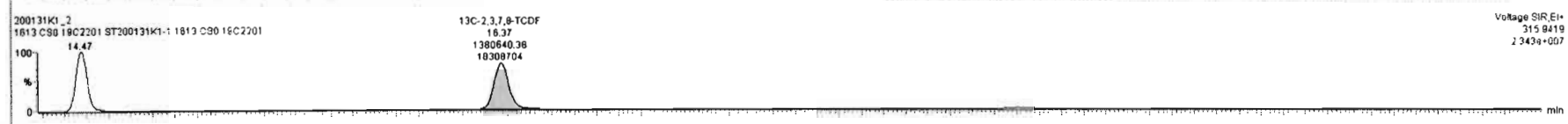
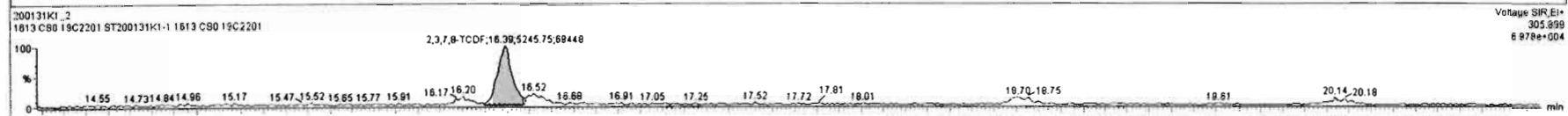
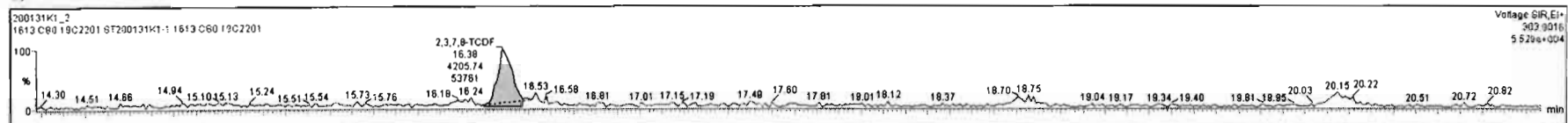
200131K1\_2



2,3,7,8-TCDF

#	Name	Std Conc	RT	Resp	Ratio	Ratio Flag	IS Resp	Response	Conc	%Dev	RRF Mean	RRF %RSD	RRF	Divisor1
1	200131K1_2	0.250	16.38	9.451e3	0.802	NO	3.123e6	0.303	0.3	16.8	1.036	9.184	1.211	1.0
2	200131K1_3	0.500	16.38	1.035e4	0.758	NO	2.126e6	0.487	0.5	-8.1	1.036	9.184	0.973	1.0
3	200131K1_4	2.000	16.38	5.325e4	0.770	NO	2.790e6	1.909	1.8	-7.9	1.036	9.184	0.954	1.0
4	200131K1_5	10.000	16.38	1.801e5	0.784	NO	1.844e6	9.770	9.4	-5.7	1.036	9.184	0.977	1.0
5	200131K1_6	40.000	16.38	1.049e6	0.792	NO	2.526e6	41.523	40.1	0.2	1.036	9.184	1.038	1.0
6	200131K1_7	300.000	16.40	7.895e6	0.793	NO	2.474e6	319.092	308.0	2.7	1.036	9.184	1.064	1.0

Name	RT	m1 Resp	m2 Resp	RA	rvj	EMPC	Conc
1							



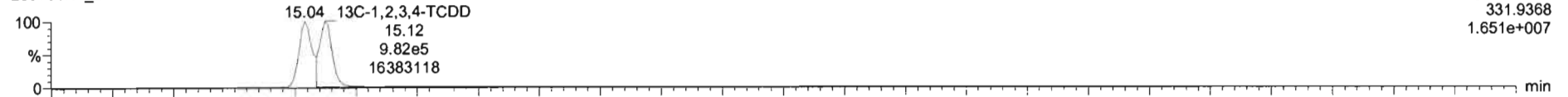
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

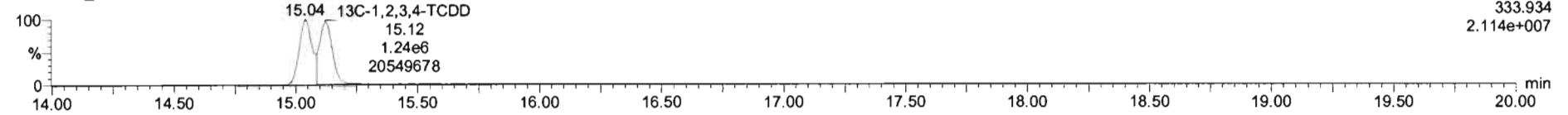
Name: 200131K1\_2, Date: 31-Jan-2020, Time: 10:37:56, ID: ST200131K1-1 1613 CS0 19C2201, Description: 1613 CS0 19C2201

**13C-1,2,3,4-TCDD**

200131K1\_2

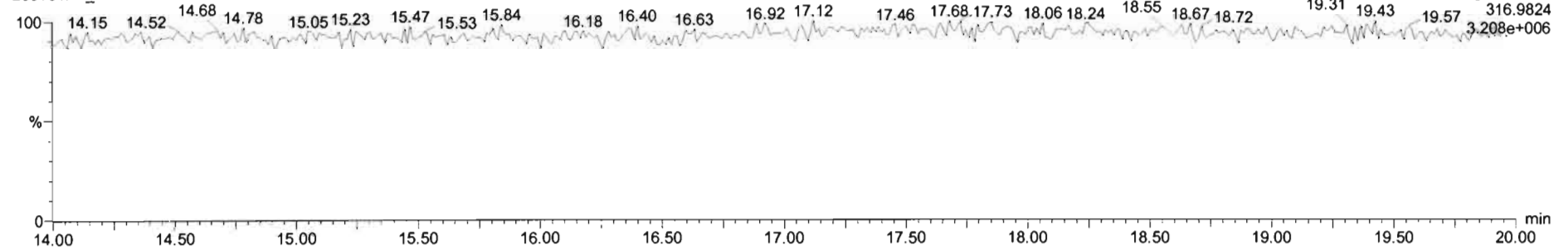


200131K1\_2



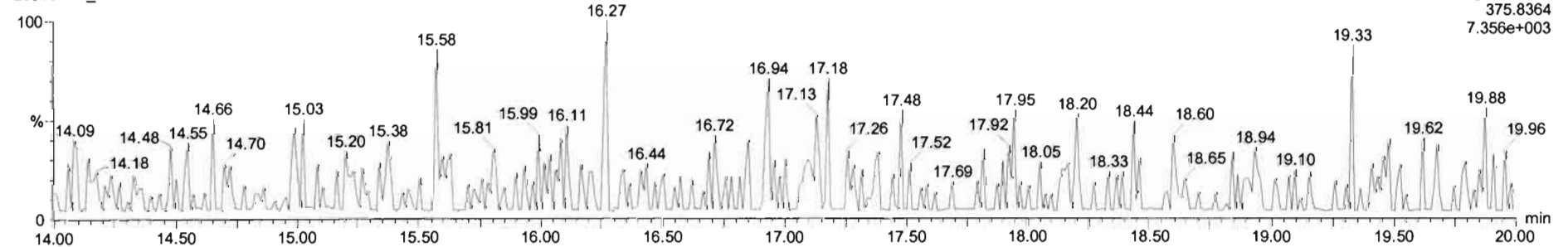
**PFK1**

200131K1\_2



**DPE1**

200131K1\_2



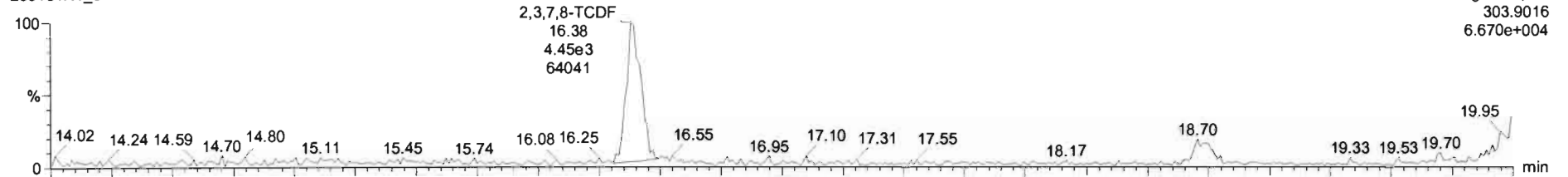
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

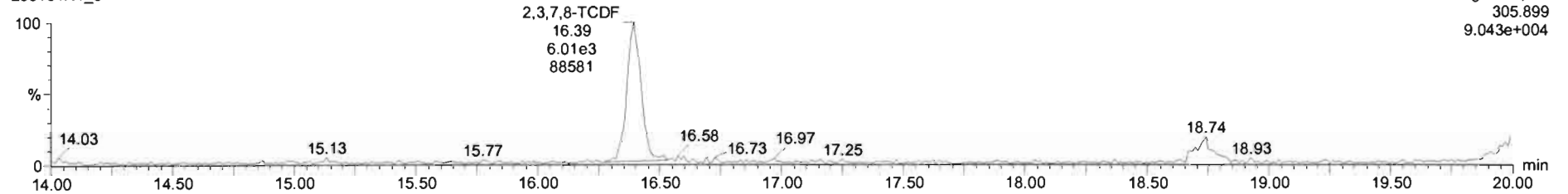
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2,3,7,8-TCDF

200131K1\_3

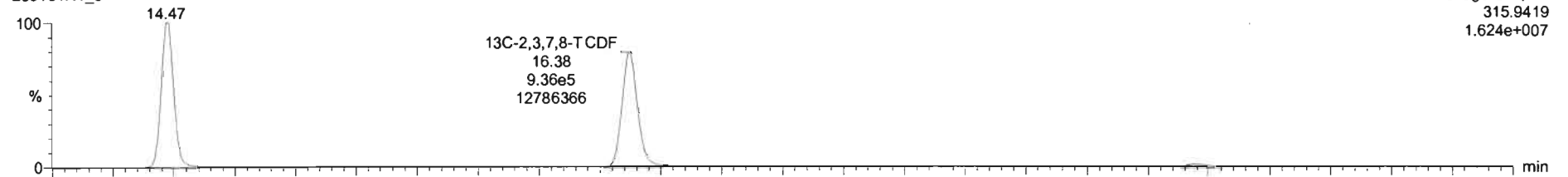


200131K1\_3

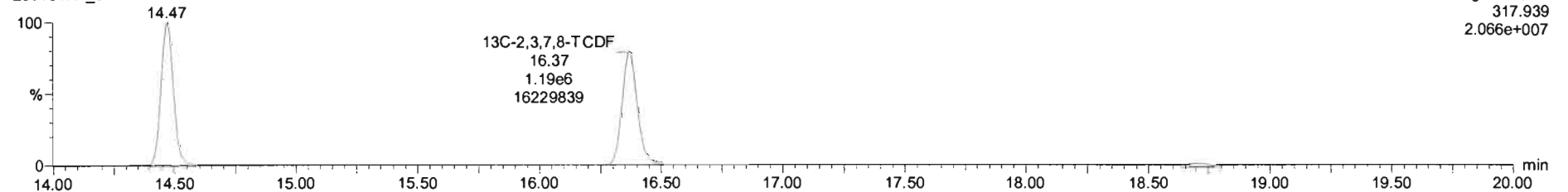


13C-2,3,7,8-TCDF

200131K1\_3

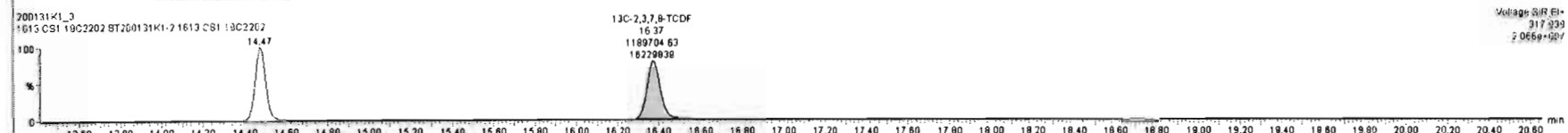
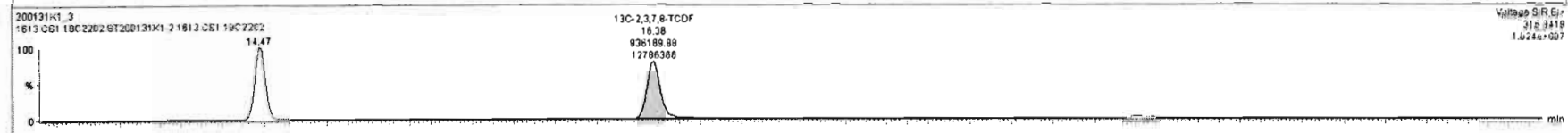
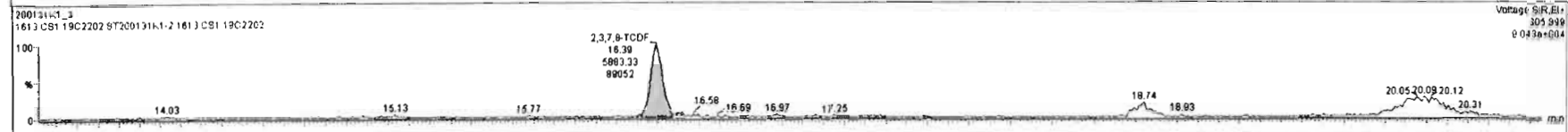
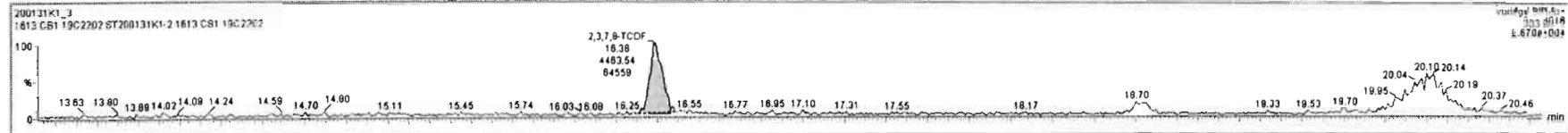


200131K1\_3



200-218-1-2-17200131K1-2 1613 CS1 19C2202 9T200131K1-2 1613 CS1 19C2202

#	Name	Resp	RA	n/y	RRF	wtVcl	RT	Conc.	%Rec	DL
1	2,3,7,8-TCDF	1.03e4	0.79	NO	1.04	1.000	16.38	0.470	83.9	0.0008
2	13C-2,3,7,8-TCDF	2.13e6	0.79	NO	1.02	1.000	16.38	97.4	97.4	0.125
3	13C-1,2,3,4-TCDF	2.14e6	0.80	NO	1.00	1.000	14.47	100	100	0.128
4	13C-1,2,3,4-TCDD	1.53e6	0.77	NO		1.000	15.13			
5	SPFK1					1.000				
6	DPE1					1.000				



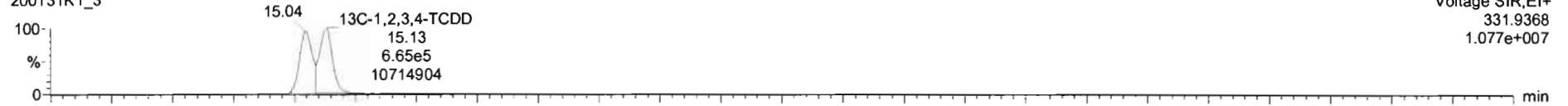
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Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

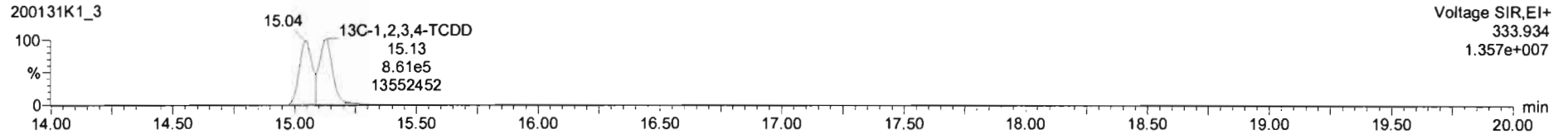
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13C-1,2,3,4-TCDD

200131K1\_3

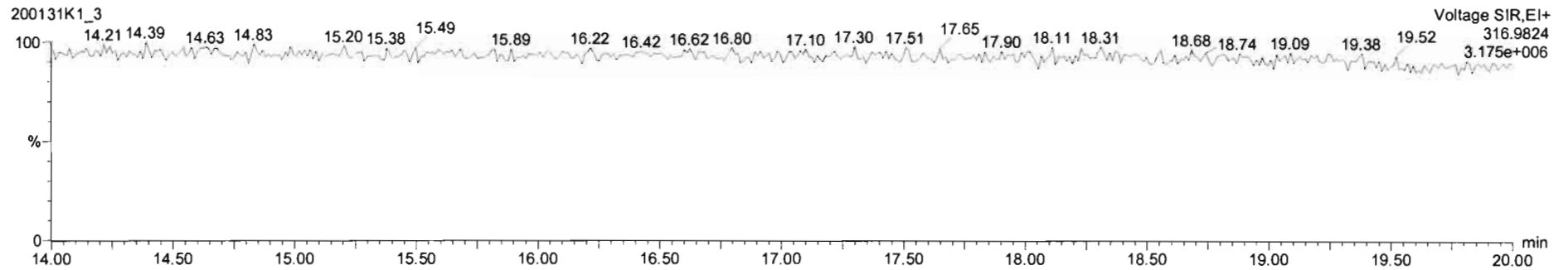


200131K1\_3



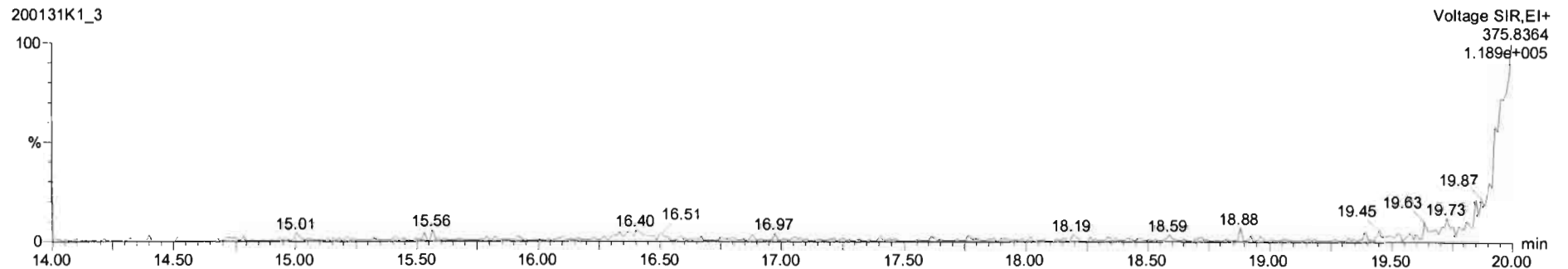
PFK1

200131K1\_3



DPE1

200131K1\_3



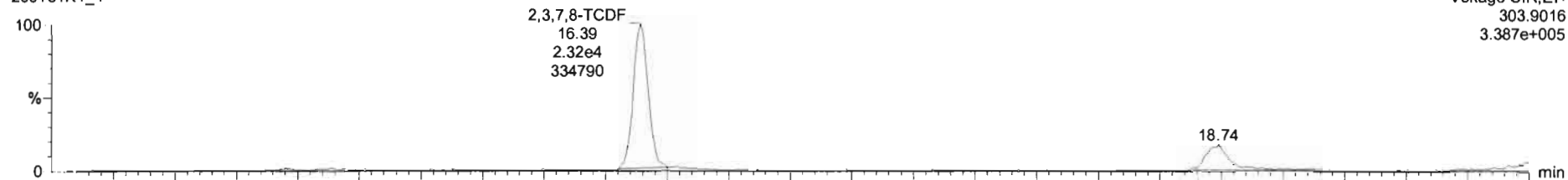
Dataset: Untitled

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Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

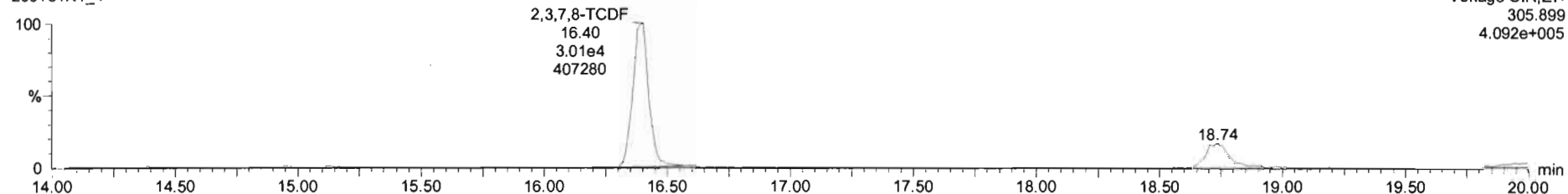
Name: 200131K1\_4, Date: 31-Jan-2020, Time: 11:40:42, ID: ST200131K1-3 1613 CS2 19C2203, Description: 1613 CS2 19C2203

**2,3,7,8-TCDF**

200131K1\_4

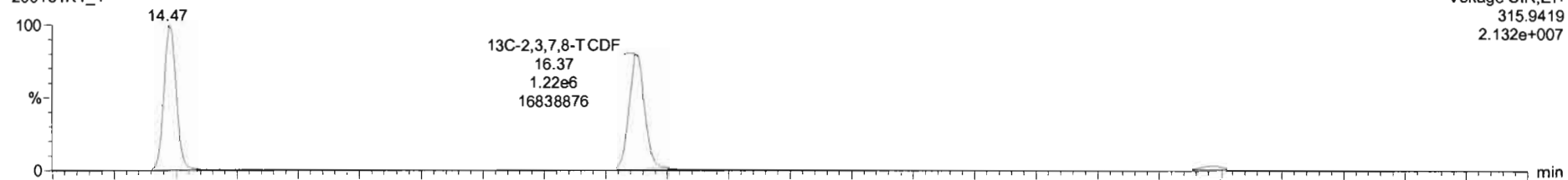


200131K1\_4

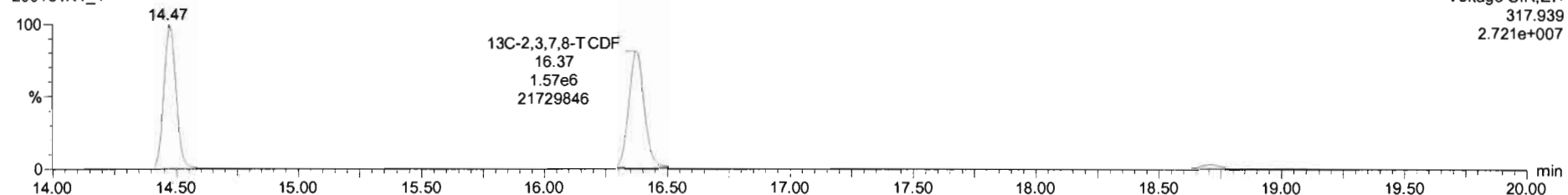


**13C-2,3,7,8-TCDF**

200131K1\_4



200131K1\_4





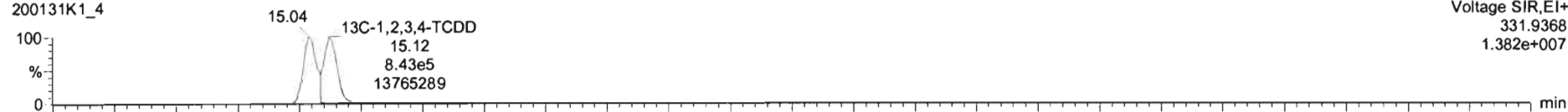
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

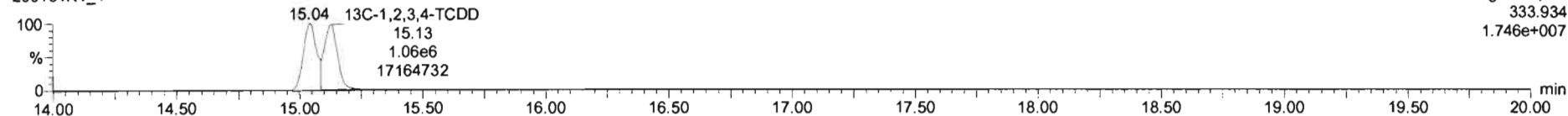
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**13C-1,2,3,4-TCDD**

200131K1\_4

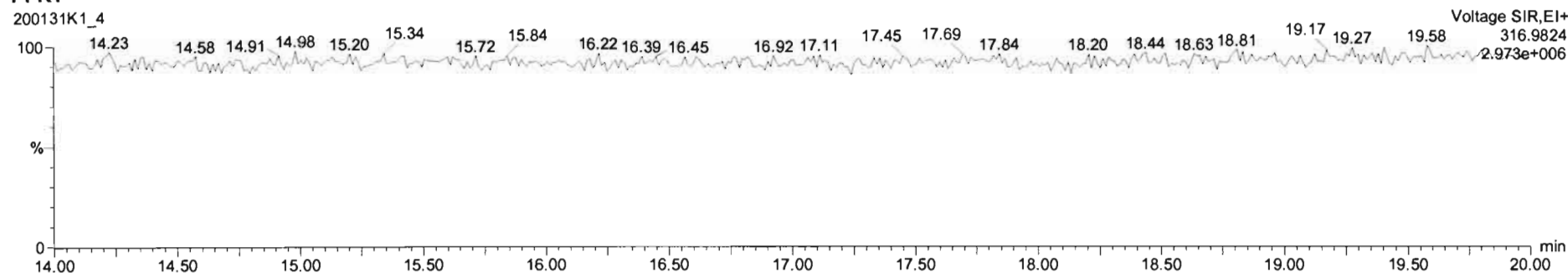


200131K1\_4



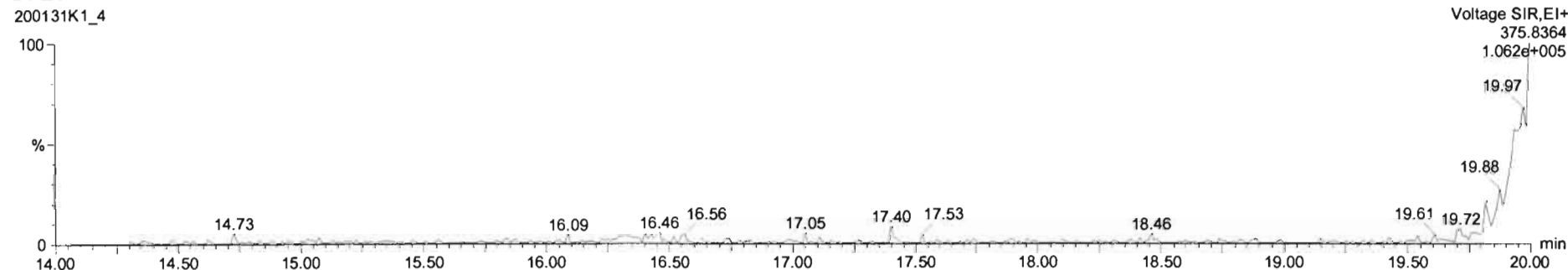
**PFK1**

200131K1\_4



**DPE1**

200131K1\_4



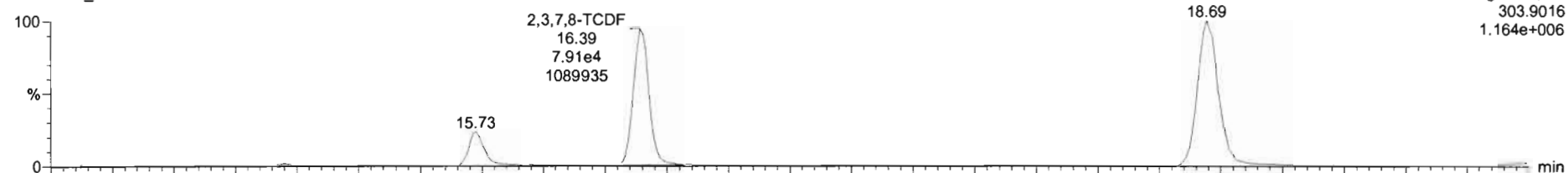
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
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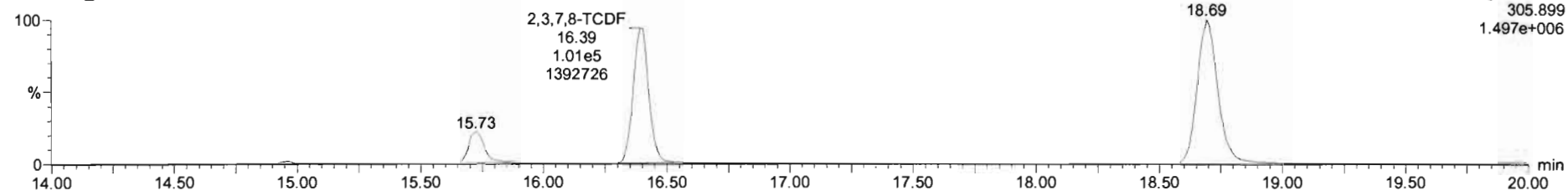
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2,3,7,8-TCDF

200131K1\_5

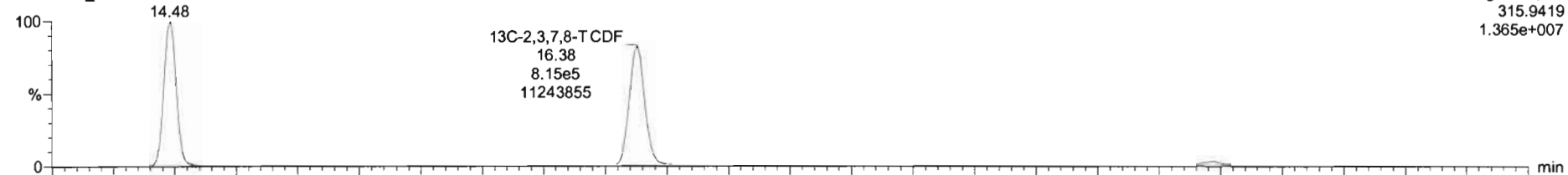


200131K1\_5

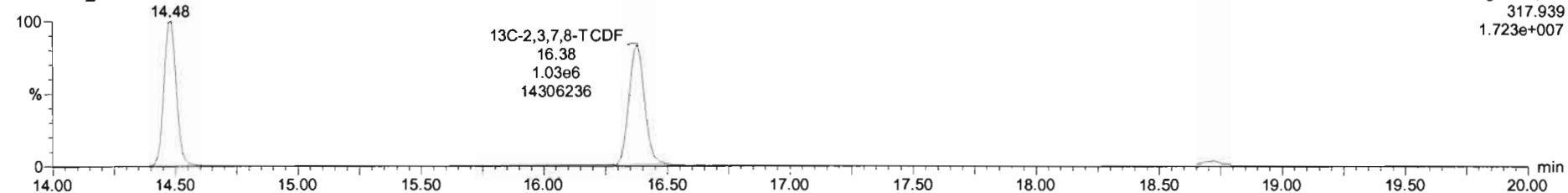


13C-2,3,7,8-TCDF

200131K1\_5



200131K1\_5



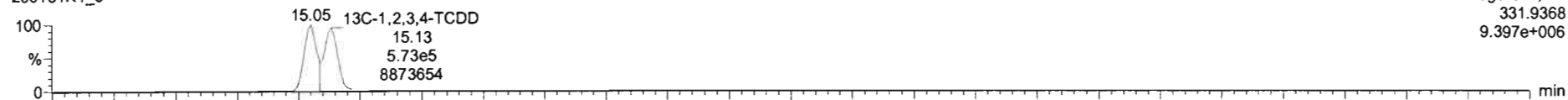
Dataset: Untitled

Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

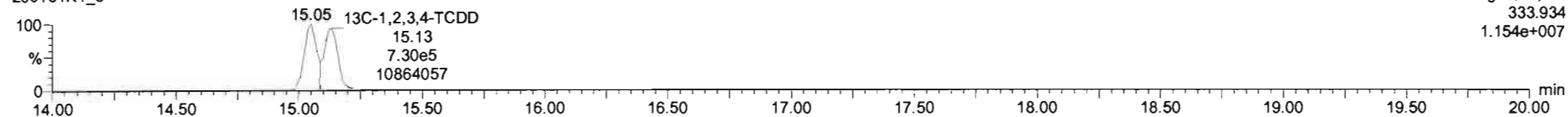
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13C-1,2,3,4-TCDD

200131K1\_5

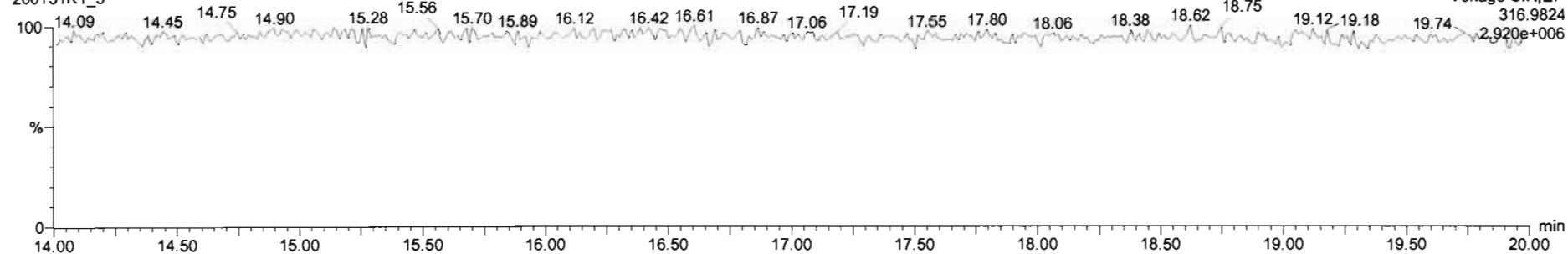


200131K1\_5



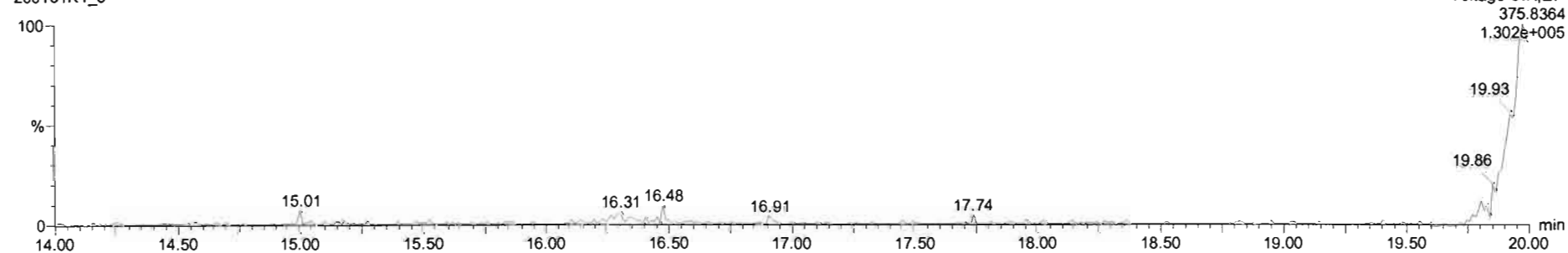
PFK1

200131K1\_5



DPE1

200131K1\_5



Dataset: Untitled

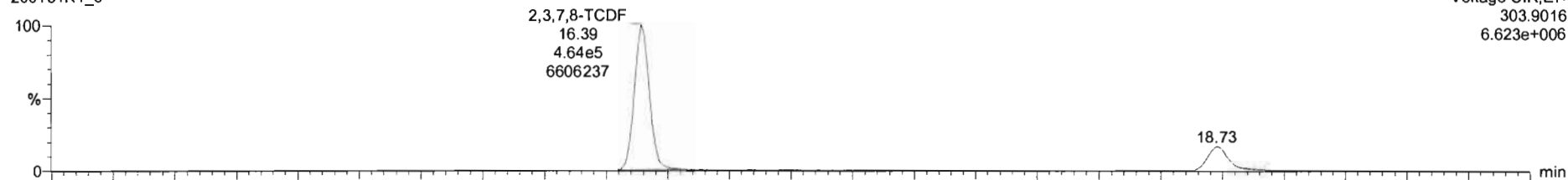
Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time

Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

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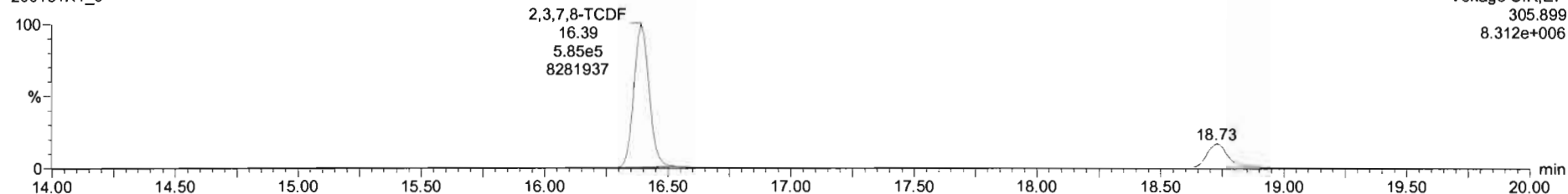
**2,3,7,8-TCDF**

200131K1\_6



Voltage SIR,EI+  
303.9016  
6.623e+006

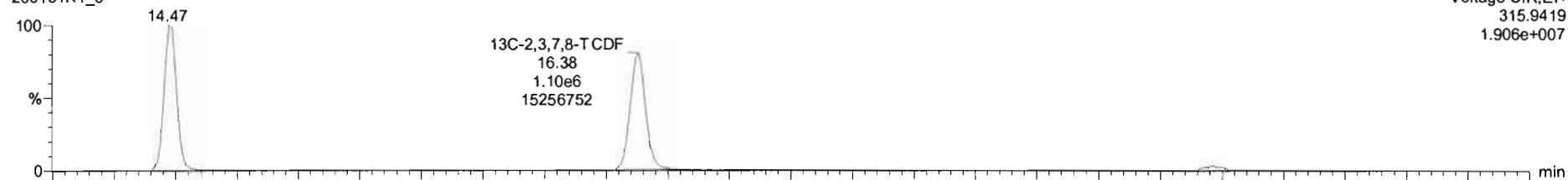
200131K1\_6



Voltage SIR,EI+  
305.899  
8.312e+006

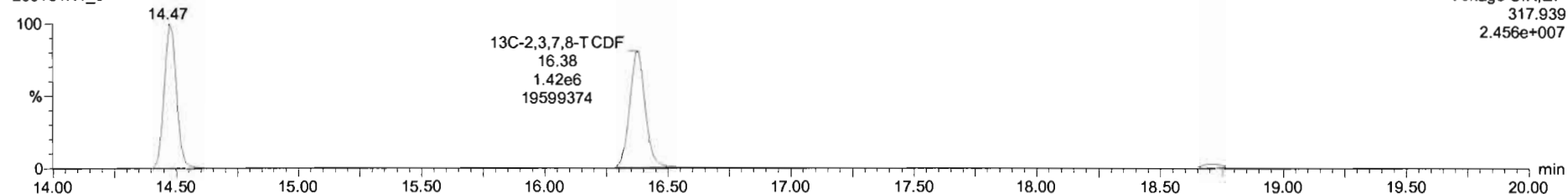
**13C-2,3,7,8-TCDF**

200131K1\_6



Voltage SIR,EI+  
315.9419  
1.906e+007

200131K1\_6



Voltage SIR,EI+  
317.939  
2.456e+007

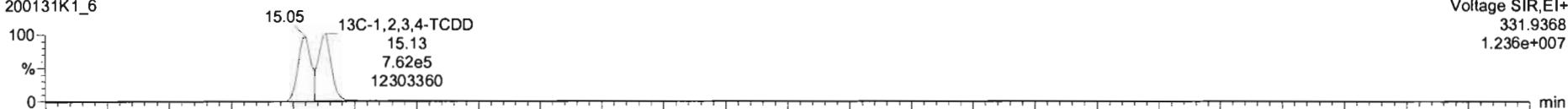
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

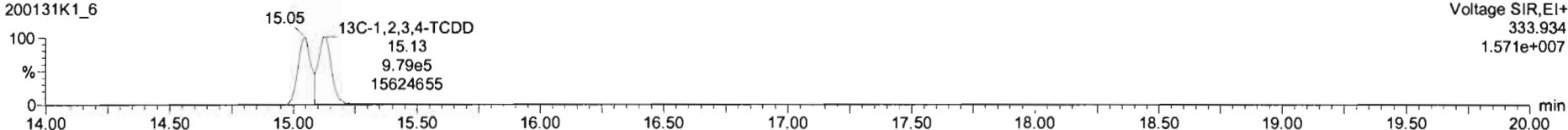
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13C-1,2,3,4-TCDD

200131K1\_6

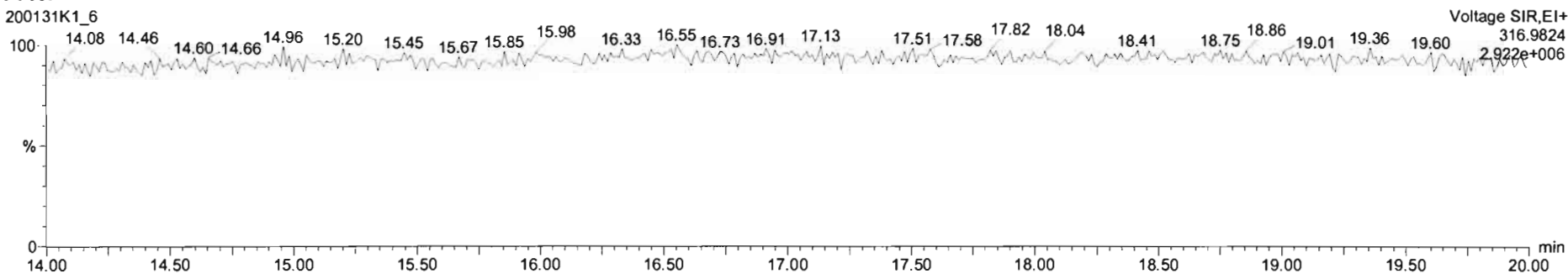


200131K1\_6



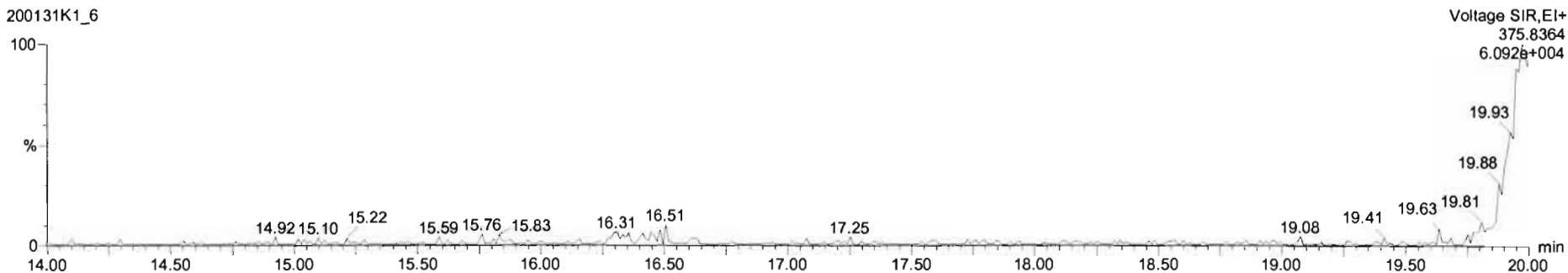
PFK1

200131K1\_6



DPE1

200131K1\_6



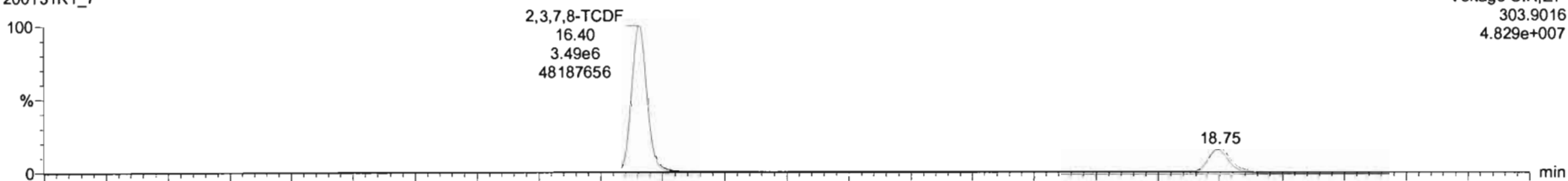
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

Name: 200131K1\_7, Date: 31-Jan-2020, Time: 13:16:14, ID: ST200131K1-6 1613 CS5 19C2206, Description: 1613 CS5 19C2206

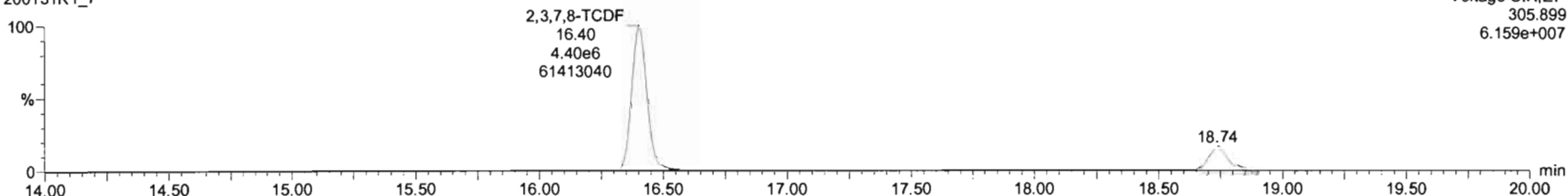
**2,3,7,8-TCDF**

200131K1\_7



Voltage SIR,EI+  
303.9016  
4.829e+007

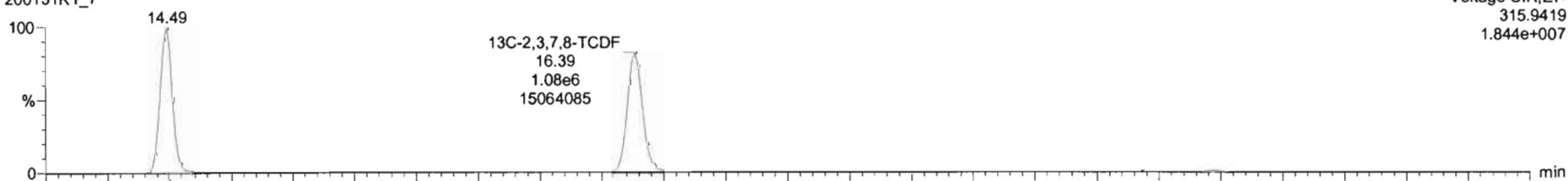
200131K1\_7



Voltage SIR,EI+  
305.899  
6.159e+007

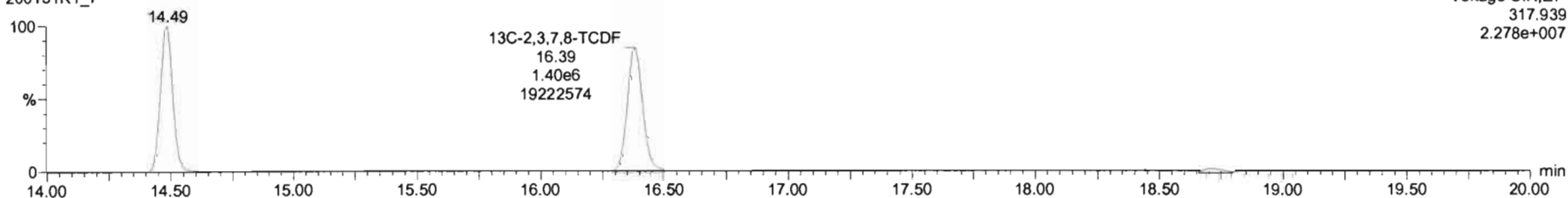
**13C-2,3,7,8-TCDF**

200131K1\_7



Voltage SIR,EI+  
315.9419  
1.844e+007

200131K1\_7



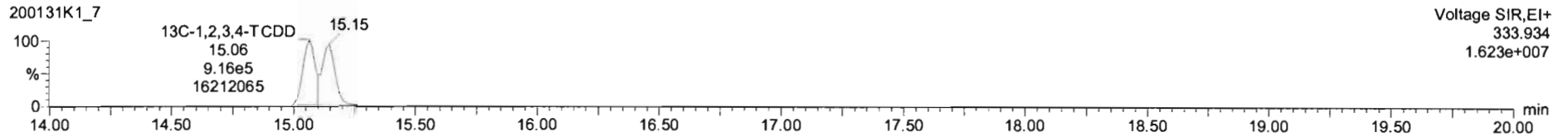
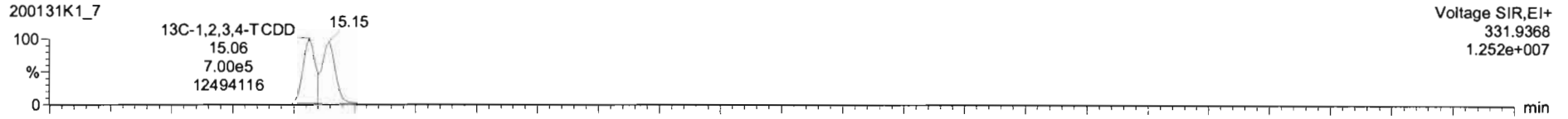
Voltage SIR,EI+  
317.939  
2.278e+007

Dataset: Untitled

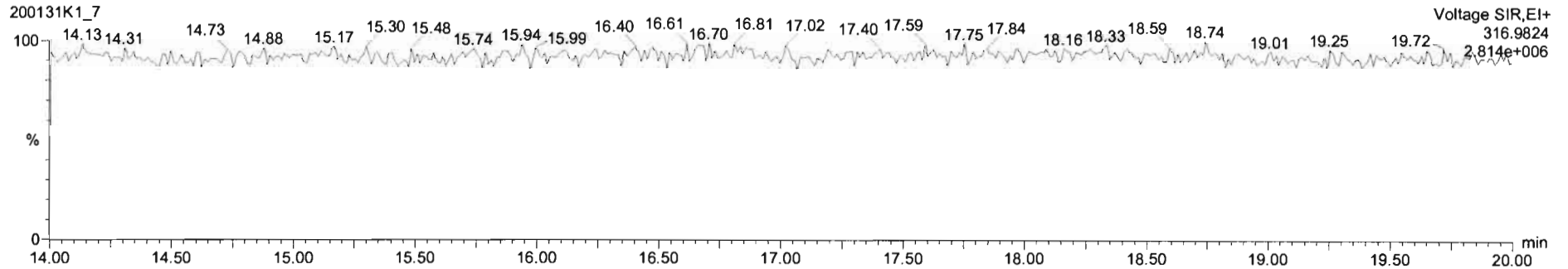
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Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

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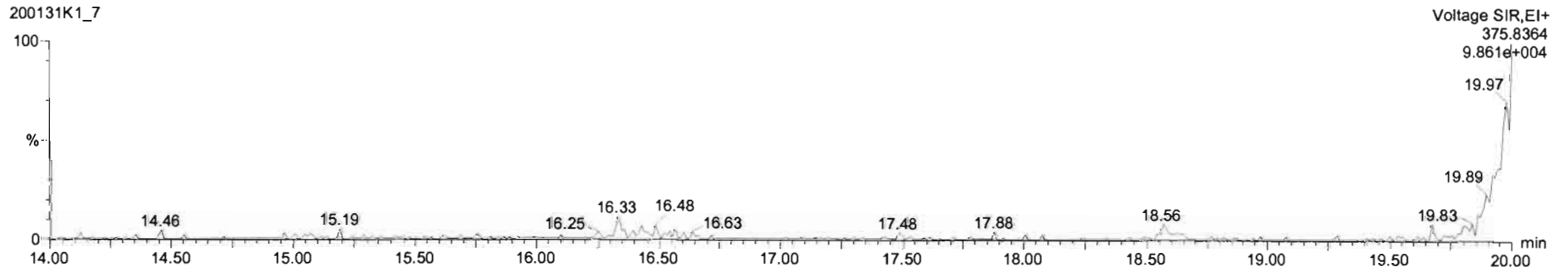
**13C-1,2,3,4-TCDD**

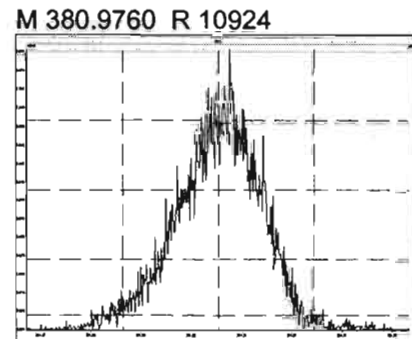
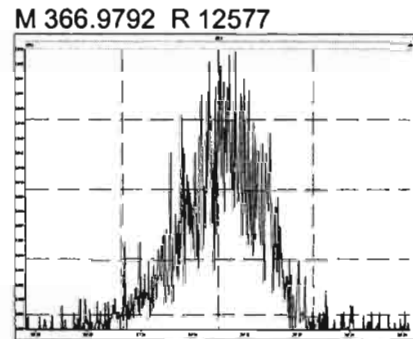
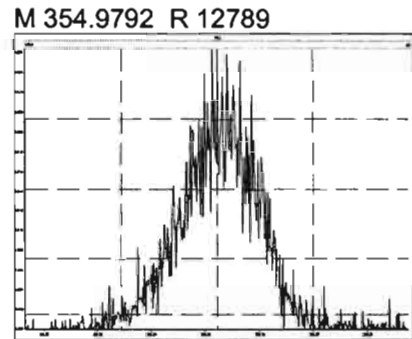
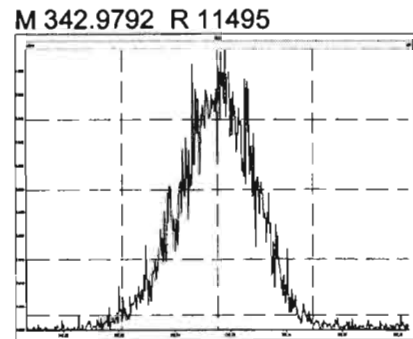
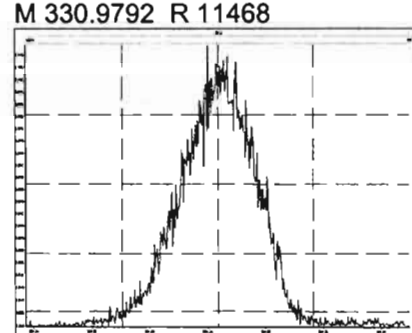
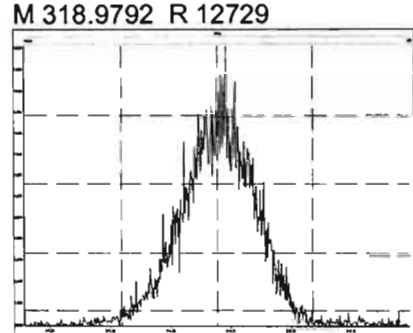
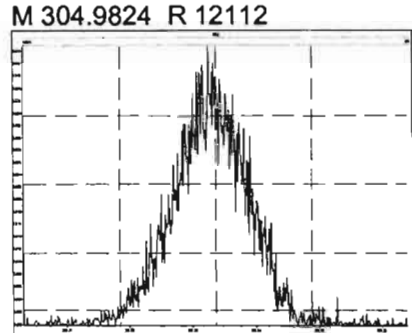
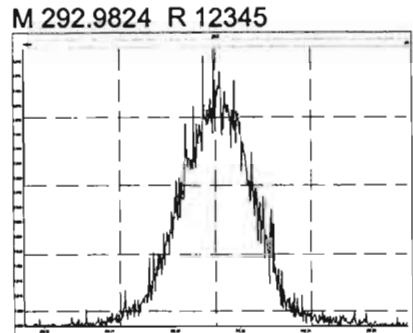


**PFK1**



**DPE1**







Dataset: U:\VG11.PRO\Results\200131K1\200131K1-9.qld

Last Altered: Saturday, February 01, 2020 08:31:58 Pacific Standard Time

Printed: Saturday, February 01, 2020 08:32:13 Pacific Standard Time

*H22-1-2020*

*CT 02/03/2020*

Method: U:\VG11.PRO\MethDB\tcdf.mdb 31 Jan 2020 07:42:36

Calibration: U:\VG11.PRO\CurveDB\db225\_1613TCDFvg11-1-31-20.cdb 31 Jan 2020 13:49:37

Name: 200131K1\_9, Date: 31-Jan-2020, Time: 14:19:06, ID: SS200131K1-1 1613 SSS 19C2207, Description: 1613 SSS 19C2207

#	Name	Resp	RA	n/y	RRF M...	wt/vol	RT	Conc.	%Rec	DL
1	1 2,3,7,8-TCDF	2.08e5	0.78	NO	1.04	1.000	16.40	10.088	101	0.0618
2	2 13C-2,3,7,8-TCDF	1.99e6	0.76	NO	1.02	1.000	16.39	94.052	94.1	0.102
3	3 13C-1,2,3,4-TCDF	2.07e6	0.80	NO	1.00	1.000	14.48	100.00	100	0.104
4	4 13C-1,2,3,4-TCDD	1.39e6	0.79	NO		1.000	15.13			

*5-14-781*

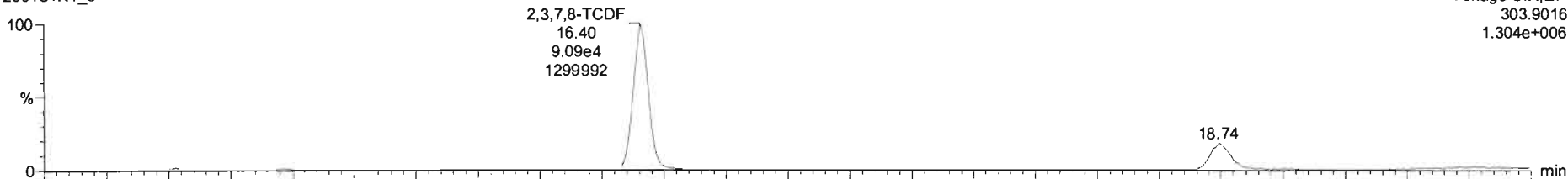
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

Name: 200131K1\_9, Date: 31-Jan-2020, Time: 14:19:06, ID: SS200131K1-1 1613 SSS 19C2207, Description: 1613 SSS 19C2207

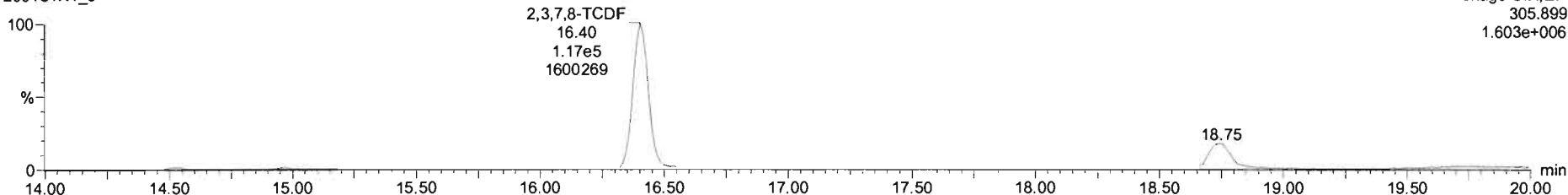
**2,3,7,8-TCDF**

200131K1\_9



Voltage SIR,EI+  
303.9016  
1.304e+006

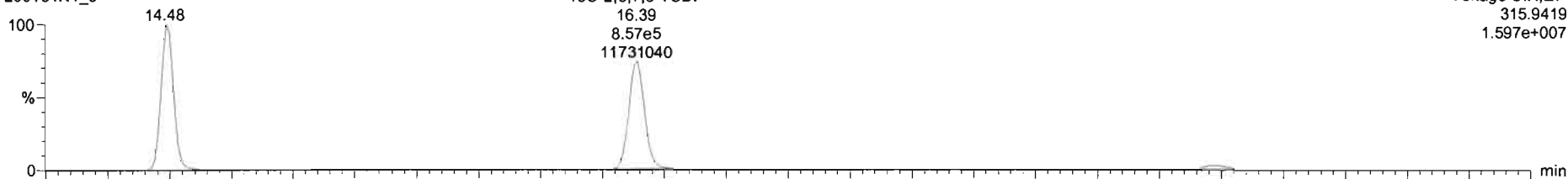
200131K1\_9



Voltage SIR,EI+  
305.899  
1.603e+006

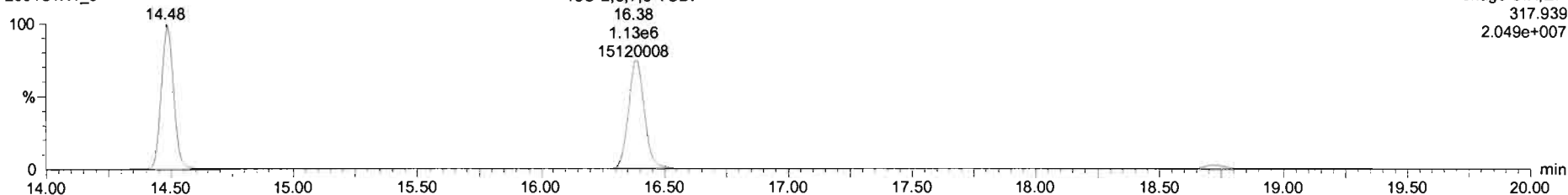
**13C-2,3,7,8-TCDF**

200131K1\_9



Voltage SIR,EI+  
315.9419  
1.597e+007

200131K1\_9



Voltage SIR,EI+  
317.939  
2.049e+007

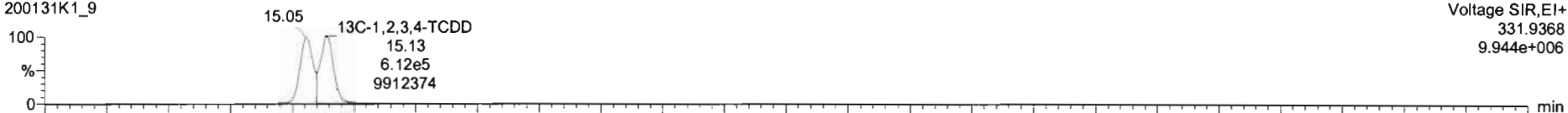
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Last Altered: Saturday, February 01, 2020 07:48:11 Pacific Standard Time  
Printed: Saturday, February 01, 2020 07:58:45 Pacific Standard Time

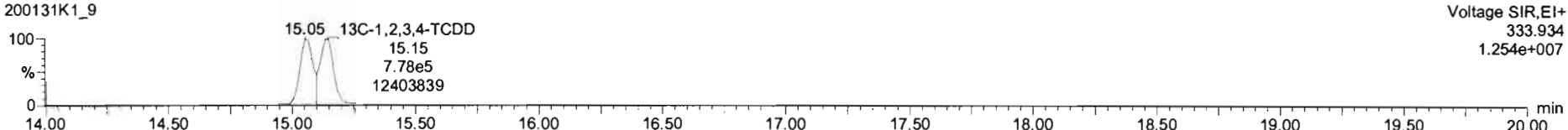
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13C-1,2,3,4-TCDD

200131K1\_9

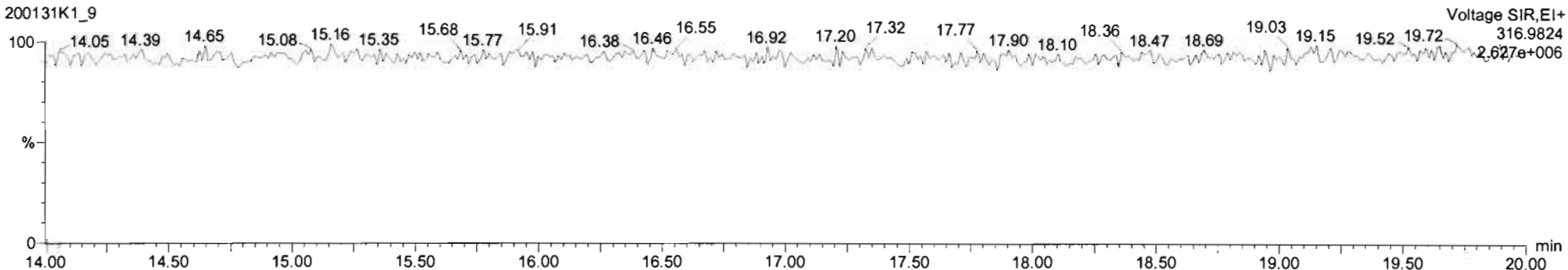


200131K1\_9



PFK1

200131K1\_9



DPE1

200131K1\_9

