

November 20, 2019

Vista Work Order No. 1903420

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 October 01, 2019 under your Project Name 'Gasco PDI'.

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.

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. 1903420

Case Narrative

Sample Condition on Receipt:

Eleven 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.

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-100SC-J-03-04-190926". The RPD was out of the acceptance criteria for 2,3,4,6,7,8-HxCDF.

The labeled standard recovery outside the method acceptance criteria is listed in the table below:

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B9J0175-BLK1	B9J0175-BLK1	EPA Method 1613B	13C-1,2,3,4,6,7,8-HpCDF	H	25.6

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1903420-01	PDI-013SC-A-10-11-190925	25-Sep-19 13:51	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-02	PDI-013SC-A-11-12-190925	25-Sep-19 13:51	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-03	PDI-018SC-A-11-12-190926	26-Sep-19 08:54	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-04	PDI-018SC-A-12-13.4-190926	26-Sep-19 09:31	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-05	PDI-100SC-J-01-02-190926	26-Sep-19 11:11	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-06	PDI-100SC-J-02-03-190926	26-Sep-19 11:11	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-07	PDI-100SC-J-03-04-190926	26-Sep-19 11:11	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-08	PDI-1100SC-J-03-04-190926	26-Sep-19 00:00	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-09	PDI-101SC-J-01-02-190926	26-Sep-19 14:54	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-10	PDI-101SC-J-02-03-190926	26-Sep-19 14:54	01-Oct-19 09:16	Amber Glass, 120 mL
1903420-11	PDI-101SC-J-03-04-190926	26-Sep-19 14:54	01-Oct-19 09:16	Amber Glass, 120 mL

ANALYTICAL RESULTS

Sample ID: Method Blank					EPA Method 1613B				
Matrix: Solid Sample Size: 10.0 g		QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09		Lab Sample: B9J0175-BLK1 Date Analyzed: 24-Oct-19 03:07 Column: ZB-5MS					
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.177			IS 13C-2,3,7,8-TCDD	63.5	25 - 164		
1,2,3,7,8-PeCDD	ND	0.230			13C-1,2,3,7,8-PeCDD	61.4	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.286			13C-1,2,3,4,7,8-HxCDD	54.7	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.303			13C-1,2,3,6,7,8-HxCDD	46.1	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.201			13C-1,2,3,7,8,9-HxCDD	67.9	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	0.213			13C-1,2,3,4,6,7,8-HpCDD	70.9	23 - 140		
OCDD	ND	0.281			13C-OCDD	66.5	17 - 157		
2,3,7,8-TCDF	ND	0.193			13C-2,3,7,8-TCDF	57.3	24 - 169		
1,2,3,7,8-PeCDF	ND	0.113			13C-1,2,3,7,8-PeCDF	70.5	24 - 185		
2,3,4,7,8-PeCDF	ND	0.108			13C-2,3,4,7,8-PeCDF	67.1	21 - 178		
1,2,3,4,7,8-HxCDF	ND	0.278			13C-1,2,3,4,7,8-HxCDF	33.4	26 - 152		
1,2,3,6,7,8-HxCDF	ND	0.282			13C-1,2,3,6,7,8-HxCDF	31.3	26 - 123		
2,3,4,6,7,8-HxCDF	ND	0.125			13C-2,3,4,6,7,8-HxCDF	71.5	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.167			13C-1,2,3,7,8,9-HxCDF	74.3	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	0.496			13C-1,2,3,4,6,7,8-HpCDF	25.6	28 - 143	H	
1,2,3,4,7,8,9-HpCDF	ND	0.180			13C-1,2,3,4,7,8,9-HpCDF	72.2	26 - 138		
OCDF	ND	0.375			13C-OCDF	45.6	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	59.5	35 - 197		
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00		
TOTALS									
Total TCDD	ND	0.177							
Total PeCDD	ND	0.230							
Total HxCDD	ND	0.303							
Total HpCDD	ND	0.213							
Total TCDF	ND	0.193							
Total PeCDF	ND	0.113							
Total HxCDF	ND	0.282							
Total HpCDF	ND	0.496							

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: B9J0175 Date Extracted: 17-Oct-2019 10:09		Lab Sample: B9J0175-BS1 Date Analyzed: 23-Oct-19 14:55 Column: ZB-5MS			
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	21.5	20.0	107	67 - 158	IS 13C-2,3,7,8-TCDD	82.3	20 - 175
1,2,3,7,8-PeCDD	92.8	100	92.8	70 - 142	13C-1,2,3,7,8-PeCDD	79.1	21 - 227
1,2,3,4,7,8-HxCDD	101	100	101	70 - 164	13C-1,2,3,4,7,8-HxCDD	89.2	21 - 193
1,2,3,6,7,8-HxCDD	109	100	109	76 - 134	13C-1,2,3,6,7,8-HxCDD	73.6	25 - 163
1,2,3,7,8,9-HxCDD	108	100	108	64 - 162	13C-1,2,3,7,8,9-HxCDD	79.2	21 - 193
1,2,3,4,6,7,8-HpCDD	98.5	100	98.5	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	83.5	26 - 166
OCDD	202	200	101	78 - 144	13C-OCDD	73.4	13 - 199
2,3,7,8-TCDF	19.0	20.0	95.2	75 - 158	13C-2,3,7,8-TCDF	76.5	22 - 152
1,2,3,7,8-PeCDF	97.3	100	97.3	80 - 134	13C-1,2,3,7,8-PeCDF	66.2	21 - 192
2,3,4,7,8-PeCDF	99.5	100	99.5	68 - 160	13C-2,3,4,7,8-PeCDF	75.2	13 - 328
1,2,3,4,7,8-HxCDF	94.6	100	94.6	72 - 134	13C-1,2,3,4,7,8-HxCDF	84.8	19 - 202
1,2,3,6,7,8-HxCDF	94.1	100	94.1	84 - 130	13C-1,2,3,6,7,8-HxCDF	78.3	21 - 159
2,3,4,6,7,8-HxCDF	99.1	100	99.1	70 - 156	13C-2,3,4,6,7,8-HxCDF	83.3	22 - 176
1,2,3,7,8,9-HxCDF	101	100	101	78 - 130	13C-1,2,3,7,8,9-HxCDF	87.9	17 - 205
1,2,3,4,6,7,8-HpCDF	101	100	101	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	72.8	21 - 158
1,2,3,4,7,8,9-HpCDF	98.4	100	98.4	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	85.0	20 - 186
OCDF	198	200	98.9	63 - 170	13C-OCDF	78.7	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	75.6	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: B9J0332 Date Extracted: 31-Oct-2019 8:05		Lab Sample: B9J0332-BLK1 Date Analyzed: 11-Nov-19 12:43 Column: ZB-5MS					
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.0406			IS 13C-2,3,7,8-TCDD	93.8	25 - 164		
1,2,3,7,8-PeCDD	ND	0.0703			13C-1,2,3,7,8-PeCDD	95.6	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.0602			13C-1,2,3,4,7,8-HxCDD	96.3	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.0691			13C-1,2,3,6,7,8-HxCDD	83.0	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.0682			13C-1,2,3,7,8,9-HxCDD	86.6	32 - 141		
1,2,3,4,6,7,8-HpCDD	ND	0.0903			13C-1,2,3,4,6,7,8-HpCDD	98.2	23 - 140		
OCDD	ND	0.121			13C-OCDD	91.2	17 - 157		
2,3,7,8-TCDF	ND	0.0315			13C-2,3,7,8-TCDF	91.4	24 - 169		
1,2,3,7,8-PeCDF	ND	0.0708			13C-1,2,3,7,8-PeCDF	93.2	24 - 185		
2,3,4,7,8-PeCDF	ND	0.0659			13C-2,3,4,7,8-PeCDF	91.7	21 - 178		
1,2,3,4,7,8-HxCDF	ND	0.0335			13C-1,2,3,4,7,8-HxCDF	99.5	26 - 152		
1,2,3,6,7,8-HxCDF	ND	0.0369			13C-1,2,3,6,7,8-HxCDF	89.7	26 - 123		
2,3,4,6,7,8-HxCDF	ND	0.0379			13C-2,3,4,6,7,8-HxCDF	92.2	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.0500			13C-1,2,3,7,8,9-HxCDF	96.5	29 - 147		
1,2,3,4,6,7,8-HpCDF	ND	0.0416			13C-1,2,3,4,6,7,8-HpCDF	95.6	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	0.0354			13C-1,2,3,4,7,8,9-HpCDF	109	26 - 138		
OCDF	ND	0.0954			13C-OCDF	101	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	93.0	35 - 197		
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.00		
TOTALS									
Total TCDD	ND	0.0406							
Total PeCDD	ND	0.0703							
Total HxCDD	ND	0.0661							
Total HpCDD	ND	0.0903							
Total TCDF	ND	0.0315							
Total PeCDF	ND	0.0683							
Total HxCDF	ND	0.0393							
Total HpCDF	ND	0.0387							

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: B9J0332 Date Extracted: 31-Oct-2019 8:05		Lab Sample: B9J0332-BS1 Date Analyzed: 11-Nov-19 11:07 Column: ZB-5MS			
Analyte	Amt Found (pg/g)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	22.2	20.0	111	67 - 158	IS 13C-2,3,7,8-TCDD	95.7	20 - 175
1,2,3,7,8-PeCDD	106	100	106	70 - 142	13C-1,2,3,7,8-PeCDD	97.4	21 - 227
1,2,3,4,7,8-HxCDD	105	100	105	70 - 164	13C-1,2,3,4,7,8-HxCDD	94.8	21 - 193
1,2,3,6,7,8-HxCDD	105	100	105	76 - 134	13C-1,2,3,6,7,8-HxCDD	85.8	25 - 163
1,2,3,7,8,9-HxCDD	107	100	107	64 - 162	13C-1,2,3,7,8,9-HxCDD	87.4	21 - 193
1,2,3,4,6,7,8-HpCDD	103	100	103	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	102	26 - 166
OCDD	210	200	105	78 - 144	13C-OCDD	93.8	13 - 199
2,3,7,8-TCDF	20.4	20.0	102	75 - 158	13C-2,3,7,8-TCDF	94.1	22 - 152
1,2,3,7,8-PeCDF	104	100	104	80 - 134	13C-1,2,3,7,8-PeCDF	93.7	21 - 192
2,3,4,7,8-PeCDF	105	100	105	68 - 160	13C-2,3,4,7,8-PeCDF	93.1	13 - 328
1,2,3,4,7,8-HxCDF	101	100	101	72 - 134	13C-1,2,3,4,7,8-HxCDF	99.2	19 - 202
1,2,3,6,7,8-HxCDF	101	100	101	84 - 130	13C-1,2,3,6,7,8-HxCDF	92.5	21 - 159
2,3,4,6,7,8-HxCDF	103	100	103	70 - 156	13C-2,3,4,6,7,8-HxCDF	92.5	22 - 176
1,2,3,7,8,9-HxCDF	102	100	102	78 - 130	13C-1,2,3,7,8,9-HxCDF	97.1	17 - 205
1,2,3,4,6,7,8-HpCDF	100	100	100	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	98.1	21 - 158
1,2,3,4,7,8,9-HpCDF	99.7	100	99.7	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	109	20 - 186
OCDF	201	200	101	63 - 170	13C-OCDF	103	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	96.2	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: PDI-013SC-A-10-11-190925 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-01 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 12.7 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 25-Sep-2019 13:51	% Solids: 78.5	Date Analyzed : 24-Oct-19 03:55 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.174			IS 13C-2,3,7,8-TCDD	97.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.152			13C-1,2,3,7,8-PeCDD	85.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.185			13C-1,2,3,4,7,8-HxCDD	96.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.202			13C-1,2,3,6,7,8-HxCDD	79.8	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.198			13C-1,2,3,7,8,9-HxCDD	85.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.666		13C-1,2,3,4,6,7,8-HpCDD	99.7	23 - 140	
OCDD	25.0				13C-OCDD	96.3	17 - 157	
2,3,7,8-TCDF	ND	0.111			13C-2,3,7,8-TCDF	87.4	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0744			13C-1,2,3,7,8-PeCDF	90.8	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0708			13C-2,3,4,7,8-PeCDF	92.5	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0817			13C-1,2,3,4,7,8-HxCDF	102	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0828			13C-1,2,3,6,7,8-HxCDF	91.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0930			13C-2,3,4,6,7,8-HxCDF	91.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.114			13C-1,2,3,7,8,9-HxCDF	96.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.127			13C-1,2,3,4,6,7,8-HpCDF	96.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.106			13C-1,2,3,4,7,8,9-HpCDF	103	26 - 138	
OCDF	ND		0.462		13C-OCDF	107	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	91.0	35 - 197	

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

TEQMinWHO2005Dioxin 0.00750

TOTALS			
Total TCDD	ND	0.174	
Total PeCDD	0.120		0.242
Total HxCDD	0.695		
Total HpCDD	ND		1.91
Total TCDF	ND	0.111	
Total PeCDF	ND	0.0744	
Total HxCDF	ND	0.114	
Total HpCDF	ND	0.127	

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-013SC-A-11-12-190925 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-02 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 13.7 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 25-Sep-2019 13:51	% Solids: 73.0	Date Analyzed : 24-Oct-19 04:43 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.224			IS 13C-2,3,7,8-TCDD	73.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.201			13C-1,2,3,7,8-PeCDD	83.9	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.302			13C-1,2,3,4,7,8-HxCDD	88.2	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.317			13C-1,2,3,6,7,8-HxCDD	78.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.296			13C-1,2,3,7,8,9-HxCDD	87.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	2.33			J	13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
OCDD	44.9				13C-OCDD	99.5	17 - 157	
2,3,7,8-TCDF	ND	0.146			13C-2,3,7,8-TCDF	60.7	24 - 169	
1,2,3,7,8-PeCDF	ND	0.116			13C-1,2,3,7,8-PeCDF	77.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.119			13C-2,3,4,7,8-PeCDF	74.1	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0952			13C-1,2,3,4,7,8-HxCDF	90.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0921			13C-1,2,3,6,7,8-HxCDF	86.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0937			13C-2,3,4,6,7,8-HxCDF	88.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.125			13C-1,2,3,7,8,9-HxCDF	92.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.125			13C-1,2,3,4,6,7,8-HpCDF	94.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.103			13C-1,2,3,4,7,8,9-HpCDF	101	26 - 138	
OCDF	ND	0.140			13C-OCDF	110	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	68.6	35 - 197	

Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)
 TEQMinWHO2005Dioxin 0.0368

TOTALS			
Total TCDD	1.06		
Total PeCDD	0.543		0.680
Total HxCDD	3.65		
Total HpCDD	8.20		
Total TCDF	ND	0.146	
Total PeCDF	ND	0.119	
Total HxCDF	ND	0.125	
Total HpCDF	ND	0.125	

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-018SC-A-11-12-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-03 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 12.4 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 8:54	% Solids: 80.9	Date Analyzed: 24-Oct-19 05:31 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.125			IS 13C-2,3,7,8-TCDD	105	25 - 164	
1,2,3,7,8-PeCDD	ND	0.111			13C-1,2,3,7,8-PeCDD	107	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.175			13C-1,2,3,4,7,8-HxCDD	101	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.187			13C-1,2,3,6,7,8-HxCDD	81.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.190			13C-1,2,3,7,8,9-HxCDD	88.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.234		13C-1,2,3,4,6,7,8-HpCDD	103	23 - 140	
OCDD	1.69			J	13C-OCDD	100	17 - 157	
2,3,7,8-TCDF	ND	0.125			13C-2,3,7,8-TCDF	89.2	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0753			13C-1,2,3,7,8-PeCDF	108	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0665			13C-2,3,4,7,8-PeCDF	108	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0753			13C-1,2,3,4,7,8-HxCDF	107	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0741			13C-1,2,3,6,7,8-HxCDF	98.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0887			13C-2,3,4,6,7,8-HxCDF	94.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.113			13C-1,2,3,7,8,9-HxCDF	97.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.122			13C-1,2,3,4,6,7,8-HpCDF	103	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.110			13C-1,2,3,4,7,8,9-HpCDF	106	26 - 138	
OCDF	ND	0.160			13C-OCDF	114	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	91.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)
 TEQMinWHO2005Dioxin 0.000507

TOTALS								
Total TCDD	ND	0.125						
Total PeCDD	ND	0.111						
Total HxCDD	ND		0.228					
Total HpCDD	ND		0.234					
Total TCDF	ND	0.125						
Total PeCDF	ND	0.0753						
Total HxCDF	ND	0.113						
Total HpCDF	ND	0.122						

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-018SC-A-12-13.4-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-04 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 13.7 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 9:31	% Solids: 73.4	Date Analyzed : 24-Oct-19 06:19 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.191			IS 13C-2,3,7,8-TCDD	61.5	25 - 164	
1,2,3,7,8-PeCDD	ND	0.168			13C-1,2,3,7,8-PeCDD	70.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.196			13C-1,2,3,4,7,8-HxCDD	77.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.231			13C-1,2,3,6,7,8-HxCDD	62.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.200			13C-1,2,3,7,8,9-HxCDD	72.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.179			13C-1,2,3,4,6,7,8-HpCDD	85.7	23 - 140	
OCDD	ND	0.341			13C-OCDD	76.2	17 - 157	
2,3,7,8-TCDF	ND	0.154			13C-2,3,7,8-TCDF	55.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0870			13C-1,2,3,7,8-PeCDF	66.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0886			13C-2,3,4,7,8-PeCDF	66.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0896			13C-1,2,3,4,7,8-HxCDF	78.1	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0912			13C-1,2,3,6,7,8-HxCDF	71.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0903			13C-2,3,4,6,7,8-HxCDF	74.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.126			13C-1,2,3,7,8,9-HxCDF	77.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.121			13C-1,2,3,4,6,7,8-HpCDF	83.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.108			13C-1,2,3,4,7,8,9-HpCDF	87.1	26 - 138	
OCDF	ND	0.171			13C-OCDF	88.7	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	56.7	35 - 197	

Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)
 TEQMinWHO2005Dioxin 0.00

TOTALS		
Total TCDD	ND	0.191
Total PeCDD	ND	0.168
Total HxCDD	ND	0.231
Total HpCDD	ND	0.179
Total TCDF	ND	0.154
Total PeCDF	ND	0.0886
Total HxCDF	ND	0.126
Total HpCDF	ND	0.121

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-100SC-J-01-02-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-05 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 12.3 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 11:11	% Solids: 81.7	Date Analyzed: 24-Oct-19 07:06 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.195			IS 13C-2,3,7,8-TCDD	59.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.207			13C-1,2,3,7,8-PeCDD	59.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.371			13C-1,2,3,4,7,8-HxCDD	64.1	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.400			13C-1,2,3,6,7,8-HxCDD	52.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.377			13C-1,2,3,7,8,9-HxCDD	57.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	2.88				13C-1,2,3,4,6,7,8-HpCDD	60.9	23 - 140	
OCDD	30.8				13C-OCDD	56.3	17 - 157	
2,3,7,8-TCDF	ND	0.231			13C-2,3,7,8-TCDF	56.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.238			13C-1,2,3,7,8-PeCDF	63.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.230			13C-2,3,4,7,8-PeCDF	63.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.244			13C-1,2,3,4,7,8-HxCDF	57.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND		0.299		13C-1,2,3,6,7,8-HxCDF	52.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.244			13C-2,3,4,6,7,8-HxCDF	60.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.303			13C-1,2,3,7,8,9-HxCDF	64.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND		1.84		13C-1,2,3,4,6,7,8-HpCDF	51.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.208			13C-1,2,3,4,7,8,9-HpCDF	60.2	26 - 138	
OCDF	ND		2.88		13C-OCDF	59.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	54.7	35 - 197	

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

TEQMinWHO2005Dioxin 0.0380

TOTALS								
Total TCDD	ND	0.195						
Total PeCDD	ND	0.207						
Total HxCDD	0.659							
Total HpCDD	6.52							
Total TCDF	0.369							
Total PeCDF	ND		0.385					
Total HxCDF	1.63		2.37					
Total HpCDF	3.27		5.10					

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-100SC-J-02-03-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-06 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 13.5 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 11:11	% Solids: 75.4	Date Analyzed : 24-Oct-19 07:54 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.192			IS 13C-2,3,7,8-TCDD	66.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.195			13C-1,2,3,7,8-PeCDD	73.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.228			13C-1,2,3,4,7,8-HxCDD	77.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.262			13C-1,2,3,6,7,8-HxCDD	64.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.240			13C-1,2,3,7,8,9-HxCDD	69.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	4.66				13C-1,2,3,4,6,7,8-HpCDD	77.5	23 - 140	
OCDD	65.1				13C-OCDD	76.7	17 - 157	
2,3,7,8-TCDF	ND	0.218			13C-2,3,7,8-TCDF	58.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.172			13C-1,2,3,7,8-PeCDF	75.3	24 - 185	
2,3,4,7,8-PeCDF	ND		0.226		13C-2,3,4,7,8-PeCDF	74.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.191			13C-1,2,3,4,7,8-HxCDF	72.3	26 - 152	
1,2,3,6,7,8-HxCDF	0.934			J	13C-1,2,3,6,7,8-HxCDF	69.3	26 - 123	
2,3,4,6,7,8-HxCDF	0.187			J	13C-2,3,4,6,7,8-HxCDF	74.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.220			13C-1,2,3,7,8,9-HxCDF	79.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	6.57				13C-1,2,3,4,6,7,8-HpCDF	70.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.160			13C-1,2,3,4,7,8,9-HpCDF	79.0	26 - 138	
OCDF	2.55			J	13C-OCDF	86.7	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	62.4	35 - 197	

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

TEQMinWHO2005Dioxin 0.245

TOTALS								
Total TCDD	ND	0.192						
Total PeCDD	ND		0.163					
Total HxCDD	1.15							
Total HpCDD	12.6							
Total TCDF	0.935		1.82					
Total PeCDF	2.42		2.76					
Total HxCDF	7.19		7.42					
Total HpCDF	12.7							

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-100SC-J-02-03-190926		QC Batch: B9J0175		Lab Sample: B9J0175-DUP1					
Source LabNumber: 1903420-06		Date Extracted: 17-Oct-2019 10:09		Date Analyzed: 24-Oct-19 08:42 Column: ZB-5MS					
Matrix: Solid									
Sample Size: 13.4 g									
Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers	
2,3,7,8-TCDD	ND	0.195			IS 13C-2,3,7,8-TCDD	71.2	25 - 164		
1,2,3,7,8-PeCDD	ND	0.336			13C-1,2,3,7,8-PeCDD	69.2	25 - 181		
1,2,3,4,7,8-HxCDD	ND	0.306			13C-1,2,3,4,7,8-HxCDD	76.8	32 - 141		
1,2,3,6,7,8-HxCDD	ND	0.355			13C-1,2,3,6,7,8-HxCDD	61.0	28 - 130		
1,2,3,7,8,9-HxCDD	ND	0.338			13C-1,2,3,7,8,9-HxCDD	67.9	32 - 141		
1,2,3,4,6,7,8-HpCDD	3.77				13C-1,2,3,4,6,7,8-HpCDD	75.4	23 - 140		
OCDD	60.4				13C-OCDD	75.1	17 - 157		
2,3,7,8-TCDF	ND	0.302			13C-2,3,7,8-TCDF	66.1	24 - 169		
1,2,3,7,8-PeCDF	ND	0.187			13C-1,2,3,7,8-PeCDF	71.0	24 - 185		
2,3,4,7,8-PeCDF	0.523			J	13C-2,3,4,7,8-PeCDF	72.0	21 - 178		
1,2,3,4,7,8-HxCDF	ND	0.170			13C-1,2,3,4,7,8-HxCDF	62.7	26 - 152		
1,2,3,6,7,8-HxCDF	1.05			J	13C-1,2,3,6,7,8-HxCDF	59.7	26 - 123		
2,3,4,6,7,8-HxCDF	0.0394			J	13C-2,3,4,6,7,8-HxCDF	69.6	28 - 136		
1,2,3,7,8,9-HxCDF	ND	0.188			13C-1,2,3,7,8,9-HxCDF	75.8	29 - 147		
1,2,3,4,6,7,8-HpCDF	5.75				13C-1,2,3,4,6,7,8-HpCDF	57.2	28 - 143		
1,2,3,4,7,8,9-HpCDF	ND	0.214			13C-1,2,3,4,7,8,9-HpCDF	80.5	26 - 138		
OCDF	2.92			J	13C-OCDF	81.0	17 - 157		
					CRS 37Cl-2,3,7,8-TCDD	64.4	35 - 197		
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.380		
TOTALS									
Total TCDD	ND	0.195							
Total PeCDD	ND		0.222						
Total HxCDD	2.86								
Total HpCDD	10.3								
Total TCDF	ND		0.807						
Total PeCDF	1.64		3.00						
Total HxCDF	6.29		6.68						
Total HpCDF	11.7								

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-100SC-J-02-03-190926					Duplicate Lab Sample: B9J0175-DUP1				
Source LabNumber: 1903420-06									
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	71.2	66.8	25 - 164	
1,2,3,7,8-PeCDD	ND	ND	NA	25	13C-1,2,3,7,8-PeCDD	69.2	73.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,4,7,8-HxCDD	76.8	77.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	ND	NA	25	13C-1,2,3,6,7,8-HxCDD	61.0	64.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDD	67.9	69.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	3.77	4.66	21.2	25	13C-1,2,3,4,6,7,8-HpCDD	75.4	77.5	23 - 140	
OCDD	60.4	65.1	7.51	25	13C-OCDD	75.1	76.7	17 - 157	
2,3,7,8-TCDF	ND	ND	NA	25	13C-2,3,7,8-TCDF	66.1	58.9	24 - 169	
1,2,3,7,8-PeCDF	ND	ND	NA	25	13C-1,2,3,7,8-PeCDF	71.0	75.3	24 - 185	
2,3,4,7,8-PeCDF	0.523	ND	#	25	13C-2,3,4,7,8-PeCDF	72.0	74.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	ND	NA	25	13C-1,2,3,4,7,8-HxCDF	62.7	72.3	26 - 152	
1,2,3,6,7,8-HxCDF	1.05	0.934	12.1	25	13C-1,2,3,6,7,8-HxCDF	59.7	69.3	26 - 123	
2,3,4,6,7,8-HxCDF	0.0394	0.187	130	25	13C-2,3,4,6,7,8-HxCDF	69.6	74.5	28 - 136	
1,2,3,7,8,9-HxCDF	ND	ND	NA	25	13C-1,2,3,7,8,9-HxCDF	75.8	79.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	5.75	6.57	13.4	25	13C-1,2,3,4,6,7,8-HpCDF	57.2	70.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	ND	NA	25	13C-1,2,3,4,7,8,9-HpCDF	80.5	79.0	26 - 138	
OCDF	2.92	2.55	13.4	25	13C-OCDF	81.0	86.7	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	64.4	62.4	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-100SC-J-03-04-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-07 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 12.2 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 11:11	% Solids: 81.7	Date Analyzed : 24-Oct-19 09:30 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.220			IS 13C-2,3,7,8-TCDD	77.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.283			13C-1,2,3,7,8-PeCDD	75.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.350			13C-1,2,3,4,7,8-HxCDD	70.7	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.361			13C-1,2,3,6,7,8-HxCDD	60.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.307			13C-1,2,3,7,8,9-HxCDD	73.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	3.07				13C-1,2,3,4,6,7,8-HpCDD	72.3	23 - 140	
OCDD	43.9				13C-OCDD	76.2	17 - 157	
2,3,7,8-TCDF	ND	0.215			13C-2,3,7,8-TCDF	77.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.216			13C-1,2,3,7,8-PeCDF	78.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.195			13C-2,3,4,7,8-PeCDF	78.2	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.321			13C-1,2,3,4,7,8-HxCDF	46.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.311			13C-1,2,3,6,7,8-HxCDF	42.2	26 - 123	
2,3,4,6,7,8-HxCDF	ND		0.126		13C-2,3,4,6,7,8-HxCDF	74.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.231			13C-1,2,3,7,8,9-HxCDF	81.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	8.00				13C-1,2,3,4,6,7,8-HpCDF	33.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.182			13C-1,2,3,4,7,8,9-HpCDF	70.3	26 - 138	
OCDF	2.77			J	13C-OCDF	61.8	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	75.2	35 - 197	

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

TEQMinWHO2005Dioxin 0.125

TOTALS								
Total TCDD	ND	0.220						
Total PeCDD	ND	0.283						
Total HxCDD	0.970		1.62					
Total HpCDD	7.30							
Total TCDF	ND		0.536					
Total PeCDF	0.282		0.610					
Total HxCDF	2.59		3.55					
Total HpCDF	13.6							

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-1100SC-J-03-04-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-08 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 12.1 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 0:00	% Solids: 82.8	Date Analyzed: 24-Oct-19 10:18 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.267			IS 13C-2,3,7,8-TCDD	73.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.361			13C-1,2,3,7,8-PeCDD	66.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.334			13C-1,2,3,4,7,8-HxCDD	73.5	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.377			13C-1,2,3,6,7,8-HxCDD	62.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.319			13C-1,2,3,7,8,9-HxCDD	70.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		2.55		13C-1,2,3,4,6,7,8-HpCDD	71.1	23 - 140	
OCDD	40.2				13C-OCDD	72.1	17 - 157	
2,3,7,8-TCDF	ND	0.224			13C-2,3,7,8-TCDF	71.1	24 - 169	
1,2,3,7,8-PeCDF	ND	0.168			13C-1,2,3,7,8-PeCDF	72.7	24 - 185	
2,3,4,7,8-PeCDF	0.170			J	13C-2,3,4,7,8-PeCDF	69.9	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.250			13C-1,2,3,4,7,8-HxCDF	55.0	26 - 152	
1,2,3,6,7,8-HxCDF	0.333			J	13C-1,2,3,6,7,8-HxCDF	52.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.186			13C-2,3,4,6,7,8-HxCDF	69.4	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.228			13C-1,2,3,7,8,9-HxCDF	74.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	6.76				13C-1,2,3,4,6,7,8-HpCDF	48.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.217			13C-1,2,3,4,7,8,9-HpCDF	70.4	26 - 138	
OCDF	2.56			J	13C-OCDF	73.8	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	71.1	35 - 197	

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

TEQMinWHO2005Dioxin 0.165

TOTALS			
Total TCDD	ND		0.291
Total PeCDD	ND	0.361	
Total HxCDD	ND		0.650
Total HpCDD	3.90		6.45
Total TCDF	0.292		
Total PeCDF	0.898		0.998
Total HxCDF	3.99		
Total HpCDF	12.3		

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-101SC-J-01-02-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-09 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 19.3 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 14:54	% Solids: 52.1	Date Analyzed : 24-Oct-19 11:06 Column: ZB-5MS 30-Oct-19 17:41 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	0.707				IS 13C-2,3,7,8-TCDD	76.4	25 - 164	
1,2,3,7,8-PeCDD	0.840			J	13C-1,2,3,7,8-PeCDD	57.7	25 - 181	
1,2,3,4,7,8-HxCDD	0.699			J	13C-1,2,3,4,7,8-HxCDD	69.6	32 - 141	
1,2,3,6,7,8-HxCDD	ND		4.69		13C-1,2,3,6,7,8-HxCDD	65.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND		2.01		13C-1,2,3,7,8,9-HxCDD	73.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	158				13C-1,2,3,4,6,7,8-HpCDD	80.9	23 - 140	
OCDD	1330				13C-OCDD	76.2	17 - 157	
2,3,7,8-TCDF	11.8				13C-2,3,7,8-TCDF	75.6	24 - 169	
1,2,3,7,8-PeCDF	ND		10.8		13C-1,2,3,7,8-PeCDF	68.8	24 - 185	
2,3,4,7,8-PeCDF	4.88				13C-2,3,4,7,8-PeCDF	62.0	21 - 178	
1,2,3,4,7,8-HxCDF	18.0				13C-1,2,3,4,7,8-HxCDF	57.6	26 - 152	
1,2,3,6,7,8-HxCDF	5.01				13C-1,2,3,6,7,8-HxCDF	49.1	26 - 123	
2,3,4,6,7,8-HxCDF	2.04			J	13C-2,3,4,6,7,8-HxCDF	72.5	28 - 136	
1,2,3,7,8,9-HxCDF	0.615			J	13C-1,2,3,7,8,9-HxCDF	80.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	22.0				13C-1,2,3,4,6,7,8-HpCDF	50.5	28 - 143	
1,2,3,4,7,8,9-HpCDF	3.20				13C-1,2,3,4,7,8,9-HpCDF	82.8	26 - 138	
OCDF	61.1				13C-OCDF	71.8	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	70.0	35 - 197	

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

TEQMinWHO2005Dioxin 9.08

TOTALS		
Total TCDD	5.63	6.92
Total PeCDD	5.57	8.49
Total HxCDD	44.1	51.5
Total HpCDD	341	
Total TCDF	34.2	38.9
Total PeCDF	19.2	35.7
Total HxCDF	46.5	46.9
Total HpCDF	72.8	73.3

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-101SC-J-02-03-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-10 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 20.7 g	QC Batch: B9J0175 Date Extracted: 17-Oct-2019 10:09
Date Collected: 26-Sep-2019 14:54	% Solids: 48.6	Date Analyzed : 25-Oct-19 00:23 Column: ZB-5MS 30-Oct-19 16:06 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.328			IS 13C-2,3,7,8-TCDD	63.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.286			13C-1,2,3,7,8-PeCDD	67.2	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.522			13C-1,2,3,4,7,8-HxCDD	55.9	32 - 141	
1,2,3,6,7,8-HxCDD	1.28			J	13C-1,2,3,6,7,8-HxCDD	47.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.520			13C-1,2,3,7,8,9-HxCDD	51.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	38.5				13C-1,2,3,4,6,7,8-HpCDD	59.7	23 - 140	
OCDD	332				13C-OCDD	56.3	17 - 157	
2,3,7,8-TCDF	3.34				13C-2,3,7,8-TCDF	56.0	24 - 169	
1,2,3,7,8-PeCDF	4.47				13C-1,2,3,7,8-PeCDF	57.7	24 - 185	
2,3,4,7,8-PeCDF	1.98			J	13C-2,3,4,7,8-PeCDF	61.1	21 - 178	
1,2,3,4,7,8-HxCDF	5.76				13C-1,2,3,4,7,8-HxCDF	39.6	26 - 152	
1,2,3,6,7,8-HxCDF	1.27			J	13C-1,2,3,6,7,8-HxCDF	37.4	26 - 123	
2,3,4,6,7,8-HxCDF	ND		0.496		13C-2,3,4,6,7,8-HxCDF	55.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.440			13C-1,2,3,7,8,9-HxCDF	60.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	5.75				13C-1,2,3,4,6,7,8-HpCDF	32.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	1.06			J	13C-1,2,3,4,7,8,9-HpCDF	67.7	26 - 138	
OCDF	16.7				13C-OCDF	55.5	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	59.3	35 - 197	

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

TEQMinWHO2005Dioxin 2.45

TOTALS			
Total TCDD	1.05		
Total PeCDD	0.626		
Total HxCDD	11.3		
Total HpCDD	83.0		
Total TCDF	7.86	10.0	
Total PeCDF	7.46	10.4	
Total HxCDF	12.3	13.3	
Total HpCDF	19.2		

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-101SC-J-03-04-190926 **EPA Method 1613B**

Client Data	Sample Data	Laboratory Data
Name: Anchor QEA, LLC	Matrix: Sediment	Lab Sample: 1903420-11 Date Received: 01-Oct-2019 9:16
Project: Gasco PDI	Sample Size: 17.7 g	QC Batch: B9J0332 Date Extracted: 31-Oct-2019 8:05
Date Collected: 26-Sep-2019 14:54	% Solids: 56.8	Date Analyzed : 12-Nov-19 04:06 Column: ZB-5MS 18-Nov-19 16:52 Column: DB-225

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	0.781				IS 13C-2,3,7,8-TCDD	94.8	25 - 164	
1,2,3,7,8-PeCDD	1.07			J	13C-1,2,3,7,8-PeCDD	85.6	25 - 181	
1,2,3,4,7,8-HxCDD	1.43			J	13C-1,2,3,4,7,8-HxCDD	80.9	32 - 141	
1,2,3,6,7,8-HxCDD	7.30				13C-1,2,3,6,7,8-HxCDD	68.2	28 - 130	
1,2,3,7,8,9-HxCDD	3.43				13C-1,2,3,7,8,9-HxCDD	69.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	177				13C-1,2,3,4,6,7,8-HpCDD	66.5	23 - 140	
OCDD	1690				13C-OCDD	49.3	17 - 157	
2,3,7,8-TCDF	13.4				13C-2,3,7,8-TCDF	91.4	24 - 169	
1,2,3,7,8-PeCDF	18.9				13C-1,2,3,7,8-PeCDF	90.8	24 - 185	
2,3,4,7,8-PeCDF	7.06				13C-2,3,4,7,8-PeCDF	84.5	21 - 178	
1,2,3,4,7,8-HxCDF	38.3				13C-1,2,3,4,7,8-HxCDF	92.7	26 - 152	
1,2,3,6,7,8-HxCDF	10.1				13C-1,2,3,6,7,8-HxCDF	82.6	26 - 123	
2,3,4,6,7,8-HxCDF	3.34				13C-2,3,4,6,7,8-HxCDF	76.8	28 - 136	
1,2,3,7,8,9-HxCDF	1.99			J	13C-1,2,3,7,8,9-HxCDF	83.6	29 - 147	
1,2,3,4,6,7,8-HpCDF	36.8				13C-1,2,3,4,6,7,8-HpCDF	73.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	7.78				13C-1,2,3,4,7,8,9-HpCDF	76.9	26 - 138	
OCDF	105				13C-OCDF	59.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	94.1	35 - 197	

Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)
TEQMinWHO2005Dioxin 15.2

TOTALS		
Total TCDD	9.07	10.7
Total PeCDD	5.49	11.2
Total HxCDD	63.3	
Total HpCDD	434	
Total TCDF	58.2	
Total PeCDF	62.6	63.1
Total HxCDF	94.1	
Total HpCDF	104	

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

1903420

0.9°C

POC: # Delaney Peterson (360-715-2707)
 1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
Client: NW Natural

COC ID: VISTA-20190926-165106
Sample Custodian: dep
Lab: VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-013SC-A-10-11-190925	N	SE	09/25/2019	13:51	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
002	PDI-013SC-A-11-12-190925	N	SE	09/25/2019	13:51	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
003	PDI-018SC-A-11-12-190926	N	SE	09/26/2019	8:54	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
004	PDI-018SC-A-12-13.4-190926	N	SE	09/26/2019	9:31	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
005	PDI-100SC-J-01-02-190926	N	SE	09/26/2019	11:11	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
006	PDI-100SC-J-02-03-190926	N	SE	09/26/2019	11:11	1	<input checked="" type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
007	PDI-100SC-J-03-04-190926	N	SE	09/26/2019	11:11	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
008	PDI-1100SC-J-03-04-190926	FD	SE	09/26/2019		1	<input type="checkbox"/>				

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>	Signature: <i>[Signature]</i>
Print Name: D. Peterson	Print Name: Eli Jemel	Print Name: J. Butta	Print Name: Seth Johnson	Print Name:	Print Name:
Company: AP	Company: APEX LABS	Company: Apex labs	Company: VAL	Company:	Company:
Date/Time: 9/27/19 10:00	Date/Time: 9/27/19 10:25	Date/Time: 9/30/19 13:30	Date/Time: 10/11/19 09:16	Date/Time:	Date/Time:

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

1903420

0.9°C

COC ID:

VISTA-20190926-165106

POC: # Delaney Peterson (360-715-2707)
 1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI
 Client: NW Natural

Sample Custodian:

dep

Lab:

VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
008	PDI-1100SC-J-03-04-190926	FD	SE	09/26/2019		1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
009	PDI-101SC-J-01-02-190926	N	SE	09/26/2019	14:54	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
010	PDI-101SC-J-02-03-190926	N	SE	09/26/2019	14:54	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C
011	PDI-101SC-J-03-04-190926	N	SE	09/26/2019	14:54	1	<input type="checkbox"/>	Dioxin/Furans Total solids (VISTA)	E1613B SM2540G	30 30	4°C 4°C

Comment:					
Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <i>[Signature]</i>	Signature <i>[Signature]</i>	Signature <i>[Signature]</i>	Signature <i>[Signature]</i>	Signature <i>[Signature]</i>	Signature <i>[Signature]</i>
Print Name D. Peterson	Print Name Eli Joyner	Print Name N. Jutta	Print Name Seth Johnson	Print Name	Print Name
Company AW	Company APEX LABS	Company Apex labs	Company VAL	Company	Company
Date/Time 9.27.19 1000	Date/Time 9-27-19 1025	Date/Time 9/30/19 1330	Date/Time 10/1/19 0916	Date/Time	Date/Time

* Lab QC Requested for sample when box is checked ** TAT = Turn Around Time in DAYS # POC = Project Point of Contact

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 1903420

TAT 28 days

Samples Arrival:	Date/Time <u>10/1/19 09:16</u>	Initials: <u>SLJ</u>	Location: <u>WR-2</u>
Logged In:	Date/Time <u>10/01/19 1516</u>	Initials: <u>JP</u>	Location: <u>WR-2</u>
Delivered By:	<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	Preservation:	
	<input checked="" type="checkbox"/> Ice	<input checked="" type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None	Temp °C: <u>0.9</u> (uncorrected)	
	Temp °C: <u>0.9</u> (corrected)	Probe used: Y / <input checked="" type="checkbox"/> N	Thermometer ID: <u>IR-4</u>

	YES	NO	NA
Adequate Sample Volume Received?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Holding Time Acceptable?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill <u>601</u> Trk # <u>7763 9094 3773</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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"/>
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
COC Anomaly/Sample Acceptance Form completed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If Chlorinated or Drinking Water Samples, Acceptable Preservation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Preservation Documented:	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA
	<input type="checkbox"/> Na ₂ S ₂ O ₃	<input type="checkbox"/> Trizma	<input checked="" type="checkbox"/> None
	<input type="checkbox"/> Other		
Shipping Container	<input type="checkbox"/> Vista	<input checked="" type="checkbox"/> Client	<input type="checkbox"/> Retain
	<input checked="" type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments: Sample ID: PDI-1100SC-J-03-04-190926; time not noted on the COC. The sample label time is 11:11. - AP 10/01/19 - FIELD DUPLICATE -

EXTRACTION INFORMATION

Process Sheet

Workorder: 1903420

Prep Expiration: 2020-09-24
Client: Anchor QEA, LLC

Workorder Due: 29-Oct-19 00:00

TAT: 28

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

Prep Batch: B400175

Prep Data Entered: 10/22/19 AZ
Date and Initials

Initial Sequence: S950059

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1903420-01	<input checked="" type="checkbox"/>	PDI-013SC-A-10-11-190925 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-02	<input checked="" type="checkbox"/>	PDI-013SC-A-11-12-190925 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-03	<input checked="" type="checkbox"/>	PDI-018SC-A-11-12-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-04	<input checked="" type="checkbox"/>	PDI-018SC-A-12-13.4-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-05	<input checked="" type="checkbox"/>	PDI-100SC-J-01-02-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-06	<input checked="" type="checkbox"/>	PDI-100SC-J-02-03-190926 ✓	01-Oct-19 09:16	WR-2 A-1	← Dup
1903420-07	<input checked="" type="checkbox"/>	PDI-100SC-J-03-04-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-08	<input checked="" type="checkbox"/>	PDI-1100SC-J-03-04-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-09	<input checked="" type="checkbox"/>	PDI-101SC-J-01-02-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-10	<input checked="" type="checkbox"/>	PDI-101SC-J-02-03-190926 ✓	01-Oct-19 09:16	WR-2 A-1	
1903420-11	<input checked="" type="checkbox"/>	PDI-101SC-J-03-04-190926 ✓	01-Oct-19 09:16	WR-2 A-1	

WO Comments: ~~Dioxin - 10g (dry weight)~~

Dioxin - 10g (dry weight)

~~Dioxin - 10g (dry weight)~~

Pre-Prep Check Out: 90 10/03/19
Pre-Prep Check In: 90 10/03/19

Prep Check Out: 90 10/17/19
Prep Check In: 90 10/17/19

Prep Reconciled Initials/Date: 90 10/03/19
Spike Reconciled Initials/Date: 90 10/17/19
VialBoxID: Test

PREPARATION BENCH SHEET

Matrix: Solid

B9J0175

Chemist: AL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 17-Oct-19 10:09

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"/>	B9J0175-BLK1	NA	(10.00)	AL 10/17/19	AO 10/21/19	AO 10/21/19	AZ 10/22/19	AZ 10/22/19	AZ 10/22/19	AL AZ 10/22/19
<input type="checkbox"/>	B9J0175-BS1	NA	(10.00)	T	T	J				T
<input type="checkbox"/>	B9J0175-DUP1 1903420-06	13.26	13.42							
<input type="checkbox"/>	1903420-01	12.73	12.73			NA				
<input type="checkbox"/>	1903420-02	13.69	13.73			T				
<input type="checkbox"/>	1903420-03	12.56	12.43			J				
<input type="checkbox"/>	1903420-04	13.63	13.73			J				
<input type="checkbox"/>	1903420-05	12.25	12.26			AO 10/21/19				
<input type="checkbox"/>	1903420-06	13.76	13.48			T				
<input type="checkbox"/>	1903420-07	12.23	12.23			J				
<input type="checkbox"/>	1903420-08	12.08	12.10			J				
<input type="checkbox"/>	1903420-09 (A)	19.18	19.27			J				
<input type="checkbox"/>	1903420-10	20.58	20.74			J				
<input type="checkbox"/>	1903420-11 (A)	17.62	17.68			J				

(A) Dirty column AZ 10/22/19

IS Name <u>V3</u>	NS Name <u>V6</u>	CRS Name <u>V7</u>	RS Name <u>V7</u>	Cycle Time	APP: SEFUN SOX <u>SDS</u>	Check Out: Chemist/Date: <u>AL 10/17/19</u>
PCDD/F <u>19C1902, 10µL</u>	PCDD/F <u>18F1913, 10µL</u>	PCDD/F <u>19I1602, 10µL</u>	PCDD/F <u>19I1603, 10µL</u>	Start Date/Time 10/17/19	SOLV: <u>tol</u>	Check In: Chemist/Date: <u>AL 10/17/19</u>
PCB _____	PCB _____	PCB _____	PCB _____	14:00	Other <u>NA</u>	Balance ID: <u>HRMS-8</u>
PAH _____	PAH _____	PAH _____	PAH _____	Stop Date/Time 10/18/19 16:00	Final Volume(s) <u>C4</u> <u>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

Percent Moisture/ Percent Solids

D2216-90

BATCH ID B9J0029

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

Inst HRMS-10 Date/Time IN: 10/03/19 13:30 Date/Time OUT: 10/03/19 13:14

Particle Size	SampID	SampType	Initial and Date:		Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
			Pan Tare Wt. (gms)	AO 10/03/19										
			1.23	AO 10/03/19	5.47	4.56								X
			1.23	AO 10/03/19	5.83	4.59								X
			1.21	AO 10/03/19	6.40	5.41								X
			1.24	AO 10/03/19	7.93	6.15								X
			1.25	AO 10/03/19	5.23	4.50								X
			1.22	AO 10/03/19	4.96	4.04								X
			1.24	AO 10/03/19	7.32	6.21								X
			1.22	AO 10/03/19	5.23	4.54								X
			1.23	AO 10/03/19	5.20	3.30								X
			1.24	AO 10/03/19	5.17	3.15								X
			1.24	AO 10/03/19	7.23	4.64								X

*Sample homogenized in sample container unless otherwise noted.

Batch: B9J0175

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1903420-01	12.73	78.53773	9.9979	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-02	13.73	73.04348	10.0289	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-03	12.43	80.92485	10.0590	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-04	13.73	73.39313	10.0769	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-05	12.26	81.65829	10.0113	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-06	13.48	75.40107	10.1641	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-07	12.23	81.74342	9.9972	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-08	12.1	82.79301	10.0180	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-09	19.27	52.14106	10.0476	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-10	20.74	48.60051	10.0797	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
1903420-11	17.68	56.76126	10.0354	20	17-Oct-19 10:09	JJC			Sediment	1613 Full List
B9J0175-BLK1	10			20	17-Oct-19 10:09	JJC				QC
B9J0175-BS1	10			20	17-Oct-19 10:09	JJC				QC
B9J0175-DUP1	13.42	75.40107	10.1188	20	17-Oct-19 10:09	JJC				QC

All bolded data on report verified against written benchsheet by (initial/date) AZ 10/22/19

RX @ 10/30/19

Prep Expiration: 2020-09-24
 Client: Anchor QEA, LLC

Workorder Due: 29-Oct-19 00:00

TAT: 28

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

Prep Batch: B9J0337

Prep Data Entered: AO 11/04/19
Date and Initials

Initial Sequence: S9K0019

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1903420-01	<input type="checkbox"/>	PDI-012SC-A-10-11-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-02	<input type="checkbox"/>	PDI-012SC-A-11-12-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-03	<input type="checkbox"/>	PDI-018SC-A-11-12-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-04	<input type="checkbox"/>	PDI-018SC-A-12-10-1-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-05	<input type="checkbox"/>	PDI-100SC-J-01-02-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-06	<input type="checkbox"/>	PDI-100SC-J-02-03-190925	01-Oct-19 09:16	WR-2 A-1	Dup
1903420-07	<input type="checkbox"/>	PDI-100SC-J-03-04-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-08	<input type="checkbox"/>	PDI-110SC-J-03-04-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-09	<input type="checkbox"/>	PDI-101SC-J-01-02-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-10	<input type="checkbox"/>	PDI-101SC-J-03-03-190925	01-Oct-19 09:16	WR-2 A-1	
1903420-11	<input checked="" type="checkbox"/>	PDI-101SC-J-03-04-190925	01-Oct-19 09:16	WR-2 A-1	

WO Comments: Pest - 1g extraction (dry weight)
Dioxin - 10g (dry weight)
PCB - 5g extraction (dry weight)

Pre-Prep Check Out: NA

Prep Check Out: TL 10/31/19

Prep Reconciled Initials/Date: TL 10/31/19

Pre-Prep Check In: NA

Prep Check In: TL 10/31/19

Spike Reconciled Initials/Date: AO 10/31/19

VialBoxID: TPST

PREPARATION BENCH SHEET

Matrix: Solid

B9J0332

Chemist: TL

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 31-Oct-19 08:05

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"/>	B9J0332-BLK (A)	NA	(10.00)	QOTL 10/31/19	11/01/19	N/A	TL 11/01/19	TL 11/01/19	11/01/19	QO AE 11/04/19
<input type="checkbox"/>	B9J0332-BSI	NA	(10.00)	T	T	T	T	T	T	T
<input type="checkbox"/>	1903420-11	17.68	17.69	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-01	11.96	12.02	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-02	12.59	12.78	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-03	13.66	13.74	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-04	14.98	15.19	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-05	11.57	11.69	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-06	13.59	13.63	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-07	11.78	11.93	T	T	T	T	T	T	T
<input type="checkbox"/>	1903645-08	13.03	13.16	T	T	T	T	T	T	T
<input type="checkbox"/>	1903743-01	12.04	12.09	T	T	T	T	T	T	T
<input type="checkbox"/>	1903743-02 ✓	13.27	13.36	T	T	T	T	T	T	T

(A) No boiling chips 11/01/19

IS Name (V2)	NS Name (V3)	CRS Name (V4)	RS Name (V7)	Cycle Time	APP: SEFUN SOX (SDS)	Check Out: TL 10/31/19
PCDD/F 19C1902 10ul	PCDD/F 18F1913 10ul	PCDD/F 19I1602 10ul	PCDD/F 19I1603 10ul	Start Date/Time 10/31/19 1330	SOLV: Toluene	Chemist/Date: TL 10/31/19
PCB	PCB	PCB	PCB	Stop Date/Time 11/01/19 542	Other NA	Check In: TL 10/31/19
PAH	PAH	PAH	PAH	Final Volume(s) 20ul	C14	Balance ID: HRMS-8

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: B9J0332

Matrix: Solid

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1903420-11RE1	17.69 ✓	56.76126	10.0411	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-01	12.02 ✓	83.60958	10.0499	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-02	12.78 ✓	79.41176	10.1488	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-03	13.74 ✓	73.18953	10.0562	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-04	15.19 ✓	66.76798	10.1421	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-05	11.69 ✓	86.43327	10.1040	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-06	13.63 ✓	73.5849	10.0296	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-07	11.93 ✓	84.89426	10.1279	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903645-08	13.16 ✓	76.72327	10.0968	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903743-01	12.09 ✓	83.06879	10.0430	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
1903743-02	13.36 ✓	75.34668	10.0663	20	31-Oct-19 08:05	TL			Sediment	1613 Full List
B9J0332-BLK1	10			20	31-Oct-19 08:05	TL				QC
B9J0332-BS1	10			20	31-Oct-19 08:05	TL	18F1913	10		QC

All bolded data on report verified against written benchsheet by (initial/date) TL 11/08/19

Printed: 11/8/2019 2:51:29PM
Page 1 of 1

SAMPLE DATA – EPA METHOD 1613

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-3.qld

Last Altered: Tuesday, November 05, 2019 13:22:32 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:24:21 Pacific Standard Time

HC 11-5-19

GT 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10-21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:20:31

Name: VG7 191023D2_3, Date: 24-OCT-2019, Time: 03:07:57, ID: B9J0175-BLK1 Method Blank, Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	7.53e4	10.0000	0.905			1.001		26.31				0.177	
2	1,2,3,7,8-PeCDD	5.86e4	10.0000	0.903			1.001		30.80				0.230	
3	1,2,3,4,7,8-HxCDD	4.56e4	10.0000	1.101			1.000		34.12				0.286	
4	1,2,3,6,7,8-HxCDD	5.13e4	10.0000	0.939			1.000		34.22				0.303	
5	1,2,3,7,8,9-HxCDD	7.13e4	10.0000	0.961			1.001		34.55				0.201	
6	1,2,3,4,6,7,8-HpCDD	6.03e4	10.0000	0.979			1.000		37.99				0.213	
7	OCDD	1.00e5	10.0000	0.959			1.000		41.31				0.281	
8	2,3,7,8-TCDF	1.00e5	10.0000	0.950			1.001		25.53				0.193	
9	1,2,3,7,8-PeCDF	1.01e5	10.0000	0.960			1.001		29.63				0.113	
10	2,3,4,7,8-PeCDF	9.57e4	10.0000	1.015			1.001		30.53				0.108	
11	1,2,3,4,7,8-HxCDF	3.61e4	10.0000	1.177			1.000		33.21				0.278	
12	1,2,3,6,7,8-HxCDF	4.21e4	10.0000	1.069			1.000		33.33				0.282	
13	2,3,4,6,7,8-HxCDF	8.87e4	10.0000	1.114			1.001		33.96				0.125	
14	1,2,3,7,8,9-HxCDF	8.00e4	10.0000	1.062			1.000		34.89				0.167	
15	1,2,3,4,6,7,8-HpCDF	2.52e4	10.0000	1.128			1.001		36.78				0.496	
16	1,2,3,4,7,8,9-HpCDF	5.46e4	10.0000	1.280			1.000		38.53				0.180	
17	OCDF	8.17e4	10.0000	0.947			1.000		41.55				0.375	
18	13C-2,3,7,8-TCDD	7.53e4	1.08e5	10.0000	1.095	0.766	NO	1.021	1.021	26.28	26.28	127.01	63.5	0.309
19	13C-1,2,3,7,8-PeCDD	5.86e4	1.08e5	10.0000	0.881	0.619	NO	1.187	1.196	30.54	30.78	122.82	61.4	0.472
20	13C-1,2,3,4,7,8-Hx...	4.56e4	1.30e5	10.0000	0.642	1.270	NO	1.014	1.014	34.09	34.11	109.31	54.7	0.555
21	13C-1,2,3,6,7,8-Hx...	5.13e4	1.30e5	10.0000	0.856	1.270	NO	1.017	1.018	34.21	34.22	92.217	46.1	0.417
22	13C-1,2,3,7,8,9-Hx...	7.13e4	1.30e5	10.0000	0.807	1.241	NO	1.026	1.026	34.51	34.51	135.88	67.9	0.442
23	13C-1,2,3,4,6,7,8-H...	6.03e4	1.30e5	10.0000	0.654	1.033	NO	1.126	1.129	37.87	37.98	141.73	70.9	0.858
24	13C-OCDD	1.00e5	1.30e5	10.0000	0.580	0.922	NO	1.226	1.229	41.23	41.31	266.15	66.5	0.545
25	13C-2,3,7,8-TCDF	1.00e5	1.68e5	10.0000	1.035	0.800	NO	0.993	0.991	25.57	25.51	114.70	57.3	0.373
26	13C-1,2,3,7,8-PeCDF	1.01e5	1.68e5	10.0000	0.854	1.593	NO	1.143	1.150	29.42	29.61	140.95	70.5	0.418
27	13C-2,3,4,7,8-PeCDF	9.57e4	1.68e5	10.0000	0.847	1.635	NO	1.176	1.185	30.28	30.50	134.23	67.1	0.421
28	13C-1,2,3,4,7,8-Hx...	3.61e4	1.30e5	10.0000	0.832	0.513	NO	0.987	0.988	33.20	33.21	66.820	33.4	0.670
29	13C-1,2,3,6,7,8-Hx...	4.21e4	1.30e5	10.0000	1.034	0.513	NO	0.991	0.991	33.32	33.32	62.586	31.3	0.538
30	13C-2,3,4,6,7,8-Hx...	8.87e4	1.30e5	10.0000	0.953	0.523	NO	1.009	1.009	33.94	33.93	143.07	71.5	0.584
31	13C-1,2,3,7,8,9-Hx...	8.00e4	1.30e5	10.0000	0.828	0.517	NO	1.039	1.038	34.93	34.89	148.58	74.3	0.673

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-3.qld

Last Altered: Tuesday, November 05, 2019 13:22:32 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:24:21 Pacific Standard Time

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 Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	2.52e4	1.30e5	10.0000	0.757	0.442	NO	1.093	1.093	36.75	36.75	51.269	25.6	0.558
33	13C-1,2,3,4,7,8,9-H...	5.46e4	1.30e5	10.0000	0.581	0.423	NO	1.143	1.146	38.44	38.53	144.37	72.2	0.727
34	13C-OCDF	8.17e4	1.30e5	10.0000	0.689	0.888	NO	1.233	1.236	41.47	41.55	182.44	45.6	0.370
35	37Cl-2,3,7,8-TCDD	3.08e4	1.08e5	10.0000	1.198			1.022	1.022	26.30	26.30	47.576	59.5	0.147
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	10.0000	1.000	0.770	NO	1.000	1.000	25.70	25.74	200.00	100.0	0.338
37	13C-1,2,3,4-TCDF	1.68e5	1.68e5	10.0000	1.000	0.814	NO	1.000	1.000	24.28	24.32	200.00	100.0	0.386
38	13C-1,2,3,4,6,9-Hx...	1.30e5	1.30e5	10.0000	1.000	0.512	NO	1.000	1.000	33.55	33.63	200.00	100.0	0.557
39	Total Tetra-Dioxins		7.53e4	10.0000	0.901			0.000		25.50				0.0929 0.177
40	Total Penta-Dioxins		5.86e4	10.0000	0.872			0.000		30.00				0.0093 0.230
41	Total Hexa-Dioxins		0.00e0	10.0000	0.976			0.000		33.80				0.456 0.303
42	Total Hepta-Dioxins		6.03e4	10.0000	0.989			0.000		37.75				0.449 0.213
43	Total Tetra-Furans		1.00e5	10.0000	0.943			0.000		24.00				0.0964 0.193
44	1st Func. Penta-Fur...		0.00e0	10.0000	0.940			0.000		27.63				0.0456 0.113
45	Total Penta-Furans		0.00e0	10.0000	0.940			0.000		30.00				0.0431 0.282
46	Total Hexa-Furans		0.00e0	10.0000	1.078			0.000		33.00				0.0991 0.282
47	Total Hepta-Furans		0.00e0	10.0000	1.135			0.000		37.75				0.144 0.496

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory
Dataset: U:\VG7.PRO\Results\191023D2\191023D2-3.qld
Last Altered: Tuesday, November 05, 2019 13:22:32 Pacific Standard Time
Printed: Tuesday, November 05, 2019 13:24:21 Pacific Standard Time

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Calibration: 05 Nov 2019 13:20:31

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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins



Penta-Dioxins



Hexa-Dioxins



Hepta-Dioxins



Tetra-Furans



Penta-Furans function 1



Penta-Furans



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

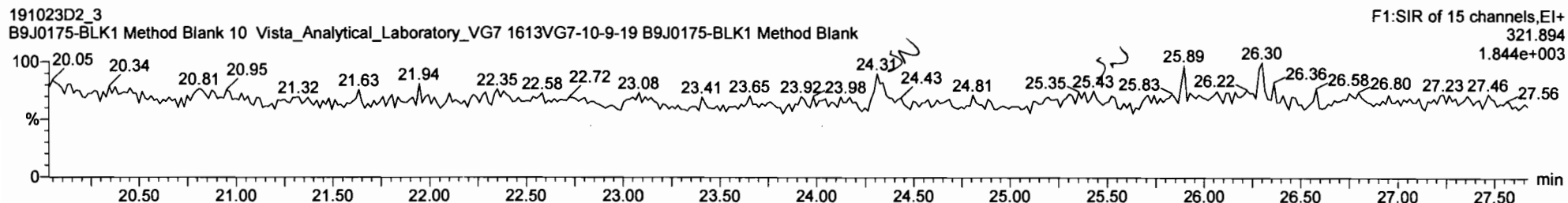
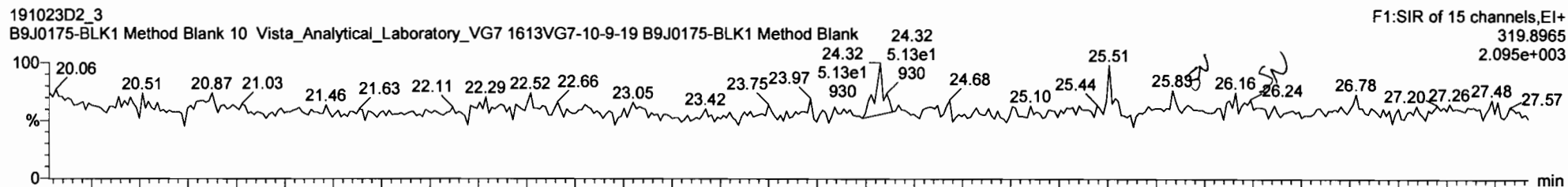
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Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

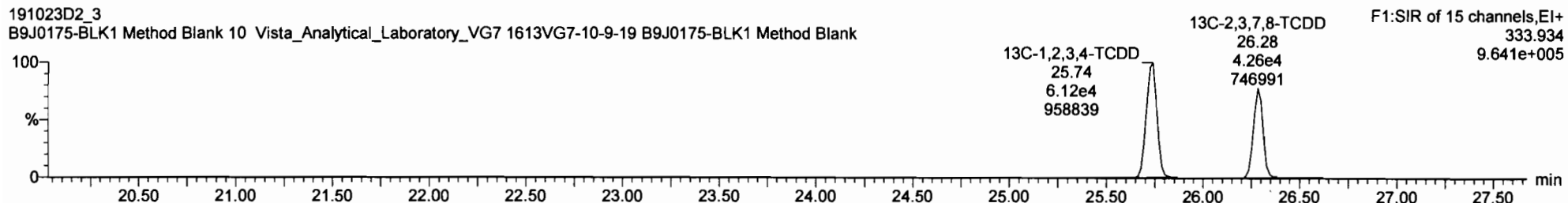
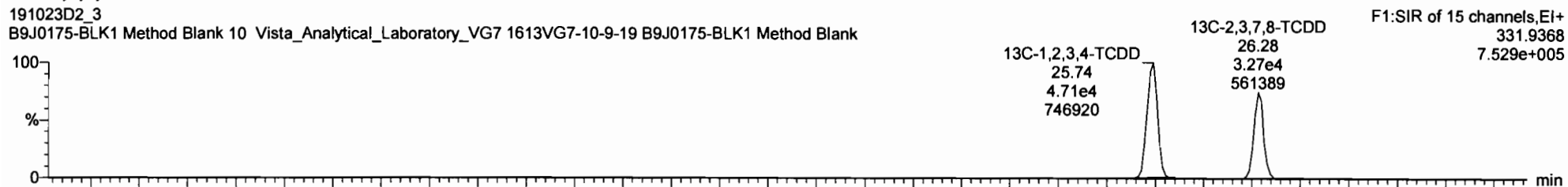
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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

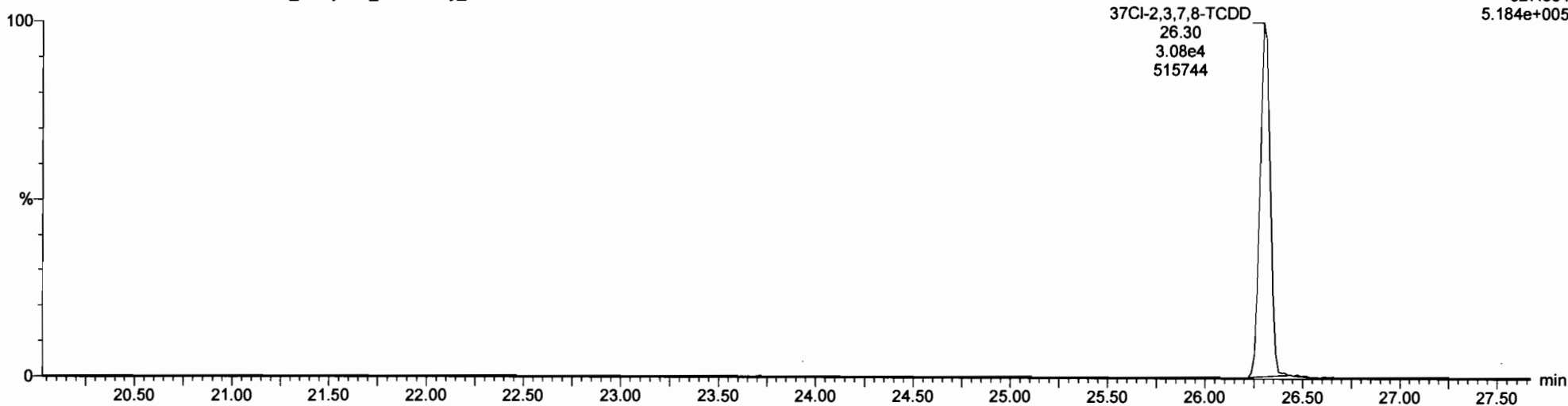
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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

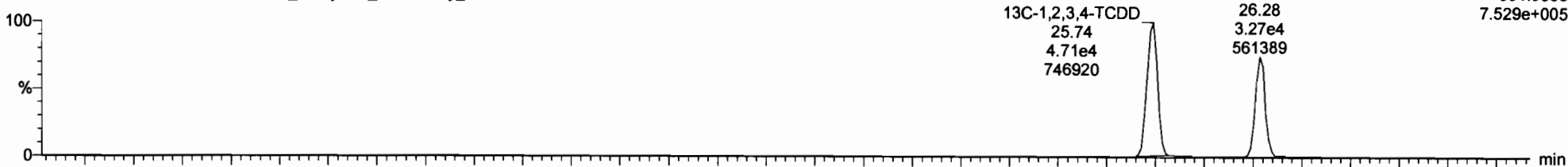
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5.184e+005



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

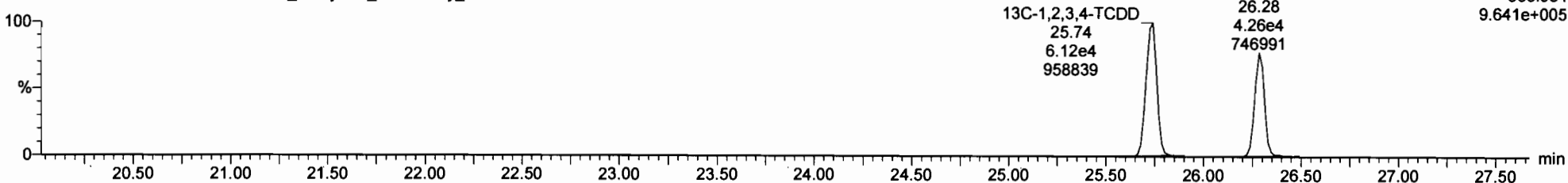
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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F1:SIR of 15 channels,EI+
331.9368
7.529e+005



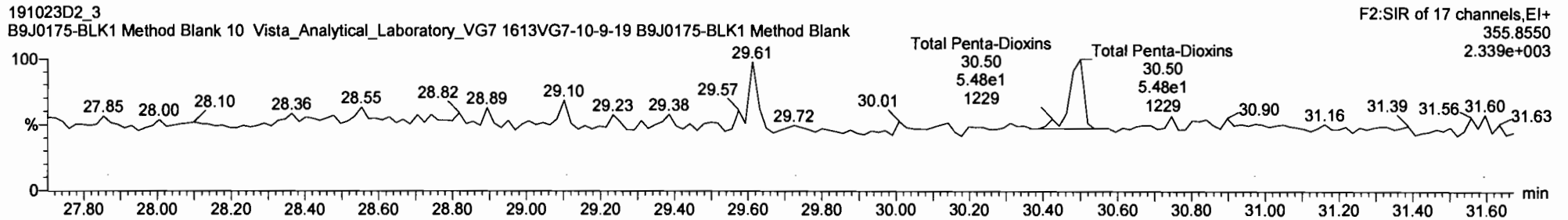
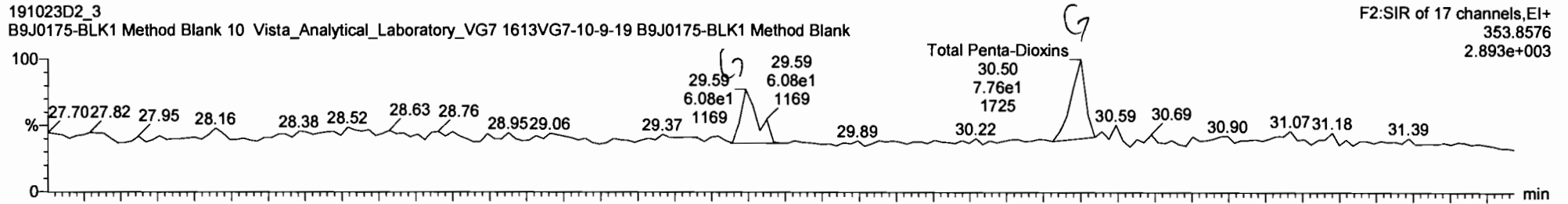
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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

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333.934
9.641e+005

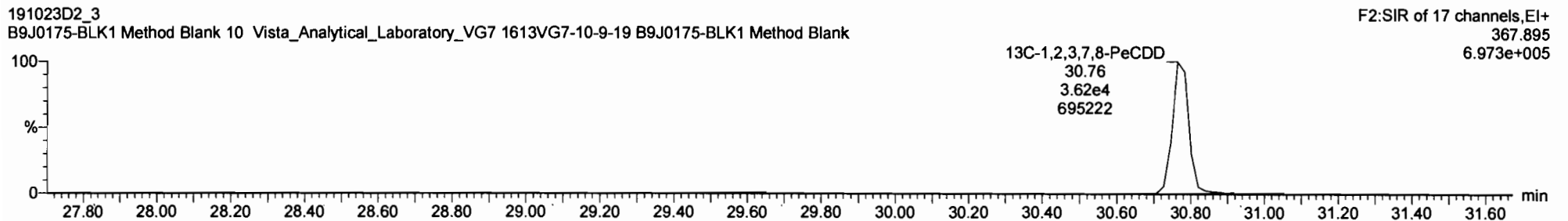
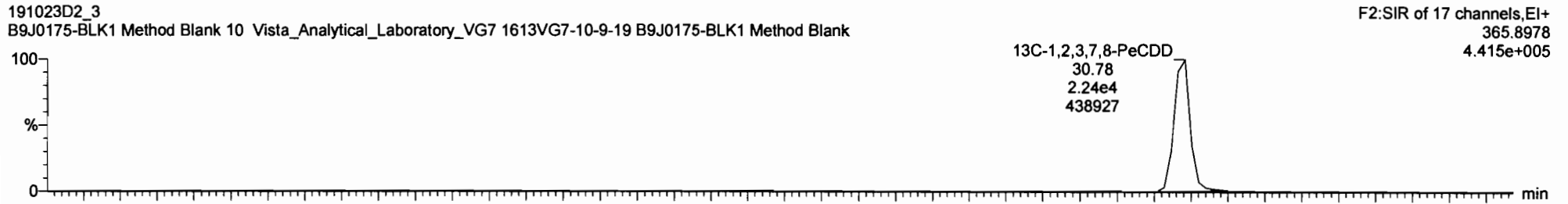


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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins



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

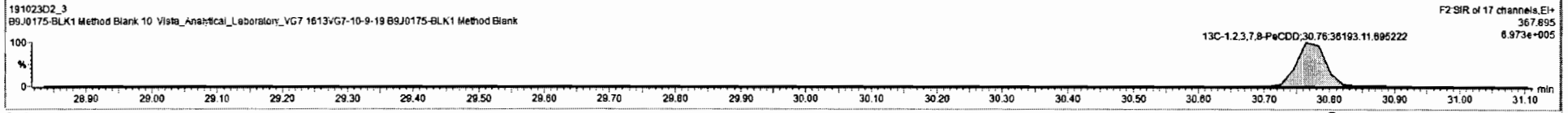
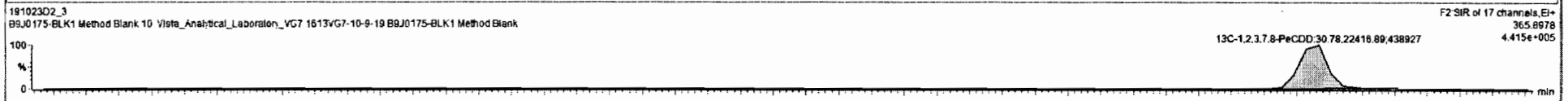
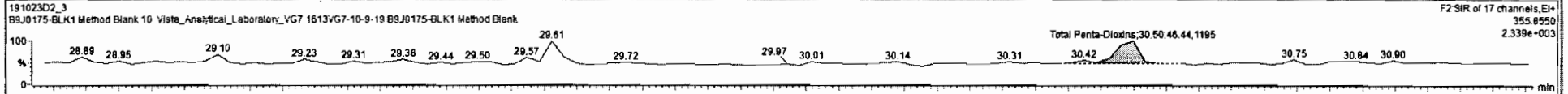
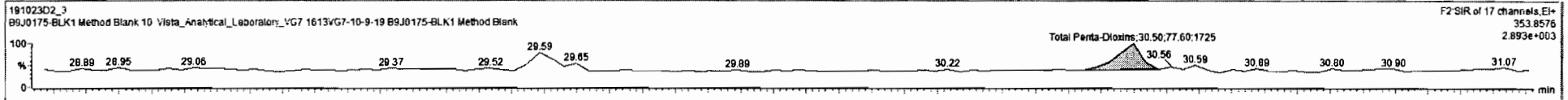


P

Targetlynx XS - 600000
 File Edit View Display Processing Window Help
 191023D2_3 - B9J0175-BLK1 Method Blank - B9J0175-BLK1 Method Blank 10 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	nly	RF	WtVal	Prod RT	RT	RRT	Prod RRT	Check RRT	Conc.	%Rec	DL	EMPC
31	13C-1,2,3,7,8,9-HxCDF	8.90e4	1.30e5	38	0.52	NO	0.828	10.000	34.90	34.89	1.036	1.039	NO	148.6	74.3	0.673	
32	13C-1,2,3,4,6,7,8-HpCDF	2.52e4	1.30e5	38	0.44	NO	0.757	10.000	36.75	36.75	1.095	1.063	NO	51.27	25.6	0.558	
33	13C-1,2,3,4,7,8,9-HpCDF	5.46e4	1.30e5	38	0.42	NO	0.581	10.000	38.44	38.53	1.146	1.143	NO	144.4	72.2	0.727	
34	13C-OCDF	8.17e4	1.30e5	38	0.89	NO	0.699	10.000	41.47	41.55	1.236	1.233	NO	182.4	45.6	0.370	
35	37Cl-2,3,7,8-TCDD	3.08e4	1.06e5	36		NO	1.198	10.000	26.30	26.30	1.022	1.022	NO	47.58	59.5	0.147	
36	13C-1,2,3,4-TCDD	1.06e5	1.06e5	36	0.77	NO	1.000	10.000	25.70	25.74	1.000	1.000	NO	200.0	100	0.338	
37	13C-1,2,3,4-TCDF	1.68e5	1.68e5	37	0.81	NO	1.000	10.000	24.28	24.32	1.000	1.000	NO	200.0	100	0.386	
38	13C-1,2,3,4,6,9-HxCDF	1.30e5	1.30e5	38	0.51	NO	1.000	10.000	33.55	33.63	1.000	1.000	NO	200.0	100	0.557	
39	Total Tetra-Dioxins	7.53e4					0.901	10.000	25.50				NO			0.0929	

#	Name	Prod RT	RT	m1 Resp	m2 Resp	Prod RA	RA	nly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	30.50	7.760e1	4.644e1	0.630	1.87	YES	0.29618	0.00000



Ready 191023D2_3 NUM

Vista Analytical Laboratory

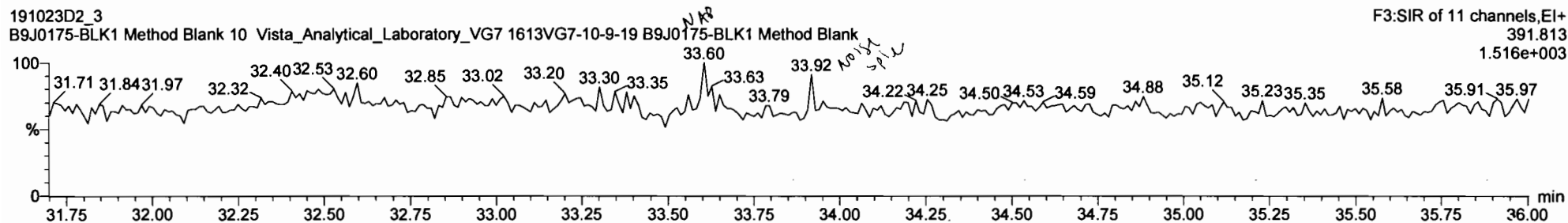
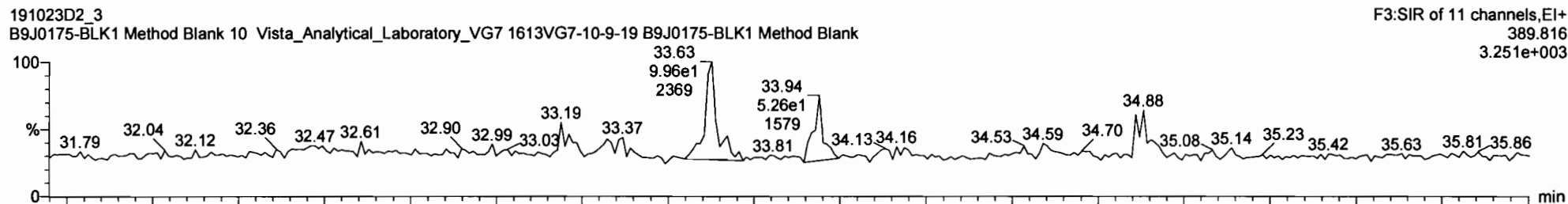
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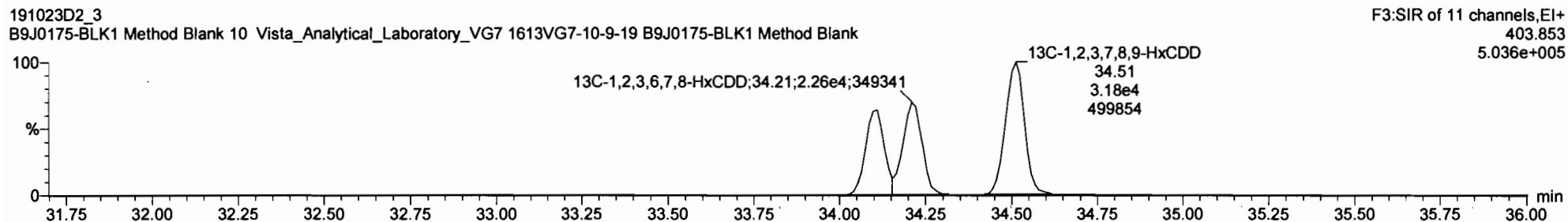
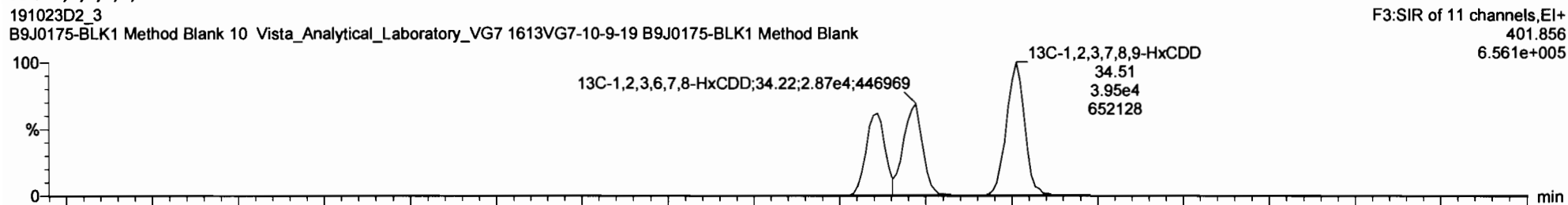
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Name: VG7 191023D2_3, Date: 24-OCT-2019, Time: 03:07:57, ID: B9J0175-BLK1 Method Blank, Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins



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



Vista Analytical Laboratory

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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

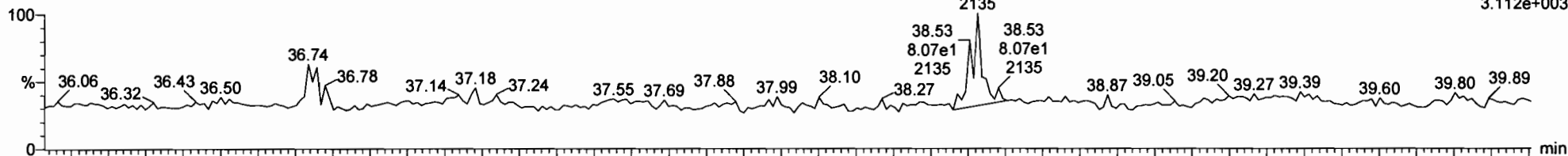
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Total Hepta-Dioxins

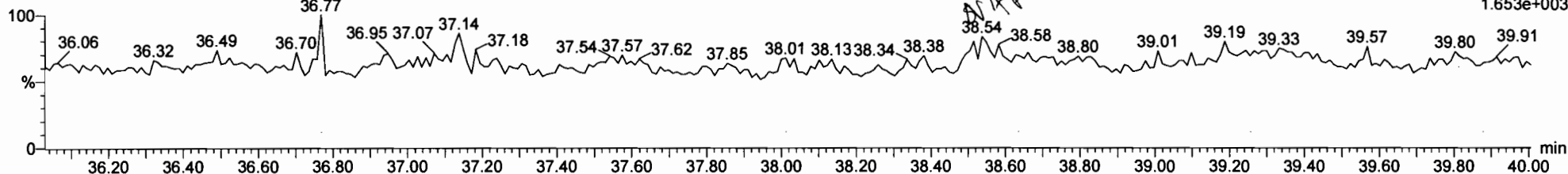
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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F4:SIR of 11 channels,EI+
423.777
3.112e+003



191023D2_3
B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

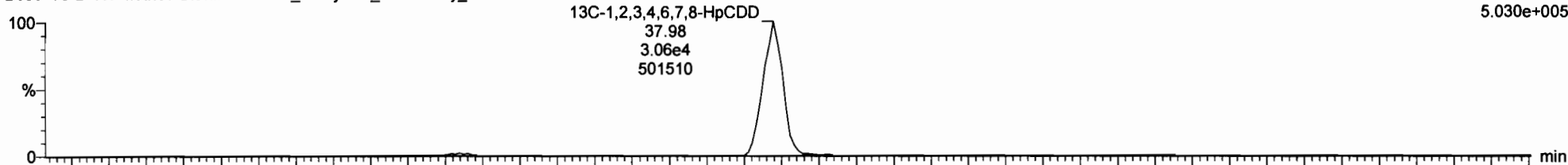
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1.653e+003



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

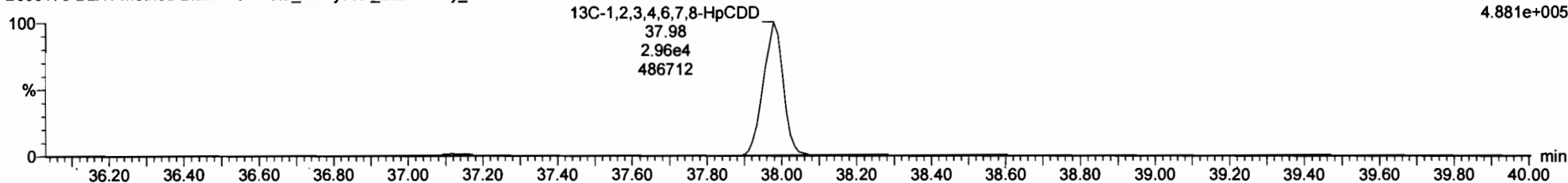
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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F4:SIR of 11 channels,EI+
435.817
5.030e+005



191023D2_3
B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F4:SIR of 11 channels,EI+
437.814
4.881e+005



Vista Analytical Laboratory

Dataset: Untitled

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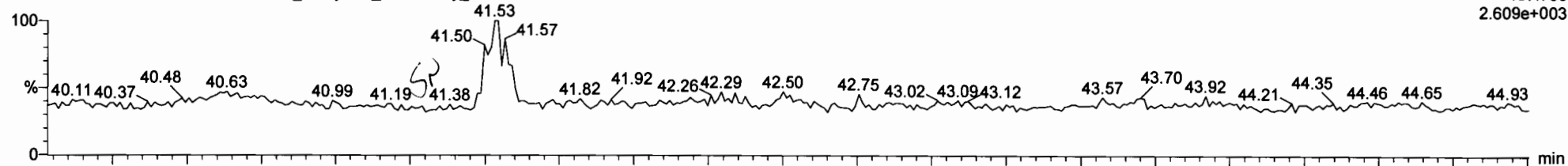
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OCDD

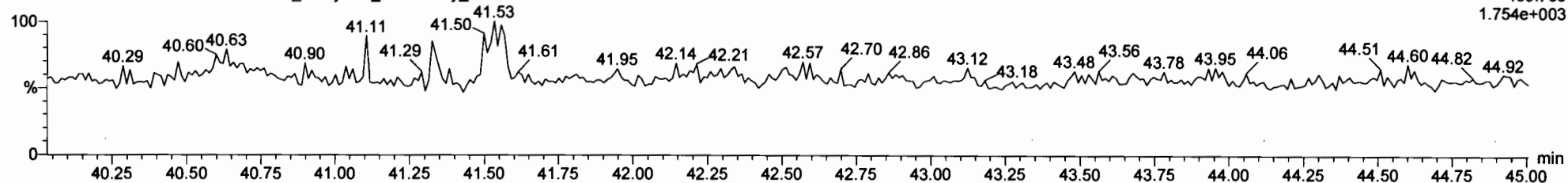
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B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F5:SIR of 11 channels,EI+
457.738
2.609e+003



191023D2_3
B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

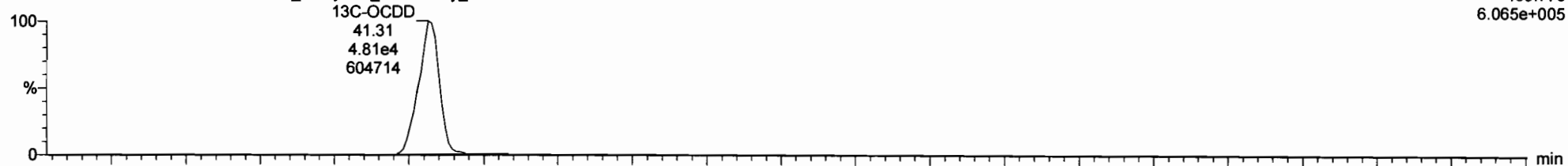
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1.754e+003



13C-OCDD

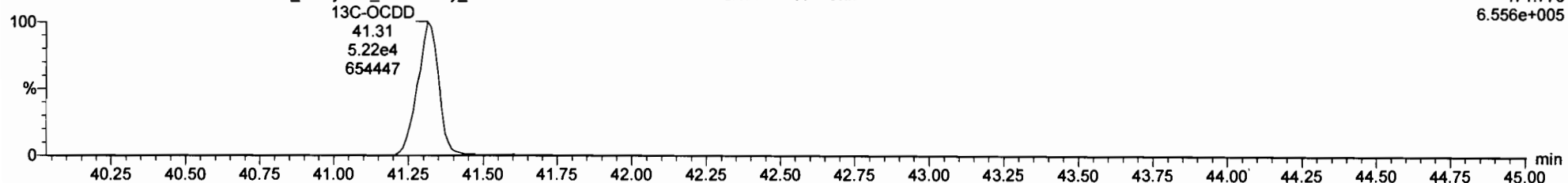
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F5:SIR of 11 channels,EI+
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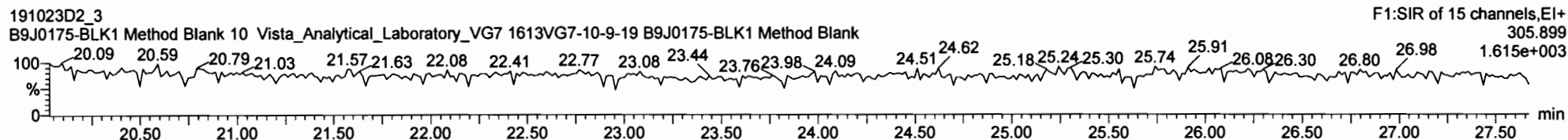
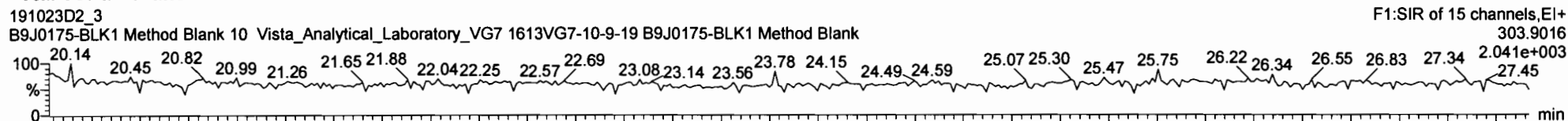
191023D2_3
B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-BLK1 Method Blank

F5:SIR of 11 channels,EI+
471.775
6.556e+005

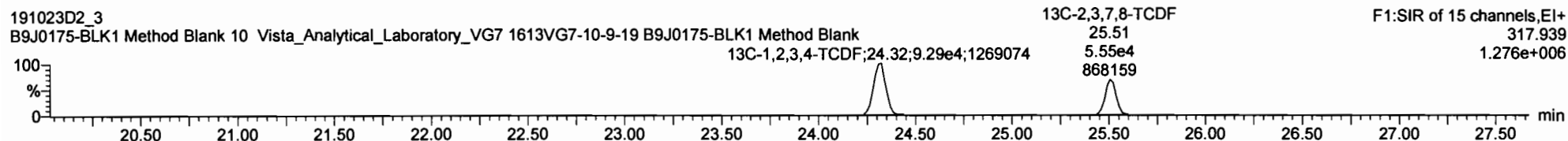
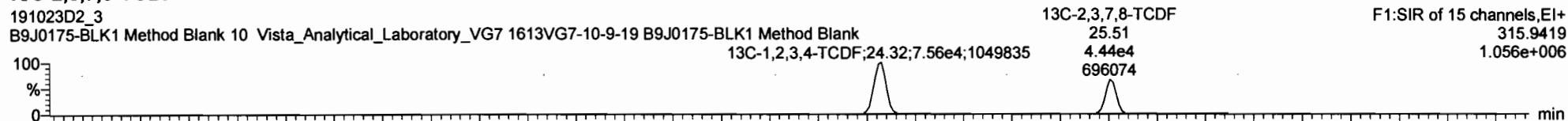


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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

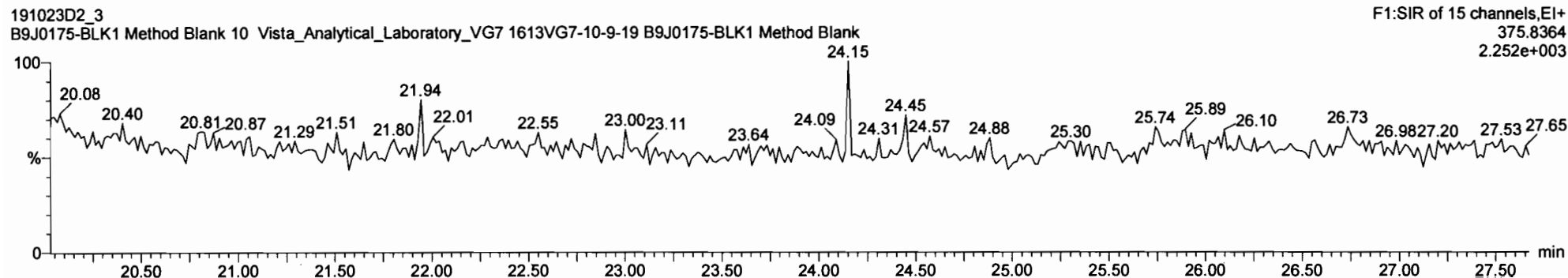
Total Tetra-Furans



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



DPE1



Vista Analytical Laboratory

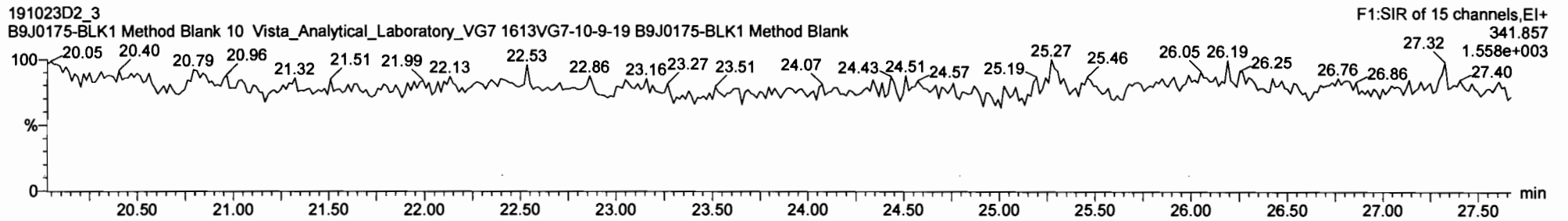
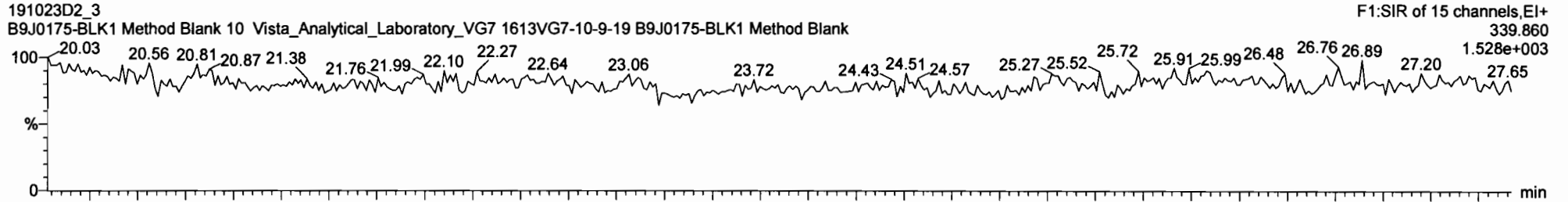
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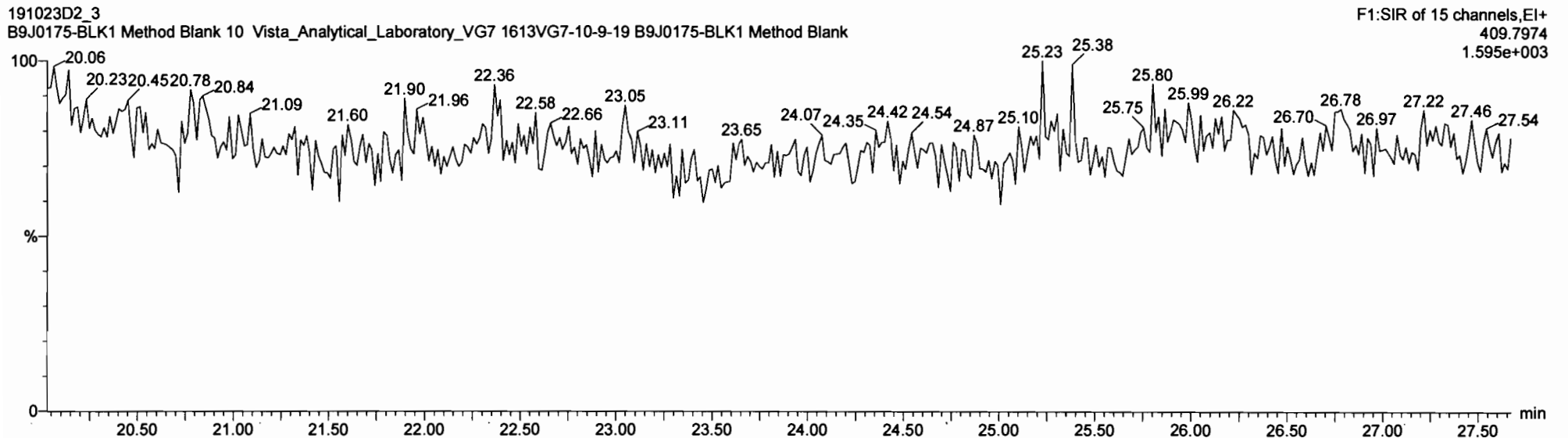
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1st Func. Penta-Furans

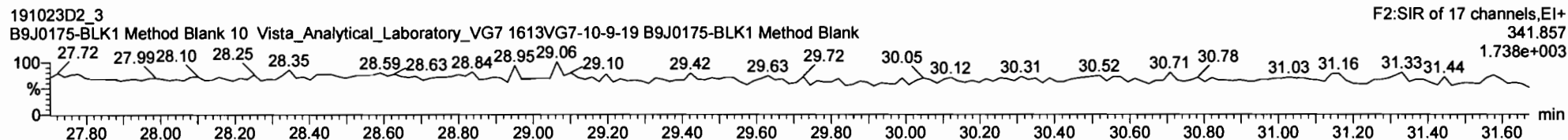
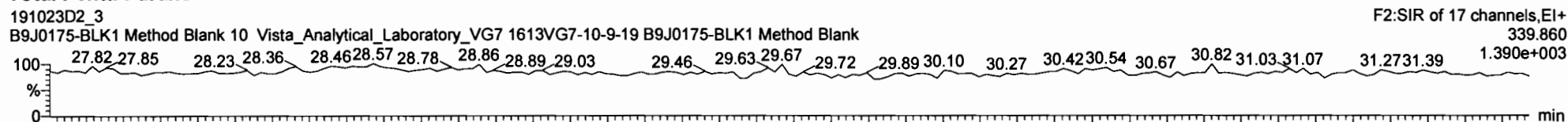


DPE6

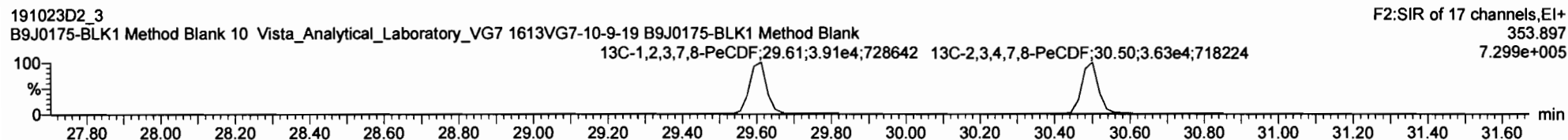
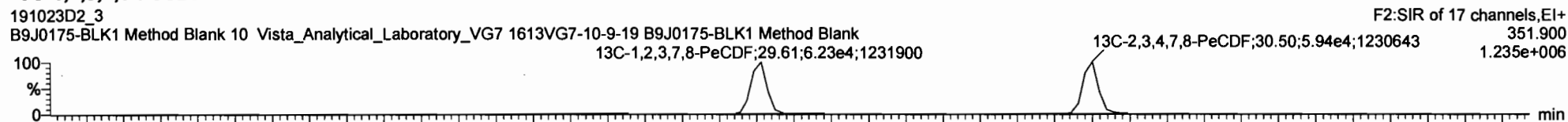


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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

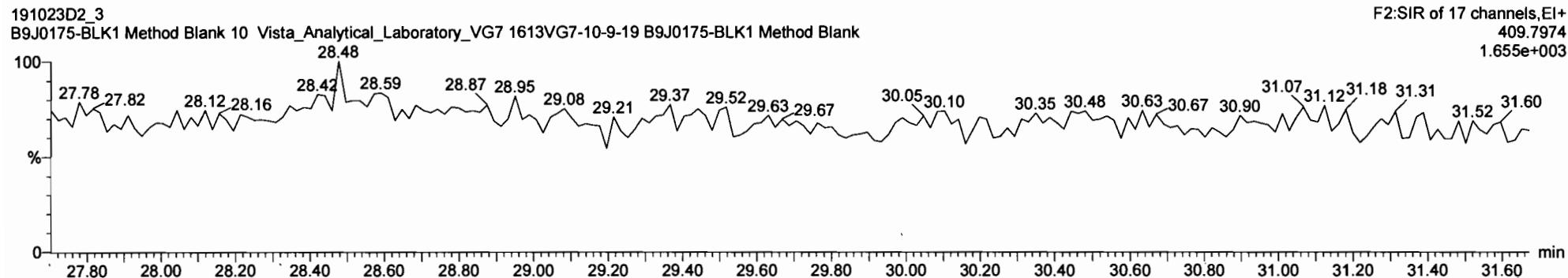
Total Penta-Furans



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



DPE2



Vista Analytical Laboratory

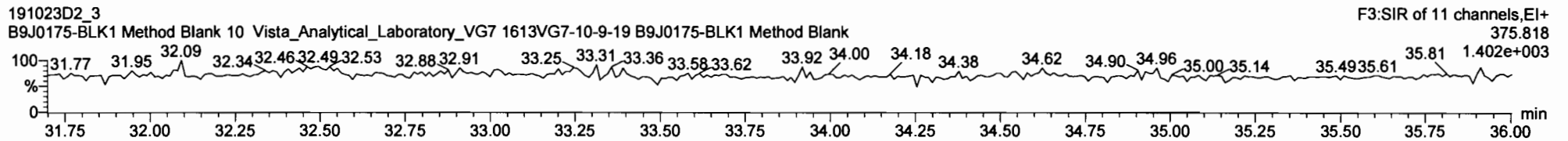
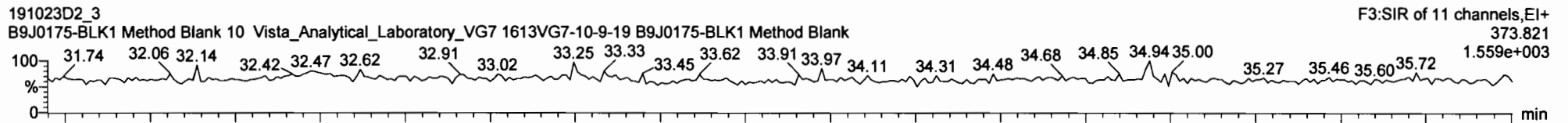
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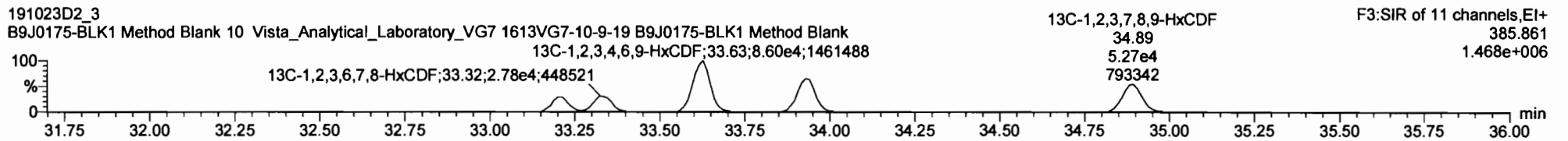
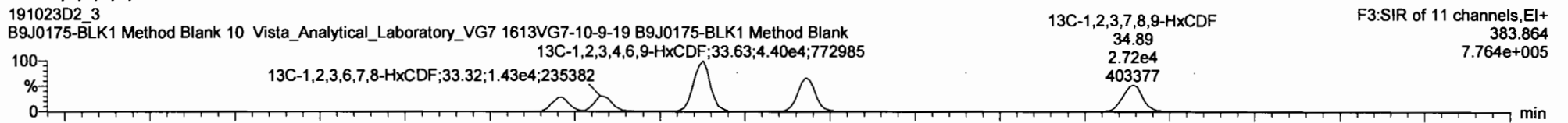
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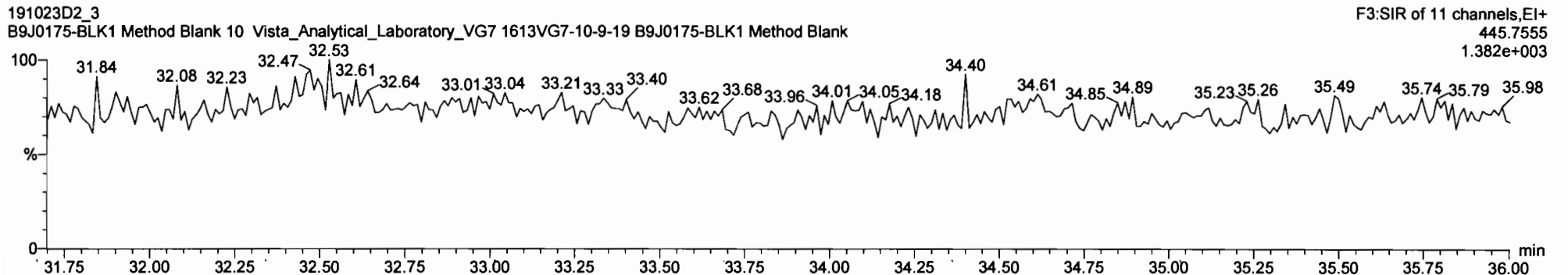
Total Hexa-Furans



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

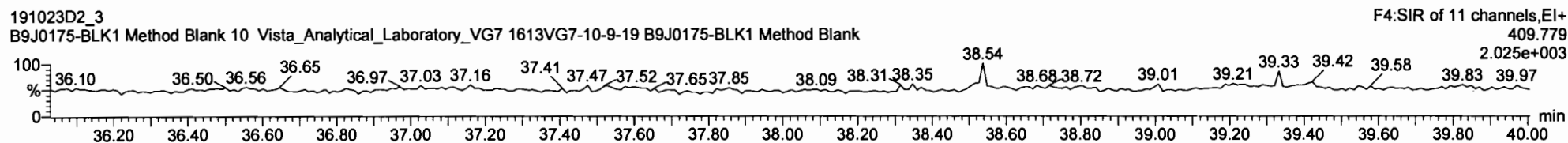
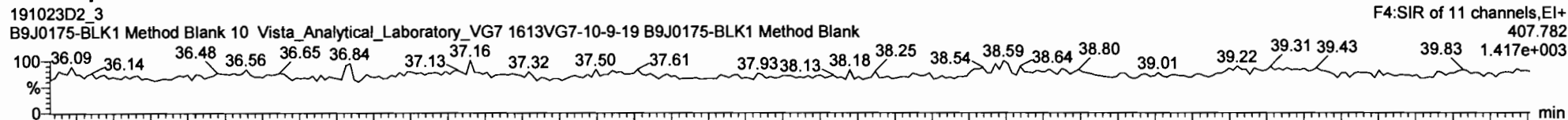


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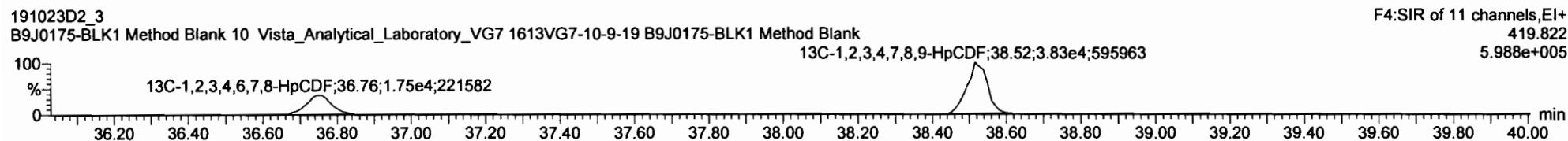
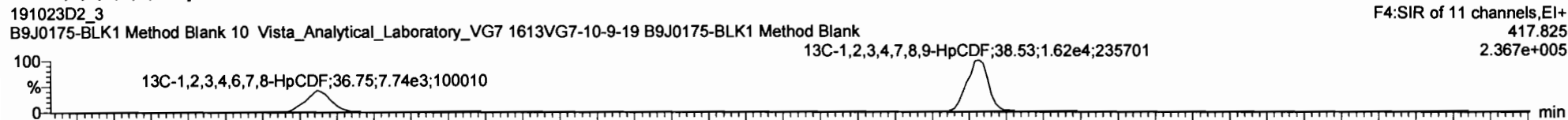


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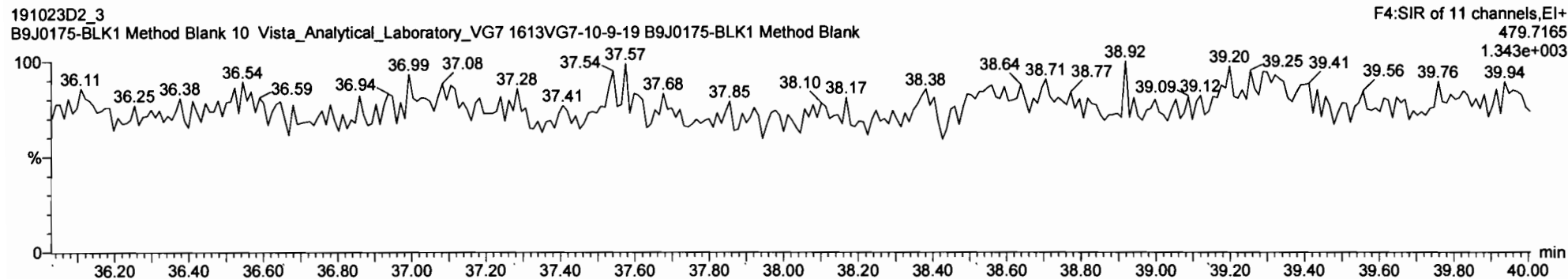
Total Hepta-Furans



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

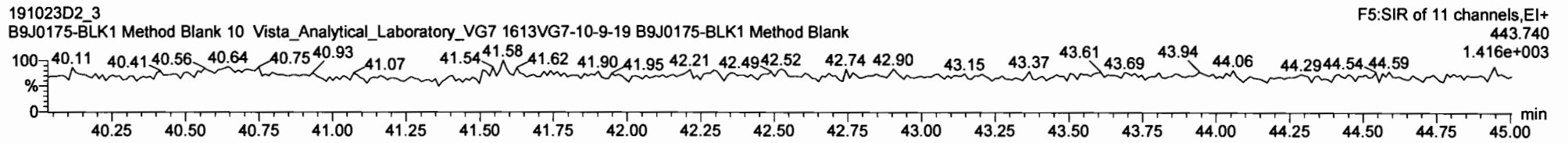
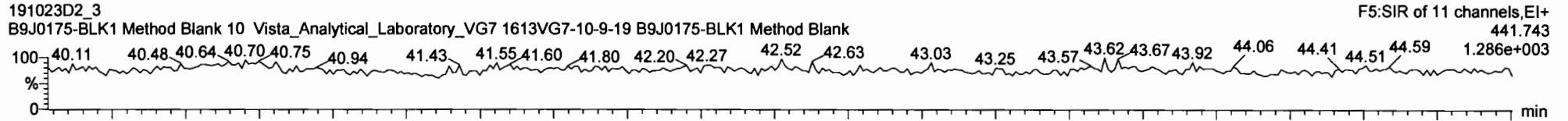


DPE4

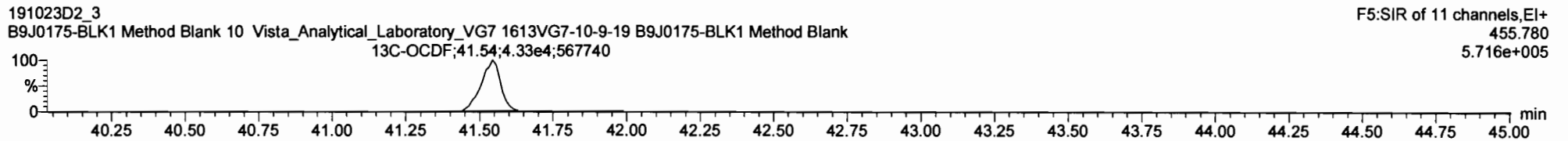
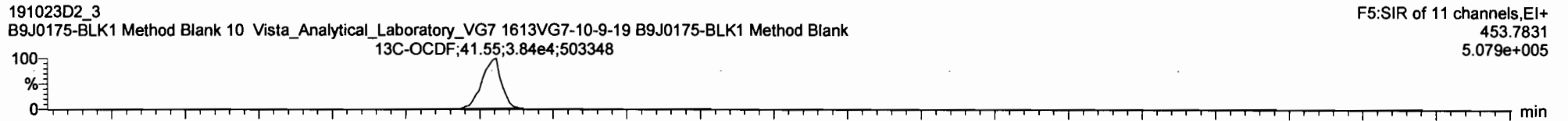


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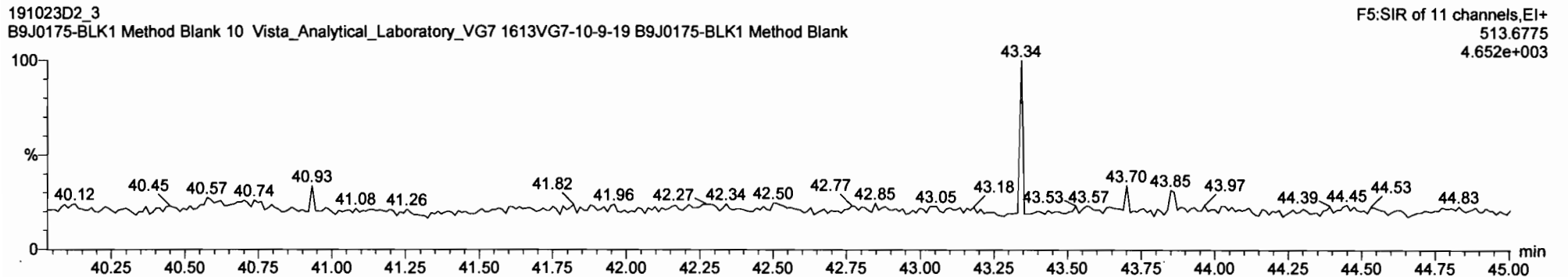
OCDF



13C-OCDF

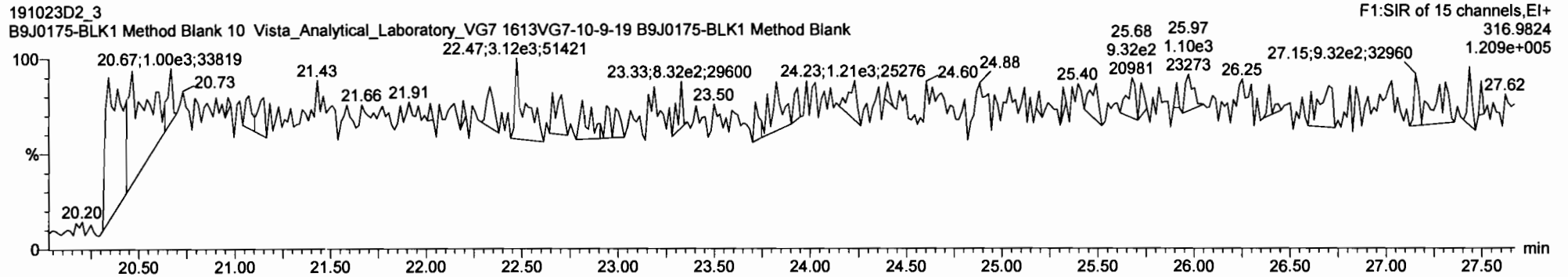


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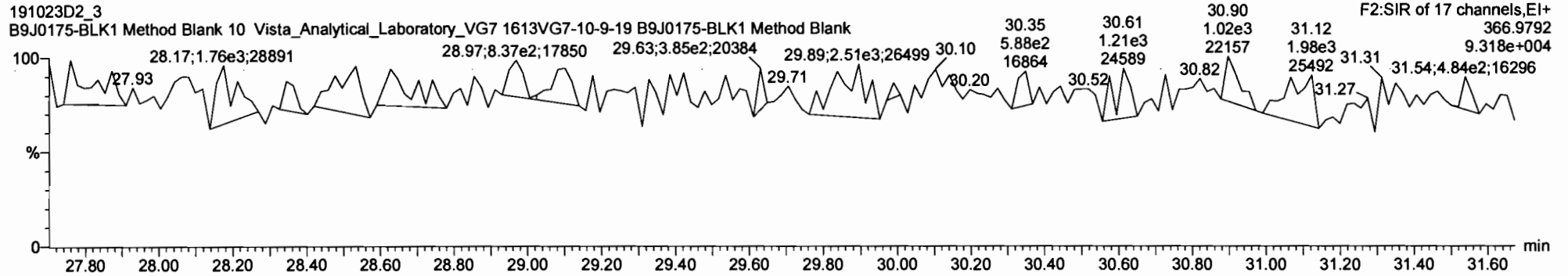


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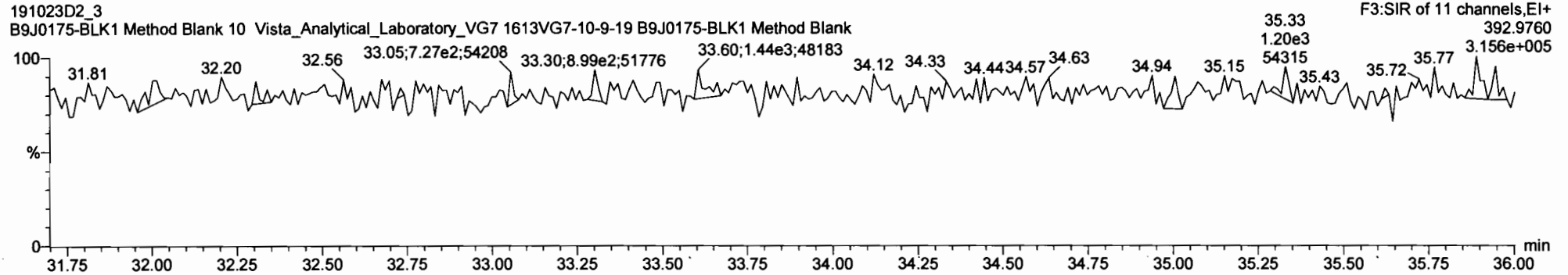
PFK1



PFK2

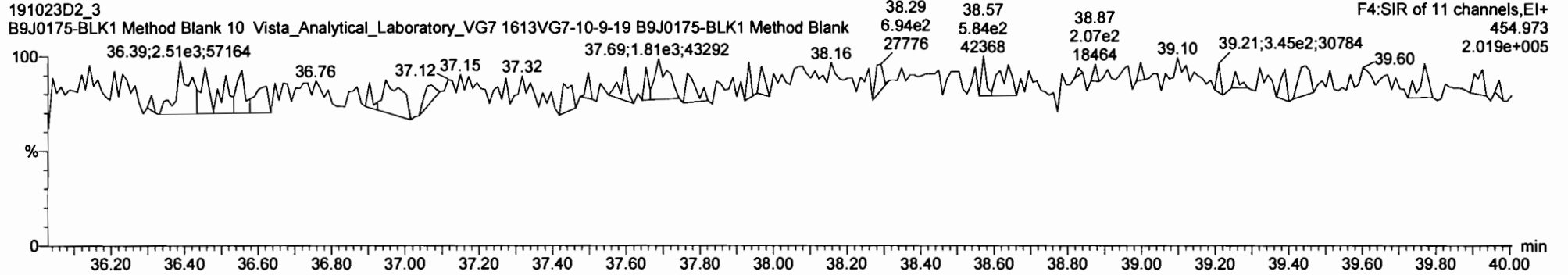


PFK3

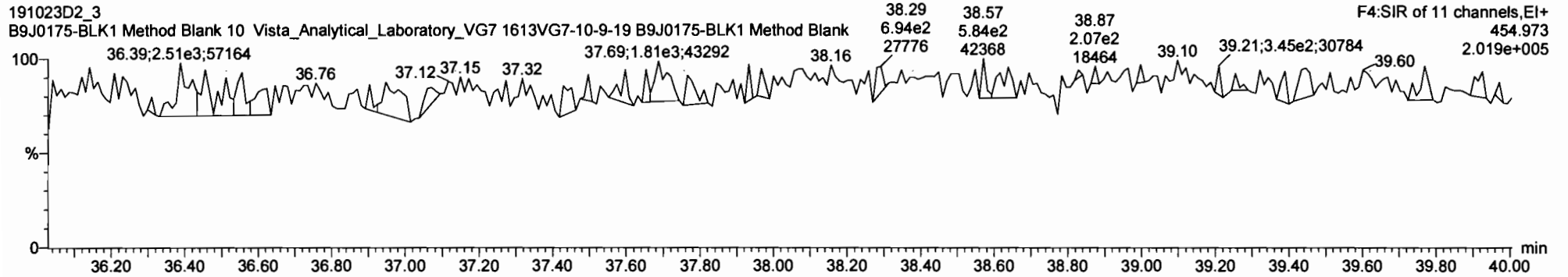


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Description: B9J0175-BLK1 Method Blank 10 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



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

Lab Name: Vista Analytical Laboratory Extraction Batch: B9J0175-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191023D1-3

Ext. Date: Shift: Day Analysis Date: 23-OCT-19 Time: 14:55:56

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	10.7	6.7 - 15.8
1,2,3,7,8-PeCDD	50	46.4	7.3 - 14.6 (2)
1,2,3,4,7,8-HxCDD	50	50.7	35.0 - 71.0
1,2,3,6,7,8-HxCDD	50	54.6	35.0 - 82.0
1,2,3,7,8,9-HxCDD	50	54.0	38.0 - 67.0
1,2,3,4,6,7,8-HpCDD	50	49.2	32.0 - 81.0
OCDD	100	101	35.0 - 70.0
2,3,7,8-TCDF	10	9.52	78.0 - 144.0
1,2,3,7,8-PeCDF	50	48.7	7.5 - 15.8
2,3,4,7,8-PeCDF	50	49.8	8.0 - 14.7 (2)
1,2,3,4,7,8-HxCDF	50	47.3	40.0 - 67.0
1,2,3,6,7,8-HxCDF	50	47.0	34.0 - 80.0
2,3,4,6,7,8-HxCDF	50	49.6	36.0 - 67.0
1,2,3,7,8,9-HxCDF	50	50.5	42.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	50.3	35.0 - 78.0
1,2,3,4,7,8,9-HpCDF	50	49.2	39.0 - 65.0
OCDF	100	98.9	41.0 - 61.0

(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: 10/24/19

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

Lab Name: Vista Analytical Laboratory Extraction Batch: B9J0175 BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191023D1-3

Ext. Date: Shift: Day Analysis Date: 23-OCT-19 Time: 14:55:56

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	82.3	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	79.1	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	89.2	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	73.6	25.0 - 163.0
13C-1,2,3,7,8,9 HxCDD	100	79.2	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	83.5	26.0 - 166.0
13C-OCDD	200	147	26.0 - 397.0
13C-2,3,7,8-TCDF	100	76.5	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	66.2	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	75.2	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	84.8	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	78.3	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	83.3	22.0 - 176.0
13C-1,2,3,7,8,9 HxCDF	100	87.9	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	72.8	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	85.0	20.0 - 186.0
13C-OCDF	200	157	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	30.2	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

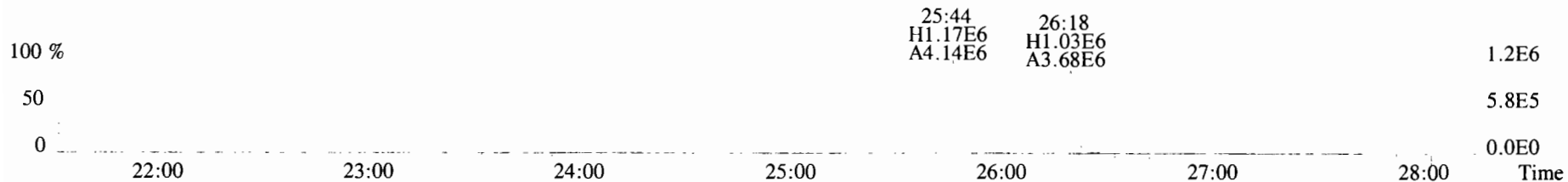
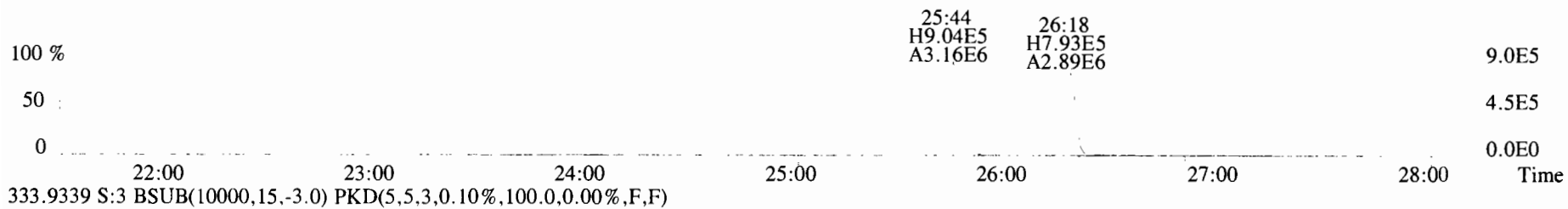
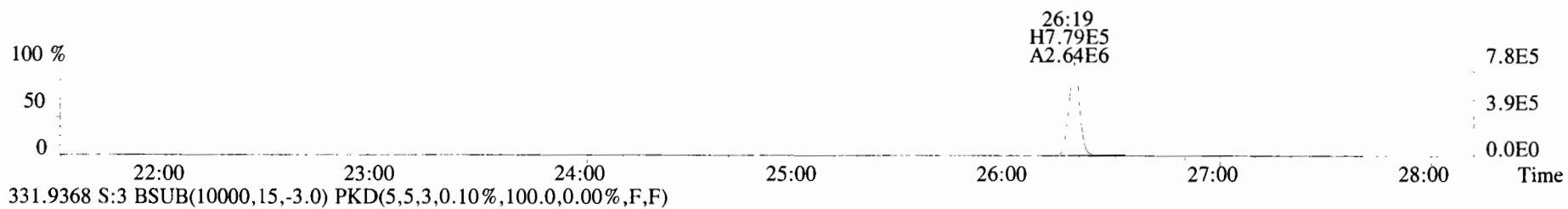
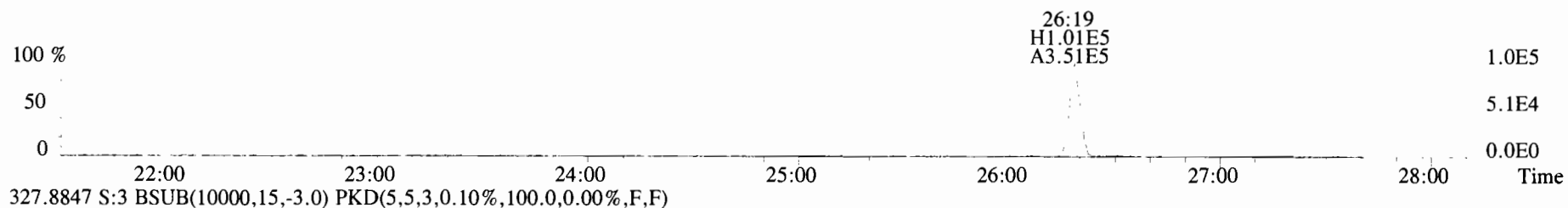
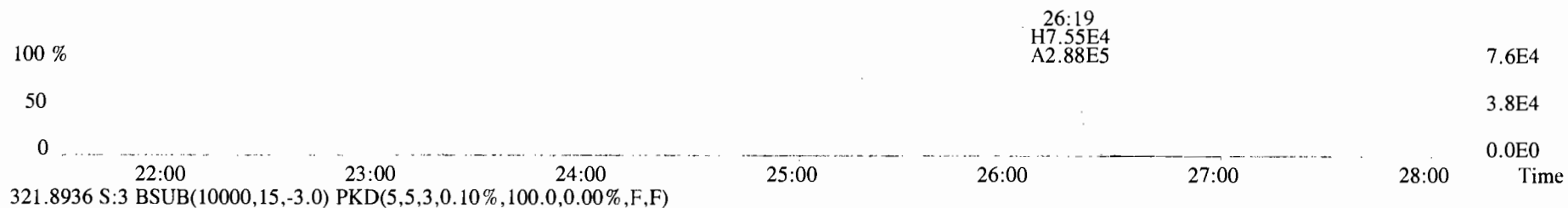
Analyst: DB

Date: 10/24/19

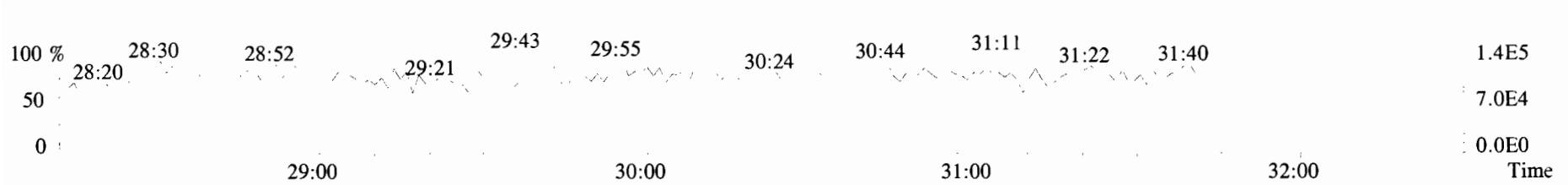
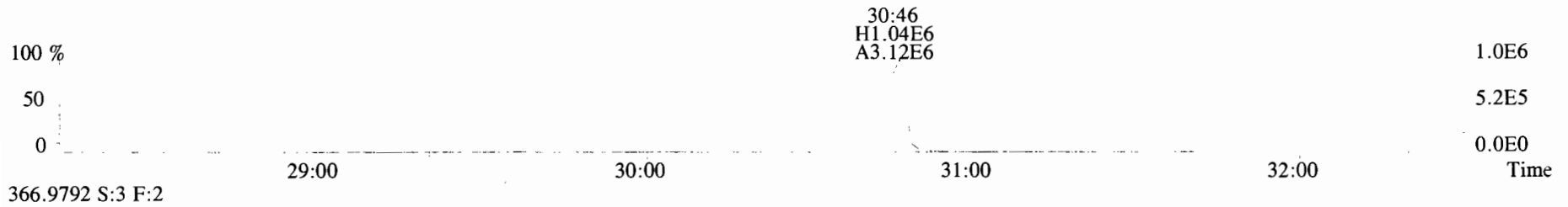
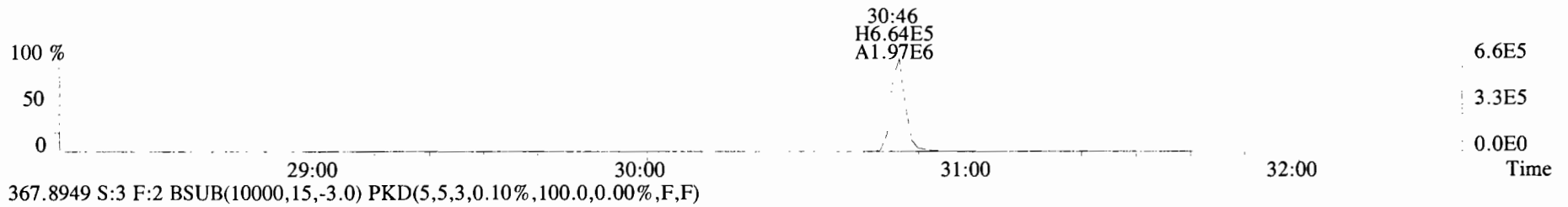
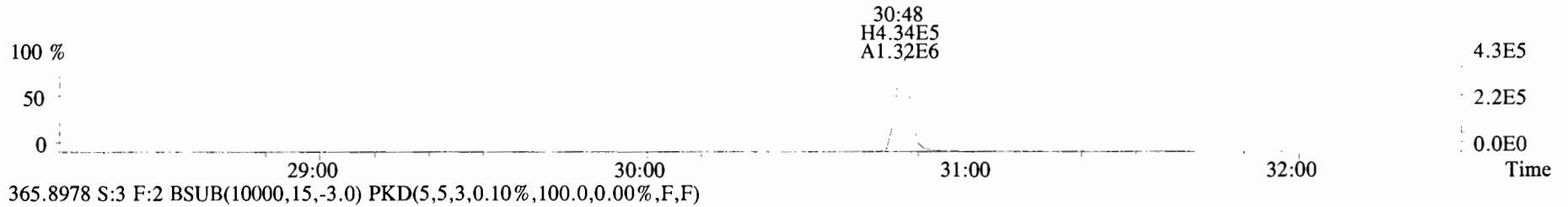
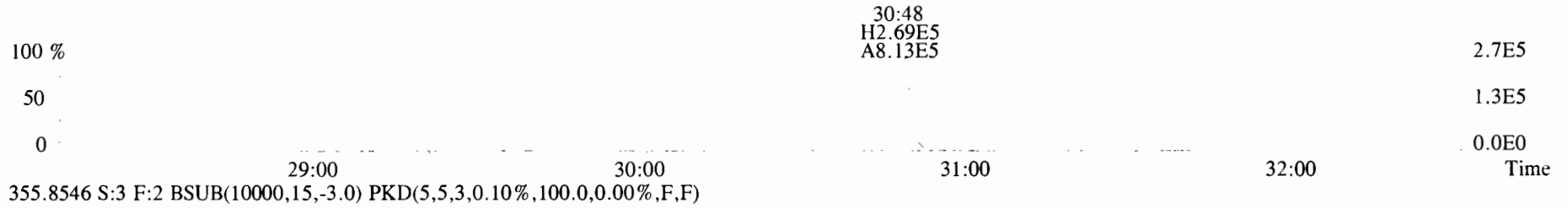
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	6.39e+05	0.82 y	0.91	26:19	10.727	*	2.5	*	*	Total Tetra Dioxins	11.1	13.0	*	*	*
1,2,3,7,8-PeCDD	2.13e+06	0.62 y	0.90	30:47	46.405	*	2.5	*	*	Total Penta Dioxins	46.4	47.1	*	*	*
1,2,3,4,7,8-HxCDD	2.49e+06	1.22 y	1.10	34:07	50.685	*	2.5	*	*	Total Hexa-Dioxins	159	160	*	*	*
1,2,3,6,7,8-HxCDD	2.52e+06	1.22 y	0.94	34:13	54.570	*	2.5	*	*	Total Hepta-Dioxins	50.0	50.7	*	*	*
1,2,3,7,8,9-HxCDD	2.59e+06	1.19 y	0.96	34:31	54.034	*	2.5	*	*	Total Tetra-Furans	10.2	12.9	*	*	*
1,2,3,4,6,7,8-HpCDD	2.05e+06	1.02 y	0.98	37:59	49.234	*	2.5	*	*	Total Penta-Furans	98.875	101.02	*	*	*
OCDD	3.22e+06	0.94 y	0.96	41:19	101.20	*	2.5	*	*	Total Hexa-Furans	194	195	*	*	*
										Total Hepta-Furans	100	101	*	*	*
2,3,7,8-TCDF	7.66e+05	0.77 y	0.95	25:32	9.5209	*	2.5	*	*						
1,2,3,7,8-PeCDF	2.83e+06	1.72 y	0.96	29:37	48.666	*	2.5	*	*						
2,3,4,7,8-PeCDF	3.44e+06	1.73 y	1.01	30:31	49.771	*	2.5	*	*						
1,2,3,4,7,8-HxCDF	3.06e+06	1.22 y	1.18	33:13	47.287	*	2.5	*	*						
1,2,3,6,7,8-HxCDF	3.18e+06	1.25 y	1.07	33:21	47.034	*	2.5	*	*						
2,3,4,6,7,8-HxCDF	3.42e+06	1.09 y	1.11	33:56	49.570	*	2.5	*	*						
1,2,3,7,8,9-HxCDF	3.04e+06	1.23 y	1.06	34:54	50.485	*	2.5	*	*						
1,2,3,4,6,7,8-HpCDF	2.44e+06	1.01 y	1.13	36:46	50.343	*	2.5	*	*						
1,2,3,4,7,8,9-HpCDF	2.43e+06	1.02 y	1.28	38:32	49.206	*	2.5	*	*						
OCDF	3.96e+06	0.90 y	0.95	41:33	98.922	*	2.5	*	*						
IS	13C-2,3,7,8-TCDD	6.58e+06	0.79 y	1.10	26:18	82.270				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	5.09e+06	0.63 y	0.88	30:46	79.144				82.3					
IS	13C-1,2,3,4,7,8-HxCDD	4.47e+06	1.24 y	0.64	34:06	89.190				79.1					
IS	13C-1,2,3,6,7,8-HxCDD	4.91e+06	1.26 y	0.86	34:12	73.578				89.2					
IS	13C-1,2,3,7,8,9-HxCDD	4.98e+06	1.21 y	0.81	34:30	79.200				73.6					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.26e+06	1.05 y	0.65	37:58	83.492				79.2					
IS	13C-OCDD	6.64e+06	0.95 y	0.58	41:19	146.72				83.5					
IS	13C-2,3,7,8-TCDF	8.47e+06	0.75 y	1.03	25:31	76.510				73.4					
IS	13C-1,2,3,7,8-PeCDF	6.05e+06	1.49 y	0.85	29:36	66.213				76.5					
IS	13C-2,3,4,7,8-PeCDF	6.81e+06	1.44 y	0.85	30:29	75.176				66.2					
IS	13C-1,2,3,4,7,8-HxCDF	5.51e+06	0.48 y	0.83	33:12	84.836				75.2					
IS	13C-1,2,3,6,7,8-HxCDF	6.32e+06	0.49 y	1.03	33:19	78.310				84.8					
IS	13C-2,3,4,6,7,8-HxCDF	6.20e+06	0.49 y	0.95	33:56	83.314				78.3					
IS	13C-1,2,3,7,8,9-HxCDF	5.67e+06	0.52 y	0.83	34:53	87.872				83.3					
IS	13C-1,2,3,4,6,7,8-HpCDF	4.30e+06	0.45 y	0.76	36:45	72.786				87.9					
IS	13C-1,2,3,4,7,8,9-HpCDF	3.85e+06	0.43 y	0.58	38:31	84.998				72.8					
IS	13C-OCDF	8.46e+06	0.91 y	0.69	41:32	157.34				85.0					
C/Up	37Cl-2,3,7,8-TCDD	2.64e+06		1.20	26:19	30.246				78.7					
RS/RT	13C-1,2,3,4-TCDD	7.30e+06	0.77 y	1.00	25:44	100.00									
RS	13C-1,2,3,4-TCDF	1.07e+07	0.76 y	1.00	24:19	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.80e+06	0.49 y	1.00	33:37	100.00									

Integrations Reviewed
 by Analyst: DB by Analyst: CT
 Date: 10/24/19 Date: 11/06/19

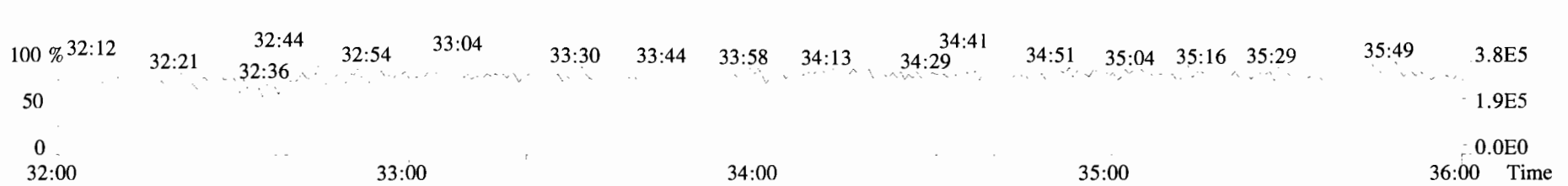
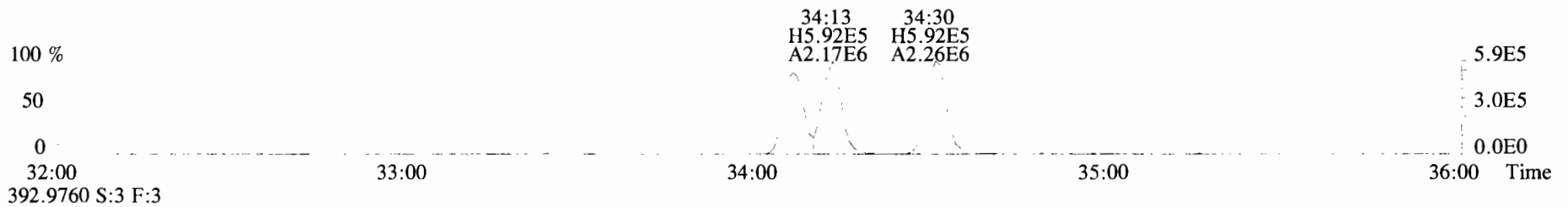
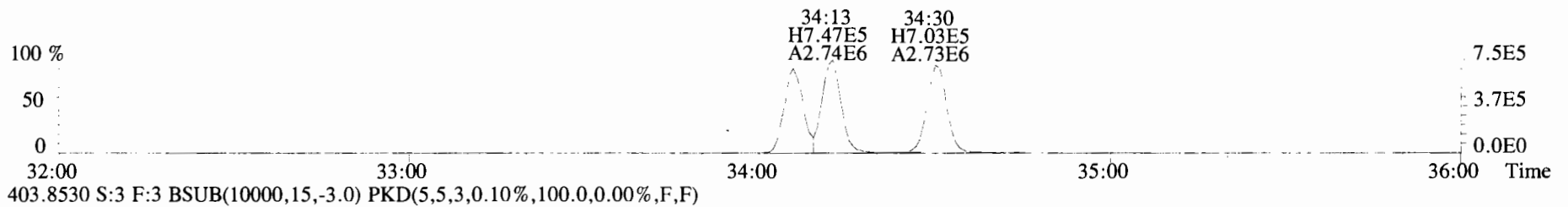
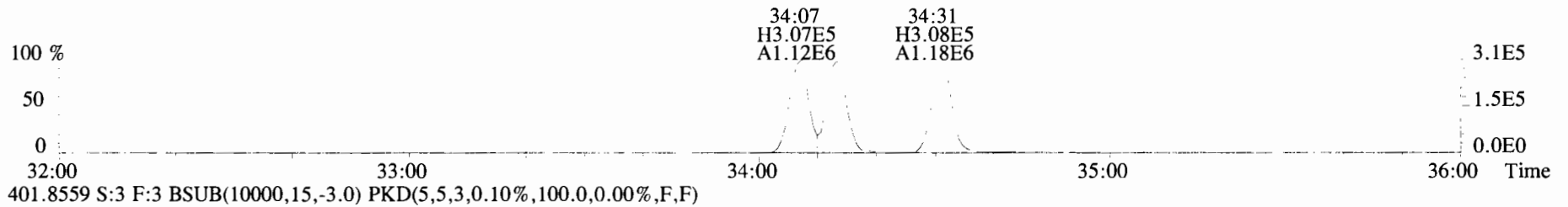
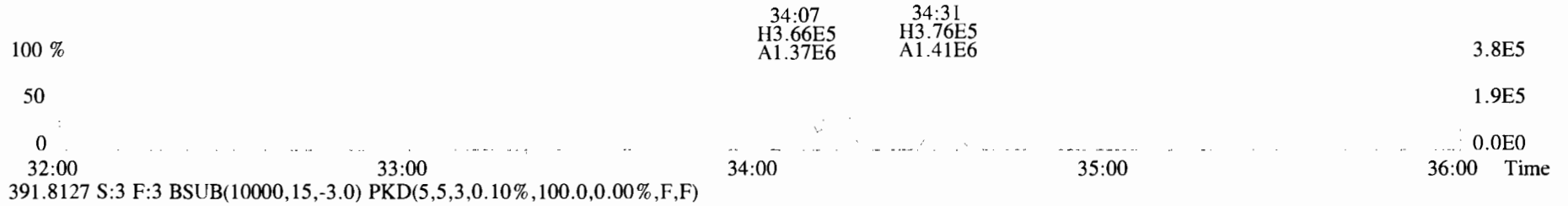
File:191023D1 #1-493 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



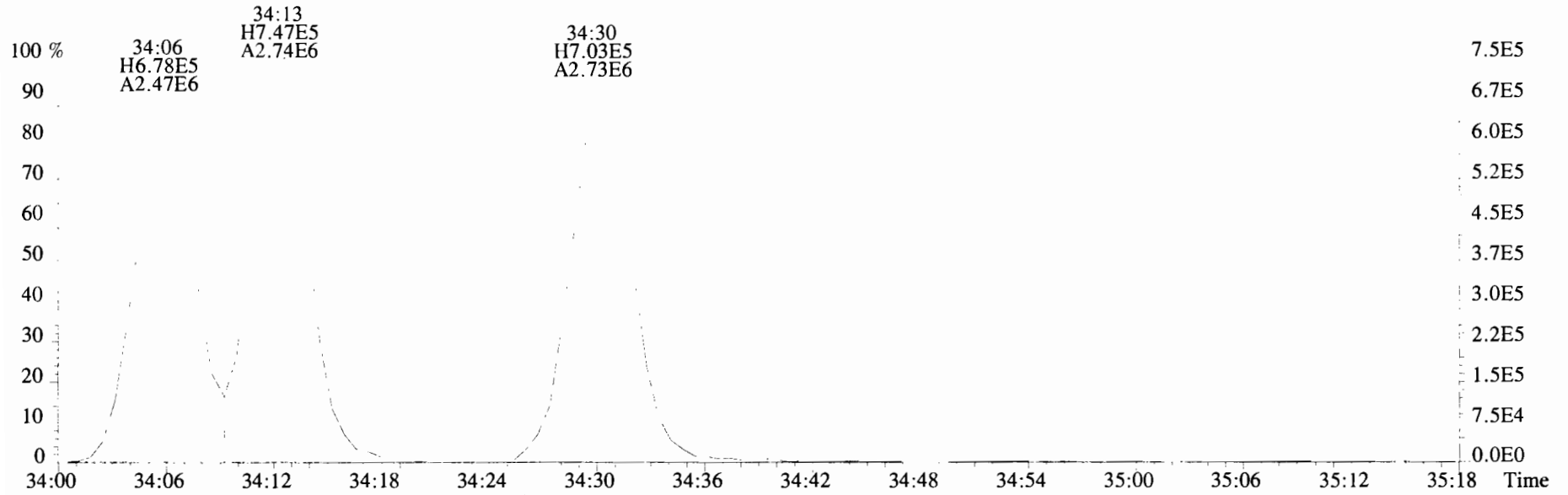
File:191023D1 #1-211 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
 353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



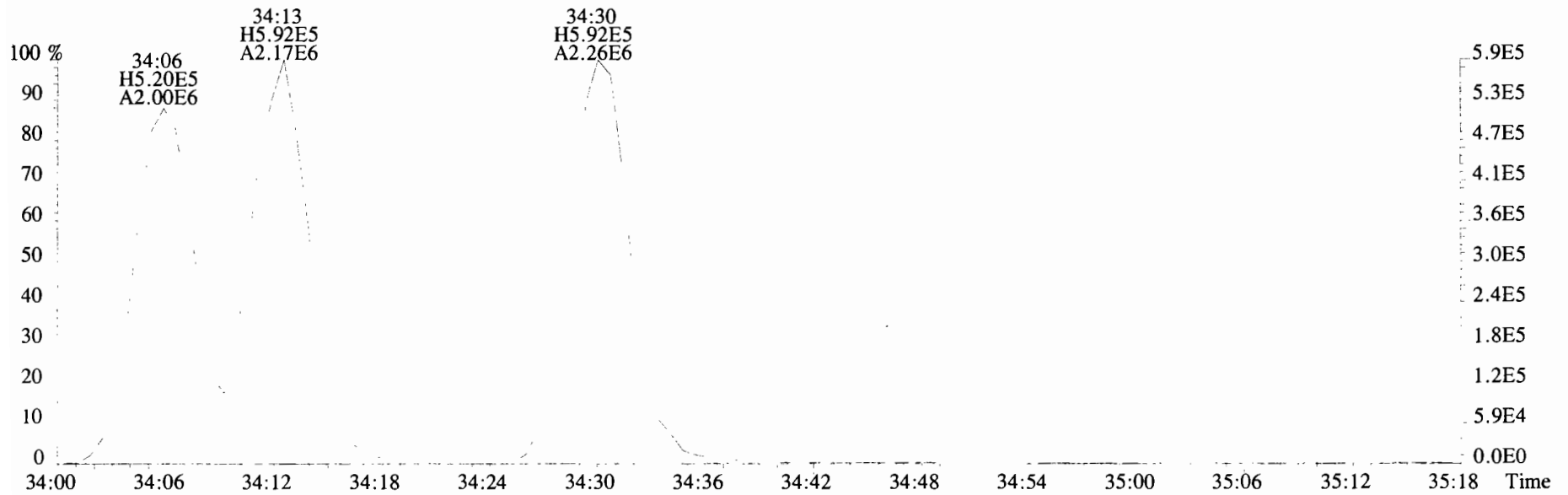
File: 191023D1 #1-384 Acq: 23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista Analytical Laboratory VG7 Text: B9J0175-BS1 OPR 10 Exp: OCDD_DB5
 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



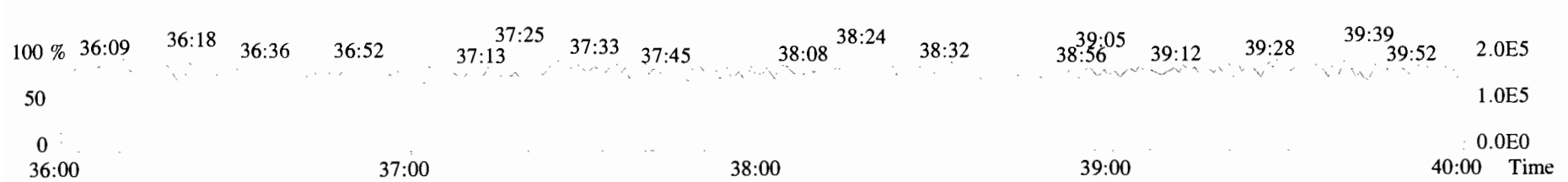
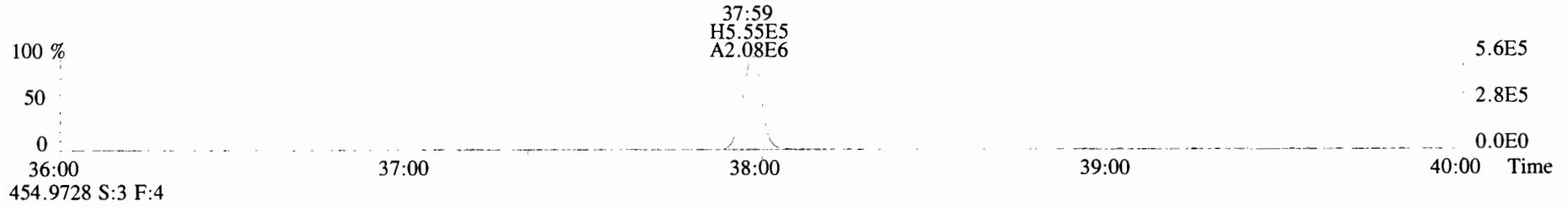
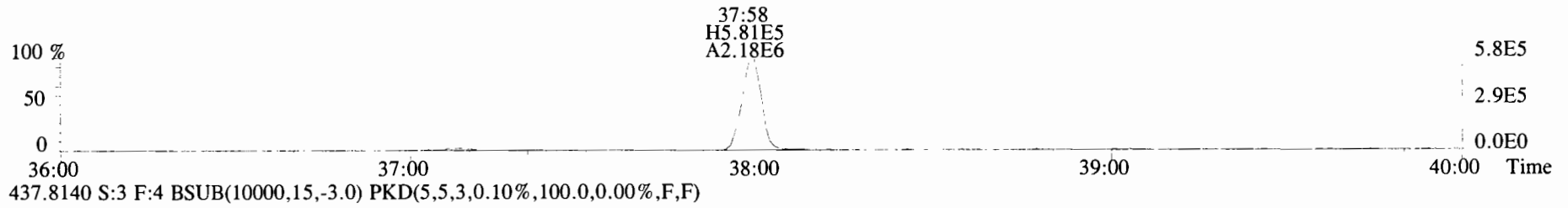
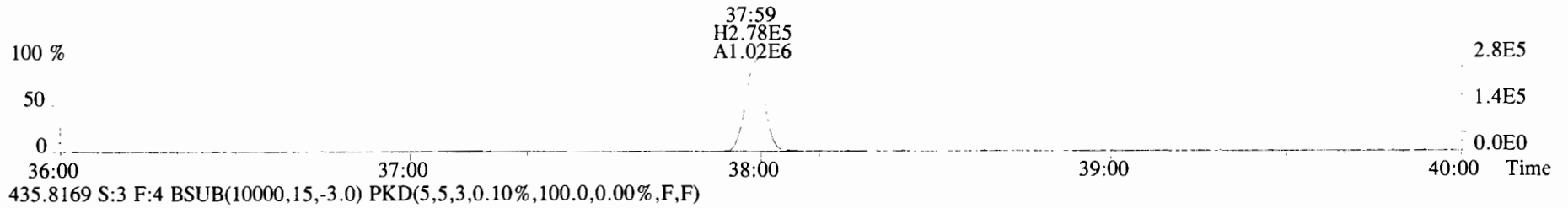
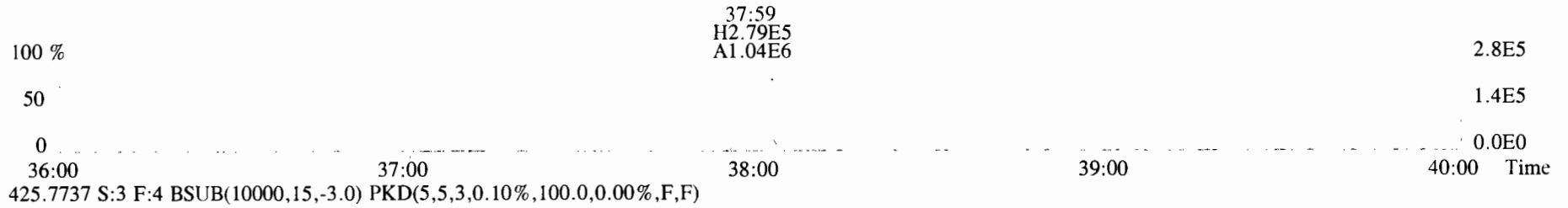
File:191023D1 #1-384 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
 401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F)



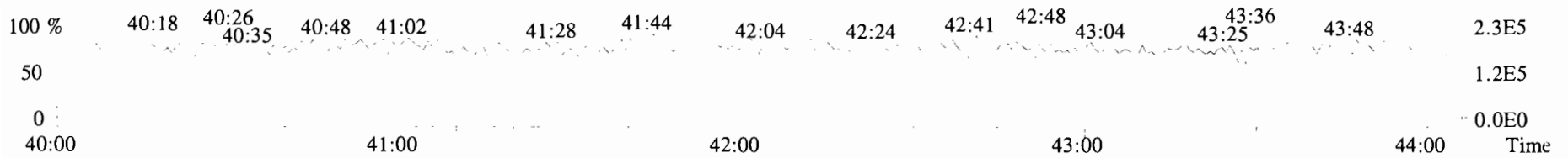
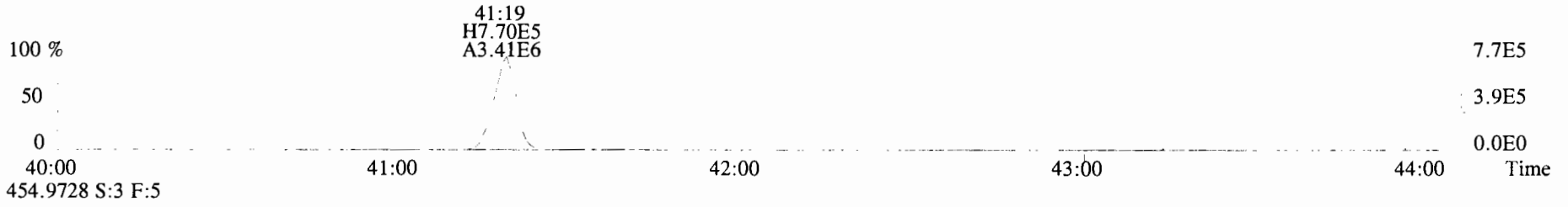
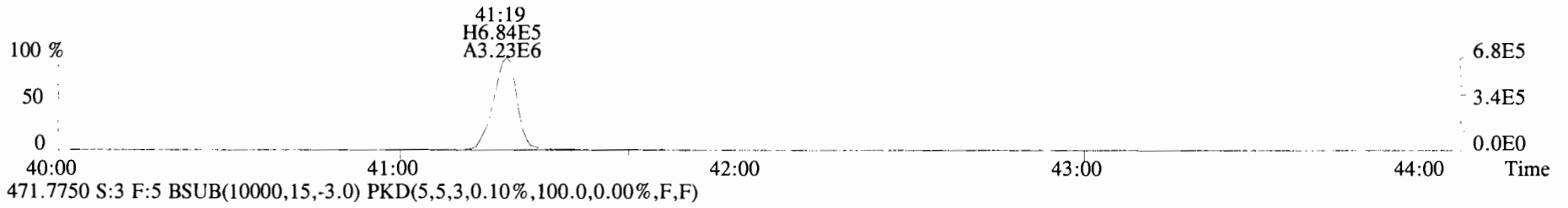
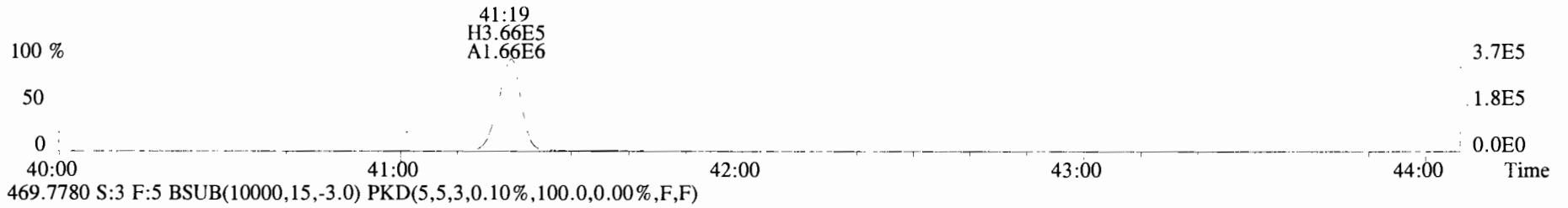
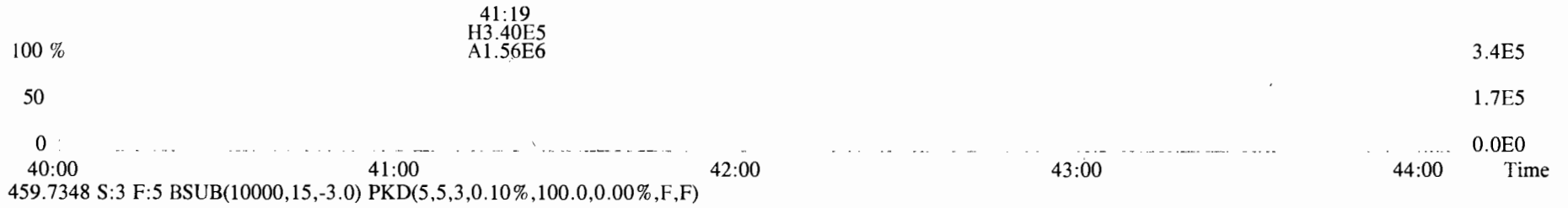
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



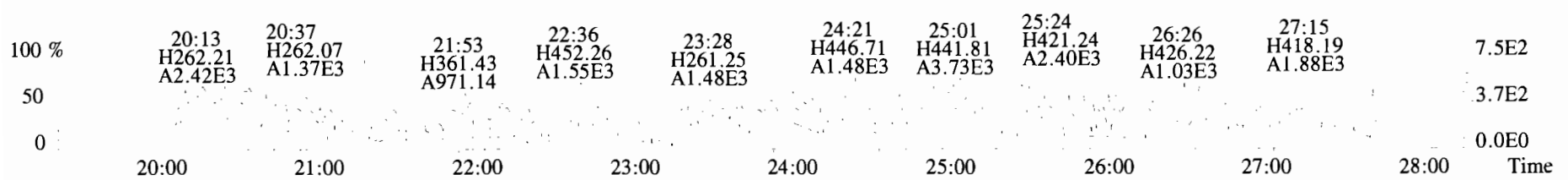
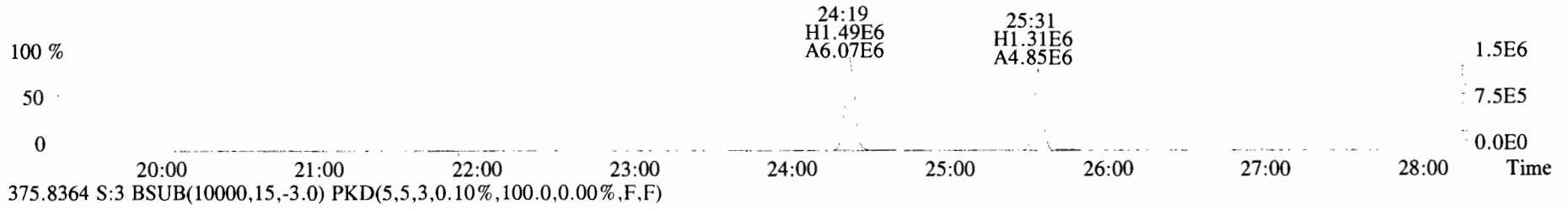
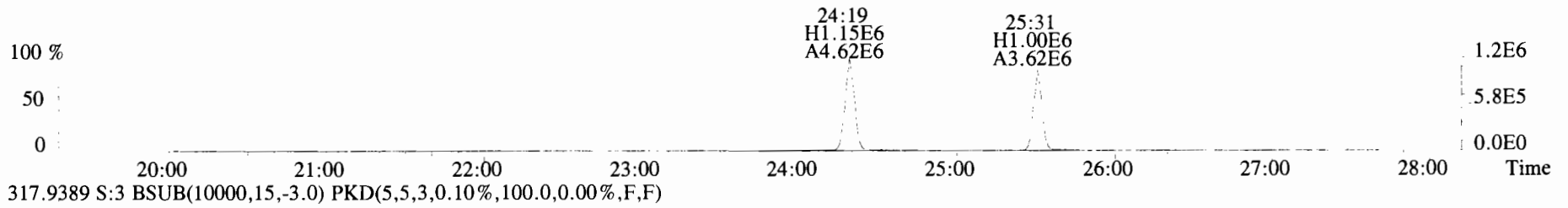
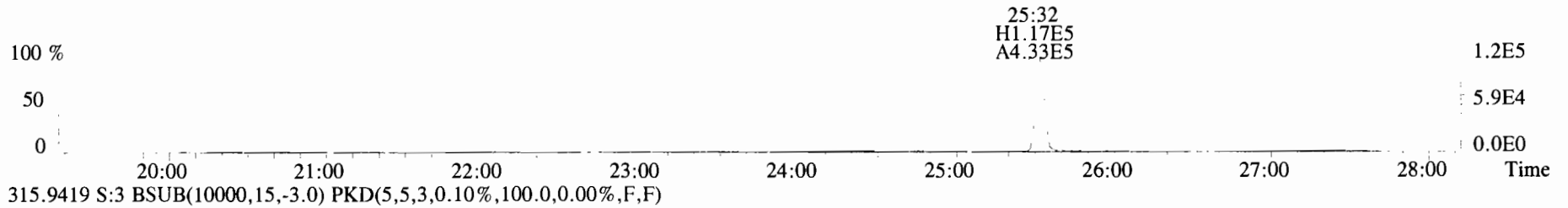
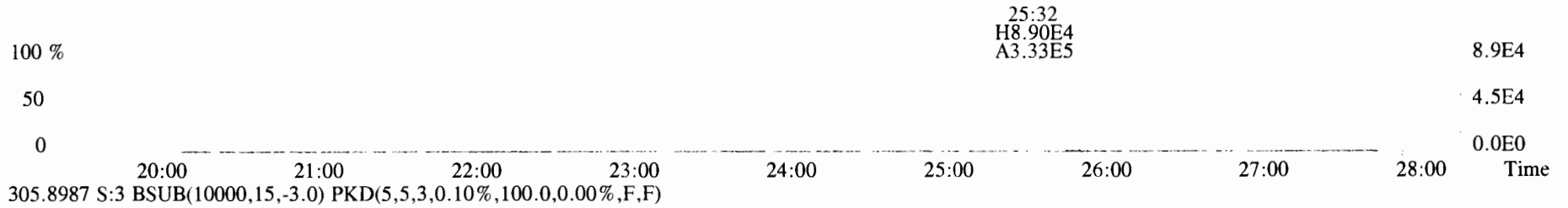
File:191023D1 #1-356 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



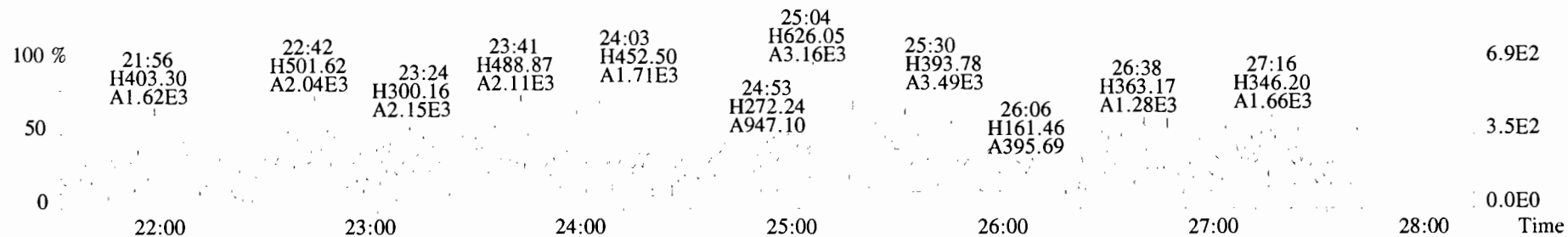
File:191023D1 #1-432 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



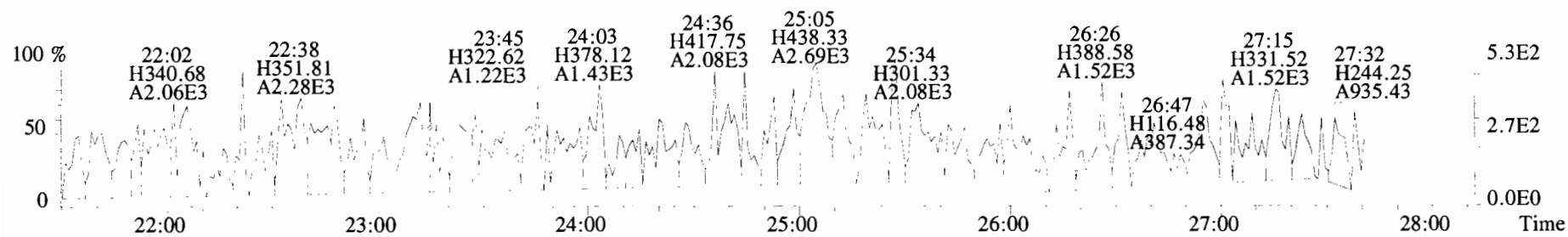
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 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



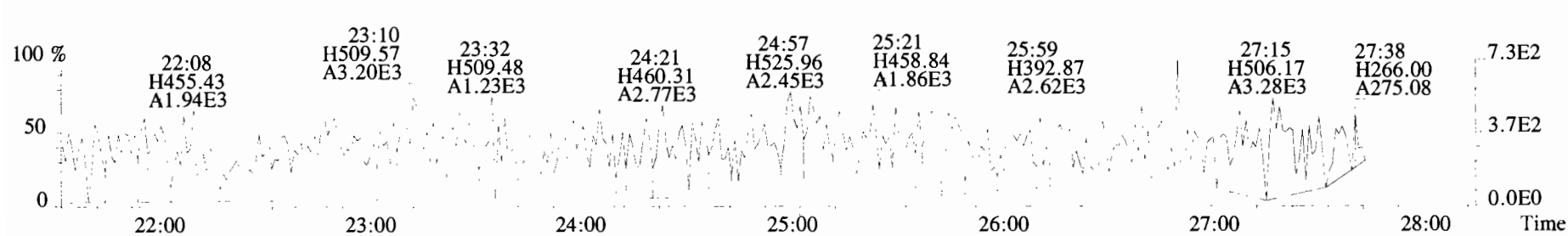
File: 191023D1 #1-493 Acq: 23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista_Analytical_Laboratory_VG7 Text: B9J0175-BS1 OPR 10 Exp: OCDD_DB5
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



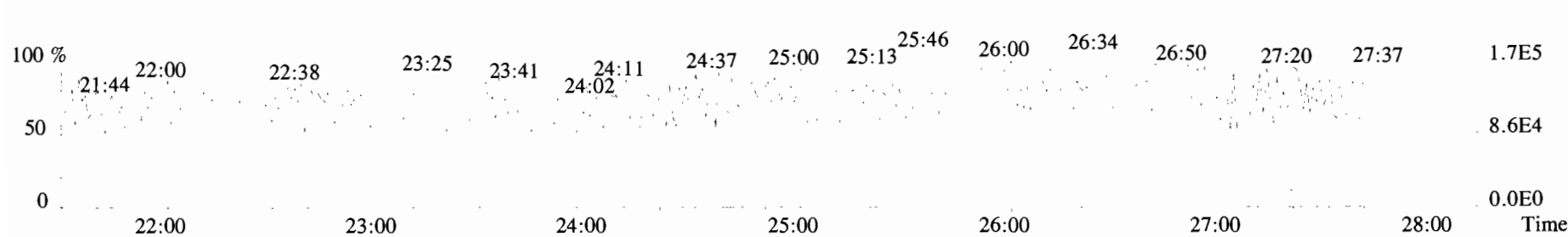
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



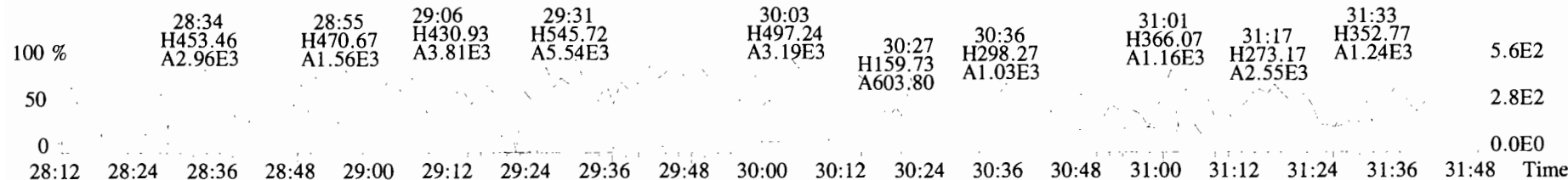
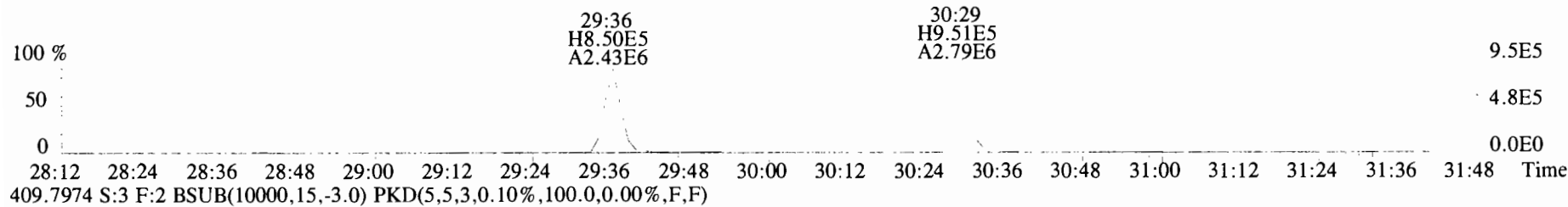
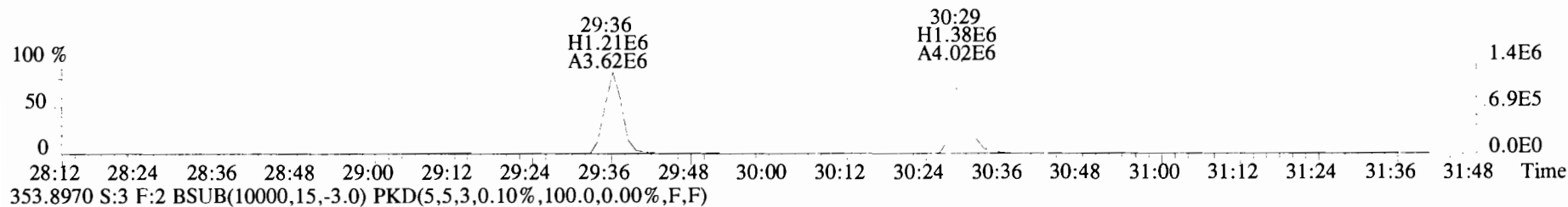
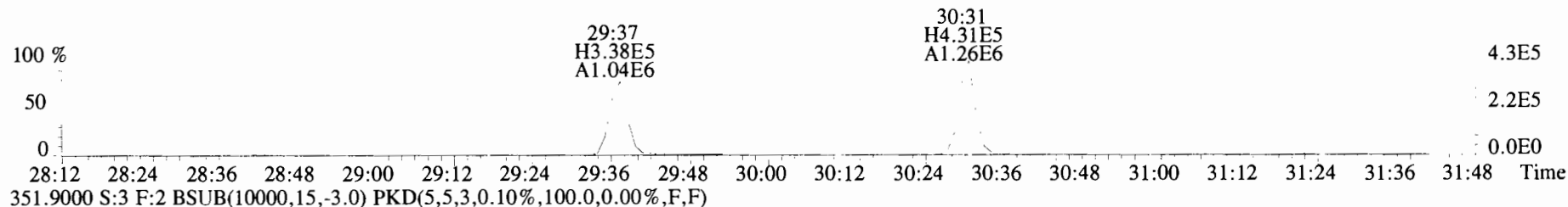
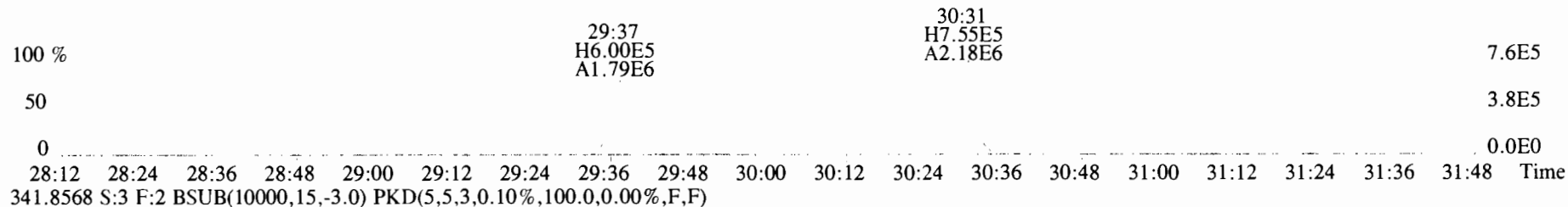
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



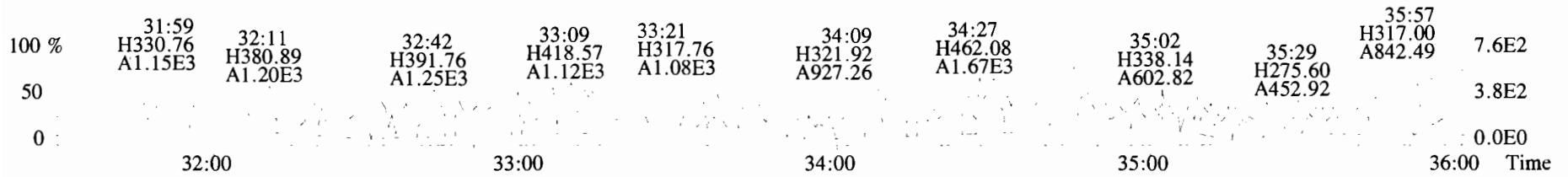
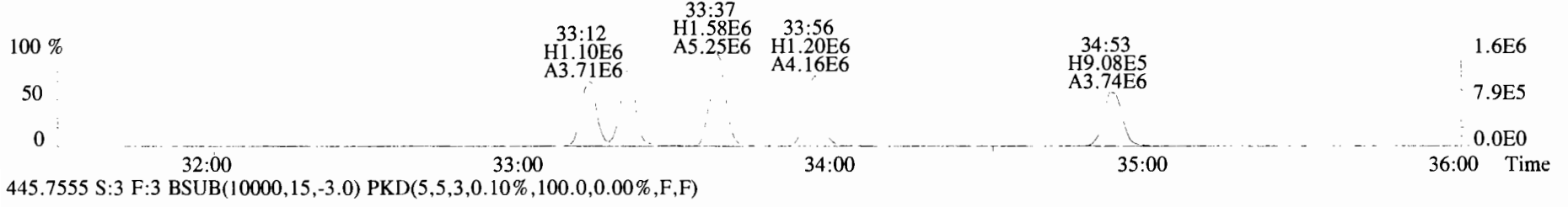
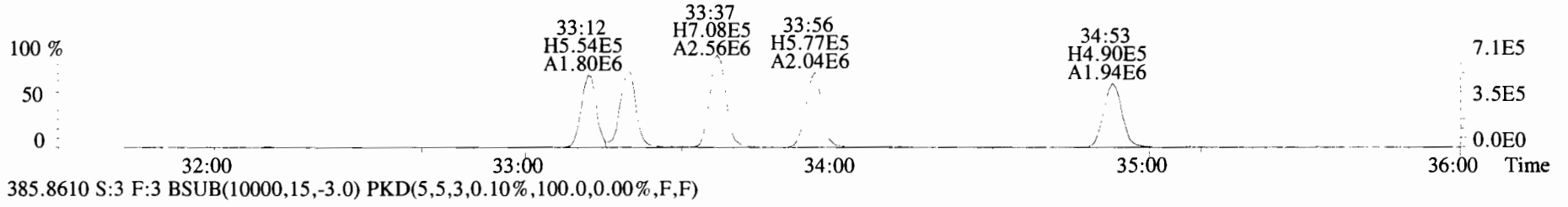
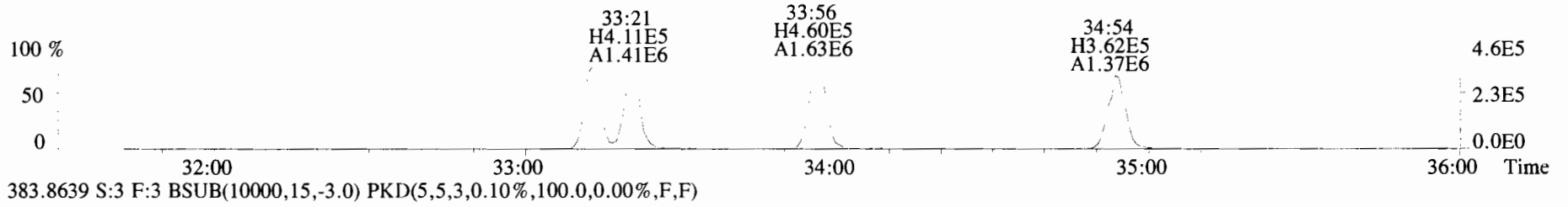
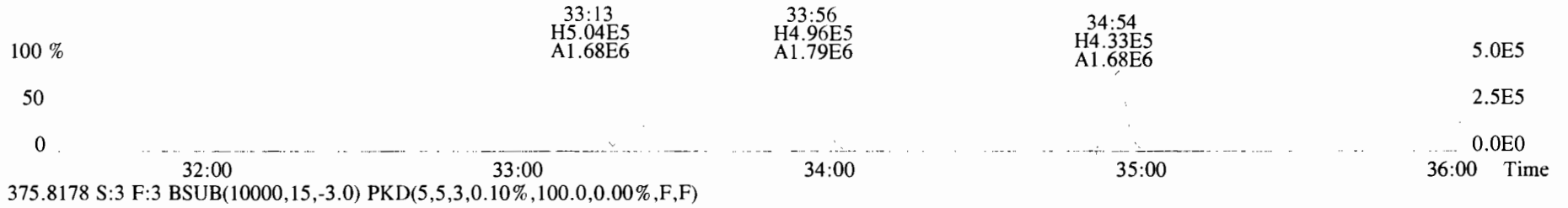
316.9824 S:3



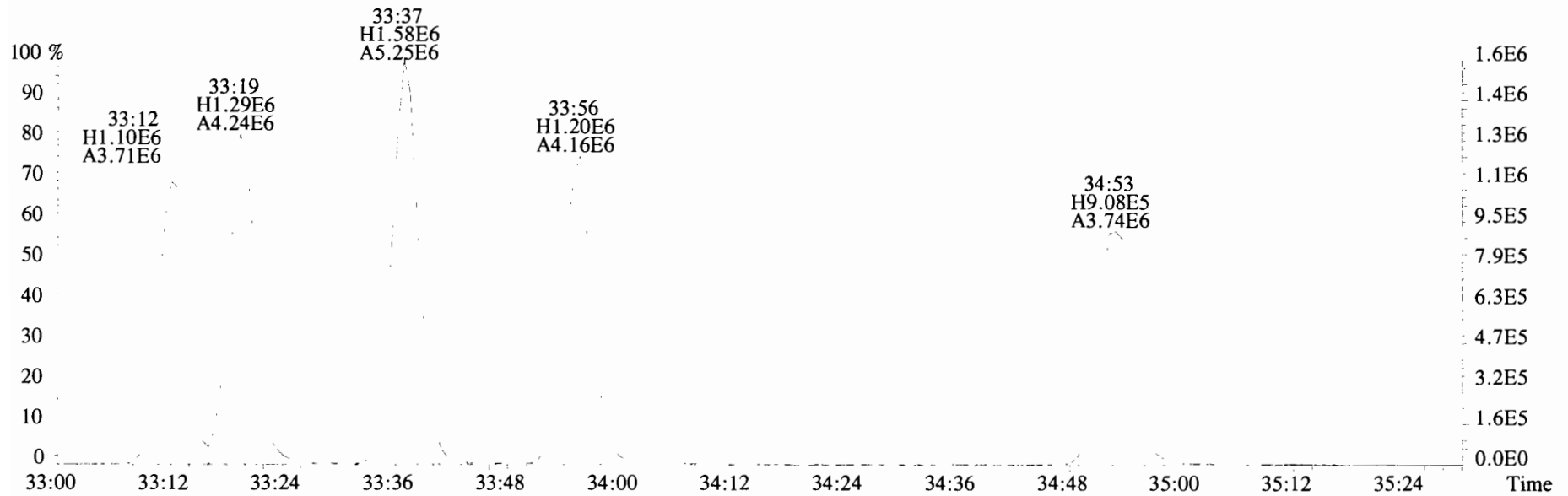
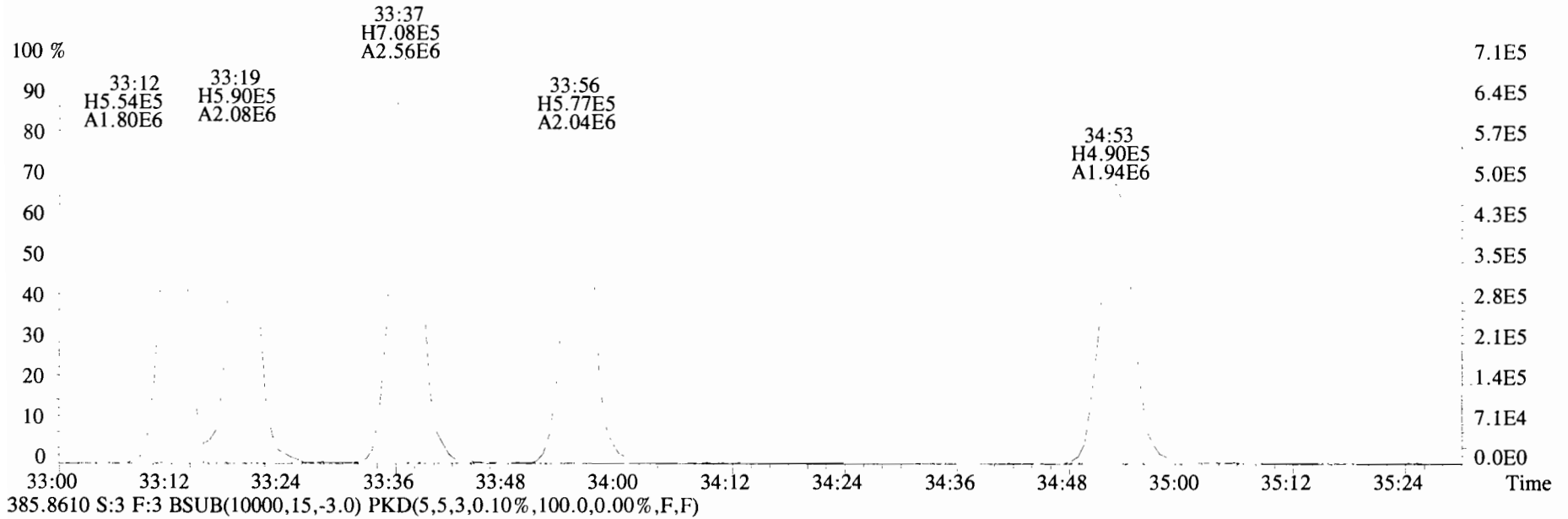
File:191023D1 #1-211 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
 339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



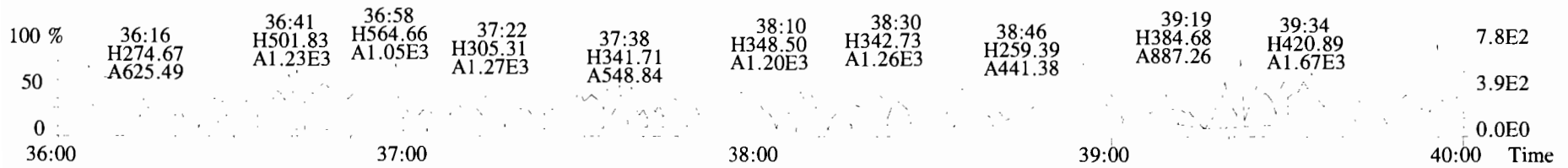
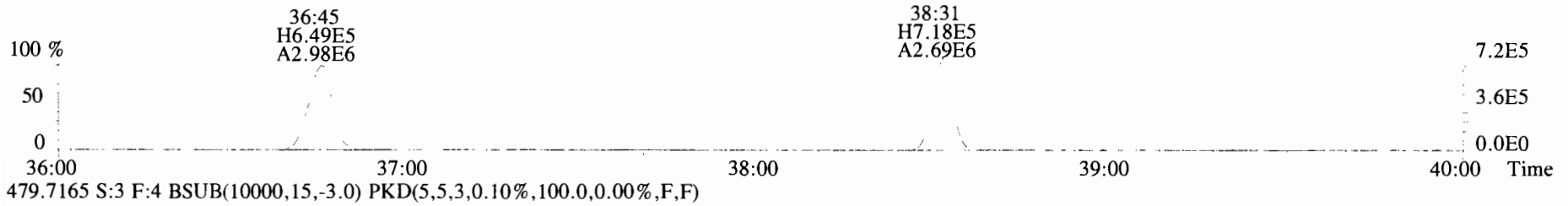
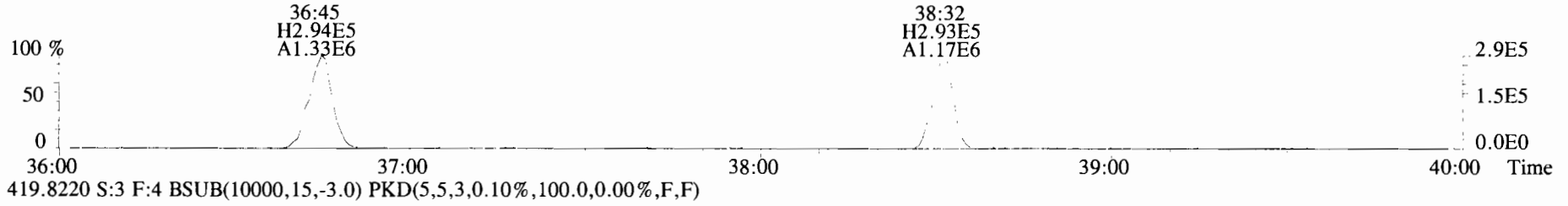
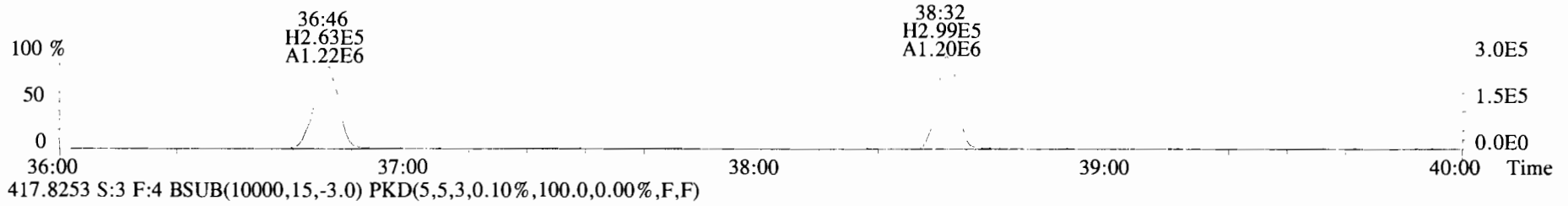
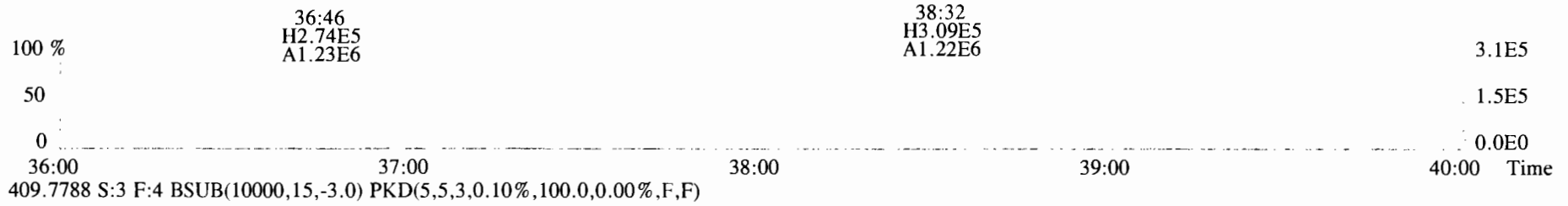
File: 191023D1 #1-384 Acq: 23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista_Analytical_Laboratory_VG7 Text: B9J0175-BS1 OPR 10 Exp: OCDD_DB5
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



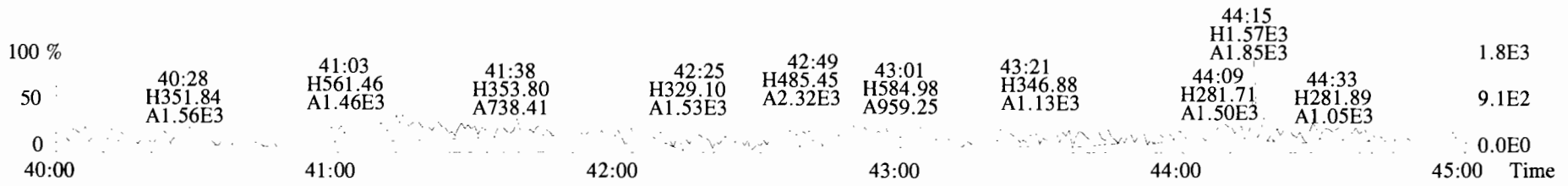
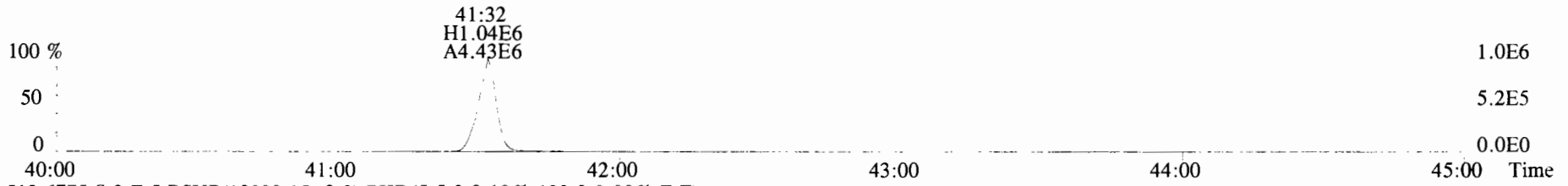
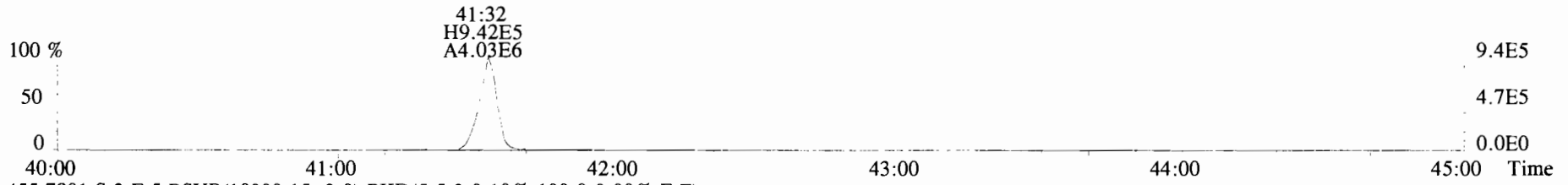
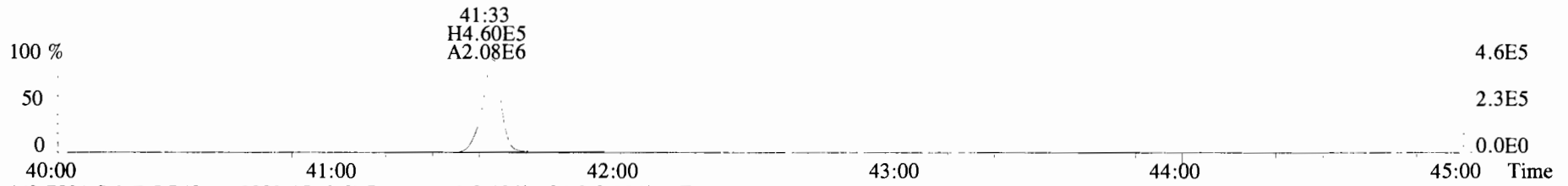
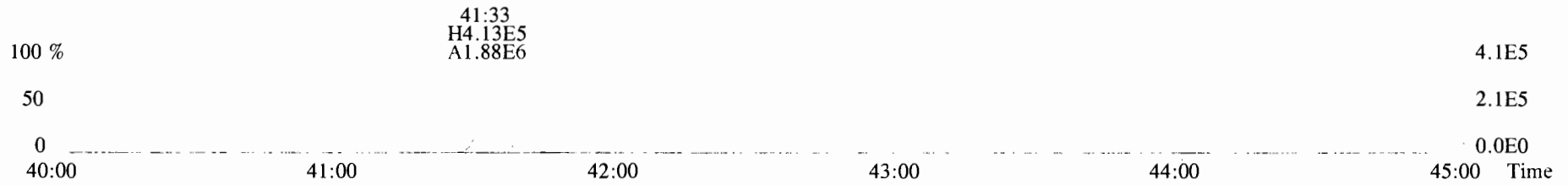
File:191023D1 #1-384 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:B9J0175-BS1 OPR 10 Exp:OCDD_DB5
 383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191023D1 #1-356 Acq:23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:B9J0175-BS1 OPR 10 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: 191023D1 #1-432 Acq: 23-OCT-2019 14:55:56 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista_Analytical_Laboratory_VG7 Text: B9J0175-BS1 OPR 10 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)



Client ID: Method Blank
Lab ID: B9J0332-BLK1

Filename: 191111D1 S:4 Acq:11-NOV-19 12:43:25
GC Column ID: ZB-SMS ICal: 1613VG7-10-9-19 wt/vol:10.000

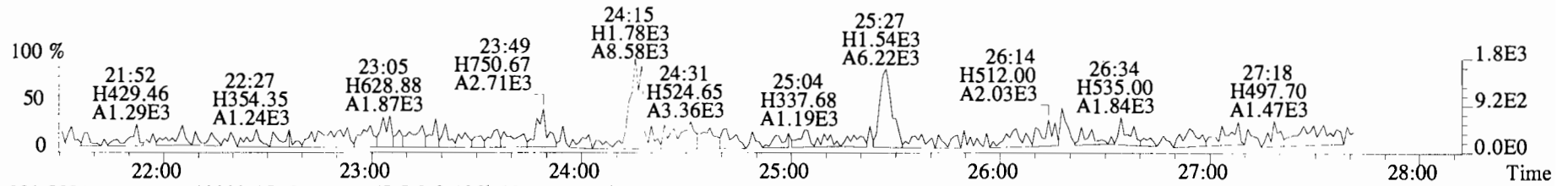
ConCal: ST191111D1-1
EndCAL: NA

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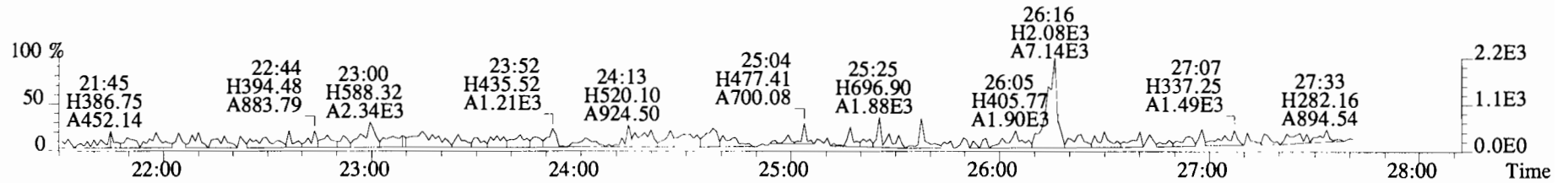
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	0.91	NotF η	*		155	2.5	0.0406	Total Tetra-Dioxins	*	*		155	0.0406
1,2,3,7,8-PeCDD	*	* n	0.90	NotF η	*		269	2.5	0.0703	Total Penta-Dioxins	*	*		269	0.0703
1,2,3,4,7,8-HxCDD	*	* n	1.10	NotF η	*		159	2.5	0.0602	Total Hexa-Dioxins	*	*		159	0.0661
1,2,3,6,7,8-HxCDD	*	* n	0.94	NotF η	*		159	2.5	0.0691	Total Hepta-Dioxins	*	*		202	0.0903
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF η	*		159	2.5	0.0682	Total Tetra-Furans	*	*		171	0.0315
1,2,3,4,6,7,8-HpCDD	*	* n	0.98	NotF η	*		202	2.5	0.0903	Total Penta-Furans	0.0000	0.0000		285	0.0683
OCDD	*	* n	0.96	NotF η	*		182	2.5	0.121	Total Hexa-Furans	*	*		208	0.0393
2,3,7,8-TCDF	*	* n	0.95	NotF η	*		171	2.5	0.0315	Total Hepta-Furans	*	*		151	0.0387
1,2,3,7,8-PeCDF	*	* n	0.96	NotF η	*		285	2.5	0.0708						
2,3,4,7,8-PeCDF	*	* n	1.01	NotF η	*		285	2.5	0.0659						
1,2,3,4,7,8-HxCDF	*	* n	1.18	NotF η	*		208	2.5	0.0335						
1,2,3,6,7,8-HxCDF	*	* n	1.07	NotF η	*		208	2.5	0.0369						
2,3,4,6,7,8-HxCDF	*	* n	1.11	NotF η	*		208	2.5	0.0379						
1,2,3,7,8,9-HxCDF	*	* n	1.06	NotF η	*		208	2.5	0.0500						
1,2,3,4,6,7,8-HpCDF	*	* n	1.13	NotF η	*		151	2.5	0.0416						
1,2,3,4,7,8,9-HpCDF	*	* n	1.28	NotF η	*		151	2.5	0.0354						
OCDF	*	* n	0.95	NotF η	*		181	2.5	0.0954						
IS	13C-2,3,7,8-TCDD	1.29e+07	0.81 y	1.10	26:14	187.70				Rec	Qual				
IS	13C-1,2,3,7,8-PeCDD	1.06e+07	0.64 y	0.88	30:43	191.21				93.8					
IS	13C-1,2,3,4,7,8-HxCDD	9.44e+06	1.25 y	0.64	34:01	192.64				95.6					
IS	13C-1,2,3,6,7,8-HxCDD	1.08e+07	1.29 y	0.86	34:08	166.06				96.3					
IS	13C-1,2,3,7,8,9-HxCDD	1.07e+07	1.25 y	0.81	34:26	173.19				83.0					
IS	13C-1,2,3,4,6,7,8-HpCDD	9.80e+06	1.03 y	0.65	37:52	196.47				86.6					
IS	13C-OCDD	1.61e+07	0.90 y	0.58	41:09	364.63				98.2					
IS	13C-2,3,7,8-TCDF	1.93e+07	0.80 y	1.03	25:27	182.74				91.2					
IS	13C-1,2,3,7,8-PeCDF	1.63e+07	1.61 y	0.85	29:33	186.34				91.4					
IS	13C-2,3,4,7,8-PeCDF	1.59e+07	1.61 y	0.85	30:26	183.48				93.2					
IS	13C-1,2,3,4,7,8-HxCDF	1.26e+07	0.52 y	0.83	33:08	198.98				91.7					
IS	13C-1,2,3,6,7,8-HxCDF	1.42e+07	0.51 y	1.03	33:16	179.34				99.5					
IS	13C-2,3,4,6,7,8-HxCDF	1.34e+07	0.51 y	0.95	33:51	184.42				89.7					
IS	13C-1,2,3,7,8,9-HxCDF	1.22e+07	0.51 y	0.83	34:48	193.02				92.2					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.10e+07	0.44 y	0.76	36:39	191.12				96.5					
IS	13C-1,2,3,4,7,8,9-HpCDF	9.67e+06	0.44 y	0.58	38:24	218.08				95.6					
IS	13C-OCDF	2.12e+07	0.89 y	0.69	41:22	404.24				109					
C/Up	37C1-2,3,7,8-TCDD	5.60e+06		1.20	26:15	74.400				101					
RS/RT	13C-1,2,3,4-TCDD	1.26e+07	0.82 y	1.00	25:40	200.00									
RS	13C-1,2,3,4-TCDF	2.04e+07	0.81 y	1.00	24:15	200.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.53e+07	0.52 y	1.00	33:33	200.00									

Integrations
by DB
Analyst: DB
Date: 11/12/19
Reviewed
by CT
Analyst: CT
Date: 11/14/19

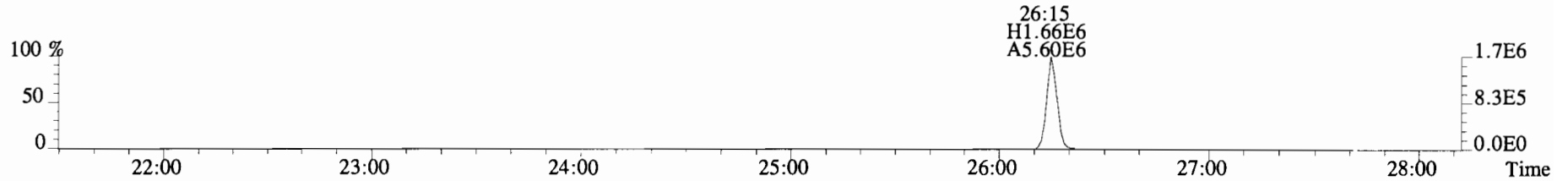
File:191111D1 #1-493 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



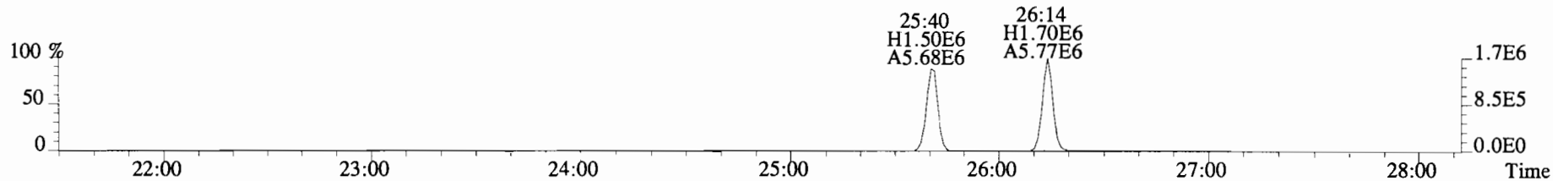
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



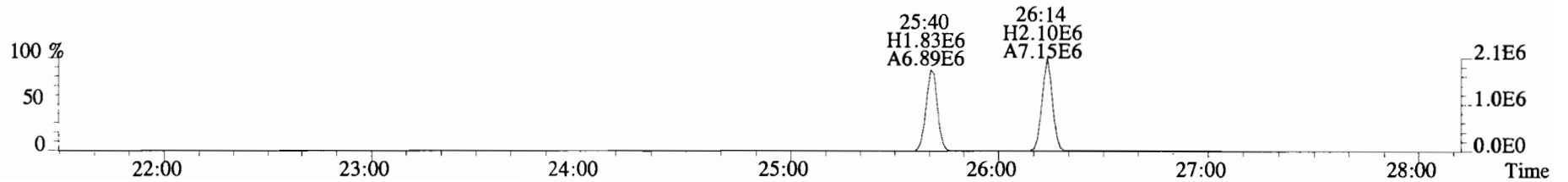
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



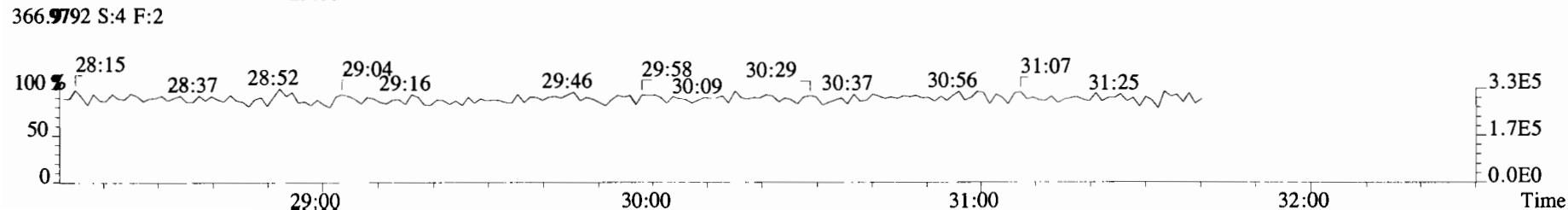
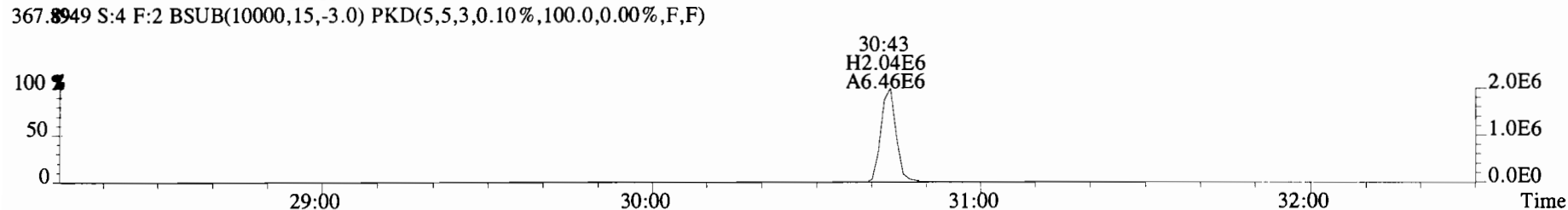
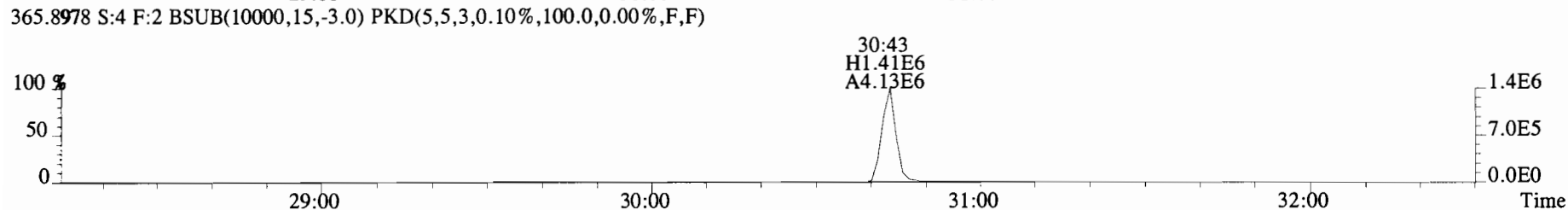
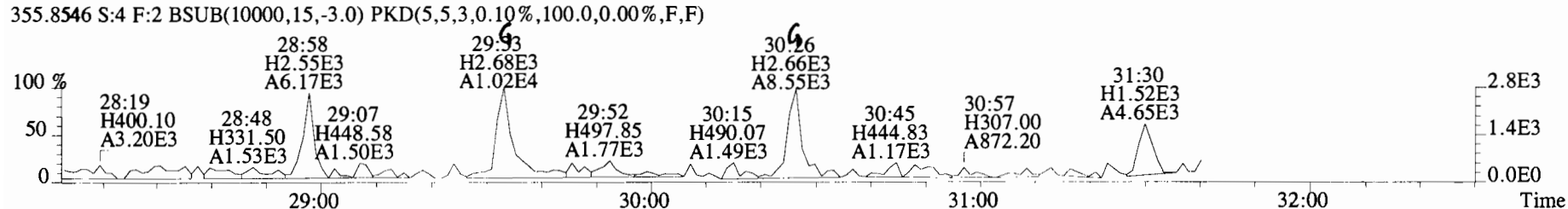
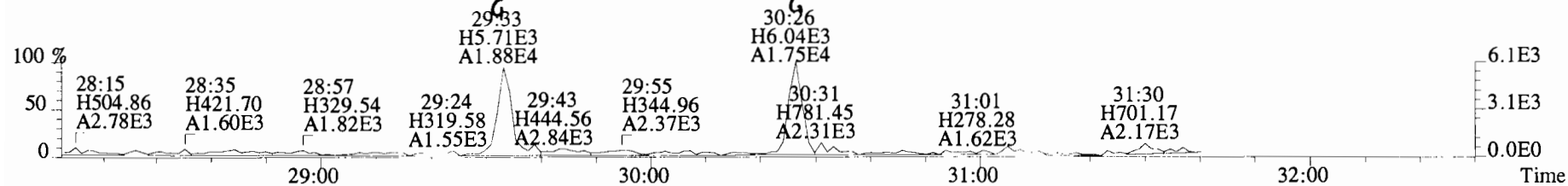
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



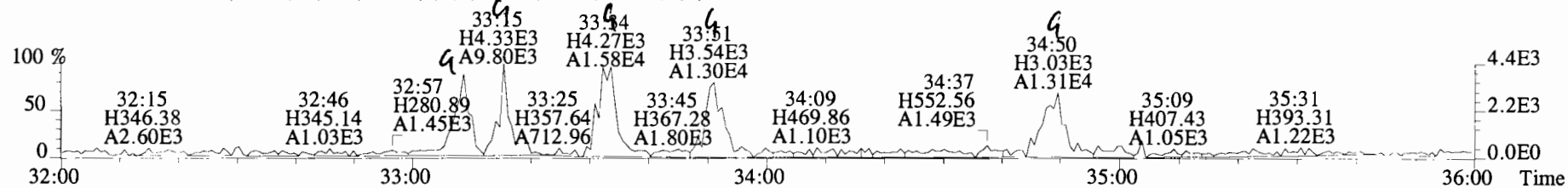
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



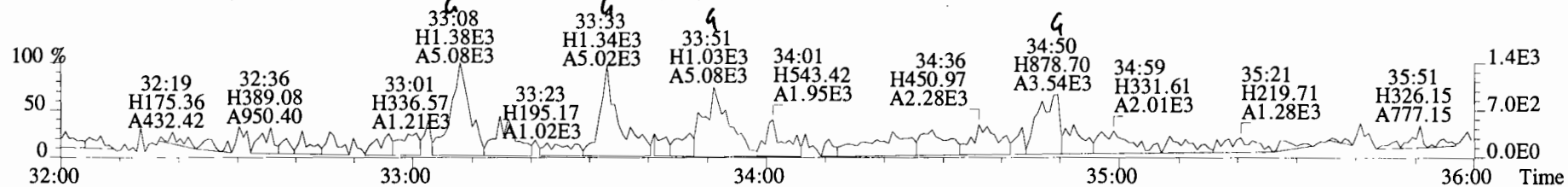
File:191111D1 #1-210 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



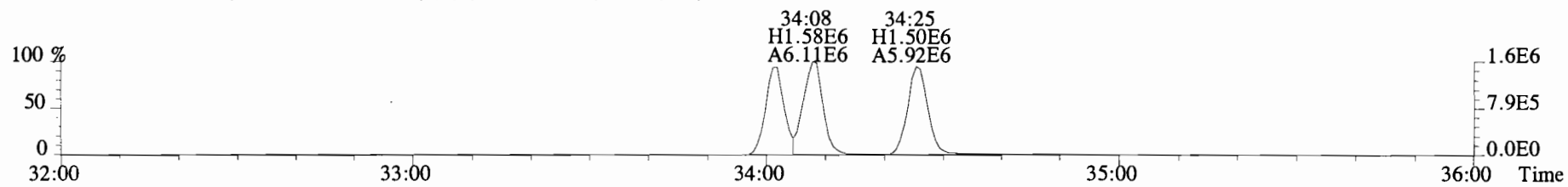
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
 389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



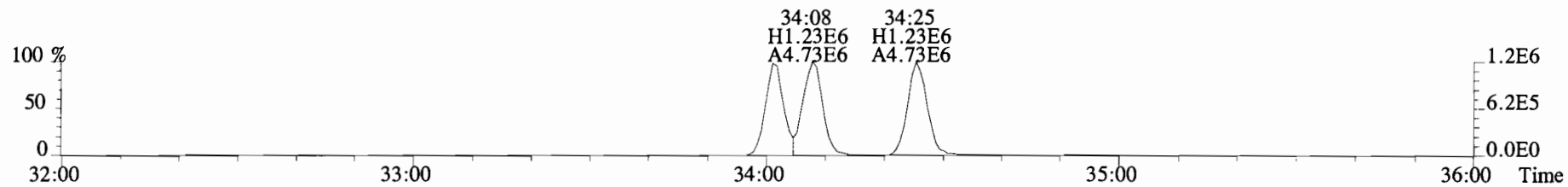
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



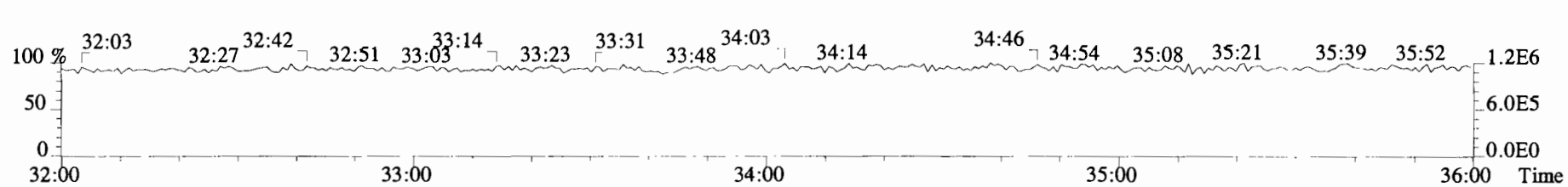
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



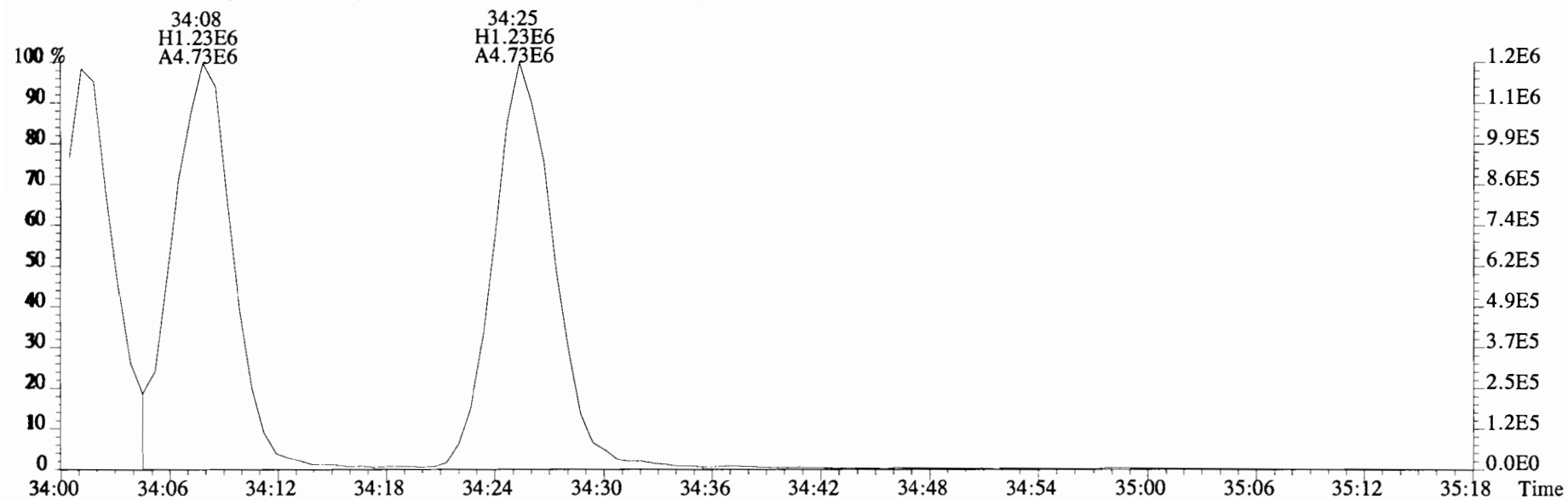
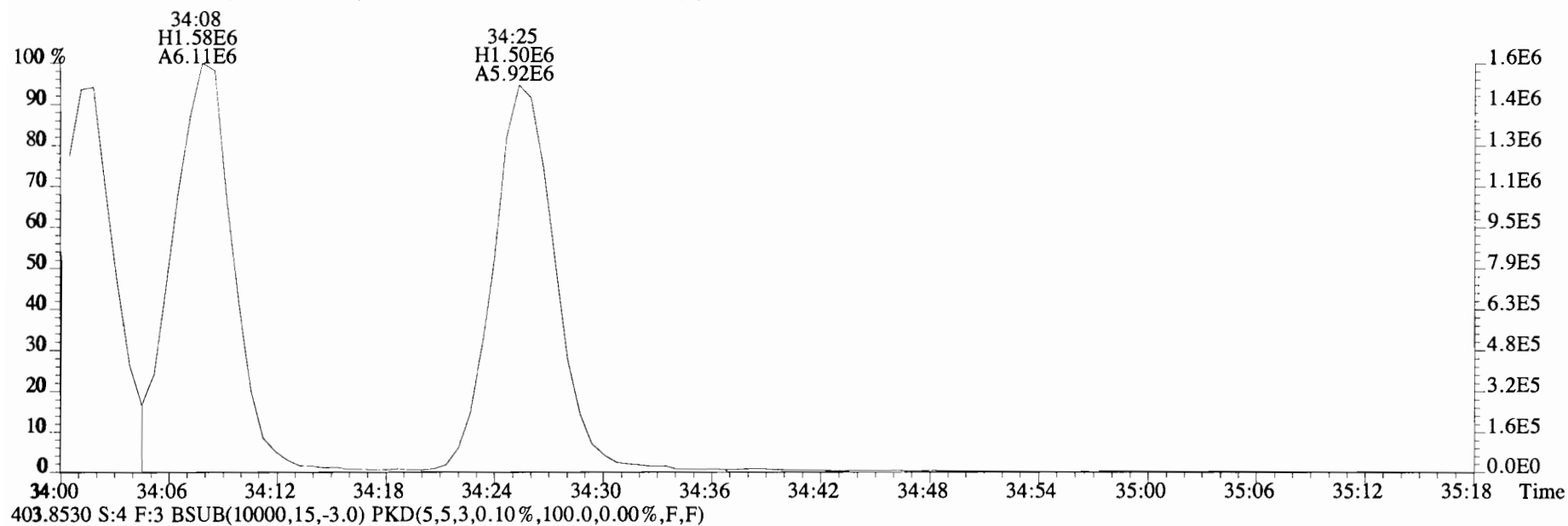
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



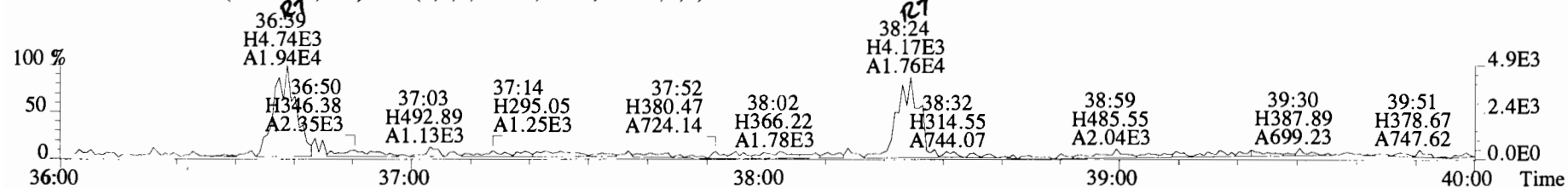
392.9760 S:4 F:3



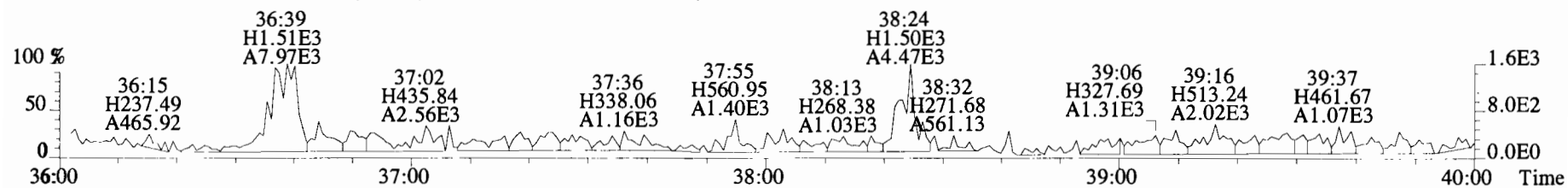
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



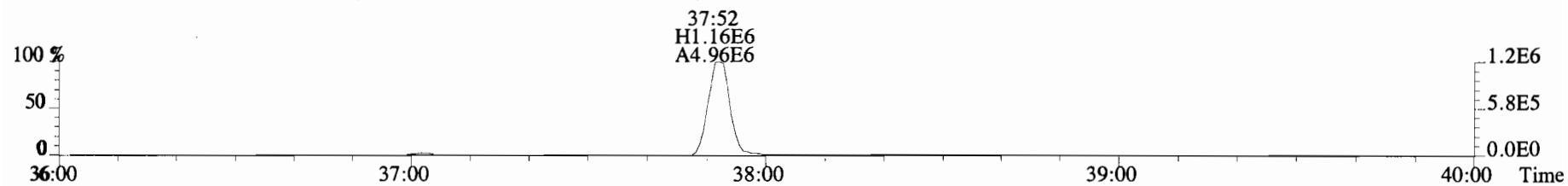
File:191111D1 #1-356 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



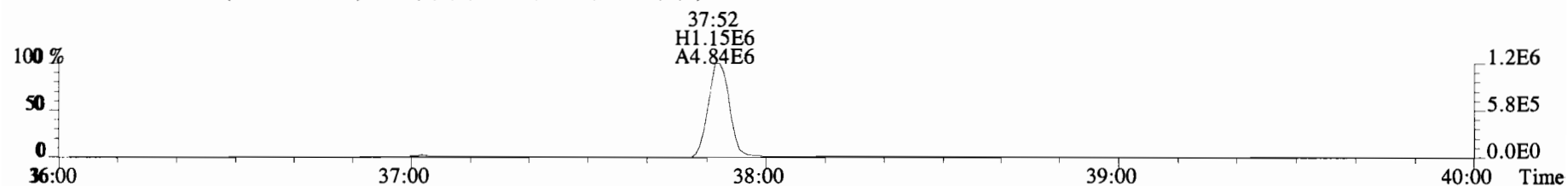
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



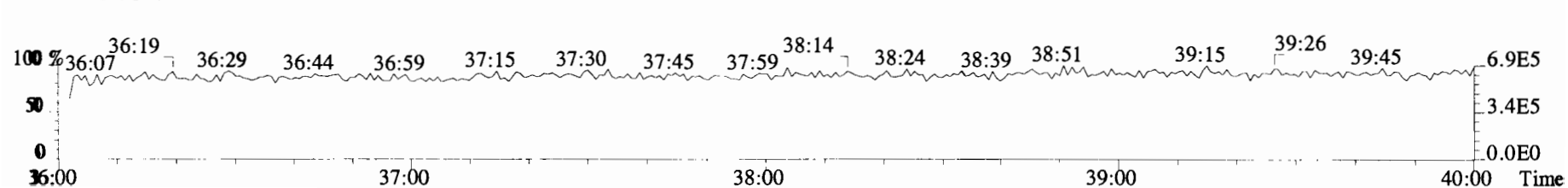
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



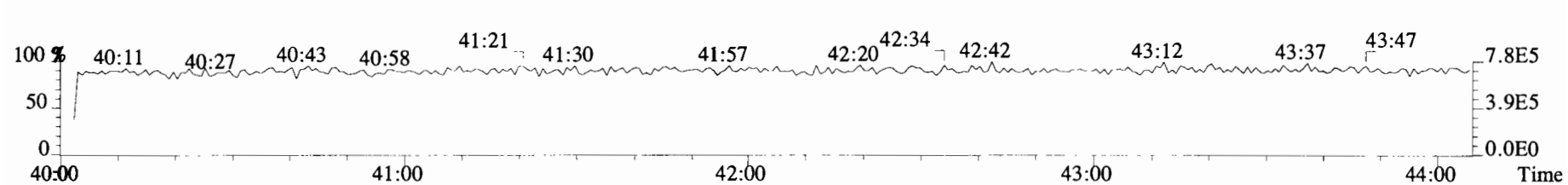
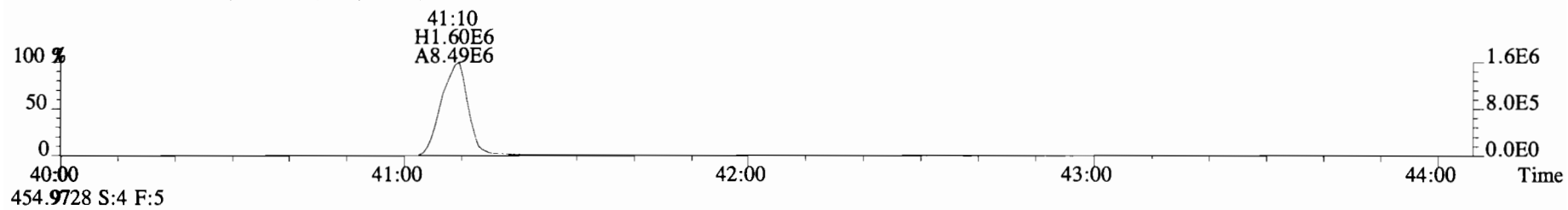
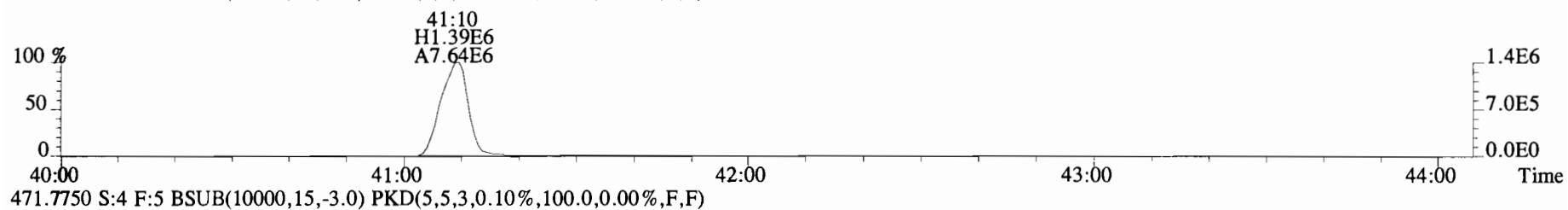
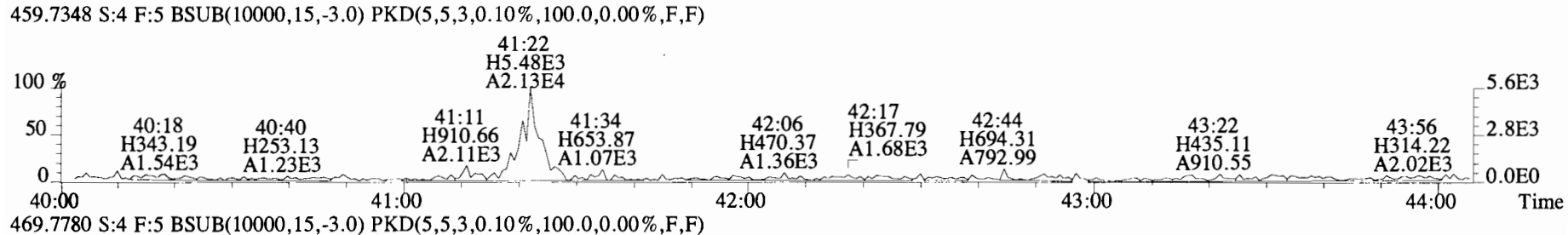
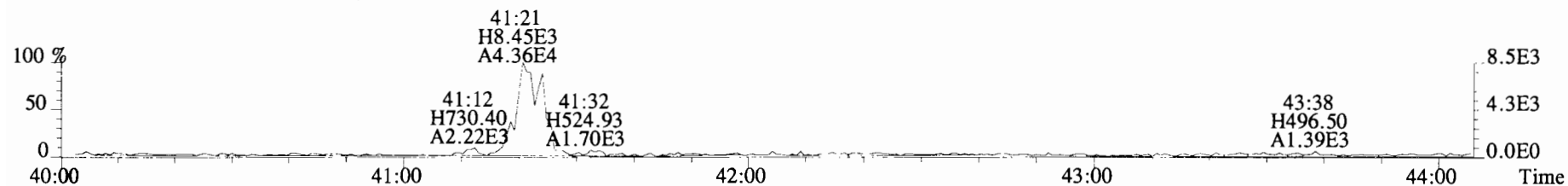
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



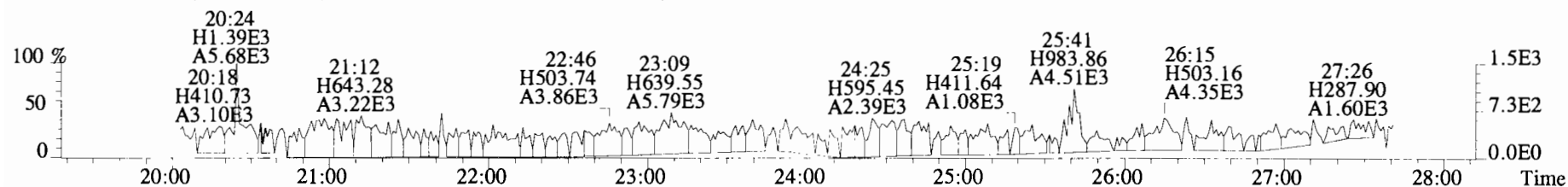
454.9728 S:4 F:4



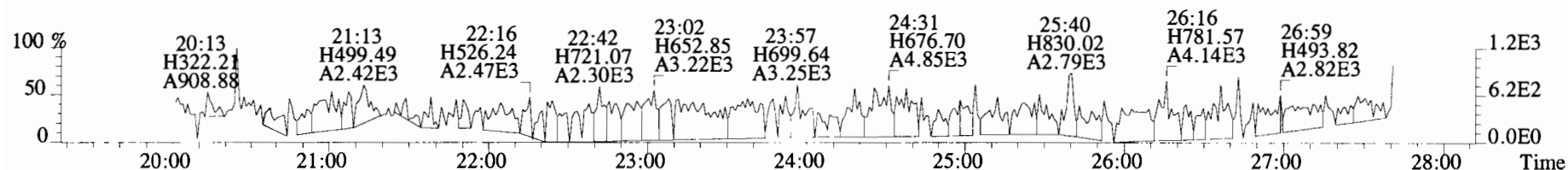
File:191111D1 #1-431 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



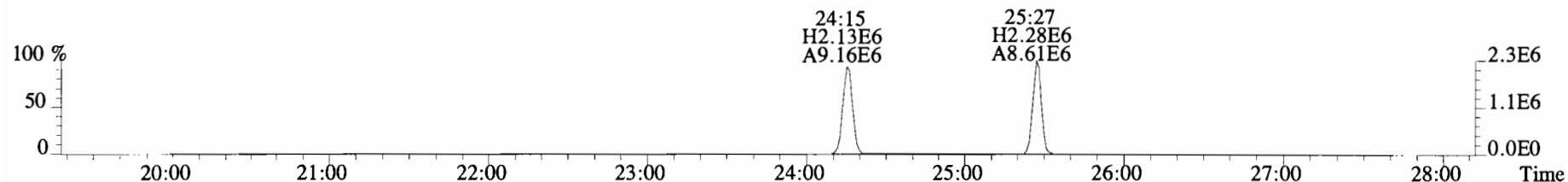
File:191111D1 #1-493 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



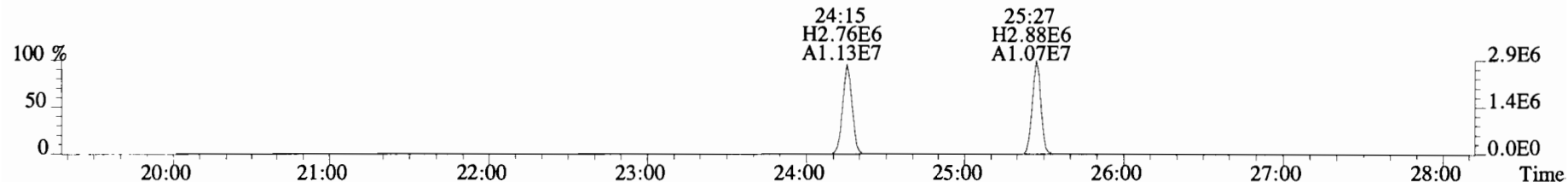
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



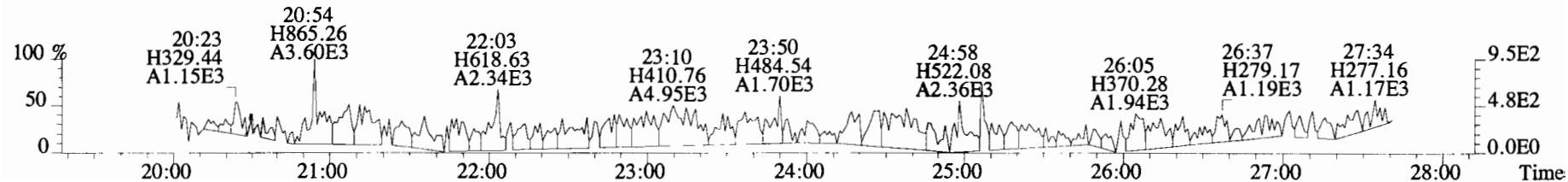
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



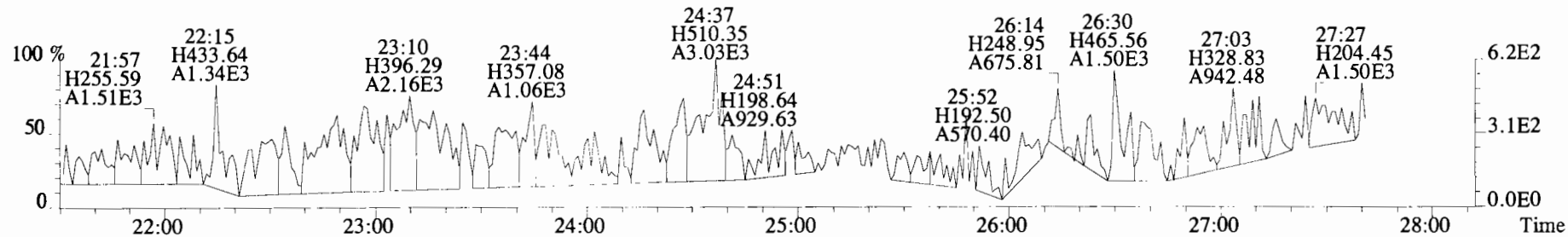
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



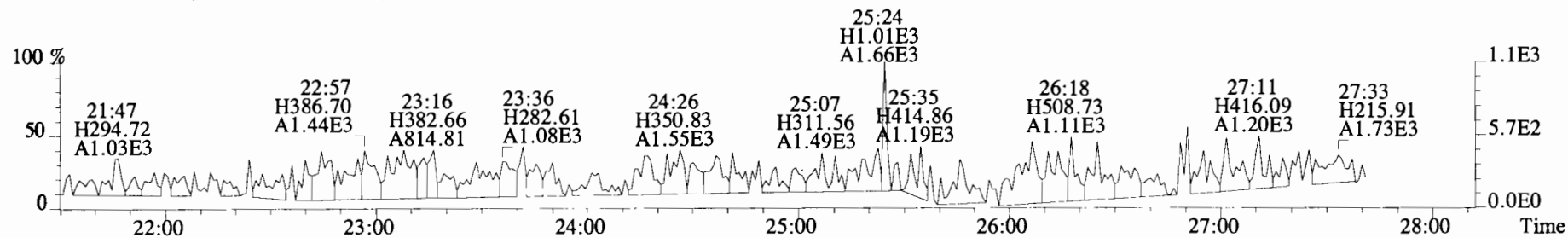
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



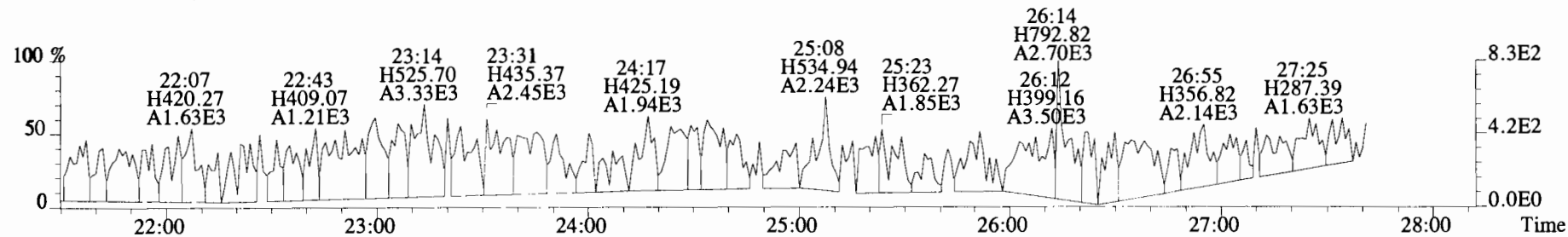
File:191111D1 #1-493 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
 339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



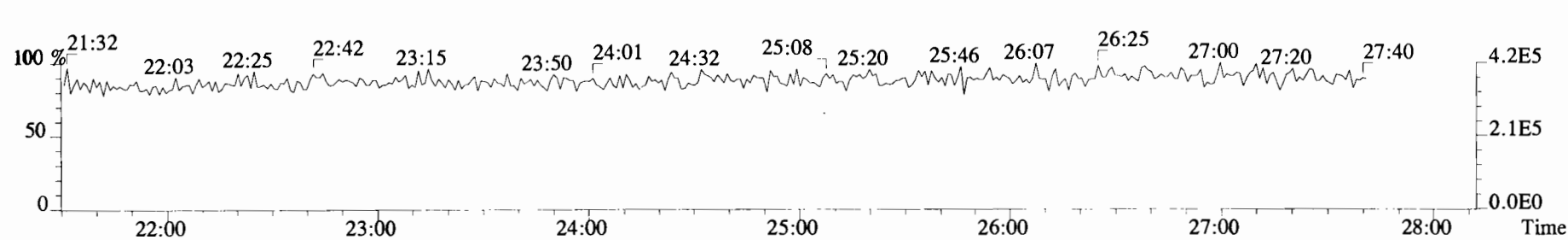
341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



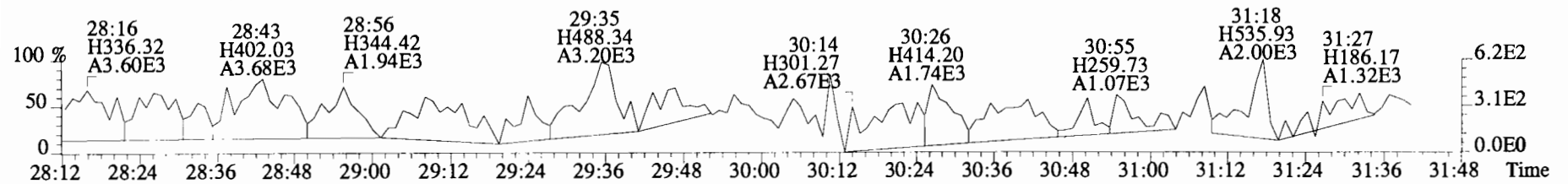
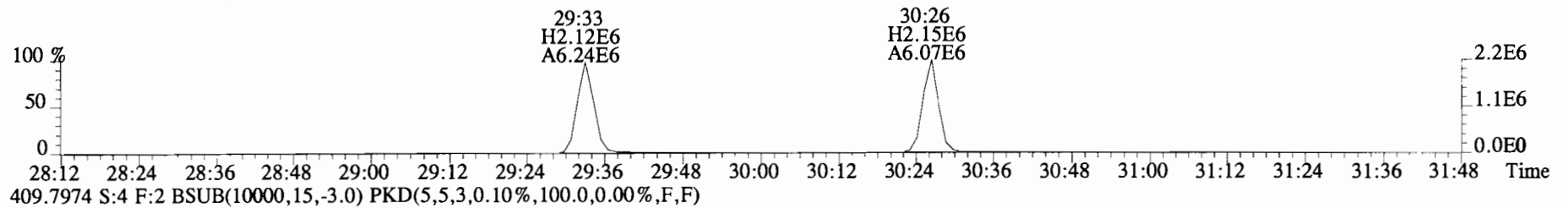
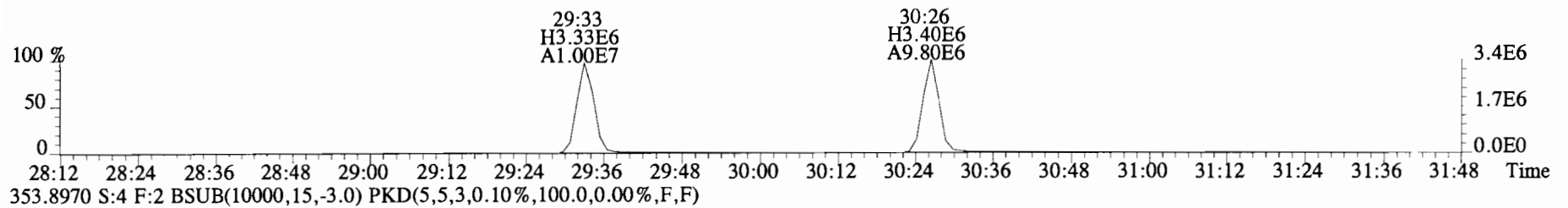
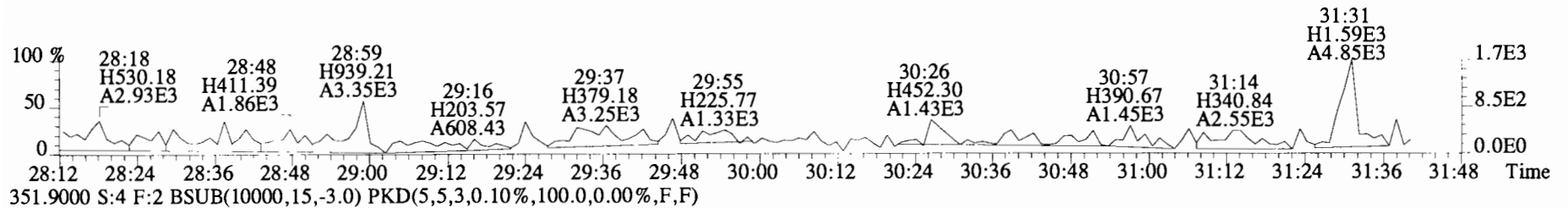
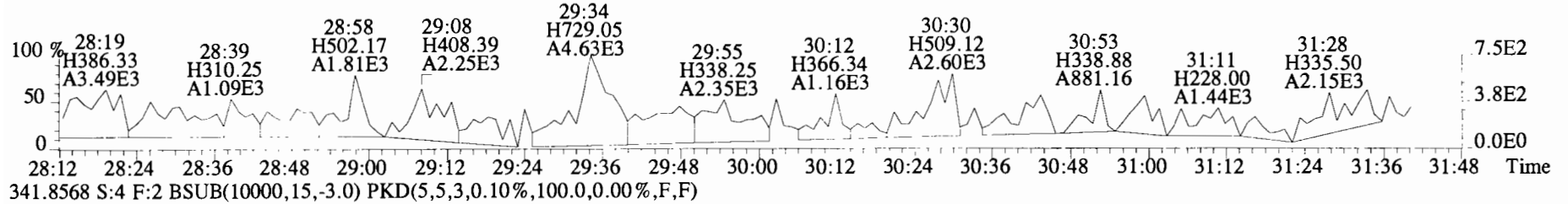
409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



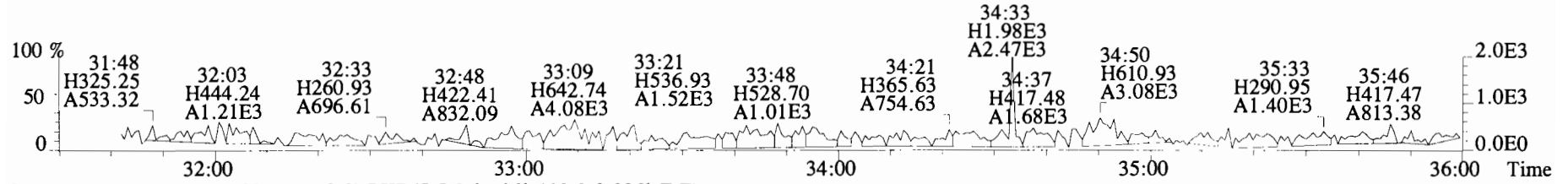
316.9824 S:4



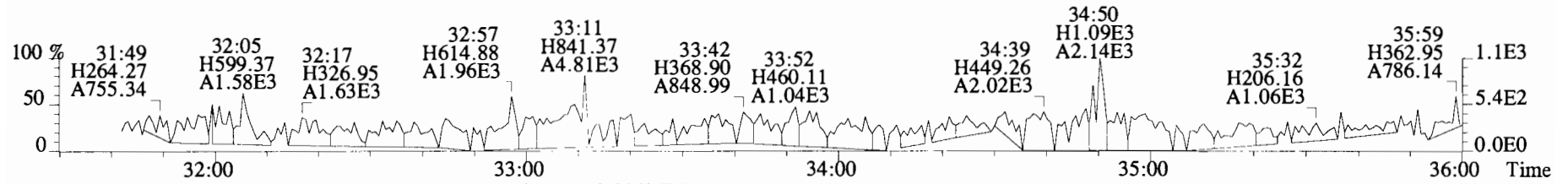
File:191111D1 #1-210 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
339.8597 S:4 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



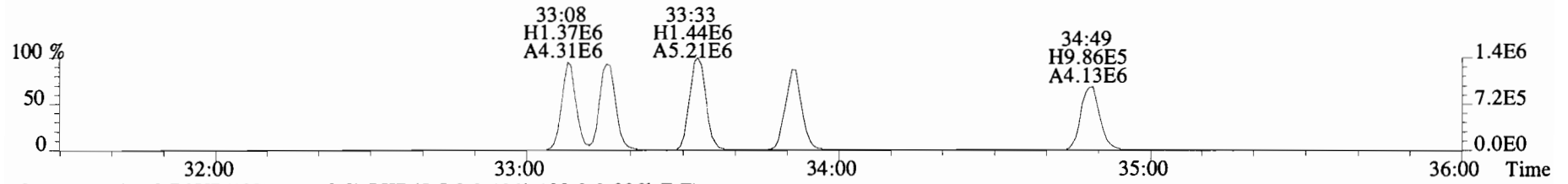
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



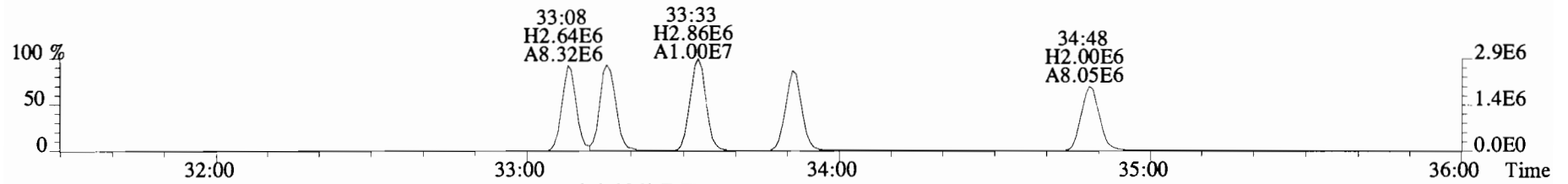
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



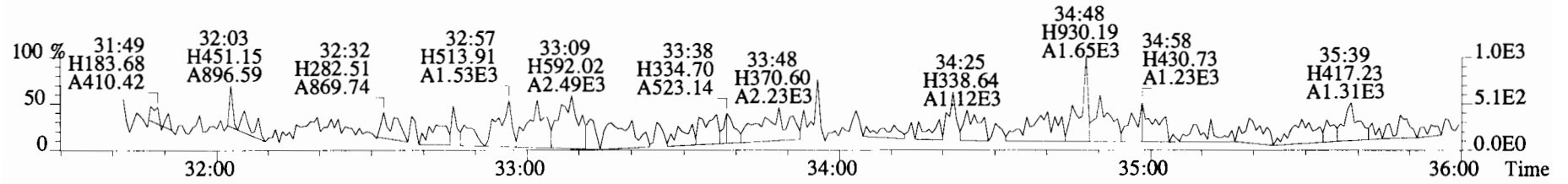
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



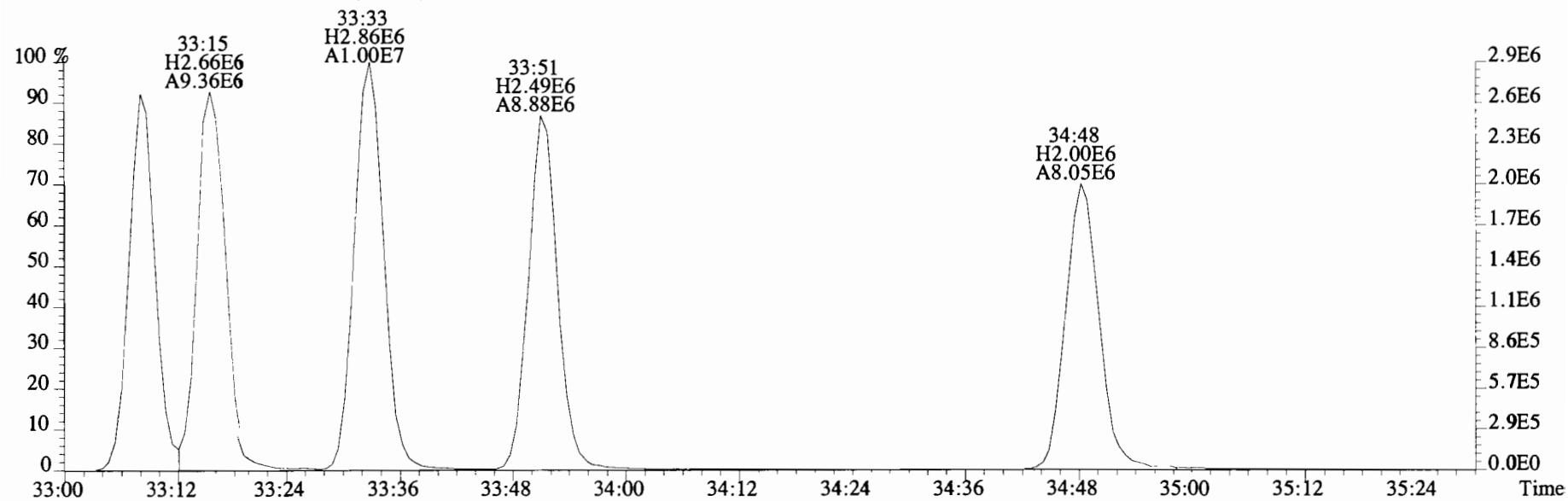
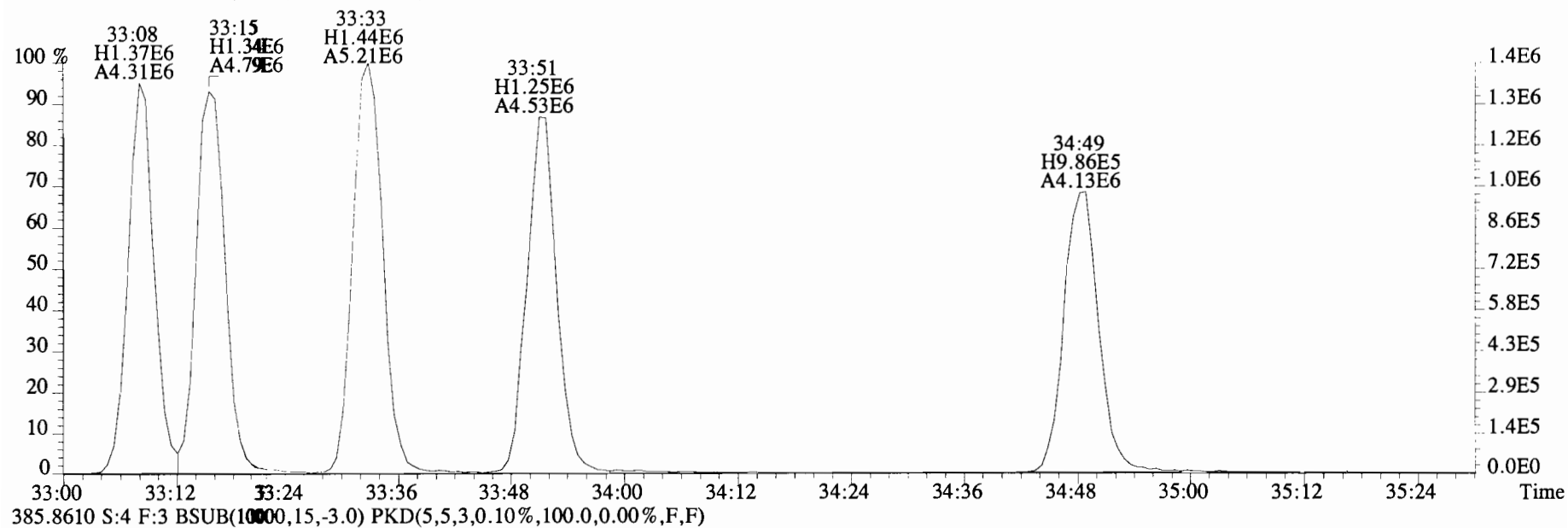
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



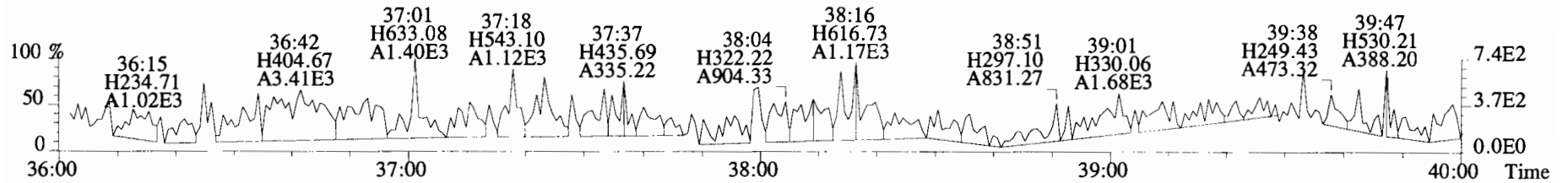
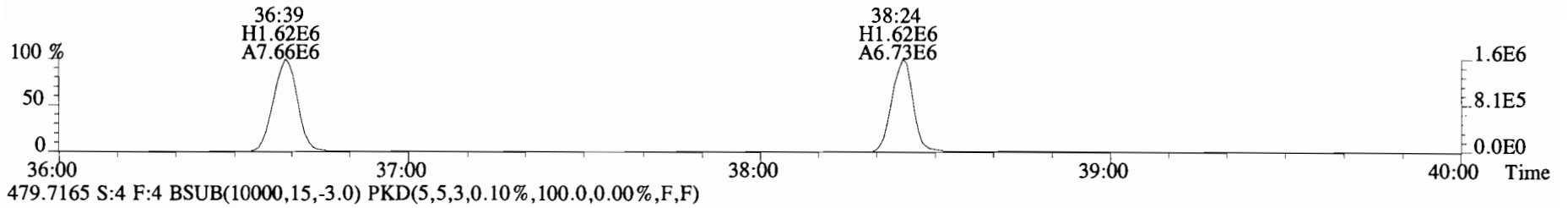
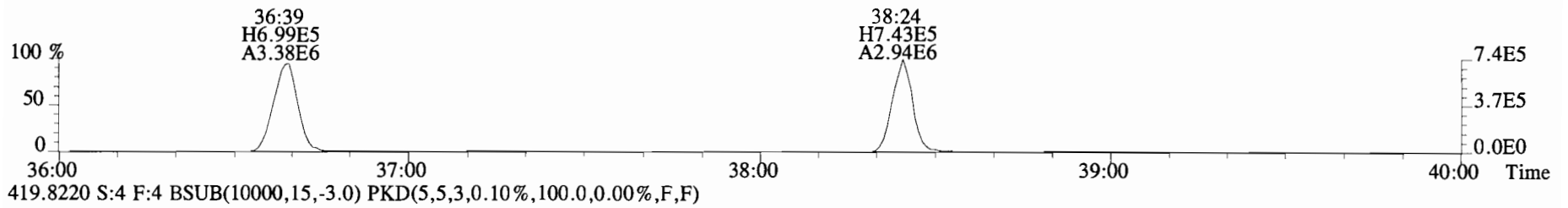
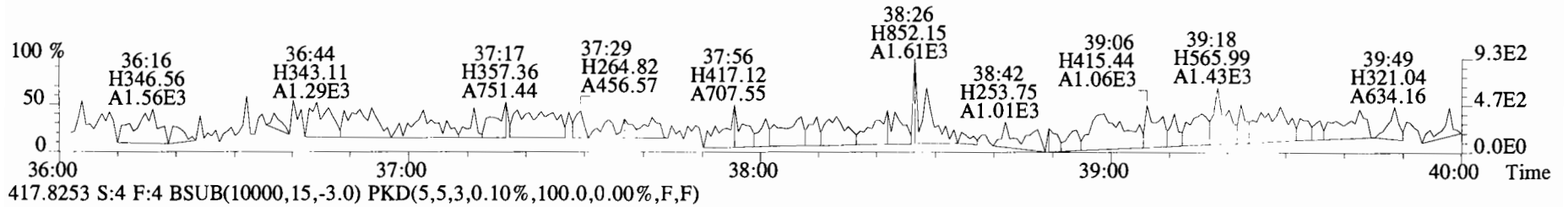
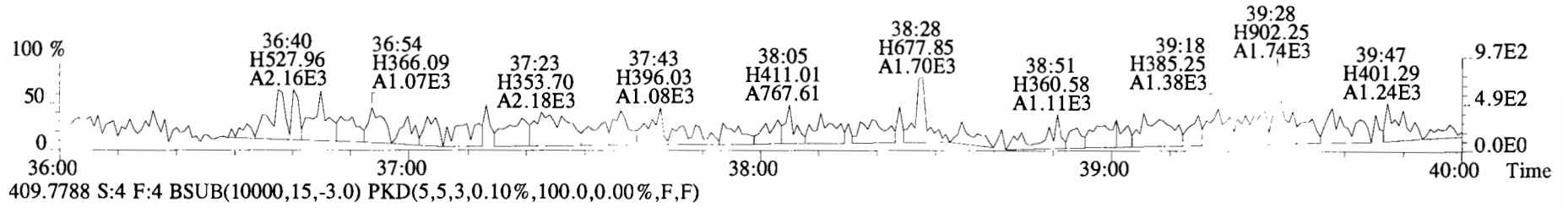
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



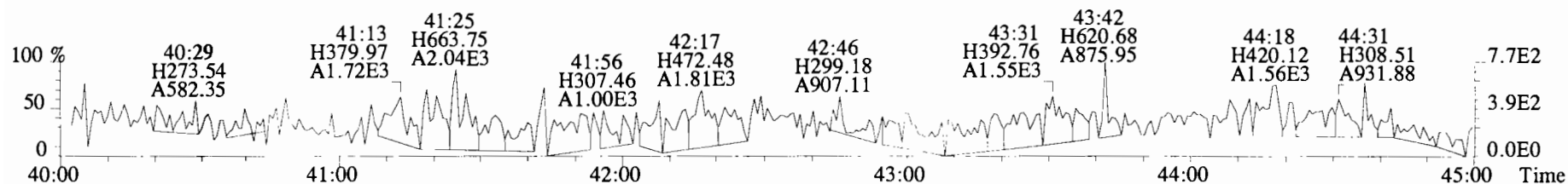
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
 383.8639 S:4 F:3 BSUB(1000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



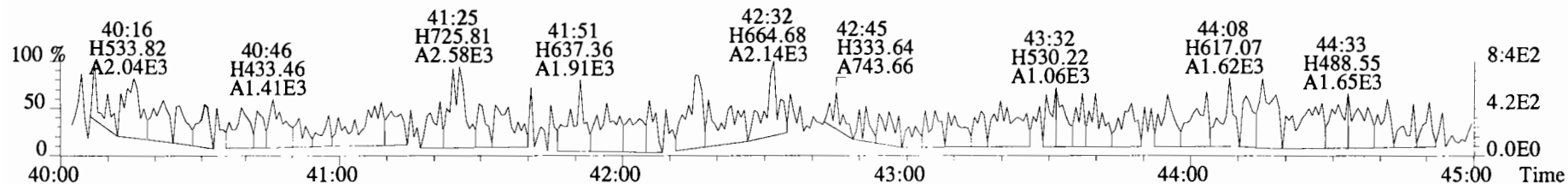
File:191111D1 #1-356 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



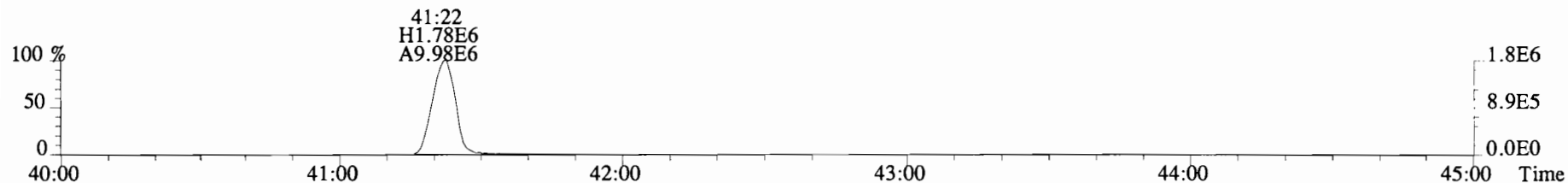
File:191111D1 #1-431 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



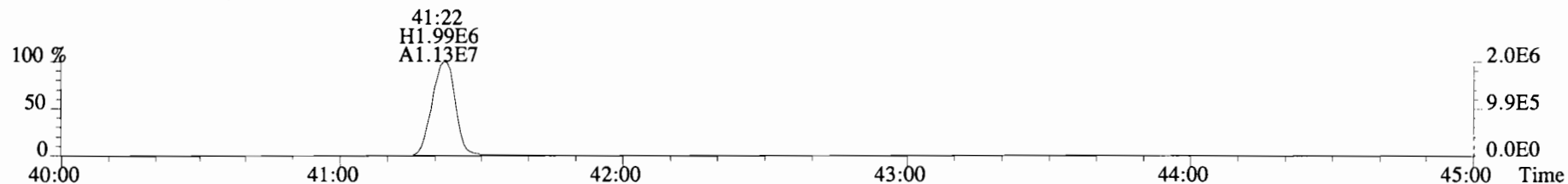
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



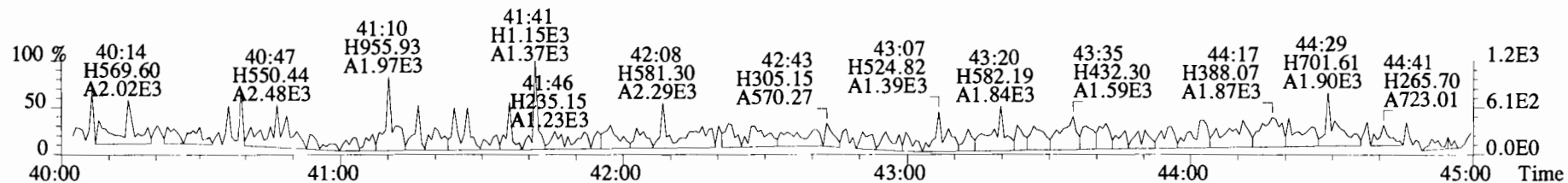
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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)



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

Lab Name: Vista Analytical Laboratory Extraction Batch: B9J0332-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191111D1-2

Ext. Date: Shift: Day Analysis Date: 11-NOV-19 Time: 11:07:28

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	11.1	6.7 - 15.8 7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	53.1	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	52.5	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	52.5	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	53.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	51.4	35.0 - 70.0
OCDD	100	105	78.0 - 144.0
2,3,7,8-TCDF	10	10.2	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	51.9	40.0 - 67.0
2,3,4,7,8-PeCDF	50	52.3	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	50.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	50.4	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	51.5	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	50.8	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	50.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	49.8	39.0 - 69.0
OCDF	100	101	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: 11/12/19

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

Lab Name: Vista Analytical Laboratory Extraction Batch: B9J0332-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 191111D1-2

Ext. Date: Shift: Day Analysis Date: 11-NOV-19 Time: 11:07:28

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	95.7	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	97.4	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	94.8	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	85.8	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	87.4	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	102	26.0 - 166.0
13C-OCDD	200	188	26.0 - 397.0
13C-2,3,7,8-TCDF	100	94.1	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	93.7	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	93.1	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	99.2	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	92.5	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	92.5	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	97.1	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	98.1	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	109	20.0 - 186.0
13C-OCDF	200	206	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	38.5	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: 11/12/19

Client ID: OPR
Lab ID: B9J0332-BS1

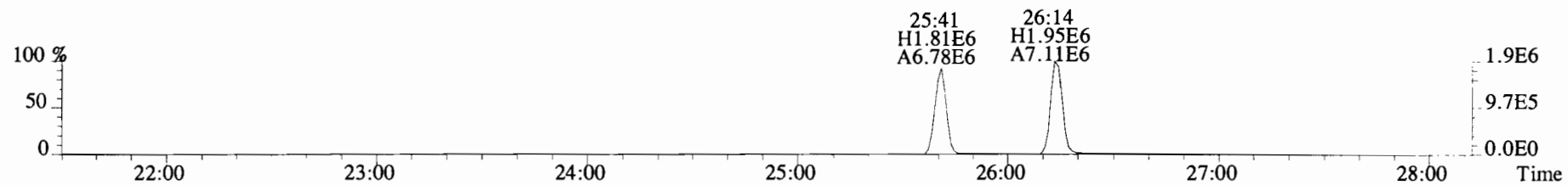
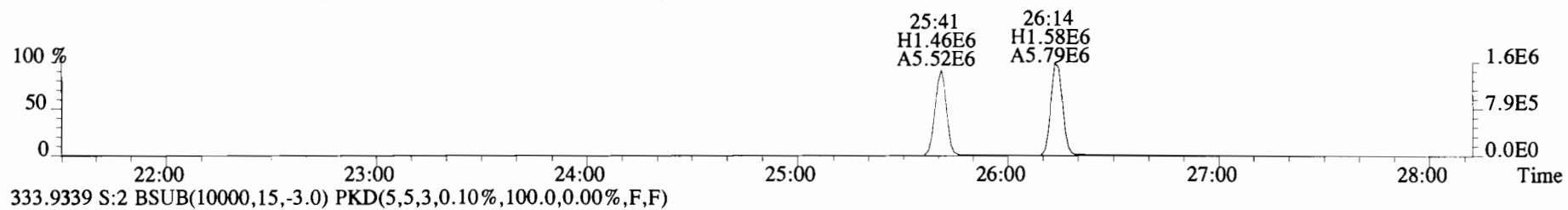
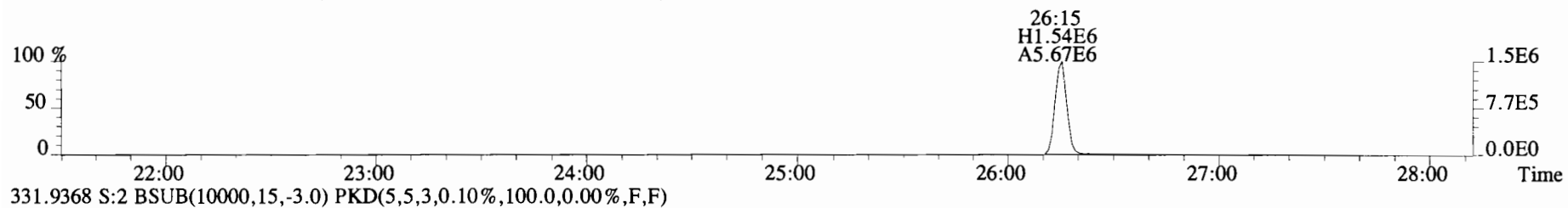
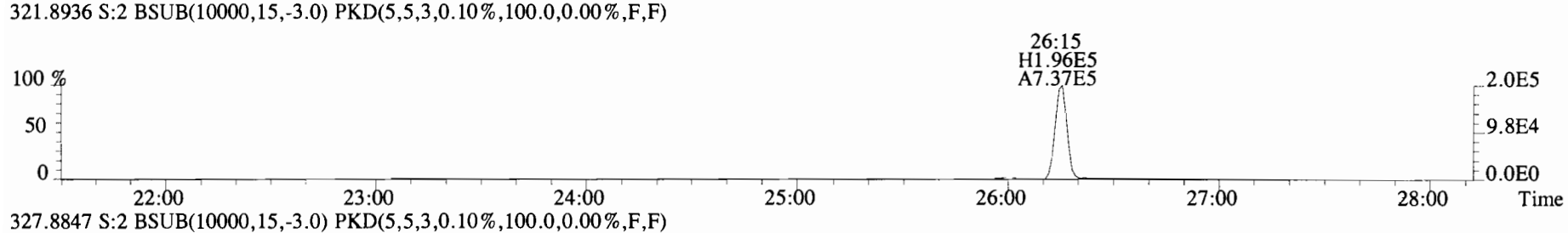
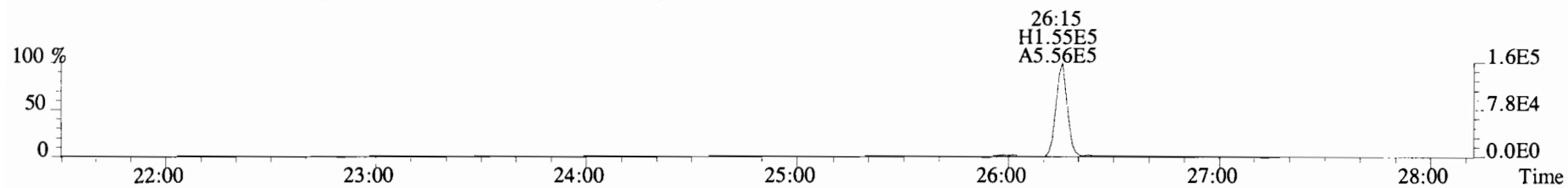
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ConCal: ST191111D1-1
EndCAL: NA

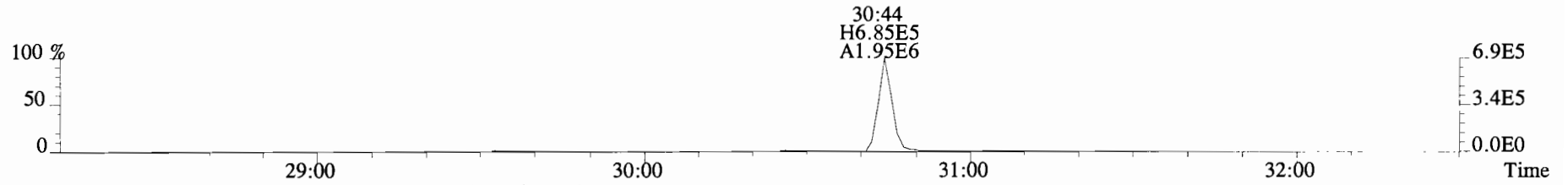
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	1.29e+06	0.75 y	0.91	26:15	11.080		* 2.5		*	Total Tetra-Dioxins	11.5	12.3		*	*
1,2,3,7,8-PeCDD	5.07e+06	0.63 y	0.90	30:44	53.127		* 2.5		*	Total Penta-Dioxins	53.1	53.3		*	*
1,2,3,4,7,8-HxCDD	5.33e+06	1.24 y	1.10	34:03	52.542		* 2.5		*	Total Hexa-Dioxins	159	159		*	*
1,2,3,6,7,8-HxCDD	5.48e+06	1.23 y	0.94	34:09	52.483		* 2.5		*	Total Hepta-Dioxins	51.7	53.0		*	*
1,2,3,7,8,9-HxCDD	5.50e+06	1.25 y	0.96	34:27	53.615		* 2.5		*	Total Tetra-Furans	10.4	10.8		*	*
1,2,3,4,6,7,8-HpCDD	5.06e+06	1.04 y	0.98	37:53	51.374		* 2.5		*	Total Penta-Furans	105.49	106.11		*	*
OCDD	8.28e+06	0.92 y	0.96	41:10	104.86		* 2.5		*	Total Hexa-Furans	203	204		*	*
2,3,7,8-TCDF	1.89e+06	0.80 y	0.95	25:29	10.222		* 2.5		*	Total Hepta-Furans	100	101		*	*
1,2,3,7,8-PeCDF	7.99e+06	1.64 y	0.96	29:34	51.943		* 2.5		*						
2,3,4,7,8-PeCDF	8.38e+06	1.62 y	1.01	30:27	52.309		* 2.5		*						
1,2,3,4,7,8-HxCDF	7.39e+06	1.20 y	1.18	33:09	50.307		* 2.5		*						
1,2,3,6,7,8-HxCDF	7.81e+06	1.23 y	1.07	33:17	50.409		* 2.5		*						
2,3,4,6,7,8-HxCDF	7.65e+06	1.20 y	1.11	33:53	51.495		* 2.5		*						
1,2,3,7,8,9-HxCDF	6.57e+06	1.24 y	1.06	34:50	50.827		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	6.36e+06	1.02 y	1.13	36:40	50.127		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	6.14e+06	1.02 y	1.28	38:26	49.828		* 2.5		*						
OCDF	1.02e+07	0.89 y	0.95	41:23	100.61		* 2.5		*						
IS	13C-2,3,7,8-TCDD	1.29e+07	0.81 y	1.10	26:14	95.676				Rec			Qual		
IS	13C-1,2,3,7,8-PeCDD	1.06e+07	0.63 y	0.88	30:44	97.394				95.7					
IS	13C-1,2,3,4,7,8-HxCDD	9.21e+06	1.28 y	0.64	34:02	94.763				97.4					
IS	13C-1,2,3,6,7,8-HxCDD	1.11e+07	1.28 y	0.86	34:08	85.806				94.8					
IS	13C-1,2,3,7,8,9-HxCDD	1.07e+07	1.25 y	0.81	34:26	87.420				85.8					
IS	13C-1,2,3,4,6,7,8-HpCDD	1.01e+07	1.03 y	0.65	37:53	101.65				87.4					
IS	13C-OCDD	1.65e+07	0.90 y	0.58	41:09	187.63				102					
IS	13C-2,3,7,8-TCDF	1.95e+07	0.81 y	1.03	25:28	94.104				93.8					
IS	13C-1,2,3,7,8-PeCDF	1.60e+07	1.62 y	0.85	29:34	93.743				94.1					
IS	13C-2,3,4,7,8-PeCDF	1.58e+07	1.60 y	0.85	30:27	93.079				93.7					
IS	13C-1,2,3,4,7,8-HxCDF	1.25e+07	0.51 y	0.83	33:09	99.167				93.1					
IS	13C-1,2,3,6,7,8-HxCDF	1.45e+07	0.52 y	1.03	33:16	92.488				99.2					
IS	13C-2,3,4,6,7,8-HxCDF	1.33e+07	0.51 y	0.95	33:52	92.463				92.5					
IS	13C-1,2,3,7,8,9-HxCDF	1.22e+07	0.52 y	0.83	34:49	97.136				92.5					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.12e+07	0.44 y	0.76	36:39	98.071				97.1					
IS	13C-1,2,3,4,7,8,9-HpCDF	9.63e+06	0.44 y	0.58	38:25	109.47				98.1					
IS	13C-OCDF	2.14e+07	0.89 y	0.69	41:23	205.53				109					
C/Up	37C1-2,3,7,8-TCDD	5.67e+06		1.20	26:15	38.493				103					
RS/RT	13C-1,2,3,4-TCDD	1.23e+07	0.81 y	1.00	25:41	100.00									
RS	13C-1,2,3,4-TCDF	2.00e+07	0.81 y	1.00	24:16	100.00									
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.51e+07	0.51 y	1.00	33:33	100.00									

Integrations
by DB
Analyst: DB
Date: 11/12/19
Reviewed
by OT
Analyst: OT
Date: 11/14/19

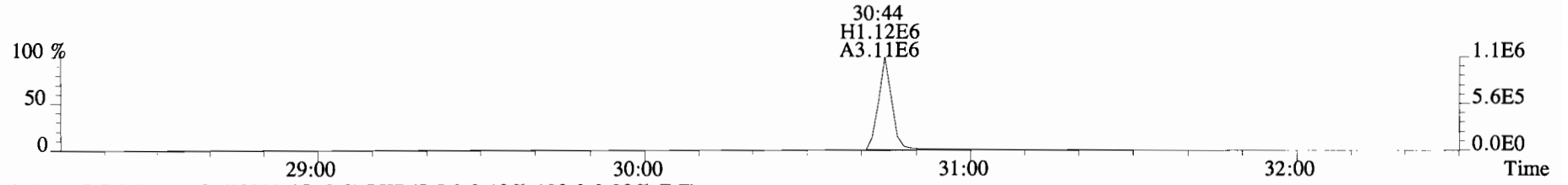
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319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



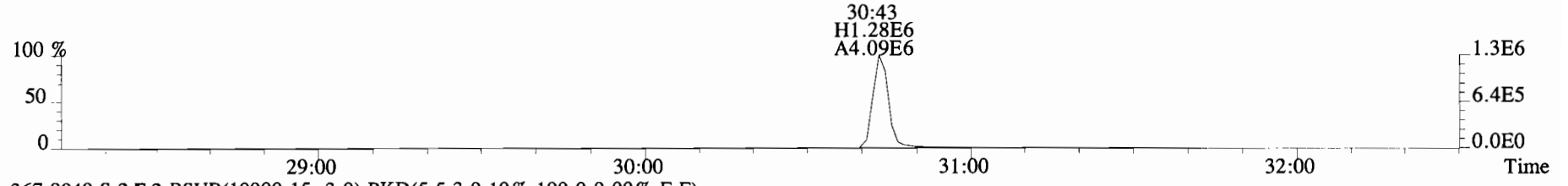
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353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



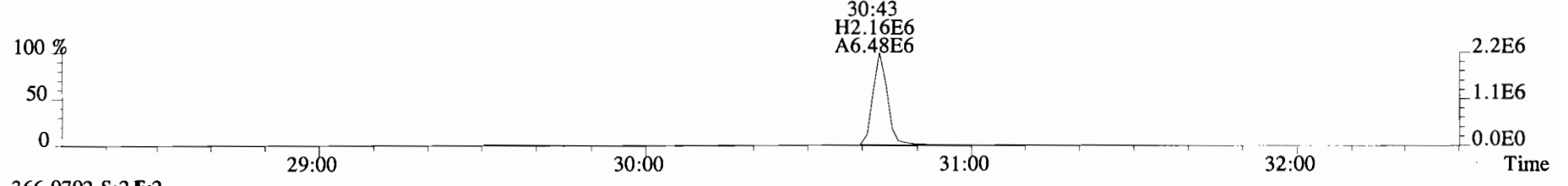
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



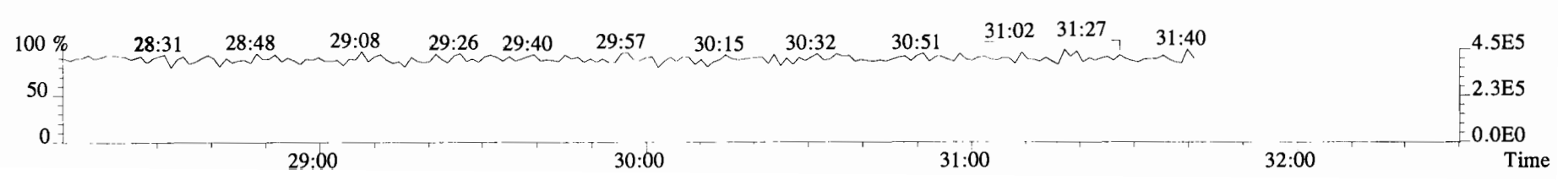
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



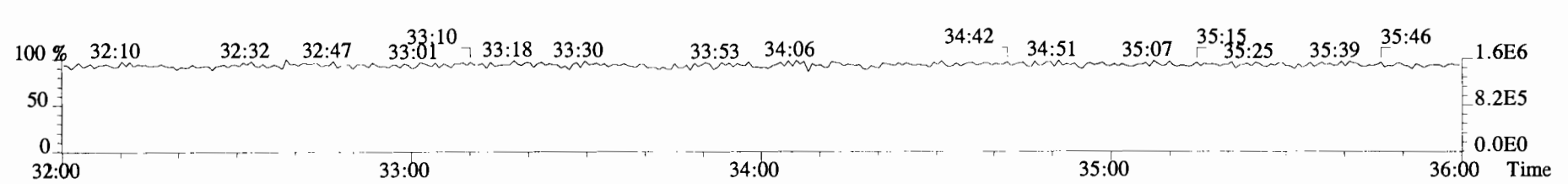
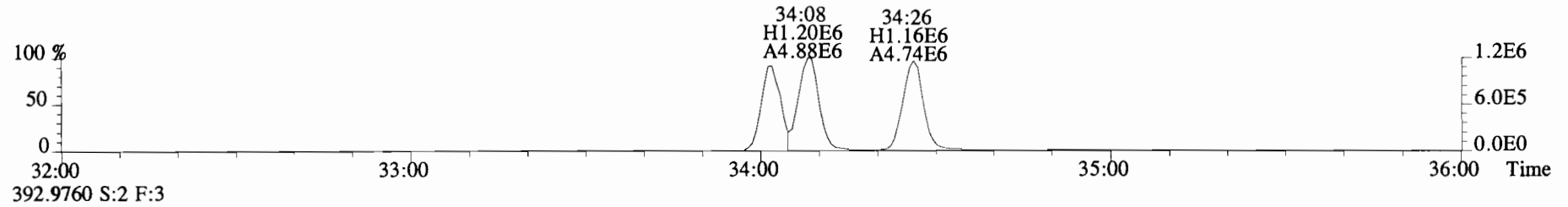
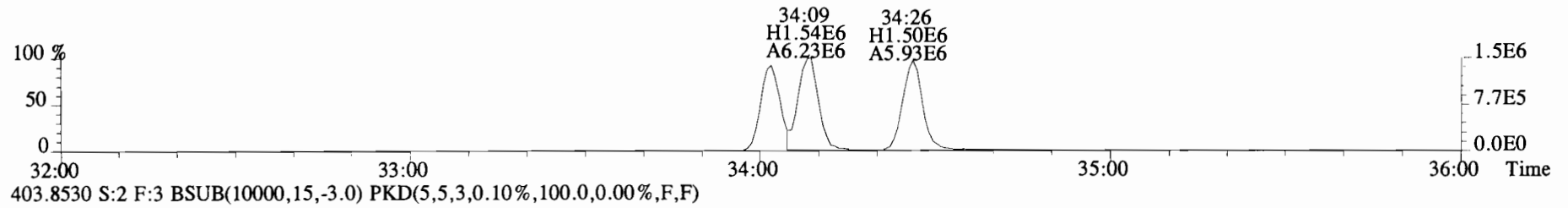
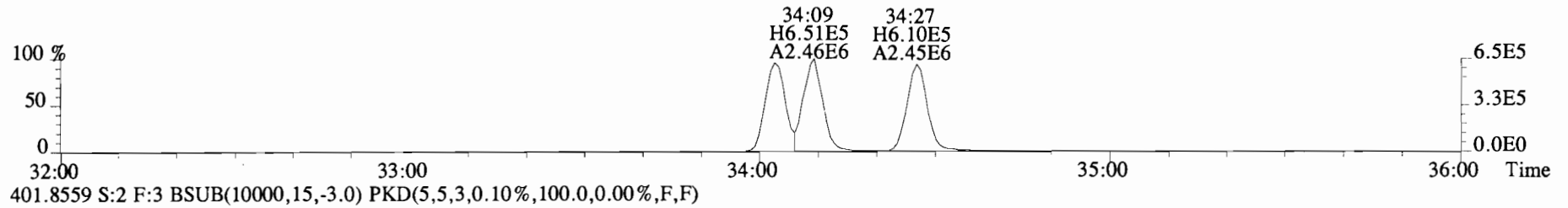
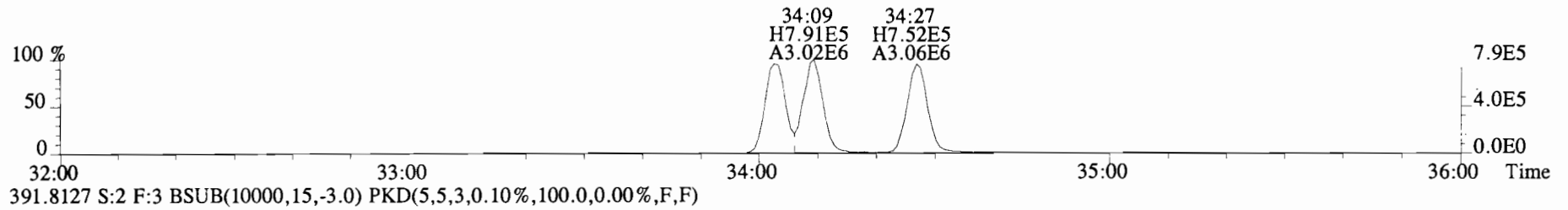
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



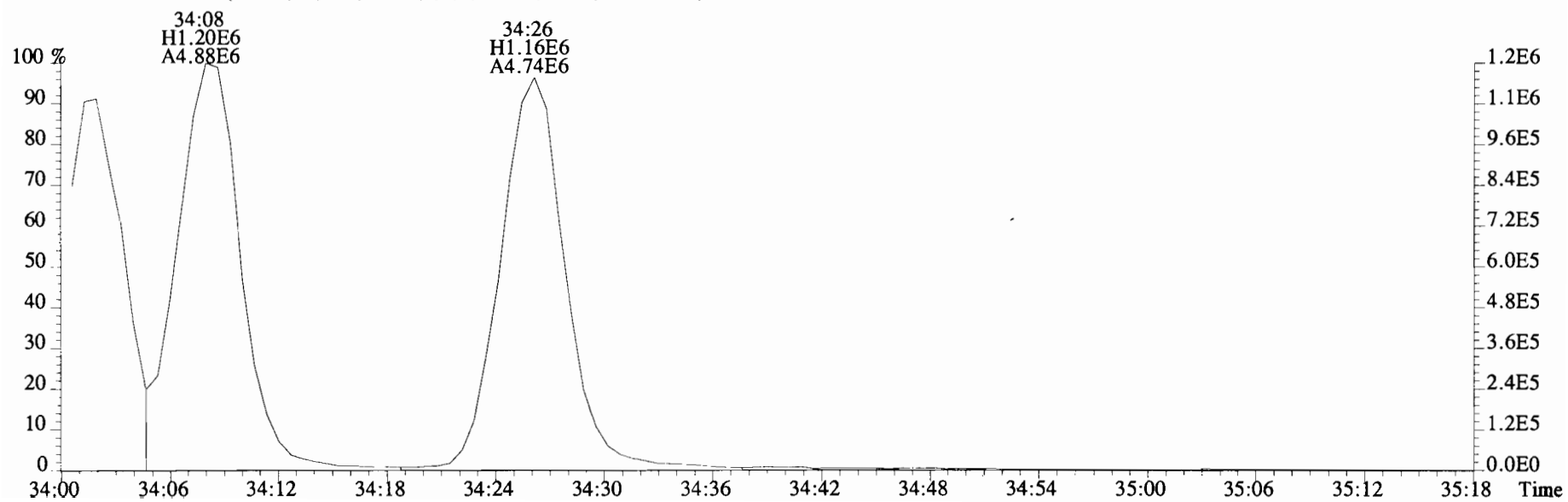
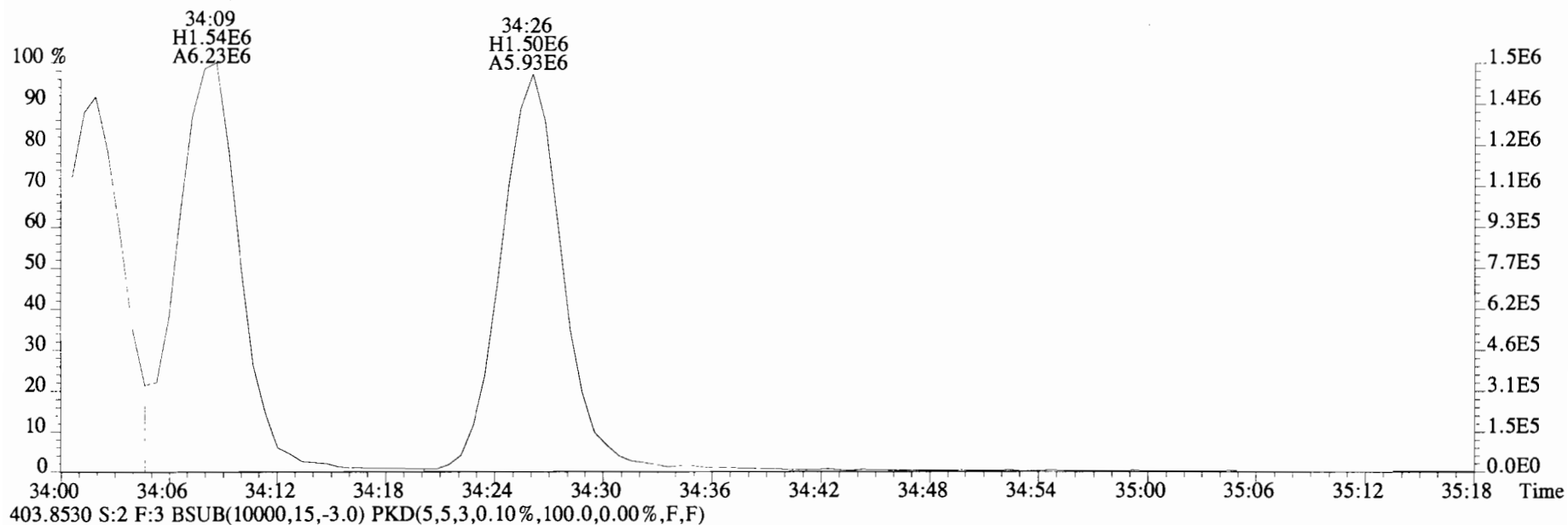
366.9792 S:2 F:2



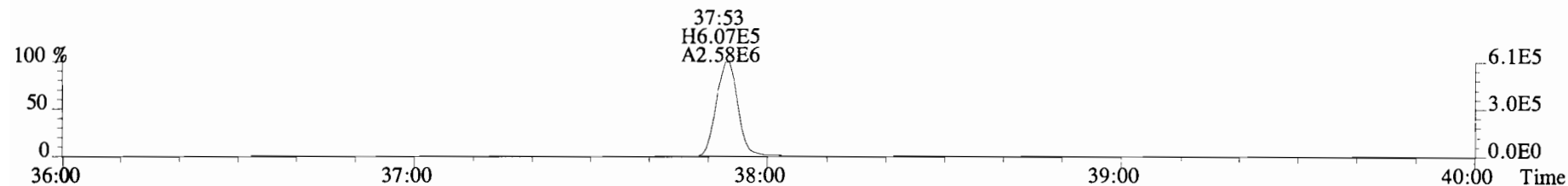
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389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



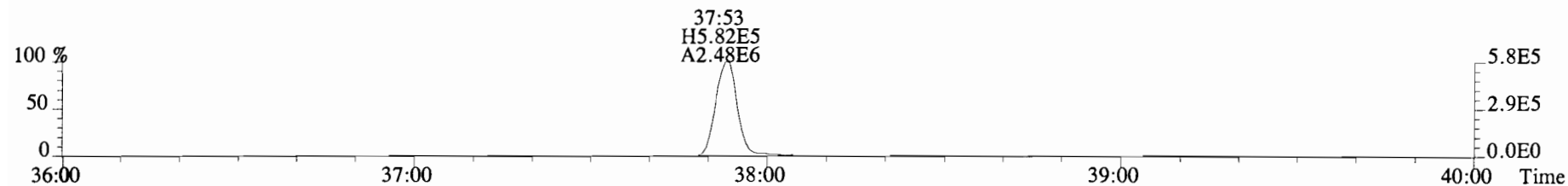
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401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



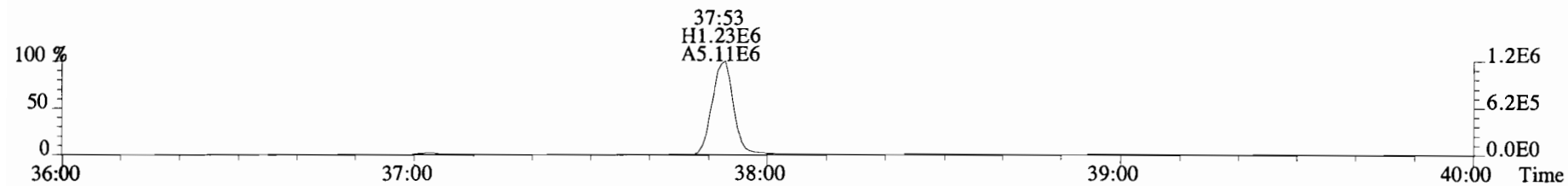
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423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



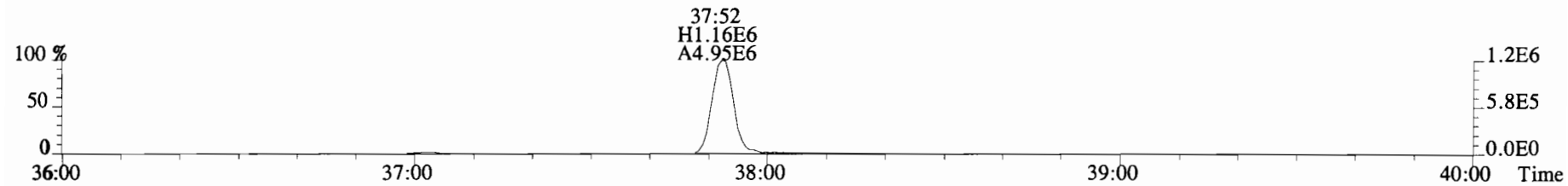
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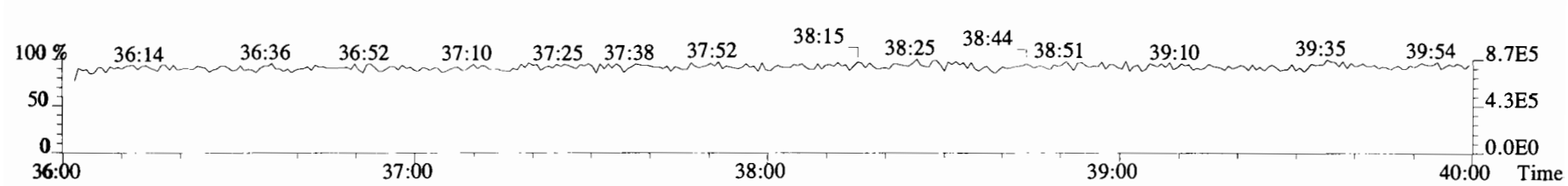
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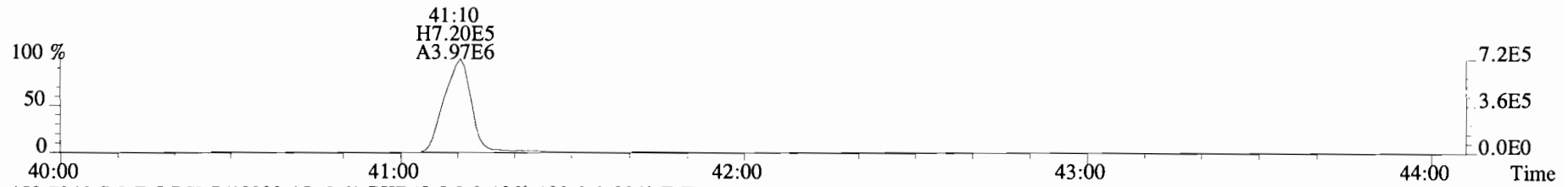
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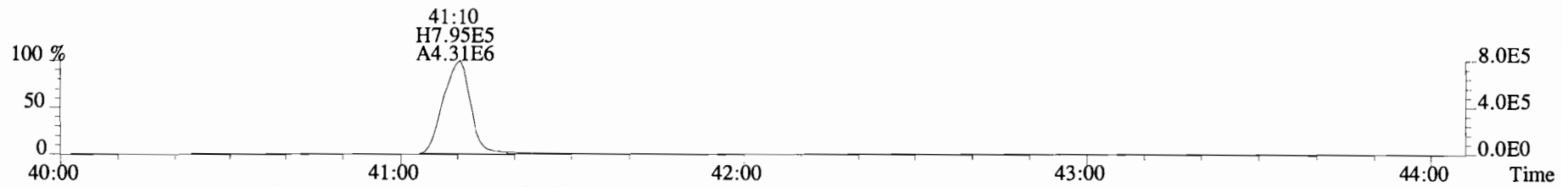
454.9728 S:2 F:4



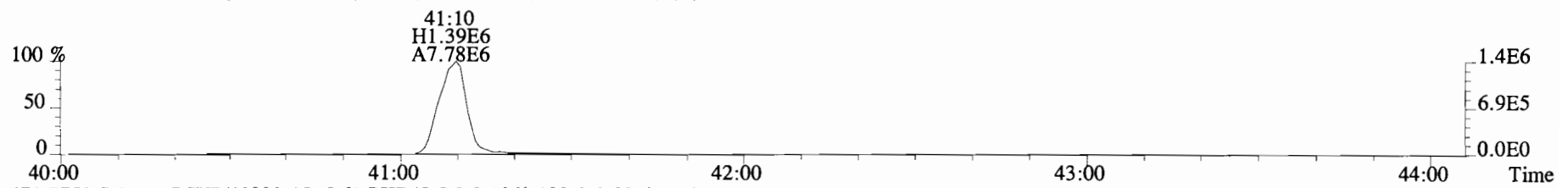
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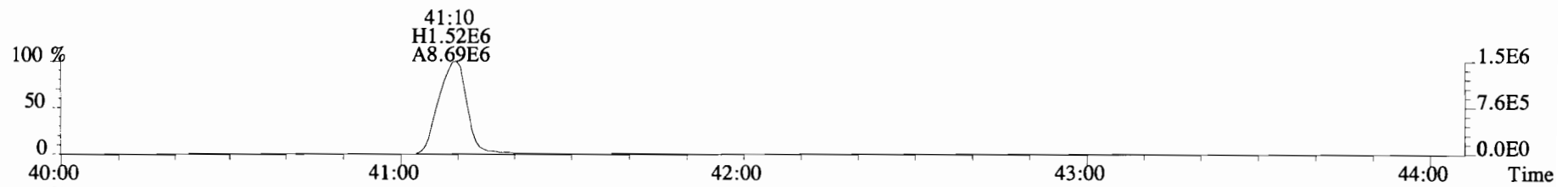
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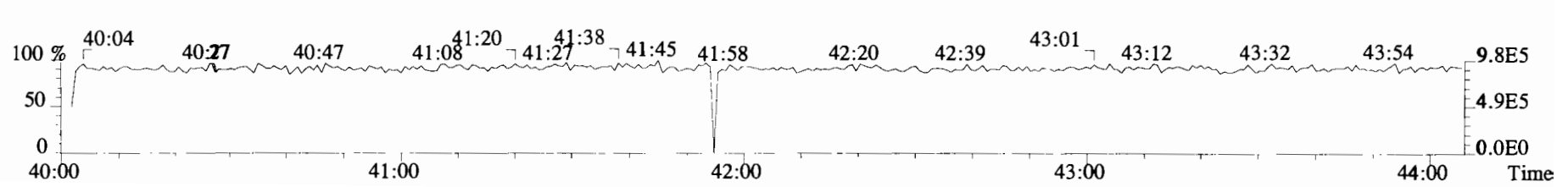
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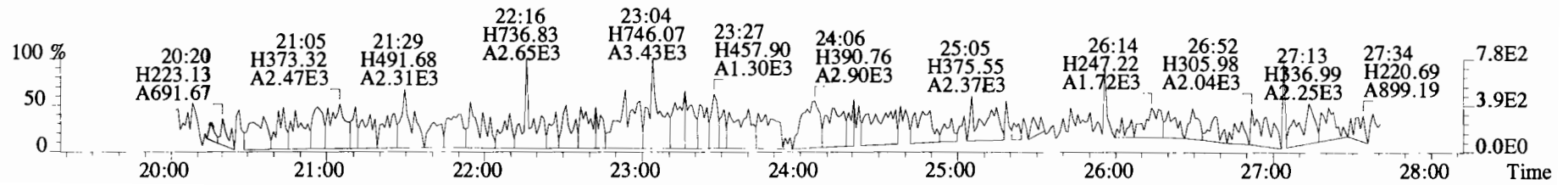
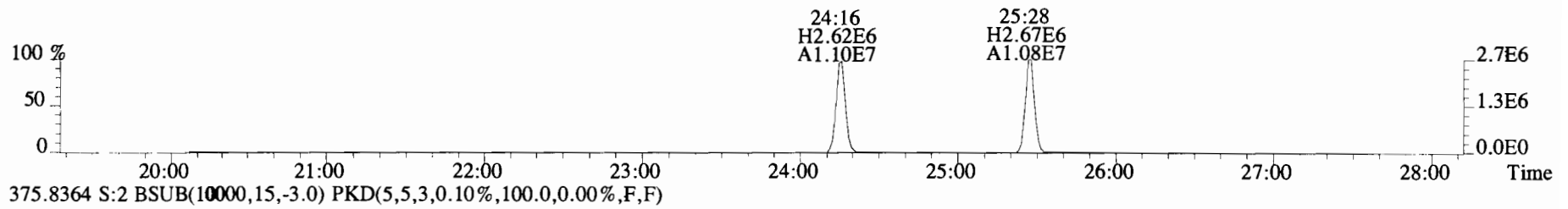
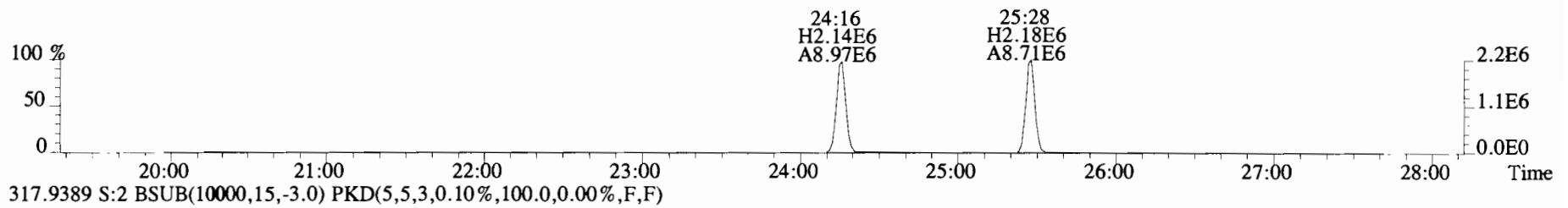
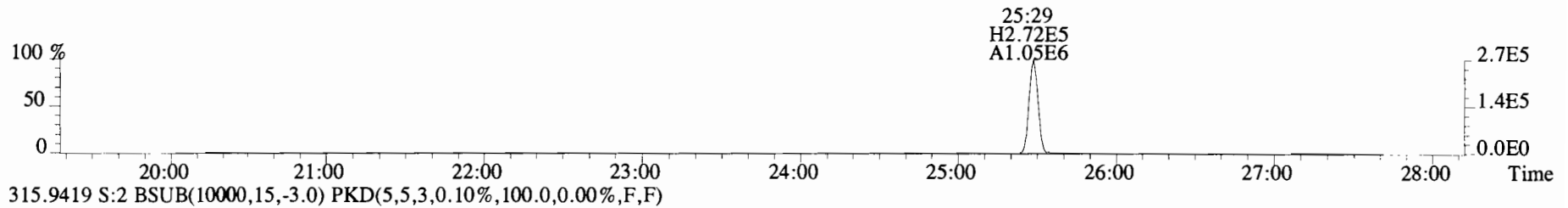
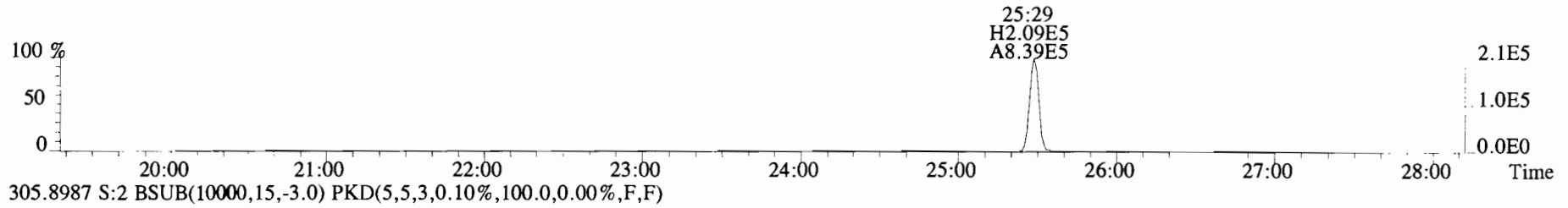
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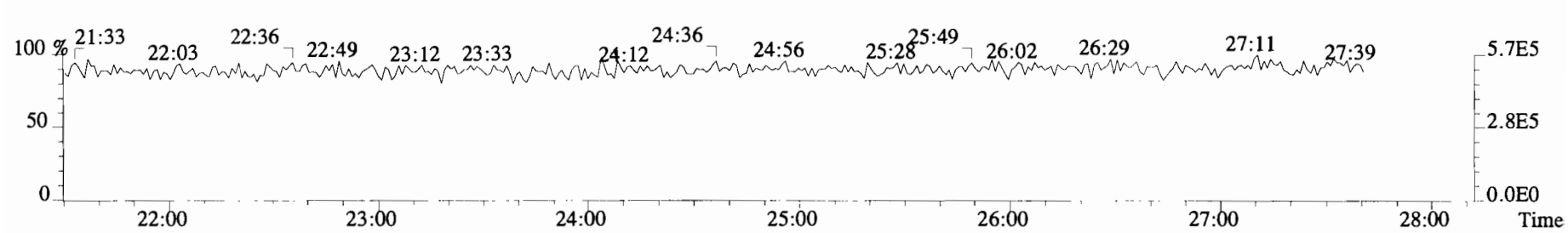
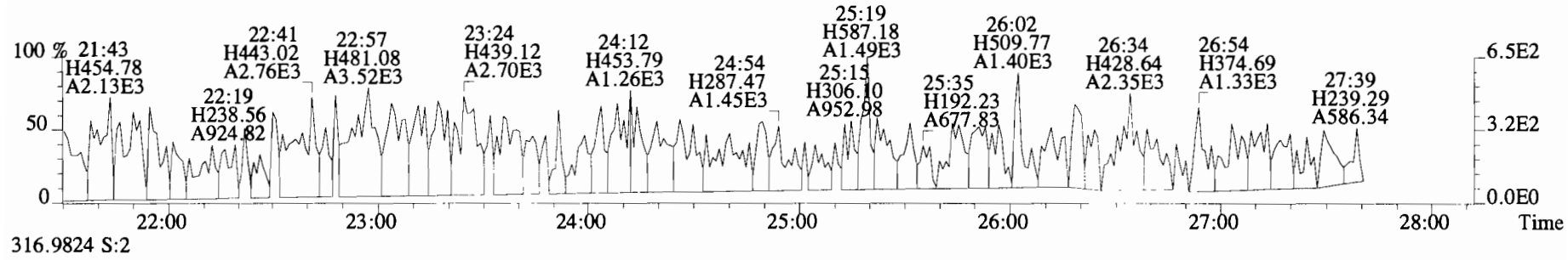
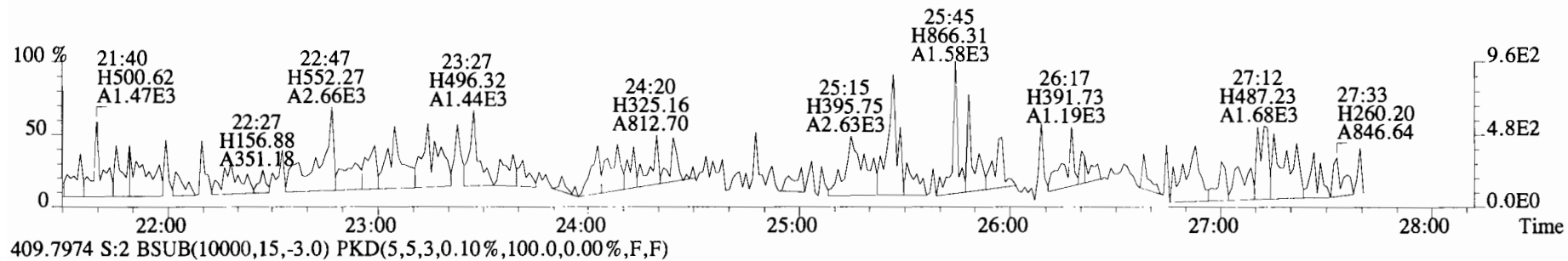
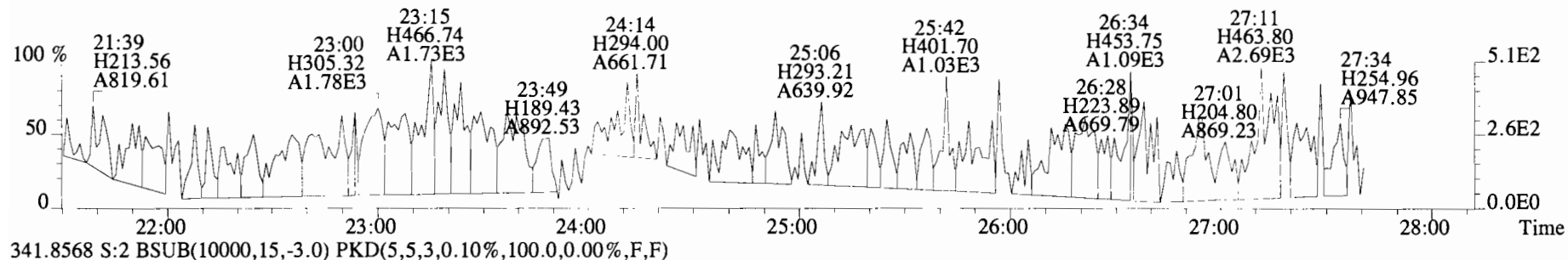
454.9728 S:2 F:5



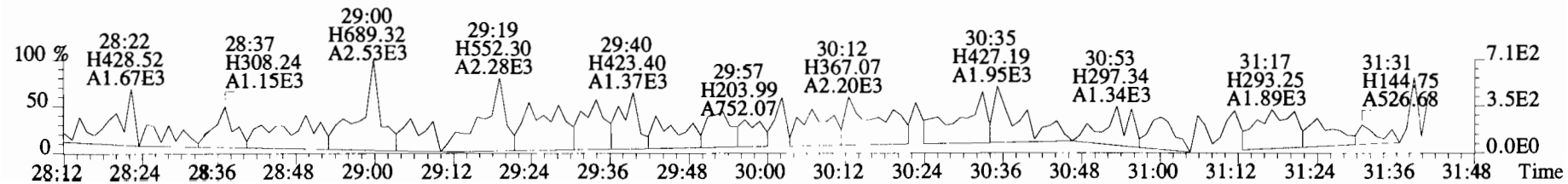
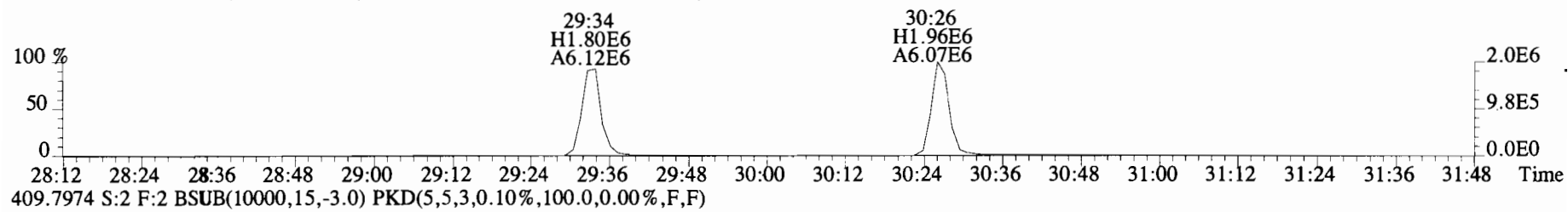
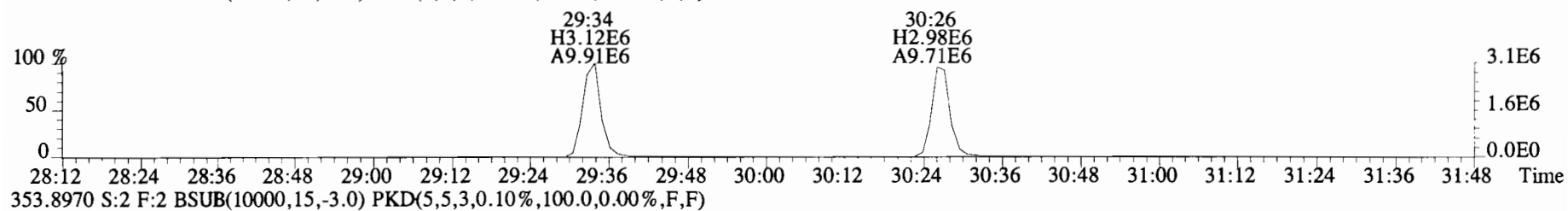
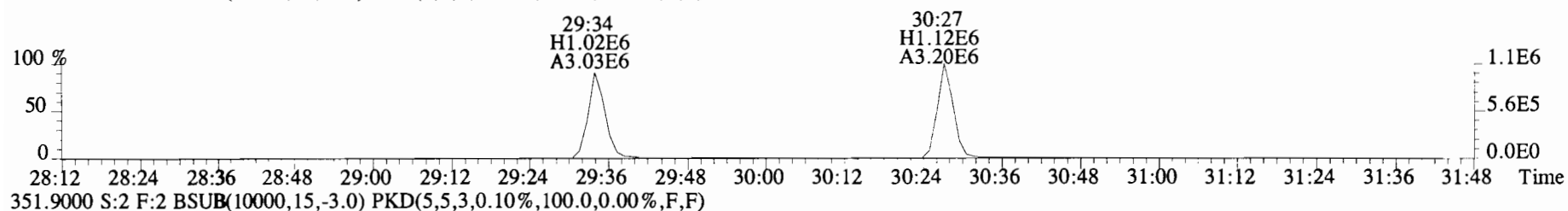
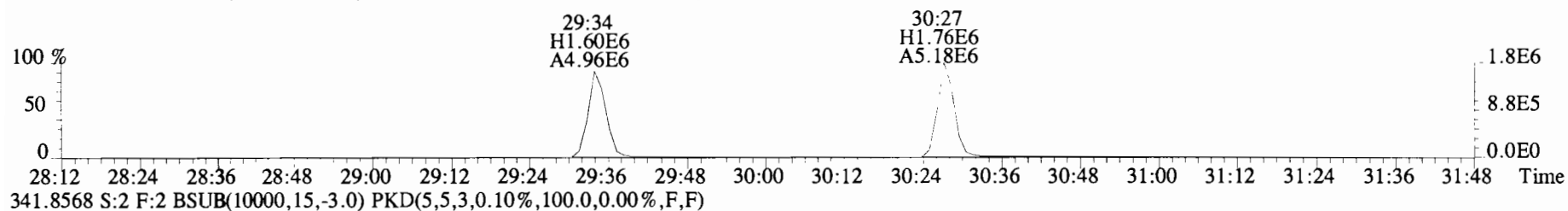
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303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



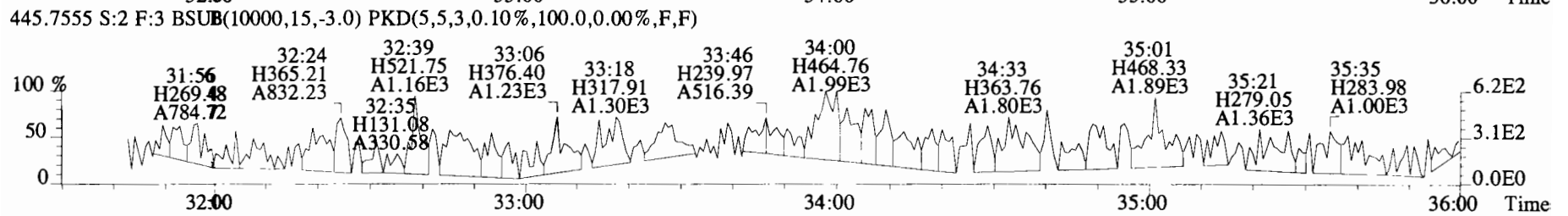
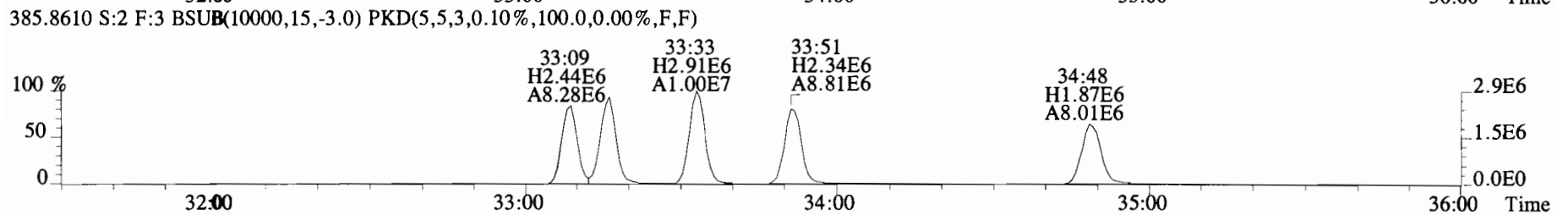
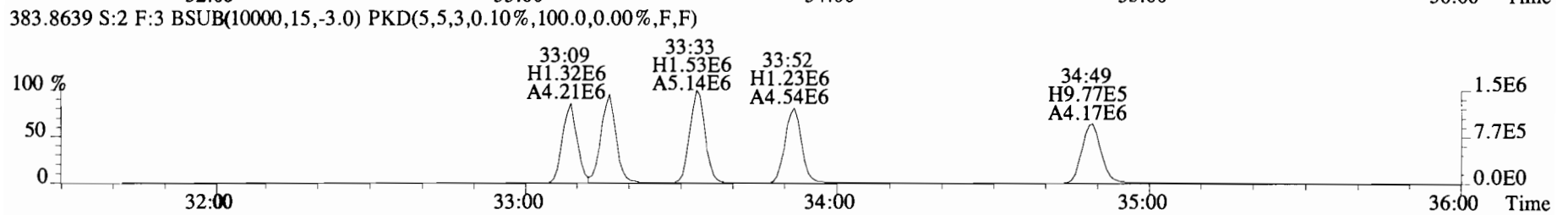
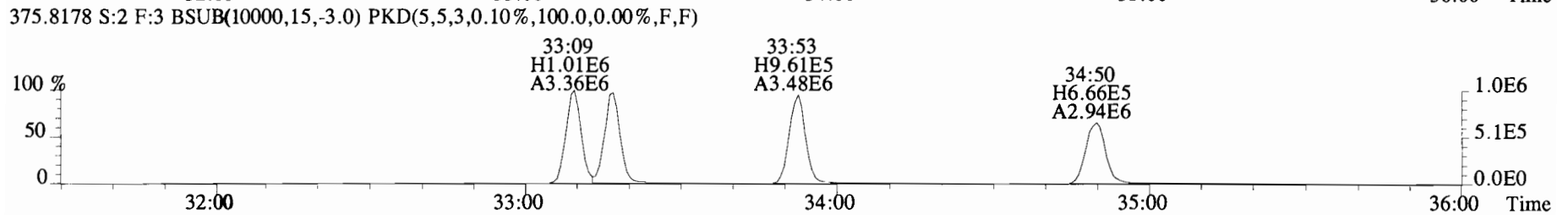
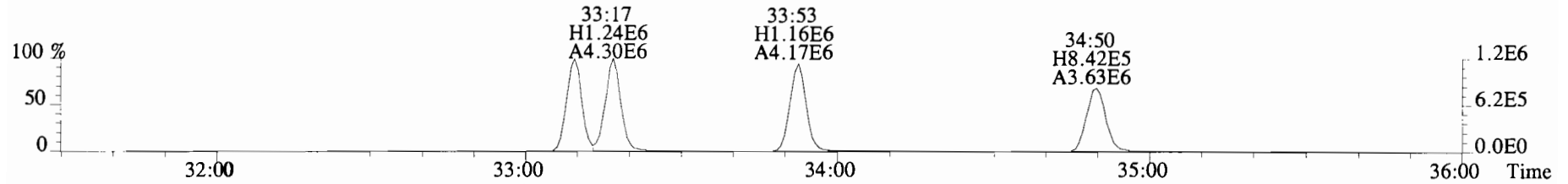
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 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



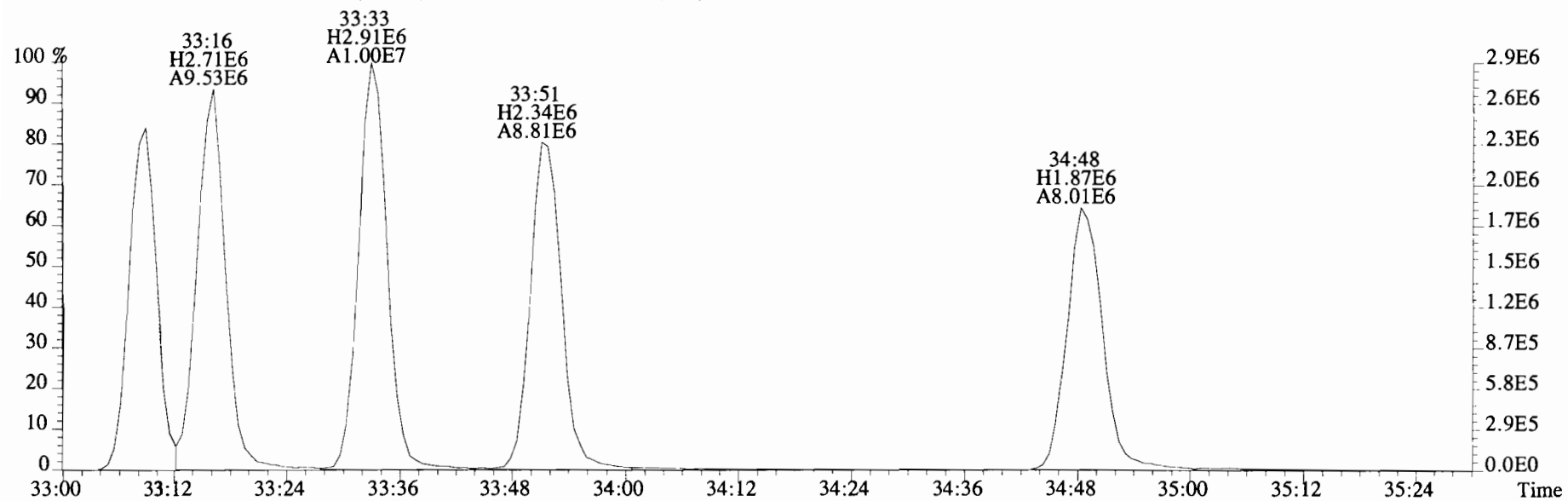
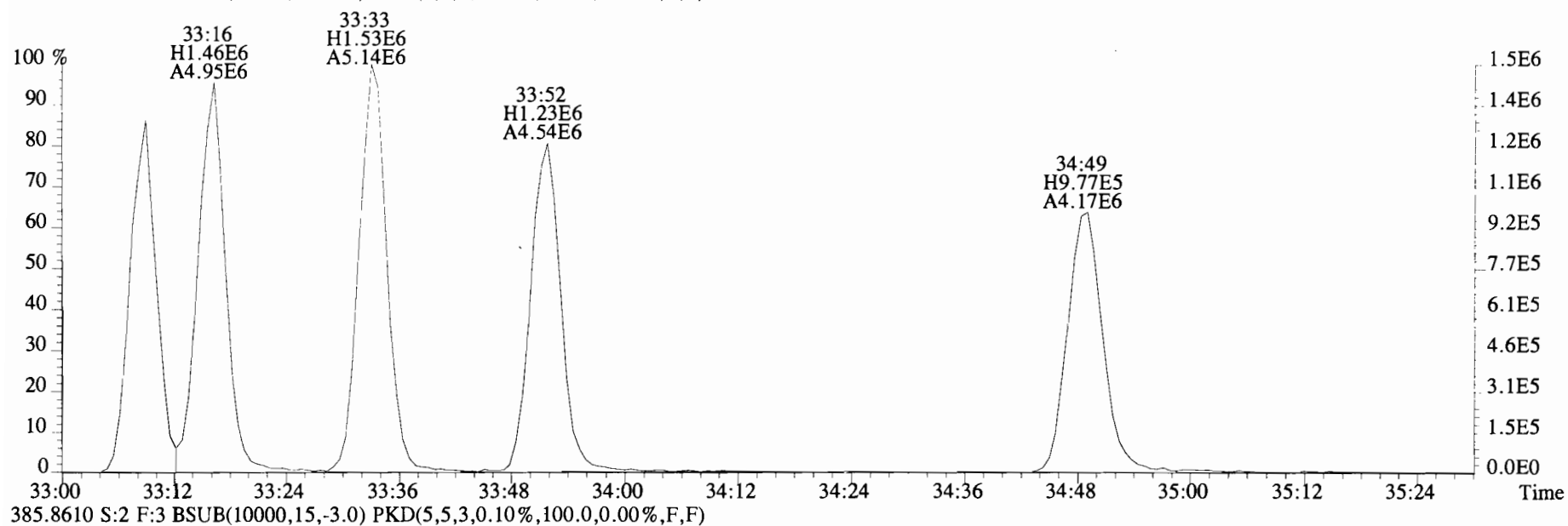
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 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



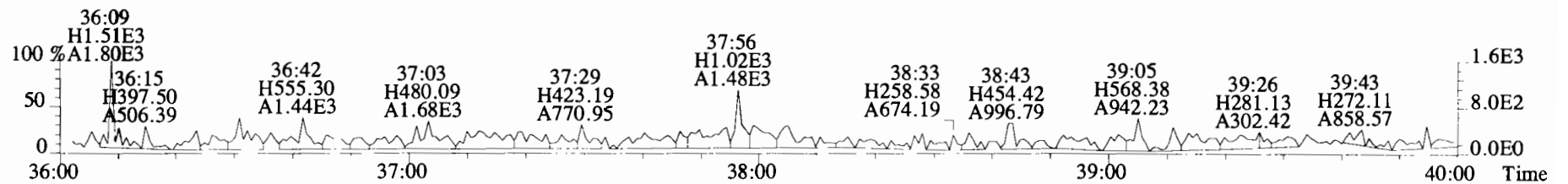
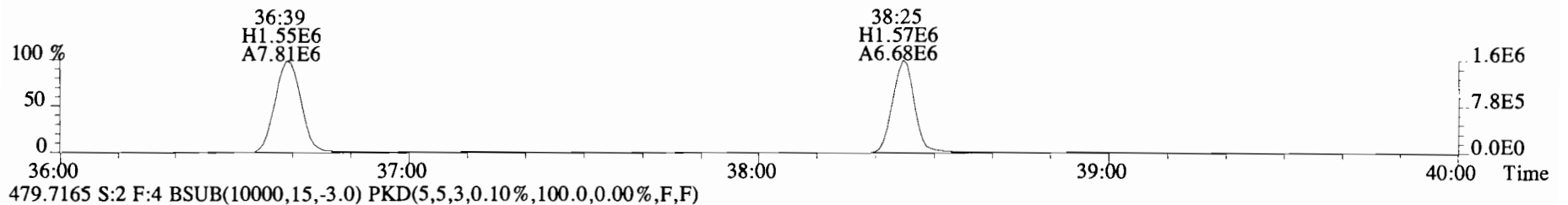
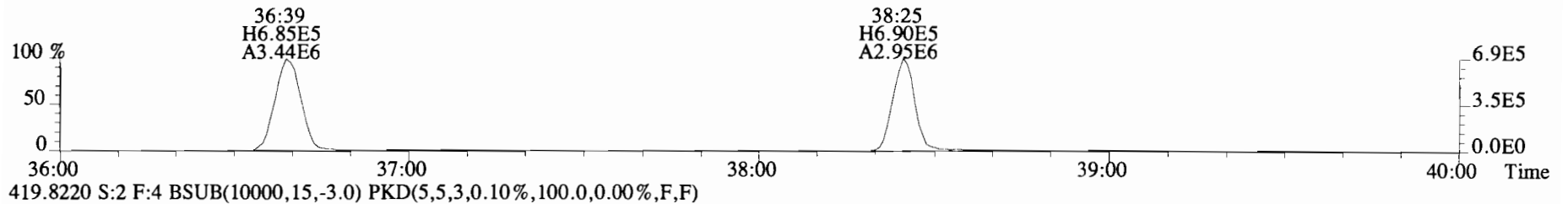
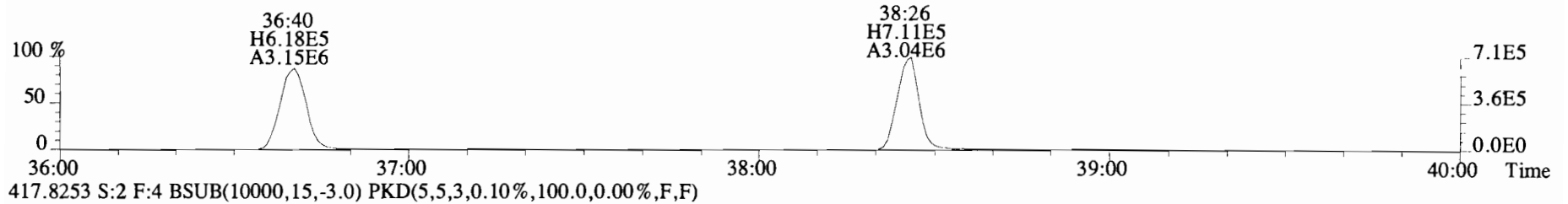
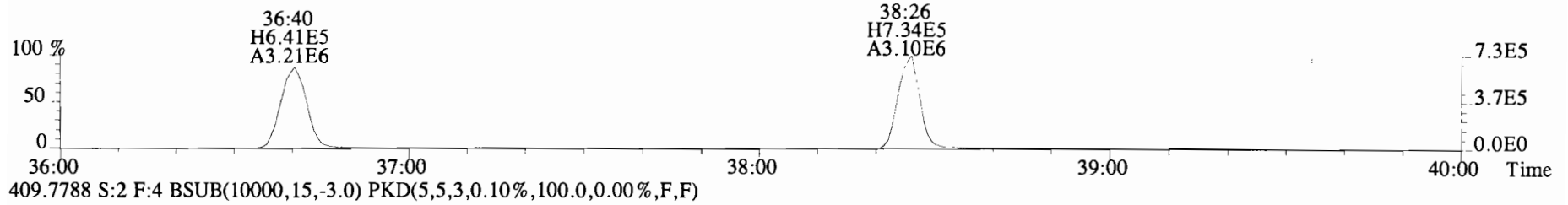
File:191111D1 #1-384 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Viata Analytical Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



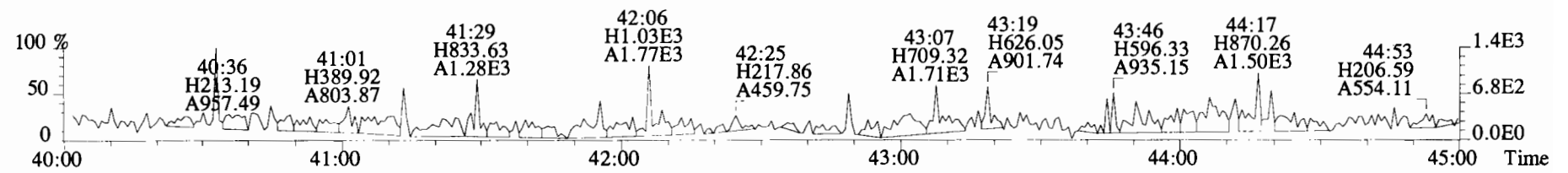
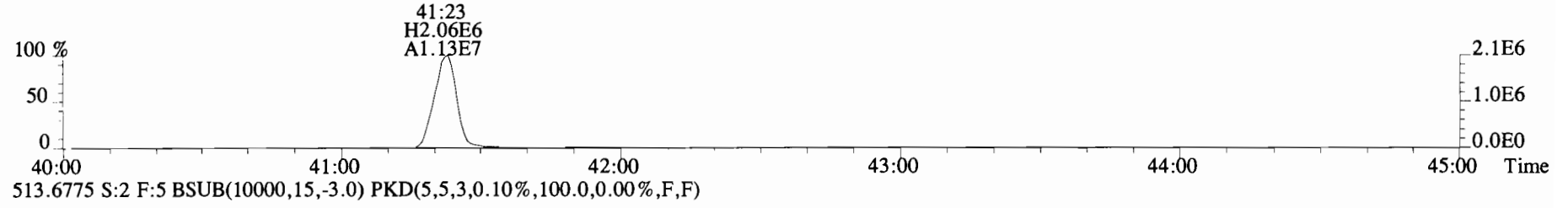
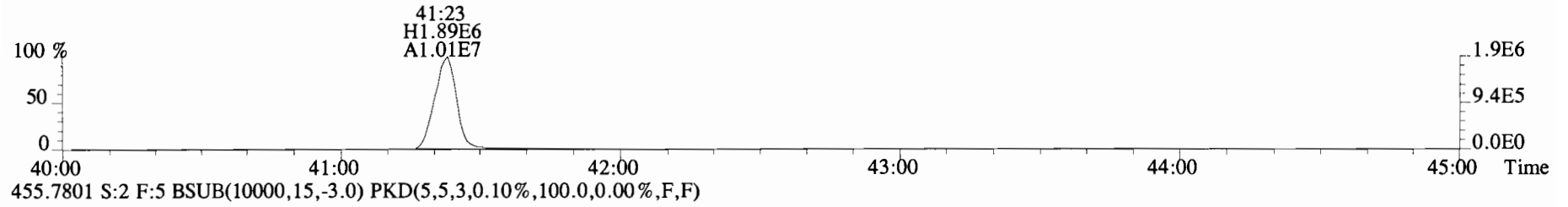
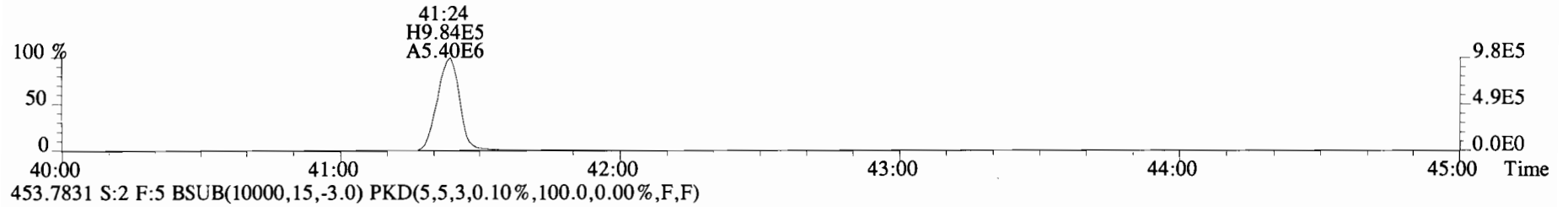
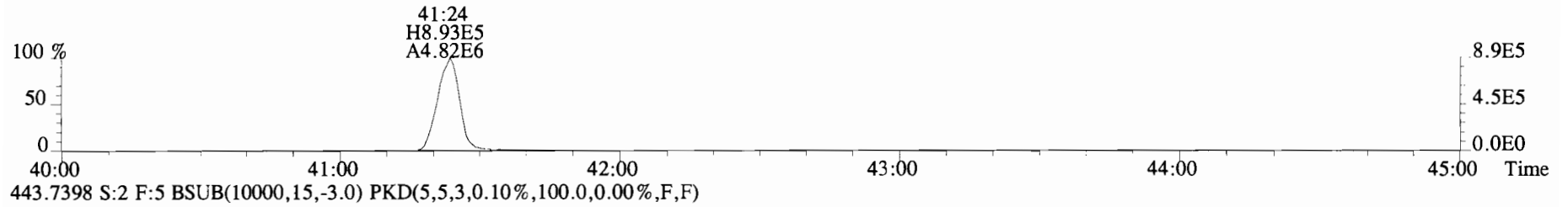
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383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191111D1 #1-355 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 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)



File:191111D1 #1-432 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-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\191023D2\191023D2-4.qld

Last Altered: Tuesday, November 05, 2019 13:31:04 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:32:17 Pacific Standard Time

HC 11-5-19

Q7 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:26:07

Name: VG7 191023D2_4, Date: 24-OCT-2019, Time: 03:55:43, ID: 1903420-01 PDI-013SC-A-10-11-190925,

Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 ✓

1	2,3,7,8-TCDD		1.24e5	9.9979	0.905			1.001		26.33				0.174
2	1,2,3,7,8-PeCDD		8.67e4	9.9979	0.903			1.001		30.80				0.152
3	1,2,3,4,7,8-HxCDD		8.78e4	9.9979	1.101			1.000		34.11				0.185
4	1,2,3,6,7,8-HxCDD		9.69e4	9.9979	0.939			1.000		34.21				0.202
5	1,2,3,7,8,9-HxCDD		9.74e4	9.9979	0.961			1.001		34.55				0.198
6	1,2,3,4,6,7,8-HpCDD	3.46e2	9.26e4	9.9979	0.979	0.802	YES	1.000	1.001	37.99	38.01	0.76297	0.606 OK	0.244
7	OCDD	9.50e3	1.59e5	9.9979	0.959	0.889	NO	1.000	1.000	41.32	41.32	24.993	25.0	0.285
8	2,3,7,8-TCDF		1.66e5	9.9979	0.950			1.001		25.55				0.111
9	1,2,3,7,8-PeCDF		1.43e5	9.9979	0.960			1.001		29.63				0.0744
10	2,3,4,7,8-PeCDF		1.44e5	9.9979	1.015			1.001		30.53				0.0708
11	1,2,3,4,7,8-HxCDF		1.20e5	9.9979	1.177			1.000		33.20				0.0817
12	1,2,3,6,7,8-HxCDF		1.34e5	9.9979	1.069			1.000		33.33				0.0828
13	2,3,4,6,7,8-HxCDF		1.24e5	9.9979	1.114			1.001		33.96				0.0930
14	1,2,3,7,8,9-HxCDF		1.14e5	9.9979	1.062			1.000		34.88				0.114
15	1,2,3,4,6,7,8-HpCDF		1.03e5	9.9979	1.128			1.001		36.78				0.127
16	1,2,3,4,7,8,9-HpCDF		8.52e4	9.9979	1.280			1.000		38.53				0.106
17	OCDF	2.72e2	2.10e5	9.9979	0.947	0.656	YES	1.000	1.000	41.54	41.53	0.54865 OK	0.402 OK	0.178
18	13C-2,3,7,8-TCDD	1.24e5	1.16e5	9.9979	1.095	0.762	NO	1.021	1.022	26.28	26.30	195.64	97.8	0.269
19	13C-1,2,3,7,8-PeCDD	8.67e4	1.16e5	9.9979	0.881	0.614	NO	1.187	1.196	30.54	30.78	170.13	85.0	0.338
20	13C-1,2,3,4,7,8-Hx...	8.78e4	1.42e5	9.9979	0.642	1.270	NO	1.014	1.014	34.09	34.10	192.51	96.2	0.509
21	13C-1,2,3,6,7,8-Hx...	9.69e4	1.42e5	9.9979	0.856	1.278	NO	1.017	1.017	34.21	34.21	159.54	79.8	0.382
22	13C-1,2,3,7,8,9-Hx...	9.74e4	1.42e5	9.9979	0.807	1.267	NO	1.026	1.026	34.51	34.51	170.12	85.0	0.406
23	13C-1,2,3,4,6,7,8-H...	9.26e4	1.42e5	9.9979	0.654	0.981	NO	1.126	1.129	37.87	37.98	199.43	99.7	0.811
24	13C-OCDD	1.59e5	1.42e5	9.9979	0.580	0.915	NO	1.226	1.229	41.23	41.32	385.44	96.3	0.514
25	13C-2,3,7,8-TCDF	1.66e5	1.84e5	9.9979	1.035	0.816	NO	0.993	0.992	25.57	25.52	174.83	87.4	0.304
26	13C-1,2,3,7,8-PeCDF	1.43e5	1.84e5	9.9979	0.854	1.612	NO	1.143	1.150	29.42	29.61	181.61	90.8	0.461
27	13C-2,3,4,7,8-PeCDF	1.44e5	1.84e5	9.9979	0.847	1.507	NO	1.176	1.185	30.28	30.50	185.06	92.5	0.465
28	13C-1,2,3,4,7,8-Hx...	1.20e5	1.42e5	9.9979	0.832	0.507	NO	0.987	0.987	33.20	33.20	203.36	101.7	0.866
29	13C-1,2,3,6,7,8-Hx...	1.34e5	1.42e5	9.9979	1.034	0.510	NO	0.991	0.991	33.32	33.32	182.22	91.1	0.697
30	13C-2,3,4,6,7,8-Hx...	1.24e5	1.42e5	9.9979	0.953	0.509	NO	1.009	1.009	33.93	33.93	183.02	91.5	0.756
31	13C-1,2,3,7,8,9-Hx...	1.14e5	1.42e5	9.9979	0.828	0.507	NO	1.039	1.037	34.93	34.88	193.93	96.9	0.871

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-4.qld

Last Altered: Tuesday, November 05, 2019 13:31:04 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:32:17 Pacific Standard Time

Name: VG7 191023D2_4, Date: 24-OCT-2019, Time: 03:55:43, ID: 1903420-01 PDI-013SC-A-10-11-190925,
 Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	1.03e5	1.42e5	9.9979	0.757	0.431	NO	1.093	1.093	36.75	36.74	192.04	96.0	0.877
33	13C-1,2,3,4,7,8,9-H...	8.52e4	1.42e5	9.9979	0.581	0.423	NO	1.143	1.146	38.44	38.53	206.35	103.2	1.14
34	13C-OCDF	2.10e5	1.42e5	9.9979	0.689	0.900	NO	1.233	1.235	41.47	41.54	428.47	107.1	0.605
35	37Cl-2,3,7,8-TCDD	5.04e4	1.16e5	9.9979	1.198			1.022	1.022	26.30	26.31	72.814	91.0	0.128
36	13C-1,2,3,4-TCDD	1.16e5	1.16e5	9.9979	1.000	0.795	NO	1.000	1.000	25.70	25.74	200.04	100.0	0.295
37	13C-1,2,3,4-TCDF	1.84e5	1.84e5	9.9979	1.000	0.817	NO	1.000	1.000	24.28	24.32	200.04	100.0	0.315
38	13C-1,2,3,4,6,9-Hx...	1.42e5	1.42e5	9.9979	1.000	0.504	NO	1.000	1.000	33.55	33.63	200.04	100.0	0.721
39	Total Tetra-Dioxins		1.24e5	9.9979	0.901			0.000		25.50				0.0927 0.174
40	Total Penta-Dioxins		8.67e4	9.9979	0.872			0.000		30.00		0.12009	0.242	0.0716
41	Total Hexa-Dioxins		0.00e0	9.9979	0.976			0.000		33.80		0.69549	0.695	0.199
42	Total Hepta-Dioxins		9.26e4	9.9979	0.989			0.000		37.75		0.00000	1.91	0.145
43	Total Tetra-Furans		1.66e5	9.9979	0.943			0.000		24.00				0.0550 0.111
44	1st Func. Penta-Fur...		0.00e0	9.9979	0.940			0.000		27.63				0.0318 0.0744
45	Total Penta-Furans		0.00e0	9.9979	0.940			0.000		30.00				0.0352 0.114
46	Total Hexa-Furans		0.00e0	9.9979	1.078			0.000		33.00				0.0478 0.114
47	Total Hepta-Furans		0.00e0	9.9979	1.135			0.000		37.75				0.0584 0.127

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-4.qld

Last Altered: Tuesday, November 05, 2019 13:31:04 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:32:17 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:26:07

Name: VG7 191023D2_4, Date: 24-OCT-2019, Time: 03:55:43, ID: 1903420-01 PDI-013SC-A-10-11-190925, Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

Penta-Dioxins

	40 Total Penta-Dioxins	YES	29.20	17.750	32980.926	0.000	MM	0.0000	0.12	
	40 Total Penta-Dioxins	NO	28.74	16.748	32980.926	1.047	MM	0.1201	0.12	

Hexa-Dioxins

	41 Total Hexa-Dioxins	NO	32.56	171.898	52634.387	6.786	bb	0.6955	0.70	

Hepta-Dioxins

	6 1,2,3,4,6,7,8-HpCDD	YES	38.01	153.960	45854.020	0.000	MM	0.0000	0.67	
	42 Total Hepta-Dioxins	YES	37.15	290.751	45854.020	0.000	bb	0.0000	1.25	

Tetra-Furans

Penta-Furans function 1

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-4.qld
Last Altered: Tuesday, November 05, 2019 13:31:04 Pacific Standard Time
Printed: Tuesday, November 05, 2019 13:32:17 Pacific Standard Time

Name: VG7 191023D2_4, Date: 24-OCT-2019, Time: 03:55:43, ID: 1903420-01 PDI-013SC-A-10-11-190925,
Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans



Hexa-Furans

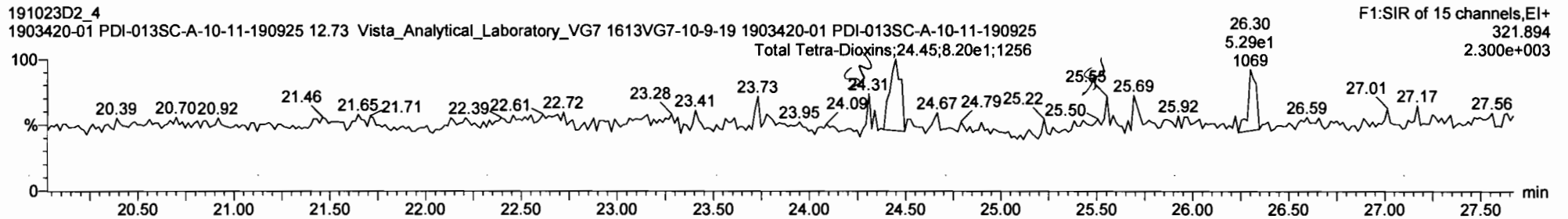
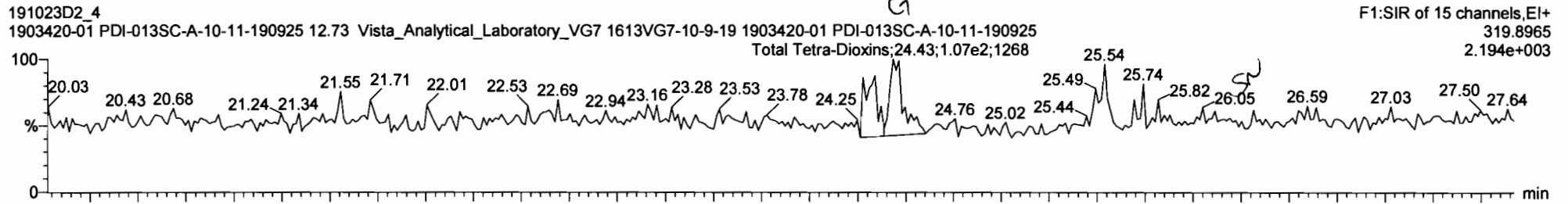


Hepta-Furans

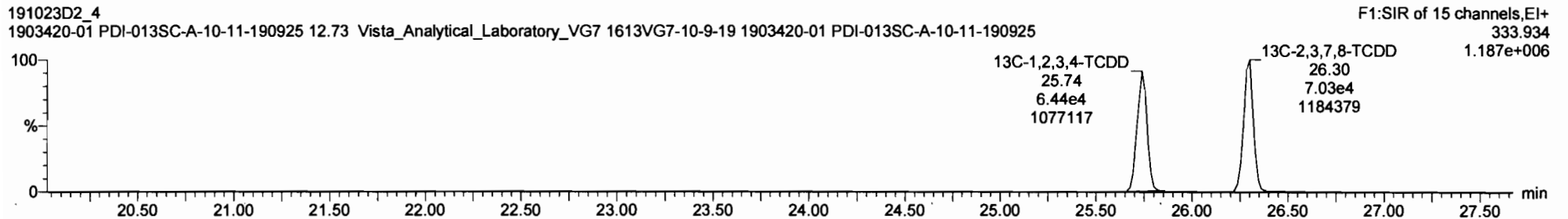
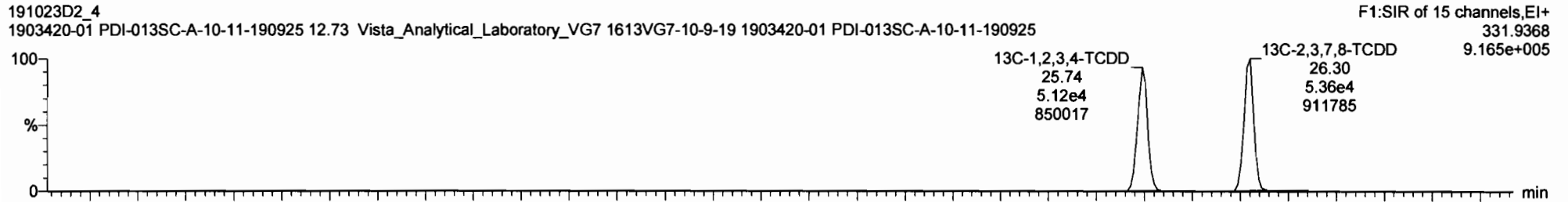


Name: VG7 191023D2_4, Date: 24-OCT-2019, Time: 03:55:43, ID: 1903420-01 PDI-013SC-A-10-11-190925,
 Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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

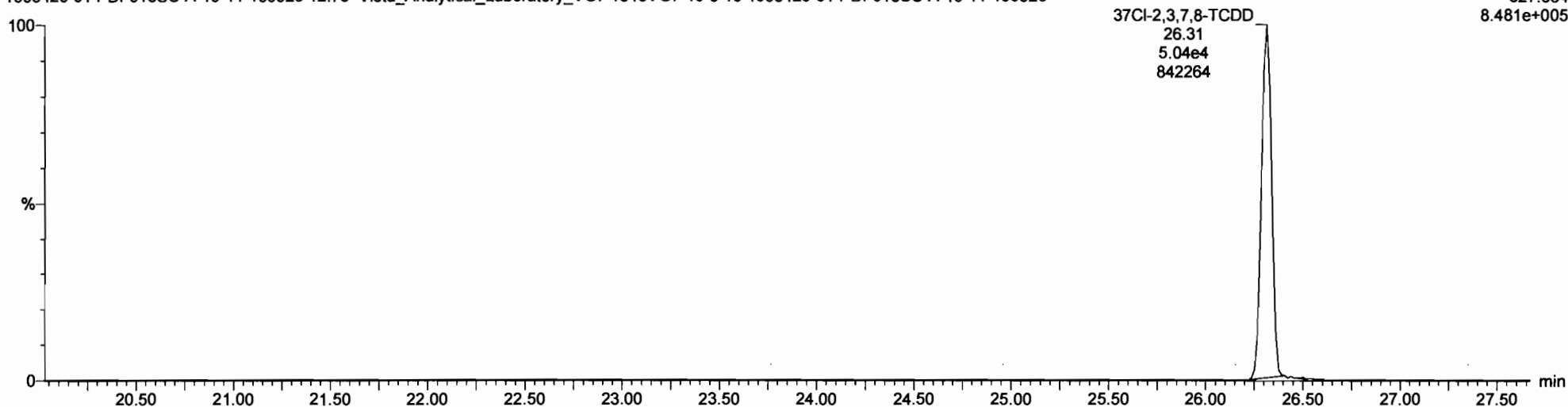


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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

191023D2_4
1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-01 PDI-013SC-A-10-11-190925

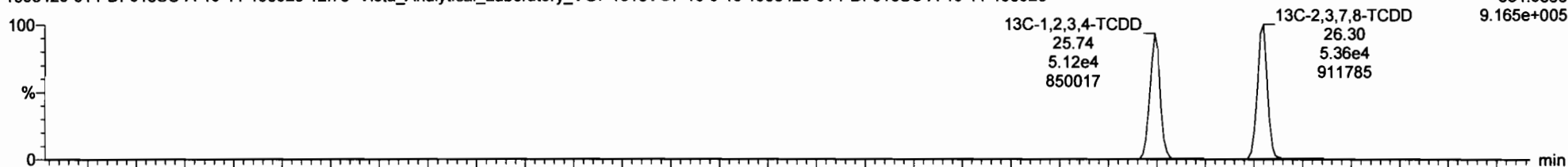
F1:SIR of 15 channels,EI+
327.884
8.481e+005



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

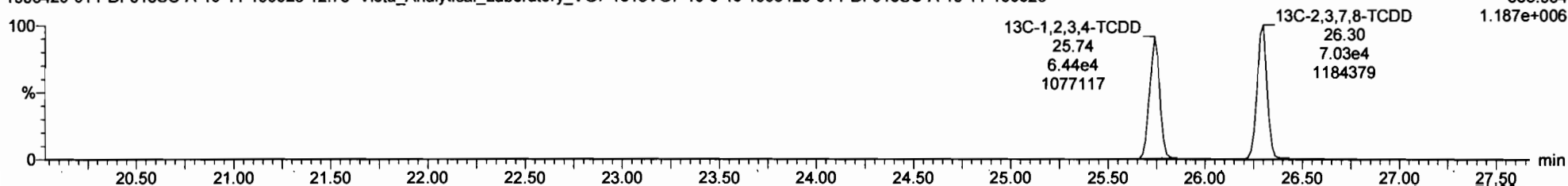
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F1:SIR of 15 channels,EI+
331.9368
9.165e+005



191023D2_4
1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-01 PDI-013SC-A-10-11-190925

F1:SIR of 15 channels,EI+
333.934
1.187e+006



Vista Analytical Laboratory

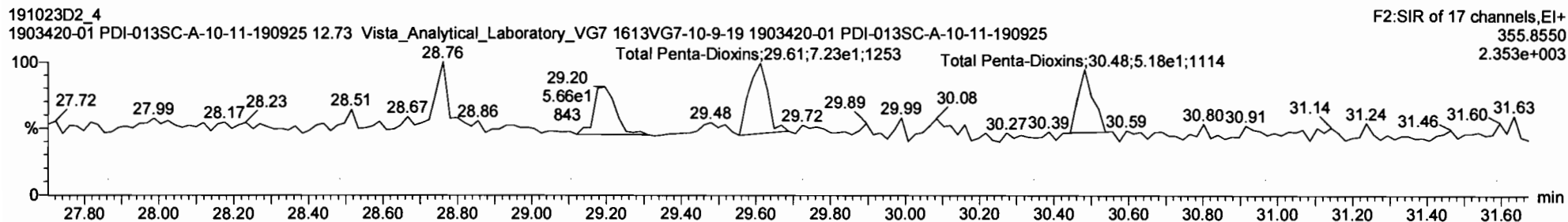
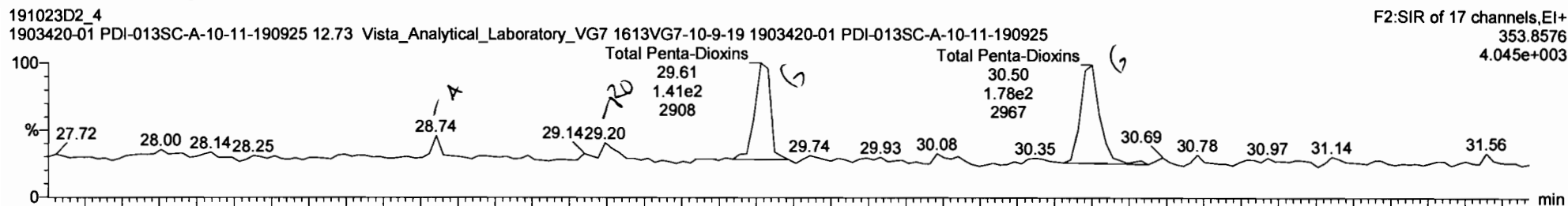
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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

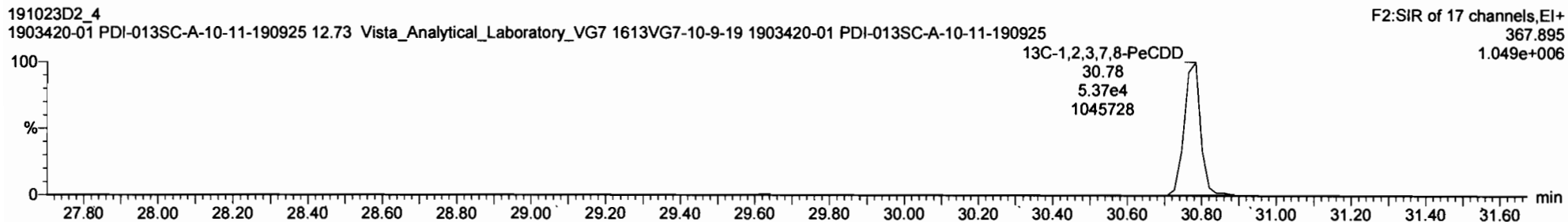
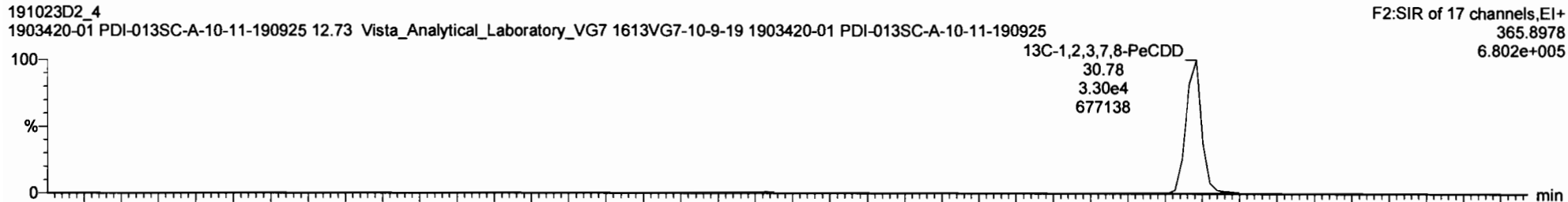
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Total Penta-Dioxins



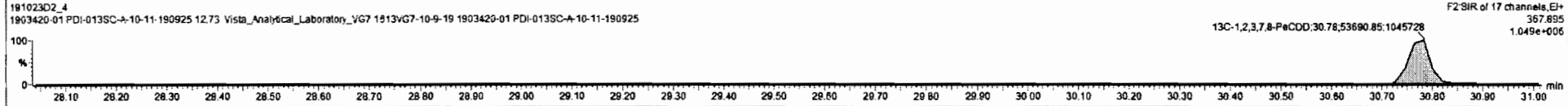
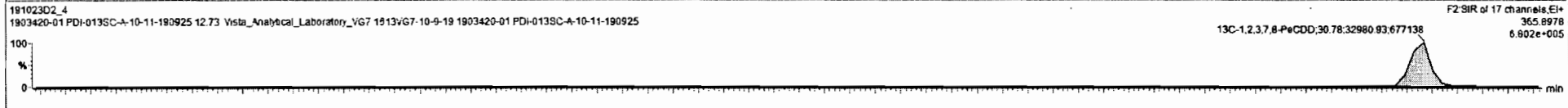
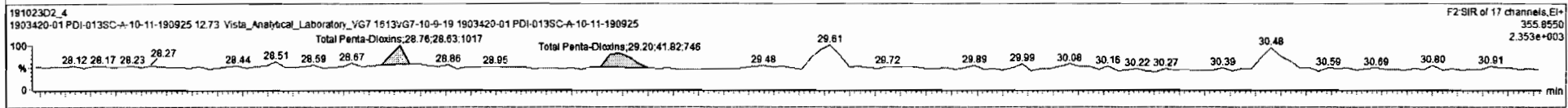
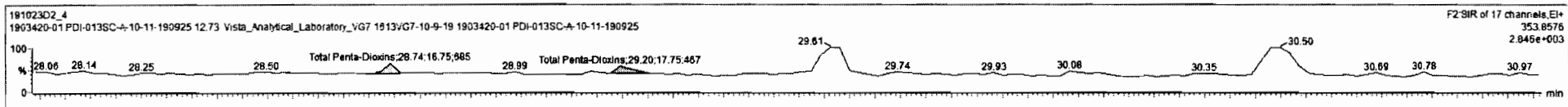
13C-1,2,3,7,8-PeCDD



Targetlynx.XS
 File Edit View Display Processing Window Help
 191023D2_4 - 1903420-01 PDI-013SC-A-10-11-190925 - 1903420-01 PDI-013SC-A-10-11-190925 12 73 Vista_Analytical_Laboratory_VG7 1613VG7 10-9-19

#	Name	Resp	IS Resp	IS#	RA	aly	RF	w/vol	Prod.RT	RT	RRT	Prod.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
33	13C-1,2,3,4,7,8,9-HxCDF	8.52e4	1.42e5	38	0.42	NO	0.581	9.998	38.44	38.53	1.146	1.143	NO	206.4	103	1.14	
34	13C-OCDF	2.10e5	1.42e5	38	0.90	NO	0.689	9.998	41.47	41.54	1.235	1.233	NO	428.5	107	0.605	
35	37Cl-2,3,7,8-TCDD	5.04e4	1.16e5	36			1.196	9.998	26.30	26.31	1.022	1.022	NO	72.81	91.0	0.128	
36	13C-1,2,3,4-TCDD	1.16e5	1.16e5	36	0.80	NO	1.000	9.996	25.70	25.74	1.000	1.000	NO	200.0	100	0.295	
37	13C-1,2,3,4-TCDF	1.84e5	1.84e5	37	0.82	NO	1.000	9.998	24.26	24.32	1.000	1.000	NO	200.0	100	0.315	
38	13C-1,2,3,4,6,9-HxCDF	1.42e5	1.42e5	38	0.50	NO	1.000	9.998	33.55	33.63	1.000	1.000	NO	200.0	100	0.721	
39	Total Tetra-Dioxine		1.24e5				0.901	9.998	25.50				NO			0.0927	
40	Total Penta-Dioxine		8.87e5				8.872	9.998	28.00				NO	8.1291		8.0718	8.2458
41	Total Hexa-Dioxine		0.00e0				0.976	9.998	33.80				NO	0.6955		0.199	0.6955

#	Name	Prod.RT	RT	rel Resp	rel Resp	Prod RA	RA	aly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.74	1.875e1	2.863e1	0.630	0.56	NO	0.12009	0.12009
2	40 Total Penta-Dioxine	30.00	29.20	1.775e1	4.182e1	0.630	0.42	YES	0.12153	0.00000



Ready 191023D2_4 CAP NUM

Vista Analytical Laboratory

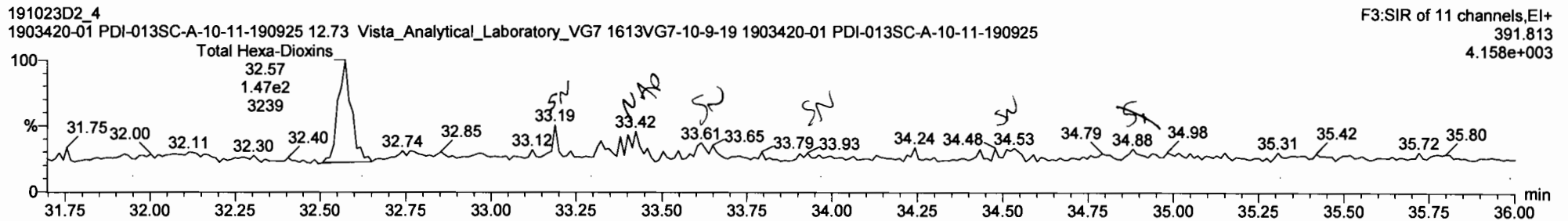
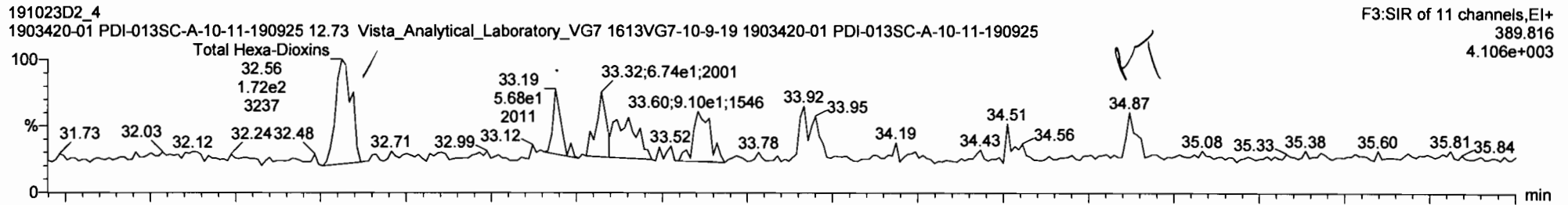
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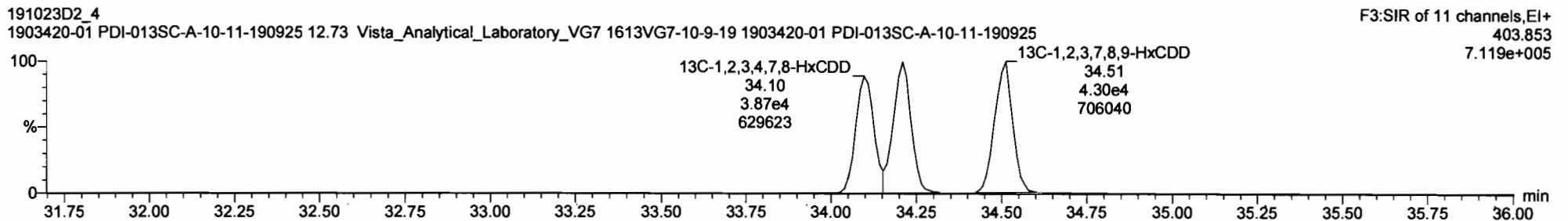
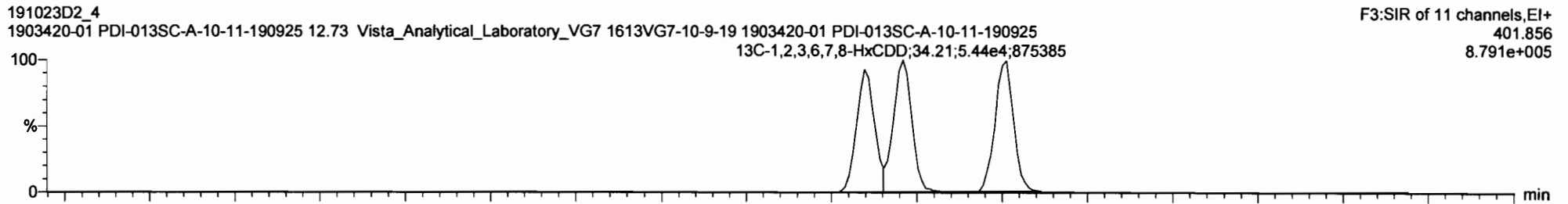
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Total Hexa-Dioxins

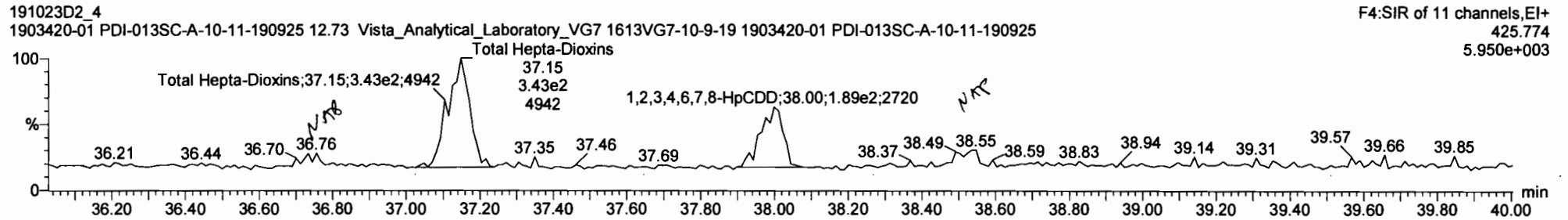
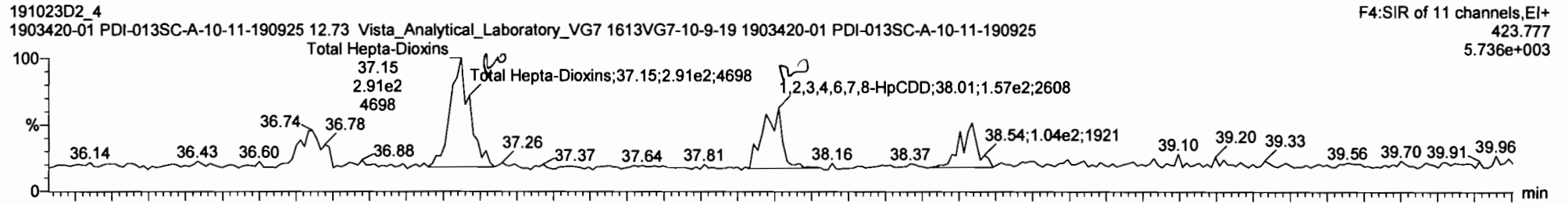


13C-1,2,3,4,7,8-HxCDD

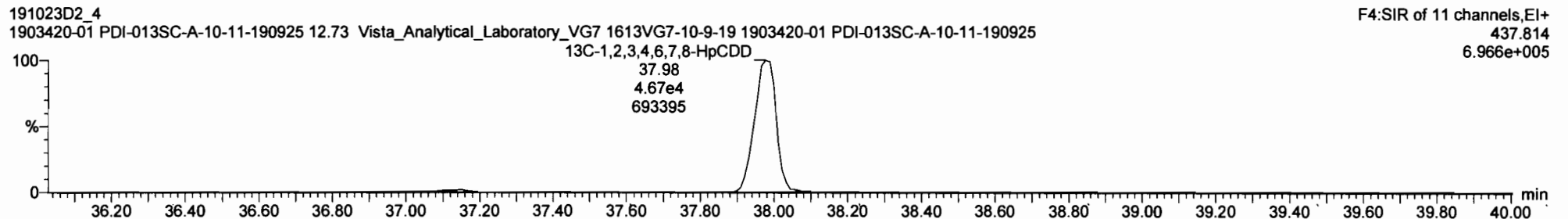
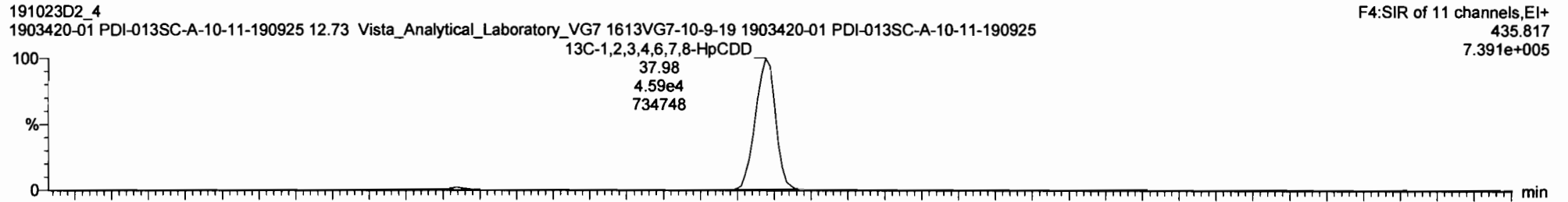


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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



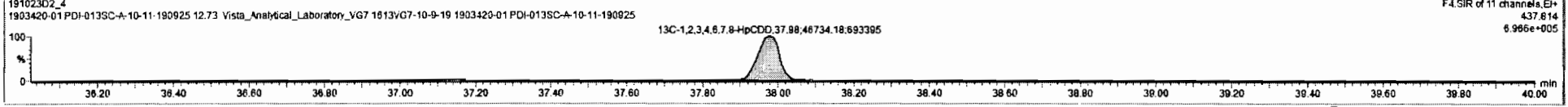
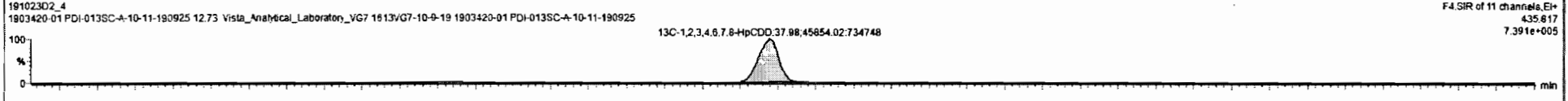
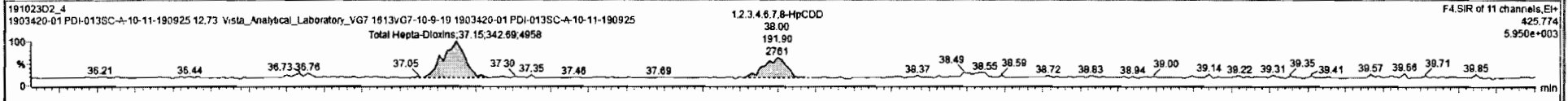
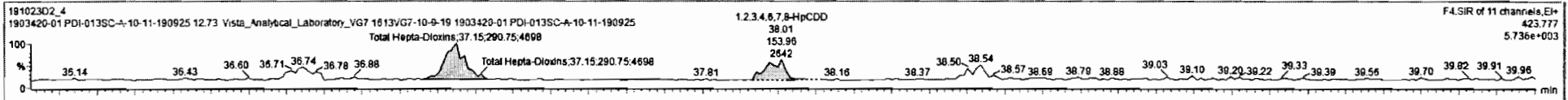
13C-1,2,3,4,6,7,8-HpCDD



TargetLynx 35 - 191023D2_4 - 1903420-01 PDI-013SC-A-10-11-190925 - 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	CF	RA	n/y	RPF	wt/wt	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
33	13C-1,2,3,4,7,8,9-HpCDF	8.52e4	1.42e5	36	0.42	NO	0.581	9.998	38.44	38.53	1.148	1.143	NO	206.4	103	1.14	
34	13C-OCDF	2.10e5	1.42e5	36	0.90	NO	0.689	9.998	41.47	41.54	1.235	1.233	NO	428.5	107	0.685	
35	37Cl-2,3,7,8-TCDD	5.04e4	1.16e5	36			1.198	9.998	26.30	26.31	1.022	1.022	NO	72.81	91.0	0.128	
36	13C-1,2,3,4-TCDD	1.16e5	1.16e5	36	0.80	NO	1.000	9.998	25.70	25.74	1.000	1.000	NO	200.0	100	0.295	
37	13C-1,2,3,4-TCDF	1.84e5	1.84e5	37	0.82	NO	1.000	9.998	24.28	24.32	1.000	1.000	NO	200.0	100	0.315	
38	13C-1,2,3,4,6,8-HxCDF	1.42e5	1.42e5	36	0.50	NO	1.000	9.998	33.55	33.63	1.000	1.000	NO	200.0	100	0.721	
39	Total Tetra-Dioxine		1.24e5				0.901	9.998	25.50				NO			0.0927	
40	Total Penta-Dioxine		8.67e4				0.672	9.998	30.00				NO	0.1201		0.0716	0.2416
41	Total Hexa-Dioxine		0.00e0				0.978	9.998	33.80				NO	0.6955		0.190	0.6955

#	Name	Pred.RT	RT	Int Resp	Int Resp	Pred RA	RA	n/y	EMPC	Conc.
1	42 Total Hepta-Dioxine	37.75	37.15	2.905e2	3.427e2	1.040	0.85	YES	1.2483	0.00000
2	6 1,2,3,4,6,7,8-HpCDD	37.99	38.01	1.540e2	1.918e2	1.040	0.80	YES	0.66621	0.00000

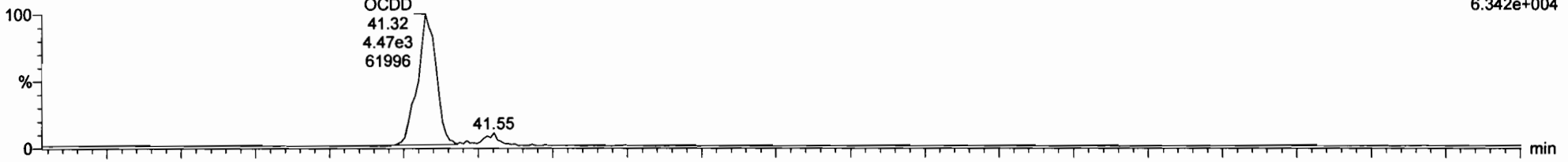


Ready 191023D2_4 CAP NUM

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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

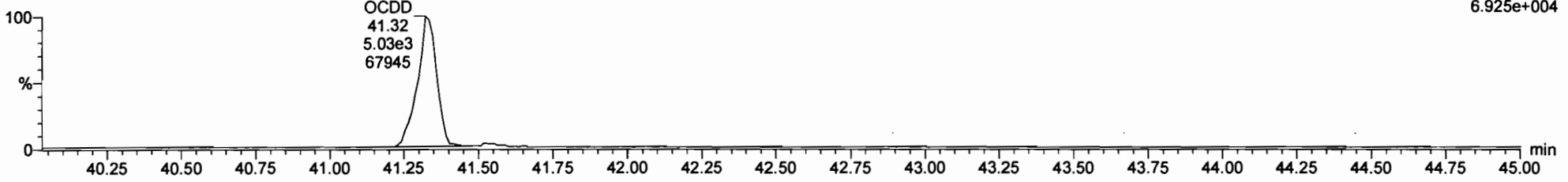
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191023D2_4
1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-01 PDI-013SC-A-10-11-190925

F5:SIR of 11 channels,EI+
457.738
6.342e+004



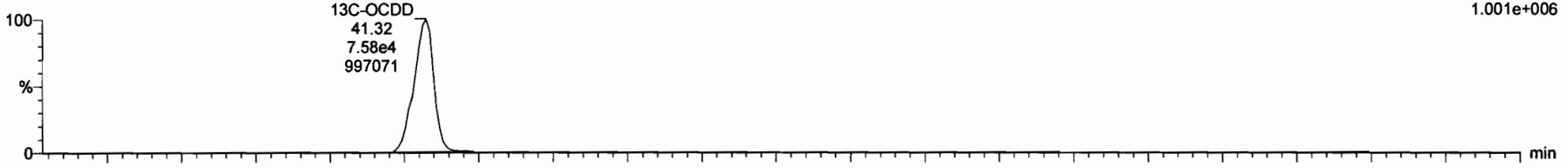
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F5:SIR of 11 channels,EI+
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6.925e+004



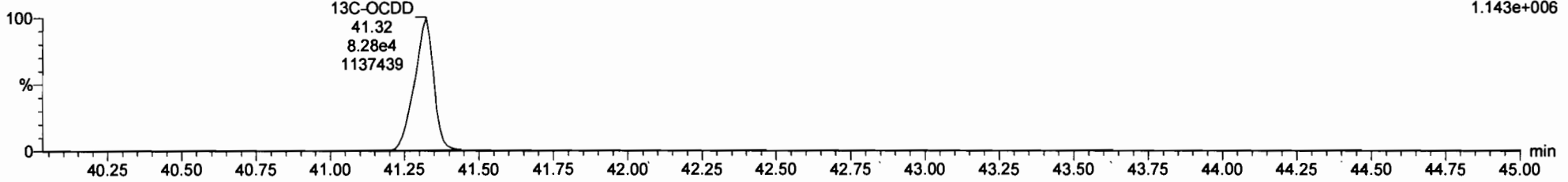
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F5:SIR of 11 channels,EI+
469.778
1.001e+006



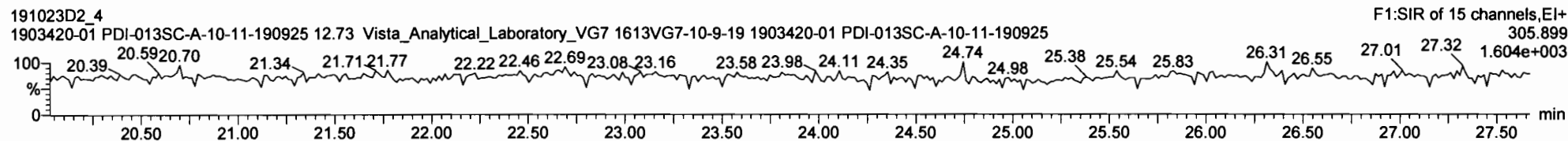
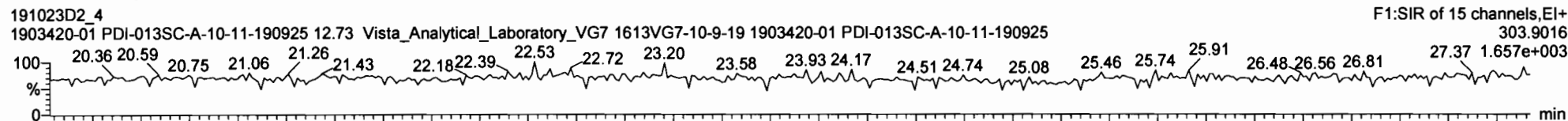
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F5:SIR of 11 channels,EI+
471.775
1.143e+006

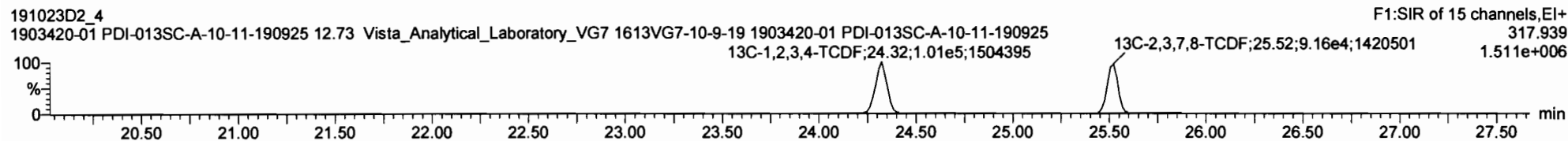
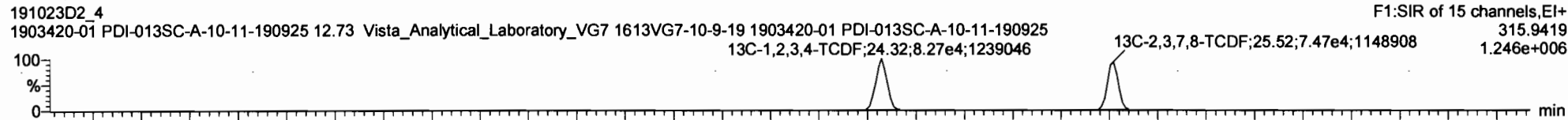


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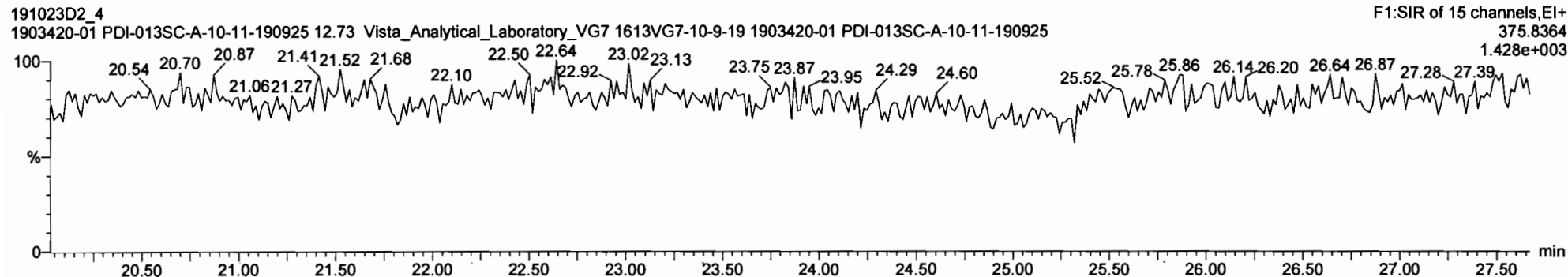
Total Tetra-Furans



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



DPE1



Vista Analytical Laboratory

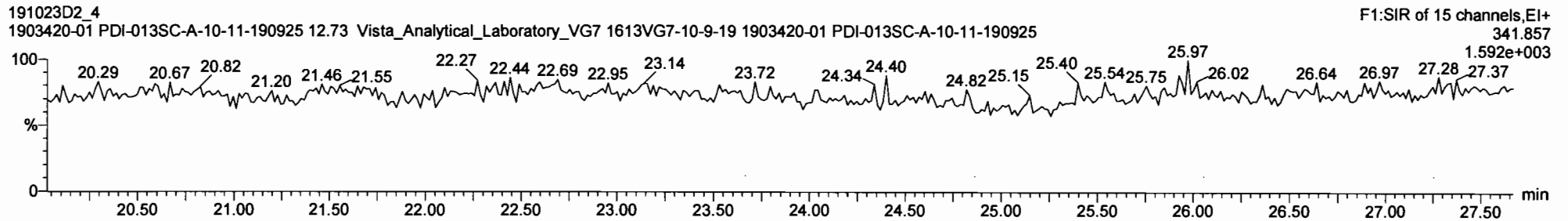
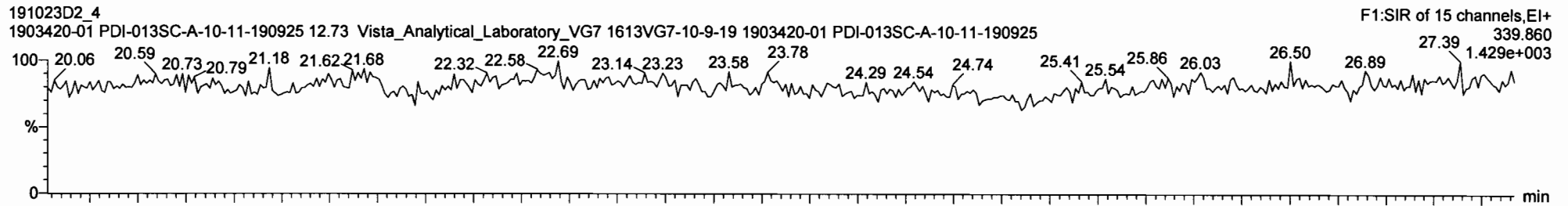
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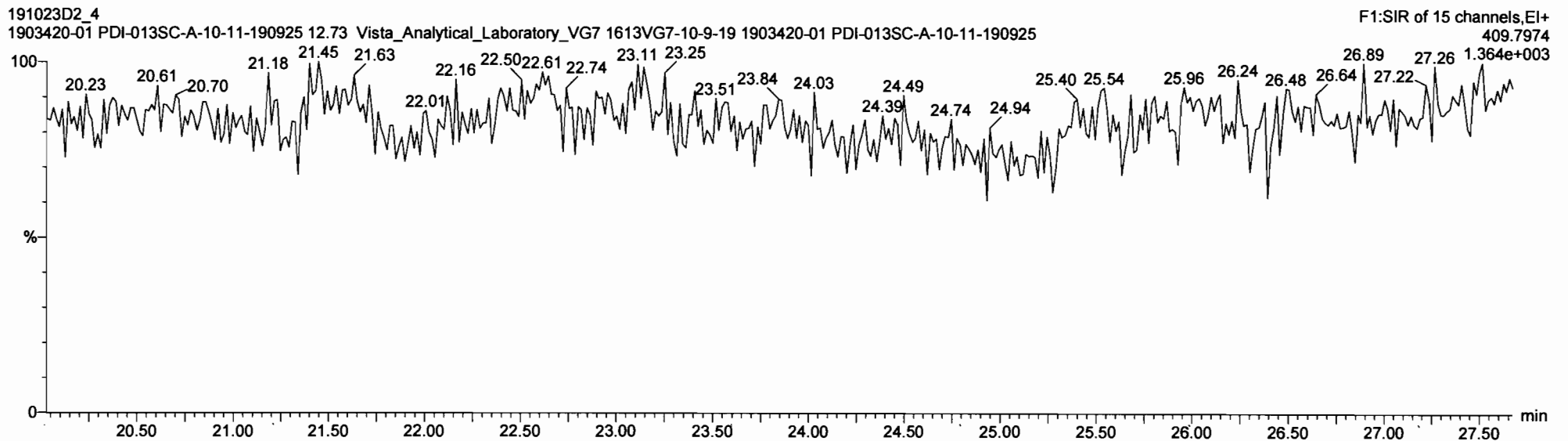
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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

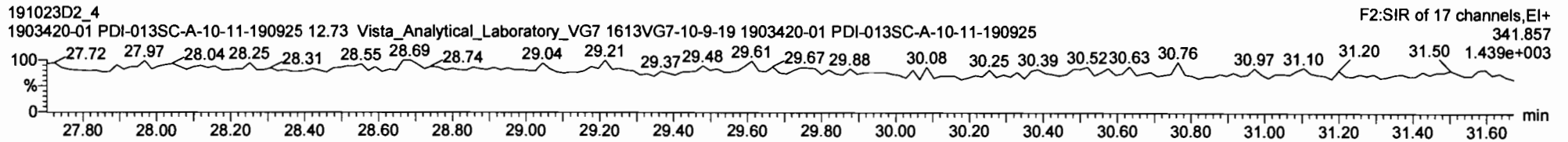
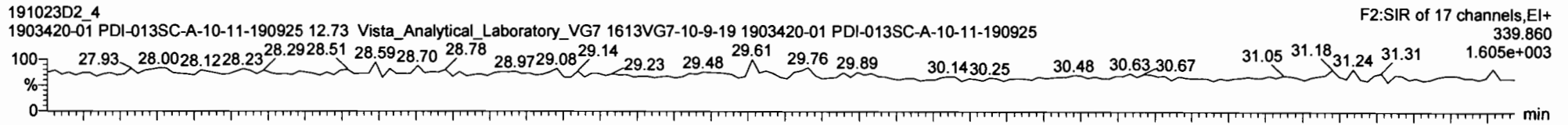


DPE6

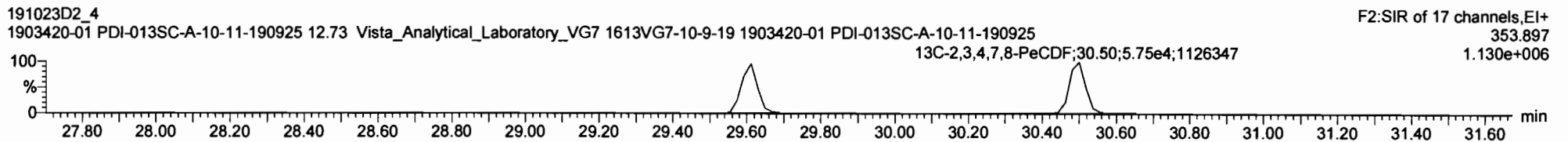
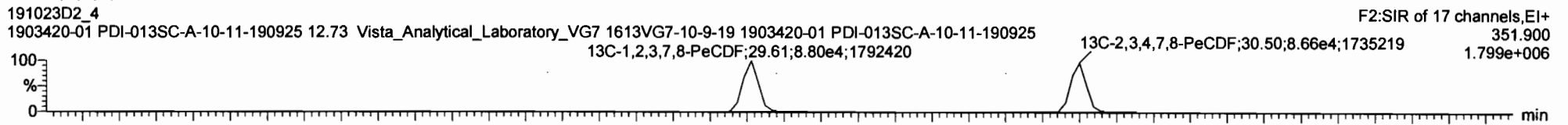


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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

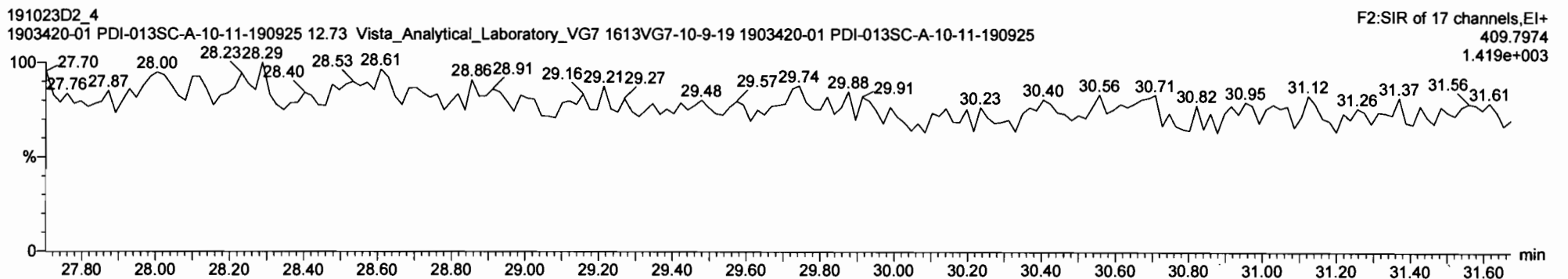
Total Penta-Furans



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



DPE2



Vista Analytical Laboratory

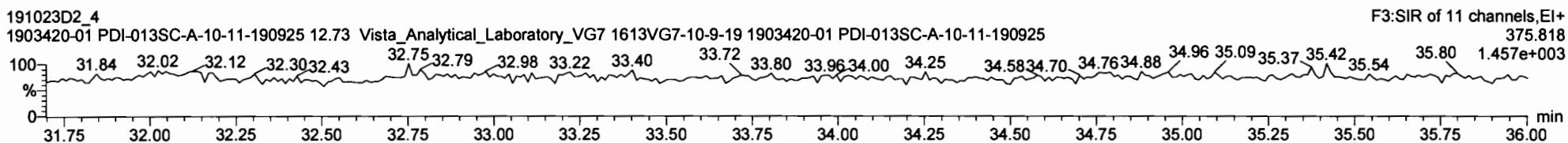
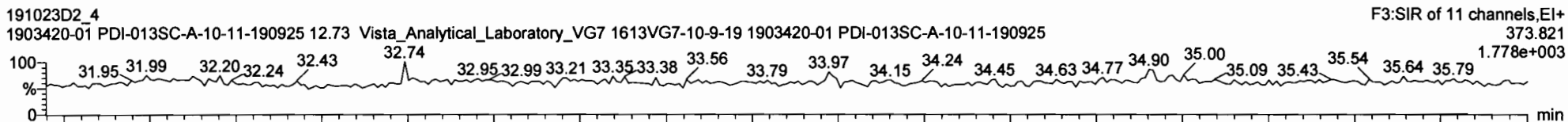
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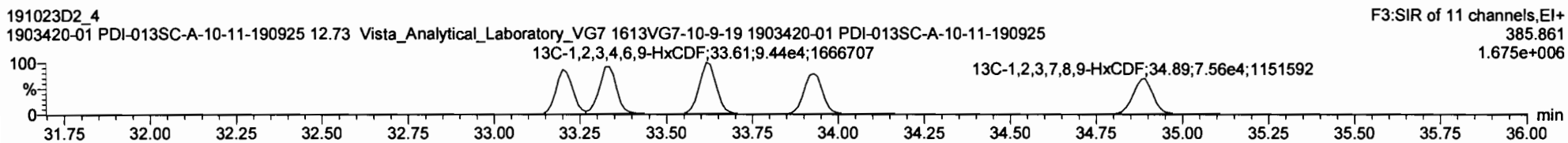
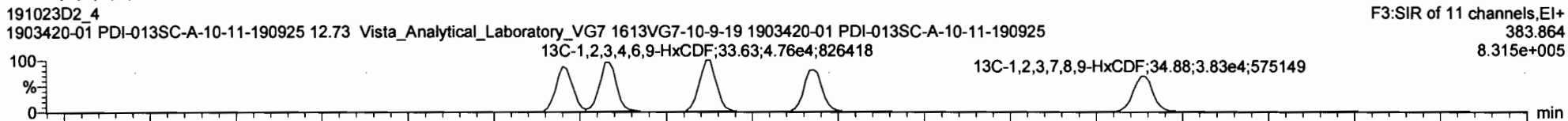
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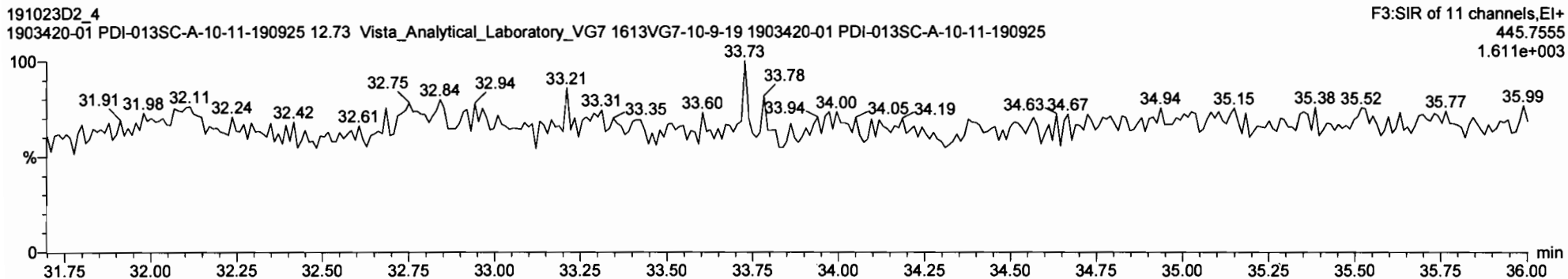
Total Hexa-Furans



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

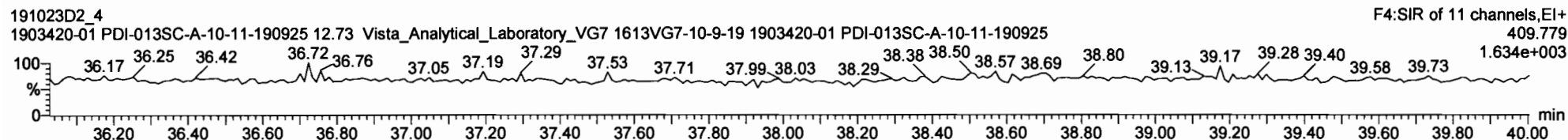
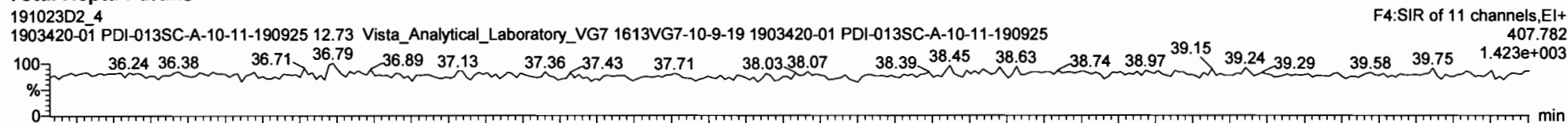


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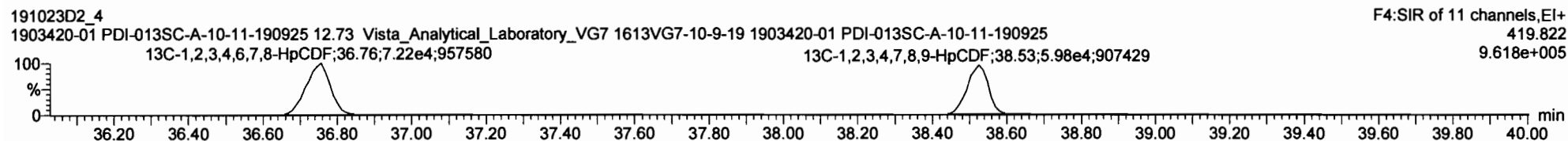
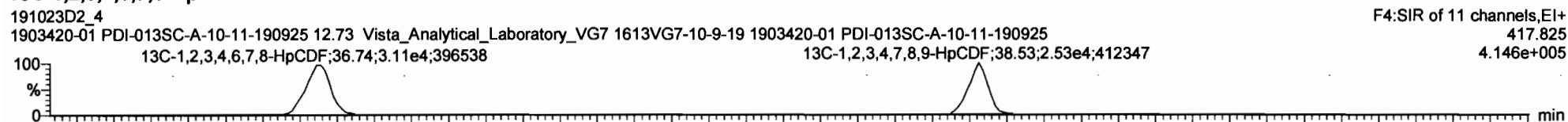


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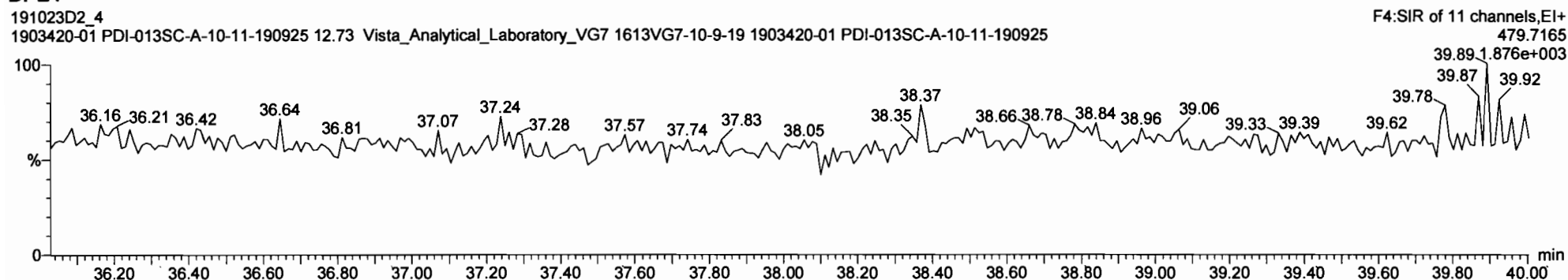
Total Hepta-Furans



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



DPE4



Vista Analytical Laboratory

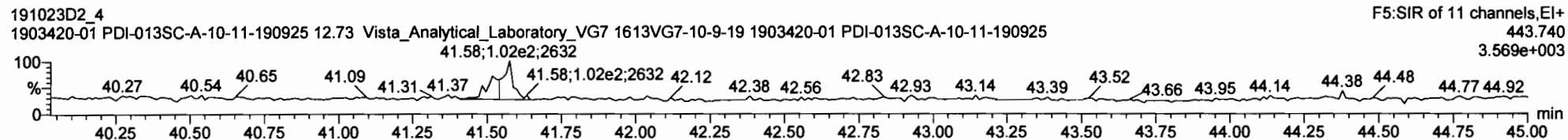
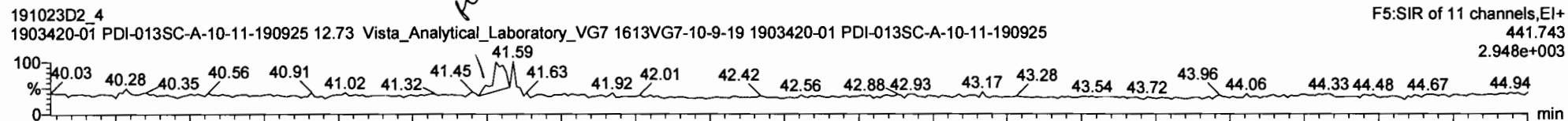
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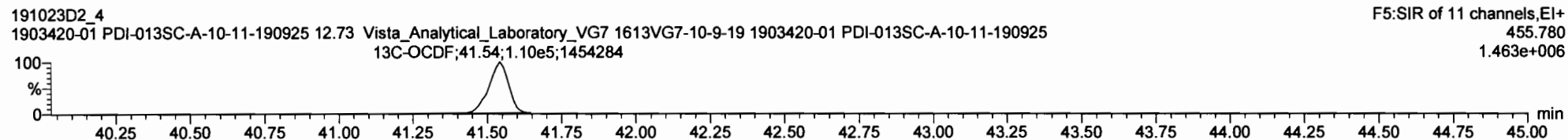
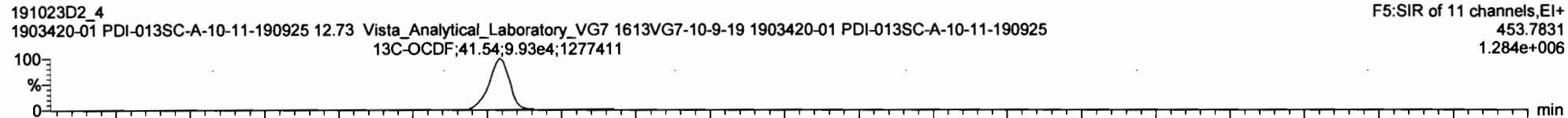
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Description: 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

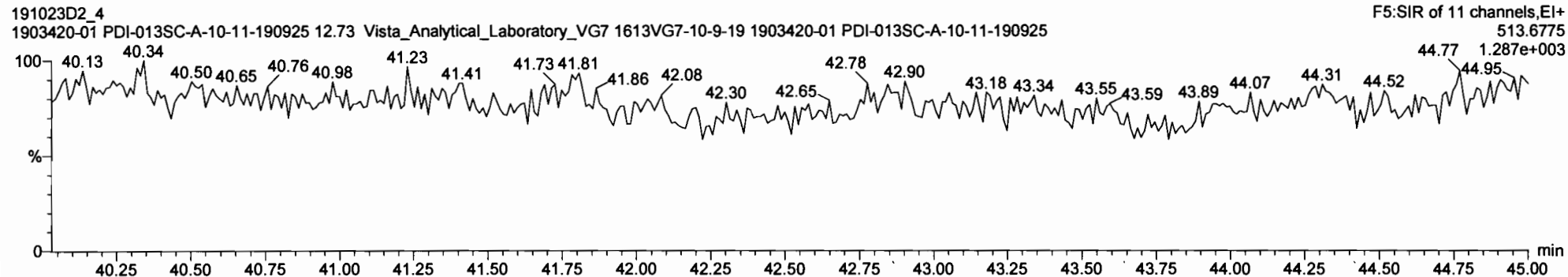
OCDF



13C-OCDF



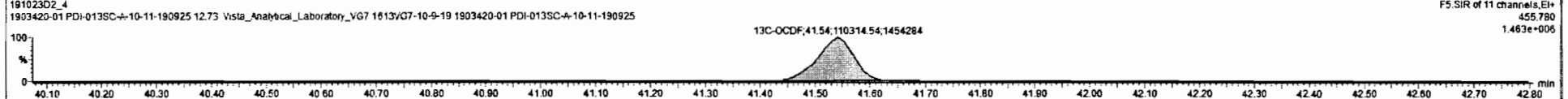
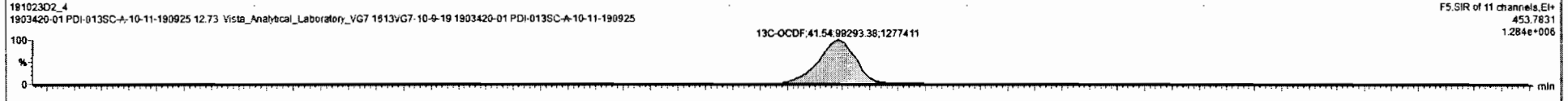
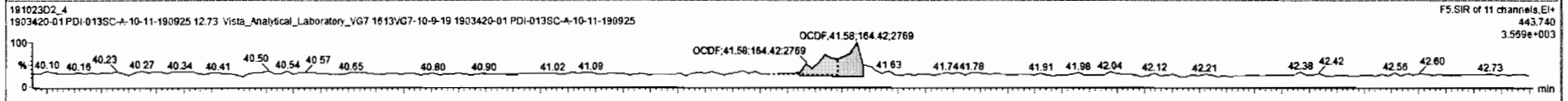
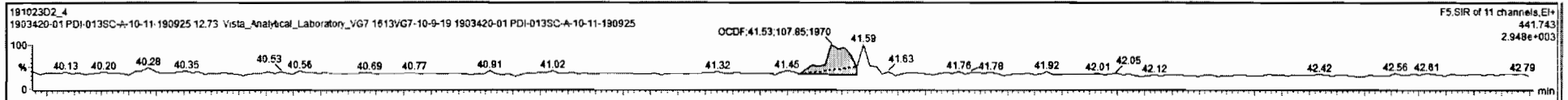
DPE5



Targetlynx.XS: 191023D2_4 1903420-01 PDI-013SC-A-10-11-190925 1903420-01 PDI-013SC-A-10-11-190925 12.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	S Resp	IS	RA	nly	RPF	WtVol	Prod.RT	RT	RRT	Prod.RRT	Check RRT	Conc.	%Rec	DL	EMPC
13	13-2,3,4,6,7,8-HxCDF		1.24e5	30			1.114	9.998	33.96			1.001	NO			0.0930	
14	14-1,2,3,7,8-HxCDF		1.14e5	31			1.062	9.998	34.86			1.000	NO			0.114	
15	15-1,2,3,4,6,7,8-HpCDF		1.03e5	32			1.128	9.998	36.78			1.001	NO			0.127	
16	16-1,2,3,4,7,8,9-HpCDF		8.52e4	33			1.280	9.998	38.53			1.000	NO			0.106	
17	17-OCDF	2.72e2	2.19e5	34	0.68	YES	0.947	9.998	41.54	41.53	1.096	1.000	NO	8.5487		0.178	0.4095
18	18-1,2,3,7,8-TCDD		1.24e5	36	0.76	NO	1.095	9.998	29.28	28.30	1.022	1.021	NO	195.6	97.6	0.299	
19	19-1,2,3,7,8-PeCDD		8.67e4	38	0.81	NO	0.881	9.998	30.54	30.78	1.196	1.187	NO	170.1	65.0	0.338	
20	20-1,2,3,4,7,8-HxCDD		8.78e4	38	1.27	NO	0.642	9.998	34.08	34.10	1.014	1.014	NO	192.5	96.2	0.509	
21	21-1,2,3,6,7,8-HxCDD		9.69e4	38	1.28	NO	0.856	9.998	34.21	34.21	1.017	1.017	NO	159.5	79.6	0.382	

#	Name	Prod.RT	RT	m1 Resp	m2 Resp	Prod.RA	RA	nly	EMPC	Conc.
1										



Ready 191023D2_4 CAP NUM

Vista Analytical Laboratory

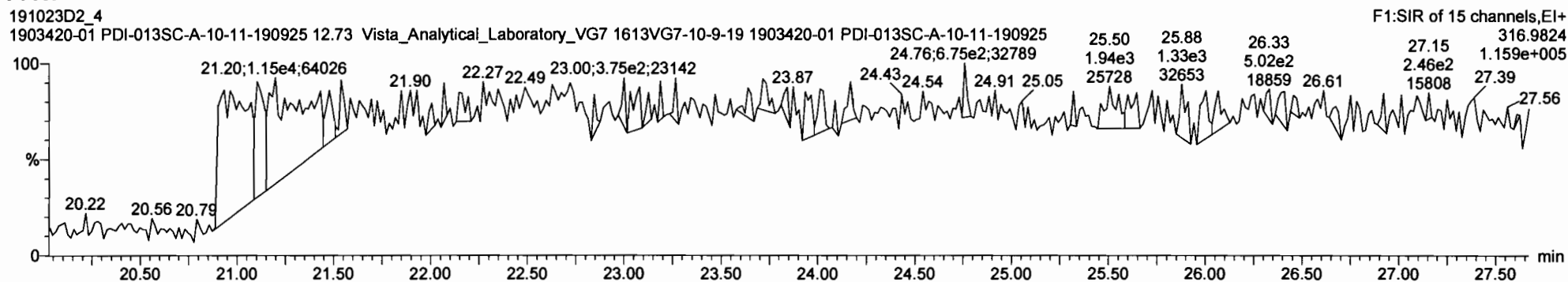
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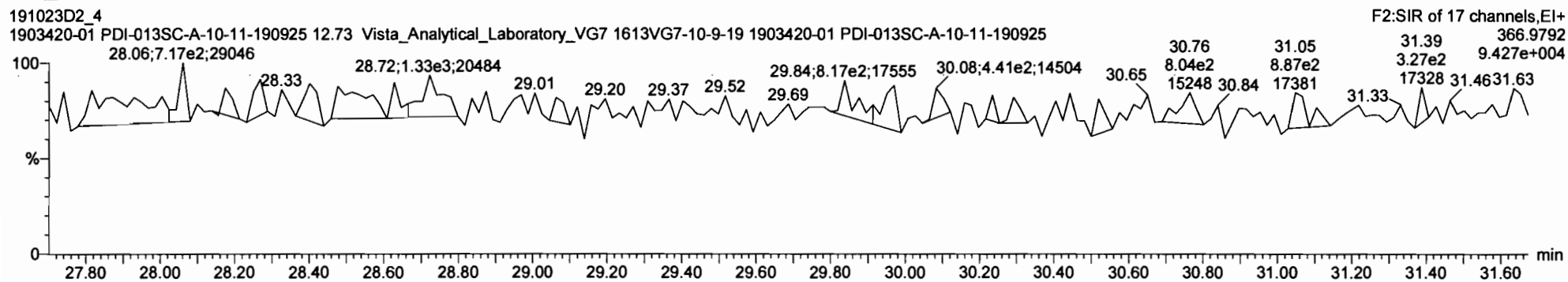
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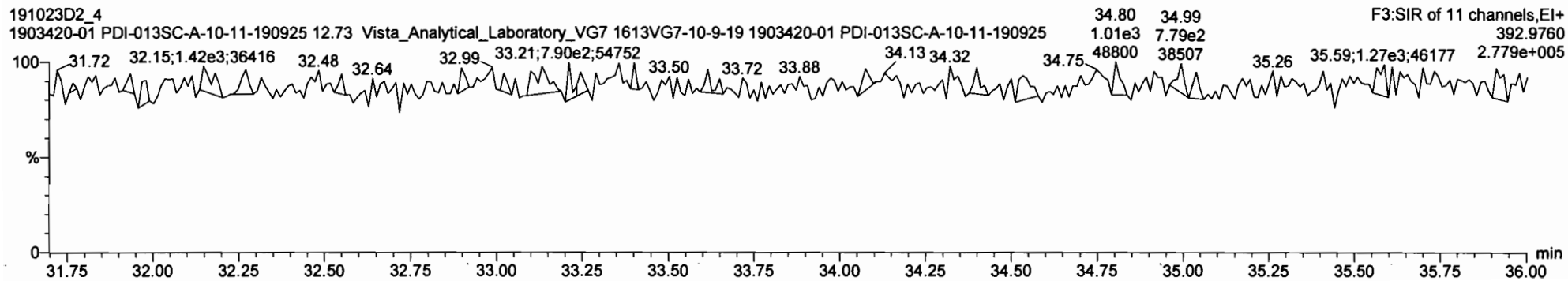
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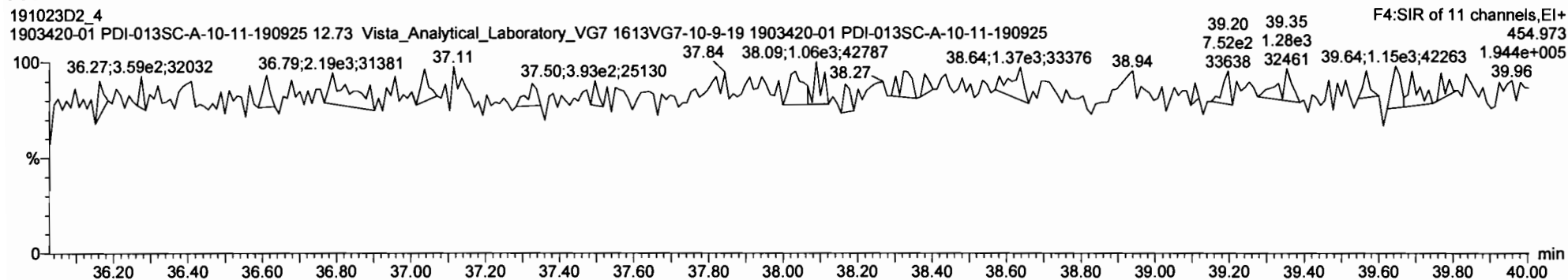


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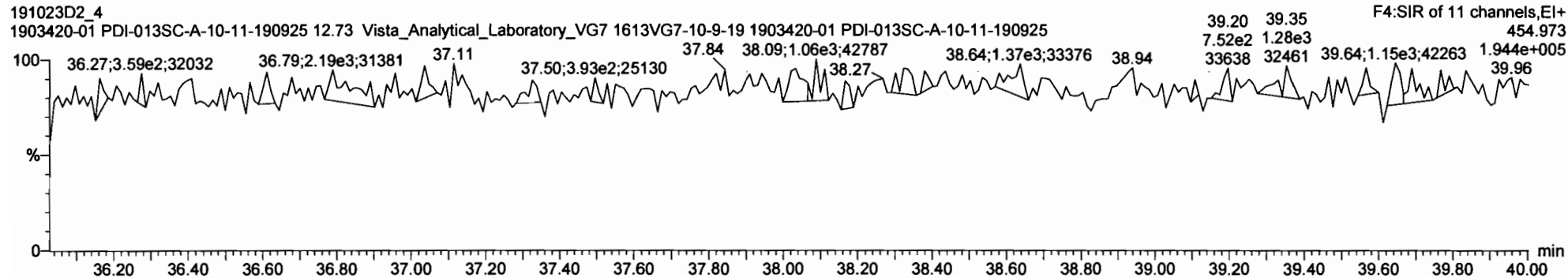


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PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-5.qld

Last Altered: Tuesday, November 05, 2019 13:37:20 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:38:41 Pacific Standard Time

HZ 11.5.19

C7 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:32:24

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 Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	8.63e4	10.0289	0.905			1.001		26.31					0.224
2	1,2,3,7,8-PeCDD	7.98e4	10.0289	0.903			1.001		30.80					0.201
3	1,2,3,4,7,8-HxCDD	7.69e4	10.0289	1.101			1.000		34.11					0.302
4	1,2,3,6,7,8-HxCDD	9.07e4	10.0289	0.939			1.000		34.22					0.317
5	1,2,3,7,8,9-HxCDD	9.59e4	10.0289	0.961			1.001		34.54					0.296
6	1,2,3,4,6,7,8-HpCDD	1.04e3	9.12e4	10.0289	0.979	1.120	NO	1.000	1.001	37.99	38.01	2.3259	2.33	0.190
7	OCDD	1.69e4	1.56e5	10.0289	0.959	0.919	NO	1.000	1.000	41.31	41.32	44.930	44.9	0.221
8	2,3,7,8-TCDF	1.13e5	10.0289	0.950			1.001		25.53					0.146
9	1,2,3,7,8-PeCDF	1.20e5	10.0289	0.960			1.001		29.63					0.116
10	2,3,4,7,8-PeCDF	1.13e5	10.0289	1.015			1.001		30.53					0.119
11	1,2,3,4,7,8-HxCDF	1.01e5	10.0289	1.177			1.000		33.20					0.0952
12	1,2,3,6,7,8-HxCDF	1.22e5	10.0289	1.069			1.000		33.34					0.0921
13	2,3,4,6,7,8-HxCDF	1.15e5	10.0289	1.114			1.001		33.96					0.0937
14	1,2,3,7,8,9-HxCDF	1.04e5	10.0289	1.062			1.000		34.89					0.125
15	1,2,3,4,6,7,8-HpCDF	9.68e4	10.0289	1.128			1.001		36.79					0.125
16	1,2,3,4,7,8,9-HpCDF	7.99e4	10.0289	1.280			1.000		38.53					0.103
17	OCDF	2.06e5	10.0289	0.947			1.000		41.54					0.140
18	13C-2,3,7,8-TCDD	8.63e4	1.08e5	10.0289	1.095	0.850	NO	1.021	1.021	26.28	26.28	145.66	73.0	0.449
19	13C-1,2,3,7,8-PeCDD	7.98e4	1.08e5	10.0289	0.881	0.629	NO	1.187	1.196	30.54	30.78	167.39	83.9	0.261
20	13C-1,2,3,4,7,8-Hx...	7.69e4	1.36e5	10.0289	0.642	1.257	NO	1.014	1.014	34.09	34.10	175.99	88.2	0.657
21	13C-1,2,3,6,7,8-Hx...	9.07e4	1.36e5	10.0289	0.856	1.249	NO	1.017	1.018	34.21	34.22	155.96	78.2	0.493
22	13C-1,2,3,7,8,9-Hx...	9.59e4	1.36e5	10.0289	0.807	1.252	NO	1.026	1.026	34.51	34.51	174.89	87.7	0.523
23	13C-1,2,3,4,6,7,8-H...	9.12e4	1.36e5	10.0289	0.654	0.995	NO	1.126	1.130	37.86	37.98	205.00	102.8	0.784
24	13C-OCDD	1.56e5	1.36e5	10.0289	0.580	0.897	NO	1.226	1.229	41.22	41.31	396.72	99.5	0.555
25	13C-2,3,7,8-TCDF	1.13e5	1.81e5	10.0289	1.035	0.804	NO	0.993	0.991	25.57	25.50	120.95	60.7	0.462
26	13C-1,2,3,7,8-PeCDF	1.20e5	1.81e5	10.0289	0.854	1.587	NO	1.143	1.150	29.42	29.61	154.60	77.5	0.502
27	13C-2,3,4,7,8-PeCDF	1.13e5	1.81e5	10.0289	0.847	1.632	NO	1.176	1.185	30.28	30.50	147.71	74.1	0.506
28	13C-1,2,3,4,7,8-Hx...	1.01e5	1.36e5	10.0289	0.832	0.503	NO	0.987	0.987	33.19	33.20	179.43	90.0	0.876
29	13C-1,2,3,6,7,8-Hx...	1.22e5	1.36e5	10.0289	1.034	0.503	NO	0.991	0.991	33.31	33.33	172.74	86.6	0.704
30	13C-2,3,4,6,7,8-Hx...	1.15e5	1.36e5	10.0289	0.953	0.523	NO	1.009	1.009	33.93	33.92	176.90	88.7	0.764
31	13C-1,2,3,7,8,9-Hx...	1.04e5	1.36e5	10.0289	0.828	0.514	NO	1.039	1.038	34.92	34.89	184.94	92.7	0.880

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-5.qld

Last Altered: Tuesday, November 05, 2019 13:37:20 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:38:41 Pacific Standard Time

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 Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	9.68e4	1.36e5	10.0289	0.757	0.426	NO	1.093	1.093	36.74	36.75	187.85	94.2	0.750
33	13C-1,2,3,4,7,8,9-H...	7.99e4	1.36e5	10.0289	0.581	0.436	NO	1.143	1.146	38.43	38.53	202.03	101.3	0.978
34	13C-OCDF	2.06e5	1.36e5	10.0289	0.689	0.909	NO	1.233	1.235	41.46	41.54	439.20	110.1	0.531
35	37Cl-2,3,7,8-TCDD	3.54e4	1.08e5	10.0289	1.198			1.022	1.022	26.30	26.31	54.705	68.6	0.0921
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	10.0289	1.000	0.794	NO	1.000	1.000	25.70	25.74	199.42	100.0	0.492
37	13C-1,2,3,4-TCDF	1.81e5	1.81e5	10.0289	1.000	0.796	NO	1.000	1.000	24.28	24.31	199.42	100.0	0.478
38	13C-1,2,3,4,6,9-Hx...	1.36e5	1.36e5	10.0289	1.000	0.518	NO	1.000	1.000	33.55	33.62	199.42	100.0	0.728
39	Total Tetra-Dioxins		8.63e4	10.0289	0.901			0.000		25.50		1.0564	1.06	0.225
40	Total Penta-Dioxins		7.98e4	10.0289	0.872			0.000		30.00		0.54291	0.680	0.208
41	Total Hexa-Dioxins		0.00e0	10.0289	0.976			0.000		33.80		3.6487	3.65	0.311
42	Total Hepta-Dioxins		9.12e4	10.0289	0.989			0.000		37.75		8.2007	8.20	0.188
43	Total Tetra-Furans		1.13e5	10.0289	0.943			0.000		24.00				0.0784 0.146
44	1st Func. Penta-Fur...		0.00e0	10.0289	0.940			0.000		27.63				0.0426 } 0.119
45	Total Penta-Furans		0.00e0	10.0289	0.940			0.000		30.00				0.0571 } 0.125
46	Total Hexa-Furans		0.00e0	10.0289	1.078			0.000		33.00				0.0508 } 0.125
47	Total Hepta-Furans		0.00e0	10.0289	1.135			0.000		37.75				0.0011 } 0.125

Quantify Totals Report MassLynx MassLynx V4.1 SCN 945

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-5.qld

Last Altered: Tuesday, November 05, 2019 13:37:20 Pacific Standard Time

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Calibration: 05 Nov 2019 13:32:24

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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

	39	Total Tetra-Dioxins	NO	24.46	157.027	39630.738	7.808	MM	0.8642	0.86
	39	Total Tetra-Dioxins	NO	25.69	33.134	39630.738	1.736	MM	0.1922	0.19

Penta-Dioxins

	40	Total Penta-Dioxins	NO	29.19	75.210	30806.436	4.749	bb	0.5429	0.54
	40	Total Penta-Dioxins	YES	28.78	29.892	30806.436	0.000	MM	0.0000	0.14

Hexa-Dioxins

	41	Total Hexa-Dioxins	NO	33.41	191.180	48843.479	8.076	MM	0.8251	0.83
	41	Total Hexa-Dioxins	NO	32.57	646.138	48843.479	27.635	bb	2.8236	2.82

Hepta-Dioxins

	6	1,2,3,4,6,7,8-HpCDD	NO	38.01	550.247	45459.848	22.845	bb	2.3259	2.33
	42	Total Hepta-Dioxins	NO	37.14	1349.664	45459.848	58.252	bb	5.8748	5.87

Tetra-Furans

Penta-Furans function 1

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-5.qld

Last Altered: Tuesday, November 05, 2019 13:37:20 Pacific Standard Time

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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans



Hexa-Furans

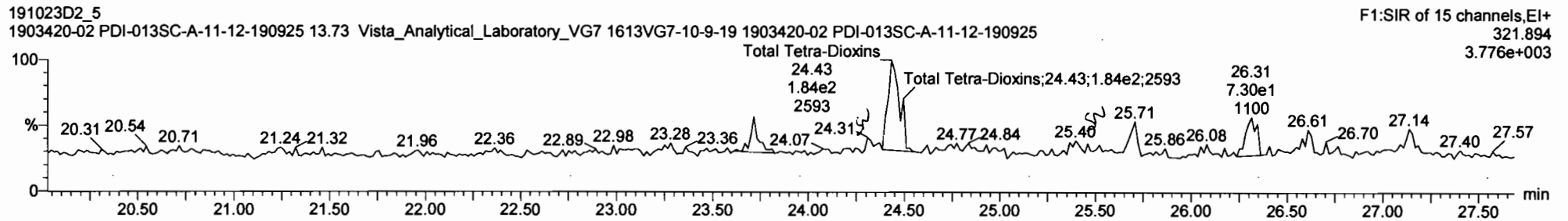
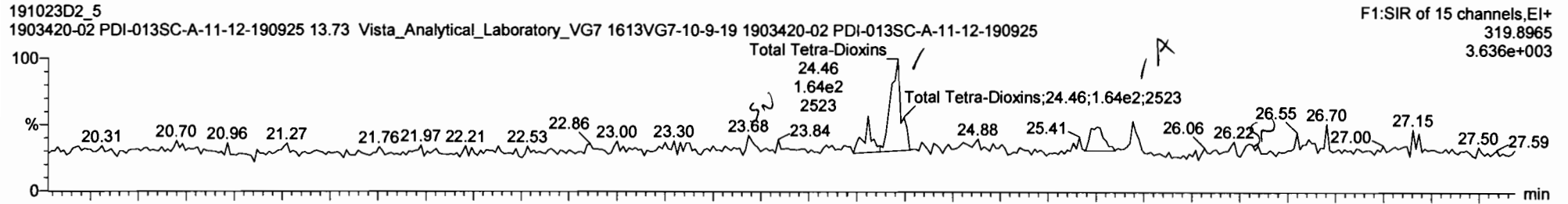


Hepta-Furans

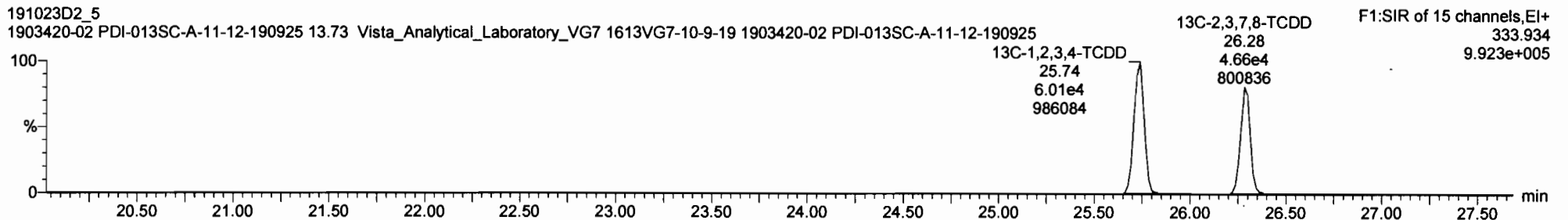
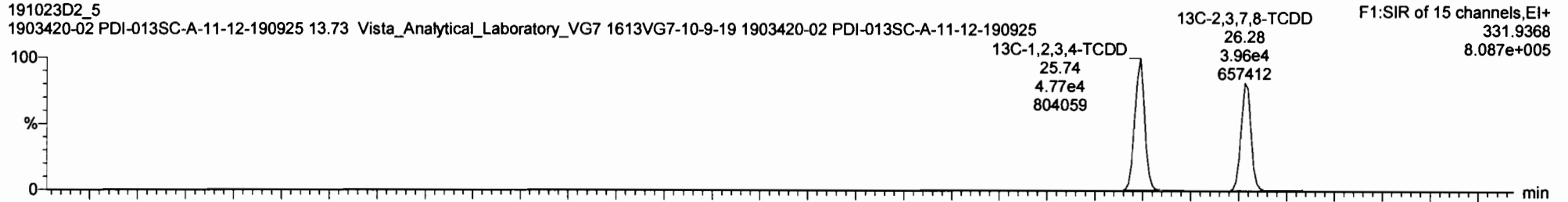


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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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

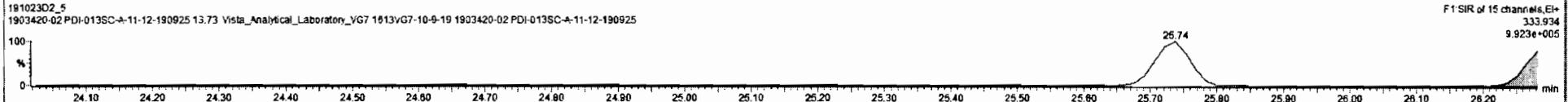
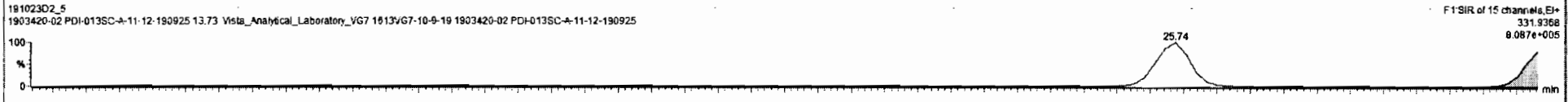
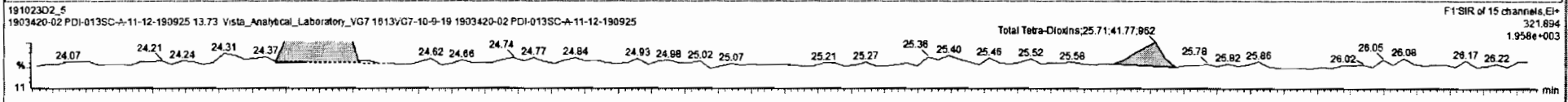
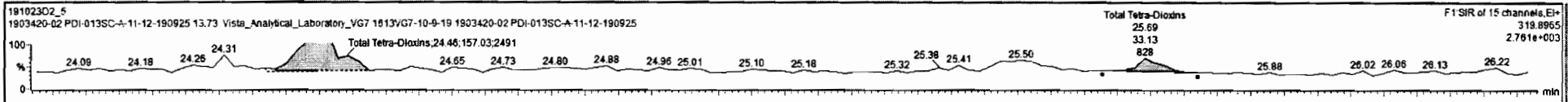




191023D2_5 1903420-02 PDI-013SC-A-11-12-190925 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	ny	RRF	wt/Vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	9.68e4	1.36e5	38	0.43	NO	0.757	10.029	36.74	36.75	1.093	1.093	NO	187.8	94.2	0.750	
33	13C-1,2,3,4,7,8,9-HpCDF	7.99e4	1.36e5	38	0.44	NO	0.581	10.029	38.43	38.53	1.146	1.143	NO	202.0	101	0.978	
34	13C-OCDF	2.06e5	1.36e5	38	0.91	NO	0.689	10.029	41.46	41.54	1.235	1.233	NO	438.2	110	0.531	
35	37Cl-2,3,7,8-TCDD	3.54e4	1.06e5	36			1.198	10.029	28.30	28.31	1.022	1.022	NO	54.71	68.6	0.0921	
36	13C-1,2,3,4-TCDD	1.09e5	1.06e5	36	0.79	NO	1.000	10.029	25.70	25.74	1.000	1.000	NO	199.4	100	0.492	
37	13C-1,2,3,4-TCDF	1.81e5	1.81e5	37	0.80	NO	1.000	10.029	24.28	24.31	1.000	1.000	NO	199.4	100	0.478	
38	13C-1,2,3,4,6,9-HxCDF	1.36e5	1.36e5	38	0.52	NO	1.000	10.029	33.55	33.62	1.000	1.000	NO	199.4	100	0.728	
39	Total Tetra-Dioxins		8.80e5				8.991	10.029	25.50			0.000	NO	1.056	9.225	1.056	
40	Total Penta-Dioxins		7.96e4				8.872	10.029	30.00			0.000	NO	0.5429	0.298	0.5429	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	ny	EMPC	Conc.
1	39 Total Tetra-Dioxins	25.50	24.46	1.579e2	1.798e2	0.770	0.87	NO	0.86418	0.86418
2	38 Total Tetra-Dioxins	25.50	25.68	3.313e1	4.177e1	0.770	0.79	NO	0.18218	0.18218



Ready 191023D2_5 CAP NUM

Vista Analytical Laboratory

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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

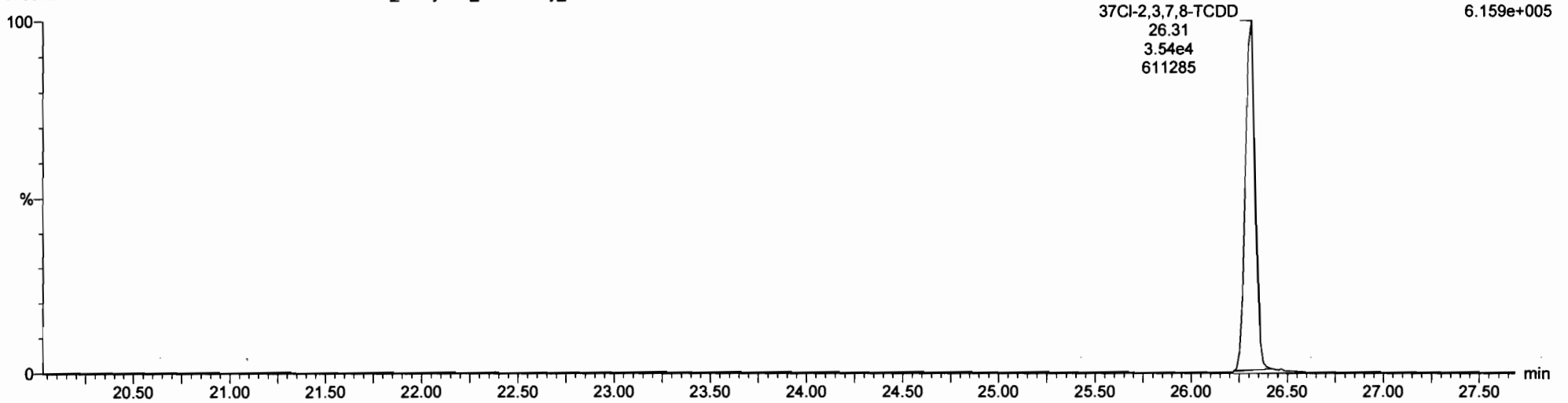
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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

191023D2_5
1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-02 PDI-013SC-A-11-12-190925

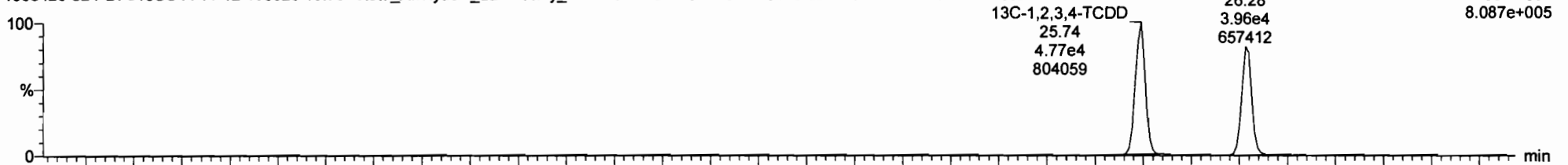
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6.159e+005



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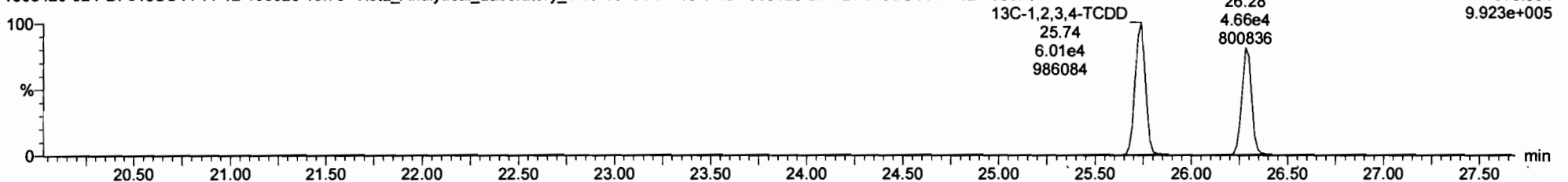
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F1:SIR of 15 channels, EI+
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8.087e+005



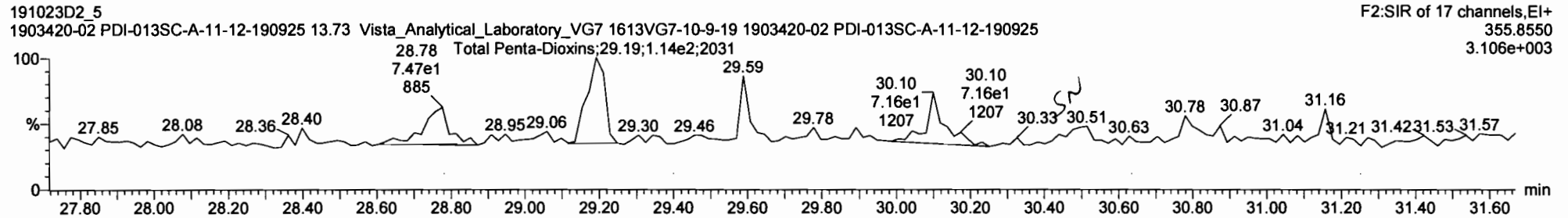
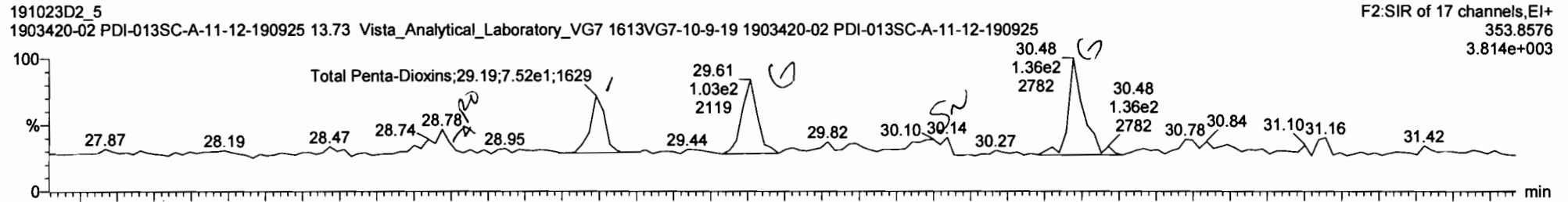
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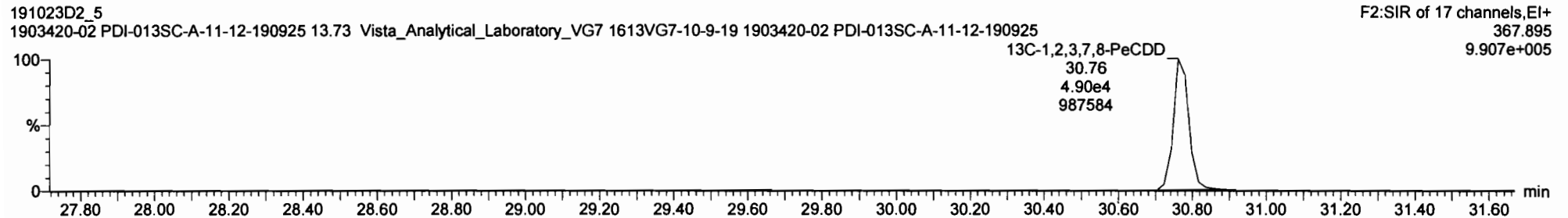
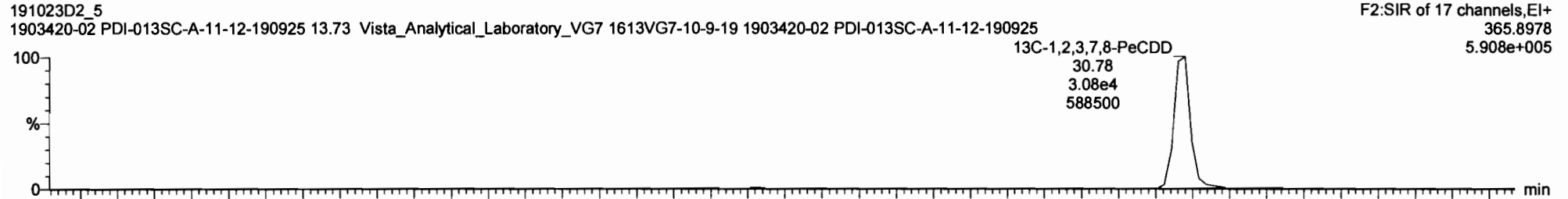


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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins



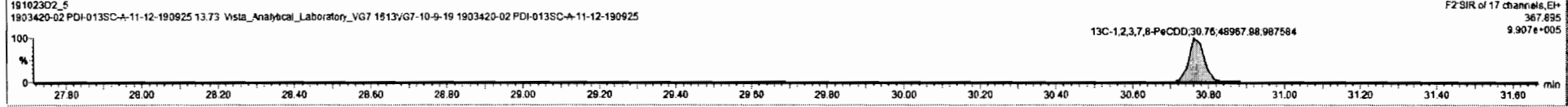
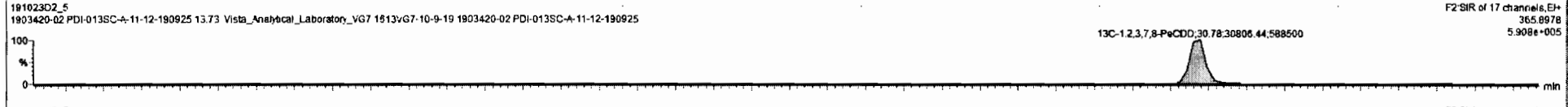
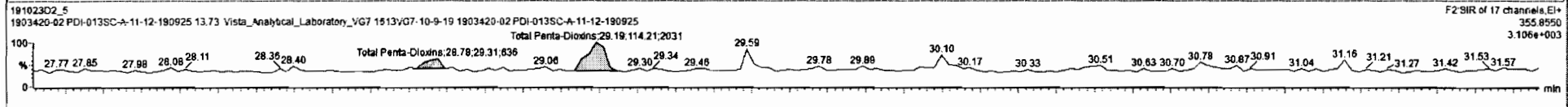
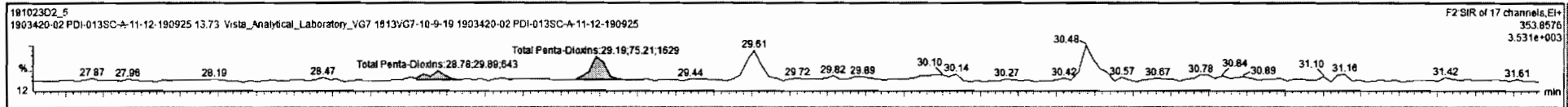
13C-1,2,3,7,8-PeCDD



191023D2_5 - 1903420-02 PDI-013SC-A-11-12-190925 - 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS	RA	nly	RRF	wt/vol	Pred_RT	RT	RRT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	9.68e4	1.36e5	38	0.43	NO	0.757	10.029	36.74	36.75	1.093	1.093	NO	187.8	94.2	0.750	
33	13C-1,2,3,4,7,8,9-HpCDF	7.95e4	1.36e5	38	0.44	NO	0.581	10.029	38.43	38.53	1.146	1.143	NO	202.0	101	0.978	
34	13C-OCDF	2.06e5	1.36e5	38	0.91	NO	0.689	10.029	41.46	41.54	1.235	1.233	NO	439.2	110	0.531	
35	37Cl-2,3,7,8-TCDD	3.54e4	1.08e5	36			1.198	10.029	26.30	26.31	1.022	1.022	NO	54.71	68.6	0.0921	
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	36	0.79	NO	1.000	10.029	25.70	25.74	1.000	1.000	NO	199.4	100	0.492	
37	13C-1,2,3,4-TCDF	1.81e5	1.81e5	37	0.80	NO	1.000	10.029	24.28	24.31	1.000	1.000	NO	198.4	100	0.478	
38	13C-1,2,3,4,6,9-HxCDF	1.36e5	1.36e5	38	0.52	NO	1.000	10.029	33.55	33.62	1.000	1.000	NO	199.4	100	0.728	
39	Total Tetra-Dioxins	8.63e4					0.901	10.029	25.50			0.000	NO	1.056		0.225	1.056
40	Total Penta-Dioxins	7.96e4					0.472	10.029	30.60			0.606	NO	8.5429		0.206	8.6796

#	Name	Pred_RT	RT	m1 Resp	m2 Resp	Pred_RA	RA	nly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.78	2.989e1	2.831e1	0.630	1.02	YES	0.13691	0.90900
2	40 Total Penta-Dioxins	30.00	29.19	7.521e1	1.142e2	0.630	0.66	NO	0.54291	0.54291



Ready 191023D2_5 CAP NUM

Vista Analytical Laboratory

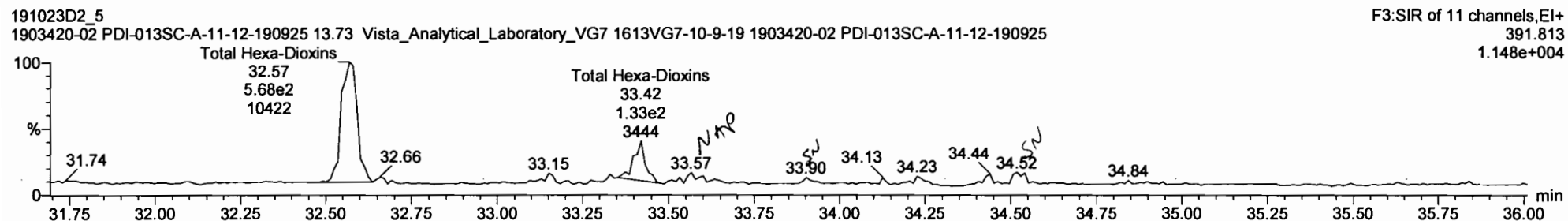
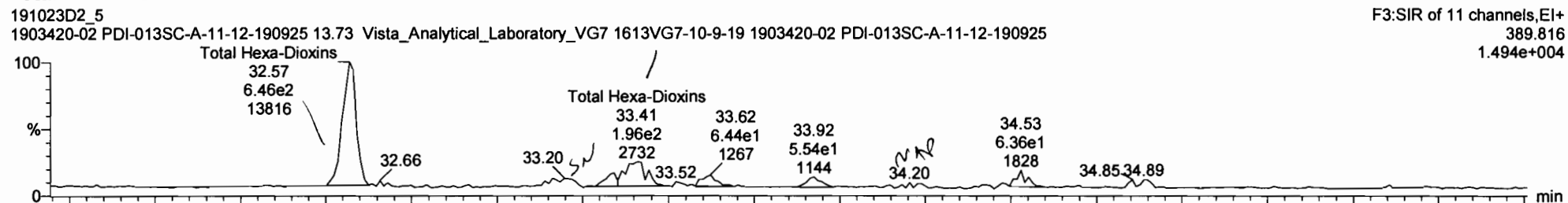
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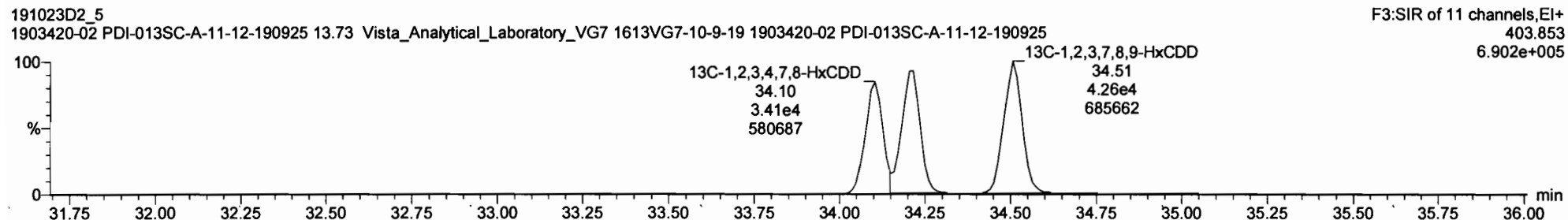
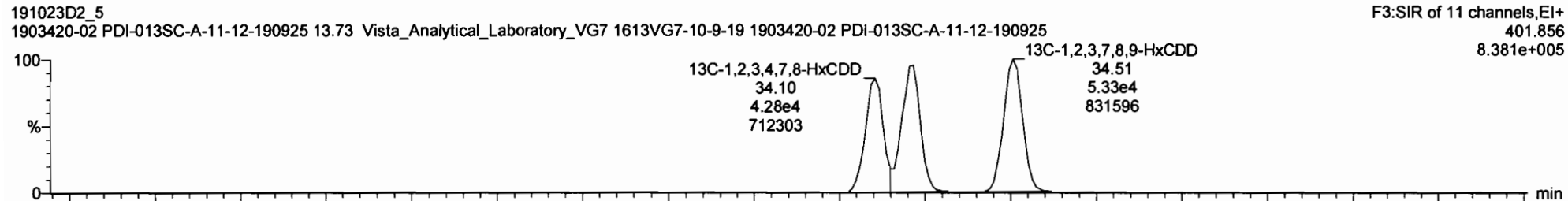
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Total Hexa-Dioxins



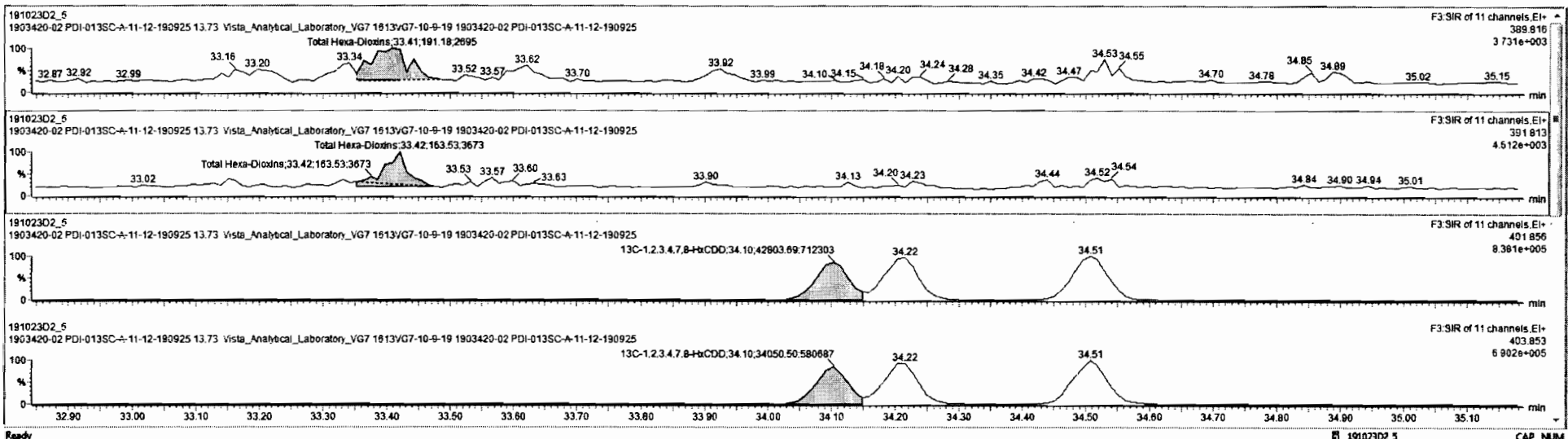
13C-1,2,3,4,7,8-HxCDD



191023D2_5 - 1903420_02 PDI-013SC-A-11-12-190925 - 1903420_02 PDI-013SC-A-11-12-190925 13.73 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

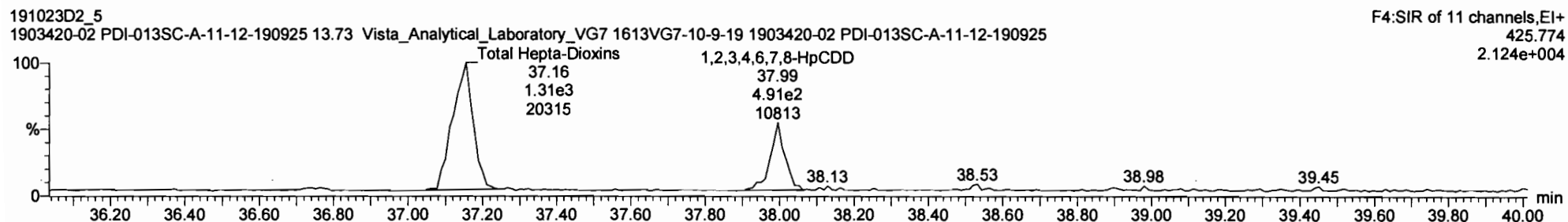
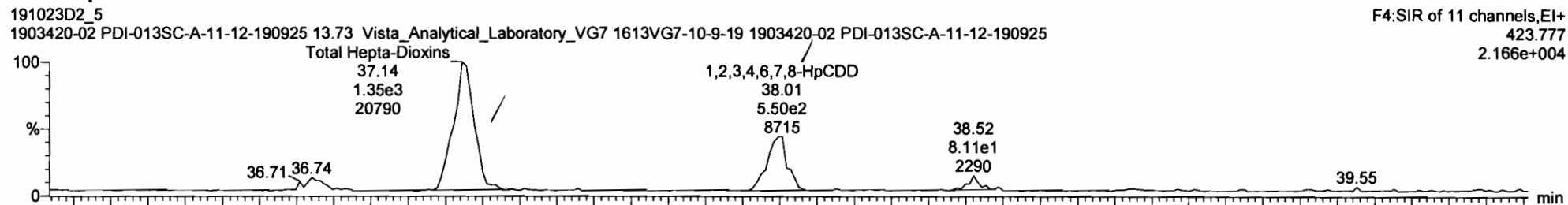
#	Name	Resp	IS Resp	IS#	RA	inj	RRF	injVol	Pred_RT	RT	RRT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	9.68e4	1.36e5	38	0.43	NO	0.757	10.029	36.74	36.75	1.093	1.093	NO	187.8	94.2	0.750	
33	13C-1,2,3,4,7,8,9-HpCDF	7.99e4	1.36e5	38	0.44	NO	0.581	10.029	38.43	38.53	1.146	1.143	NO	202.0	101	0.978	
34	13C-OCDF	2.06e5	1.36e5	38	0.91	NO	0.669	10.029	41.46	41.54	1.235	1.233	NO	438.2	110	0.531	
35	37Cl-2,3,7,8-TCDD	3.54e4	1.08e5	36			1.198	10.029	26.30	26.31	1.022	1.022	NO	54.71	68.6	0.0921	
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	36	0.79	NO	1.000	10.029	25.70	25.74	1.000	1.000	NO	199.4	100	0.492	
37	13C-1,2,3,4-TCDF	1.81e5	1.81e5	37	0.80	NO	1.000	10.029	24.28	24.31	1.000	1.000	NO	199.4	100	0.478	
38	13C-1,2,3,4,6,8-HxCDF	1.36e5	1.36e5	38	0.52	NO	1.000	10.029	33.55	33.62	1.000	1.000	NO	199.4	100	0.728	
39	Total Tetra-Dioxins	8.63e4					0.901	10.029	25.56				NO	1.056		0.225	1.056
40	Total Penta-Dioxins	7.98e4					0.872	10.029	30.00				NO	0.5420		0.208	0.6798

#	Name	Pred_RT	RT	m1 Resp	m2 Resp	Pred_RA	RA	inj	EMPC	Conc.
41	Total Hexa-Dioxins	33.80	32.57	8.481e2	5.677e2	1.240	1.14	NO	2.8236	2.8226
2	41 Total Hexa-Dioxins	33.80	33.41	1.912e2	1.635e2	1.240	1.17	NO	0.82514	0.82514

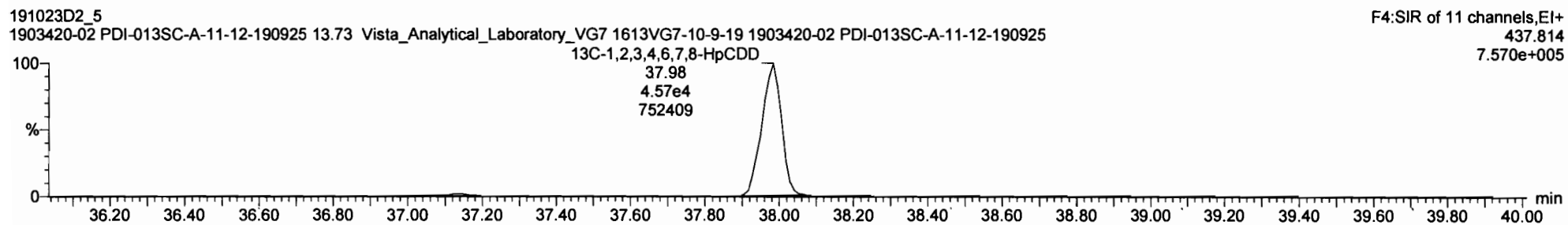
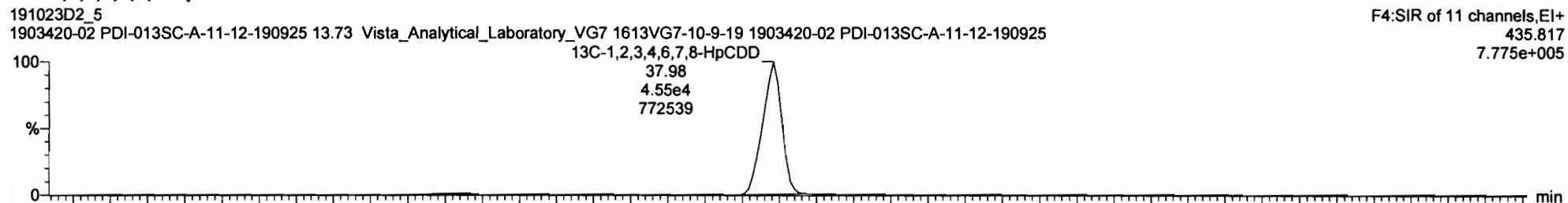


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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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



Vista Analytical Laboratory

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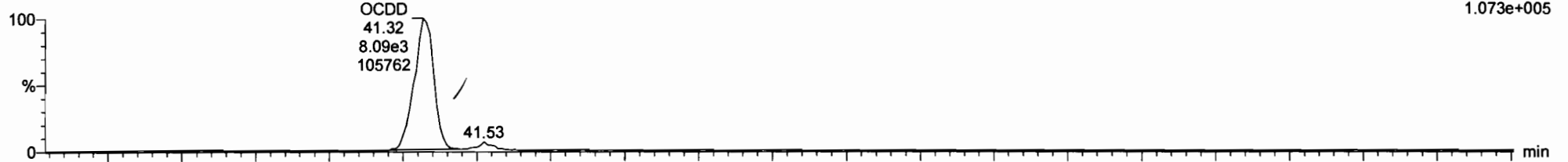
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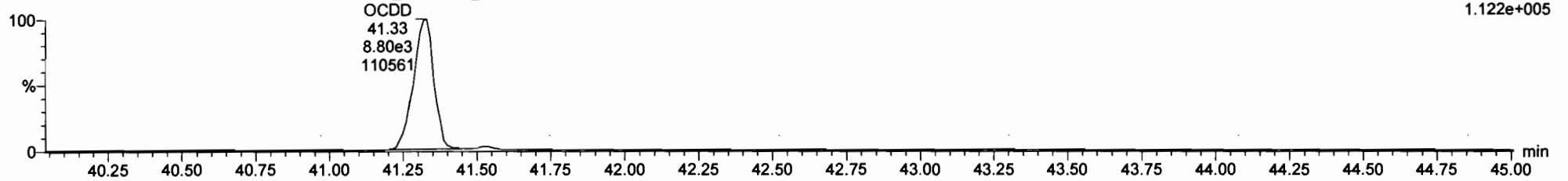
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F5:SIR of 11 channels,EI+
457.738
1.073e+005



191023D2_5
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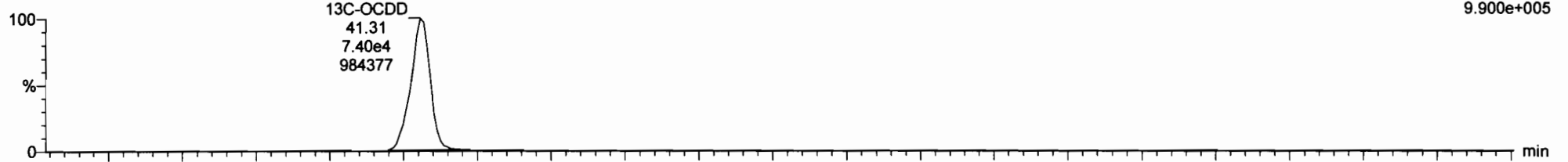
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13C-OCDD

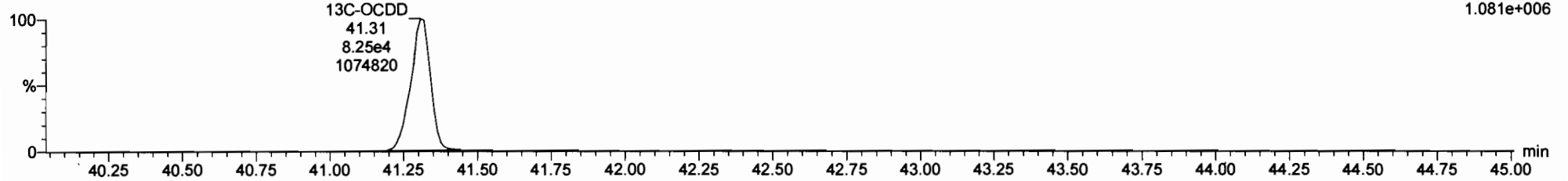
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F5:SIR of 11 channels,EI+
469.778
9.900e+005



191023D2_5
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F5:SIR of 11 channels,EI+
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Vista Analytical Laboratory

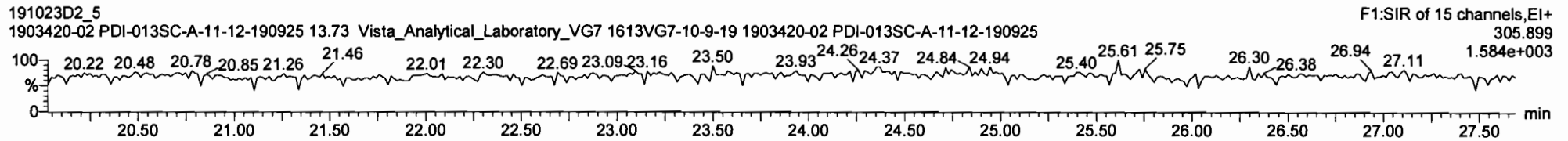
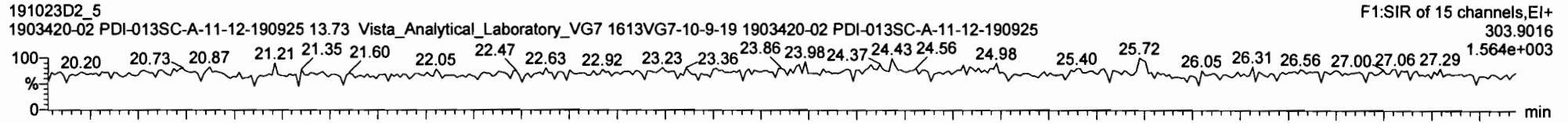
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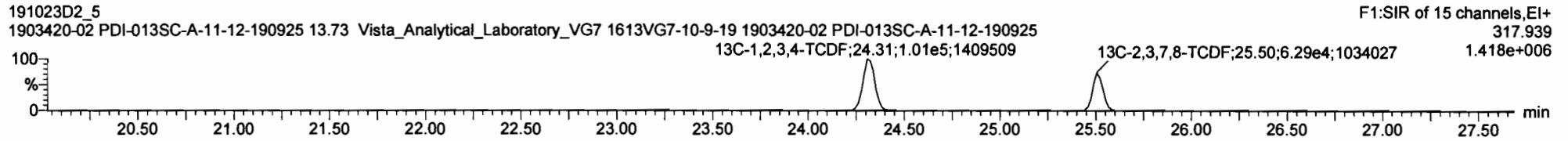
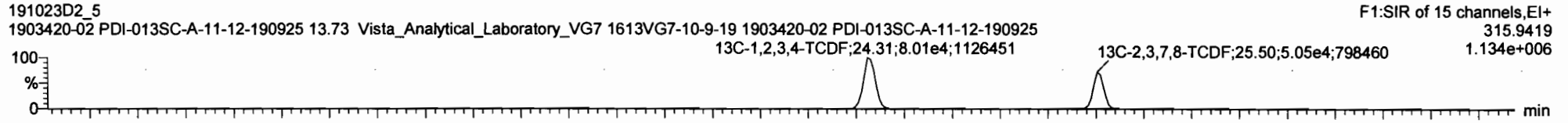
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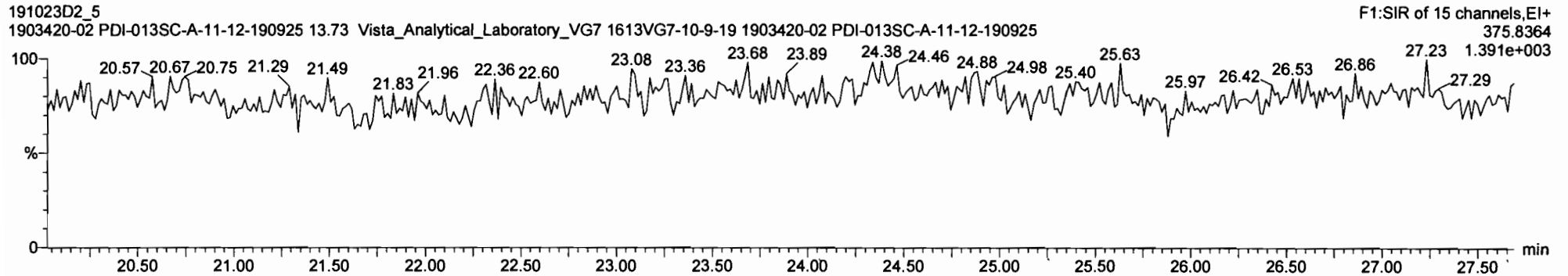
Total Tetra-Furans



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



DPE1



Vista Analytical Laboratory

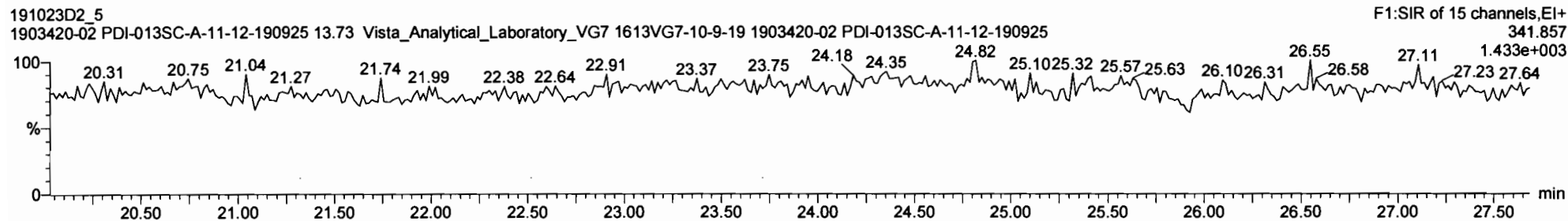
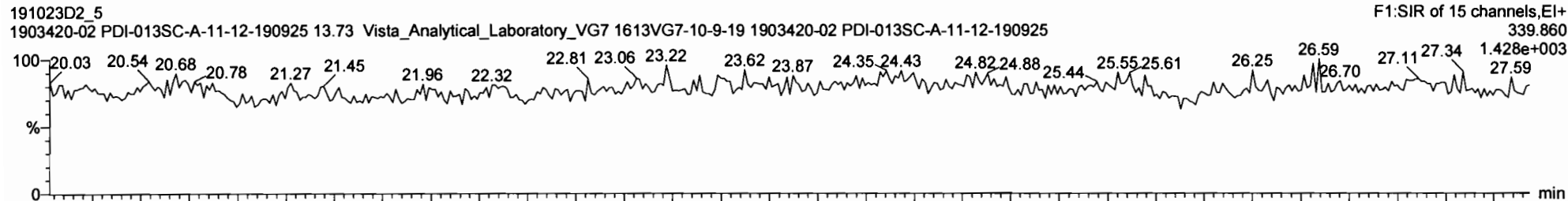
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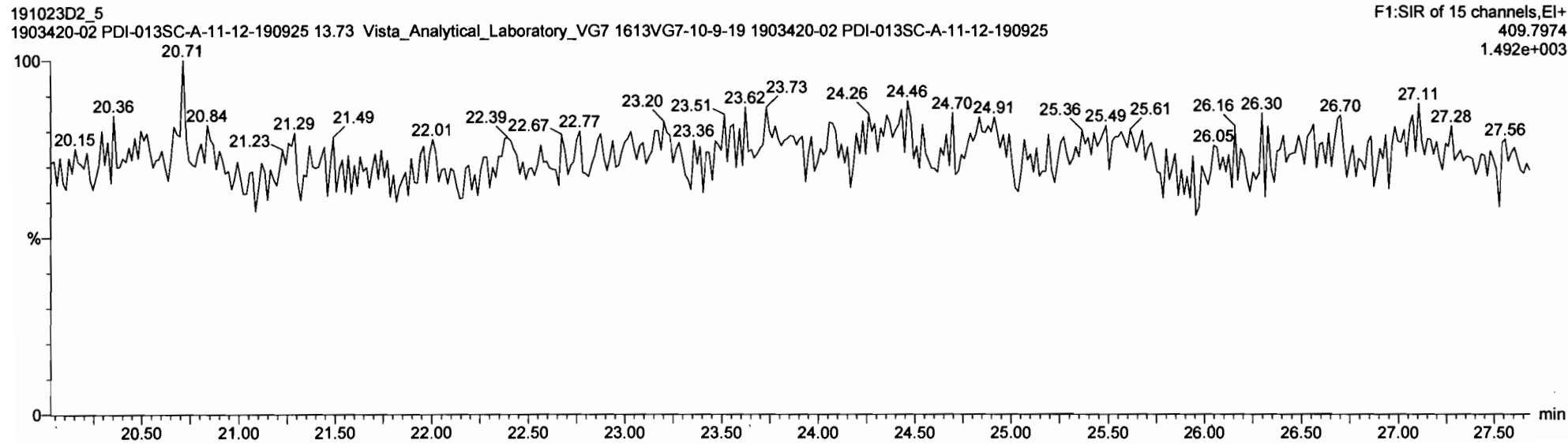
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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans



DPE6



Vista Analytical Laboratory

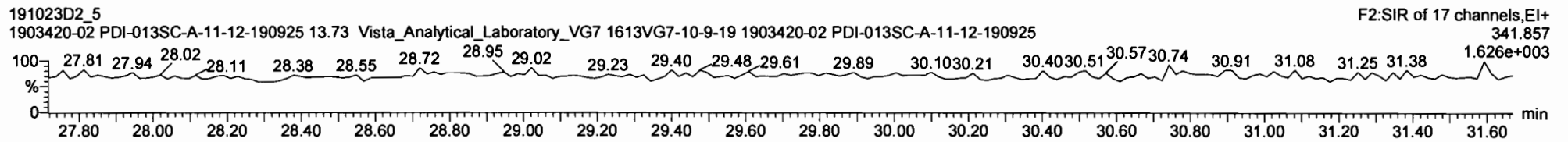
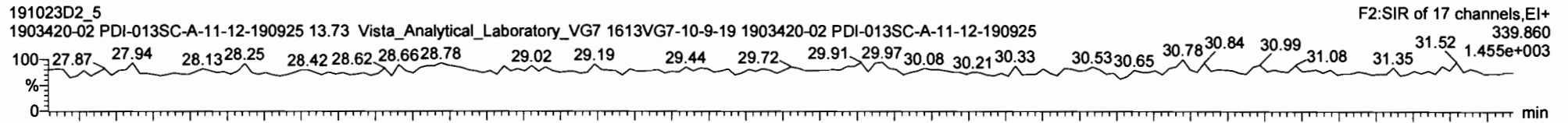
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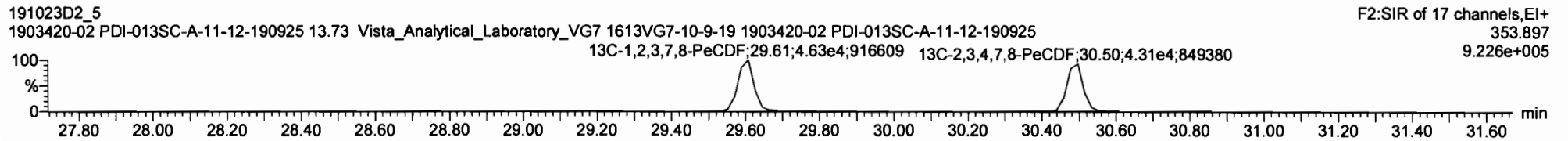
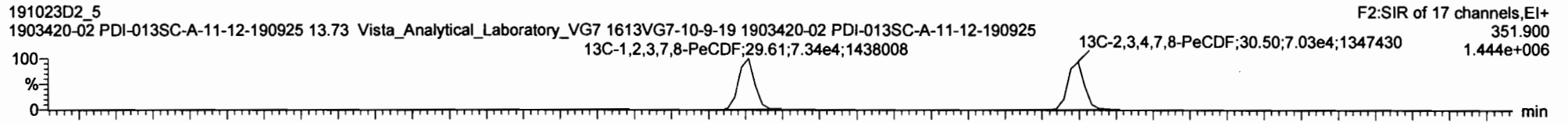
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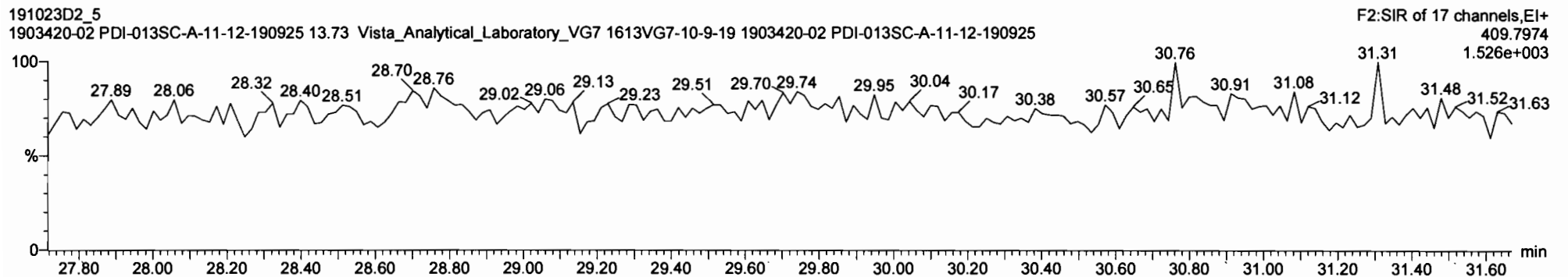
Total Penta-Furans



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



DPE2



Vista Analytical Laboratory

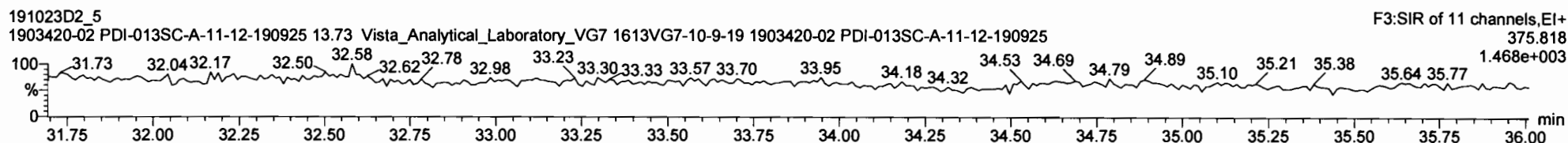
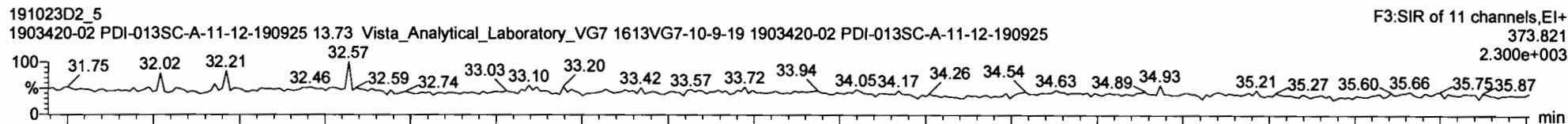
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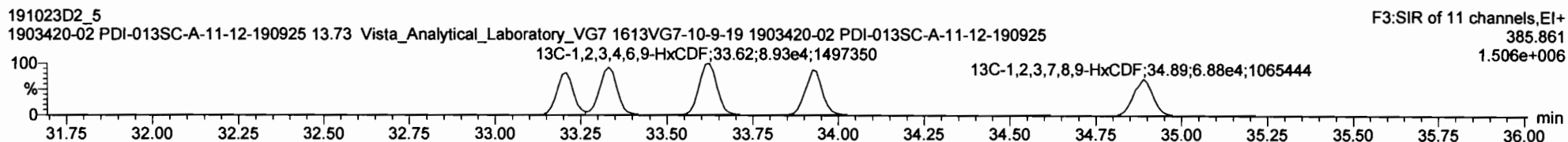
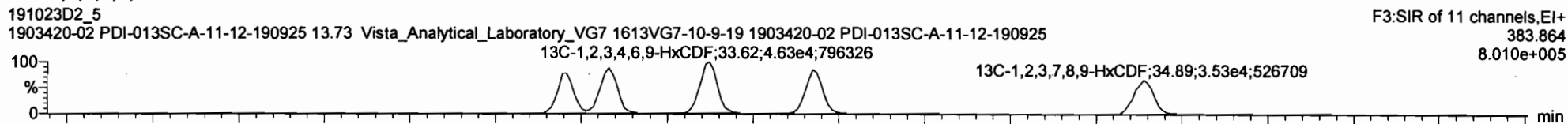
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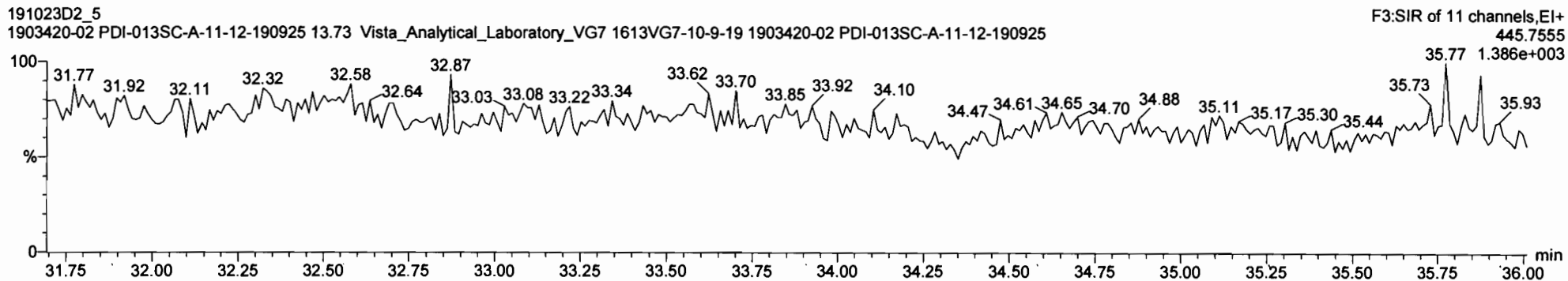
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13C-1,2,3,4,7,8-HxCDF



DPE3



Vista Analytical Laboratory

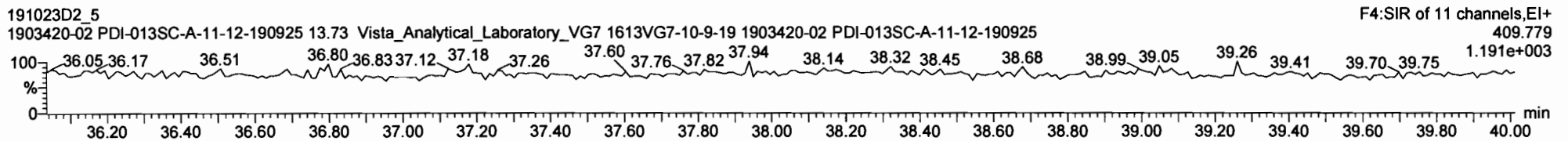
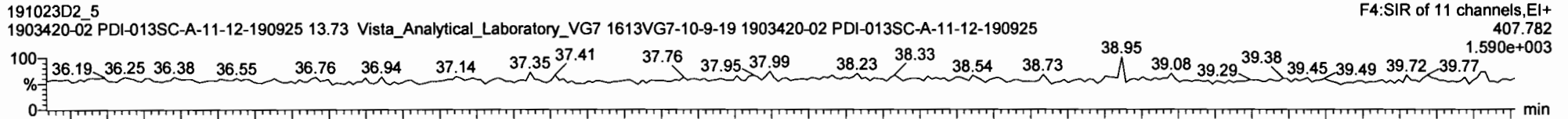
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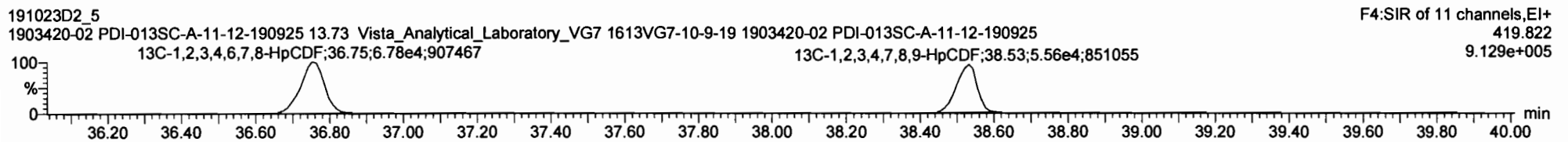
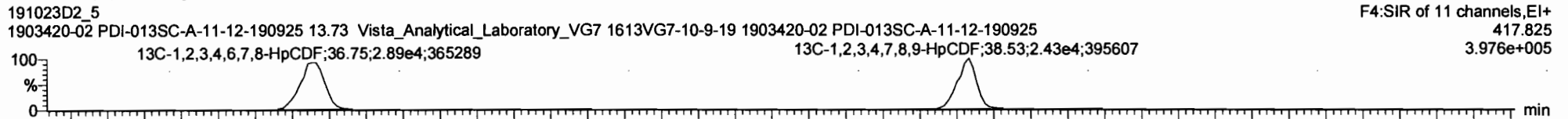
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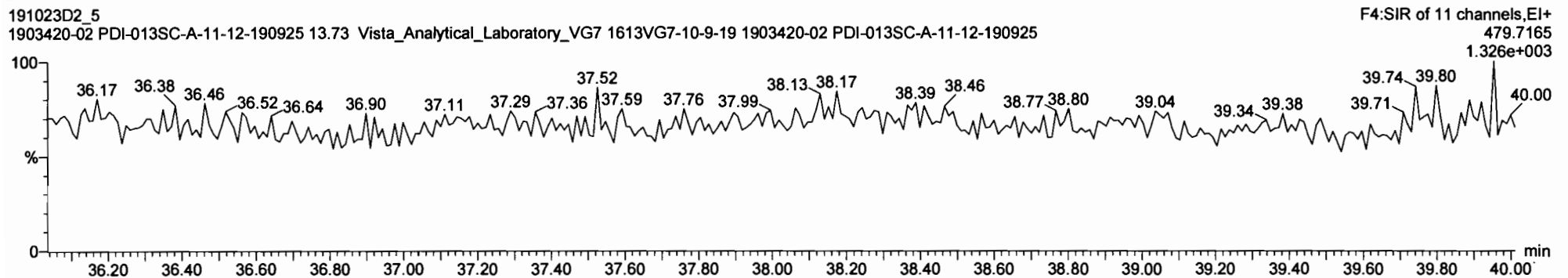
Total Hepta-Furans



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

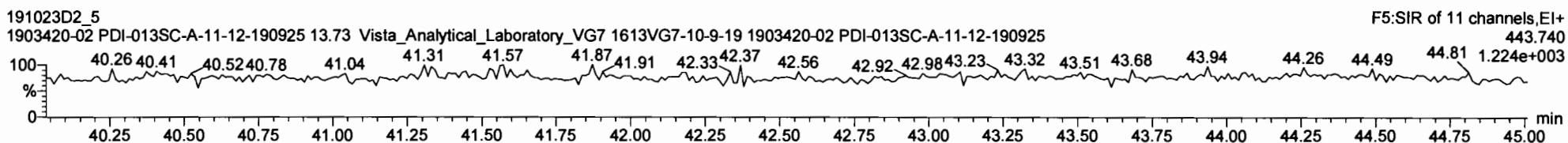
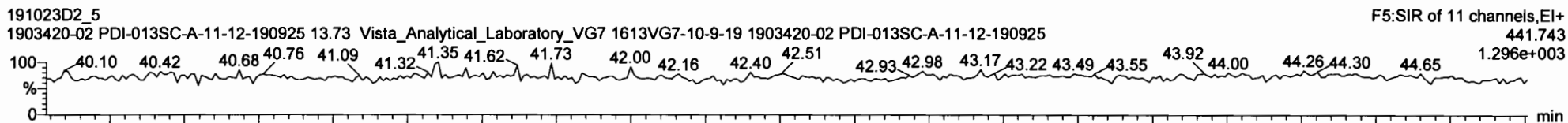


DPE4

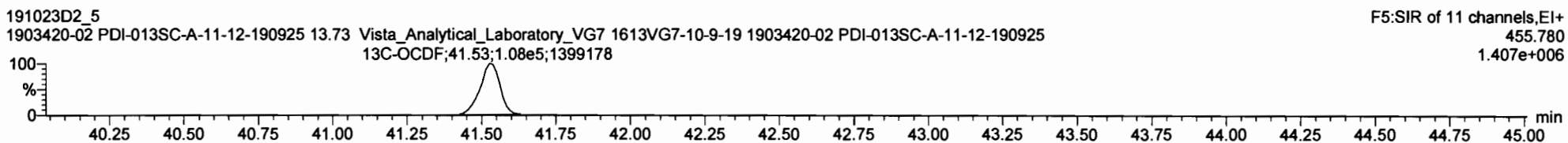
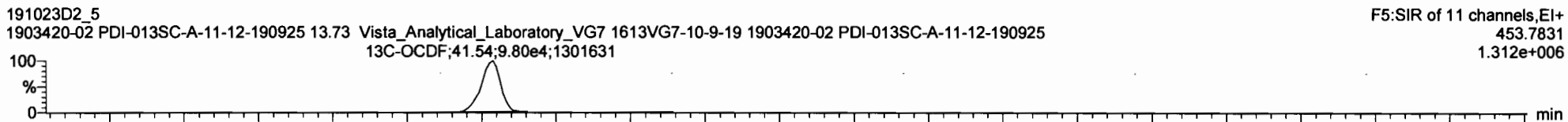


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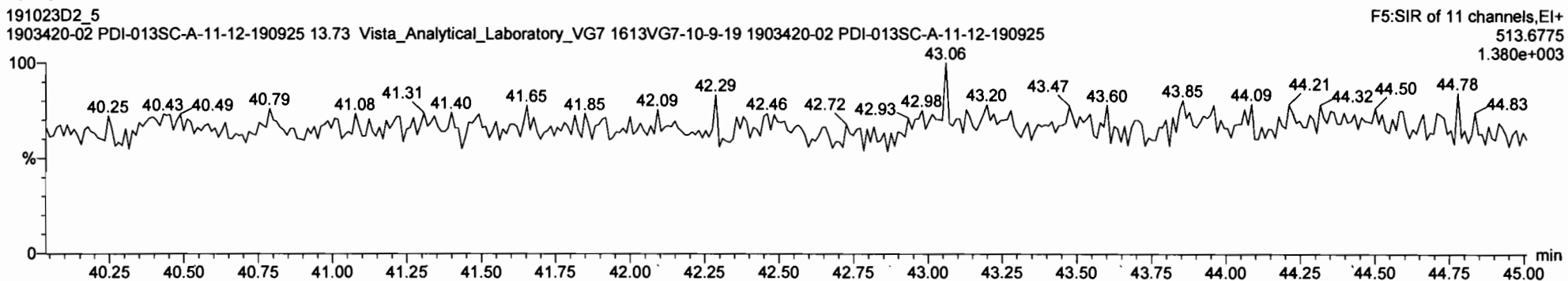
OCDF



13C-OCDF



DPE5



Vista Analytical Laboratory

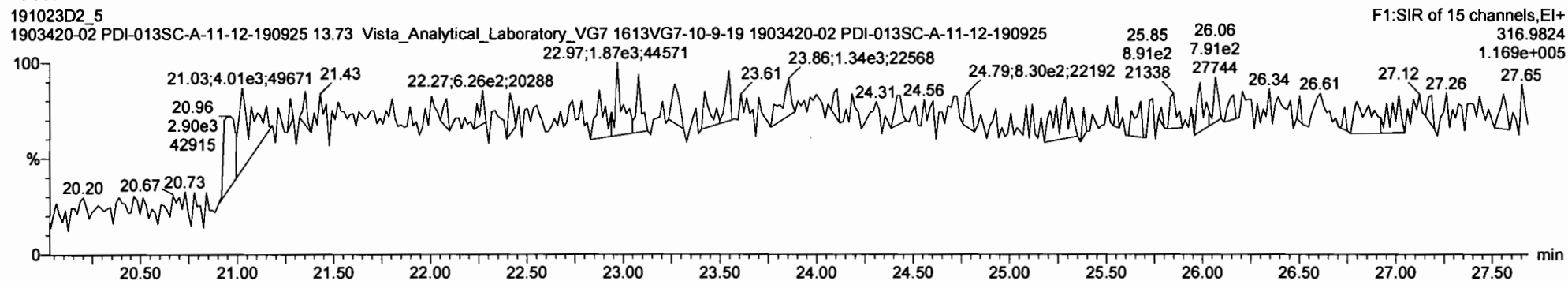
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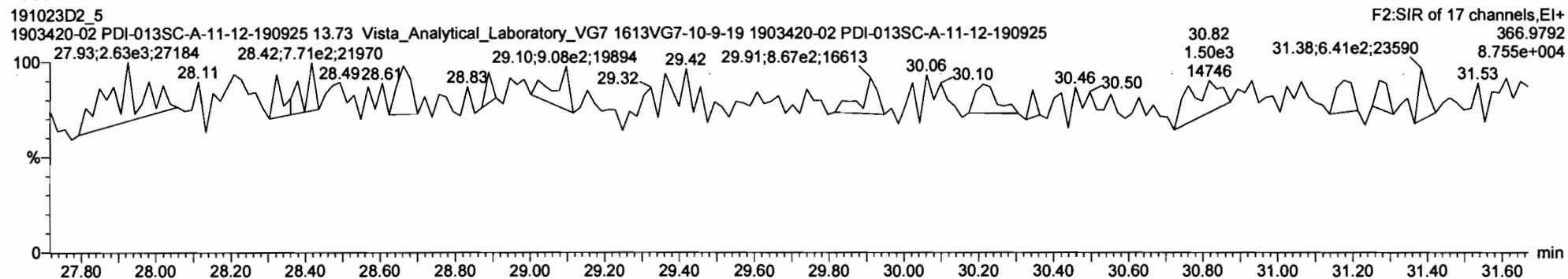
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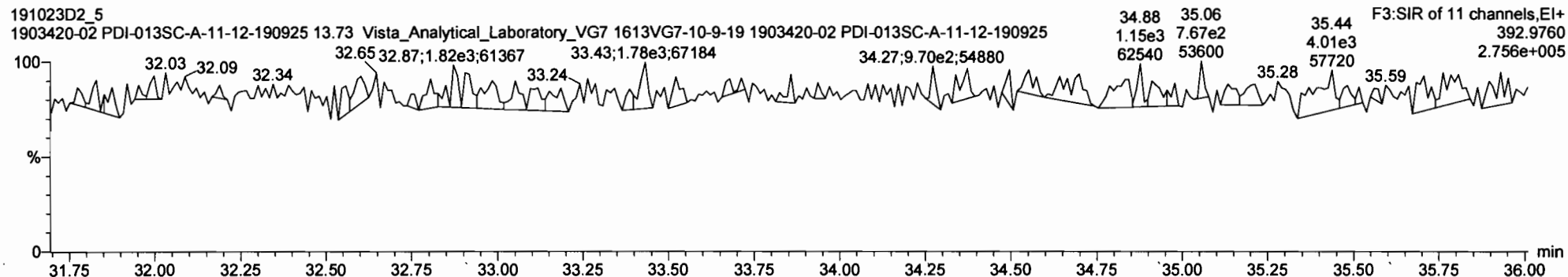
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PFK2

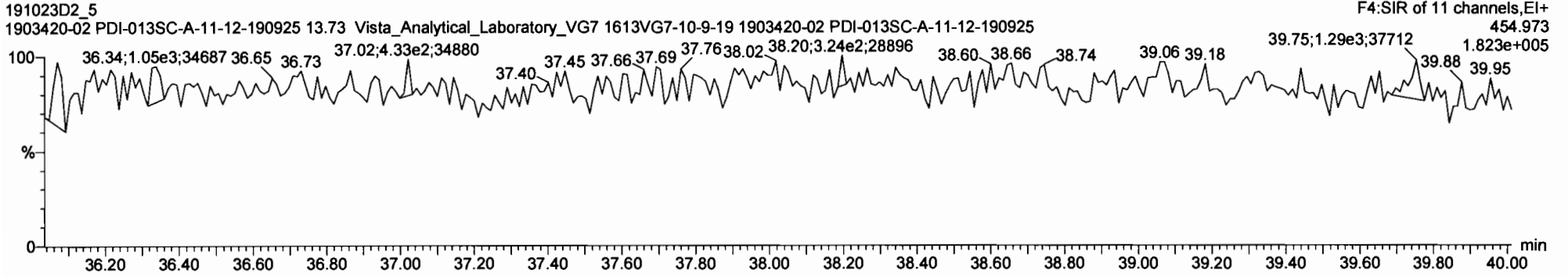


PFK3

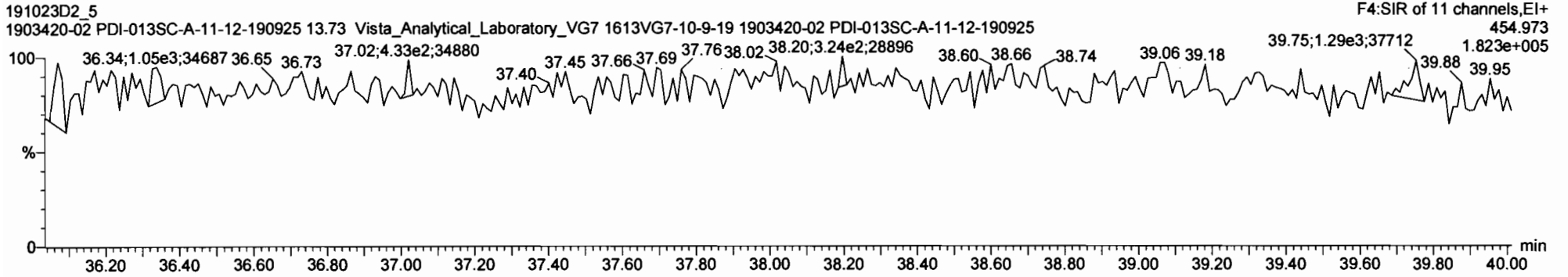


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Description: 1903420-02 PDI-013SC-A-11-12-190925 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-6.qld

Last Altered: Tuesday, November 05, 2019 13:44:16 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:44:57 Pacific Standard Time

CT 11/06/19

H2 11-5-19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:40:18

Name: VG7 191023D2_6, Date: 24-OCT-2019, Time: 05:31:16, ID: 1903420-03 PDI-018SC-A-11-12-190926, ✓

Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	1.17e5	10.0590	✓	0.905		1.001		26.31				0.125
2	1,2,3,7,8-PeCDD	9.64e4	10.0590		0.903		1.001		30.79				0.111
3	1,2,3,4,7,8-HxCDD	8.85e4	10.0590		1.101		1.000		34.11				0.175
4	1,2,3,6,7,8-HxCDD	9.45e4	10.0590		0.939		1.000		34.21				0.187
5	1,2,3,7,8,9-HxCDD	9.78e4	10.0590		0.961		1.001		34.53				0.190
6	1,2,3,4,6,7,8-HpCDD	1.33e2	9.22e4	10.0590	0.979	1.544	YES	1.000	1.000	37.99	37.99	0.29200	0.234 OK 0.147
7	OCDD	6.48e2	1.59e5	10.0590	0.959	0.894	NO	1.000	1.000	41.31	41.32	1.6942	1.69 0.486
8	2,3,7,8-TCDF	1.55e5	10.0590		0.950		1.001		25.55				0.125
9	1,2,3,7,8-PeCDF	1.54e5	10.0590		0.960		1.001		29.61				0.0753
10	2,3,4,7,8-PeCDF	1.53e5	10.0590		1.015		1.001		30.51				0.0665
11	1,2,3,4,7,8-HxCDF	1.21e5	10.0590		1.177		1.000		33.20				0.0753
12	1,2,3,6,7,8-HxCDF	1.38e5	10.0590		1.069		1.000		33.33				0.0741
13	2,3,4,6,7,8-HxCDF	1.23e5	10.0590		1.114		1.001		33.96				0.0887
14	1,2,3,7,8,9-HxCDF	1.10e5	10.0590		1.062		1.000		34.88				0.113
15	1,2,3,4,6,7,8-HpCDF	1.06e5	10.0590		1.128		1.001		36.78				0.122
16	1,2,3,4,7,8,9-HpCDF	8.38e4	10.0590		1.280		1.000		38.52				0.110
17	OCDF	2.14e5	10.0590		0.947		1.000		41.53				0.160
18	13C-2,3,7,8-TCDD	1.17e5	1.02e5	10.0590	1.095	0.770	NO	1.021	1.021	26.28	26.28	208.06	104.6 0.497
19	13C-1,2,3,7,8-PeCDD	9.64e4	1.02e5	10.0590	0.881	0.642	NO	1.187	1.195	30.54	30.76	212.83	107.0 0.330
20	13C-1,2,3,4,7,8-Hx...	8.85e4	1.36e5	10.0590	0.642	1.270	NO	1.014	1.014	34.08	34.10	200.82	101.0 0.571
21	13C-1,2,3,6,7,8-Hx...	9.45e4	1.36e5	10.0590	0.856	1.222	NO	1.017	1.018	34.20	34.21	161.04	81.0 0.428
22	13C-1,2,3,7,8,9-Hx...	9.78e4	1.36e5	10.0590	0.807	1.251	NO	1.026	1.026	34.50	34.50	176.76	88.9 0.454
23	13C-1,2,3,4,6,7,8-H...	9.22e4	1.36e5	10.0590	0.654	1.057	NO	1.126	1.130	37.86	37.98	205.43	103.3 0.824
24	13C-OCDD	1.59e5	1.36e5	10.0590	0.580	0.936	NO	1.226	1.229	41.21	41.31	398.85	100.3 0.554
25	13C-2,3,7,8-TCDF	1.55e5	1.68e5	10.0590	1.035	0.821	NO	0.993	0.992	25.57	25.52	177.29	89.2 0.521
26	13C-1,2,3,7,8-PeCDF	1.54e5	1.68e5	10.0590	0.854	1.621	NO	1.143	1.150	29.42	29.59	214.05	107.7 0.782
27	13C-2,3,4,7,8-PeCDF	1.53e5	1.68e5	10.0590	0.847	1.620	NO	1.176	1.184	30.28	30.48	214.21	107.7 0.789
28	13C-1,2,3,4,7,8-Hx...	1.21e5	1.36e5	10.0590	0.832	0.512	NO	0.987	0.988	33.19	33.20	211.95	106.6 0.930
29	13C-1,2,3,6,7,8-Hx...	1.38e5	1.36e5	10.0590	1.034	0.521	NO	0.991	0.991	33.31	33.32	194.95	98.1 0.748
30	13C-2,3,4,6,7,8-Hx...	1.23e5	1.36e5	10.0590	0.953	0.516	NO	1.009	1.009	33.92	33.93	188.78	94.9 0.811
31	13C-1,2,3,7,8,9-Hx...	1.10e5	1.36e5	10.0590	0.828	0.517	NO	1.039	1.038	34.92	34.88	193.91	97.5 0.934

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-6.qld

Last Altered: Tuesday, November 05, 2019 13:44:16 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:44:57 Pacific Standard Time

Name: VG7 191023D2_6, Date: 24-OCT-2019, Time: 05:31:16, ID: 1903420-03 PDI-018SC-A-11-12-190926,
 Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	1.06e5	1.36e5	10.0590	0.757	0.423	NO	1.093	1.093	36.73	36.74	204.53	102.9	0.863	
33	13C-1,2,3,4,7,8,9-H...	8.38e4	1.36e5	10.0590	0.581	0.433	NO	1.143	1.146	38.42	38.52	210.10	105.7	1.13	
34	13C-OCDF	2.14e5	1.36e5	10.0590	0.689	0.887	NO	1.233	1.235	41.45	41.53	452.53	113.8	0.558	
35	37Cl-2,3,7,8-TCDD	4.46e4	1.02e5	10.0590	1.198			1.022	1.022	26.30	26.30	72.450	91.1	0.0685	
36	13C-1,2,3,4-TCDD	1.02e5	1.02e5	10.0590	1.000	0.777	NO	1.000	1.000	25.70	25.74	198.83	100.0	0.544	
37	13C-1,2,3,4-TCDF	1.68e5	1.68e5	10.0590	1.000	0.818	NO	1.000	1.000	24.28	24.32	198.83	100.0	0.539	
38	13C-1,2,3,4,6,9-Hx...	1.36e5	1.36e5	10.0590	1.000	0.514	NO	1.000	1.000	33.55	33.61	198.83	100.0	0.773	
39	Total Tetra-Dioxins		1.17e5	10.0590	0.901			0.000		25.50				0.0661	0.125
40	Total Penta-Dioxins		9.64e4	10.0590	0.872			0.000		30.00				0.0461	0.111
41	Total Hexa-Dioxins		0.00e0	10.0590	0.976			0.000		33.80		0.00000	0.228	0.106	
42	Total Hepta-Dioxins		9.22e4	10.0590	0.989			0.000		37.75		0.00000	0.234	0.146	
43	Total Tetra-Furans		1.55e5	10.0590	0.943			0.000		24.00				0.0522	0.125
44	1st Func. Penta-Fur...		0.00e0	10.0590	0.940			0.000		27.63				0.0267	0.0753
45	Total Penta-Furans		0.00e0	10.0590	0.940			0.000		30.00				0.0330	
46	Total Hexa-Furans		0.00e0	10.0590	1.078			0.000		33.00				0.0478	0.113
47	Total Hepta-Furans		0.00e0	10.0590	1.135			0.000		37.75				0.0573	0.122

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-6.qld

Last Altered: Tuesday, November 05, 2019 13:44:16 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:44:57 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:40:18

Name: VG7 191023D2_6, Date: 24-OCT-2019, Time: 05:31:16, ID: 1903420-03 PDI-018SC-A-11-12-190926,

Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

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Penta-Dioxins

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Hexa-Dioxins

41	Total Hexa-Dioxins	YES	32.55	58.082	51957.684	0.000	MM		0.0000	0.23				

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	YES	37.99	80.457	47373.391	0.000	MM		0.0000	0.23				

Tetra-Furans

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Penta-Furans function 1

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Penta-Furans

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Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-6.qld
Last Altered: Tuesday, November 05, 2019 13:44:16 Pacific Standard Time
Printed: Tuesday, November 05, 2019 13:44:57 Pacific Standard Time

Name: VG7 191023D2_6, Date: 24-OCT-2019, Time: 05:31:16, ID: 1903420-03 PDI-018SC-A-11-12-190926,
Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Hexa-Furans

Hepta-Furans

Vista Analytical Laboratory

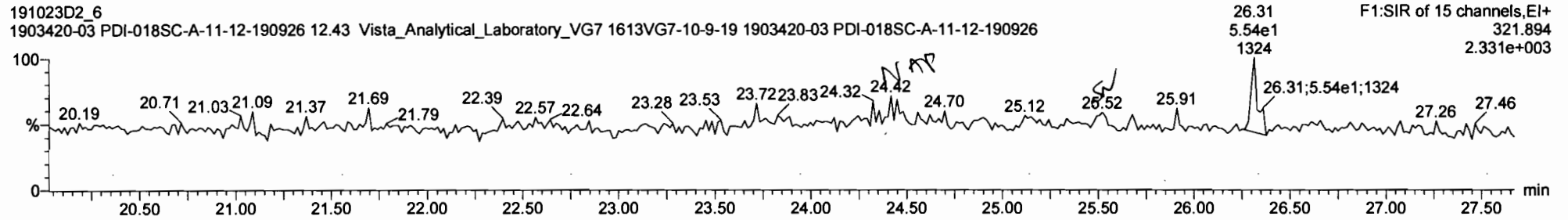
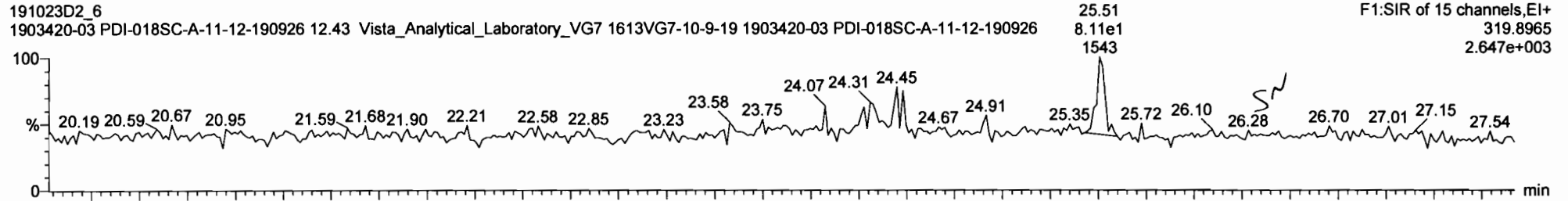
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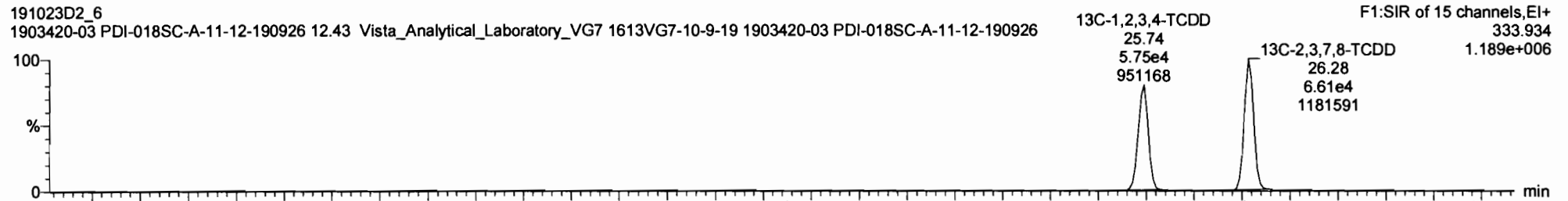
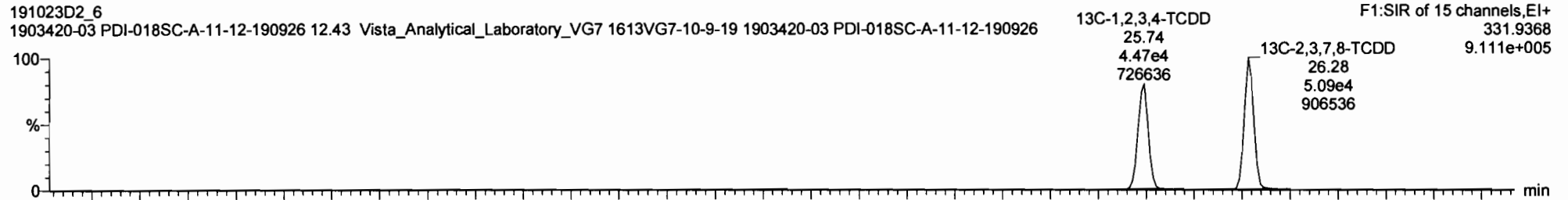
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Total Tetra-Dioxins



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

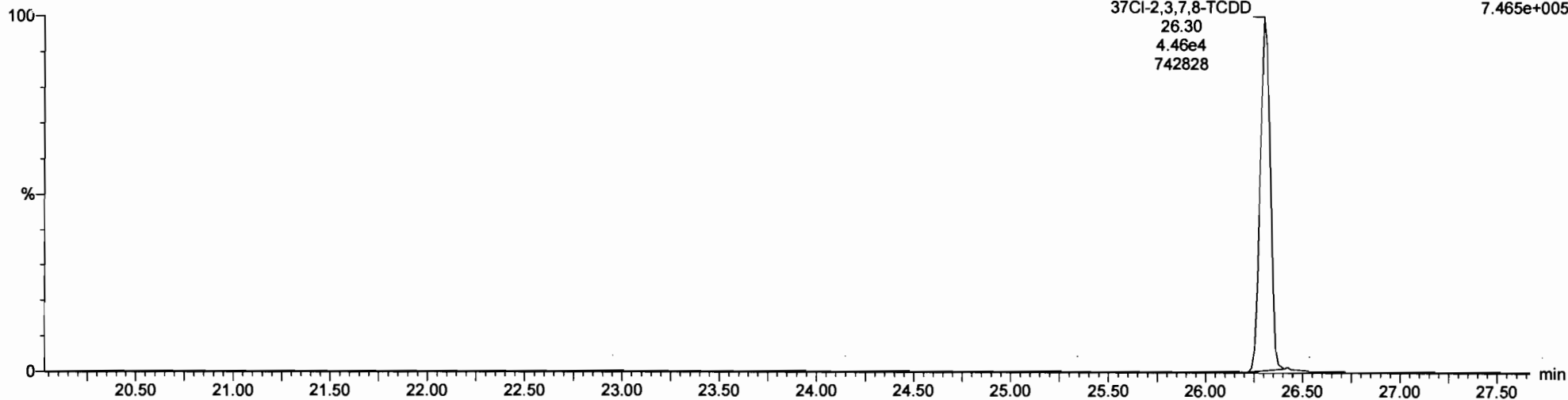


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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

191023D2_6
1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-03 PDI-018SC-A-11-12-190926

F1:SIR of 15 channels,EI+
327.884
7.465e+005



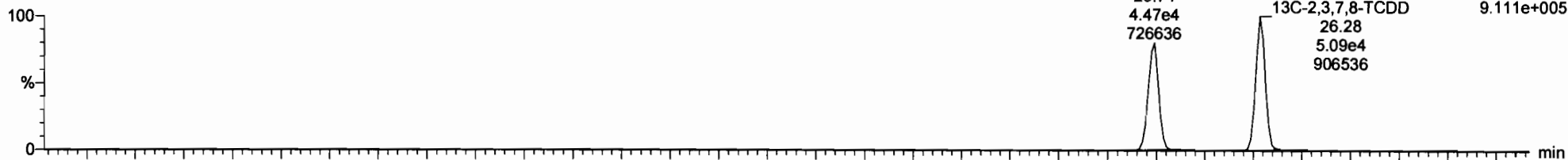
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191023D2_6
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F1:SIR of 15 channels,EI+
331.9368
9.111e+005

13C-1,2,3,4-TCDD
25.74
4.47e4
726636

13C-2,3,7,8-TCDD
26.28
5.09e4
906536

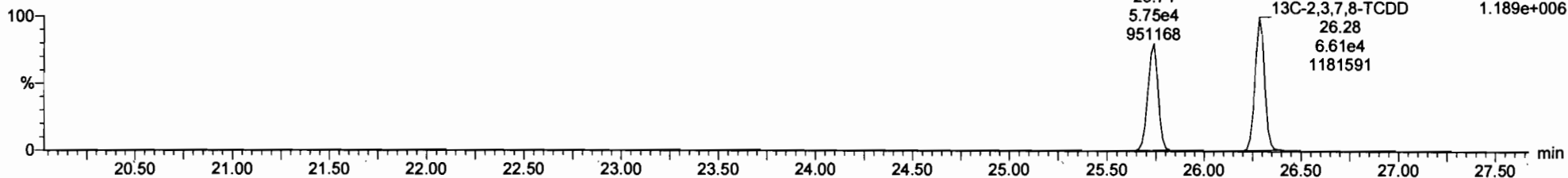


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F1:SIR of 15 channels,EI+
333.934
1.189e+006

13C-1,2,3,4-TCDD
25.74
5.75e4
951168

13C-2,3,7,8-TCDD
26.28
6.61e4
1181591



Vista Analytical Laboratory

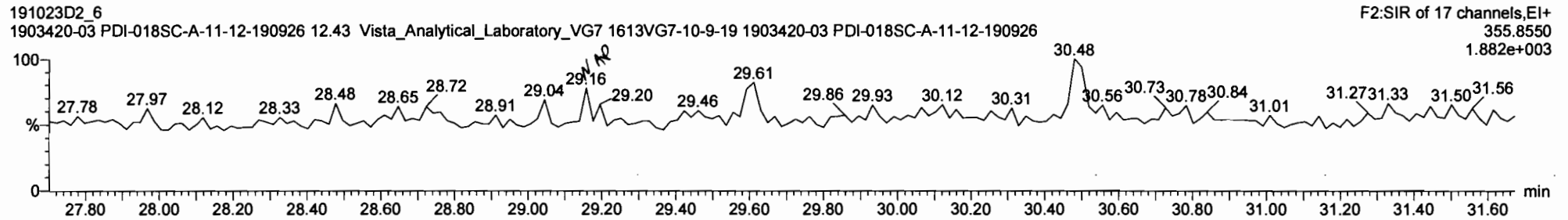
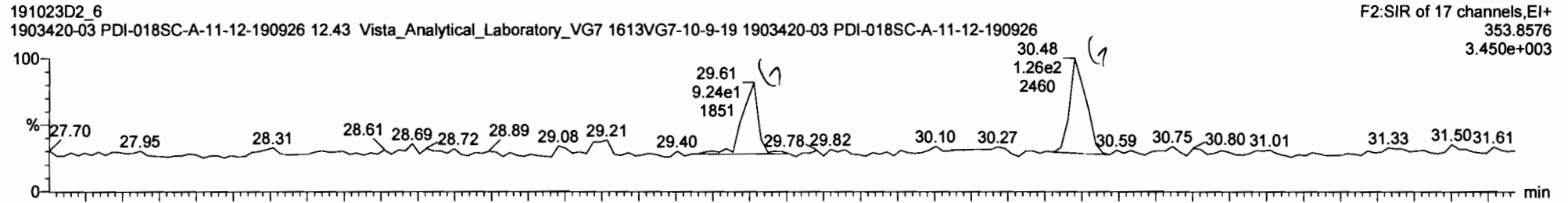
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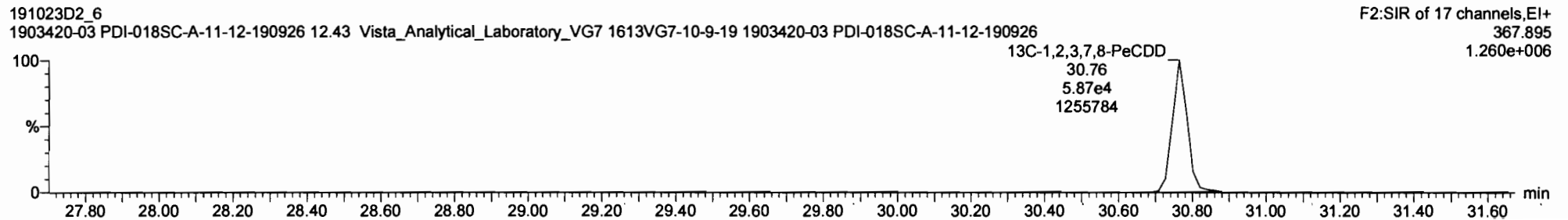
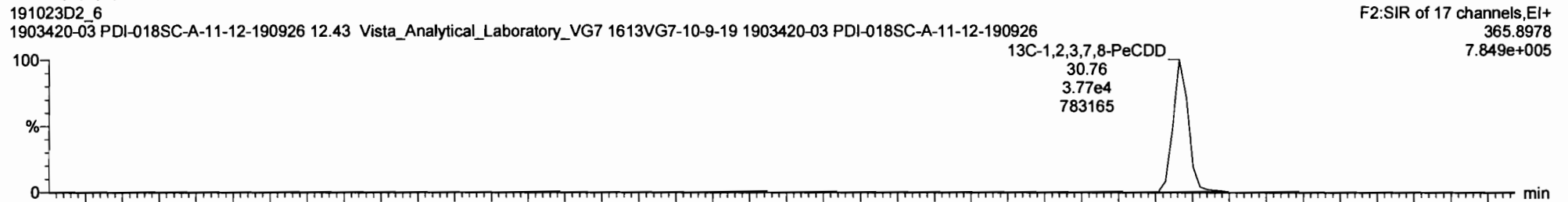
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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins

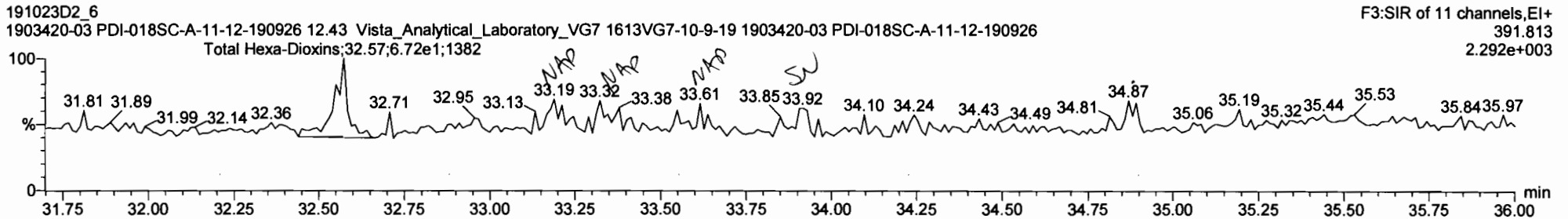
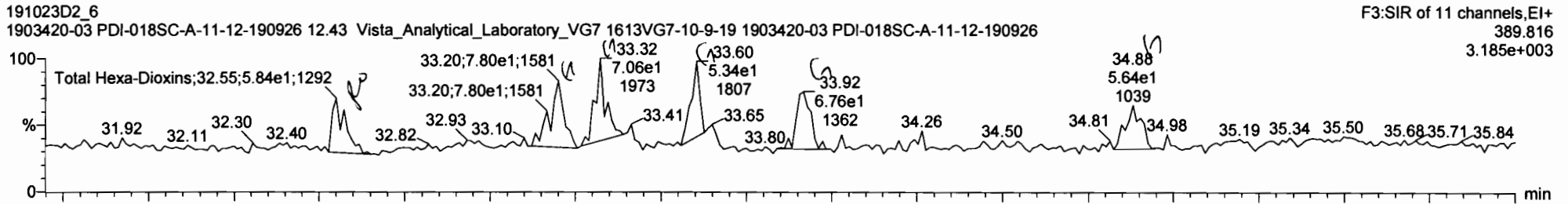


13C-1,2,3,7,8-PeCDD

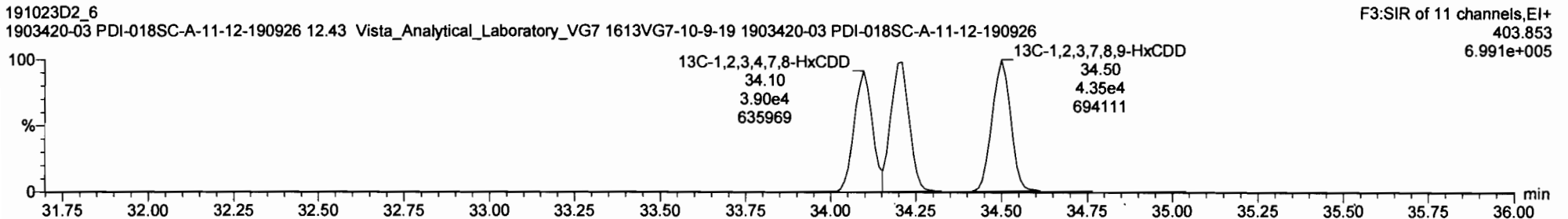
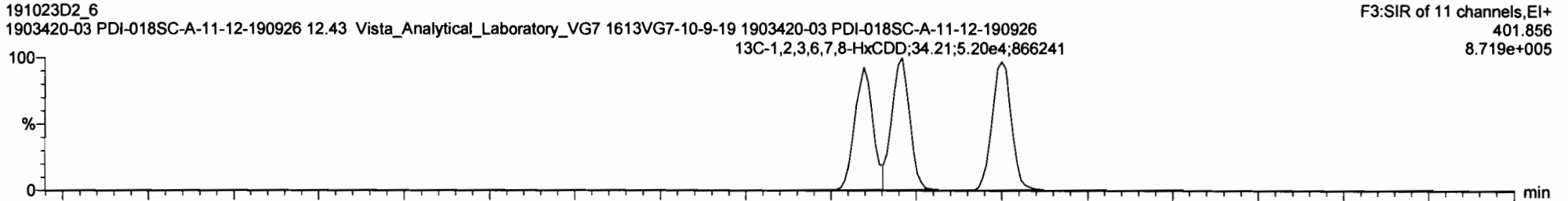


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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins



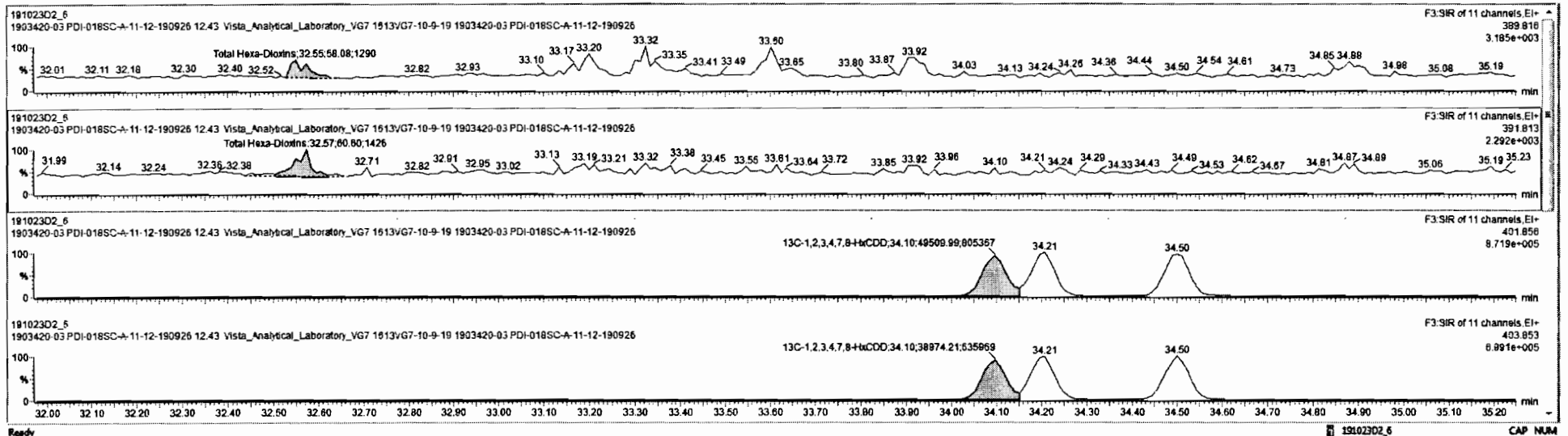
13C-1,2,3,4,7,8-HxCDD



TargetLynx XS
 File Edit View Display Processing Window Help
 191023D2_6 - 1903420-03 PDI-018SC-A-11-12-190926 - 1903420-03 PDI-018SC-A-11-12-190926 12:43 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

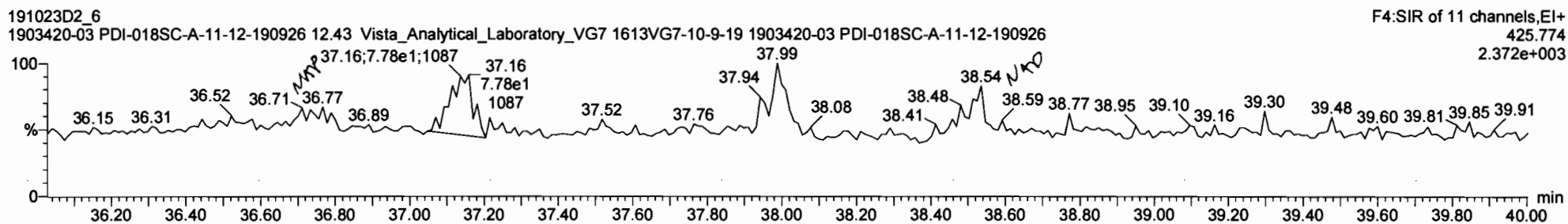
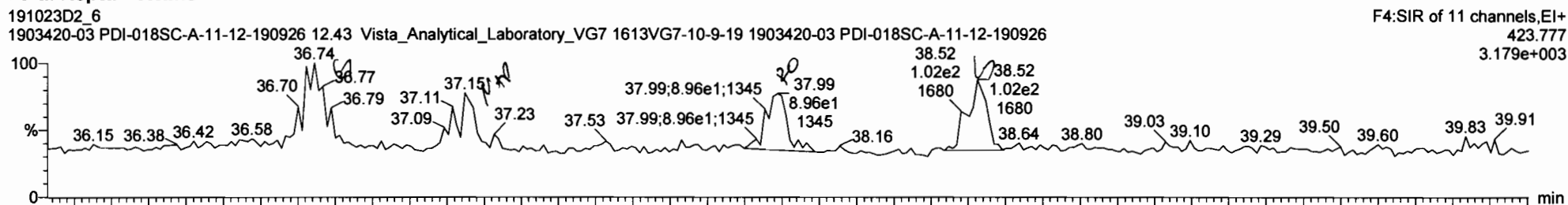
#	Name	Resp	IS Resp	ISF	RA	nly	RRF	wtVal	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
41	Total Hexa-Dioxins	0.00e0					0.978	0.050	33.80			0.000	NO			0.146	0.2283
42	Total Hepta-Dioxins	9.22e4					0.989	10.059	37.75			0.000	NO				
43	Total Tetra-Furans	1.55e5					0.943	10.059	24.00			0.000	NO				
44	1st Func. Penta-Furans	0.00e0					0.940	10.059	27.63			0.000	NO				0.0267
45	Total Penta-Furans	0.00e0					0.940	10.059	30.00			0.000	NO				0.0330
46	Total Hexa-Furans	0.00e0					1.078	10.059	33.00			0.000	NO				0.0478
47	Total Hepta-Furans	0.00e0					1.135	10.059	37.75			0.000	NO				0.0573
48	PFK1																
49	PFK2																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
41	Total Hexa-Dioxins	33.80	32.55	5.805e1	8.060e1	1.240	0.96	YES	0.22834	0.00000

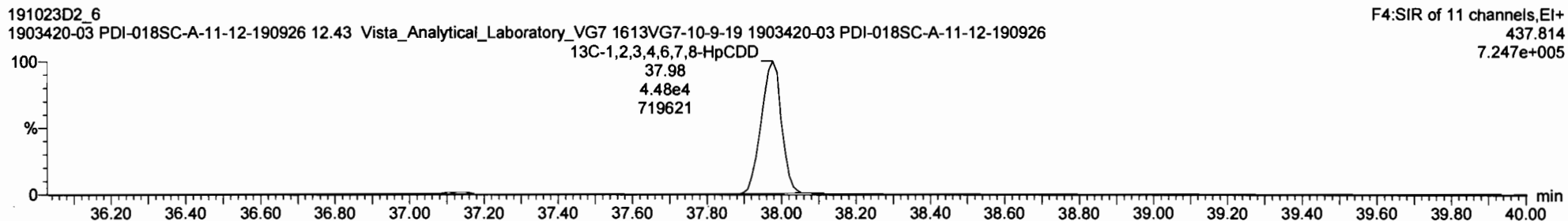
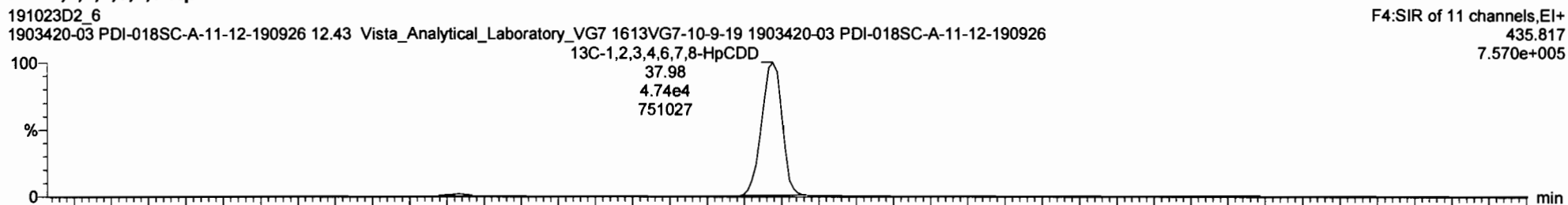


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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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

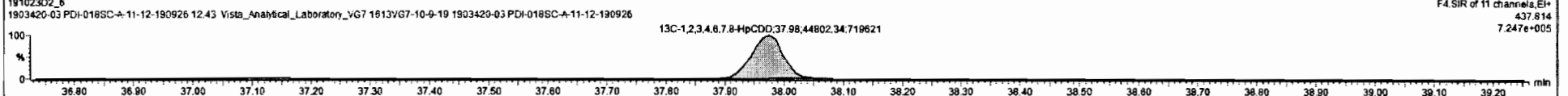
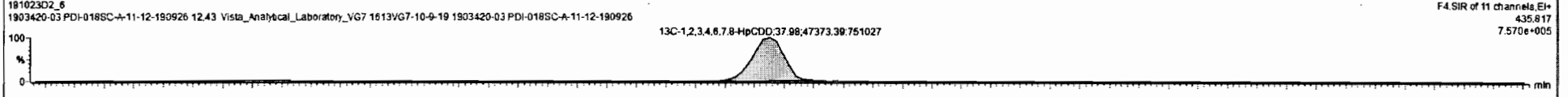
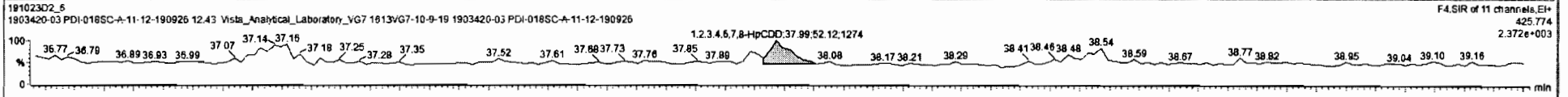
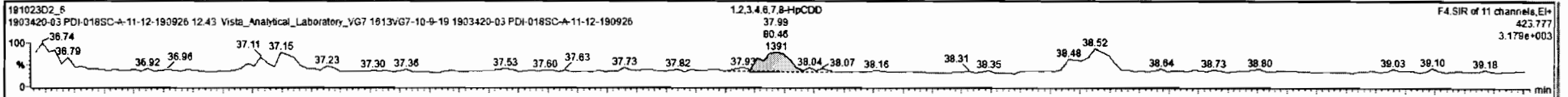




191023D2_6 - 1903420-03 PDI-018SC-A-11-12-190926 - 1903420-03 PDI-018SC-A-11-12-190926 12:43 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	Qty	RRF	rrfval	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
41	Total Hexa-Dioxins		0.00e0				0.976	10.059	33.80			0.000	NO	0.0000		0.106	0.2263
42	Total Hepta-Chlorins		0.22e1				0.989	10.059	37.75			0.000	NO	0.0000	0.148	0.2842	
43	Total Tetra-Furans		1.55e5				0.943	10.059	24.00			0.000	NO			0.0622	
44	1st Func. Penta-Furans		0.00e0				0.940	10.059	27.63			0.000	NO			0.0267	
45	Total Penta-Furans		0.00e0				0.940	10.059	30.00			0.000	NO			0.0330	
46	Total Hexa-Furans		0.00e0				1.078	10.059	33.00			0.000	NO			0.0478	
47	Total Hepta-Furans		0.00e0				1.135	10.059	37.75			0.000	NO			0.0573	
48	PFK1																
49	PFK2																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred RA	RA	Qty	EMPC	Conc.
1	1,2,3,4,6,7,8-HpCDD	37.99	37.99	8.04e1	5.21e1	1.040	1.54	YES	0.23419	0.00000



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

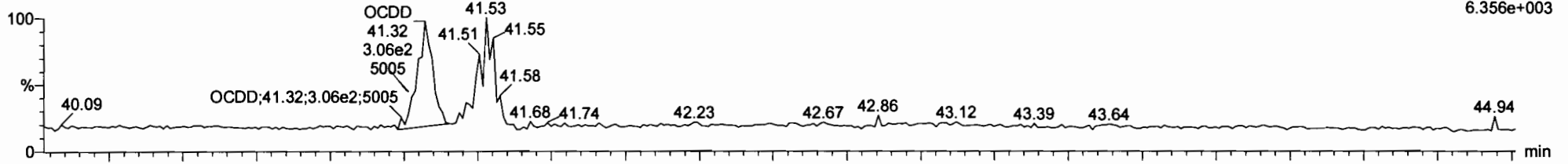
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OCDD

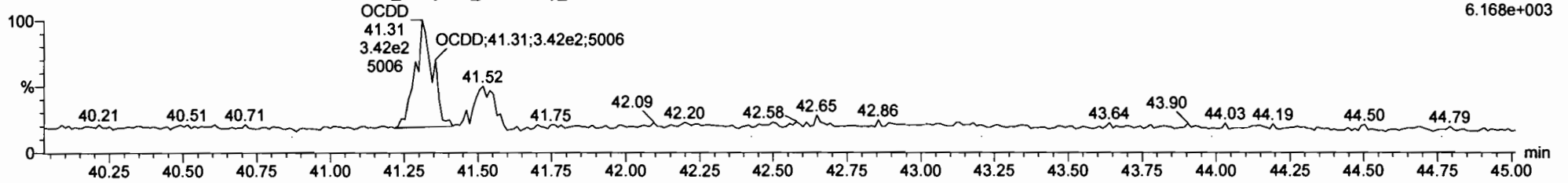
191023D2_6 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-03 PDI-018SC-A-11-12-190926

F5:SIR of 11 channels, EI+ 457.738 6.356e+003



191023D2_6 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-03 PDI-018SC-A-11-12-190926

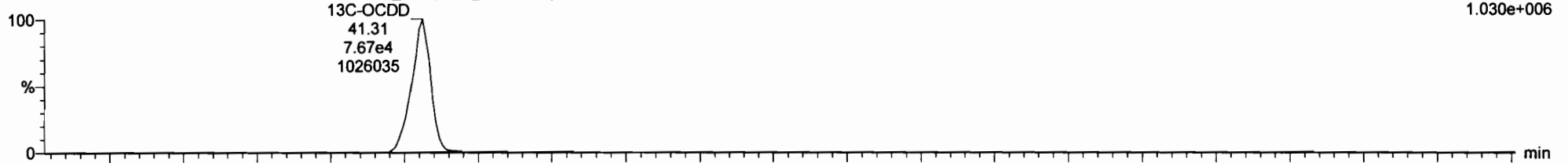
F5:SIR of 11 channels, EI+ 459.735 6.168e+003



13C-OCDD

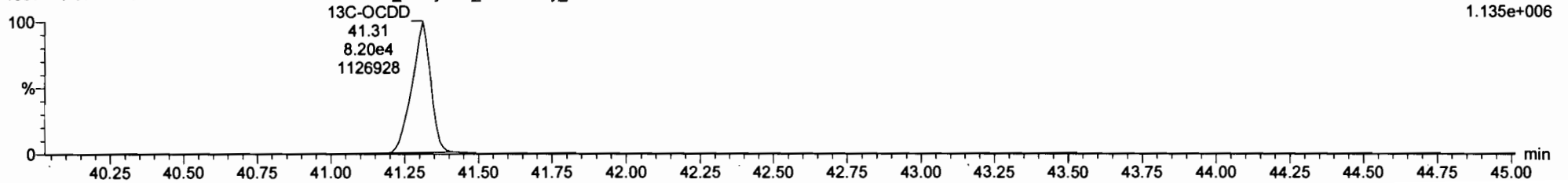
191023D2_6 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-03 PDI-018SC-A-11-12-190926

F5:SIR of 11 channels, EI+ 469.778 1.030e+006



191023D2_6 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-03 PDI-018SC-A-11-12-190926

F5:SIR of 11 channels, EI+ 471.775 1.135e+006



Vista Analytical Laboratory

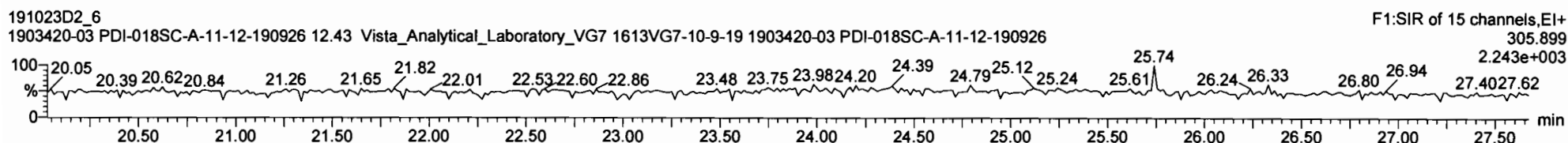
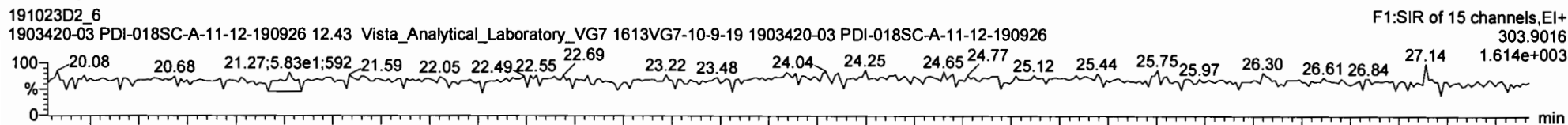
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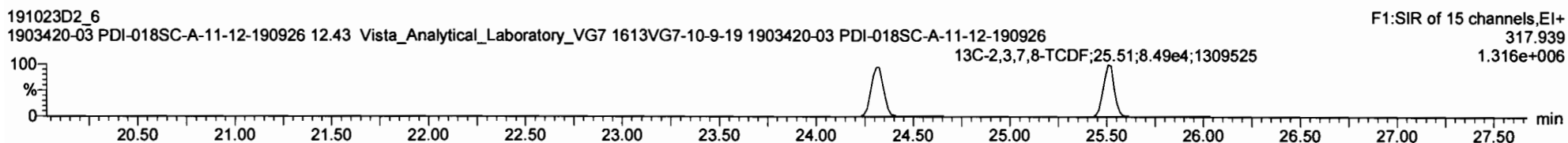
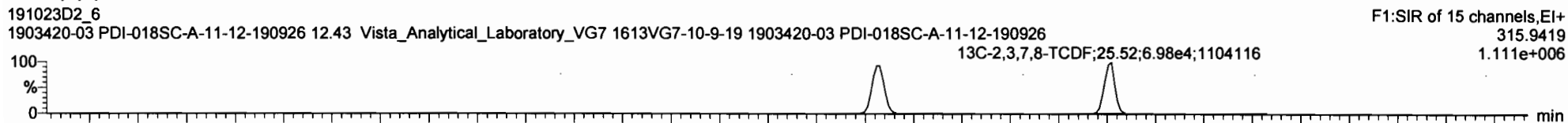
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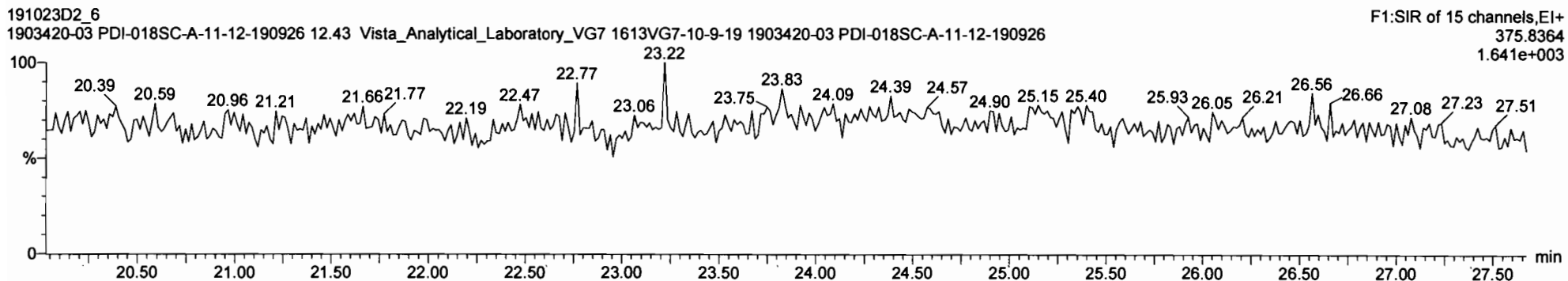
Total Tetra-Furans



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

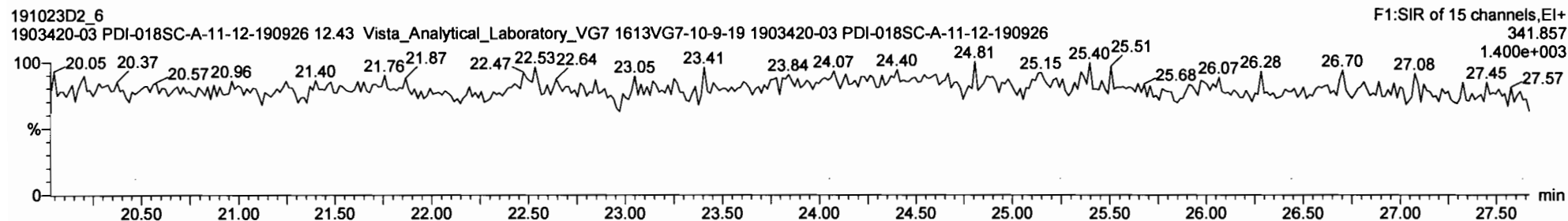
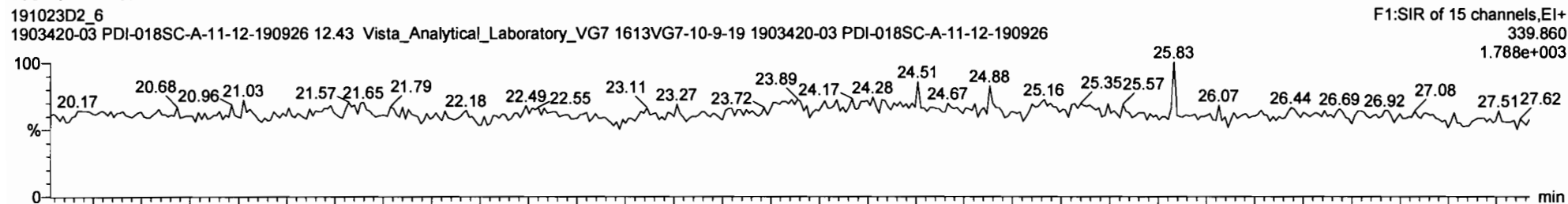


DPE1

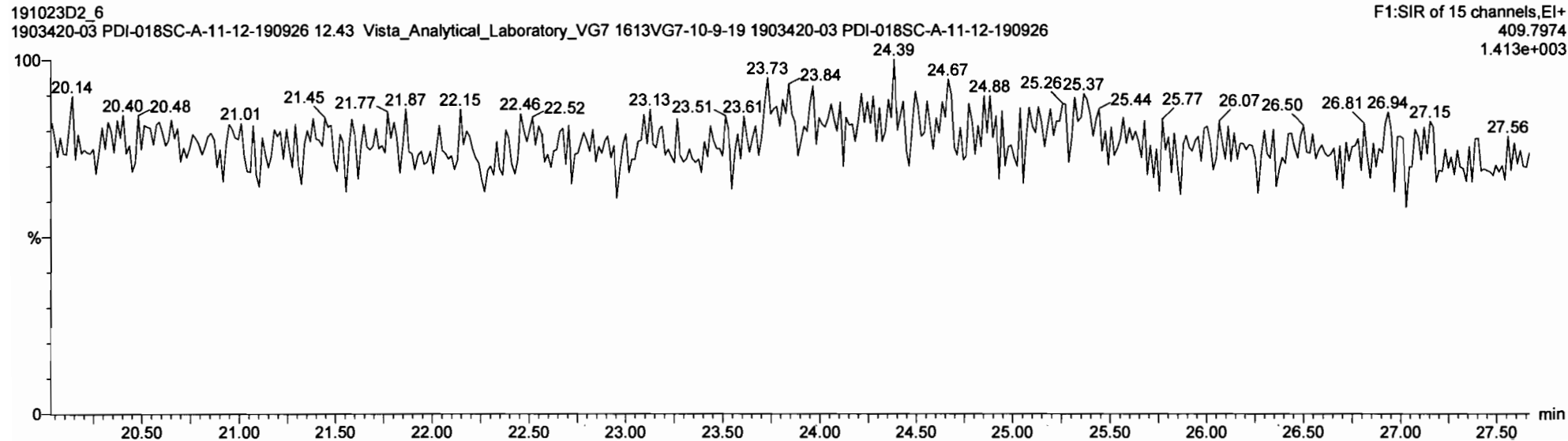


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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

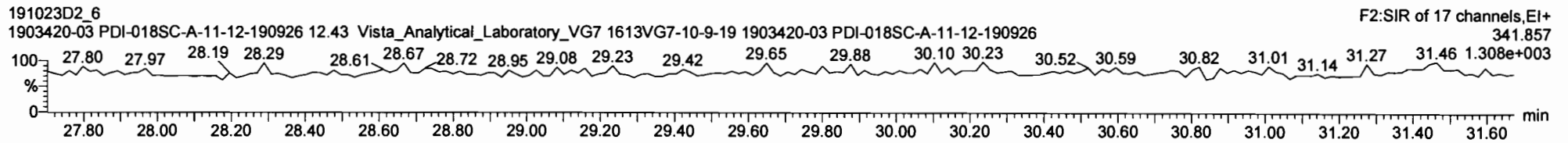
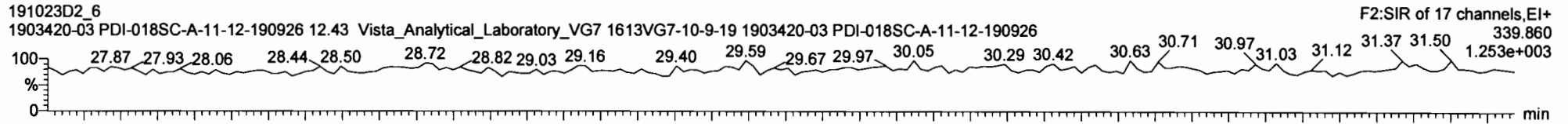


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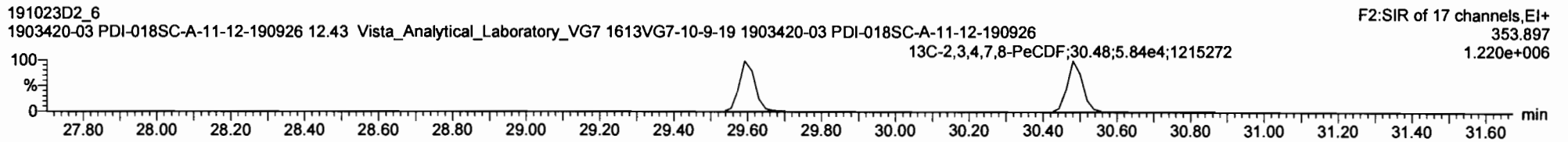
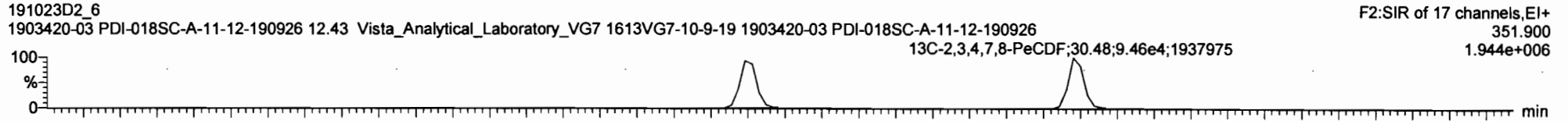


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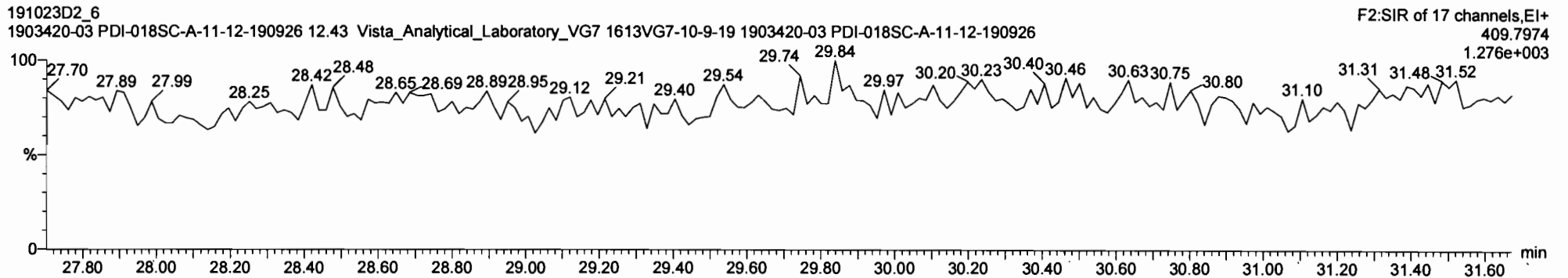
Total Penta-Furans



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

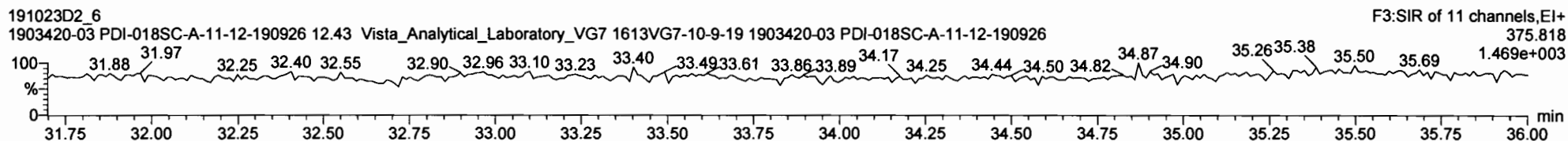
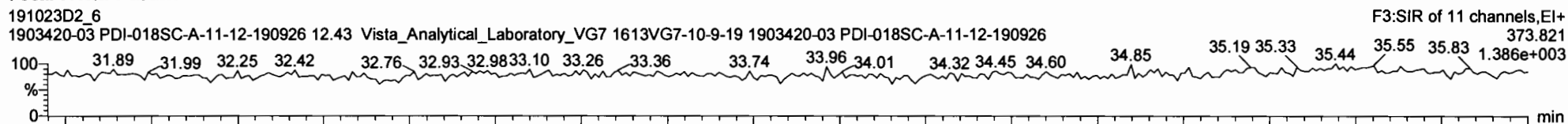


DPE2

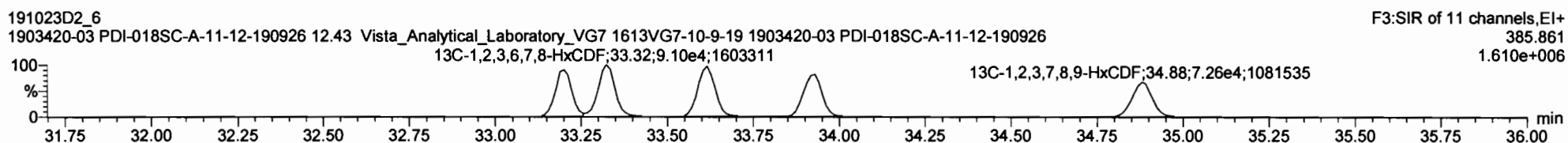
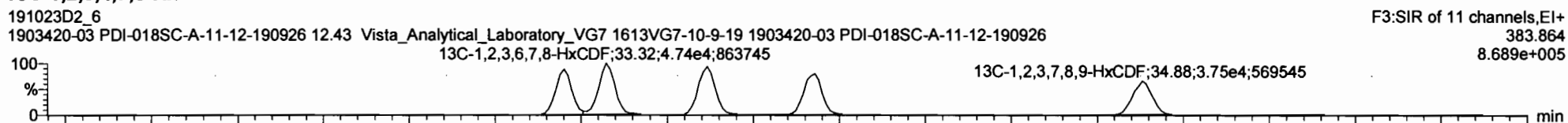


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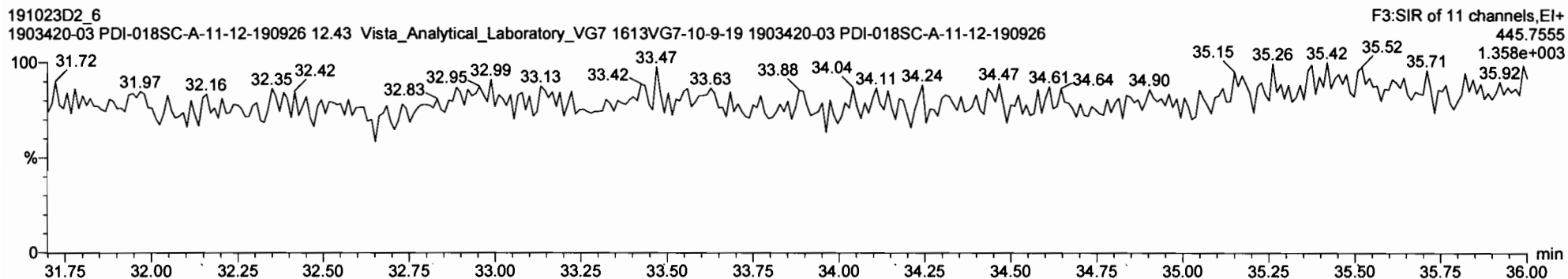
Total Hexa-Furans



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

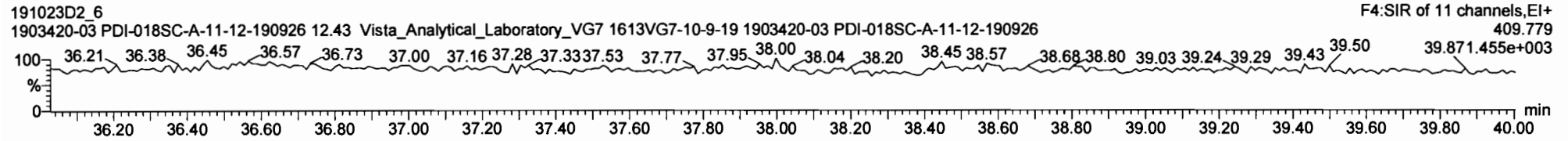
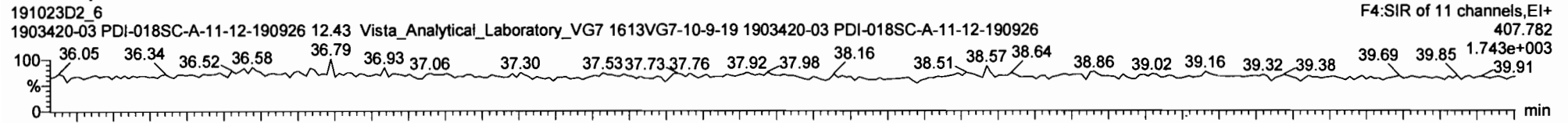


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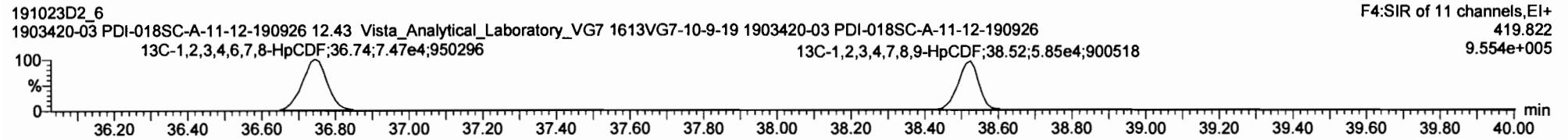
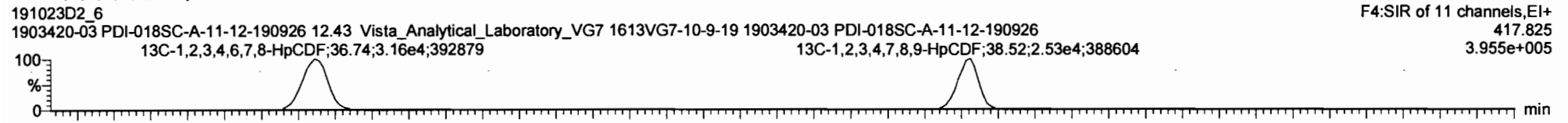


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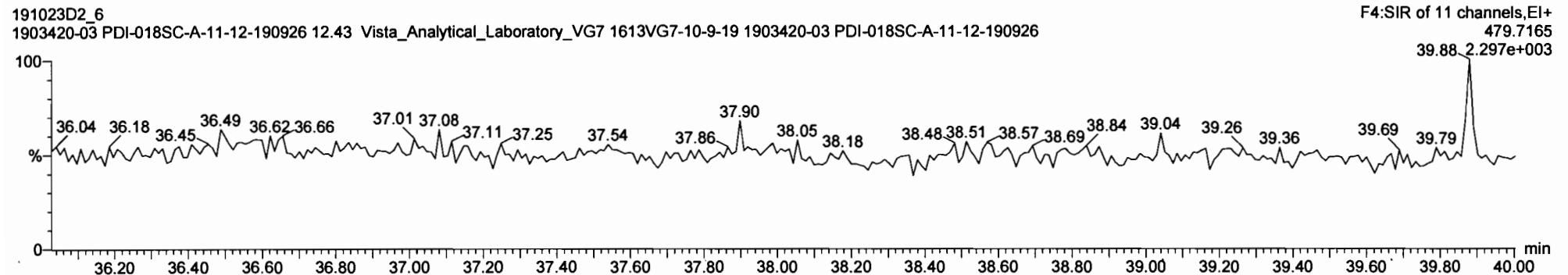
Total Hepta-Furans



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

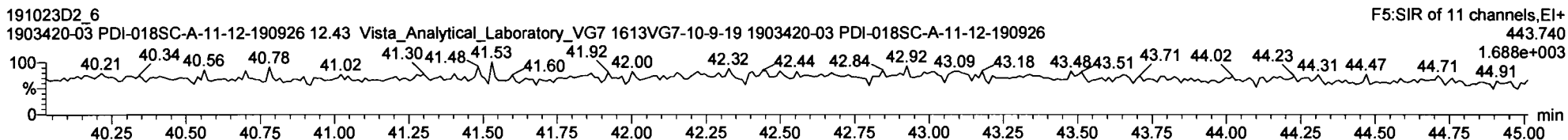
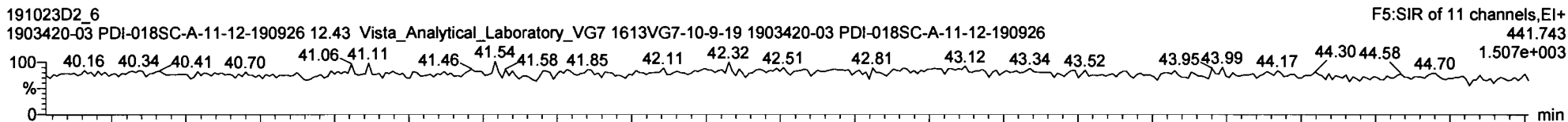


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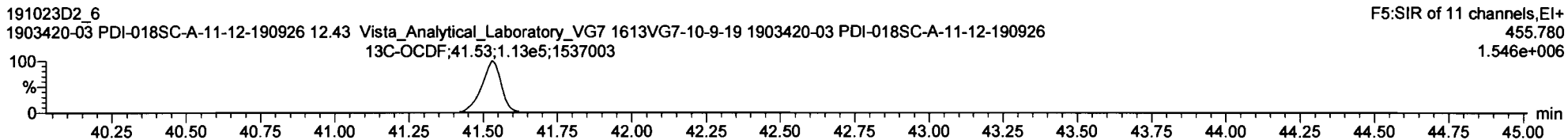
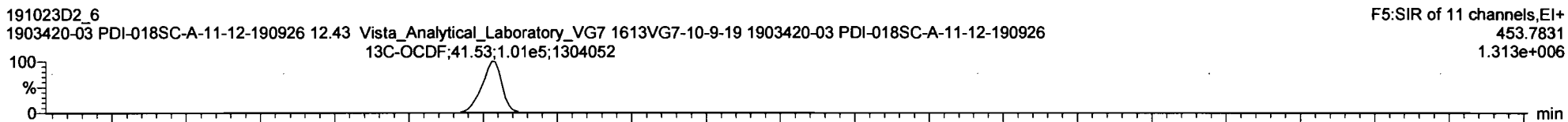


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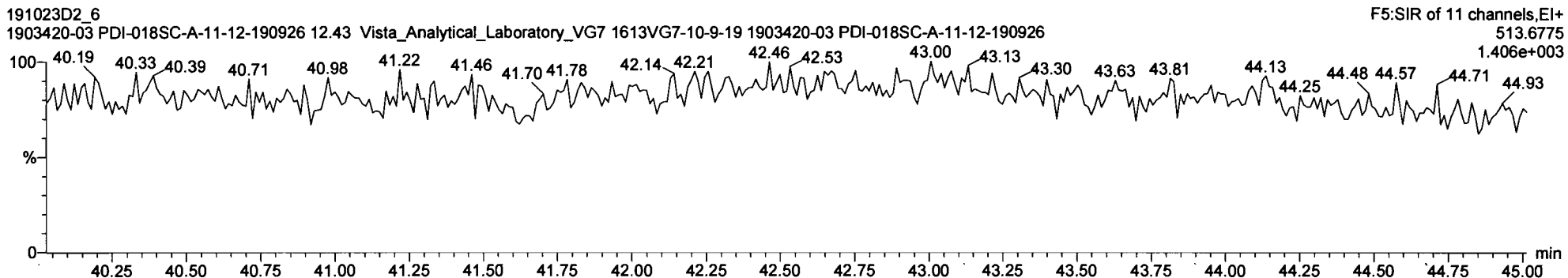
OCDF



13C-OCDF



DPE5



Vista Analytical Laboratory

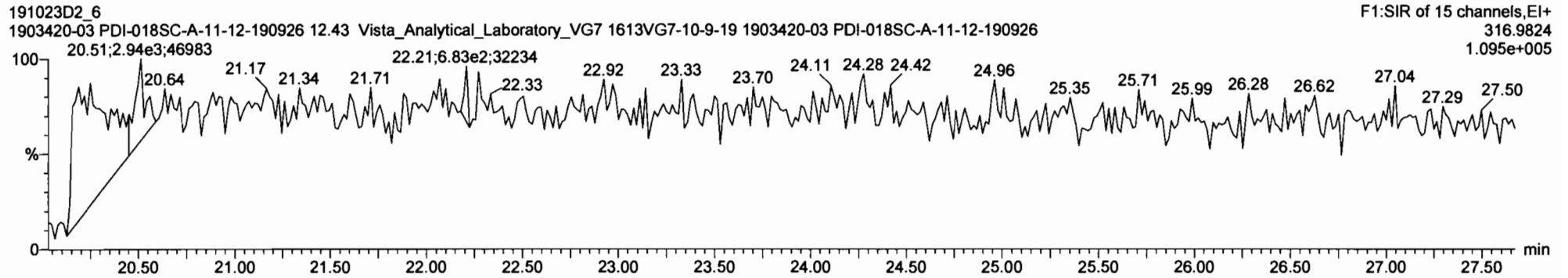
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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

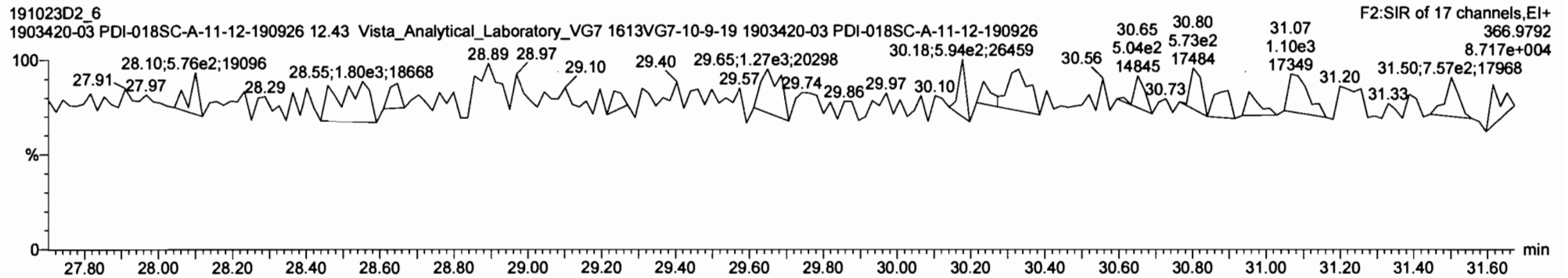
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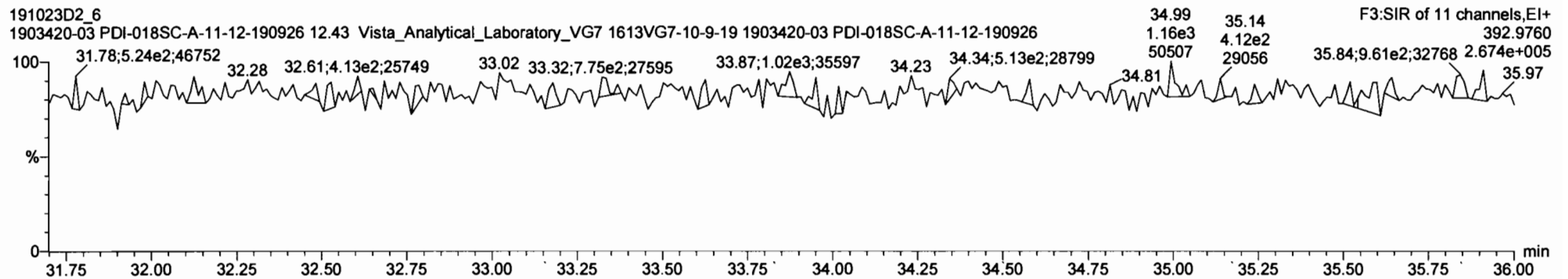
PFK1



PFK2



PFK3



Vista Analytical Laboratory

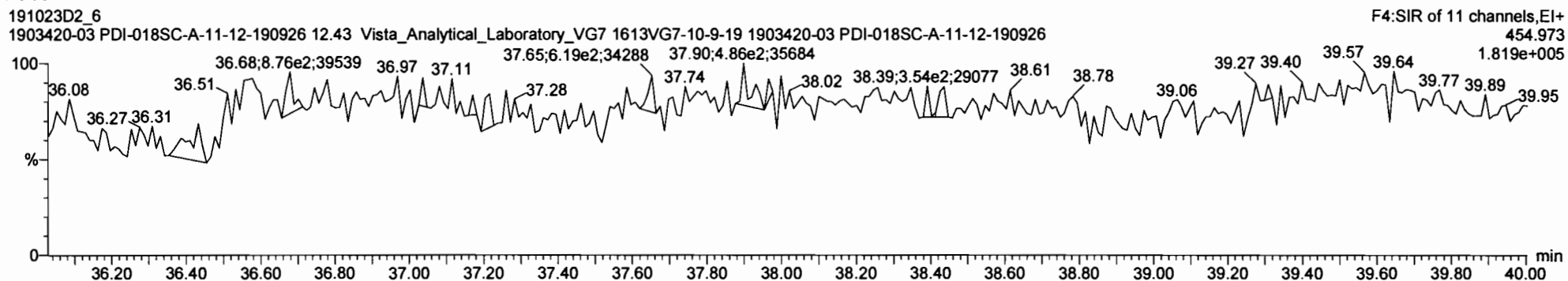
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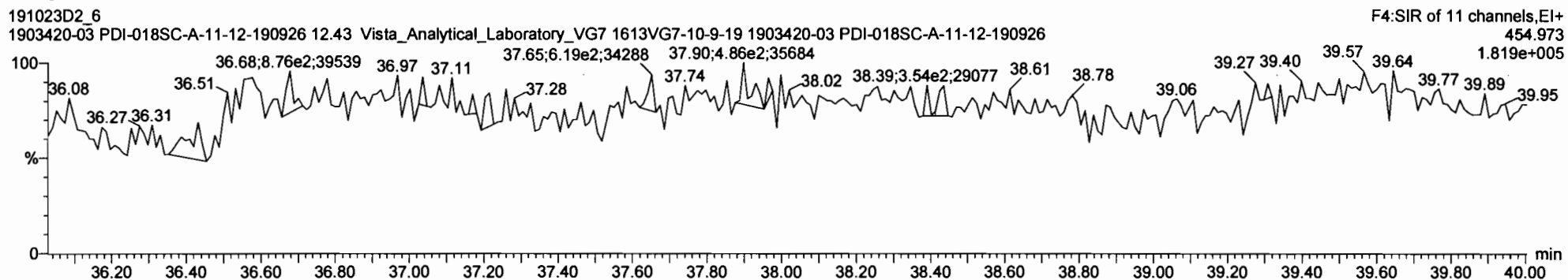
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Description: 1903420-03 PDI-018SC-A-11-12-190926 12.43 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-7.qld

Last Altered: Tuesday, November 05, 2019 13:46:14 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:49:06 Pacific Standard Time

Hc 11.5.19 C7 11/05/19

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Calibration: 05-Nov-2019 13:46:14

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Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	7.80e4	10.0769	0.905			1.001		26.31				0.191	
2	1,2,3,7,8-PeCDD	7.15e4	10.0769	0.903			1.001		30.80				0.168	
3	1,2,3,4,7,8-HxCDD	7.10e4	10.0769	1.101			1.000		34.11				0.196	
4	1,2,3,6,7,8-HxCDD	7.61e4	10.0769	0.939			1.000		34.20				0.231	
5	1,2,3,7,8,9-HxCDD	8.40e4	10.0769	0.961			1.001		34.53				0.200	
6	1,2,3,4,6,7,8-HpCDD	8.04e4	10.0769	0.979			1.000		37.99				0.179	
7	OCDD	1.27e5	10.0769	0.959			1.000		41.31				0.341	
8	2,3,7,8-TCDF	1.09e5	10.0769	0.950			1.001		25.54				0.154	
9	1,2,3,7,8-PeCDF	1.06e5	10.0769	0.960			1.001		29.63				0.0870	
10	2,3,4,7,8-PeCDF	1.06e5	10.0769	1.015			1.001		30.52				0.0886	
11	1,2,3,4,7,8-HxCDF	9.31e4	10.0769	1.177			1.000		33.20				0.0896	
12	1,2,3,6,7,8-HxCDF	1.06e5	10.0769	1.069			1.000		33.33				0.0912	
13	2,3,4,6,7,8-HxCDF	1.02e5	10.0769	1.114			1.001		33.95				0.0903	
14	1,2,3,7,8,9-HxCDF	9.18e4	10.0769	1.062			1.000		34.89				0.126	
15	1,2,3,4,6,7,8-HpCDF	9.03e4	10.0769	1.128			1.001		36.78				0.121	
16	1,2,3,4,7,8,9-HpCDF	7.26e4	10.0769	1.280			1.000		38.53				0.108	
17	OCDF	1.75e5	10.0769	0.947			1.000		41.53				0.171	
18	13C-2,3,7,8-TCDD	7.80e4	1.16e5	10.0769	1.095	0.800	NO	1.021	1.021	26.28	26.28	122.08	61.5	0.309
19	13C-1,2,3,7,8-PeCDD	7.15e4	1.16e5	10.0769	0.881	0.632	NO	1.187	1.196	30.54	30.78	139.04	70.1	0.370
20	13C-1,2,3,4,7,8-Hx...	7.10e4	1.43e5	10.0769	0.642	1.303	NO	1.014	1.014	34.08	34.10	153.04	77.1	0.393
21	13C-1,2,3,6,7,8-Hx...	7.61e4	1.43e5	10.0769	0.856	1.277	NO	1.017	1.017	34.20	34.20	123.11	62.0	0.295
22	13C-1,2,3,7,8,9-Hx...	8.40e4	1.43e5	10.0769	0.807	1.275	NO	1.026	1.026	34.50	34.50	144.20	72.7	0.313
23	13C-1,2,3,4,6,7,8-H...	8.04e4	1.43e5	10.0769	0.654	1.002	NO	1.126	1.130	37.86	37.98	170.18	85.7	0.772
24	13C-OCDD	1.27e5	1.43e5	10.0769	0.580	0.926	NO	1.226	1.229	41.22	41.31	302.66	76.2	0.513
25	13C-2,3,7,8-TCDF	1.09e5	1.88e5	10.0769	1.035	0.792	NO	0.993	0.992	25.57	25.52	111.01	55.9	0.263
26	13C-1,2,3,7,8-PeCDF	1.06e5	1.88e5	10.0769	0.854	1.591	NO	1.143	1.150	29.42	29.60	130.90	66.0	0.594
27	13C-2,3,4,7,8-PeCDF	1.06e5	1.88e5	10.0769	0.847	1.618	NO	1.176	1.185	30.27	30.49	131.30	66.2	0.599
28	13C-1,2,3,4,7,8-Hx...	9.31e4	1.43e5	10.0769	0.832	0.524	NO	0.987	0.988	33.19	33.20	155.05	78.1	0.719
29	13C-1,2,3,6,7,8-Hx...	1.06e5	1.43e5	10.0769	1.034	0.515	NO	0.991	0.991	33.31	33.32	142.19	71.6	0.578
30	13C-2,3,4,6,7,8-Hx...	1.02e5	1.43e5	10.0769	0.953	0.529	NO	1.009	1.009	33.92	33.92	148.74	74.9	0.627
31	13C-1,2,3,7,8,9-Hx...	9.18e4	1.43e5	10.0769	0.828	0.517	NO	1.039	1.038	34.92	34.89	153.50	77.3	0.723

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-7.qld

Last Altered: Tuesday, November 05, 2019 13:46:14 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:49:06 Pacific Standard Time

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 Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	9.03e4	1.43e5	10.0769	0.757	0.449	NO	1.093	1.093	36.74	36.75	165.01	83.1	0.774	
33	13C-1,2,3,4,7,8,9-H...	7.26e4	1.43e5	10.0769	0.581	0.425	NO	1.143	1.146	38.43	38.53	172.94	87.1	1.01	
34	13C-OCDF	1.75e5	1.43e5	10.0769	0.689	0.904	NO	1.233	1.235	41.45	41.53	352.26	88.7	0.393	
35	37Cl-2,3,7,8-TCDD	3.14e4	1.16e5	10.0769	1.198			1.022	1.022	26.30	26.30	44.975	56.7	0.138	
36	13C-1,2,3,4-TCDD	1.16e5	1.16e5	10.0769	1.000	0.820	NO	1.000	1.000	25.70	25.74	198.47	100.0	0.339	
37	13C-1,2,3,4-TCDF	1.88e5	1.88e5	10.0769	1.000	0.812	NO	1.000	1.000	24.28	24.30	198.47	100.0	0.272	
38	13C-1,2,3,4,6,9-Hx...	1.43e5	1.43e5	10.0769	1.000	0.518	NO	1.000	1.000	33.55	33.62	198.47	100.0	0.598	
39	Total Tetra-Dioxins		7.80e4	10.0769	0.901			0.000		25.50				0.441	0.191
40	Total Penta-Dioxins		7.15e4	10.0769	0.872			0.000		30.00				0.0793	0.168
41	Total Hexa-Dioxins		0.00e0	10.0769	0.976			0.000		33.80				0.125	0.231
42	Total Hepta-Dioxins		8.04e4	10.0769	0.989			0.000		37.75				0.105	0.179
43	Total Tetra-Furans		1.09e5	10.0769	0.943			0.000		24.00				0.0774	0.154
44	1st Func. Penta-Fur...		0.00e0	10.0769	0.940			0.000		27.63				0.0423	
45	Total Penta-Furans		0.00e0	10.0769	0.940			0.000		30.00				0.0501	0.806
46	Total Hexa-Furans		0.00e0	10.0769	1.078			0.000		33.00				0.0497	0.126
47	Total Hepta-Furans		0.00e0	10.0769	1.135			0.000		37.75				0.0005	0.121

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-7.qld

Last Altered: Tuesday, November 05, 2019 13:46:14 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:49:06 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:46:14

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Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

Penta-Dioxins

Hexa-Dioxins

Hepta-Dioxins

Tetra-Furans

Penta-Furans function 1

Penta-Furans

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-7.qld

Last Altered: Tuesday, November 05, 2019 13:46:14 Pacific Standard Time

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Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Hexa-Furans

Peak #	Retention Time (min)	Area	Height	Width	Height	Area	Height	Width	Height
1
2
3
4
5
6
7
8
9

Hepta-Furans

Peak #	Retention Time (min)	Area	Height	Width	Height	Area	Height	Width	Height
1
2
3
4
5
6
7
8
9

Vista Analytical Laboratory

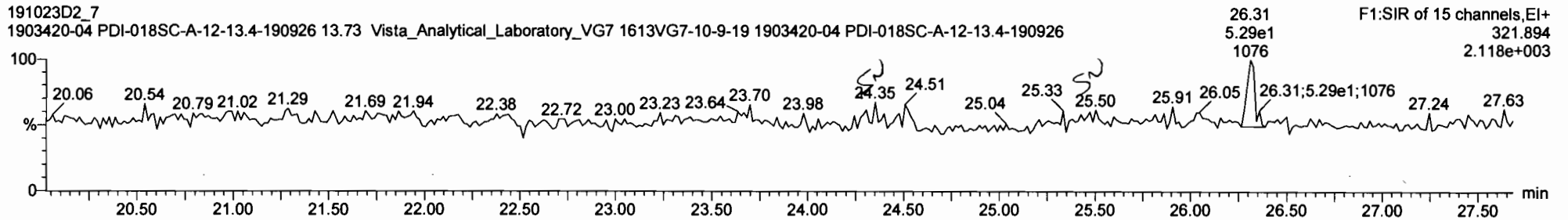
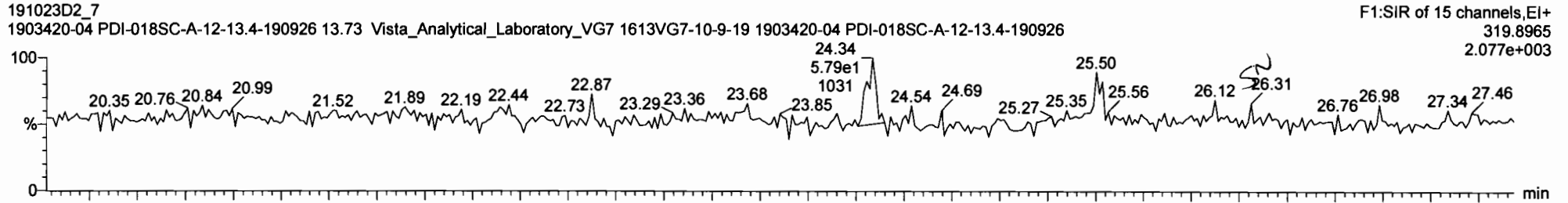
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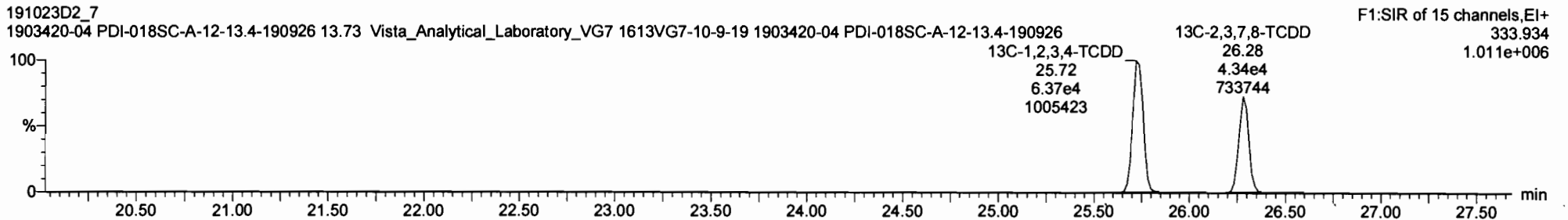
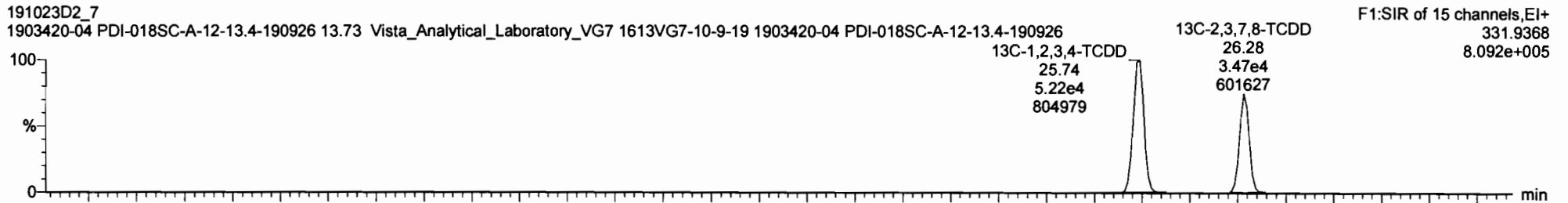
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Total Tetra-Dioxins



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



Vista Analytical Laboratory

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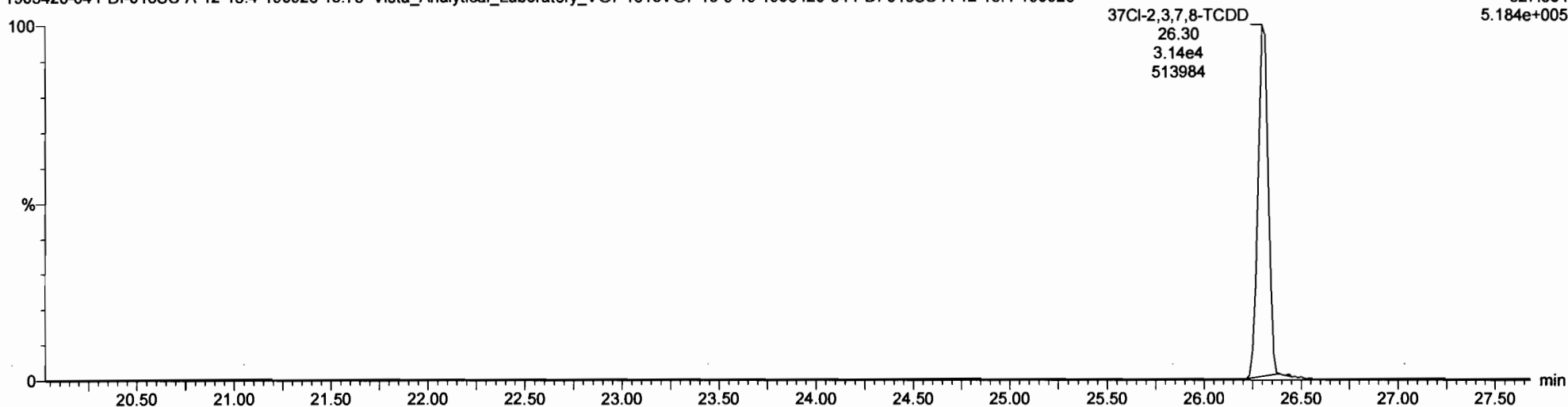
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37Cl-2,3,7,8-TCDD

191023D2_7
 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-04 PDI-018SC-A-12-13.4-190926

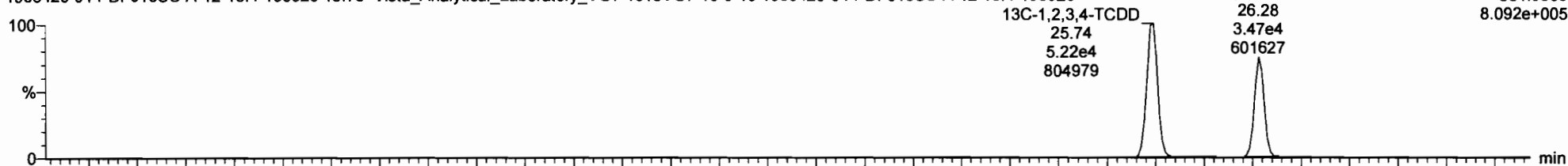
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 5.184e+005



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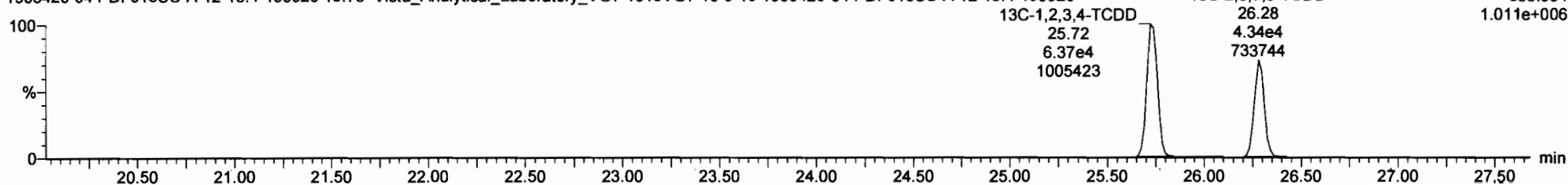
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 8.092e+005



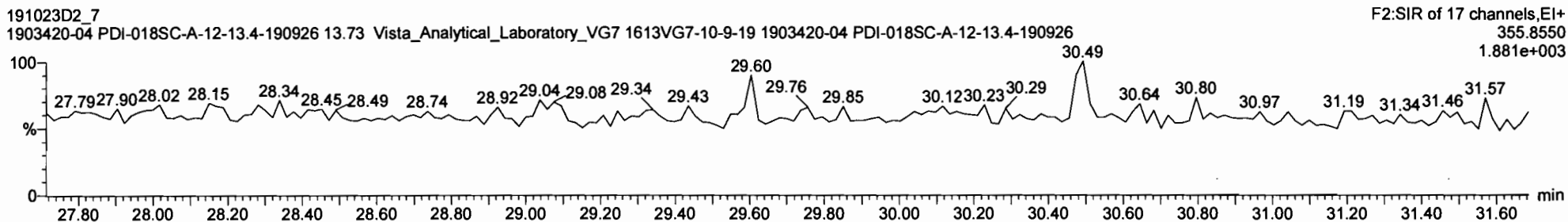
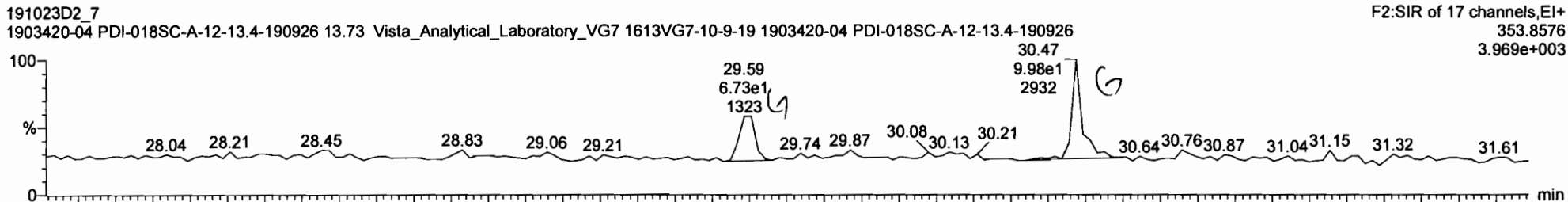
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 1.011e+006

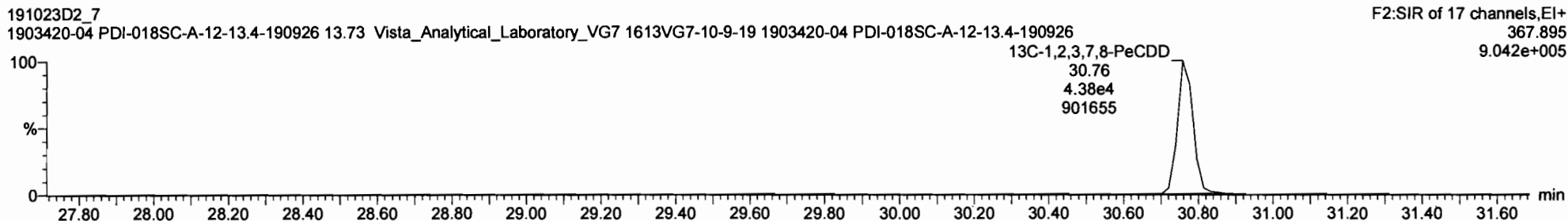
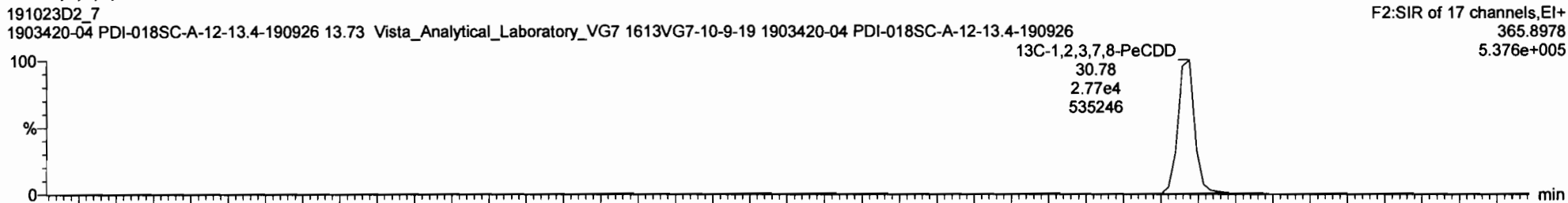


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Total Penta-Dioxins



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



Vista Analytical Laboratory

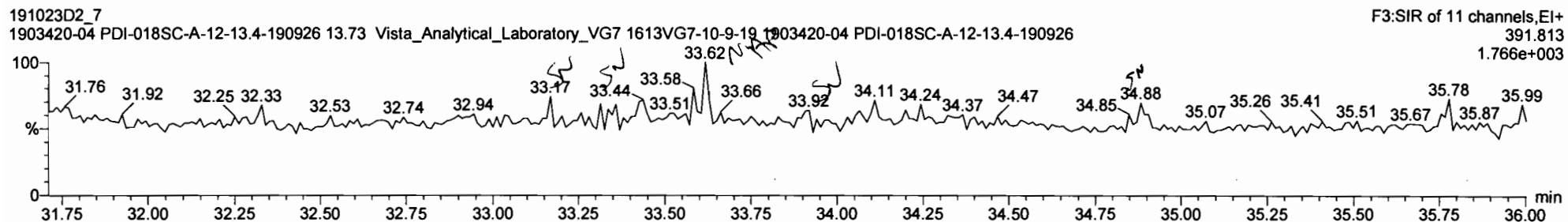
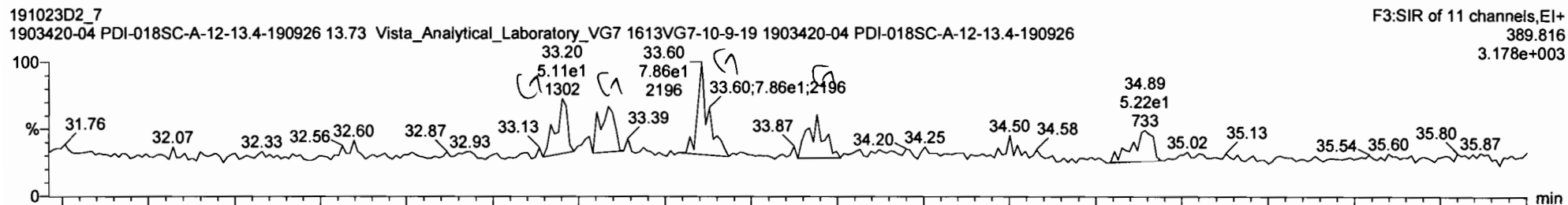
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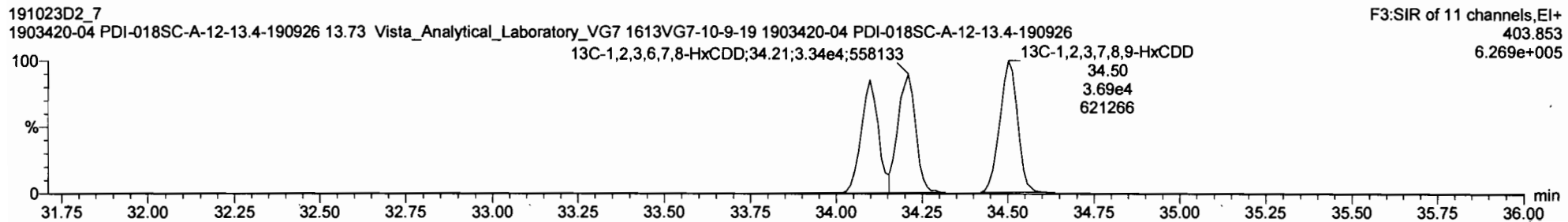
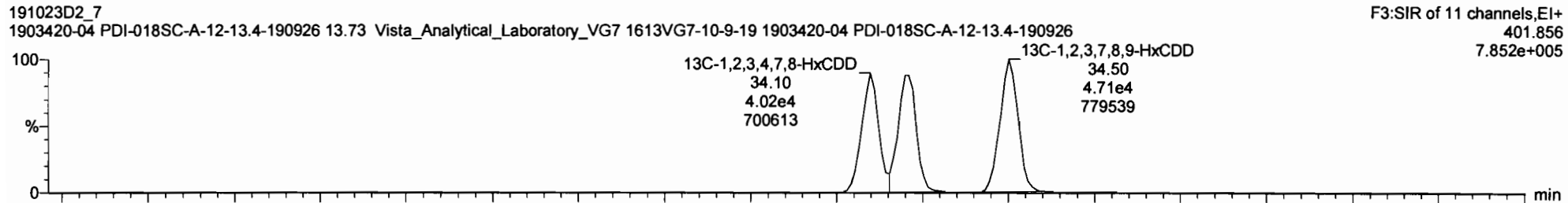
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Total Hexa-Dioxins



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



Vista Analytical Laboratory

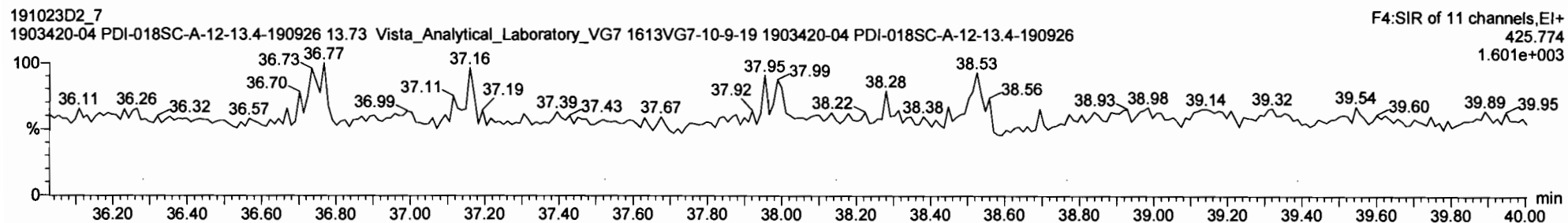
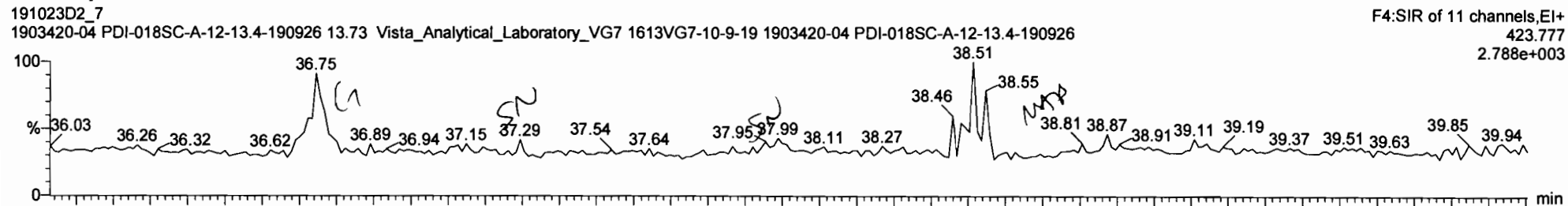
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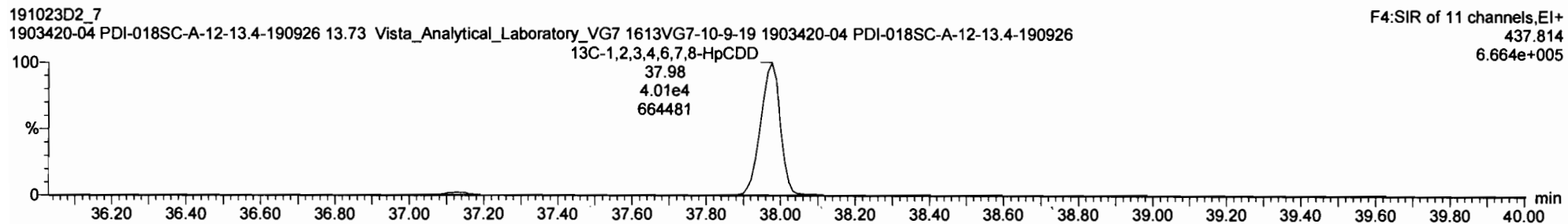
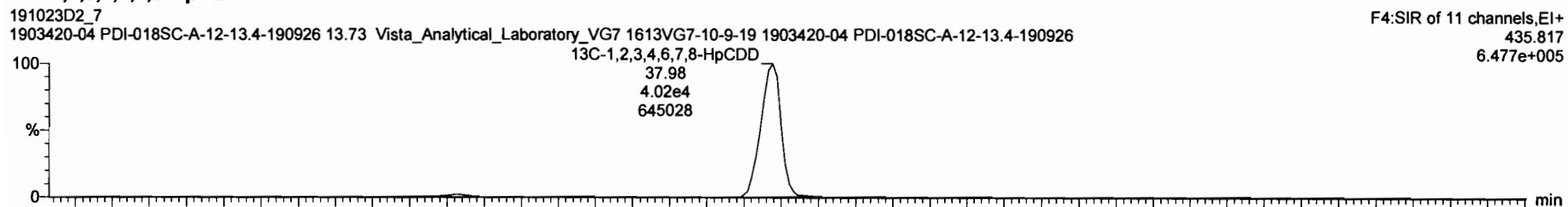
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Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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



Vista Analytical Laboratory

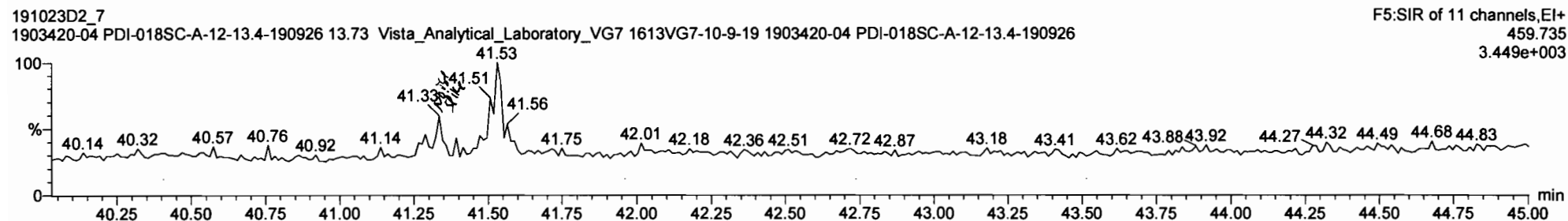
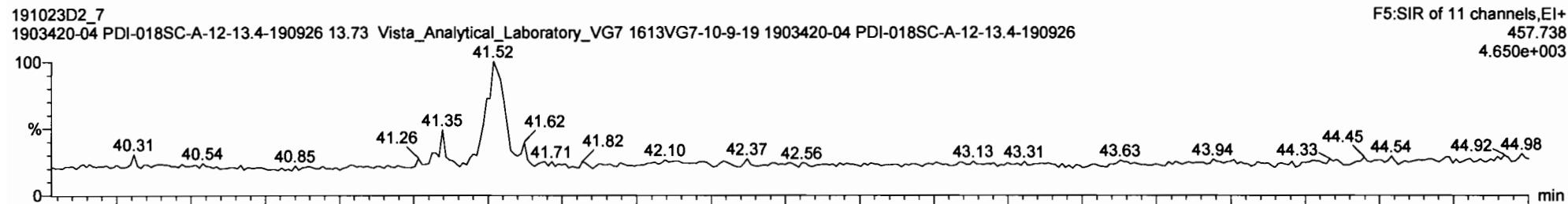
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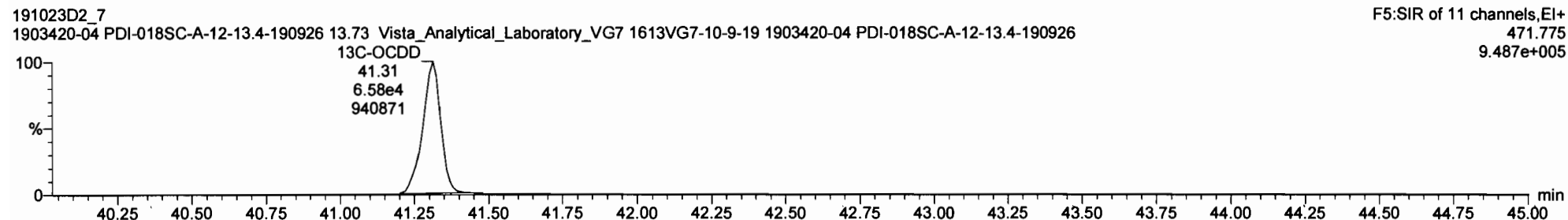
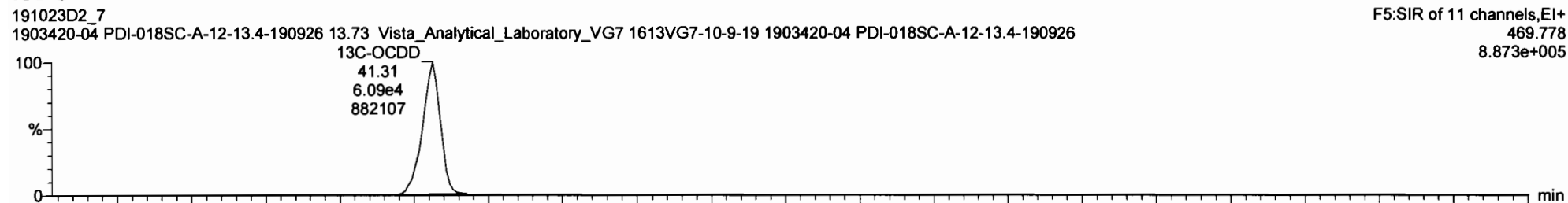
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OCDD

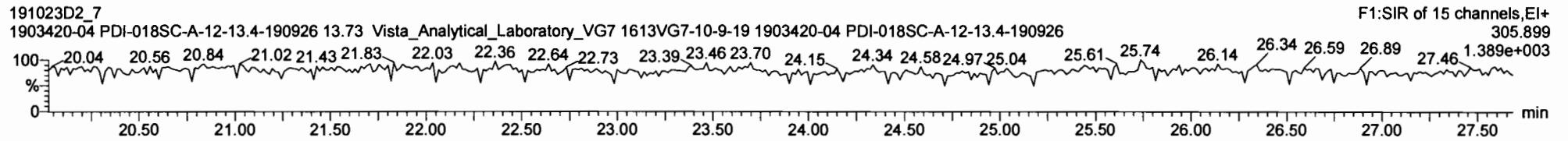
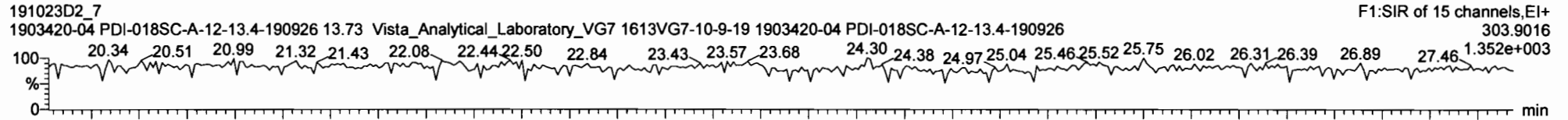


13C-OCDD

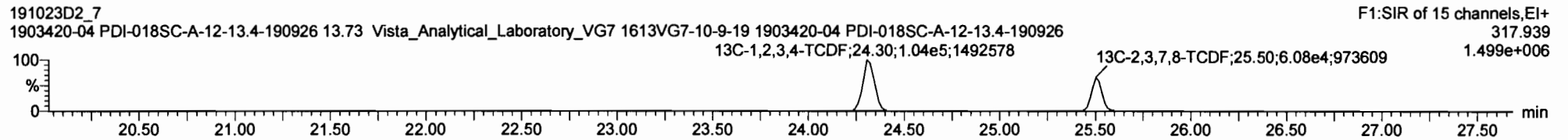
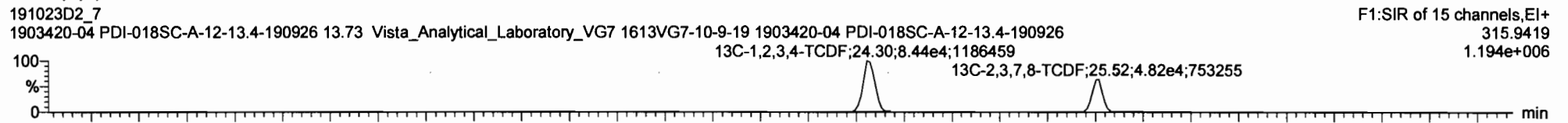


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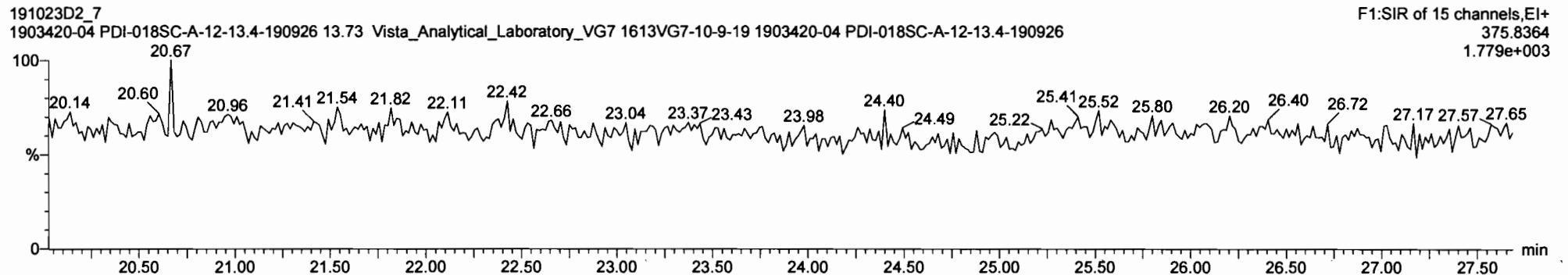
Total Tetra-Furans



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



DPE1



Vista Analytical Laboratory

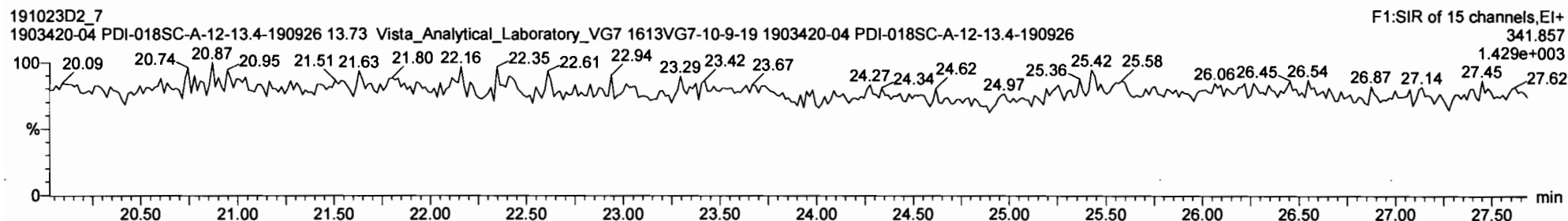
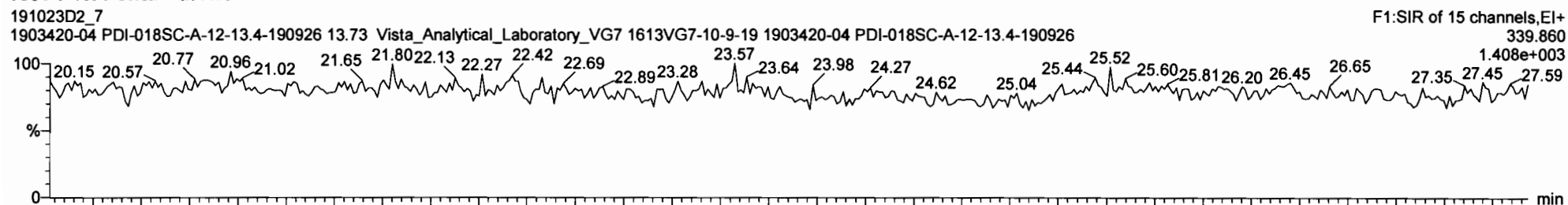
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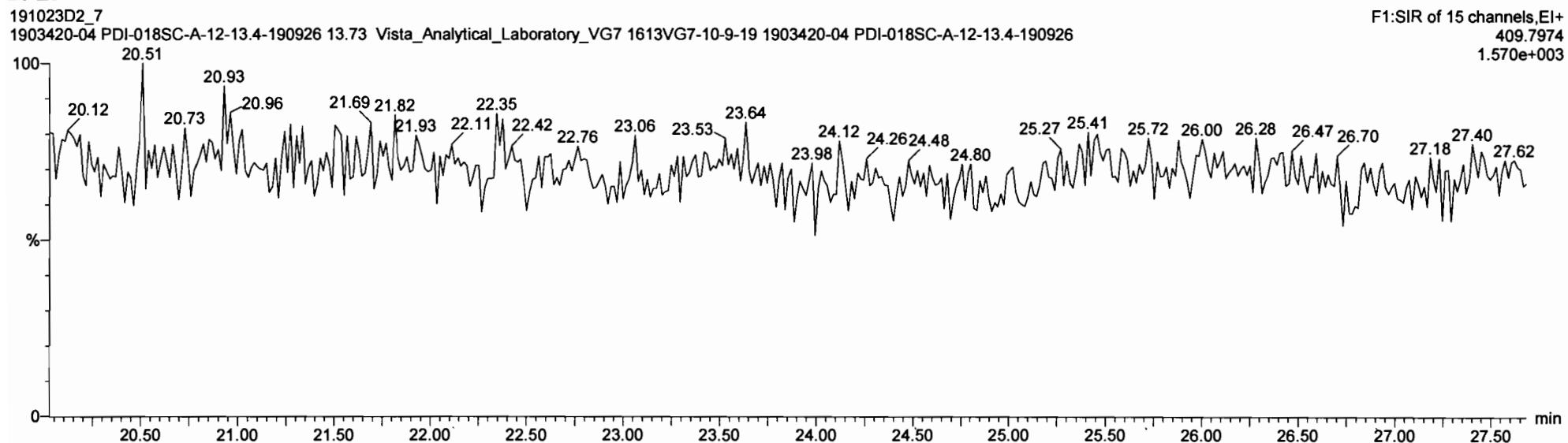
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1st Func. Penta-Furans

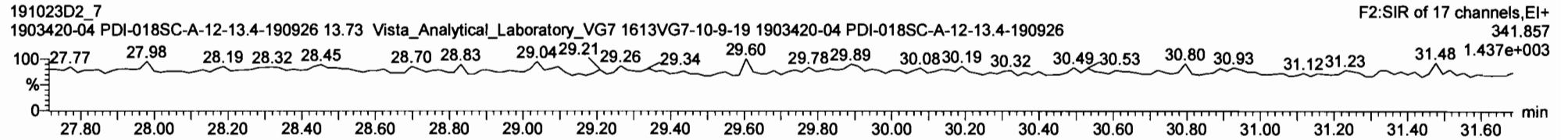
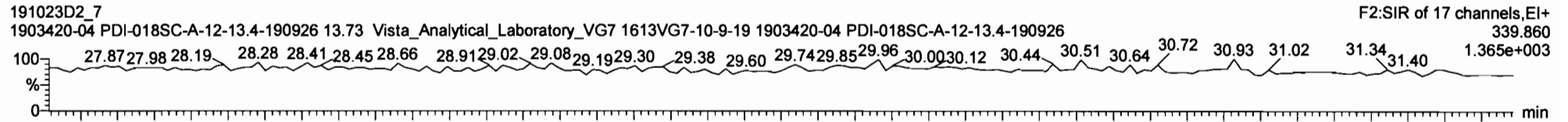


DPE6

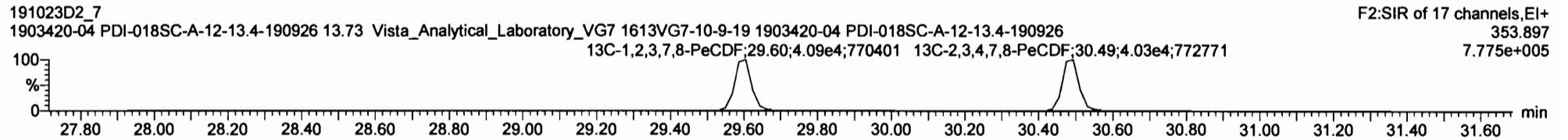
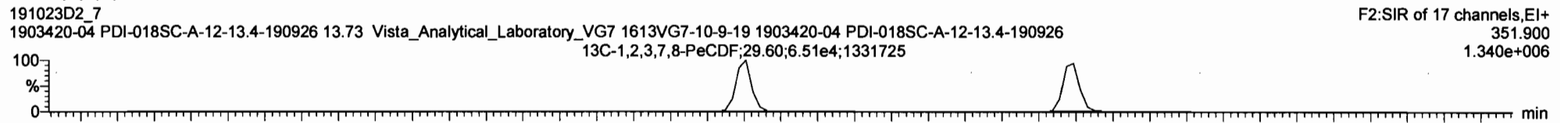


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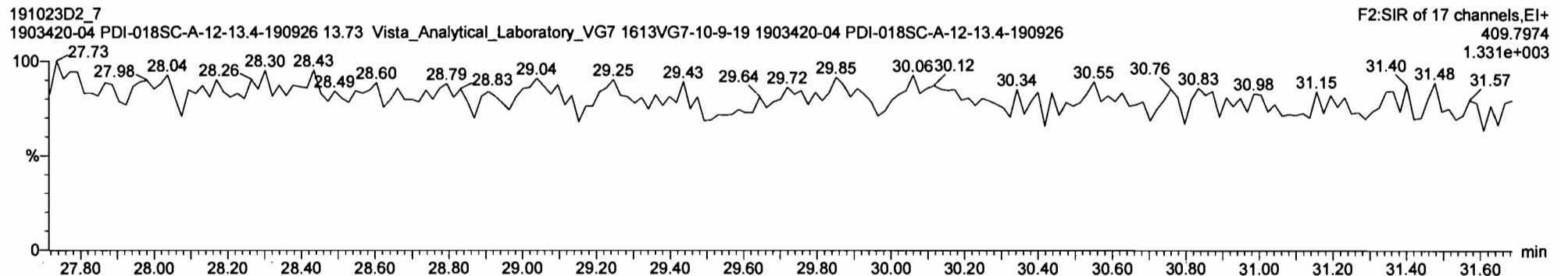
Total Penta-Furans



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

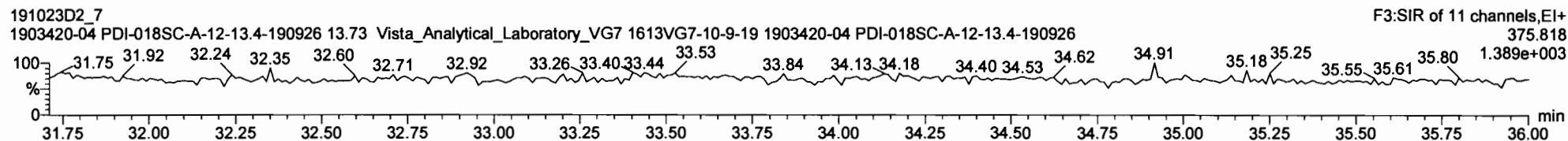
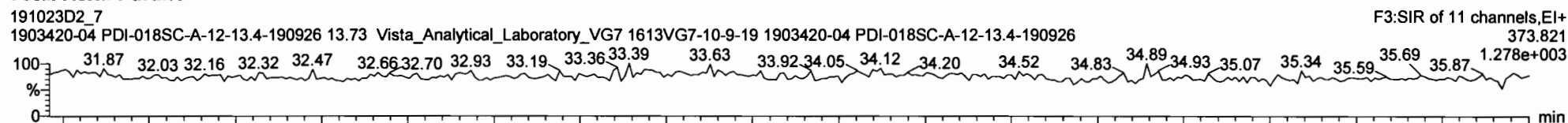


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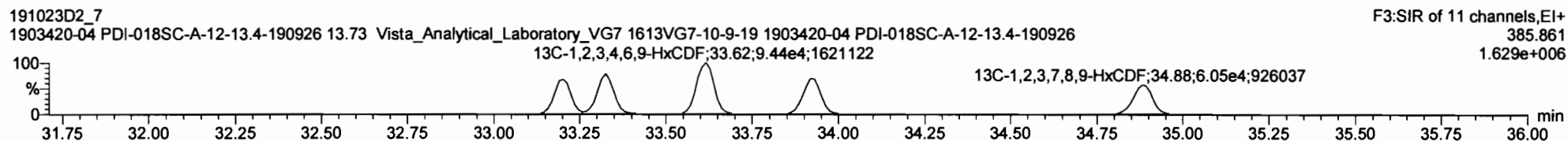
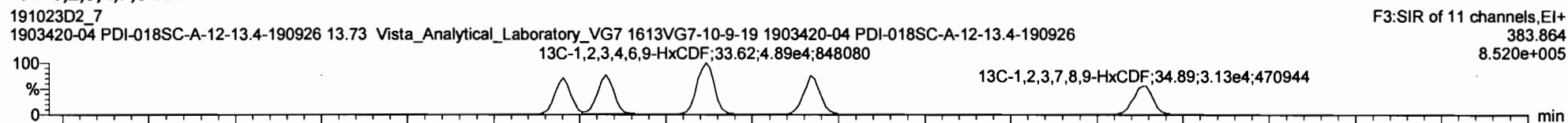


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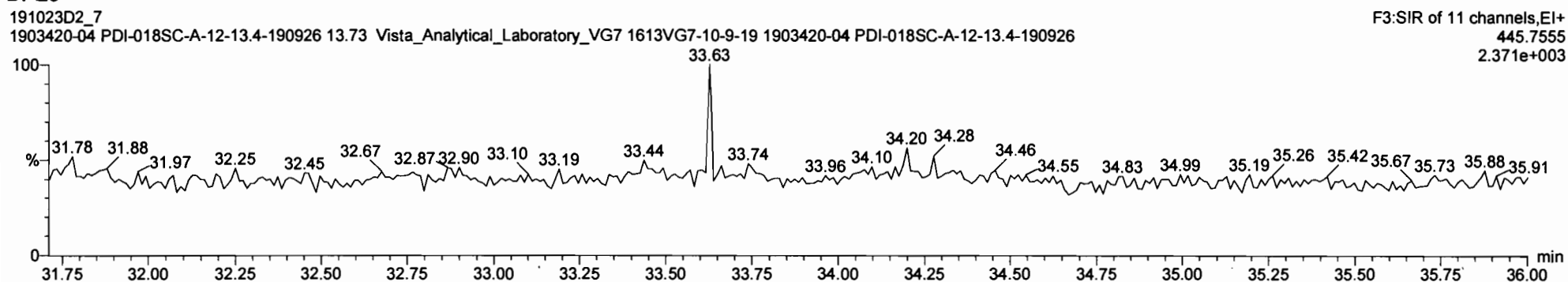
Total Hexa-Furans



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

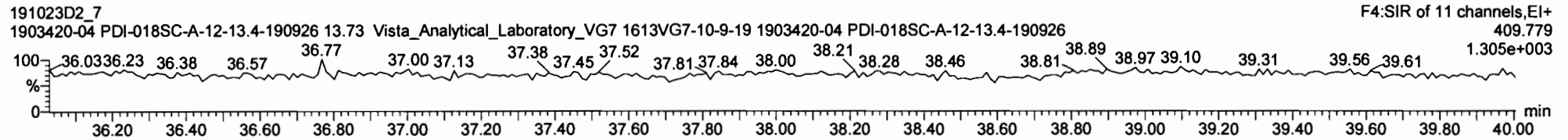
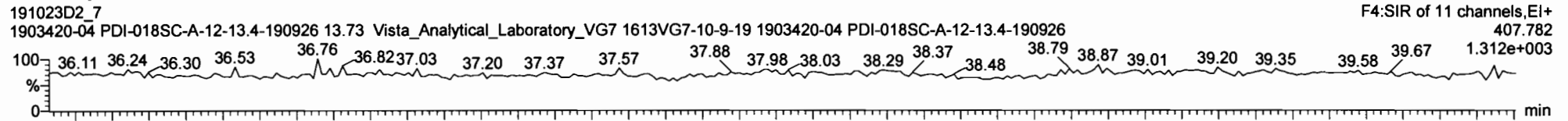


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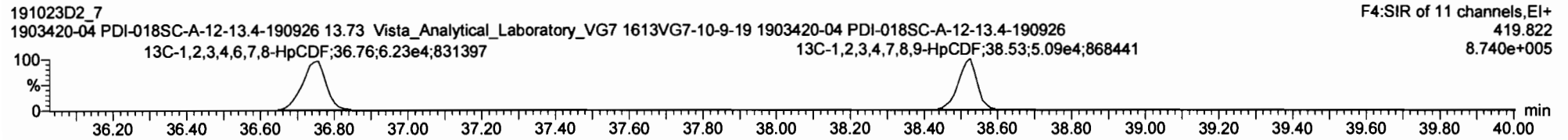
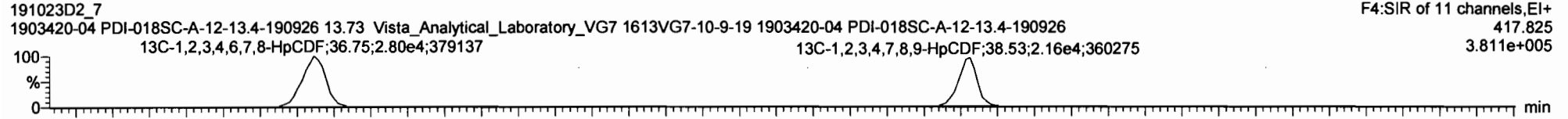


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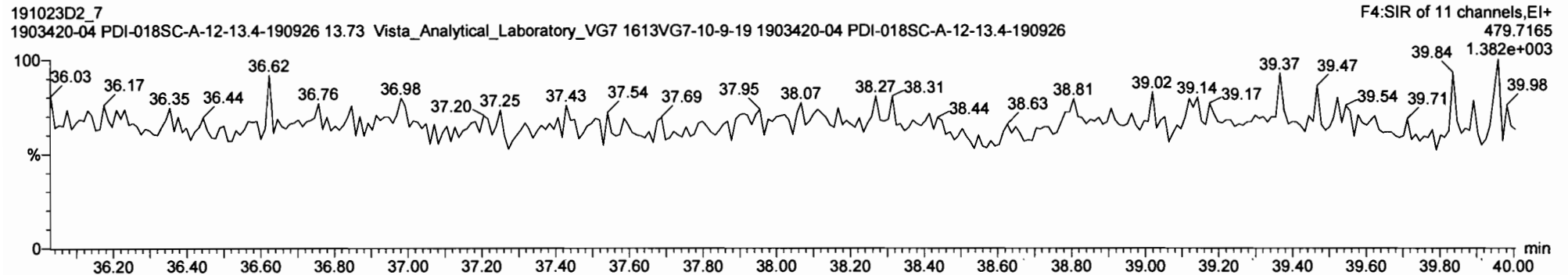
Total Hepta-Furans



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



DPE4



Vista Analytical Laboratory

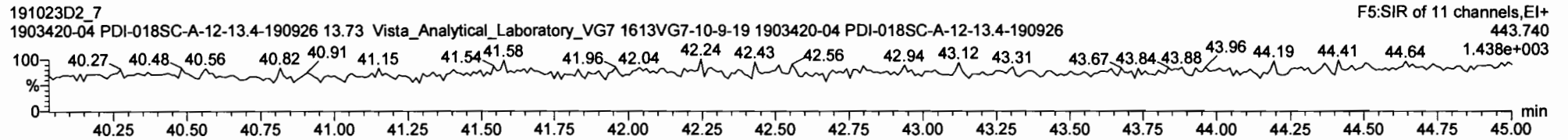
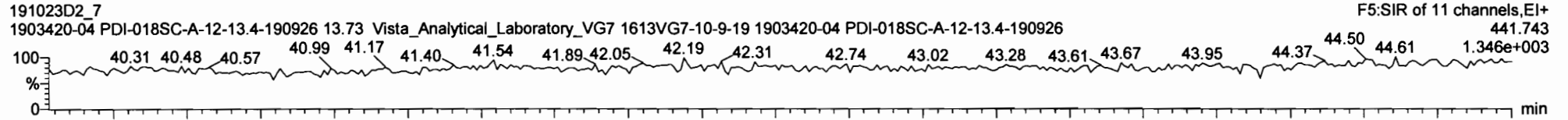
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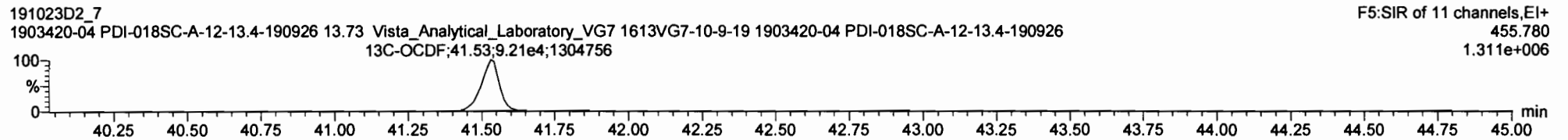
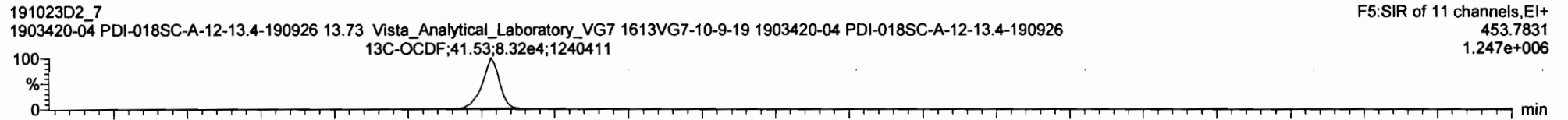
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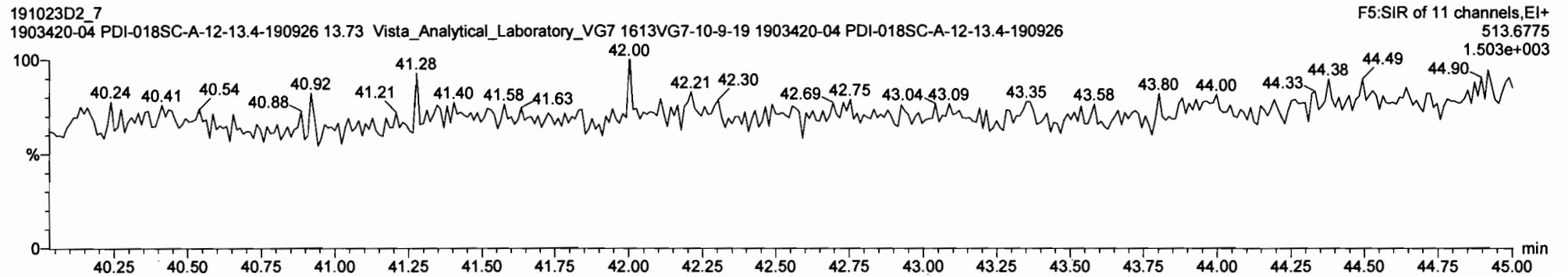
OCDF



13C-OCDF

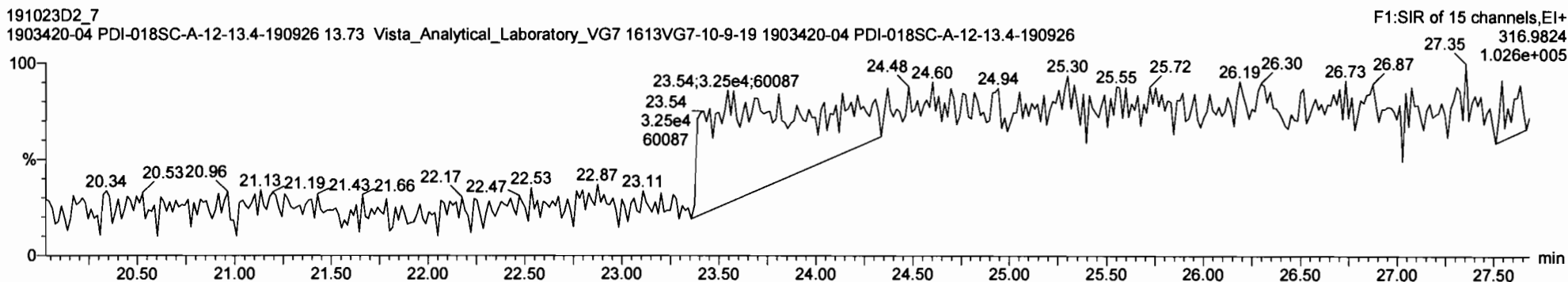


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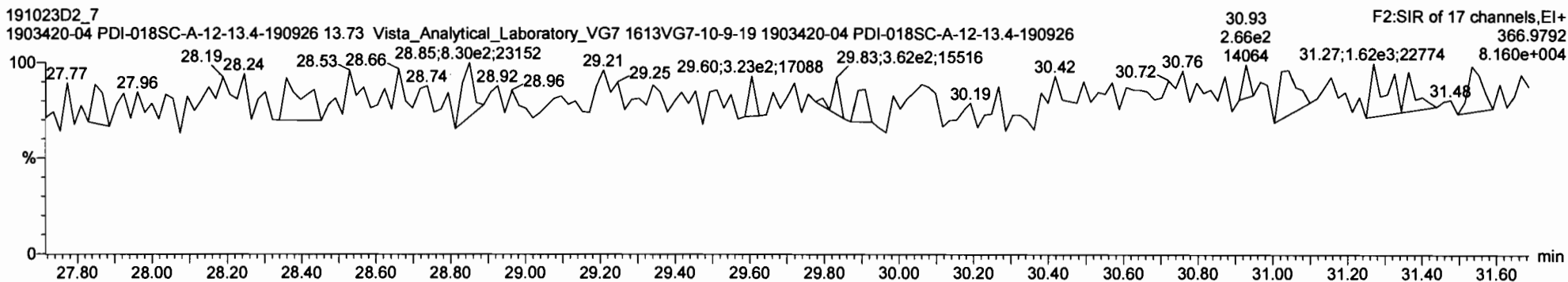


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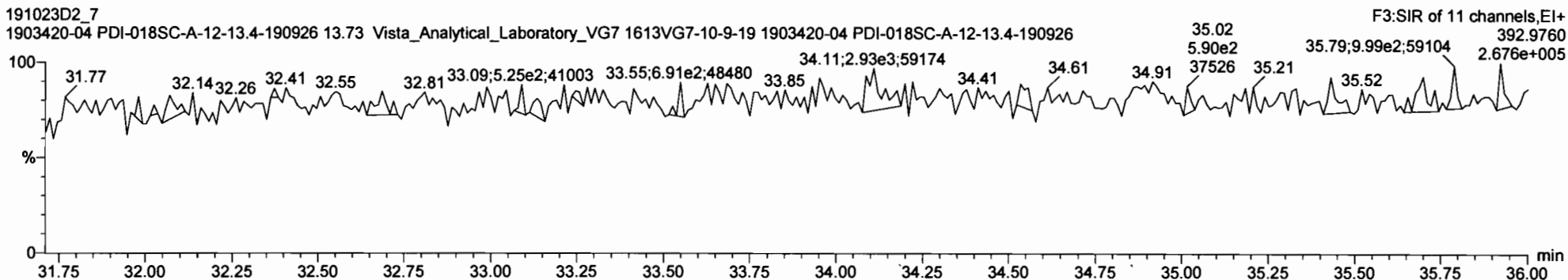
PFK1



PFK2



PFK3



Vista Analytical Laboratory

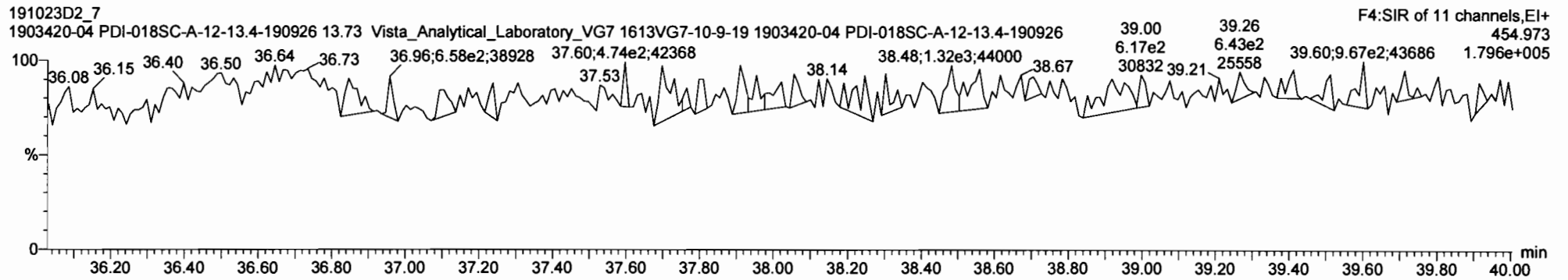
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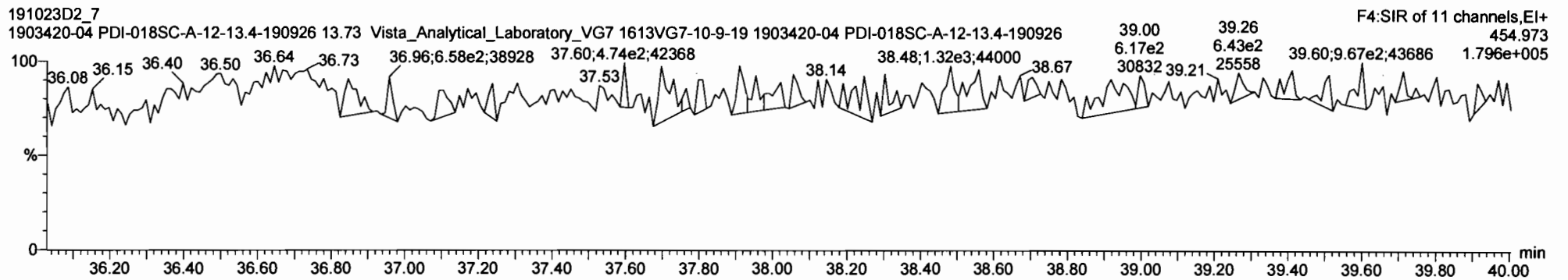
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Description: 1903420-04 PDI-018SC-A-12-13.4-190926 13.73 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-8.qld
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HC 11.5.19

C7 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 13:49:13

Name: VG7 191023D2_8, Date: 24-OCT-2019, Time: 07:06:59, ID: 1903420-05 PDI-100SC-J-01-02-190926,
 Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 ✓

1	2,3,7,8-TCDD	7.44e4	10.0113	0.905			1.001		26.30					0.195
2	1,2,3,7,8-PeCDD	5.96e4	10.0113	0.903			1.001		30.78					0.207
3	1,2,3,4,7,8-HxCDD	5.82e4	10.0113	1.101			1.000		34.10					0.371
4	1,2,3,6,7,8-HxCDD	6.33e4	10.0113	0.939			1.000		34.19					0.400
5	1,2,3,7,8,9-HxCDD	6.55e4	10.0113	0.961			1.001		34.53					0.377
6	1,2,3,4,6,7,8-HpCDD	7.93e2	5.63e4	10.0113	0.979	1.041	NO	1.000	1.000	37.98	37.97	2.8768	2.88	0.369
7	OCDD	6.81e3	9.22e4	10.0113	0.959	0.886	NO	1.000	1.001	41.30	41.33	30.781	30.8	0.526
8	2,3,7,8-TCDF		1.03e5	10.0113	0.950			1.001		25.53				0.231
9	1,2,3,7,8-PeCDF		9.62e4	10.0113	0.960			1.001		29.61				0.238
10	2,3,4,7,8-PeCDF		9.60e4	10.0113	1.015			1.001		30.51				0.230
11	1,2,3,4,7,8-HxCDF		6.79e4	10.0113	1.177			1.000		33.18				0.244
12	1,2,3,6,7,8-HxCDF	1.64e2	7.73e4	10.0113	1.069	1.974	YES	1.000	1.000	33.32	33.32	0.39701	0.299	0.253
13	2,3,4,6,7,8-HxCDF		8.10e4	10.0113	1.114			1.001		33.93				0.244
14	1,2,3,7,8,9-HxCDF		7.58e4	10.0113	1.062			1.000		34.88				0.303
15	1,2,3,4,6,7,8-HpCDF	6.36e2	5.54e4	10.0113	1.128	0.852	YES	1.001	1.001	36.78	36.76	2.0355	1.84	0.279
16	1,2,3,4,7,8,9-HpCDF		4.95e4	10.0113	1.280			1.000		38.52				0.208
17	OCDF	8.50e2	1.15e5	10.0113	0.947	1.040	YES	1.000	1.000	41.52	41.53	3.1110	2.88	0.561
18	13C-2,3,7,8-TCDD	7.44e4	1.14e5	10.0113	1.095	0.783	NO	1.021	1.021	26.26	26.27	119.55	59.8	0.490
19	13C-1,2,3,7,8-PeCDD	5.96e4	1.14e5	10.0113	0.881	0.620	NO	1.187	1.196	30.52	30.76	119.02	59.6	0.227
20	13C-1,2,3,4,7,8-Hx...	5.82e4	1.41e5	10.0113	0.642	1.269	NO	1.014	1.015	34.07	34.09	128.06	64.1	0.564
21	13C-1,2,3,6,7,8-Hx...	6.33e4	1.41e5	10.0113	0.856	1.260	NO	1.017	1.018	34.18	34.19	104.64	52.4	0.423
22	13C-1,2,3,7,8,9-Hx...	6.55e4	1.41e5	10.0113	0.807	1.246	NO	1.026	1.027	34.48	34.49	114.80	57.5	0.449
23	13C-1,2,3,4,6,7,8-H...	5.63e4	1.41e5	10.0113	0.654	1.058	NO	1.126	1.130	37.84	37.97	121.62	60.9	0.679
24	13C-OCDD	9.22e4	1.41e5	10.0113	0.580	0.900	NO	1.226	1.229	41.20	41.30	224.89	56.3	0.405
25	13C-2,3,7,8-TCDF	1.03e5	1.78e5	10.0113	1.035	0.811	NO	0.993	0.992	25.56	25.50	111.95	56.0	0.366
26	13C-1,2,3,7,8-PeCDF	9.62e4	1.78e5	10.0113	0.854	1.572	NO	1.143	1.150	29.40	29.59	126.38	63.3	0.445
27	13C-2,3,4,7,8-PeCDF	9.60e4	1.78e5	10.0113	0.847	1.549	NO	1.176	1.185	30.26	30.48	127.17	63.7	0.448
28	13C-1,2,3,4,7,8-Hx...	6.79e4	1.41e5	10.0113	0.832	0.530	NO	0.987	0.988	33.17	33.18	115.48	57.8	0.613
29	13C-1,2,3,6,7,8-Hx...	7.73e4	1.41e5	10.0113	1.034	0.525	NO	0.991	0.991	33.29	33.31	105.66	52.9	0.493
30	13C-2,3,4,6,7,8-Hx...	8.10e4	1.41e5	10.0113	0.953	0.526	NO	1.009	1.009	33.91	33.90	120.09	60.1	0.535
31	13C-1,2,3,7,8,9-Hx...	7.58e4	1.41e5	10.0113	0.828	0.507	NO	1.039	1.038	34.90	34.88	129.44	64.8	0.616

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-8.qld

Last Altered: Tuesday, November 05, 2019 13:55:38 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:56:20 Pacific Standard Time

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 Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	5.54e4	1.41e5	10.0113	0.757	0.421	NO	1.093	1.093	36.72	36.74	103.35	51.7	0.683
33	13C-1,2,3,4,7,8,9-H...	4.95e4	1.41e5	10.0113	0.581	0.415	NO	1.143	1.146	38.41	38.52	120.34	60.2	0.890
34	13C-OCDF	1.15e5	1.41e5	10.0113	0.689	0.919	NO	1.233	1.236	41.43	41.52	236.55	59.2	0.428
35	37Cl-2,3,7,8-TCDD	2.97e4	1.14e5	10.0113	1.198			1.022	1.022	26.29	26.30	43.706	54.7	0.0765
36	13C-1,2,3,4-TCDD	1.14e5	1.14e5	10.0113	1.000	0.782	NO	1.000	1.000	25.70	25.72	199.77	100.0	0.537
37	13C-1,2,3,4-TCDF	1.78e5	1.78e5	10.0113	1.000	0.820	NO	1.000	1.000	24.28	24.31	199.77	100.0	0.379
38	13C-1,2,3,4,6,9-Hx...	1.41e5	1.41e5	10.0113	1.000	0.515	NO	1.000	1.000	33.55	33.60	199.77	100.0	0.510
39	Total Tetra-Dioxins		7.44e4	10.0113	0.901			0.000		25.50				0.112
40	Total Penta-Dioxins		5.96e4	10.0113	0.872			0.000		30.00				0.0866
41	Total Hexa-Dioxins		0.00e0	10.0113	0.976			0.000		33.80		0.65873	0.659	0.391
42	Total Hepta-Dioxins		5.63e4	10.0113	0.989			0.000		37.75		6.5203	6.52	0.365
43	Total Tetra-Furans		1.03e5	10.0113	0.943			0.000		24.00		0.36866	0.369	0.233
44	1st Func. Penta-Fur...		0.00e0	10.0113	0.940			0.000		27.63		0.00000	0.385	0.0592
45	Total Penta-Furans		0.00e0	10.0113	0.940			0.000		30.00				0.164
46	Total Hexa-Furans		0.00e0	10.0113	1.078			0.000		33.00		1.6257	2.37	0.267
47	Total Hepta-Furans		0.00e0	10.0113	1.135			0.000		37.75		3.2655	5.10	0.258

0.195
0.207

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-8.qld

Last Altered: Tuesday, November 05, 2019 13:55:38 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:56:20 Pacific Standard Time

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Calibration: 05 Nov 2019 13:49:13

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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

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Penta-Dioxins

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Hexa-Dioxins

41	Total Hexa-Dioxins	NO	32.55	109.209	34724.259	6.436	bb	0.6587	0.66	

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	NO	37.97	404.678	28920.854	28.208	bb	2.8768	2.88	
42	Total Hepta-Dioxins	NO	37.14	484.684	28920.854	36.064	bb	3.6435	3.64	

Tetra-Furans

43	Total Tetra-Furans	NO	23.33	81.228	46209.754	3.480	bb	0.3687	0.37	

Penta-Furans function 1

44	1st Func. Penta-Furans	YES	27.28	122.647	58551.326	0.000	bb	0.0000	0.39	

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-8.qld

Last Altered: Tuesday, November 05, 2019 13:55:38 Pacific Standard Time

Printed: Tuesday, November 05, 2019 13:56:20 Pacific Standard Time

Name: VG7 191023D2_8, Date: 24-OCT-2019, Time: 07:06:59, ID: 1903420-05 PDI-100SC-J-01-02-190926,
 Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans

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Hexa-Furans

12	1,2,3,6,7,8-HxCDF	YES	33.32	109.000	26622.559	0.000	MM	0.0000	0.30
46	Total Hexa-Furans	NO	32.71	353.631	25886.173	17.538	bb	1.6257	1.63
46	Total Hexa-Furans	YES	32.19	99.826	25886.173	0.000	bb	0.0000	0.44

Hepta-Furans

47	Total Hepta-Furans	NO	37.32	508.728	15452.264	37.096	MM	3.2655	3.27
15	1,2,3,4,6,7,8-HpCDF	YES	36.76	292.670	16395.033	0.000	MM	0.0000	1.84

Vista Analytical Laboratory

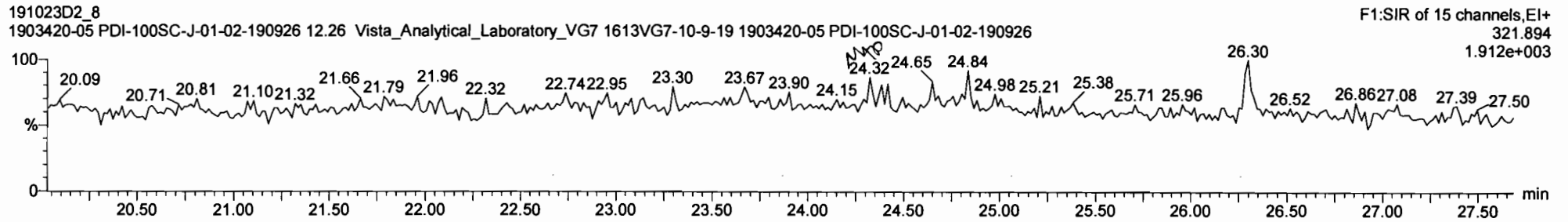
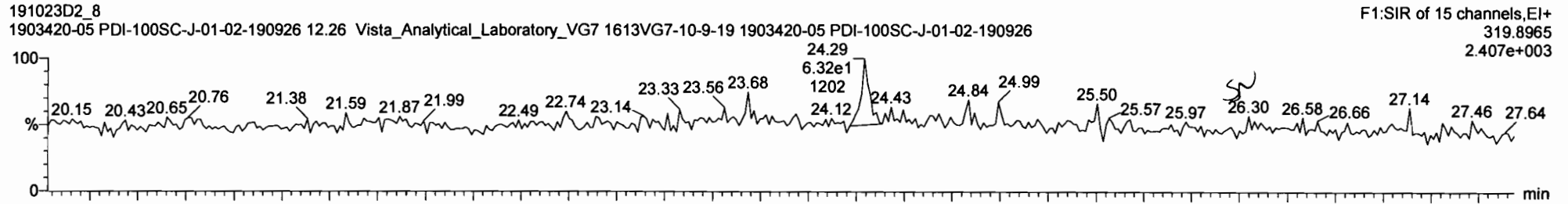
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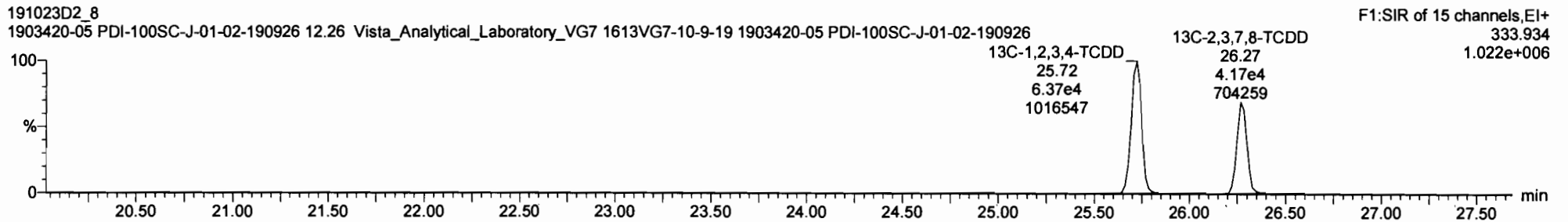
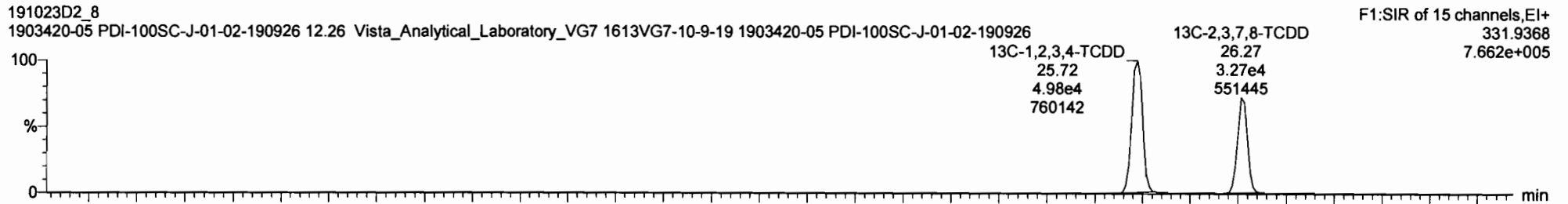
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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

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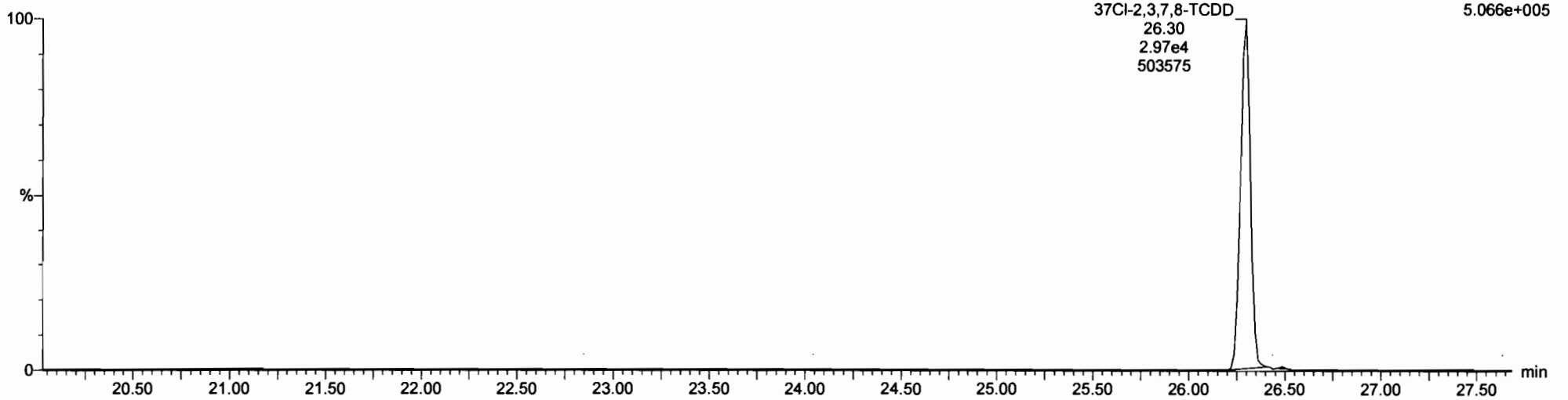
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37Cl-2,3,7,8-TCDD

191023D2_8
1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

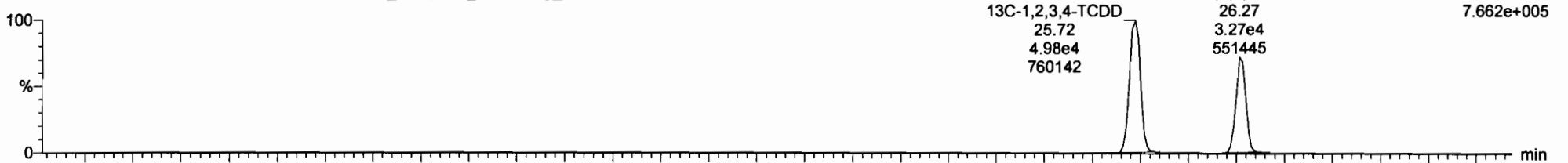
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5.066e+005



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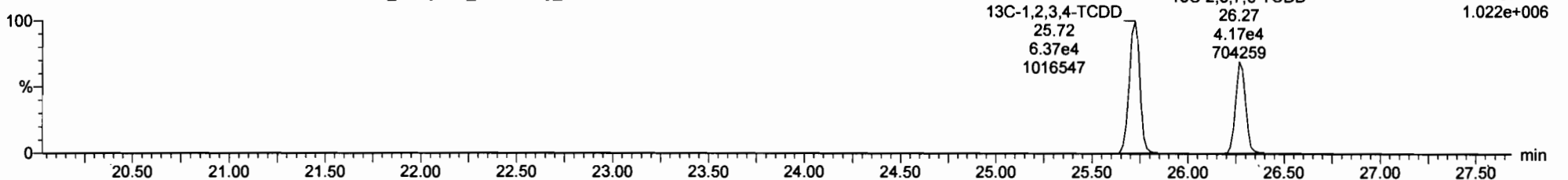
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1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

F1:SIR of 15 channels,EI+
331.9368
7.662e+005



191023D2_8
1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

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

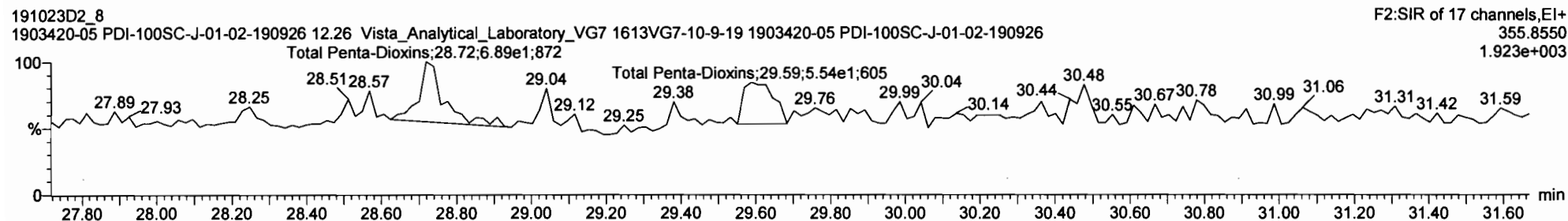
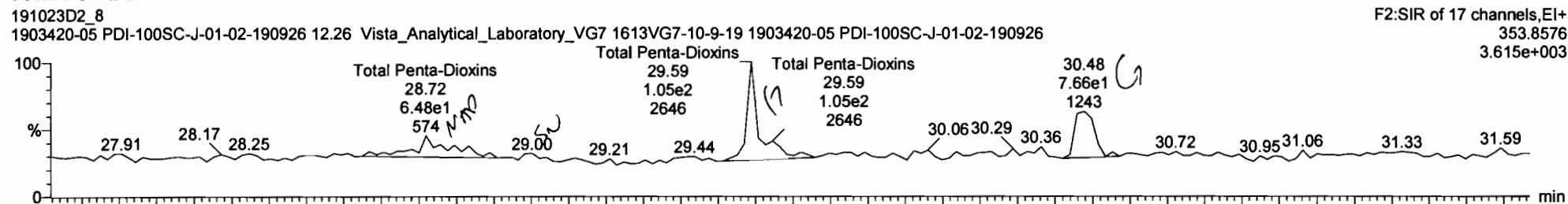
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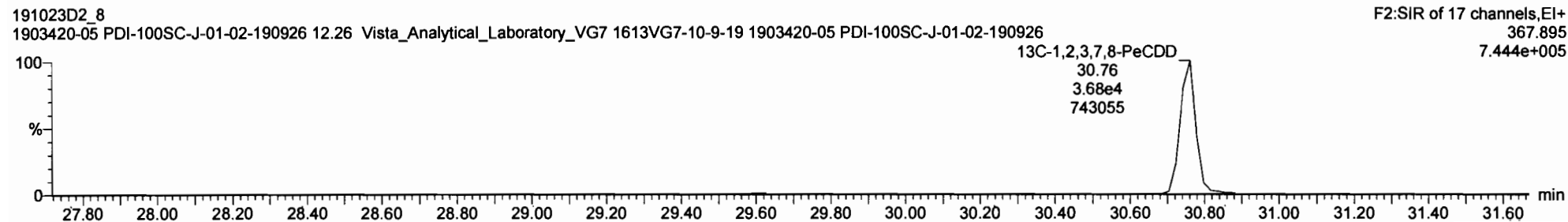
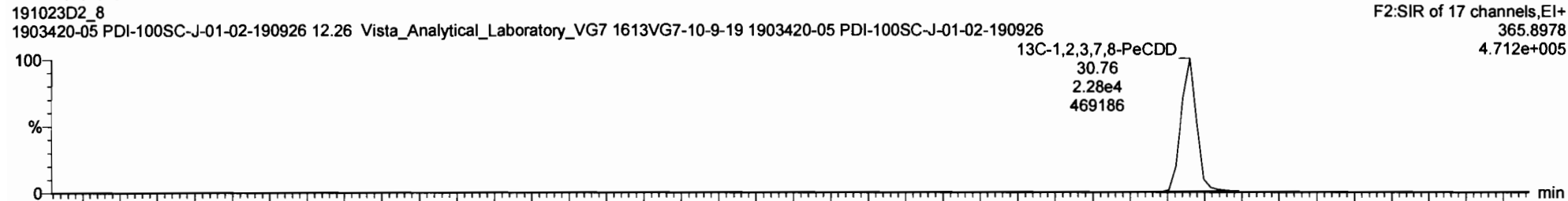
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Total Penta-Dioxins

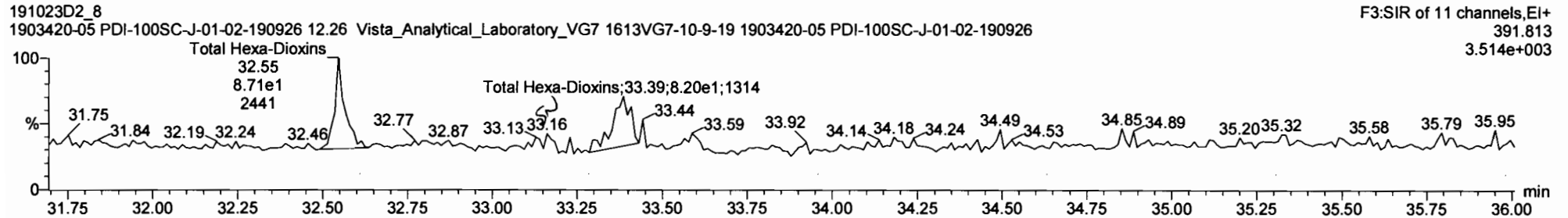
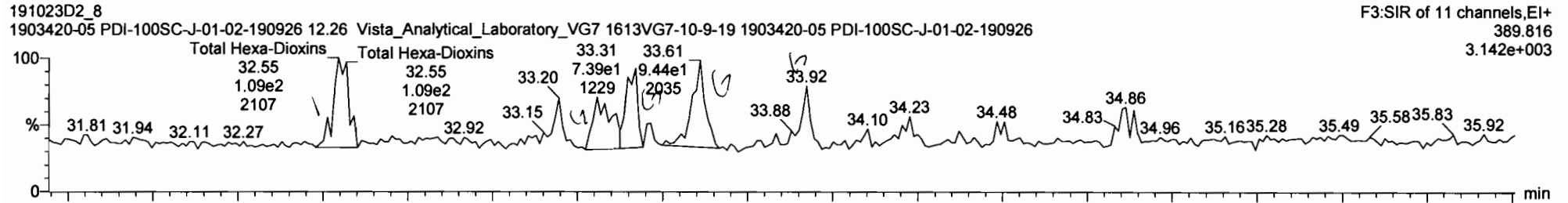


13C-1,2,3,7,8-PeCDD

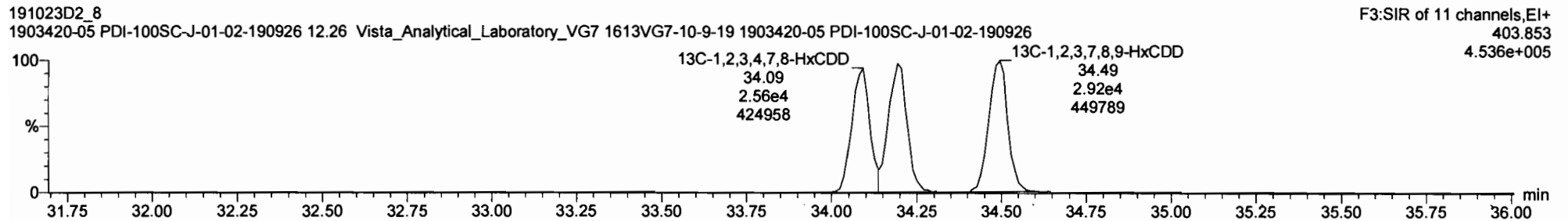
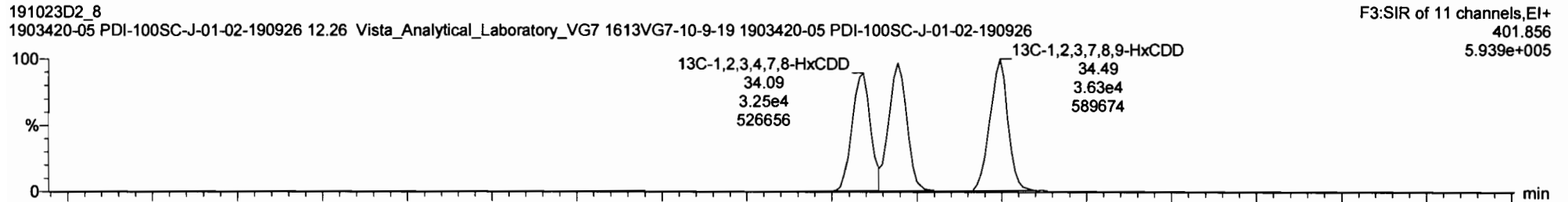


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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins

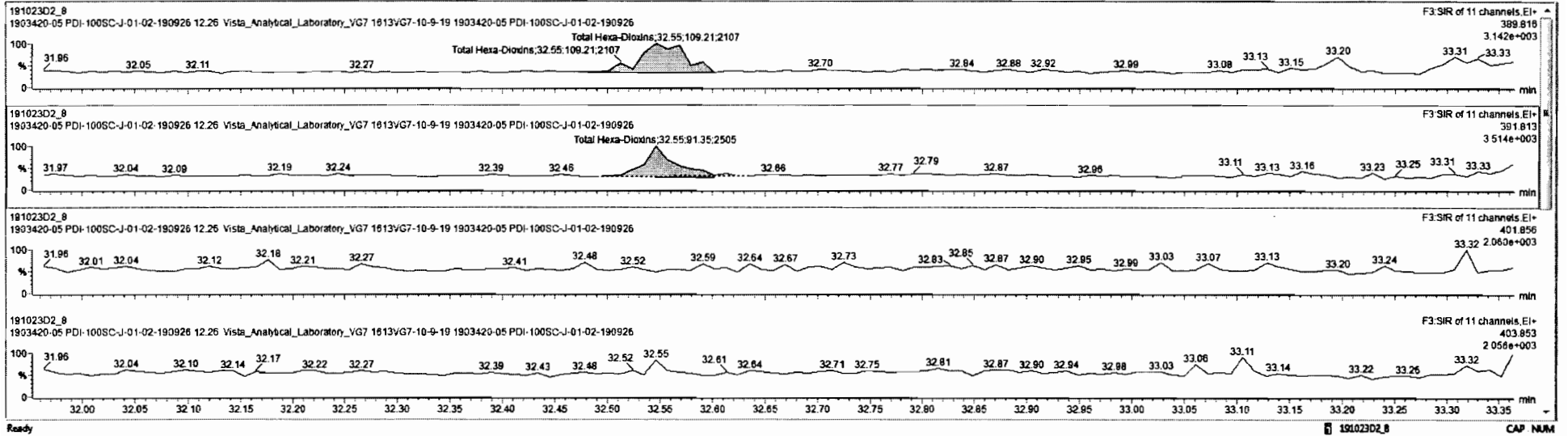


13C-1,2,3,4,7,8-HxCDD



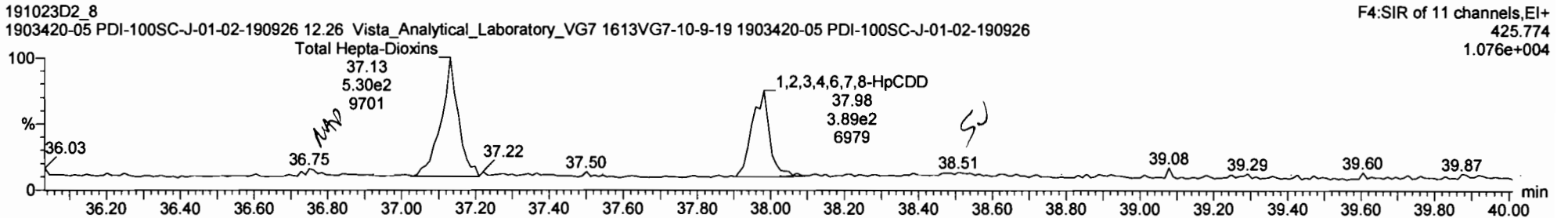
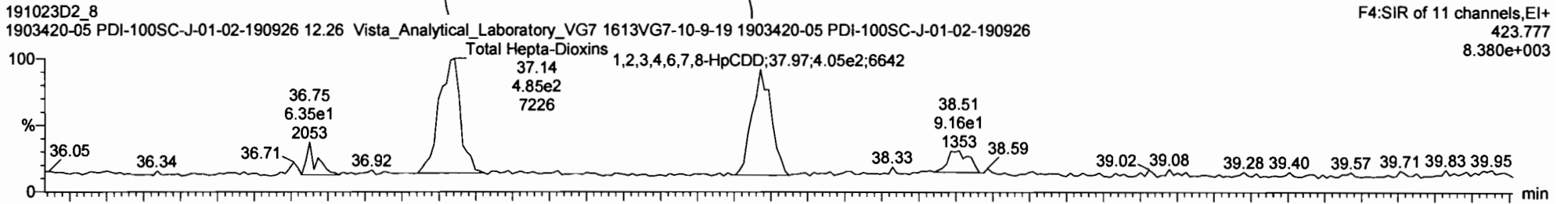
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39	Total Tetra-Dioxins		7.44e4				0.901	10.011	25.50			0.000	NO			0.112	
40	Total Penta-Dioxins		5.96e4				0.872	10.011	30.00			0.000	NO			0.0866	
41	Total Hexa-Dioxins		0.00e0				0.978	10.011	33.00			0.000	NO	0.6587	0.261	0.8587	
42	Total Hepta-Dioxins		5.63e4				0.909	10.011	37.75			0.000	NO	6.520	0.365	6.520	
43	Total Tetra-Furans		1.03e5				0.943	10.011	24.00			0.000	NO	0.3687	0.233	0.3687	
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	0.9000	0.0592	0.3852	
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO			0.184	
46	Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	1.626	0.267	2.305	
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	3.357	0.258	4.849	

#	Name	Pred RT	RT	n1 Resp	n2 Resp	Pred RA	RA	nly	EMPC	Conc.
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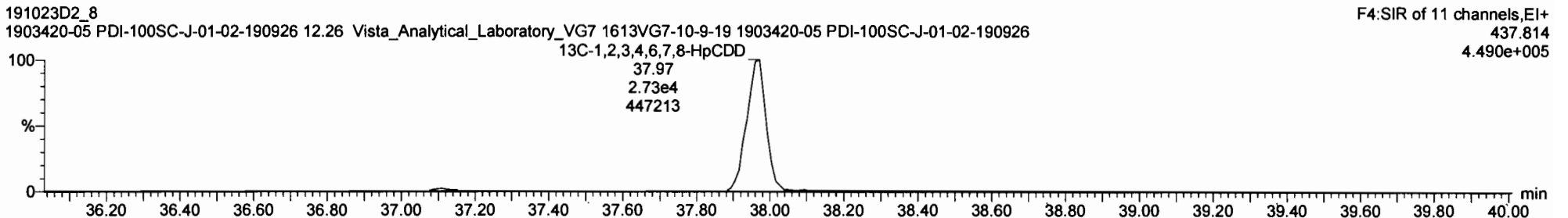
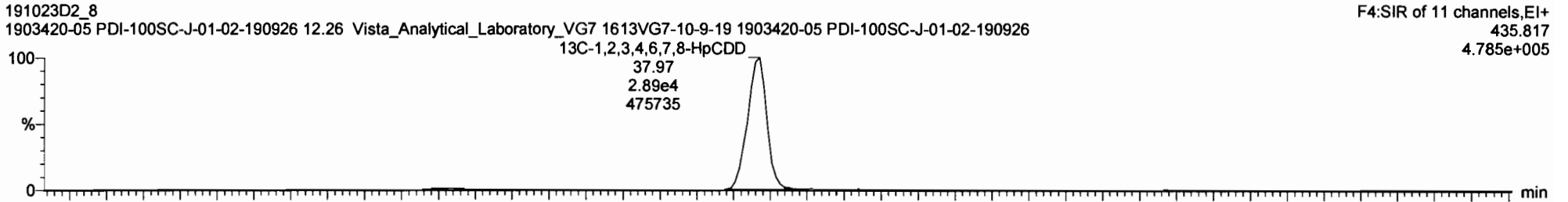


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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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

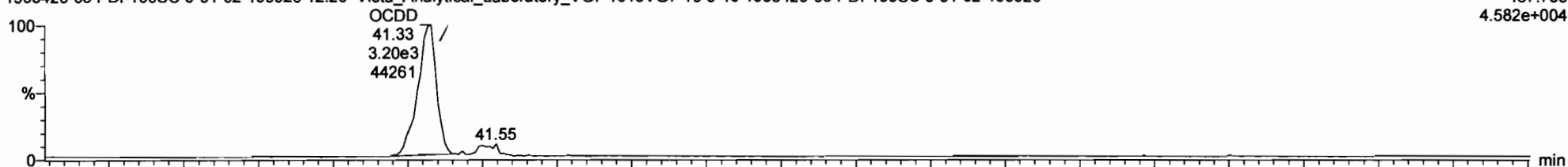


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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

OCDD

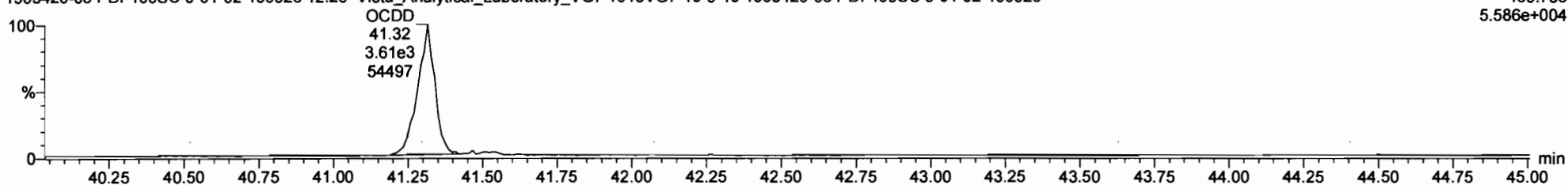
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F5:SIR of 11 channels,EI+
457.738
4.582e+004



191023D2_8
1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

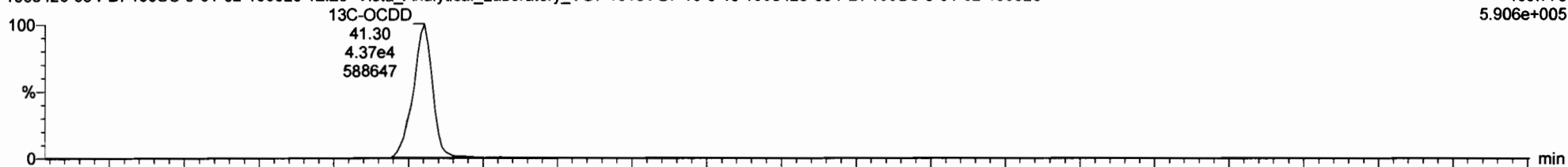
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5.586e+004



13C-OCDD

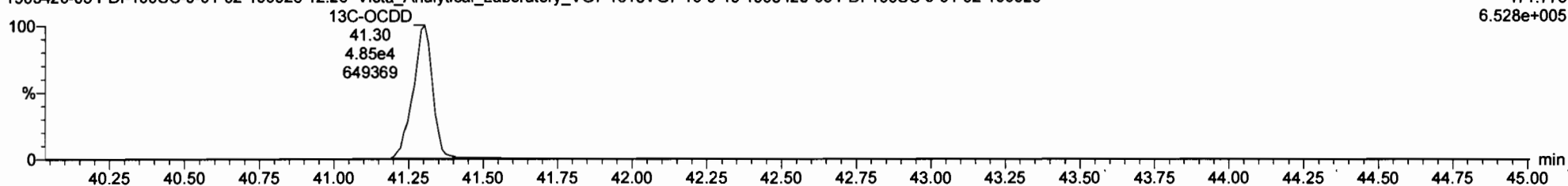
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1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

F5:SIR of 11 channels,EI+
469.778
5.906e+005



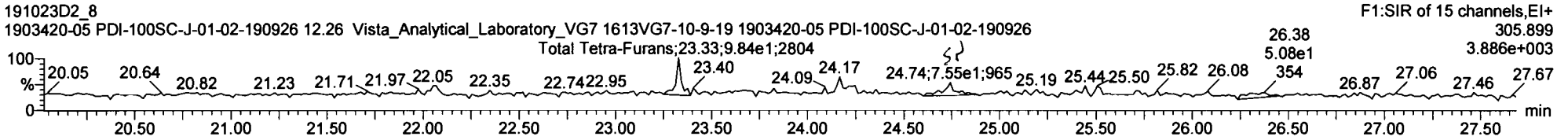
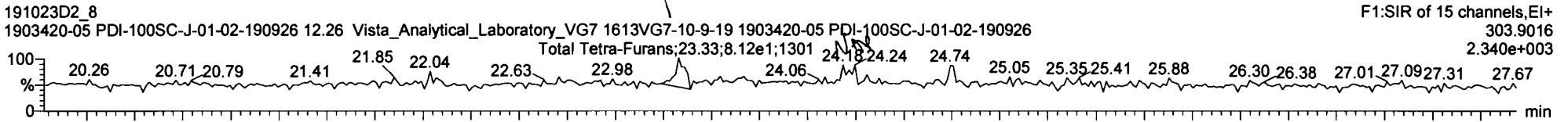
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F5:SIR of 11 channels,EI+
471.775
6.528e+005

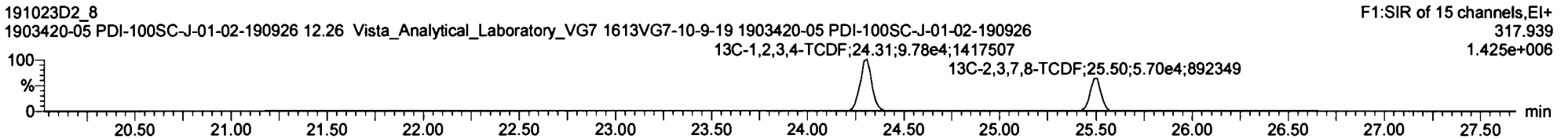
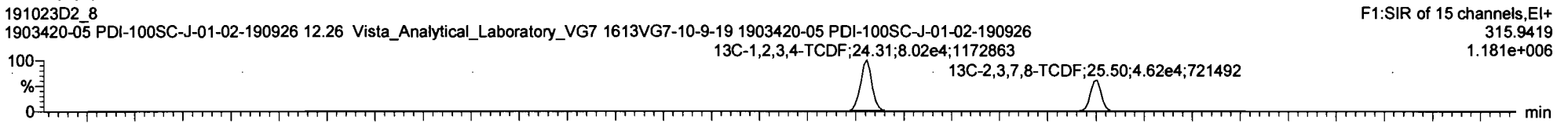


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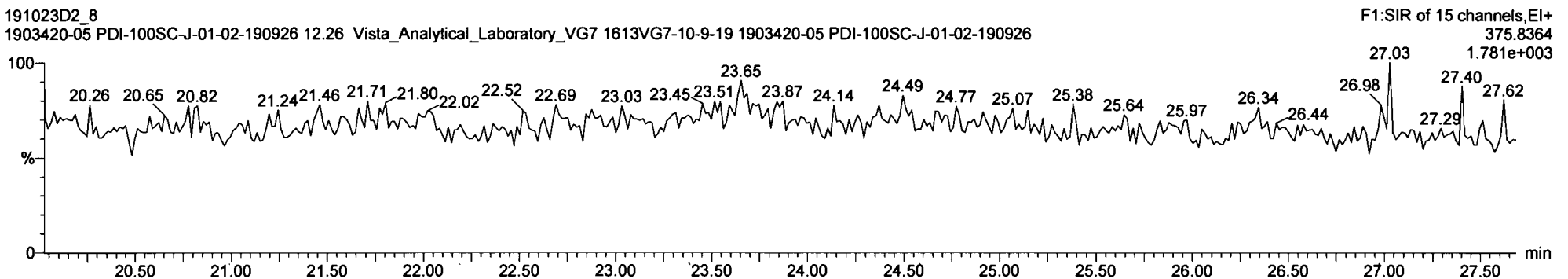
Total Tetra-Furans



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



DPE1



Vista Analytical Laboratory

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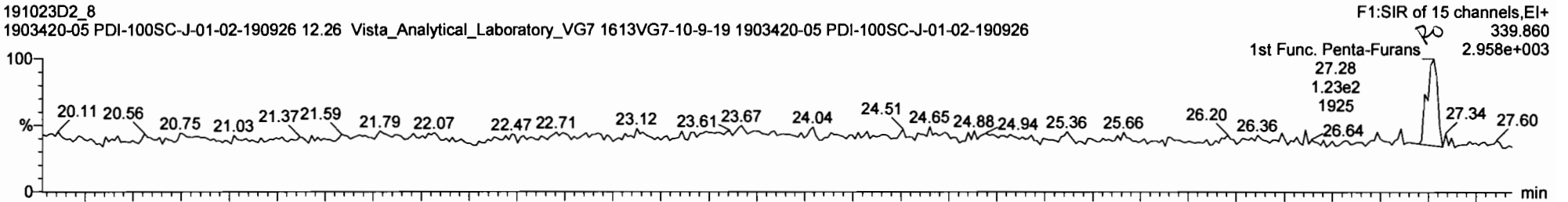
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Printed: Monday, November 04, 2019 17:44:50 Pacific Standard Time

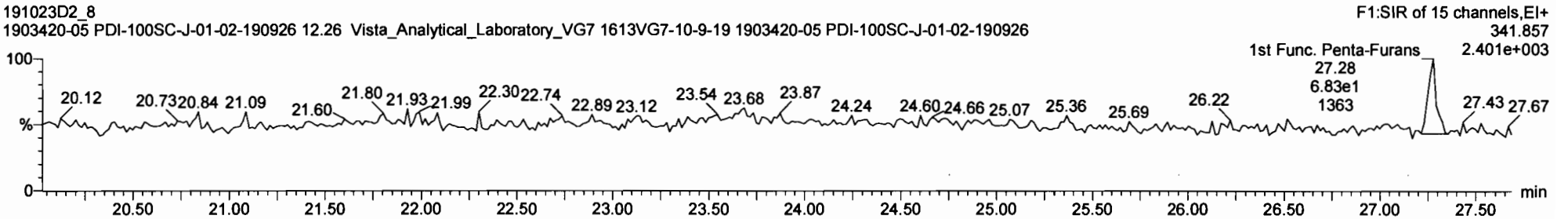
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1st Func. Penta-Furans

191023D2_8 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926

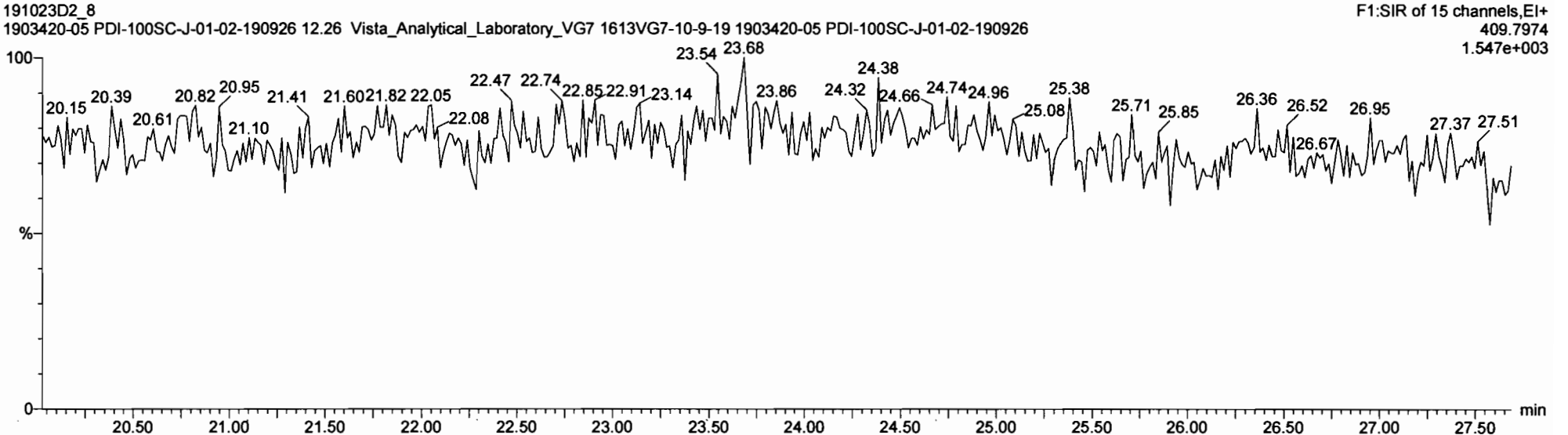


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DPE6

191023D2_8 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-05 PDI-100SC-J-01-02-190926



Vista Analytical Laboratory

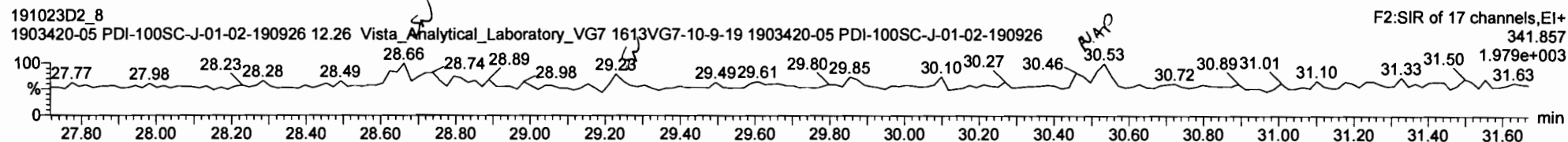
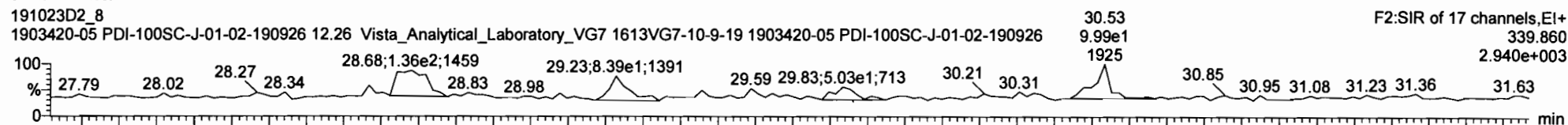
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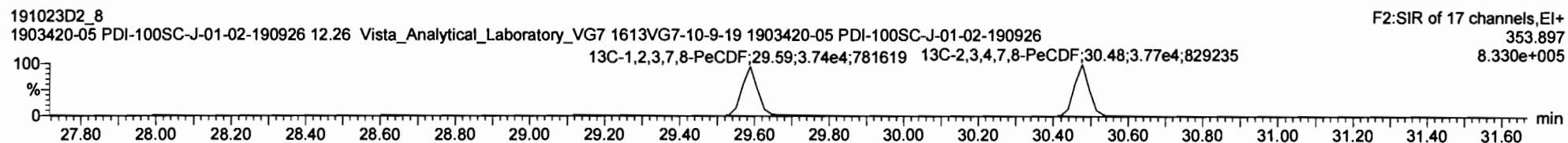
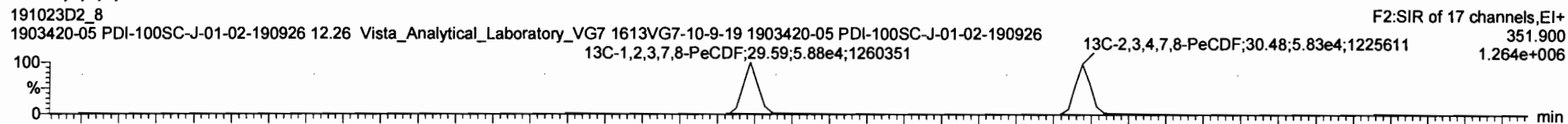
Printed: Monday, November 04, 2019 17:44:50 Pacific Standard Time

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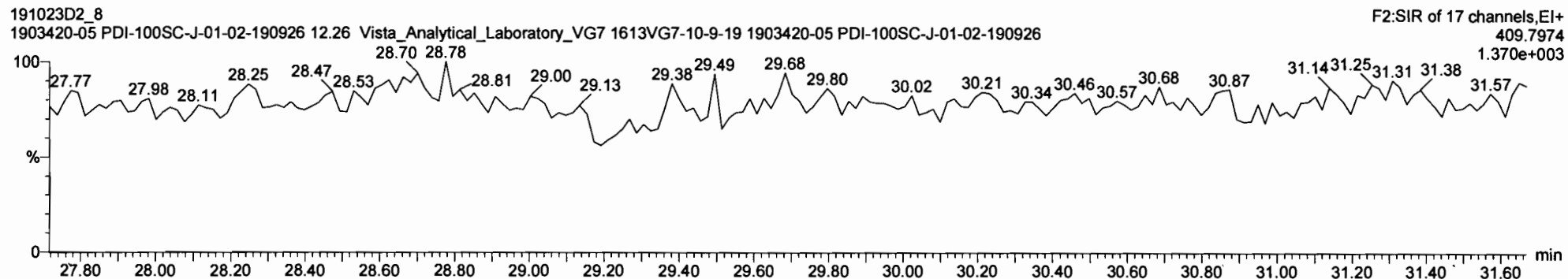
Total Penta-Furans



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



DPE2



Vista Analytical Laboratory

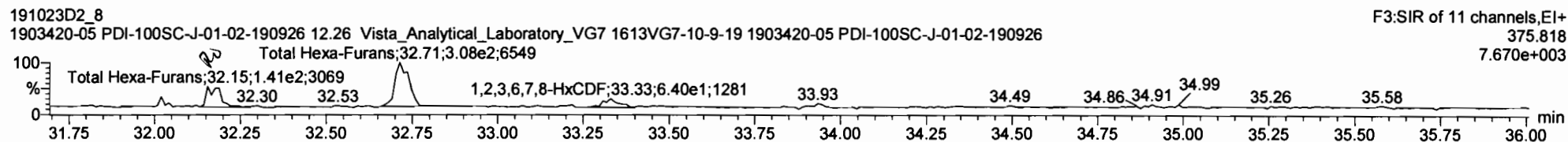
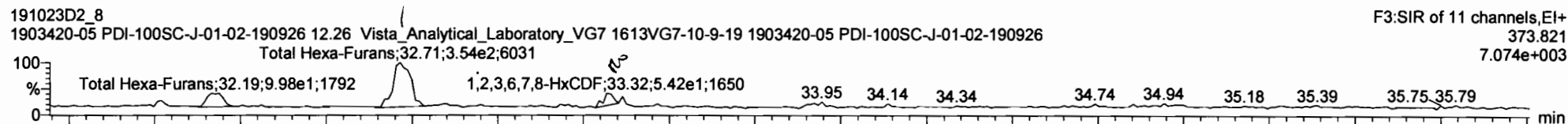
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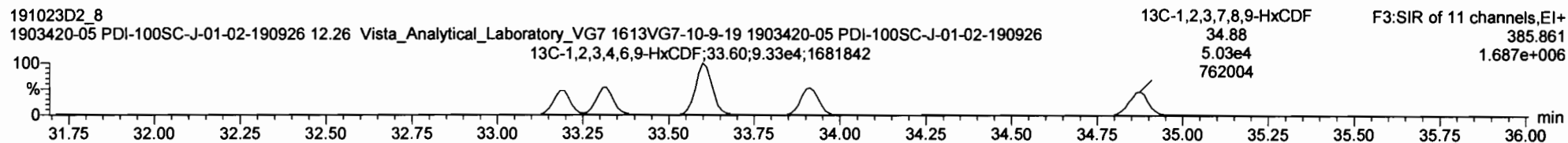
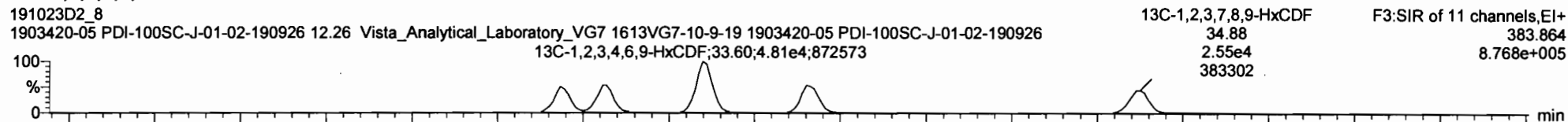
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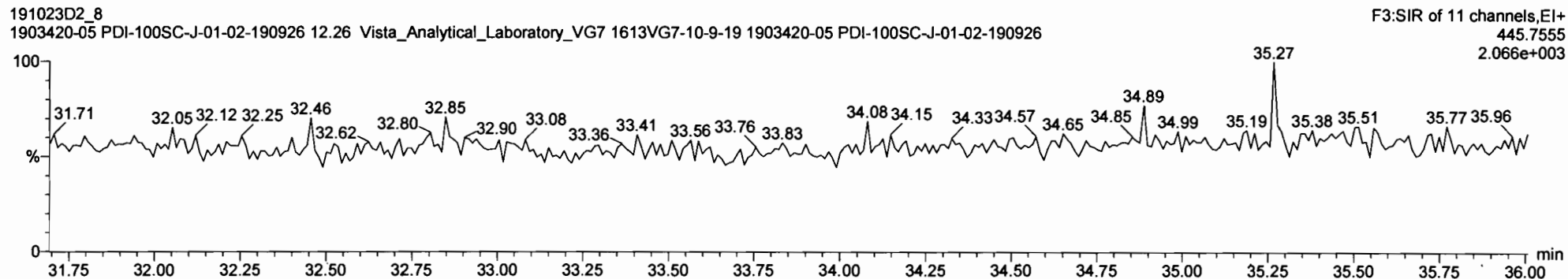
Total Hexa-Furans



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



DPE3

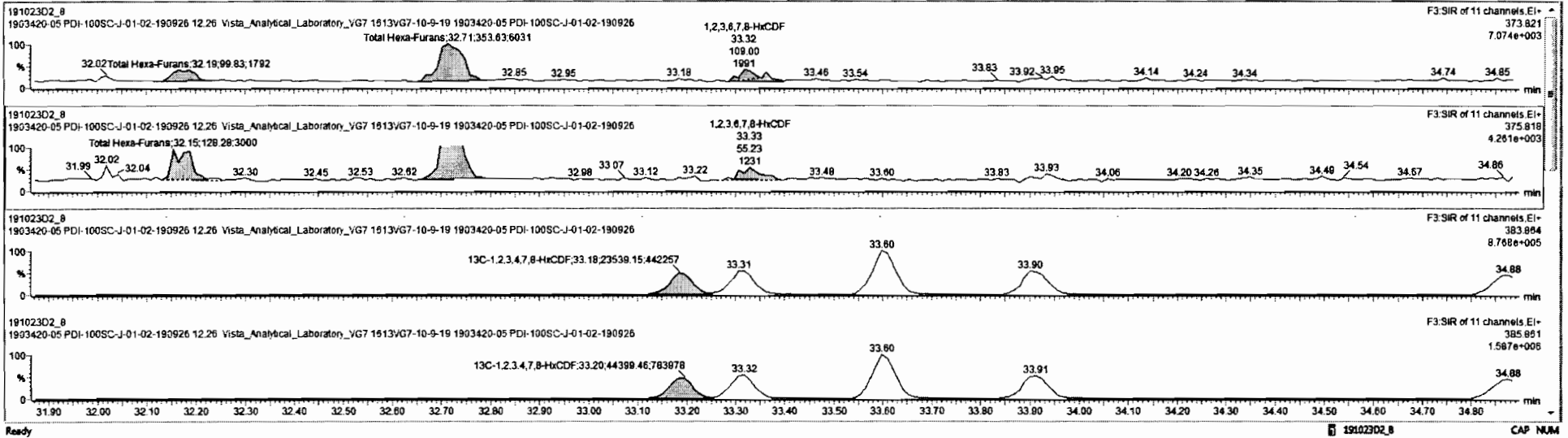




191023D2 8 - 1903420-05 PDI-100SC-J-01-02-190926 - 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	w/w%	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
39	Total Tetra-Dioxine		7.44e4				0.901	10.011	25.50			0.000	NO			0.112	
40	Total Penta-Dioxine		5.96e4				0.872	10.011	30.00			0.000	NO			0.0868	
41	Total Hexa-Dioxine		0.00e0				0.878	10.011	33.80			0.000	NO	0.6587		0.391	0.8587
42	Total Hepta-Dioxins		5.63e4				0.969	10.011	37.75			0.000	NO	6.520		0.365	6.520
43	Total Tetra-Furans		1.03e5				0.943	10.011	24.00			0.000	NO	0.3687		0.233	0.3687
44	1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	0.0000		0.0592	0.3852
45	Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO				0.184
46	Total Hexa-Furans		0.00e0				1.878	10.011	33.00			0.000	NO	1.820		0.287	2.368
47	Total Hepta-Furans		0.00e0				1.135	10.011	37.75			0.000	NO	3.357		0.258	4.849

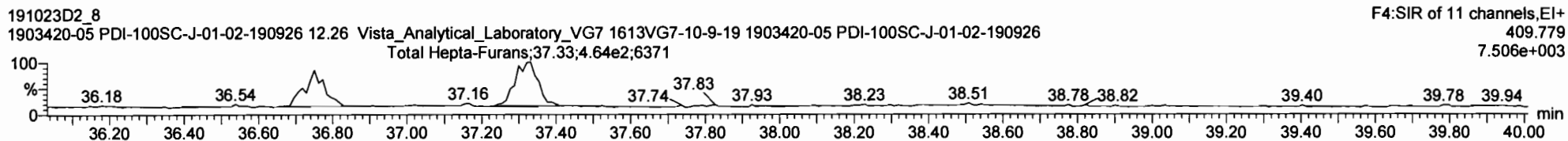
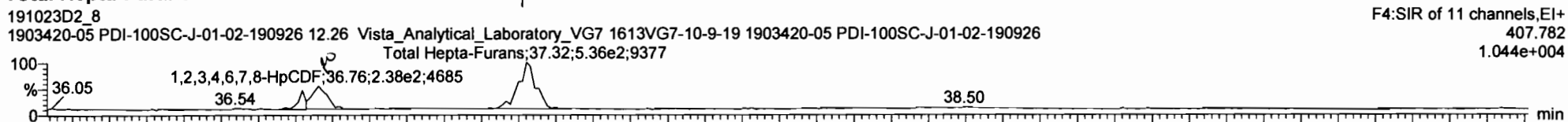
#	Name	Pred.RT	RT	Int Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.19	9.063e1	1.283e2	1.240	0.78	YES	0.44278	0.00000
2	46 Total Hexa-Furans	33.00	32.71	3.536e2	3.065e2	1.240	1.15	NO	1.8257	1.8257
3	12 1,2,3,6,7,8-HxCDF	33.32	33.32	1.090e2	5.523e1	1.240	1.97	YES	0.29908	0.00000



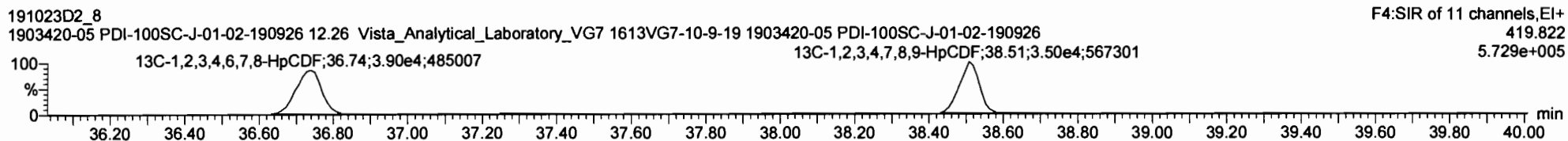
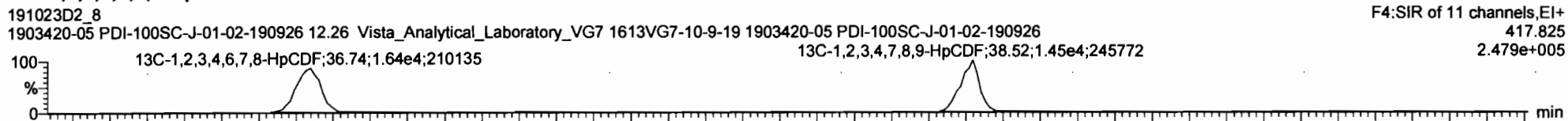
Ready 191023D2_8 CAP NUM

Name: VG7 191023D2_8, Date: 24-OCT-2019, Time: 07:06:59, ID: 1903420-05 PDI-100SC-J-01-02-190926,
Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

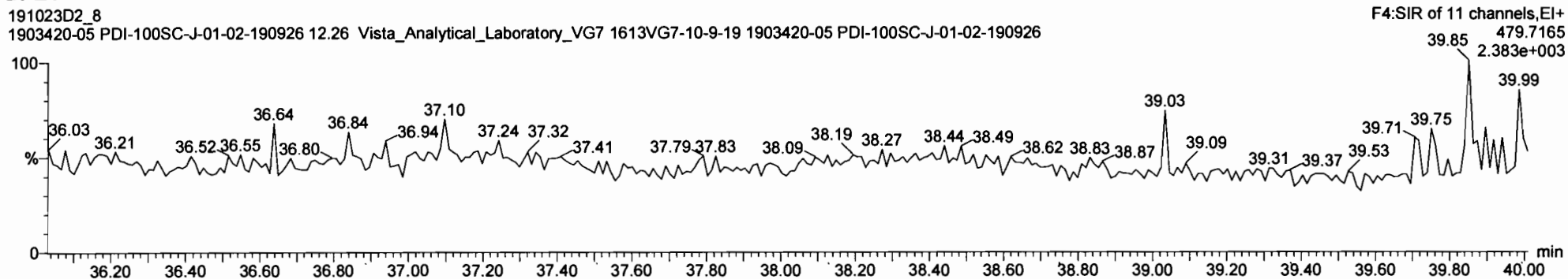
Total Hepta-Furans



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



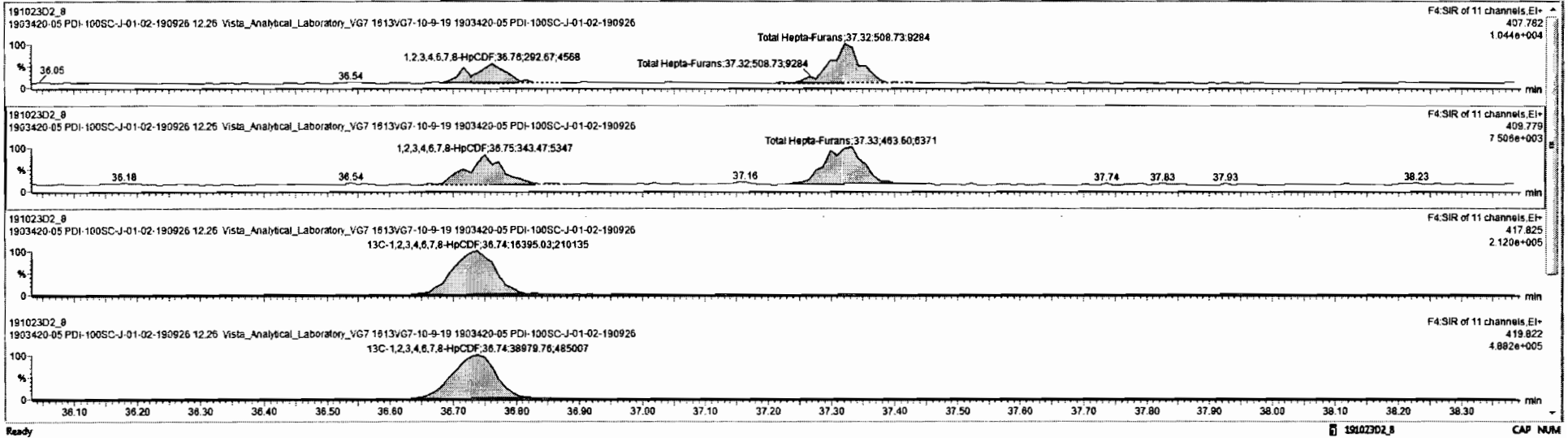
DPE4



191023D2_8 - 1903420-05 PDI-100SC-J-01-02-190926 - 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	wVwt	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
39	36 Total Tetra-Dioxins		7.44e4				0.901	10.011	25.50			0.000	NO			0.112	
40	40 Total Penta-Dioxins		5.96e4				0.872	10.011	30.00			0.000	NO			0.0868	
41	41 Total Hexa-Dioxins		0.00e0				0.878	10.011	33.80			0.000	NO	0.6587		0.391	0.6587
42	42 Total Hepta-Dioxins		5.63e4				0.869	10.011	37.75			0.000	NO	6.520		0.365	6.520
43	43 Total Tetra-Furans		1.03e5				0.943	10.011	24.00			0.000	NO	0.3687		0.233	0.3687
44	44 1st Func. Penta-Furans		0.00e0				0.940	10.011	27.63			0.000	NO	0.0000		0.0592	0.3852
45	45 Total Penta-Furans		0.00e0				0.940	10.011	30.00			0.000	NO			0.164	
46	46 Total Hexa-Furans		0.00e0				1.078	10.011	33.00			0.000	NO	1.626		0.267	2.368
47	47 Total Hepta-Furans		8.00e0				1.135	10.011	37.75			0.000	NO	3.389		8.258	5.182

#	Name	Pred.RT	RT	nr1 Resp	nr2 Resp	Pred.RA	RA	nly	EMPC	Conc.
1	15 1,2,3,4,6,7,8-HpCDF	36.78	36.78	2.927e2	3.435e2	1.040	0.85	YES	1.8387	0.00000
2	47 Total Hepta-Furans	37.75	37.32	5.067e2	4.636e2	1.040	1.10	NO	3.2655	3.2655



Vista Analytical Laboratory

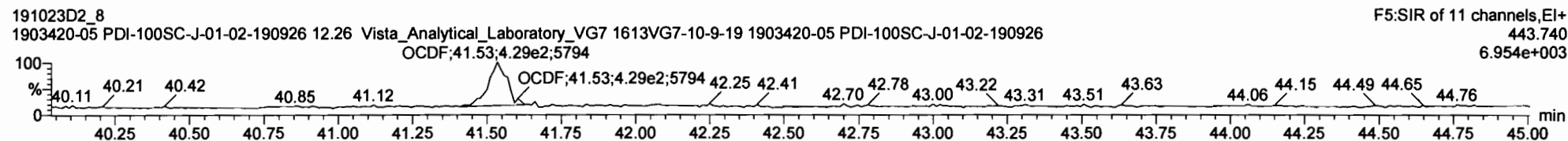
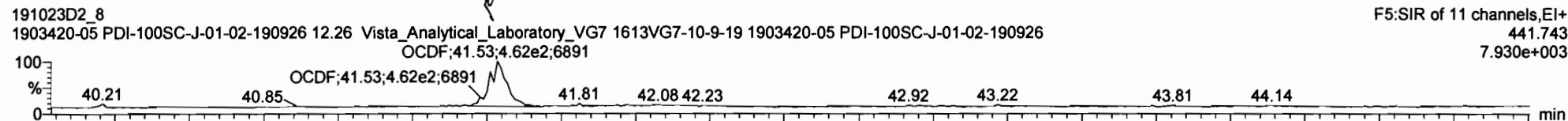
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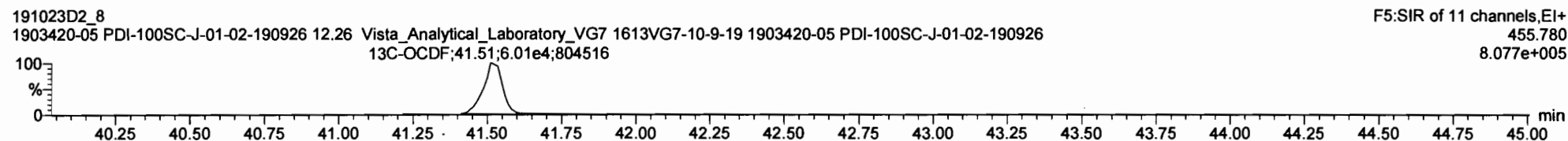
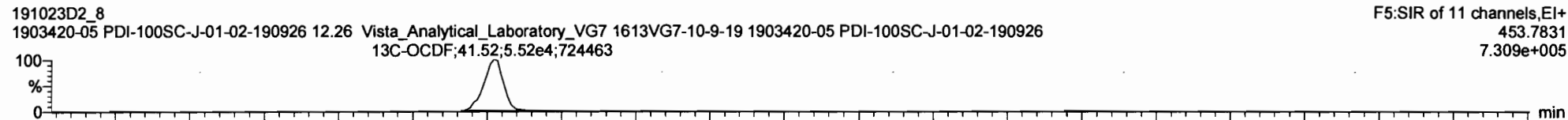
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Name: VG7 191023D2_8, Date: 24-OCT-2019, Time: 07:06:59, ID: 1903420-05 PDI-100SC-J-01-02-190926,
Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

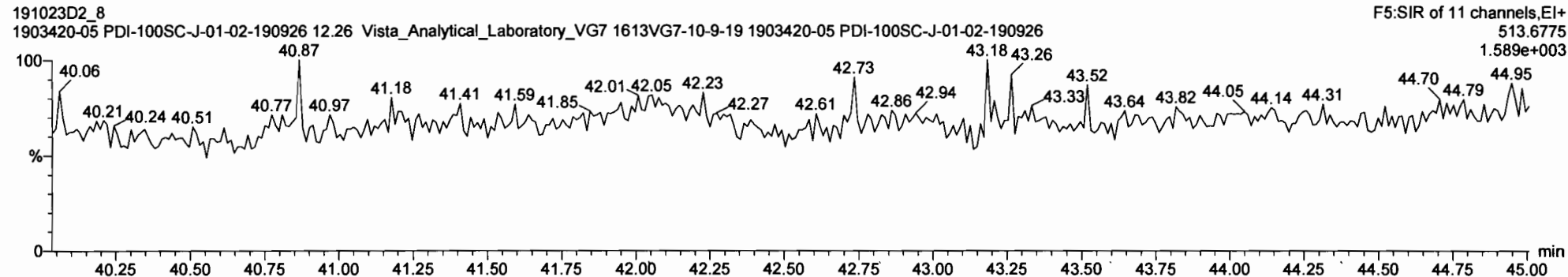
OCDF



13C-OCDF



DPE5

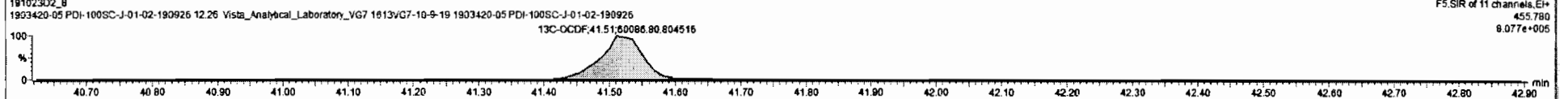
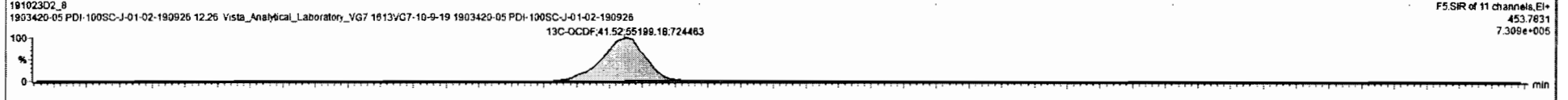
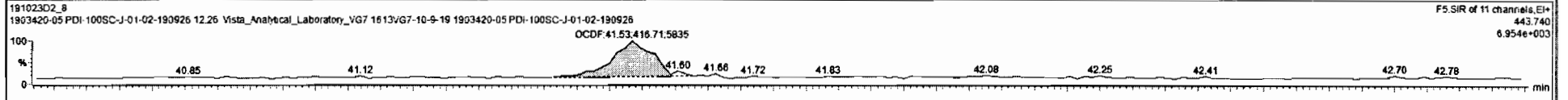
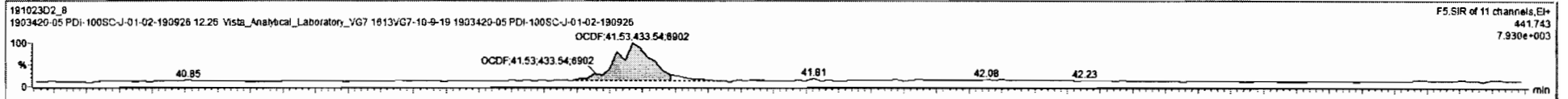


P

Target: 1903420-05 PDI-100SC-J-01-02-190926 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	Std	RA	n/y	RRF	wfVol	Pred.RT	RT	PRT	Pred.PRT	Check.PRT	Conc.	%Rec	DL	EMPC
10	2,3,4,7,8-PeCDF		9.60e4	27			1.015	10.011	30.51			1.001	NO			0.230	
11	1,2,3,4,7,8-HxCDF		6.79e4	26			1.177	10.011	33.18			1.000	NO			0.244	
12	1,2,3,6,7,8-HxCDF	1.18e2	7.73e4	29	0.85	YES	1.009	10.011	33.32	33.32	1.000	1.000	NO	0.2857		0.253	0.2366
13	2,3,4,6,7,8-HxCDF		8.10e4	30			1.114	10.011	33.93			1.001	NO			0.244	
14	1,2,3,7,8,9-HxCDF		7.58e4	31			1.062	10.011	34.66			1.000	NO			0.303	
15	1,2,3,4,6,7,8-HpCDF	5.73e2	5.54e4	32	0.71	YES	1.128	10.011	36.78	36.76	1.001	1.001	NO	1.834		0.279	1.493
16	1,2,3,4,7,8-HpCDF		4.95e4	33			1.280	10.011	38.52			1.000	NO			0.208	
17	OCDF	8.59e2	1.15e5	34	1.04	YES	8.947	18.871	41.52	41.53	1.000	1.000	NO	3.111		0.361	2.882
18	13C-2,3,7,8-TCDD	7.44e4	1.14e5	36	0.78	NO	1.095	10.011	26.26	26.27	1.021	1.021	NO	119.6	59.8	0.490	

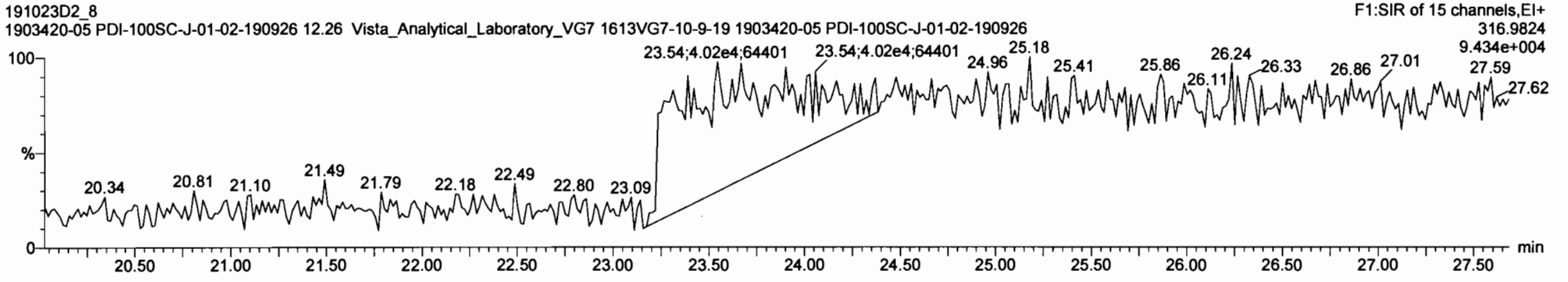
#	Name	Pred.RT	RT	Int Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
17	OCDF	41.52	41.53	1.000	1.000	NO	119.6	59.8	0.490	



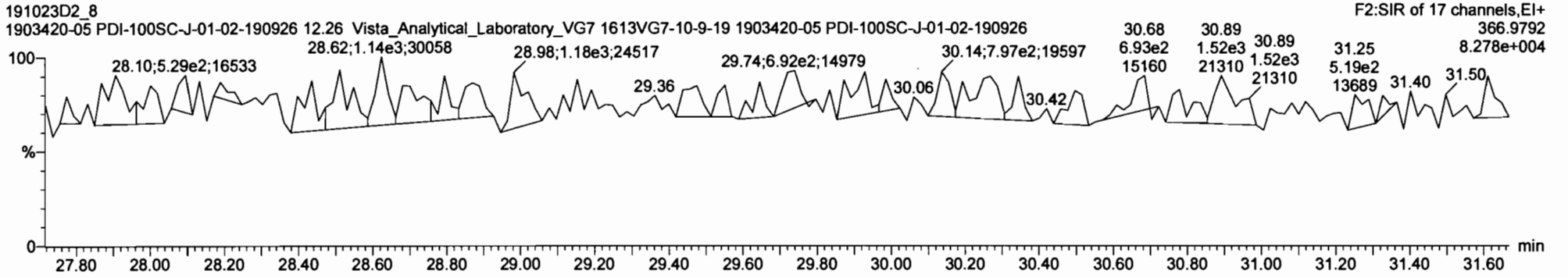
Ready 191023D2_8 CAP NUM

Name: VG7 191023D2_8, Date: 24-OCT-2019, Time: 07:06:59, ID: 1903420-05 PDI-100SC-J-01-02-190926,
Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

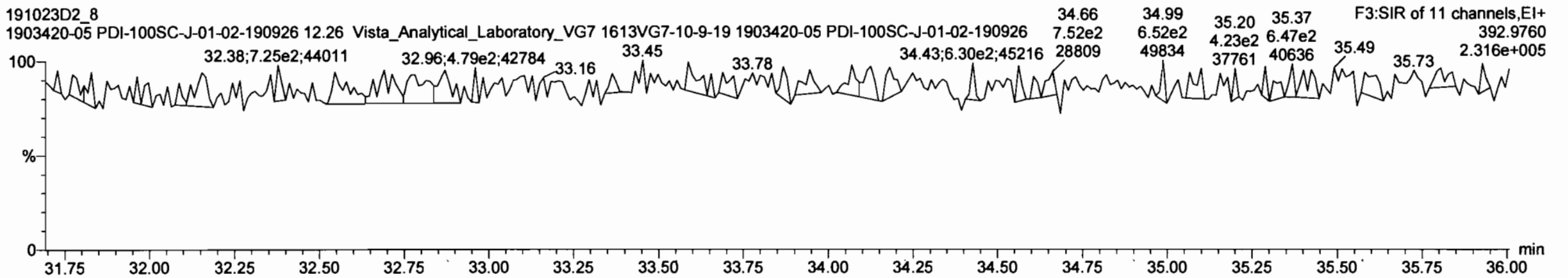
PFK1



PFK2

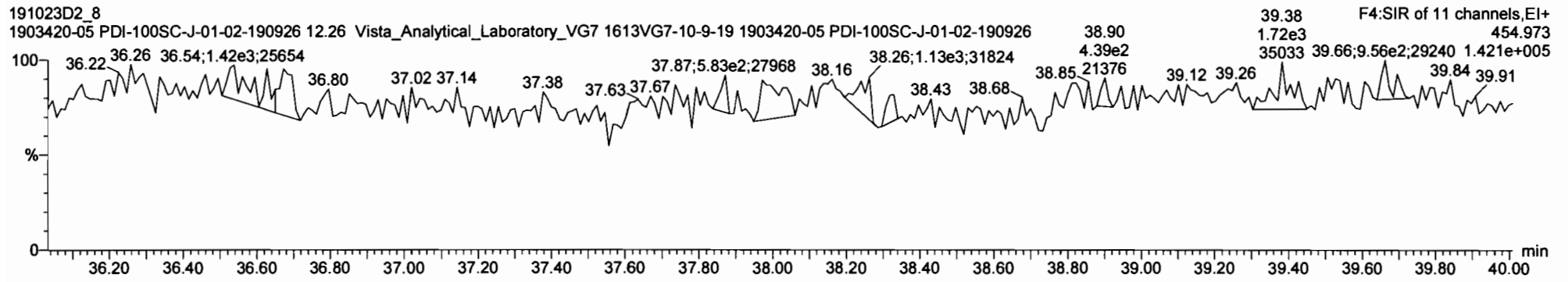


PFK3

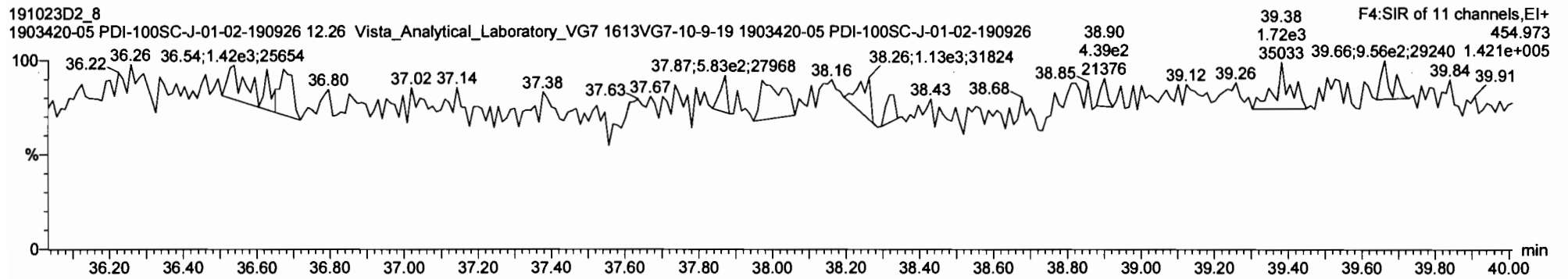


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Description: 1903420-05 PDI-100SC-J-01-02-190926 12.26 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-9.qld
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 Printed: Tuesday, November 05, 2019 14:16:40 Pacific Standard Time

Handwritten notes: *Hc 11-5-19 C7 11/06/19*

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57
 Calibration: 05 Nov 2019 13:56:49

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 Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 ✓

Peak #	Retention Time (min)	Concentration (ppb)	Mass	Area	Response	Calibration	Yield (%)	Recovery (%)	Concentration (ppb)	Concentration (ppb)	Concentration (ppb)	Concentration (ppb)	Concentration (ppb)	Concentration (ppb)
1	2,3,7,8-TCDD	8.88e4	10.1641	0.905	1.001				26.30					0.192
2	1,2,3,7,8-PeCDD	7.89e4	10.1641	0.903	1.001				30.78					0.195
3	1,2,3,4,7,8-HxCDD	7.62e4	10.1641	1.101	1.000				34.10					0.228
4	1,2,3,6,7,8-HxCDD	8.41e4	10.1641	0.939	1.000				34.20					0.262
5	1,2,3,7,8,9-HxCDD	8.53e4	10.1641	0.961	1.001				34.52					0.240
6	1,2,3,4,6,7,8-HpCDD	1.79e3	7.73e4	10.1641	0.979	1.029	NO	1.000	1.000	37.98	37.98	4.6574	4.66	0.315
7	OCDD	2.15e4	1.36e5	10.1641	0.959	0.891	NO	1.000	1.000	41.30	41.31	65.096	65.1	0.346
8	2,3,7,8-TCDF	1.17e5	10.1641	0.950	1.001				25.51					0.218
9	1,2,3,7,8-PeCDF	1.23e5	10.1641	0.960	1.001				29.61					0.172
10	2,3,4,7,8-PeCDF	1.52e2	1.21e5	10.1641	1.015	1.303	YES	1.001	1.001	30.50	30.51	0.24287	0.226	0.181
11	1,2,3,4,7,8-HxCDF	9.17e4	10.1641	1.177	1.000				33.19					0.191
12	1,2,3,6,7,8-HxCDF	5.55e2	1.09e5	10.1641	1.069	1.166	NO	1.000	1.001	33.32	33.34	0.93424	0.934	0.166
13	2,3,4,6,7,8-HxCDF	1.15e2	1.08e5	10.1641	1.114	1.164	NO	1.001	1.001	33.94	33.94	0.18689	0.187	0.170
14	1,2,3,7,8,9-HxCDF	1.00e5	10.1641	1.062	1.000				34.87					0.220
15	1,2,3,4,6,7,8-HpCDF	3.06e3	8.11e4	10.1641	1.128	1.040	NO	1.001	1.001	36.76	36.74	6.5743	6.57	0.188
16	1,2,3,4,7,8,9-HpCDF	7.01e4	10.1641	1.280	1.000				38.51					0.160
17	OCDF	1.12e3	1.82e5	10.1641	0.947	0.842	NO	1.000	1.001	41.52	41.54	2.5540	2.55	0.202
18	13C-2,3,7,8-TCDD	8.88e4	1.21e5	10.1641	1.095	0.781	NO	1.021	1.021	26.26	26.26	131.42	66.8	0.298
19	13C-1,2,3,7,8-PeCDD	7.89e4	1.21e5	10.1641	0.881	0.653	NO	1.187	1.196	30.52	30.76	145.17	73.8	0.224
20	13C-1,2,3,4,7,8-Hx...	7.62e4	1.53e5	10.1641	0.642	1.344	NO	1.014	1.014	34.07	34.09	153.00	77.8	0.508
21	13C-1,2,3,6,7,8-Hx...	8.41e4	1.53e5	10.1641	0.856	1.189	NO	1.017	1.018	34.19	34.20	126.74	64.4	0.382
22	13C-1,2,3,7,8,9-Hx...	8.53e4	1.53e5	10.1641	0.807	1.232	NO	1.026	1.026	34.49	34.49	136.36	69.3	0.405
23	13C-1,2,3,4,6,7,8-H...	7.73e4	1.53e5	10.1641	0.654	1.027	NO	1.126	1.130	37.84	37.96	152.41	77.5	0.741
24	13C-OCDD	1.36e5	1.53e5	10.1641	0.580	0.895	NO	1.226	1.229	41.20	41.30	301.77	76.7	0.633
25	13C-2,3,7,8-TCDF	1.17e5	1.91e5	10.1641	1.035	0.801	NO	0.993	0.991	25.55	25.49	115.91	58.9	0.378
26	13C-1,2,3,7,8-PeCDF	1.23e5	1.91e5	10.1641	0.854	1.602	NO	1.143	1.150	29.40	29.59	148.17	75.3	0.620
27	13C-2,3,4,7,8-PeCDF	1.21e5	1.91e5	10.1641	0.847	1.555	NO	1.176	1.185	30.25	30.47	147.46	74.9	0.625
28	13C-1,2,3,4,7,8-Hx...	9.17e4	1.53e5	10.1641	0.832	0.511	NO	0.987	0.988	33.18	33.19	142.19	72.3	0.543
29	13C-1,2,3,6,7,8-Hx...	1.09e5	1.53e5	10.1641	1.034	0.506	NO	0.991	0.991	33.29	33.31	136.40	69.3	0.436
30	13C-2,3,4,6,7,8-Hx...	1.08e5	1.53e5	10.1641	0.953	0.512	NO	1.009	1.009	33.91	33.91	146.65	74.5	0.474
31	13C-1,2,3,7,8,9-Hx...	1.00e5	1.53e5	10.1641	0.828	0.518	NO	1.039	1.038	34.90	34.87	155.70	79.1	0.545

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-9.qld

Last Altered: Tuesday, November 05, 2019 14:14:43 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:16:40 Pacific Standard Time

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 Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	8.11e4	1.53e5	10.1641	0.757	0.439	NO	1.093	1.093	36.72	36.72	138.09	70.2	0.712
33	13C-1,2,3,4,7,8,9-H...	7.01e4	1.53e5	10.1641	0.581	0.411	NO	1.143	1.146	38.41	38.51	155.52	79.0	0.927
34	13C-OCDF	1.82e5	1.53e5	10.1641	0.689	0.904	NO	1.233	1.235	41.44	41.52	341.31	86.7	0.412
35	37Cl-2,3,7,8-TCDD	3.63e4	1.21e5	10.1641	1.198			1.022	1.022	26.29	26.28	49.152	62.4	0.0770
36	13C-1,2,3,4-TCDD	1.21e5	1.21e5	10.1641	1.000	0.797	NO	1.000	1.000	25.70	25.72	196.77	100.0	0.326
37	13C-1,2,3,4-TCDF	1.91e5	1.91e5	10.1641	1.000	0.822	NO	1.000	1.000	24.28	24.30	196.77	100.0	0.391
38	13C-1,2,3,4,6,9-Hx...	1.53e5	1.53e5	10.1641	1.000	0.534	NO	1.000	1.000	33.55	33.60	196.77	100.0	0.451
39	Total Tetra-Dioxins		8.88e4	10.1641	0.901			0.000		25.50				0.104
40	Total Penta-Dioxins		7.89e4	10.1641	0.872			0.000		30.00		0.00000	0.163	0.0746
41	Total Hexa-Dioxins		0.00e0	10.1641	0.976			0.000		33.80		1.1487	1.15	0.248
42	Total Hepta-Dioxins		7.73e4	10.1641	0.989			0.000		37.75		12.629	12.6	0.312
43	Total Tetra-Furans		1.17e5	10.1641	0.943			0.000		24.00		0.93525	1.82	0.219
44	1st Func. Penta-Fur...		0.00e0	10.1641	0.940			0.000		27.63		1.1374	1.14	0.0742
45	Total Penta-Furans		0.00e0	10.1641	0.940			0.000		30.00		1.2785	1.63	0.170
46	Total Hexa-Furans		0.00e0	10.1641	1.078			0.000		33.00		7.1922	7.42	0.190
47	Total Hepta-Furans		0.00e0	10.1641	1.135			0.000		37.75		12.731	12.7	0.184

0.192

2.42 2.77

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-9.qld

Last Altered: Tuesday, November 05, 2019 14:14:43 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:16:40 Pacific Standard Time

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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

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Penta-Dioxins

40	Total Penta-Dioxins	YES	28.75	27.855	31178.578	0.000	MM	0.0000	0.16

Hexa-Dioxins

41	Total Hexa-Dioxins	NO	32.55	262.979	45489.793	11.394	bb	1.1487	1.15

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	NO	37.98	908.681	39176.664	46.363	bb	4.6574	4.66
42	Total Hepta-Dioxins	NO	37.14	1643.835	39176.664	80.110	bb	7.9718	7.97

Tetra-Furans

43	Total Tetra-Furans	YES	24.21	172.202	51905.781	0.000	MM	0.0000	0.56
43	Total Tetra-Furans	NO	23.34	150.097	51905.781	6.251	bb	0.6523	0.65
43	Total Tetra-Furans	NO	22.91	74.087	51905.781	2.712	MM	0.2830	0.28
43	Total Tetra-Furans	YES	22.03	77.227	51905.781	0.000	MM	0.0000	0.32

Penta-Furans function 1

44	1st Func. Penta-Furans	NO	27.26	391.884	74868.594	10.863	bb	1.1374	1.14

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-9.qld

Last Altered: Tuesday, November 05, 2019 14:14:43 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:16:40 Pacific Standard Time

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 Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans

10	2,3,4,7,8-PeCDF	YES	30.51	86.090	73939.836	0.000	MM	0.0000	0.23
45	Total Penta-Furans	NO	29.23	159.715	74868.594	4.430	MM	0.4639	0.46
45	Total Penta-Furans	NO	28.70	281.787	74868.594	7.779	MM	0.8146	0.81
45	Total Penta-Furans	YES	30.53	57.021	74868.594	0.000	MM	0.0000	0.12

Hexa-Furans

46	Total Hexa-Furans	NO	32.72	1135.239	34663.346	40.155	bb	3.6662	3.67
46	Total Hexa-Furans	NO	32.18	571.169	34663.346	19.597	bb	1.7892	1.79
46	Total Hexa-Furans	NO	32.01	186.831	34663.346	6.743	MM	0.6156	0.62
46	Total Hexa-Furans	YES	33.93	113.614	34663.346	0.000	MM	0.0000	0.23
12	1,2,3,6,7,8-HxCDF	NO	33.34	299.014	36757.668	10.150	db	0.9342	0.93
13	2,3,4,6,7,8-HxCDF	NO	33.94	61.688	36748.324	2.115	MM	0.1869	0.19

Hepta-Furans

47	Total Hepta-Furans	NO	37.32	1363.799	22585.371	71.008	bb	6.1569	6.16
15	1,2,3,4,6,7,8-HpCDF	NO	36.74	1558.247	24751.721	75.348	bb	6.5743	6.57

Vista Analytical Laboratory

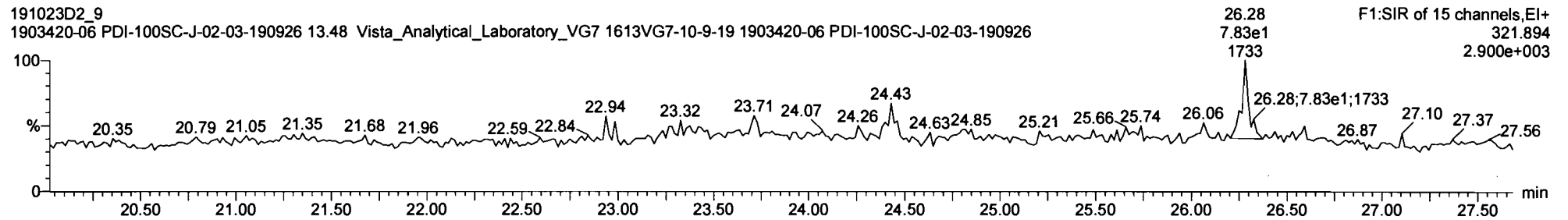
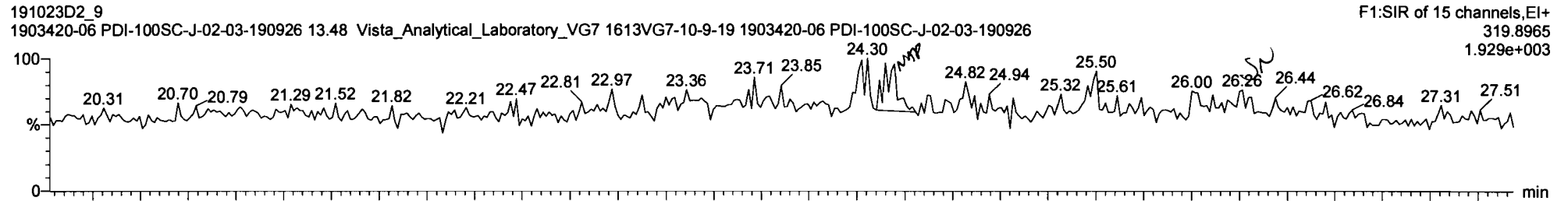
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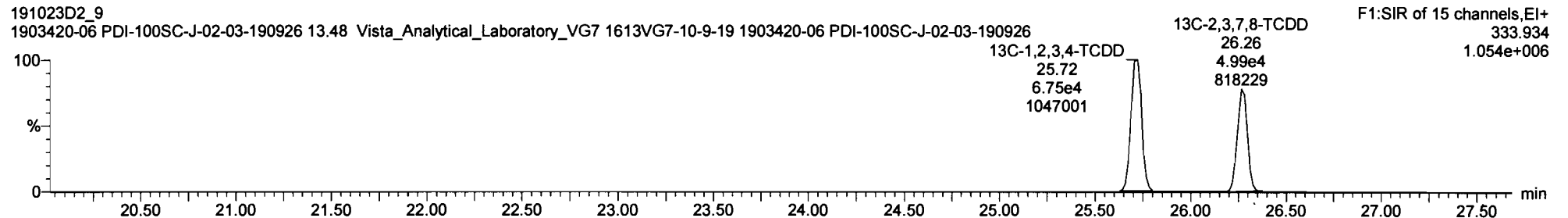
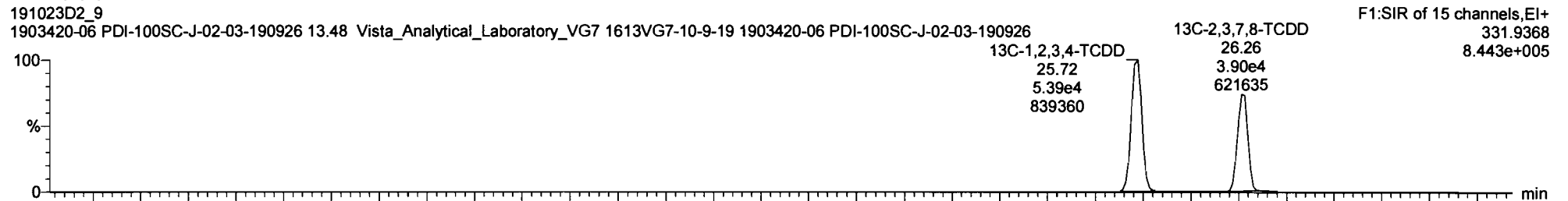
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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

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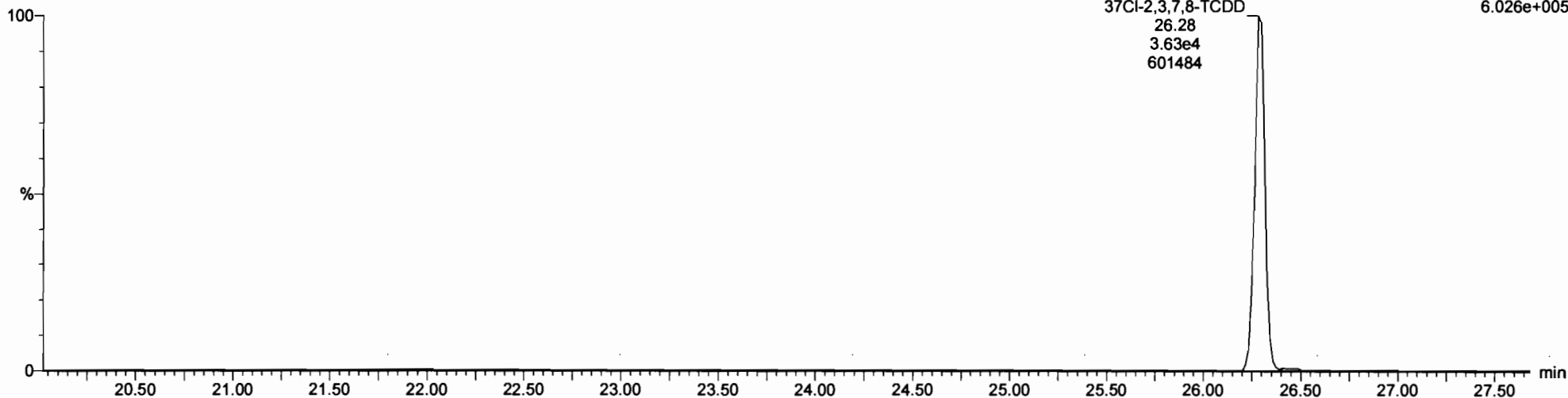
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37Cl-2,3,7,8-TCDD

191023D2_9
1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

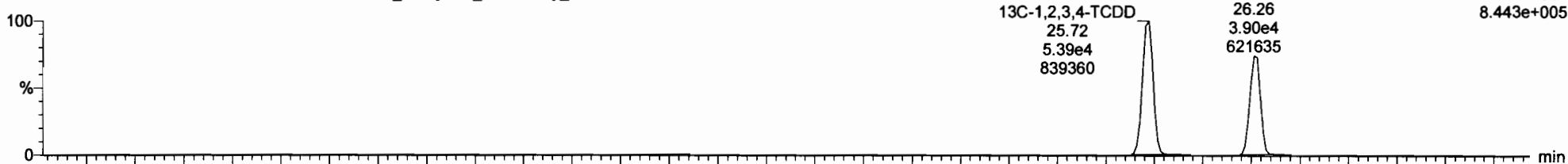
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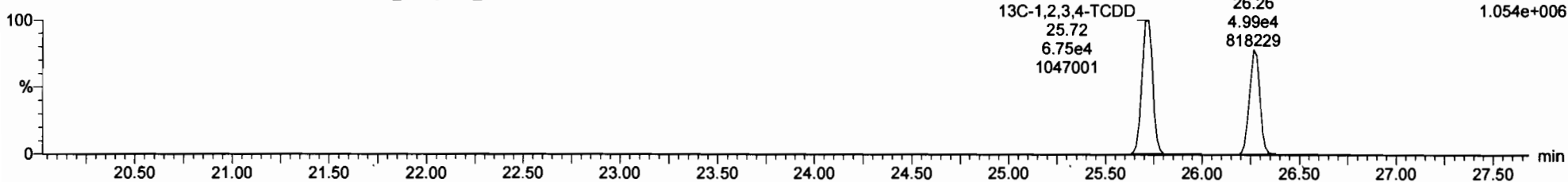
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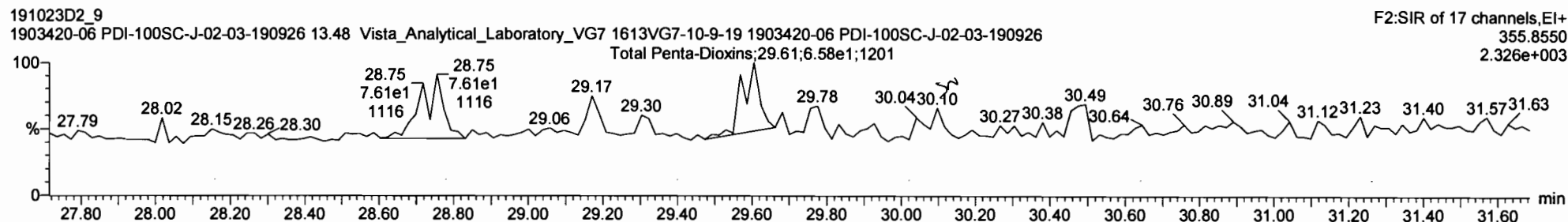
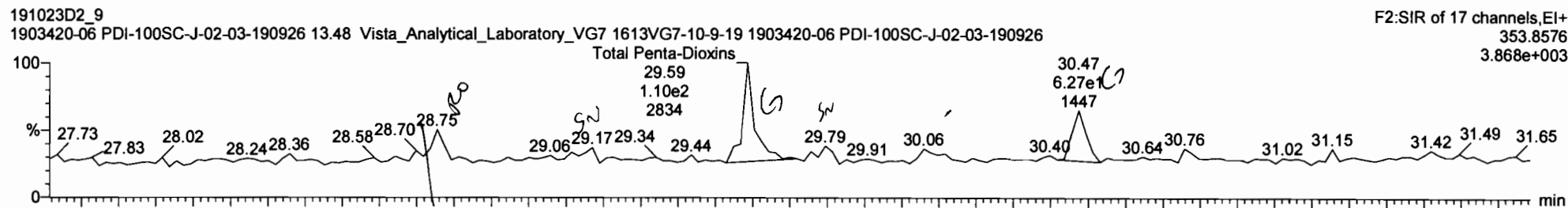
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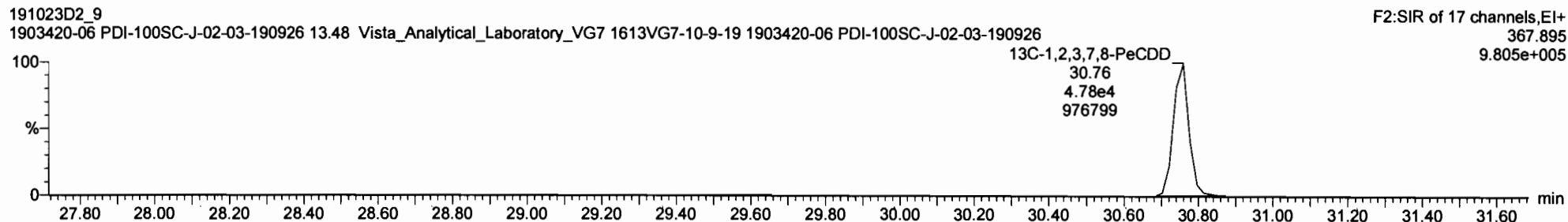
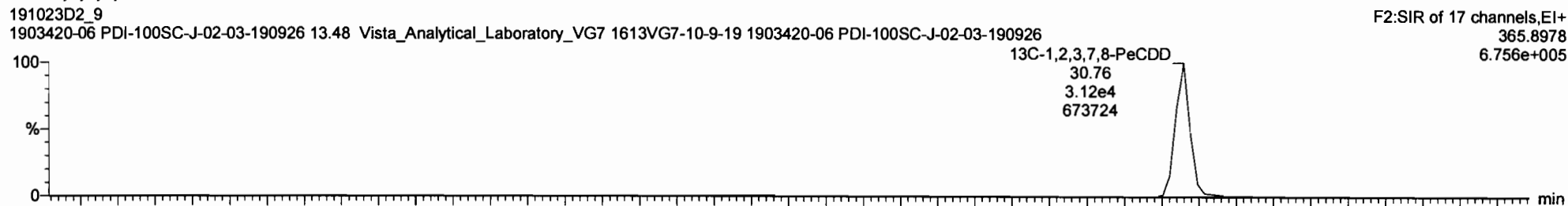


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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins



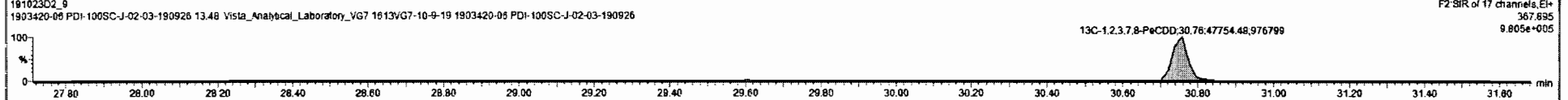
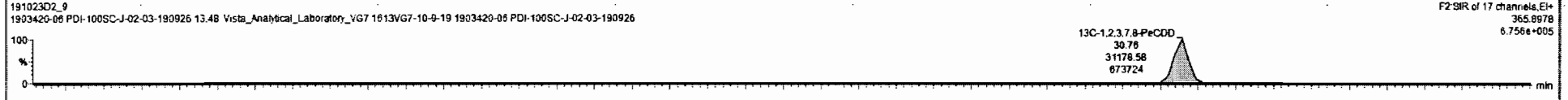
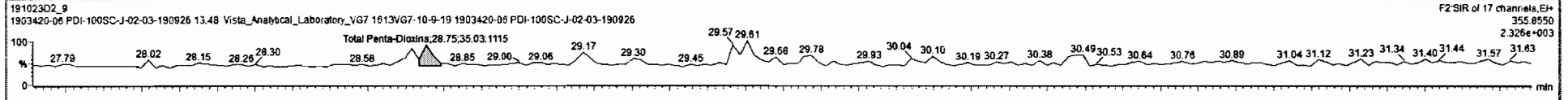
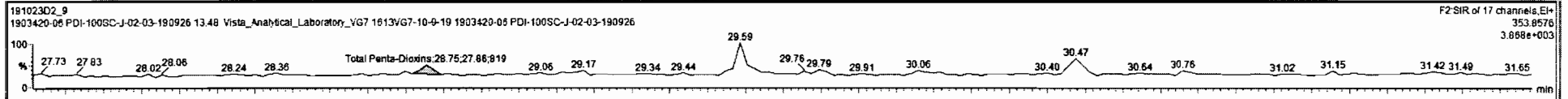
13C-1,2,3,7,8-PeCDD



191023D2_9 - 1903420-06 PDI-100SC-J-02-03-190926 - 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS	RA	nly	RRF	wVal	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
38	13C-1,2,3,4,6,9-HxCDF	1.53e5	1.53e5	38	0.53	NO	1.000	10.164	33.55	33.60	1.000	1.000	NO	196.8	100	0.451	
39	Total Tetra-Dioxins	8.85e4					0.901	10.164	25.50			0.000	NO			0.104	
40	Total Penta-Dioxins	7.88e4					0.872	10.164	30.00			0.000	NO	0.0000		0.0748	0.1632
41	Total Hexa-Dioxins	0.00e0					0.976	10.164	33.60			0.000	NO	1.149	0.248	2.006	
42	Total Hepta-Dioxins	7.73e4					0.989	10.164	37.75			0.000	NO	12.63	0.312	12.63	
43	Total Tetra-Furans	1.17e5					0.943	10.164	24.00			0.000	NO	0.9981	0.219	1.712	
44	1st Func. Penta-Furans	0.00e0					0.940	10.164	27.83			0.000	NO	1.137	0.0742	1.137	
45	Total Penta-Furans	0.00e0					0.940	10.164	30.00			0.000	NO	1.232	0.170	1.648	
46	Total Hexa-Furans	0.00e0					1.078	10.164	33.00			0.000	NO	7.019	0.190	7.451	

#	Name	Pred.RT	RT	Int Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.75	2.786e1	3.503e1	0.630	0.80	YES	0.16322	0.00000



Vista Analytical Laboratory

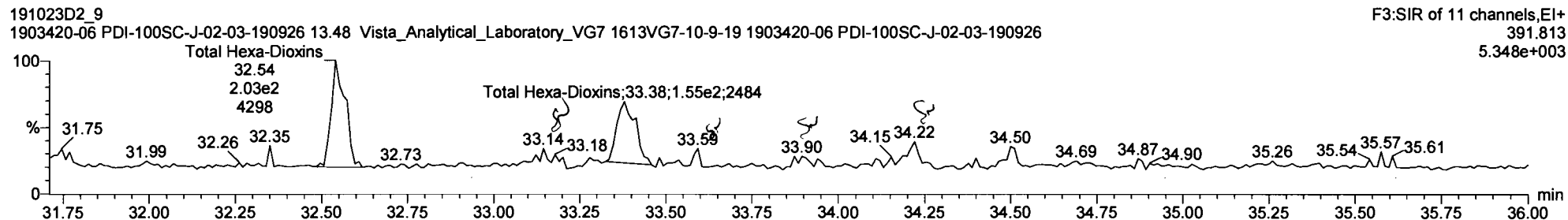
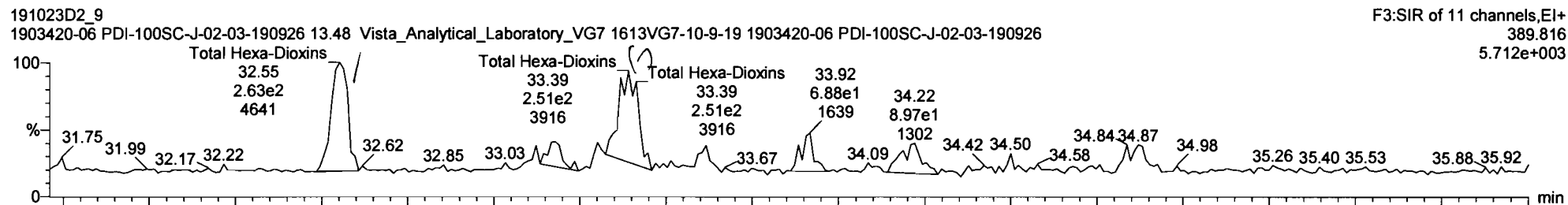
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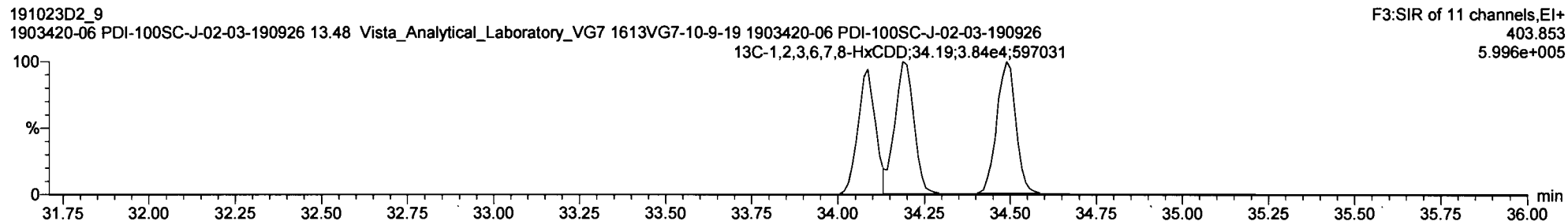
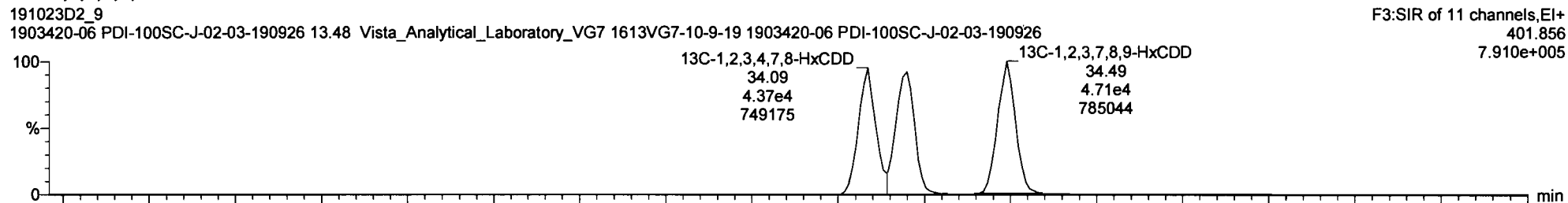
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Total Hexa-Dioxins

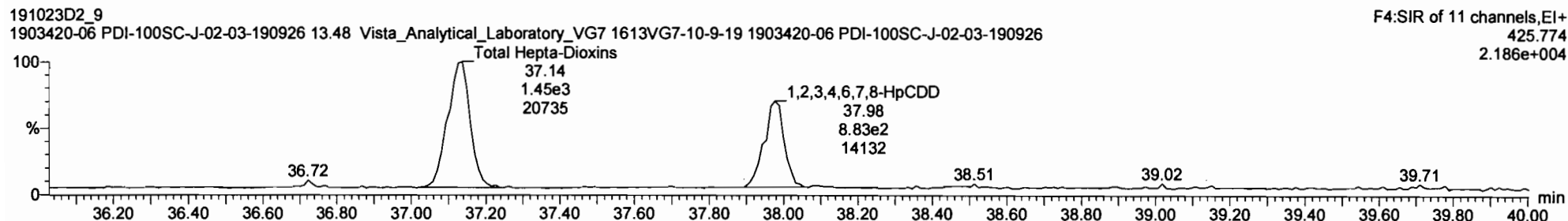
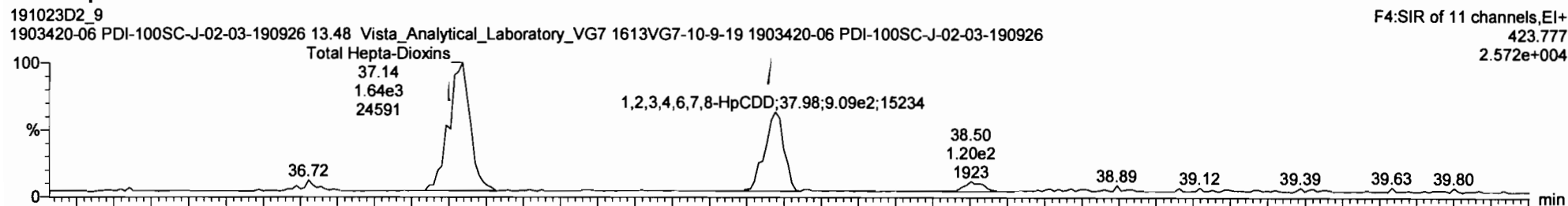


13C-1,2,3,4,7,8-HxCDD

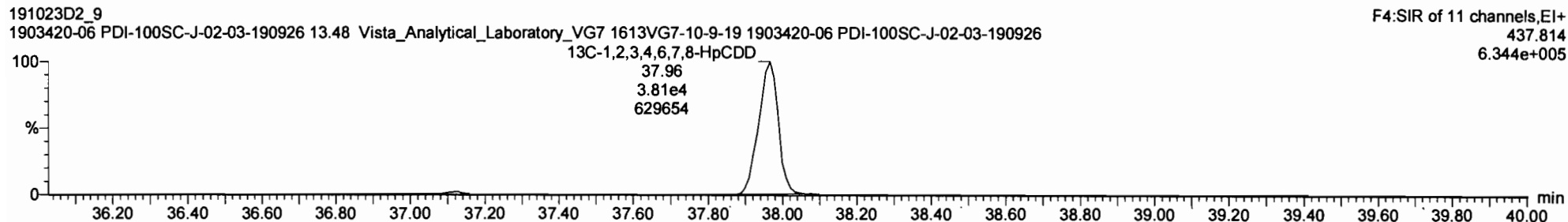
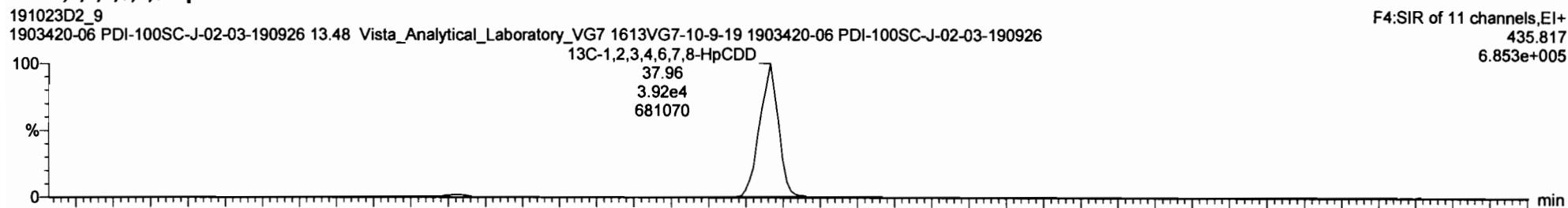


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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

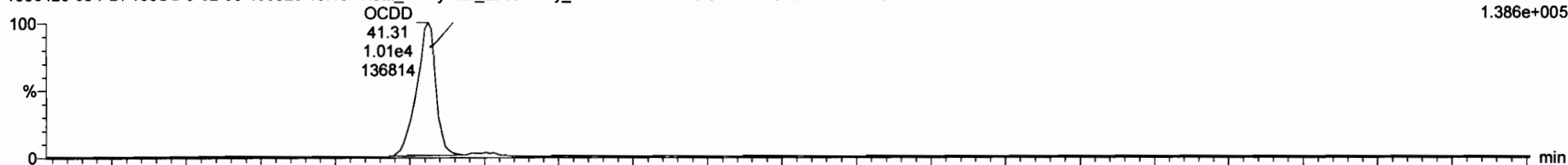
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OCDD

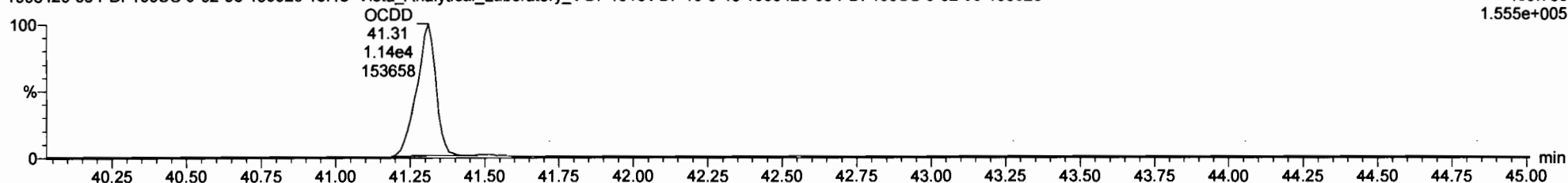
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F5:SIR of 11 channels, EI+ 457.738 1.386e+005



191023D2_9 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

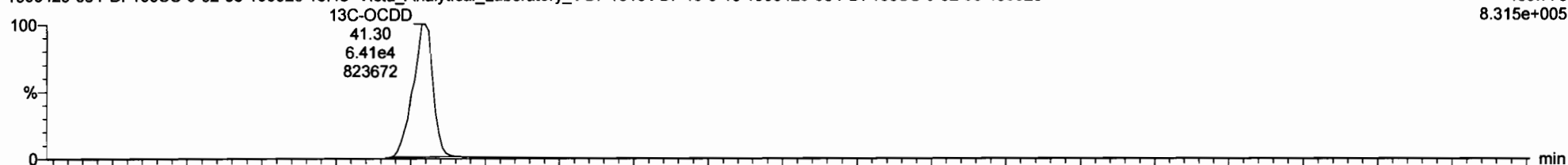
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13C-OCDD

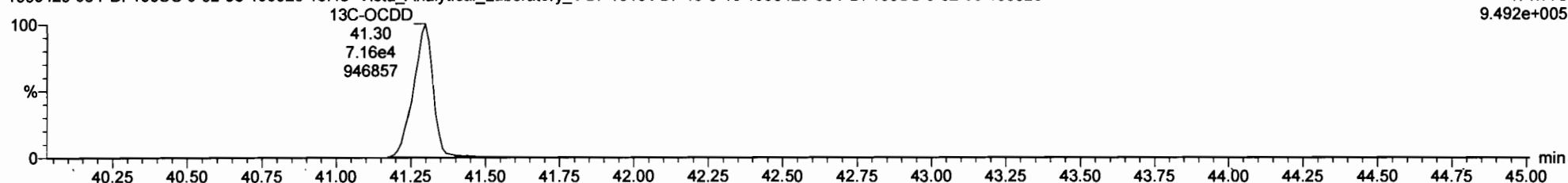
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F5:SIR of 11 channels, EI+ 469.778 8.315e+005



191023D2_9 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

F5:SIR of 11 channels, EI+ 471.775 9.492e+005



Vista Analytical Laboratory

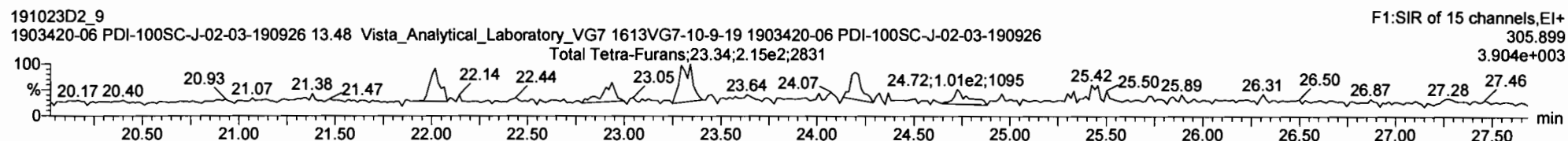
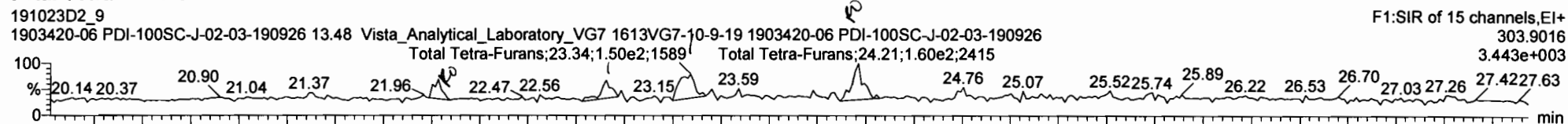
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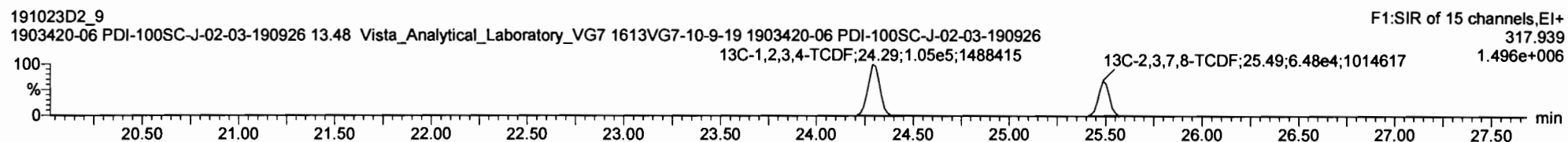
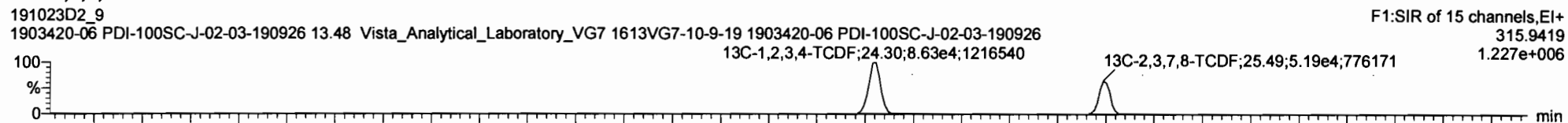
Printed: Monday, November 04, 2019 17:44:50 Pacific Standard Time

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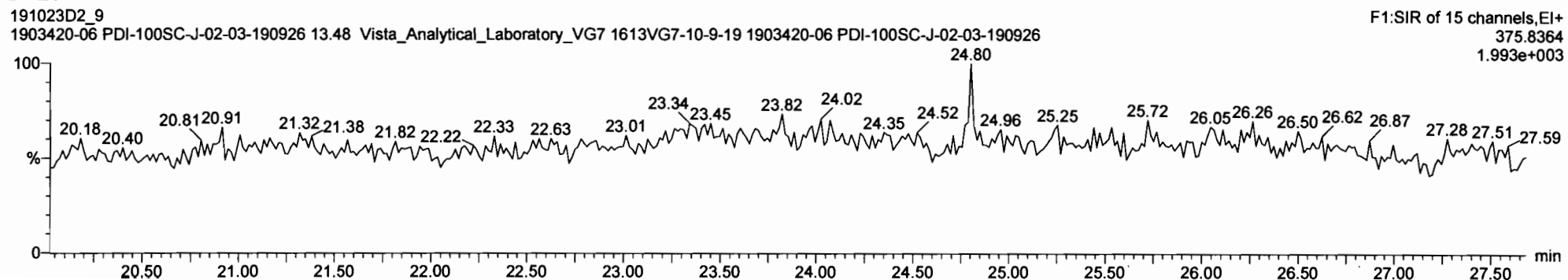
Total Tetra-Furans



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



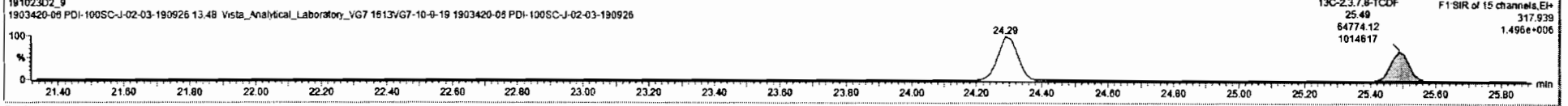
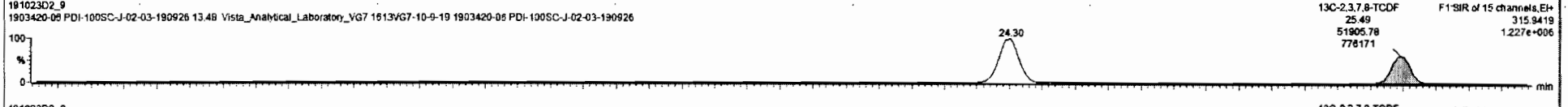
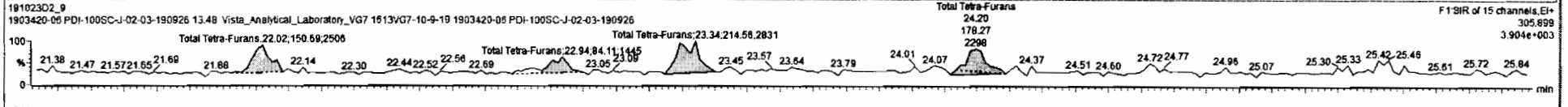
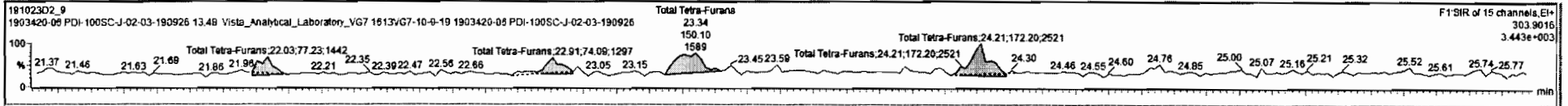
DPE1



191023D2_9 - 1903420_06 PDI-100SC-J-02-03-190926 - 1903420_06 PDI-100SC-J-02-03-190926 13.48 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	wf/wc	Prod.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
36	13C-1,2,3,4-TCDF	1.21e5	1.21e5	36	0.80	NO	1.000	10.164	25.70	25.72	1.000	1.000	NO	196.8	100	0.326	
37	13C-1,2,3,4-TCDF	1.91e5	1.91e5	37	0.82	NO	1.000	10.164	24.28	24.30	1.000	1.000	NO	196.8	100	0.391	
38	13C-1,2,3,4,6,8-HxCDF	1.53e5	1.53e5	38	0.53	NO	1.000	10.164	33.55	33.80	1.000	1.000	NO	196.8	100	0.451	
39	Total Tetra-Dioxins	6.88e4					0.901	10.164	25.50				NO			0.104	
40	Total Penta-Dioxins	7.89e4					0.872	10.164	30.00				NO	0.0000		0.0746	0.1632
41	Total Hexa-Dioxins	0.00e0					0.976	10.164	33.80				NO	1.149		0.248	1.149
42	Total Hepta-Dioxins	7.73e4					0.989	10.164	37.75				NO	12.63		0.312	12.63
43	Total Tetra-Furans	1.17e5					0.943	10.164	24.09				NO	8.3353		8.218	1.012
44	1st Func. Penta-Furans	0.00e0					0.940	10.164	27.63				NO	1.137		0.0742	1.137

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Prod.RA	RA	nly	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	22.03	7.723e1	1.507e2	0.770	0.51	YES	0.31754	0.00000
2	43 Total Tetra-Furans	24.00	22.91	7.409e1	8.411e1	0.770	0.88	NO	0.28297	0.28297
3	43 Total Tetra-Furans	24.00	23.34	1.501e2	2.146e2	0.770	0.70	NO	0.65228	0.65228
4	43 Total Tetra-Furans	24.00	24.21	1.722e2	1.783e2	0.770	0.97	YES	0.56441	0.00000



Vista Analytical Laboratory

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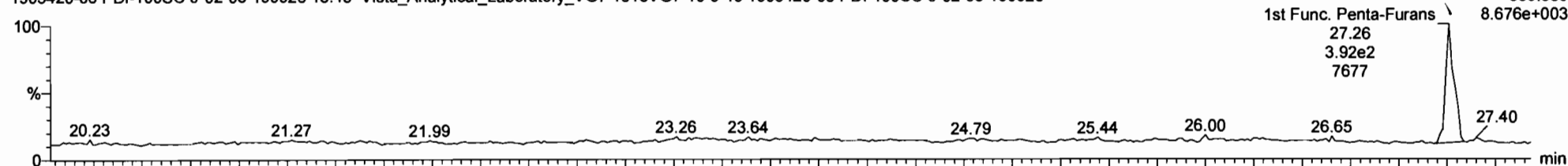
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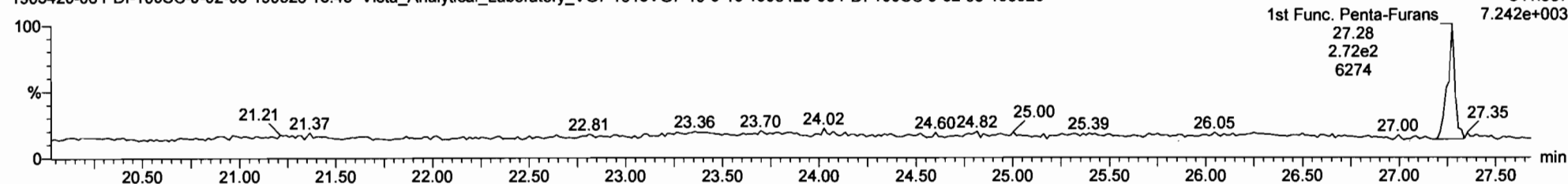
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1st Func. Penta-Furans

191023D2_9
1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

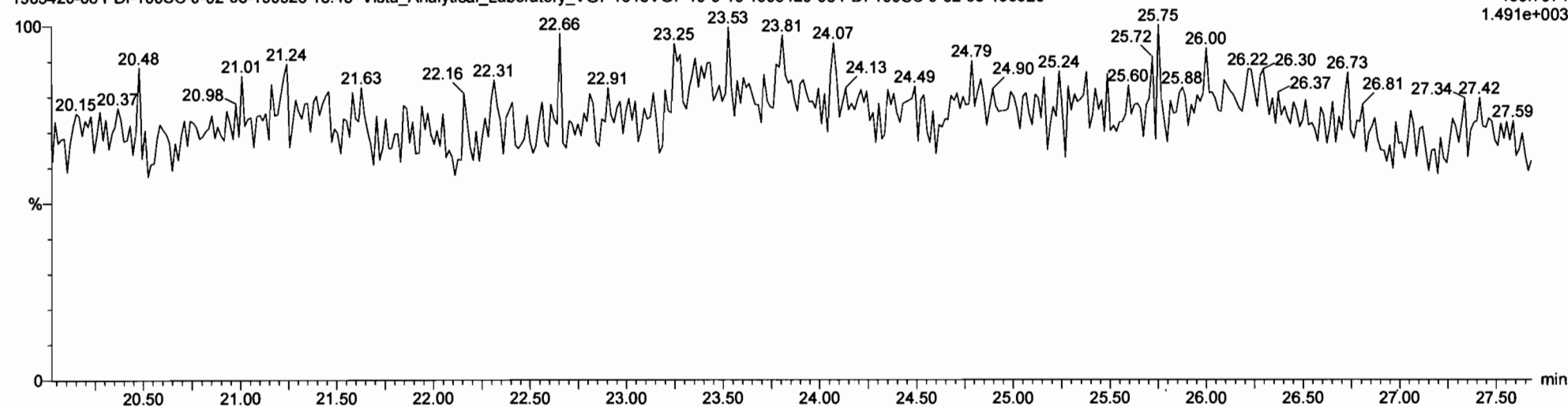


191023D2_9
1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926



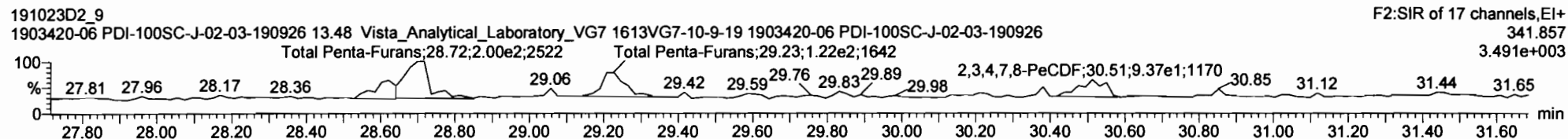
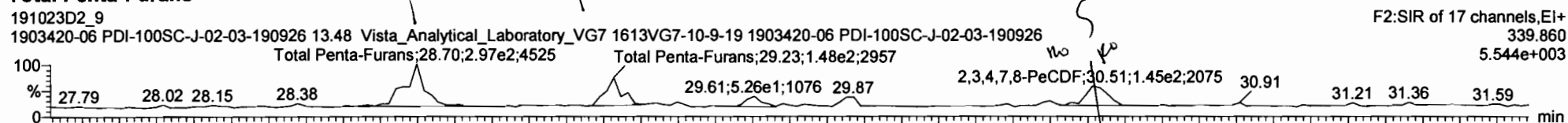
DPE6

191023D2_9
1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

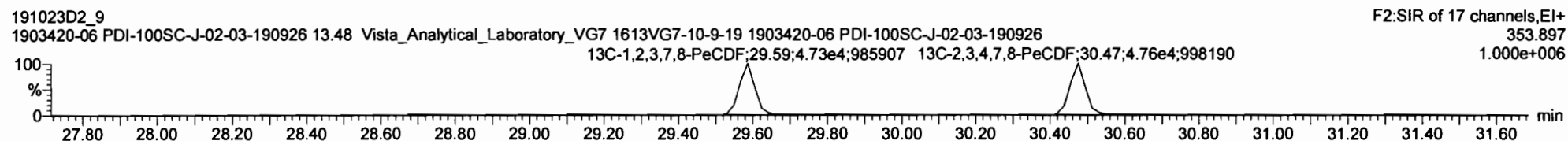
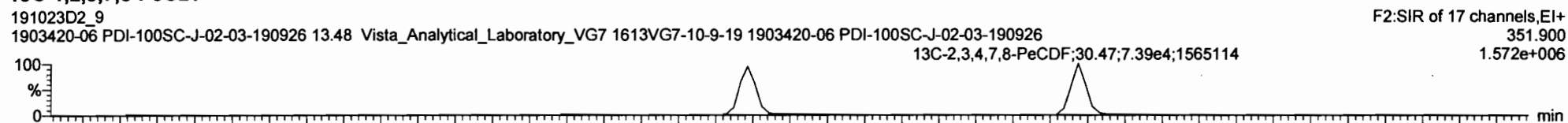


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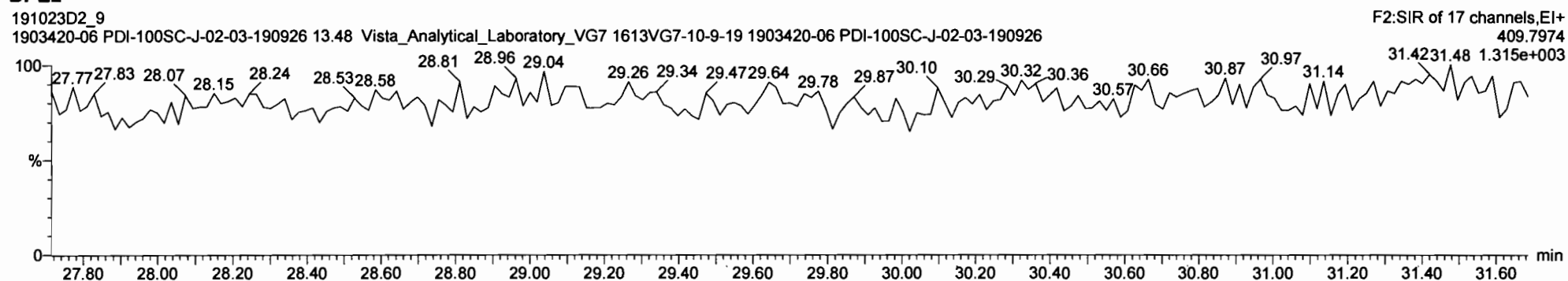
Total Penta-Furans



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



DPE2

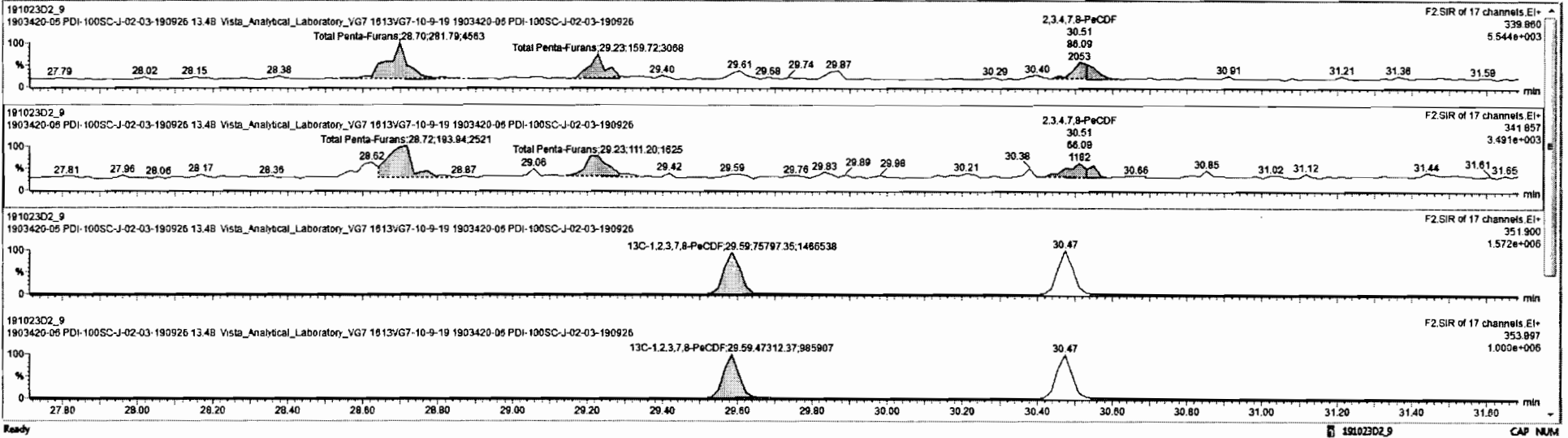


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191023D2_9 - 1903420-06 PDI-100SC-J-02-03-190926 - 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista Analytical Laboratory VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISF	RA	Aly	DIV	wt/val	Pred.RT	RT	QRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
45	45 Total Penta-Furans		0.00e0					0.000	30.00	30.00		0.000	NO	1.278	0.079	1.250	
46	46 Total Hexa-Furans		0.00e0					1.078	10.164	33.00		0.000	NO	7.019	0.190	7.451	
47	47 Total Hepta-Furans		0.00e0					1.135	10.164	37.75		0.000	NO	12.73	0.184	12.73	
48	48 PFK1																
49	49 PFK2																
50	50 PFK3																
51	51 PFK4																
52	52 PFK5																
53	53 DPE1																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred.RA	RA	Aly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.70	2.610e2	1.939e2	1.550	1.45	NO	0.81459	0.81459
2	45 Total Penta-Furans	30.00	29.23	1.597e2	1.112e2	1.550	1.44	NO	0.46389	0.46389
3	10 2,3,4,7,8-PeCDF	30.50	30.51	6.809e1	6.809e1	1.550	1.30	YES	0.22803	0.00000
4	45 Total Penta-Furans	30.00	30.53	5.702e1	2.791e1	1.550	2.04	YES	0.12187	0.00000



Vista Analytical Laboratory

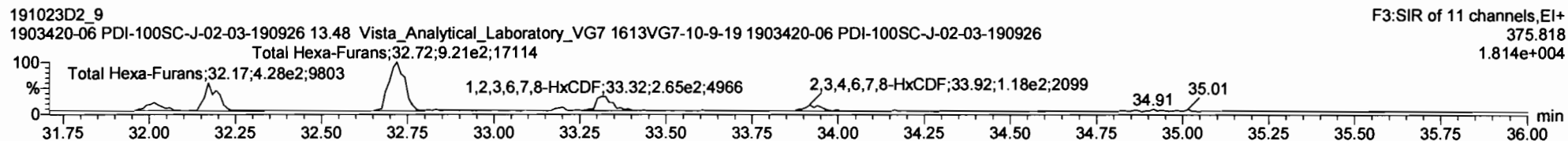
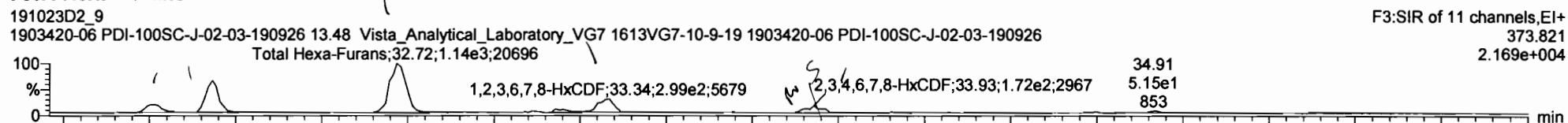
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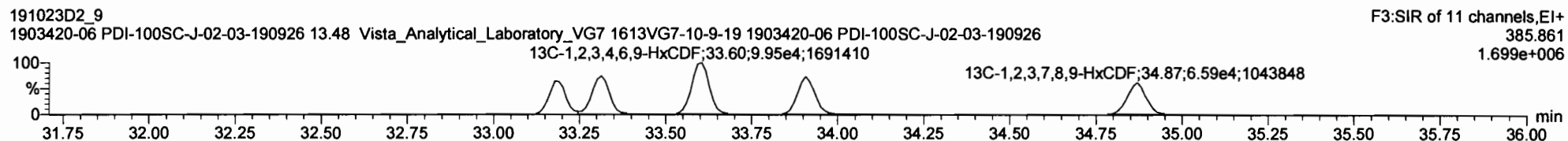
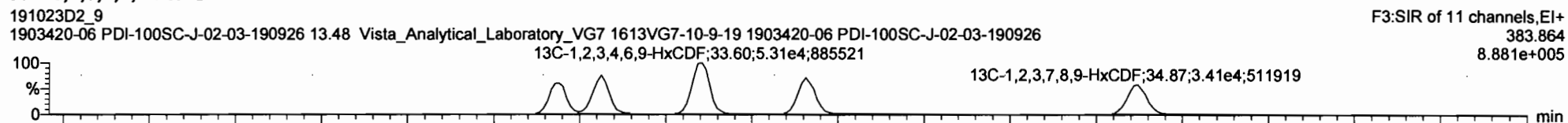
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 Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

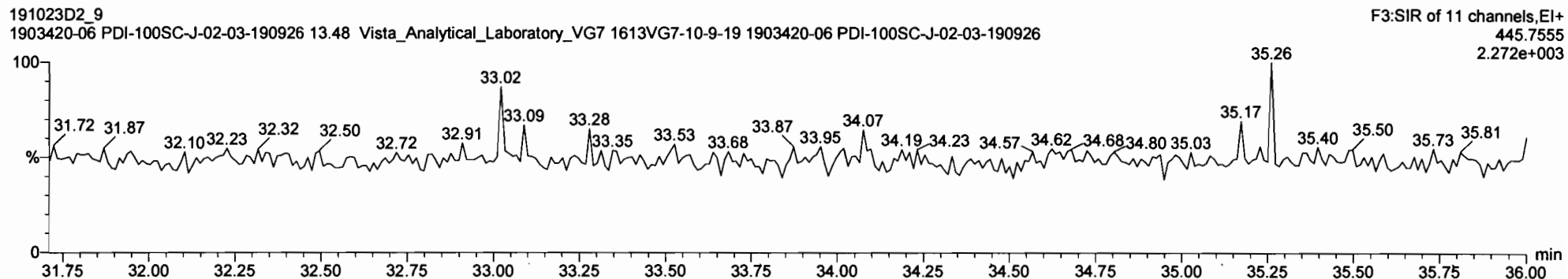
Total Hexa-Furans



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

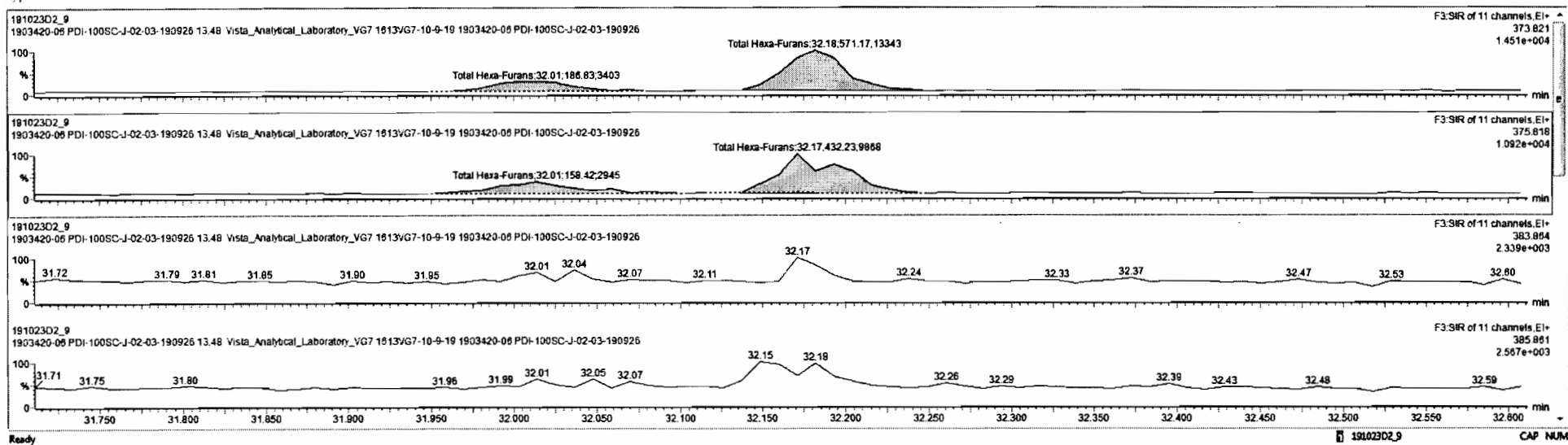


DPE3



#	Name	Resp	IS Resp	IS#	RA	nly	RRF	wVal	Prod.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
45	Total Penta-Furans		0.00e0				0.940	10.164	30.00			0.000	NO	1.278		0.170	1.626
46	Total Hexa-Furans		0.00e0				1.878	16.164	33.00			0.000	NO	7.182		0.190	7.421
47	Total Hepta-Furans		0.00e0				1.135	10.164	37.75			0.000	NO	12.73		0.184	12.73
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																

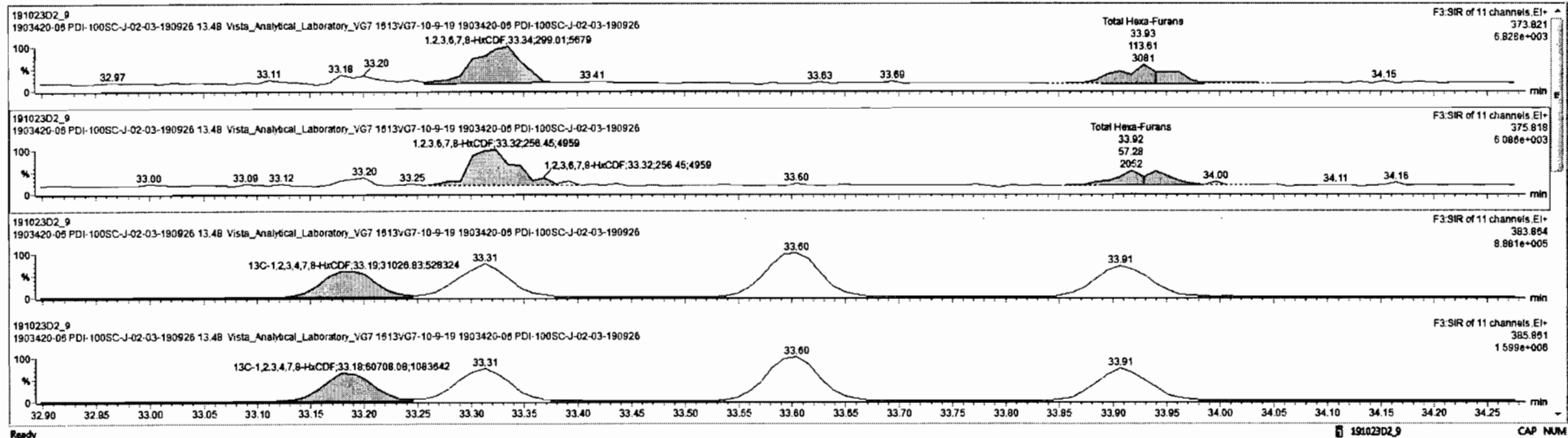
#	Name	Pred.RT	RT	n1 Resp	n2 Resp	Prod.RA	RA	nly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.01	1.868e2	1.584e2	1.240	1.18	NO	0.81564	0.81564
2	46 Total Hexa-Furans	33.00	32.18	5.712e2	4.322e2	1.240	1.32	NO	1.7892	1.7882
3	46 Total Hexa-Furans	33.00	32.72	1.135e3	9.207e2	1.240	1.23	NO	3.8662	3.6662
4	12 1,2,3,6,7,8-HxCDF	33.32	33.34	2.600e2	2.564e2	1.240	1.17	NO	0.93424	0.93424
5	46 Total Hexa-Furans	33.00	33.93	1.136e2	5.728e1	1.240	1.98	YES	0.22879	0.00000
8	13 2,3,4,6,7,8-HxCDF	33.84	33.94	6.169e1	5.302e1	1.240	1.16	NO	0.16689	0.16689



191023D2_9 - 1903420_06 PDI-100SC-J-02-03-190926 - 1903420_06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

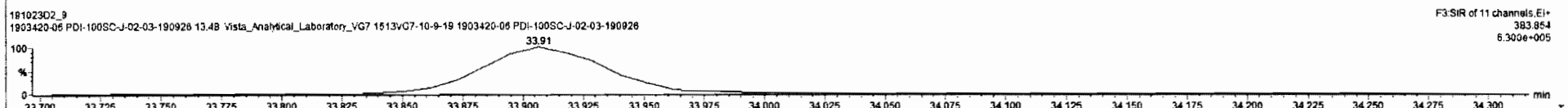
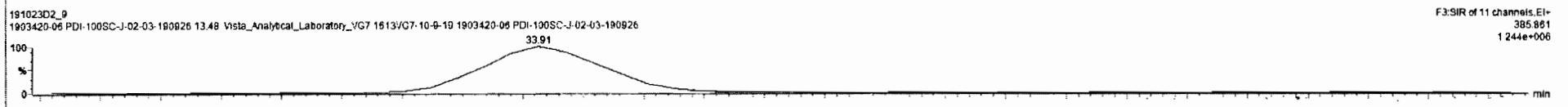
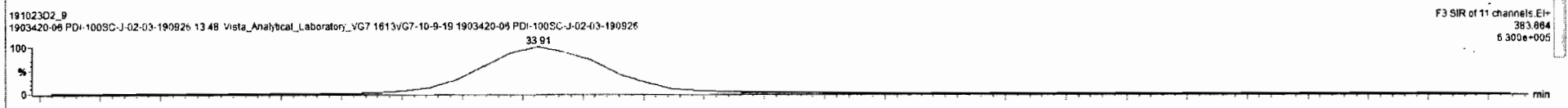
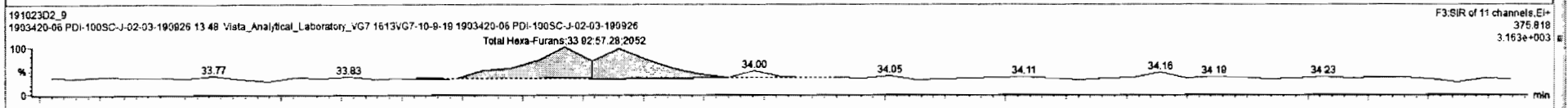
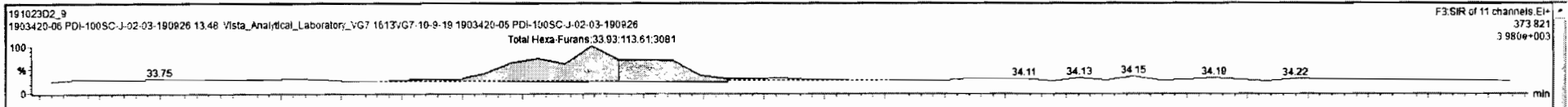
#	Name	Resp	IS Resp	SP	RA	n/y	RRF	wVvol	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
45	Total Penta-Furans	0.00e0					0.940	10.184	30.00			0.000	NO	1.278	0.170	1.626	
46	Total Hexa-Furans	0.00e0					1.878	16.184	33.08			0.000	NO	7.182	6.180	7.421	
47	Total Hepta-Furans	0.00e0					1.135	10.164	37.75			0.000	NO	12.73	0.184	12.73	
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																

#	Name	Pred.RT	RT	wt Resp	nt Resp	Pred RA	RA	n/y	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.01	1.868e2	1.584e2	1.240	1.16	NO	0.61564	0.61564
2	46 Total Hexa-Furans	33.00	32.18	5.712e2	4.322e2	1.240	1.32	NO	1.7892	1.7892
3	46 Total Hexa-Furans	33.00	32.72	1.135e3	8.207e2	1.240	1.23	NO	3.8662	3.8662
4	12 1,2,3,6,7,8-HxCDF	33.32	33.34	2.990e2	2.564e2	1.240	1.17	NO	0.93424	0.93424
5	46 Total Hexa-Furans	33.00	33.03	1.136e2	5.728e1	1.240	1.06	YES	0.22879	0.00000
6	13 2,3,4,6,7,8-HxCDF	33.84	33.94	6.169e1	5.302e1	1.240	1.16	NO	0.18689	0.18689



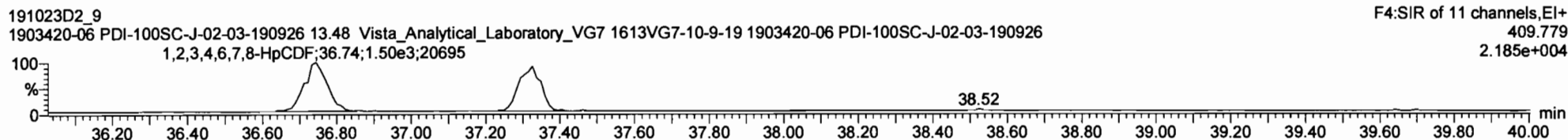
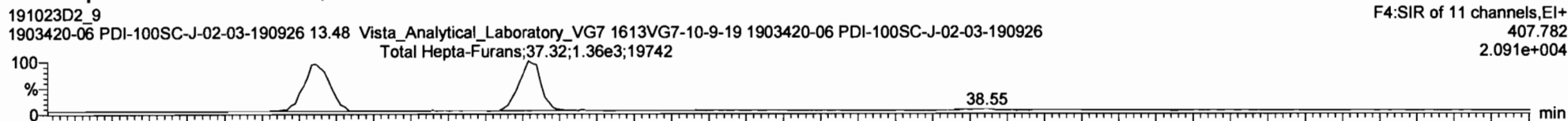
#	Name	Resp	RA	n/y	RRF	wt/vol	Pred.RT	RT	Pred.R...	RRT	RRT Fail	Conc.	%Rec	DL	EMPC
40	Total Penta-Dioxins					10.164	30.00		0.000		NO	0.0000		0.0746	0.1630
41	Total Hexa-Dioxins					10.164	33.86		0.000		NO	1.149		0.248	1.149
42	Total Hepta-Dioxins					10.164	37.75		0.000		NO	12.63		0.312	12.63
43	Total Tetra-Furans					10.164	24.00		0.000		NO	0.9353		0.219	1.817
44	1st Func Penta-Furans					10.164	27.83		0.000		NO	1.137		0.0742	1.137
45	Total Penta-Furans					10.164	30.00		0.000		NO	1.278		0.170	1.626
46	Total Hexa-Furans					10.164	33.09		0.000		NO	7.182		0.190	7.421

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	1st Ratio (Pred)	RA	n/y	EMPC	Conc.
1	1,2,3,6,7,8-HxCDF	33.32	33.34	2.950e2	2.564e2	1.240	1.17	NO	0.93400	0.93424
2	2,3,4,6,7,8-HxCDF	33.94	33.94	6.199e1	5.302e1	1.240	1.16	NO	0.18700	0.18689
3	Total Hexa-Furans	33.00	32.91	1.868e2	1.584e2	1.240	1.18	NO	0.81600	0.81564
4	Total Hexa-Furans	33.00	32.18	5.712e2	4.322e2	1.240	1.32	NO	1.7890	1.7892

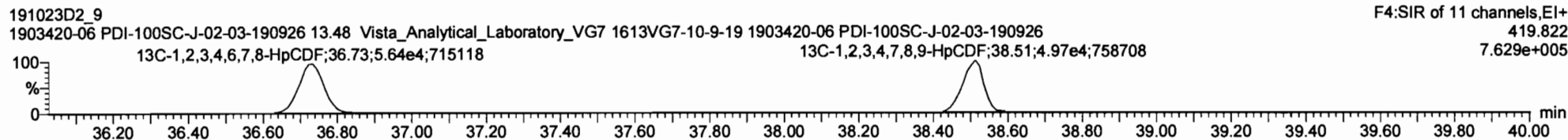
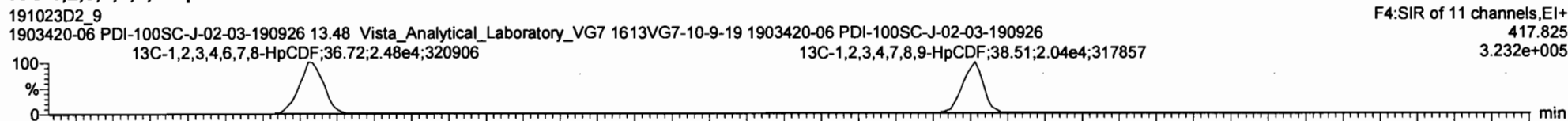


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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

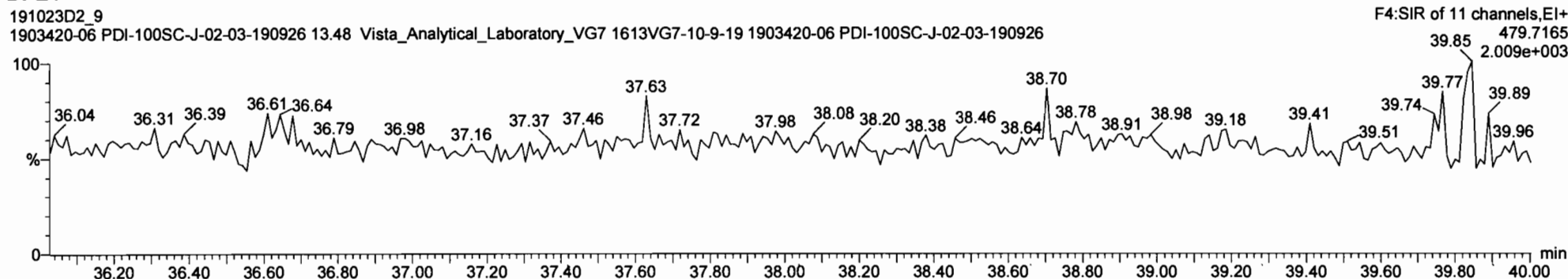
Total Hepta-Furans



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



DPE4



Vista Analytical Laboratory

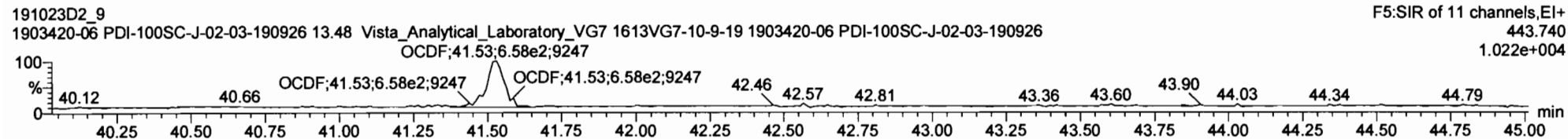
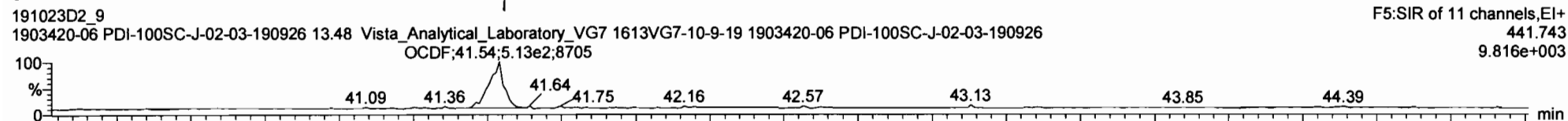
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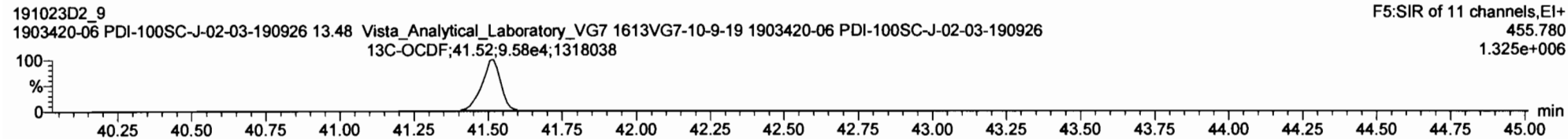
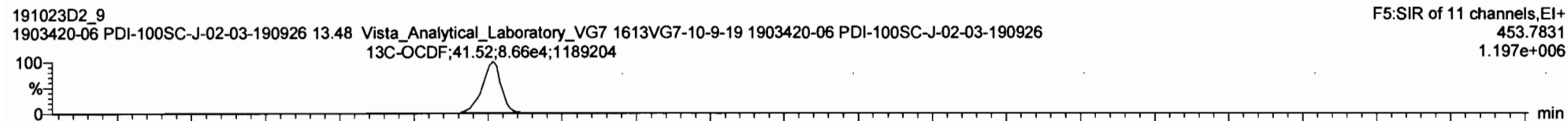
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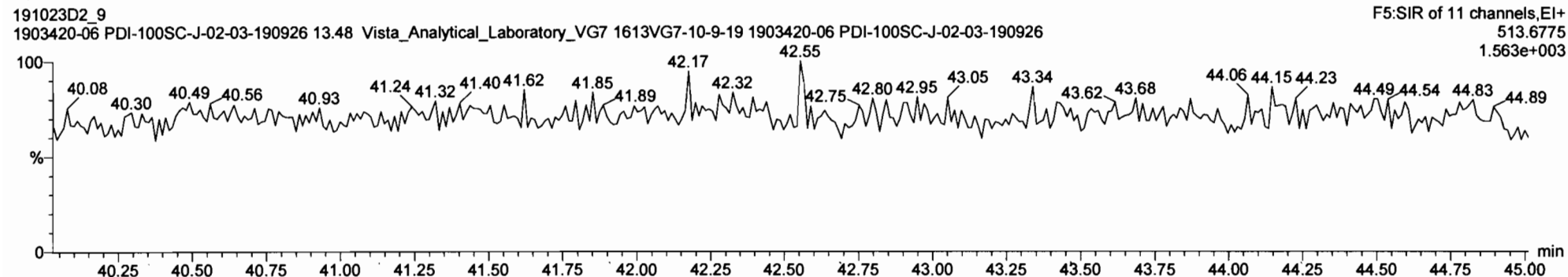
OCDF



13C-OCDF



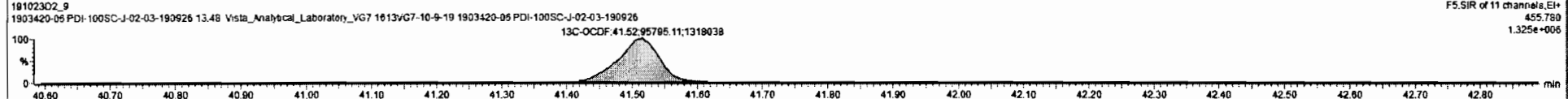
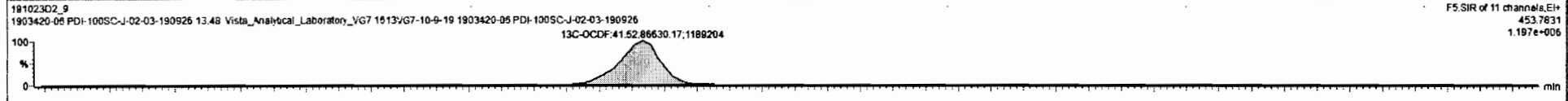
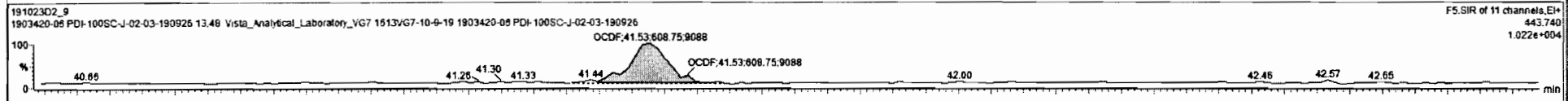
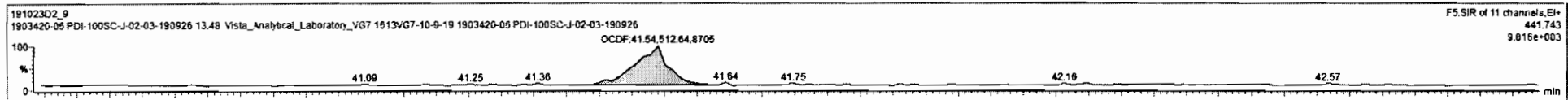
DPE5



Targetlynz KS - 150
 File Edit View Display Processing Window Help
 191023D2_9 - 1903420-05 PDI-100SC-J-02-03-190926 - 1903420-05 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	S Resp	IS#	RA	nly	RRF	wt/vol	Pred RT	RT	RRT	Pred_RRT	Check RRT	Conc.	%Rec	DL	EMPC
11	1,2,3,4,7,8-HxCDF	9.17e4	9.17e4	28	1.13	NO	1.177	10.164	33.19			1.000	NO			0.191	
12	1,2,3,6,7,8-HxCDF	5.64e2	1.08e5	29	1.13	NO	1.069	10.164	33.32	33.34	1.001	1.000	NO	0.9491		0.166	0.9491
13	1,2,3,4,6,7,8-HxCDF	2.90e2	1.08e5	30	1.46	YES	1.114	10.164	33.94	33.93	1.001	1.001	NO	0.4729		0.170	0.4313
14	1,2,3,4,6,7,8-HxCDF	1.90e5	1.90e5	31			1.062	10.164	34.87			1.000	NO			0.220	
15	1,2,3,4,6,7,8-HpCDF	3.06e3	8.11e4	32	1.04	NO	1.128	10.164	36.76	36.74	1.001	1.001	NO	6.574		0.166	6.574
16	1,2,3,4,7,8,9-HpCDF	7.01e4	7.01e4	33			1.260	10.164	38.51			1.000	NO			0.190	
17	OCDF	1.12e8	1.12e8	34	0.84	NO	0.947	10.164	41.02	41.54	1.001	1.000	NO	2.834		0.202	2.854
18	13C-2,3,7,8-TCDD	8.88e4	1.21e5	36	0.78	NO	1.095	10.164	26.26	26.26	1.021	1.021	NO	131.4	66.8	0.290	
19	13C-1,2,3,7,8-PeCDD	7.89e4	1.21e5	36	0.85	NO	0.881	10.164	30.52	30.76	1.196	1.187	NO	145.2	73.8	0.224	

#	Name	Pred RT	RT	n1 Resp	n2 Resp	Pred RA	RA	nly	EMPC	Conc.
1										



Ready 191023D2_9 CAP NUM

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

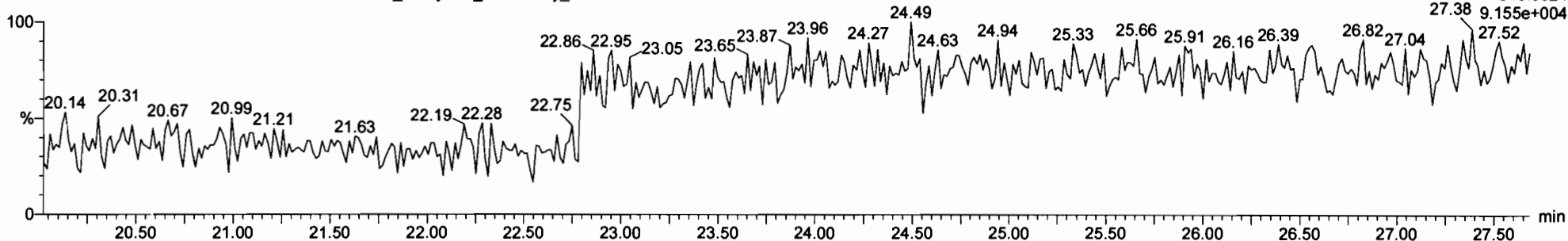
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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK1

191023D2_9
1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-06 PDI-100SC-J-02-03-190926

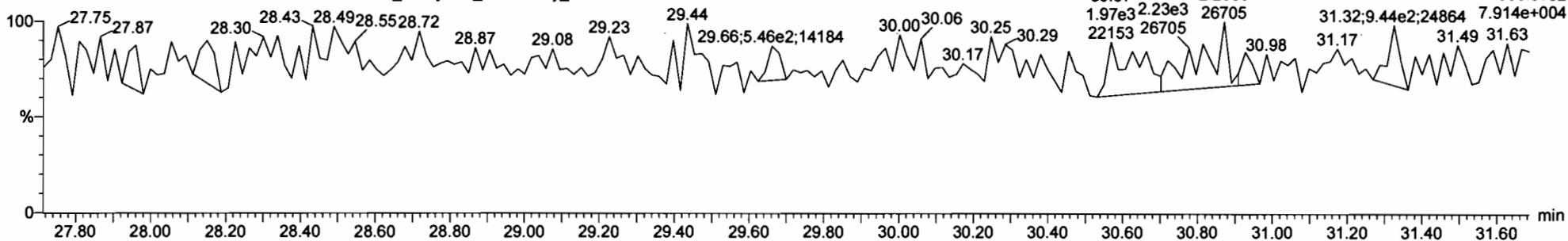
F1:SIR of 15 channels,EI+
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PFK2

191023D2_9
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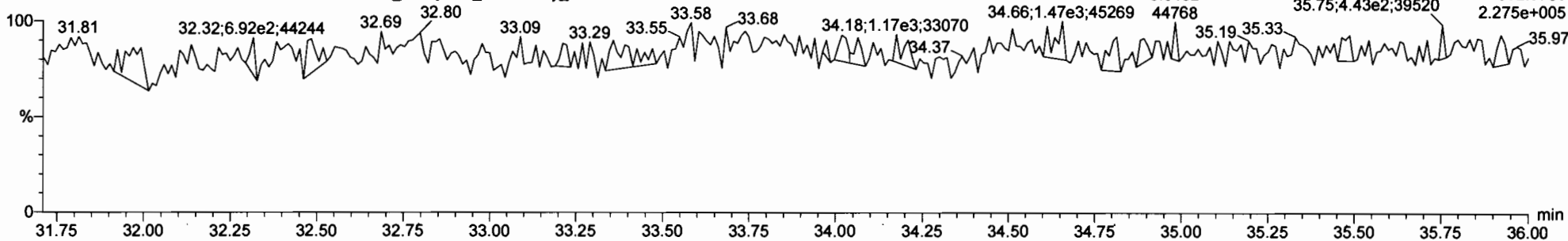
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PFK3

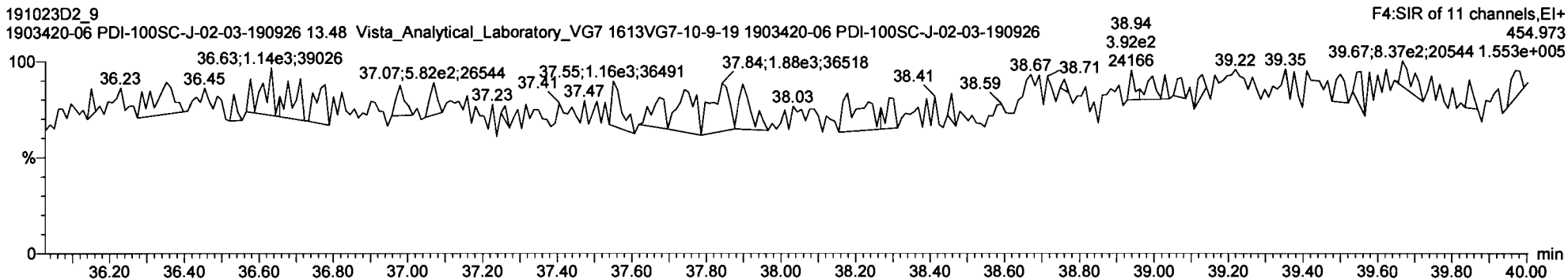
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F3:SIR of 11 channels,EI+
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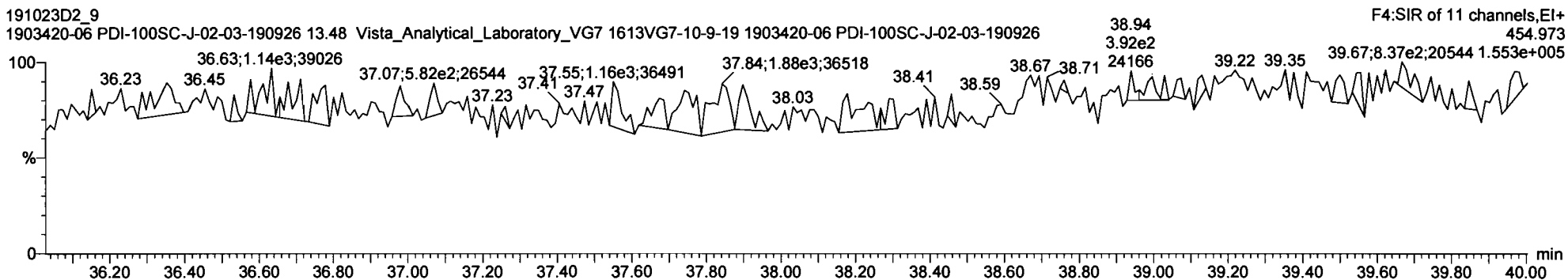


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Description: 1903420-06 PDI-100SC-J-02-03-190926 13.48 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-10.qld

Last Altered: Tuesday, November 05, 2019 14:28:52 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:29:41 Pacific Standard Time

CT 11/06/19

HC 11-5-19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 14:20:15

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1	2,3,7,8-TCDD	8.98e4	10.1188	0.905			1.001		26.30				0.195	
2	1,2,3,7,8-PeCDD	7.02e4	10.1188	0.903			1.001		30.76				0.336	
3	1,2,3,4,7,8-HxCDD	6.85e4	10.1188	1.101			1.000		34.09				0.306	
4	1,2,3,6,7,8-HxCDD	7.26e4	10.1188	0.939			1.000		34.18				0.355	
5	1,2,3,7,8,9-HxCDD	7.62e4	10.1188	0.961			1.001		34.52				0.338	
6	1,2,3,4,6,7,8-HpCDD	1.28e3	6.86e4	10.1188	0.979	0.990	NO	1.000	1.000	37.97	37.97	3.7658	3.77	0.311
7	OCDD	1.77e4	1.21e5	10.1188	0.959	0.900	NO	1.000	1.000	41.28	41.29	60.384	60.4	0.436
8	2,3,7,8-TCDF	1.25e5	10.1188	0.950			1.001		25.51				0.302	
9	1,2,3,7,8-PeCDF	1.11e5	10.1188	0.960			1.001		29.61				0.187	
10	2,3,4,7,8-PeCDF	2.99e2	1.12e5	10.1188	1.015	1.770	NO	1.001	1.001	30.51	30.51	0.52260	0.523	0.171
11	1,2,3,4,7,8-HxCDF	7.26e4	10.1188	1.177			1.000		33.18				0.170	
12	1,2,3,6,7,8-HxCDF	4.90e2	8.58e4	10.1188	1.069	1.180	NO	1.000	1.000	33.32	33.32	1.0548	1.05	0.157
13	2,3,4,6,7,8-HxCDF	2.05e1	9.22e4	10.1188	1.114	1.177	NO	1.001	1.001	33.95	33.96	0.039372	0.0394	0.158
14	1,2,3,7,8,9-HxCDF	8.72e4	10.1188	1.062			1.000		34.86				0.188	
15	1,2,3,4,6,7,8-HpCDF	1.97e3	6.02e4	10.1188	1.128	1.052	NO	1.001	1.000	36.76	36.73	5.7479	5.75	0.312
16	1,2,3,4,7,8,9-HpCDF	6.50e4	10.1188	1.280			1.000		38.50				0.214	
17	OCDF	1.09e3	1.55e5	10.1188	0.947	1.007	NO	1.000	1.000	41.50	41.51	2.9201	2.92	0.384
18	13C-2,3,7,8-TCDD	8.98e4	1.15e5	10.1188	1.095	0.795	NO	1.021	1.022	26.25	26.27	140.66	71.2	0.347
19	13C-1,2,3,7,8-PeCDD	7.02e4	1.15e5	10.1188	0.881	0.622	NO	1.187	1.196	30.51	30.74	136.70	69.2	0.205
20	13C-1,2,3,4,7,8-Hx...	6.85e4	1.39e5	10.1188	0.642	1.237	NO	1.014	1.014	34.06	34.08	151.71	76.8	0.515
21	13C-1,2,3,6,7,8-Hx...	7.26e4	1.39e5	10.1188	0.856	1.266	NO	1.017	1.017	34.18	34.18	120.56	61.0	0.387
22	13C-1,2,3,7,8,9-Hx...	7.62e4	1.39e5	10.1188	0.807	1.243	NO	1.026	1.026	34.48	34.48	134.29	67.9	0.410
23	13C-1,2,3,4,6,7,8-H...	6.86e4	1.39e5	10.1188	0.654	1.057	NO	1.126	1.130	37.84	37.96	148.99	75.4	0.874
24	13C-OCDD	1.21e5	1.39e5	10.1188	0.580	0.926	NO	1.226	1.229	41.19	41.28	296.98	75.1	0.505
25	13C-2,3,7,8-TCDF	1.25e5	1.83e5	10.1188	1.035	0.764	NO	0.993	0.992	25.54	25.49	130.55	66.1	0.333
26	13C-1,2,3,7,8-PeCDF	1.11e5	1.83e5	10.1188	0.854	1.603	NO	1.143	1.151	29.38	29.59	140.42	71.0	0.457
27	13C-2,3,4,7,8-PeCDF	1.12e5	1.83e5	10.1188	0.847	1.566	NO	1.176	1.186	30.24	30.48	142.31	72.0	0.461
28	13C-1,2,3,4,7,8-Hx...	7.26e4	1.39e5	10.1188	0.832	0.526	NO	0.987	0.988	33.17	33.18	123.97	62.7	0.582
29	13C-1,2,3,6,7,8-Hx...	8.58e4	1.39e5	10.1188	1.034	0.514	NO	0.991	0.991	33.29	33.31	117.93	59.7	0.468
30	13C-2,3,4,6,7,8-Hx...	9.22e4	1.39e5	10.1188	0.953	0.524	NO	1.009	1.009	33.91	33.91	137.48	69.6	0.508
31	13C-1,2,3,7,8,9-Hx...	8.72e4	1.39e5	10.1188	0.828	0.512	NO	1.039	1.038	34.90	34.86	149.79	75.8	0.585

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-10.qld

Last Altered: Tuesday, November 05, 2019 14:28:52 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:29:41 Pacific Standard Time

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 Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	6.02e4	1.39e5	10.1188	0.757	0.435	NO	1.093	1.093	36.72	36.73	112.97	57.2	0.597
33	13C-1,2,3,4,7,8,9-H...	6.50e4	1.39e5	10.1188	0.581	0.462	NO	1.143	1.146	38.41	38.50	159.04	80.5	0.778
34	13C-OCDF	1.55e5	1.39e5	10.1188	0.689	0.899	NO	1.233	1.235	41.43	41.50	320.32	81.0	0.536
35	37Cl-2,3,7,8-TCDD	3.56e4	1.15e5	10.1188	1.198			1.022	1.022	26.27	26.28	50.945	64.4	0.127
36	13C-1,2,3,4-TCDD	1.15e5	1.15e5	10.1188	1.000	0.816	NO	1.000	1.000	25.70	25.71	197.65	100.0	0.381
37	13C-1,2,3,4-TCDF	1.83e5	1.83e5	10.1188	1.000	0.795	NO	1.000	1.000	24.28	24.29	197.65	100.0	0.344
38	13C-1,2,3,4,6,9-Hx...	1.39e5	1.39e5	10.1188	1.000	0.518	NO	1.000	1.000	33.55	33.60	197.65	100.0	0.484
39	Total Tetra-Dioxins	8.98e4	10.1188	0.901				0.000		25.50				0.114
40	Total Penta-Dioxins	7.02e4	10.1188	0.872				0.000		30.00		0.00000	0.222	0.108
41	Total Hexa-Dioxins	0.00e0	10.1188	0.976				0.000		33.80		2.8590	2.86	0.340
42	Total Hepta-Dioxins	6.86e4	10.1188	0.989				0.000		37.75		10.289	10.3	0.308
43	Total Tetra-Furans	1.25e5	10.1188	0.943				0.000		24.00		0.00000	0.807	0.131
44	1st Func. Penta-Fur...	0.00e0	10.1188	0.940				0.000		27.63		1.1179	1.12	0.101
45	Total Penta-Furans	0.00e0	10.1188	0.940				0.000		30.00		0.52260	3.0	1.89
46	Total Hexa-Furans	0.00e0	10.1188	1.078				0.000		33.00		6.2923	6.68	0.172
47	Total Hepta-Furans	0.00e0	10.1188	1.135				0.000		37.75		11.654	11.7	0.274

0.195

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-10.qld

Last Altered: Tuesday, November 05, 2019 14:28:52 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:29:41 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 14:20:15

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 Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

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Penta-Dioxins

40	Total Penta-Dioxins	YES	28.74	44.394	26919.180	0.000	MM	0.0000	0.22

Hexa-Dioxins

41	Total Hexa-Dioxins	NO	32.55	348.819	40234.430	17.360	MM	1.7580	1.76
41	Total Hexa-Dioxins	NO	33.37	216.142	40234.430	10.873	MM	1.1010	1.10

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	NO	37.97	636.600	35224.531	37.320	MM	3.7658	3.77
42	Total Hepta-Dioxins	NO	37.13	1198.614	35224.531	65.262	MM	6.5233	6.52

Tetra-Furans

43	Total Tetra-Furans	YES	24.21	150.725	54175.527	0.000	MM	0.0000	0.38
43	Total Tetra-Furans	YES	23.30	162.733	54175.527	0.000	MM	0.0000	0.42

Penta-Furans function 1

44	1st Func. Penta-Furans	NO	27.26	341.598	68239.152	10.628	bb	1.1179	1.12

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-10.qld

Last Altered: Tuesday, November 05, 2019 14:28:52 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:29:41 Pacific Standard Time

Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
 Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans

10	2,3,4,7,8-PeCDF	NO	30.51	191.350	68097.297	5.366	MM	0.5226	0.52
45	Total Penta-Furans	YES	29.21	160.877	68239.152	0.000	MM	0.0000	0.50
45	Total Penta-Furans	YES	28.70	347.761	68239.152	0.000	MM	0.0000	0.86

Hexa-Furans

46	Total Hexa-Furans	YES	32.01	127.617	28857.310	0.000	MM	0.0000	0.39
46	Total Hexa-Furans	NO	33.92	73.500	28857.310	3.391	MM	0.3110	0.31
12	1,2,3,6,7,8-HxCDF	NO	33.32	265.016	29140.959	11.409	MM	1.0548	1.05
46	Total Hexa-Furans	NO	32.70	806.880	28857.310	37.207	MM	3.4122	3.41
46	Total Hexa-Furans	NO	32.18	390.646	28857.310	16.082	MM	1.4749	1.47
13	2,3,4,6,7,8-HxCDF	NO	33.96	11.062	31708.049	0.444	MM	0.0394	0.04

Hepta-Furans

47	Total Hepta-Furans	NO	37.31	1086.428	19411.547	67.818	bb	5.9066	5.91
15	1,2,3,4,6,7,8-HpCDF	NO	36.73	1012.152	18264.346	65.583	bb	5.7479	5.75

Vista Analytical Laboratory

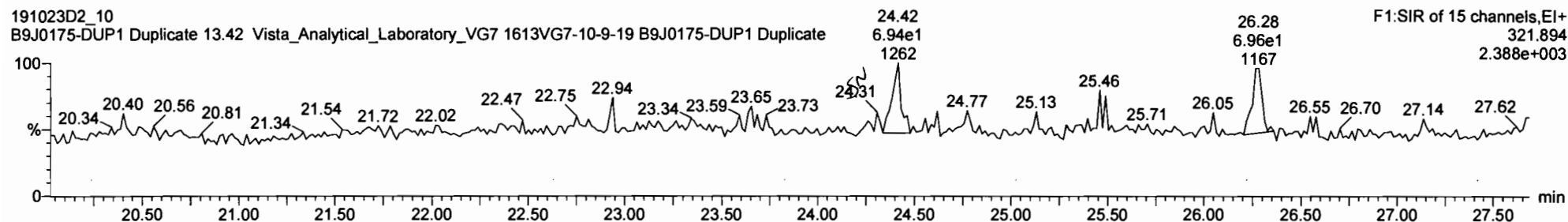
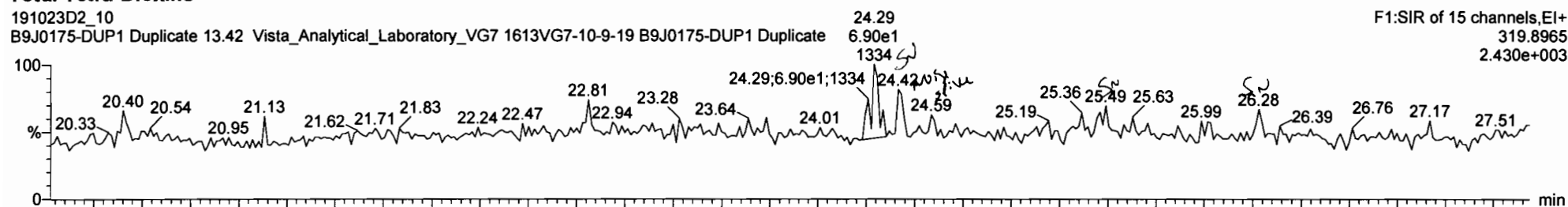
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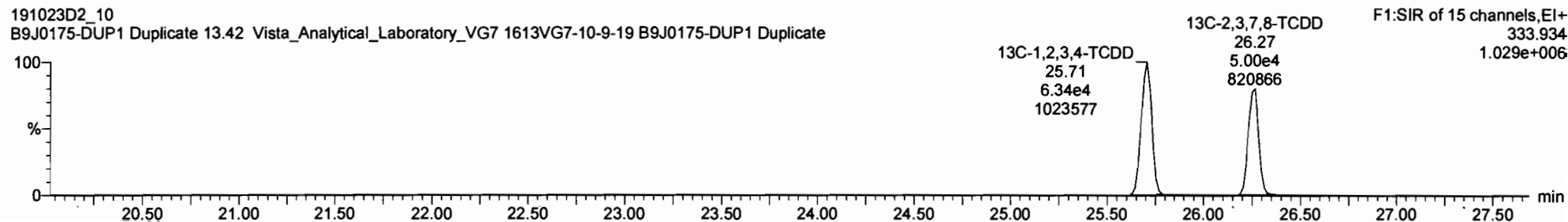
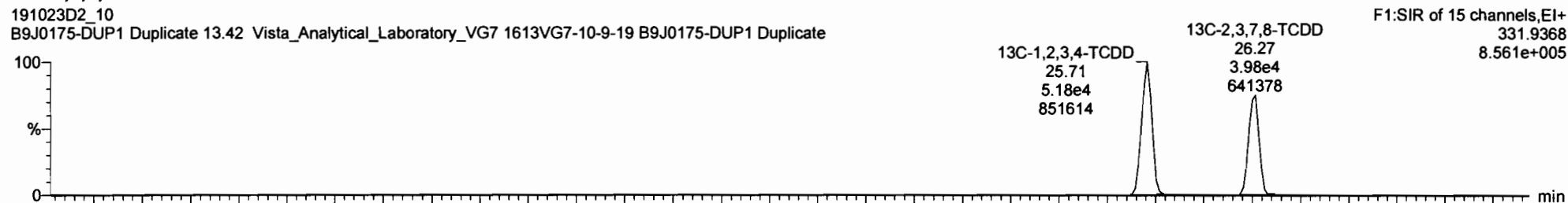
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 Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

Dataset: Untitled

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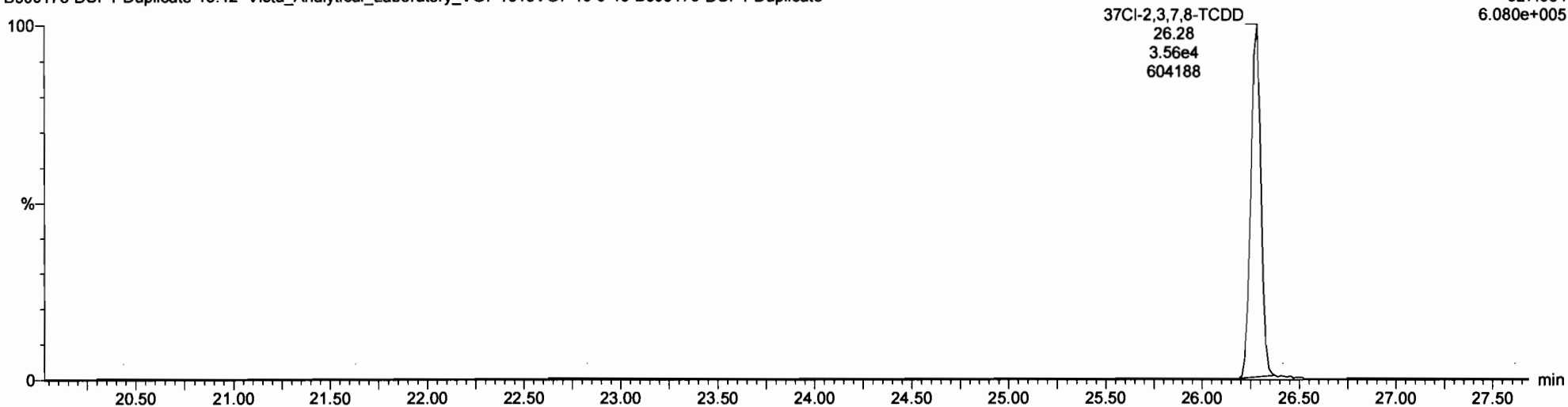
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Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

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B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate

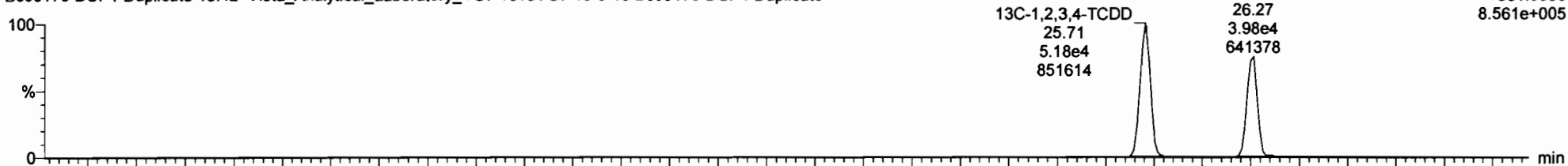
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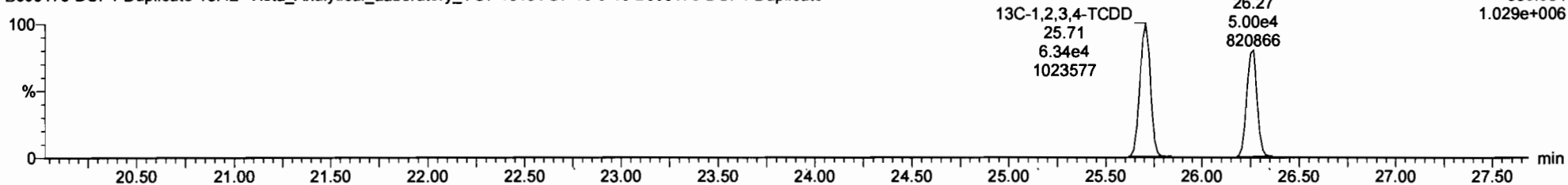
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F1:SIR of 15 channels,EI+
331.9368
8.561e+005



191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate

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Vista Analytical Laboratory

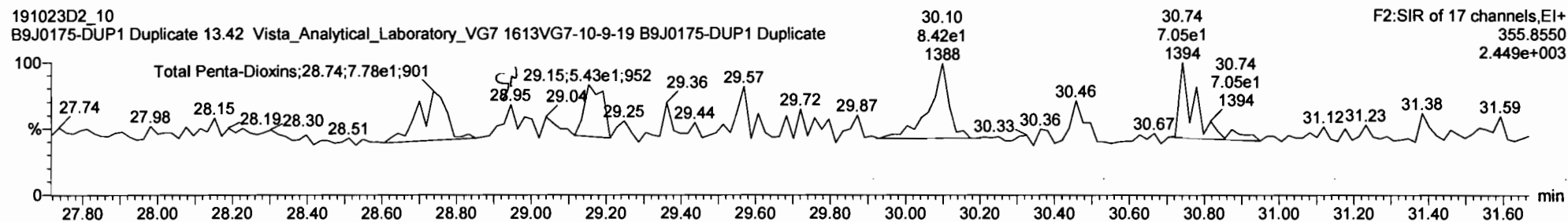
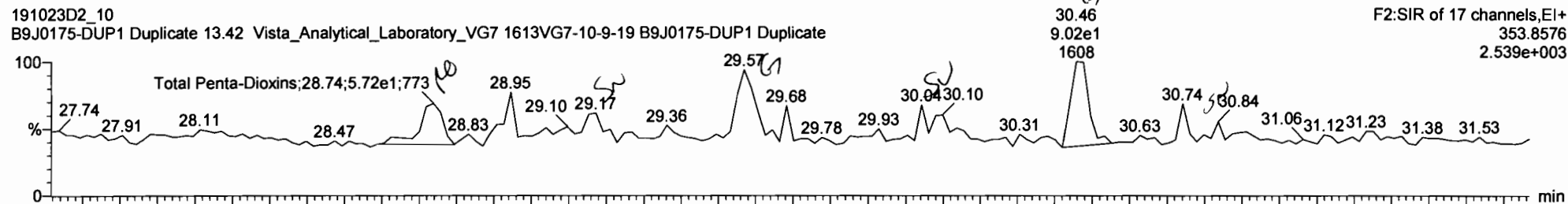
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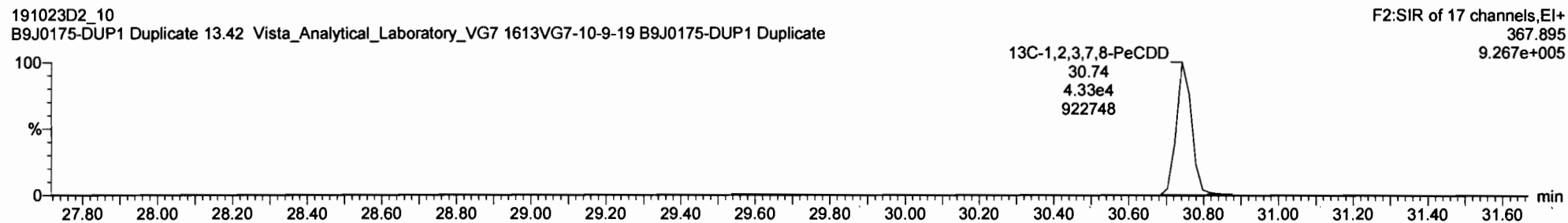
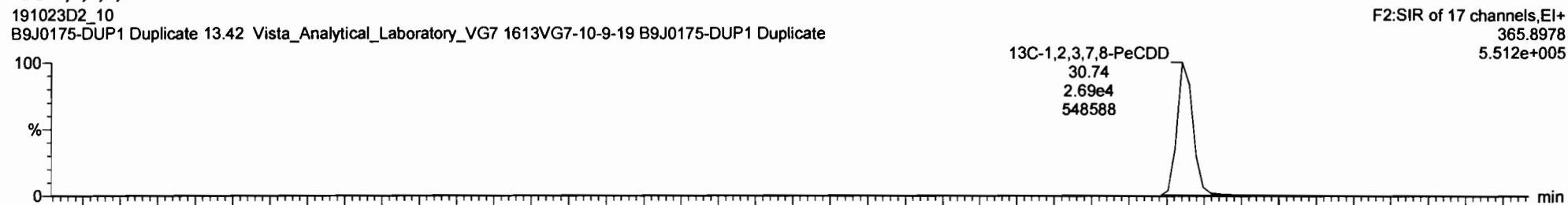
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Total Penta-Dioxins



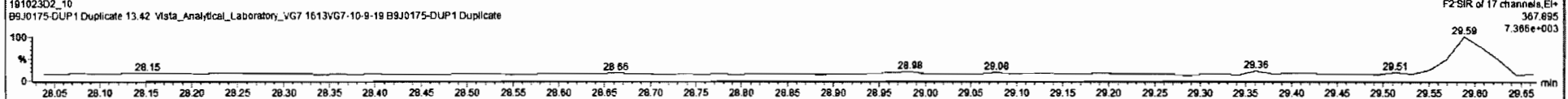
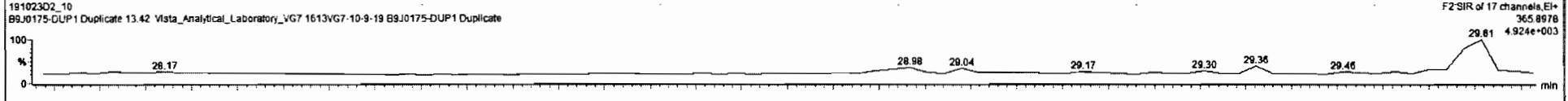
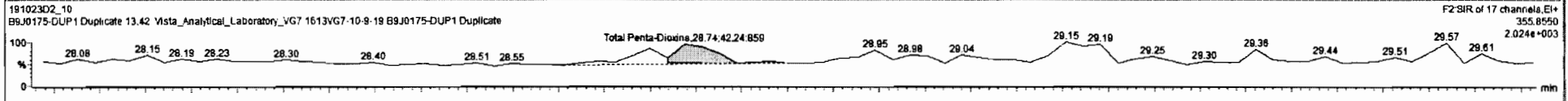
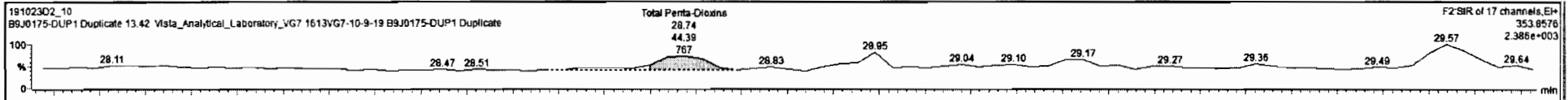
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191023D2_10 B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	nly	RPF	wViel	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
32	13C-1,2,3,4,6,7,8-HpCDF	6.02e4	1.39e5	38	0.44	NO	0.757	10.119	36.72	36.73	1.093	1.093	NO	119.0	57.2	0.597	
33	13C-1,2,3,4,7,8,9-HpCDF	6.55e4	1.39e5	38	0.46	NO	0.581	10.119	38.41	38.50	1.146	1.143	NO	159.0	80.5	0.778	
34	13C-OCDF	1.55e5	1.39e5	36	0.90	NO	0.689	10.119	41.43	41.50	1.235	1.233	NO	320.3	81.0	0.536	
35	37Cl-2,3,7,8-TCDD	3.56e4	1.15e5	36			1.196	10.119	26.27	26.28	1.022	1.022	NO	50.94	64.4	0.127	
36	13C-1,2,3,4-TCDD	1.15e5	1.15e5	36	0.82	NO	1.000	10.119	25.70	25.71	1.000	1.000	NO	197.7	100	0.381	
37	13C-1,2,3,4-TCDF	1.83e5	1.83e5	37	0.80	NO	1.000	10.119	24.28	24.29	1.000	1.000	NO	197.7	100	0.344	
38	13C-1,2,3,4,6,9-HxCDF	1.39e5	1.39e5	38	0.52	NO	1.000	10.119	33.55	33.60	1.000	1.000	NO	197.7	100	0.484	
39	Total Tetra-Dioxins	8.98e4					0.901	10.119	25.50					0.000		0.114	
40	Total Penta-Dioxins	7.82e4					0.872	10.119	30.99					0.000		0.198	0.2222

#	Name	Pred.RT	RT	rt1 Resp	m2 Resp	Pred.RA	RA	nly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.74	4.439e1	4.224e1	0.630	1.05	YES	0.22221	0.00000



Ready 191023D2_10 CAP NUM

Vista Analytical Laboratory

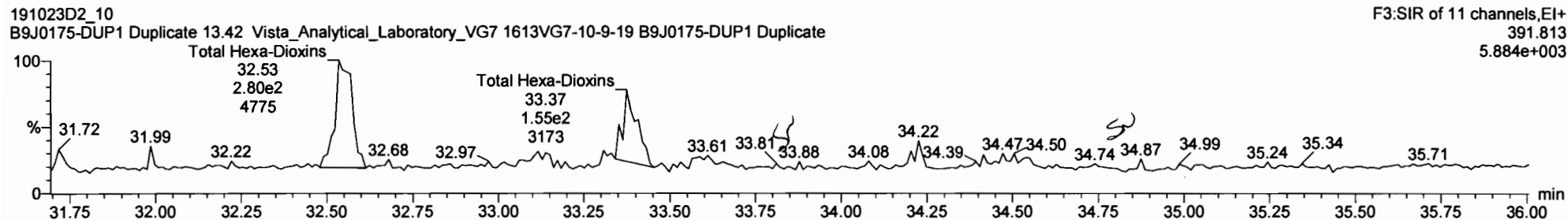
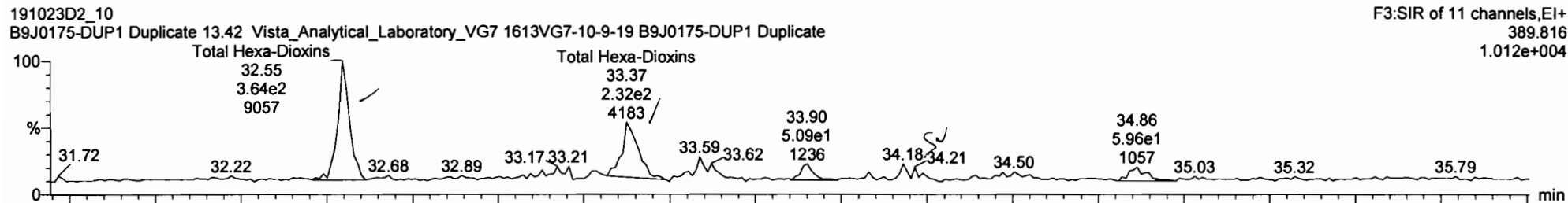
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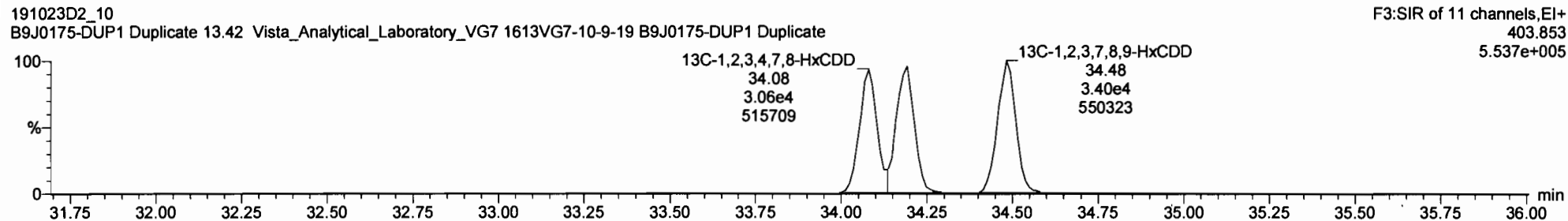
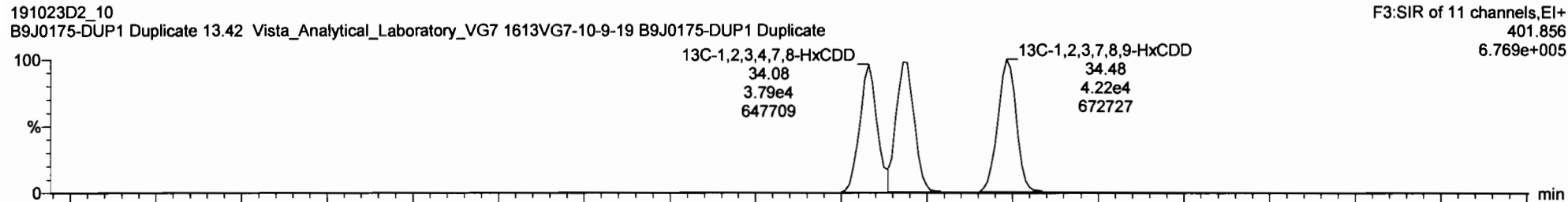
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 Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins



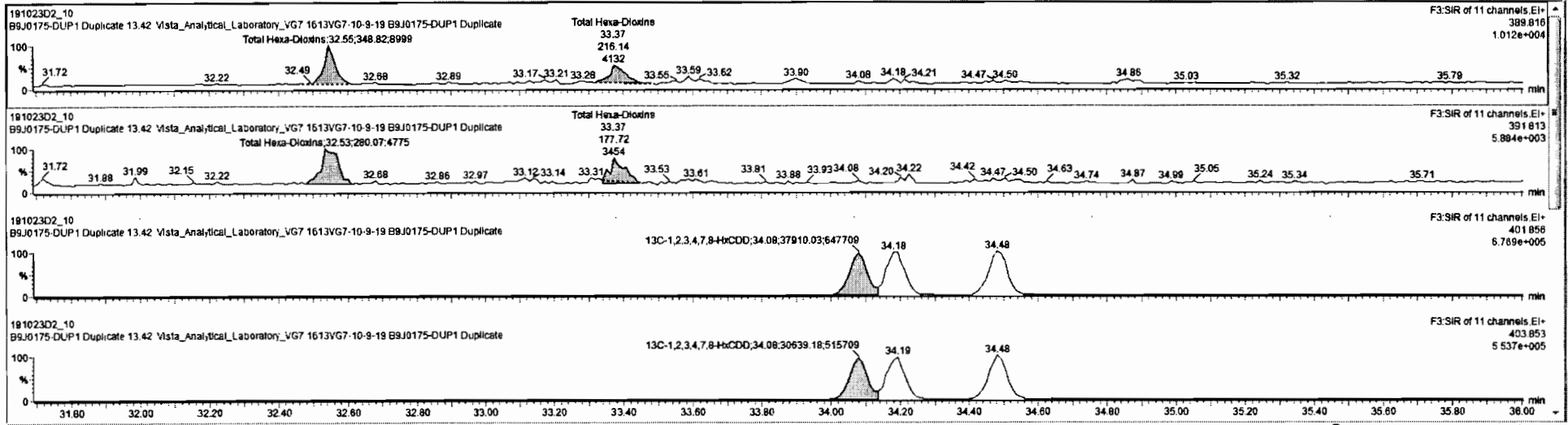
13C-1,2,3,4,7,8-HxCDD



191023D2_10 - B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	nly	RFI	Wt/Vol	Pred_RT	RT	RTT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
28	28 13C-1,2,3,4,7,8-HxCDF	7.26e4	1.39e5	36	0.53	NO	0.832	10.119	33.17	33.18	0.988	0.987	NO	124.0	62.7	0.582	
29	29 13C-1,2,3,6,7,8-HxCDF	8.58e4	1.39e5	36	0.51	NO	1.034	10.119	33.29	33.31	0.991	0.991	NO	117.9	58.7	0.468	
30	30 13C-2,3,4,6,7,8-HxCDF	6.22e4	1.39e5	36	0.52	NO	0.953	10.119	33.91	33.91	1.009	1.009	NO	137.5	69.8	0.508	
31	31 13C-1,2,3,7,8,9-HxCDF	6.72e4	1.39e5	36	0.51	NO	0.828	10.119	34.90	34.86	1.038	1.038	NO	149.8	75.8	0.585	
32	32 13C-1,2,3,4,6,7,8-HpCDF	6.02e4	1.39e5	36	0.44	NO	0.757	10.119	36.72	36.73	1.093	1.093	NO	113.0	57.2	0.597	
33	33 13C-1,2,3,4,7,8,9-HpCDF	6.50e4	1.39e5	36	0.46	NO	0.581	10.119	36.41	36.50	1.148	1.143	NO	158.0	80.5	0.778	
34	34 13C-OCDF	1.55e5	1.39e5	36	0.90	NO	0.688	10.119	41.43	41.50	1.235	1.233	NO	320.3	81.0	0.536	
35	35 37Cl-2,3,7,8-TCDD	3.58e4	1.15e5	36			1.198	10.119	26.27	26.28	1.022	1.022	NO	50.84	64.4	0.127	
36	36 13C-1,2,3,4-TCDD	1.15e5	1.15e5	36	0.82	NO	1.000	10.119	25.70	25.71	1.000	1.000	NO	197.7	100	0.381	

#	Name	Pred_RT	RT	m1 Resp	m2 Resp	Pred_RA	RA	nly	EMPC	Conc.
1	41 Total Hexa-Chlorins	33.80	32.95	3.488e2	2.801e2	1.240	1.25	NO	1.7580	1.7580
2	41 Total Hexa-Chlorins	33.80	33.37	2.161e2	1.777e2	1.240	1.22	NO	1.1010	1.1010



Custom Reporting: Select reports to generate

Vista Analytical Laboratory

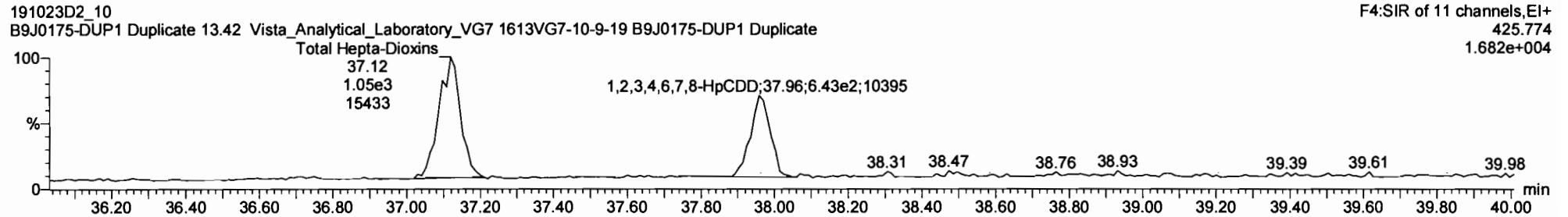
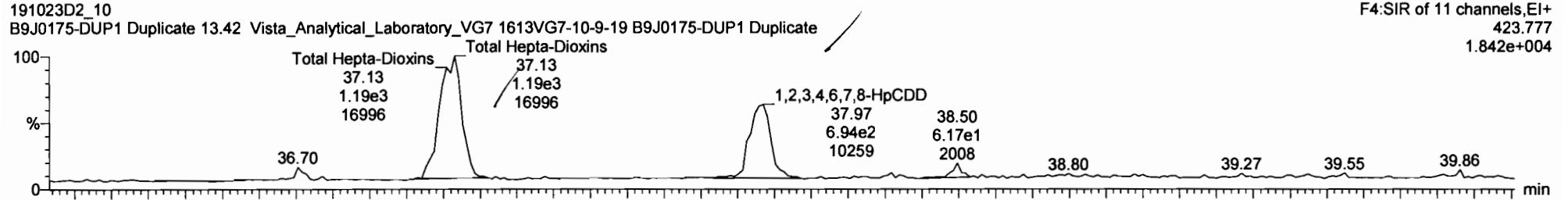
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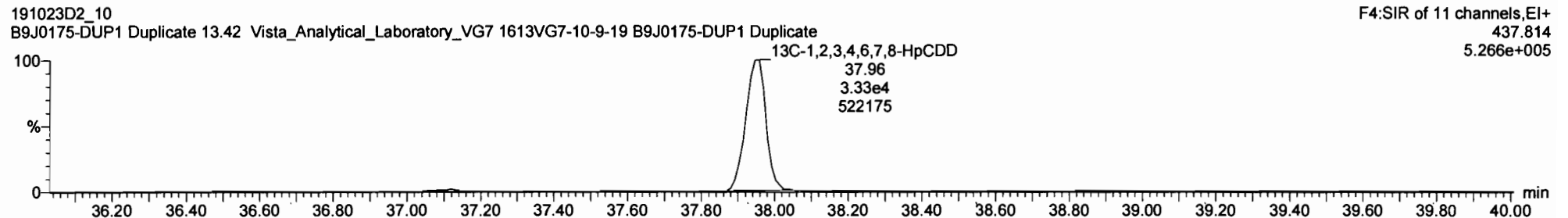
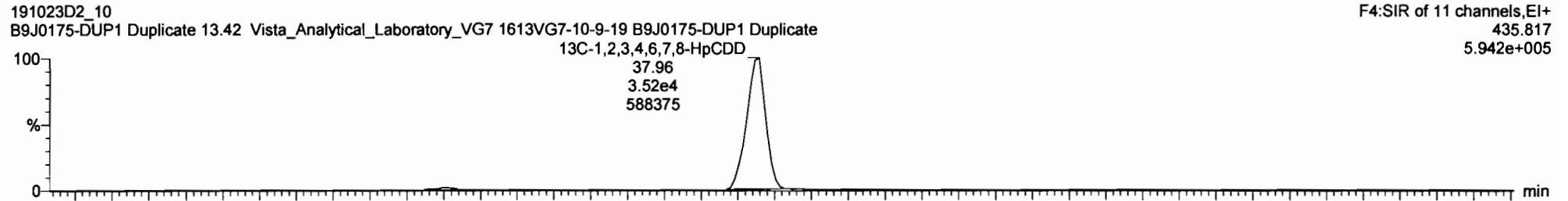
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Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate, Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



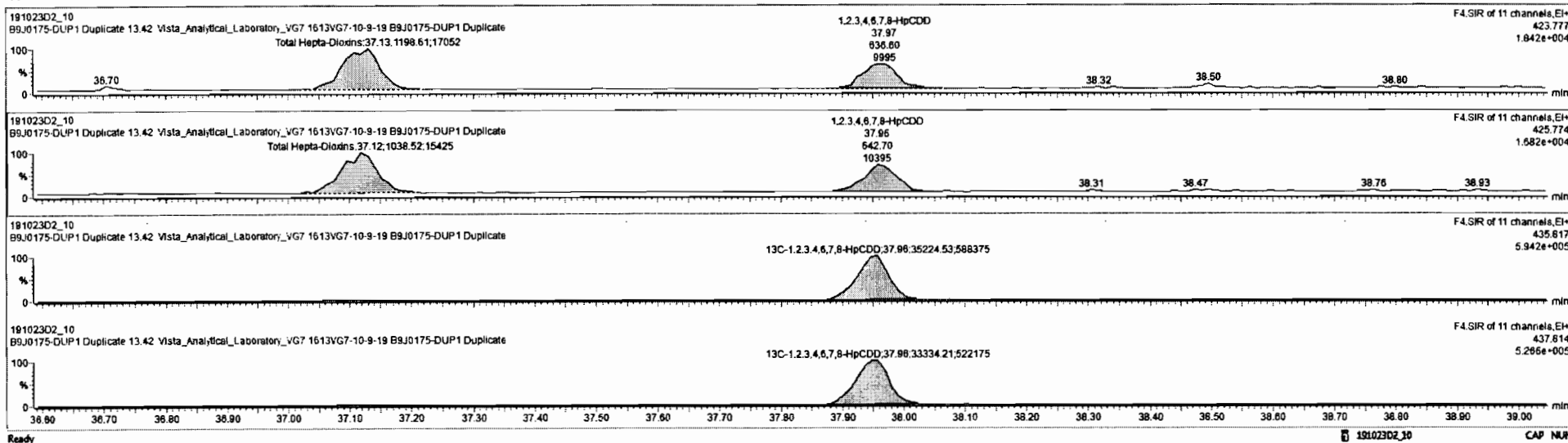
13C-1,2,3,4,6,7,8-HpCDD



191023D2_10 B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13 42 Vista Analytical Laboratory VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	RA	n/y	RF	w/w%	Prod RT	RT	RRT	Prod RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	0.886e4				0.886	10.119	37.75			0.000	NO	10.250		0.300	16.20
43	Total Tetra-Furans	1.25e5				0.843	10.119	24.00			0.000	NO	0.2290		0.304	1.284
44	1st Func. Penta-Furans	0.00e0				0.840	10.119	27.63			0.000	NO	1.116		0.101	1.116
45	Total Penta-Furans	0.00e0				0.940	10.119	30.00			0.000	NO	1.523		0.188	2.025
46	Total Hexa-Furans	0.00e0				1.078	10.119	33.00			0.000	NO	5.985		0.172	6.954
47	Total Hepta-Furans	0.00e0				1.135	10.119	37.75			0.000	NO	11.85		0.274	11.85
48	PFK1															
49	PFK2															
50	PFK3															

#	Name	Prod RT	RT	Int Resp	m2 Resp	Prod RA	RA	n/y	EMPC	Conc.
1	42 Total Hepta-Dioxins	37.75	37.13	1.199e3	1.039e3	1.040	1.15	NO	6.5233	6.5233
2	6 1,2,3,4,6,7,8-HpCDD	37.97	37.97	6.366e2	6.427e2	1.040	0.99	NO	3.7858	3.7658



Vista Analytical Laboratory

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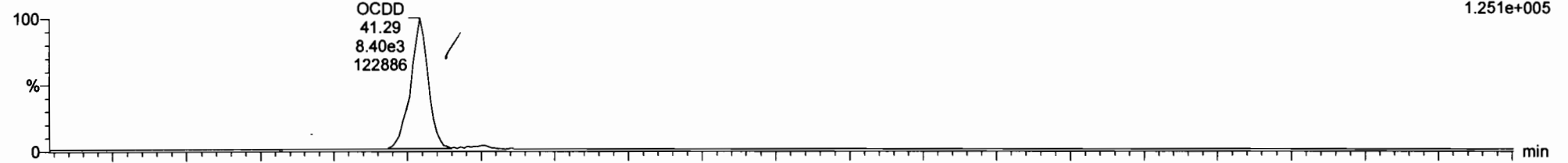
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OCDD

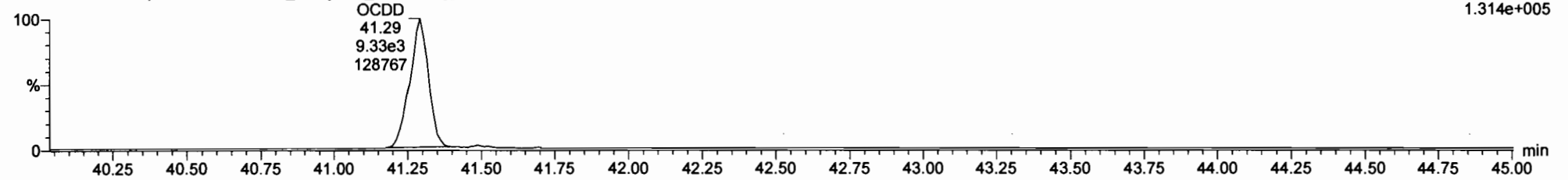
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F5:SIR of 11 channels,EI+
457.738
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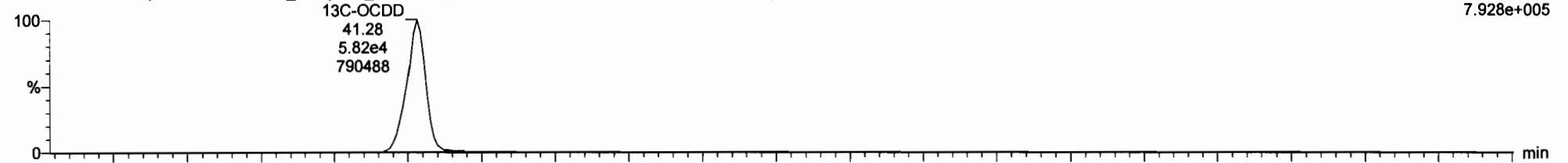
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13C-OCDD

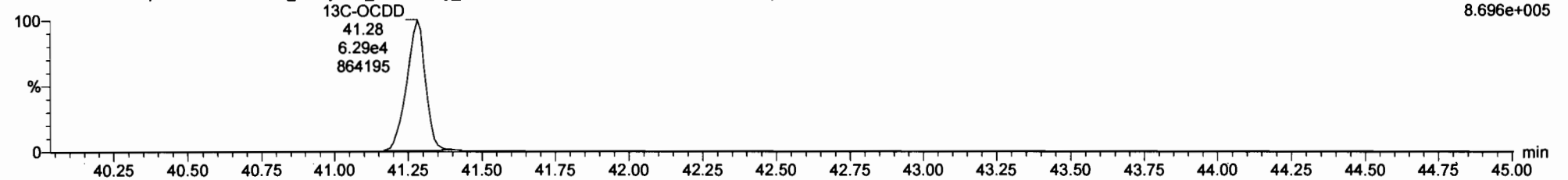
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7.928e+005



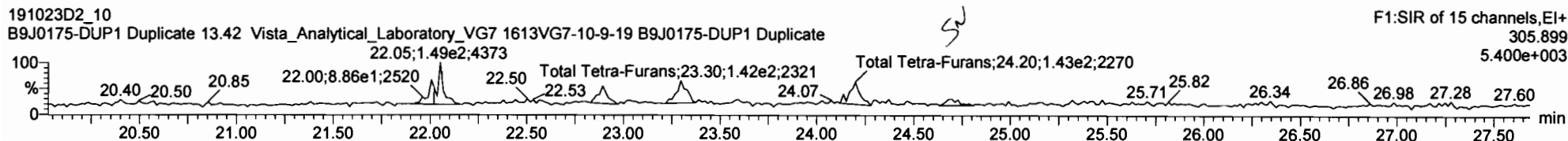
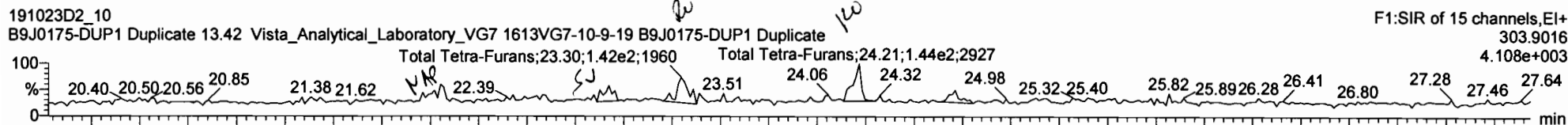
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F5:SIR of 11 channels,EI+
471.775
8.696e+005

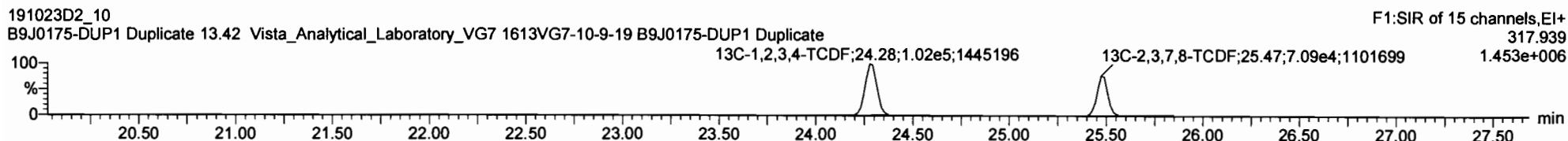
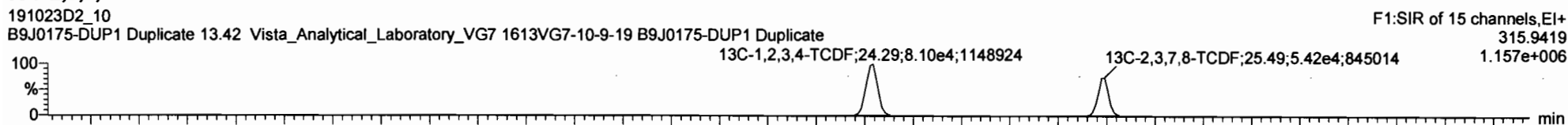


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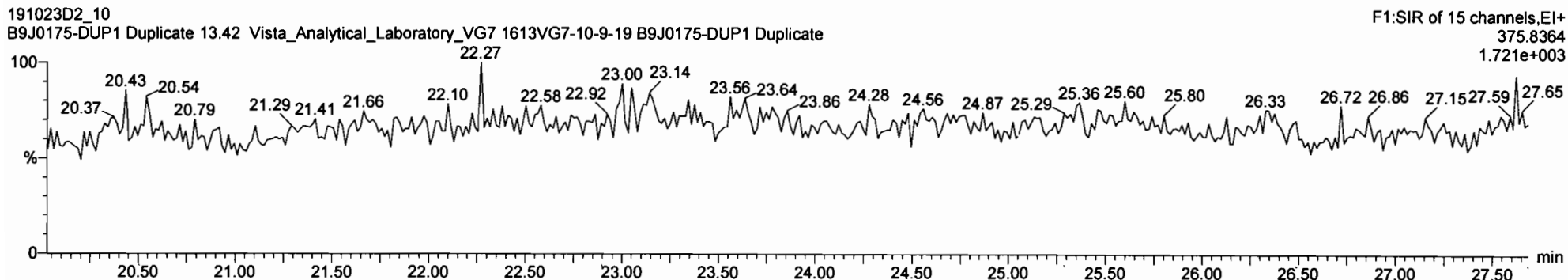
Total Tetra-Furans



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



DPE1

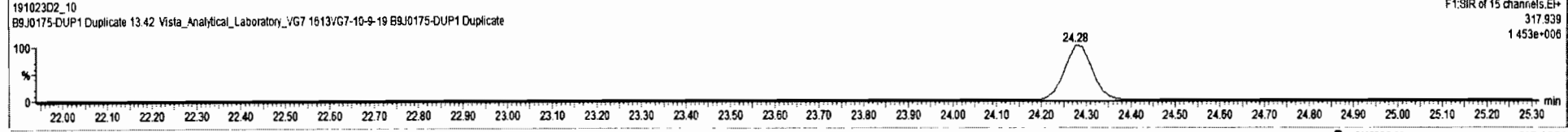
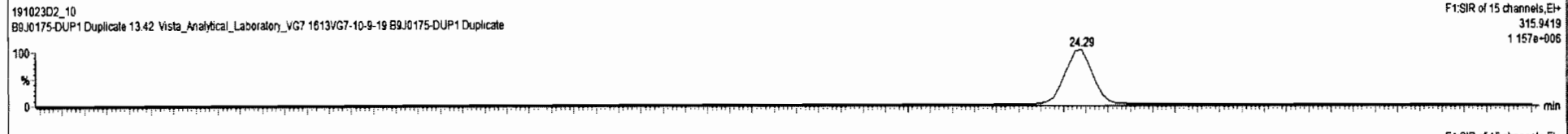
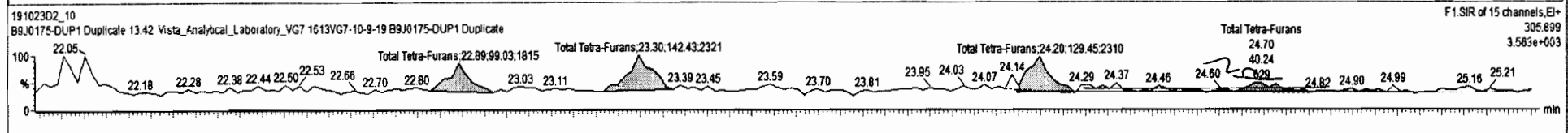
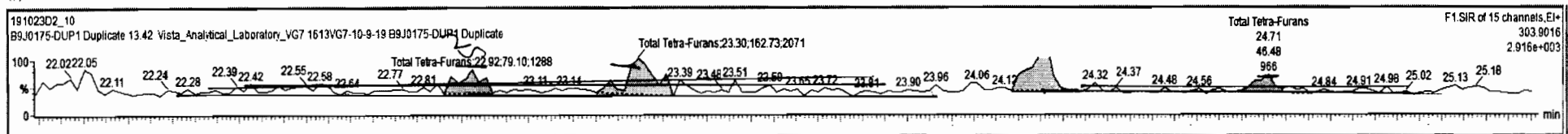


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#	Name	Reap	IS Reap	IS	RA	ny	RPF	rtval	Pred.RT	RT	PRT	Pred.PRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	6.06e4					0.989	10.119	37.75			0.000	NO	10.29	0.308	10.29	
43	Total Tetra-Furans	1.25e5					0.943	18.119	24.00			0.000	NO	0.2866	0.304	1.225	
44	1st Func. Penta-Furans	0.00e0					0.940	10.119	27.63			0.000	NO	1.118	0.101	1.118	
45	Total Penta-Furans	0.00e0					0.940	10.119	30.00			0.000	NO	1.023	0.188	2.025	
46	Total Hexa-Furans	0.00e0					1.078	10.119	33.00			0.000	NO	5.985	0.172	6.654	
47	Total Hepta-Furans	0.00e0					1.135	10.119	37.75			0.000	NO	11.65	0.274	11.65	
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	m1 Reap	m2 Reap	Pred RA	RA	ny	EMPC	Conc.
1	Total Tetra-Furans	24.00	22.92	7.910e1	9.903e1	0.770	0.80	NO	0.29857	0.29857
2	Total Tetra-Furans	24.00	23.30	1.627e2	1.424e2	0.770	1.14	YES	0.42257	0.00000
3	Total Tetra-Furans	24.00	24.21	1.507e2	1.294e2	0.770	1.16	YES	0.36494	0.00000
4	Total Tetra-Furans	24.00	24.71	4.648e1	4.024e1	0.770	1.15	YES	0.11939	0.00000



Ready 191023D2_10 CAP NUM

Vista Analytical Laboratory

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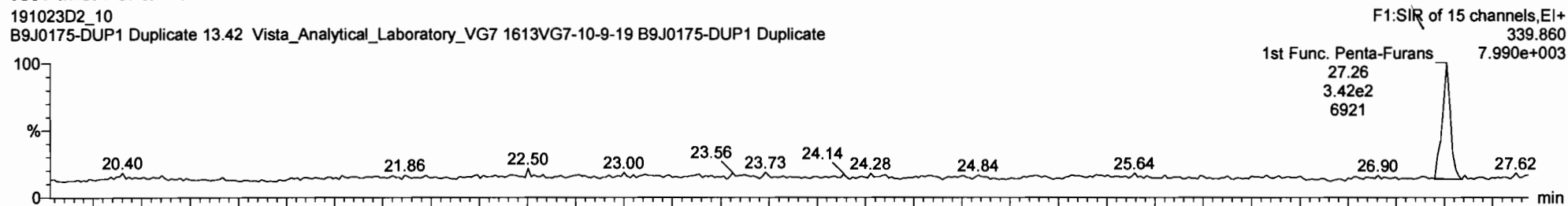
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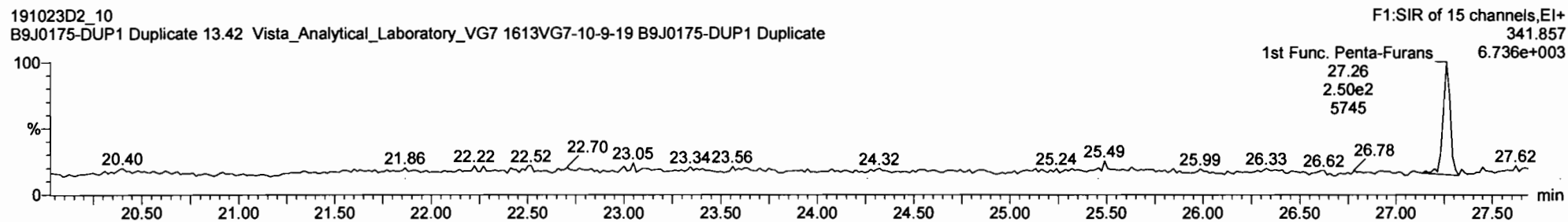
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Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate

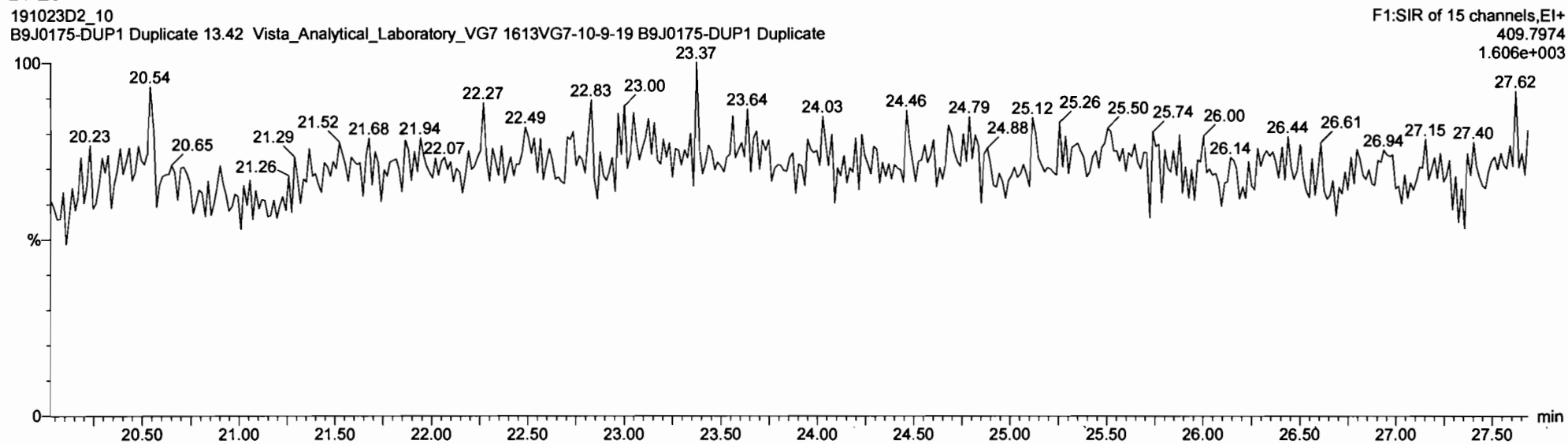


191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate



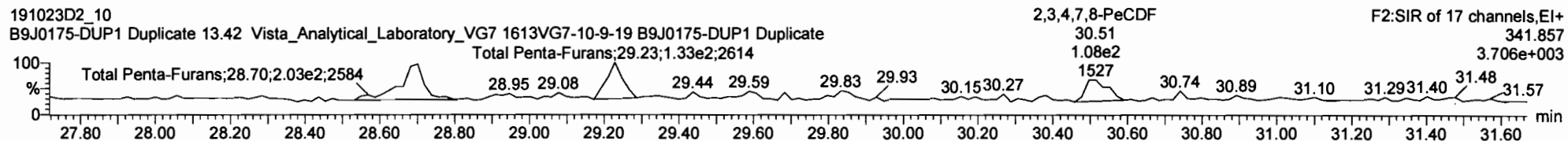
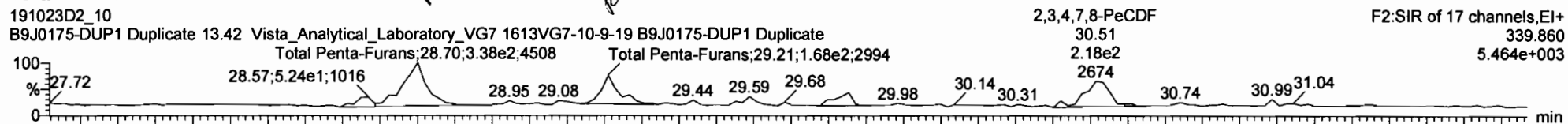
DPE6

191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate

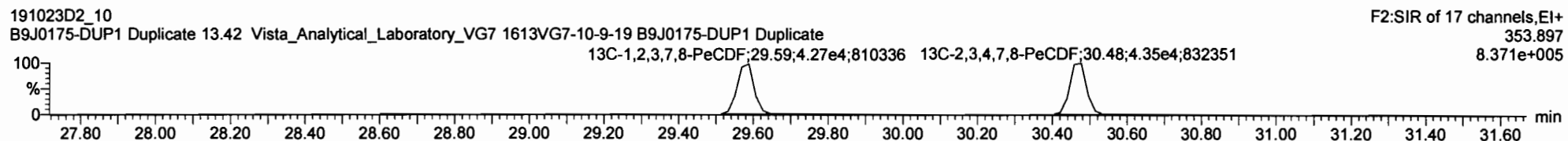
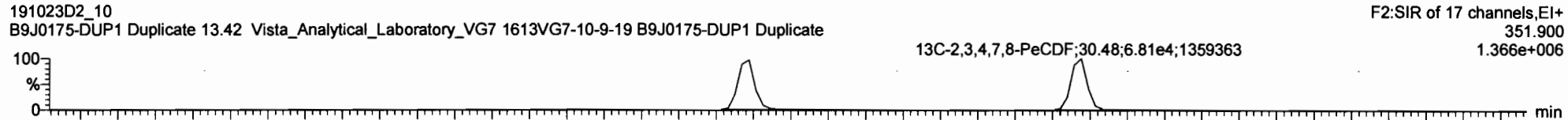


Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

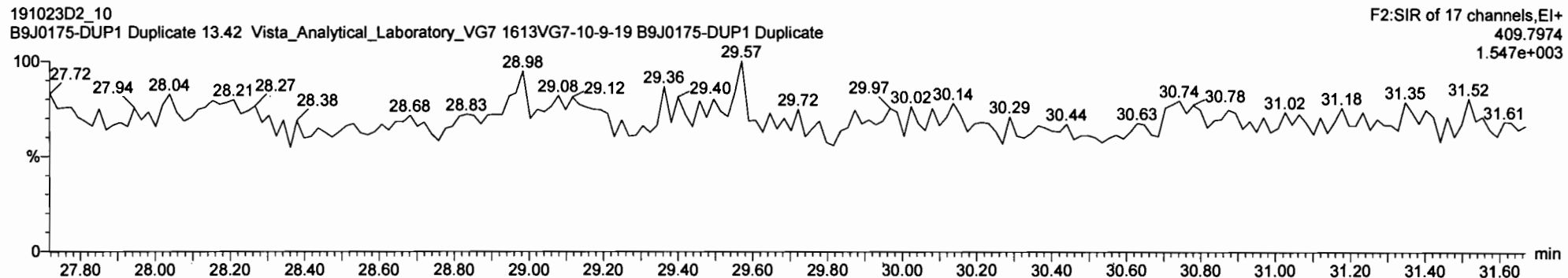
Total Penta-Furans



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



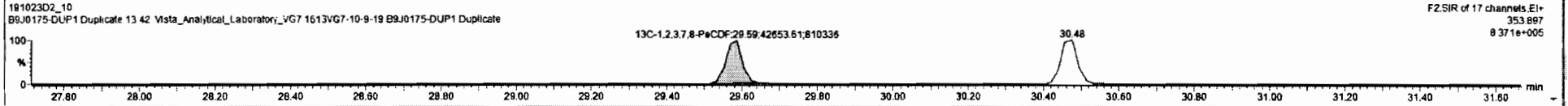
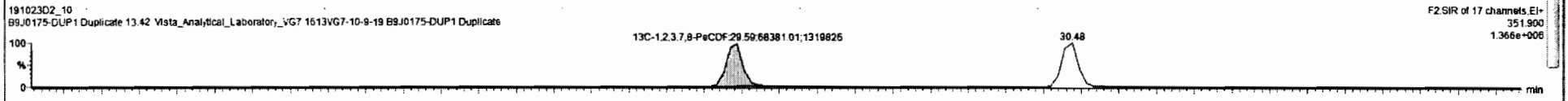
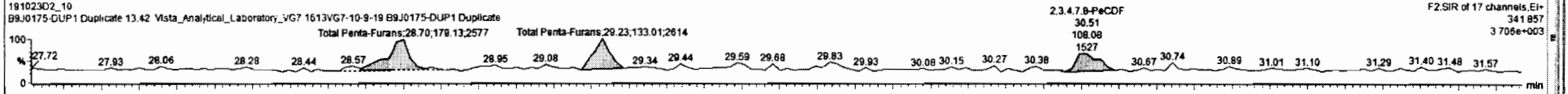
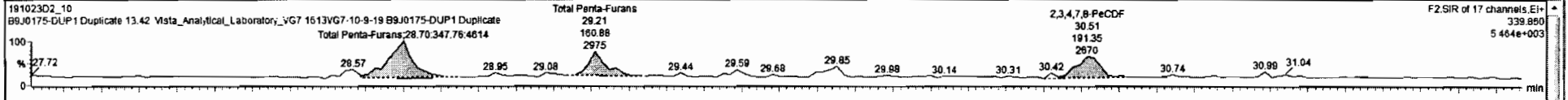
DPE2



191023D2_10 - B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

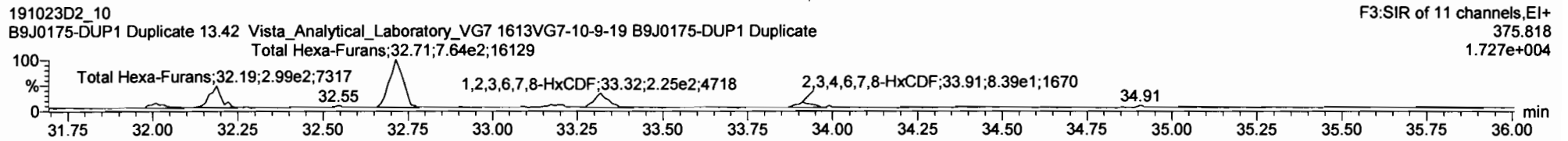
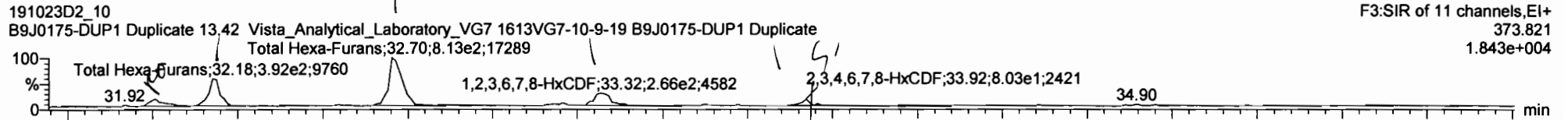
#	Name	Resp	IS Resp	IS9	RA	nly	DFE	w/wet	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	6.86e4					0.989	10.119	37.75			0.000	NO	10.29	0.388	10.29	
43	Total Tetra-Furans	1.25e5					0.943	10.119	24.00			0.000	NO	0.0000	0.131	0.6066	
44	1st Func. Penta-Furans	0.00e0					0.940	10.119	27.63			0.000	NO	1.116	0.101	1.116	
45	Total Penta-Furans	0.00e0					0.940	10.119	30.50			0.000	NO	0.5226	0.100	1.000	
46	Total Hexa-Furans	0.00e0					1.078	10.119	33.00			0.000	NO	5.965	0.172	6.054	
47	Total Hepta-Furans	0.00e0					1.135	10.119	37.75			0.000	NO	11.85	0.274	11.85	
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	sr1 Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.70	3.478e2	1.791e2	1.550	1.94	YES	0.86318	0.00000
2	45 Total Penta-Furans	30.00	29.21	1.600e2	1.330e2	1.550	1.21	YES	0.50018	0.00000
3	10 2,3,4,7,8-PeCDF	30.51	30.51	1.913e2	1.081e2	1.550	1.77	NO	0.52260	0.52260

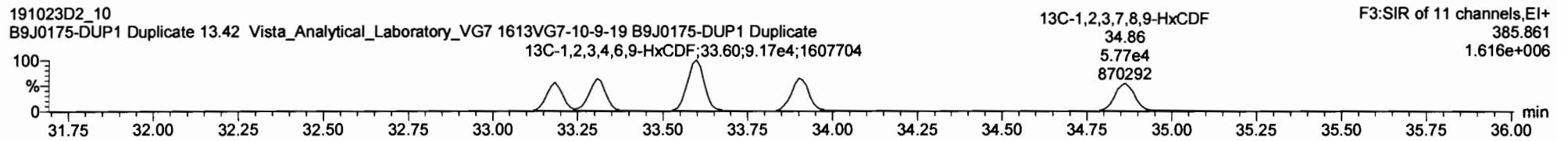
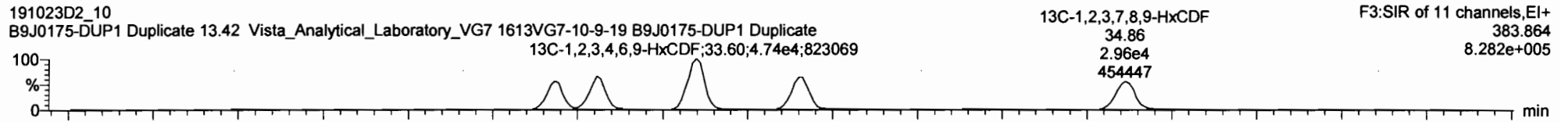


Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

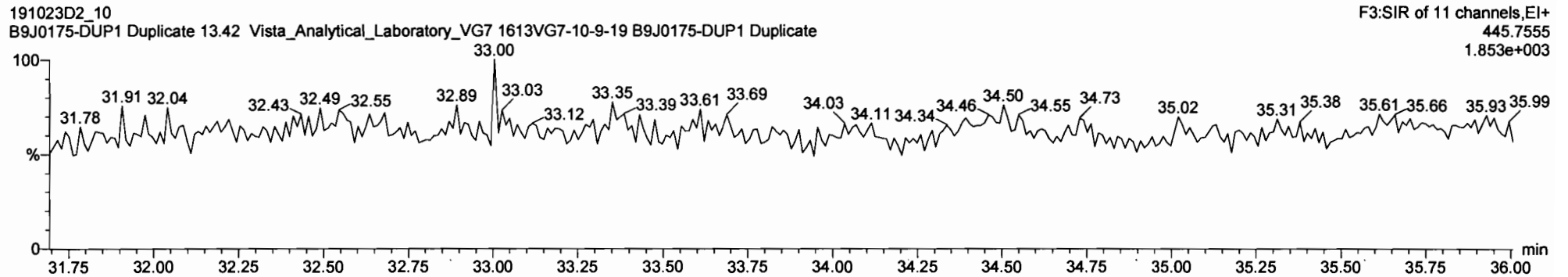
Total Hexa-Furans



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



DPE3

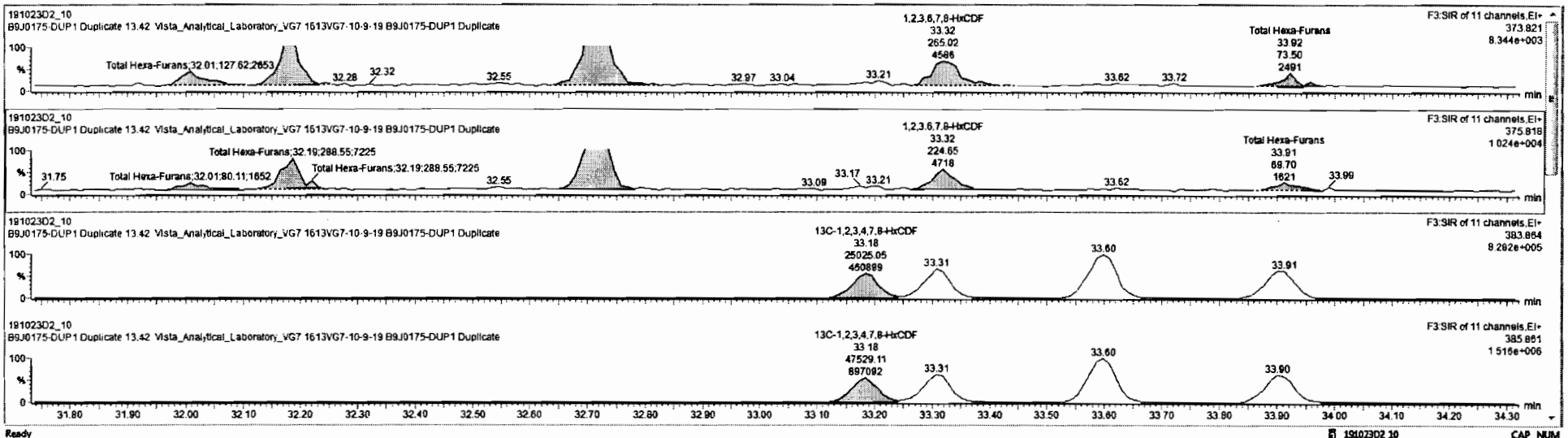


P

191023D2_10 - B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13.42 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	Qty	RRF	wVwt	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC	
42	Total Hepta-Dioxins		6.86e4				0.999	10.119	37.75			0.000	NO	10.29		0.308	10.29	
43	Total Tetra-Furans		1.25e5				0.943	10.119	24.00			0.000	NO	0.0000		0.131	0.8066	
44	1st Func. Penta-Furans		0.00e0				0.940	10.119	27.63			0.000	NO	1.118		0.101	1.118	
45	Total Penta-Furans		0.00e0				0.940	10.119	30.00			0.000	NO	0.5226		0.168	1.886	
46	Total Hexa-Furans		6.88e0				1.878	10.119	33.00			0.000	NO	6.282		0.172	8.082	
47	Total Hepta-Furans		0.00e0				1.135	10.119	37.75			0.000	NO	11.85		0.274	11.85	
48	PFK1																	
49	PFK2																	
50	PFK3																	

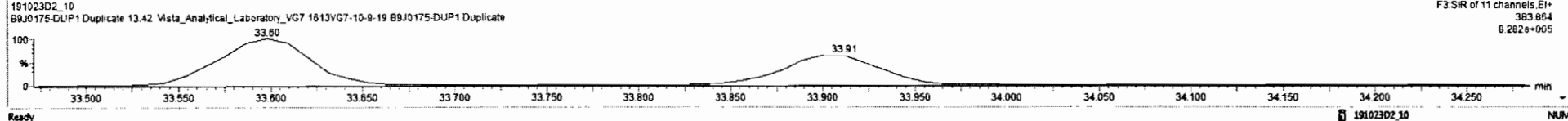
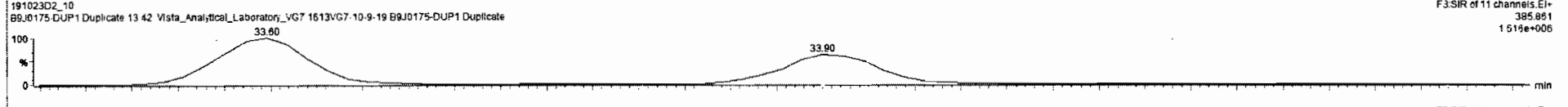
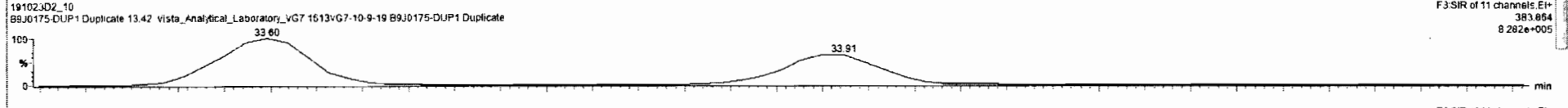
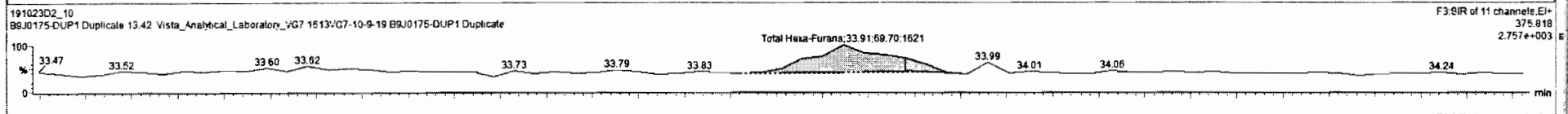
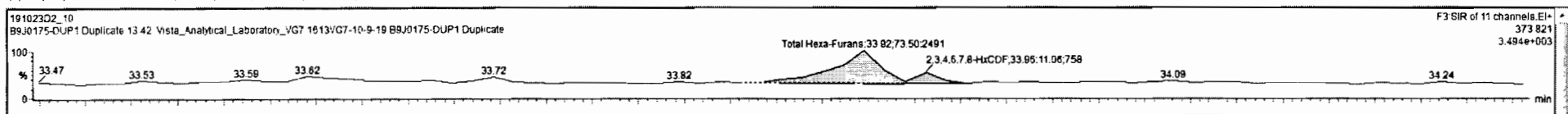
#	Name	Pred.RT	RT	ret Resp	is2 Resp	Pred RA	RA	Qty	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.01	1.275e2	8.011e1	1.240	1.59	YES	6.36998	0.00000
2	46 Total Hexa-Furans	33.00	32.18	3.906e2	2.806e2	1.240	1.35	NO	1.4749	1.4749
3	46 Total Hexa-Furans	33.00	32.70	8.069e2	7.645e2	1.240	1.06	NO	3.4122	3.4122
4	12 1,2,3,6,7,8-HxCDF	33.32	33.32	2.650e2	2.248e2	1.240	1.18	NO	1.0548	1.0548
5	46 Total Hexa-Furans	33.00	33.92	7.350e1	6.970e1	1.240	1.05	NO	0.31097	0.31097
6	13 2,3,4,6,7,8-HxCDF	33.95	33.96	1.105e1	9.306e0	1.240	1.18	NO	0.036372	0.036372



Ready 191023D2_10 CAP NUM

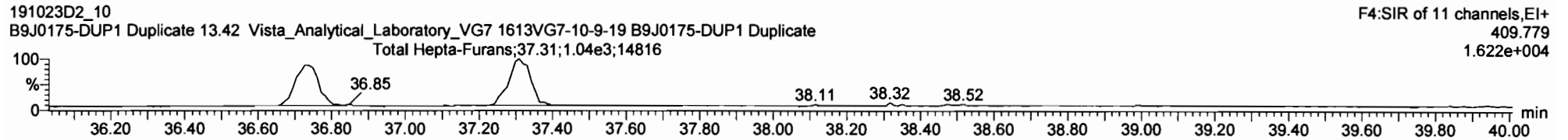
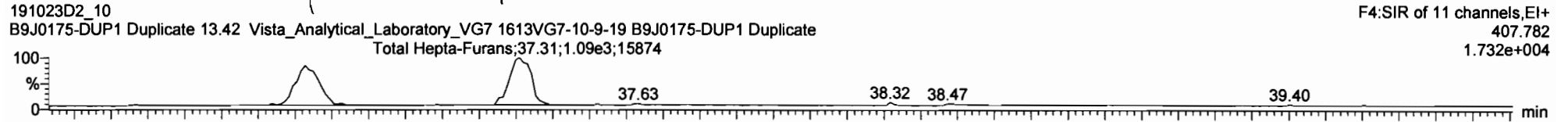
#	Name	Resp	RA	n/y	RRF	wtPval	Pred.RT	RT	Pred.R...	RRT	RRT Fail	Conc.	%Rec	CL	EMPC
39	Total Tetra-Dioxins						10.119	25.50		0.000	NO			0.114	
40	Total Penta-Dioxins						10.119	30.00		0.000	NO	0.0000		0.109	0.2220
41	Total Hexa-Dioxins						10.119	33.60		0.000	NO	2.859		0.340	2.859
42	Total Hepta-Dioxins						10.119	37.75		0.000	NO	10.29		0.308	10.29
43	Total Tetra-Furans						10.119	24.00		0.000	NO	0.0900		0.121	0.8070
44	1st Func. Penta-Furans						10.119	27.63		0.000	NO	1.118		0.101	1.118
45	Total Penta-Furans						10.119	30.00		0.000	NO	0.5226		0.188	1.886

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	* Ratio (Pred)	RA	n/y	EMPC	Conc.
1	1,2,3,6,7,8-HxCDF	33.32	33.32	2.650e2	2.248e2	1.240	1.18	NO	1.0560	1.0548
2	2,3,4,6,7,8-HxCDF	33.95	33.98	1.106e1	9.396e0	1.240	1.18	NO	0.839000	0.839372
3	Total Hexa-Furans	33.00	32.01	1.278e2	8.011e1	1.240	1.59	YES	0.39000	0.00000
4	Total Hexa-Furans	33.00	32.18	3.909e2	2.889e2	1.240	1.35	NO	1.4750	1.4749

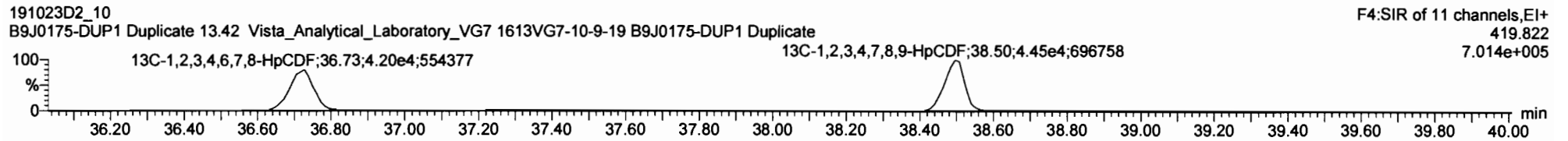
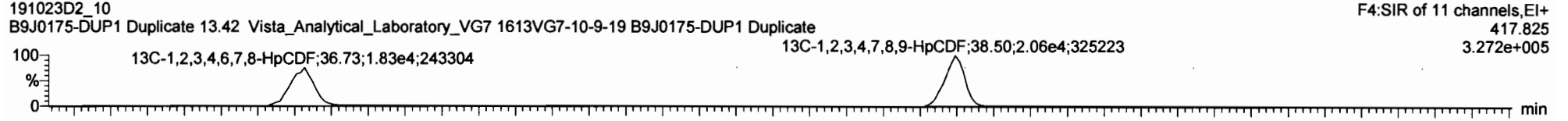


Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

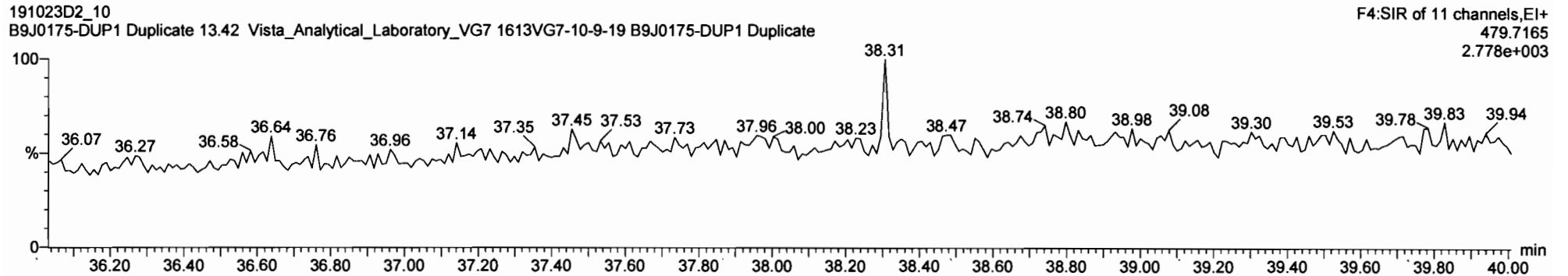
Total Hepta-Furans



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

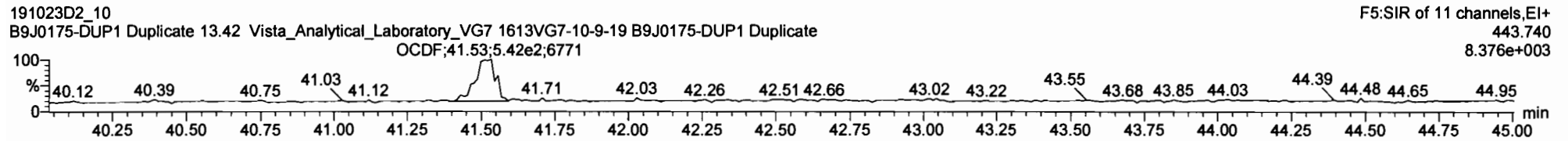
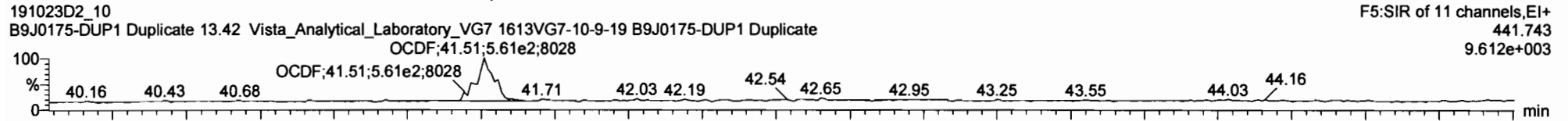


DPE4

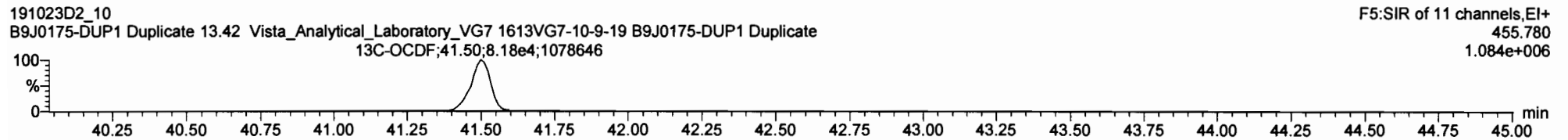
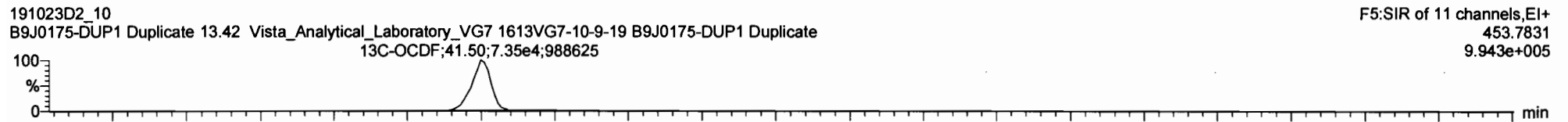


Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

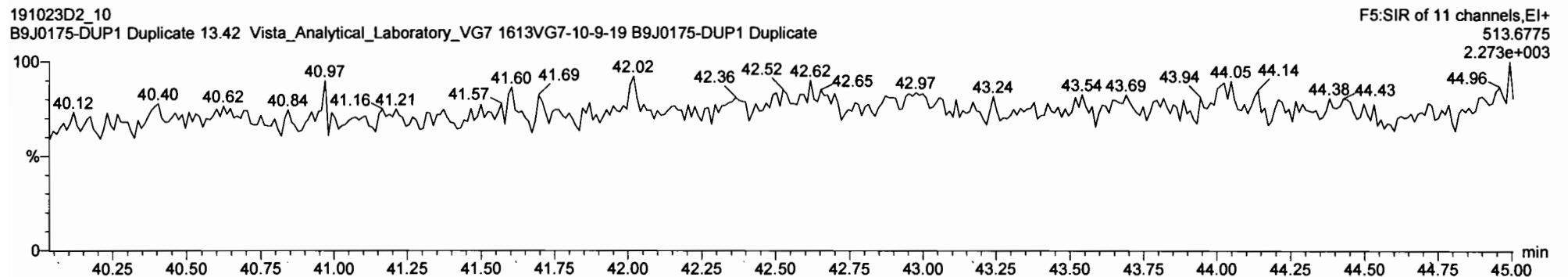
OCDF



13C-OCDF



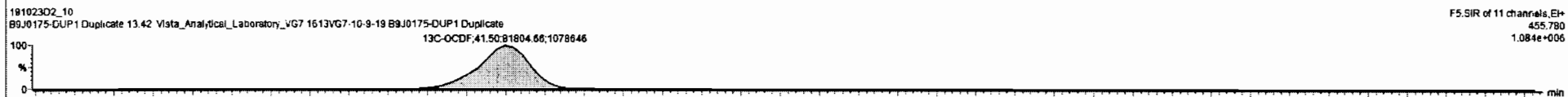
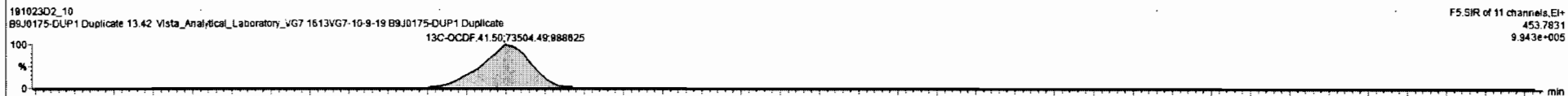
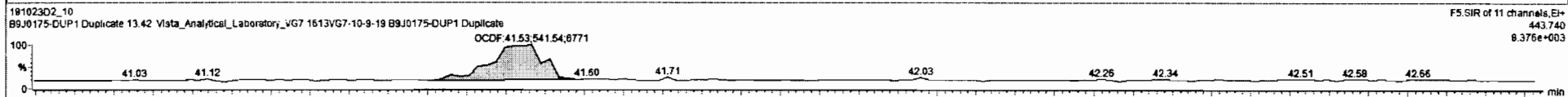
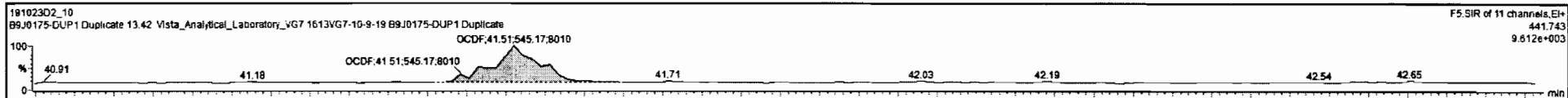
DPE5



TargetLine XS - 12
 File Edit View Display Processing Window Help
 191023D2_10 - B9J0175-DUP1 Duplicate - B9J0175-DUP1 Duplicate 13.42 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS	RA	n/y	RRF	rt/val	Pred RT	RT	RRF	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
11	1,2,3,4,7,8-HxCDF	7.26e4	7.26e4	28			1.177	10.119	33.18			1.000	NO			0.170	
12	1,2,3,6,7,8-HxCDF	4.91e2	8.58e4	29	1.18	NO	1.069	10.119	33.32	33.32	1.000	1.000	NO	1.057		0.157	1.057
13	2,3,4,6,7,8-HxCDF	1.64e2	9.22e4	30	0.96	YES	1.114	10.119	33.95	33.92	1.000	1.001	NO	0.3159		0.158	0.2791
14	1,2,3,7,8,9-HxCDF	6.72e4	6.72e4	31			1.062	10.119	34.88			1.000	NO			0.188	
15	1,2,3,4,6,7,8-HpCDF	1.97e3	6.02e4	32	1.05	NO	1.128	10.119	36.78	36.73	1.000	1.001	NO	5.748		0.312	5.748
16	1,2,3,4,7,8,9-HpCDF	6.50e4	6.50e4	33			1.290	10.119	38.50			1.000	NO			0.214	
17	OCDF	1.00e3	1.00e4	34	1.01	NO	0.842	10.119	41.59	41.51	1.000	1.000	NO	2.920		0.304	2.920
18	13C-2,3,7,8-TCDD	8.96e4	1.15e5	36	0.79	NO	1.095	10.119	26.25	26.27	1.022	1.021	NO	140.7	71.2	0.347	
19	13C-1,2,3,7,8-PeCDD	7.02e4	1.15e5	36	0.62	NO	0.881	10.119	30.51	30.74	1.198	1.187	NO	136.7	69.2	0.205	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
17	OCDF	41.59	41.51							



Ready 191023D2_10 CAP NUM

Vista Analytical Laboratory

Dataset: Untitled

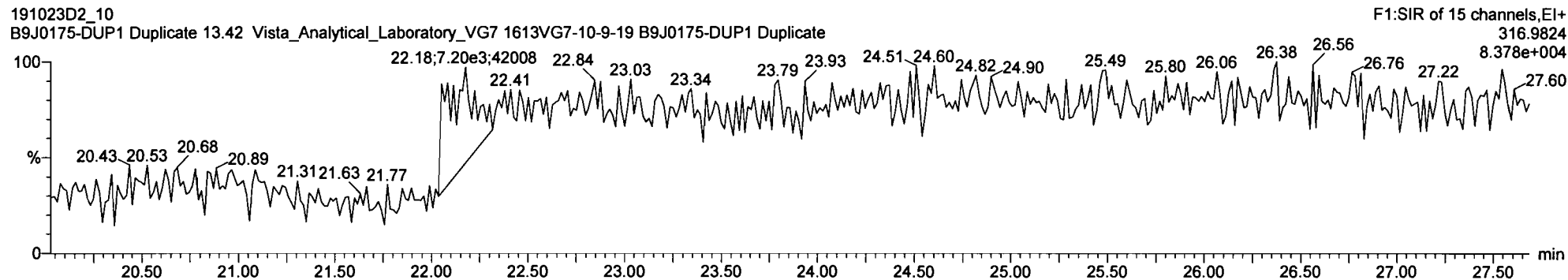
Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

Printed: Monday, November 04, 2019 17:44:50 Pacific Standard Time

Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

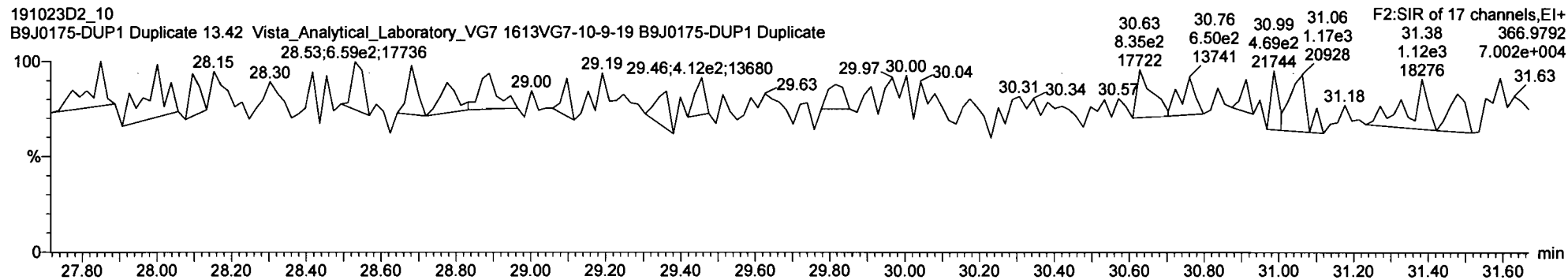
PFK1

191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate



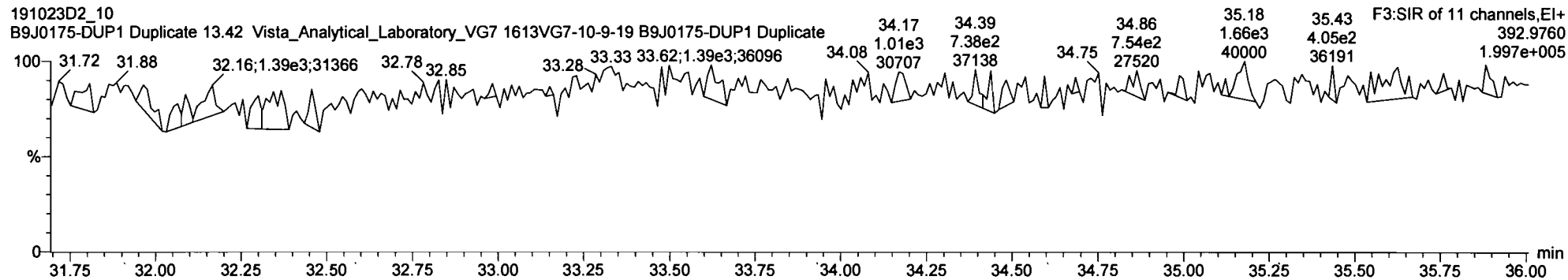
PFK2

191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate



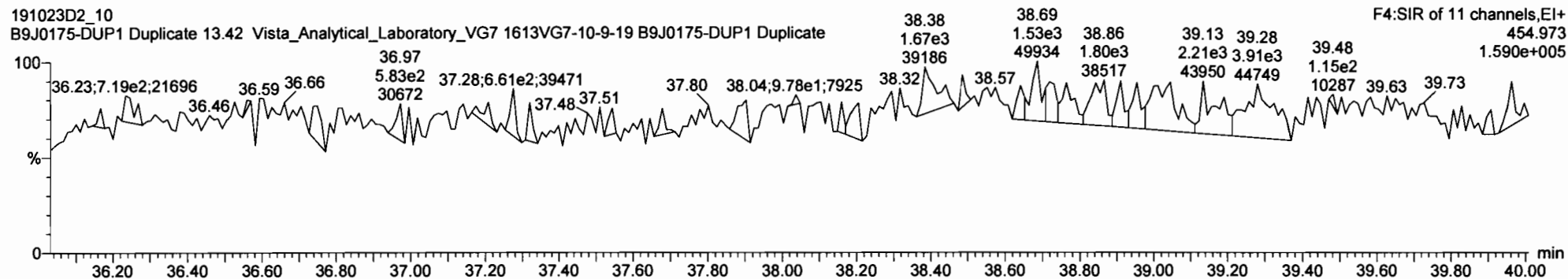
PFK3

191023D2_10
B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 B9J0175-DUP1 Duplicate

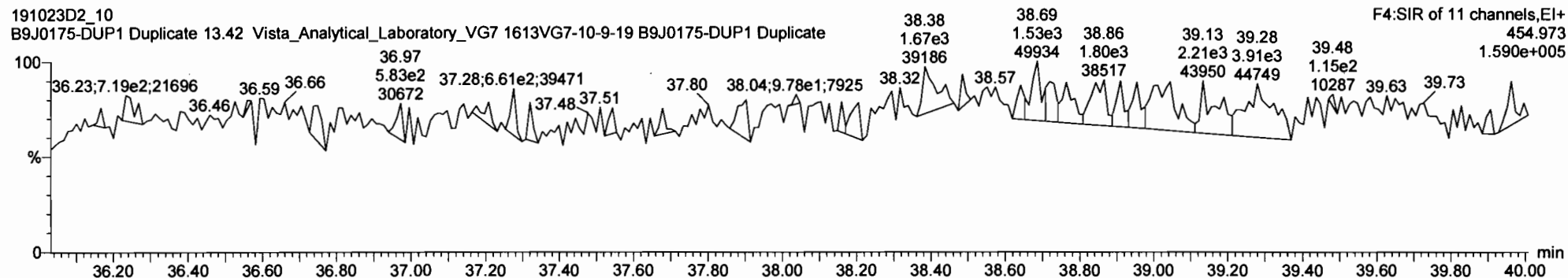


Name: VG7 191023D2_10, Date: 24-OCT-2019, Time: 08:42:43, ID: B9J0175-DUP1 Duplicate,
Description: B9J0175-DUP1 Duplicate 13.42 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-11.qld

Last Altered: Tuesday, November 05, 2019 14:39:21 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:40:04 Pacific Standard Time

HC 11.5.19

C7 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 14:30:32

Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,

Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	9.82e4	9.9972	0.905			1.001		26.29					0.220
2	1,2,3,7,8-PeCDD	7.69e4	9.9972	0.903			1.001		30.77					0.283
3	1,2,3,4,7,8-HxCDD	6.27e4	9.9972	1.101			1.000		34.08					0.350
4	1,2,3,6,7,8-HxCDD	7.13e4	9.9972	0.939			1.000		34.17					0.361
5	1,2,3,7,8,9-HxCDD	8.22e4	9.9972	0.961			1.001		34.51					0.307
6	1,2,3,4,6,7,8-HpCDD	9.83e2	6.54e4	9.9972	0.979	1.054	NO	1.000	1.000	37.96	37.96	3.0712	3.07	0.495
7	OCDD	1.28e4	1.22e5	9.9972	0.959	0.893	NO	1.000	1.000	41.30	41.31	43.872	43.9	0.313
8	2,3,7,8-TCDF		1.46e5	9.9972	0.950			1.001		25.50				0.215
9	1,2,3,7,8-PeCDF		1.22e5	9.9972	0.960			1.001		29.60				0.216
10	2,3,4,7,8-PeCDF		1.21e5	9.9972	1.015			1.001		30.49				0.195
11	1,2,3,4,7,8-HxCDF		5.36e4	9.9972	1.177			1.000		33.17				0.321
12	1,2,3,6,7,8-HxCDF		6.04e4	9.9972	1.069			1.000		33.31				0.311
13	2,3,4,6,7,8-HxCDF	9.07e1	9.78e4	9.9972	1.114	1.963	YES	1.001	1.001	33.94	33.93	0.16674	0.126	0.203
14	1,2,3,7,8,9-HxCDF		9.37e4	9.9972	1.062			1.000		34.86				0.231
15	1,2,3,4,6,7,8-HpCDF	1.58e3	3.51e4	9.9972	1.128	1.043	NO	1.001	1.000	36.76	36.73	8.0002	8.00	0.412
16	1,2,3,4,7,8,9-HpCDF		5.65e4	9.9972	1.280			1.000		38.50				0.182
17	OCDF	7.72e2	1.18e5	9.9972	0.947	0.885	NO	1.000	1.000	41.53	41.53	2.7726	2.77	0.260
18	13C-2,3,7,8-TCDD	9.82e4	1.16e5	9.9972	1.095	0.815	NO	1.021	1.022	26.24	26.25	154.56	77.3	0.324
19	13C-1,2,3,7,8-PeCDD	7.69e4	1.16e5	9.9972	0.881	0.625	NO	1.187	1.197	30.49	30.75	150.37	75.2	0.277
20	13C-1,2,3,4,7,8-Hx...	6.27e4	1.38e5	9.9972	0.642	1.259	NO	1.014	1.014	34.06	34.07	141.35	70.7	0.523
21	13C-1,2,3,6,7,8-Hx...	7.13e4	1.38e5	9.9972	0.856	1.287	NO	1.017	1.017	34.18	34.17	120.55	60.3	0.393
22	13C-1,2,3,7,8,9-Hx...	8.22e4	1.38e5	9.9972	0.807	1.253	NO	1.026	1.026	34.48	34.48	147.39	73.7	0.417
23	13C-1,2,3,4,6,7,8-H...	6.54e4	1.38e5	9.9972	0.654	1.029	NO	1.126	1.130	37.83	37.95	144.68	72.3	0.816
24	13C-OCDD	1.22e5	1.38e5	9.9972	0.580	0.917	NO	1.226	1.229	41.19	41.30	304.80	76.2	0.684
25	13C-2,3,7,8-TCDF	1.46e5	1.83e5	9.9972	1.035	0.783	NO	0.993	0.992	25.53	25.48	153.95	77.0	0.469
26	13C-1,2,3,7,8-PeCDF	1.22e5	1.83e5	9.9972	0.854	1.568	NO	1.143	1.151	29.37	29.58	156.62	78.3	0.556
27	13C-2,3,4,7,8-PeCDF	1.21e5	1.83e5	9.9972	0.847	1.600	NO	1.176	1.186	30.22	30.46	156.51	78.2	0.561
28	13C-1,2,3,4,7,8-Hx...	5.36e4	1.38e5	9.9972	0.832	0.513	NO	0.987	0.987	33.17	33.17	93.179	46.6	0.672
29	13C-1,2,3,6,7,8-Hx...	6.04e4	1.38e5	9.9972	1.034	0.522	NO	0.991	0.991	33.28	33.30	84.454	42.2	0.541
30	13C-2,3,4,6,7,8-Hx...	9.78e4	1.38e5	9.9972	0.953	0.540	NO	1.009	1.009	33.90	33.91	148.40	74.2	0.587
31	13C-1,2,3,7,8,9-Hx...	9.37e4	1.38e5	9.9972	0.828	0.505	NO	1.039	1.038	34.89	34.86	163.83	81.9	0.676

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-11.qld

Last Altered: Tuesday, November 05, 2019 14:39:21 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:40:04 Pacific Standard Time

Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,
 Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	3.51e4	1.38e5	9.9972	0.757	0.400	NO	1.093	1.093	36.71	36.72	67.135	33.6	0.607
33	13C-1,2,3,4,7,8,9-H...	5.65e4	1.38e5	9.9972	0.581	0.416	NO	1.143	1.146	38.40	38.50	140.56	70.3	0.791
34	13C-OCDF	1.18e5	1.38e5	9.9972	0.689	0.917	NO	1.233	1.236	41.43	41.53	247.11	61.8	0.519
35	37Cl-2,3,7,8-TCDD	4.18e4	1.16e5	9.9972	1.198			1.022	1.022	26.26	26.27	60.194	75.2	0.122
36	13C-1,2,3,4-TCDD	1.16e5	1.16e5	9.9972	1.000	0.805	NO	1.000	1.000	25.70	25.69	200.06	100.0	0.355
37	13C-1,2,3,4-TCDF	1.83e5	1.83e5	9.9972	1.000	0.795	NO	1.000	1.000	24.28	24.28	200.06	100.0	0.485
38	13C-1,2,3,4,6,9-Hx...	1.38e5	1.38e5	9.9972	1.000	0.515	NO	1.000	1.000	33.55	33.59	200.06	100.0	0.559
39	Total Tetra-Dioxins		9.82e4	9.9972	0.901			0.000		25.50				0.425
40	Total Penta-Dioxins		7.69e4	9.9972	0.872			0.000		30.00				0.447
41	Total Hexa-Dioxins		0.00e0	9.9972	0.976			0.000		33.80		0.96967	1.62	0.344
42	Total Hepta-Dioxins		6.54e4	9.9972	0.989			0.000		37.75		7.3038	7.30	0.490
43	Total Tetra-Furans		1.46e5	9.9972	0.943			0.000		24.00		0.00000	0.536	0.117
44	1st Func. Penta-Fur...		0.00e0	9.9972	0.940			0.000		27.63		0.00000	0.328	0.0473
45	Total Penta-Furans		0.00e0	9.9972	0.940			0.000		30.00		0.28237	0.282	0.216
46	Total Hexa-Furans		0.00e0	9.9972	1.078			0.000		33.00		2.5918	3.55	0.260
47	Total Hepta-Furans		0.00e0	9.9972	1.135			0.000		37.75		13.582	13.6	0.284

0.220
0.283

0.610

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-11.qld
 Last Altered: Tuesday, November 05, 2019 14:39:21 Pacific Standard Time
 Printed: Tuesday, November 05, 2019 14:40:04 Pacific Standard Time

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Calibration: 05 Nov 2019 14:30:32

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 Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

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Penta-Dioxins

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Hexa-Dioxins

41	Total Hexa-Dioxins	NO	33.37	191.107	40249.291	9.460	MM	0.9697	0.97
41	Total Hexa-Dioxins	YES	32.54	126.994	40249.291	0.000	MM	0.0000	0.65

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	NO	37.96	504.306	33155.734	30.071	bb	3.0712	3.07
42	Total Hepta-Dioxins	NO	37.12	668.395	33155.734	41.836	MM	4.2326	4.23

Tetra-Furans

43	Total Tetra-Furans	YES	21.99	190.872	63962.121	0.000	MM	0.0000	0.54

Penta-Furans function 1

44	1st Func. Penta-Furans	YES	27.25	114.050	74644.359	0.000	bb	0.0000	0.33

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-11.qld
 Last Altered: Tuesday, November 05, 2019 14:39:21 Pacific Standard Time
 Printed: Tuesday, November 05, 2019 14:40:04 Pacific Standard Time

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 Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans

45	Total Penta-Furans	NO	28.69	100.814	74644.359	2.652	MM	0.2824	0.28
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Hexa-Furans

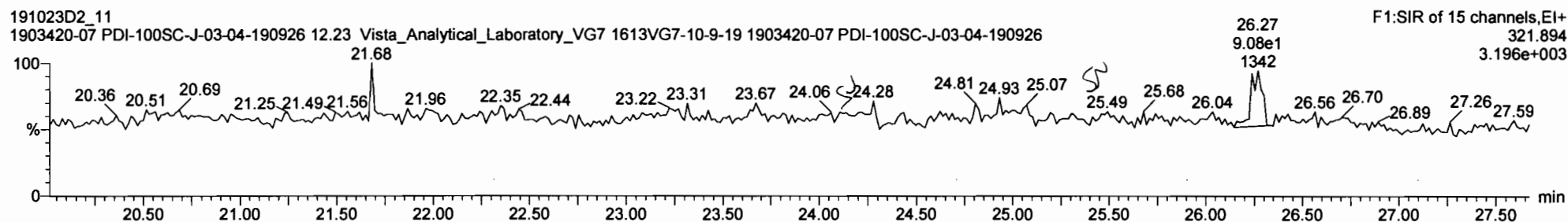
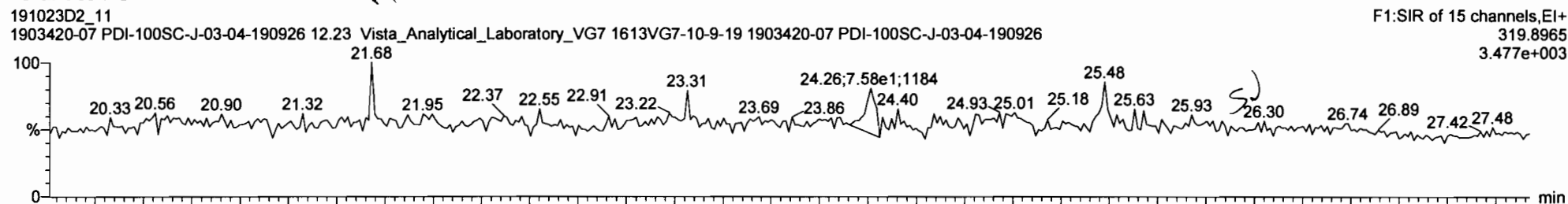
46	Total Hexa-Furans	YES	33.92	28.930	26143.751	0.000	MM	0.0000	0.13
46	Total Hexa-Furans	NO	32.70	578.560	26143.751	27.922	MM	2.5918	2.59
46	Total Hexa-Furans	YES	32.18	212.584	26143.751	0.000	MM	0.0000	0.71
13	2,3,4,6,7,8-HxCDF	YES	33.93	60.116	34280.938	0.000	MM	0.0000	0.13

Hepta-Furans

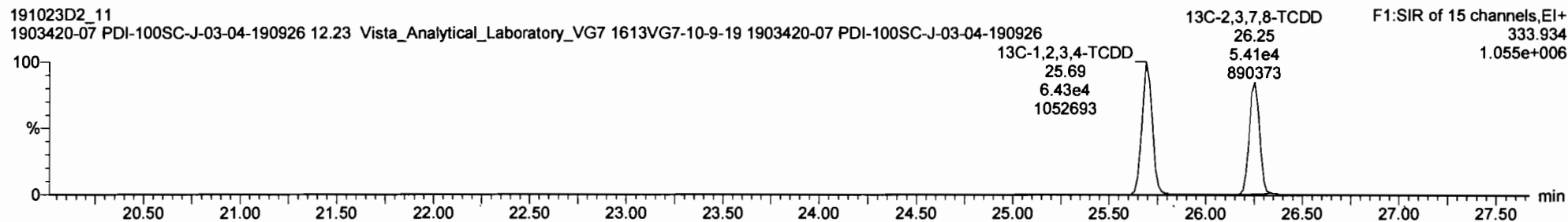
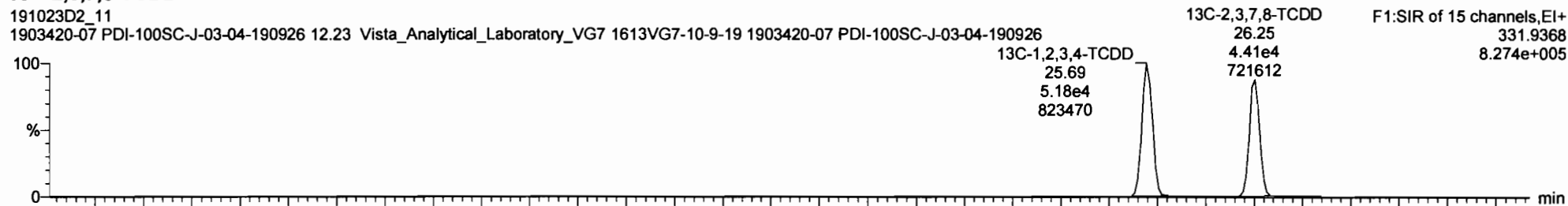
47	Total Hepta-Furans	NO	37.31	714.940	13312.457	63.316	bb	5.5816	5.58
15	1,2,3,4,6,7,8-HpCDF	NO	36.73	809.061	10032.994	90.185	bb	8.0002	8.00

Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,
 Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

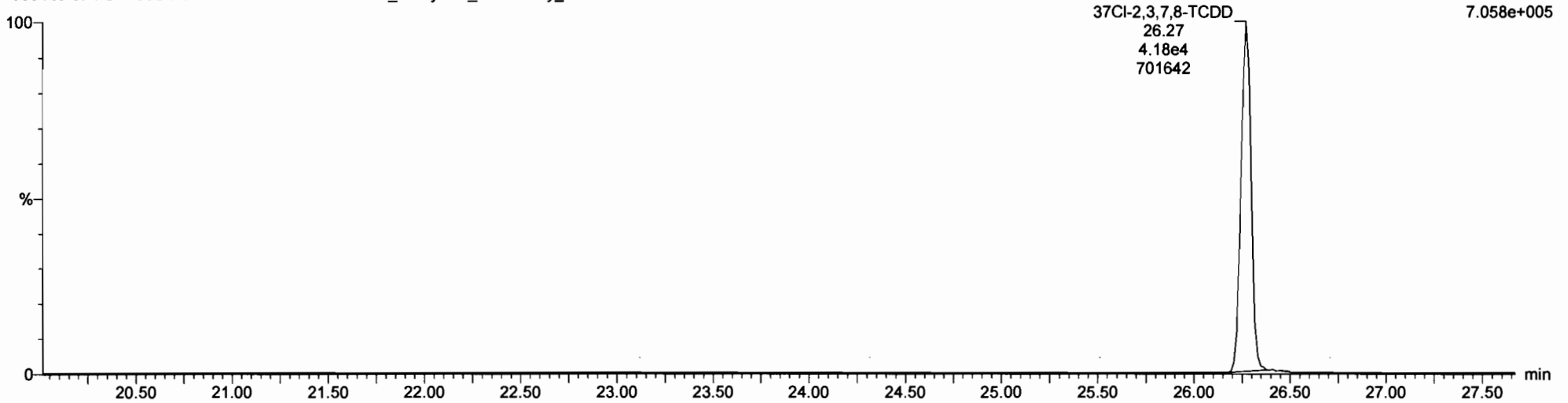
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37Cl-2,3,7,8-TCDD

191023D2_11
1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-07 PDI-100SC-J-03-04-190926

F1:SIR of 15 channels,EI+
327.884
7.058e+005



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

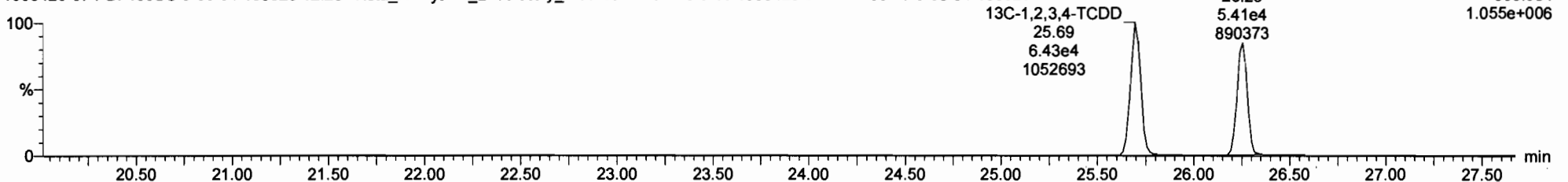
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F1:SIR of 15 channels,EI+
331.9368
8.274e+005



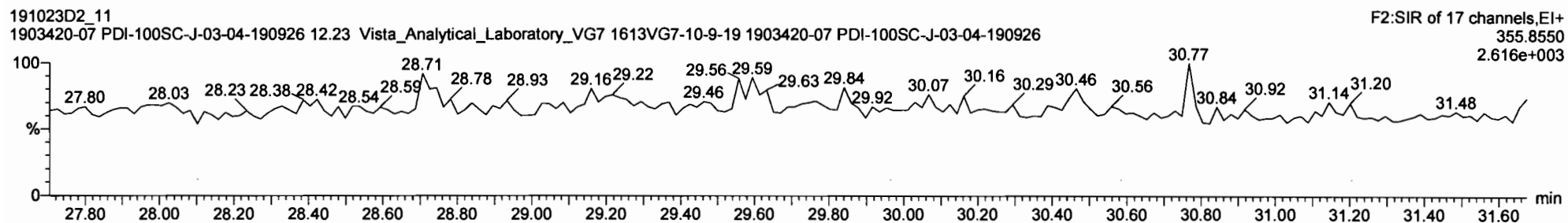
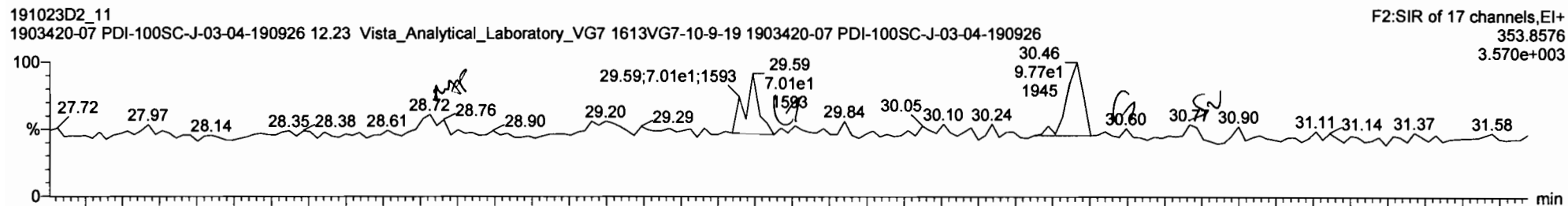
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F1:SIR of 15 channels,EI+
333.934
1.055e+006

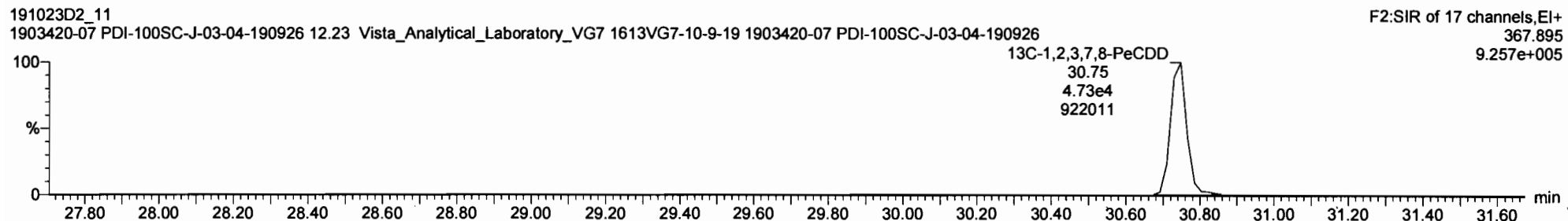
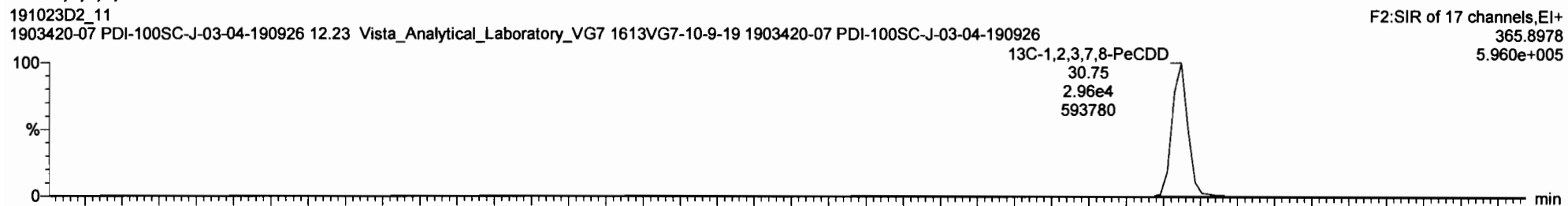


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Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins



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



Vista Analytical Laboratory

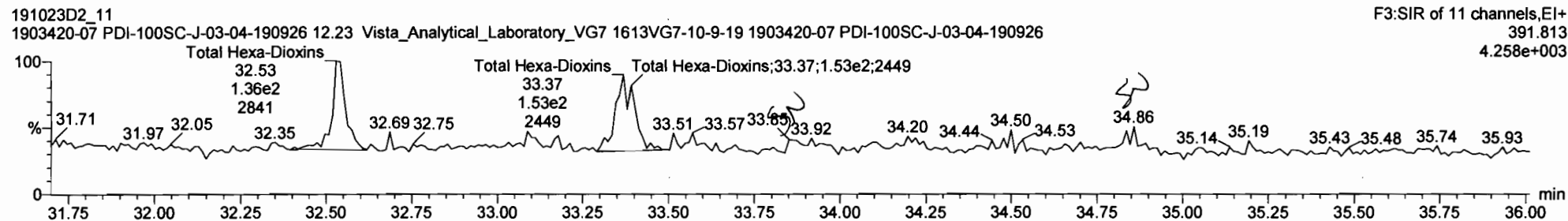
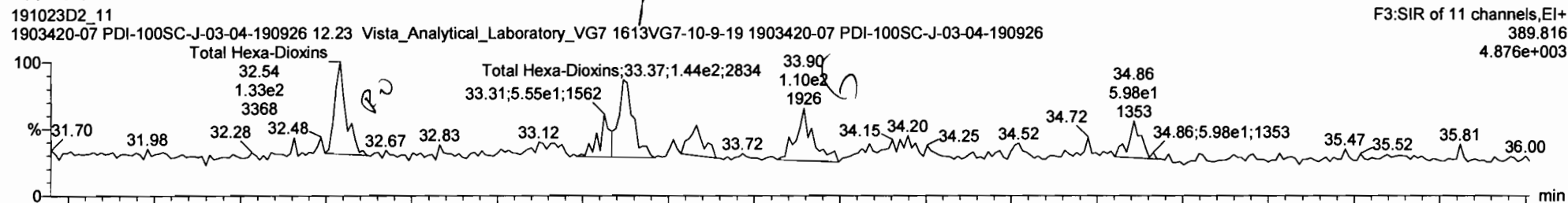
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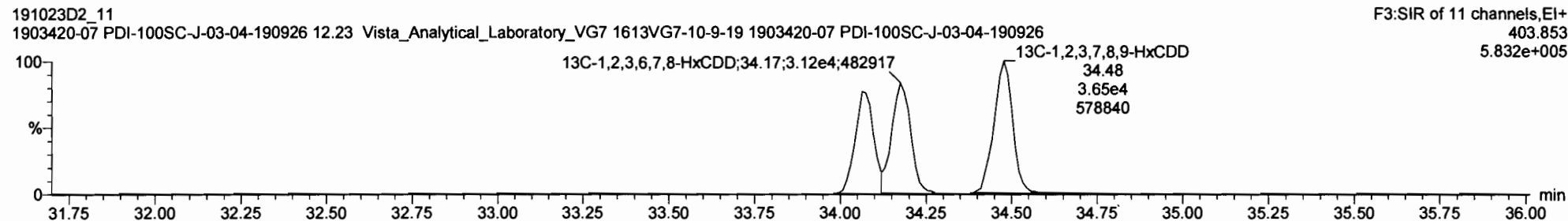
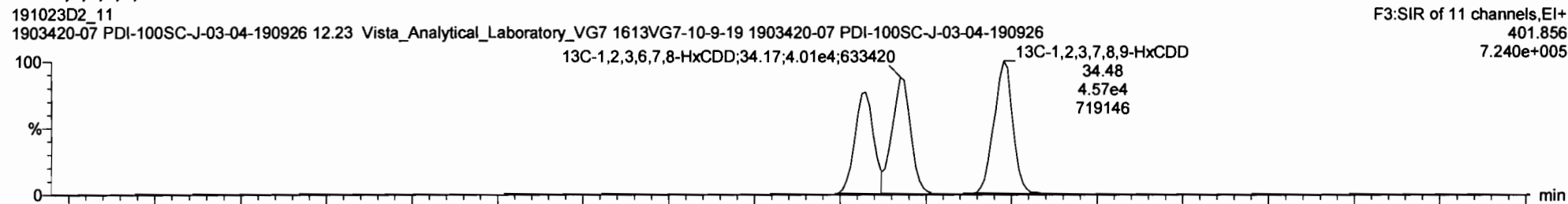
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Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926, Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins

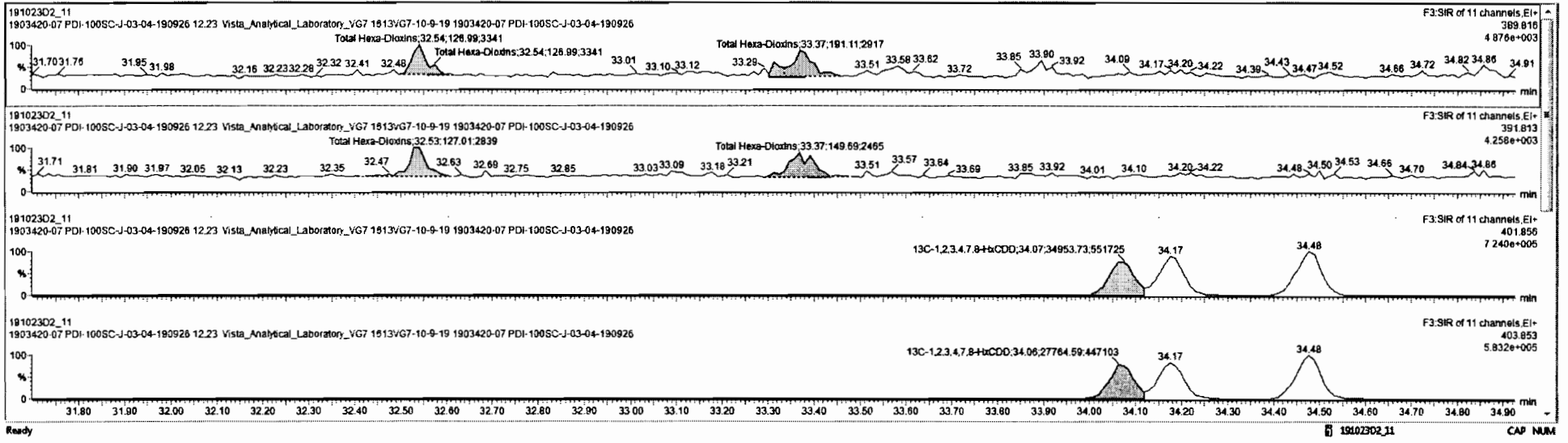


13C-1,2,3,4,7,8-HxCDD



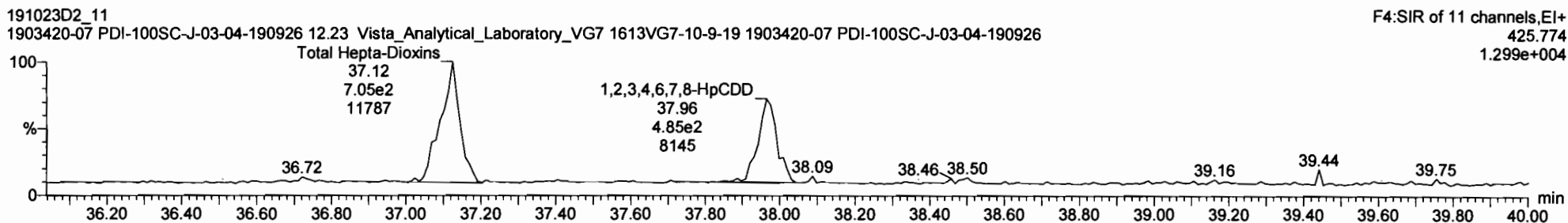
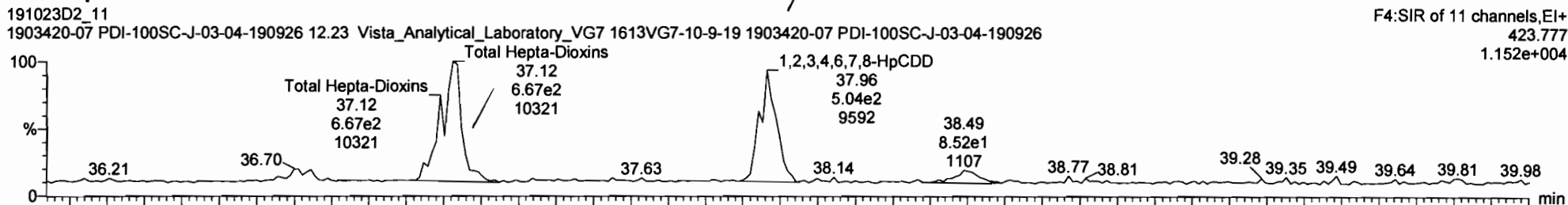
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27	13C-2,3,4,7,8-PeCDF	1.21e5	1.83e5	37	1.60	NO	0.847	9.997	30.22	30.46	1.186	1.176	NO	158.5	78.2	0.581	
28	13C-1,2,3,4,7,8-HxCDF	5.96e4	1.38e5	38	0.51	NO	0.832	9.997	33.17	33.17	0.987	0.987	NO	93.18	46.6	0.672	
29	13C-1,2,3,6,7,8-HxCDF	6.94e4	1.38e5	38	0.52	NO	1.034	9.997	33.26	33.30	0.991	0.991	NO	84.45	42.2	0.541	
30	13C-2,3,4,6,7,8-HxCDF	9.78e4	1.38e5	38	0.54	NO	0.953	9.997	33.90	33.91	1.009	1.009	NO	148.4	74.2	0.587	
31	13C-1,2,3,7,8,9-HxCDF	9.37e4	1.38e5	38	0.50	NO	0.828	9.997	34.89	34.89	1.038	1.038	NO	163.8	81.9	0.676	
32	13C-1,2,3,4,6,7,8-HpCDF	3.51e4	1.38e5	38	0.40	NO	0.757	9.997	36.71	36.72	1.093	1.093	NO	67.13	33.6	0.607	
33	13C-1,2,3,4,7,8,9-HpCDF	5.85e4	1.38e5	38	0.42	NO	0.581	9.997	38.40	38.50	1.148	1.143	NO	149.6	70.3	0.791	
34	13C-OCDF	1.18e5	1.38e5	38	0.92	NO	0.689	9.997	41.43	41.53	1.236	1.233	NO	247.1	61.8	0.519	
35	37C1-2,3,7,8-TCDD	4.18e4	1.16e5	36			1.196	9.997	26.26	26.27	1.022	1.022	NO	80.19	75.2	0.122	

#	Name	Prod.RT	RT	rt Resp	m2 Resp	Prod.RA	RA	aly	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.54	1.270e2	1.270e2	1.240	1.00	YES	0.85275	0.00000
2	41 Total Hexa-Dioxins	33.80	33.37	1.911e2	1.497e2	1.240	1.28	NO	0.98987	0.86987

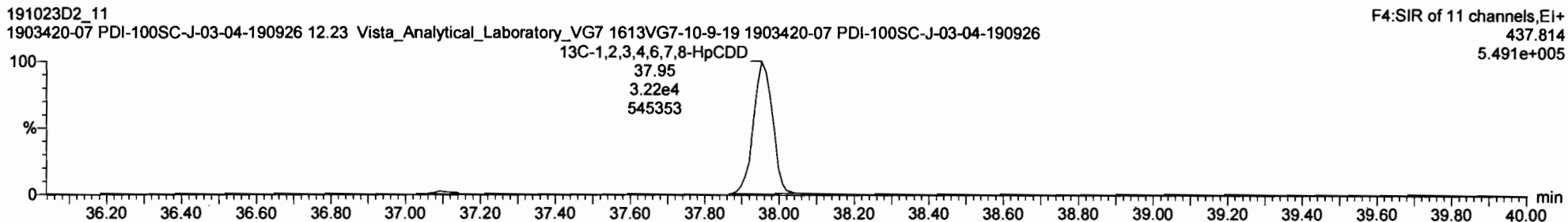
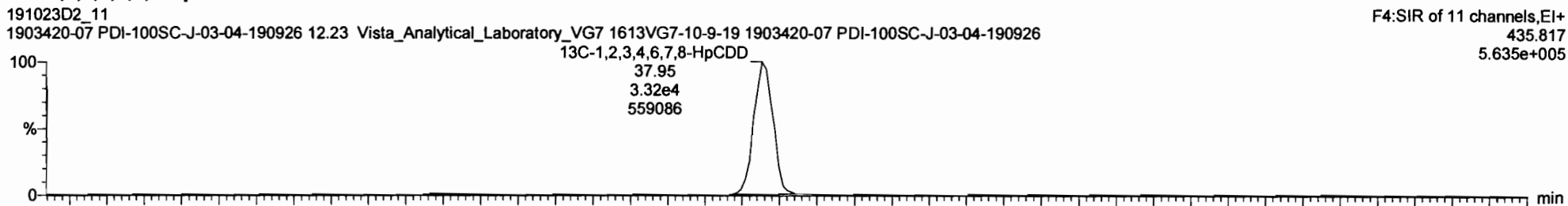


Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,
Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



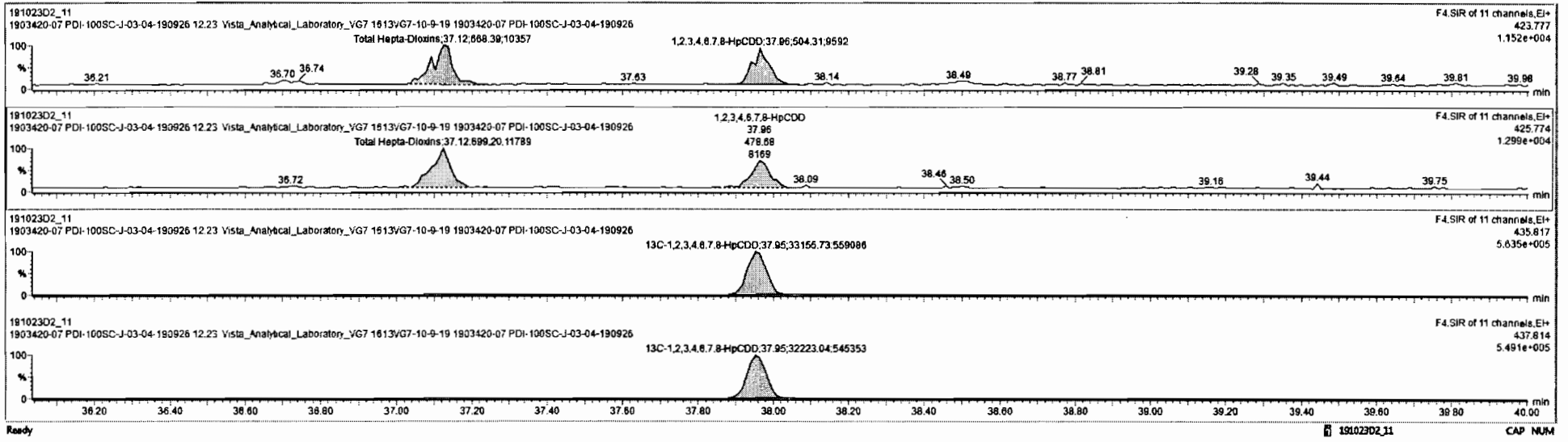
¹³C-1,2,3,4,6,7,8-HpCDD



TargetLine XS
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#	Name	Resp	S Resp	ISF	RA	n/y	RF	w/wal	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.54e4				0.840	0.997	37.75			0.909	NO	7.504		6.496	7.304
43	Total Tetra-Furans		1.46e5				0.943	0.997	24.00			0.900	NO	0.0000		0.117	0.9572
44	1st Func. Penta-Furans		0.00e0				0.940	0.997	27.63			0.900	NO	0.0000		0.0473	0.3281
45	Total Penta-Furans		0.00e0				0.940	0.997	30.00			0.900	NO	0.0000		0.154	0.6768
46	Total Hexa-Furans		0.00e0				1.078	0.997	33.00			0.900	NO	3.017		0.260	3.796
47	Total Hepta-Furans		0.00e0				1.135	0.997	37.75			0.900	NO	13.58		0.284	13.58
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Prod RA	RA	n/y	EMPC	Conc.
1	42 Total Hepta-Dioxins	37.75	37.12	6.604e2	6.962e2	1.040	0.96	NO	4.2326	4.2326
2	6 1,2,3,4,6,7,8-HpCDD	37.96	37.96	5.043e2	4.787e2	1.040	1.05	NO	3.0712	3.0712



Vista Analytical Laboratory

Dataset: Untitled

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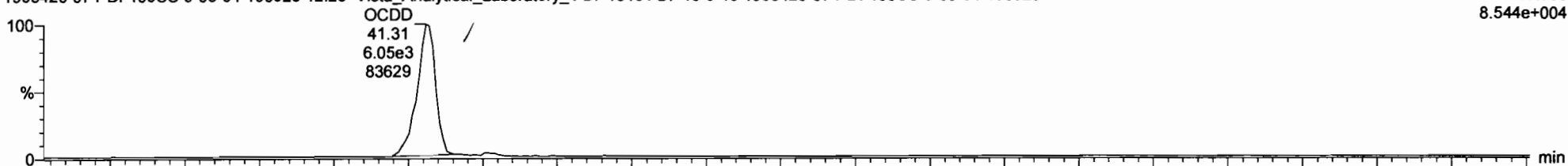
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Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926, Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

OCDD

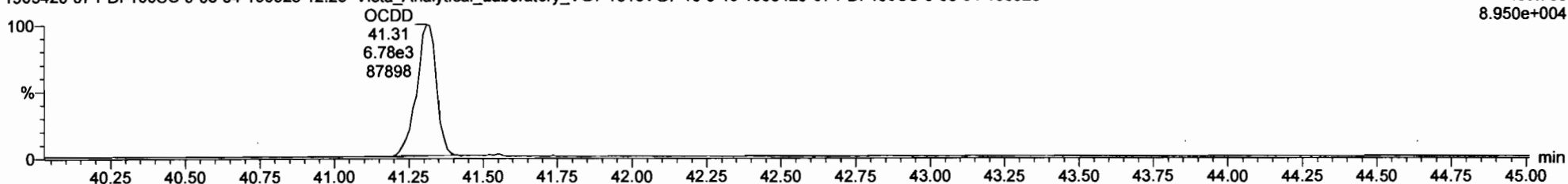
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1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-07 PDI-100SC-J-03-04-190926

F5:SIR of 11 channels,EI+
457.738
8.544e+004



191023D2_11
1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-07 PDI-100SC-J-03-04-190926

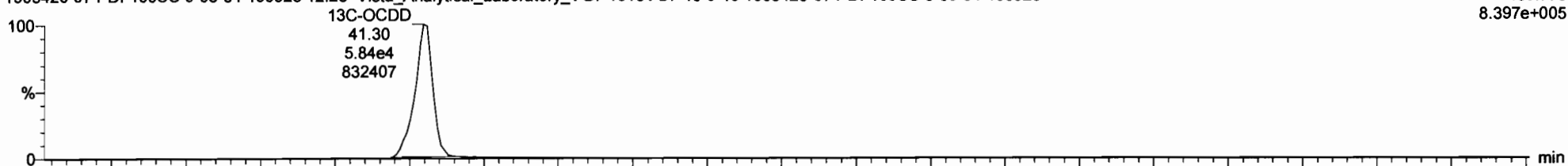
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8.950e+004



13C-OCDD

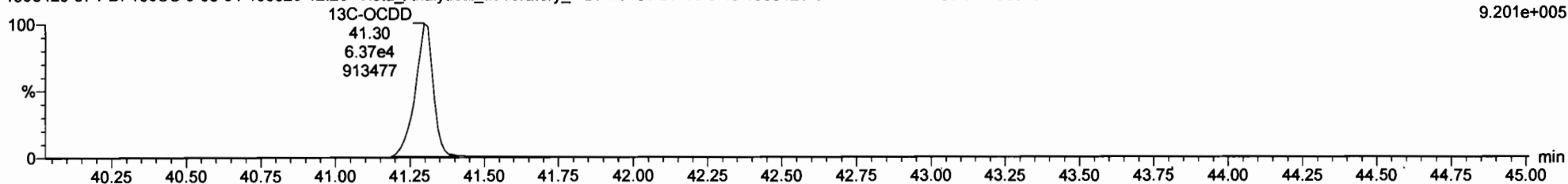
191023D2_11
1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-07 PDI-100SC-J-03-04-190926

F5:SIR of 11 channels,EI+
469.778
8.397e+005



191023D2_11
1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-07 PDI-100SC-J-03-04-190926

F5:SIR of 11 channels,EI+
471.775
9.201e+005



Vista Analytical Laboratory

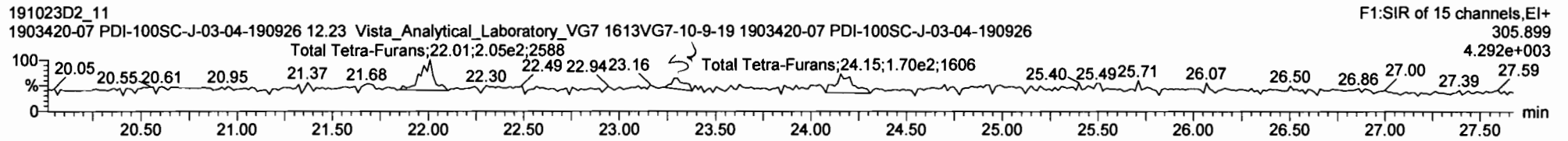
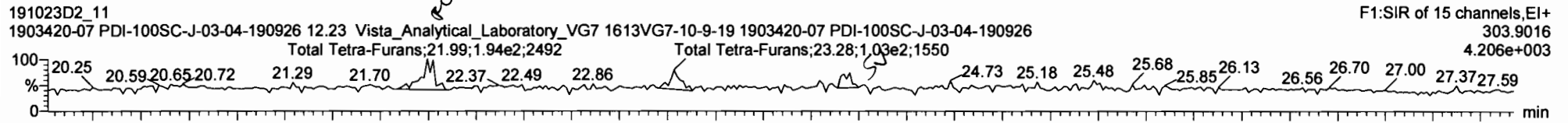
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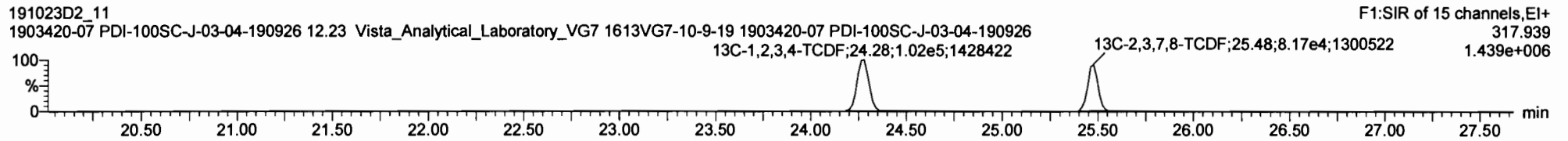
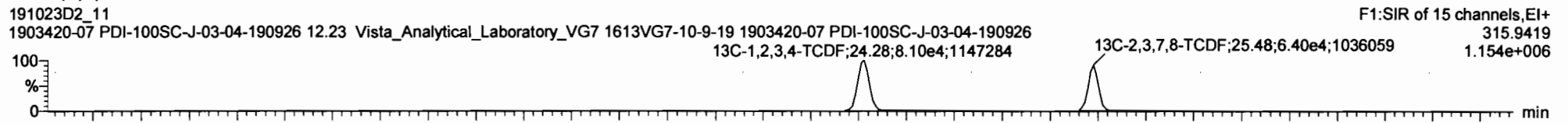
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Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

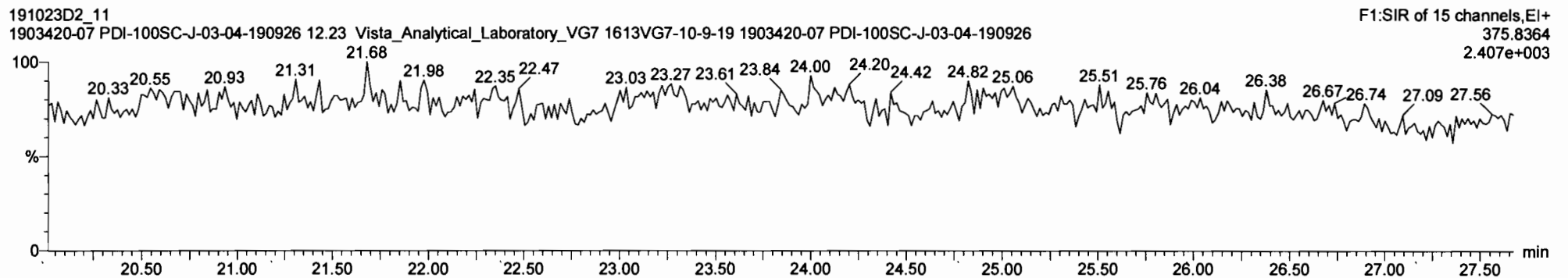
Total Tetra-Furans



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

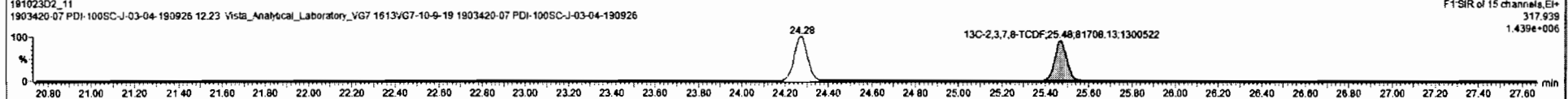
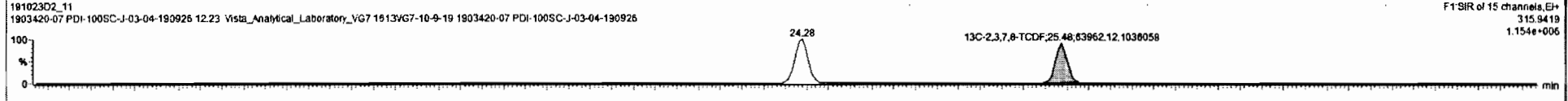
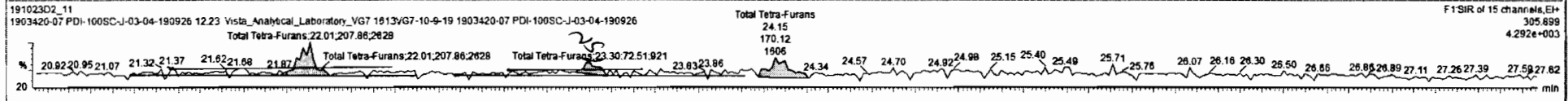
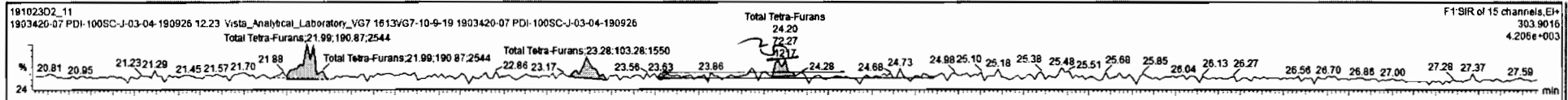


DPE1



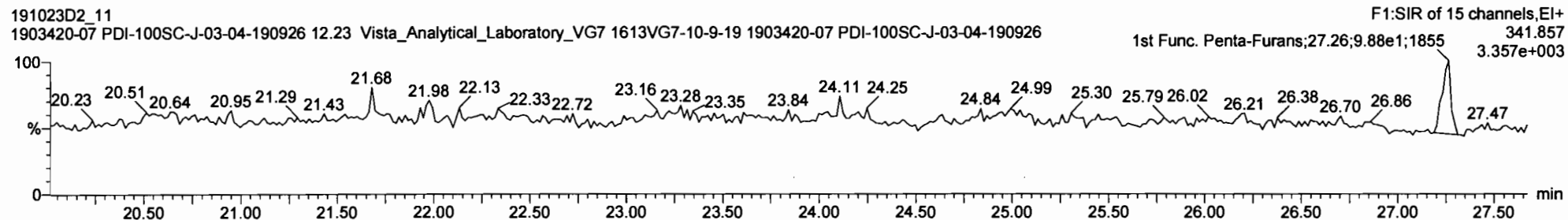
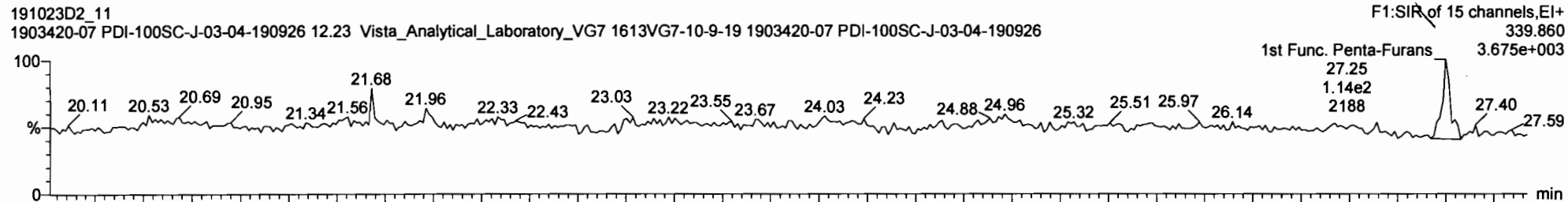
#	Name	Resp	IS Resp	SP	RA	n/y	RF	w/wet	Pred.RT	RT	RRT	Pred.RRT	Check RPT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.54e4				0.989	9.997	37.75			0.000	NO	7.504		0.490	7.504
43	Total Tetra-Furans		1.49e5				0.943	9.997	24.00			0.000	NO	0.0000		0.117	0.9849
44	1st Func. Penta-Furans		0.00e0				0.940	9.997	27.63			0.000	NO	0.0000		0.0473	0.3281
45	Total Penta-Furans		0.00e0				0.940	9.997	30.00			0.000	NO	0.0000		0.104	0.5788
46	Total Hexa-Furans		0.00e0				1.078	9.997	33.00			0.000	NO	3.017		0.260	3.796
47	Total Hepta-Furans		0.00e0				1.135	9.997	37.75			0.000	NO	13.58		0.284	13.58
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	Int Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	21.99	1.909e2	2.079e2	0.770	0.92	YES	0.53592	0.00000
2	43 Total Tetra-Furans	24.00	23.28	1.033e2	7.251e1	0.770	1.42	YES	0.18896	0.00000
3	43 Total Tetra-Furans	24.00	24.20	7.227e1	1.701e2	0.770	0.42	YES	0.24200	0.00000

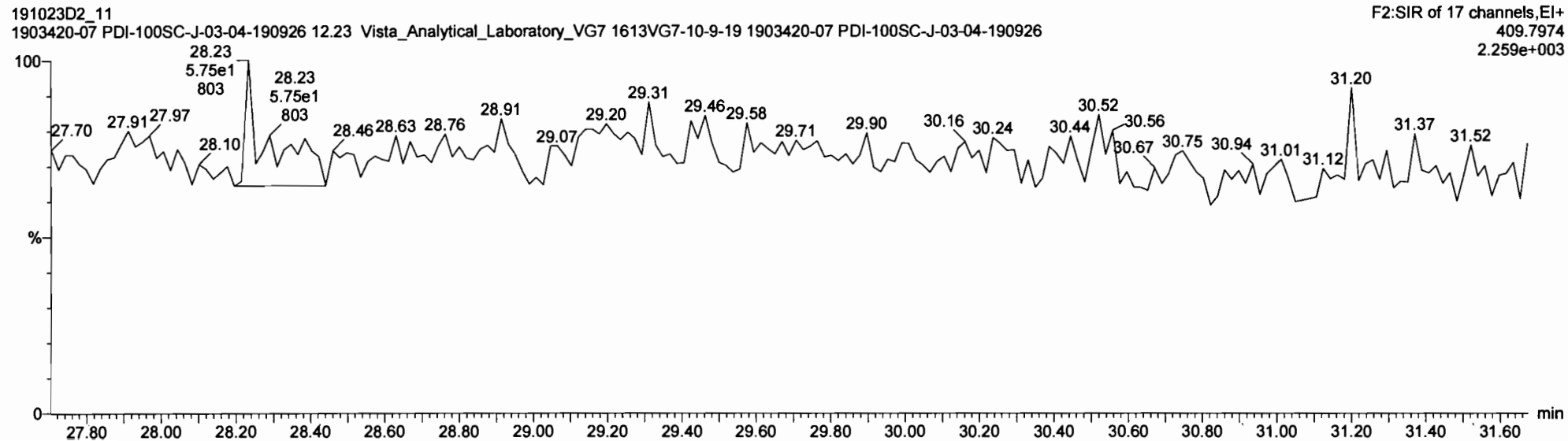


Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,
Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

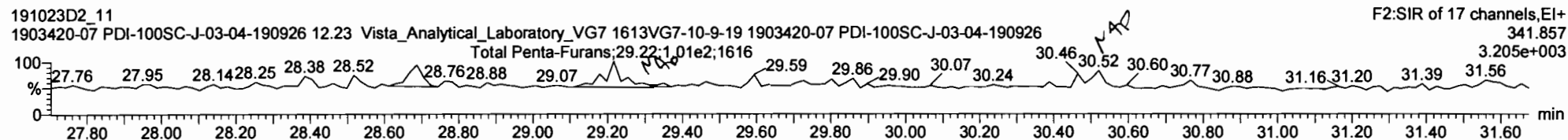
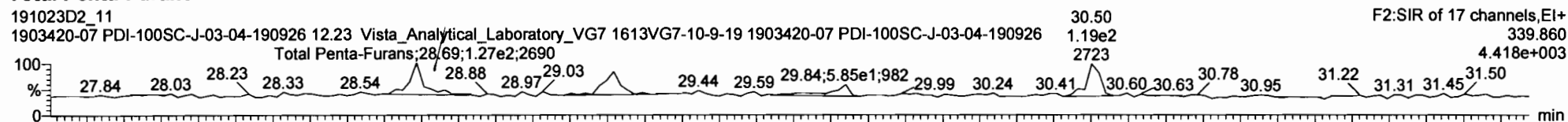


DPE6

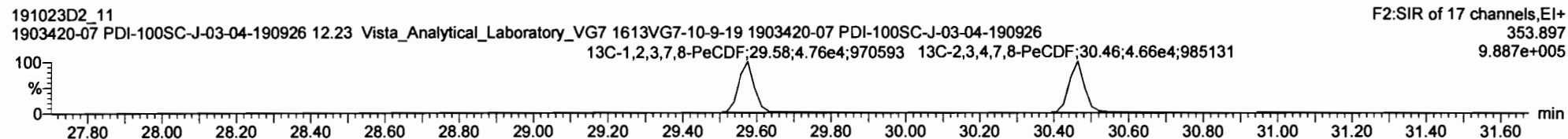
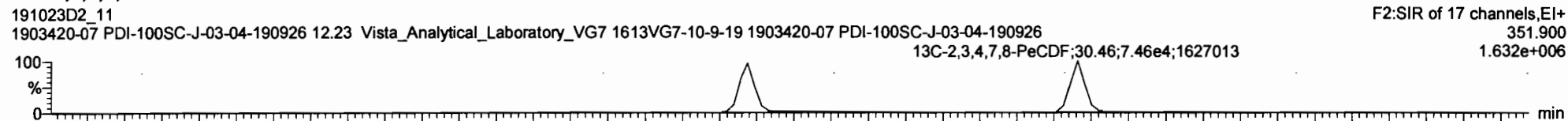


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Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

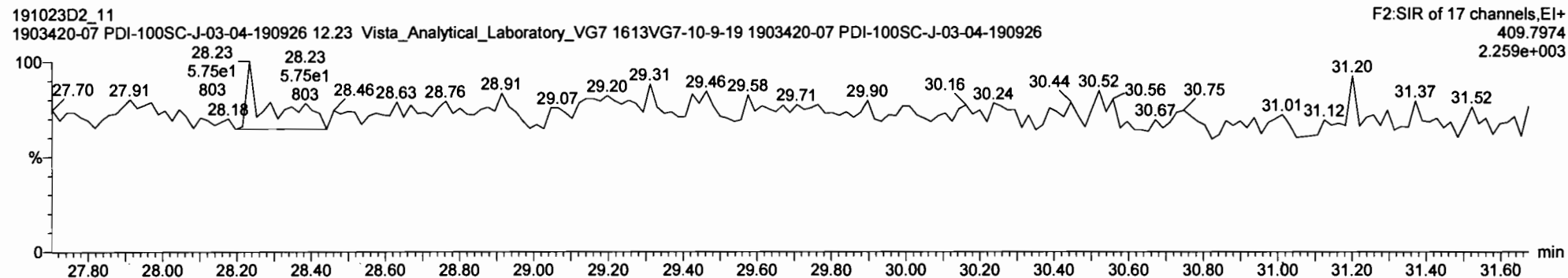
Total Penta-Furans



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



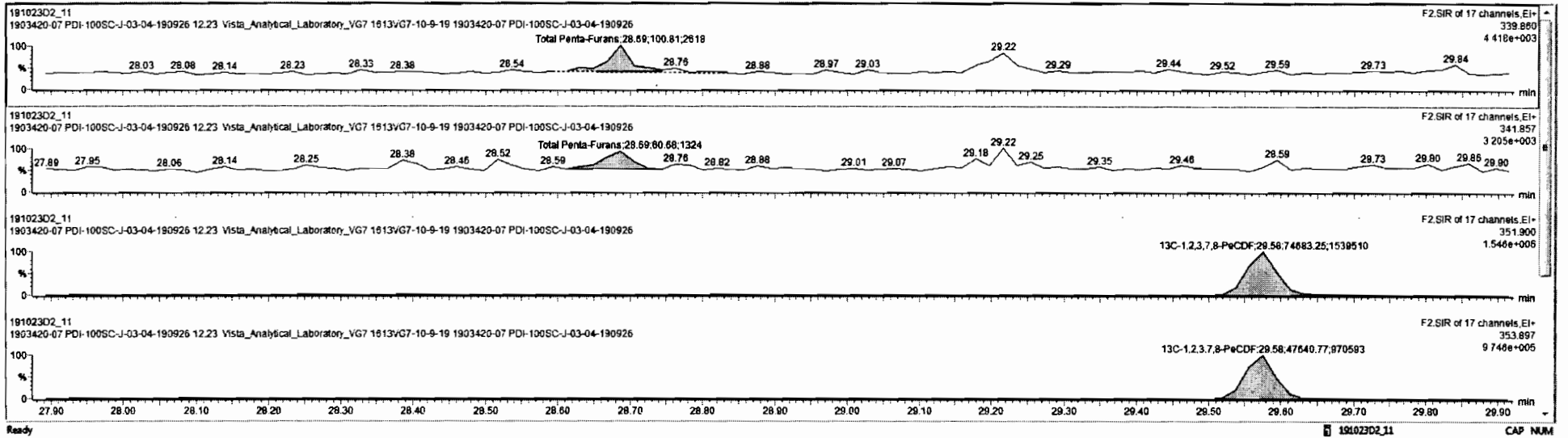
DPE2



191023D2_11 - 1903420-07 PDI-100SC-J-03-04-190926 - 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista Analytical Laboratory VG7 1613VG7.10.9.19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	u1Vel	Prd.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hapto-Dioxins		6.54e4				0.988	9.997	37.75			0.000	NO	7.304	0.490	7.304	
43	Total Tetra-Furans		1.46e5				0.943	9.997	24.00			0.000	NO	0.0000	0.117	0.5358	
44	1st Func. Penta-Furans		0.00e0				0.940	9.997	27.63			0.000	NO	0.0000	0.0473	0.3281	
45	Total Penta-Furans		0.00e0				0.940	9.997	30.00			0.000	NO	0.2624	0.218	0.2624	
46	Total Hexa-Furans		0.00e0				1.078	9.997	33.00			0.000	NO	3.017	0.260	3.796	
47	Total Hapto-Furans		0.00e0				1.135	9.997	37.75			0.000	NO	13.58	0.284	13.58	
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Prd.RT	RT	m1 Resp	m2 Resp	Prd.RA	RA	nly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.89	1.005e2	6.065e1	1.550	1.96	NO	0.26237	0.26237



Vista Analytical Laboratory

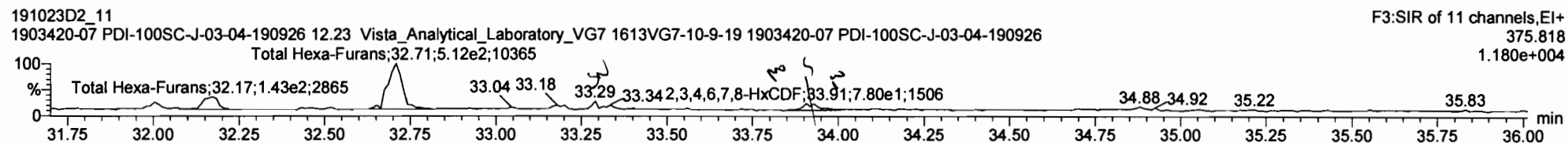
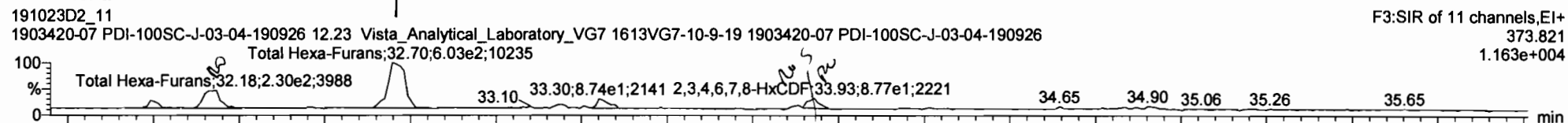
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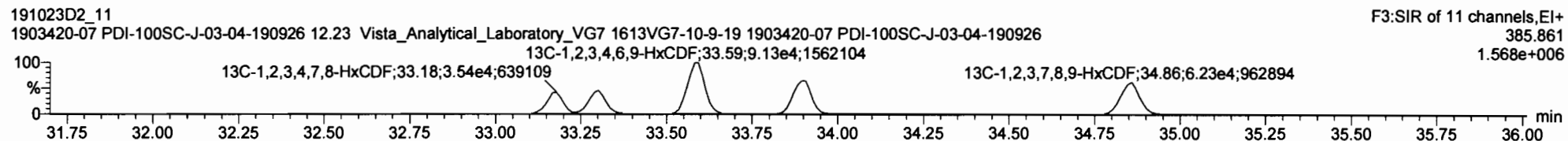
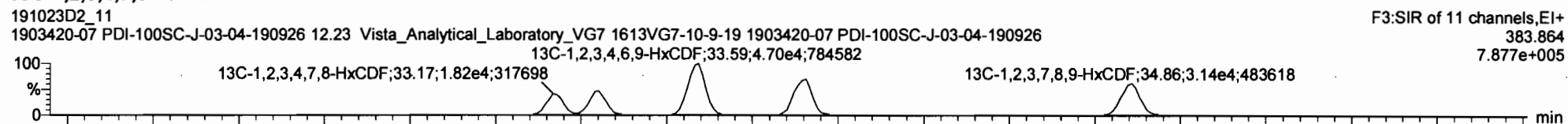
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Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926, Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

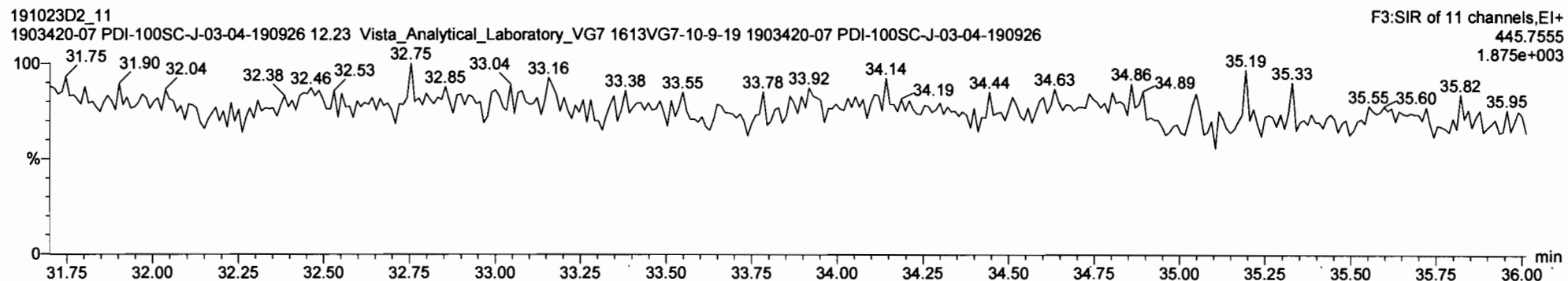
Total Hexa-Furans



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



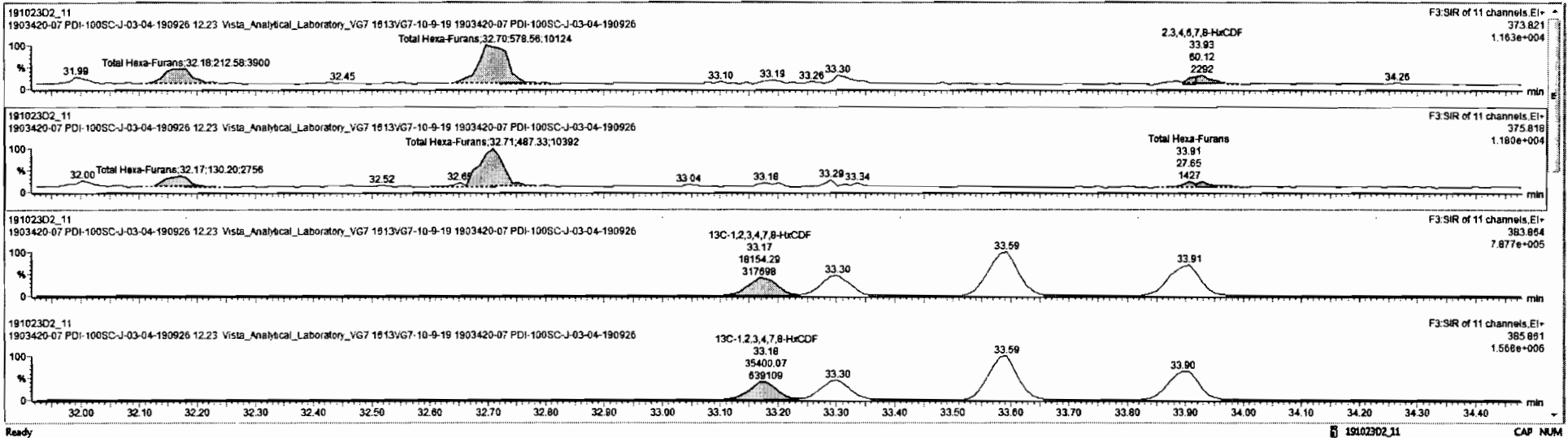
DPE3



191023D2_11 - 1903420-07 PDI-100SC-J-03-04-190926 - 1903420-07 PDI-100SC-J-03-04-190926 12 23 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

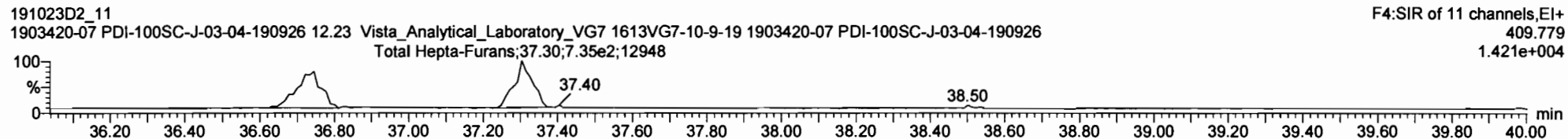
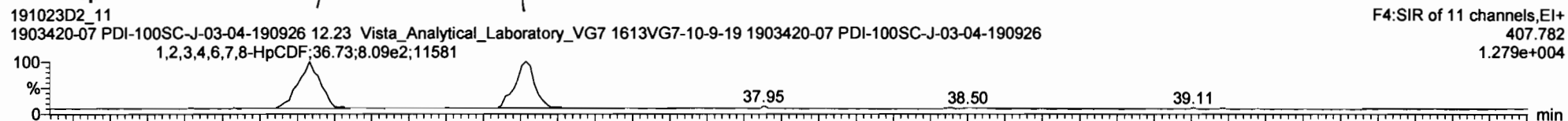
#	Name	Resp	IS Resp	IS#	RA	aly	RRF	wt/vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.54e4				0.999	9.997	37.75			0.000	NO	7.304	0.490	7.304	
43	Total Tetra-Furans		1.46e5				0.943	9.997	24.00			0.000	NO	0.0000	0.117	0.5359	
44	1st Func. Penta-Furans		0.00e0				0.940	9.997	27.63			0.000	NO	0.0000	0.0473	0.3281	
45	Total Penta-Furans		0.00e0				0.940	9.997	30.00			0.000	NO	0.2824	0.216	0.2824	
46	Total Hexa-Furans		0.00e0				1.879	9.997	33.99			0.000	NO	2.280	0.260	3.354	
47	Total Hepta-Furans		0.00e0				1.135	9.997	37.75			0.000	NO	13.58	0.264	13.58	
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred RT	RT	wt Resp	wt Base	Pred RA	RA	aly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.18	2.128e2	1.302e2	1.240	1.63	YES	0.70919	0.00000
2	46 Total Hexa-Furans	33.00	32.70	5.799e2	4.873e2	1.240	1.18	NO	2.5818	2.5918
3	46 Total Hexa-Furans	33.00	33.32	2.893e1	2.765e1	1.240	1.05	YES	0.12708	0.00000
4	13 2,3,4,6,7,8-HxCDF	33.94	33.93	6.012e1	3.062e1	1.240	1.96	YES	0.12605	0.00000

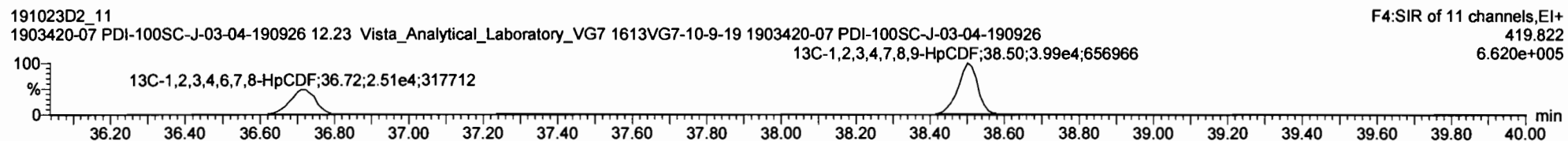
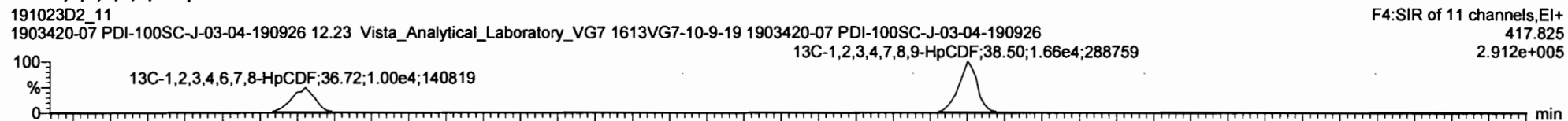


Name: VG7 191023D2_11, Date: 24-OCT-2019, Time: 09:30:38, ID: 1903420-07 PDI-100SC-J-03-04-190926,
Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

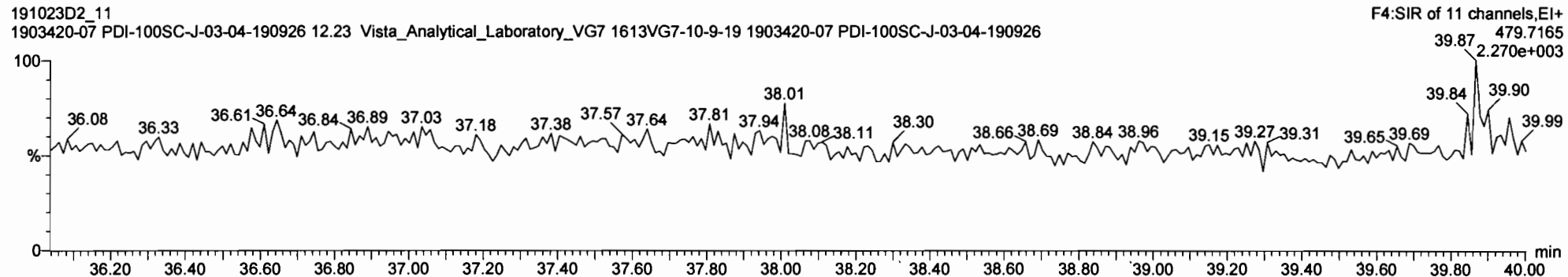
Total Hepta-Furans



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

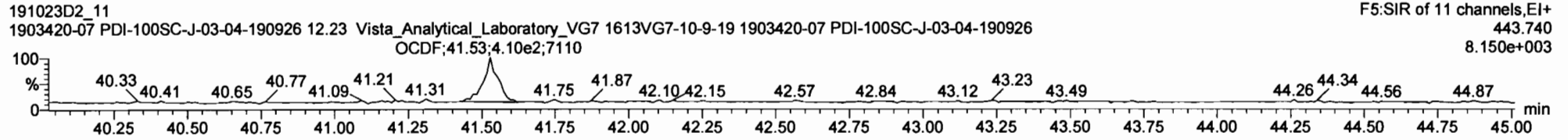
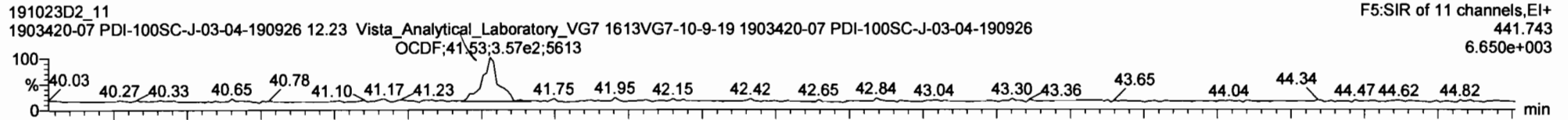


DPE4

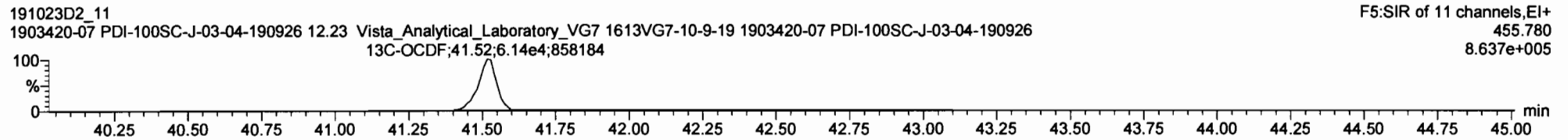
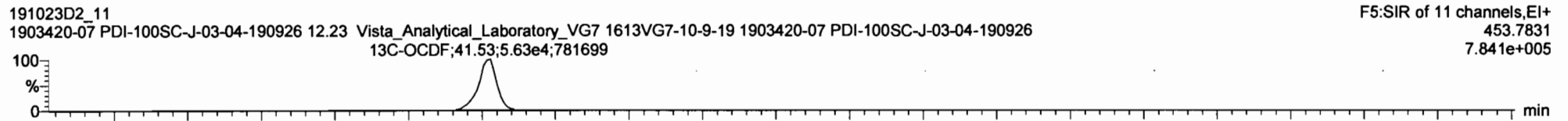


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Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

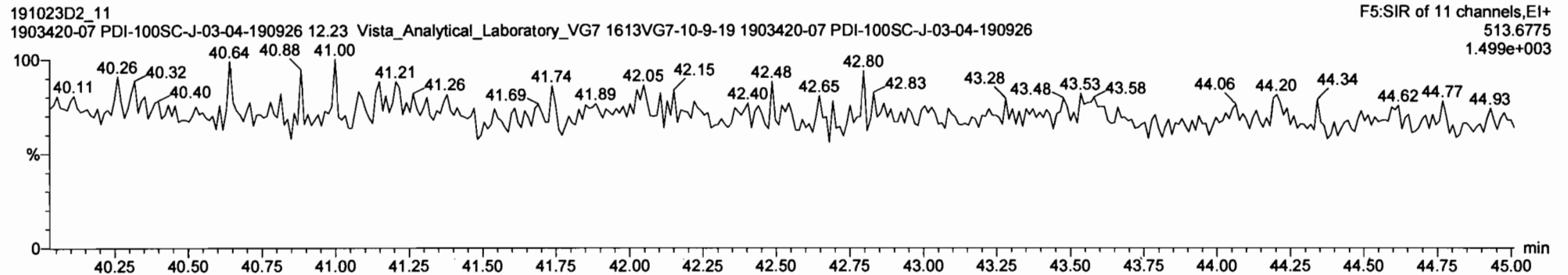
OCDF



13C-OCDF



DPE5



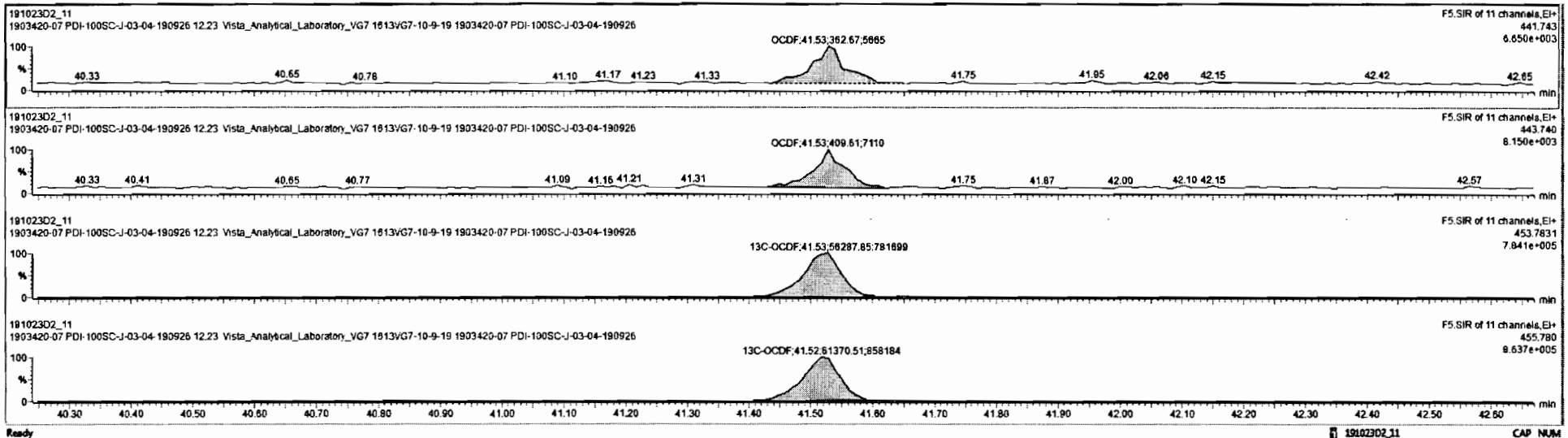
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Target: 1903420_11 - 1903420-07 PDI-100SC-J-03-04-190926-1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

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#	Name	Resp	IS Resp	ISF	RA	nly	RRF	wViel	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
13	13 2,3,4,6,7,8-HxCDF	1.66e2	9.78e4	30	1.12	NO	1.114	9.997	33.94	33.93	1.001	1.001	NO	0.3046		0.203	0.3046
14	14 1,2,3,7,8,9-HxCDF		0.37e4	31			1.062	9.997	34.86			1.000	NO				0.231
15	15 1,2,3,4,6,7,8-HpCDF	1.58e3	3.51e4	32	1.04	NO	1.128	9.997	36.76	36.73	1.000	1.001	NO	8.000		0.412	8.000
16	16 1,2,3,4,7,8,9-HpCDF		5.65e4	33			1.280	9.997	36.50			1.000	NO				0.182
17	17 OCDF	7.72e2	1.19e5	34	0.89	NO	0.947	9.997	41.53	41.53	1.000	1.000	NO	2.773		6.260	2.773
18	18 13C-2,3,7,8-TCDD	9.82e4	1.16e5	36	0.81	NO	1.095	9.997	26.24	26.25	1.022	1.021	NO	154.6	77.3	0.324	
19	19 13C-1,2,3,7,8-PeCDD	7.69e4	1.16e5	36	0.63	NO	0.881	9.997	30.49	30.75	1.197	1.187	NO	150.4	76.2	0.277	
20	20 13C-1,2,3,4,7,8-HxCDD	6.27e4	1.38e5	38	1.26	NO	0.642	9.997	34.06	34.07	1.014	1.014	NO	141.3	70.7	0.523	
21	21 13C-1,2,3,6,7,8-HxCDD	7.13e4	1.38e5	38	1.29	NO	0.856	9.997	34.18	34.17	1.017	1.017	NO	120.5	60.3	0.393	

#	Name	Pred.RT	RT	nt Resp	st Resp	Pred RA	RA	nly	EMPC	Conc.
1										



Vista Analytical Laboratory

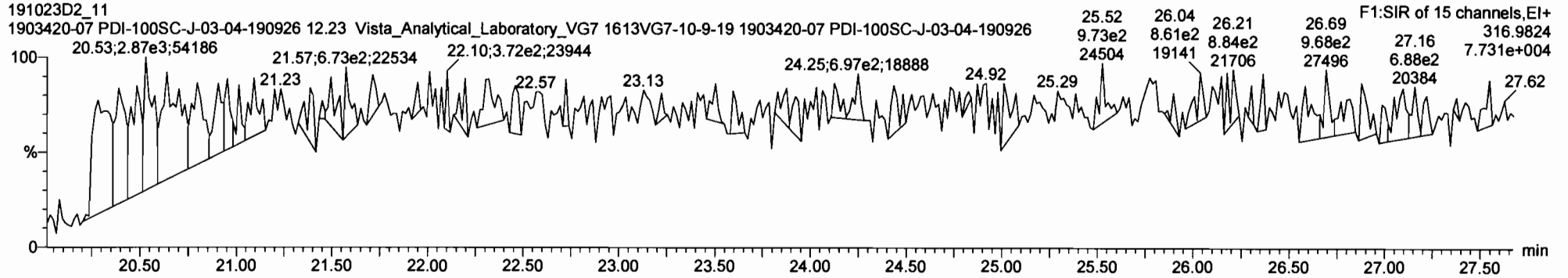
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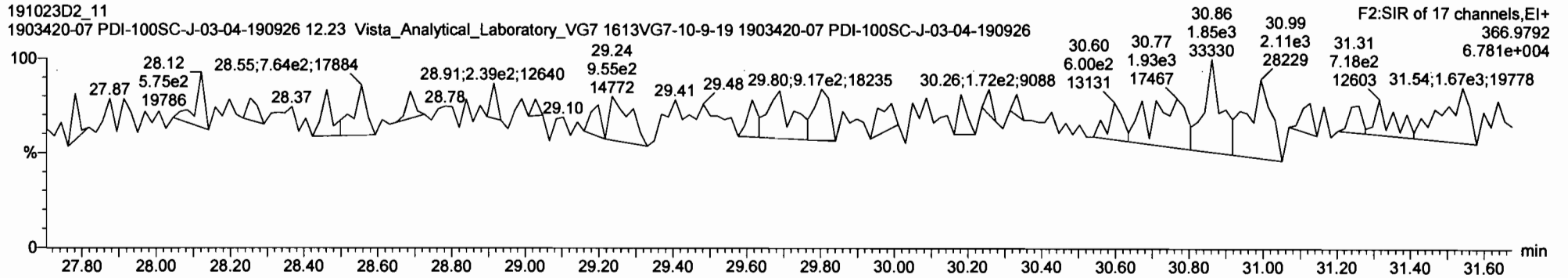
Printed: Monday, November 04, 2019 17:44:50 Pacific Standard Time

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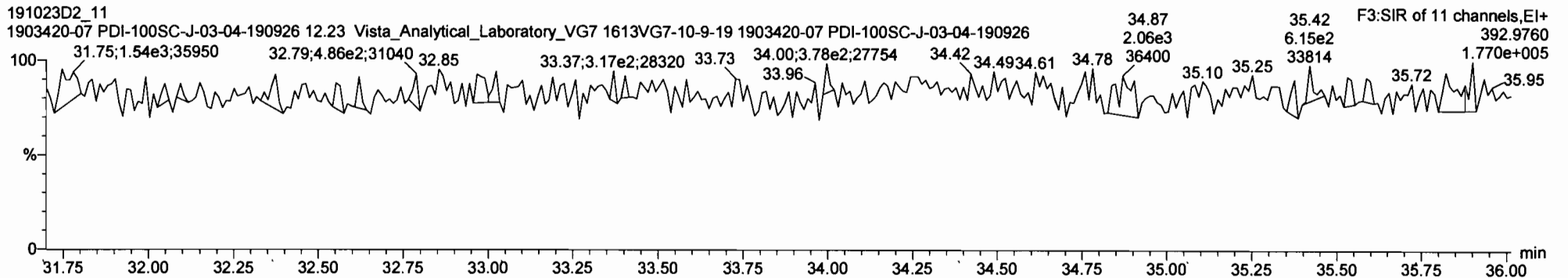
PFK1



PFK2



PFK3



Vista Analytical Laboratory

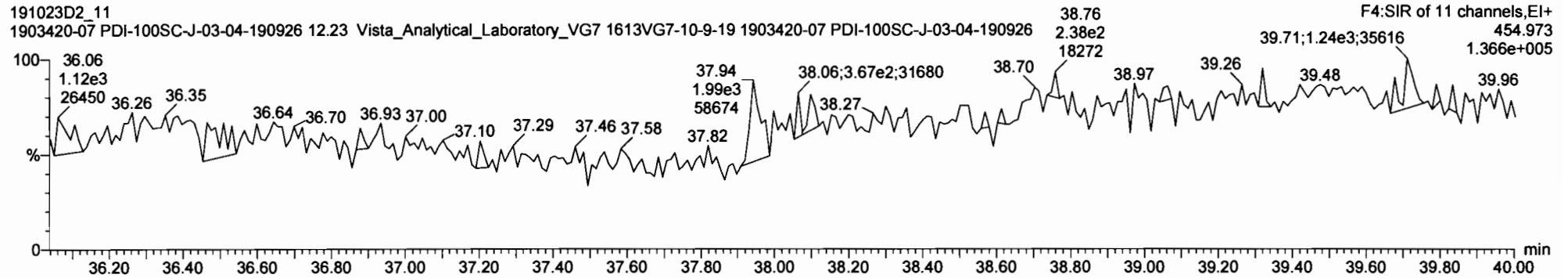
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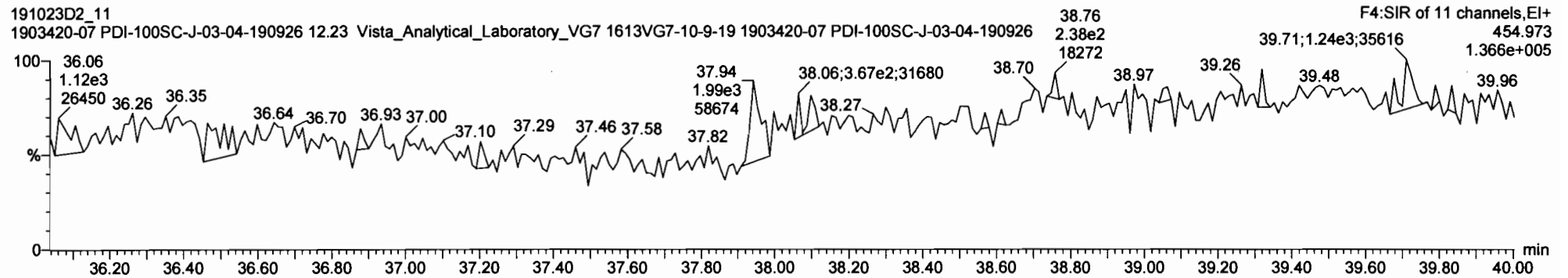
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Description: 1903420-07 PDI-100SC-J-03-04-190926 12.23 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-12.qld

Last Altered: Tuesday, November 05, 2019 14:55:55 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:57:06 Pacific Standard Time

Hz 11.5.19

11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 14:45:00

Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,

Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	8.74e4	10.0180	✓ 0.905	1.001				26.27				0.267	
2	1,2,3,7,8-PeCDD	6.32e4	10.0180	0.903	1.001				30.75				0.361	
3	1,2,3,4,7,8-HxCDD	5.99e4	10.0180	1.101	1.000				34.09				0.334	
4	1,2,3,6,7,8-HxCDD	6.74e4	10.0180	0.939	1.000				34.18				0.377	
5	1,2,3,7,8,9-HxCDD	7.23e4	10.0180	0.961	1.001				34.51				0.319	
6	1,2,3,4,6,7,8-HpCDD	8.08e2	5.91e4	10.0180	0.979	1.233	YES	1.000	1.000	37.97	37.95	2.7876	2.55	0.209
7	OCDD	1.02e4	1.06e5	10.0180	0.959	0.908	NO	1.000	1.000	41.29	41.30	40.155	40.2	0.449
8	2,3,7,8-TCDF		1.29e5	10.0180	0.950			1.001		25.49				0.224
9	1,2,3,7,8-PeCDF		1.08e5	10.0180	0.960			1.001		29.58				0.168
10	2,3,4,7,8-PeCDF	8.90e1	1.03e5	10.0180	1.015	1.594	NO	1.001	1.002	30.50	30.52	0.16951	0.170	0.154
11	1,2,3,4,7,8-HxCDF		5.81e4	10.0180	1.177			1.000		33.17				0.250
12	1,2,3,6,7,8-HxCDF	1.23e2	6.88e4	10.0180	1.069	1.110	NO	1.000	1.000	33.31	33.31	0.33341	0.333	0.217
13	2,3,4,6,7,8-HxCDF		8.40e4	10.0180	1.114			1.001		33.93				0.186
14	1,2,3,7,8,9-HxCDF		7.85e4	10.0180	1.062			1.000		34.86				0.228
15	1,2,3,4,6,7,8-HpCDF	1.77e3	4.63e4	10.0180	1.128	1.005	NO	1.001	1.001	36.75	36.73	6.7623	6.76	0.369
16	1,2,3,4,7,8,9-HpCDF		5.20e4	10.0180	1.280			1.000		38.50				0.217
17	OCDF	7.83e2	1.29e5	10.0180	0.947	0.914	NO	1.000	1.000	41.51	41.52	2.5555	2.56	0.634
18	13C-2,3,7,8-TCDD	8.74e4	1.08e5	10.0180	1.095	0.813	NO	1.021	1.022	26.22	26.24	147.31	73.8	0.374
19	13C-1,2,3,7,8-PeCDD	6.32e4	1.08e5	10.0180	0.881	0.602	NO	1.187	1.197	30.47	30.73	132.43	66.3	0.287
20	13C-1,2,3,4,7,8-Hx...	5.99e4	1.27e5	10.0180	0.642	1.176	NO	1.014	1.015	34.05	34.08	146.67	73.5	0.529
21	13C-1,2,3,6,7,8-Hx...	6.74e4	1.27e5	10.0180	0.856	1.141	NO	1.017	1.018	34.17	34.18	123.82	62.0	0.397
22	13C-1,2,3,7,8,9-Hx...	7.23e4	1.27e5	10.0180	0.807	1.119	NO	1.026	1.027	34.47	34.48	140.83	70.5	0.421
23	13C-1,2,3,4,6,7,8-H...	5.91e4	1.27e5	10.0180	0.654	1.040	NO	1.126	1.130	37.82	37.95	141.97	71.1	0.708
24	13C-OCDD	1.06e5	1.27e5	10.0180	0.580	0.915	NO	1.226	1.229	41.18	41.29	287.75	72.1	0.780
25	13C-2,3,7,8-TCDF	1.29e5	1.75e5	10.0180	1.035	0.796	NO	0.993	0.992	25.51	25.46	141.95	71.1	0.398
26	13C-1,2,3,7,8-PeCDF	1.08e5	1.75e5	10.0180	0.854	1.609	NO	1.151	1.151	29.56	29.56	145.18	72.7	0.630
27	13C-2,3,4,7,8-PeCDF	1.03e5	1.75e5	10.0180	0.847	1.641	NO	1.186	1.186	30.47	30.47	139.46	69.9	0.635
28	13C-1,2,3,4,7,8-Hx...	5.81e4	1.27e5	10.0180	0.832	0.511	NO	0.987	0.988	33.16	33.17	109.79	55.0	0.783
29	13C-1,2,3,6,7,8-Hx...	6.88e4	1.27e5	10.0180	1.034	0.505	NO	0.991	0.992	33.27	33.30	104.57	52.4	0.629
30	13C-2,3,4,6,7,8-Hx...	8.40e4	1.27e5	10.0180	0.953	0.512	NO	1.009	1.009	33.89	33.90	138.56	69.4	0.683
31	13C-1,2,3,7,8,9-Hx...	7.85e4	1.27e5	10.0180	0.828	0.513	NO	1.039	1.038	34.88	34.86	149.13	74.7	0.786

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-12.qld

Last Altered: Tuesday, November 05, 2019 14:55:55 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:57:06 Pacific Standard Time

Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
 Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	4.63e4	1.27e5	10.0180	0.757	0.374	NO	1.093	1.093	36.70	36.71	96.130	48.2	0.681
33	13C-1,2,3,4,7,8,9-H...	5.20e4	1.27e5	10.0180	0.581	0.401	NO	1.143	1.146	38.39	38.50	140.60	70.4	0.887
34	13C-OCDF	1.29e5	1.27e5	10.0180	0.689	0.904	NO	1.233	1.236	41.42	41.51	294.57	73.8	0.465
35	37Cl-2,3,7,8-TCDD	3.69e4	1.08e5	10.0180	1.198			1.022	1.022	26.25	26.26	56.791	71.1	0.0977
36	13C-1,2,3,4-TCDD	1.08e5	1.08e5	10.0180	1.000	0.826	NO	1.000	1.000	25.70	25.68	199.64	100.0	0.410
37	13C-1,2,3,4-TCDF	1.75e5	1.75e5	10.0180	1.000	0.800	NO	1.000	1.000	24.28	24.27	199.64	100.0	0.412
38	13C-1,2,3,4,6,9-Hx...	1.27e5	1.27e5	10.0180	1.000	0.511	NO	1.000	1.000	33.55	33.58	199.64	100.0	0.651
39	Total Tetra-Dioxins		8.74e4	10.0180	0.901			0.000		25.50		0.00000	0.291	0.150
40	Total Penta-Dioxins		6.32e4	10.0180	0.872			0.000		30.00				0.247
41	Total Hexa-Dioxins		0.00e0	10.0180	0.976			0.000		33.80		0.00000	0.650	0.174
42	Total Hepta-Dioxins		5.91e4	10.0180	0.989			0.000		37.75		3.9033	6.45	0.306
43	Total Tetra-Furans		1.29e5	10.0180	0.943			0.000		24.00		0.29214	0.292	0.225
44	1st Func. Penta-Fur...		0.00e0	10.0180	0.940			0.000		27.63		0.48700	0.487	0.163
45	Total Penta-Furans		0.00e0	10.0180	0.940			0.000		30.00		0.41078	0.511	0.169
46	Total Hexa-Furans		0.00e0	10.0180	1.078			0.000		33.00		3.9908	3.99	0.223
47	Total Hepta-Furans		0.00e0	10.0180	1.135			0.000		37.75		12.333	12.3	0.302

0.361

PeCDF EMPC

0.998

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-12.qld
 Last Altered: Tuesday, November 05, 2019 14:55:55 Pacific Standard Time
 Printed: Tuesday, November 05, 2019 14:57:06 Pacific Standard Time

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05 Nov 2019 14:45:00

Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
 Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

39	Total Tetra-Dioxins	YES	25.90	70.725	39196.168	0.000	bb	0.0000	0.29
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Penta-Dioxins

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Hexa-Dioxins

41	Total Hexa-Dioxins	YES	32.53	117.017	35484.511	0.000	bb	0.0000	0.65
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Hepta-Dioxins

42	Total Hepta-Dioxins	NO	37.13	569.383	30107.871	38.661	MM	3.9033	3.90
6	1,2,3,4,6,7,8-HpCDD	YES	37.95	445.974	30107.871	0.000	bb	0.0000	2.55

Tetra-Furans

43	Total Tetra-Furans	NO	25.90	78.848	56961.531	2.759	bb	0.2921	0.29
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Penta-Furans function 1

44	1st Func. Penta-Furans	NO	27.25	143.671	65554.397	4.584	bb	0.4870	0.49
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Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-12.qld

Last Altered: Tuesday, November 05, 2019 14:55:55 Pacific Standard Time

Printed: Tuesday, November 05, 2019 14:57:06 Pacific Standard Time

Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
 Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans

45	Total Penta-Furans	NO	29.18	71.608	65554.397	2.271	MM	0.2413	0.24
45	Total Penta-Furans	YES	30.50	40.973	65554.397	0.000	MM	0.0000	0.10
10	2,3,4,7,8-PeCDF	NO	30.52	54.722	64206.012	1.723	MM	0.1695	0.17

Hexa-Furans

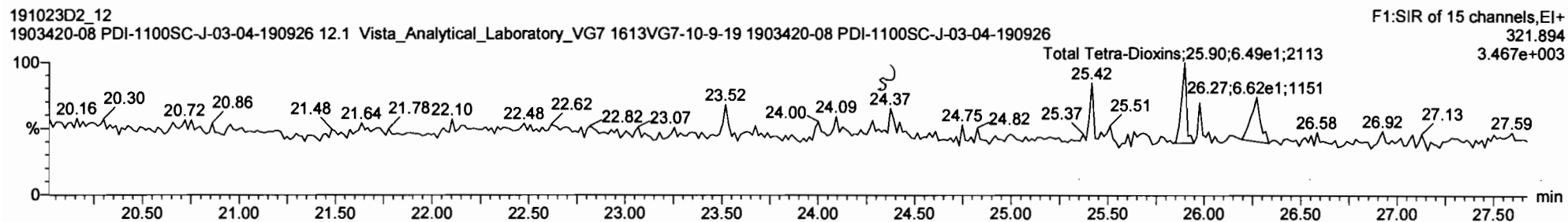
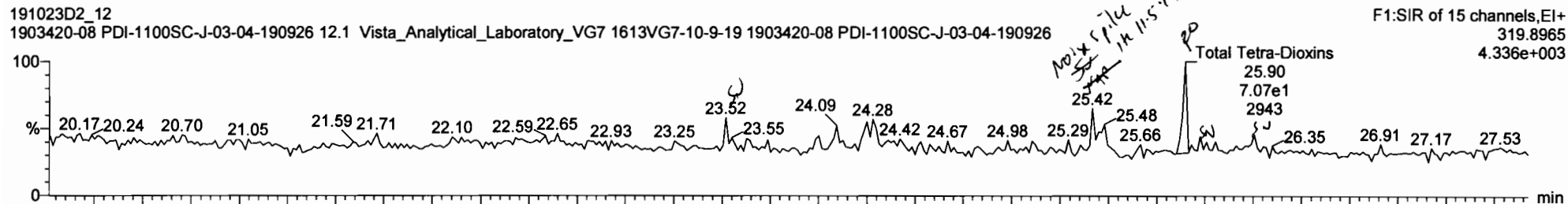
46	Total Hexa-Furans	NO	32.01	60.103	24447.523	2.901	MM	0.2688	0.27
46	Total Hexa-Furans	NO	32.16	228.259	24447.523	11.510	MM	1.0662	1.07
46	Total Hexa-Furans	NO	32.71	507.442	24447.523	25.071	MM	2.3224	2.32
12	1,2,3,6,7,8-HxCDF	NO	33.31	64.618	23092.965	3.570	MM	0.3334	0.33

Hepta-Furans

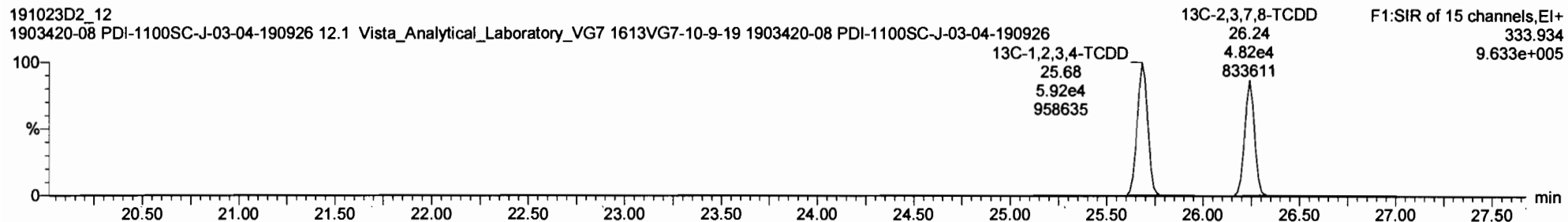
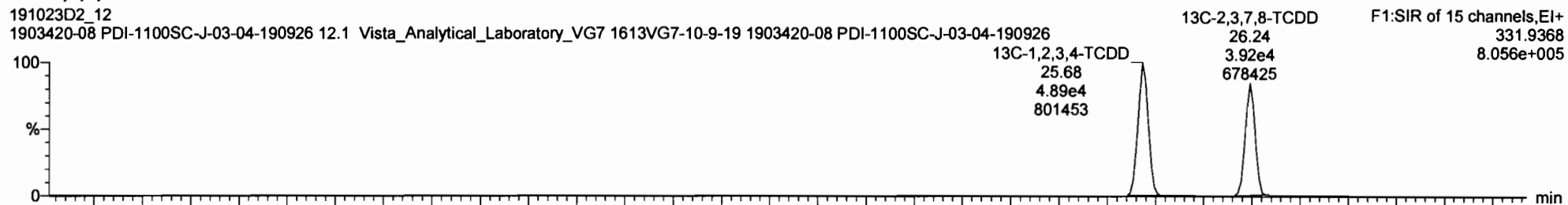
15	1,2,3,4,6,7,8-HpCDF	NO	36.73	886.899	12609.104	76.389	MM	6.7623	6.76
47	Total Hepta-Furans	NO	37.31	756.604	13745.432	63.326	MM	5.5708	5.57

Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
 Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



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



Vista Analytical Laboratory

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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

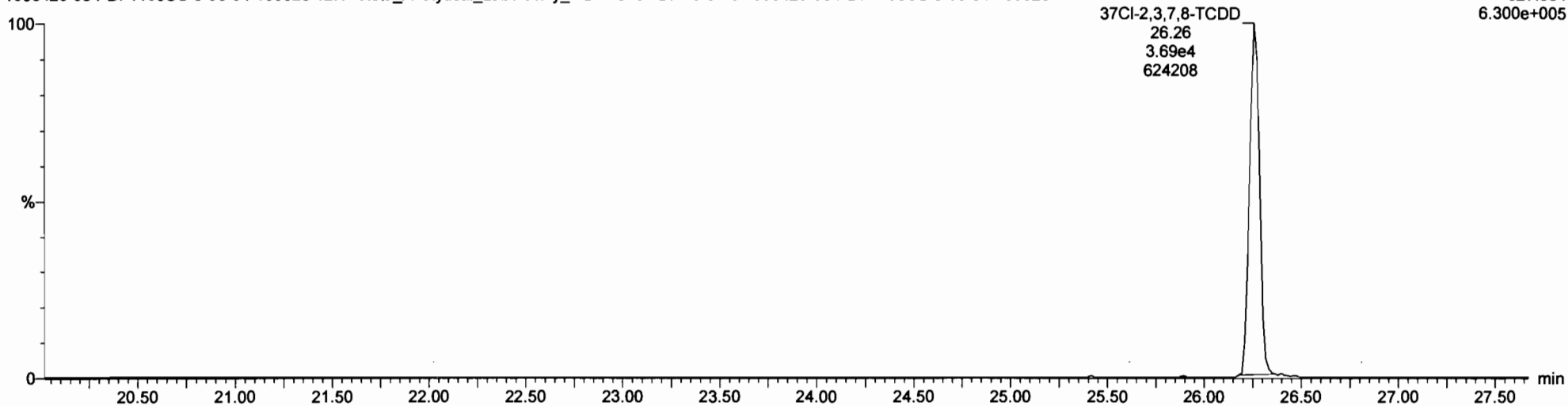
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37Cl-2,3,7,8-TCDD

191023D2_12
1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-08 PDI-1100SC-J-03-04-190926

F1:SIR of 15 channels,EI+
327.884
6.300e+005



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

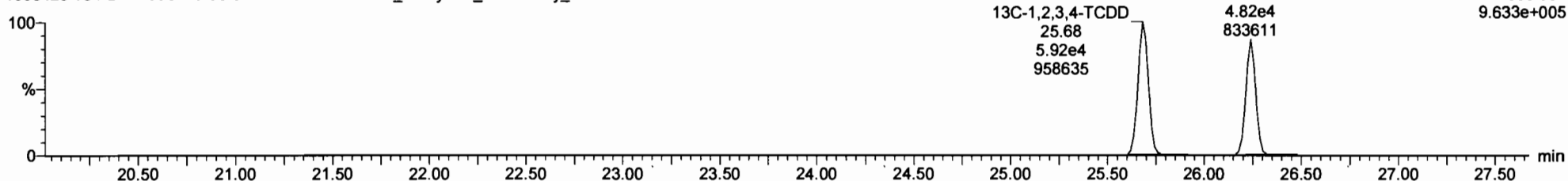
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F1:SIR of 15 channels,EI+
331.9368
8.056e+005



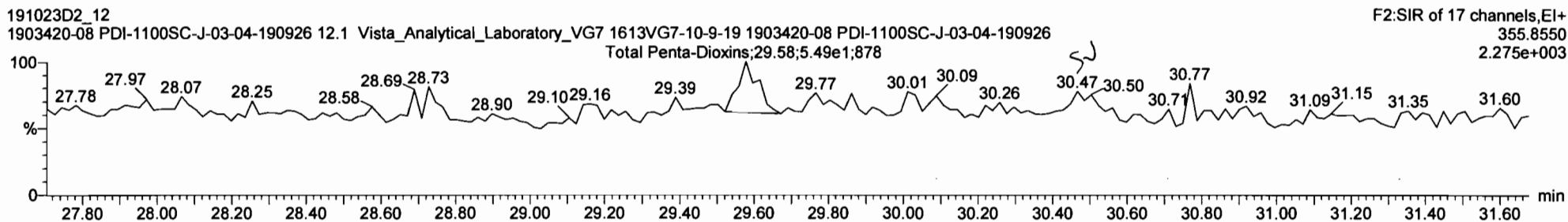
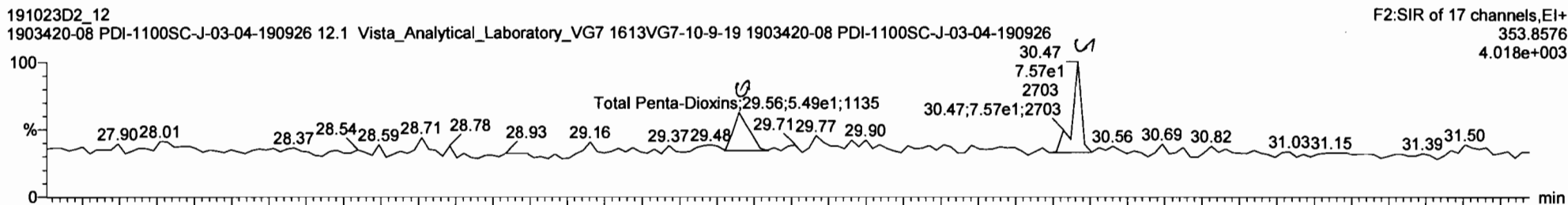
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F1:SIR of 15 channels,EI+
333.934
9.633e+005

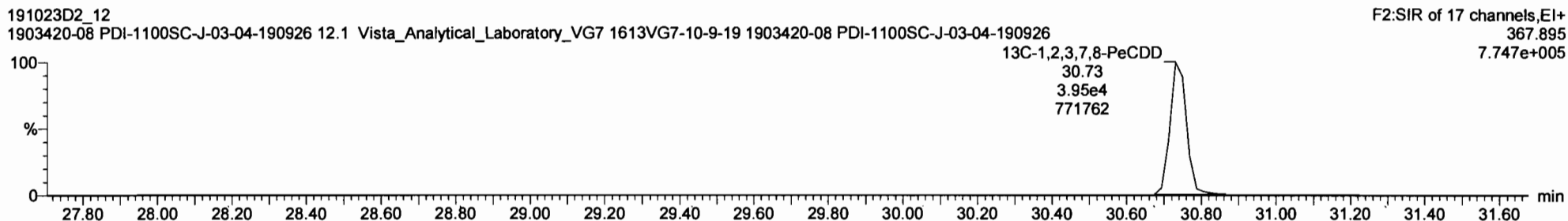
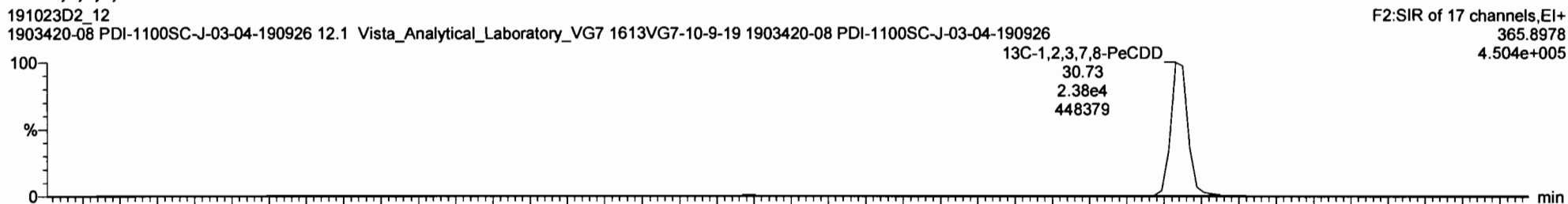


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Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Penta-Dioxins



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



Vista Analytical Laboratory

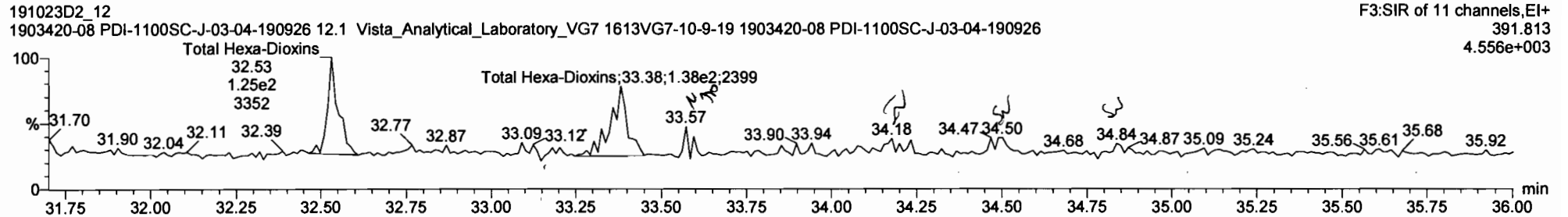
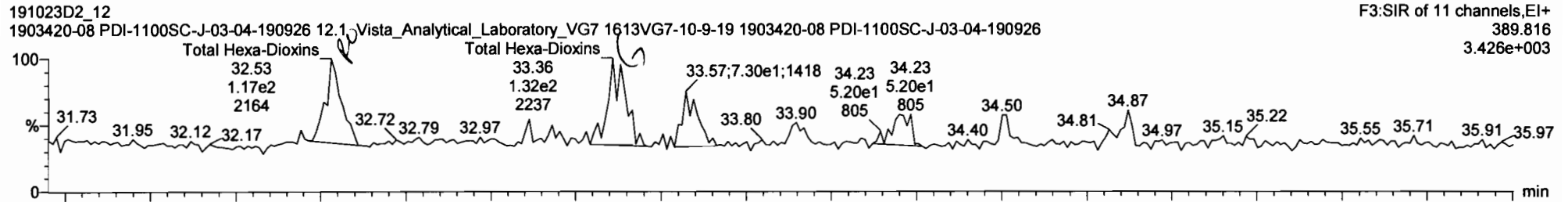
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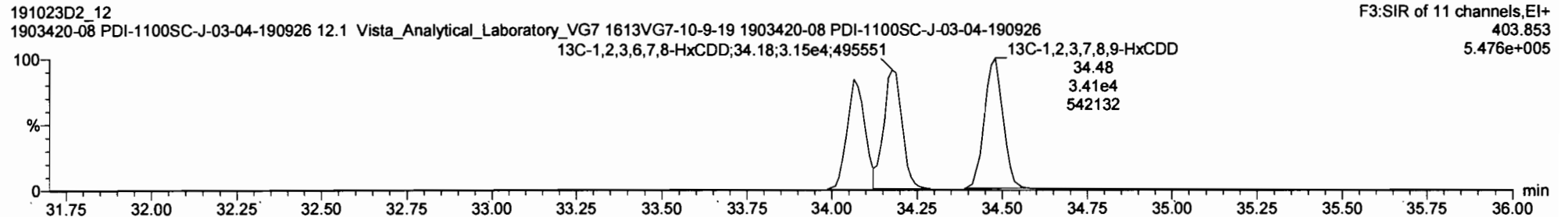
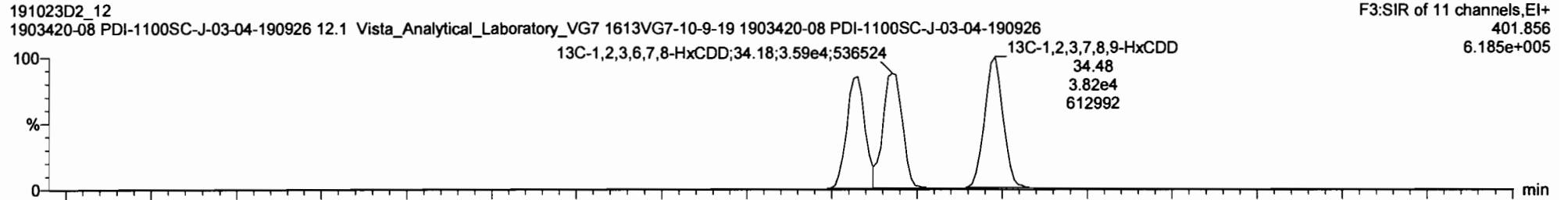
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Total Hexa-Dioxins



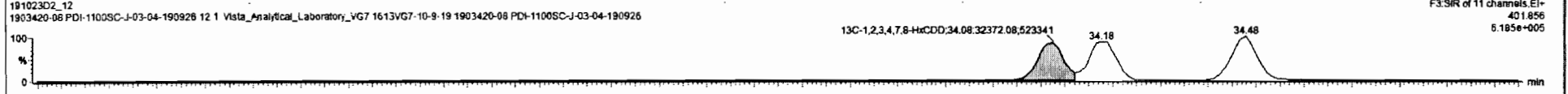
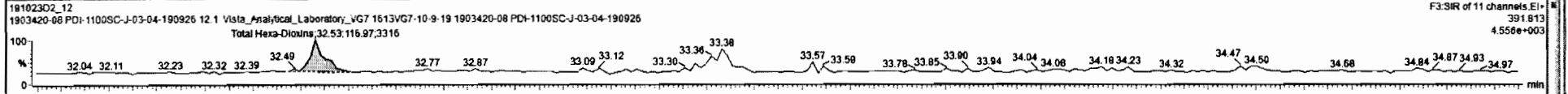
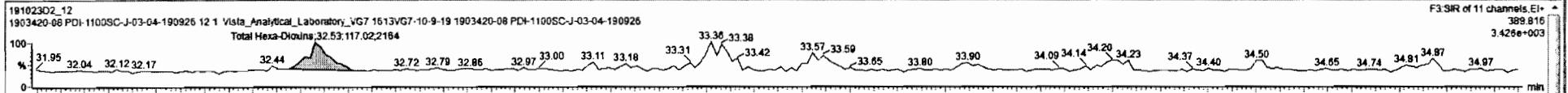
13C-1,2,3,4,7,8-HxCDD



19102302_12 - 1903420-08 PDI-1100SC-J-03-04-190926 - 1903420-08 PDI-1100SC-J-03-04-190926 12 1 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	Std	RA	nly	RRF	wt/val	Pred RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
37	13C-1,2,3,4-TCDF	1.75e5	1.75e5	37	0.80	NO	1.000	10.018	24.28	24.27	1.000	1.000	NO	199.6	100	0.412	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.018	33.55	33.58	1.000	1.000	NO	199.6	100	0.651	
39	Total Tetra-Dioxins	8.74e4					0.901	10.018	25.50			0.000	NO	0.0000		0.150	0.2912
40	Total Penta-Dioxins	6.32e4					0.872	10.018	30.00			0.000	NO			0.217	
41	Total Hexa-Dioxins	0.00e0					0.376	10.018	33.80			0.000	NO	0.0000		0.974	0.6501
42	Total Hepta-Dioxins	5.91e4					0.989	10.018	37.75			0.000	NO	4.044		0.306	8.590
43	Total Tetra-Furans	1.79e5					0.943	10.018	24.00			0.000	NO	0.2895		0.225	0.8875
44	1st Func. Penta-Furans	0.00e0					0.940	10.018	27.63			0.000	NO	0.4870		0.163	0.4870
45	Total Penta-Furans	0.00e0					0.940	10.018	30.00			0.000	NO	0.2758		0.199	0.5435

#	Name	Pred RT	RT	wt Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.53	1.170e2	1.170e2	1.240	1.00	YES	0.85013	0.00000



Ready 19102302_12 CAP NUM

Vista Analytical Laboratory

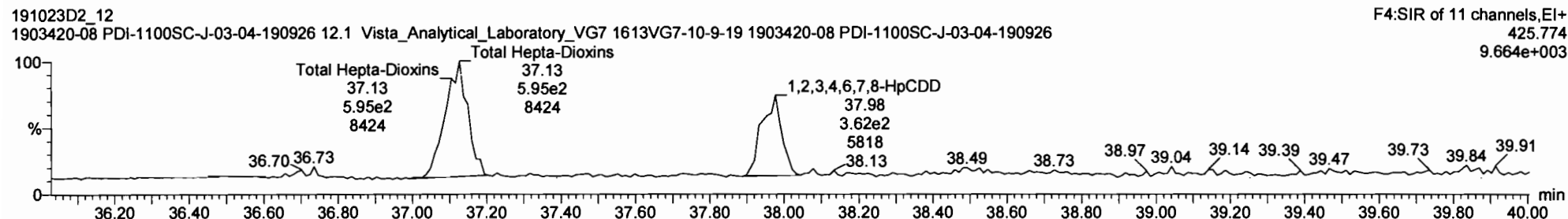
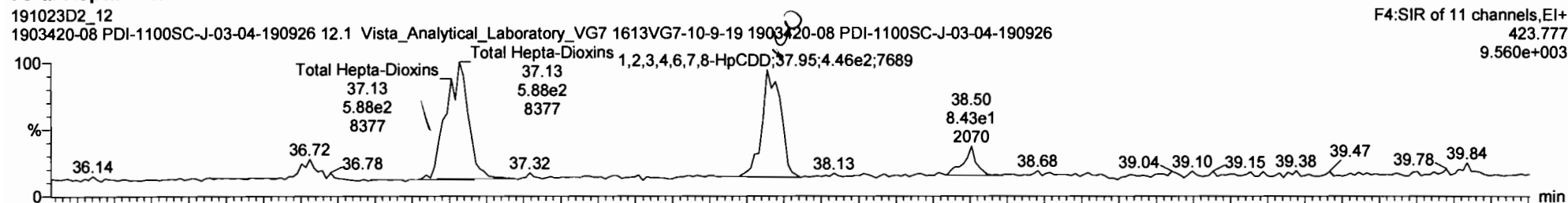
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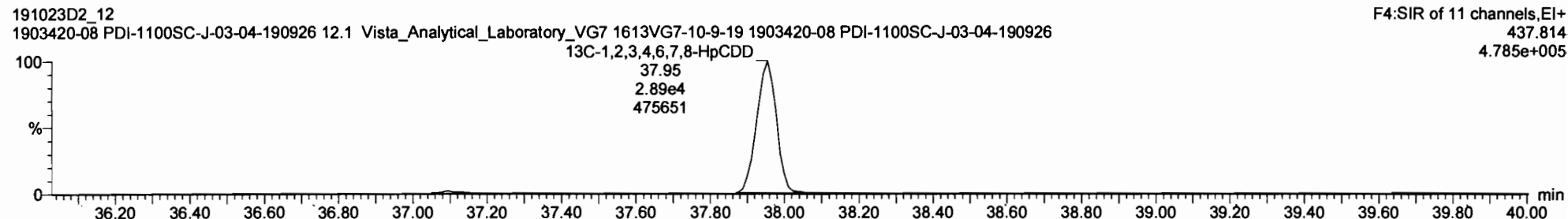
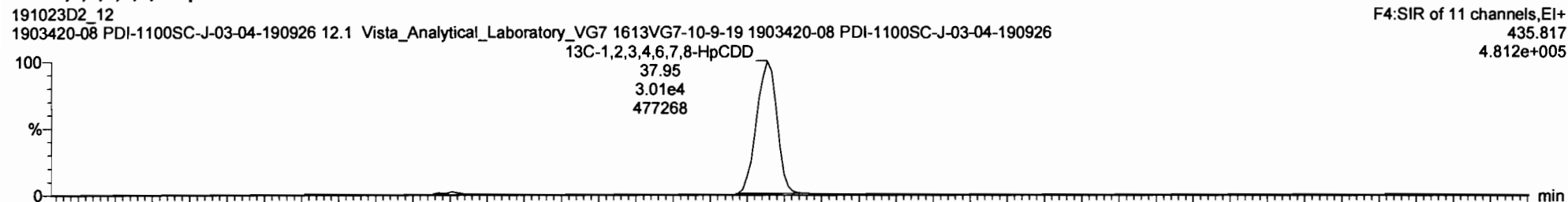
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 Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins

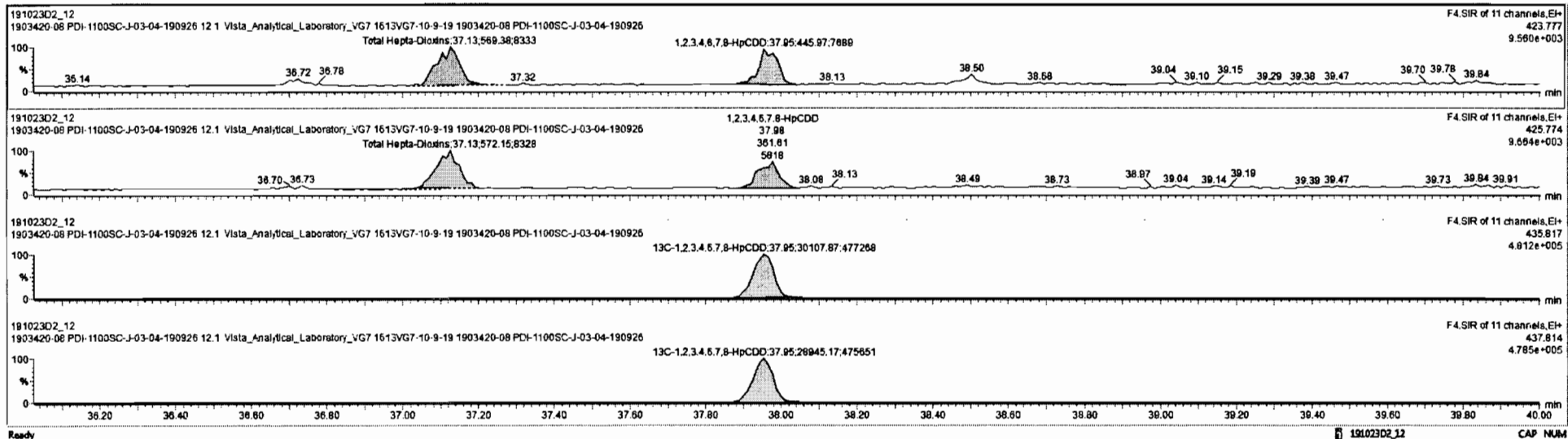


13C-1,2,3,4,6,7,8-HpCDD



#	Name	Resp	IS Resp	IS#	RA	n/y	RRF	wt/vol	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
37	13C-1,2,3,4-TCDF	1.75e5	1.75e5	37	0.80	NO	1.000	10.018	24.28	24.27	1.000	1.000	NO	199.6	100	0.412	
38	13C-1,2,3,4,6,8-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.018	33.55	33.58	1.000	1.000	NO	199.6	100	0.651	
39	Total Tetra-Dioxins		8.74e4				0.901	10.018	25.50			0.000	NO	0.0000		0.150	0.2912
40	Total Penta-Dioxins		6.32e4				0.872	10.018	30.00			0.000	NO				0.217
41	Total Hexa-Dioxins		0.00e0				0.978	10.018	33.80			0.000	NO	0.0000		0.174	0.6501
42	Total Hepta-Dioxins		5.91e4				0.989	10.018	37.75			0.000	NO	3.903		0.308	0.458
43	Total Tetra-Furans		1.29e5				0.943	10.018	24.00			0.000	NO	0.2895		0.225	0.8875
44	1st Func. Penta-Furans		0.00e0				0.940	10.018	27.63			0.000	NO	0.4870		0.163	0.4670
45	Total Penta-Furans		0.00e0				0.940	10.018	30.00			0.000	NO	0.2758		0.189	0.5435

#	Name	Pred RRT	RT	wt Resp	m2 Resp	Pred RA	RA	n/y	EMPC	Conc.
42	Total Hepta-Dioxins	37.75	37.13	5.684e2	5.722e2	1.040	1.00	NO	3.9033	3.9033
2	1,2,3,4,6,7,8-HpCDD	37.97	37.95	4.460e2	3.610e2	1.040	1.23	YES	2.5483	0.00000



Vista Analytical Laboratory

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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

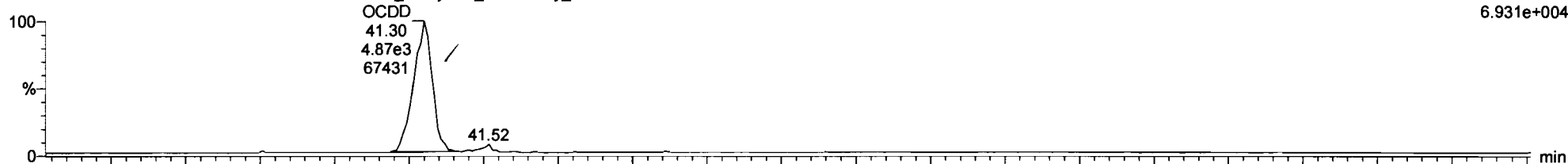
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Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

OCDD

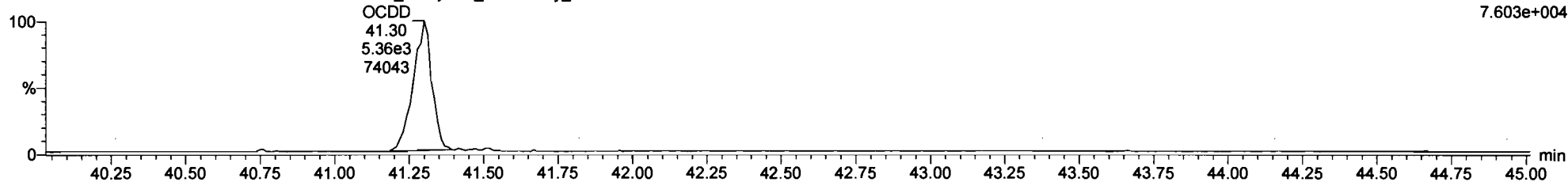
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F5:SIR of 11 channels, EI+
457.738
6.931e+004



191023D2_12
1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-08 PDI-1100SC-J-03-04-190926

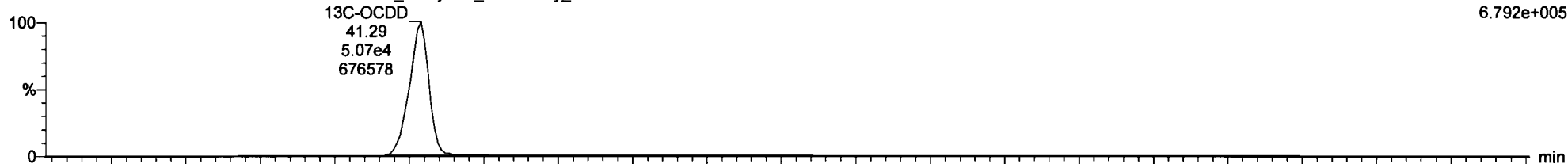
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13C-OCDD

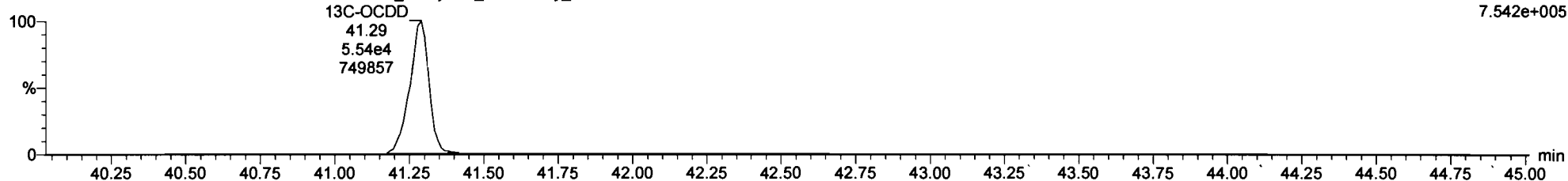
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F5:SIR of 11 channels, EI+
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191023D2_12
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F5:SIR of 11 channels, EI+
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Vista Analytical Laboratory

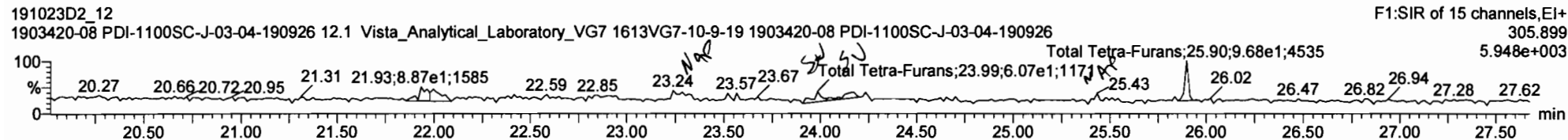
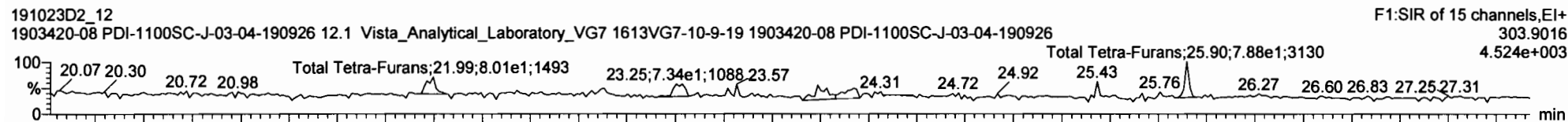
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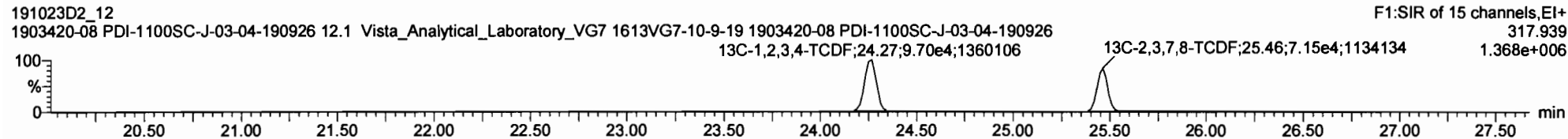
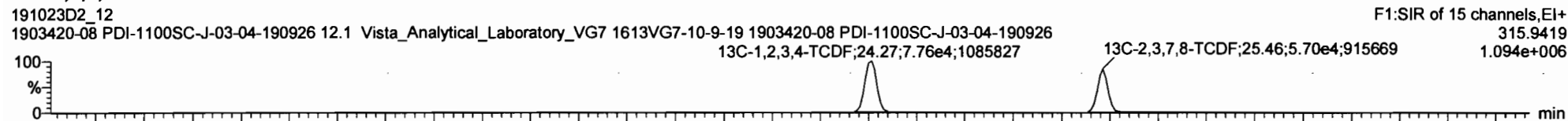
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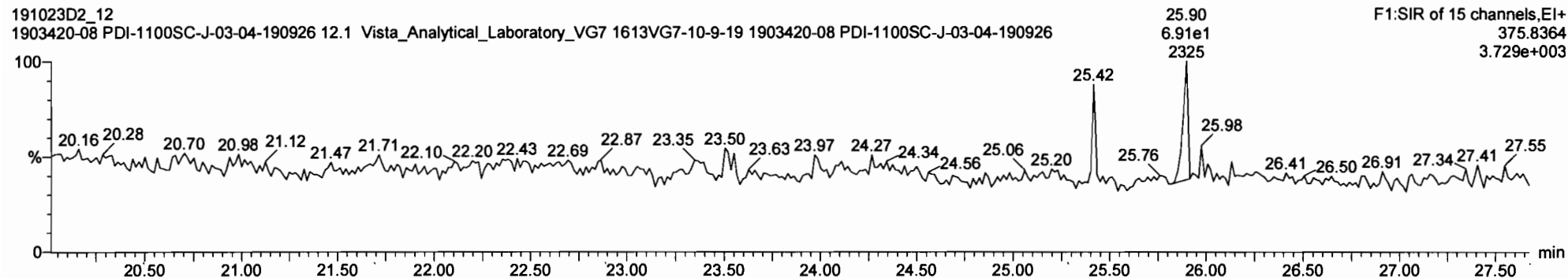
Total Tetra-Furans



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



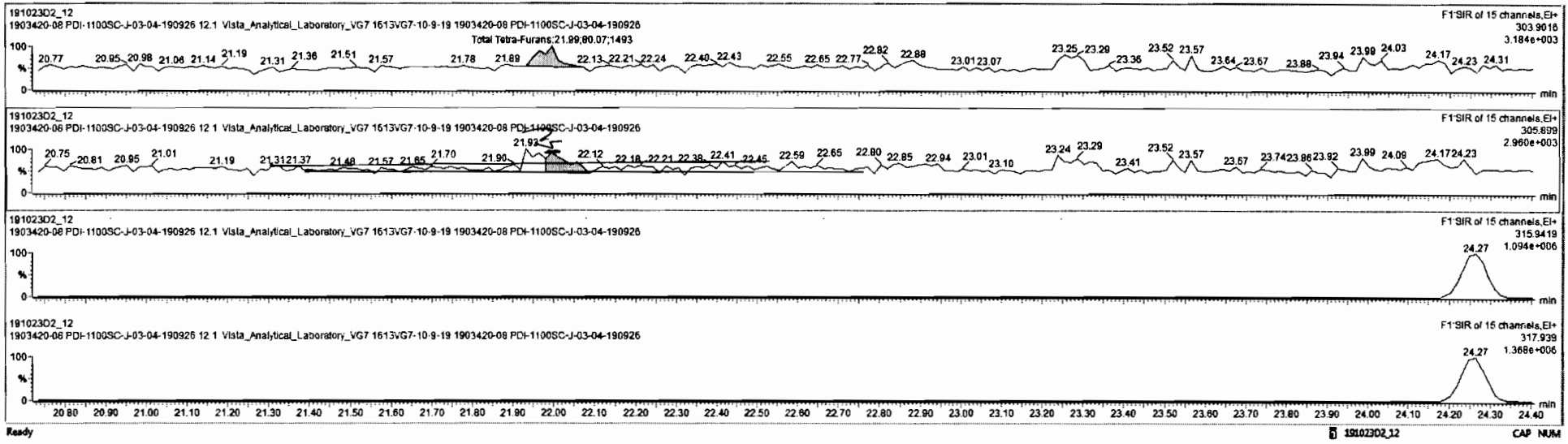
DPE1



19102302_12 - 1903420-08 PDI-1100SC-J-03-04-190926 - 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	Rely	RDF	wVal	Pred.RTY	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
37	13C-1,2,3,4-TCDF	1.75e5	1.75e5	37	0.60	NO	1.000	10.018	24.26	24.27	1.000	1.000	NO	199.6	100	0.412	
38	13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.018	33.55	33.58	1.000	1.000	NO	199.6	100	0.651	
39	Total Tetra-Dioxins		8.74e4				0.901	10.018	25.50			0.000	NO	0.0000		0.150	0.2912
40	Total Penta-Dioxins		6.32e4				0.872	10.018	30.90			0.000	NO	0.0000		0.217	
41	Total Hexa-Dioxins		0.00e0				0.976	10.018	33.60			0.000	NO	0.0000		0.174	0.6501
42	Total Hepta-Dioxins		5.91e4				0.989	10.018	37.75			0.000	NO	3.903		0.306	6.450
43	Total Tetra-Furans		1.29e5				0.843	10.018	24.00			0.000	NO	0.2821		0.228	0.5309
44	1st Func. Penta-Furans		0.00e0				0.940	10.018	27.63			0.000	NO	0.4870		0.163	0.4870
45	Total Penta-Furans		0.00e0				0.940	10.018	30.00			0.000	NO	0.2758		0.199	0.5435

#	Name	Pred.RTY	RT	rel Resp	rel Resp	Pred RA	RA	Rely	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	21.99	0.007e1	0.495e1	0.770	0.94	YES	0.24778	0.00000
2	43 Total Tetra-Furans	24.00	25.90	7.895e1	9.844e1	0.770	0.80	NO	0.28214	0.28214



Ready 19102302_12 CAP NUM

Vista Analytical Laboratory

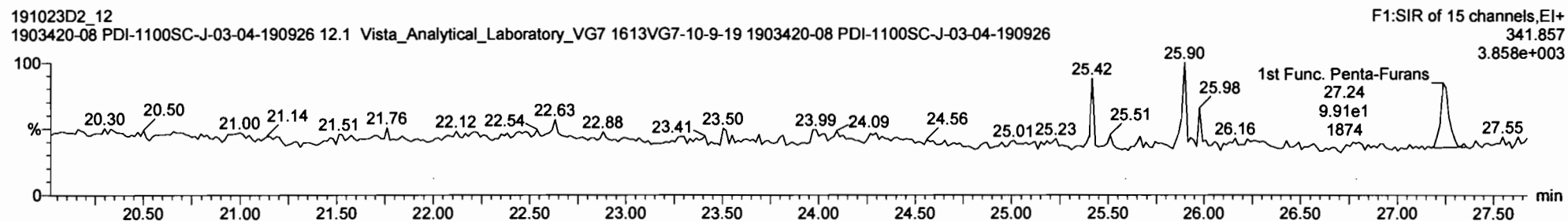
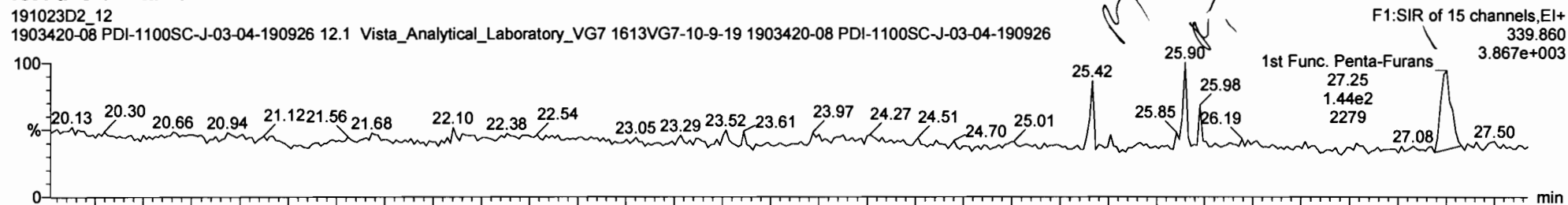
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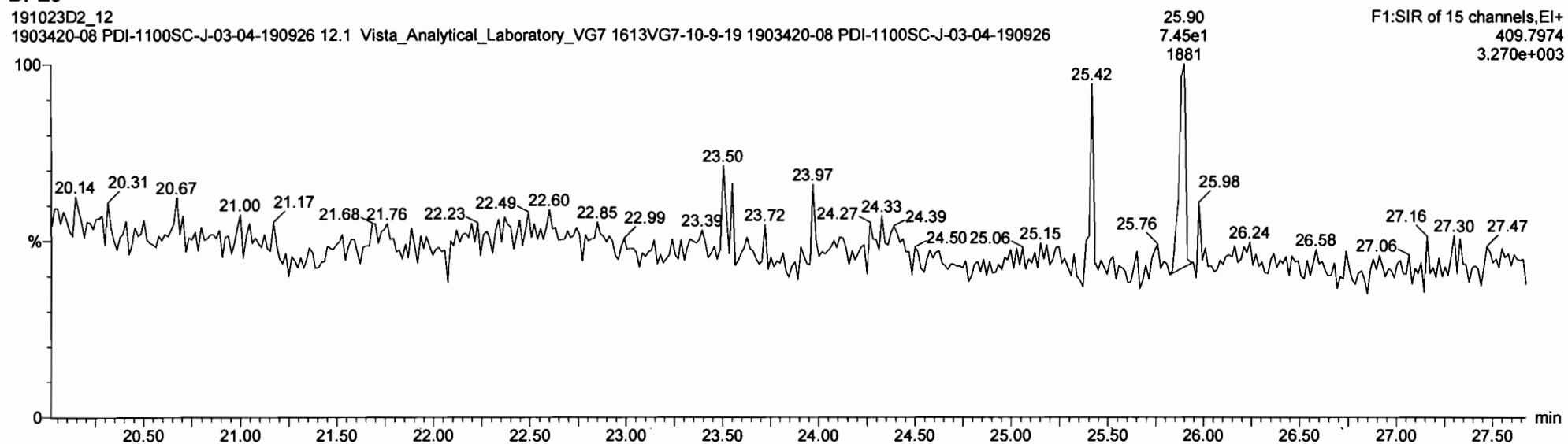
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Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

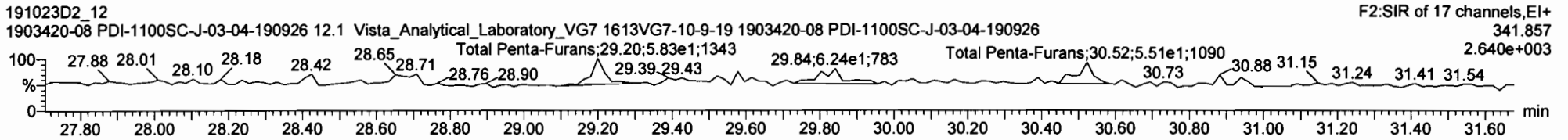
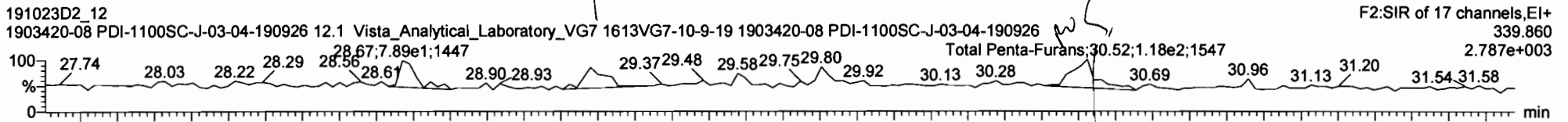


DPE6

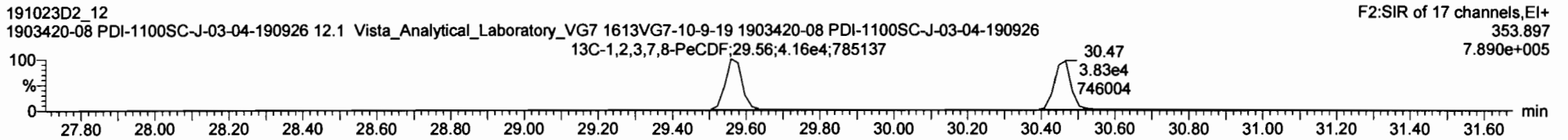
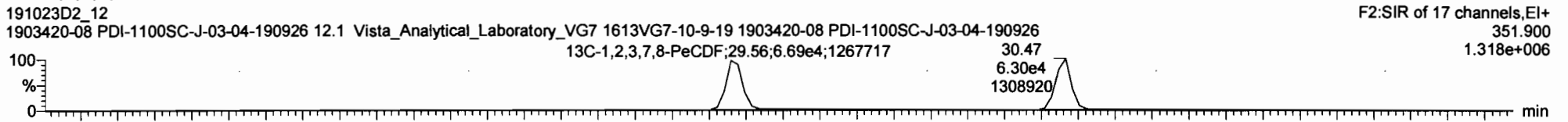


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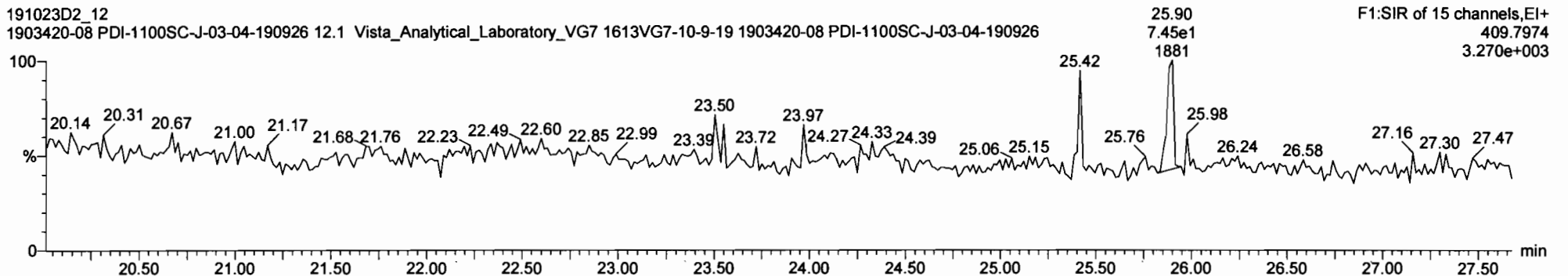
Total Penta-Furans



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



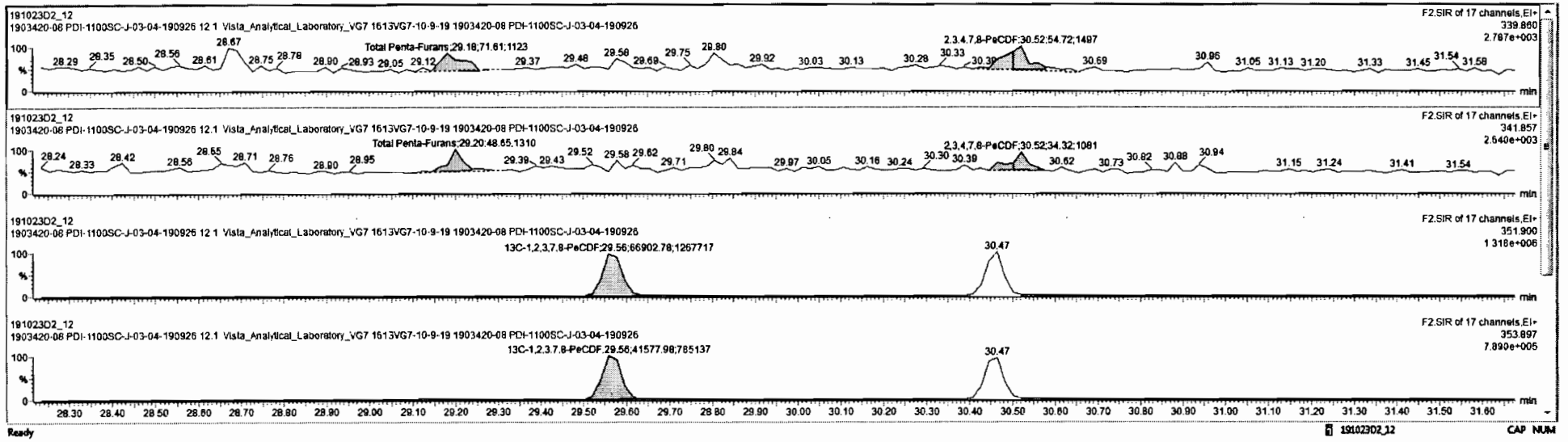
DPE2



191023D2_12 - 1903420-08 PDI-1100SC-J-03-04-190926 - 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	nly	RF	wt/vol	Pred RT	RT	RST	Pred RST	Check RST	Conc.	%Rec	DL	EMPC
37	13C-1,2,3,4-TCDF	1.75e6	1.75e6	37	0.80	NO	1.000	10.018	24.28	24.27	1.000	1.000	NO	199.6	100	0.412	
38	13C-1,2,3,4,6,9-HxCDF	1.27e6	1.27e6	38	0.51	NO	1.000	10.018	33.95	33.98	1.000	1.000	NO	199.6	100	0.651	
39	Total Tetra-Dioxins		8.74e4					0.901	10.018	25.50		0.000	NO	0.0000		0.150	0.2912
40	Total Penta-Dioxins		6.32e4					0.872	10.018	30.00		0.000	NO	0.0000		0.217	
41	Total Hexa-Dioxins		0.00e0					0.976	10.018	33.80		0.000	NO	0.0000		0.174	0.6501
42	Total Hepta-Dioxins		5.91e4					0.989	10.018	37.75		0.000	NO	3.903		0.306	8.450
43	Total Tetra-Furans		1.29e5					0.943	10.018	24.00		0.000	NO	0.2921		0.226	0.2921
44	1st Func. Penta-Furans		0.00e0					0.940	10.018	27.63		0.000	NO	0.4870		0.163	0.4870
45	Total Penta-Furans		0.00e0					0.940	10.018	30.00		0.000	NO	4.4100		0.180	0.5112

#	Name	Pred RT	RT	wt Resp	wt2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	29.18	7.161e1	4.865e1	1.550	1.47	NO	0.24127	0.24127
2	45 Total Penta-Furans	30.00	30.50	4.097e1	1.964e1	1.550	2.08	YES	0.10045	0.00000
3	10 2,3,4,7,8-PeCDF	30.50	30.52	5.472e1	3.432e1	1.550	1.59	NO	0.16951	0.16951



Vista Analytical Laboratory

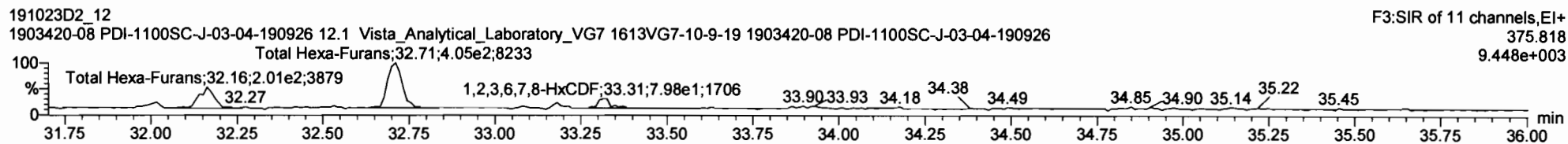
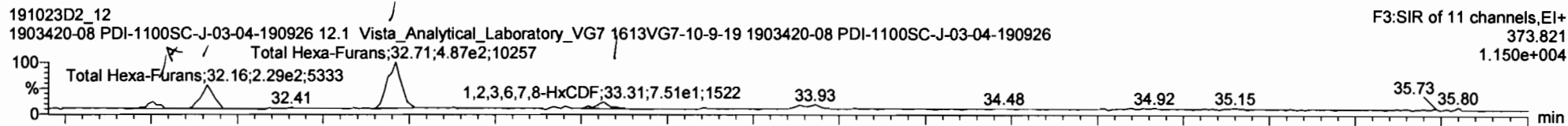
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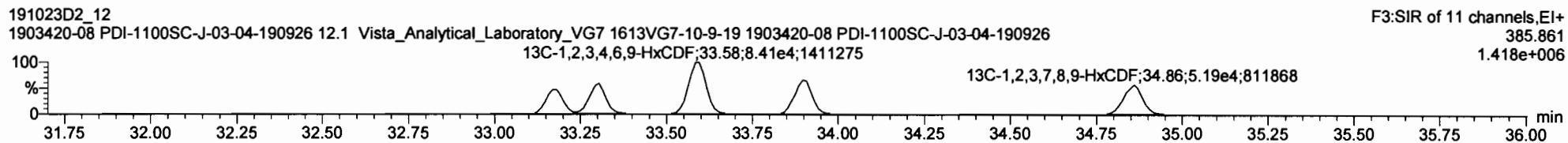
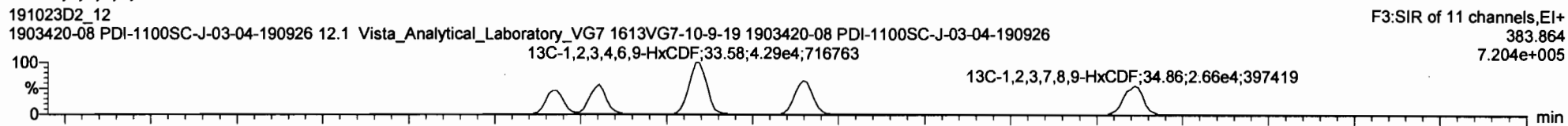
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Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926, Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

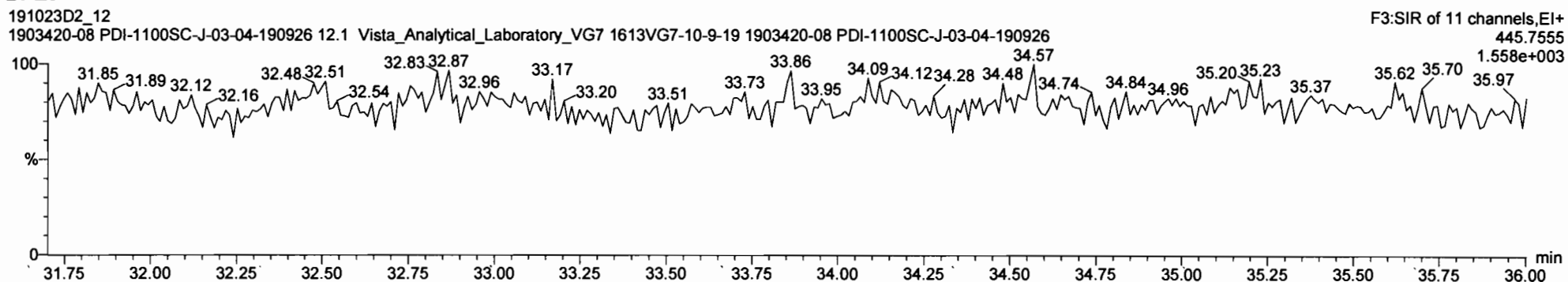
Total Hexa-Furans



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

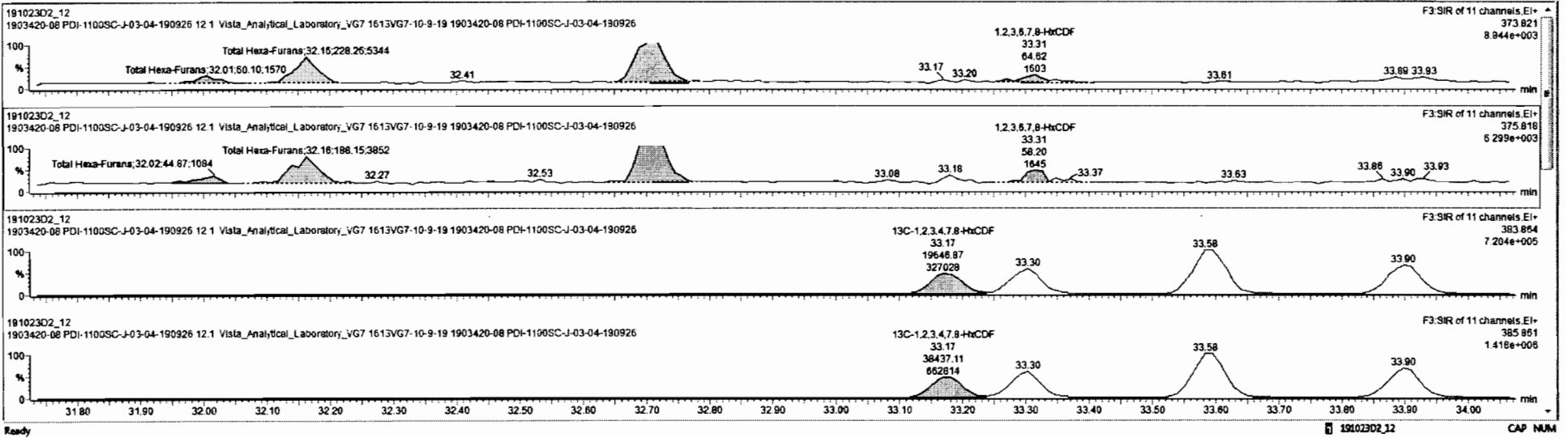


DPE3



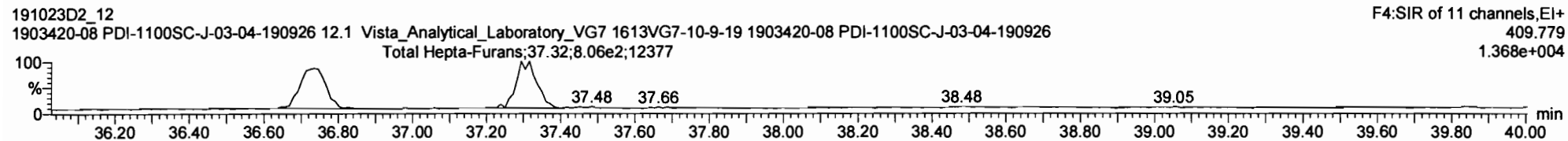
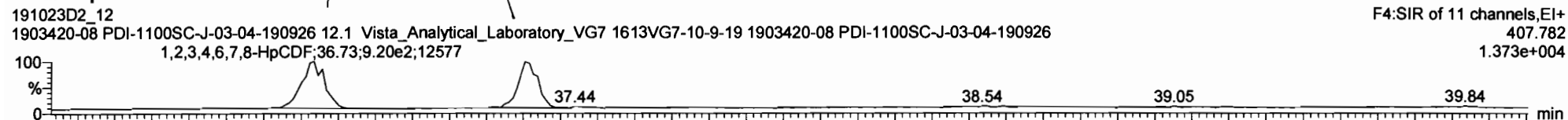
#	Name	Resp	IS Resp	IS	RA	nly	RRF	w/wt	Prod RT	RT	RRT	Prod RRT	Check RRT	Conc.	%Rec	DL	EMPC
37	37 13C-1,2,3,4-TCDF	1.75e5	1.75e5	37	0.80	NO	1.000	10.018	24.28	24.27	1.000	1.000	NO	199.6	100	0.412	
38	38 13C-1,2,3,4,6,9-HxCDF	1.27e5	1.27e5	38	0.51	NO	1.000	10.018	33.55	33.58	1.000	1.000	NO	199.6	100	0.851	
39	39 Total Tetra-Dioxins		8.74e4				0.901	10.018	25.50			0.000	NO	0.0000		0.150	0.2912
40	40 Total Penta-Dioxins		8.32e4				0.872	10.018	30.00			0.000	NO			0.217	
41	41 Total Hexa-Dioxins		0.90e0				0.978	10.018	33.80			0.000	NO	0.0000		0.174	0.6501
42	42 Total Hepta-Dioxins		5.91e4				0.959	10.018	37.75			0.000	NO	3.903		0.306	6.450
43	43 Total Tetra-Furans		1.79e5				0.943	10.018	24.00			0.000	NO	0.2921		0.225	0.2921
44	44 1st Func. Penta-Furans		0.90e0				0.940	10.018	27.63			0.000	NO	0.4870		0.163	0.4870
45	45 Total Penta-Furans		0.90e0				0.940	10.018	30.00			0.000	NO	0.4108		0.189	0.5112

#	Name	Prod RT	RT	m1 Resp	m2 Resp	Prod RA	RA	nly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.01	6.010e1	4.487e1	1.240	1.34	NO	0.26677	0.26677
2	46 Total Hexa-Furans	33.00	32.16	2.283e2	1.881e2	1.240	1.21	NO	1.0962	1.0862
3	46 Total Hexa-Furans	33.00	32.71	5.074e2	3.996e2	1.240	1.27	NO	2.3224	2.3224
4	12 1,2,3,6,7,8-HxCDF	33.31	33.31	6.462e1	5.820e1	1.240	1.11	NO	0.33341	0.33341

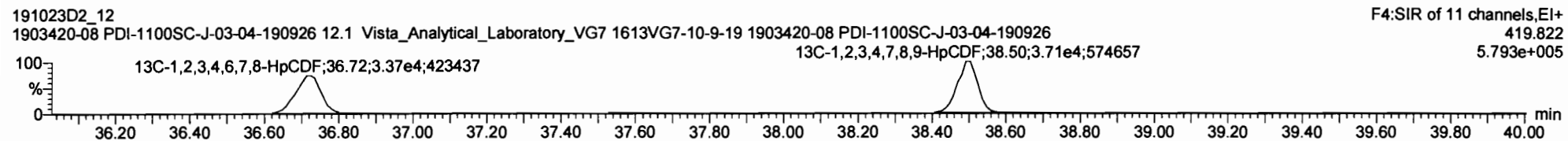
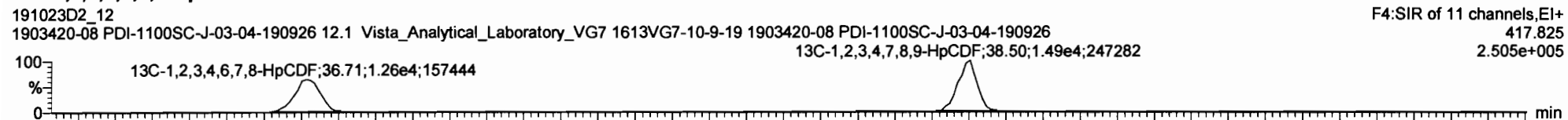


Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

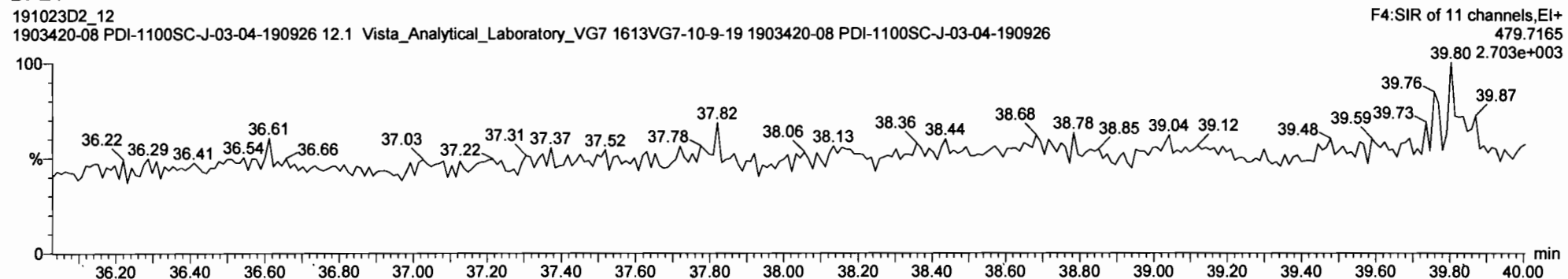
Total Hepta-Furans



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



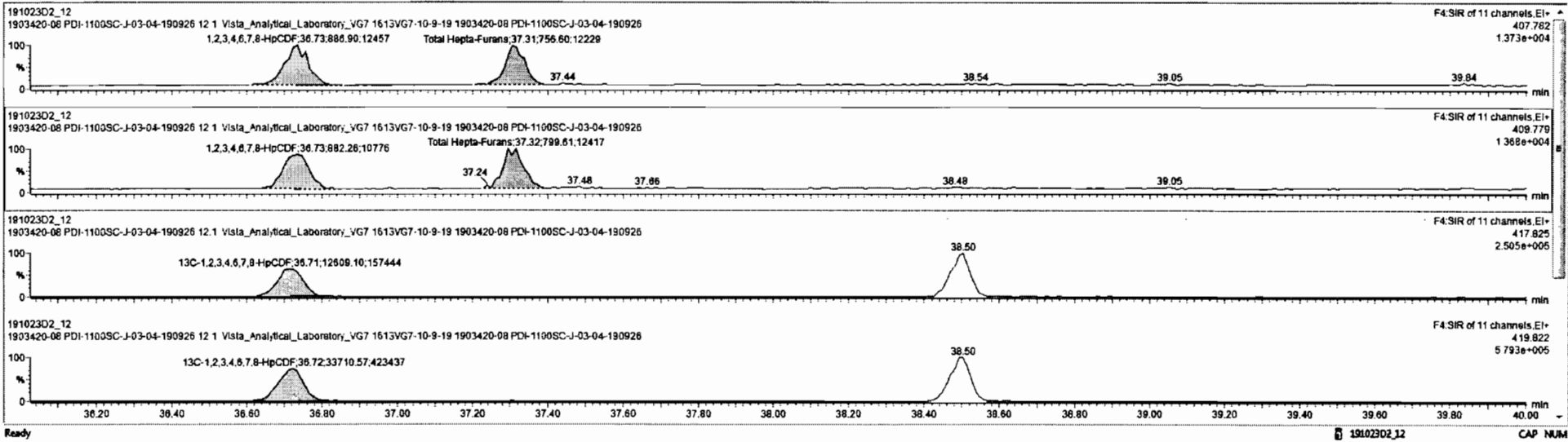
DPE4



191023D2_12 - 1903420_08 PDI-1100SC-J-03-04-190926 - 1903420_08 PDI-1100SC-J-03-04-190926 12.1 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	SP	RA	nly	RSP	wVel	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
47	Total Hepta-Furans		0.85e0				1.135	10.010	37.75			0.600	NO	12.33		8.302	12.53
48	PFK1																
49	PFK2																
50	PFK3																
51	PFK4																
52	PFK5																
53	DPE1																
54	DPE2																
55	DPE3																

#	Name	Pred.RT	RT	nt Resp	nt2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	1,2,3,4,6,7,8-HpCDF	36.75	36.73	8.869e2	8.823e2	1.040	1.01	NO	6.7623	6.7623
2	Total Hepta-Furans	37.75	37.31	7.566e2	7.996e2	1.040	0.95	NO	5.5708	5.5708



Vista Analytical Laboratory

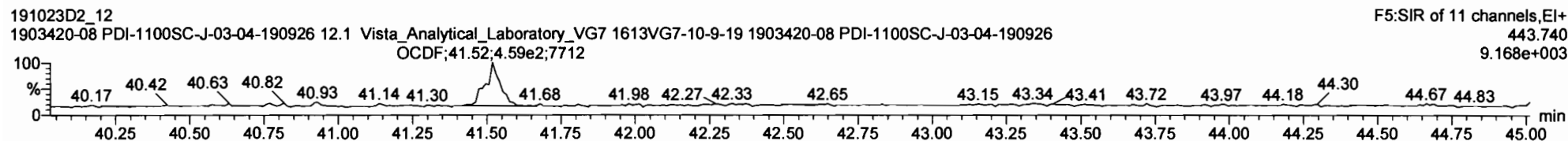
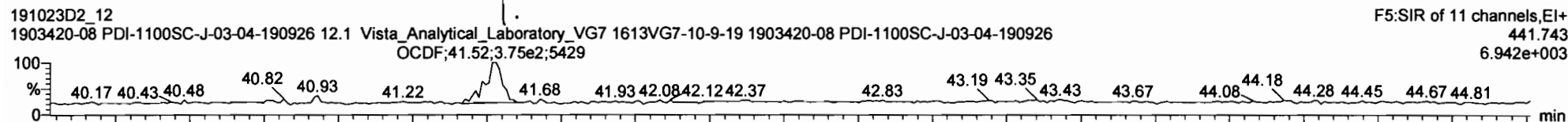
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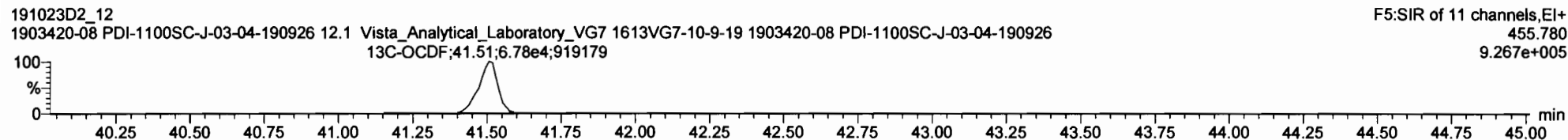
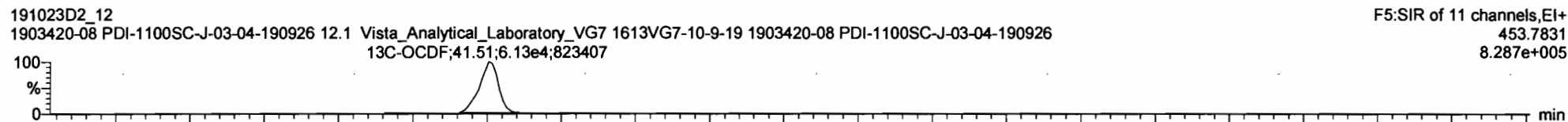
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Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926, Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

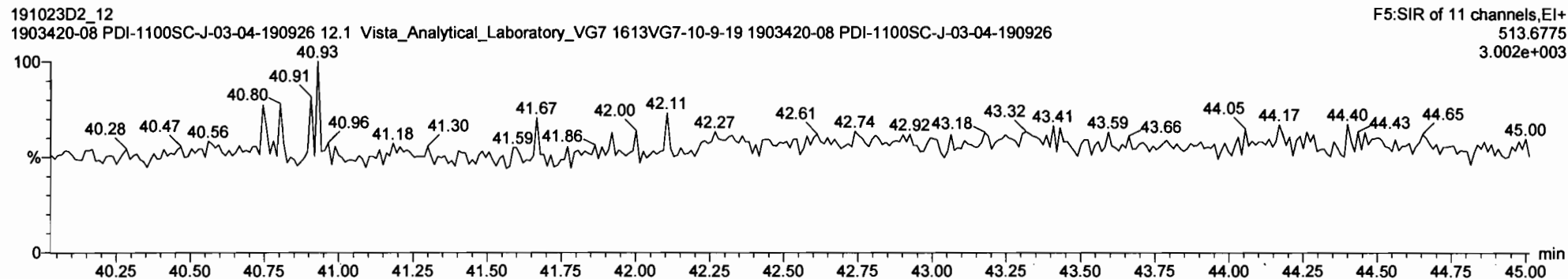
OCDF



13C-OCDF



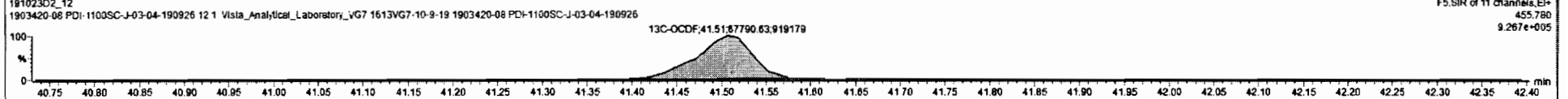
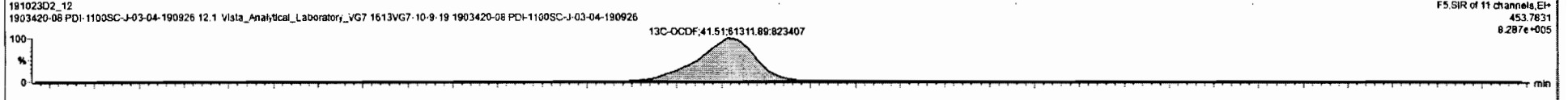
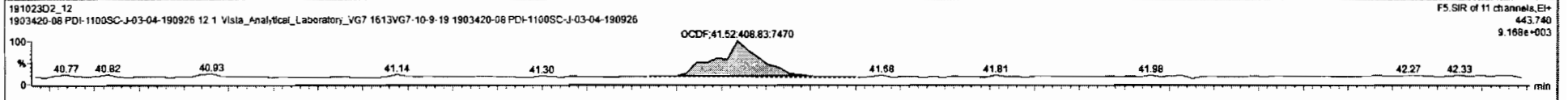
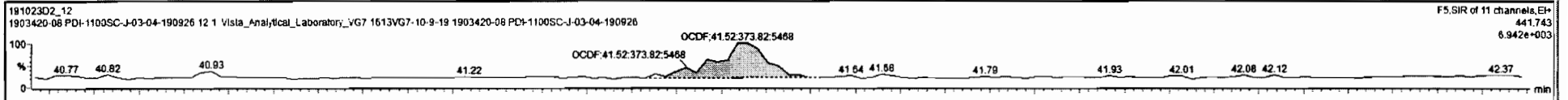
DPE5



191023D2_12 - 1903420-08 PDI-1100SC-J-03-04-190926 - 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	w/wet	Prod.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
17	OCDF	7.83e2	1.28e2	34	0.91	NO	0.947	10.018	41.51	41.52	1.006	1.000	NO	2.536	8.834	2.558	
18	13C-2,3,7,8-TCDD	8.74e4	1.08e5	36	0.81	NO	1.095	10.018	26.22	26.24	1.022	1.021	NO	147.3	73.8	0.374	
19	13C-1,2,3,7,8-PeCDD	6.32e4	1.08e5	36	0.60	NO	0.881	10.018	30.47	30.73	1.197	1.187	NO	132.4	66.3	0.287	
20	13C-1,2,3,4,7,8-HxCDD	5.99e4	1.27e5	38	1.18	NO	0.642	10.018	34.05	34.08	1.015	1.014	NO	146.7	73.5	0.529	
21	13C-1,2,3,6,7,8-HxCDD	6.74e4	1.27e5	38	1.14	NO	0.858	10.018	34.17	34.18	1.018	1.017	NO	123.8	62.0	0.397	
22	13C-1,2,3,7,8,9-HxCDD	7.23e4	1.27e5	38	1.12	NO	0.807	10.018	34.47	34.48	1.027	1.026	NO	140.8	70.5	0.421	
23	13C-1,2,3,4,6,7,8-HpCDD	5.91e4	1.27e5	38	1.04	NO	0.654	10.018	37.82	37.95	1.130	1.128	NO	142.0	71.1	0.708	
24	13C-OCDD	1.06e5	1.27e5	38	0.91	NO	0.580	10.018	41.18	41.29	1.229	1.226	NO	267.8	72.1	0.780	
25	13C-2,3,7,8-TCDF	1.29e5	1.75e5	37	0.80	NO	1.035	10.018	25.51	25.48	0.992	0.993	NO	142.0	71.1	0.396	

#	Name	Pred.RT	RT	n1 Resp	n2 Resp	Pred.RA	RA	nly	EMPC	Conc.
1										



Vista Analytical Laboratory

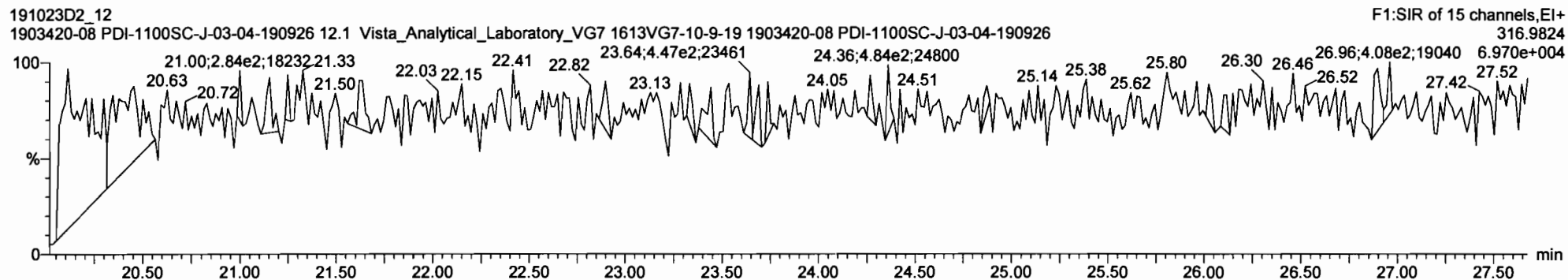
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Last Altered: Monday, November 04, 2019 17:44:33 Pacific Standard Time

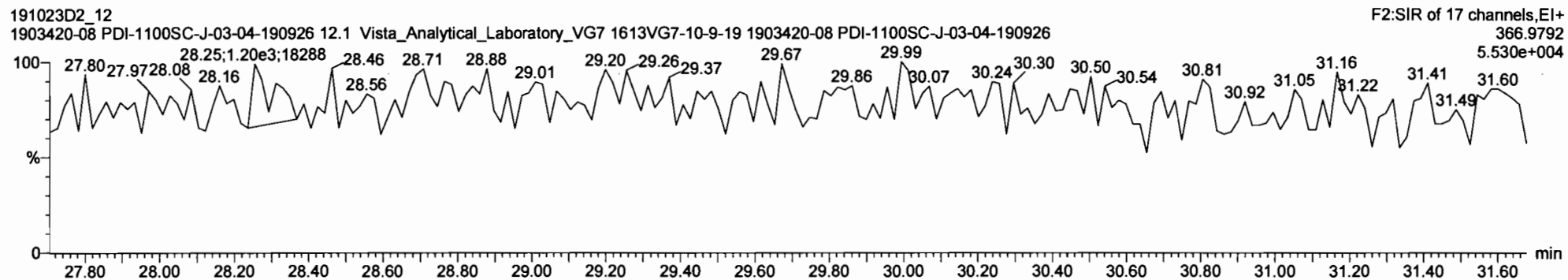
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Name: VG7 191023D2_12, Date: 24-OCT-2019, Time: 10:18:24, ID: 1903420-08 PDI-1100SC-J-03-04-190926,
Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

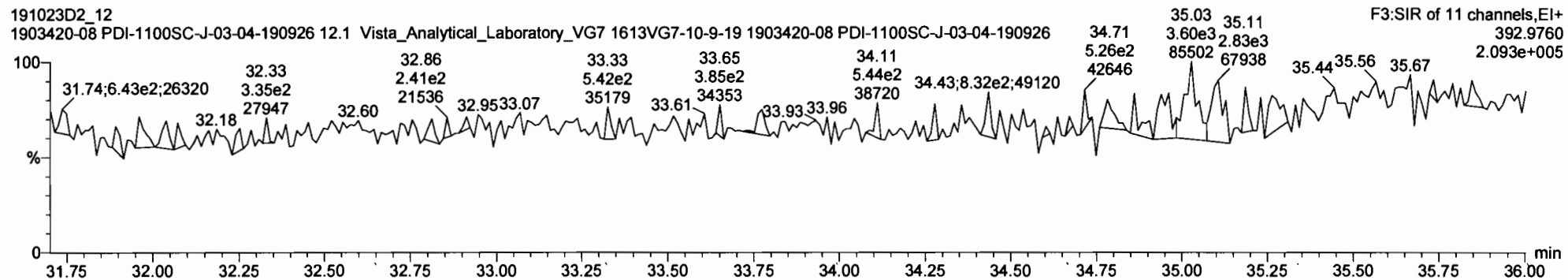
PFK1



PFK2



PFK3



Vista Analytical Laboratory

Dataset: Untitled

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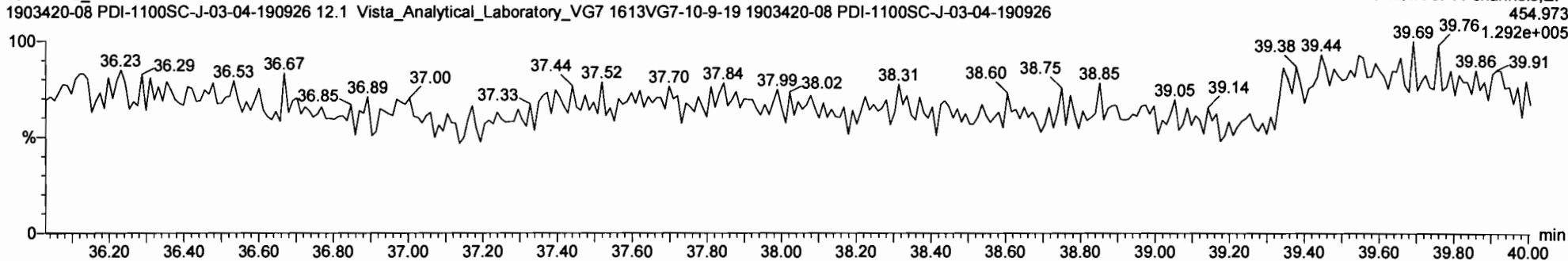
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Description: 1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4

191023D2_12
1903420-08 PDI-1100SC-J-03-04-190926 12.1 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-08 PDI-1100SC-J-03-04-190926

F4:SIR of 11 channels,EI+

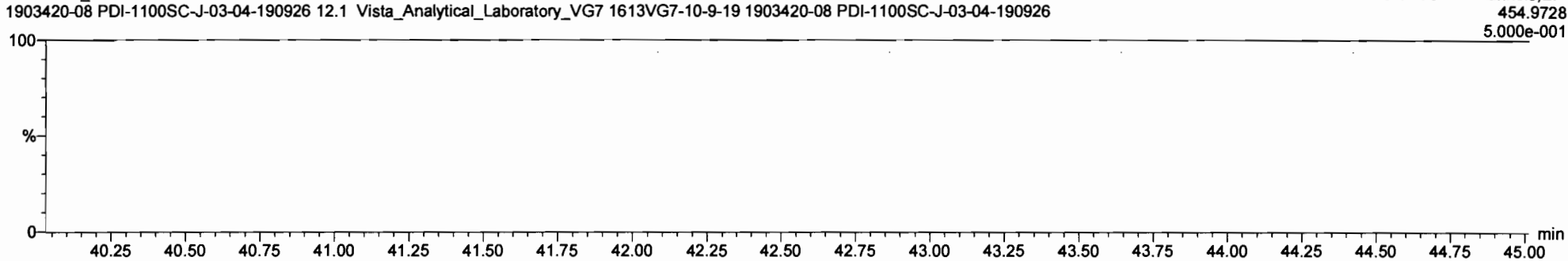


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PFK5

191023D2_12
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F5:SIR of 11 channels,EI+



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Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld
Last Altered: Tuesday, November 05, 2019 15:20:45 Pacific Standard Time
Printed: Tuesday, November 05, 2019 15:21:37 Pacific Standard Time

Handwritten notes: Hc 11.5.19 CT 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57
Calibration: 05-Nov-2019 14:59:03

Name: VG7 191023D2_13, Date: 24-OCT-2019, Time: 11:06:20, ID: 1903420-09 PDI-101SC-J-01-02-190926,
Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Table with 15 columns: Name, Concentration, and various numerical values. Rows include compounds like 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, etc.

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld

Last Altered: Tuesday, November 05, 2019 15:20:45 Pacific Standard Time

Printed: Tuesday, November 05, 2019 15:21:37 Pacific Standard Time

Name: VG7 191023D2_13, Date: 24-OCT-2019, Time: 11:06:20, ID: 1903420-09 PDI-101SC-J-01-02-190926,
 Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	4.67e4	1.22e5	10.0476	0.757	0.428	NO	1.093	1.094	36.73	36.75	100.59	50.5	0.814
33	13C-1,2,3,4,7,8,9-H...	5.87e4	1.22e5	10.0476	0.581	0.407	NO	1.143	1.145	38.42	38.50	164.86	82.8	1.06
34	13C-OCDF	1.21e5	1.22e5	10.0476	0.689	0.888	NO	1.233	1.235	41.44	41.51	285.79	71.8	0.650
35	37Cl-2,3,7,8-TCDD	3.43e4	1.02e5	10.0476	1.198			1.022	1.022	26.26	26.27	55.752	70.0	0.0888
36	13C-1,2,3,4-TCDD	1.02e5	1.02e5	10.0476	1.000	0.775	NO	1.000	1.000	25.70	25.69	199.05	100.0	0.359
37	13C-1,2,3,4-TCDF	1.54e5	1.54e5	10.0476	1.000	0.798	NO	1.000	1.000	24.28	24.26	199.05	100.0	0.440
38	13C-1,2,3,4,6,9-Hx...	1.22e5	1.22e5	10.0476	1.000	0.503	NO	1.000	1.000	33.55	33.61	199.05	100.0	0.621
39	Total Tetra-Dioxins		8.57e4	10.0476	0.901			0.000		25.50		5.6319	6.92	0.318
40	Total Penta-Dioxins		5.20e4	10.0476	0.872			0.000		30.00		5.5684	8.49	0.428
41	Total Hexa-Dioxins		0.00e0	10.0476	0.976			0.000		33.80		44.061	51.5	0.851
42	Total Hepta-Dioxins		6.45e4	10.0476	0.989			0.000		37.75		340.95	341	0.963
43	Total Tetra-Furans		1.21e5	10.0476	0.943			0.000		24.00		34.154	38.9	0.396
44	1st Func. Penta-Fur...		0.00e0	10.0476	0.940			0.000		27.63		3.0185	3.02	0.133
45	Total Penta-Furans		0.00e0	10.0476	0.940			0.000		30.00		16.224	32.7	0.271
46	Total Hexa-Furans		0.00e0	10.0476	1.078			0.000		33.00		46.513	46.9	0.449
47	Total Hepta-Furans		0.00e0	10.0476	1.135			0.000		37.75		72.801	73.3	0.471

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld

Last Altered: Tuesday, November 05, 2019 15:20:45 Pacific Standard Time

Printed: Tuesday, November 05, 2019 15:21:37 Pacific Standard Time

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Calibration: 05 Nov 2019 14:59:03

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Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

39	Total Tetra-Dioxins	NO	26.55	45.236	37132.492	2.511	MM	0.2774	0.28
1	2,3,7,8-TCDD	NO	26.27	115.181	37132.492	6.427	MM	0.7065	0.71
39	Total Tetra-Dioxins	NO	26.04	701.271	37132.492	35.775	MM	3.9522	3.95
39	Total Tetra-Dioxins	YES	24.79	91.550	37132.492	0.000	bb	0.0000	0.34
39	Total Tetra-Dioxins	NO	24.61	56.314	37132.492	3.286	MM	0.3630	0.36
39	Total Tetra-Dioxins	NO	23.27	58.755	37132.492	3.012	MM	0.3327	0.33
39	Total Tetra-Dioxins	YES	22.91	158.540	37132.492	0.000	bb	0.0000	0.94

Penta-Dioxins

2	1,2,3,7,8-PeCDD	NO	30.77	70.716	20407.445	7.622	bb	0.8404	0.84
40	Total Penta-Dioxins	YES	30.39	66.069	20407.445	0.000	MM	0.0000	0.53
40	Total Penta-Dioxins	NO	30.10	96.310	20407.445	9.859	MM	1.1250	1.12
40	Total Penta-Dioxins	YES	29.86	67.705	20407.445	0.000	db	0.0000	0.66
40	Total Penta-Dioxins	YES	29.76	56.108	20407.445	0.000	bd	0.0000	0.64
40	Total Penta-Dioxins	YES	29.16	51.177	20407.445	0.000	MM	0.0000	0.58
40	Total Penta-Dioxins	NO	28.74	317.723	20407.445	31.576	bb	3.6031	3.60
40	Total Penta-Dioxins	YES	31.13	24.388	20407.445	0.000	MM	0.0000	0.28
40	Total Penta-Dioxins	YES	30.84	20.250	20407.445	0.000	MM	0.0000	0.23

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld

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 Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Hexa-Dioxins

5	1,2,3,7,8,9-HxCDD	YES	34.51	388.574	40270.113	0.000	db	0.0000	2.01
41	Total Hexa-Dioxins	NO	34.45	193.400	36204.755	10.411	MM	1.0618	1.06
4	1,2,3,6,7,8-HxCDD	YES	34.23	840.841	37995.273	0.000	MM	0.0000	4.69
3	1,2,3,4,7,8-HxCDD	NO	34.10	119.003	30348.879	7.740	MM	0.6994	0.70
41	Total Hexa-Dioxins	YES	33.54	161.242	36204.755	0.000	MM	0.0000	0.77
41	Total Hexa-Dioxins	NO	33.38	3473.801	36204.755	190.009	bd	19.3780	19.38
41	Total Hexa-Dioxins	NO	33.12	478.996	36204.755	26.472	bb	2.6997	2.70
41	Total Hexa-Dioxins	NO	32.55	3492.585	36204.755	198.283	MM	20.2217	20.22

Hepta-Dioxins

6	1,2,3,4,6,7,8-HpCDD	NO	37.97	25418.615	33028.352	1553.138	bb	157.8296	157.83
42	Total Hepta-Dioxins	NO	37.12	29443.408	33028.352	1819.081	bb	183.1159	183.12

Tetra-Furans

43	Total Tetra-Furans	YES	24.19	551.631	53458.715	0.000	dd	0.0000	2.22
43	Total Tetra-Furans	NO	22.93	220.932	53458.715	8.314	MM	0.8776	0.88
43	Total Tetra-Furans	YES	27.25	647.022	53458.715	0.000	bb	0.0000	1.73
43	Total Tetra-Furans	NO	26.05	67.060	53458.715	2.561	MM	0.2704	0.27
43	Total Tetra-Furans	NO	25.80	318.534	53458.715	11.472	MM	1.2111	1.21
8	2,3,7,8-TCDF	NO	25.49	3258.785	53458.715	122.755	db	12.8590	12.86
43	Total Tetra-Furans	NO	25.38	739.198	53458.715	27.839	MM	2.9388	2.94
43	Total Tetra-Furans	YES	25.10	100.696	53458.715	0.000	bb	0.0000	0.31
43	Total Tetra-Furans	NO	24.95	162.407	53458.715	6.294	MM	0.6644	0.66
43	Total Tetra-Furans	NO	24.70	2771.449	53458.715	107.923	MM	11.3929	11.39
43	Total Tetra-Furans	NO	24.26	1024.295	53458.715	37.325	db	3.9402	3.94
43	Total Tetra-Furans	NO	25.34	122.507	53458.715	0.000	MM	0.0000	0.48

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld

Last Altered: Tuesday, November 05, 2019 15:20:45 Pacific Standard Time

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 Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans function 1

44	1st Func. Penta-Furans	NO	27.25	724.236	52210.978	28.497	bb	3.0185	3.02
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Penta-Furans

45	Total Penta-Furans	YES	28.69	1346.968	52210.978	0.000	MM	0.0000	4.68
45	Total Penta-Furans	YES	28.56	187.420	52210.978	0.000	MM	0.0000	0.64
10	2,3,4,7,8-PeCDF	NO	30.48	1186.370	49259.789	49.715	MM	4.8758	4.88
45	Total Penta-Furans	NO	29.84	1199.788	52210.978	45.057	bb	4.7726	4.77
9	1,2,3,7,8-PeCDF	YES	29.59	3424.245	55162.168	0.000	bb	0.0000	10.78
45	Total Penta-Furans	NO	29.42	319.662	52210.978	12.360	bb	1.3092	1.31
45	Total Penta-Furans	NO	29.20	670.995	52210.978	25.399	bb	2.6904	2.69
45	Total Penta-Furans	NO	30.50	663.232	52210.978	24.318	MM	2.5759	2.58
45	Total Penta-Furans	YES	28.78	124.235	52210.978	0.000	MM	0.0000	0.37

Hexa-Furans

14	1,2,3,7,8,9-HxCDF	NO	34.90	148.382	27844.277	6.564	MM	0.6154	0.62
13	2,3,4,6,7,8-HxCDF	NO	33.92	554.661	28603.867	22.822	MM	2.0397	2.04
12	1,2,3,6,7,8-HxCDF	NO	33.33	888.689	21061.984	53.852	db	5.0142	5.01
11	1,2,3,4,7,8-HxCDF	NO	33.19	3319.857	20384.211	212.257	MM	17.9514	17.95
46	Total Hexa-Furans	NO	33.08	96.168	24473.585	5.131	MM	0.4739	0.47
46	Total Hexa-Furans	NO	32.72	2711.823	24473.585	136.360	bb	12.5942	12.59
46	Total Hexa-Furans	NO	32.22	1266.938	24473.585	64.429	db	5.9506	5.95
46	Total Hexa-Furans	YES	32.12	83.412	24473.585	0.000	bd	0.0000	0.39
46	Total Hexa-Furans	NO	34.92	417.468	24473.585	20.288	MM	1.8738	1.87

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191023D2\191023D2-13.qld

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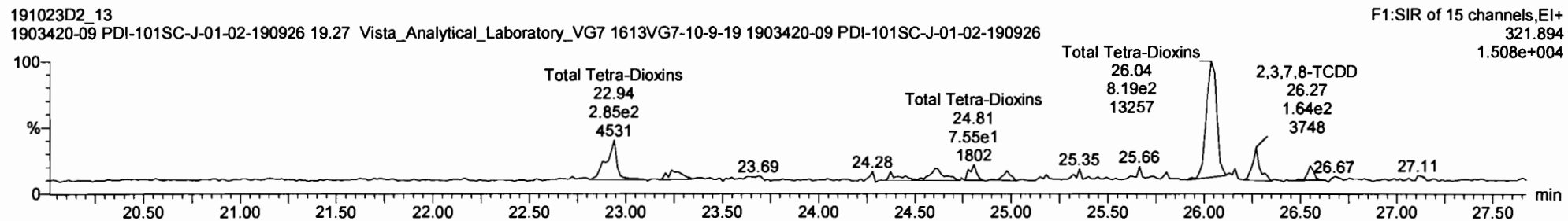
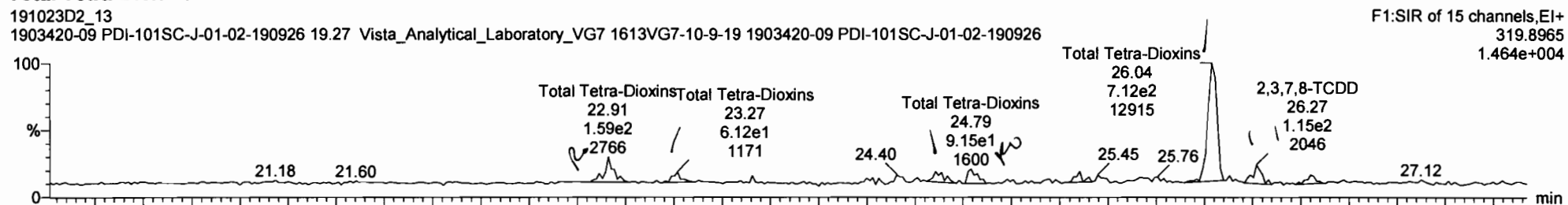
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Hepta-Furans

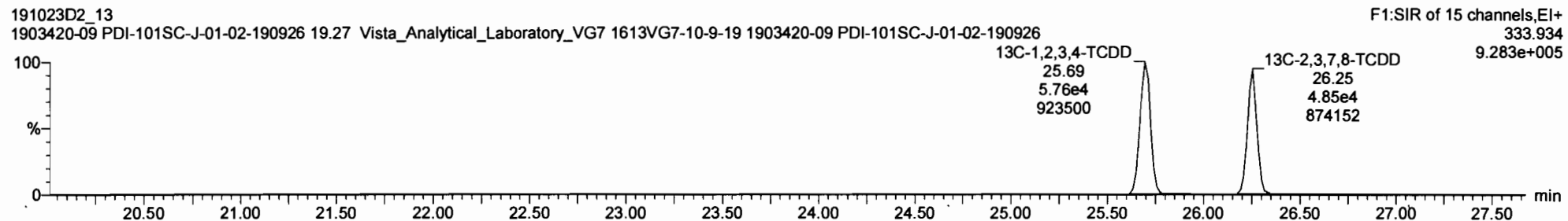
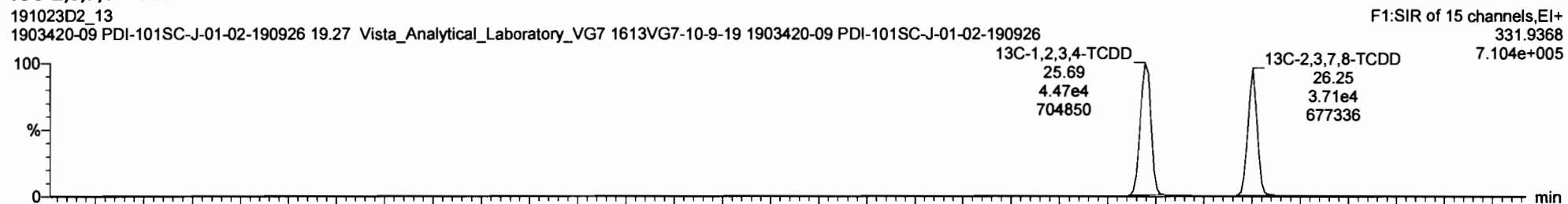
16	1,2,3,4,7,8,9-HpCDF	NO	38.51	631.578	16967.943	41.158	MM	3.2005	3.20
47	Total Hepta-Furans	NO	37.32	7377.822	15478.168	542.528	MM	47.5860	47.59
47	Total Hepta-Furans	YES	37.14	69.234	15478.168	0.000	bb	0.0000	0.45
15	1,2,3,4,6,7,8-HpCDF	NO	36.75	2825.752	13988.393	249.416	MM	22.0144	22.01

Name: VG7 191023D2_13, Date: 24-OCT-2019, Time: 11:06:20, ID: 1903420-09 PDI-101SC-J-01-02-190926,
 Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



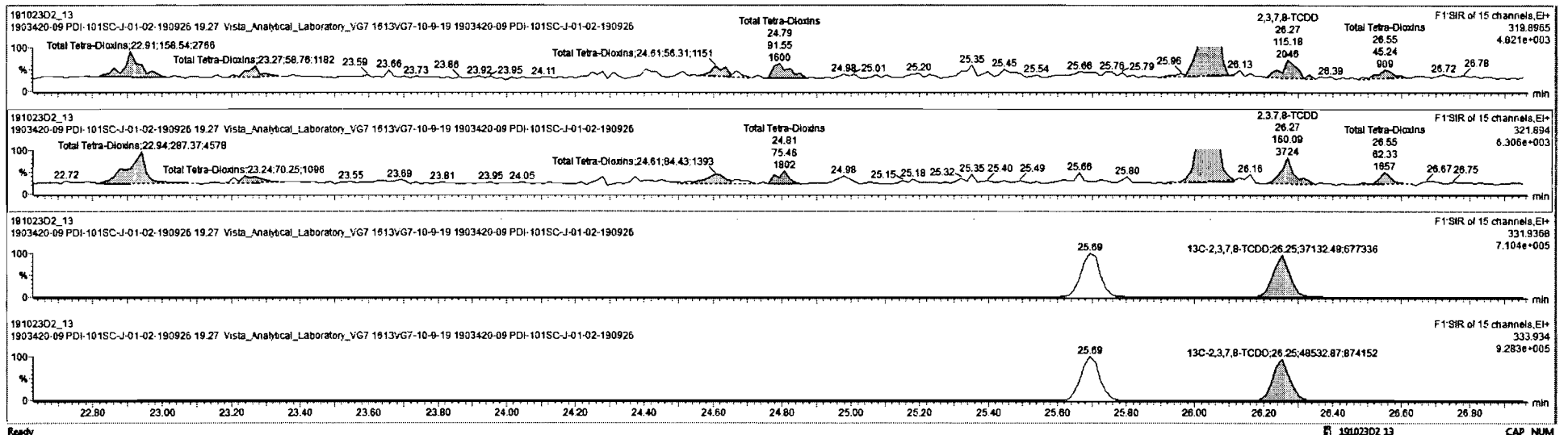
13C-2,3,7,8-TCDD



191023D2_13 - 1903420_09 PDI-101SC-J-01-02-190926 - 1903420_09 PDI-101SC-J-01-02-190926 19:27 Vista Analytical Laboratory_VG7 1613VG7-10 9.19

#	Name	Resp	IS Resp	ISA	RA	adj	RRF	w/vol	Prod.RT	RT	RRT	Prod.RRT	Check RRT	Conc.	%Rec	DL	EMPC
36	13C-1,2,3,4-TCDD	1.02e5	1.02e5	36	0.78	NO	1.000	10.048	25.70	25.89	1.000	1.000	NO	199.1	100	0.359	
37	13C-1,2,3,4-TCDF	1.54e5	1.54e5	37	0.80	NO	1.000	10.048	24.28	24.28	1.000	1.000	NO	199.1	100	0.440	
38	13C-1,2,3,4,6,9-HxCDF	1.22e5	1.22e5	38	0.50	NO	1.000	10.048	33.55	33.61	1.000	1.000	NO	199.1	100	0.621	
39	Total Tetra-Dioxins		6.87e4				0.901	10.048	25.89			0.000	NO	5.832		0.318	0.898
40	Total Penta-Dioxins		5.20e4				0.872	10.048	30.00			0.000	NO	5.669		0.428	9.940
41	Total Hexa-Dioxins		0.00e0				0.976	10.048	33.80			0.000	NO	42.74		0.851	51.21
42	Total Hepta-Dioxins		6.45e4				0.989	10.048	37.75			0.000	NO	340.9		0.963	340.9
43	Total Tetra-Furans		1.21e5				0.943	10.048	24.00			0.000	NO	37.56		0.396	41.52
44	1st Func. Penta-Furans		0.00e0				0.940	10.048	27.63			0.000	NO	3.018		0.133	3.018

#	Name	Prod.RT	RT	int Resp	int Resp	Prod RA	RA	adj	EMPC	Conc.
1	39 Total Tetra-Dioxins	25.50	22.91	1.585e2	2.874e2	0.770	0.55	YES	0.93696	0.00000
2	39 Total Tetra-Dioxins	25.50	23.27	5.876e1	7.025e1	0.770	0.84	NO	0.33273	0.33273
3	39 Total Tetra-Dioxins	25.50	24.81	5.631e1	8.443e1	0.770	0.87	NO	0.38300	0.36300
4	39 Total Tetra-Dioxins	25.50	24.79	9.155e1	7.546e1	0.770	1.21	YES	0.34448	0.00000
5	39 Total Tetra-Dioxins	25.50	26.04	7.013e2	8.311e2	0.770	0.84	NO	3.9522	3.9522
6	1 2,3,7,8-TCDD	26.29	26.27	1.162e2	1.601e2	0.770	0.72	NO	0.70654	0.70654
7	39 Total Tetra-Dioxins	25.50	26.55	4.524e1	6.733e1	0.770	0.73	NO	0.27744	0.27744



Vista Analytical Laboratory

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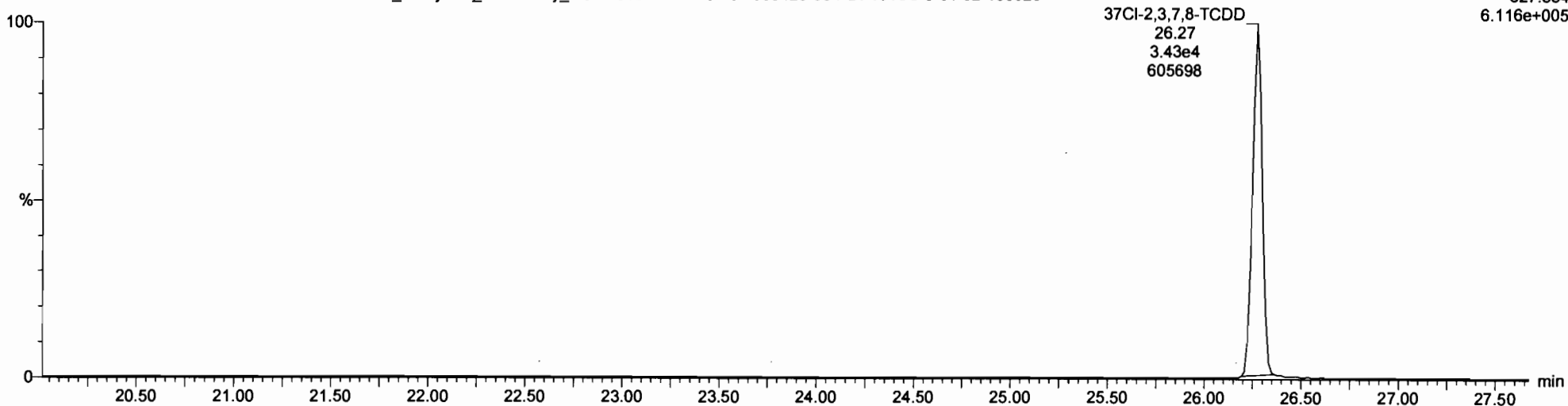
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 Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

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

191023D2_13
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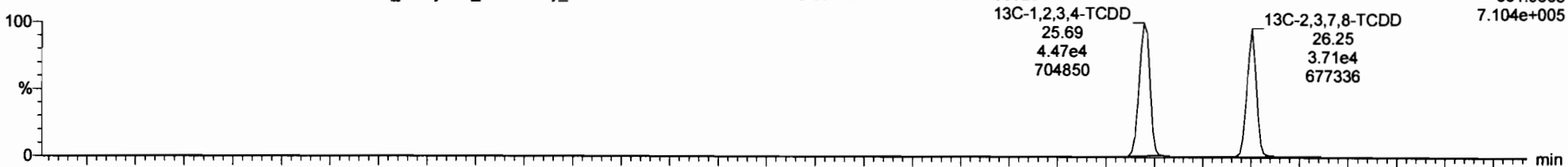
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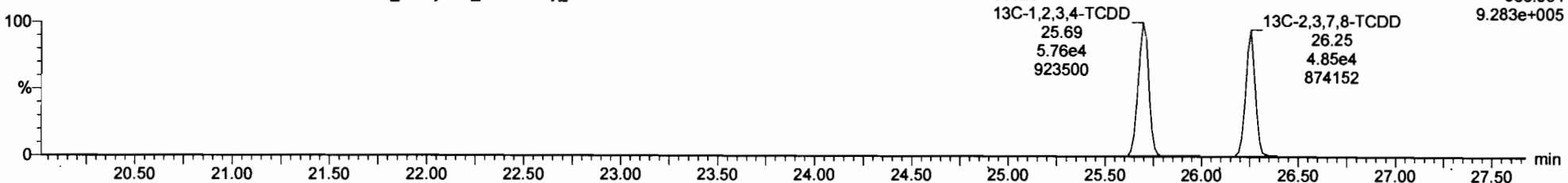
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F1:SIR of 15 channels,EI+
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 7.104e+005



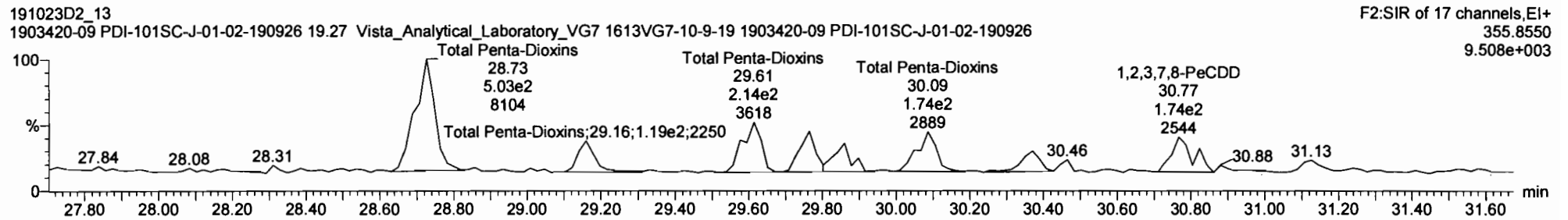
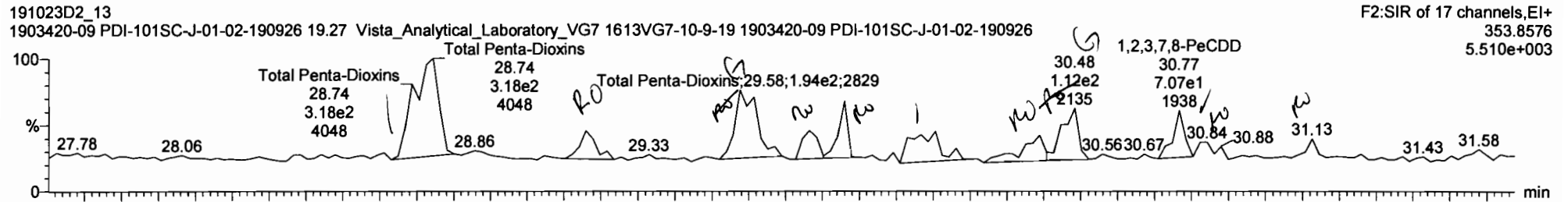
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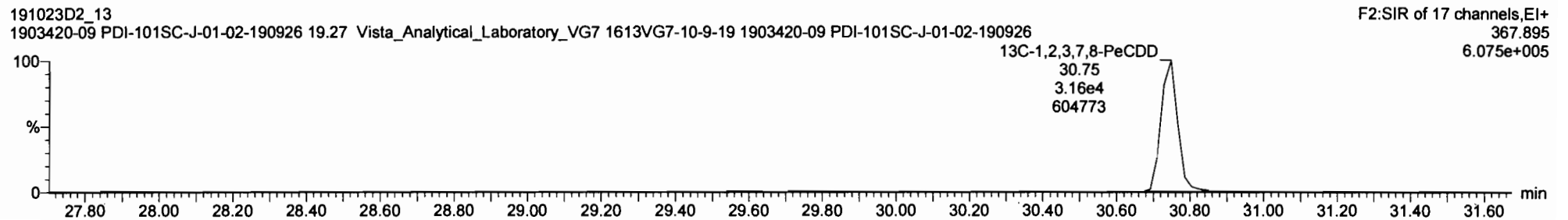
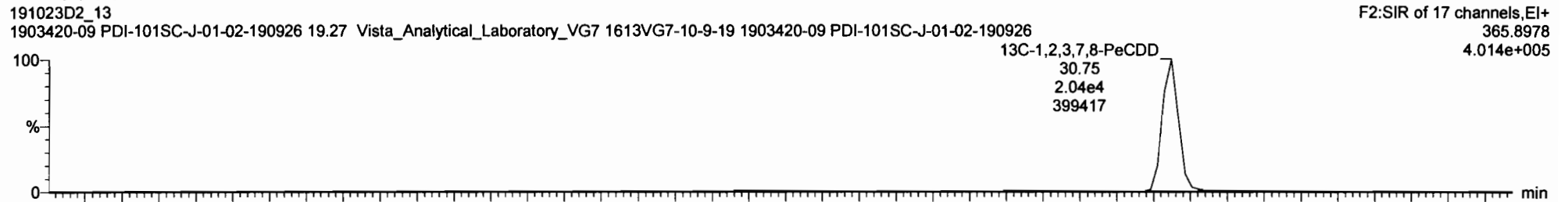


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Total Penta-Dioxins



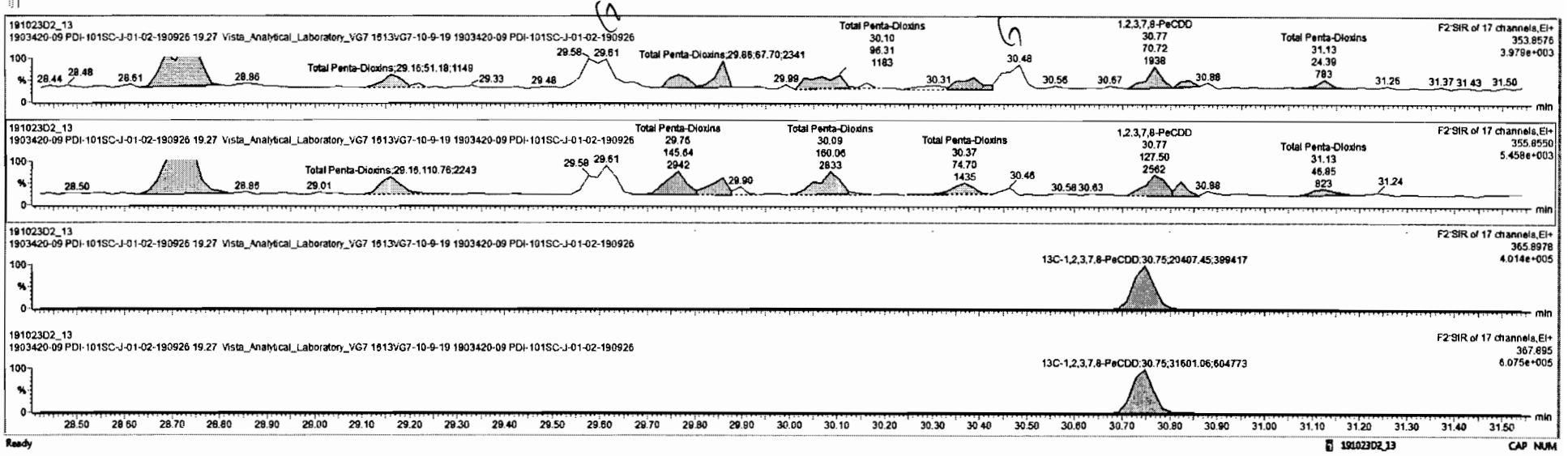
13C-1,2,3,7,8-PeCDD



191023D2_13 - 1903420 09 PDI-101SC-J-01-02-190926 - 1903420 09 PDI-101SC-J-01-02-190926 19 27 Vista_Analytical_Laboratory_VG7 1613VG7-10 9 19

#	Name	Resp	IS Resp	IS	RA	inly	RF	w/val	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
36	36 13C-1,2,3,4-TCDD	1.02e5	1.02e5	36	0.78	NO	1.000	10.048	25.70	25.89	1.000	1.000	NO	199.1	100	0.359	
37	37 13C-1,2,3,4-TCDF	1.54e5	1.54e5	37	0.80	NO	1.000	10.048	24.28	24.28	1.000	1.000	NO	199.1	100	0.440	
38	38 13C-1,2,3,4,6,8-HxCDF	1.22e5	1.22e5	38	0.50	NO	1.000	10.048	33.55	33.61	1.000	1.000	NO	199.1	100	0.621	
39	39 Total Tetra-Dioxins		8.57e4				0.901	10.048	25.50			0.900	NO	6.632		0.316	6.916
40	40 Total Penta-Dioxins		5.29e4				0.872	10.048	30.98			0.898	NO	4.386		0.478	5.491
41	41 Total Hexa-Dioxins		0.90e0				0.978	10.048	33.60			0.900	NO	42.74		0.851	51.21
42	42 Total Hepta-Dioxins		6.45e4				0.989	10.048	37.75			0.900	NO	340.9		0.963	340.9
43	43 Total Tetra-Furans		1.21e5				0.943	10.048	24.00			0.900	NO	37.56		0.396	41.52
44	44 1st Func. Penta-Furans		0.00e0				0.949	10.048	27.83			0.900	NO	3.018		0.133	3.018

#	Name	Pred.RT	RT	rel Resp	rel Resp	Pred RA	RA	inly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	28.74	3.177e2	5.034e2	0.630	0.83	NO	3.6031	3.6031
2	40 Total Penta-Dioxins	30.00	29.16	5.118e1	1.109e2	0.630	0.46	YES	0.58103	0.00000
3	40 Total Penta-Dioxins	30.00	29.76	5.611e1	1.456e2	0.630	0.39	YES	0.63702	0.00000
4	40 Total Penta-Dioxins	30.00	29.86	6.770e1	9.275e1	0.630	0.73	YES	0.86343	0.00000
5	40 Total Penta-Dioxins	30.00	30.10	9.831e1	1.601e2	0.630	0.60	NO	1.1250	1.1250
6	40 Total Penta-Dioxins	30.00	30.39	6.607e1	7.479e1	0.630	0.88	YES	0.53430	0.00000
7	2 1,2,3,7,8-PeCDD	30.77	30.77	7.072e1	1.275e2	0.630	0.55	NO	0.84040	0.84040
8	40 Total Penta-Dioxins	30.00	30.84	2.025e1	4.997e1	0.630	0.41	YES	0.22891	0.00000
9	40 Total Penta-Dioxins	30.00	31.13	2.439e1	4.685e1	0.630	0.52	YES	0.27889	0.00000



Vista Analytical Laboratory

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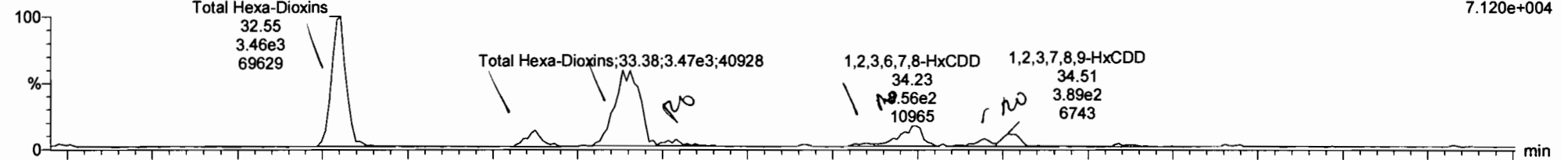
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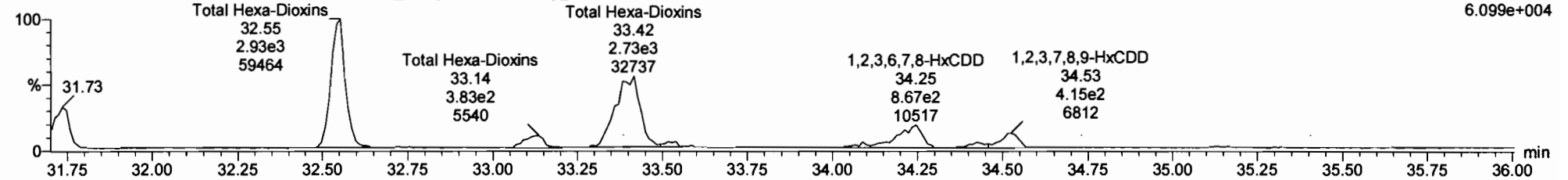
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Total Hexa-Dioxins

191023D2_13 F3:SIR of 11 channels,EI+ 389.816
1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-09 PDI-101SC-J-01-02-190926 7.120e+004

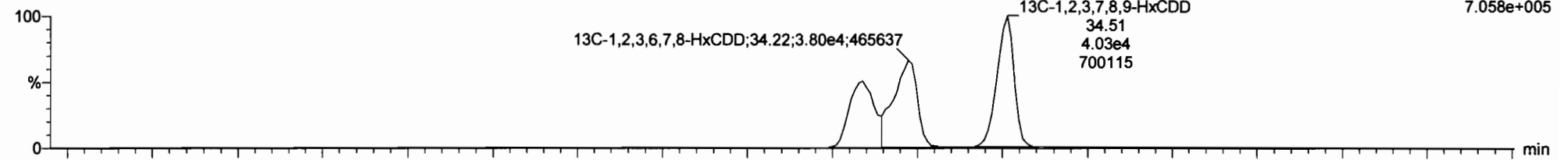


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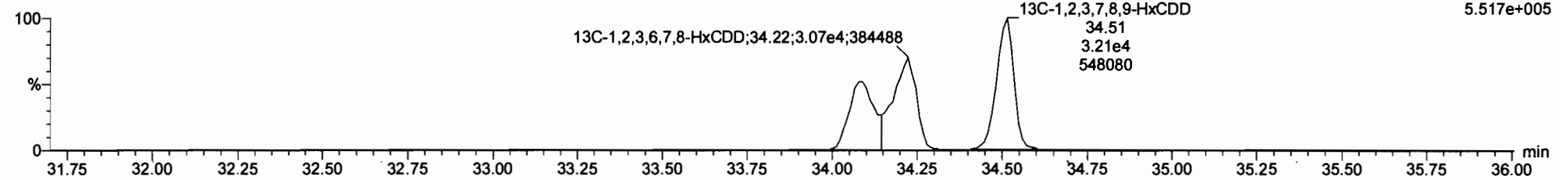


13C-1,2,3,4,7,8-HxCDD

191023D2_13 F3:SIR of 11 channels,EI+ 401.856
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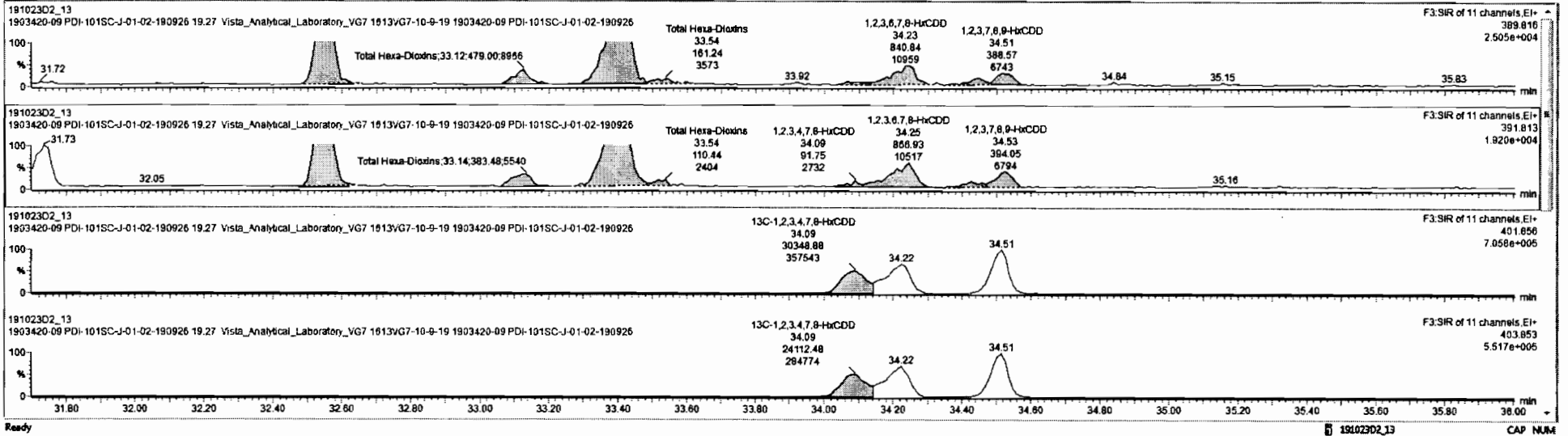
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191023D2_13 - 1903420-09 PDI-101SC-J-01-02-190926 - 1903420-09 PDI-101SC-J-01-02-190926 19:27 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	SP	RA	aly	RRF	rt/ret	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
27	13C-2,3,4,7,8-PeCDF	8.09e4	1.54e5	37	1.58	NO	0.847	10.048	30.22	30.46	1.186	1.176	NO	123.3	62.0	0.495	
28	13C-1,2,3,4,7,8-HxCDF	5.84e4	1.22e5	38	0.54	NO	0.832	10.048	33.18	33.18	0.987	0.987	NO	114.7	57.6	0.747	
29	13C-1,2,3,6,7,8-HxCDF	6.18e4	1.22e5	38	0.52	NO	1.034	10.048	33.30	33.30	0.991	0.991	NO	97.64	49.1	0.601	
30	13C-2,3,4,6,7,8-HxCDF	8.43e4	1.22e5	38	0.51	NO	0.953	10.048	33.82	33.91	1.009	1.009	NO	144.4	72.5	0.852	
31	13C-1,2,3,7,8,9-HxCDF	8.16e4	1.22e5	38	0.52	NO	0.828	10.048	34.91	34.86	1.037	1.039	NO	161.0	80.9	0.751	
32	13C-1,2,3,4,6,7,8-HpCDF	4.87e4	1.22e5	38	0.43	NO	0.757	10.048	36.73	36.75	1.094	1.093	NO	100.6	50.5	0.814	
33	13C-1,2,3,4,7,8,9-HpCDF	5.87e4	1.22e5	38	0.41	NO	0.581	10.048	38.42	38.50	1.145	1.143	NO	164.9	82.6	1.06	
34	13C-OCDF	1.21e5	1.22e5	38	0.89	NO	0.689	10.048	41.44	41.51	1.235	1.233	NO	285.8	71.8	0.650	
35	37Cl-2,3,7,8-TCDD	3.43e4	1.02e5	36			1.198	10.048	26.26	26.27	1.022	1.022	NO	55.75	70.0	0.0888	

#	Name	Pred RT	RT	m1 Resp	m2 Resp	Pred RA	RA	aly	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.55	3.493e3	2.968e3	1.240	1.18	NO	20.222	20.222
2	41 Total Hexa-Dioxins	33.80	33.12	4.790e2	3.835e2	1.240	1.25	NO	2.8967	2.8967
3	41 Total Hexa-Dioxins	33.80	33.36	3.474e3	2.717e3	1.240	1.28	NO	19.378	19.378
4	41 Total Hexa-Dioxins	33.80	33.54	1.612e2	1.104e2	1.240	1.46	YES	0.77433	0.00000
5	3 1,2,3,4,7,8-HxCDD	34.10	34.10	1.190e2	9.175e1	1.240	1.30	NO	0.69945	0.69945
6	4 1,2,3,6,7,8-HxCDD	34.22	34.23	8.408e2	8.669e2	1.240	0.97	YES	4.6903	0.90000
7	41 Total Hexa-Dioxins	33.80	34.45	1.934e2	1.458e2	1.240	1.33	NO	1.0618	1.0618
8	5 1,2,3,7,8,9-HxCDD	34.55	34.51	3.886e2	3.940e2	1.240	0.99	YES	2.0091	0.90000



Vista Analytical Laboratory

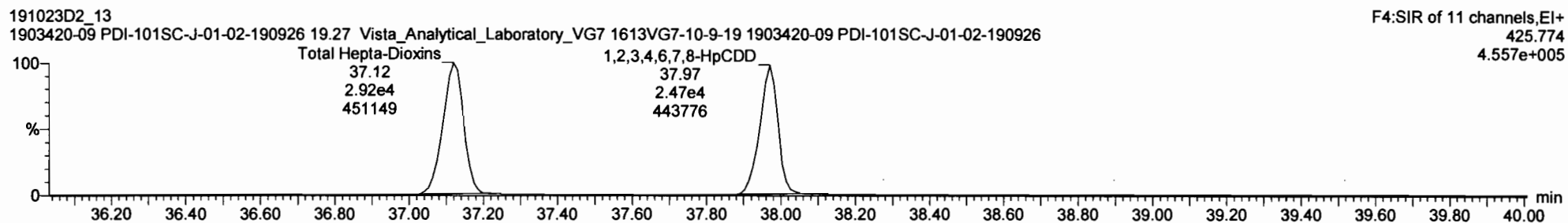
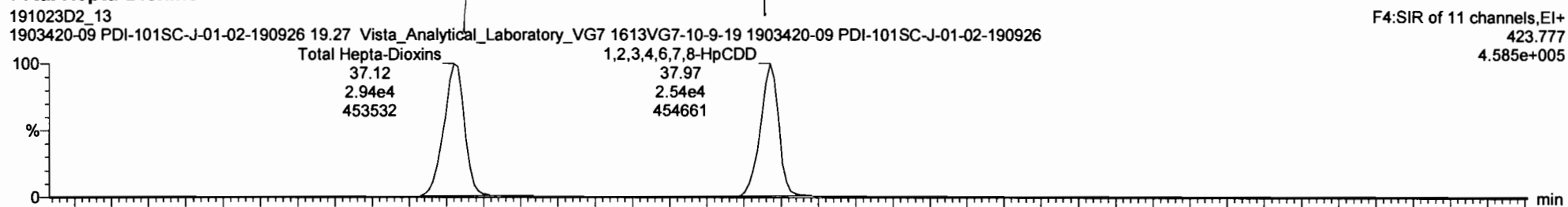
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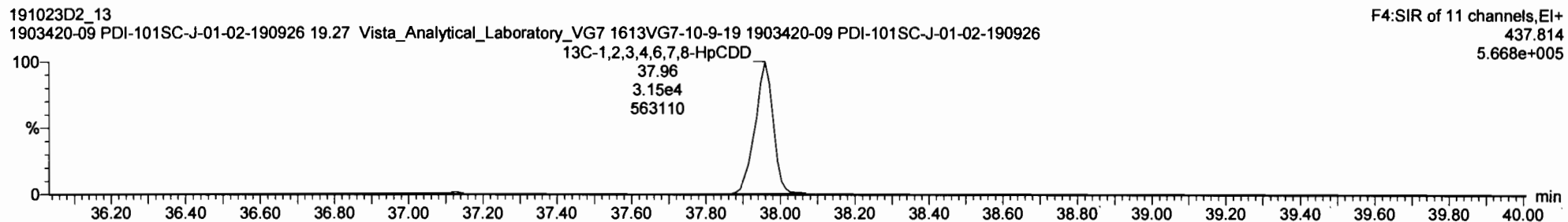
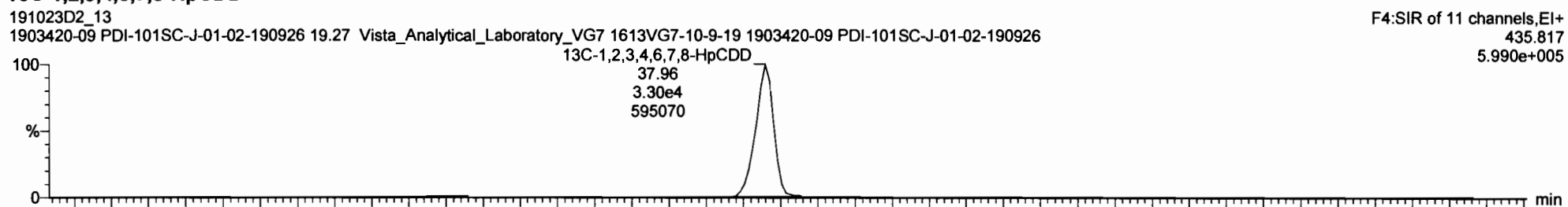
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Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hepta-Dioxins



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



Vista Analytical Laboratory

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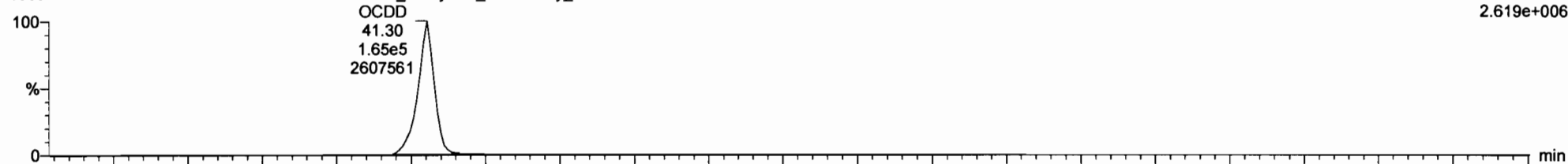
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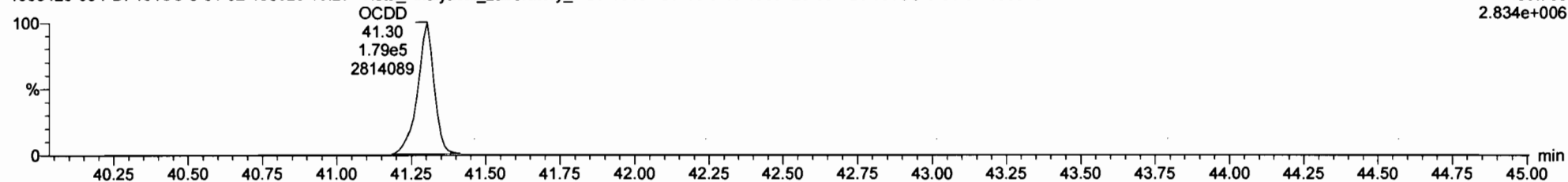
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F5:SIR of 11 channels,EI+
457.738
2.619e+006



191023D2_13
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F5:SIR of 11 channels,EI+
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2.834e+006



13C-OCDD

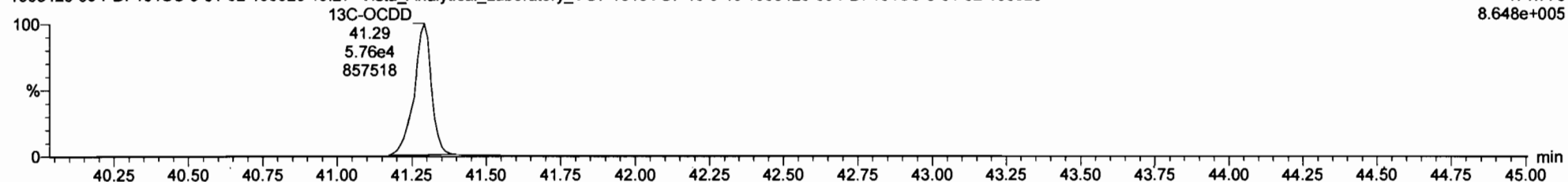
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F5:SIR of 11 channels,EI+
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Vista Analytical Laboratory

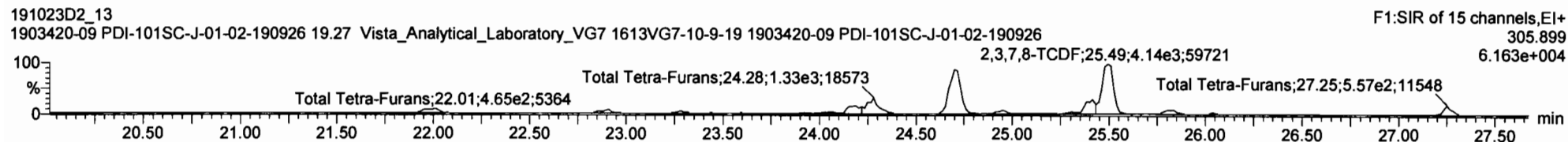
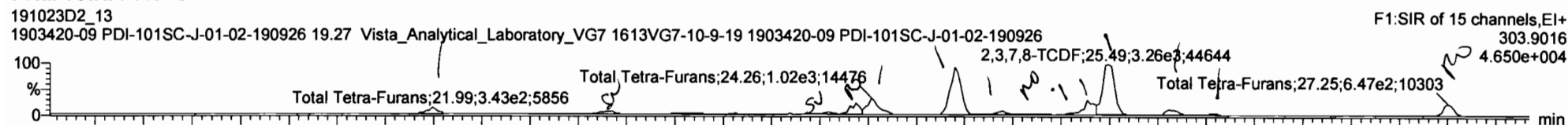
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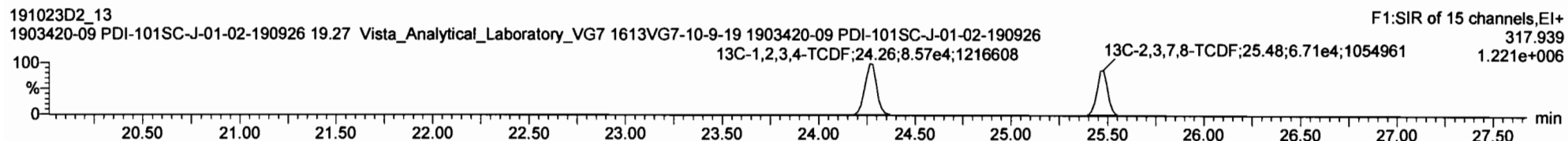
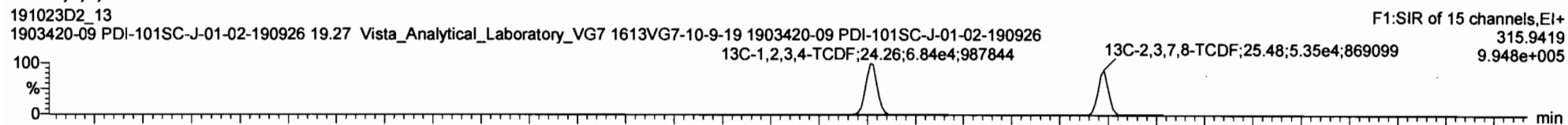
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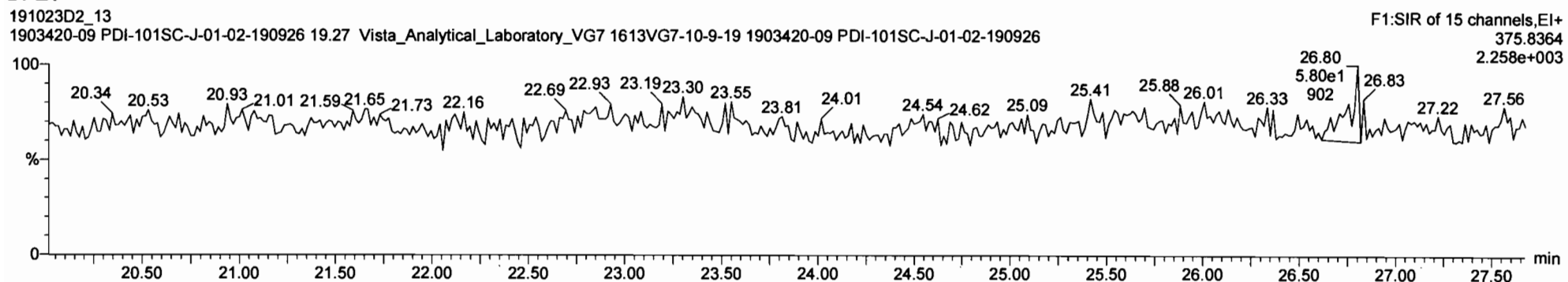
Total Tetra-Furans



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



DPE1

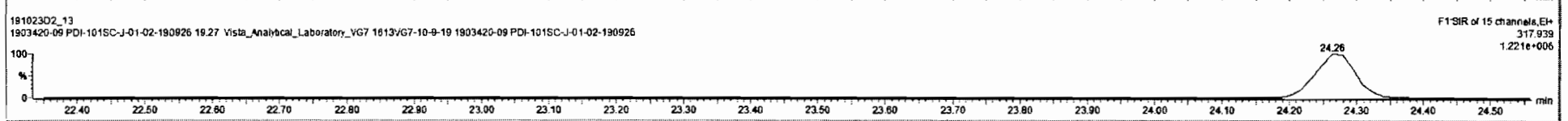
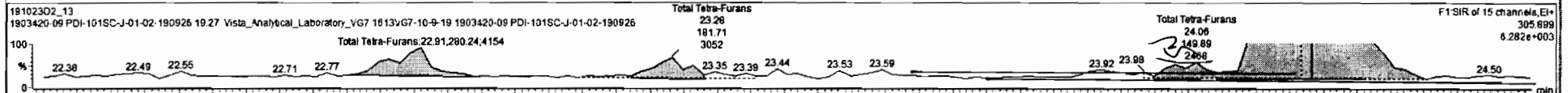
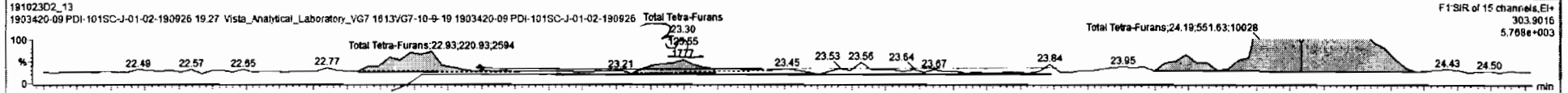


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#	Name	Resp	IS Resp	ISL	RA	nly	RRF	wf/wcl	Prod RT	RT	PRT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
42	42 Total Hepta-Dioxins		6.45e4				0.969	10.048	37.75			0.000	NO	340.9		0.963	340.9
43	43 Total Tetra-Furans		1.21e5				0.843	10.048	24.00			0.000	NO	35.43		0.208	26.67
44	44 1st Func. Penta-Furans		0.00e0				0.840	10.048	27.63			0.000	NO	3.018		0.133	3.018
45	45 Total Penta-Furans		0.00e0				0.940	10.048	30.00			0.000	NO	16.78		0.271	33.44
46	46 Total Hexa-Furans		0.00e0				1.078	10.048	33.00			0.000	NO	45.95		0.449	46.63
47	47 Total Hepta-Furans		0.00e0				1.135	10.048	37.75			0.000	NO	72.06		0.471	72.06
48	48 PFK1																
49	49 PFK2																
50	50 PFK3																

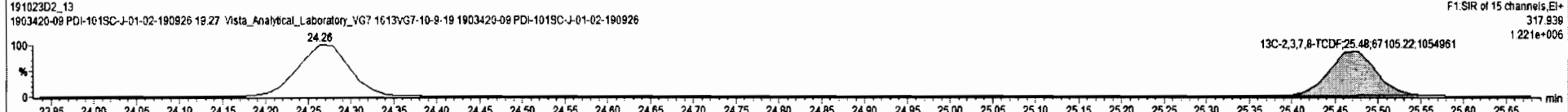
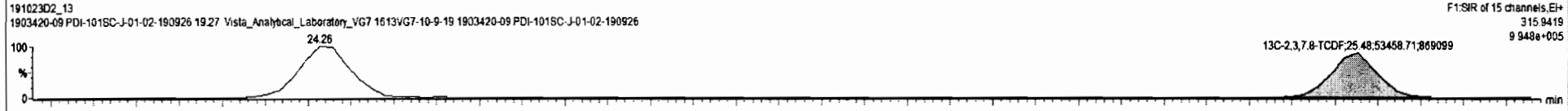
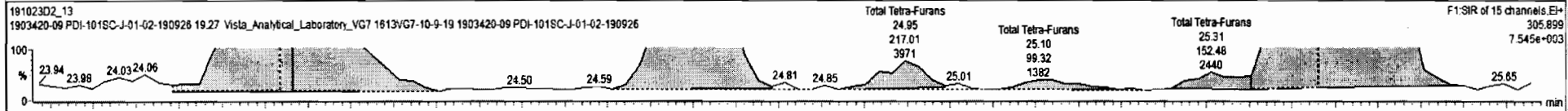
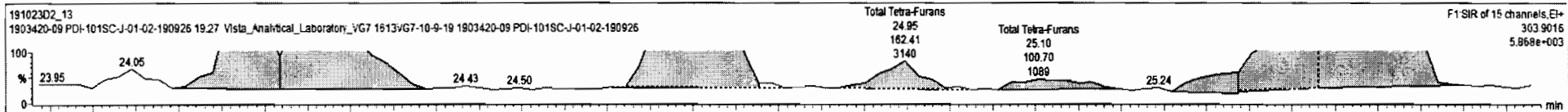
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1	43 Total Tetra-Furans	24.00	22.93	2.209e2	2.802e2	0.770	0.79	NO	0.87784	0.87784
2	43 Total Tetra-Furans	24.00	23.30	1.255e2	1.817e2	0.770	0.88	NO	0.53807	0.53807
3	43 Total Tetra-Furans	24.00	24.05	1.023e2	1.499e2	0.770	0.88	NO	0.44188	0.44188
4	43 Total Tetra-Furans	24.00	24.19	5.518e2	8.429e2	0.770	0.85	YES	2.2206	0.00000
5	43 Total Tetra-Furans	24.00	24.26	1.024e3	1.226e3	0.770	0.84	NO	3.9402	3.9402
6	43 Total Tetra-Furans	24.00	24.70	2.771e3	3.734e3	0.770	0.74	NO	11.393	11.393
7	43 Total Tetra-Furans	24.00	24.85	1.624e2	2.170e2	0.770	0.75	NO	0.86443	0.86443
8	43 Total Tetra-Furans	24.00	25.10	1.007e2	9.932e1	0.770	1.01	YES	0.30785	0.80090
9	43 Total Tetra-Furans	24.00	25.34	1.225e2	1.525e2	0.770	0.80	NO	0.48155	0.90090
10	43 Total Tetra-Furans	24.00	25.38	7.392e2	9.399e2	0.770	0.79	NO	2.9388	2.9388
11	43 Total Tetra-Furans	25.50	25.48	3.258e1	4.141e1	0.770	0.79	NO	17.858	17.858



191023D2_13 - 1903420-09 PDI-101SC-J-01-02-190926 - 1903420-09 PDI-101SC-J-01-02-190926 19 27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISP	RA	aly	RRF	w/ret	Pred.RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	6.45e4					0.989	10.048	37.75			0.000	NO	340.9	0.963	340.9	
43	Total Tetra-Furans	1.21e5					0.943	10.048	24.90			0.000	NO	34.15	0.300	38.00	
44	1st Func. Penta-Furans	0.00e0					0.940	10.048	27.83			0.000	NO	3.018	0.133	3.018	
45	Total Penta-Furans	0.00e0					0.940	10.048	30.00			0.000	NO	16.78	0.271	33.44	
46	Total Hexa-Furans	0.00e0					1.078	10.048	33.00			0.000	NO	45.95	0.449	46.63	
47	Total Hepta-Furans	0.00e0					1.135	10.048	37.75			0.000	NO	72.06	0.471	72.06	
48	PFK1																
49	PFK2																
50	PFK3																

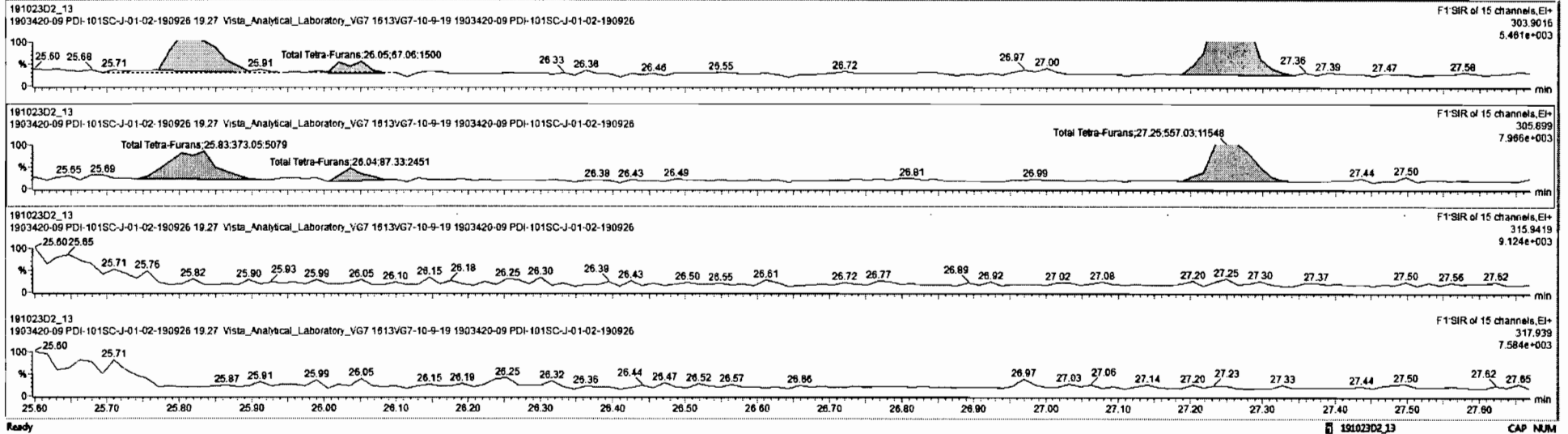
#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred RA	RA	aly	EMPC	Conc.
1	Total Tetra-Furans	24.00	22.93	2.209e2	2.802e2	0.770	0.79	NO	0.87764	0.87764
2	Total Tetra-Furans	24.00	24.19	5.516e2	8.429e2	0.770	0.85	YES	2.2206	0.00000
3	Total Tetra-Furans	24.00	24.26	1.024e3	1.226e3	0.770	0.84	NO	3.9402	3.9402
4	Total Tetra-Furans	24.00	24.70	2.771e3	3.734e3	0.770	0.74	NO	11.393	11.393
5	Total Tetra-Furans	24.00	24.95	1.824e2	2.170e2	0.770	0.75	NO	0.86443	0.86443
6	Total Tetra-Furans	24.00	25.10	1.007e2	9.932e1	0.770	1.01	YES	0.36785	0.00000
7	Total Tetra-Furans	24.00	25.34	1.225e2	1.525e2	0.770	0.80	NO	0.48155	0.00000
8	Total Tetra-Furans	24.00	25.38	7.392e2	9.390e2	0.770	0.79	NO	2.9388	2.9388
9	2,3,7,8-TCDF	25.50	25.49	3.259e3	4.141e3	0.770	0.79	NO	12.859	12.859
10	Total Tetra-Furans	24.00	25.80	3.185e2	3.730e2	0.770	0.85	NO	1.2111	1.2111
11	Total Tetra-Furans	24.00	26.05	4.706e1	4.733e1	0.770	0.77	NO	0.97037	0.97037



191023D2_13 - 1903420-09 PDI:101SC-J-01-02-190926 1903420-09 PDI:101SC-J-01-02-190926 19.27 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	adj	RRF	intval	Pred_RT	RT	RRT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	6.45e4					0.990	10.048	37.75			0.000	NO	340.9		0.963	340.9
43	Total Tetra-Furans	1.21e0					0.943	10.048	24.00			0.000	NO	34.15		0.300	34.00
44	1st Func. Penta-Furans	0.00e0					0.940	10.048	27.63			0.000	NO	3.018		0.133	3.018
45	Total Penta-Furans	0.00e0					0.940	10.048	30.00			0.000	NO	16.78		0.271	33.44
46	Total Hexa-Furans	0.00e0					1.078	10.048	33.00			0.000	NO	45.95		0.449	46.63
47	Total Hepta-Furans	0.00e0					1.135	10.048	37.75			0.000	NO	72.06		0.471	72.06
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred_RT	RT	rt1 Resp	rt2 Resp	Pred_RA	RA	adj	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	22.93	2.209e2	2.802e2	0.770	0.79	NO	0.87784	0.87784
2	43 Total Tetra-Furans	24.00	24.19	5.518e2	8.428e2	0.770	0.85	YES	2.2206	0.00000
3	43 Total Tetra-Furans	24.00	24.26	1.024e3	1.226e3	0.770	0.84	NO	3.9402	3.9402
4	43 Total Tetra-Furans	24.00	24.70	2.771e3	3.734e3	0.770	0.74	NO	11.393	11.393
5	43 Total Tetra-Furans	24.00	24.06	1.824e3	2.170e2	0.770	0.76	NO	0.00143	0.00143
6	43 Total Tetra-Furans	24.00	25.10	1.007e2	8.932e1	0.770	1.01	YES	0.30785	0.00000
7	43 Total Tetra-Furans	24.00	25.34	1.225e2	1.525e2	0.770	0.80	NO	0.48155	0.00000
8	43 Total Tetra-Furans	24.00	25.38	7.390e2	9.390e2	0.770	0.79	NO	2.9368	2.9368
9	8 2,3,7,8-TCDF	25.50	25.49	3.259e3	4.141e3	0.770	0.79	NO	12.859	12.859
10	43 Total Tetra-Furans	24.00	25.80	3.185e2	3.730e2	0.770	0.85	NO	1.2111	1.2111
11	43 Total Tetra-Furans	24.00	26.05	6.709e1	6.735e1	0.770	0.77	NO	0.27037	0.27037



Vista Analytical Laboratory

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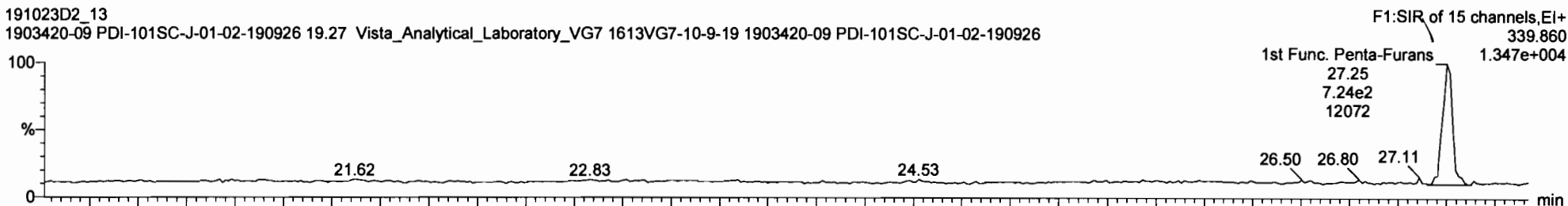
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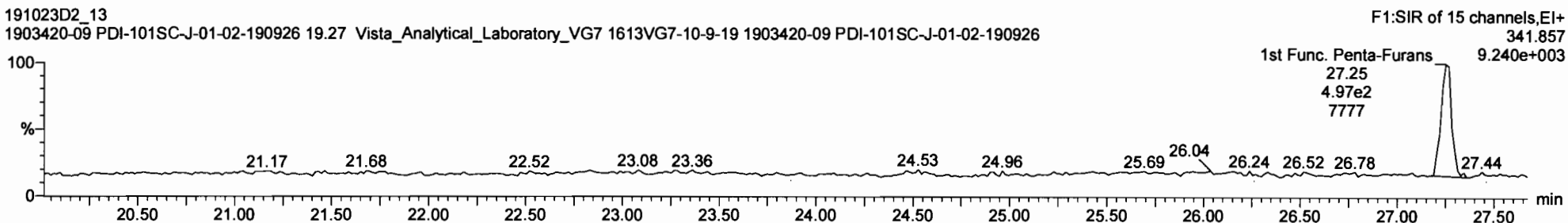
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Description: 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1st Func. Penta-Furans

191023D2_13
1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-09 PDI-101SC-J-01-02-190926

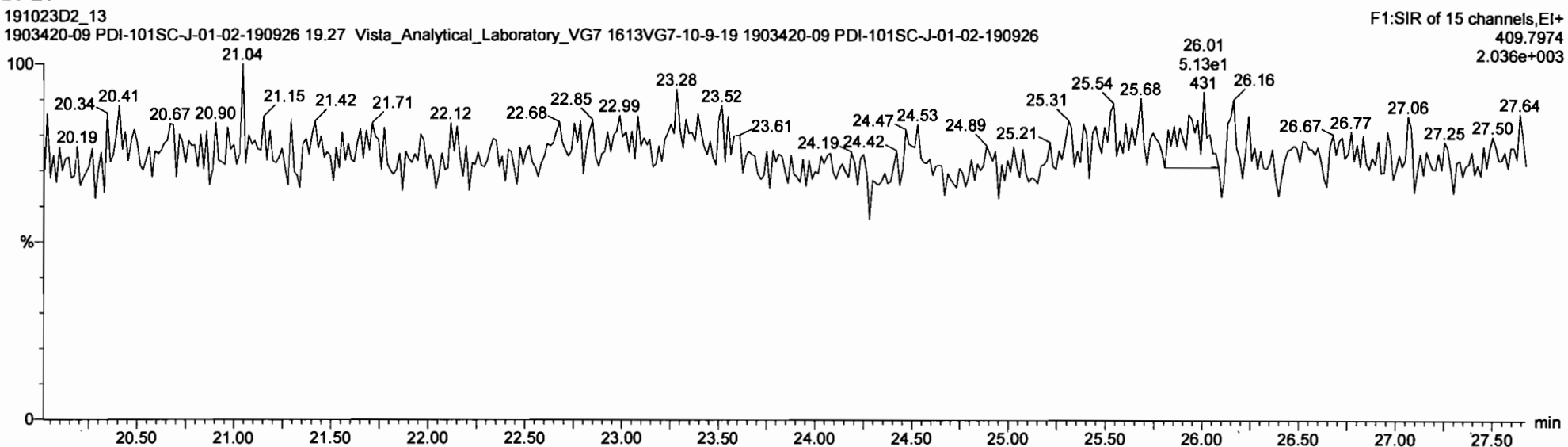


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DPE6

191023D2_13
1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-09 PDI-101SC-J-01-02-190926



Vista Analytical Laboratory

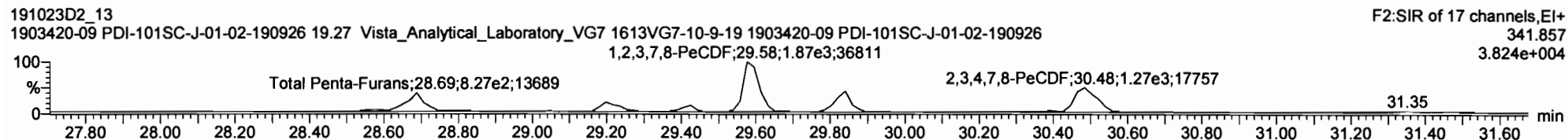
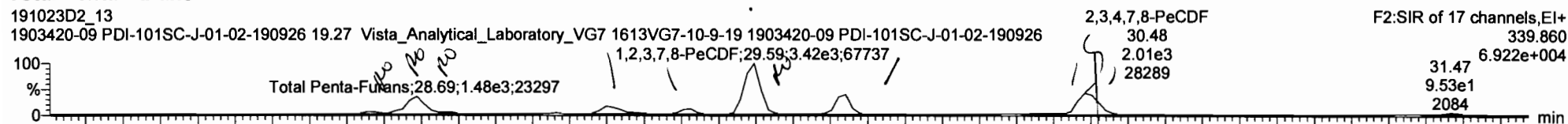
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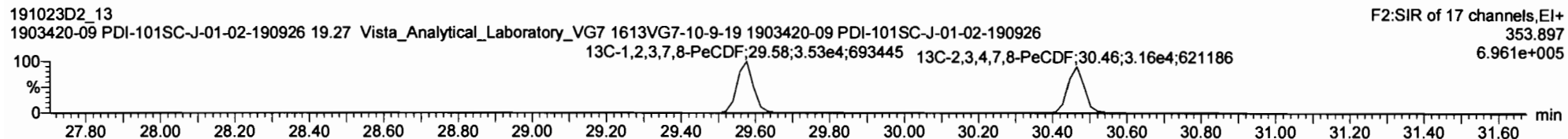
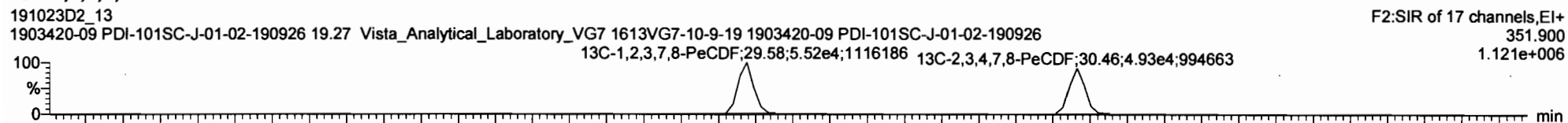
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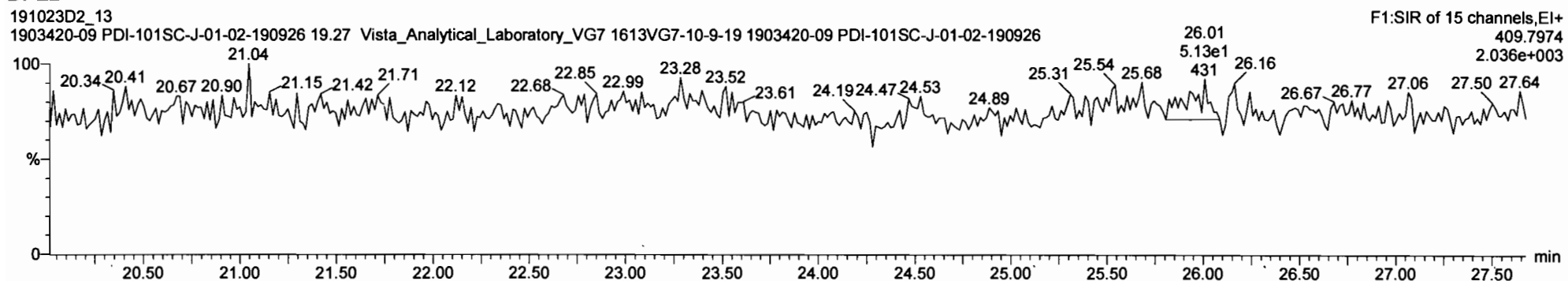
Total Penta-Furans



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



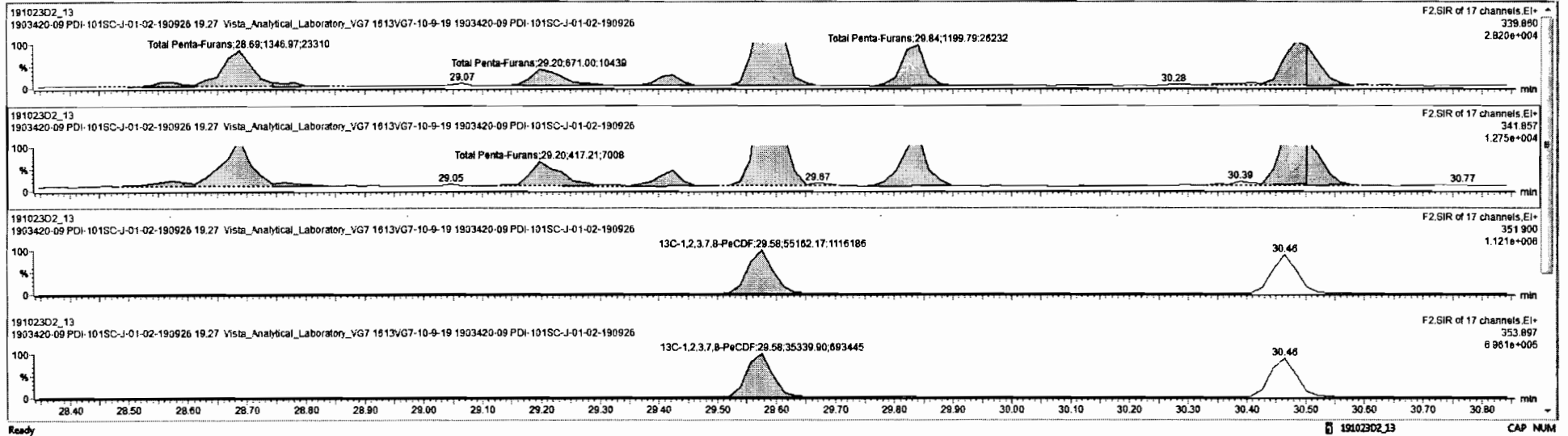
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#	Name	Resp	IS Resp	IS#	RA	sly	RRF	u/wt	Prod.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.45e4				0.989	10.048	37.75			0.000	NO	340.9	0.963	340.9	
43	Total Tetra-Furans		1.21e5				0.943	10.048	24.00			0.000	NO	54.15	0.396	38.68	
44	1st Func. Penta-Furans		0.00e0				0.940	10.048	27.63			0.000	NO	3.018	0.133	3.018	
45	Total Penta-Furans		0.00e0				0.940	10.048	30.00			0.000	NO	18.22	0.271	32.78	
46	Total Hexa-Furans		0.00e0				1.078	10.048	33.00			0.000	NO	45.55	0.449	45.63	
47	Total Hepta-Furans		0.00e0				1.135	10.048	37.75			0.000	NO	72.06	0.471	72.06	
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Prod.RA	RA	sly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.56	1.874e2	1.015e2	1.550	1.85	YES	0.83973	0.00000
2	45 Total Penta-Furans	30.00	28.69	1.347e3	7.422e2	1.550	1.81	YES	4.8793	0.00000
3	45 Total Penta-Furans	30.00	28.78	1.242e2	5.932e1	1.550	2.09	YES	0.37395	0.00000
4	45 Total Penta-Furans	30.00	29.20	6.710e2	4.172e2	1.550	1.61	NO	2.6904	2.6904
5	45 Total Penta-Furans	30.00	29.42	3.197e2	2.098e2	1.550	1.52	NO	1.3092	1.3092
6	9 1,2,3,7,8-PeCDF	29.60	29.59	3.424e3	1.846e3	1.550	1.85	YES	10.782	0.00000
7	45 Total Penta-Furans	30.00	29.84	1.200e3	7.309e2	1.550	1.64	NO	4.7726	4.7726
8	10 2,3,4,7,8-PeCDF	30.49	30.48	1.186e3	8.248e2	1.550	1.44	NO	4.8758	4.8758
9	45 Total Penta-Furans	30.00	30.50	6.832e2	3.787e2	1.550	1.75	NO	2.5759	2.5759



Vista Analytical Laboratory

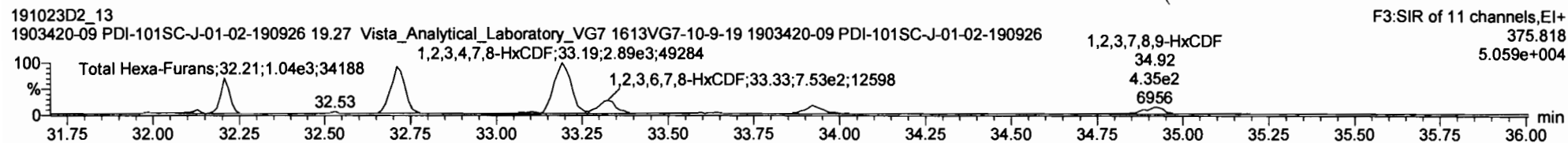
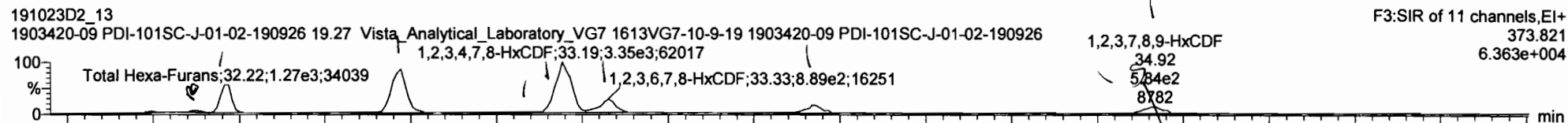
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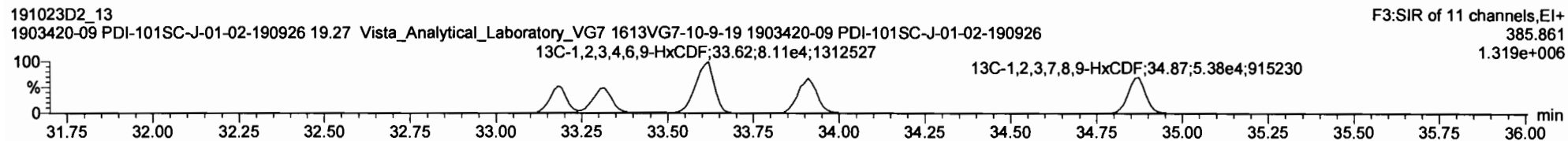
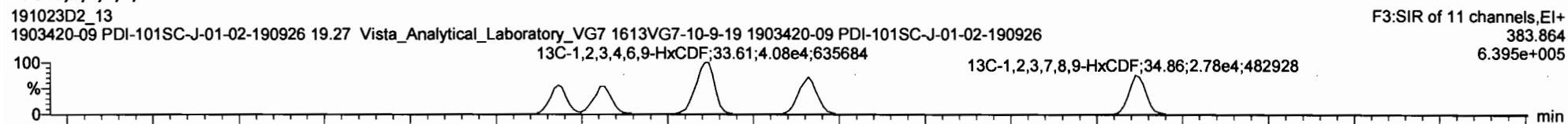
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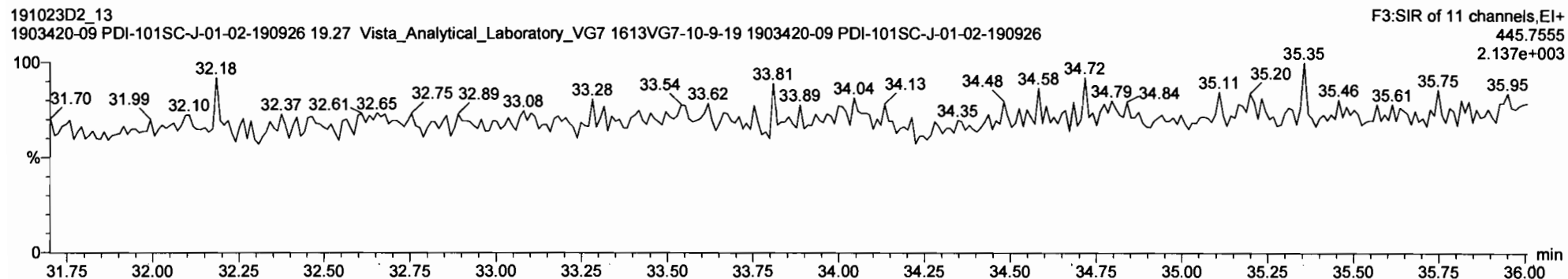
Total Hexa-Furans



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



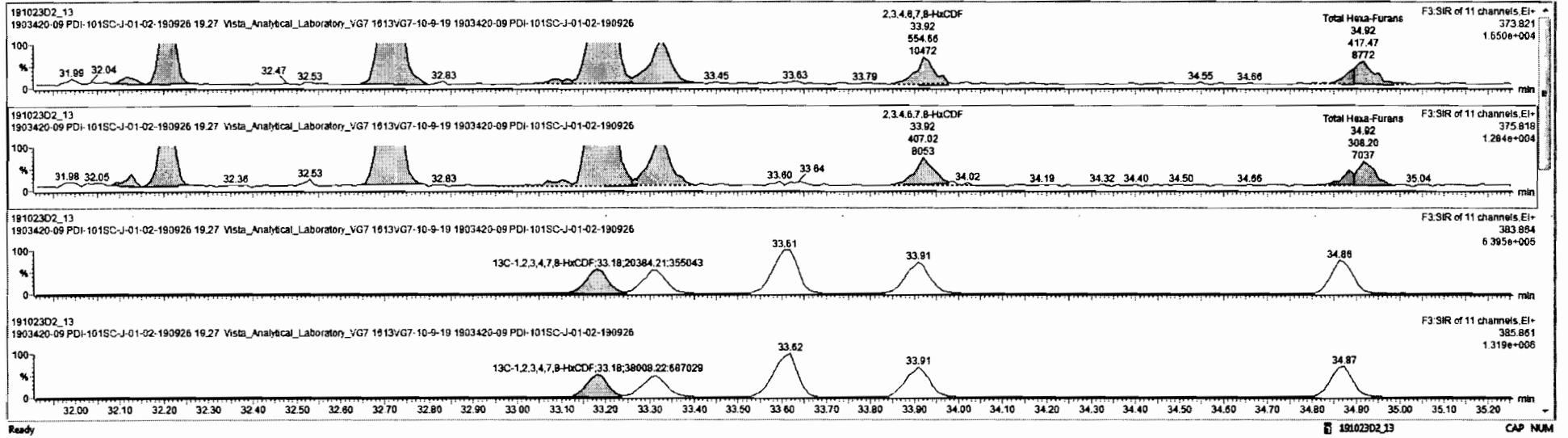
DPE3



19102302_13 - 1903420-09 PDI-101SC-J-01-02-190926 - 1903420-09 PDI-101SC-J-01-02-190926 19:27 Vista Analytical Laboratory VG7 1613VG7-10-9-19

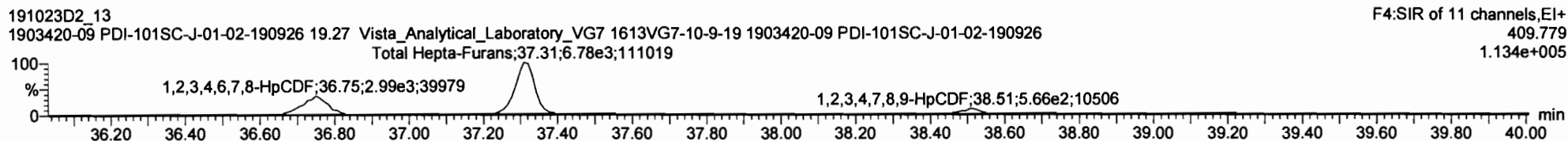
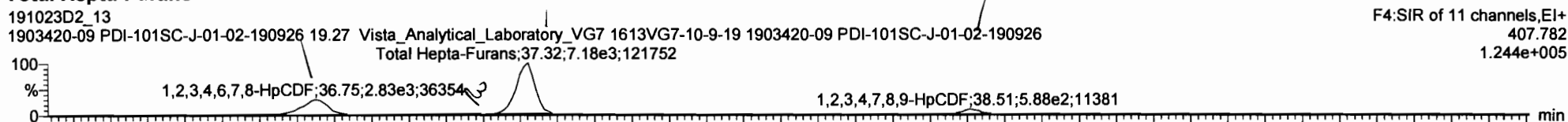
#	Name	Resp	IS Resp	ISE	RA	nly	DFP	wt/wgt	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		6.45e4				0.980	10.048	37.75			0.000	NO	340.9		0.963	340.9
43	Total Tetra-Furans		1.21e5				0.943	10.048	24.00			0.000	NO	34.15		0.396	38.80
44	1st Func. Penta-Furans		0.00e0				0.940	10.048	27.63			0.000	NO	3.018		0.133	3.018
45	Total Penta-Furans		0.00e0				0.940	10.048	30.00			0.000	NO	16.22		0.271	32.70
46	Total Hexa-Furans		0.00e0				1.878	10.048	33.00			0.000	NO	48.51		0.448	46.90
47	Total Hepta-Furans		0.00e0				1.135	10.048	37.75			0.000	NO	72.06		0.471	72.06
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Pred.RA	RA	nly	EMPC	Conc
1	46 Total Hexa-Furans	33.00	32.12	8.341e1	8.185e1	1.240	1.02	YES	0.36908	0.00000
2	46 Total Hexa-Furans	33.00	32.22	1.267e3	1.038e3	1.240	1.22	NO	5.9506	5.9508
3	46 Total Hexa-Furans	33.00	32.72	2.712e3	2.165e3	1.240	1.25	NO	12.594	12.594
4	46 Total Hexa-Furans	33.00	33.08	9.617e1	8.735e1	1.240	1.10	NO	0.47387	0.47387
5	11 1,2,3,4,7,8-HxCDF	33.18	33.19	3.328e3	2.877e3	1.240	1.15	NO	17.951	17.951
6	12 1,2,3,6,7,8-HxCDF	33.31	33.33	8.867e2	7.766e2	1.240	1.14	NO	5.0142	5.0142
7	13 1,2,3,4,6,7,8-HxCDF	33.94	33.92	5.547e2	4.079e2	1.240	1.36	NO	2.0397	2.0387
8	14 1,2,3,7,8,9-HxCDF	34.86	34.90	1.484e2	1.195e2	1.240	1.24	NO	0.81540	0.81540
9	46 Total Hexa-Furans	33.00	34.92	4.175e2	3.082e2	1.240	1.35	NO	1.8738	1.8738

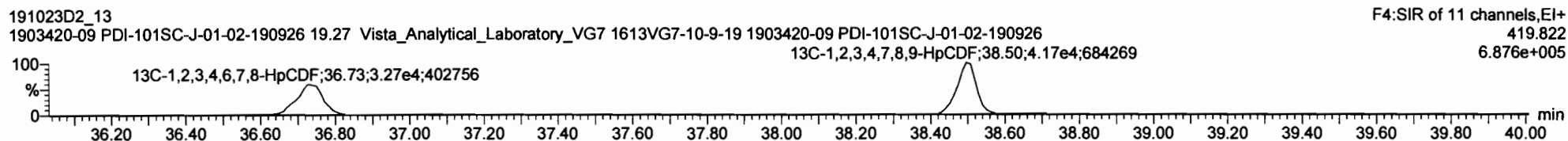
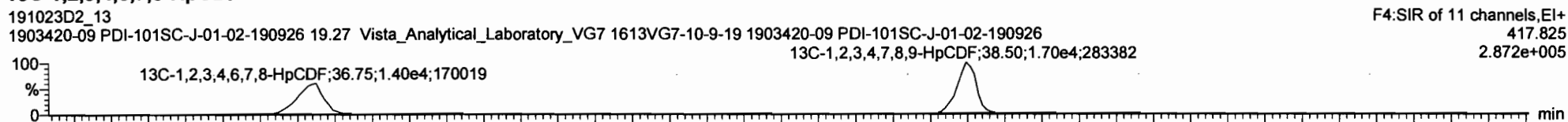


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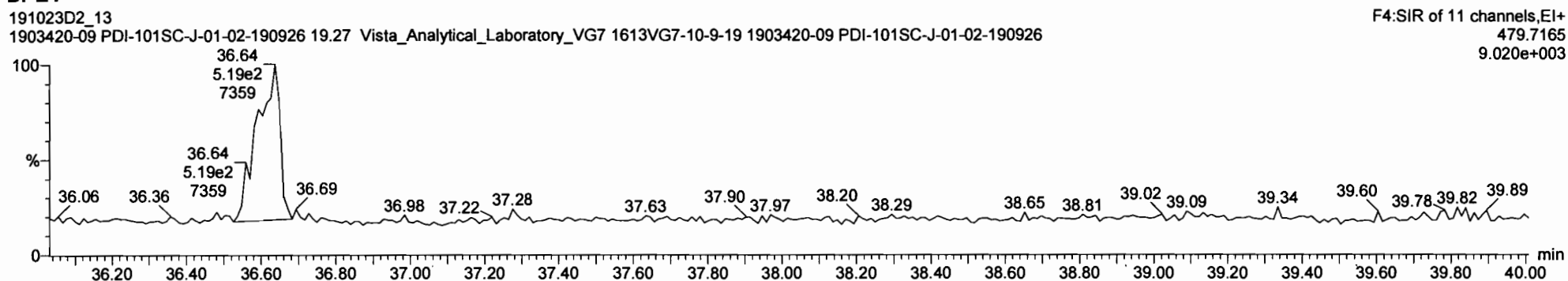
Total Hepta-Furans



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



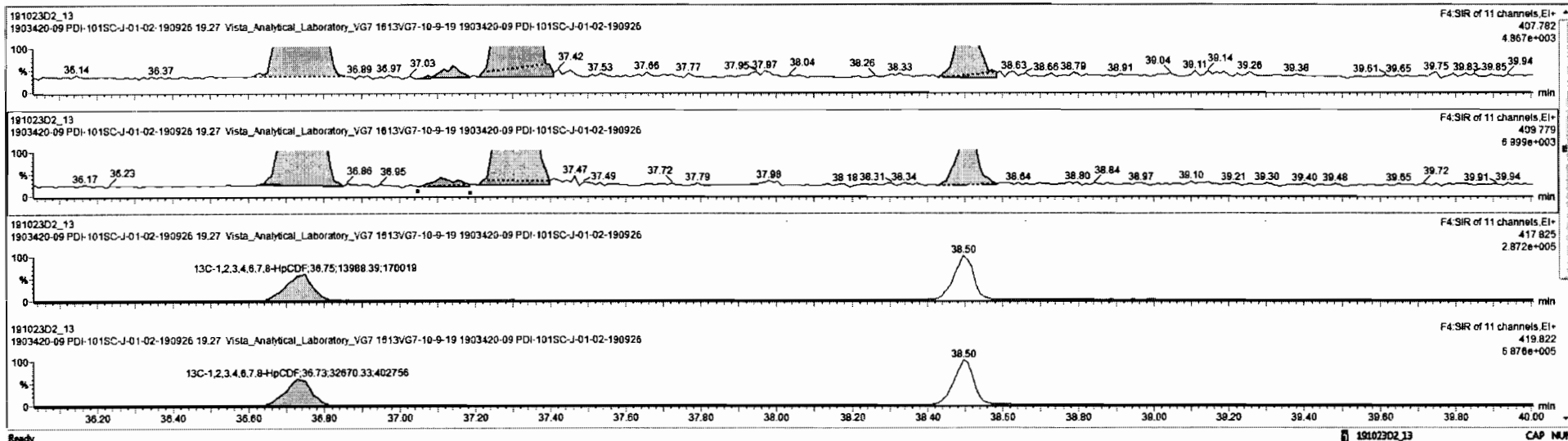
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191023D2_13 - 1903420-09 PDI-101SC-J-01-02-190926 - 1903420-09 PDI-101SC-J-01-02-190926 19.27 Vista Analytical Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	IS#	RA	n/y	RF#	wtVol	Prod RT	RT	FS#	Prod.RRT	Check RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxns		6.45e4				0.980	10.048	37.75			0.000	NO	340.9		0.963	340.9
43	Total Tetra-Furans		1.21e5				0.843	10.048	24.00			0.000	NO	34.15		0.396	38.89
44	1st Func. Penta-Furans		0.00e0				0.840	10.048	27.63			0.000	NO	3.018		0.133	3.018
45	Total Penta-Furans		0.00e0				0.940	10.048	30.00			0.000	NO	16.22		0.271	32.70
46	Total Hexa-Furans		0.00e0				1.078	10.048	33.00			0.000	NO	46.51		0.449	46.90
47	Total Hepta-Furans		0.00e0				1.135	10.048	37.75			0.000	NO	72.85		0.471	73.25
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Prod.RT	RT	wt Resp	IS Resp	Prod RA	RA	n/y	EMPC	Conc.
1	1,2,3,4,6,7,8-HpCDF	36.79	36.75	2.628e3	2.903e3	1.040	0.94	NO	22.014	22.014
2	Total Hepta-Furans	37.75	37.14	6.923e1	1.011e2	1.040	0.88	YES	0.45234	0.00000
3	Total Hepta-Furans	37.75	37.32	7.376e3	6.909e3	1.040	1.07	NO	47.588	47.588
4	1,2,3,4,6,8,9-HpCDF	38.50	38.51	8.316e2	5.759e2	1.040	1.10	NO	3.2005	3.2005



Vista Analytical Laboratory

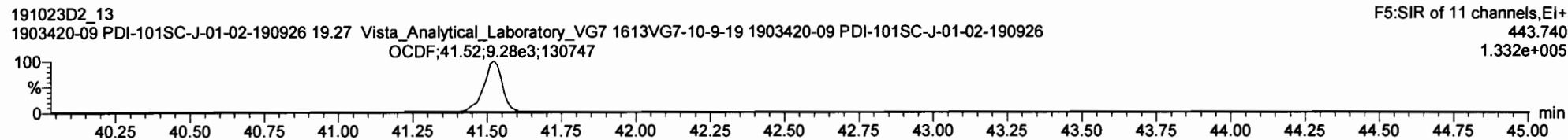
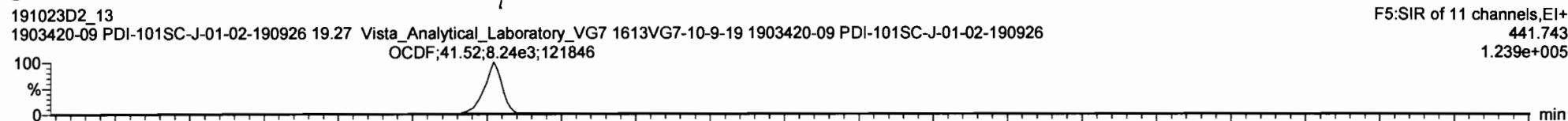
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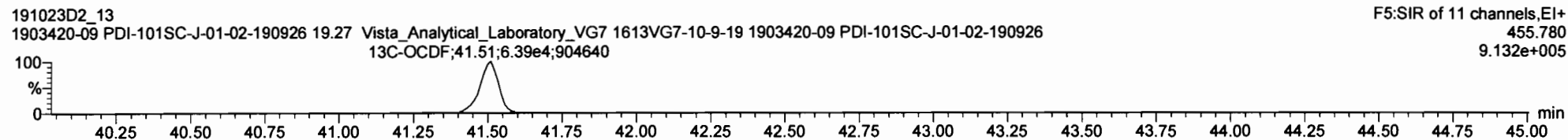
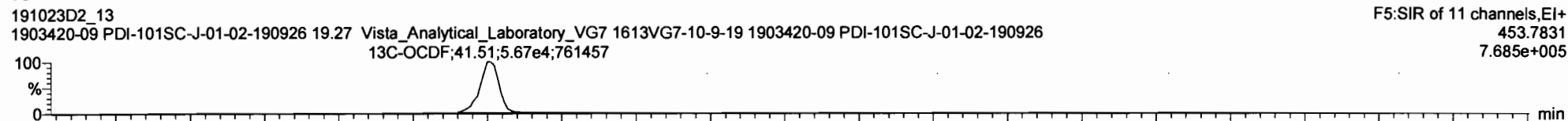
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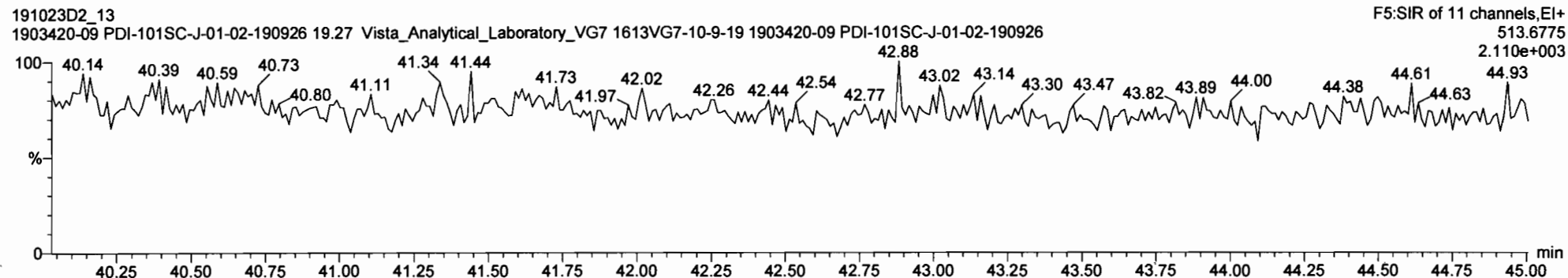
OCDF



13C-OCDF



DPE5



Vista Analytical Laboratory

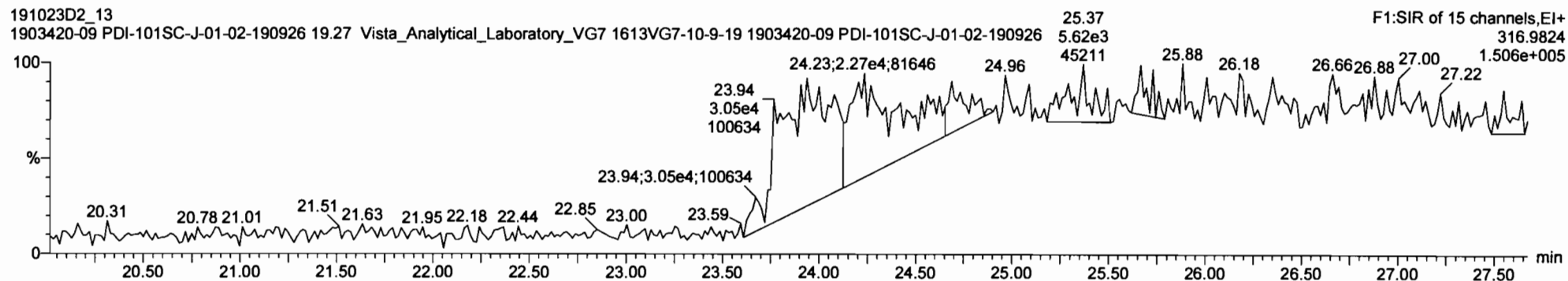
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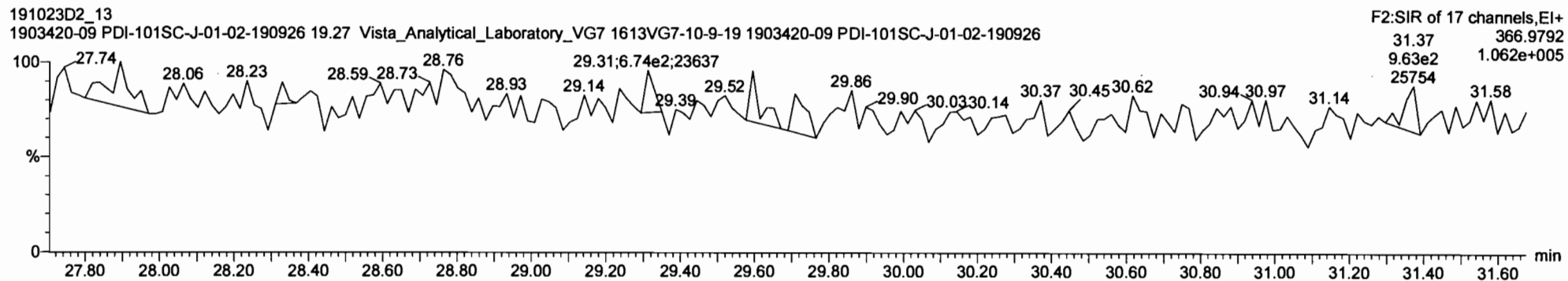
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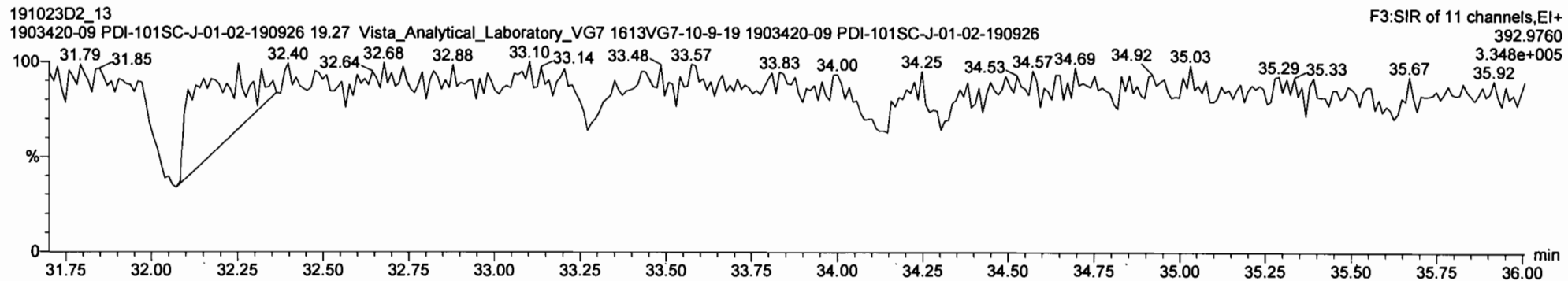
PFK1



PFK2



PFK3



Vista Analytical Laboratory

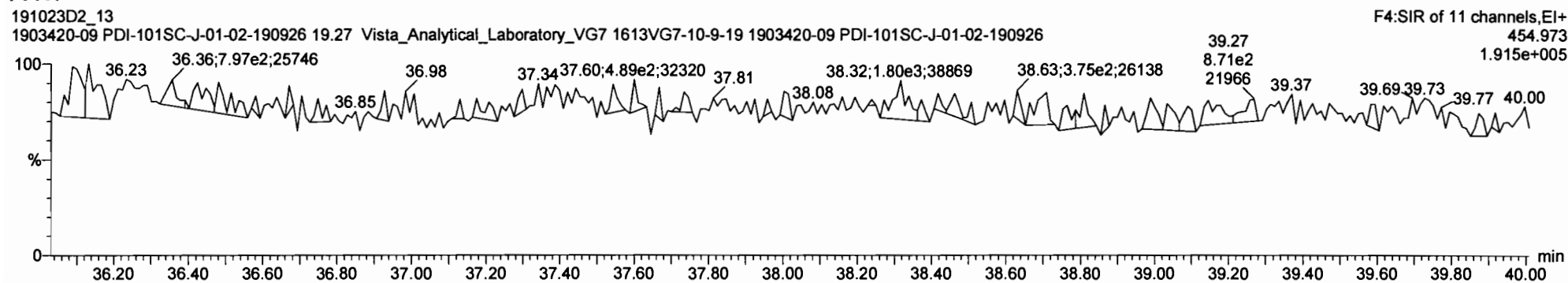
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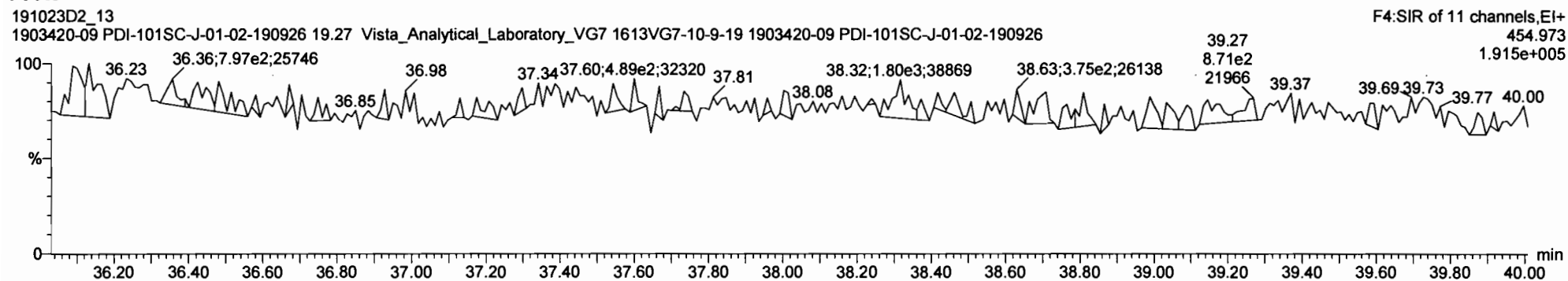
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PFK4



PFK5



Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191024D1\191024D1-12.qld
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 Printed: Tuesday, November 05, 2019 16:20:50 Pacific Standard Time

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07 11/06/19

Method: U:\VG7.PRO\MethDB\1613VG7-10- 21-19.mdb 04 Nov 2019 13:27:57

Calibration: 05_Nov-2019 16:06:29

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 Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

1	2,3,7,8-TCDD	6.51e4	10.0797	0.905			1.001		26.30					0.328
2	1,2,3,7,8-PeCDD	5.53e4	10.0797	0.903			1.001		30.77					0.286
3	1,2,3,4,7,8-HxCDD	4.69e4	10.0797	1.101			1.000		34.10					0.522
4	1,2,3,6,7,8-HxCDD	3.21e2	5.31e4	10.0797	0.939	1.358	NO	1.000	1.000	34.19	34.20	1.2790	1.28	0.576
5	1,2,3,7,8,9-HxCDD		5.42e4	10.0797	0.961			1.001		34.53				0.520
6	1,2,3,4,6,7,8-HpCDD	9.71e3	5.11e4	10.0797	0.979	1.010	NO	1.000	1.000	37.98	37.98	38.511	38.5	0.623
7	OCDD	6.85e4	8.53e4	10.0797	0.959	0.897	NO	1.000	1.000	41.30	41.31	332.23	332	0.675
8	2,3,7,8-TCDF	1.70e3	9.24e4	10.0797	0.950	0.811	NO	1.001	1.001	25.52	25.52	3.8492 (3.34)	3.85	0.388
9	1,2,3,7,8-PeCDF	1.70e3	7.85e4	10.0797	0.960	1.620	NO	1.001	1.001	29.60	29.60	4.4663	4.47	0.273
10	2,3,4,7,8-PeCDF	8.34e2	8.25e4	10.0797	1.015	1.325	NO	1.001	1.001	30.50	30.48	1.9771	1.98	0.241
11	1,2,3,4,7,8-HxCDF	1.47e3	4.31e4	10.0797	1.177	1.204	NO	1.000	1.000	33.19	33.21	5.7587	5.76	0.500
12	1,2,3,6,7,8-HxCDF	3.45e2	5.06e4	10.0797	1.069	1.055	NO	1.000	1.000	33.33	33.33	1.2653	1.27	0.485
13	2,3,4,6,7,8-HxCDF	2.35e2	6.89e4	10.0797	1.114	0.826	YES	1.001	1.001	33.95	33.93	0.60549	0.496	0.368
14	1,2,3,7,8,9-HxCDF		6.54e4	10.0797	1.062			1.000		34.88				0.440
15	1,2,3,4,6,7,8-HpCDF	1.07e3	3.26e4	10.0797	1.128	1.166	NO	1.001	1.001	36.77	36.75	5.7493	5.75	0.470
16	1,2,3,4,7,8,9-HpCDF	3.51e2	5.15e4	10.0797	1.280	1.063	NO	1.000	1.000	38.50	38.51	1.0584	1.06	0.217
17	OCDF	3.99e3	1.00e5	10.0797	0.947	0.857	NO	1.000	1.000	41.52	41.53	16.681	16.7	0.364
18	13C-2,3,7,8-TCDD	6.51e4	9.33e4	10.0797	1.095	0.772	NO	1.021	1.022	26.25	26.27	126.50	63.8	0.426
19	13C-1,2,3,7,8-PeCDD	5.53e4	9.33e4	10.0797	0.881	0.633	NO	1.187	1.196	30.51	30.75	133.41	67.2	0.559
20	13C-1,2,3,4,7,8-Hx...	4.69e4	1.31e5	10.0797	0.642	1.282	NO	1.014	1.014	34.08	34.09	110.88	55.9	0.428
21	13C-1,2,3,6,7,8-Hx...	5.31e4	1.31e5	10.0797	0.856	1.273	NO	1.017	1.017	34.19	34.19	94.071	47.4	0.321
22	13C-1,2,3,7,8,9-Hx...	5.42e4	1.31e5	10.0797	0.807	1.267	NO	1.026	1.026	34.49	34.49	101.99	51.4	0.341
23	13C-1,2,3,4,6,7,8-H...	5.11e4	1.31e5	10.0797	0.654	1.035	NO	1.126	1.130	37.85	37.96	118.52	59.7	0.874
24	13C-OCDD	8.53e4	1.31e5	10.0797	0.580	0.861	NO	1.226	1.229	41.21	41.30	223.24	56.3	0.414
25	13C-2,3,7,8-TCDF	9.24e4	1.59e5	10.0797	1.035	0.793	NO	0.993	0.992	25.54	25.49	111.20	56.0	0.483
26	13C-1,2,3,7,8-PeCDF	7.85e4	1.59e5	10.0797	0.854	1.564	NO	1.143	1.150	29.38	29.58	114.54	57.7	0.557
27	13C-2,3,4,7,8-PeCDF	8.25e4	1.59e5	10.0797	0.847	1.647	NO	1.176	1.185	30.24	30.47	121.32	61.1	0.562
28	13C-1,2,3,4,7,8-Hx...	4.31e4	1.31e5	10.0797	0.832	0.504	NO	0.987	0.988	33.18	33.19	78.586	39.6	0.575
29	13C-1,2,3,6,7,8-Hx...	5.06e4	1.31e5	10.0797	1.034	0.509	NO	0.991	0.991	33.30	33.32	74.248	37.4	0.463
30	13C-2,3,4,6,7,8-Hx...	6.89e4	1.31e5	10.0797	0.953	0.521	NO	1.009	1.009	33.92	33.91	109.63	55.3	0.502
31	13C-1,2,3,7,8,9-Hx...	6.54e4	1.31e5	10.0797	0.828	0.522	NO	1.039	1.038	34.91	34.88	119.85	60.4	0.578

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191024D1\191024D1-12.qld

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Printed: Tuesday, November 05, 2019 16:20:50 Pacific Standard Time

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 Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

32	13C-1,2,3,4,6,7,8-H...	3.26e4	1.31e5	10.0797	0.757	0.408	NO	1.093	1.093	36.73	36.73	65.289	32.9	0.602
33	13C-1,2,3,4,7,8,9-H...	5.15e4	1.31e5	10.0797	0.581	0.446	NO	1.143	1.146	38.42	38.50	134.29	67.7	0.784
34	13C-OCDF	1.00e5	1.31e5	10.0797	0.689	0.905	NO	1.233	1.235	41.45	41.52	220.38	55.5	0.364
35	37Cl-2,3,7,8-TCDD	2.65e4	9.33e4	10.0797	1.198			1.022	1.022	26.27	26.28	47.081	59.3	0.106
36	13C-1,2,3,4-TCDD	9.33e4	9.33e4	10.0797	1.000	0.783	NO	1.000	1.000	25.70	25.71	198.42	100.0	0.467
37	13C-1,2,3,4-TCDF	1.59e5	1.59e5	10.0797	1.000	0.828	NO	1.000	1.000	24.28	24.29	198.42	100.0	0.500
38	13C-1,2,3,4,6,9-Hx...	1.31e5	1.31e5	10.0797	1.000	0.512	NO	1.000	1.000	33.55	33.61	198.42	100.0	0.478
39	Total Tetra-Dioxins		6.51e4	10.0797	0.901			0.000		25.50		1.0537	1.05	0.329
40	Total Penta-Dioxins		5.53e4	10.0797	0.872			0.000		30.00		0.62635	0.626	0.296
41	Total Hexa-Dioxins		0.00e0	10.0797	0.976			0.000		33.80		11.316	11.3	0.550
42	Total Hepta-Dioxins		5.11e4	10.0797	0.989			0.000		37.75		82.965	83.0	0.617
43	Total Tetra-Furans		9.24e4	10.0797	0.943			0.000		24.00		7.8619	10.0	0.391
44	1st Func. Penta-Fur...		0.00e0	10.0797	0.940			0.000		27.63		0.00000	0.395	0.0607
45	Total Penta-Furans		0.00e0	10.0797	0.940			0.000		30.00		7.4557	9.99	0.269
46	Total Hexa-Furans		0.00e0	10.0797	1.078			0.000		33.00		12.323	13.3	0.449
47	Total Hepta-Furans		0.00e0	10.0797	1.135			0.000		37.75		19.238	19.2	0.331

10,38

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191024D1\191024D1-12.qld
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Calibration: 05 Nov 2019 16:06:29

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 Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Tetra-Dioxins

39	Total Tetra-Dioxins	NO	26.08	136.024	28394.705	9.569	bb	1.0537	1.05
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Penta-Dioxins

40	Total Penta-Dioxins	NO	28.74	57.475	21441.084	5.507	MM	0.6264	0.63
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Hexa-Dioxins

41	Total Hexa-Dioxins	NO	32.56	670.489	28798.989	47.946	bb	4.8742	4.87
41	Total Hexa-Dioxins	NO	33.13	75.844	28798.989	5.046	MM	0.5130	0.51
41	Total Hexa-Dioxins	NO	33.38	663.475	28798.989	45.739	MM	4.6498	4.65
4	1,2,3,6,7,8-HxCDD	NO	34.20	184.843	29716.820	12.100	MM	1.2790	1.28

Hepta-Dioxins

42	Total Hepta-Dioxins	NO	37.13	5723.623	25990.531	443.024	bb	44.4543	44.45
6	1,2,3,4,6,7,8-HpCDD	NO	37.98	4880.710	25990.531	380.184	bb	38.5110	38.51

Tetra-Furans

43	Total Tetra-Furans	YES	22.02	131.739	40840.055	0.000	MM	0.0000	0.69
43	Total Tetra-Furans	YES	22.91	138.206	40840.055	0.000	bb	0.0000	0.72
43	Total Tetra-Furans	NO	24.71	692.500	40840.055	35.535	bb	3.7393	3.74
43	Total Tetra-Furans	YES	25.41	64.377	40840.055	0.000	bd	0.0000	0.34
8	2,3,7,8-TCDF	NO	25.52	762.156	40840.055	36.863	MM	3.8492	3.85
43	Total Tetra-Furans	NO	25.85	53.236	40840.055	2.598	MM	0.2734	0.27
43	Total Tetra-Furans	YES	27.26	113.112	40840.055	0.000	bb	0.0000	0.42

Vista Analytical Laboratory

Dataset: U:\VG7.PRO\Results\191024D1\191024D1-12.qld

Last Altered: Tuesday, November 05, 2019 16:20:15 Pacific Standard Time

Printed: Tuesday, November 05, 2019 16:20:50 Pacific Standard Time

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 Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Penta-Furans function 1

44	1st Func. Penta-Furans	YES	27.28	91.433	49607.194	0.000	bb	0.0000	0.39
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Penta-Furans

45	Total Penta-Furans	YES	28.71	279.359	49607.194	0.000	bb	0.0000	1.04
45	Total Penta-Furans	NO	29.43	106.163	49607.194	4.265	MM	0.4504	0.45
9	1,2,3,7,8-PeCDF	NO	29.60	1049.572	47899.082	43.237	MM	4.4663	4.47
45	Total Penta-Furans	YES	29.84	410.496	49607.194	0.000	bb	0.0000	1.50
10	2,3,4,7,8-PeCDF	NO	30.48	475.316	51315.305	20.224	MM	1.9771	1.98
45	Total Penta-Furans	NO	30.52	131.743	49607.194	5.322	MM	0.5619	0.56

Hexa-Furans

46	Total Hexa-Furans	NO	32.17	317.807	19388.565	19.754	MM	1.8186	1.82
46	Total Hexa-Furans	NO	32.72	553.128	19388.565	37.808	bb	3.4808	3.48
11	1,2,3,4,7,8-HxCDF	NO	33.21	803.836	14440.704	68.309	MM	5.7587	5.76
12	1,2,3,6,7,8-HxCDF	NO	33.33	177.184	17078.172	13.633	MM	1.2653	1.27
13	2,3,4,6,7,8-HxCDF	YES	33.93	106.106	23601.277	0.000	MM	0.0000	0.50
46	Total Hexa-Furans	YES	34.92	106.808	19388.565	0.000	MM	0.0000	0.52

Hepta-Furans

15	1,2,3,4,6,7,8-HpCDF	NO	36.75	573.456	9456.840	65.346	MM	5.7493	5.75
47	Total Hepta-Furans	NO	37.33	1482.322	12666.095	142.168	MM	12.4300	12.43
16	1,2,3,4,7,8,9-HpCDF	NO	38.51	181.010	15875.351	13.654	bb	1.0584	1.06

Vista Analytical Laboratory

Dataset: Untitled

Last Altered: Tuesday, November 05, 2019 16:06:29 Pacific Standard Time

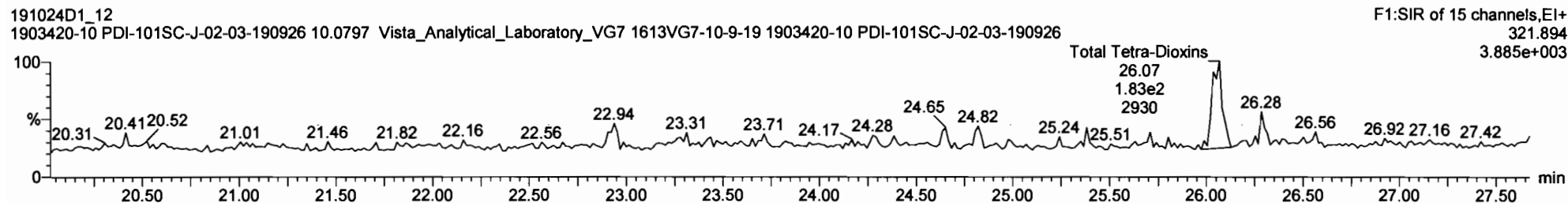
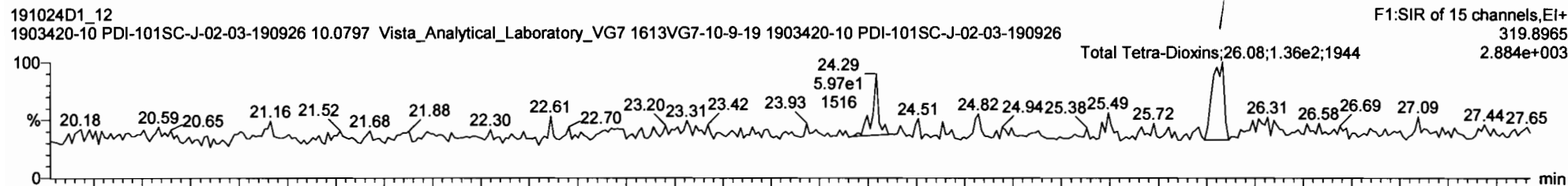
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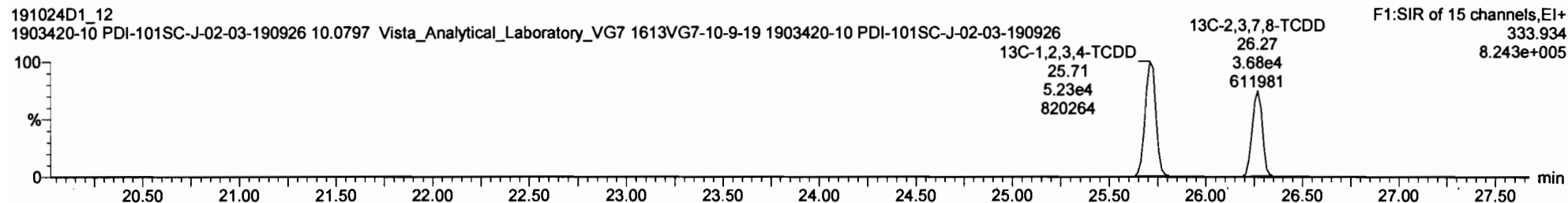
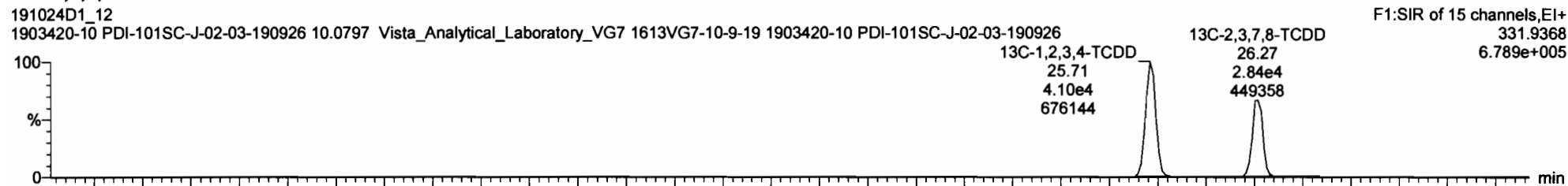
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Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Tetra-Dioxins



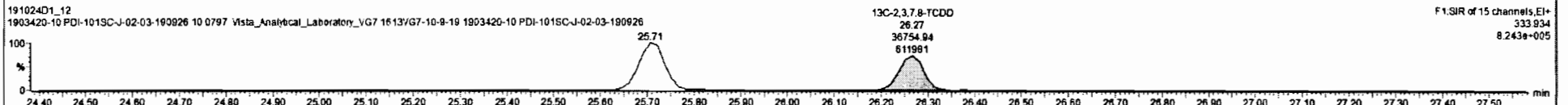
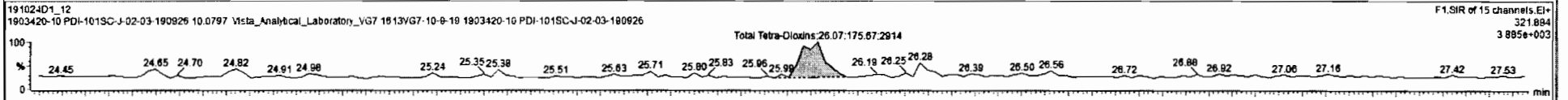
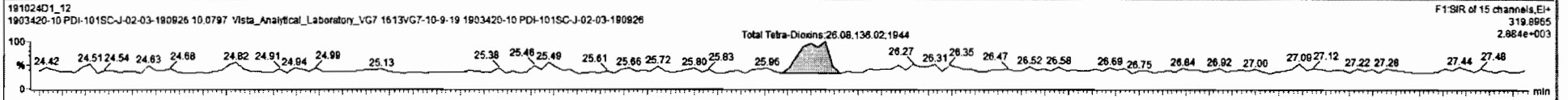
13C-2,3,7,8-TCDD



TargetLynx X3
 File Edit View Display Processing Window Help
 191024D1_12 - 1903420-10 PDI-101SC-J-02-03-190926 - 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista Analytical Laboratory VG7 1613VG7-10.9.19

#	Name	Resp	IS Resp	IS#	RA	nly	RRF	u/w/val	Prad RT	RT	RRT	Pred.RRT	Check RRT	Conc.	%Rec	DL	EMPC
34	13C-OCDF	1.00e5	1.31e5	38	0.91	NO	0.669	10.080	41.45	41.52	1.236	1.233	NO	220.4	55.5	0.364	
35	37Cl-2,3,7,8-TCDD	2.65e4	9.33e4	36			1.198	10.060	26.27	26.28	1.022	1.022	NO	47.08	59.3	0.106	
36	13C-1,2,3,4-TCDD	9.33e4	9.33e4	36	0.78	NO	1.000	10.080	25.70	25.71	1.000	1.000	NO	198.4	190	0.457	
37	13C-1,2,3,4-TCDF	1.58e5	1.58e5	37	0.83	NO	1.000	10.060	24.28	24.29	1.000	1.000	NO	198.4	190	0.500	
38	13C-1,2,3,4,6,9-HxCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.060	33.55	33.61	1.000	1.000	NO	198.4	190	0.478	
39	Total Tetra-Dioxins		6.51e4				6.991	16.900	26.56			0.000	NO	1.809	8.329	1.854	
40	Total Penta-Dioxins		5.53e4				0.872	10.080	30.00			0.000	NO	0.0000	0.144	1.203	
41	Total Hexa-Dioxins		0.00e0				0.976	10.080	33.80			0.000	NO	9.462	0.550	11.72	
42	Total Hepta-Dioxins		5.11e4				0.909	10.080	37.75			0.000	NO	82.97	0.617	82.97	

#	Name	Pred.RT	RT	m1 Resp	m2 Resp	Prad RA	RA	nly	EMPC	Conc.
1	39 Total Tetra-Dioxins	25.50	26.06	1.360e2	1.737e2	0.770	0.77	NO	1.0537	1.0537



Vista Analytical Laboratory

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Last Altered: Tuesday, November 05, 2019 16:06:29 Pacific Standard Time

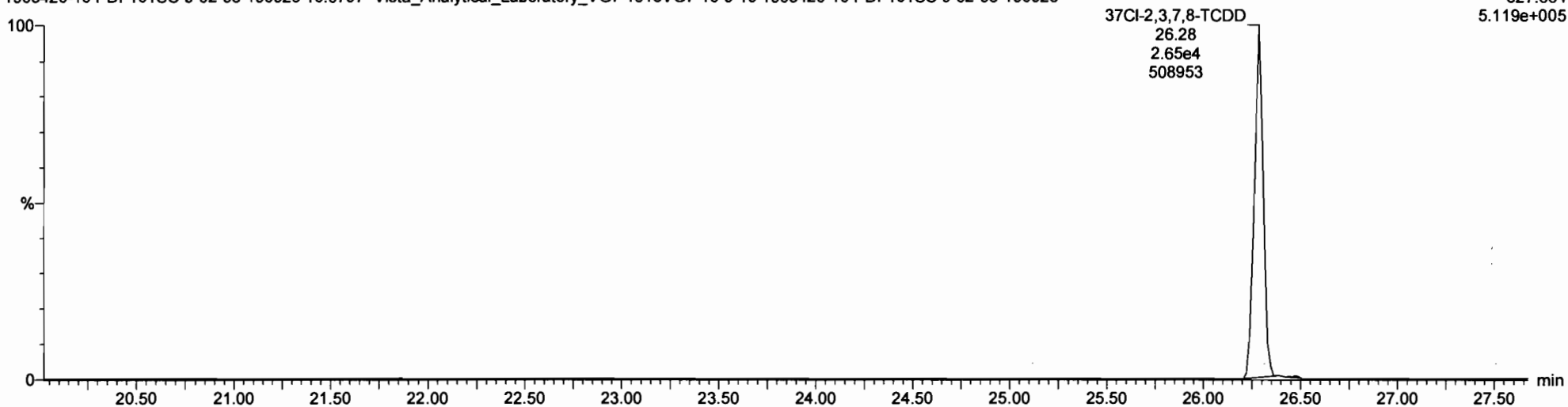
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37Cl-2,3,7,8-TCDD

191024D1_12
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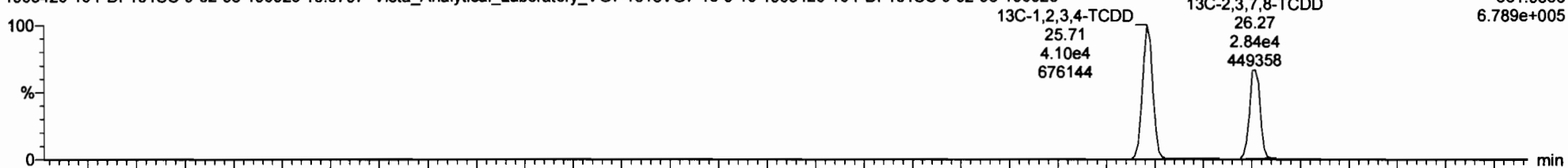
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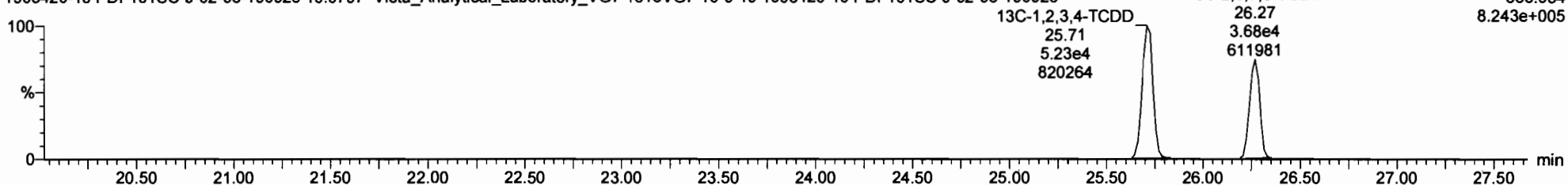
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F1:SIR of 15 channels,EI+
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6.789e+005



191024D1_12
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F1:SIR of 15 channels,EI+
333.934
8.243e+005



Vista Analytical Laboratory

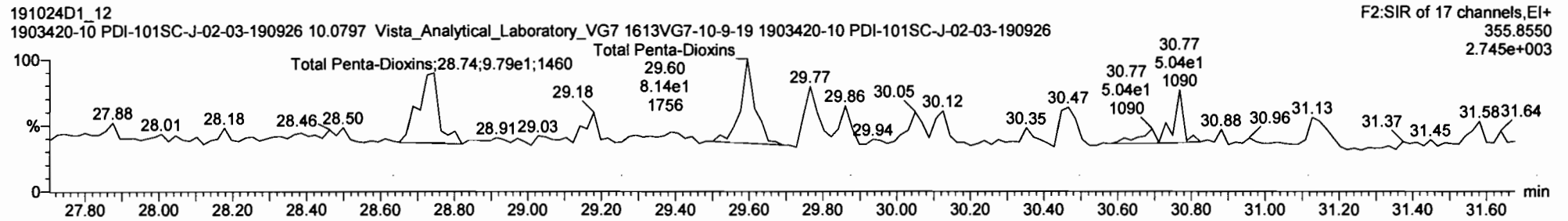
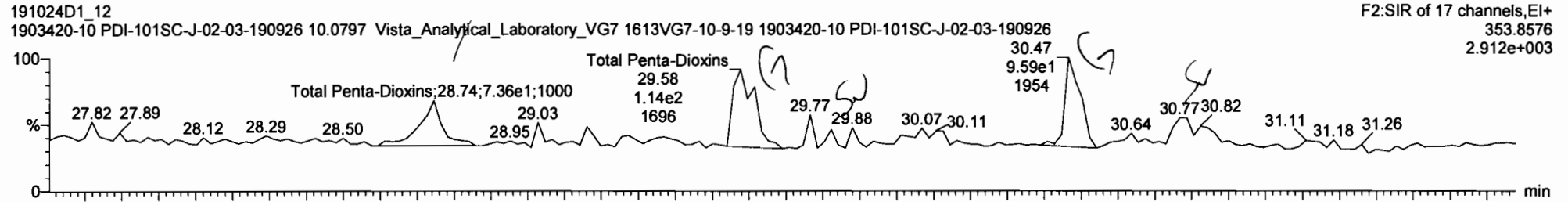
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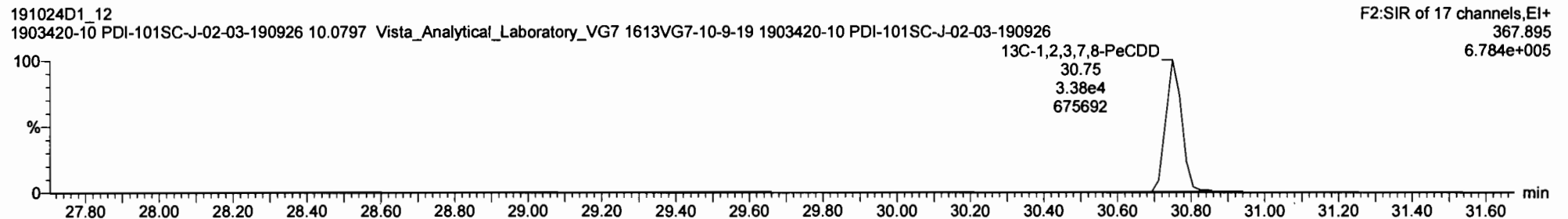
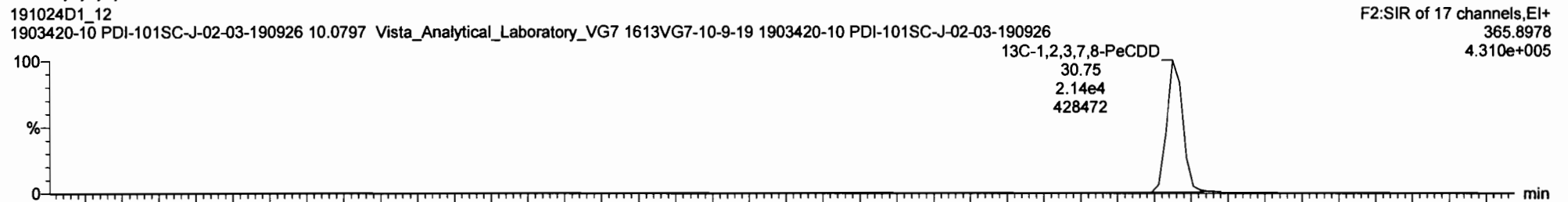
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Total Penta-Dioxins



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

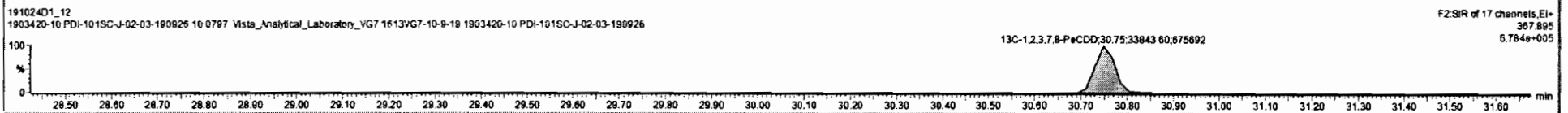
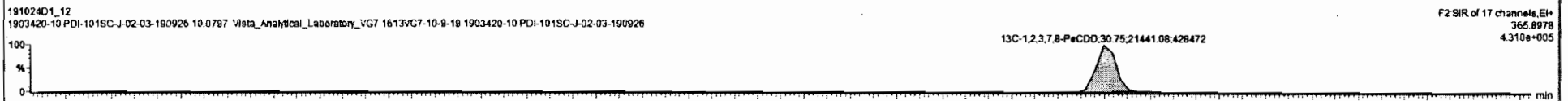
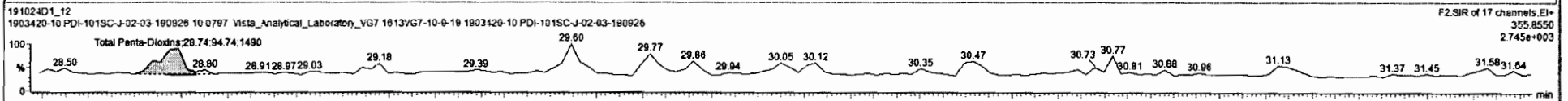
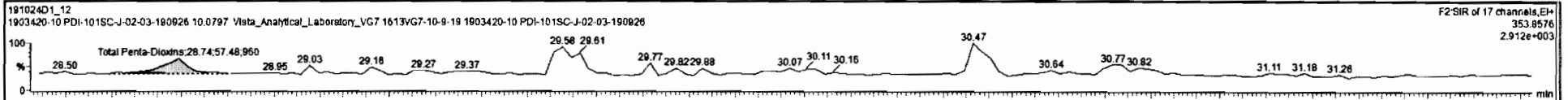




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#	Name	Resp	IS Resp	ISF	RA	aly	RRF	int/val	Pred_RT	RT	RRT	Pred_RRT	Check_RRT	Conc.	%Rec	DL	EMPC
34	13C-OCDF	1.00e5	1.31e5	38	0.91	NO	0.880	10.080	41.45	41.52	1.235	1.233	NO	220.4	55.5	0.364	
35	37Cl-2,3,7,8-TCDD	2.65e4	9.33e4	36			1.198	10.080	26.27	26.28	1.022	1.022	NO	47.08	58.3	0.106	
36	13C-1,2,3,4-TCDD	9.33e4	9.33e4	36	0.78	NO	1.000	10.080	25.70	25.71	1.000	1.000	NO	198.4	100	0.487	
37	13C-1,2,3,4-TCDF	1.59e5	1.59e5	37	0.83	NO	1.000	10.080	24.28	24.29	1.000	1.000	NO	196.4	100	0.500	
38	13C-1,2,3,4,6,9-HxCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.080	33.55	33.61	1.000	1.000	NO	190.4	100	0.478	
39	Total Tetra-Dioxins		8.51e4				0.901	10.080	25.50			0.000	NO	1.054		0.329	1.054
40	Total Penta-Dioxins		5.63e4				4.372	10.080	30.00			0.000	NO	1.843e4		0.298	0.6284
41	Total Hexa-Dioxins		0.00e0				0.978	10.080	33.80			0.000	NO	9.462		0.550	11.72
42	Total Hepta-Dioxins		5.11e4				0.989	10.080	37.75			0.000	NO	82.97		0.617	82.97

#	Name	Pred_RT	RT	int Resp	int2 Resp	Pred_RA	RA	aly	EMPC	Conc.
1	40 Total Penta-Dioxins	30.00	29.74	5.745e1	9.474e1	0.630	0.91	NO	0.62635	0.62635



Ready 191024D1_12 CAP NUM

Vista Analytical Laboratory

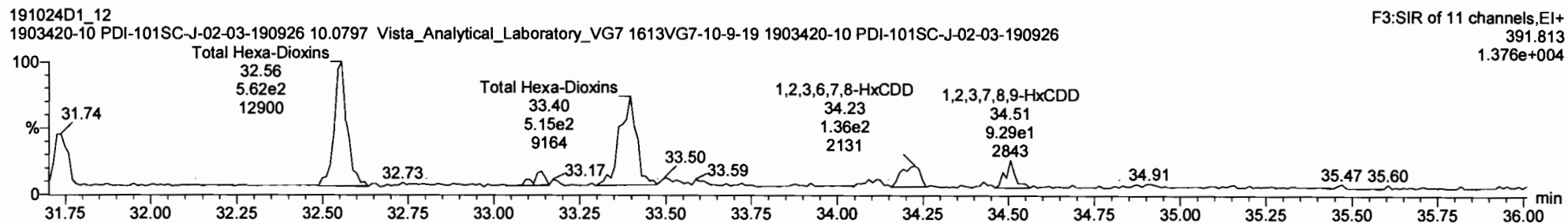
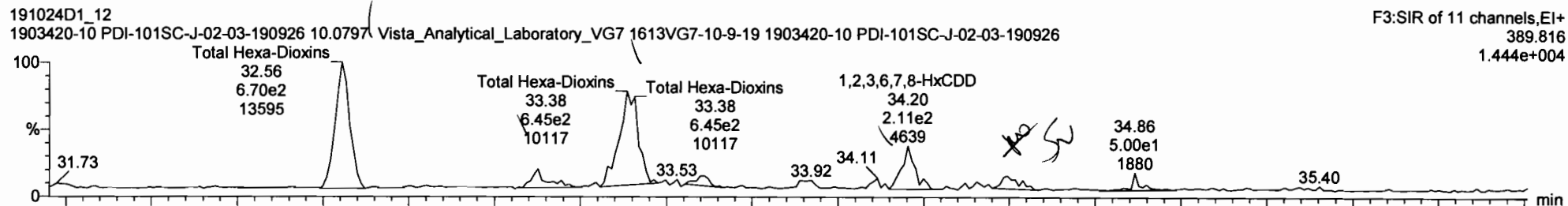
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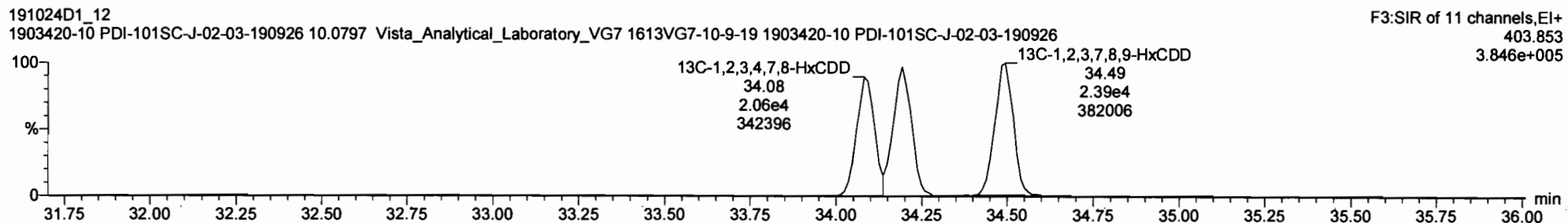
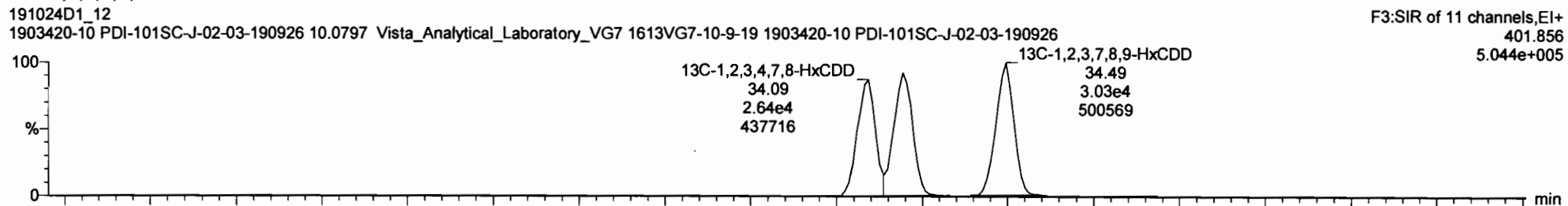
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 Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

Total Hexa-Dioxins



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

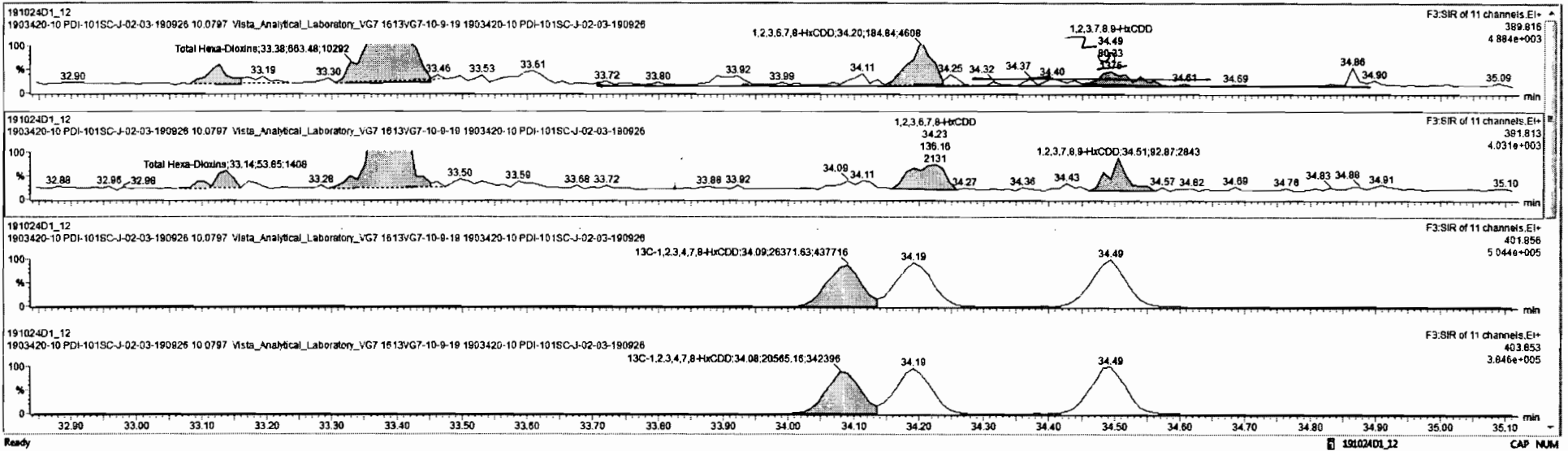




191024D1_12 - 1903420-10 PDI-101SC-J-02-03-190926 - 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista Analytical Laboratory VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISF	RA	nly	RF	rt/ret	Pred RT	RT	RRT	Pred RRT	Check RRT	Conc.	%Rec	DL	EMPC
28	13C-1,2,3,4,7,8-HxCDF	4.31e4	1.31e5	38	0.50	NO	0.832	10.080	33.18	33.19	0.988	0.987	NO	78.59	36.6	0.575	
29	13C-1,2,3,6,7,8-HxCDF	5.06e4	1.31e5	38	0.51	NO	1.034	10.080	33.30	33.32	0.991	0.991	NO	74.25	37.4	0.463	
30	13C-2,3,4,6,7,8-HxCDF	6.89e4	1.31e5	38	0.52	NO	0.953	10.080	33.82	33.91	1.009	1.009	NO	108.6	55.3	0.502	
31	13C-1,2,3,7,8,9-HxCDF	6.54e4	1.31e5	38	0.52	NO	0.828	10.080	34.81	34.88	1.038	1.038	NO	119.9	60.4	0.578	
32	13C-1,2,3,4,6,7,8-HpCDF	3.26e4	1.31e5	38	0.41	NO	0.757	10.080	36.73	36.73	1.093	1.093	NO	65.29	32.9	0.602	
33	13C-1,2,3,4,7,8,9-HpCDF	5.15e4	1.31e5	38	0.45	NO	0.581	10.080	38.42	38.50	1.148	1.143	NO	134.3	67.7	0.784	
34	13C-OCDF	1.00e5	1.31e5	38	0.91	NO	0.689	10.080	41.45	41.52	1.235	1.233	NO	220.4	56.5	0.384	
35	37Cl-2,3,7,8-TCDD	2.65e4	9.33e4	36			1.198	10.080	26.27	26.28	1.022	1.022	NO	47.09	59.3	0.106	
36	13C-1,2,3,4-TCDD	9.33e4	9.33e4	36	0.78	NO	1.000	10.080	25.70	25.71	1.000	1.000	NO	198.4	100	0.487	

#	Name	Pred RT	RT	rt1 Resp	rt2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	41 Total Hexa-Dioxins	33.80	32.56	6.705e2	5.619e2	1.240	1.19	NO	4.8742	4.8742
2	41 Total Hexa-Dioxins	33.80	33.13	7.594e1	5.385e1	1.240	1.41	NO	0.51295	0.51295
3	41 Total Hexa-Dioxins	33.80	33.38	6.835e2	5.122e2	1.240	1.30	NO	4.8496	4.8496
4	4 1,2,3,6,7,8-HxCDD	34.19	34.20	1.848e2	1.362e2	1.240	1.38	NO	1.2790	1.2790
5	5 1,2,3,7,8-HxCDD	34.53	34.49	8.033e1	9.287e1	1.240	0.87	YES	0.55231	0.00000



Ready 191024D1_12 CAP NUM

Vista Analytical Laboratory

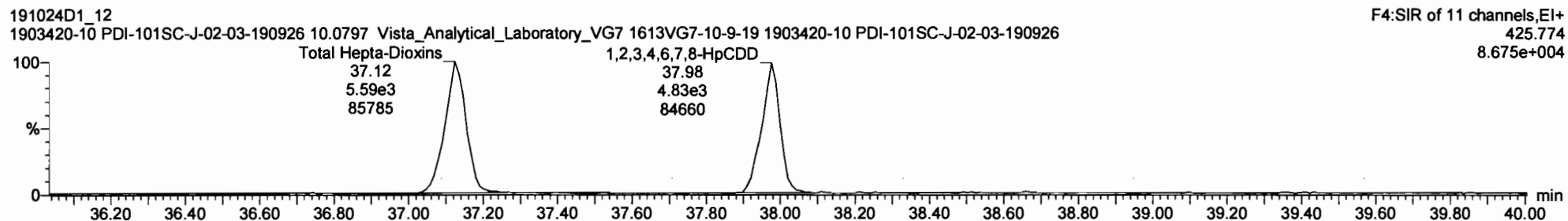
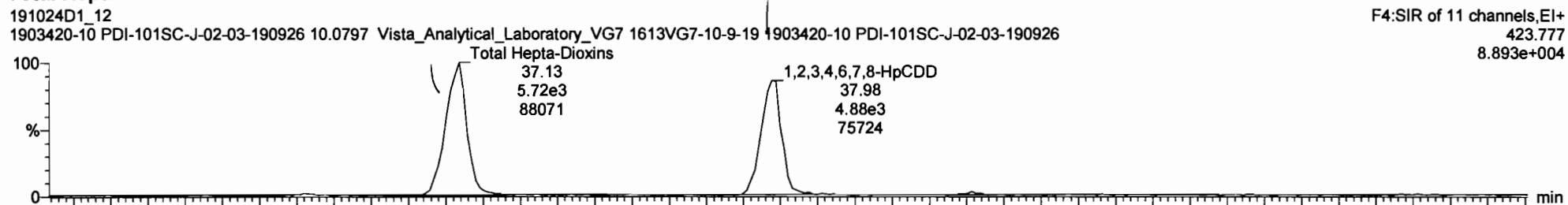
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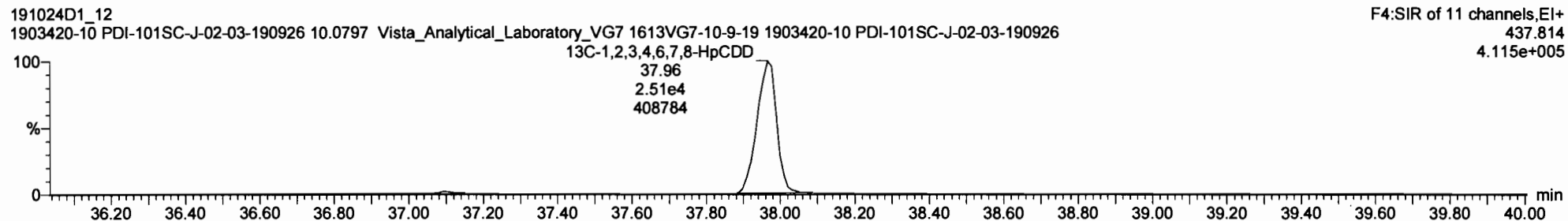
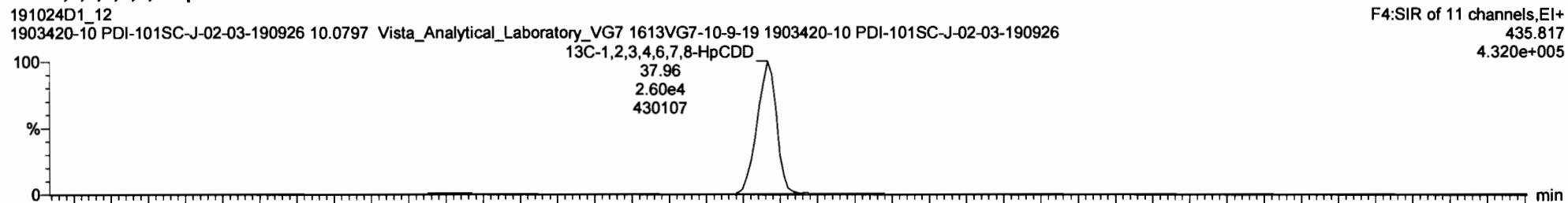
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Total Hepta-Dioxins



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



Vista Analytical Laboratory

Dataset: Untitled

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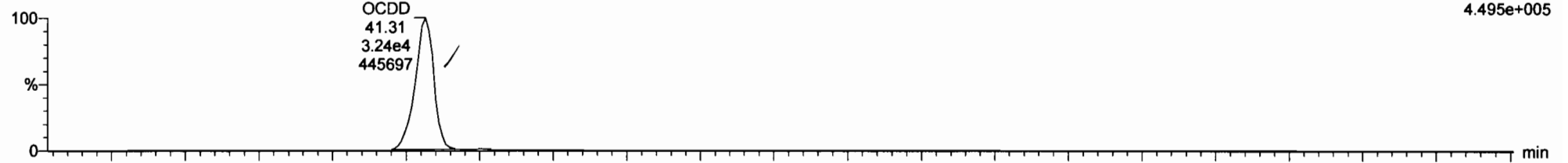
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OCDD

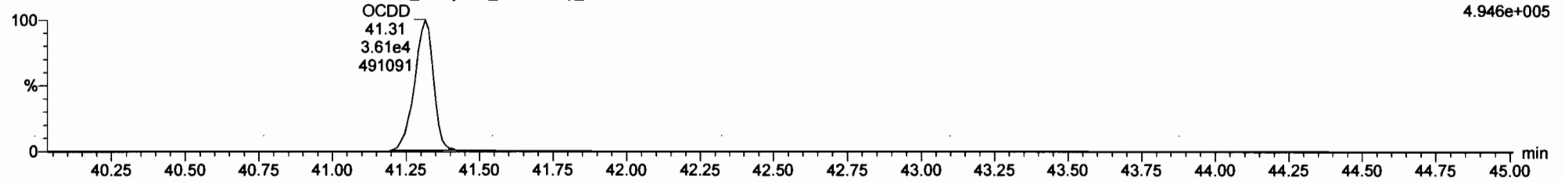
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F5:SIR of 11 channels,EI+
459.738
4.495e+005



191024D1_12
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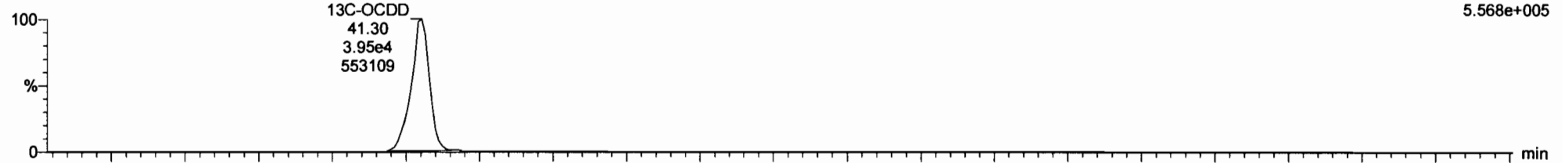
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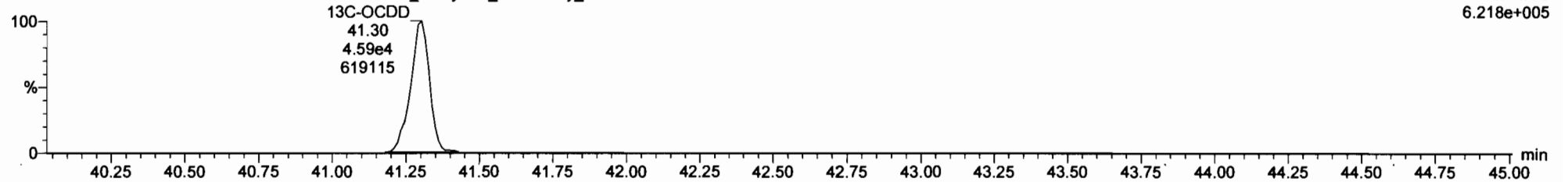
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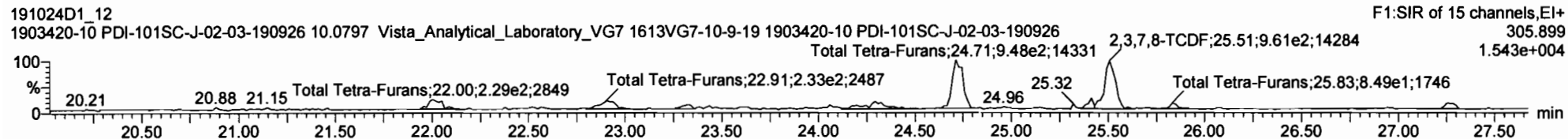
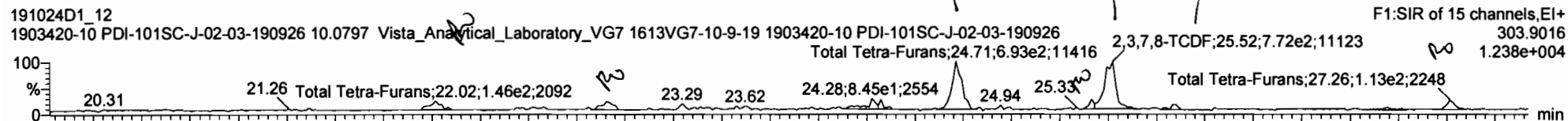
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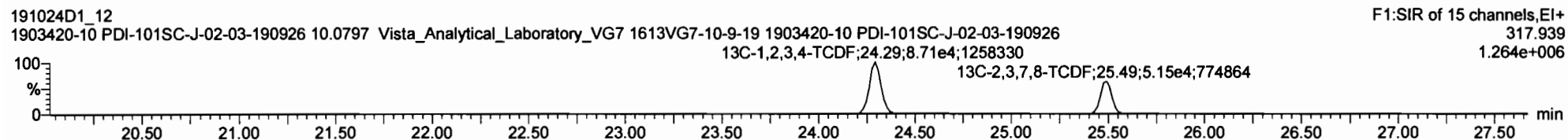
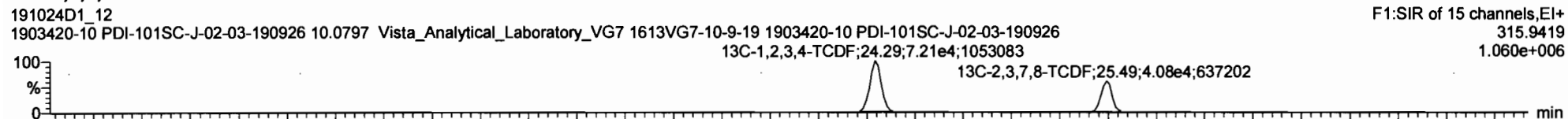


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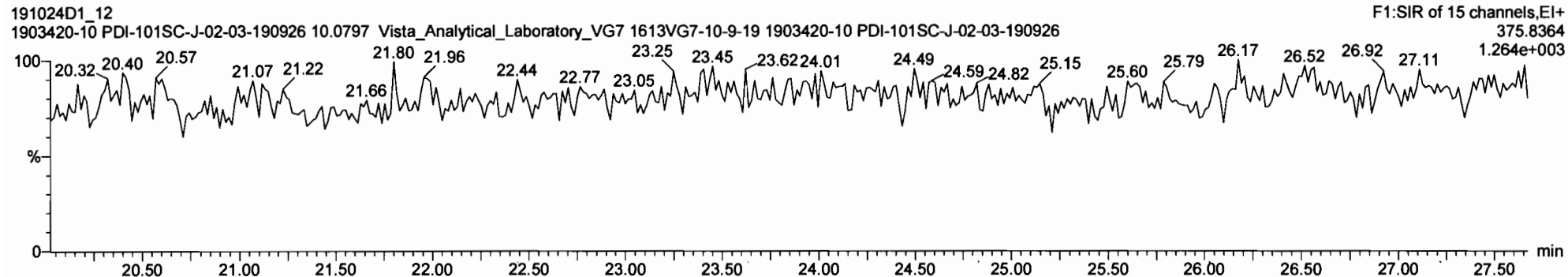
Total Tetra-Furans



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



DPE1

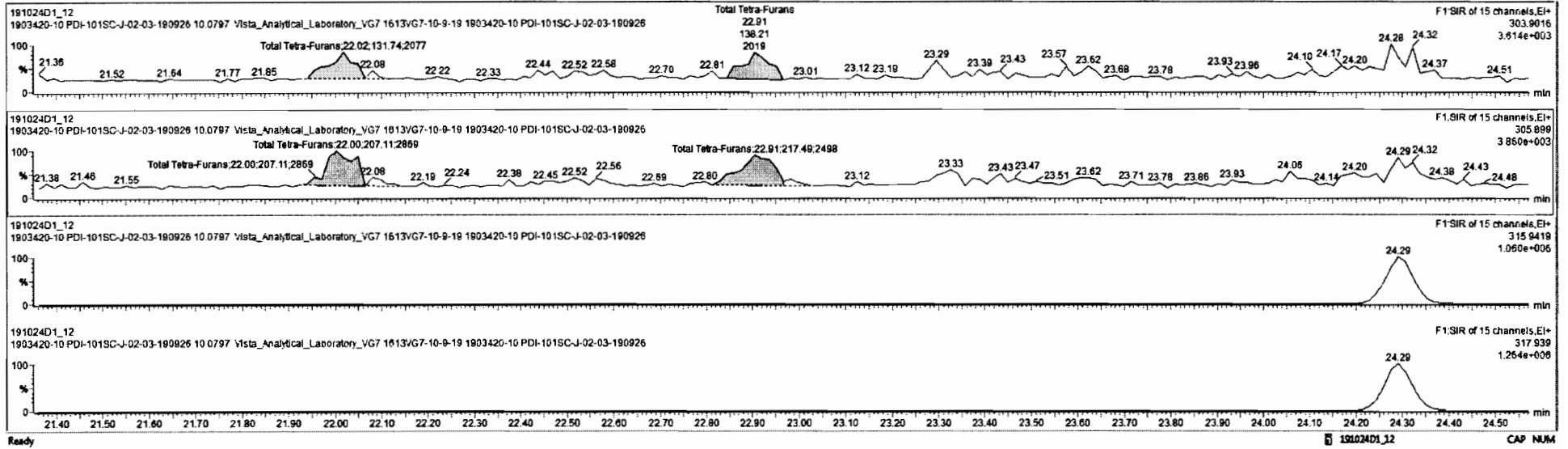


P

191024D1_12: 1903420-10 PDI-101SC-J-02-03-190926 1903420-10 PDI-101SC-J-02-03-190926 10 0797 Vista Analytical Laboratory VG7 1613VG7 10 9 19

#	Name	Resp	IS Resp	ISL	RA	aly	RPF	WVVol	Prod.RT	RT	RXT	Pred.RT	Check RPT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins	5.11e4					0.980	10.080	37.75			0.000	NO	82.97		0.617	82.97
43	Total Tetra-Furans	8.20e0					0.843	18.080	24.09			0.000	NO	7.882		0.341	18.84
44	1st Func. Penta-Furans	0.00e0					0.940	10.080	27.63			0.000	NO	0.0000		0.0607	0.394E
45	Total Penta-Furans	0.00e0					0.940	10.080	30.00			0.000	NO	6.284		0.289	10.22
46	Total Hexa-Furans	0.00e0					1.078	10.080	33.00			0.000	NO	9.122		0.449	13.23
47	Total Hepta-Furans	0.00e0					1.135	10.080	37.75			0.000	NO	19.32		0.331	19.32
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	ref Resp	m2 Resp	Pred RA	RA	aly	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	22.02	1.317e2	2.071e2	0.770	0.84	YES	0.69009	0.00000
2	43 Total Tetra-Furans	24.00	22.91	1.382e2	2.175e2	0.770	0.84	YES	0.72387	0.00000
3	43 Total Tetra-Furans	24.00	24.71	6.925e2	9.484e2	0.770	0.73	NO	3.7393	3.7393
4	43 Total Tetra-Furans	24.00	25.41	8.438e1	9.809e1	0.770	0.85	YES	0.33723	0.00000
5	8 2,3,7,8-TCDF	25.52	25.52	7.622e2	9.400e2	0.770	0.81	NO	3.8482	3.8482
6	43 Total Tetra-Furans	24.00	25.85	5.324e1	6.674e1	0.770	0.80	NO	0.27341	0.27341
7	43 Total Tetra-Furans	24.00	27.26	1.131e2	1.047e2	0.770	1.08	YES	0.42224	0.00000

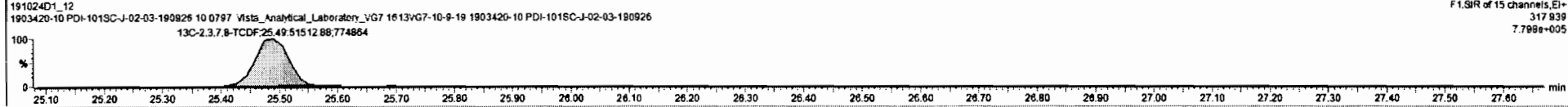
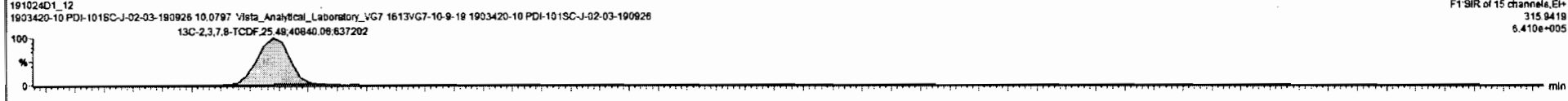
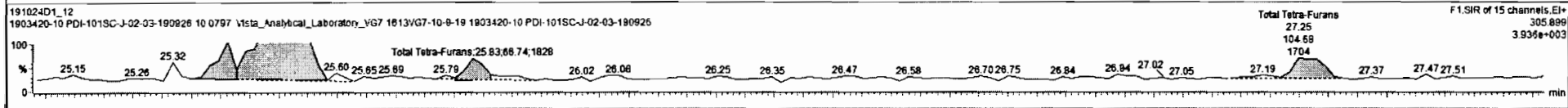
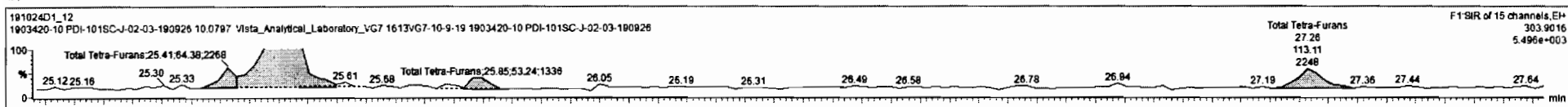


File Edit View Display Processing Window Help

191024D1_12 1903420-10 PDI-101SC-J-02-03-190926 1903420-10 PDI-101SC-J-02-03-190926 10/0797 Vista Analytical Laboratory VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISL	RA	nly	RF	w/wt	Pred RT	RT	PRT	Pred. RT	Check RT	Conc.	%Rec	DL	EMPC
42	43 Total Hepta-Furans		5.1164				0.989	10.080	37.75			0.000	NO	42.97	0.617	82.97	
43	45 Total Tetra-Furans		8.2941				0.843	16.080	28.02			0.000	NO	27.80	0.291	76.84	
44	44 1st Func. Penta-Furans		0.0000				0.940	10.080	27.63			0.000	NO	0.0000	0.0007	0.3948	
45	45 Total Penta-Furans		0.0000				0.940	10.080	30.00			0.000	NO	6.284	0.289	10.22	
46	46 Total Hexa-Furans		0.0000				1.078	10.080	33.00			0.000	NO	9.122	0.449	13.23	
47	47 Total Hepta-Furans		0.0000				1.135	10.080	37.75			0.000	NO	19.32	0.331	19.32	
48	48 PFK1																
49	49 PFK2																
50	50 PFK3																

#	Name	Pred RT	RT	1st Resp	2nd Resp	Pred RA	RA	nly	EMPC	Conc.
1	43 Total Tetra-Furans	24.00	22.02	1.31742	2.07162	0.770	0.84	YES	0.89009	0.00000
2	43 Total Tetra-Furans	24.00	22.91	1.38262	2.17562	0.770	0.84	YES	0.72387	0.00000
5	45 Total Tetra-Furans	24.00	24.71	6.92562	9.48462	0.770	0.73	NO	3.7393	3.7393
4	43 Total Tetra-Furans	24.00	25.41	6.43581	9.88981	0.770	0.95	YES	0.33723	0.00000
6	8 2,3,7,8-TCDF	25.52	25.52	7.82262	9.40062	0.770	0.81	NO	3.8492	3.8492
8	43 Total Tetra-Furans	24.00	25.85	5.32441	6.87441	0.770	0.80	NO	0.27341	0.27341
7	43 Total Tetra-Furans	24.00	27.26	1.13162	1.04762	0.770	1.88	YES	0.42224	0.00000



Ready 191024D1_12 CAP NUM

Vista Analytical Laboratory

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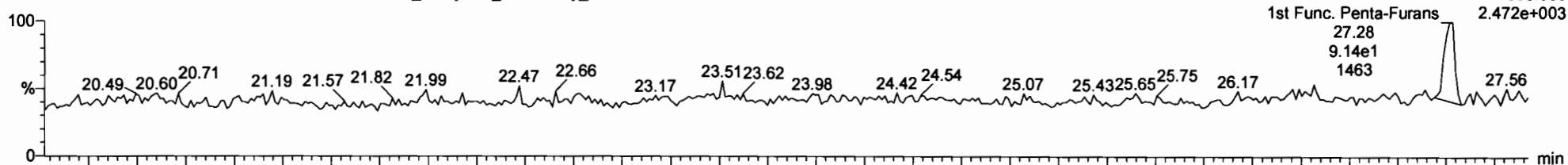
Last Altered: Tuesday, November 05, 2019 16:06:29 Pacific Standard Time

Printed: Tuesday, November 05, 2019 16:06:40 Pacific Standard Time

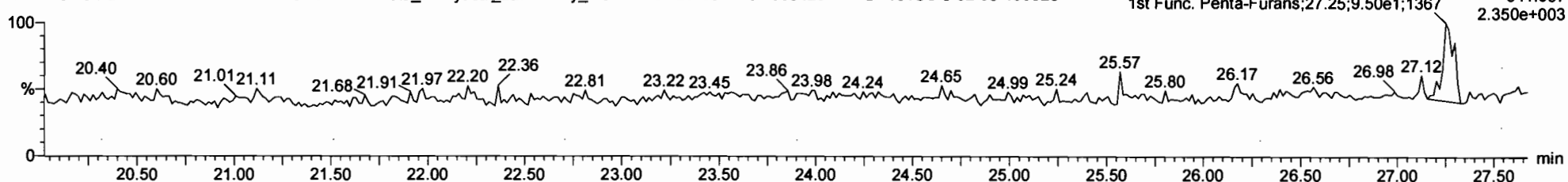
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1st Func. Penta-Furans

191024D1_12 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-10 PDI-101SC-J-02-03-190926

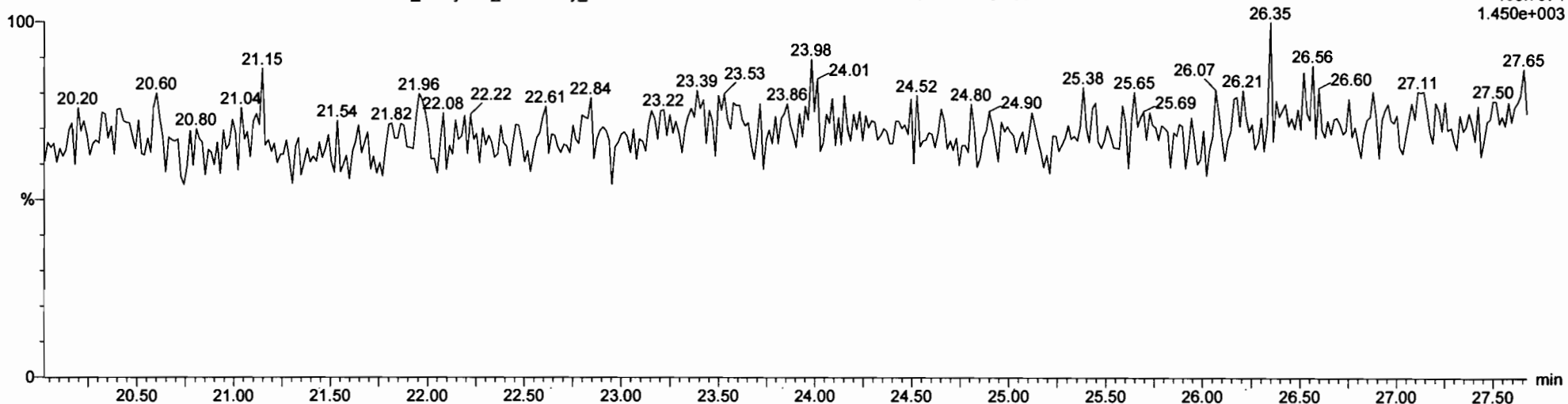


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DPE6

191024D1_12 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-10 PDI-101SC-J-02-03-190926



Vista Analytical Laboratory

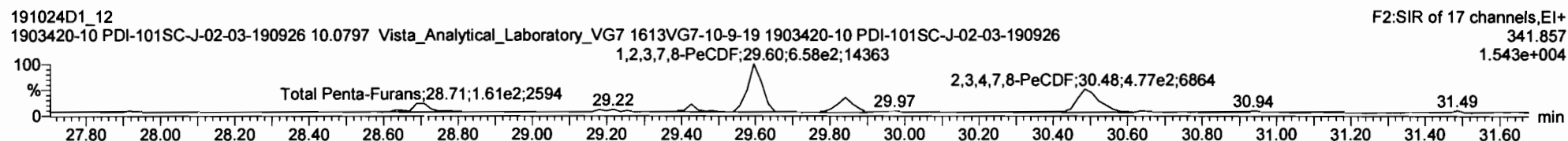
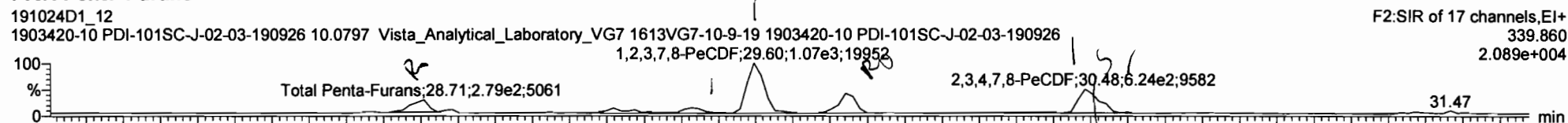
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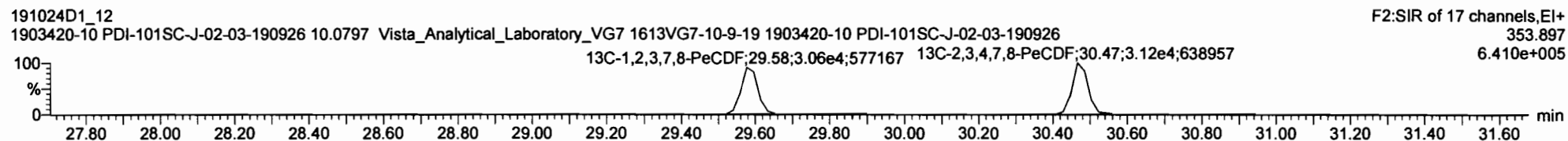
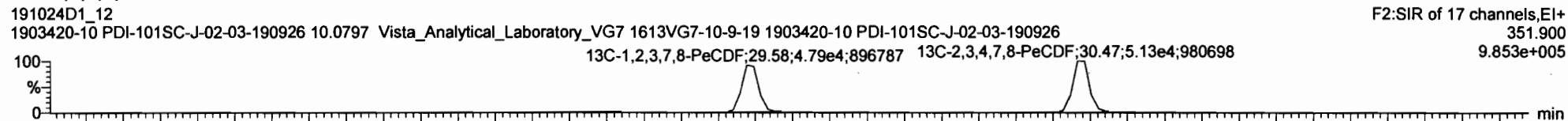
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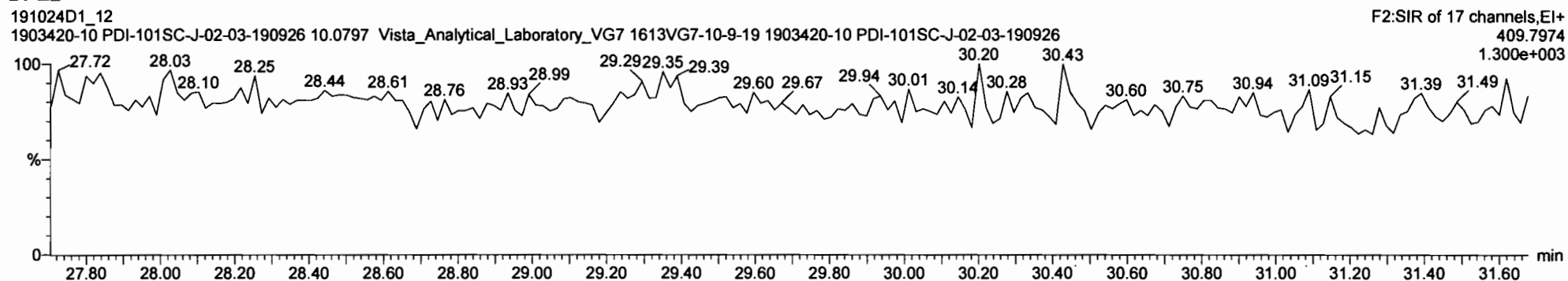
Total Penta-Furans



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



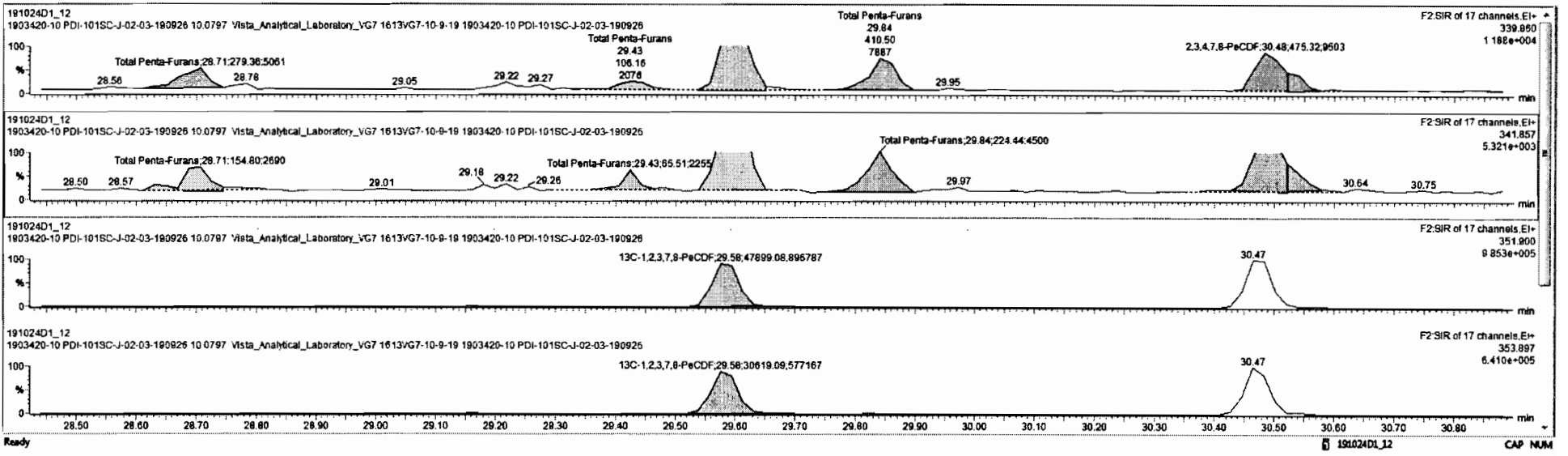
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#	Name	Resp	IS Resp	IS#	RA	aly	RPF	uVal	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
42	Total Hepta-Dioxins		5.11e4				0.980	10.080	37.75			0.000	NO	82.97		0.617	82.97
43	Total Tetra-Furans		9.24e4				0.943	10.080	24.00			0.000	NO	7.862		0.391	10.04
44	1st Func. Penta-Furans		0.00e0				0.940	10.080	27.63			0.000	NO	0.0000		0.0607	0.3946
45	Total Penta-Furans		0.00e0				0.940	10.080	30.00			0.000	NO	7.456		0.396	3.880
46	Total Hexa-Furans		0.00e0				1.078	10.080	33.00			0.000	NO	9.122		0.449	13.23
47	Total Hepta-Furans		0.00e0				1.135	10.080	37.75			0.000	NO	19.32		0.331	19.32
48	PFK1																
49	PFK2																
50	PFK3																

#	Name	Pred.RT	RT	Int Resp	Int Resp	Pred RA	RA	aly	EMPC	Conc.
1	45 Total Penta-Furans	30.00	28.71	2.79442	1.548e2	1.550	1.90	YES	1.0356	0.00000
2	45 Total Penta-Furans	30.00	25.43	1.062a2	6.551e1	1.550	1.82	NO	0.45036	0.45036
3	9 1,2,3,7,8-PeCDF	29.60	29.80	1.050e3	6.479e2	1.550	1.82	NO	4.4663	4.4663
4	45 Total Penta-Furans	30.00	29.84	4.105e2	2.244e2	1.550	1.83	YES	1.5015	0.00000
5	10 2,3,4,7,8-PeCDF	30.50	30.48	4.753e2	3.506e2	1.550	1.33	NO	1.9771	1.9771
6	45 Total Penta-Furans	30.00	30.52	1.317e2	8.243e1	1.550	1.60	NO	0.56188	0.56188



Vista Analytical Laboratory

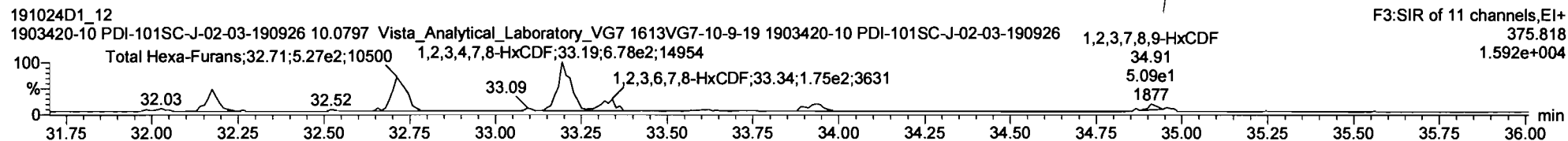
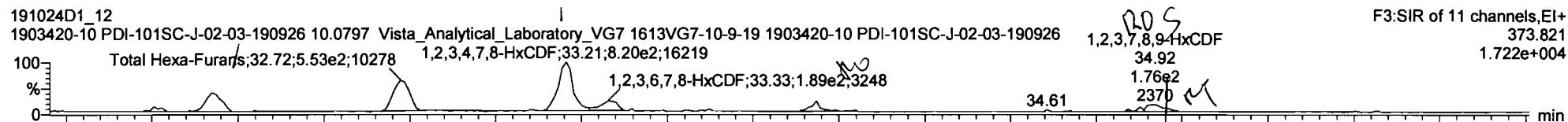
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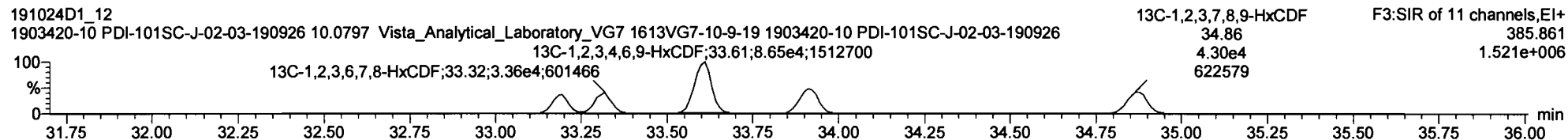
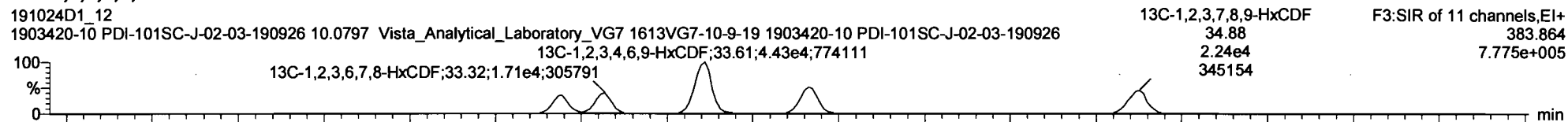
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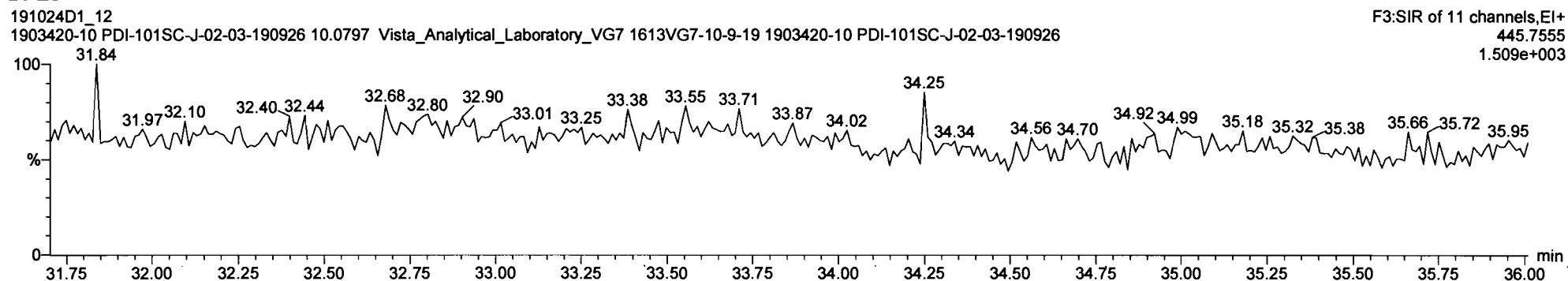
Total Hexa-Furans



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



DPE3



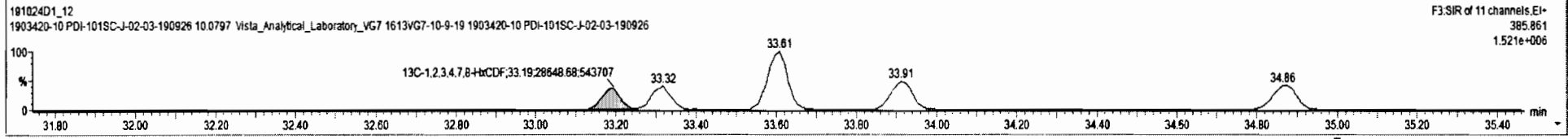
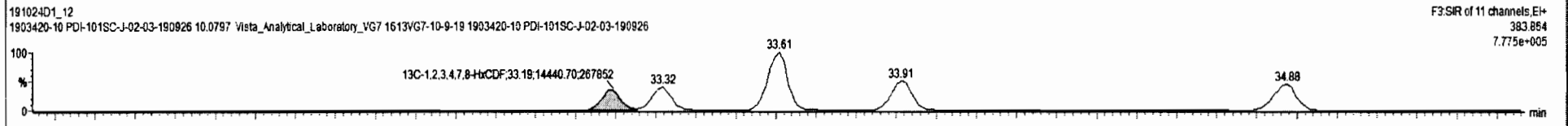
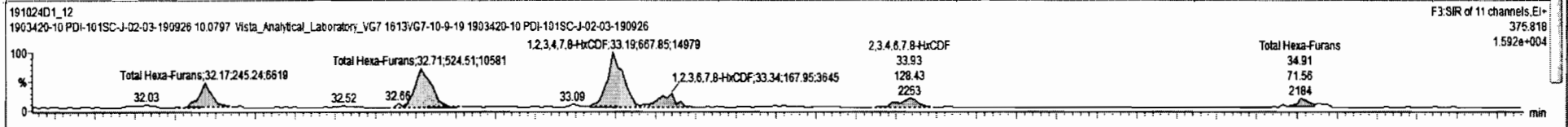
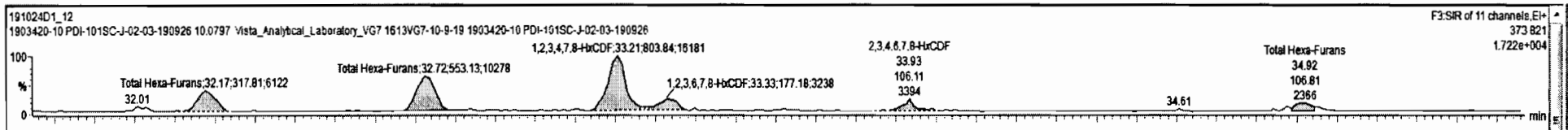
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File Edit View Display Processing Window Help

191024D1_12 - 1903420-10 PDI-101SC-J-02-03-190926 - 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISF	RA	nly	RPF	wt/nt	Prod.RT	RT	RRT	Prod.RRT	Check RRT	Conc.	%Rec	DL	EMPC
38	13C-1,2,3,4,6,8-HxCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.080	33.55	33.61	1.000	1.000	NO	196.4	100	0.478	
39	Total Tetra-Dioxins	6.51e4					0.901	10.080	25.50			0.000	NO	1.054	0.329	1.054	
40	Total Penta-Dioxins	5.53e4					0.872	10.080	30.00			0.000	NO	0.6264	0.296	0.6264	
41	Total Hexa-Dioxins	0.00e0					0.976	10.080	33.80			0.000	NO	11.32	0.550	11.32	
42	Total Hepta-Dioxins	5.11e4					0.989	10.080	37.75			0.000	NO	82.97	0.617	82.97	
43	Total Tetra-Furans	9.24e4					0.943	10.080	24.00			0.000	NO	7.962	0.391	10.04	
44	1st Func. Penta-Furans	0.00e0					0.940	10.080	27.63			0.000	NO	0.0000	0.0607	0.3946	
45	Total Penta-Furans	0.00e0					0.940	10.080	30.00			0.000	NO	7.456	0.289	9.993	
46	Total Hexa-Furans	0.00e0					1.970	10.080	33.00			0.000	NO	12.32	0.440	13.34	

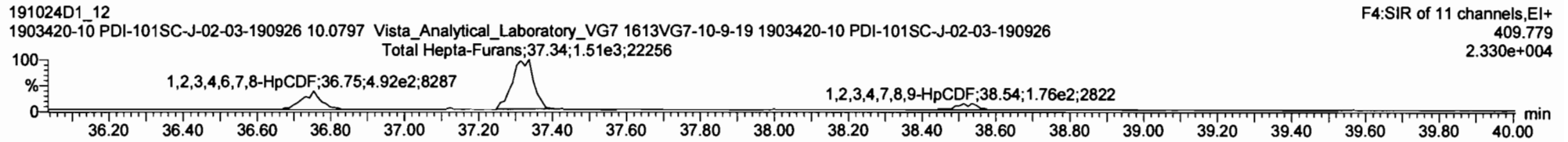
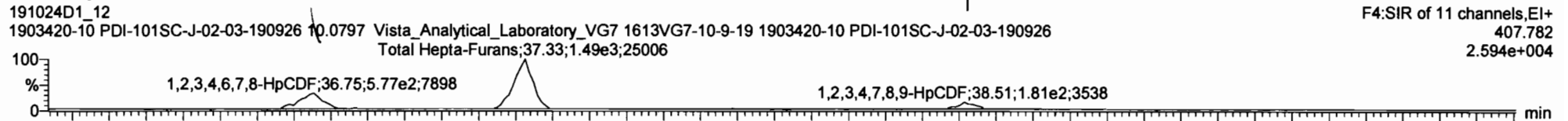
#	Name	Prod.RT	RT	Int Resp	m2 Resp	Prod RA	RA	nly	EMPC	Conc.
1	46 Total Hexa-Furans	33.00	32.17	3.175e2	2.452e2	1.240	1.30	NO	1.8186	1.8186
2	46 Total Hexa-Furans	33.00	32.72	5.531e2	5.245e2	1.240	1.05	NO	3.4808	3.4808
3	11 1,2,3,4,7,8-HxCDF	33.19	33.21	8.038e2	6.679e2	1.240	1.20	NO	5.7587	5.7587
4	12 1,2,3,6,7,8-HxCDF	33.33	33.33	1.772e2	1.679e2	1.240	1.05	NO	1.2653	1.2653
5	13 2,3,4,6,7,8-HxCDF	33.95	33.93	1.061e2	1.284e2	1.240	0.83	YES	0.49586	0.00000
6	46 Total Hexa-Furans	33.00	34.92	1.068e2	7.156e1	1.240	1.49	YES	0.51773	0.00000



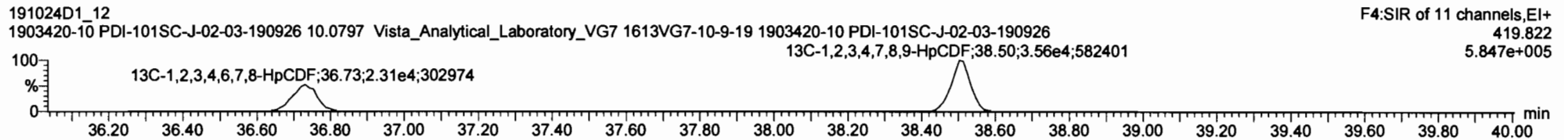
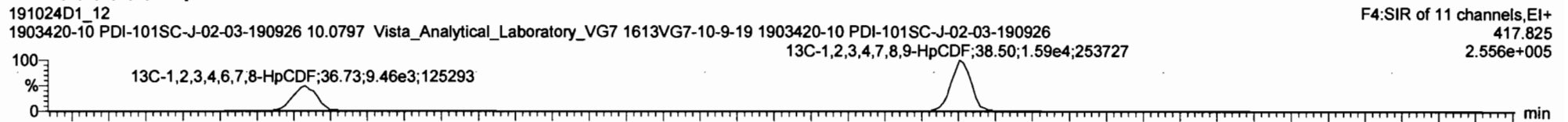
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Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

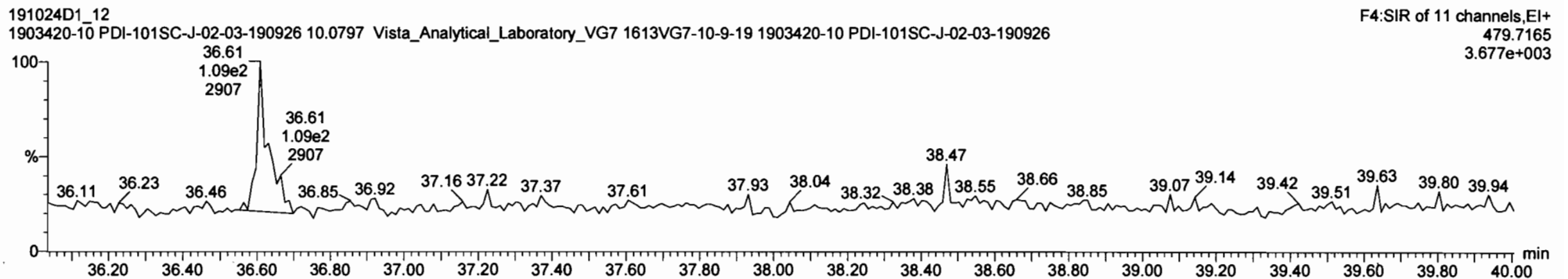
Total Hepta-Furans



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



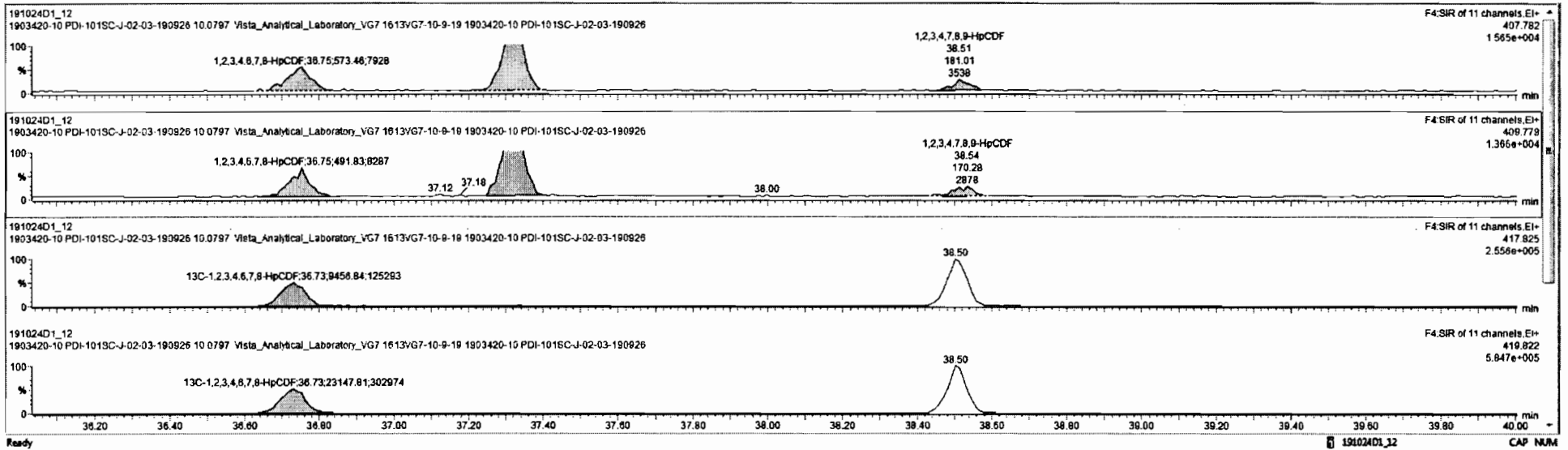
DPE4



191024D1_12 - 1903420-10 PDI-101SC-J-02-03-190926 - 1903420-10 PDI-101SC-J-02-03-190926 10 0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

#	Name	Resp	IS Resp	ISP	RA	nly	RSP	WVol	Pred.RT	RT	RRT	Pred.RRT	Check.RRT	Conc.	%Rec	DL	EMPC
38	13C-1,2,3,4,6,8-HpCDF	1.31e5	1.31e5	38	0.51	NO	1.000	10.080	33.55	33.61	1.000	1.000	NO	198.4	100	0.478	
39	Total Tetra-Dioxins		6.51e4				0.901	10.080	25.50			0.000	NO	1.054	0.329	1.054	
40	Total Penta-Dioxins		5.53e4				0.872	10.080	30.00			0.000	NO	0.8264	0.298	0.8264	
41	Total Hexa-Dioxins		0.00e0				0.976	10.080	33.80			0.000	NO	11.32	0.550	11.32	
42	Total Hepta-Dioxins		5.11e4				0.989	10.050	37.75			0.000	NO	82.97	0.617	82.97	
43	Total Tetra-Furans		9.24e4				0.943	10.080	24.00			0.000	NO	7.882	0.391	10.04	
44	1st Func. Penta-Furans		0.00e0				0.940	10.080	27.83			0.000	NO	0.0000	0.0607	0.3946	
45	Total Penta-Furans		0.00e0				0.940	10.080	30.00			0.000	NO	7.456	0.269	9.993	
46	Total Hexa-Furans		0.00e0				1.078	10.080	33.00			0.000	NO	12.32	0.448	13.34	

#	Name	Pred.RT	RT	ret Resp	m2 Resp	Pred RA	RA	nly	EMPC	Conc.
1	15 1,2,3,4,6,7,8-HpCDF	36.77	36.75	5.735e2	4.918e2	1.040	1.17	NO	5.7493	5.7493
2	47 Total Hepta-Furans	37.75	37.33	1.482e3	1.505e3	1.040	0.96	NO	12.430	12.430
3	16 1,2,3,4,7,8,9-HpCDF	38.50	38.51	1.610e2	1.703e2	1.040	1.06	NO	1.0584	1.0584



Vista Analytical Laboratory

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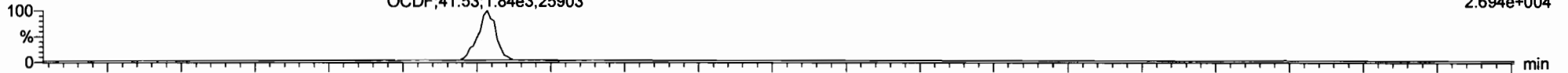
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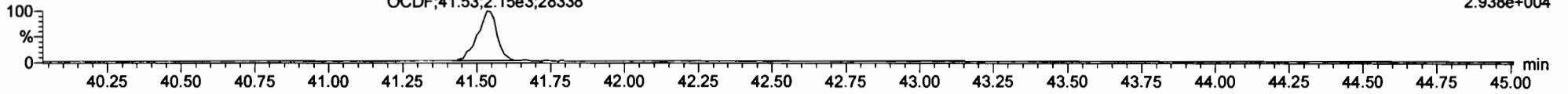
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F5:SIR of 11 channels,EI+ 441.743 2.694e+004



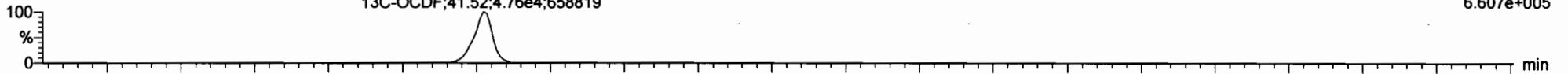
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F5:SIR of 11 channels,EI+ 443.740 2.938e+004



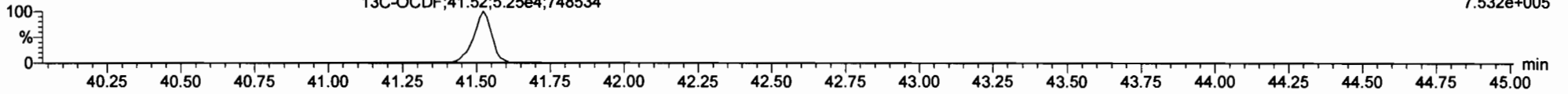
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F5:SIR of 11 channels,EI+ 453.7831 6.607e+005



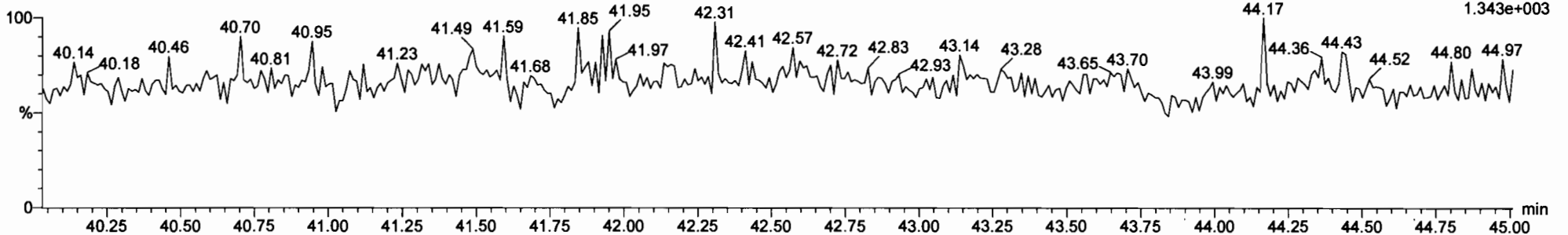
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F5:SIR of 11 channels,EI+ 455.780 7.532e+005



DPE5 191024D1_12 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19 1903420-10 PDI-101SC-J-02-03-190926

F5:SIR of 11 channels,EI+ 513.6775 1.343e+003



Vista Analytical Laboratory

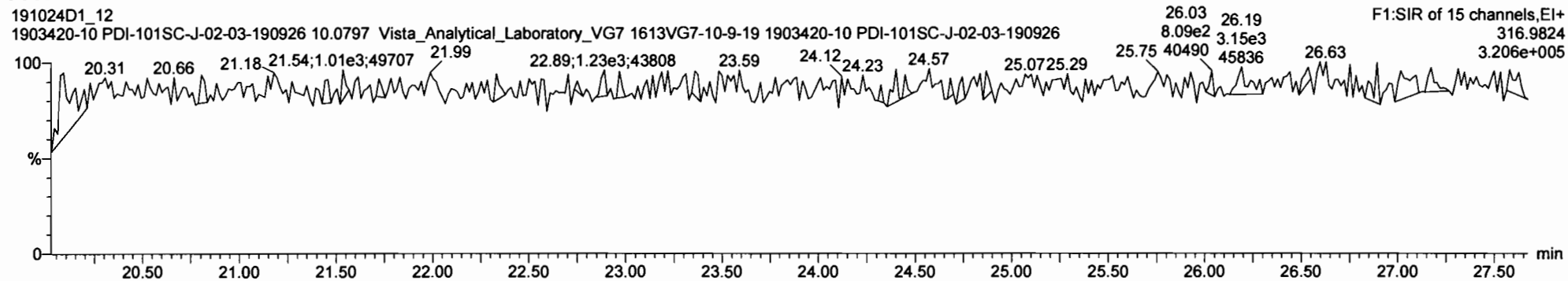
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Last Altered: Tuesday, November 05, 2019 16:06:29 Pacific Standard Time

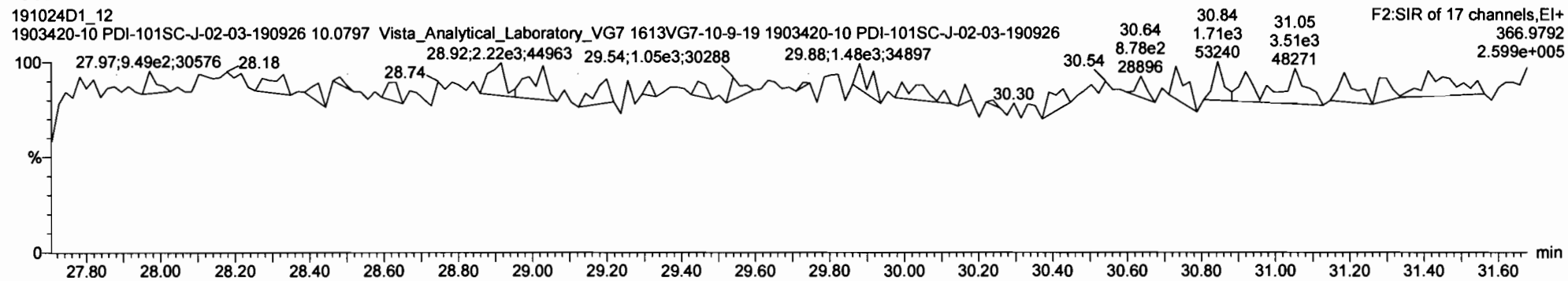
Printed: Tuesday, November 05, 2019 16:06:40 Pacific Standard Time

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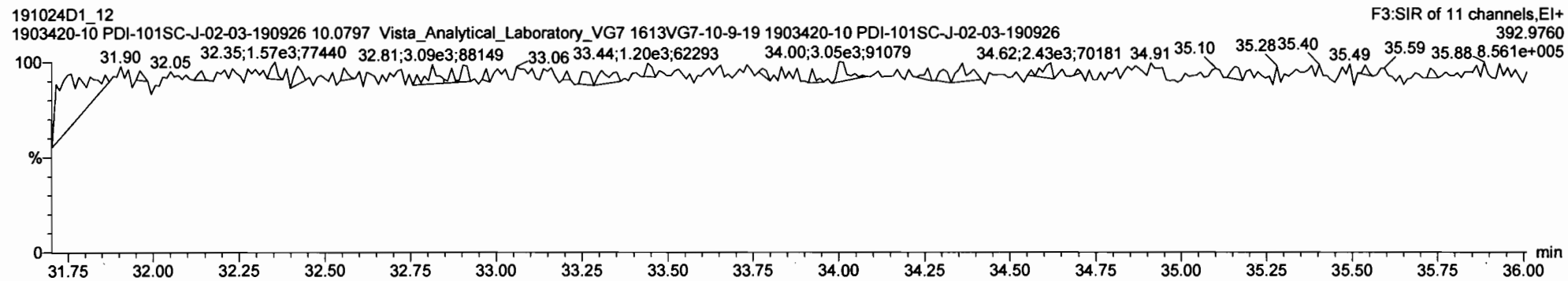
PFK1



PFK2



PFK3



Vista Analytical Laboratory

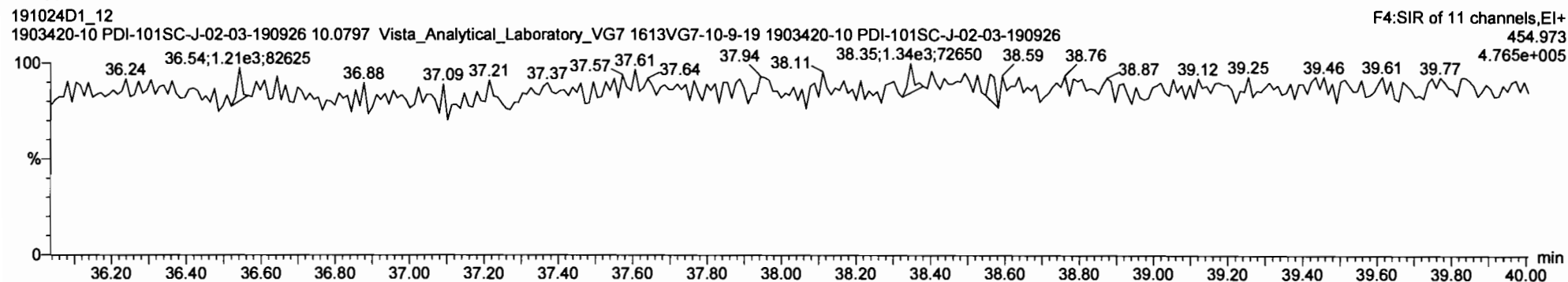
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Last Altered: Tuesday, November 05, 2019 16:06:29 Pacific Standard Time

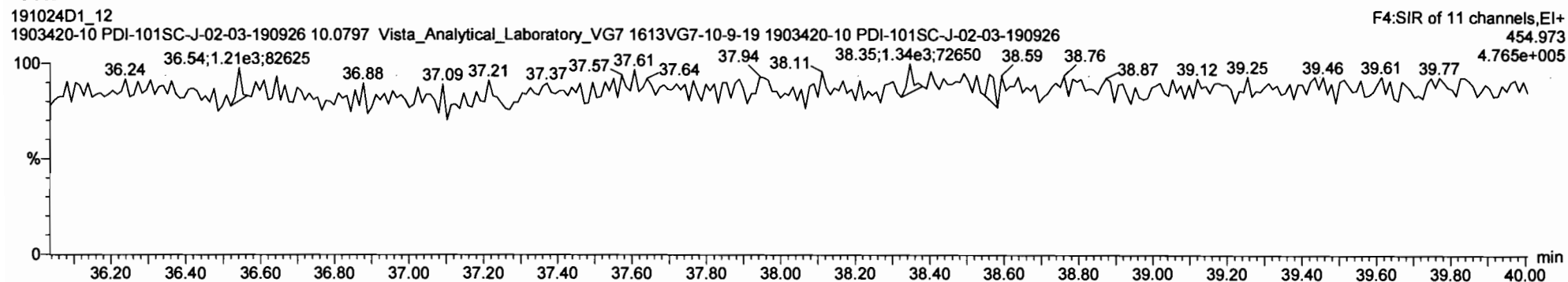
Printed: Tuesday, November 05, 2019 16:06:40 Pacific Standard Time

Name: VG7 191024D1_12, Date: 25-OCT-2019, Time: 00:23:09, ID: 1903420-10 PDI-101SC-J-02-03-190926,
Description: 1903420-10 PDI-101SC-J-02-03-190926 10.0797 Vista_Analytical_Laboratory_VG7 1613VG7-10-9-19

PFK4



PFK5



Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	5.18e+04	0.70 y	0.91	26:15	0.78136	*	2.5	*	*
1,2,3,7,8-PeCDD	5.14e+04	0.58 y	0.90	30:43	1.0720	*	2.5	*	*
1,2,3,4,7,8-HxCDD	7.20e+04	1.29 y	1.10	34:02	1.4287	*	2.5	*	*
1,2,3,6,7,8-HxCDD	3.52e+05	1.27 y	0.94	34:08	7.3003	*	2.5	*	*
1,2,3,7,8,9-HxCDD	1.62e+05	1.27 y	0.96	34:27	3.4299	*	2.5	*	*
1,2,3,4,6,7,8-HpCDD	6.66e+06	1.04 y	0.98	37:53	177.46	*	2.5	*	*
OCDD	4.07e+07	0.90 y	0.96	41:09	1687.5	*	2.5	*	*
2,3,7,8-TCDF	1.59e+06	0.79 y	0.95	25:29	14.782 (13.4)	*	2.5	*	*
1,2,3,7,8-PeCDF	1.68e+06	1.57 y	0.96	29:34	18.871	*	2.5	*	*
2,3,4,7,8-PeCDF	6.12e+05	1.62 y	1.01	30:26	7.0650	*	2.5	*	*
1,2,3,4,7,8-HxCDF	3.06e+06	1.23 y	1.18	33:09	38.313	*	2.5	*	*
1,2,3,6,7,8-HxCDF	8.13e+05	1.25 y	1.07	33:16	10.109	*	2.5	*	*
2,3,4,6,7,8-HxCDF	2.40e+05	1.22 y	1.11	33:52	3.3369	*	2.5	*	*
1,2,3,7,8,9-HxCDF	1.29e+05	1.24 y	1.06	34:49	1.9893	*	2.5	*	*
1,2,3,4,6,7,8-HpCDF	2.03e+06	1.02 y	1.13	36:40	36.829	*	2.5	*	*
1,2,3,4,7,8,9-HpCDF	3.92e+05	1.01 y	1.28	38:25	7.7819	*	2.5	*	*
OCDF	3.57e+06	0.88 y	0.95	41:23	104.77	*	2.5	*	*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	9.07	10.7	*	*	*
Total Penta-Dioxins	5.49	11.2	*	*	*
Total Hexa-Dioxins	63.3	63.3	*	*	*
Total Hepta-Dioxins	434	434	*	*	*
Total Tetra-Furans	58.2	58.2	*	*	*
Total Penta-Furans	62.630	63.139	*	*	*
Total Hexa-Furans	94.1	94.1	*	*	*
Total Hepta-Furans	104	104	*	*	*

IS	13C-2,3,7,8-TCDD	1.46e+07	0.78 y	1.10	26:14	188.89			
IS	13C-1,2,3,7,8-PeCDD	1.06e+07	0.64 y	0.88	30:43	170.40			
IS	13C-1,2,3,4,7,8-HxCDD	9.11e+06	1.34 y	0.64	34:02	161.10			
IS	13C-1,2,3,6,7,8-HxCDD	1.02e+07	1.23 y	0.86	34:08	135.78			
IS	13C-1,2,3,7,8,9-HxCDD	9.77e+06	1.27 y	0.81	34:26	137.57			
IS	13C-1,2,3,4,6,7,8-HpCDD	7.63e+06	1.07 y	0.65	37:52	132.55			
IS	13C-OCDD	1.00e+07	0.92 y	0.58	41:09	196.49			
IS	13C-2,3,7,8-TCDF	2.25e+07	0.80 y	1.03	25:28	182.11			
IS	13C-1,2,3,7,8-PeCDF	1.84e+07	1.62 y	0.85	29:33	180.90			
IS	13C-2,3,4,7,8-PeCDF	1.70e+07	1.61 y	0.85	30:26	168.25			
IS	13C-1,2,3,4,7,8-HxCDF	1.35e+07	0.52 y	0.83	33:08	184.69			
IS	13C-1,2,3,6,7,8-HxCDF	1.50e+07	0.52 y	1.03	33:16	164.49			
IS	13C-2,3,4,6,7,8-HxCDF	1.28e+07	0.53 y	0.95	33:51	152.92			
IS	13C-1,2,3,7,8,9-HxCDF	1.21e+07	0.51 y	0.83	34:49	166.59			
IS	13C-1,2,3,4,6,7,8-HpCDF	9.74e+06	0.44 y	0.76	36:39	146.00			
IS	13C-1,2,3,4,7,8,9-HpCDF	7.84e+06	0.44 y	0.58	38:25	153.20			
IS	13C-OCDF	1.43e+07	0.91 y	0.69	41:23	236.00			

Rec Qual

94.8
85.6
80.9
68.2
69.1
66.5
49.3
91.4
90.8
84.5
92.7
82.6
76.8
83.6
73.3
76.9
59.2

C/Up	37C1-2,3,7,8-TCDD	6.33e+06		1.20	26:15	74.998			
RS/RT	13C-1,2,3,4-TCDD	1.40e+07	0.80 y	1.00	25:41	199.18			
RS	13C-1,2,3,4-TCDF	2.38e+07	0.80 y	1.00	24:16	199.18			
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.75e+07	0.53 y	1.00	33:33	199.18			

Integrations Reviewed
 by Analyst: DB by Analyst: CT
 Date: 11/12/19 Date: 11/20/19

Totals class: TCDD EMPC

Entry #: 19

Run: 9 File: 191111D2 S: 8 I: 1 F: 1
 Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 10.661

Unnamed Concentration: 9.880

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name	
22:53	6.379e+04	8.005e+04	0.80	y	1.438e+05	2.1709	
23:15	2.580e+04	2.609e+04	0.99	n	4.617e+04	0.69685	
23:39	9.006e+03	1.026e+04	0.88	y	1.927e+04	0.29079	
24:16	1.326e+04	5.343e+03	2.48	n	9.457e+03	0.14273	
24:23	1.354e+04	1.597e+04	0.85	y	2.951e+04	0.44544	
24:36	1.061e+04	1.318e+04	0.81	y	2.379e+04	0.35912	
24:46	1.780e+04	1.720e+04	1.03	n	3.045e+04	0.45961	
24:58	3.270e+03	4.848e+03	0.67	y	8.118e+03	0.12252	
25:11	5.001e+03	5.729e+03	0.87	y	1.073e+04	0.16195	
25:20	5.909e+03	8.755e+03	0.67	y	1.466e+04	0.22133	
25:28	1.384e+04	3.608e+03	3.84	n	6.386e+03	0.096377	
25:39	6.770e+03	7.375e+03	0.92	n	1.305e+04	0.19701	
26:01	1.309e+05	1.528e+05	0.86	y	2.837e+05	4.2815	
26:15	2.137e+04	3.040e+04	0.70	y	5.177e+04	0.78136	2,3,7,8-TCDD
26:32	6.887e+03	8.588e+03	0.80	y	1.548e+04	0.23357	

Totals class: PeCDD EMPC

Entry #: 21

Run: 9 File: 191111D2 S: 8 I: 1 F: 2
 Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 11.209 Unnamed Concentration: 10.137

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name	
28:41	6.348e+04	9.770e+04	0.65	y	1.612e+05	3.3607	
29:08	1.564e+04	2.135e+04	0.73	n	3.480e+04	0.72551	
29:34	5.674e+04	4.944e+04	1.15	n	8.058e+04	1.6801	
29:44	2.238e+04	3.082e+04	0.73	n	5.024e+04	1.0475	
29:50	1.318e+04	2.345e+04	0.56	y	3.663e+04	0.76380	
30:02	2.739e+04	3.734e+04	0.73	n	6.086e+04	1.2690	
30:20	5.018e+03	8.820e+03	0.57	y	1.384e+04	0.28852	
30:26	2.972e+04	9.732e+03	3.05	n	1.586e+04	0.33075	
30:43	1.893e+04	3.249e+04	0.58	y	5.141e+04	1.0720	1,2,3,7,8-PeCDD
30:49	6.931e+03	8.174e+03	0.85	n	1.332e+04	0.27781	
31:06	8.806e+03	1.158e+04	0.76	n	1.888e+04	0.39368	

Totals class: HxCDD EMPC

Entry #: 23

Run: 9 File: 191111D2 S: 8 I: 1 F: 3
Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 63.276

Unnamed Concentration: 51.117

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:30	5.913e+05	4.730e+05	1.25 y	1.064e+06	22.026
33:05	9.552e+04	6.984e+04	1.37 y	1.654e+05	3.4220
33:20	6.327e+05	4.858e+05	1.30 y	1.119e+06	23.146
33:28	3.695e+04	3.246e+04	1.14 y	6.941e+04	1.4363
34:02	4.061e+04	3.136e+04	1.29 y	7.197e+04	1.4287 1,2,3,4,7,8-HxCDD
34:08	1.972e+05	1.548e+05	1.27 y	3.520e+05	7.3003 1,2,3,6,7,8-HxCDD
34:21	2.747e+04	2.508e+04	1.09 y	5.255e+04	1.0874
34:27	9.054e+04	7.126e+04	1.27 y	1.618e+05	3.4299 1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 9 File: 191111D2 S: 8 I: 1 F: 4
Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 434.46

Unnamed Concentration: 256.998

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:03	4.902e+06	4.745e+06	1.03 y	9.647e+06	257.00
37:53	3.390e+06	3.271e+06	1.04 y	6.661e+06	177.46

Totals class: TCDF EMPC

Entry #: 27

Run: 9 File: 191111D2 S: 8 I: 1 F: 1
 Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 58.223 Unnamed Concentration: 43.441

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
20:47	2.691e+04	3.448e+04	0.78	y	6.139e+04	0.57219
21:21	2.597e+04	3.913e+04	0.66	y	6.511e+04	0.60684
21:59	1.776e+05	2.222e+05	0.80	y	3.998e+05	3.7267
22:30	1.011e+05	1.256e+05	0.81	y	2.267e+05	2.1131
22:52	2.611e+05	3.029e+05	0.86	y	5.640e+05	5.2570
23:17	1.010e+05	1.309e+05	0.77	y	2.320e+05	2.1622
23:24	2.287e+04	2.873e+04	0.80	y	5.161e+04	0.48101
23:34	5.684e+04	6.774e+04	0.84	y	1.246e+05	1.1611
23:54	1.465e+04	1.656e+04	0.88	y	3.121e+04	0.29087
24:02	2.071e+04	2.436e+04	0.85	y	4.507e+04	0.42006
24:09	5.985e+04	7.789e+04	0.77	y	1.377e+05	1.2838
24:16	2.242e+05	2.692e+05	0.83	y	4.934e+05	4.5985
24:41	6.182e+05	7.972e+05	0.78	y	1.415e+06	13.193
24:56	3.926e+04	5.550e+04	0.71	y	9.476e+04	0.88325
25:06	2.318e+04	2.731e+04	0.85	y	5.049e+04	0.47058
25:22	1.555e+05	1.774e+05	0.88	y	3.329e+05	3.1027
25:29	6.995e+05	8.864e+05	0.79	y	1.586e+06	14.782
25:48	5.708e+04	6.949e+04	0.82	y	1.266e+05	1.1797
26:01	1.117e+04	1.523e+04	0.73	y	2.640e+04	0.24607
26:57	6.202e+03	7.137e+03	0.87	y	1.334e+04	0.12432
27:14	7.767e+04	9.066e+04	0.86	y	1.683e+05	1.5689

2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 9 File: 191111D2 S: 8 I: 1 F: 1
Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 7.6304 Unnamed Concentration: 7.630

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:14	4.113e+05	2.592e+05	1.59 y	6.705e+05	7.6304

Totals class: PeCDF EMPC

Entry #: 31

Run: 9 File: 191111D2 S: 8 I: 1 F: 2
 Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 55.509

Unnamed Concentration: 29.573

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
28:31	4.514e+04	2.963e+04	1.52	y	7.477e+04	0.85087
28:39	7.030e+05	4.424e+05	1.59	y	1.145e+06	13.034
29:00	1.173e+04	8.798e+03	1.33	y	2.053e+04	0.23365
29:11	1.770e+05	1.186e+05	1.49	y	2.956e+05	3.3638
29:23	1.150e+05	7.277e+04	1.58	y	1.878e+05	2.1369
29:34	1.025e+06	6.526e+05	1.57	y	1.678e+06	18.871
29:47	3.183e+05	1.992e+05	1.60	y	5.175e+05	5.8889
30:21	1.855e+04	1.324e+04	1.40	y	3.178e+04	0.36168
30:26	3.788e+05	2.334e+05	1.62	y	6.122e+05	7.0650
30:29	1.783e+05	1.024e+05	1.74	y	2.807e+05	3.1939
31:19	3.310e+04	1.755e+04	1.89	n	4.475e+04	0.50926

1,2,3,7,8-PeCDF

2,3,4,7,8-PeCDF

Totals class: HxCDF EMPC

Entry #: 33

Run: 9 File: 191111D2 S: 8 I: 1 F: 3
 Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

Total Concentration: 94.093

Unnamed Concentration: 40.344

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
31:58	1.897e+05	1.586e+05	1.20	y	3.483e+05	4.7015
32:07	6.149e+05	4.893e+05	1.26	y	1.104e+06	14.904
32:29	1.707e+04	1.218e+04	1.40	y	2.925e+04	0.39481
32:40	7.336e+05	5.951e+05	1.23	y	1.329e+06	17.934
33:03	2.078e+04	1.909e+04	1.09	y	3.986e+04	0.53805
33:09	1.691e+06	1.371e+06	1.23	y	3.062e+06	38.313 1,2,3,4,7,8-HxCDF
33:16	4.522e+05	3.608e+05	1.25	y	8.131e+05	10.109 1,2,3,6,7,8-HxCDF
33:33	1.003e+04	8.825e+03	1.14	y	1.886e+04	0.25454
33:52	1.316e+05	1.079e+05	1.22	y	2.395e+05	3.3369 2,3,4,6,7,8-HxCDF
34:49	7.115e+04	5.761e+04	1.24	y	1.288e+05	1.9893 1,2,3,7,8,9-HxCDF
34:52	6.644e+04	5.346e+04	1.24	y	1.199e+05	1.6183

Totals class: HpCDF EMPC

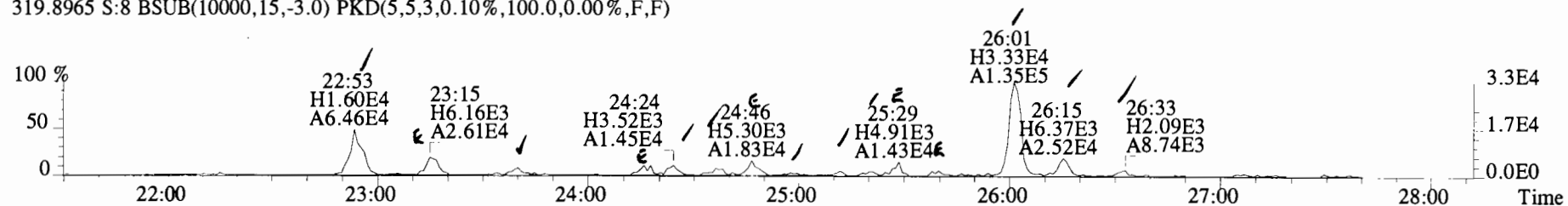
Entry #: 35

Run: 9 File: 191111D2 S: 8 I: 1 F: 4
Acquired: 12-NOV-19 04:06:44 Processed: 12-NOV-19 09:34:11

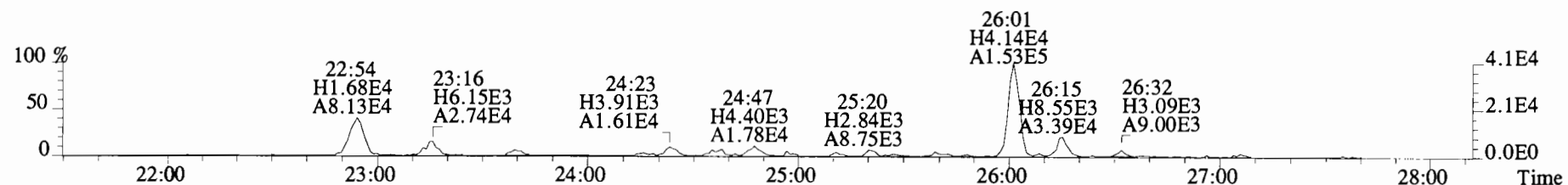
Total Concentration: 103.64 Unnamed Concentration: 59.030

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:40	1.025e+06	1.006e+06	1.02 y	2.031e+06	36.829	1,2,3,4,6,7,8-HpCDF
37:03	2.948e+04	2.628e+04	1.12 y	5.576e+04	1.0584	
37:14	1.555e+06	1.499e+06	1.04 y	3.054e+06	57.972	
38:25	1.975e+05	1.947e+05	1.01 y	3.922e+05	7.7819	1,2,3,4,7,8,9-HpCDF

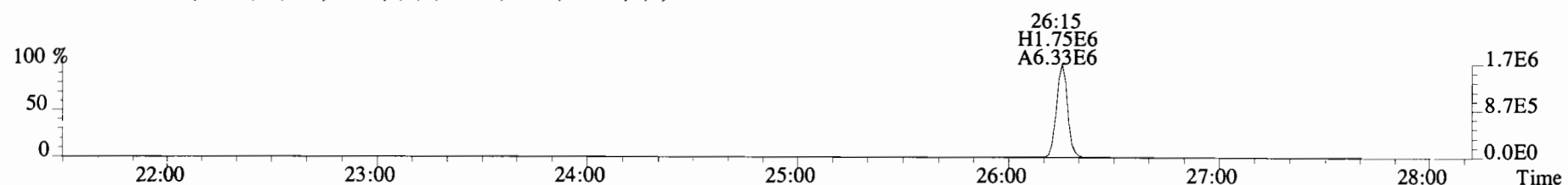
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



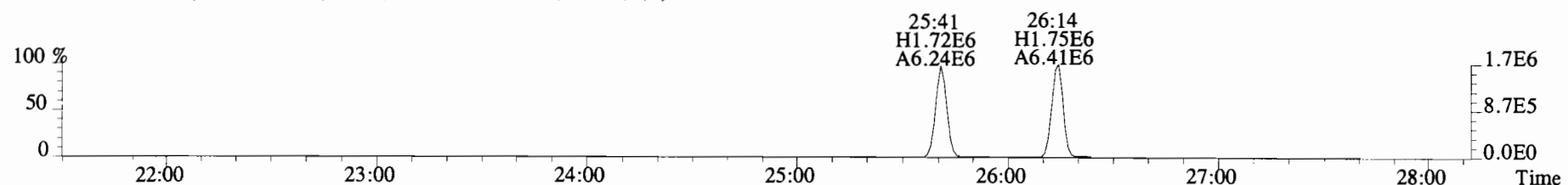
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



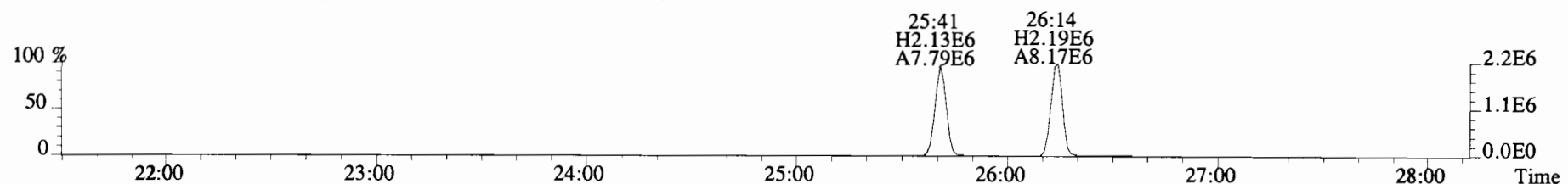
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



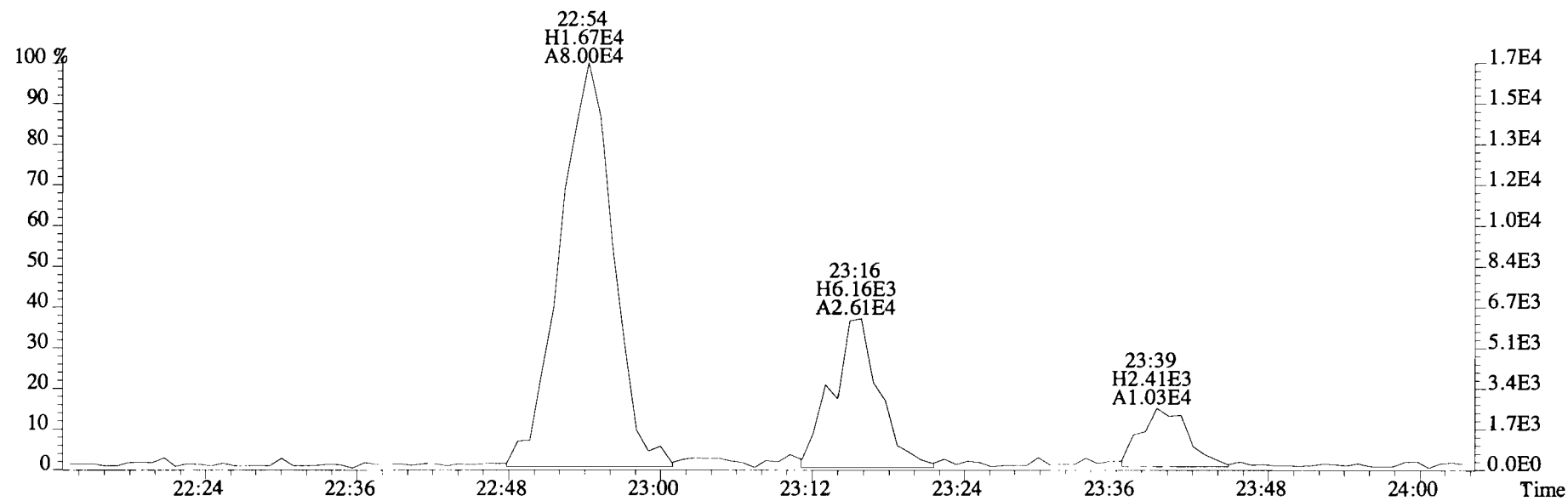
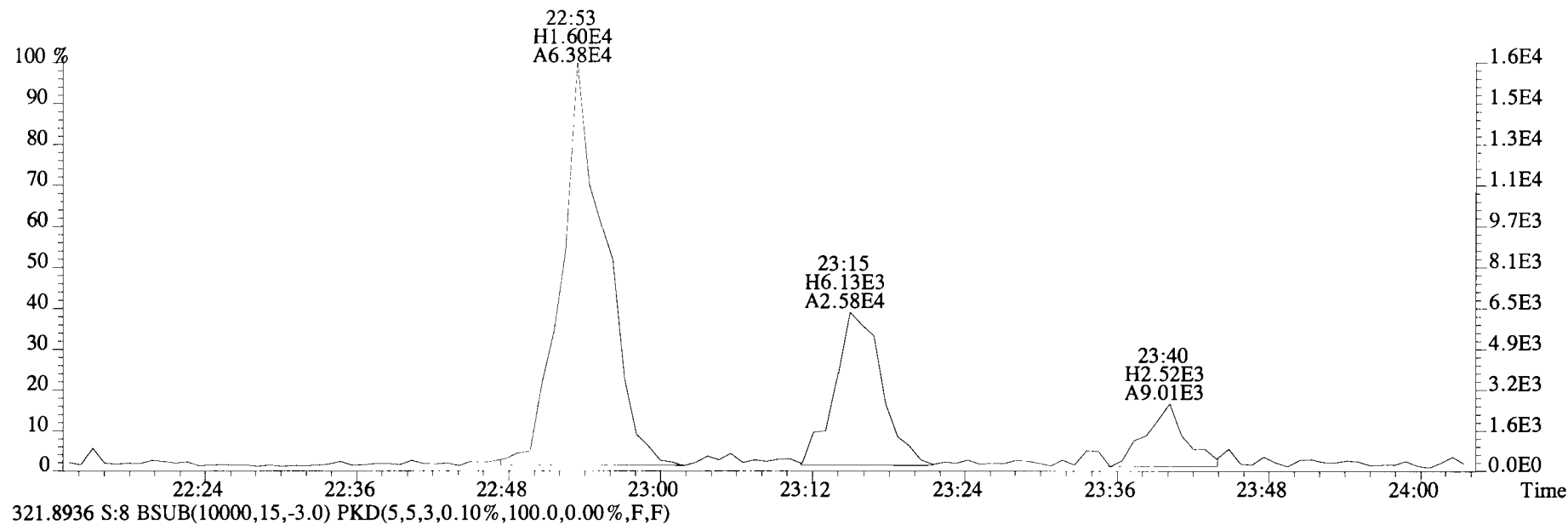
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



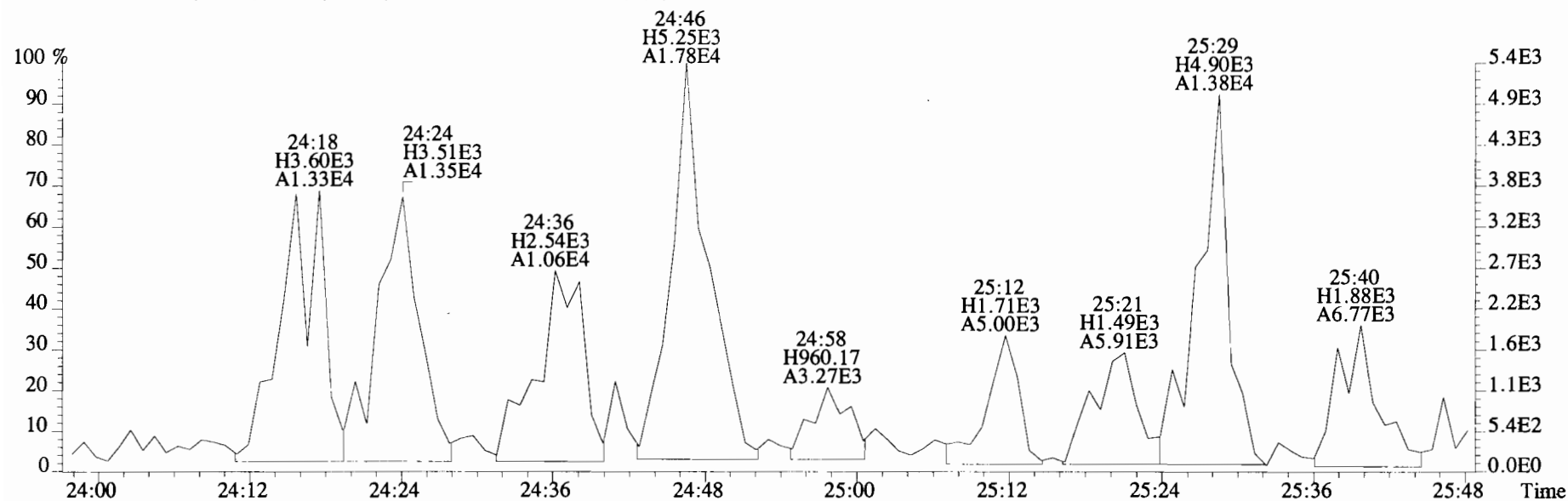
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



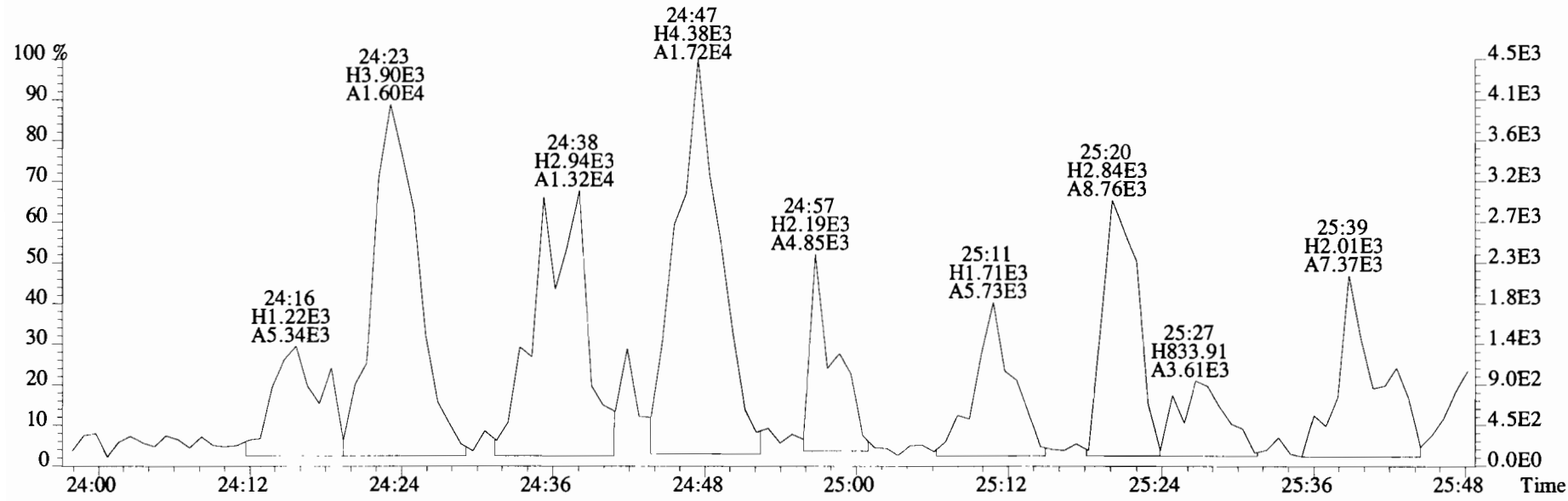
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



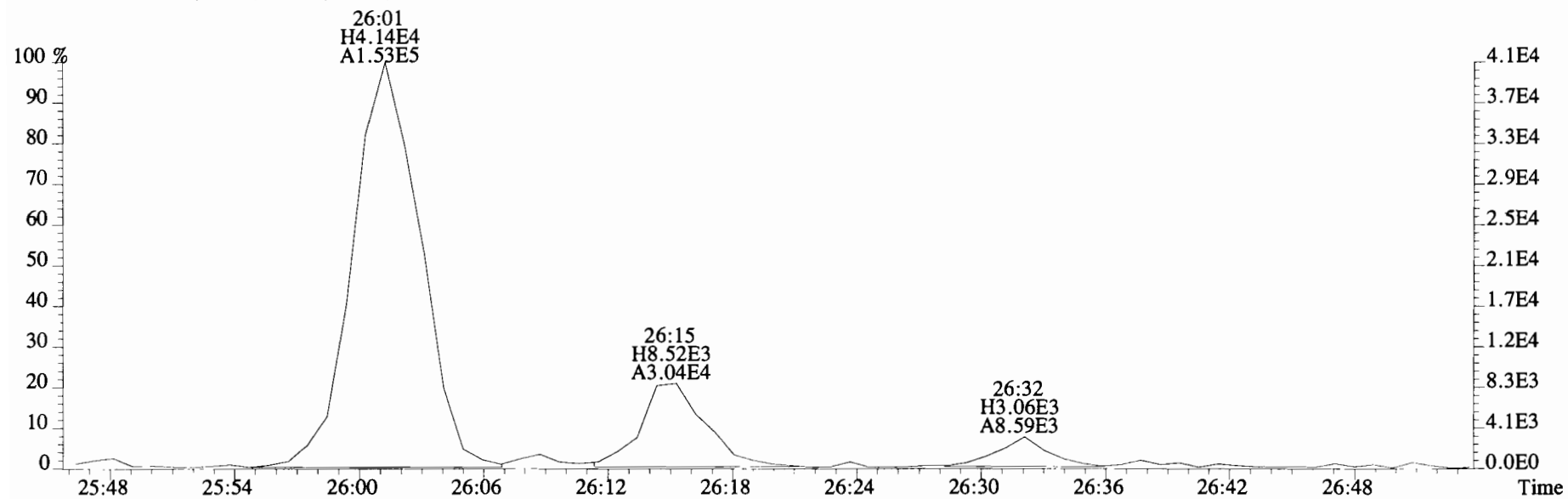
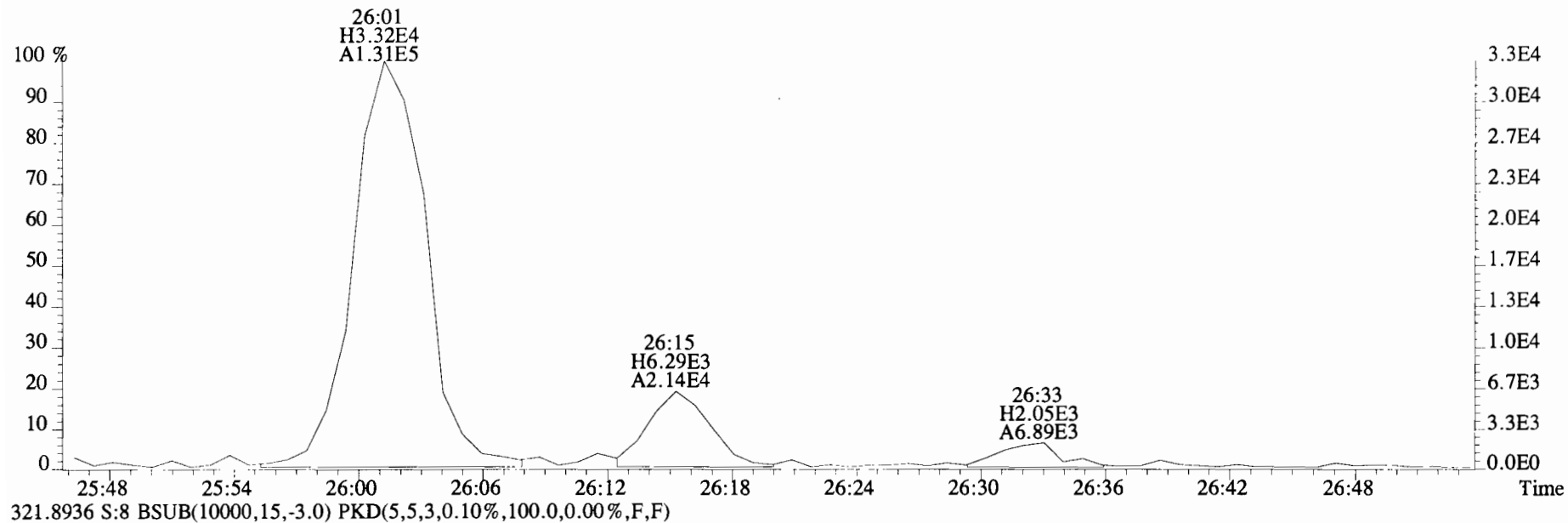
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



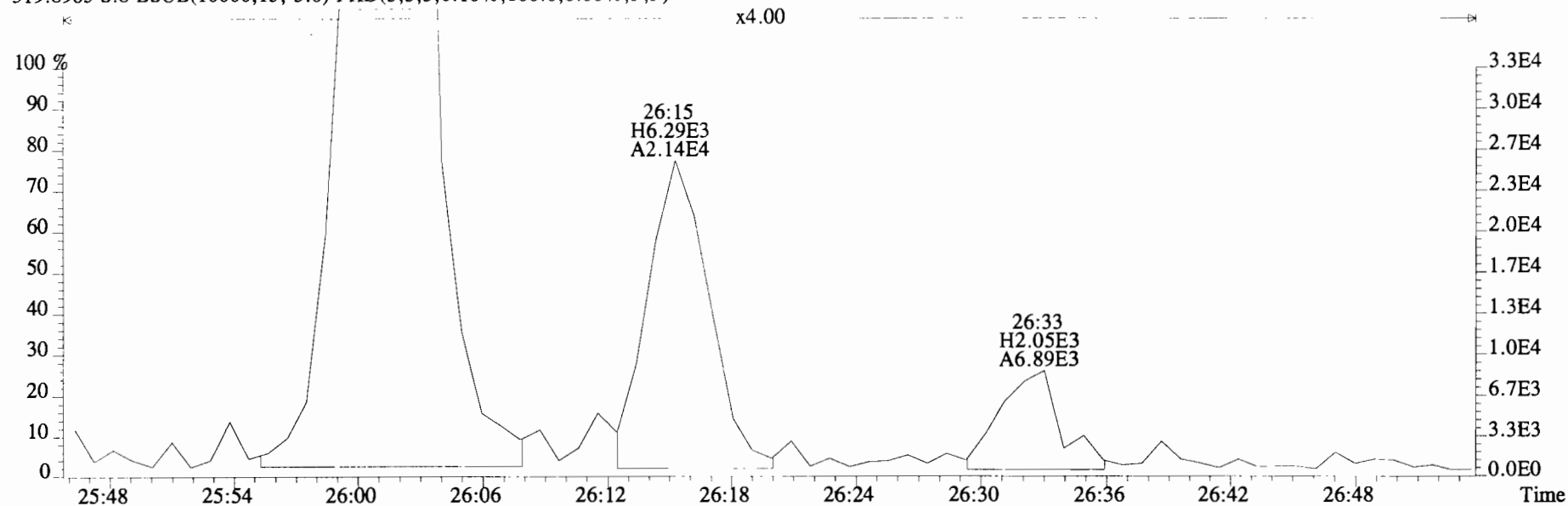
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



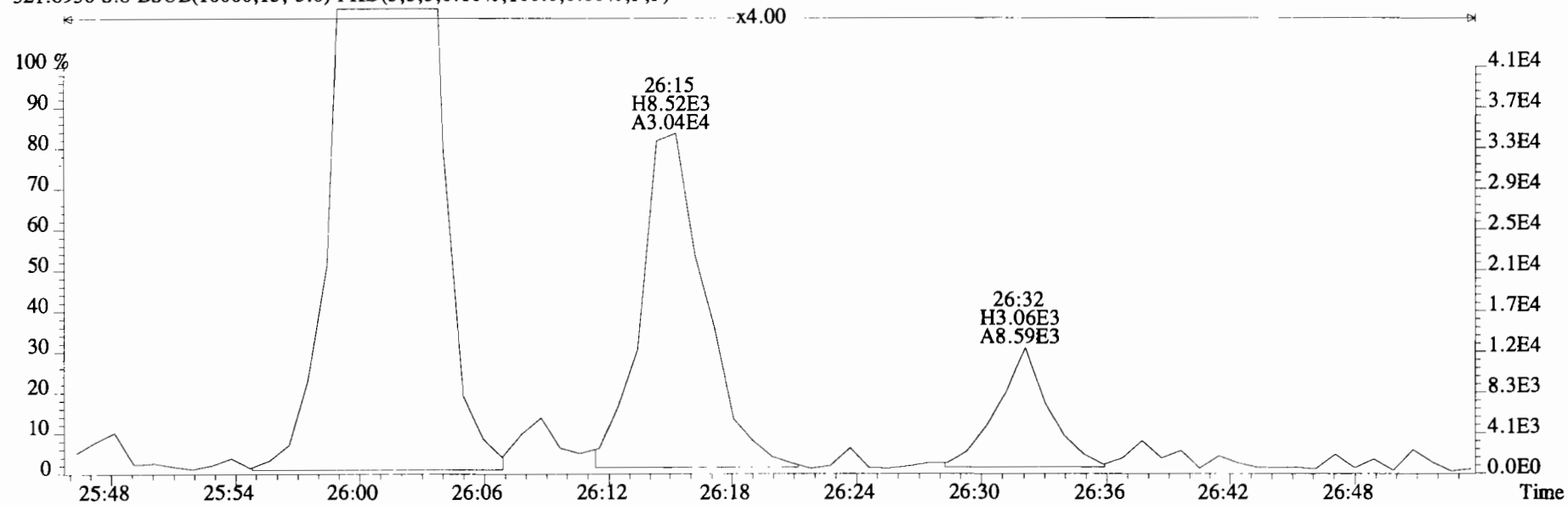
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



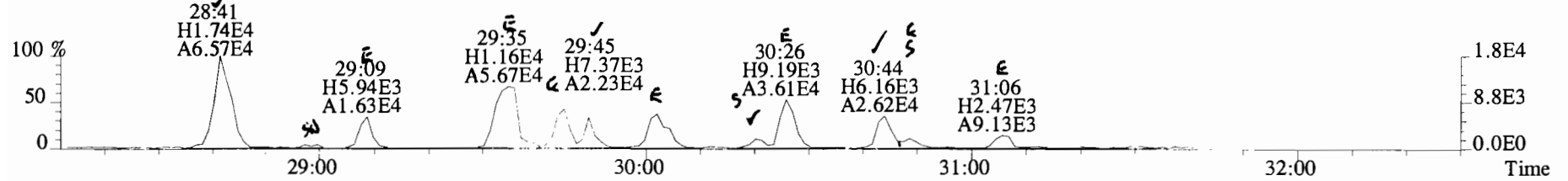
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



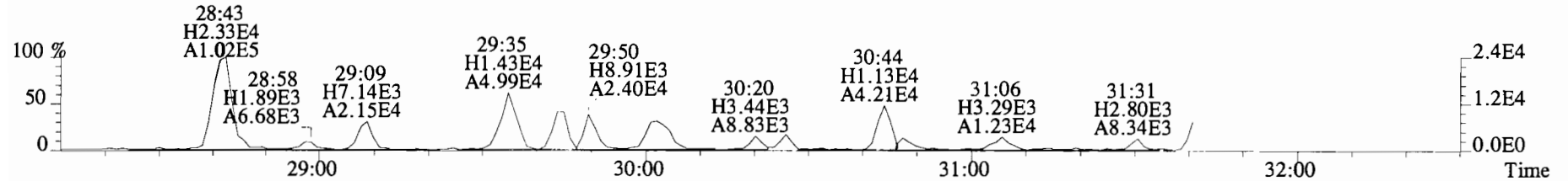
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



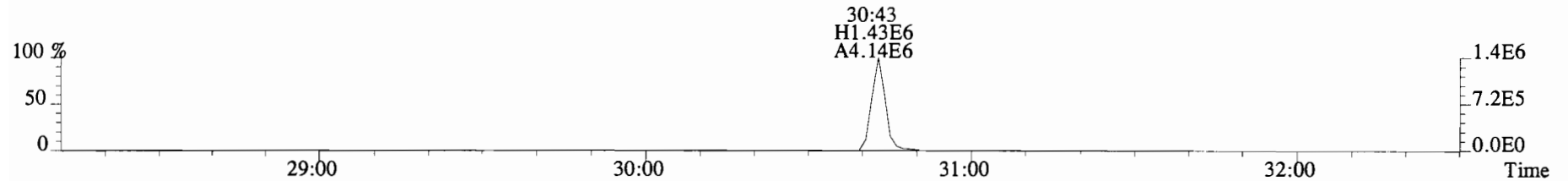
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



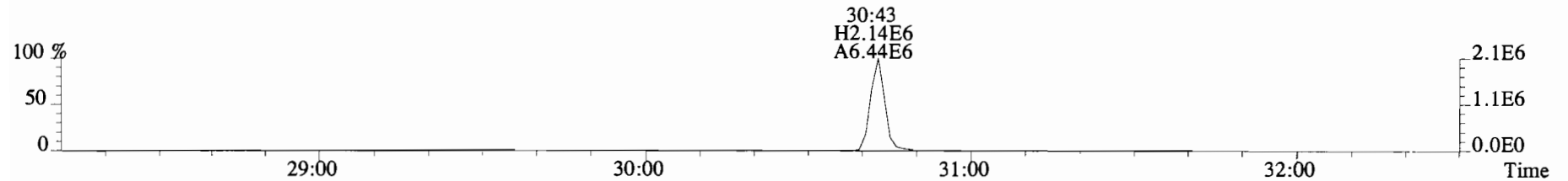
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



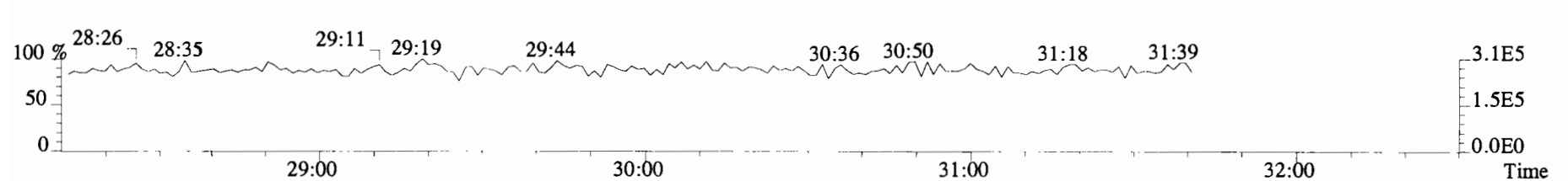
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



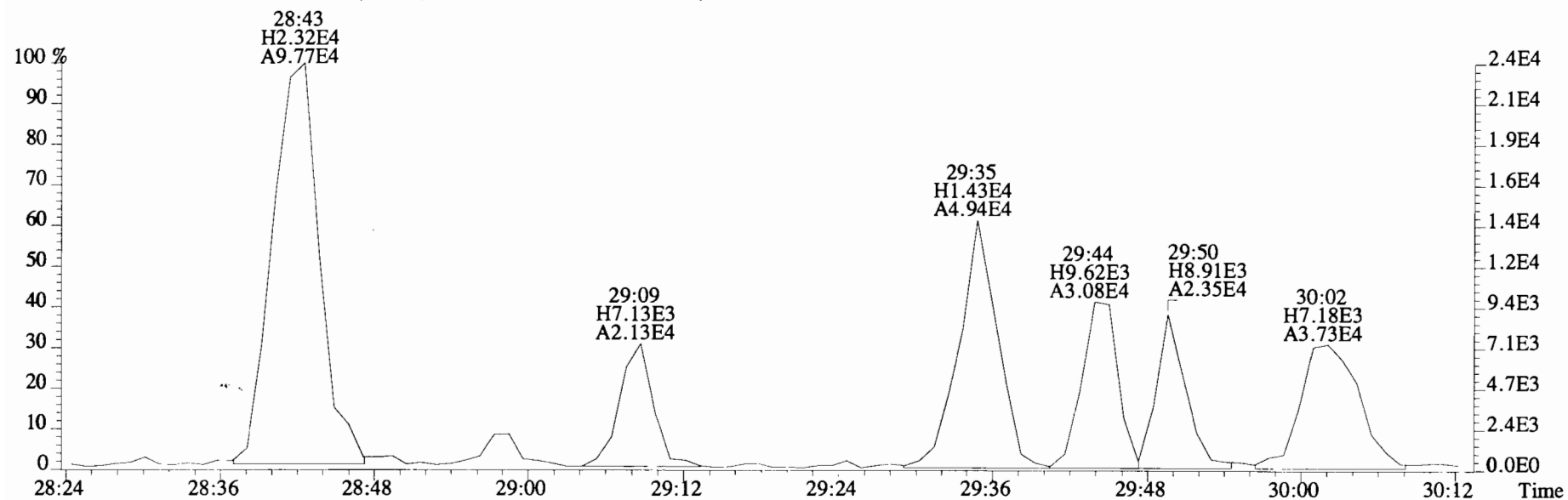
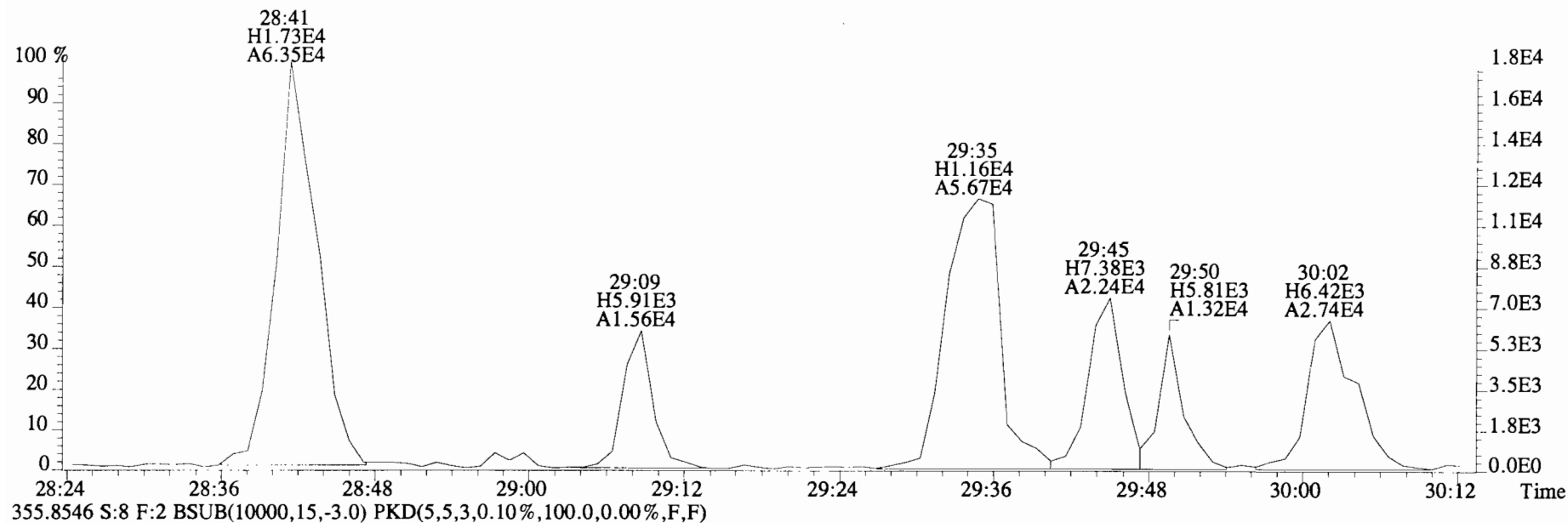
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



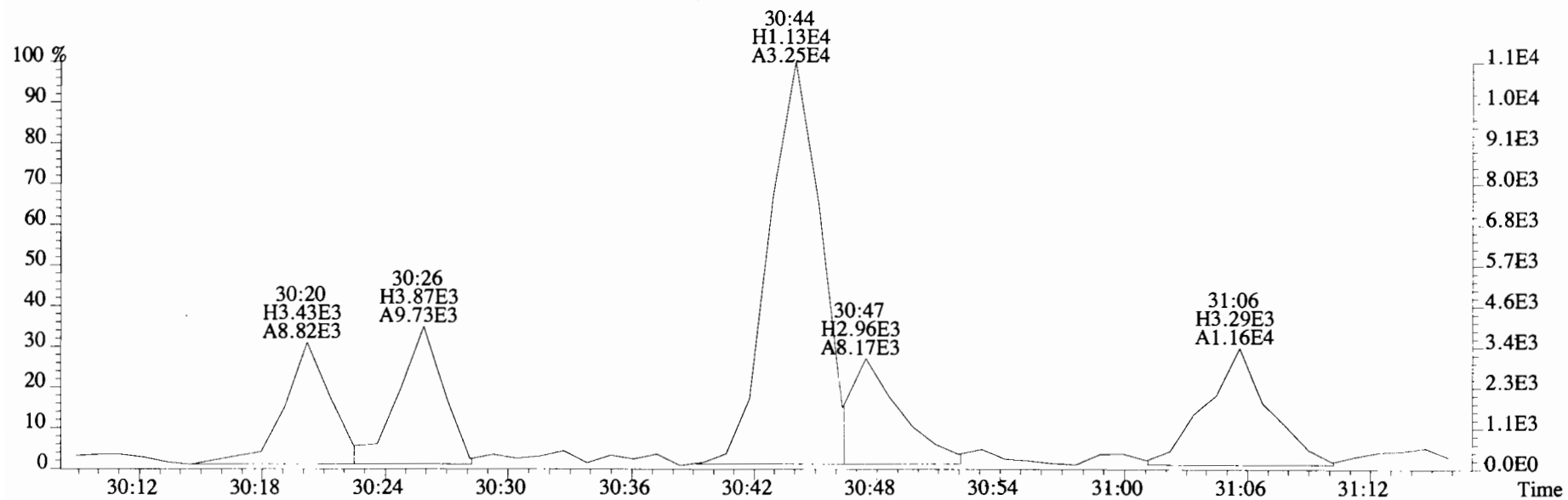
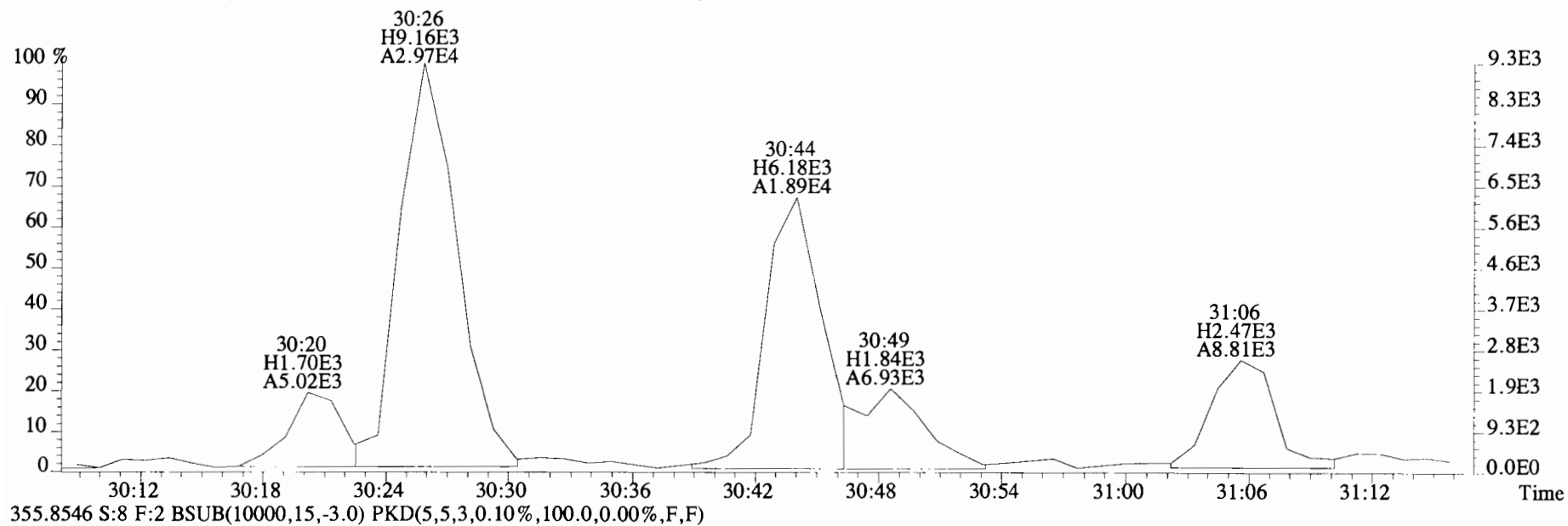
366.9792 S:8 F:2



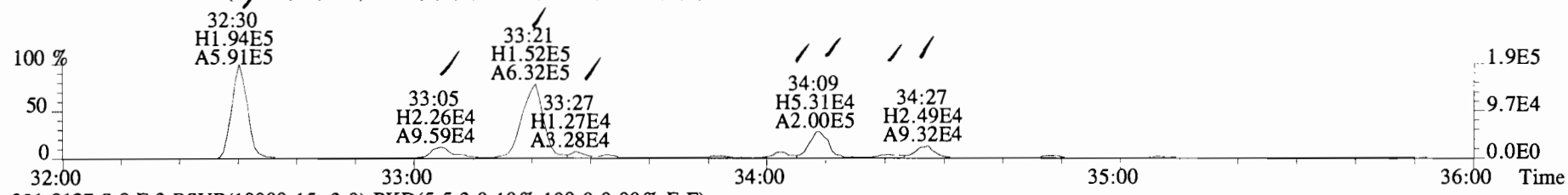
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 353.8576 S:8 F:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



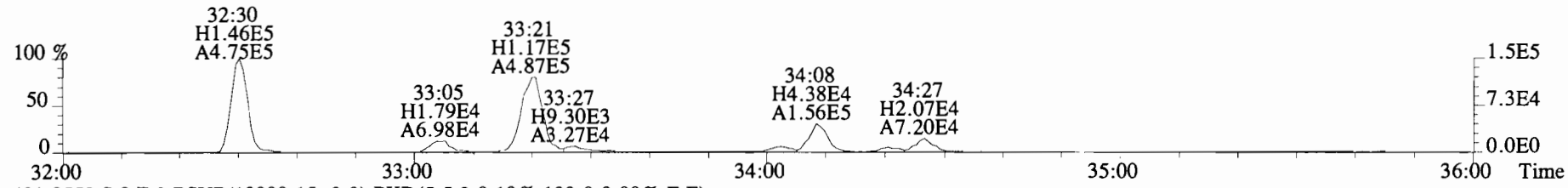
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



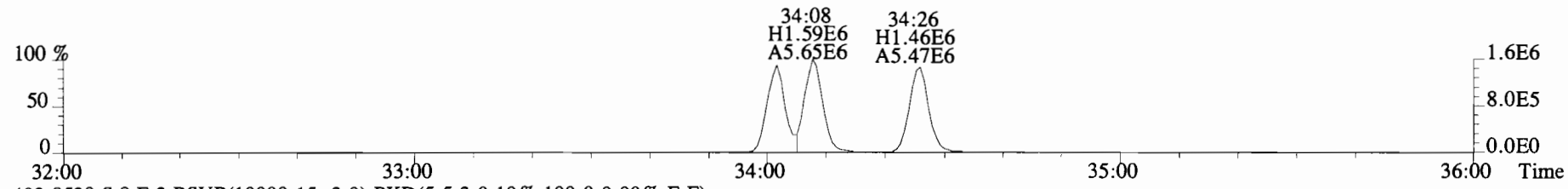
File:19111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



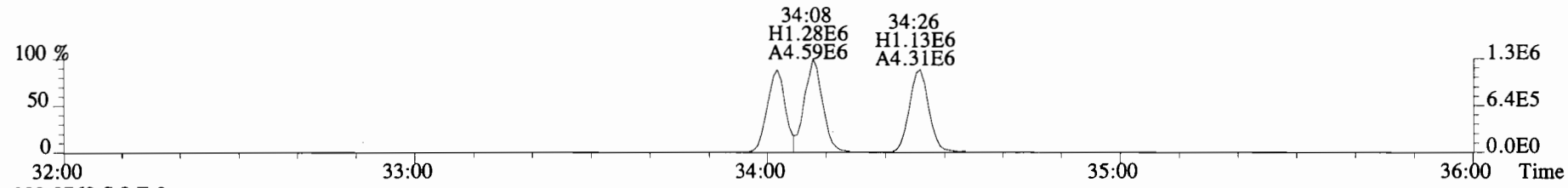
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



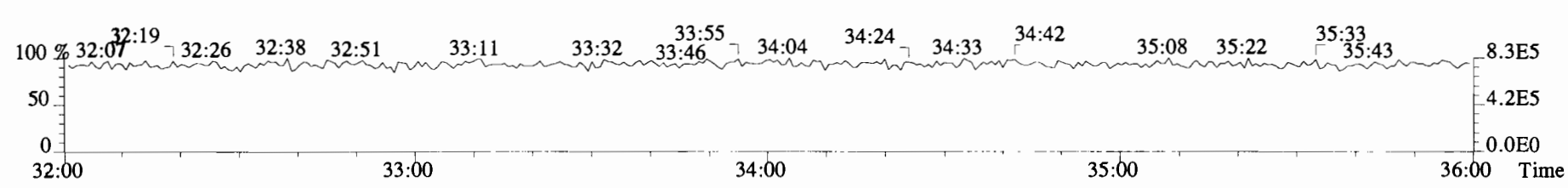
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



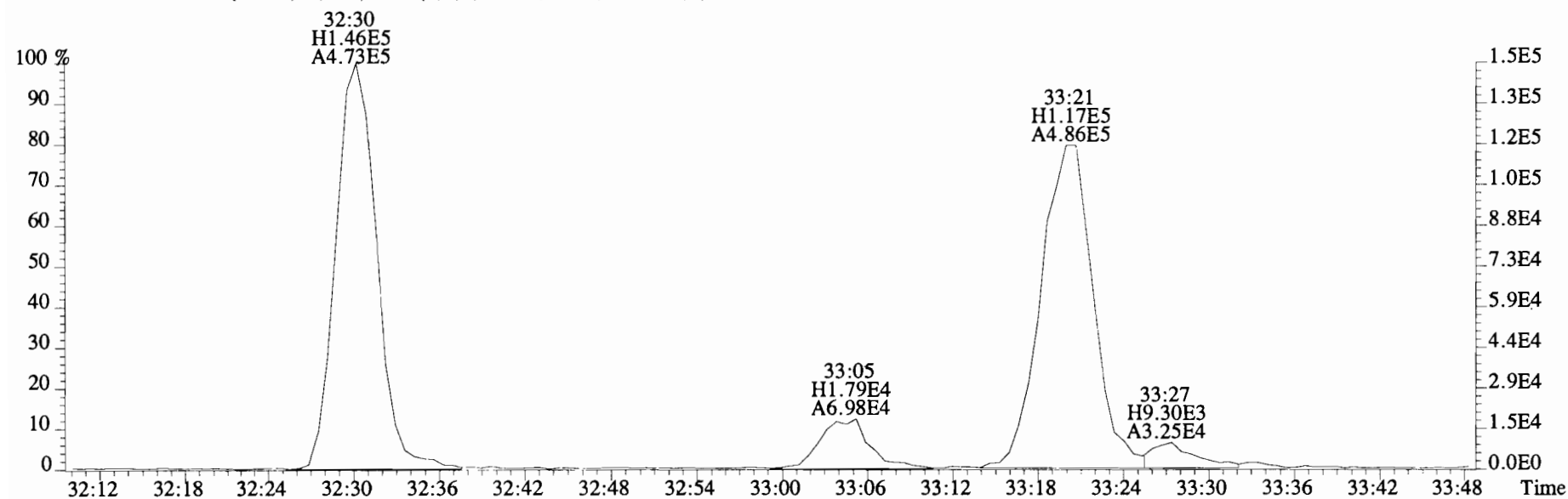
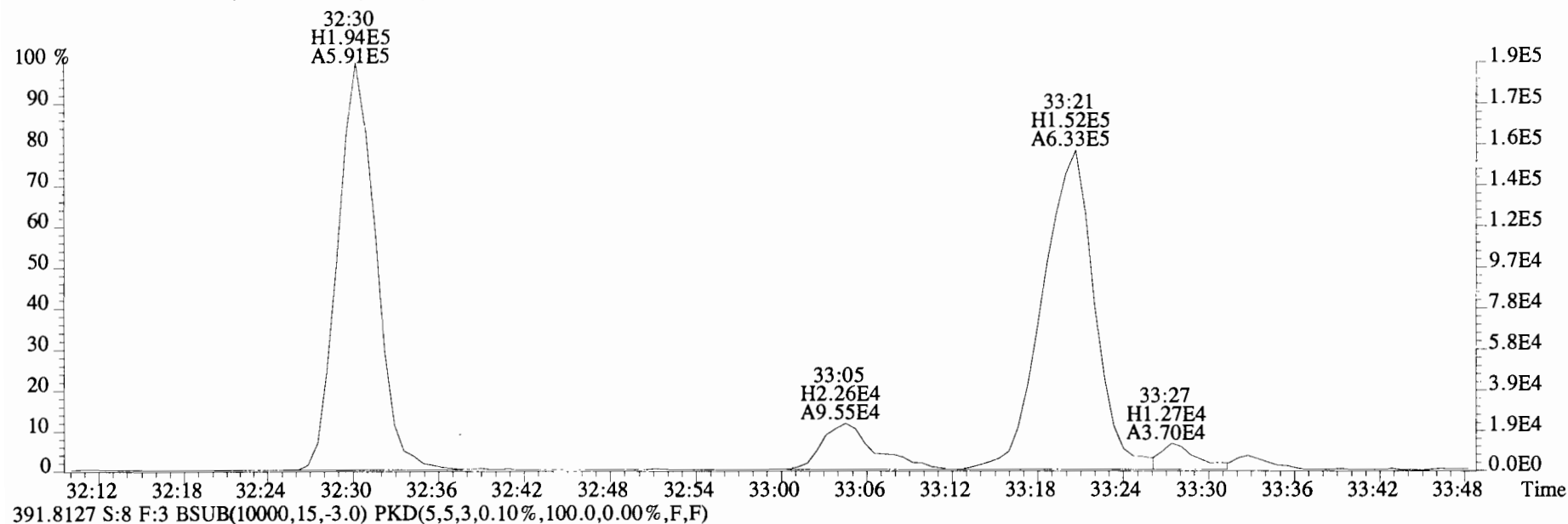
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



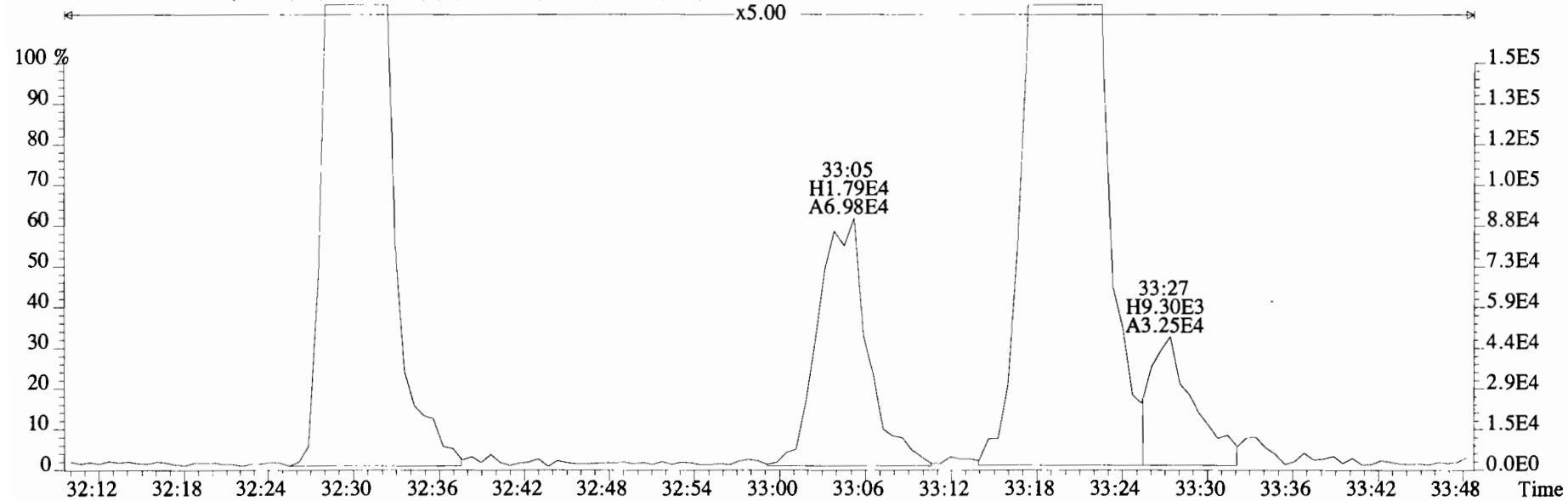
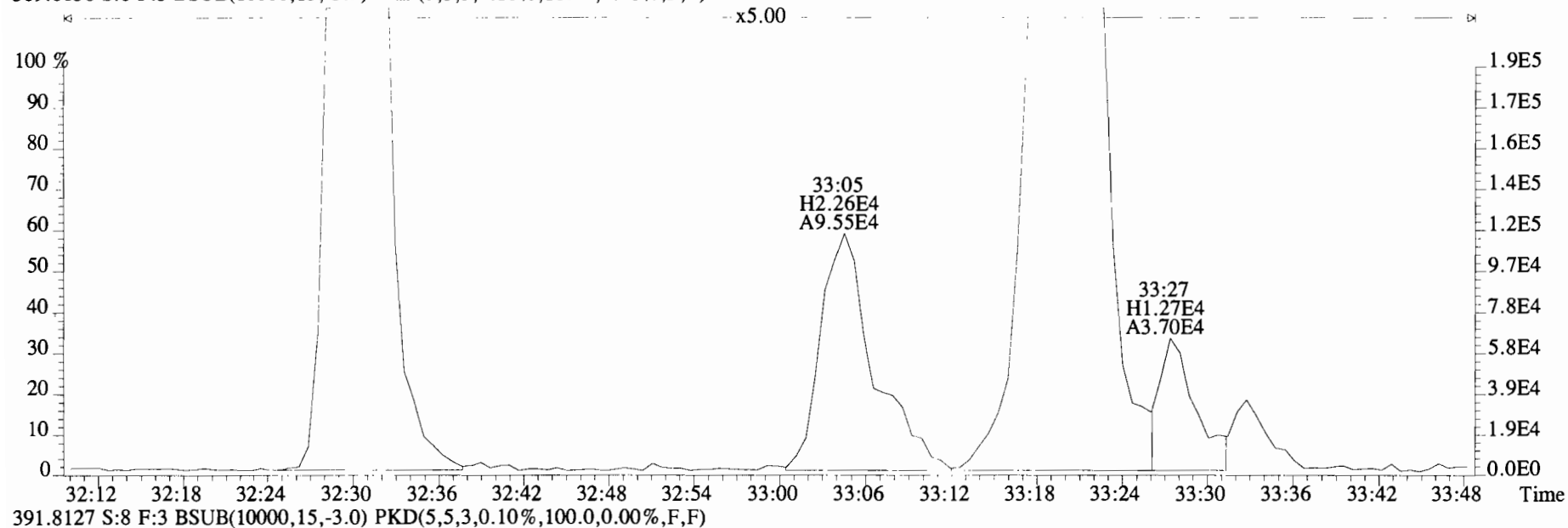
392.9760 S:8 F:3



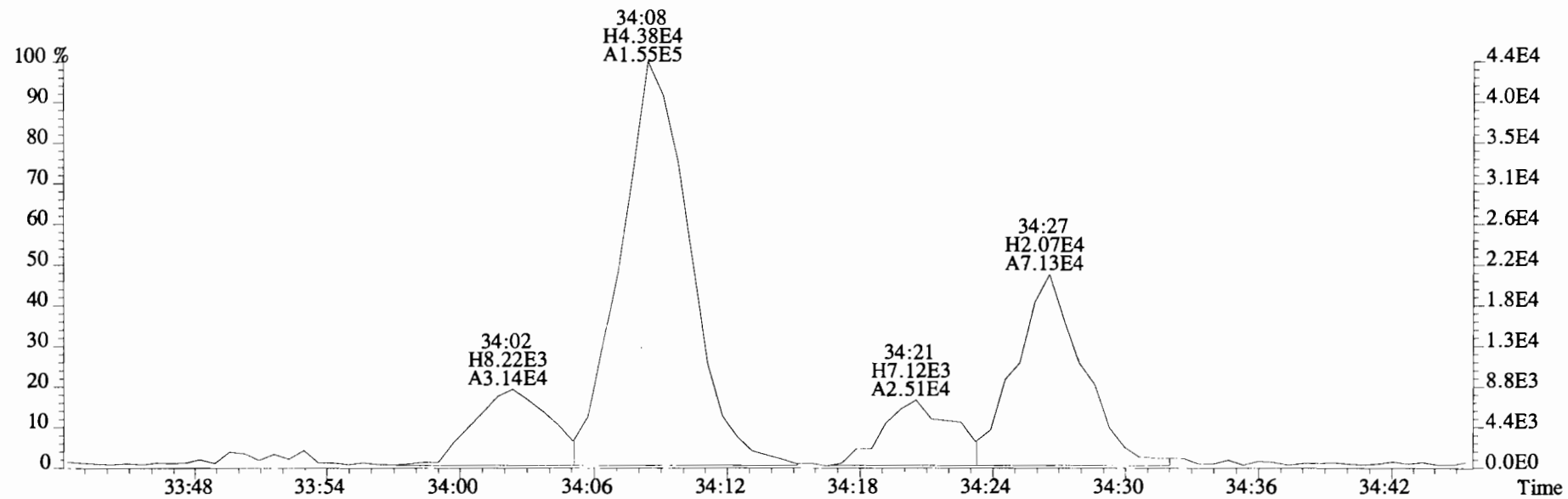
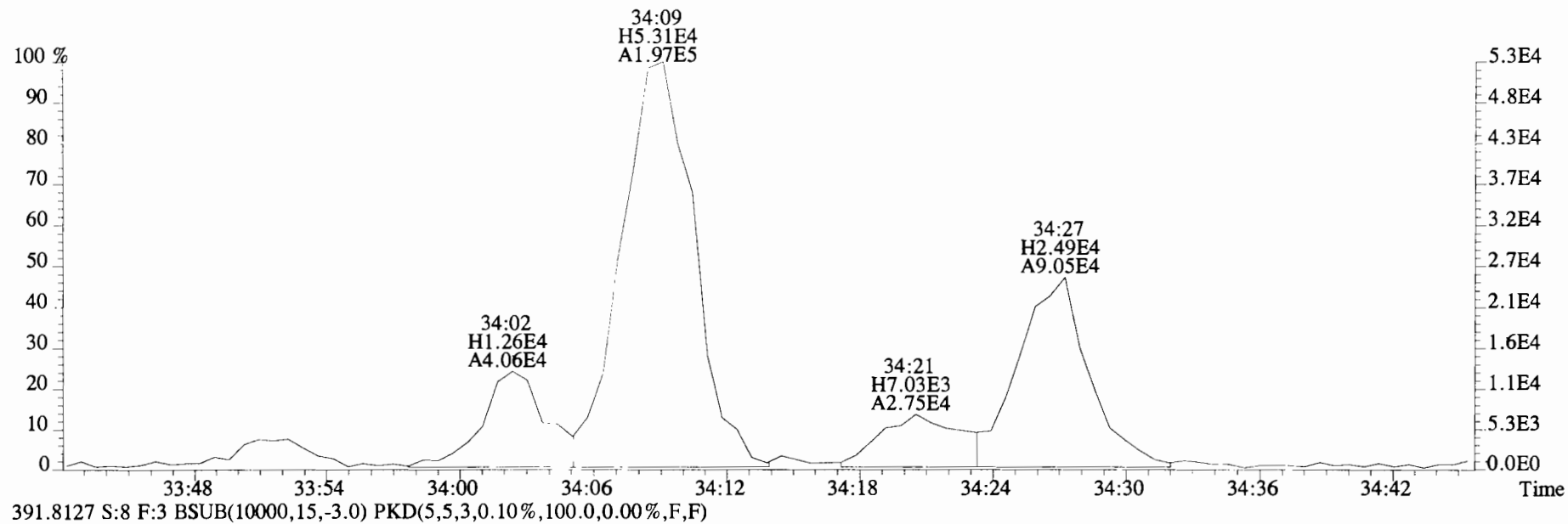
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



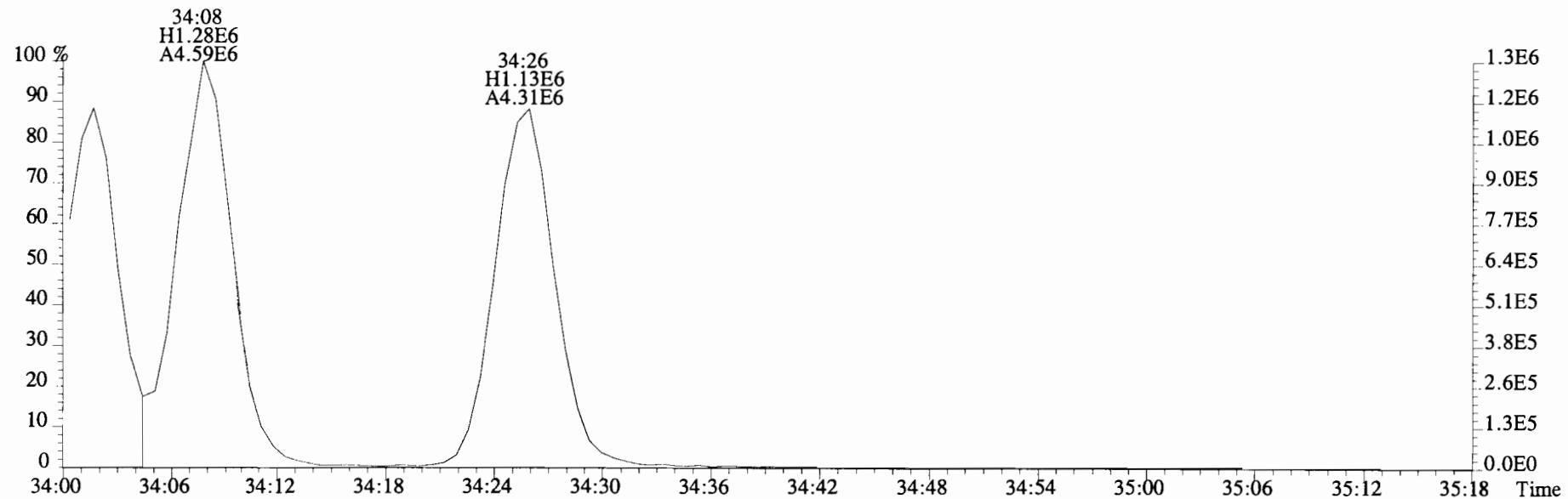
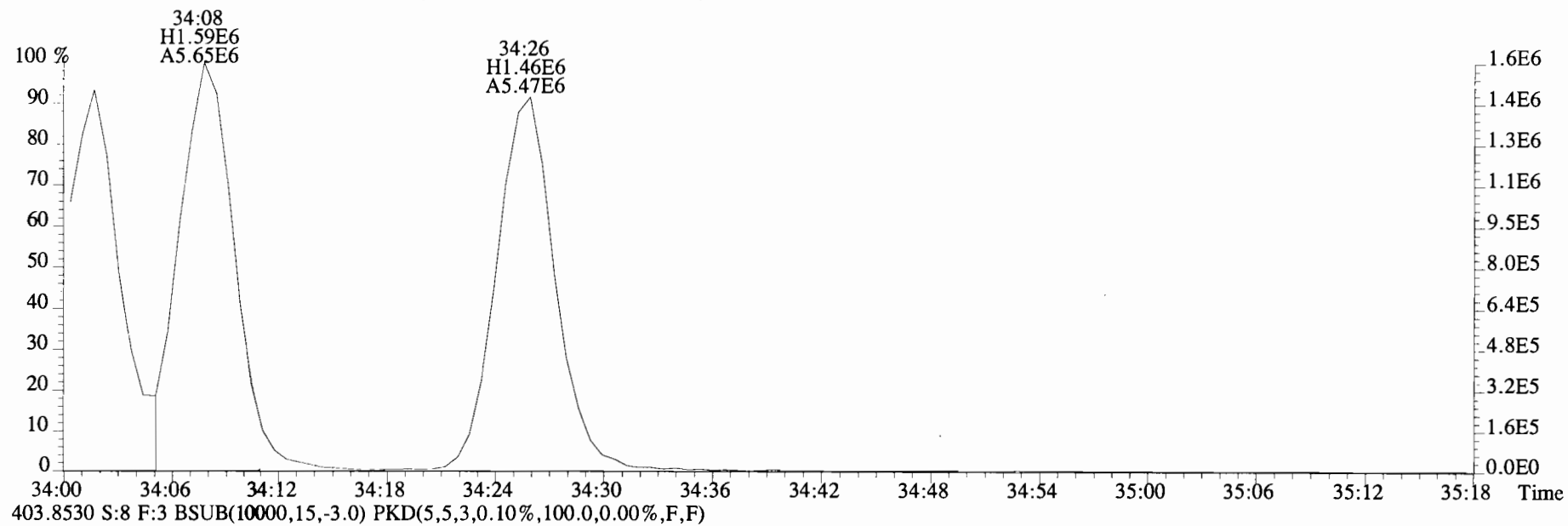
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



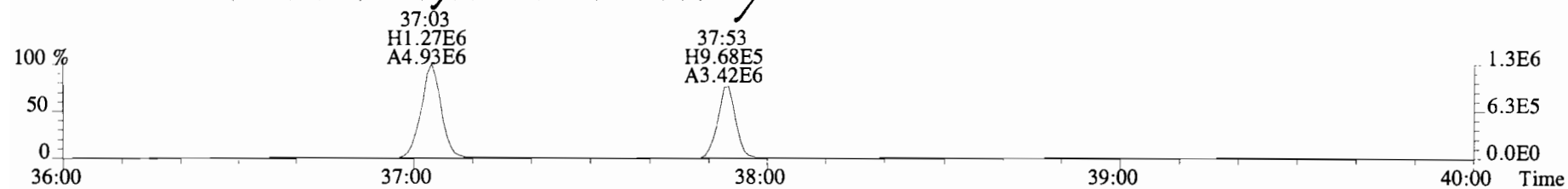
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



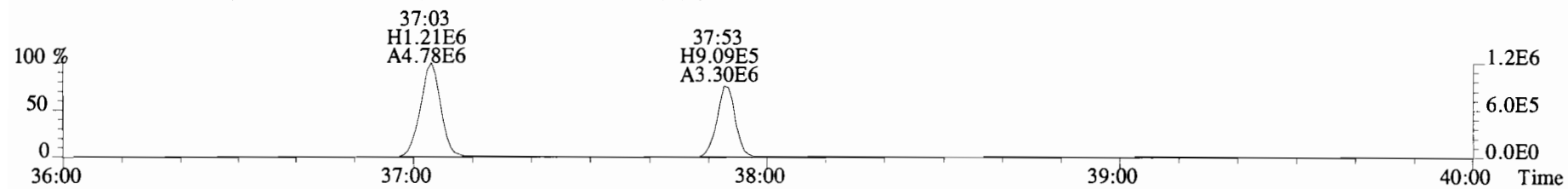
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



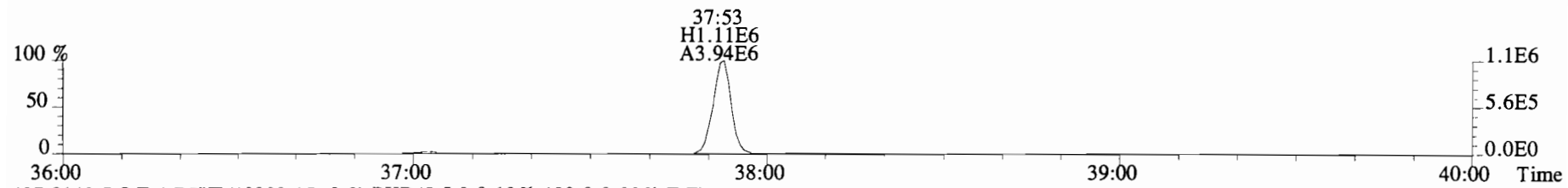
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



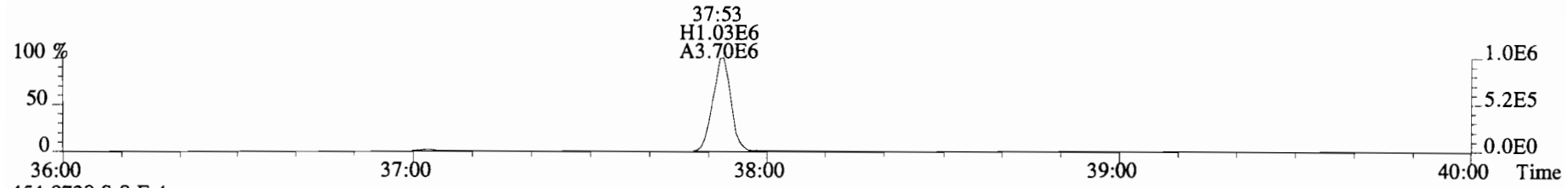
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



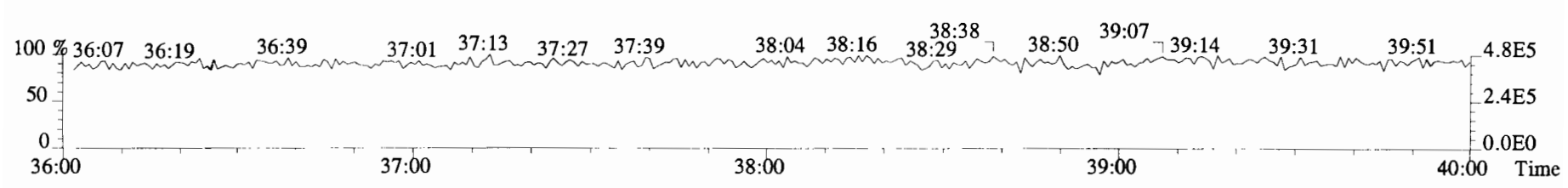
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



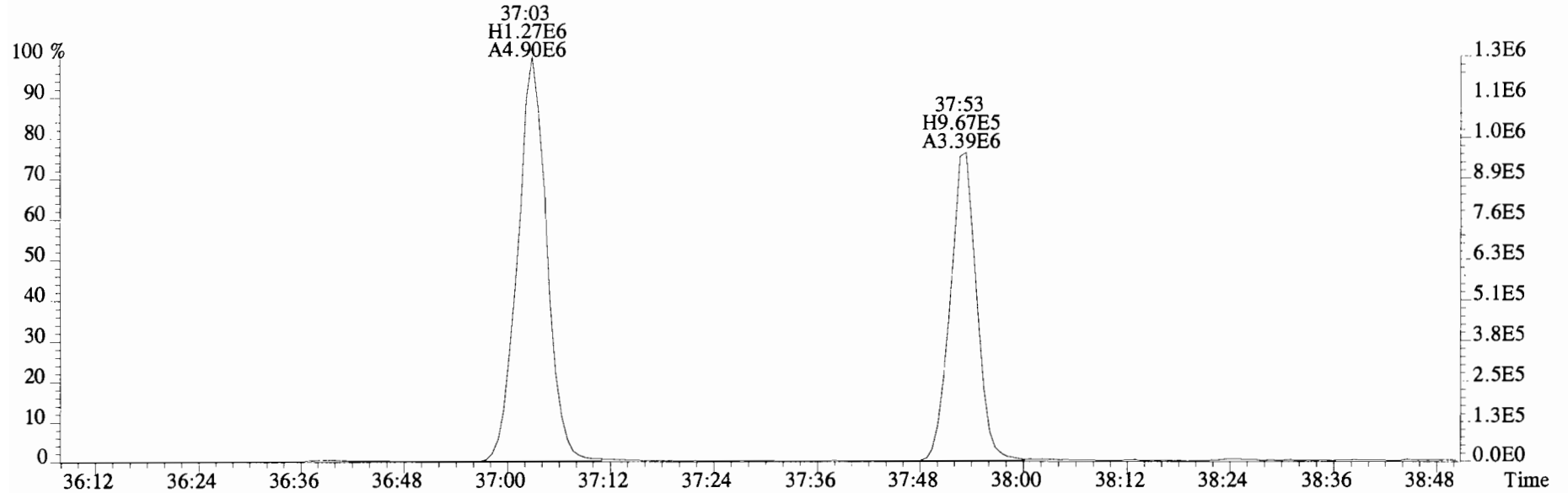
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



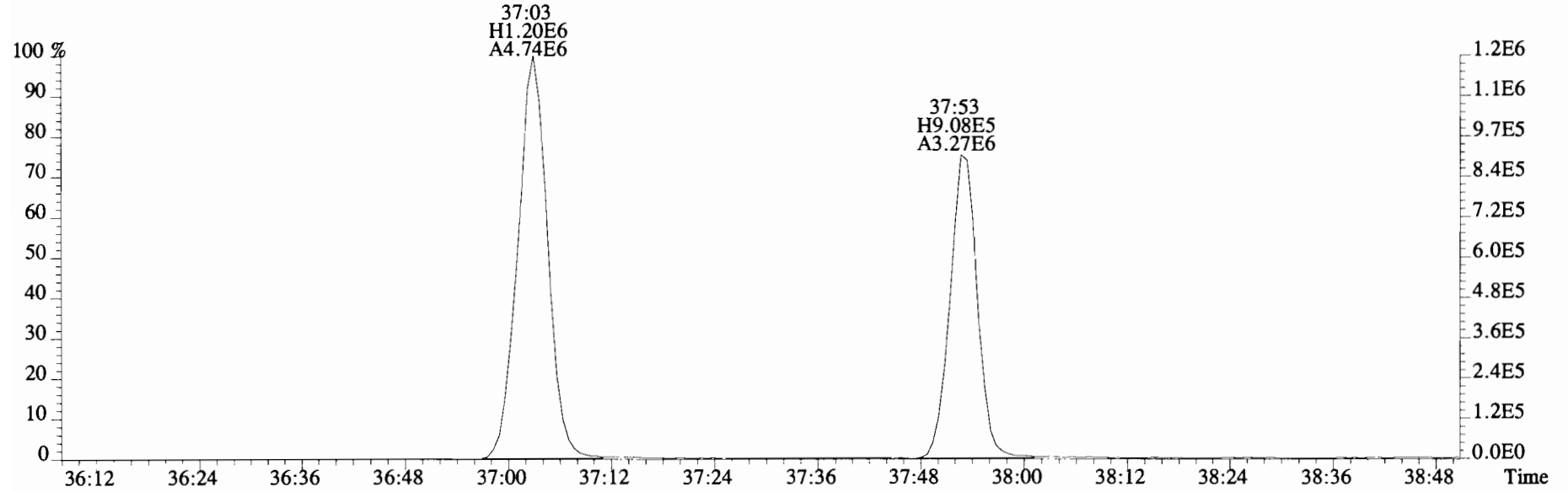
454.9728 S:8 F:4



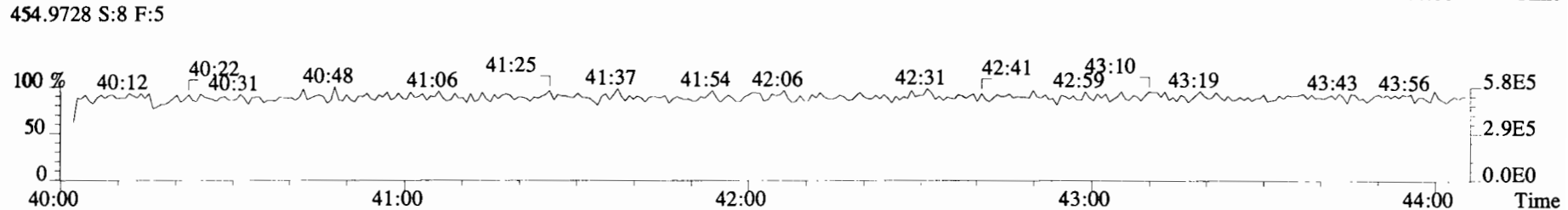
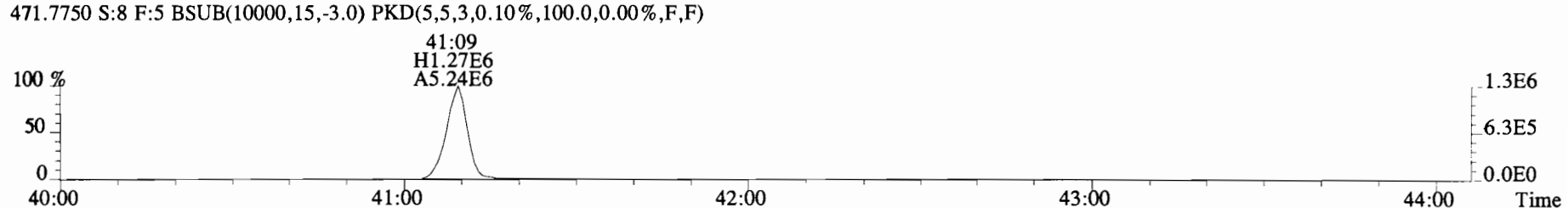
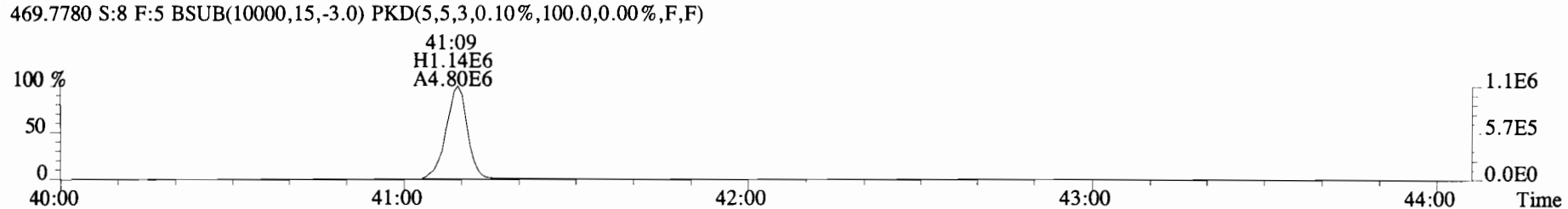
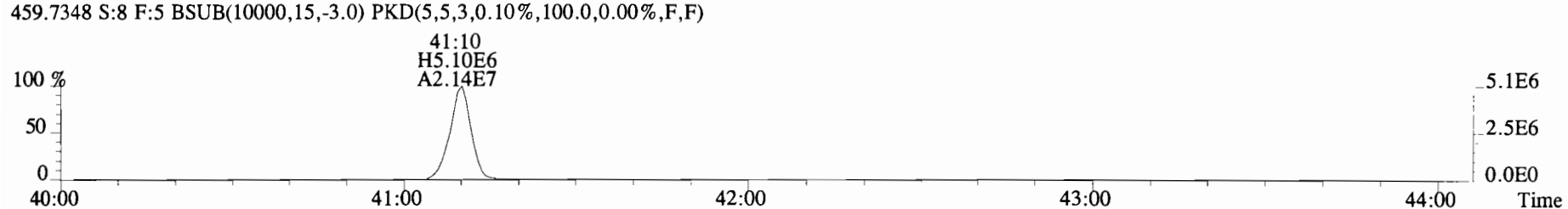
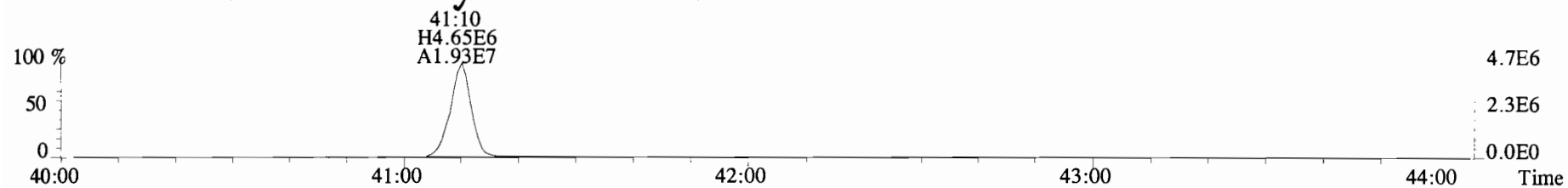
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



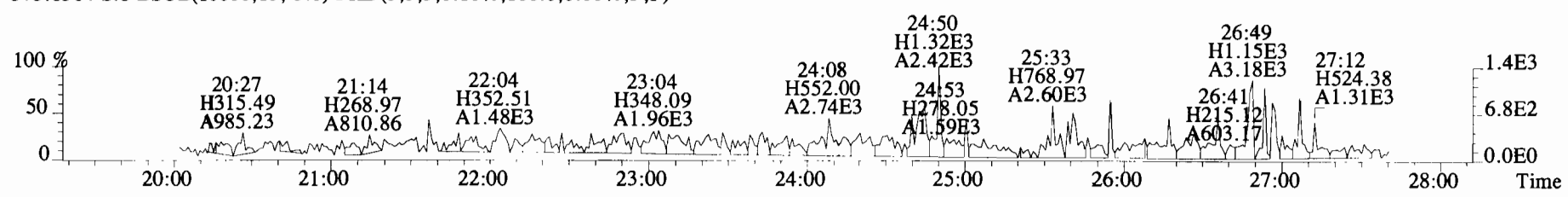
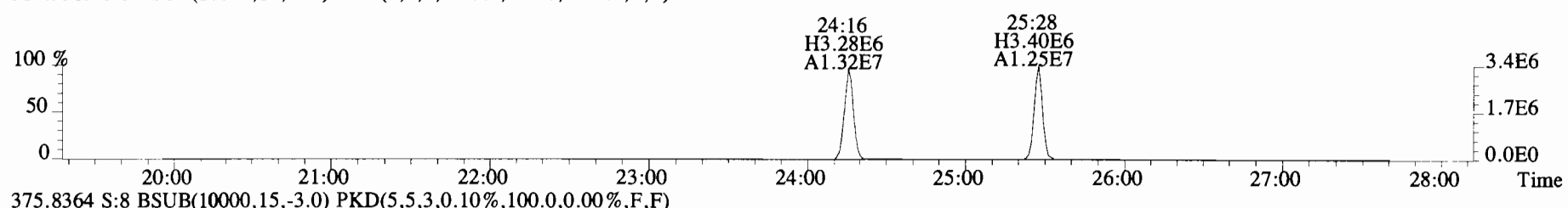
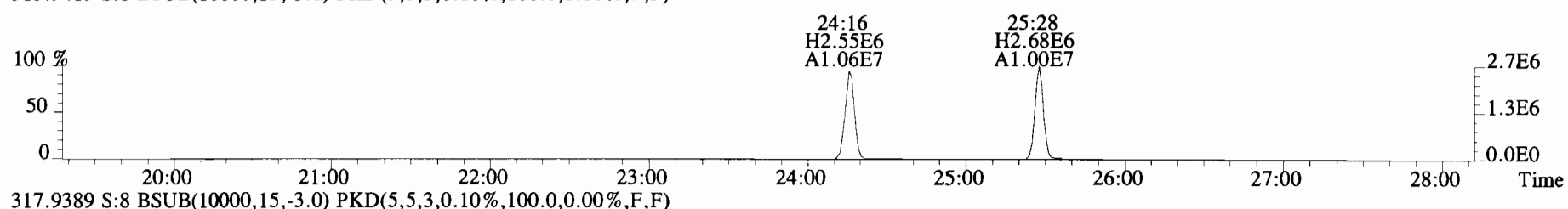
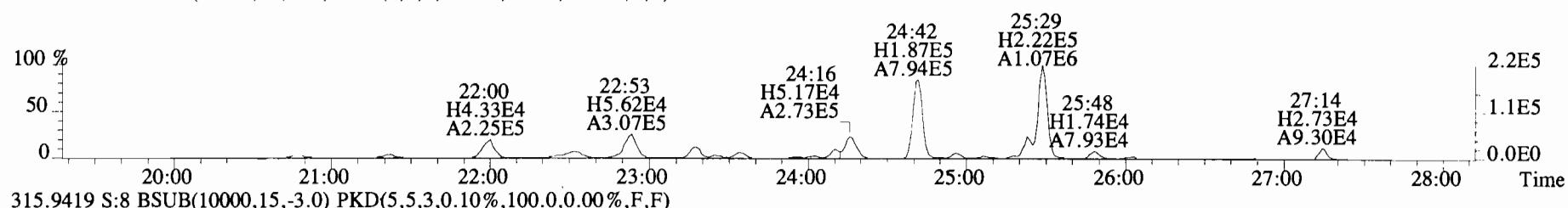
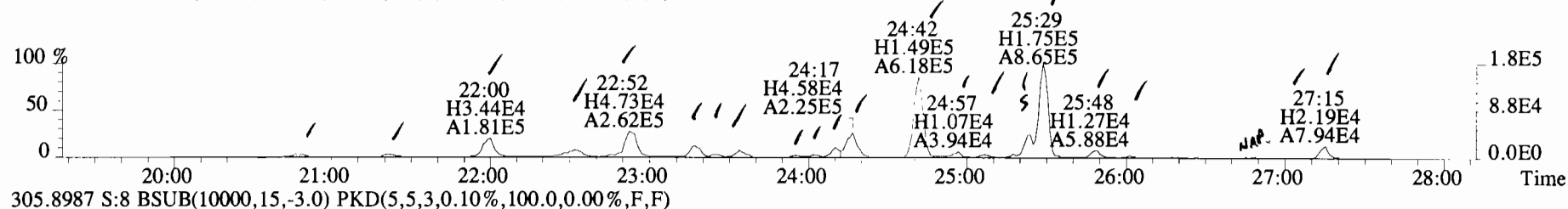
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



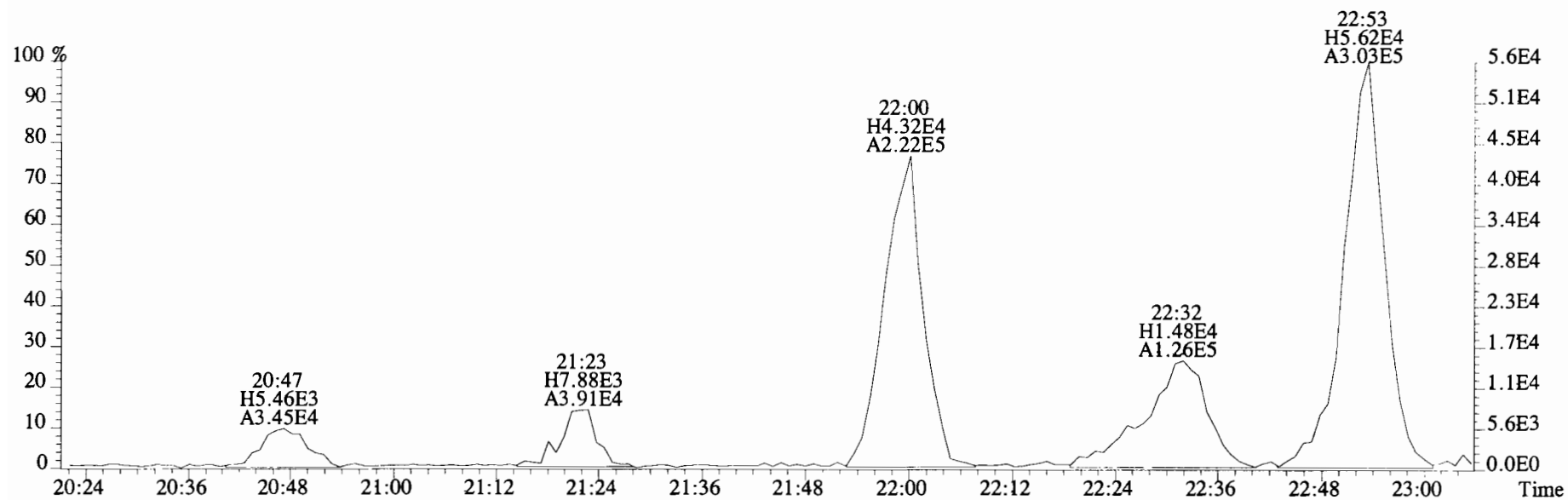
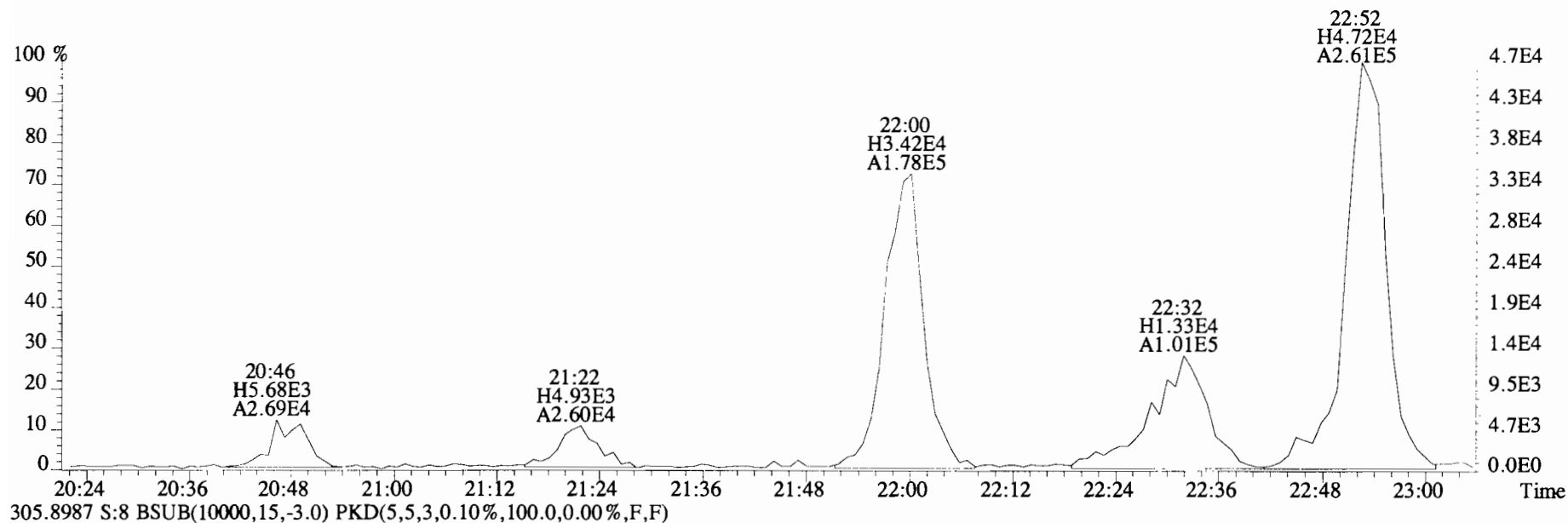
File:191111D2 #1-431 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



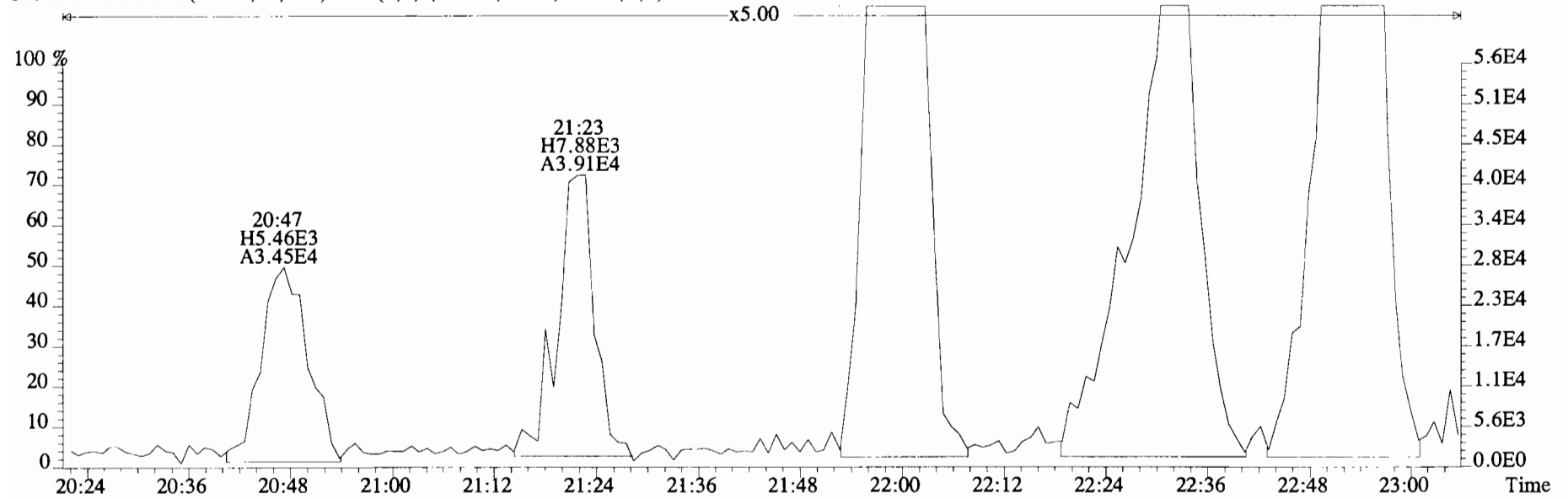
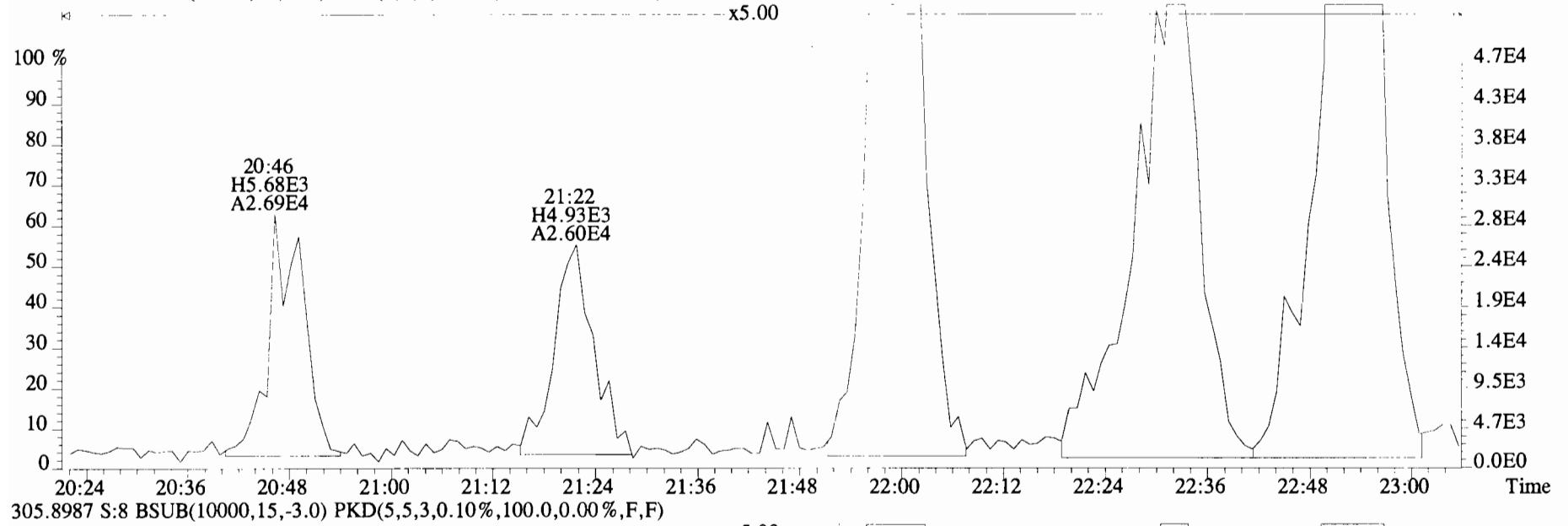
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



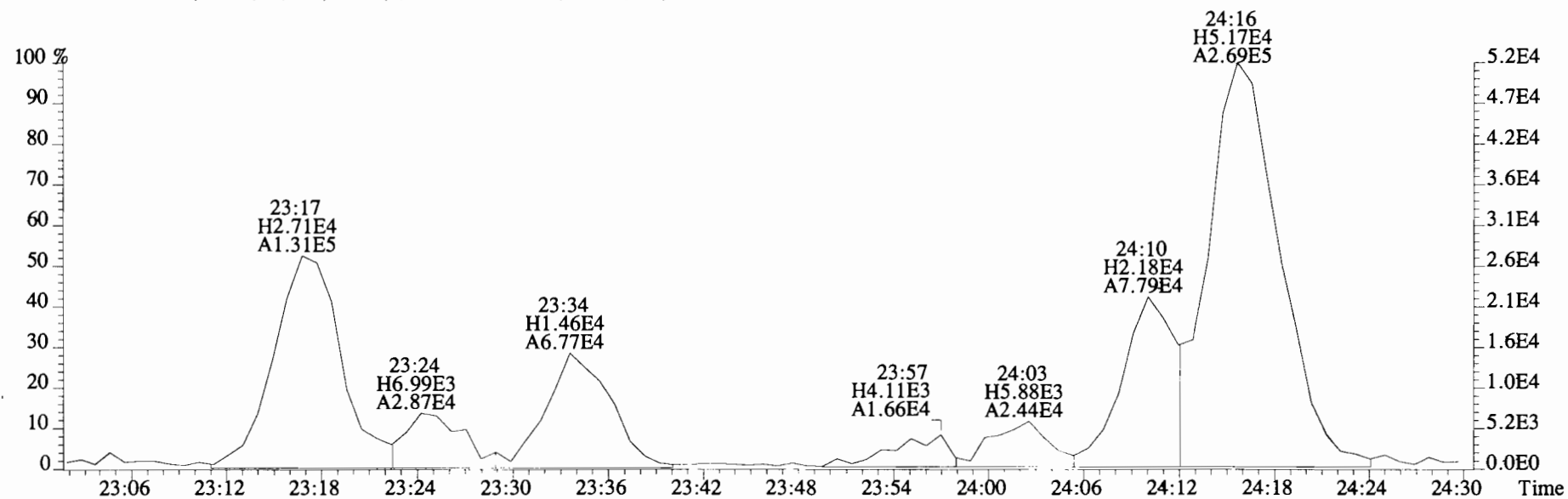
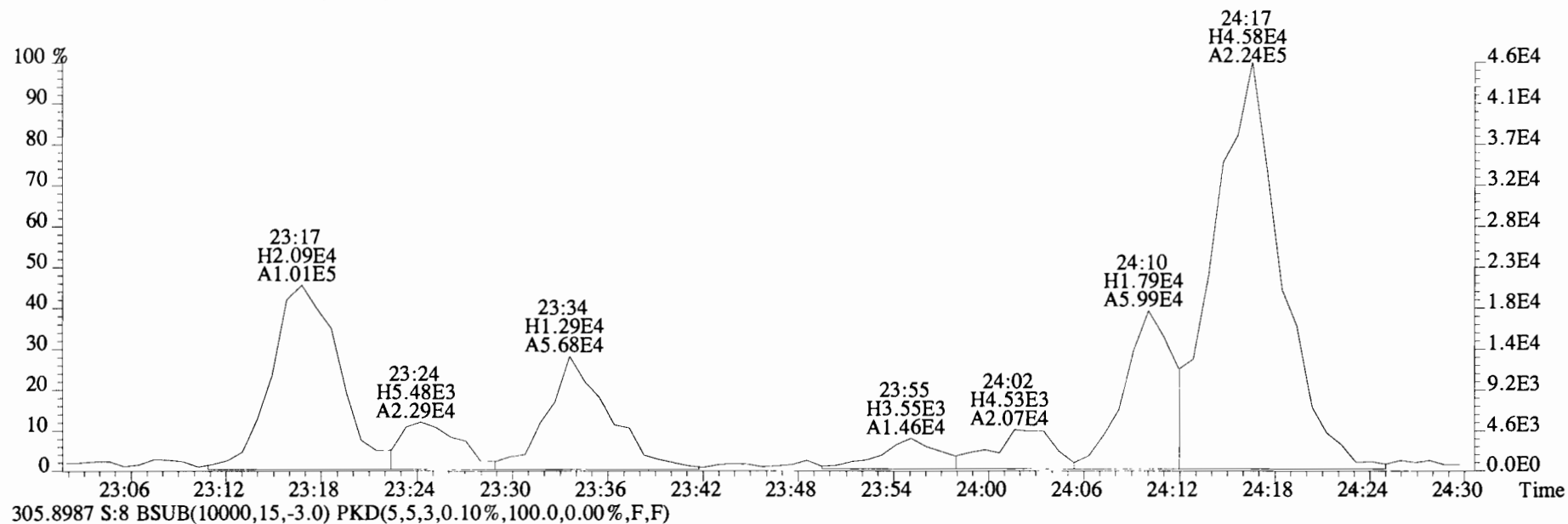
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



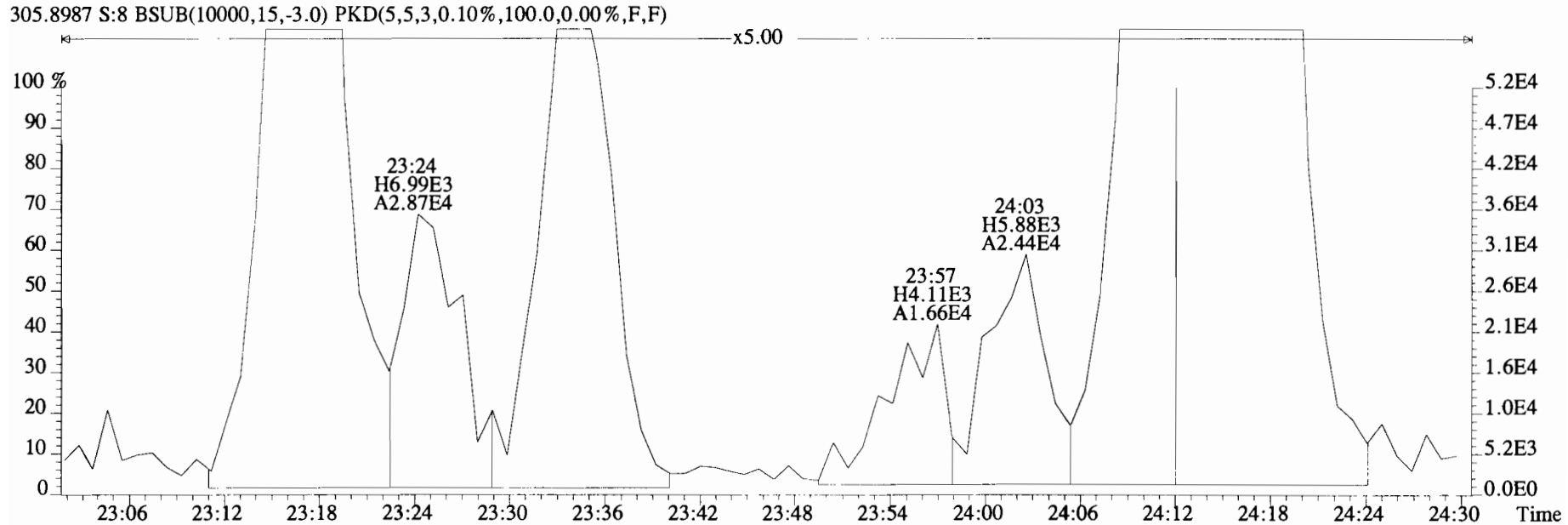
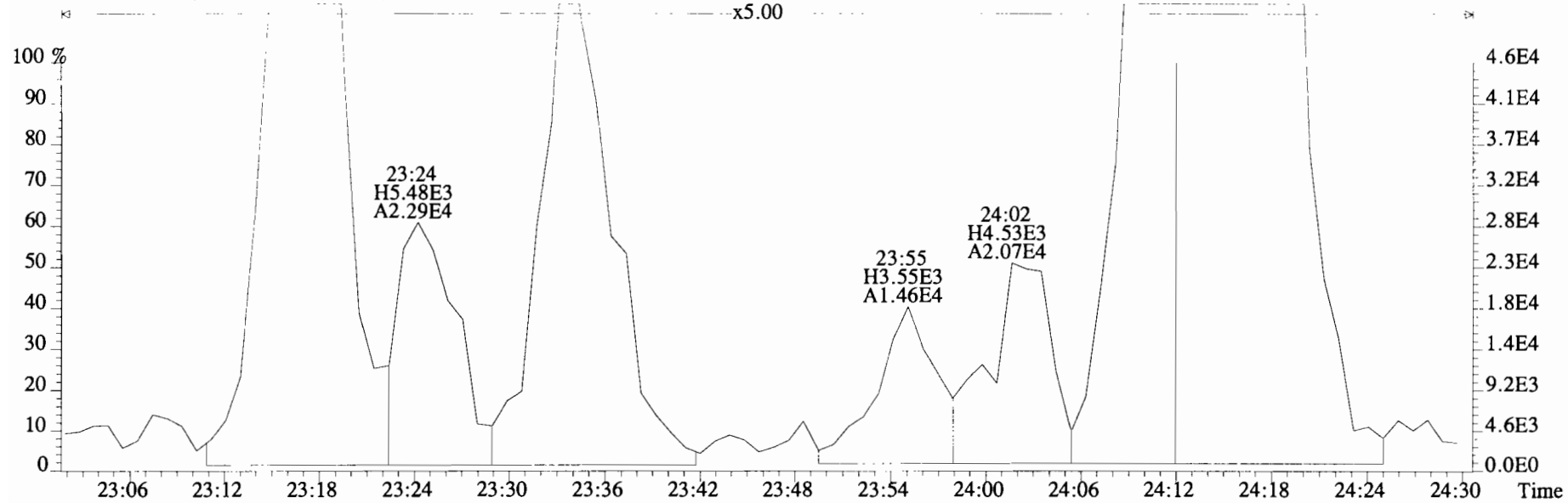
File:19111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



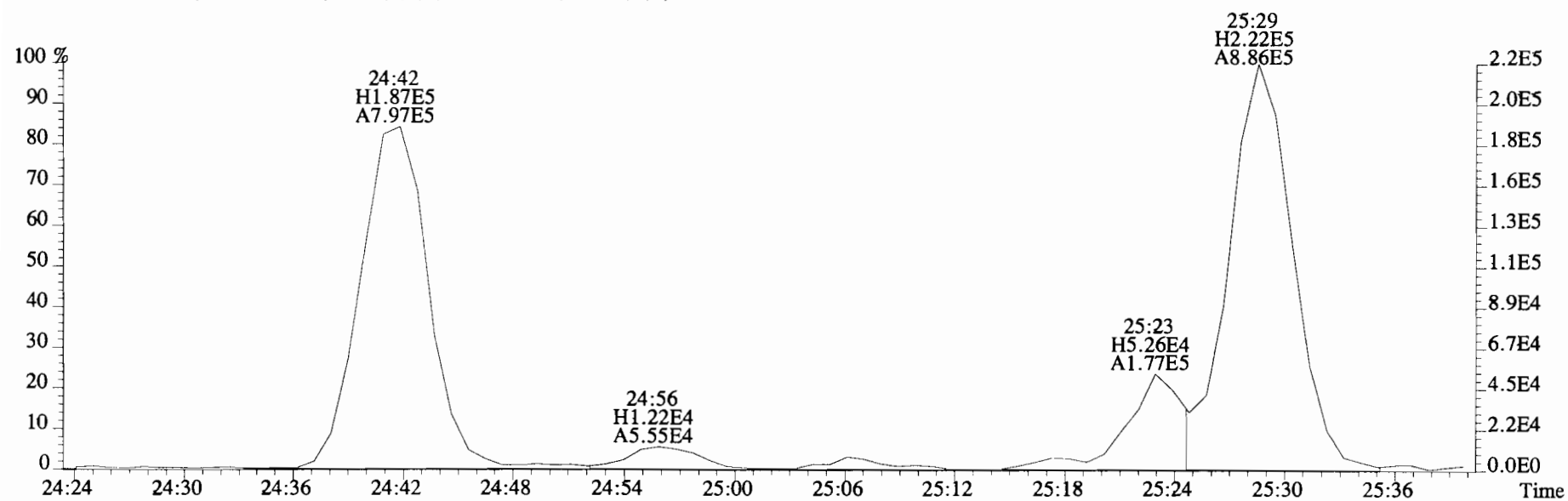
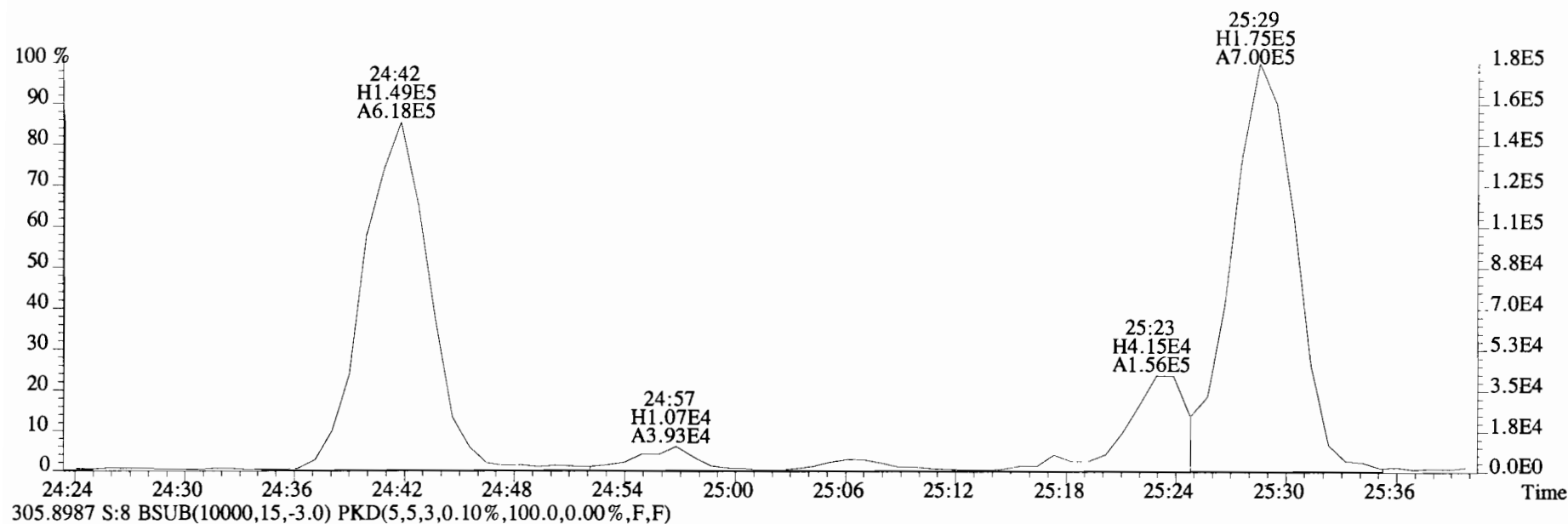
File:19111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



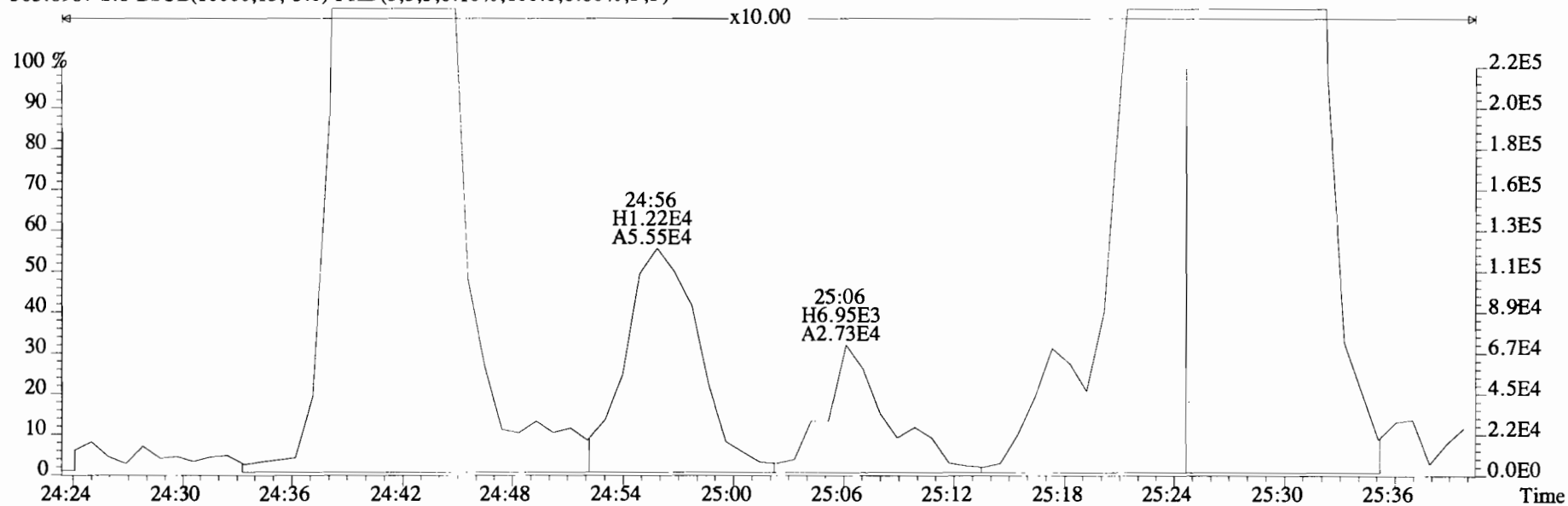
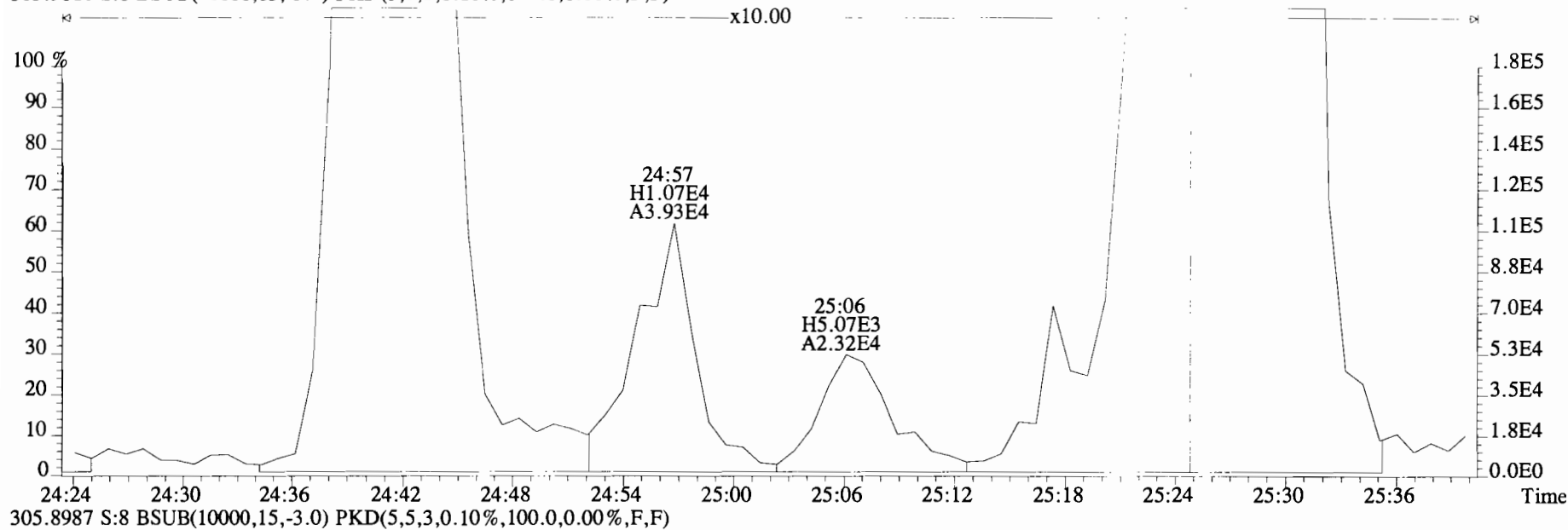
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



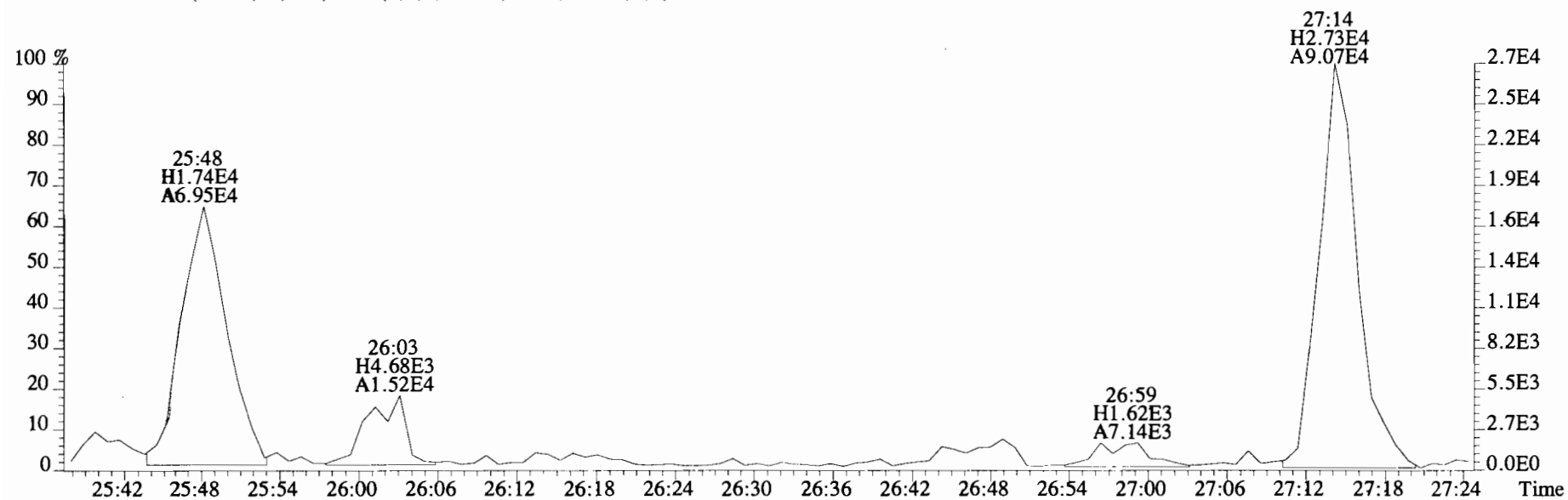
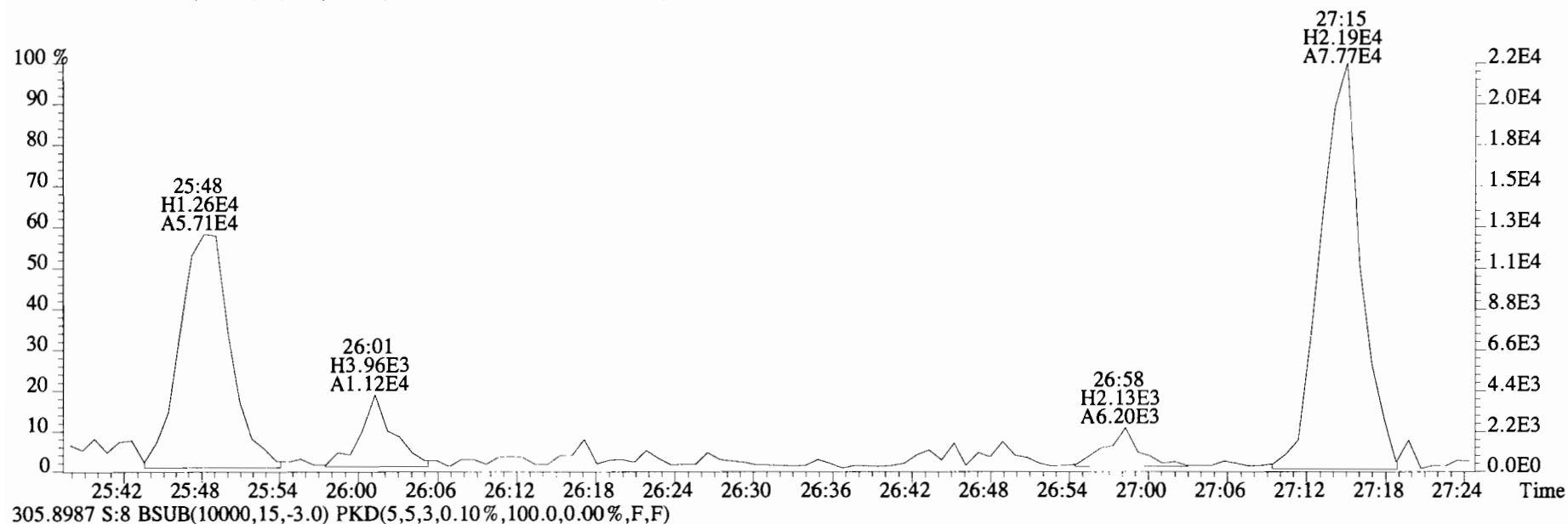
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



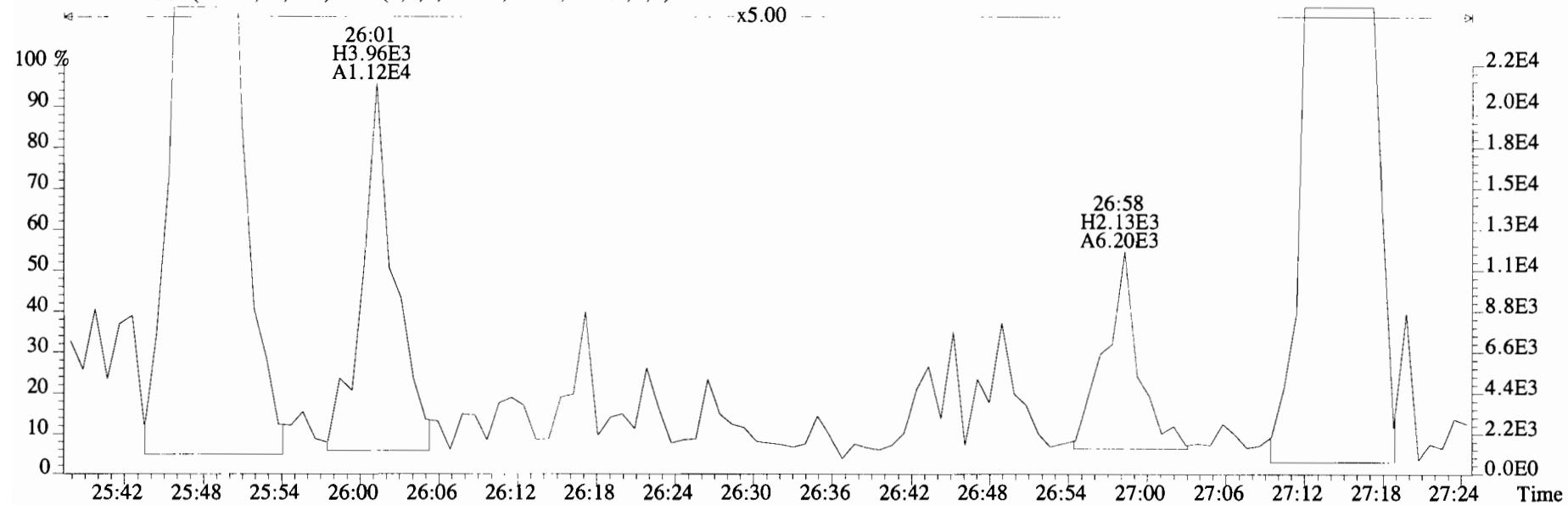
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 Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



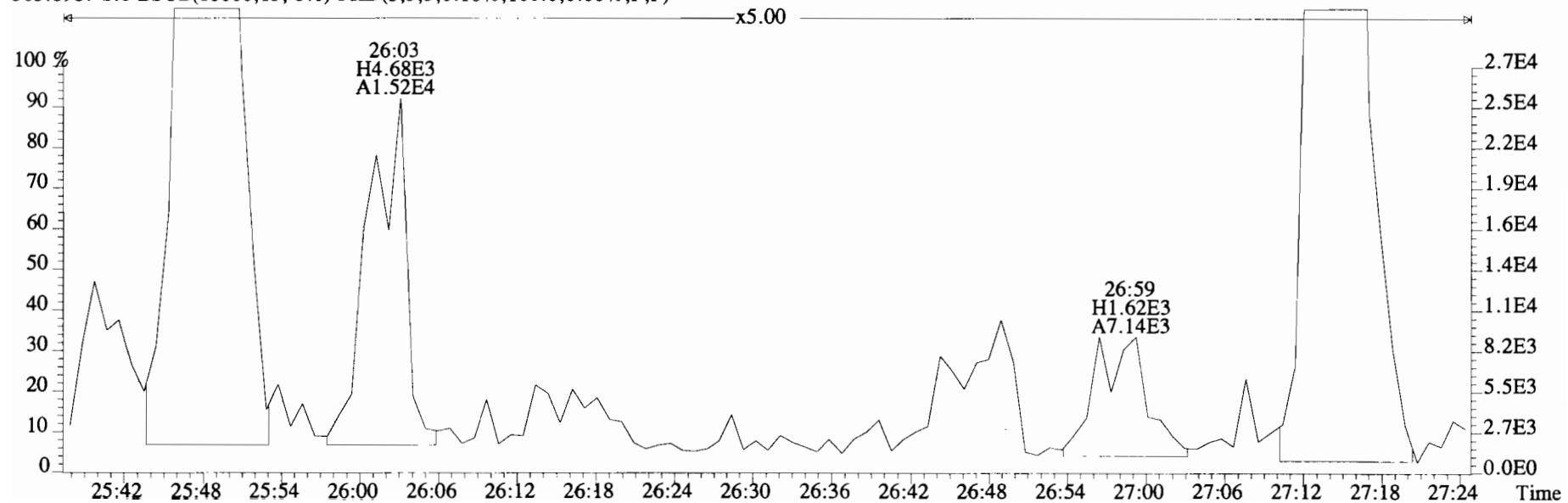
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Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



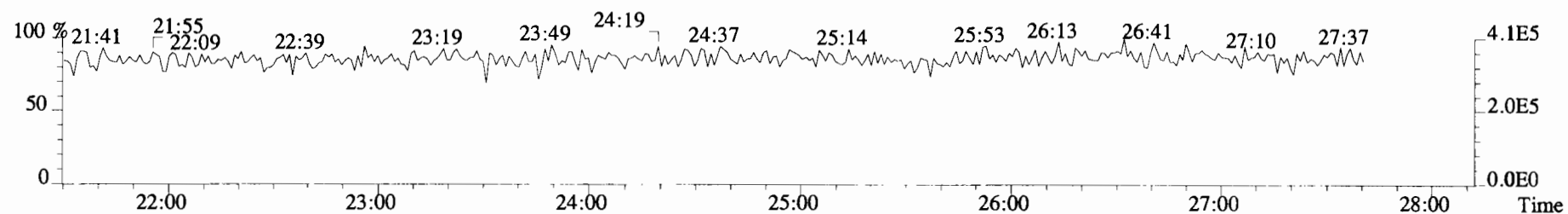
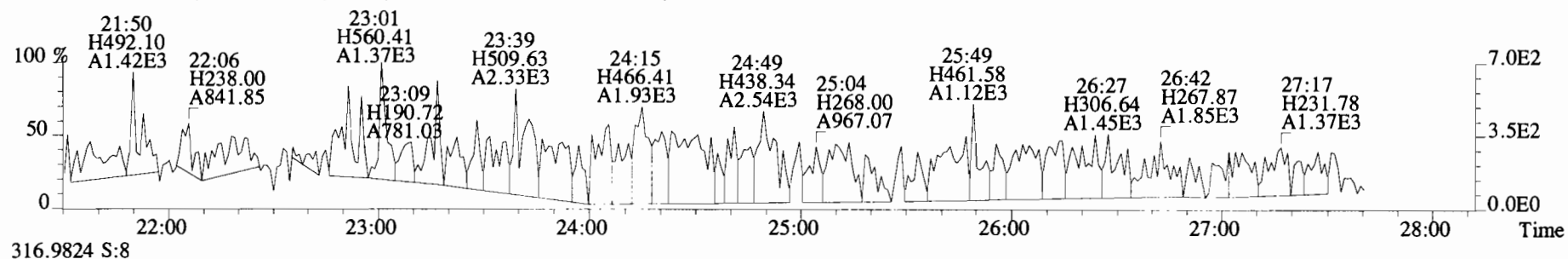
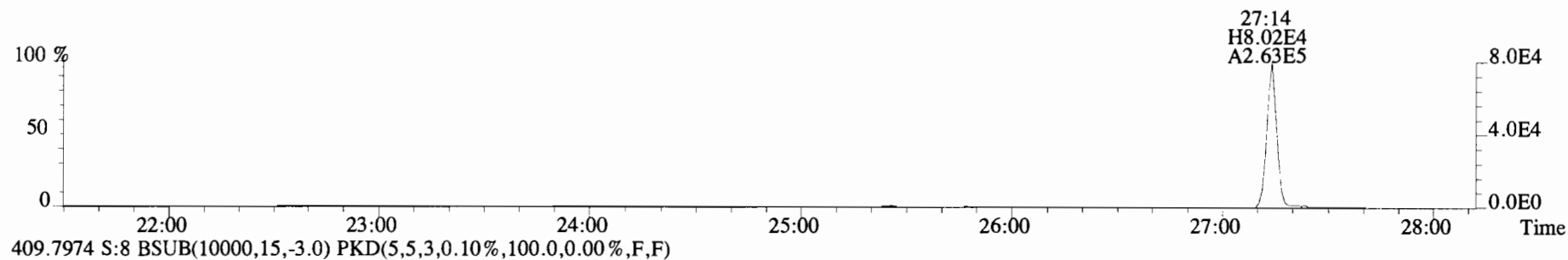
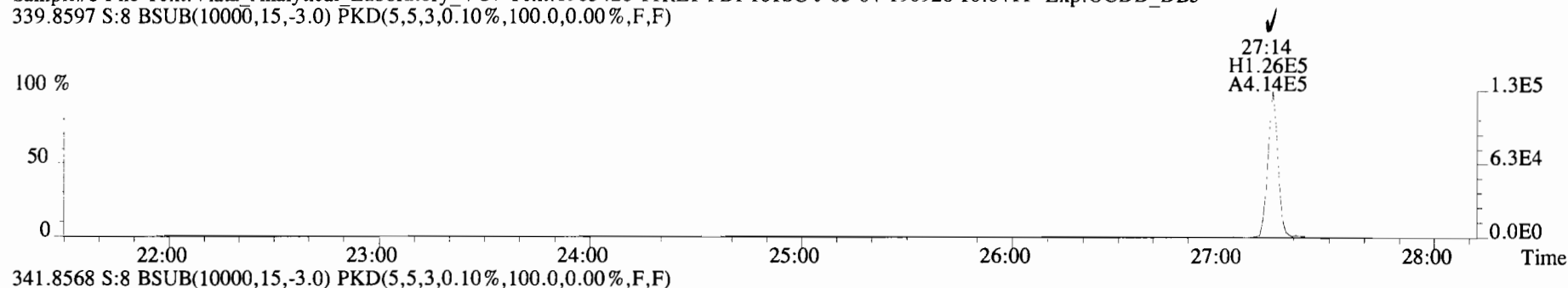
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



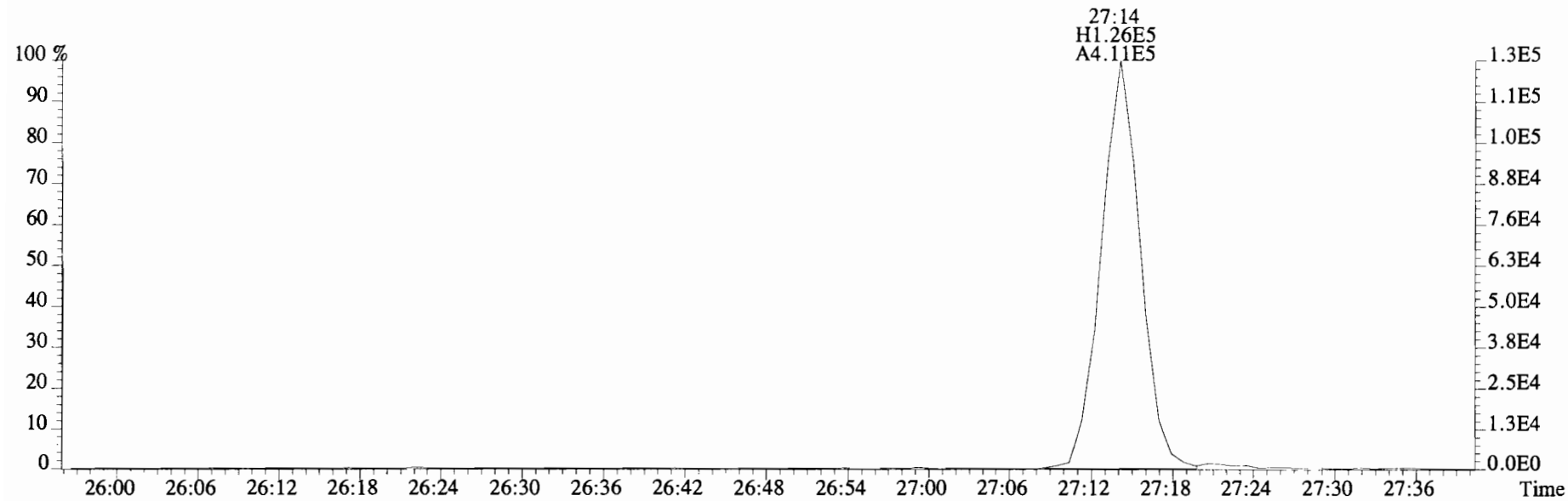
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



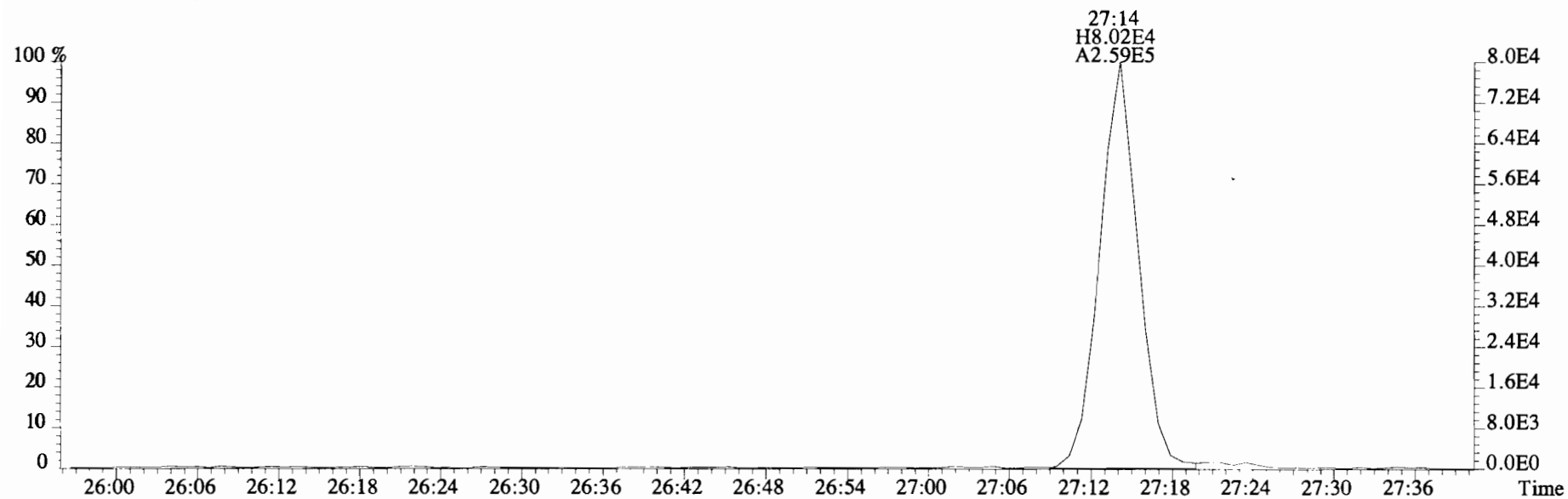
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



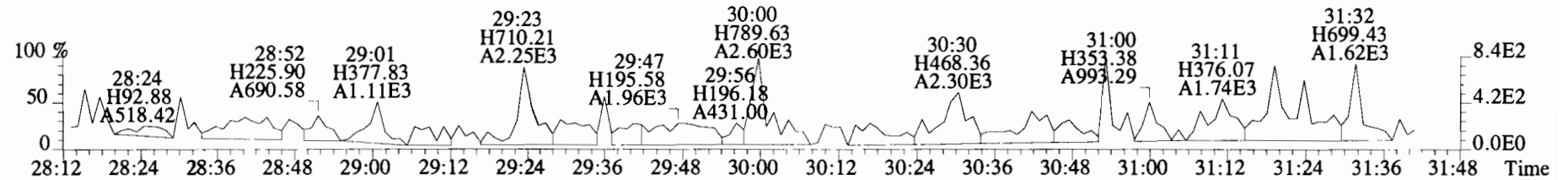
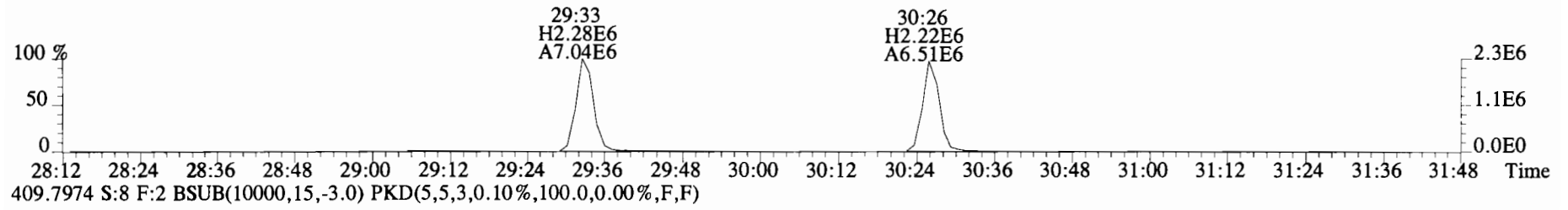
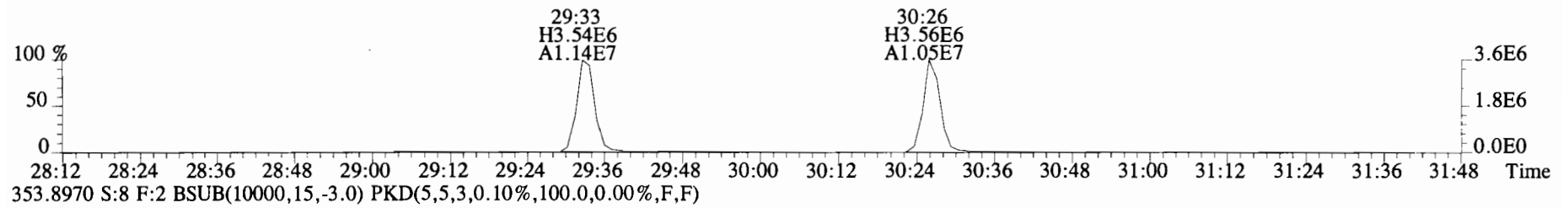
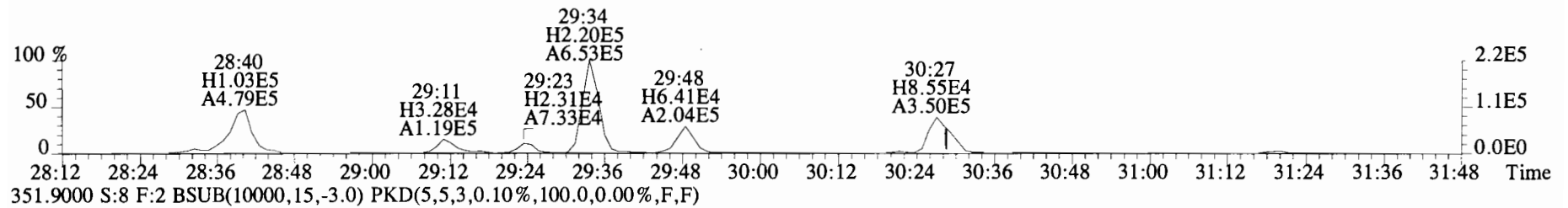
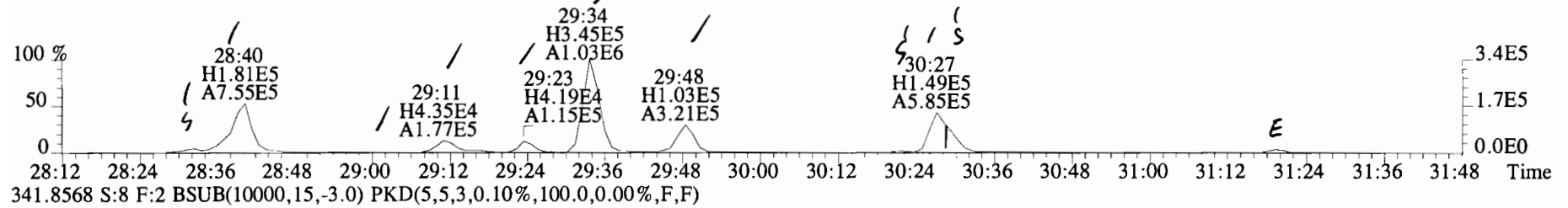
File:191111D2 #1-492 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



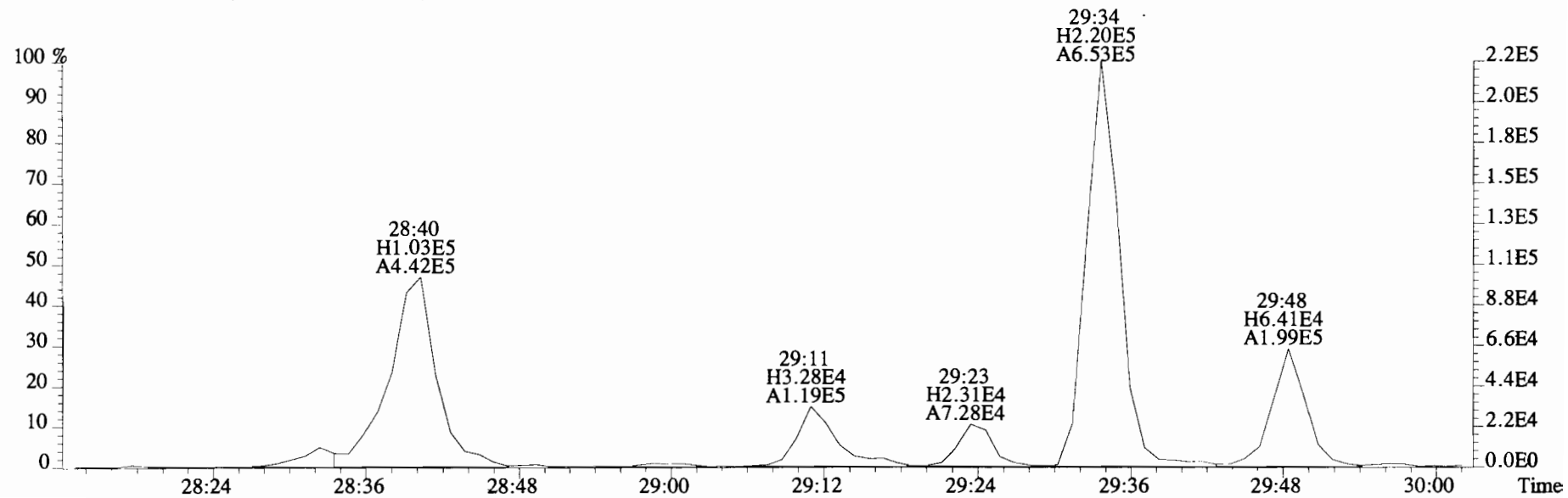
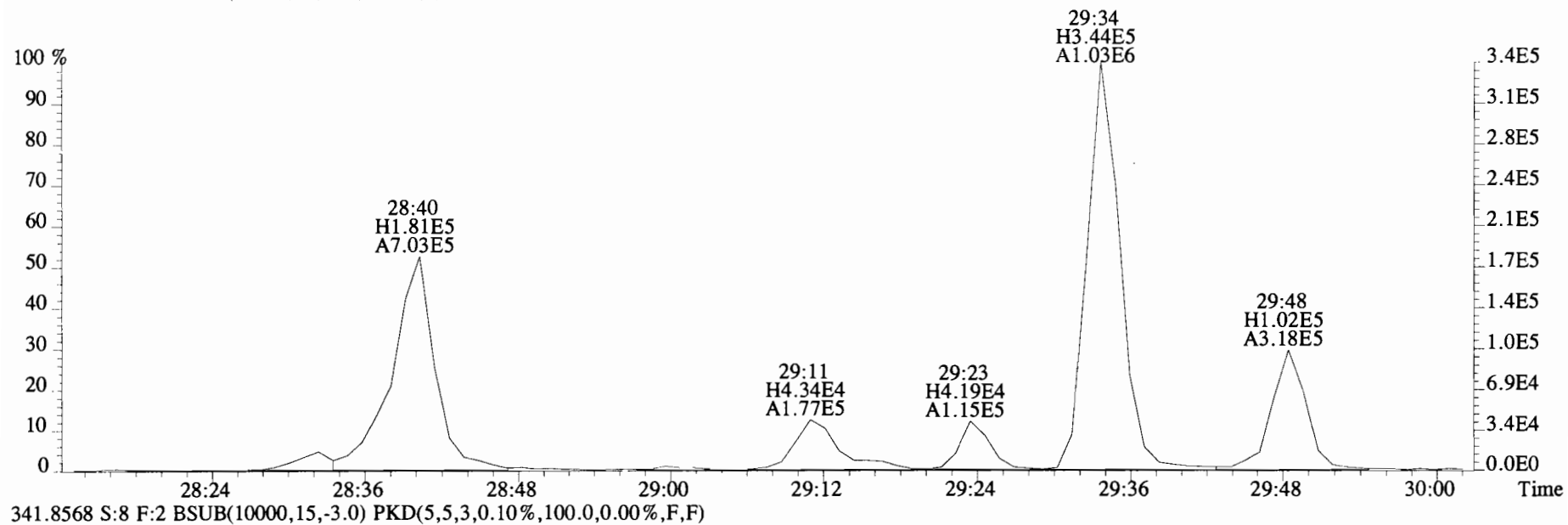
341.8568 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



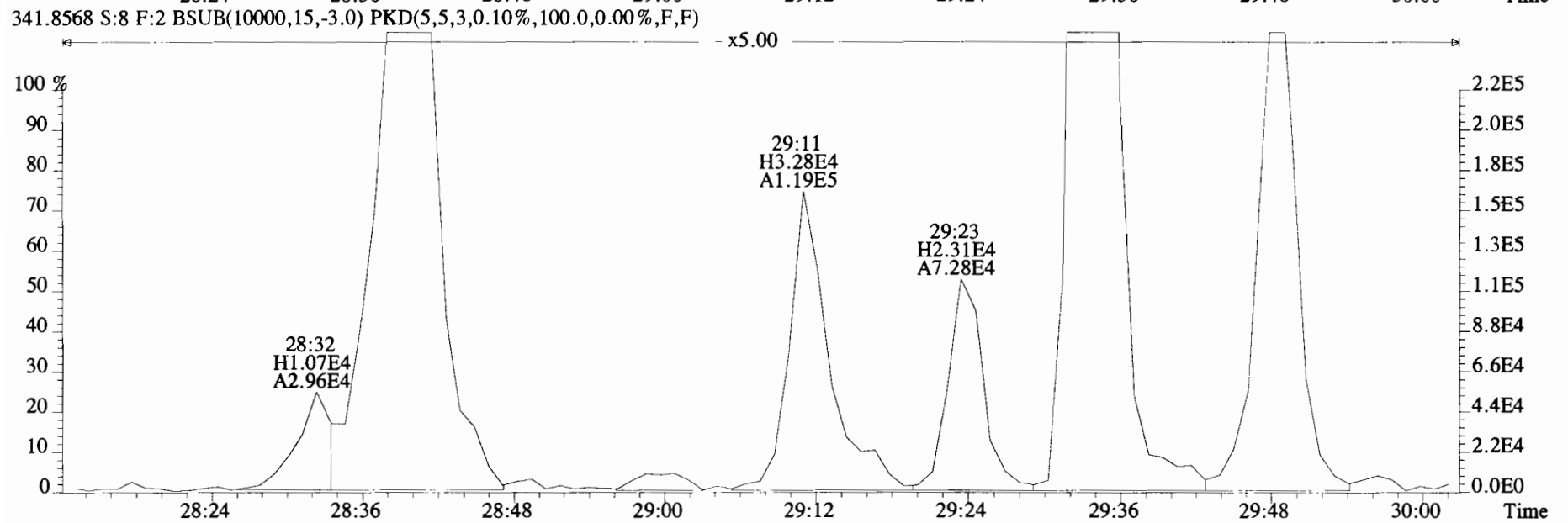
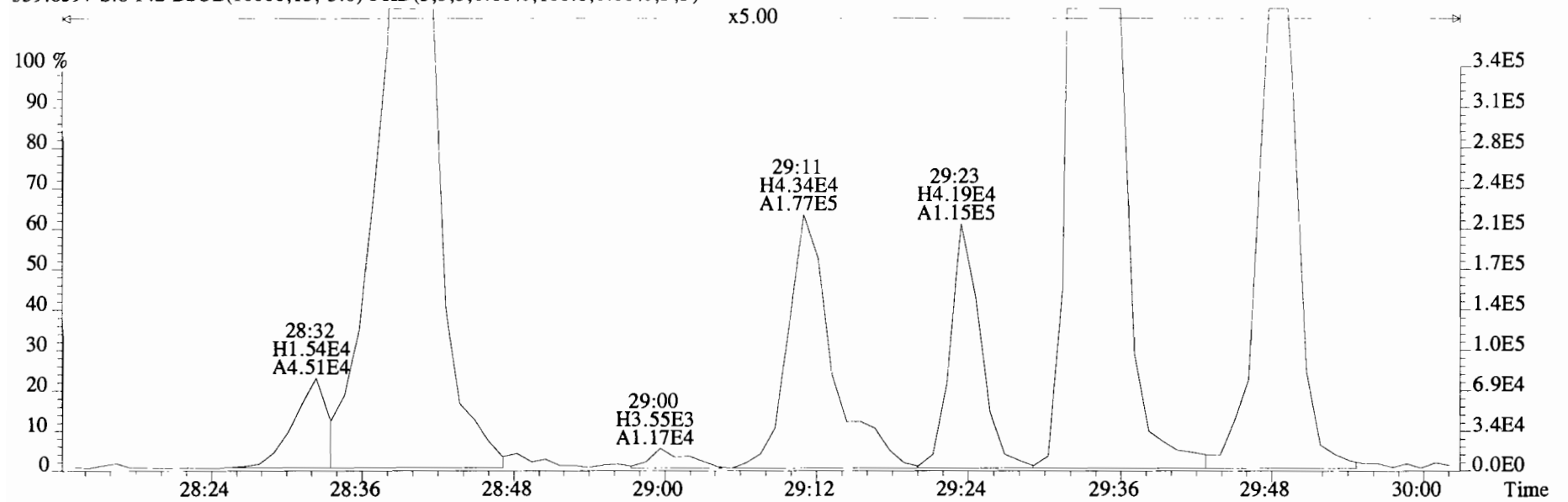
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



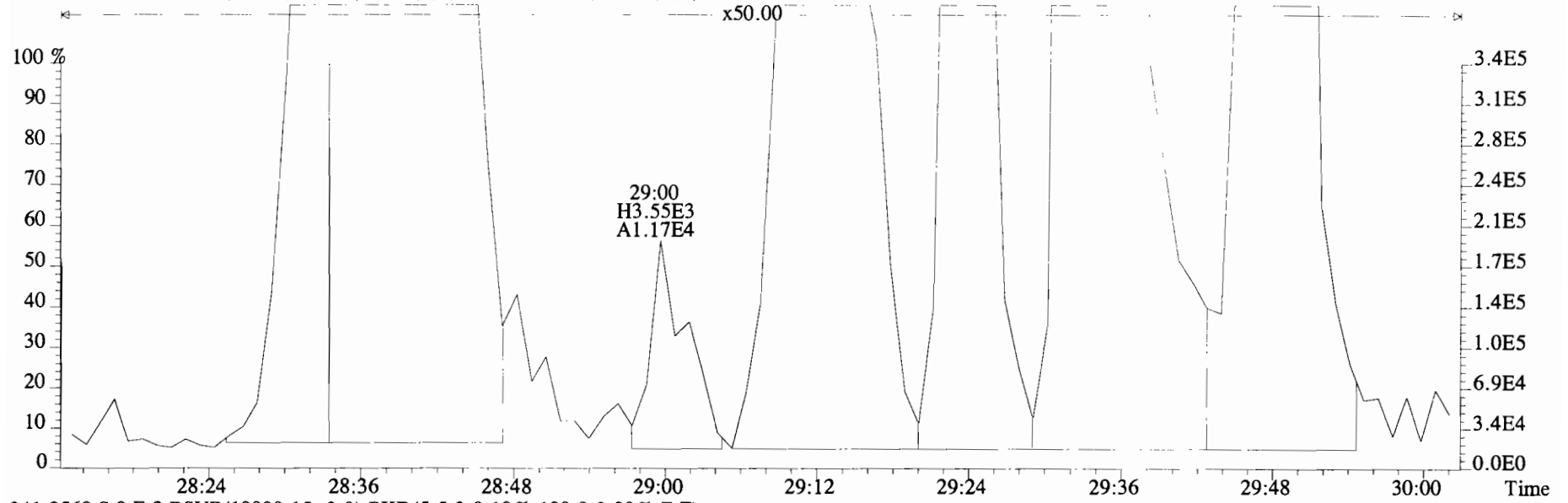
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



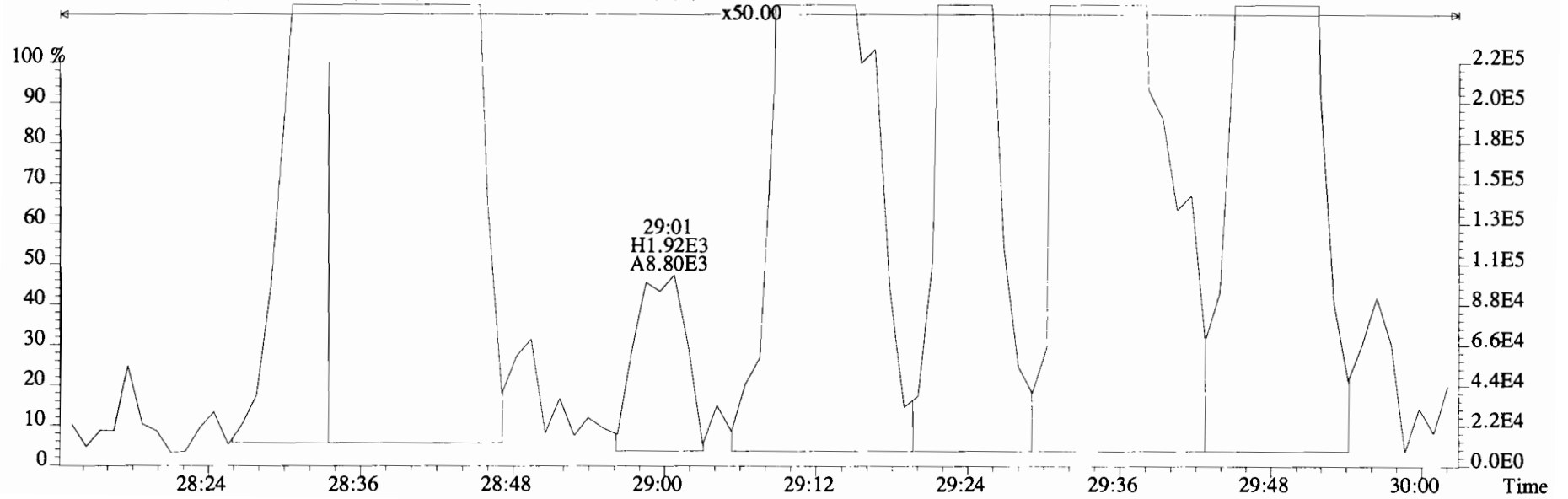
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 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



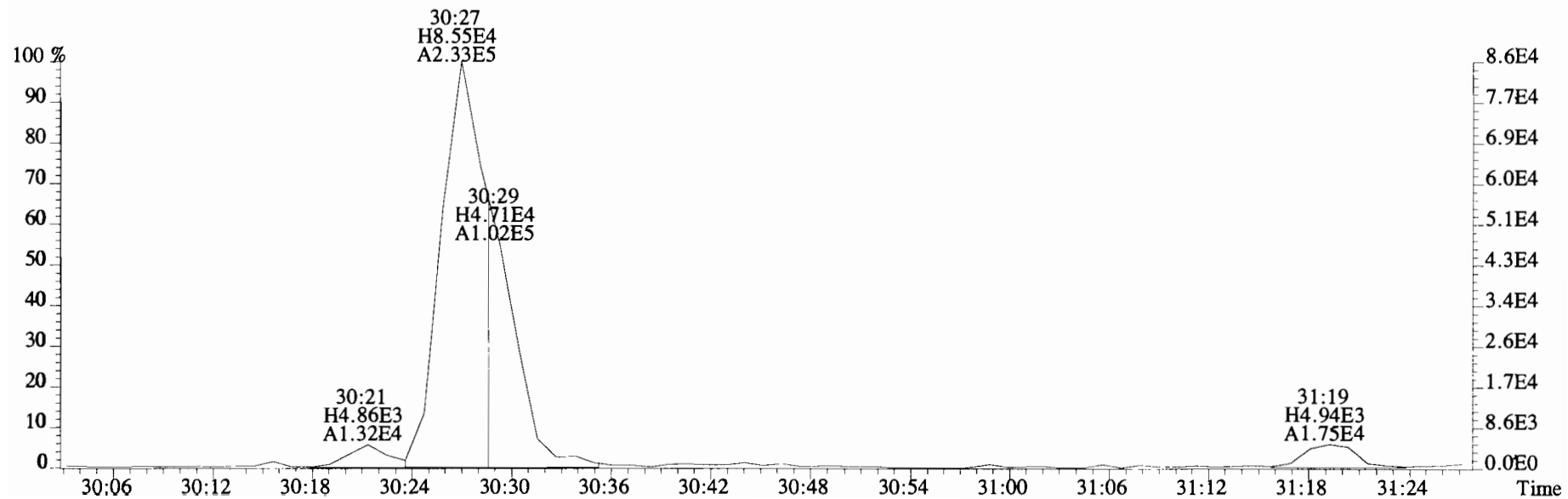
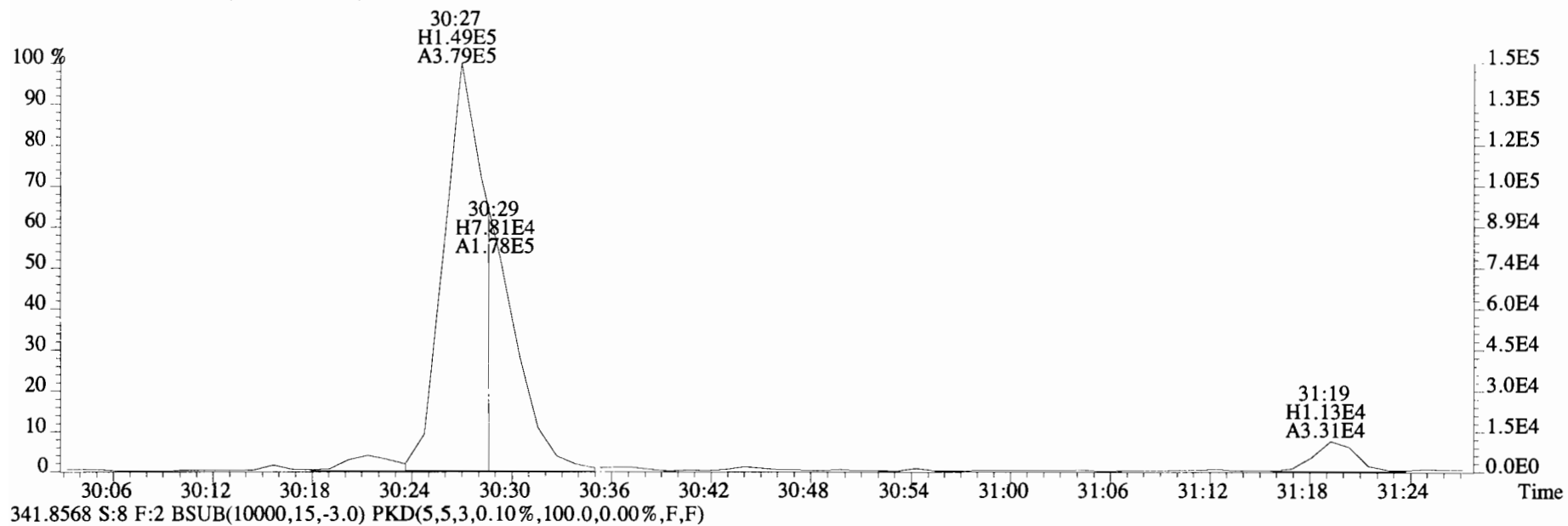
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Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



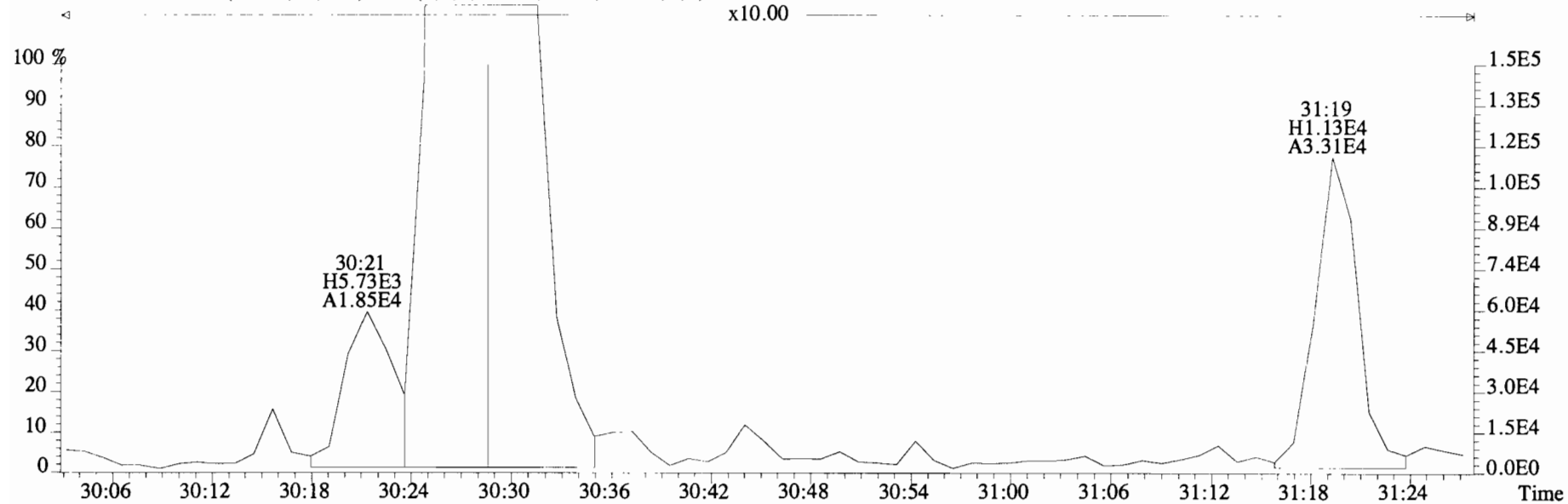
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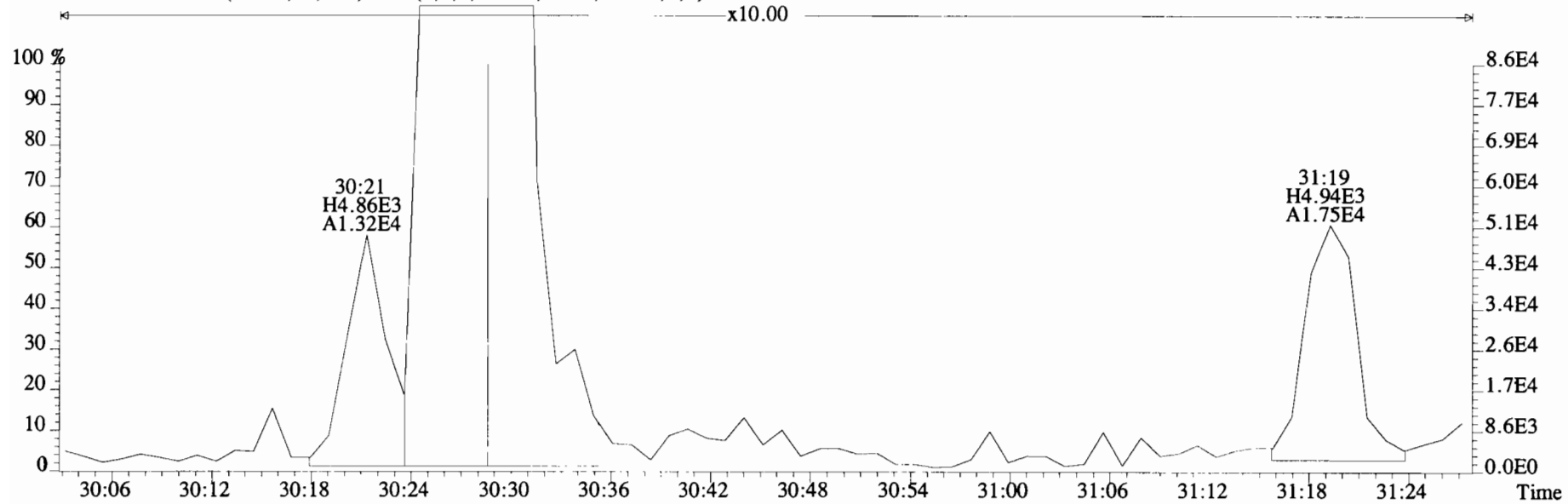
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Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



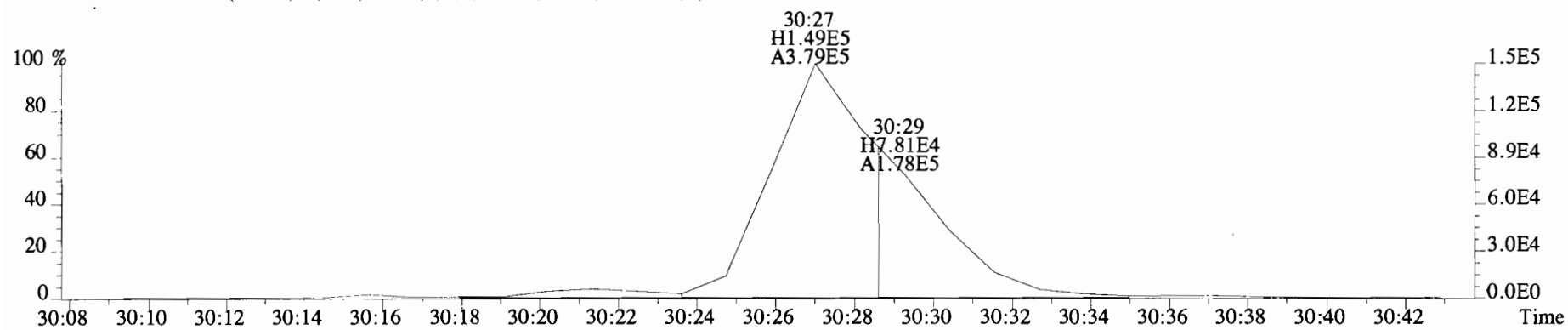
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



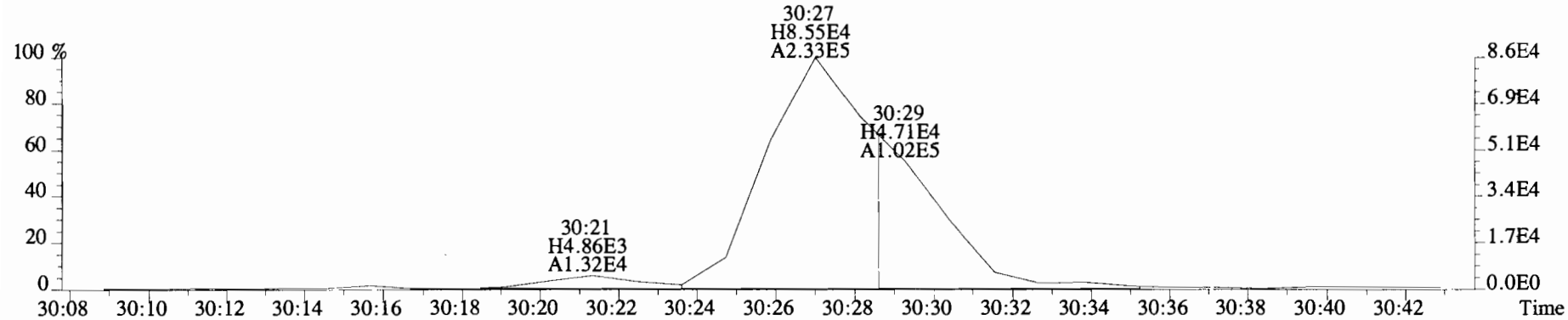
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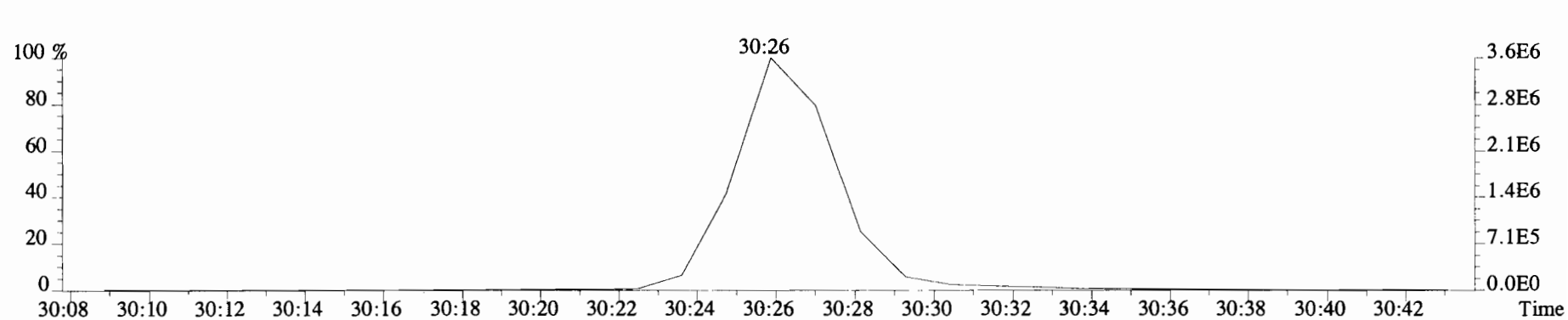
File:191111D2 #1-211 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



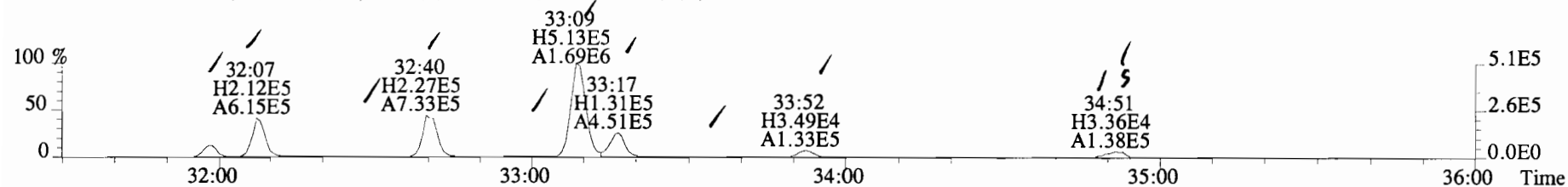
341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



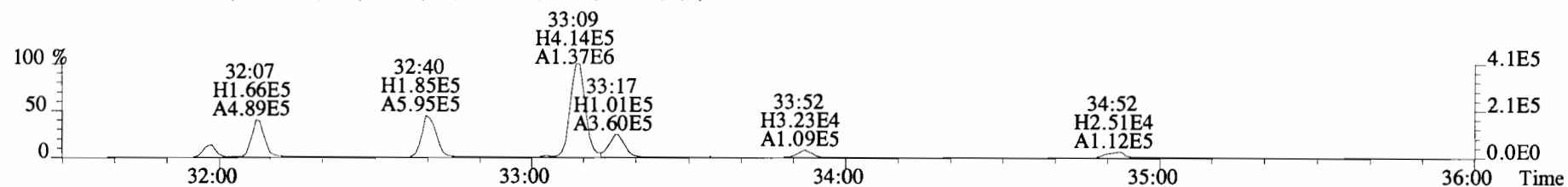
351.9000 S:8 F:2



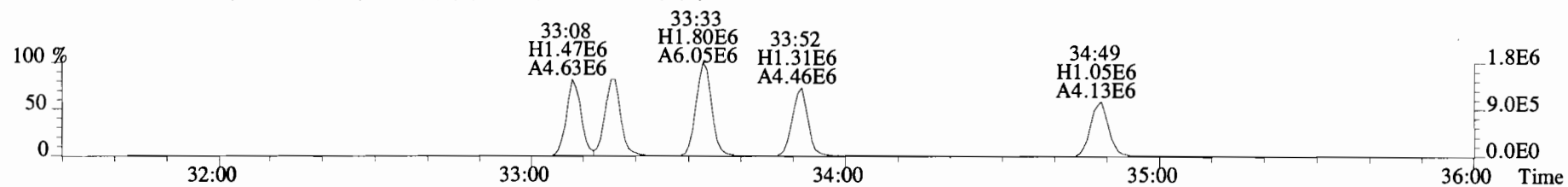
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



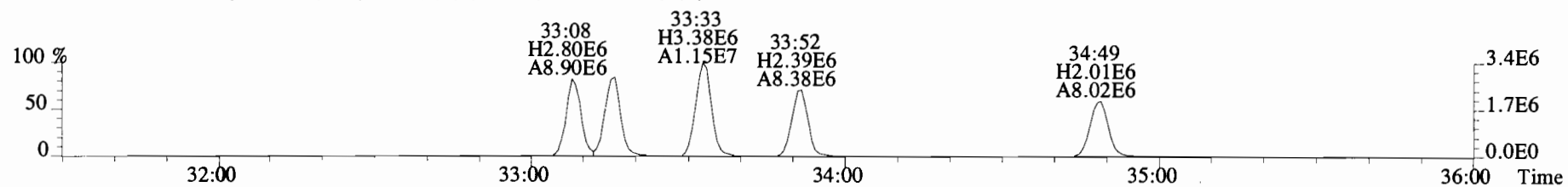
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



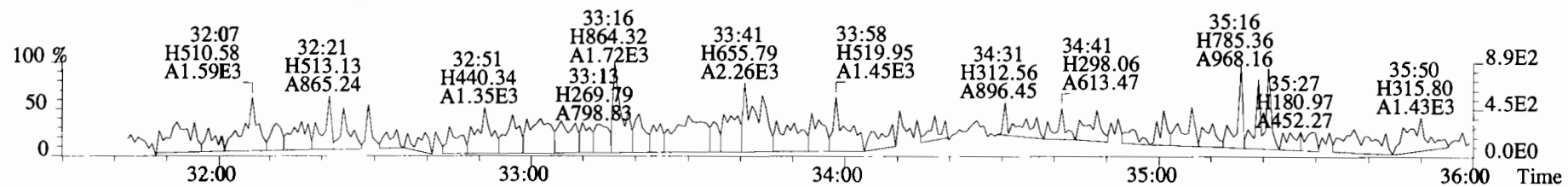
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



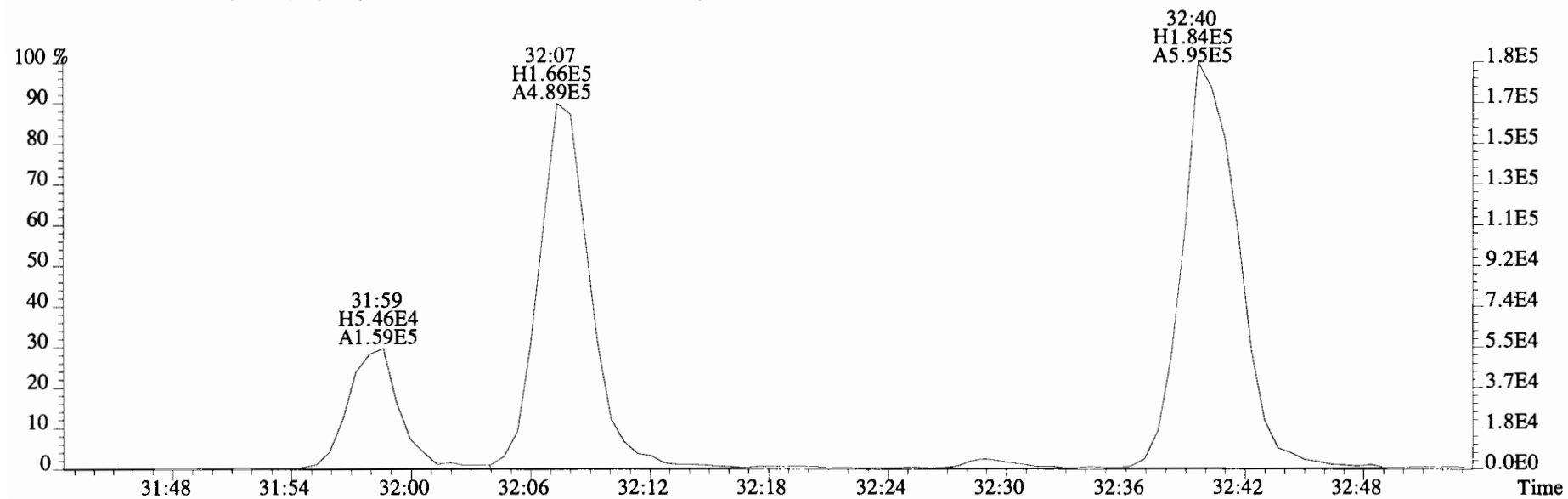
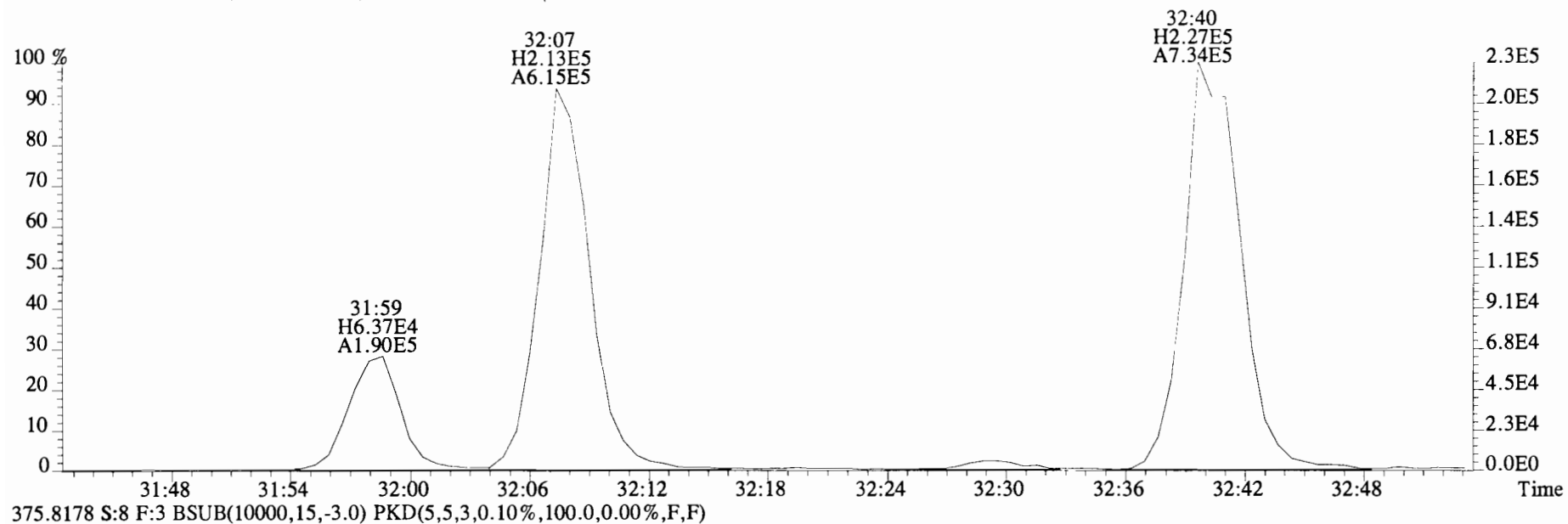
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



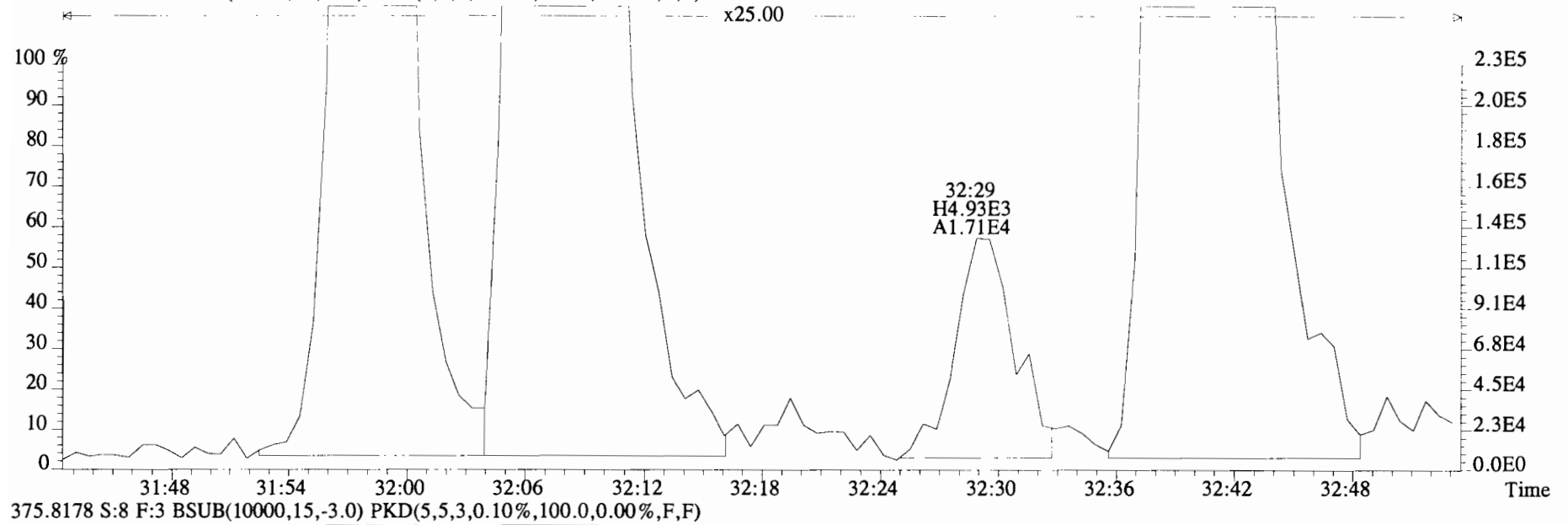
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



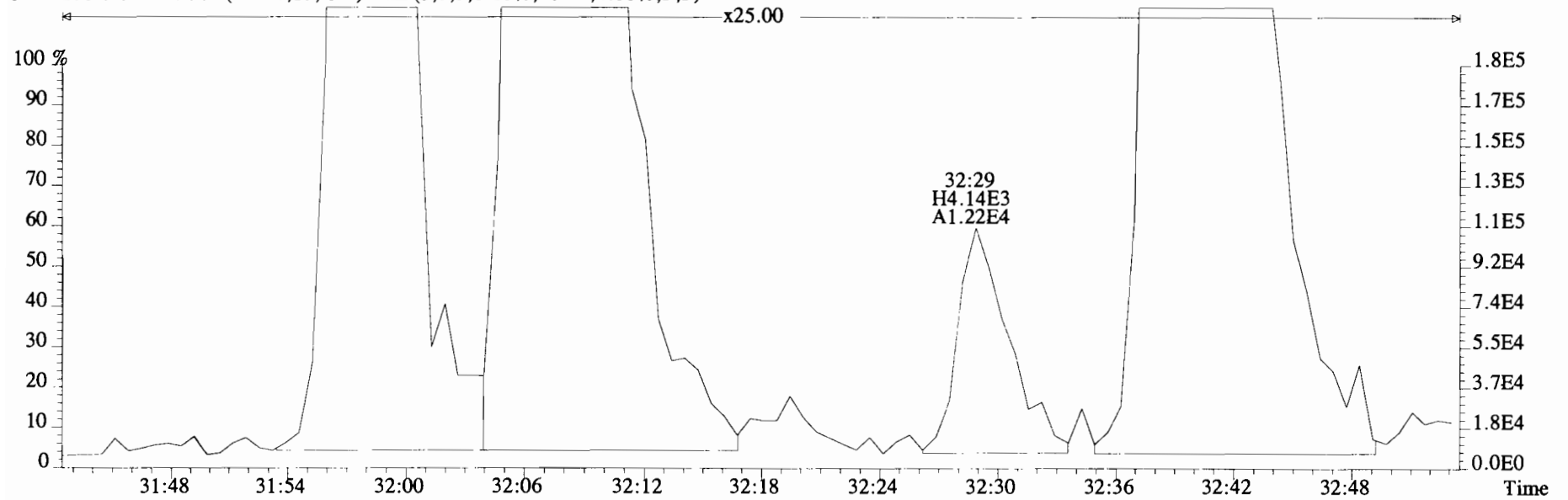
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



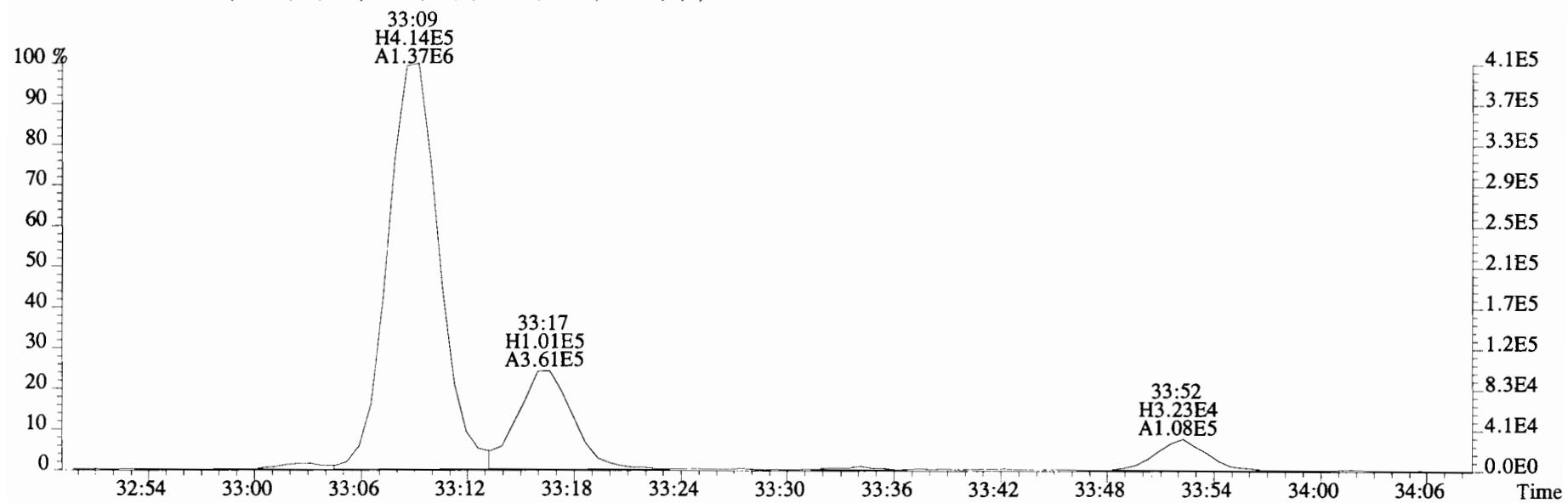
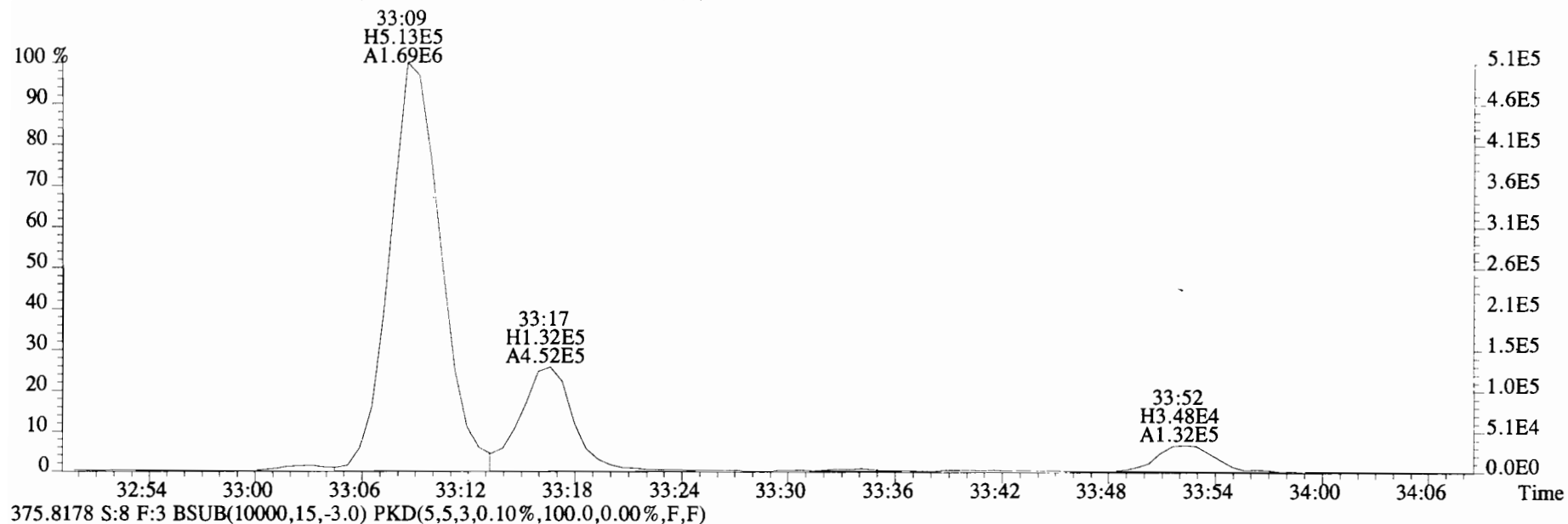
File:19111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



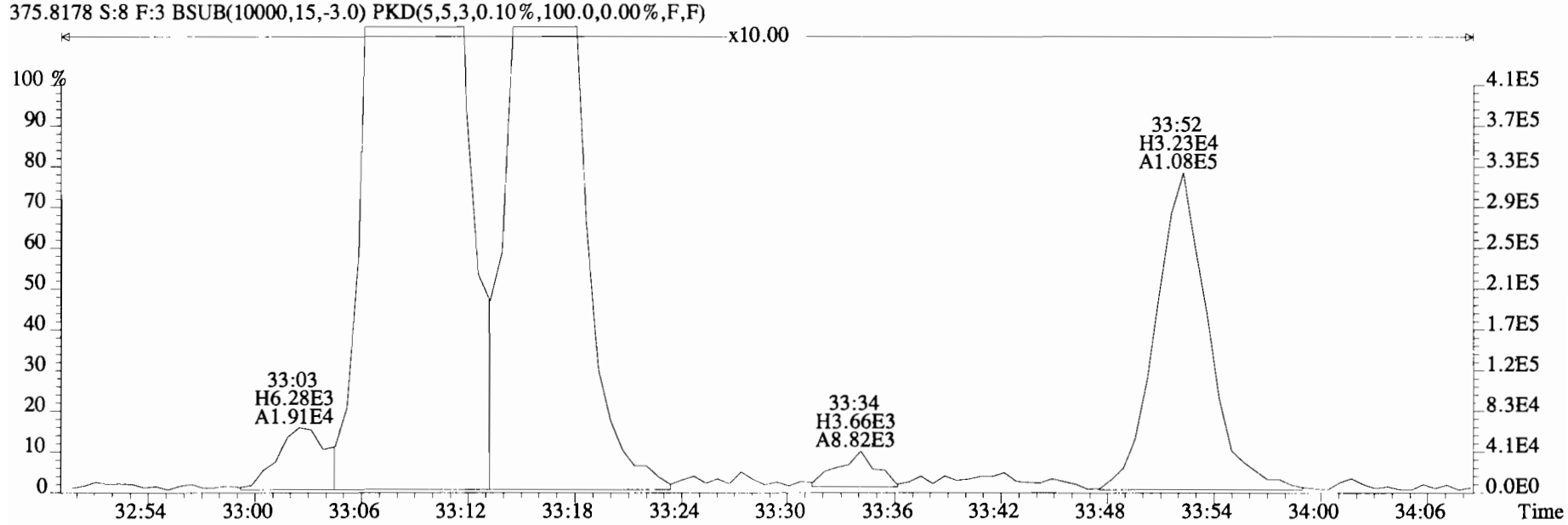
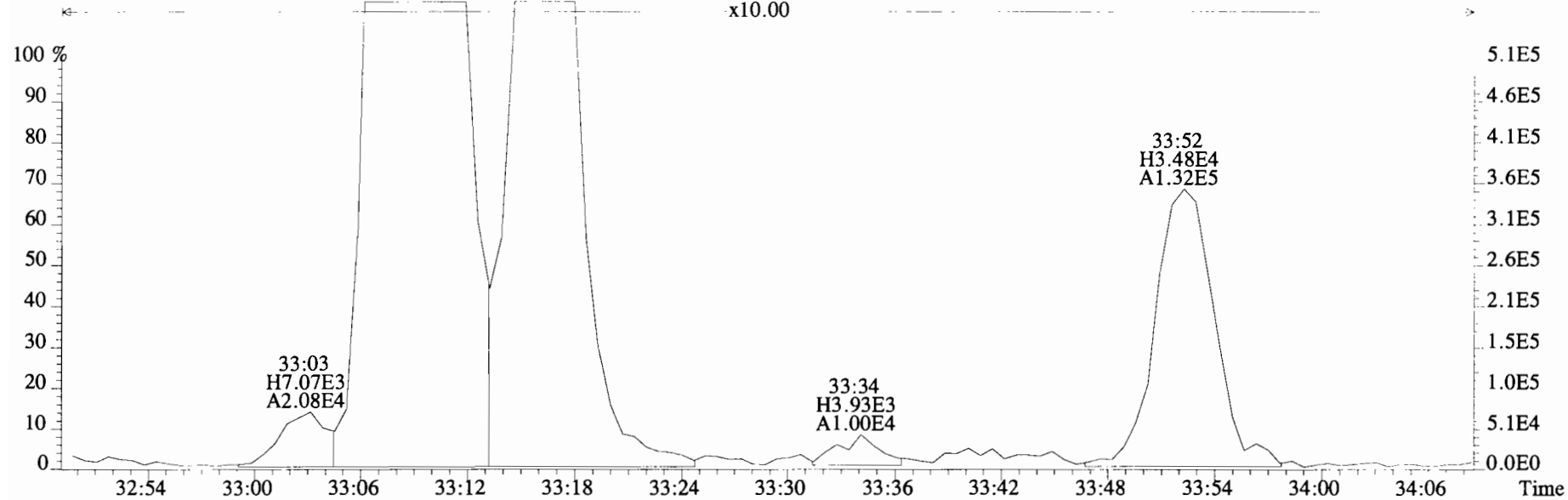
375.8178 S:8 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



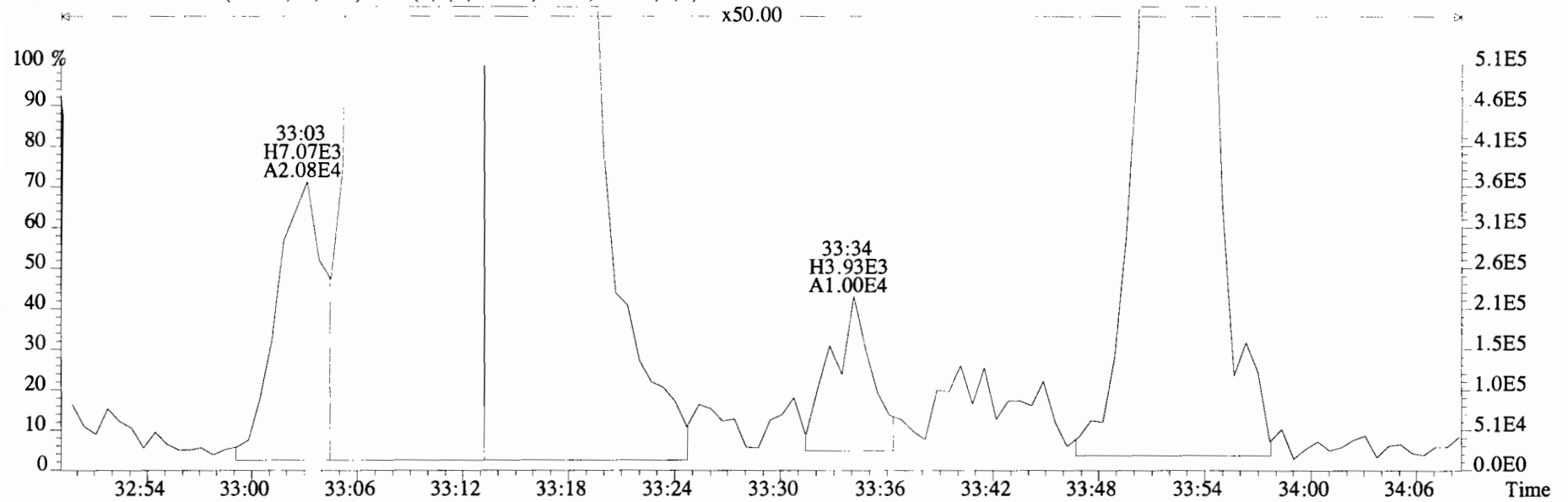
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



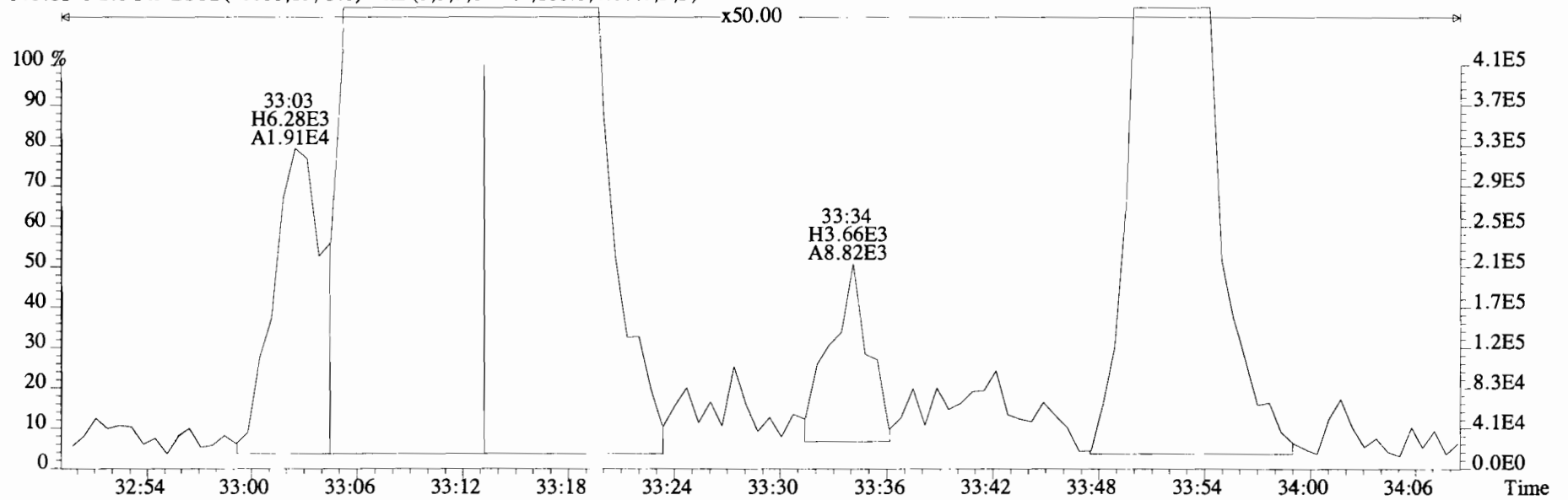
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 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



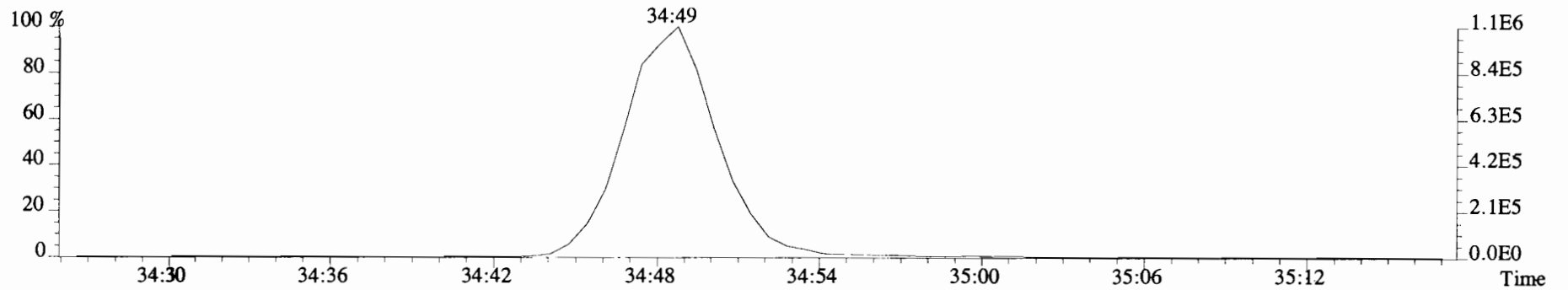
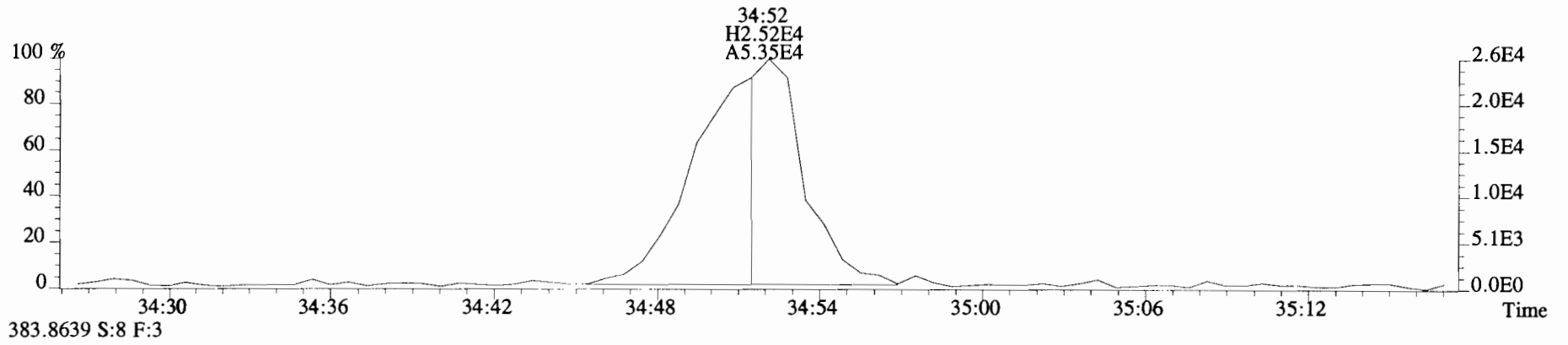
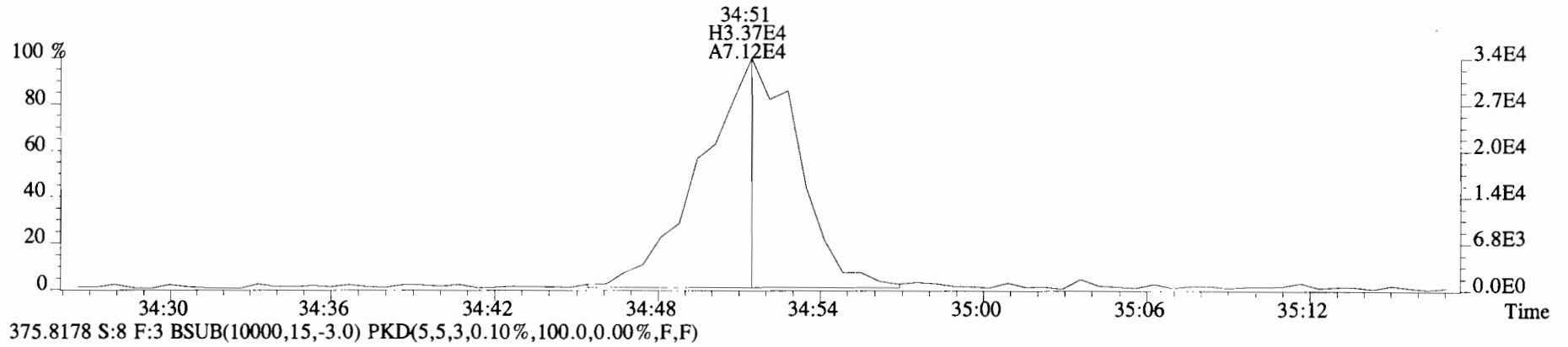
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Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



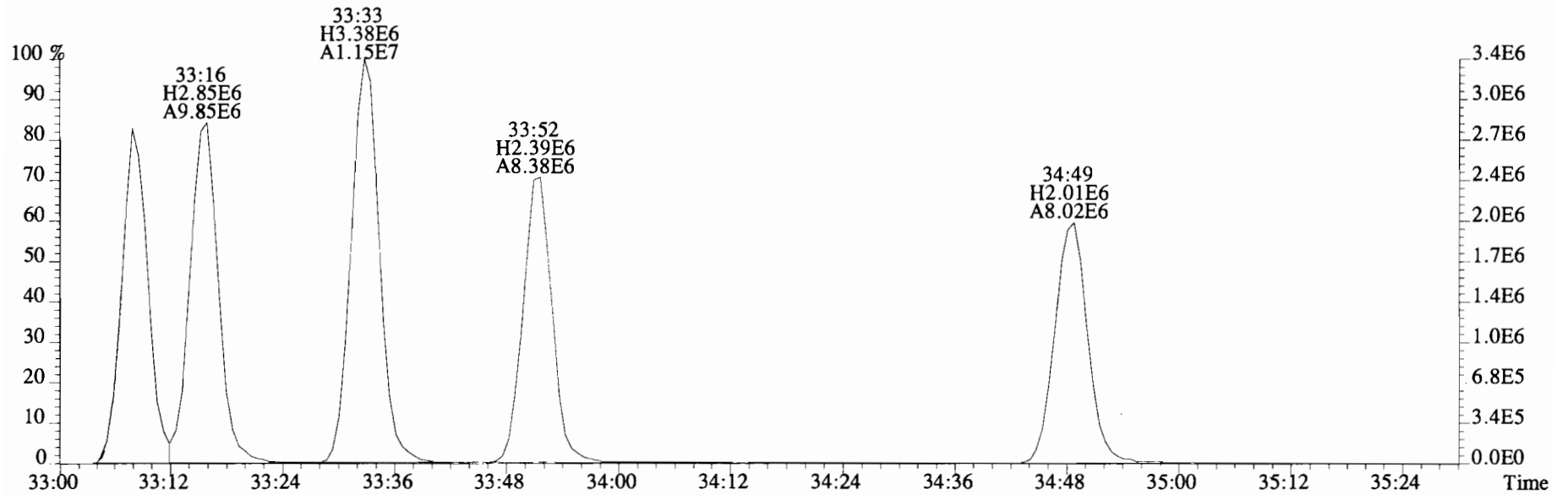
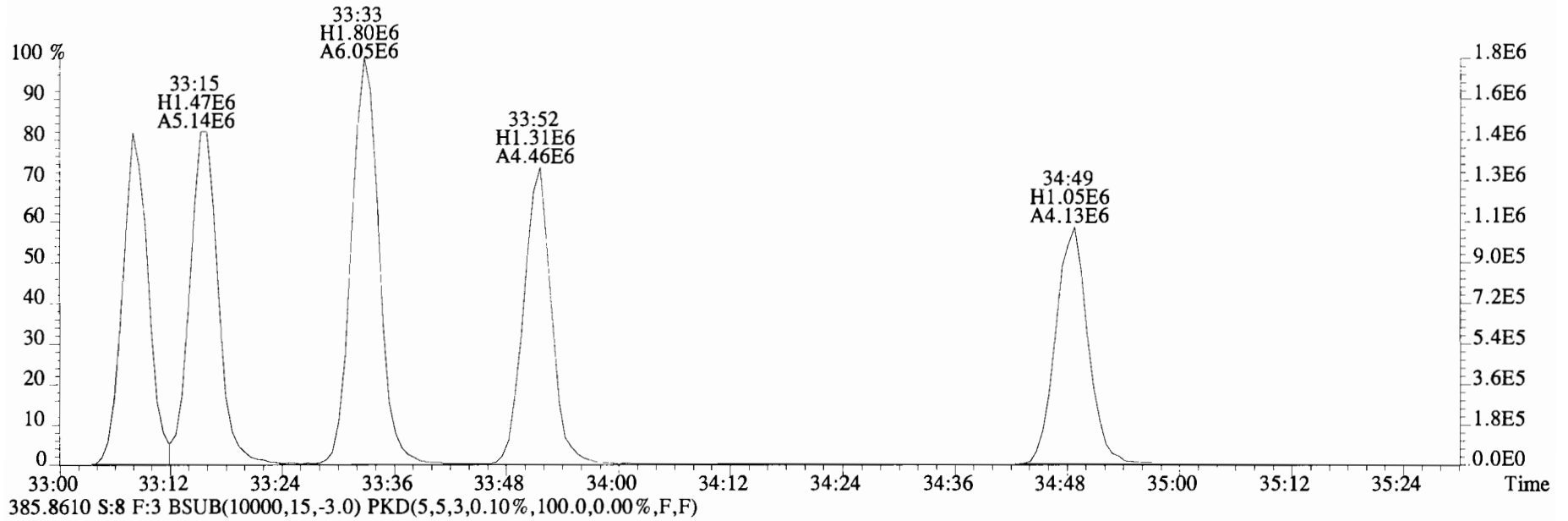
375.8178 S:8 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



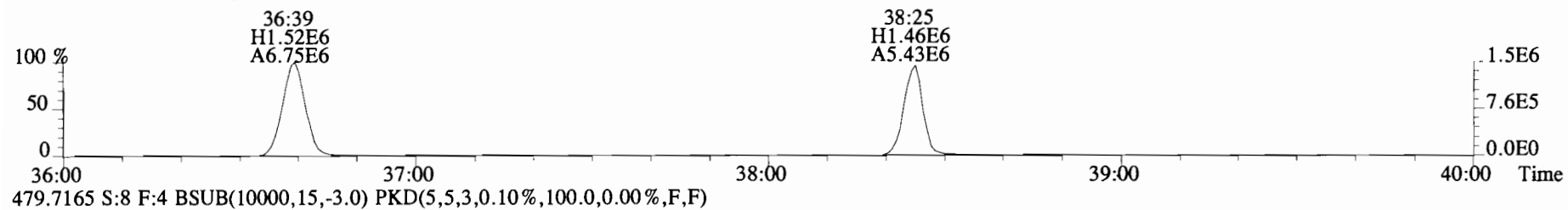
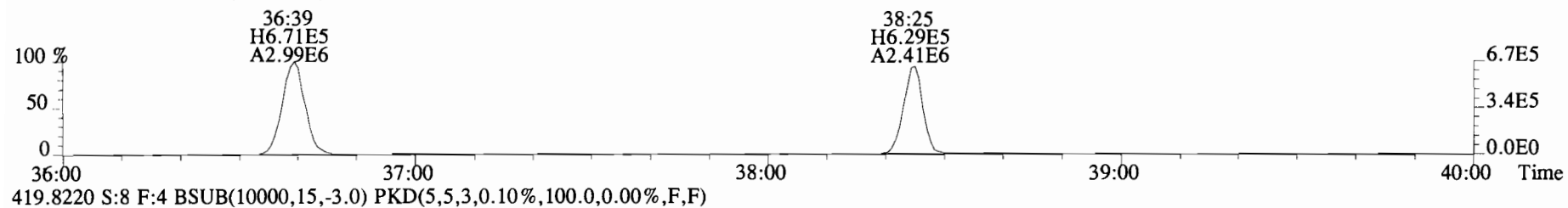
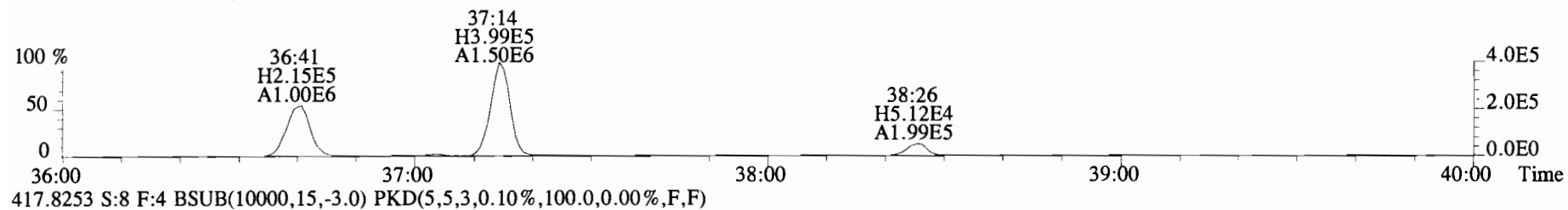
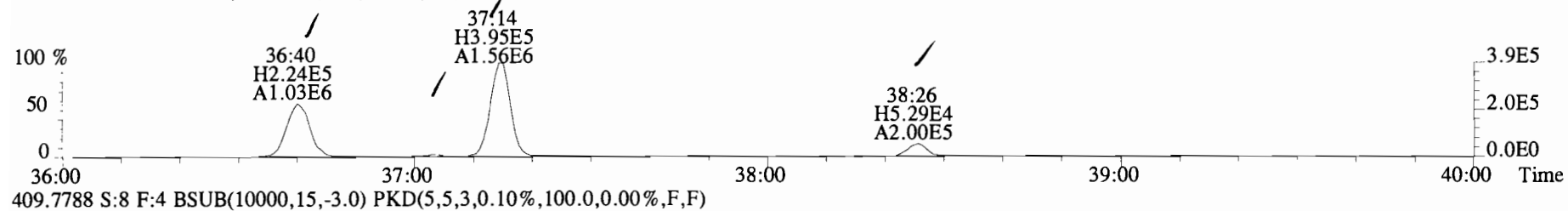
File:191111D2 #1-384 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



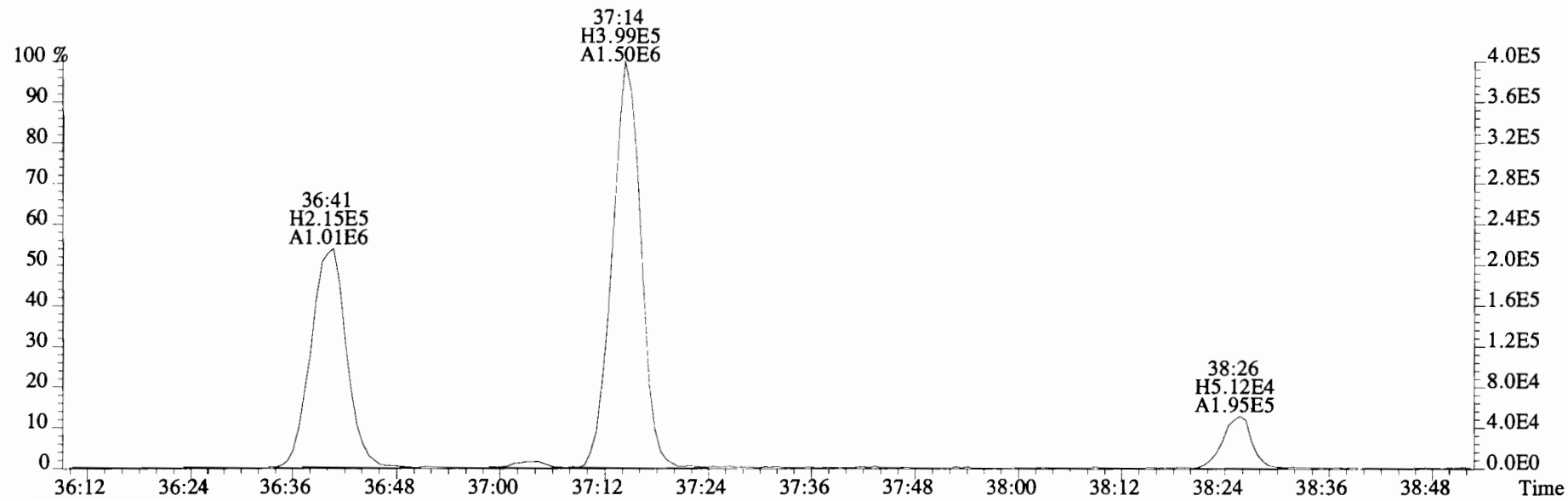
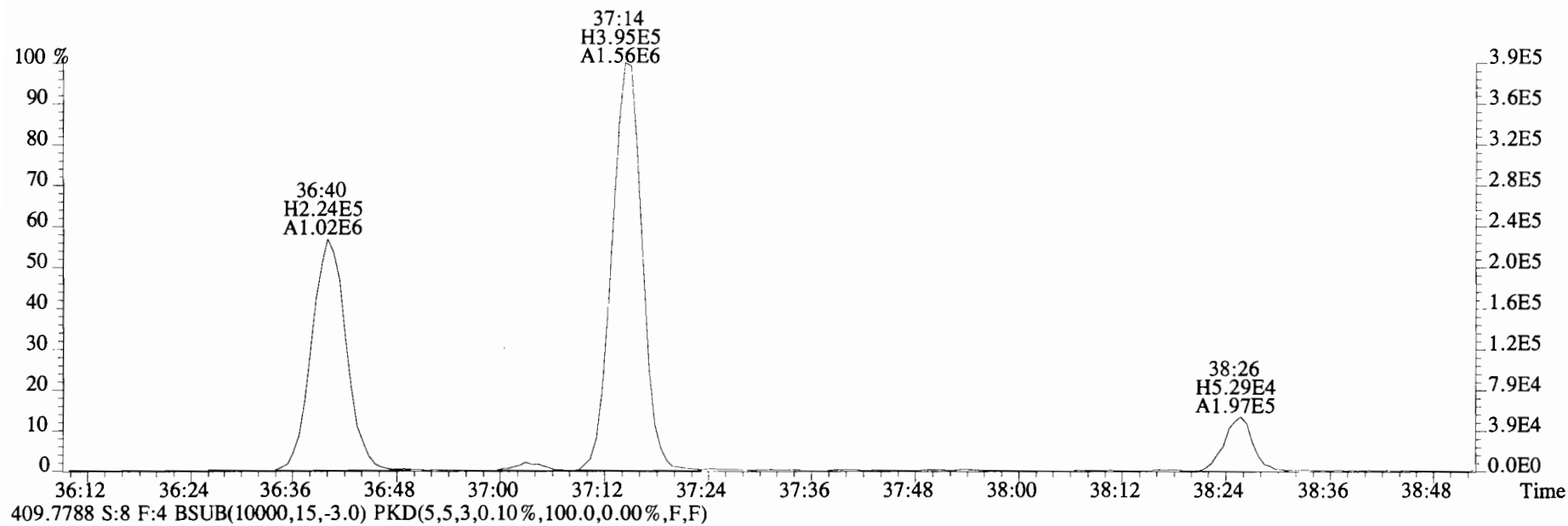
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Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



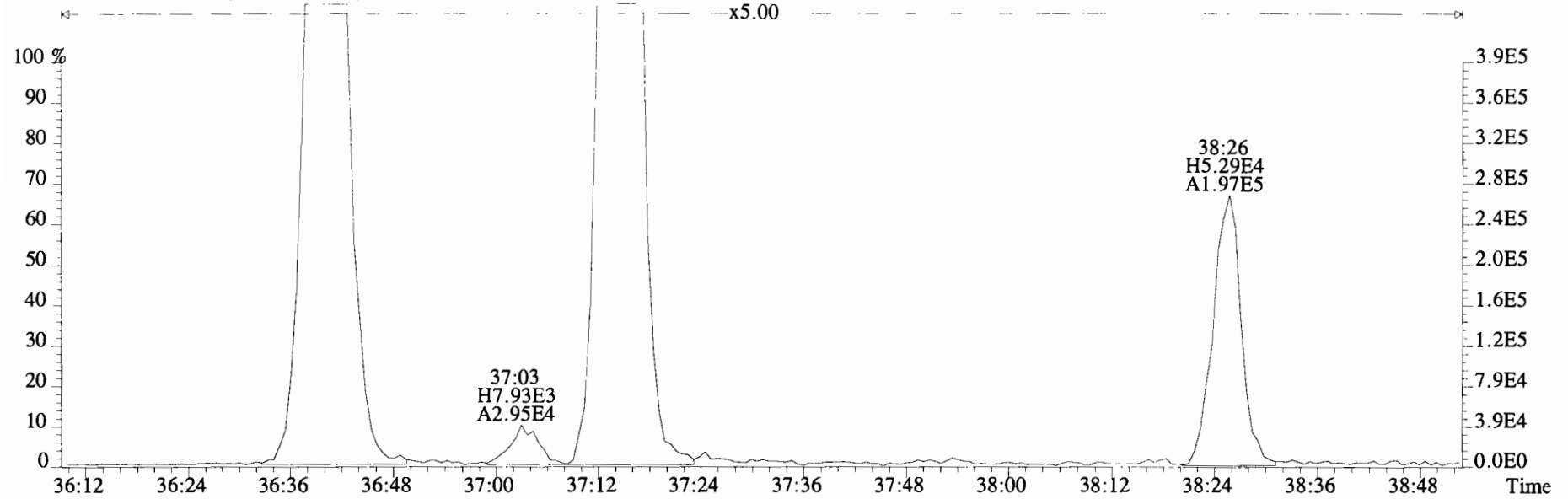
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



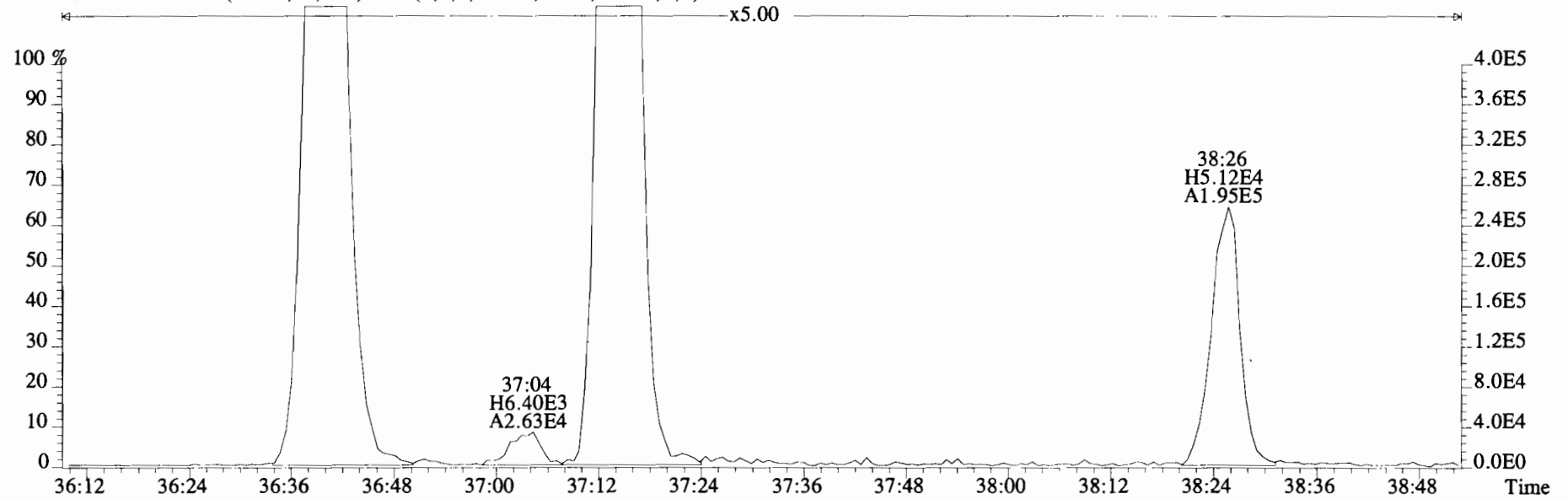
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
407.7818 S:8 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



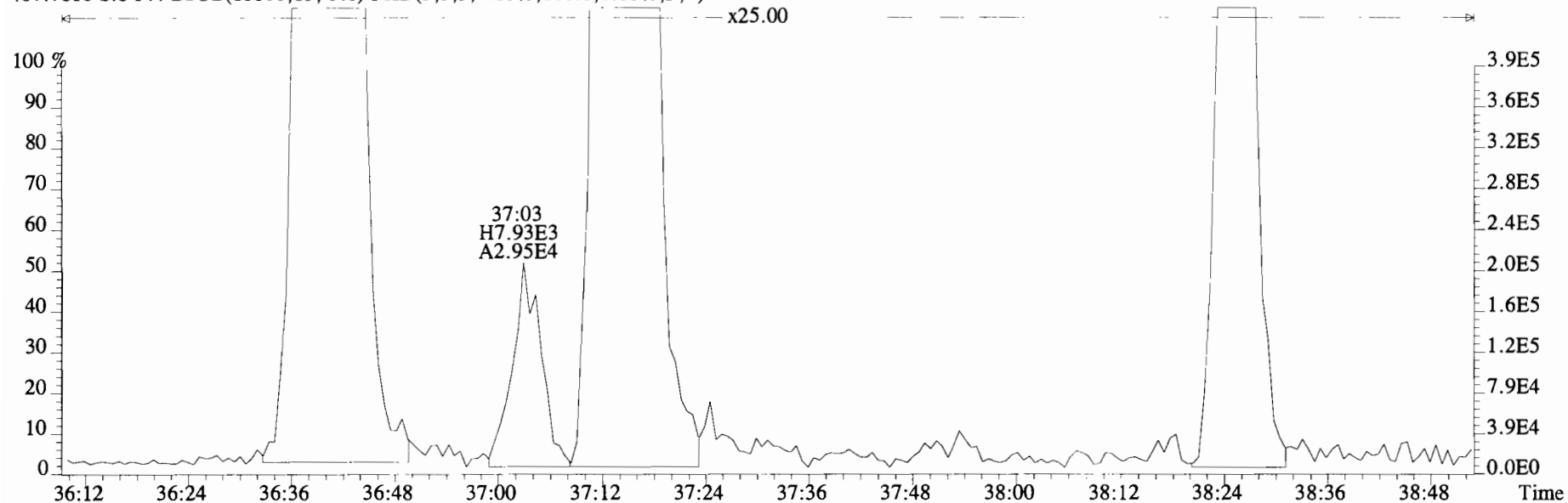
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
407.7818 S:8 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



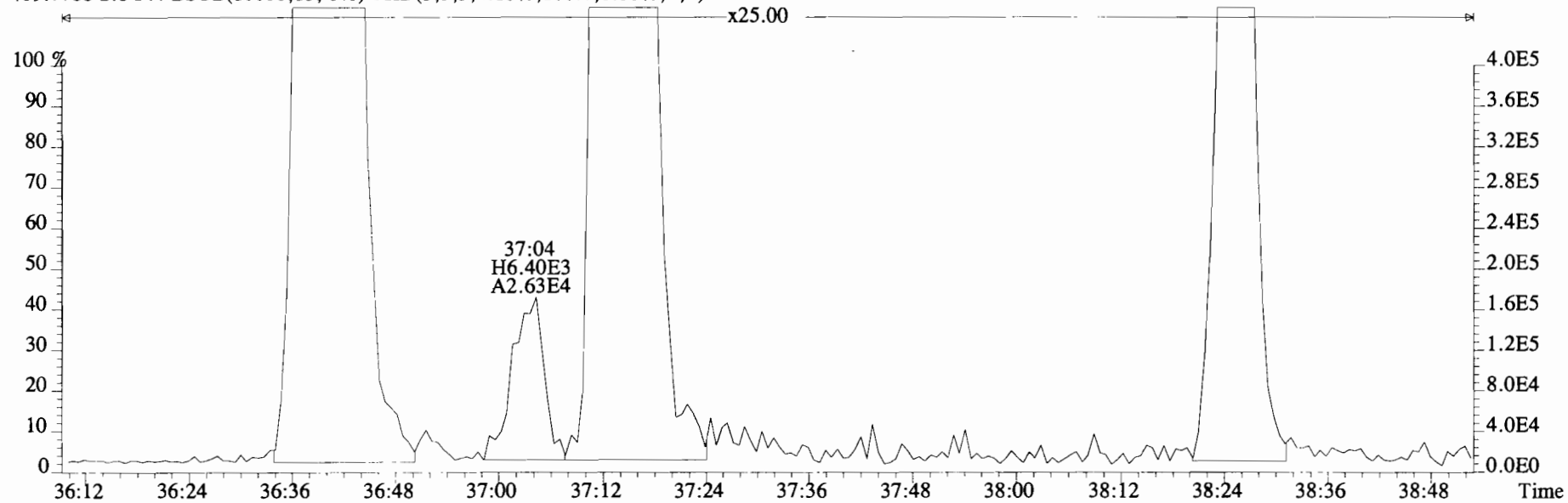
409.7788 S:8 F:4 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



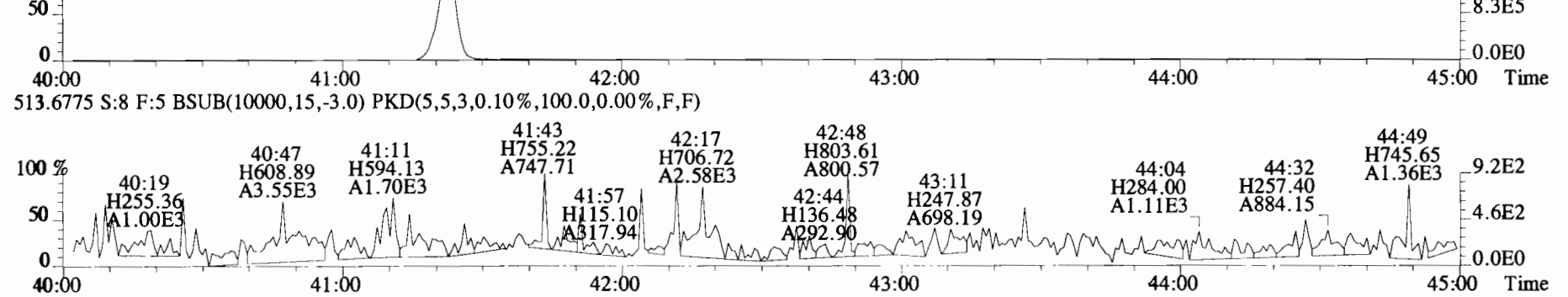
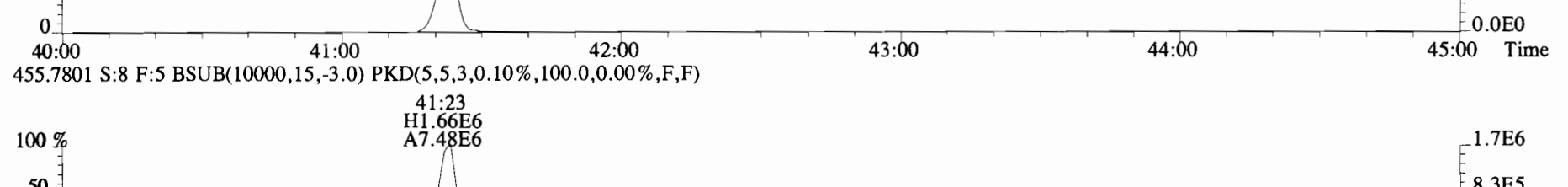
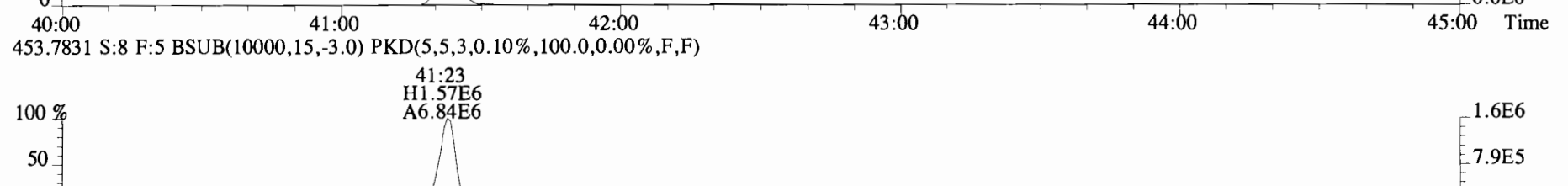
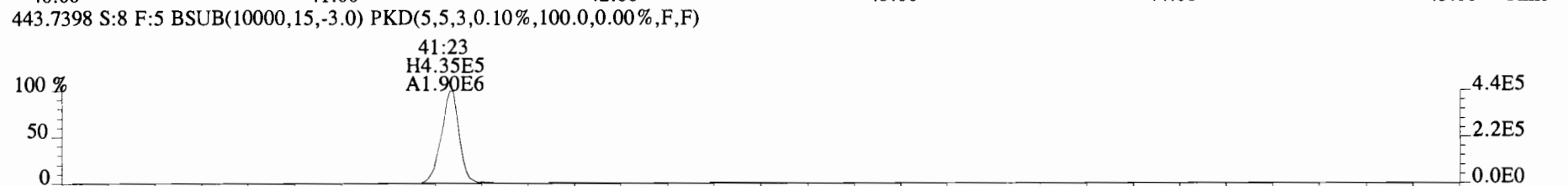
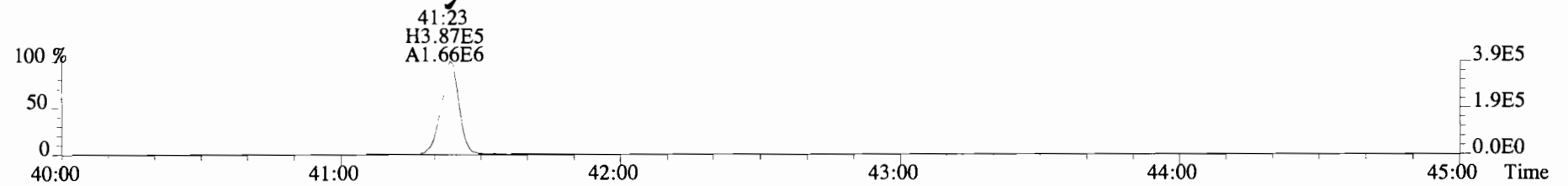
File:191111D2 #1-356 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 Exp:OCDD_DB5
407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191111D2 #1-431 Acq:12-NOV-2019 04:06:44 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-11RE1 PDI-101SC-J-03-04-190926 10.0411 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)



CONFIRMATION

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.11e+07	0.77 y	15:34	1.00	199.1	-
13C-2,3,7,8-TCDF	8.88e+06	0.77 y	17:47	1.02	155.5	78.1
2,3,7,8-TCDF	5.00e+05	0.78 y	17:48	0.95	11.84	

Integrations

by
Analyst: DB

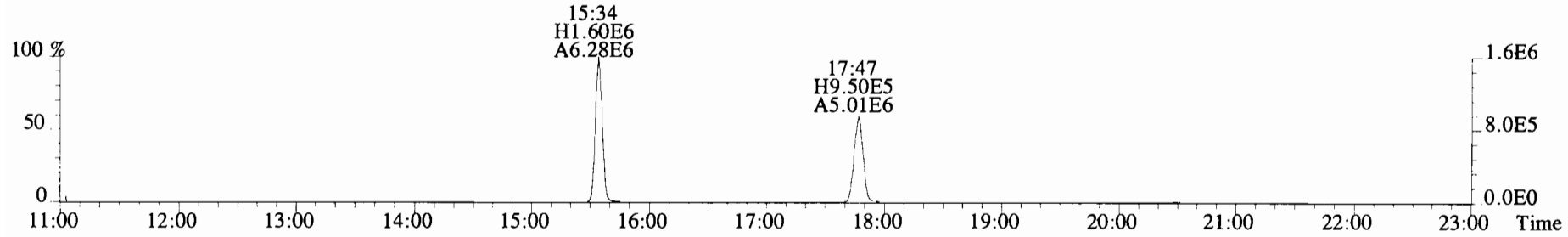
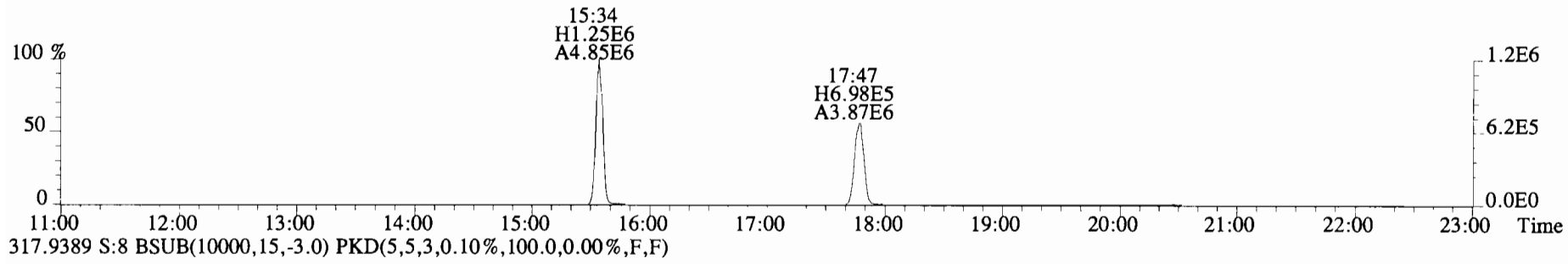
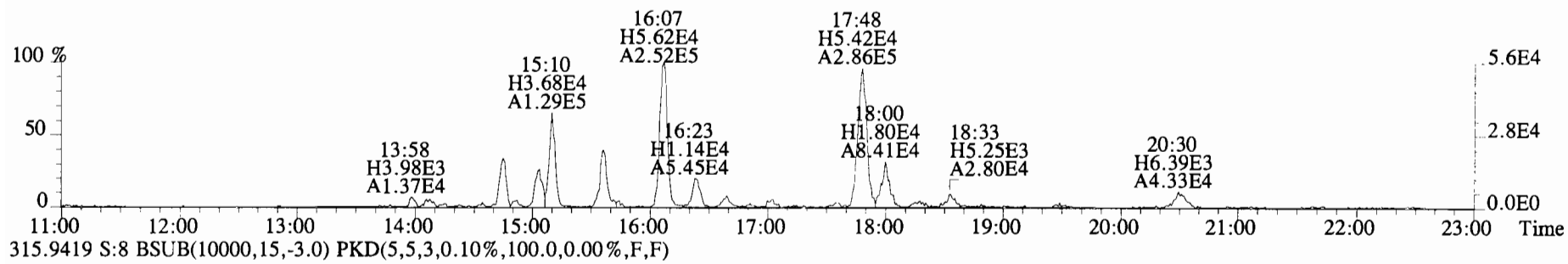
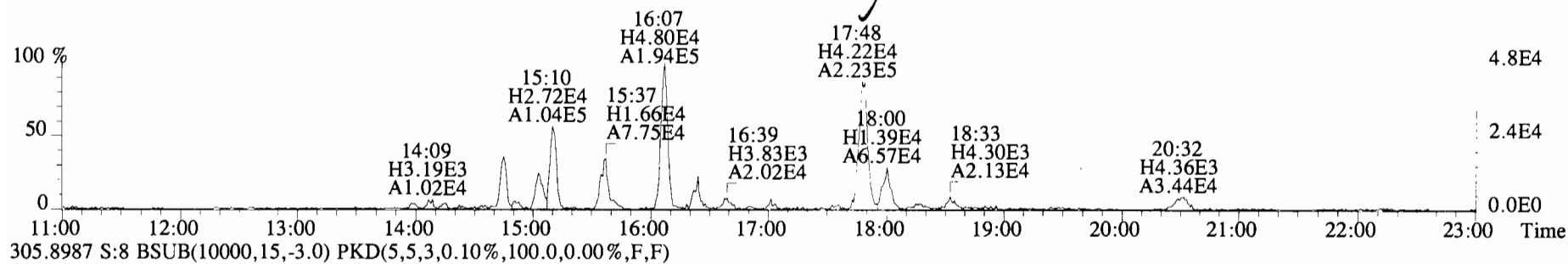
Date: 10/31/19

Reviewed

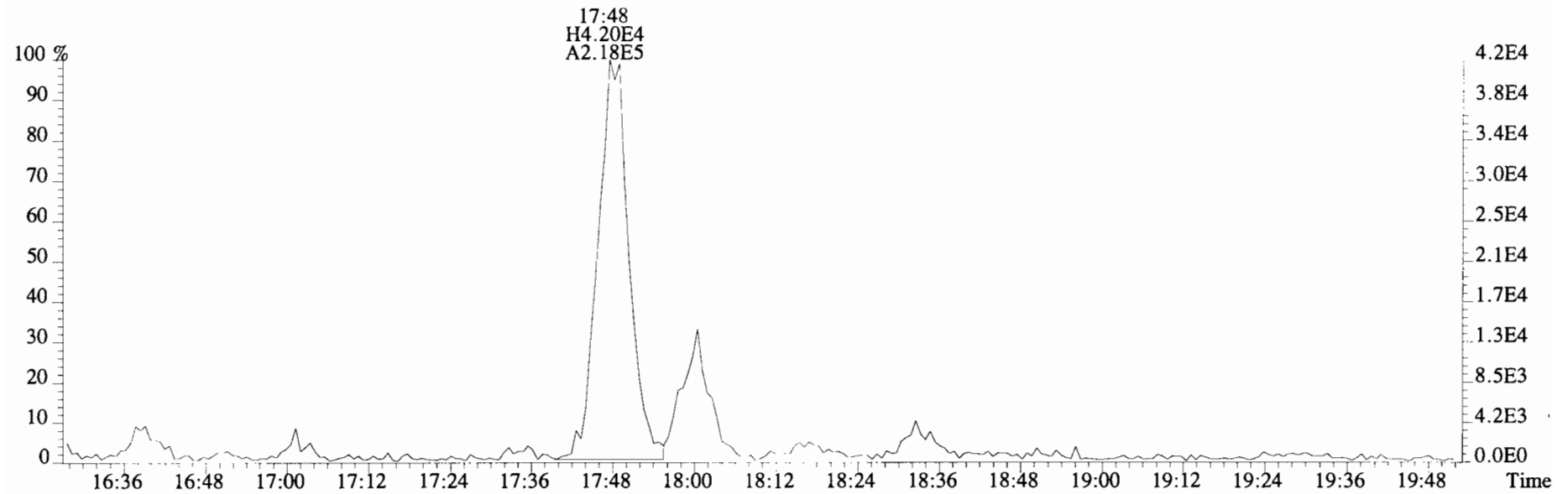
by
Analyst: C1

Date: 11/06/19

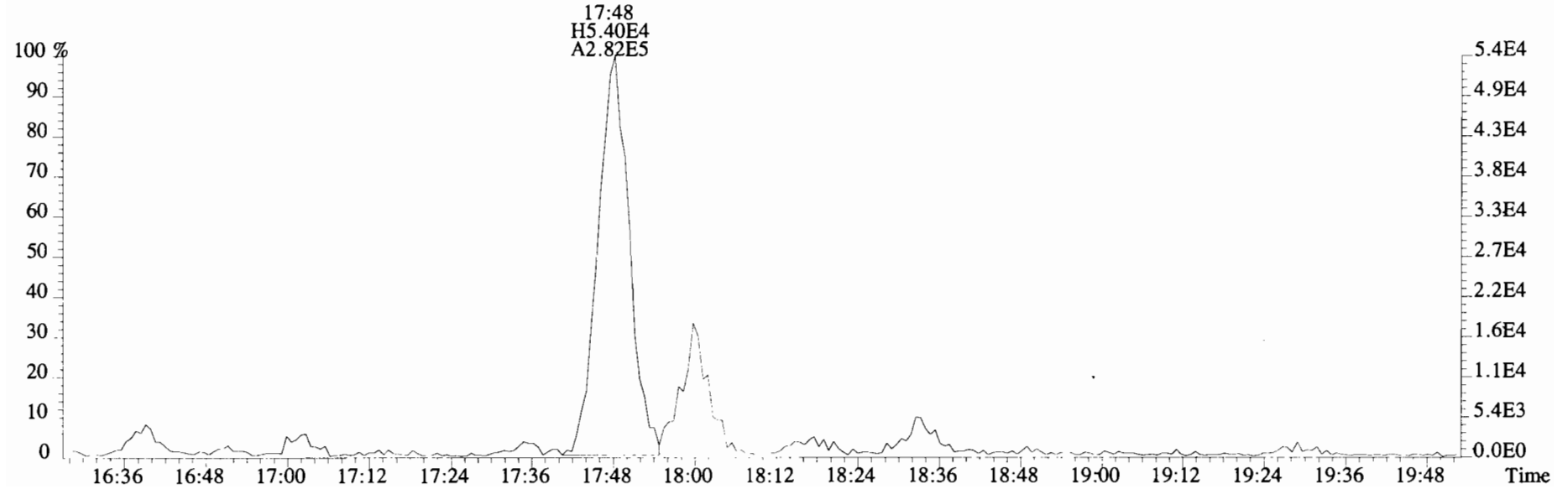
File:191030D1 #1-1682 Acq:30-OCT-2019 17:41:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-09RE1 PDI-101SC-J-01-02-190926 19.27 Exp:TCDF_DB225
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



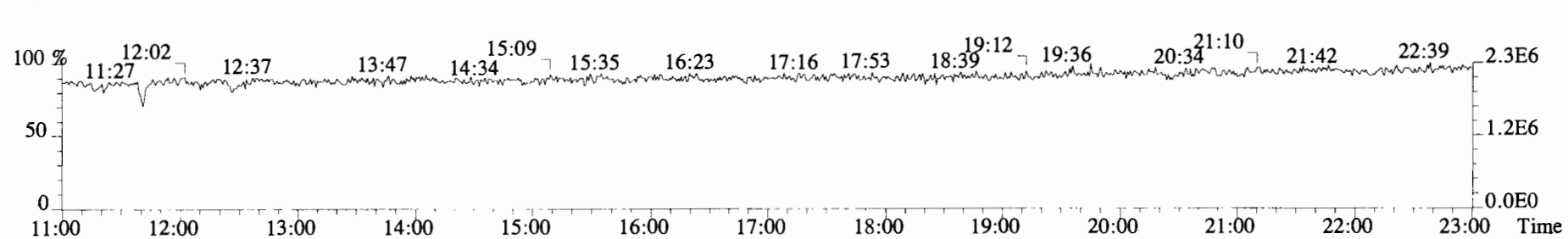
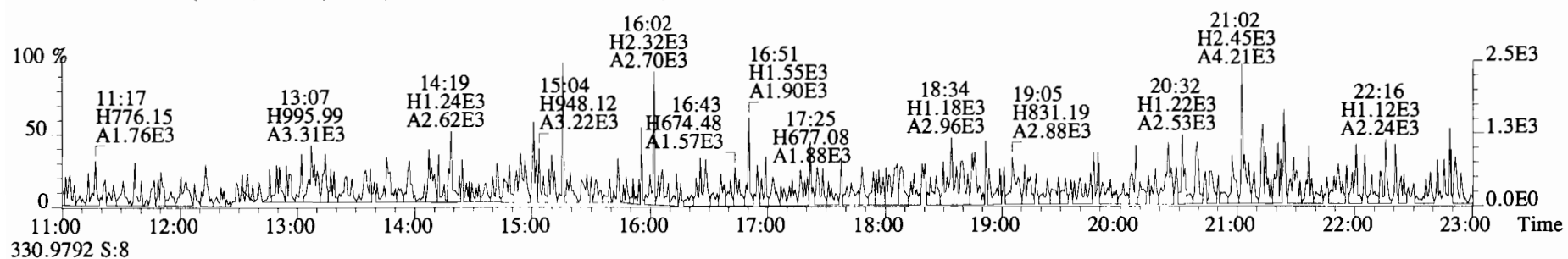
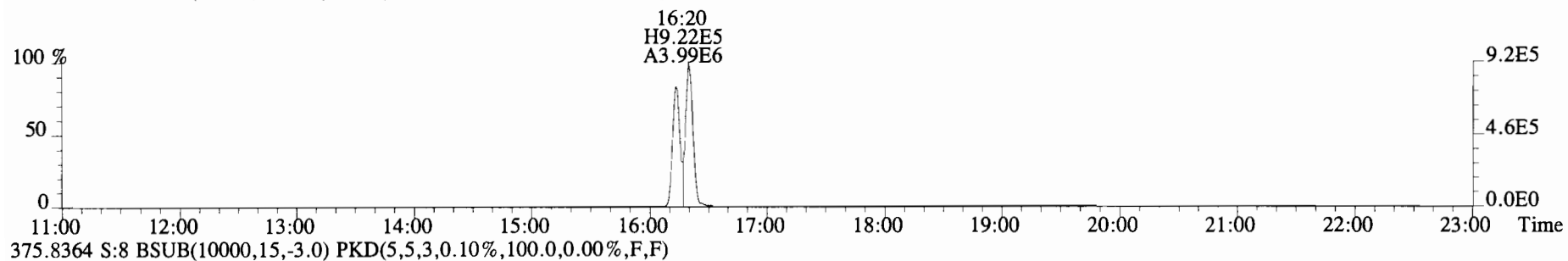
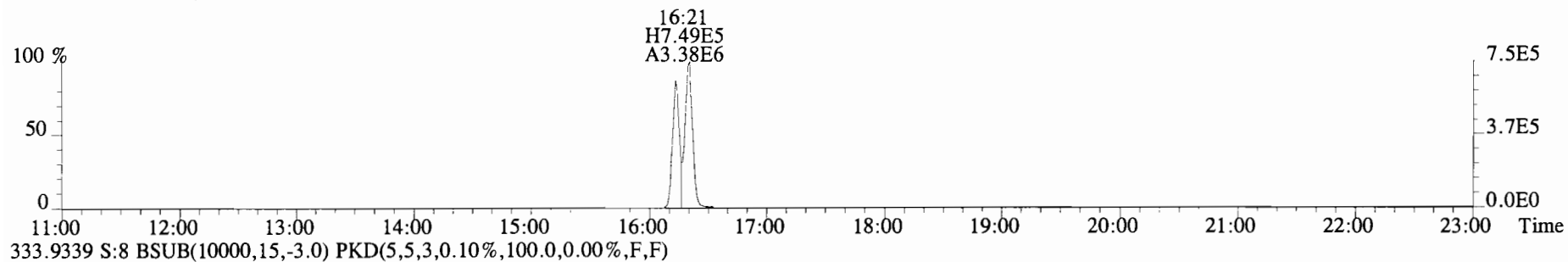
File:191030D1 #1-1682 Acq:30-OCT-2019 17:41:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-09RE1 PDI-101SC-J-01-02-190926 19.27 Exp:TCDF_DB225
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191030D1 #1-1682 Acq:30-OCT-2019 17:41:21 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Viata Analytical Laboratory VG7 Text:1903420-09RE1 PDI-101SC-J-01-02-190926 19.27 Exp:TCDF_DB225
 331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: FDI-101SC-J-02-03-1909
Lab ID: 1903420-10RE1

Filename: 191030D1 S:5 Acq:30-OCT-19 16:06:00
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol:10.080

ConCal: ST191030D1-1
EndCAL: NA

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.22e+07	0.78 y	15:33	1.00	198.4	-
13C-2,3,7,8-TCDF	7.53e+06	0.78 y	17:45	1.02	119.7	60.3
2,3,7,8-TCDF	1.20e+05	0.86 y	17:46	0.95	3.339	

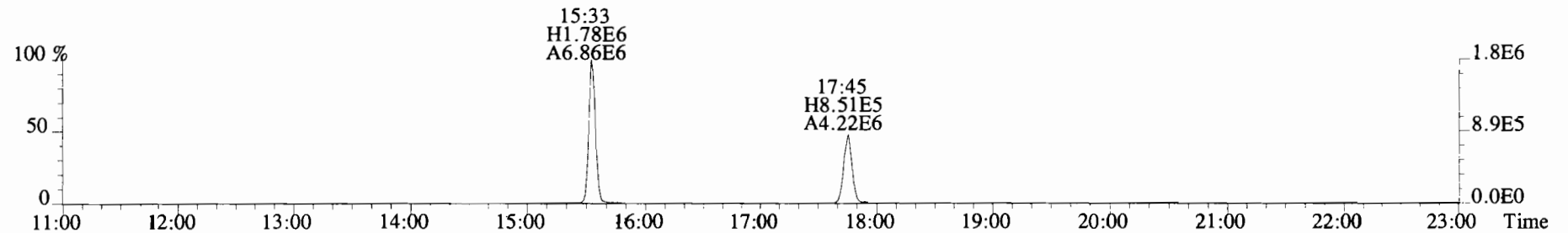
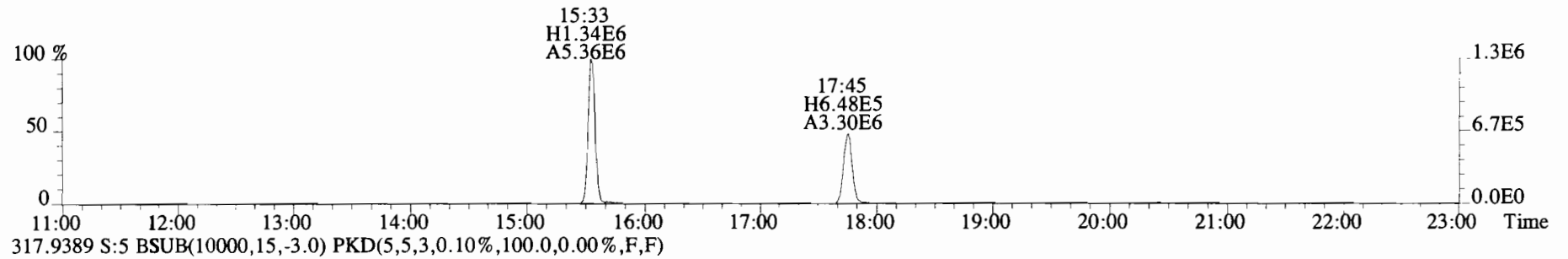
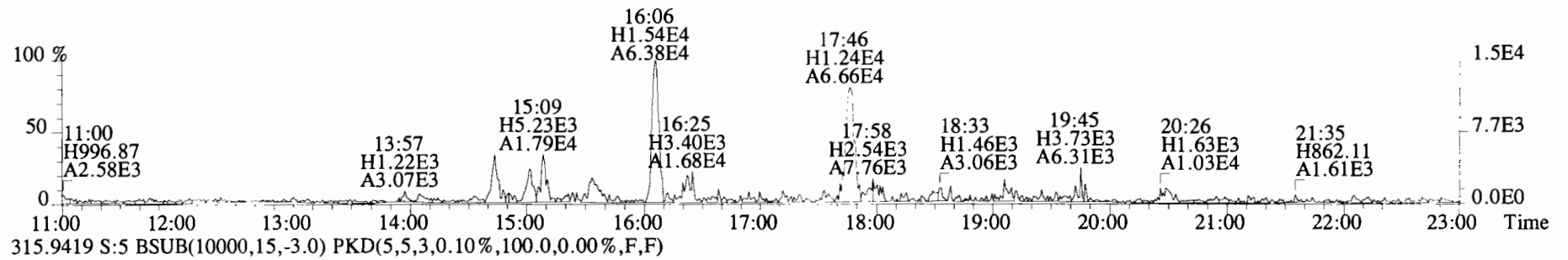
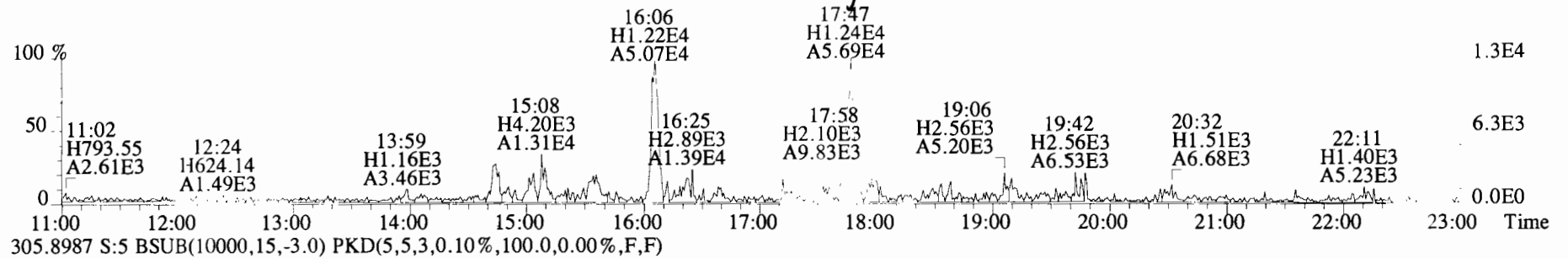
Integrations
by
Analyst: DB

Date: 10/30/19

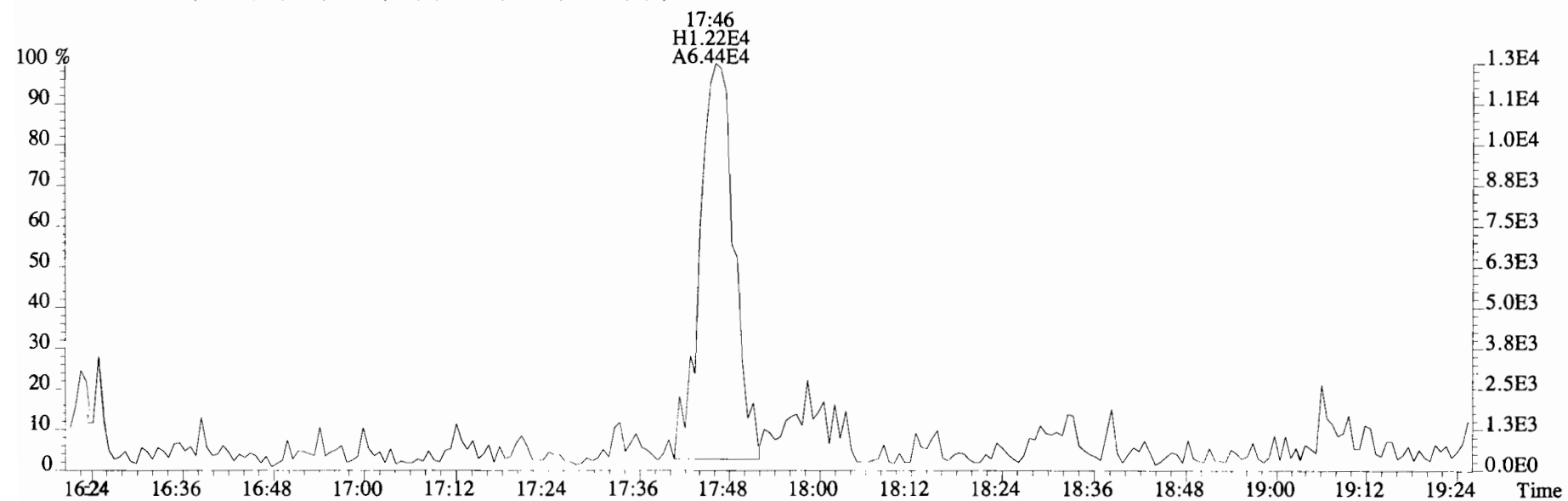
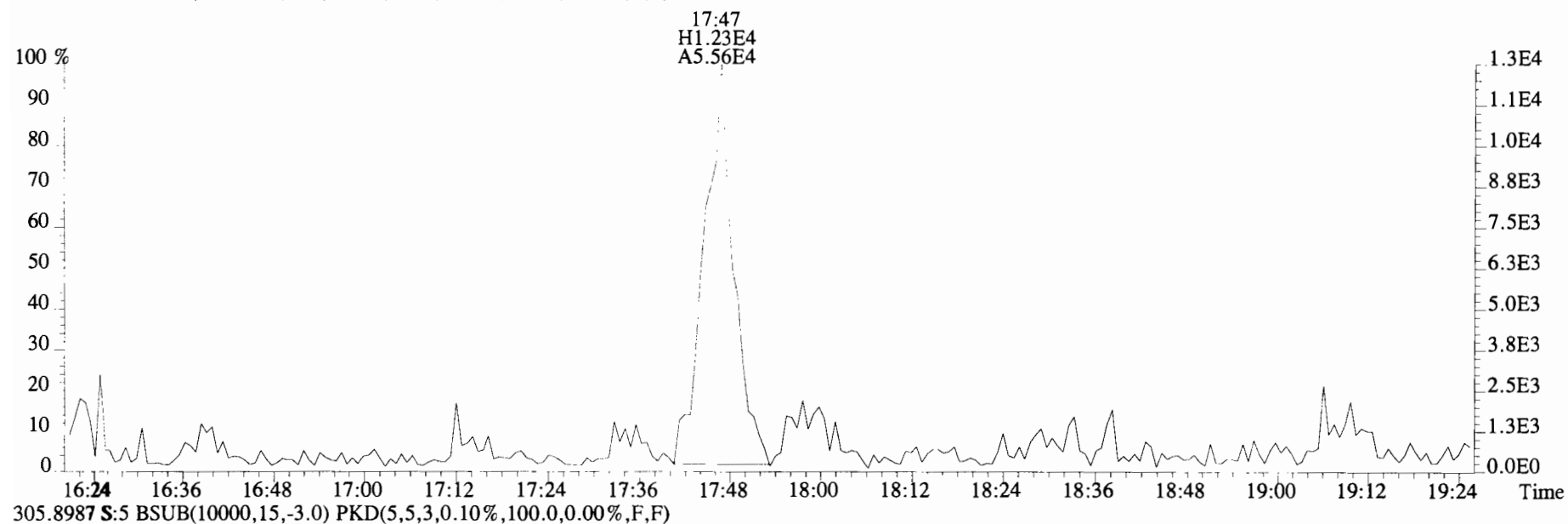
Reviewed
by
Analyst: C7

Date: 11/02/19

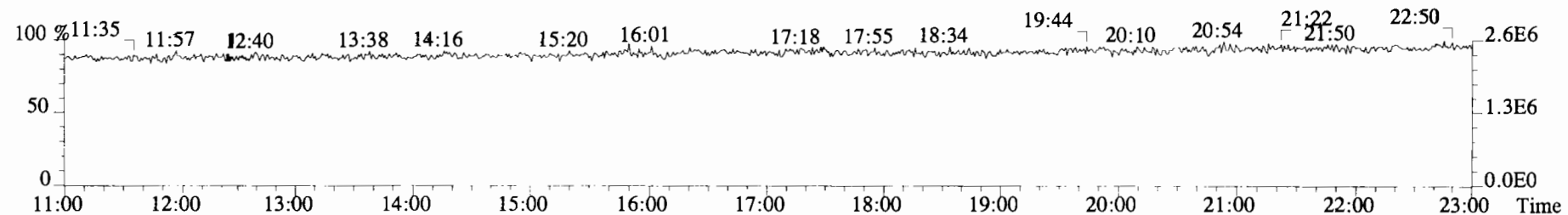
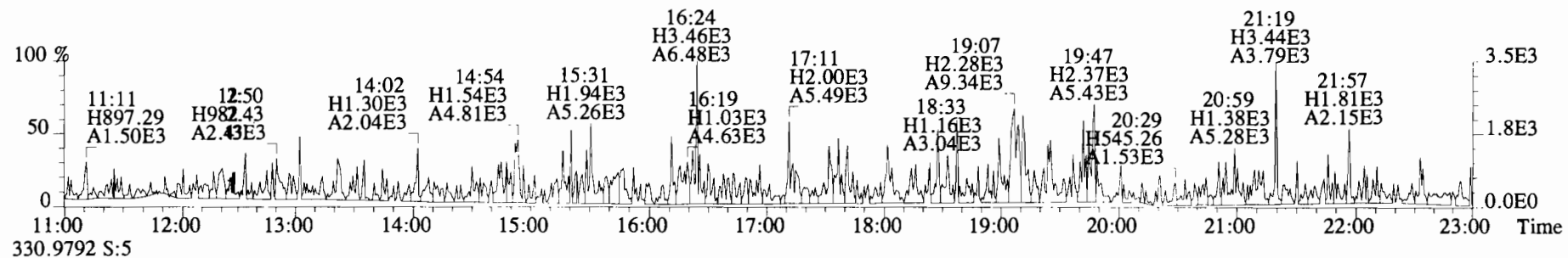
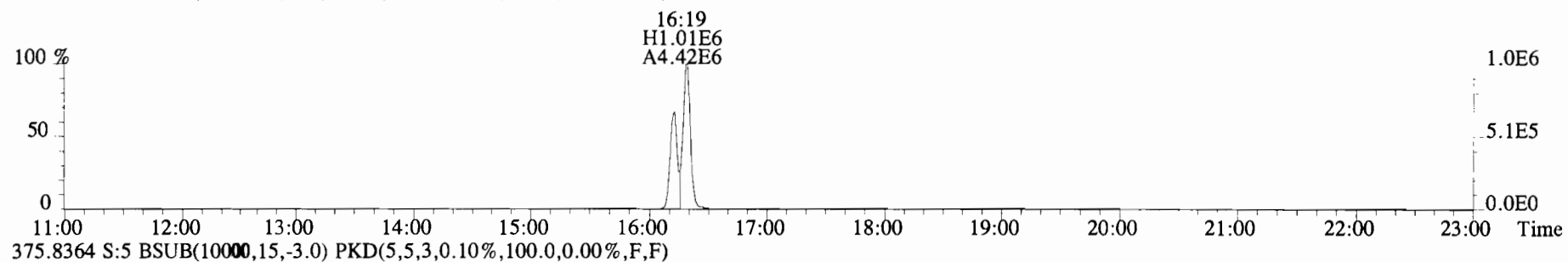
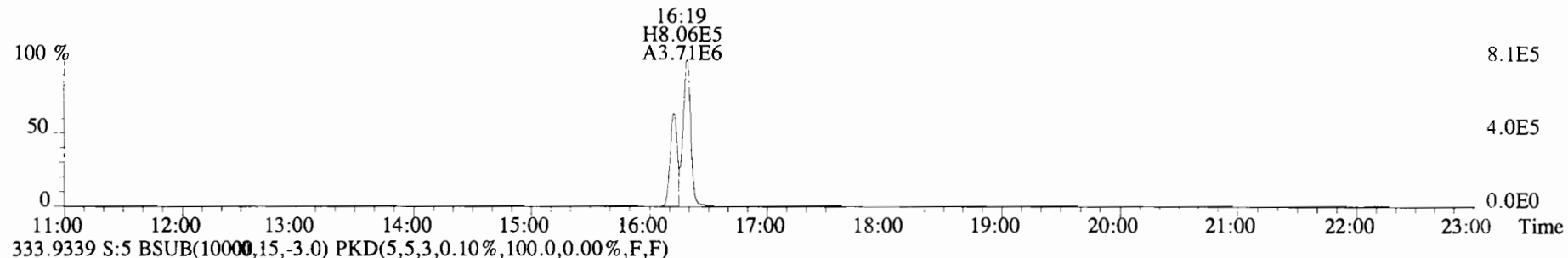
File:191030D1 #1-1682 Acq:30-OCT-2019 16:06:00 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Viata Analytical Laboratory VG7 Text:1903420-10RE1 PDI-101SC-J-02-03-190926 20.74 Exp:TCDF_DB225
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191030D1 #1-1682 Acq:30-OCT-2019 16:06:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Viata Analytical Laboratory VG7 Text:1903420-10RE1 PDI-101SC-J-02-03-190926 20.74 Exp:TCDF_DB225
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191030D1 #1-1682 Acq:30-OCT-2019 16:06:00 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Viata Analytical Laboratory VG7 Text:1903420-10RE1 PDI-101SC-J-02-03-190926 20.74 Exp:TCDF_DB225
 331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.52e+07	0.81 y	15:39	1.00	199.2	-
13C-2,3,7,8-TCDF	2.37e+07	0.80 y	17:46	1.02	184.0	92.4
2,3,7,8-TCDF	1.51e+06	0.77 y	17:47	0.95	13.37	

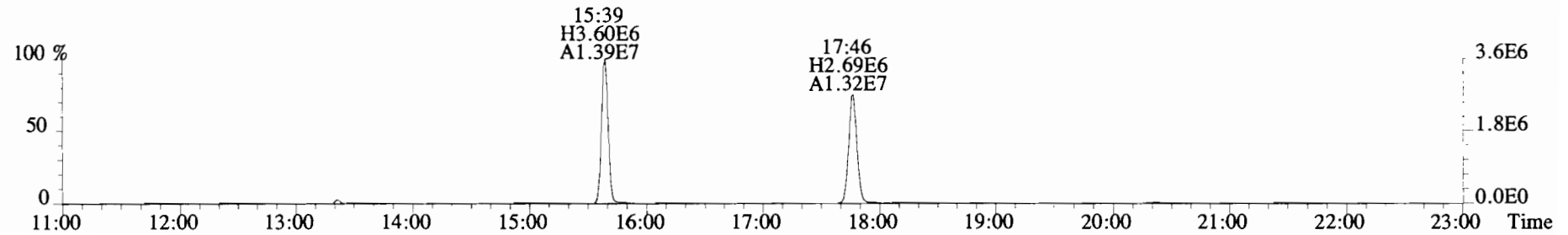
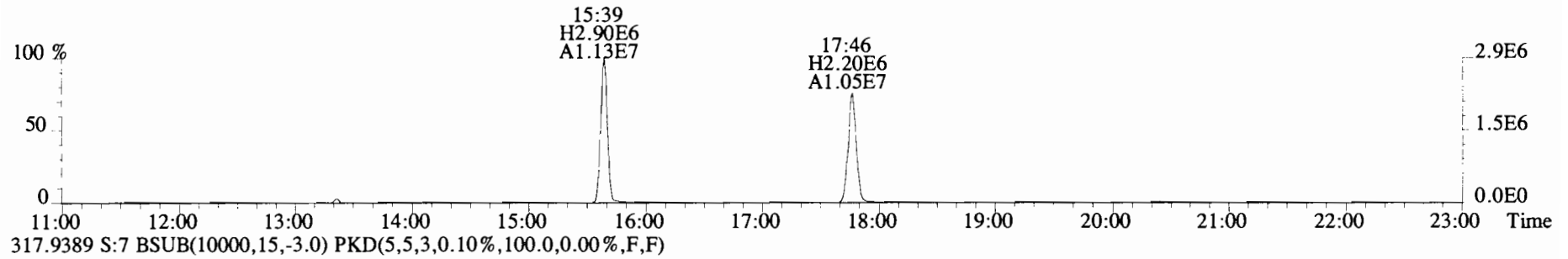
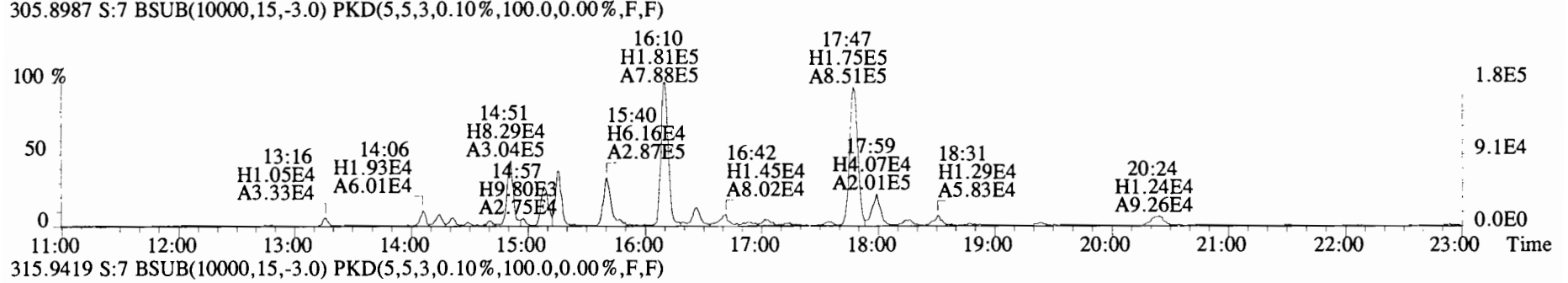
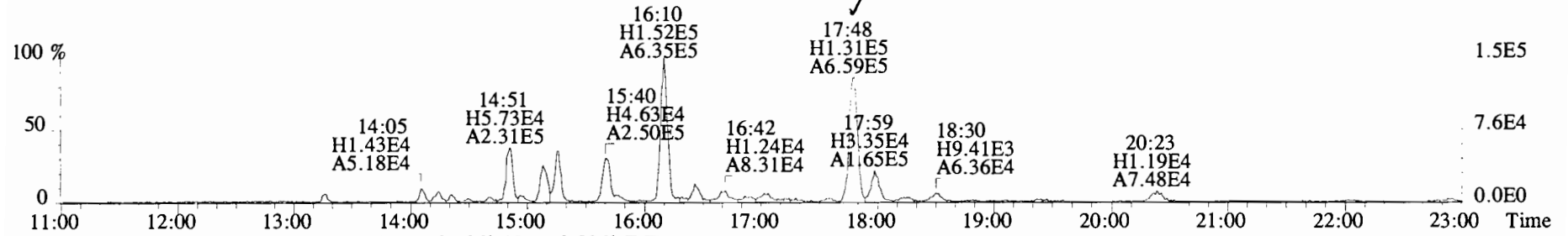
Integrations
by
Analyst: DB

Date: 11/19/19

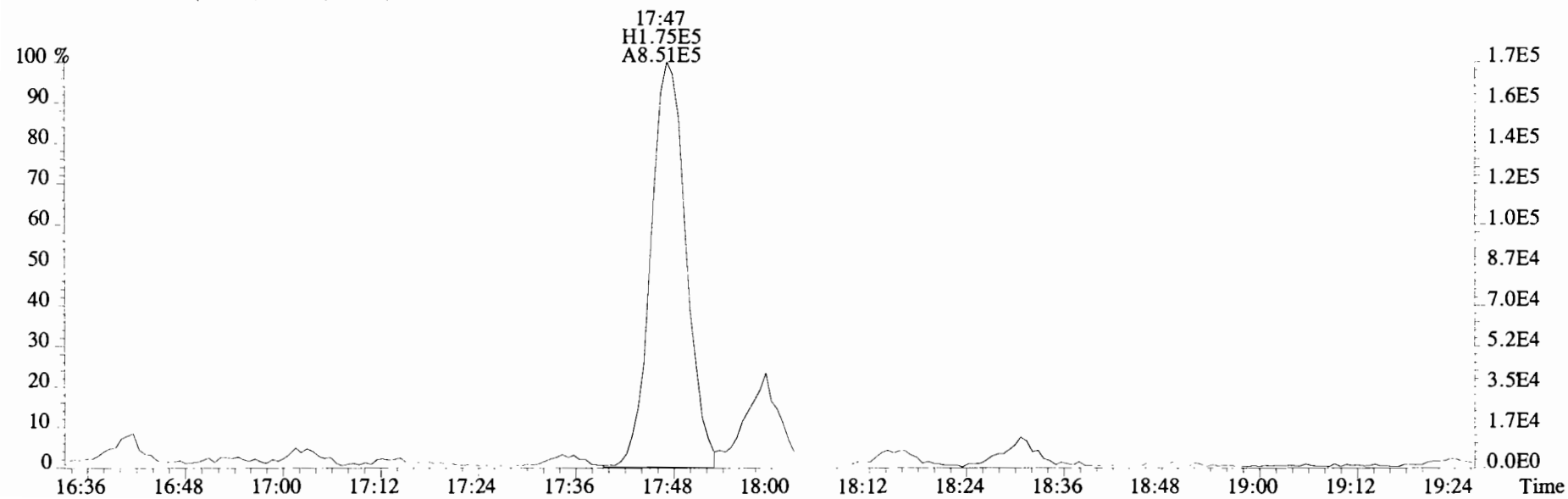
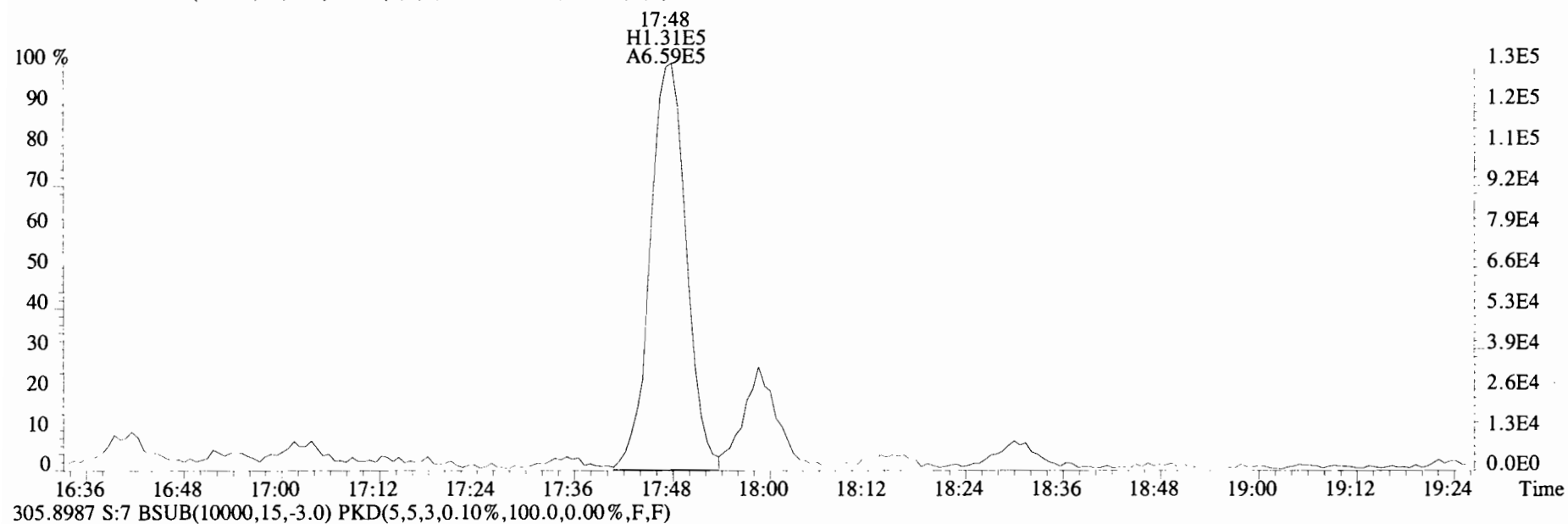
Reviewed
by
Analyst: CT

Date: 11/20/19

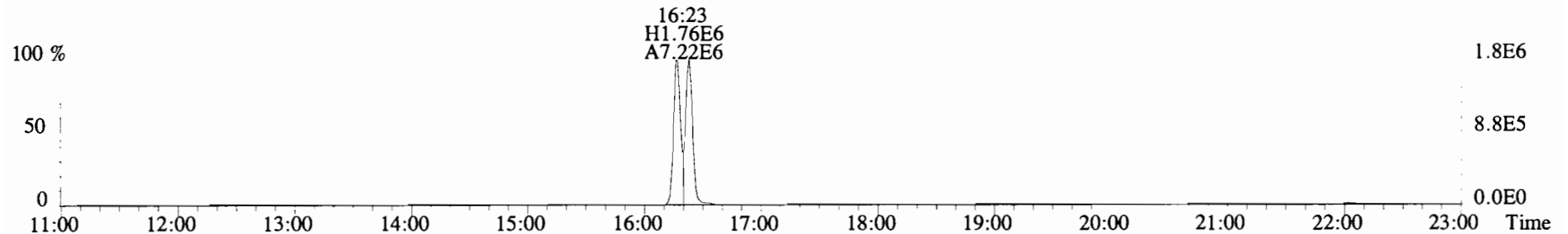
File:191118D1 #1-1683 Acq:18-NOV-2019 16:52:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903420-11RE2 PDI-101SC-J-03-04-190926 17.69 Exp:TCDF_DB225
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



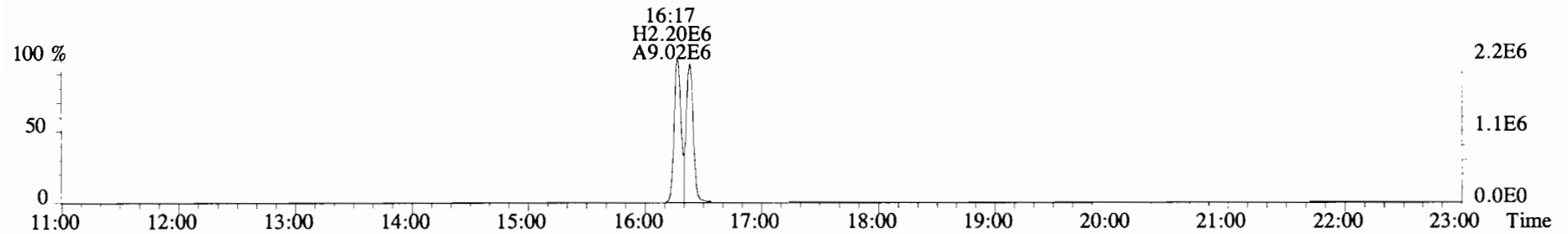
File:191118D1 #1-1683 Acq:18-NOV-2019 16:52:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE2 PDI-101SC-J-03-04-190926 17.69 Exp:TCDF_DB225
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



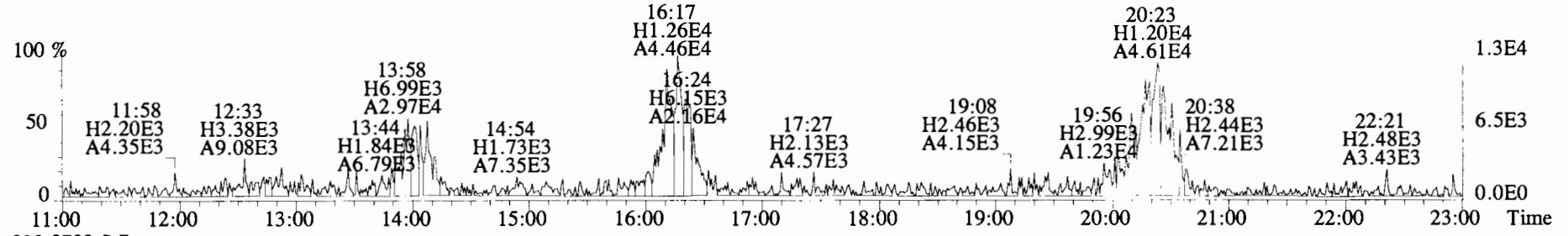
File:191118D1 #1-1683 Acq:18-NOV-2019 16:52:22 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#7 File Text:Viata Analytical Laboratory_VG7 Text:1903420-11RE2 PDI-101SC-J-03-04-190926 17.69 Exp:TCDF_DB225
 331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



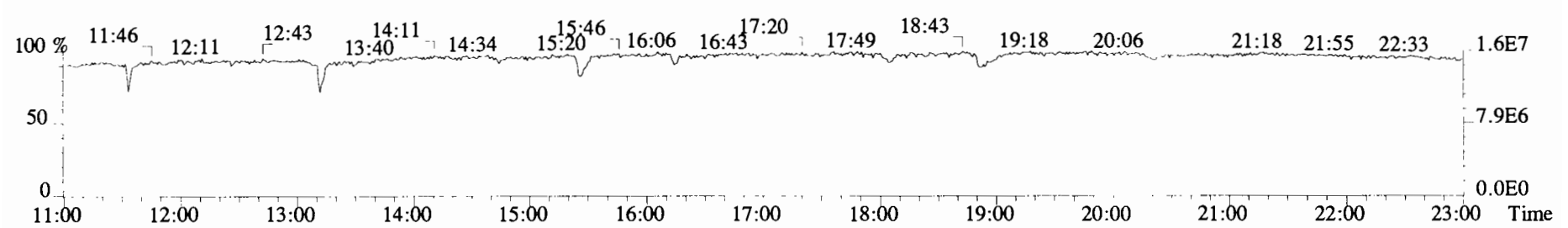
333.9339 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



330.9792 S:7



CONTINUING CALIBRATION

HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST(91023D)1-1

Reviewed By: OT 10/23/19
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>	<input type="checkbox"/>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> (Y)	<input type="checkbox"/> N
- Bottle position verified?	<input checked="" type="checkbox"/> DB	<input type="checkbox"/>

Mass resolution \geq

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:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST191023D1-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

	M/Z'S	ION	QC	Pass	CONC. FOUND	CONC. RANGE (3)
	FORMING	ABUND.	LIMITS			
NATIVE ANALYTES	RATIO (1)	RATIO	(2)			(ng/mL)
2,3,7,8-TCDD	M/M+2	0.88	0.65-0.89	y	10.7	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	46.7	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	50.2	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.17	1.05-1.43	y	53.1	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05-1.43	y	52.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	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	0.77	0.65-0.89	y	8.76	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	y	50.0	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	y	48.5	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.2	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.3	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	50.3	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	y	49.6	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	48.4	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	y	47.4	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	96.4	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: 10/23/19

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-SMS

VER Data Filename: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

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	0.78	0.65-0.89	y	106	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	95.1	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	103	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	86.8	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	92.6	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	103	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	202	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	107	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	91.2	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	97.2	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	106	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	96.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.3	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	106	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	98.3	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	109	77.0 - 129.0
13C-OCDF	M+2/M+4	0.91	0.76-1.02	y	208	96.0 - 415.0
CLEANUP STANDARD (3)						
37C1-2,3,7,8-TCDD					10.0	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: 10/23/19

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: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

ZB-5MS IS Data Filename: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

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)	22:55	1,3,6,8-TCDF (F)	20:48
1,2,8,9-TCDD (L)	27:08	1,2,8,9-TCDF (L)	27:16
1,2,4,7,9-PeCDD (F)	28:44	1,3,4,6,8-PeCDF (F)	27:14
1,2,3,8,9-PeCDD (L)	31:08	1,2,3,8,9-PeCDF (L)	31:22
1,2,4,6,7,9-HxCDD (F)	32:33	1,2,3,4,6,8-HxCDF (F)	32:01
1,2,3,7,8,9-HxCDD (L)	34:30	1,2,3,7,8,9-HxCDF (L)	34:53
1,2,3,4,6,7,9-HpCDD (F)	37:08	1,2,3,4,6,7,8-HpCDF (F)	36:45
1,2,3,4,6,7,8-HpCDD (L)	37:58	1,2,3,4,7,8,9-HpCDF (L)	38:31

(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: DBDate: 10/23/19

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: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

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	1.001	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	1.197	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	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: 10/23/19

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: 191023D1 S#1 Analysis Date: 23-OCT-19 Time: 13:20:00

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		1.001	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		1.001	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		1.001	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	0.992	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	1.018	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	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.229	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.236	1.091-1.371

Analyst: DB

Date: 10/23/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191023D1-1

Filename: 191023D1 S:1 Acq:23 OCT-19 13:20:00
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST191023D1 1
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	8.89e+05	0.88 y	0.91	26:17	10.673		* 2.5		*	Total Tetra-Dioxins	77.8	78.2		*	*
1,2,3,7,8-PeCDD	2.80e+06	0.64 y	0.90	30:46	46.696		* 2.5		*	Total Penta-Dioxins	170	170		*	*
1,2,3,4,7,8-HxCDD	3.48e+06	1.26 y	1.10	34:06	50.196		* 2.5		*	Total Hexa-Dioxins	231	232		*	*
1,2,3,6,7,8-HxCDD	3.51e+06	1.17 y	0.94	34:12	53.072		* 2.5		*	Total Hepta-Dioxins	115	116		*	*
1,2,3,7,8,9-HxCDD	3.60e+06	1.20 y	0.96	34:30	52.885		* 2.5		*	Total Tetra-Furans	32.9	33.6		*	*
1,2,3,4,6,7,8-HpCDD	3.08e+06	1.04 y	0.98	37:58	49.017		* 2.5		*	Total Penta-Furans	217.74	218.09		*	*
OCDD	5.48e+06	0.91 y	0.96	41:19	102.68		* 2.5		*	Total Hexa-Furans	258	258		*	*
										Total Hepta-Furans	96.5	96.8		*	*
2,3,7,8-TCDF	1.13e+06	0.77 y	0.95	25:30	8.7560		* 2.5		*						
1,2,3,7,8-PeCDF	4.58e+06	1.63 y	0.96	29:36	50.004		* 2.5		*						
2,3,4,7,8-PeCDF	4.97e+06	1.64 y	1.01	30:29	48.503		* 2.5		*						
1,2,3,4,7,8-HxCDF	4.83e+06	1.22 y	1.18	33:12	49.226		* 2.5		*						
1,2,3,6,7,8-HxCDF	4.99e+06	1.22 y	1.07	33:20	49.307		* 2.5		*						
2,3,4,6,7,8-HxCDF	5.03e+06	1.23 y	1.11	33:55	50.273		* 2.5		*						
1,2,3,7,8,9-HxCDF	4.38e+06	1.25 y	1.06	34:53	49.583		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	3.86e+06	1.03 y	1.13	36:45	48.382		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	3.64e+06	1.01 y	1.28	38:31	47.427		* 2.5		*						
OCDF	6.22e+06	0.90 y	0.95	41:32	96.424		* 2.5		*						
										Rec	Qual				
IS 13C-2,3,7,8-TCDD	9.20e+06	0.78 y	1.10	26:16	105.97					106					
IS 13C-1,2,3,7,8-PeCDD	6.65e+06	0.63 y	0.88	30:45	95.138					95.1					
IS 13C-1,2,3,4,7,8-HxCDD	6.29e+06	1.26 y	0.64	34:05	103.21					103					
IS 13C-1,2,3,6,7,8-HxCDD	7.04e+06	1.27 y	0.86	34:11	86.756					86.8					
IS 13C-1,2,3,7,8,9-HxCDD	7.09e+06	1.24 y	0.81	34:29	92.581					92.6					
IS 13C-1,2,3,4,6,7,8-HpCDD	6.42e+06	1.06 y	0.65	37:58	103.40					103					
IS 13C-OCDD	1.11e+07	0.90 y	0.58	41:18	202.25					101					
IS 13C-2,3,7,8-TCDF	1.36e+07	0.79 y	1.03	25:29	106.97					107					
IS 13C-1,2,3,7,8-PeCDF	9.55e+06	1.59 y	0.85	29:35	91.180					91.2					
IS 13C-2,3,4,7,8-PeCDF	1.01e+07	1.59 y	0.85	30:28	97.187					97.2					
IS 13C-1,2,3,4,7,8-HxCDF	8.35e+06	0.52 y	0.83	33:11	105.72					106					
IS 13C-1,2,3,6,7,8-HxCDF	9.47e+06	0.51 y	1.03	33:19	96.503					96.5					
IS 13C-2,3,4,6,7,8-HxCDF	8.99e+06	0.51 y	0.95	33:55	99.324					99.3					
IS 13C-1,2,3,7,8,9-HxCDF	8.31e+06	0.51 y	0.83	34:52	105.84					106					
IS 13C-1,2,3,4,6,7,8-HpCDF	7.07e+06	0.43 y	0.76	36:44	98.324					98.3					
IS 13C-1,2,3,4,7,8,9-HpCDF	6.00e+06	0.44 y	0.58	38:30	108.72					109					
IS 13C-OCDF	1.36e+07	0.91 y	0.69	41:31	208.38					104					
C/Up 37C1-2,3,7,8-TCDD	9.50e+05		1.20	26:17	10.003					100					
RS/RT 13C-1,2,3,4-TCDD	7.93e+06	0.77 y	1.00	25:42	100.00										
RS 13C-1,2,3,4-TCDF	1.23e+07	0.81 y	1.00	24:17	100.00										
RS/RT 13C-1,2,3,4,6,9-HxCDF	9.49e+06	0.52 y	1.00	33:36	100.00										

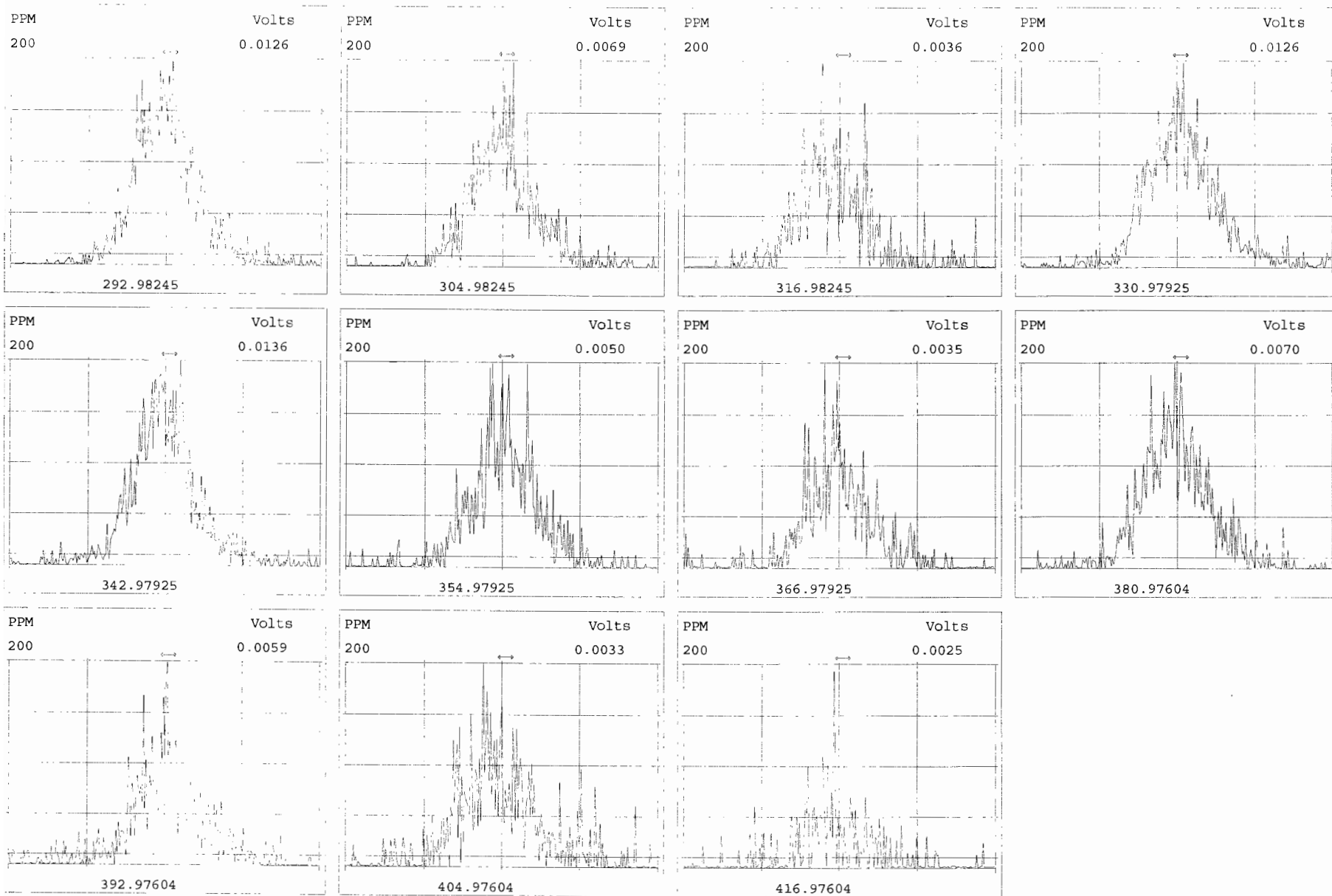
Integrations
by DB
Analyst: DB
Reviewed by CT
Analyst: CT
Date: 10/23/19
Date: 10/24/19

Vista Analytical Laboratory - Injection Log Run file: 191023D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191023D1	1	ST191023D1-1	DB	23-OCT-19	13:20:00	ST191023D1-1	NA
191023D1	2	B9J0185-BS1	DB	23-OCT-19	14:07:54	ST191023D1-1	NA
191023D1	3	B9J0175-BS1	DB	23-OCT-19	14:55:56	ST191023D1-1	NA
191023D1	4	SOLVENT BLANK	DB	23-OCT-19	15:43:56	ST191023D1-1	NA
191023D1	5	B9J0185-BLK1	DB	23-OCT-19	16:31:52	ST191023D1-1	NA
191023D1	6	1903424-01	DB	23-OCT-19	17:19:48	ST191023D1-1	NA
191023D1	7	1903546-03	DB	23-OCT-19	18:07:38	ST191023D1-1	NA
191023D1	8	1903546-04	DB	23-OCT-19	18:55:33	ST191023D1-1	NA
191023D1	9	1903454-01	DB	23-OCT-19	19:43:23	ST191023D1-1	NA
191023D1	10	1903543-01	DB	23-OCT-19	20:31:06	ST191023D1-1	NA
191023D1	11	1903566-01	DB	23-OCT-19	21:19:01	ST191023D1-1	NA
191023D1	12	1903525-01	DB	23-OCT-19	22:06:50	ST191023D1-1	NA
191023D1	13	1903584-09	DB	23-OCT-19	22:54:39	ST191023D1-1	NA
191023D1	14	1903644-01	DB	23-OCT-19	23:42:33	ST191023D1-1	NA
191023D1	15	1903584-06	DB	24-OCT-19	00:30:18	ST191023D1-1	NA

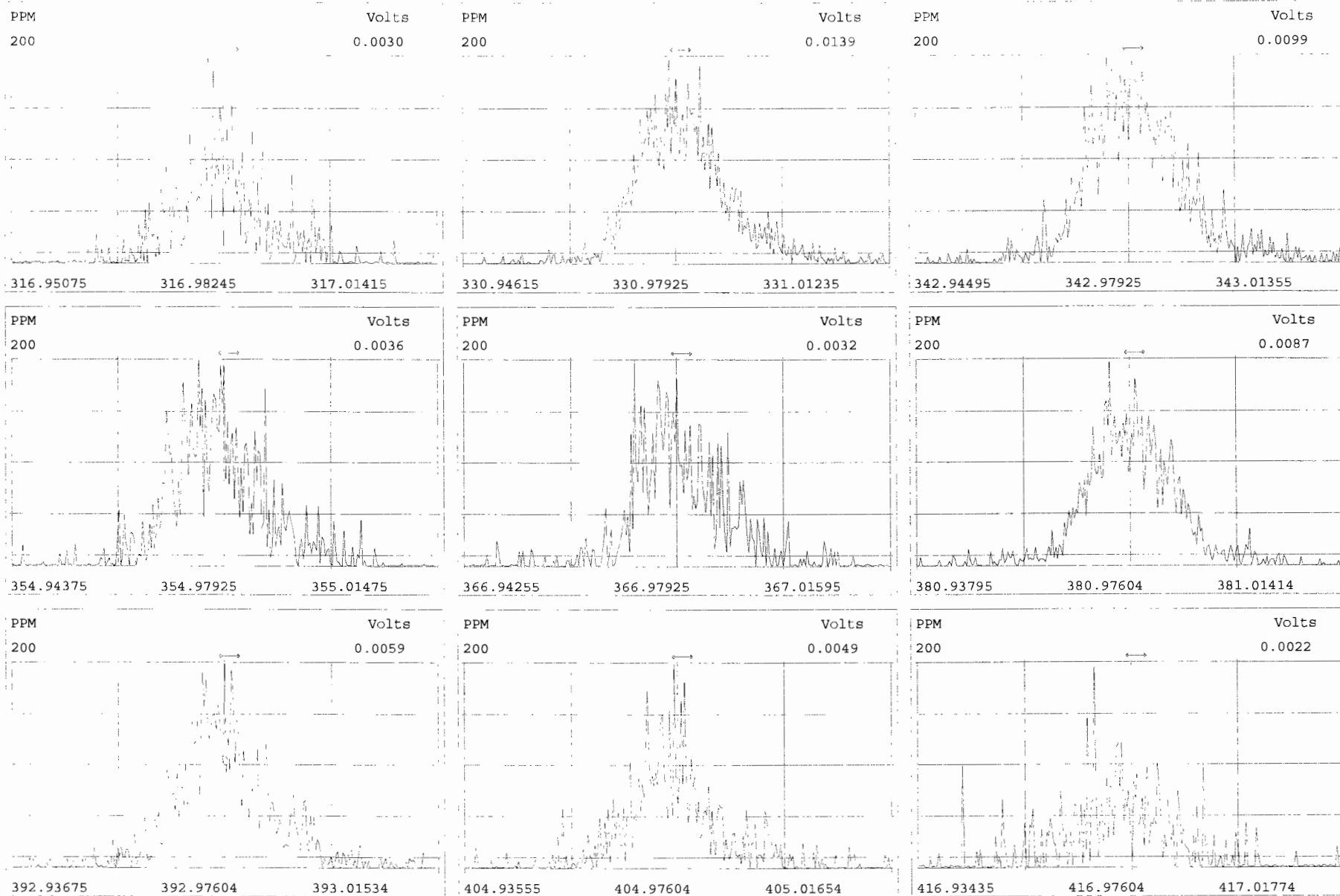
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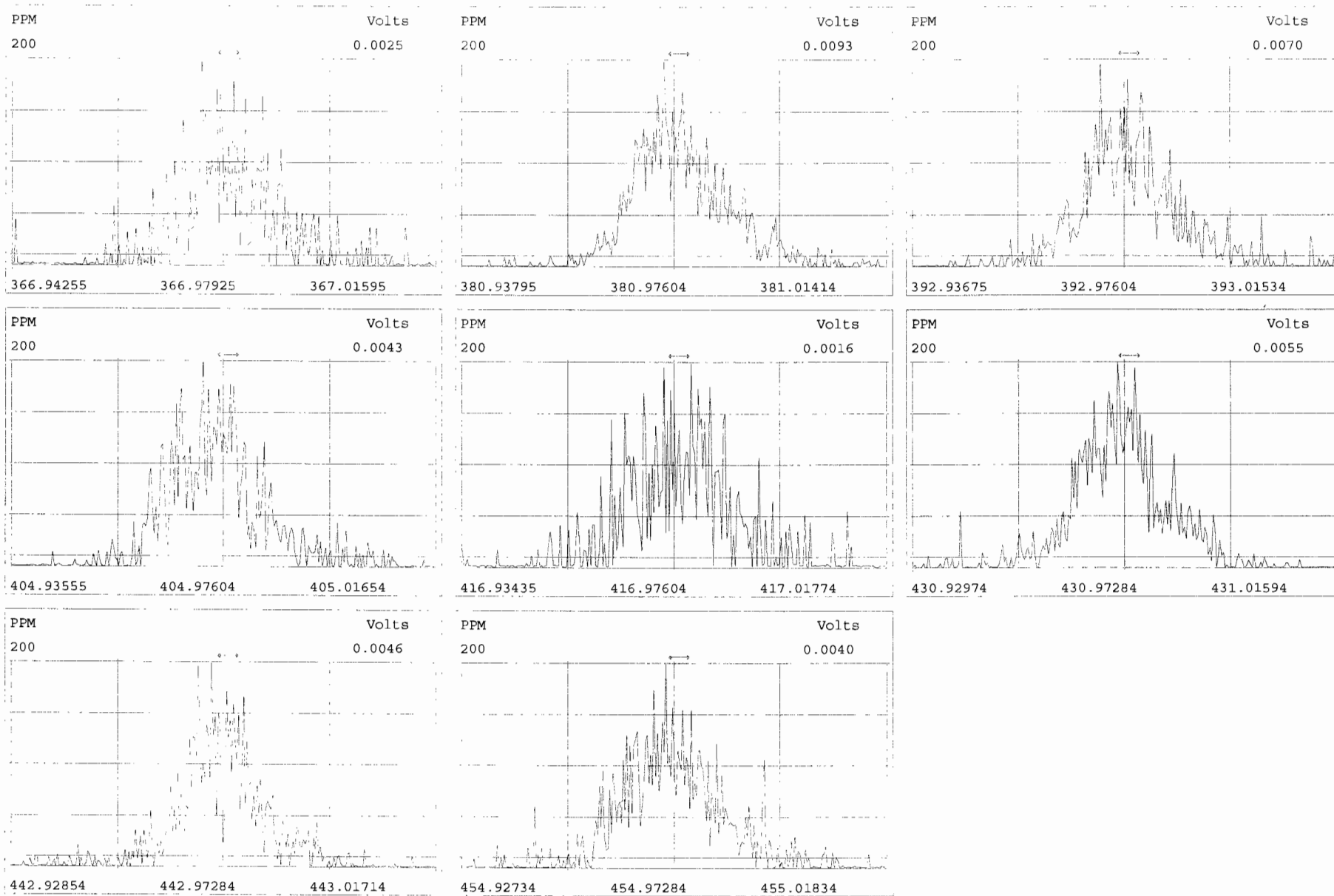
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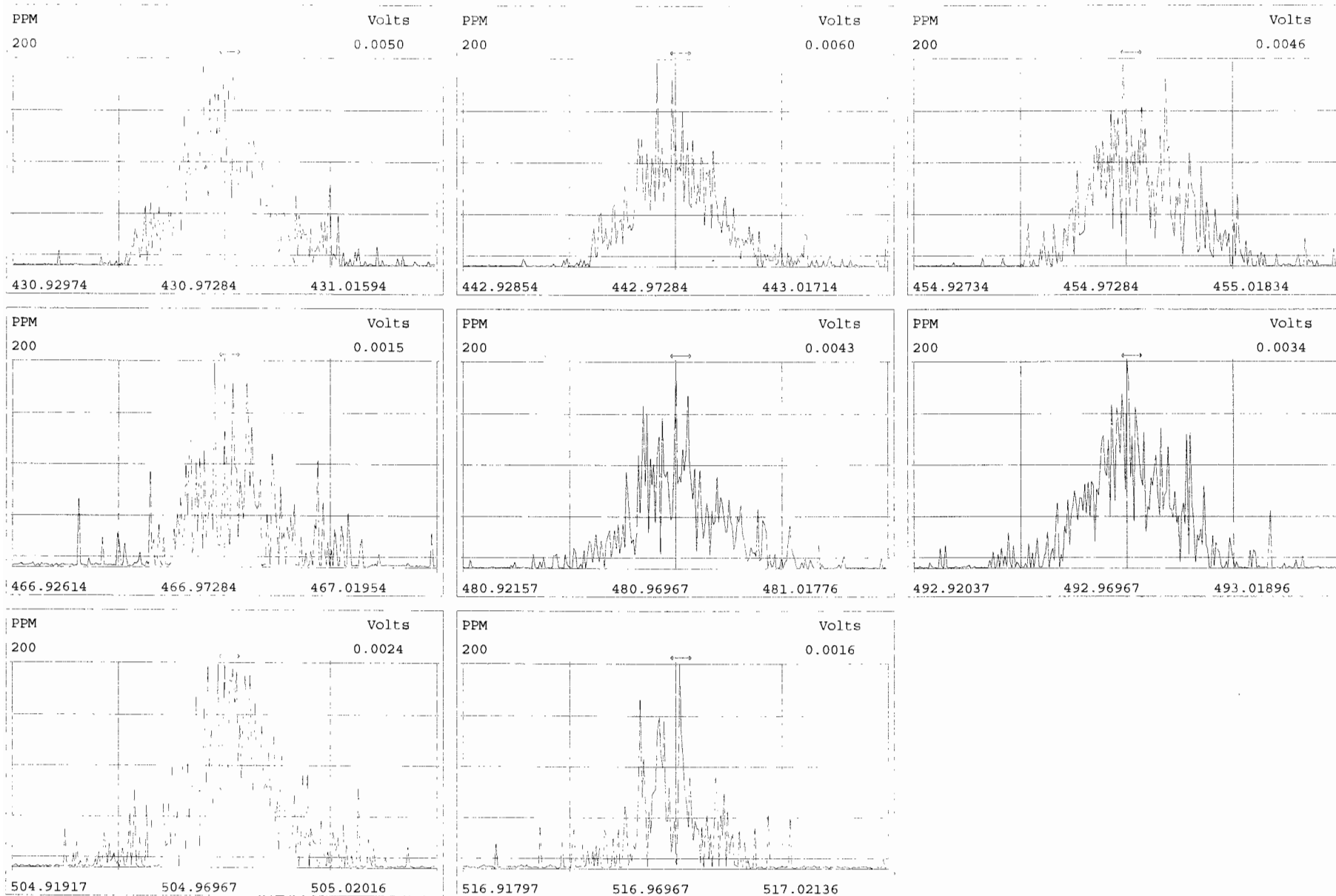
Experiment:OCDD_DB5 Function:2 Reference:PFK



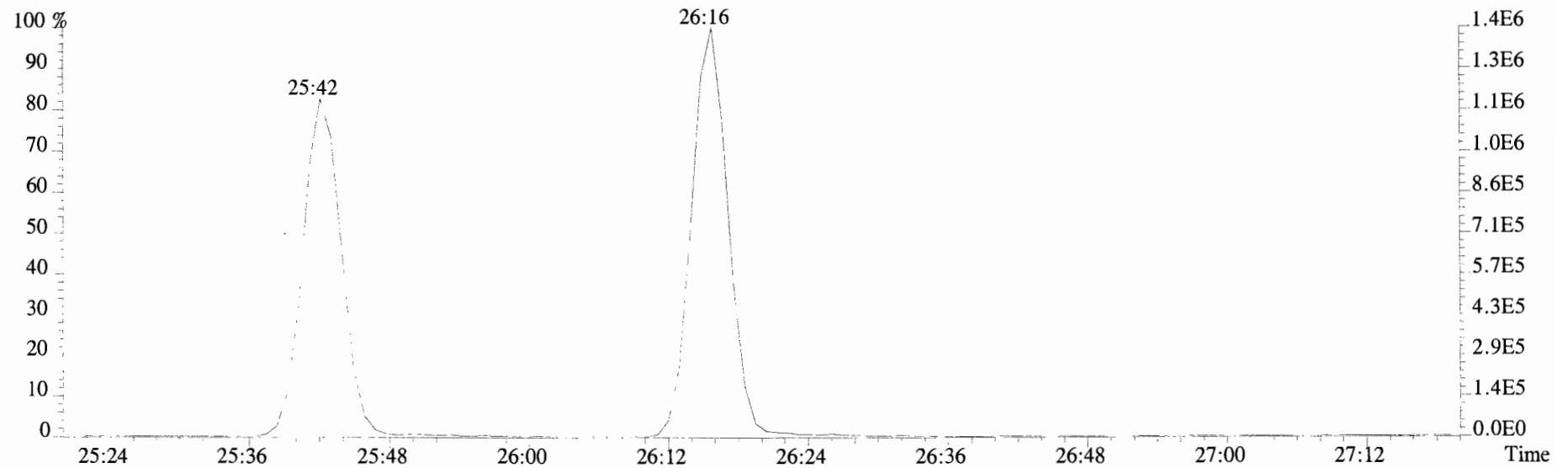
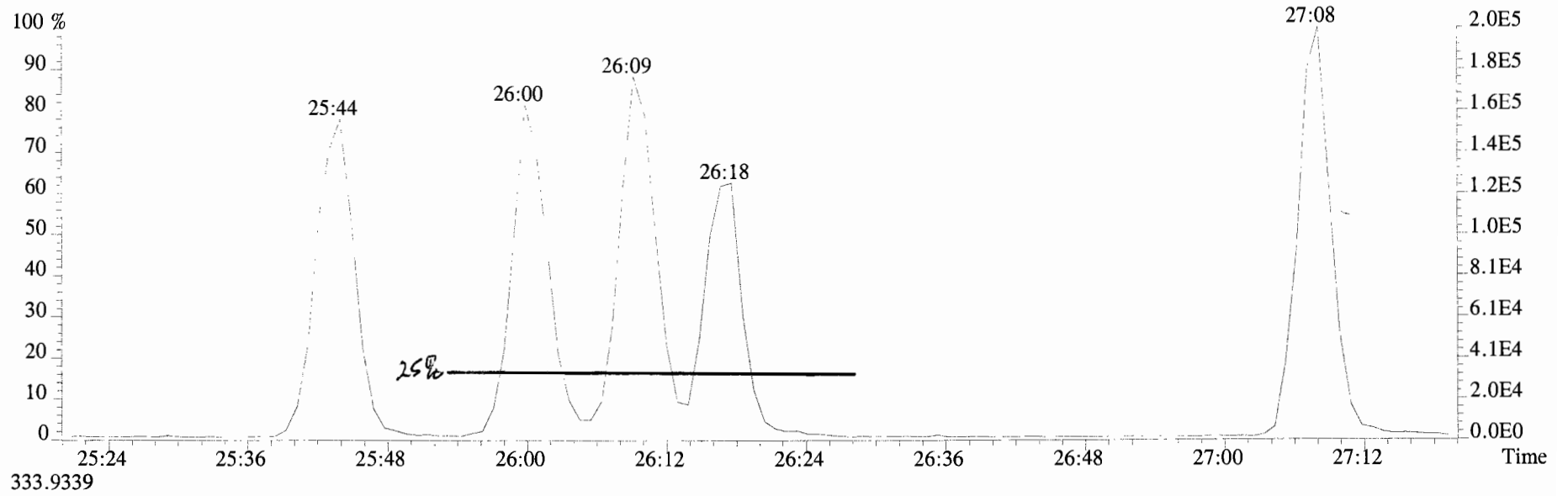


Peak Locate Examination:23-OCT 2019:13:18 File:191023D1

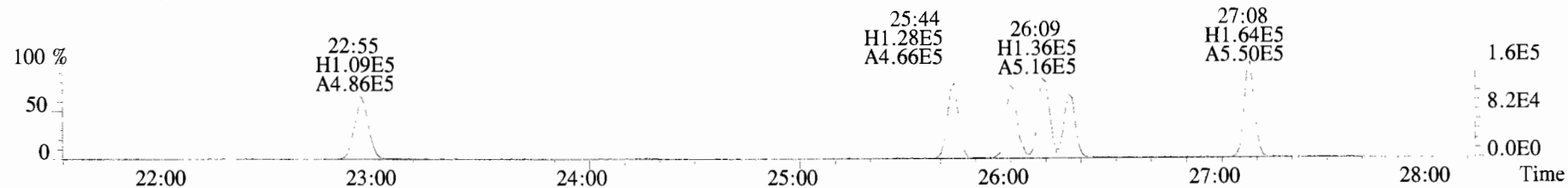
Experiment:OCDD_DB5 Function:5 Reference:PFK



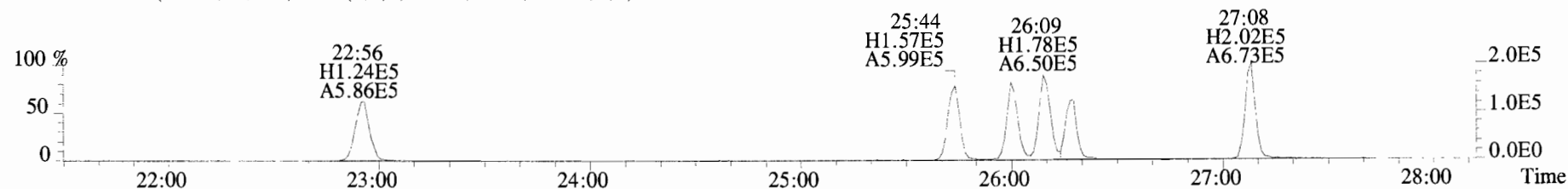
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Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



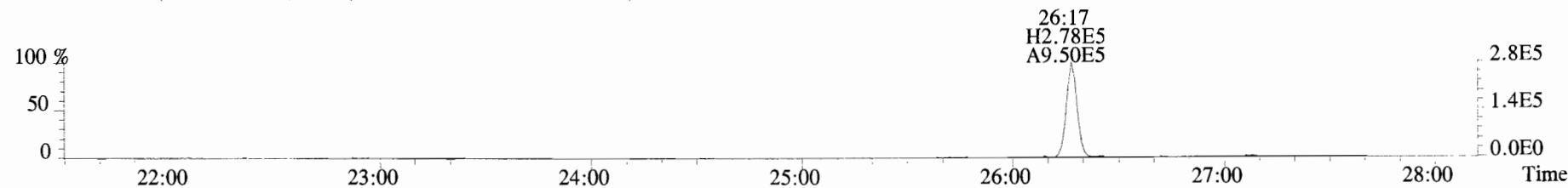
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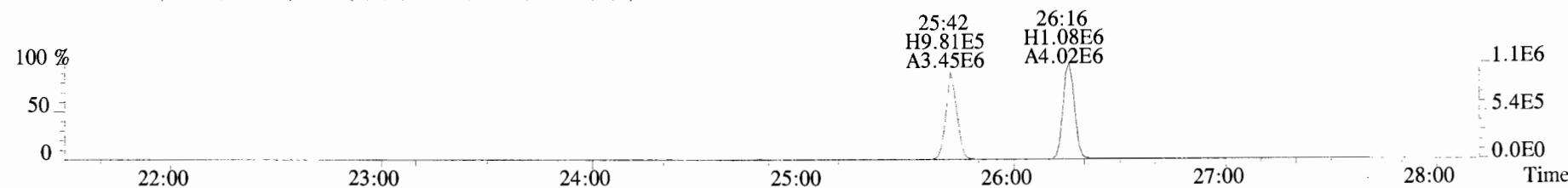
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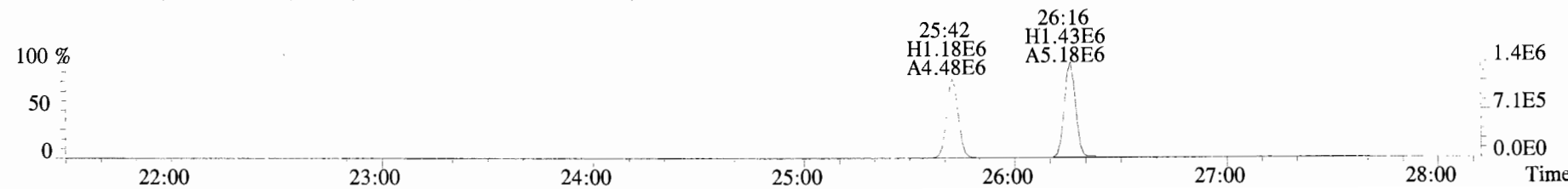
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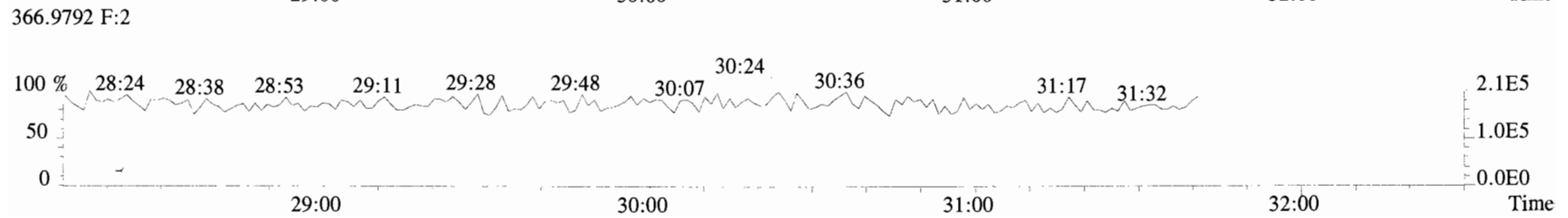
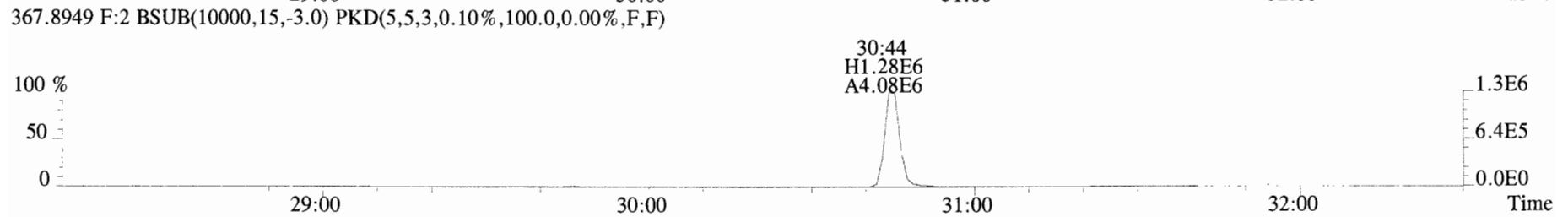
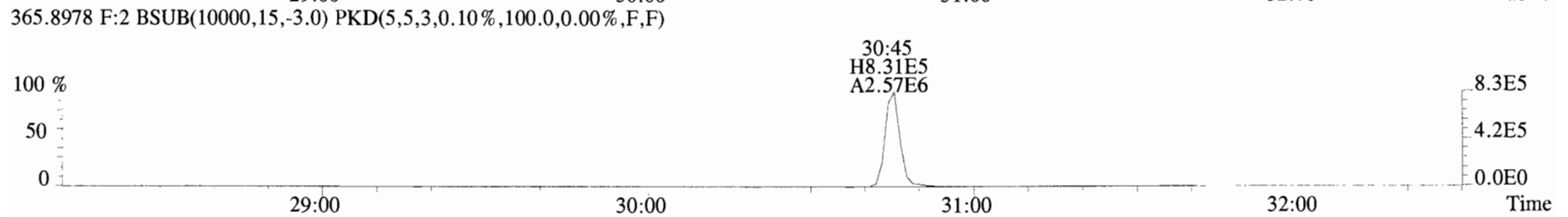
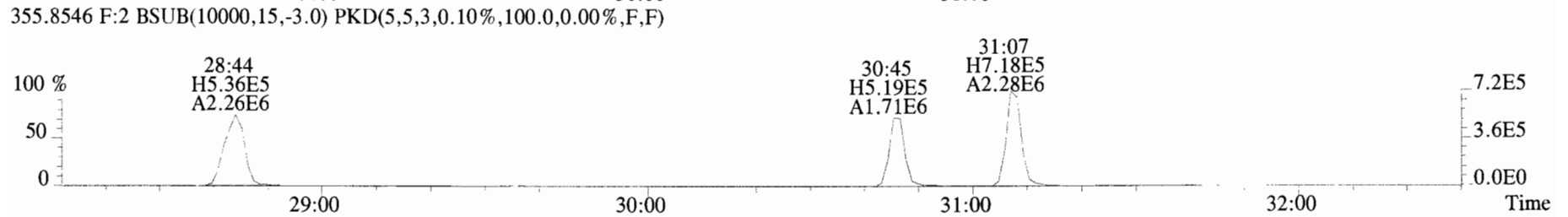
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



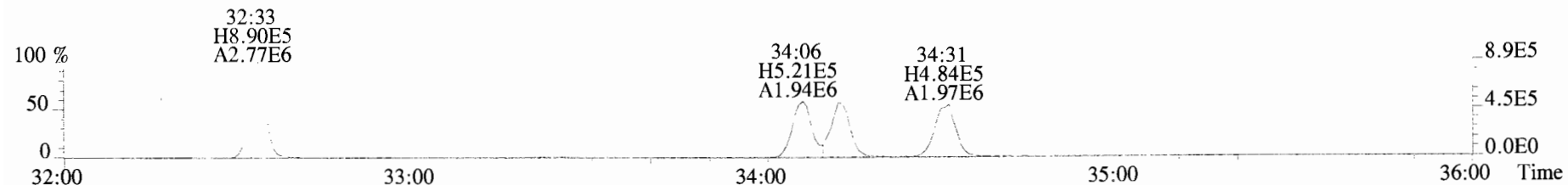
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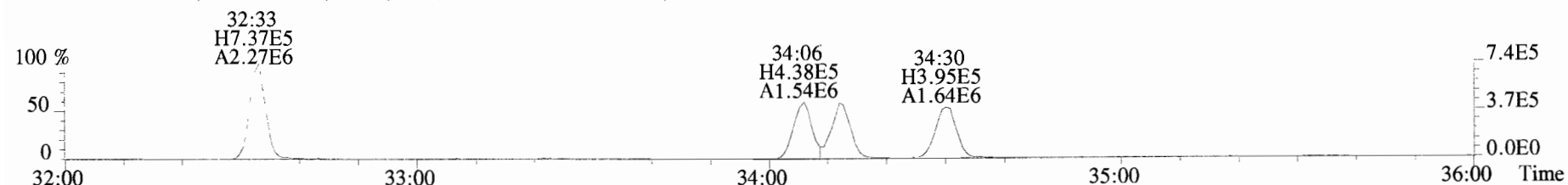
File:191023D1 #1-211 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



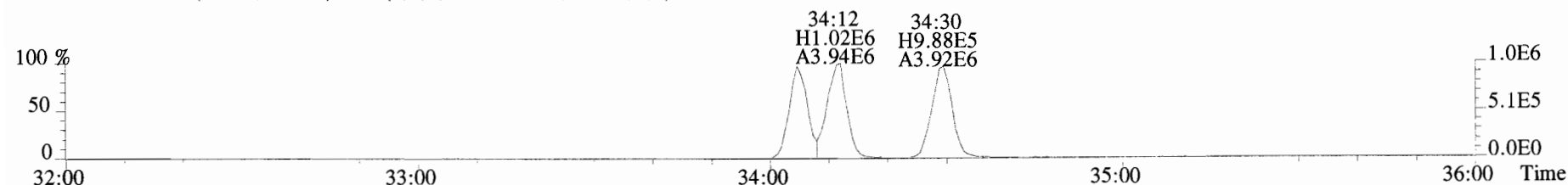
File:191023D1 #1-384 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



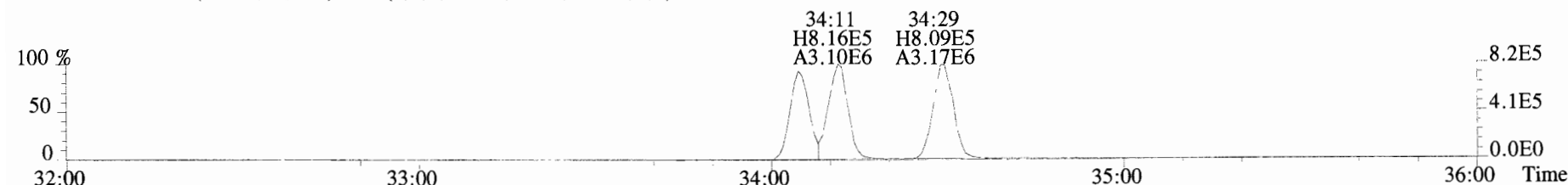
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



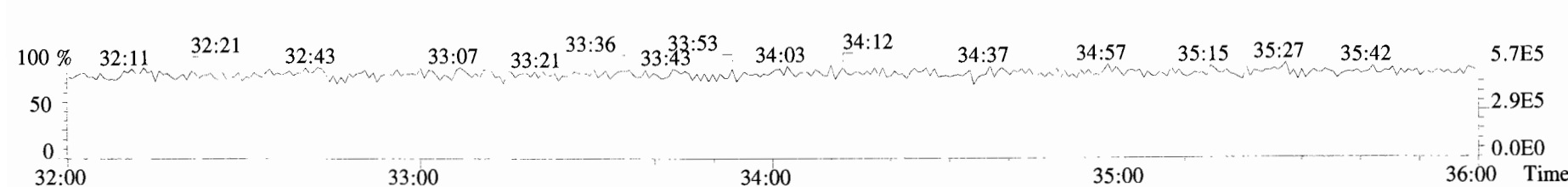
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



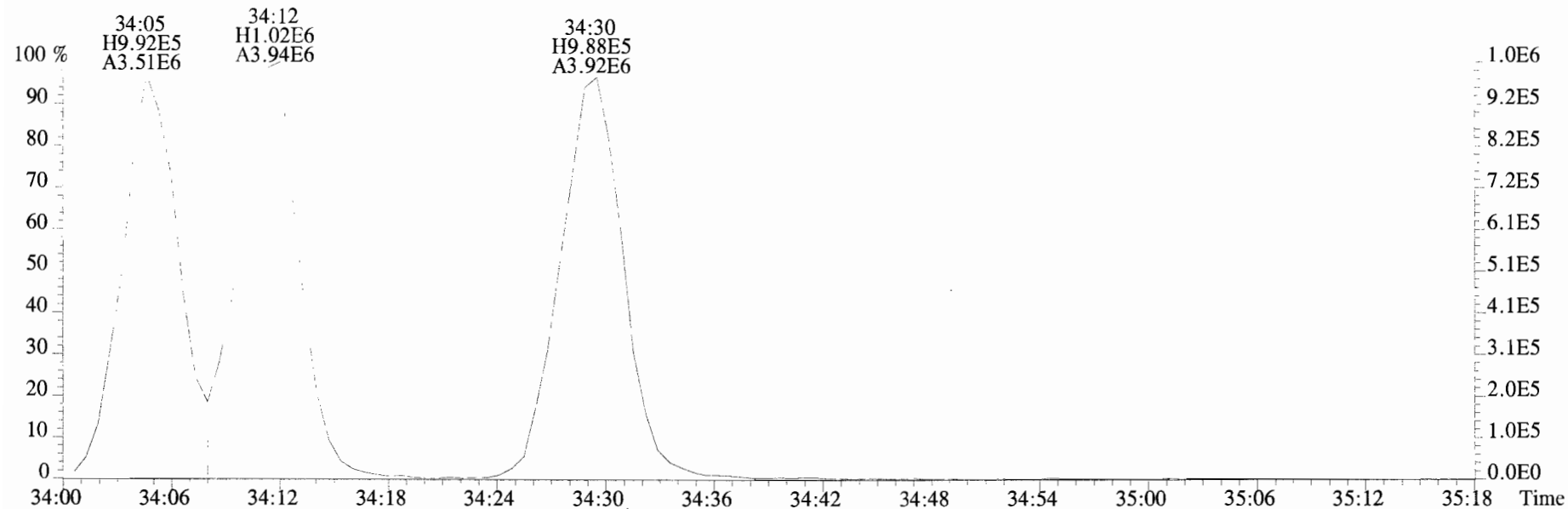
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



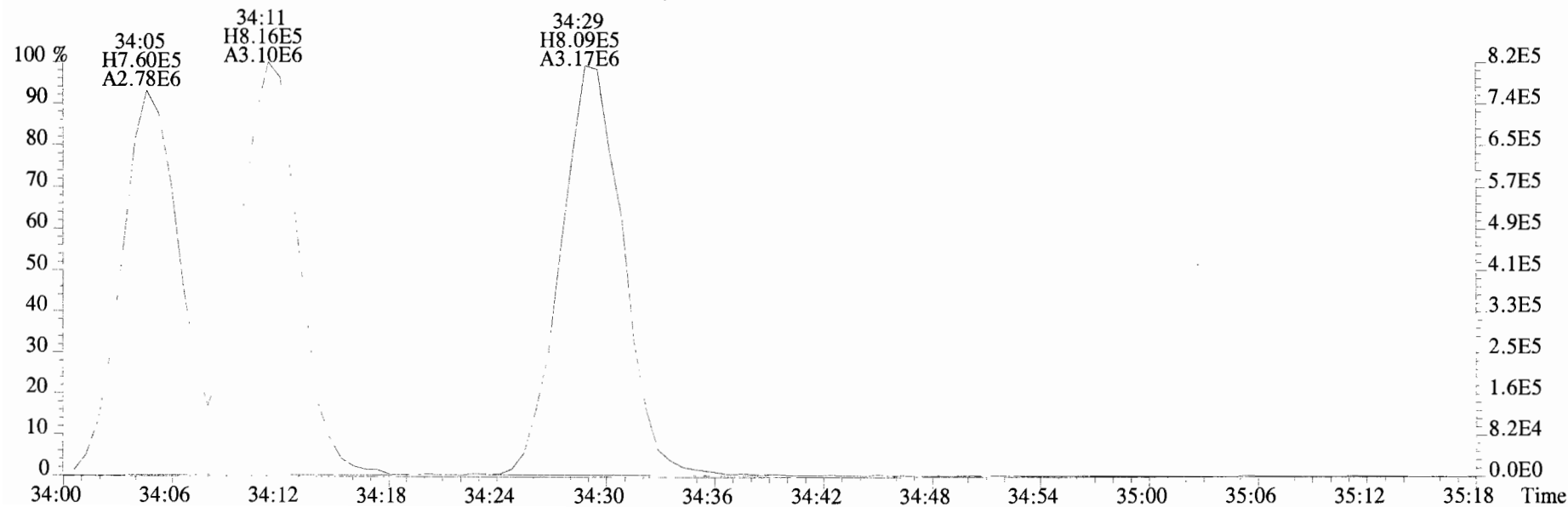
392.9760 F:3



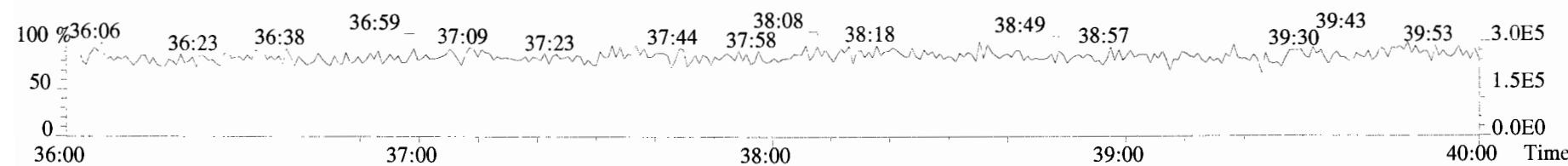
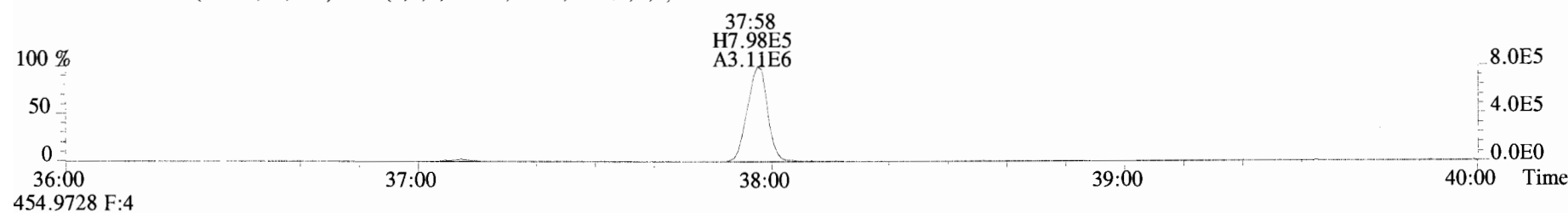
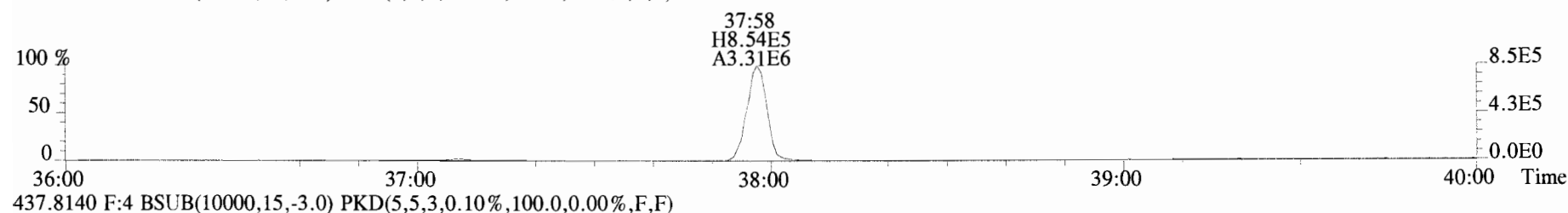
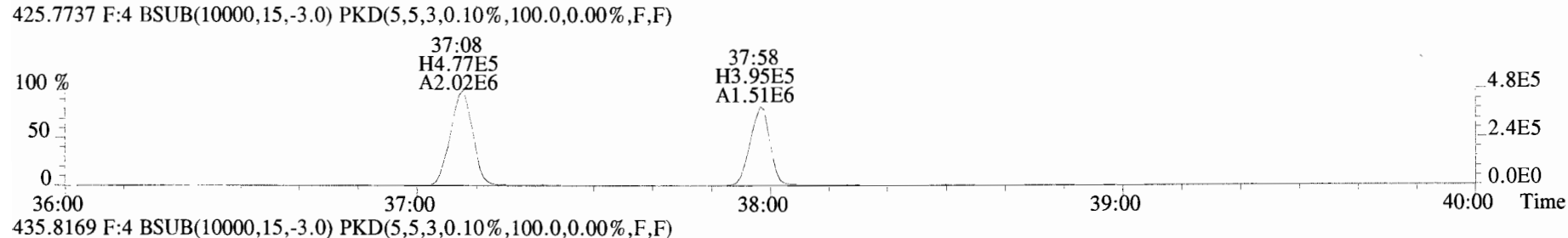
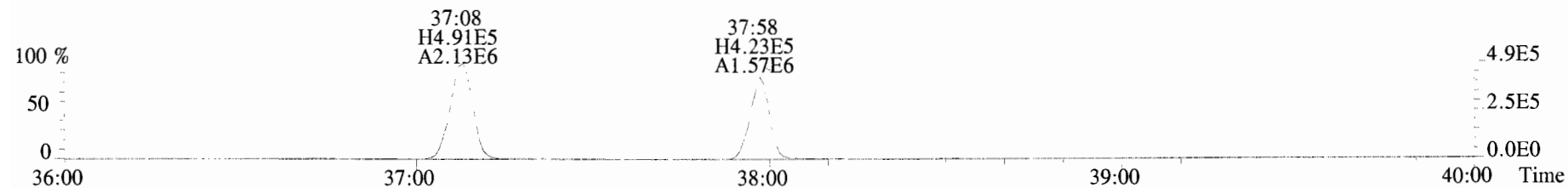
File: 191023D1 #1-384 Acq: 23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista Analytical Laboratory VG7 Text: ST191023D1-1 1613 CS3 19C2204 Exp: OCDD_DB5
401.8559 F: 3 BSUB(10000, 15, -3.0) PKD(5, 5, 3, 0.10%, 100.0, 0.00%, F, F)



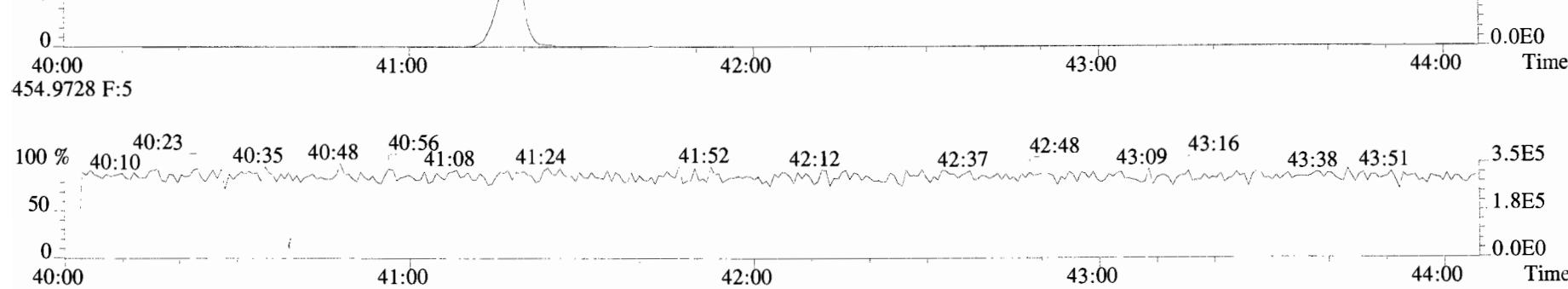
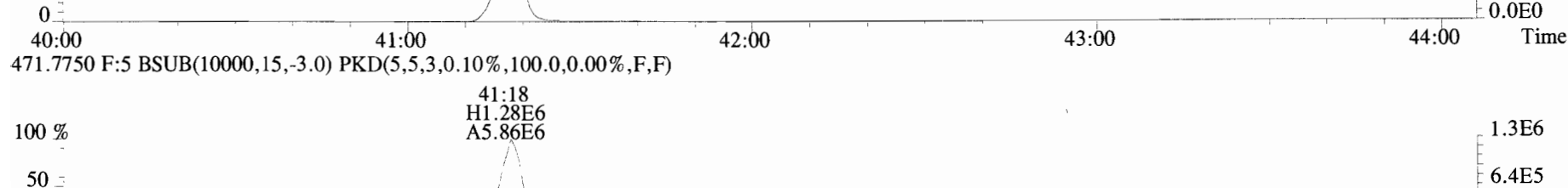
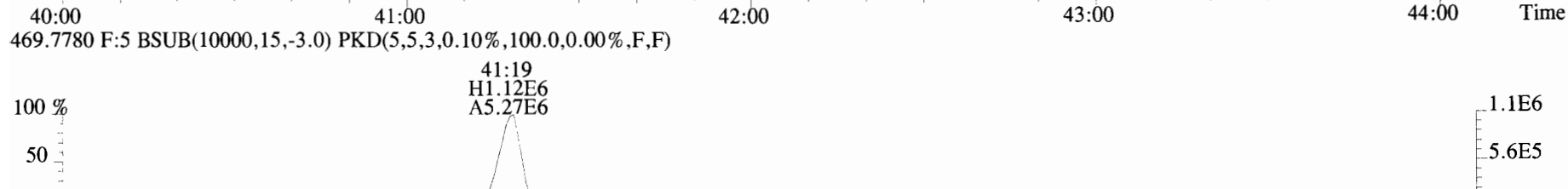
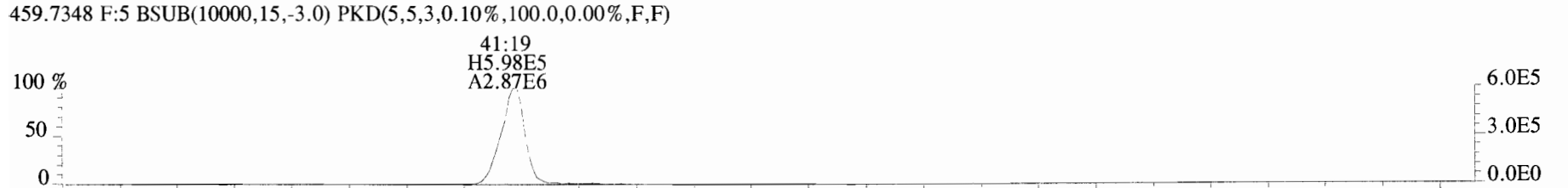
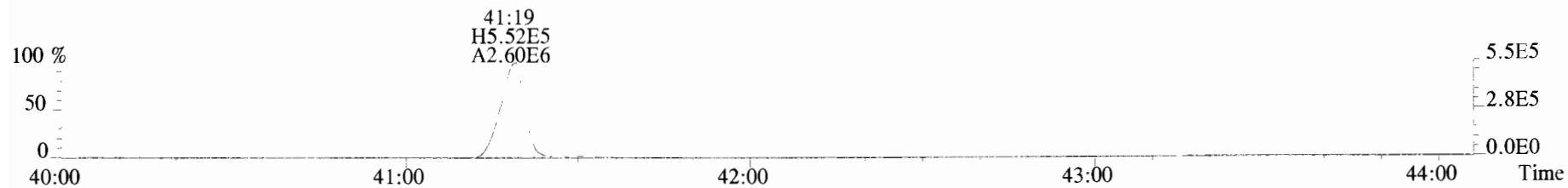
403.8530 F: 3 BSUB(10000, 15, -3.0) PKD(5, 5, 3, 0.10%, 100.0, 0.00%, F, F)



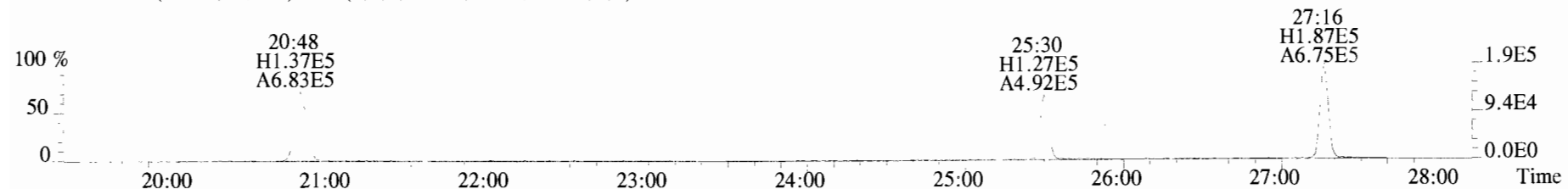
File:191023D1 #1-356 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



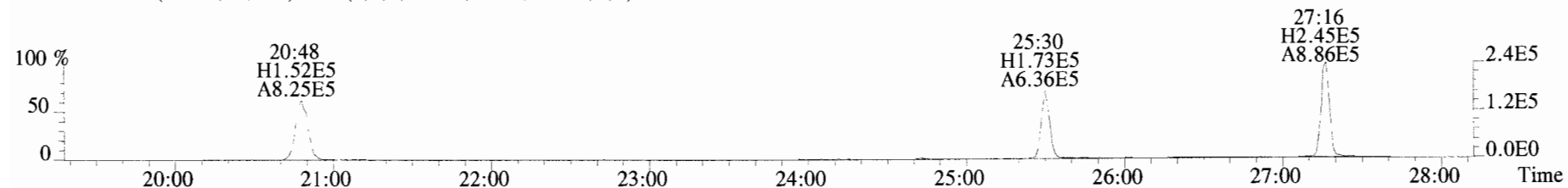
File:191023D1 #1-431 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



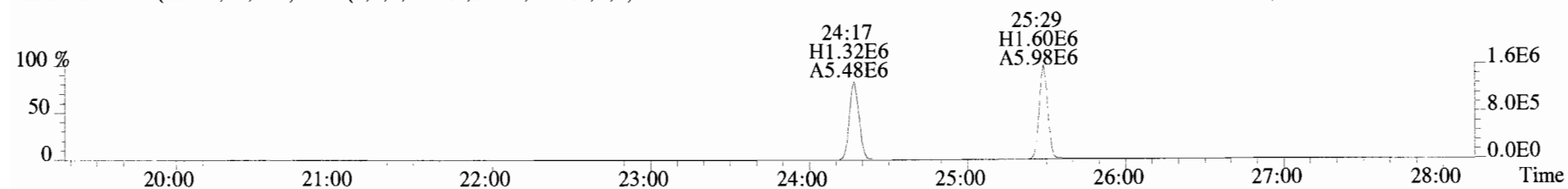
File:191023D1 #1-493 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



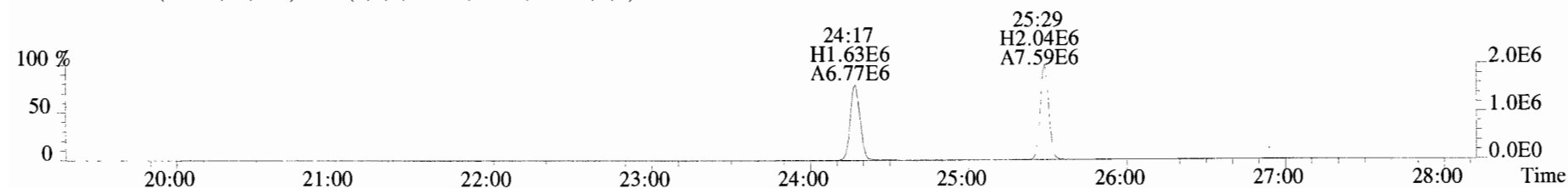
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



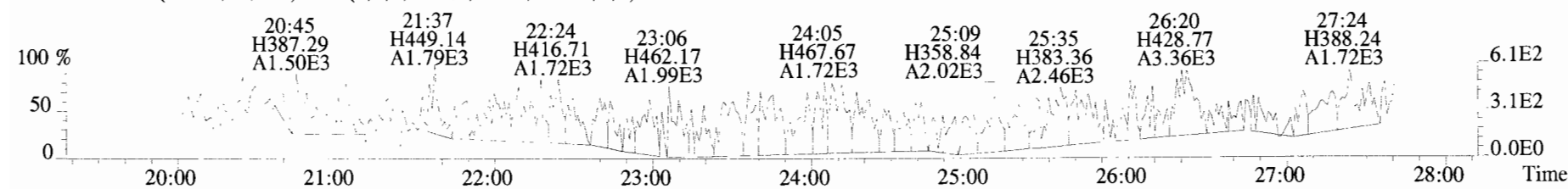
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



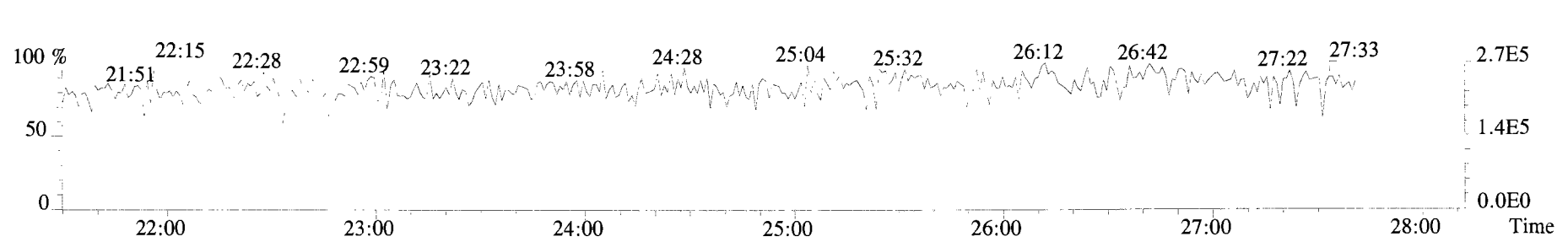
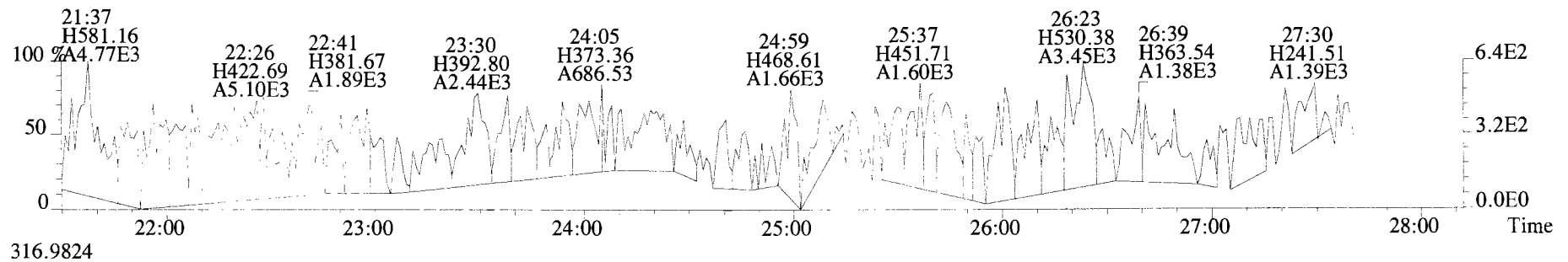
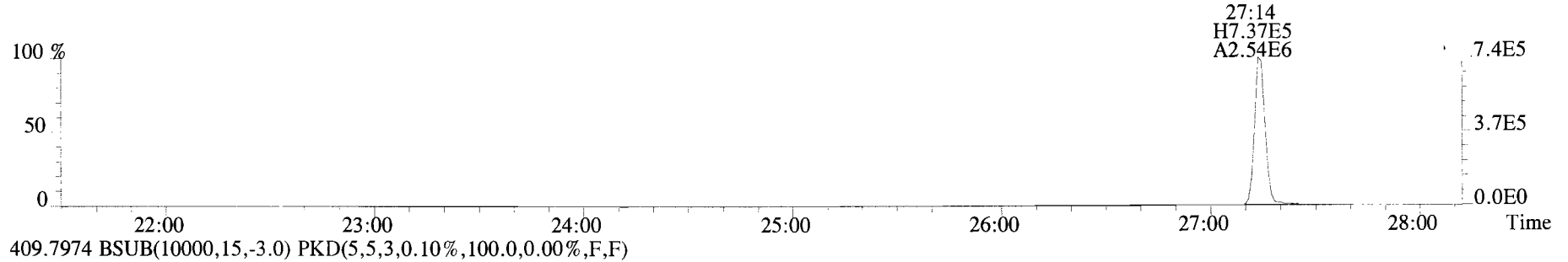
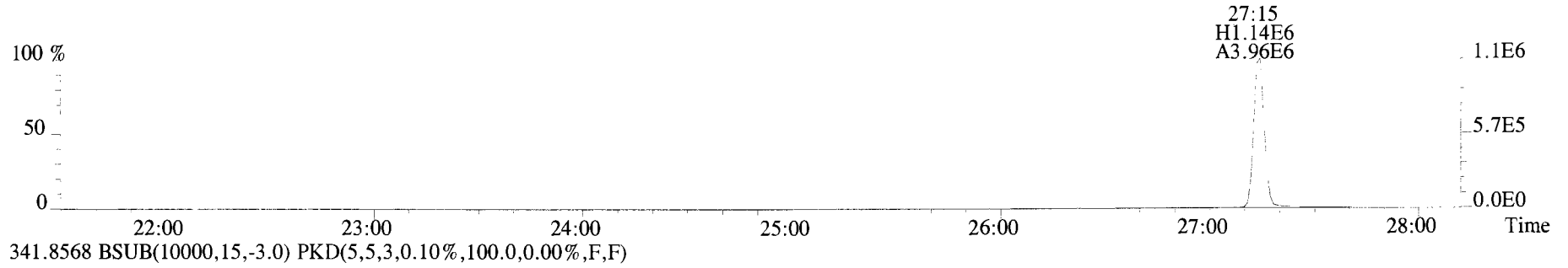
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



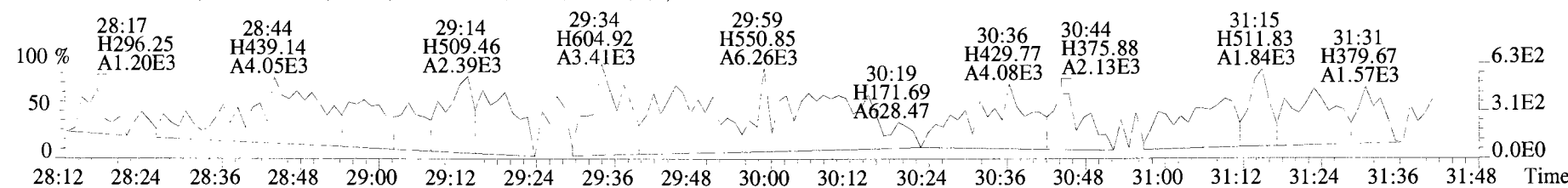
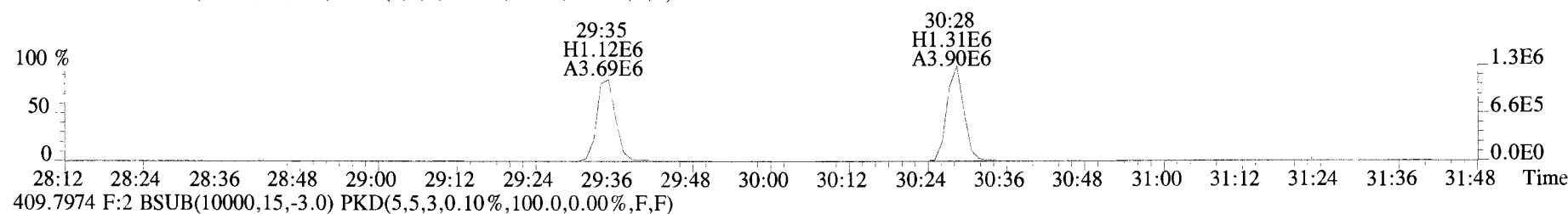
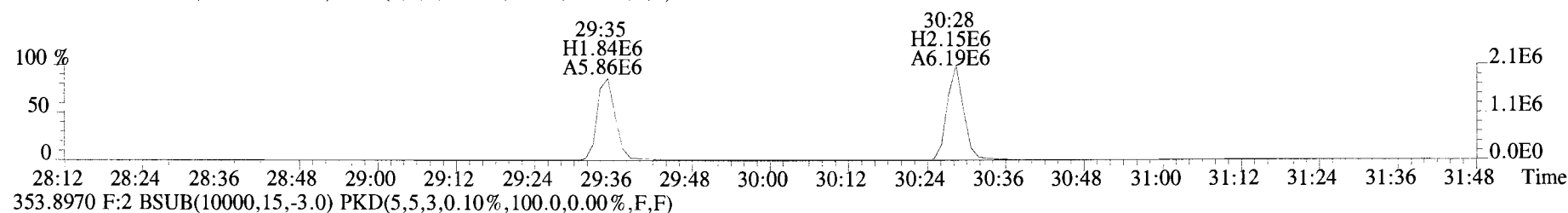
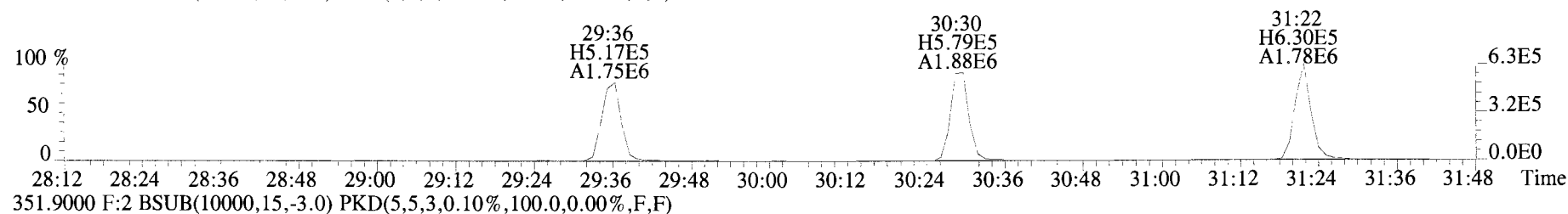
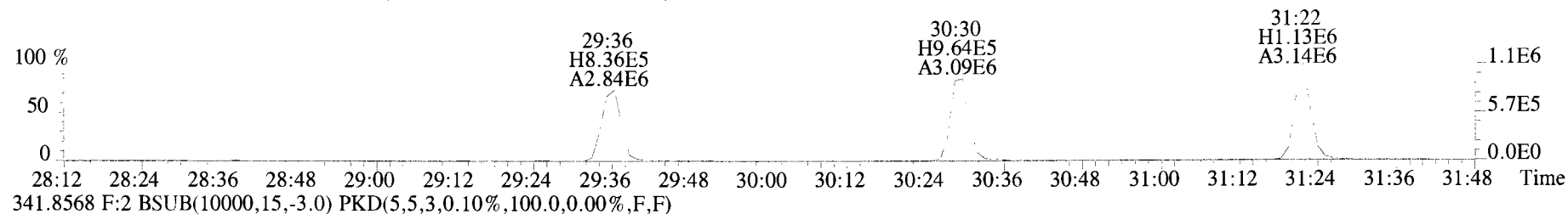
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



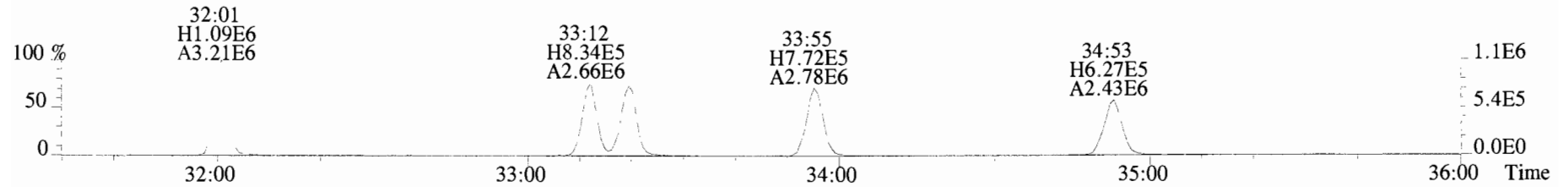
File:191023D1 #1-493 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



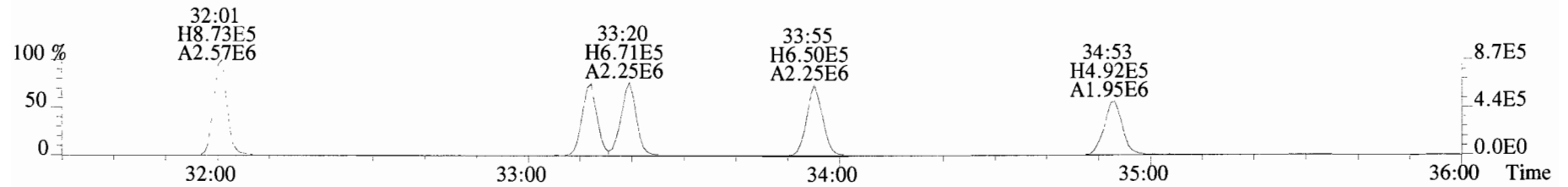
File:191023D1 #1-211 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



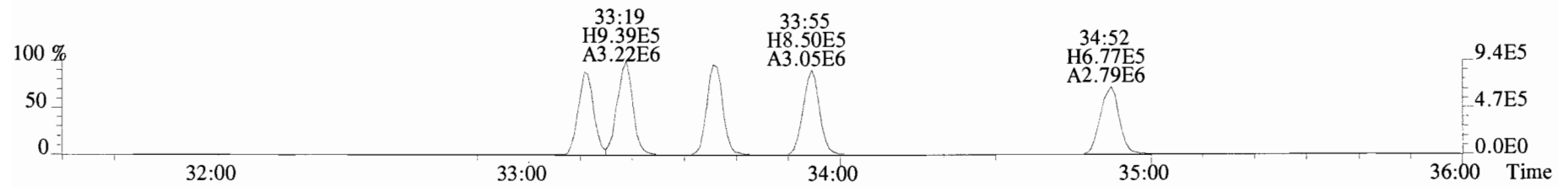
File:191023D1 #1-384 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



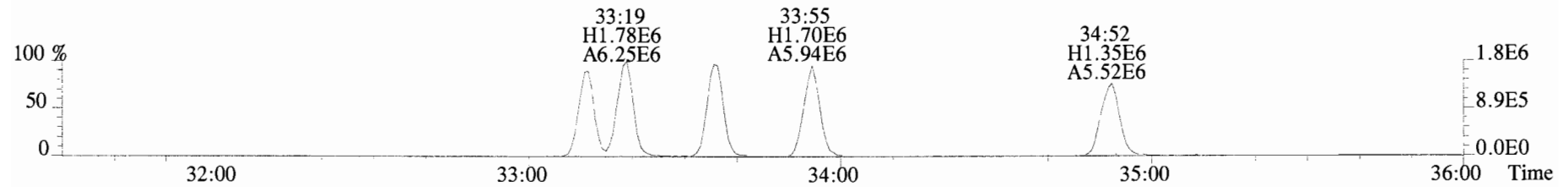
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



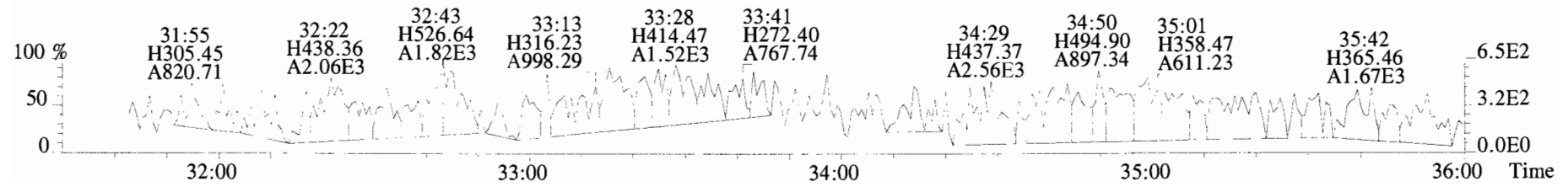
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



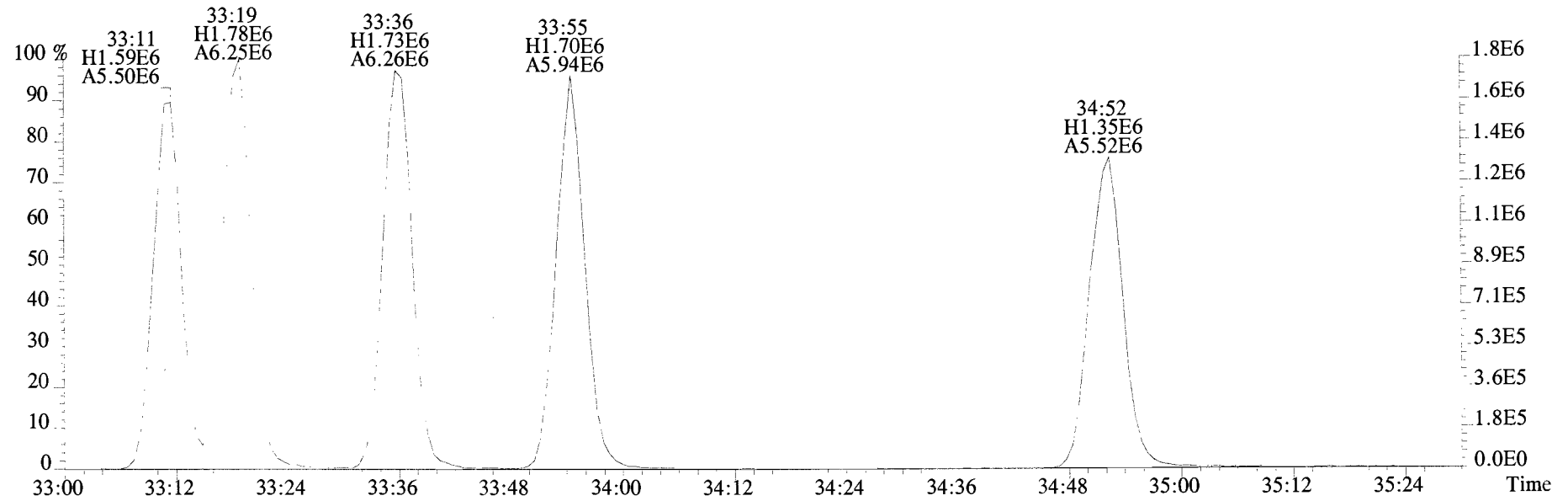
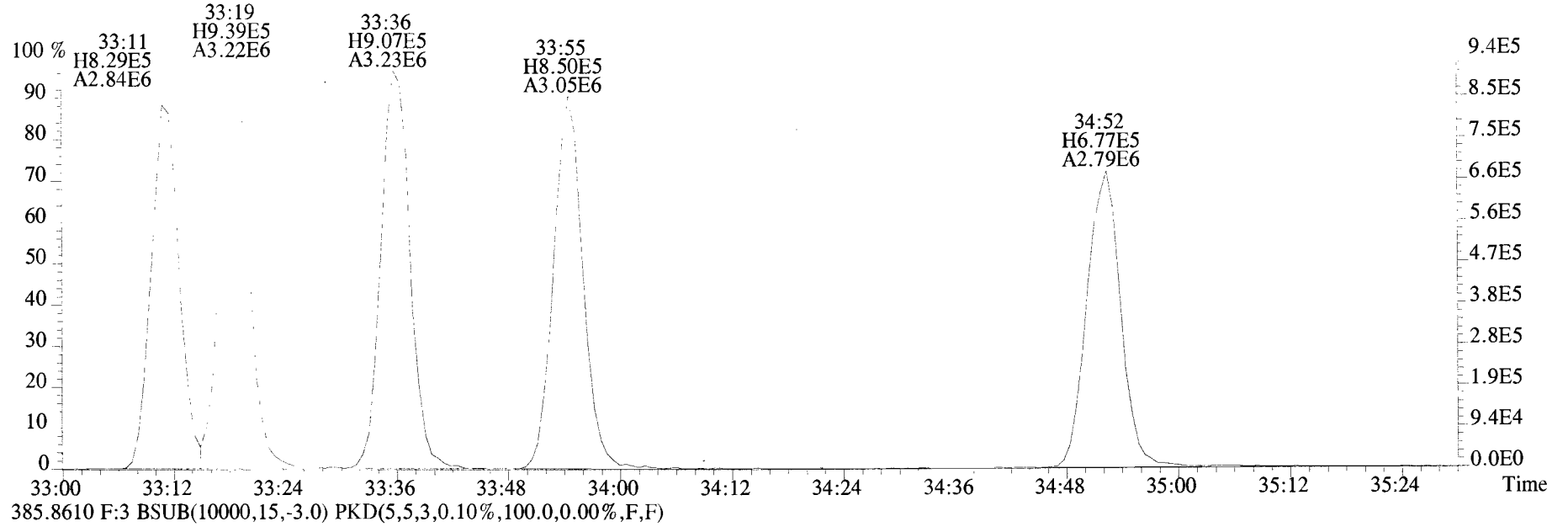
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



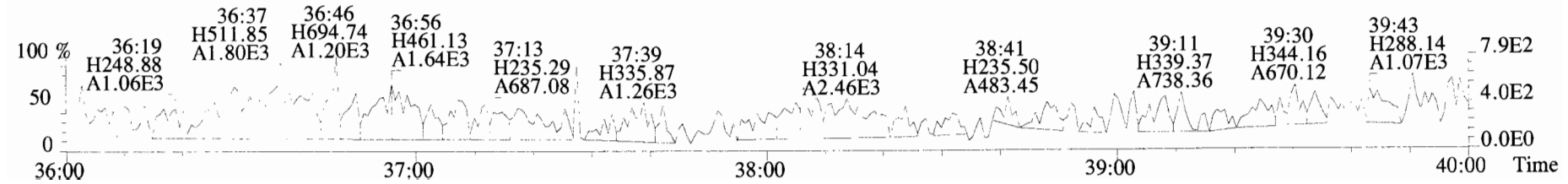
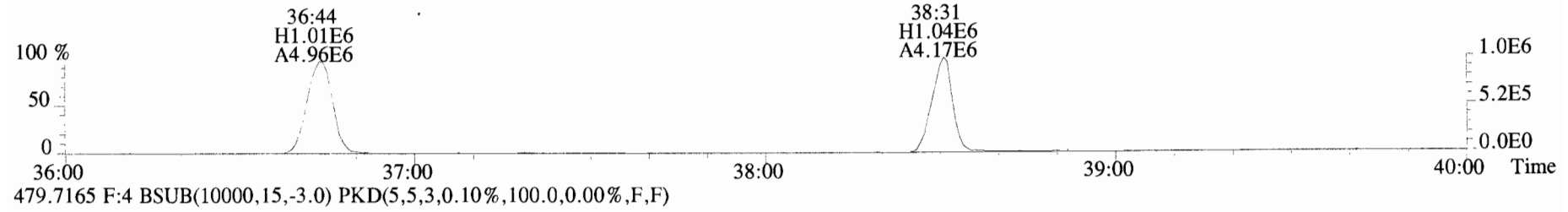
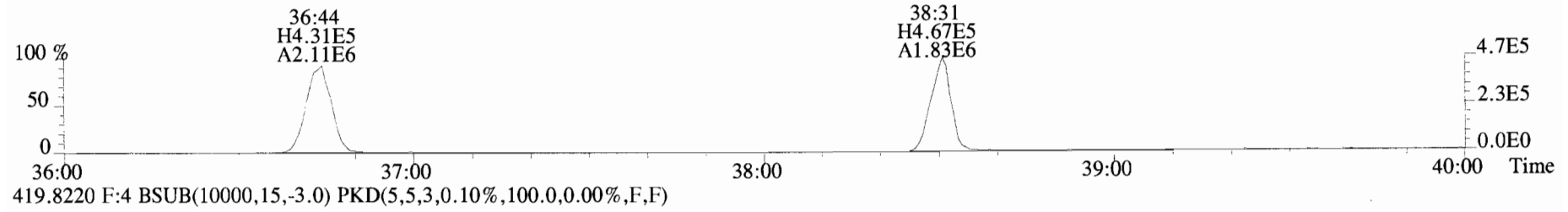
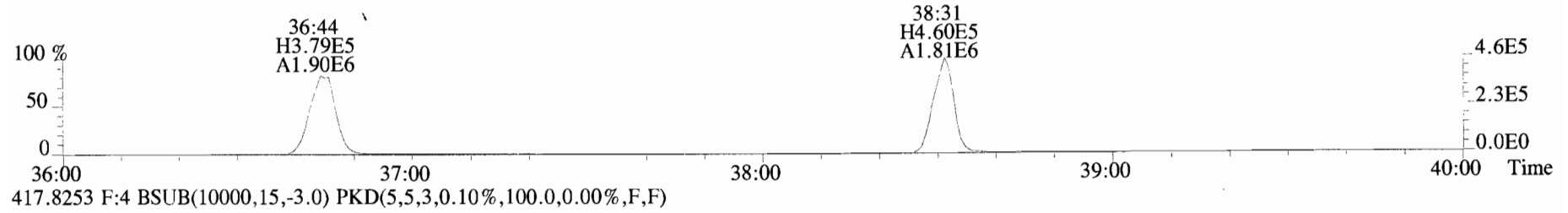
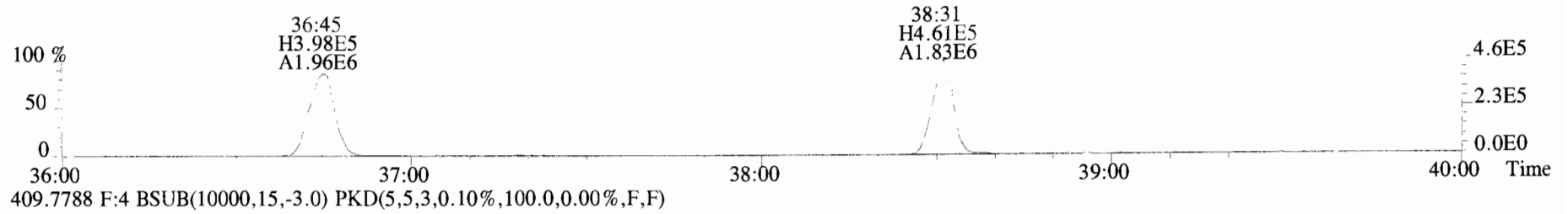
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



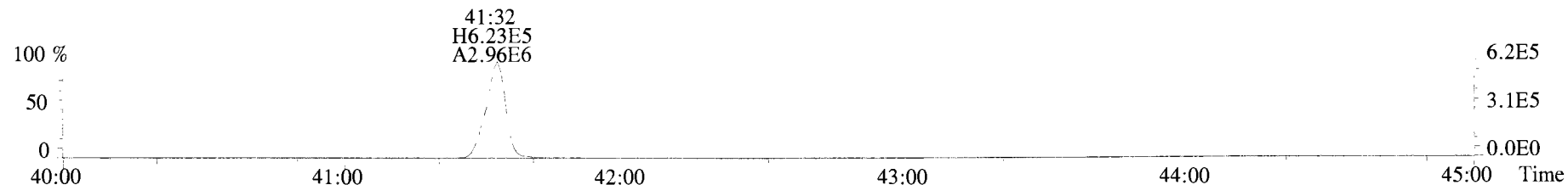
File:191023D1 #1-384 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



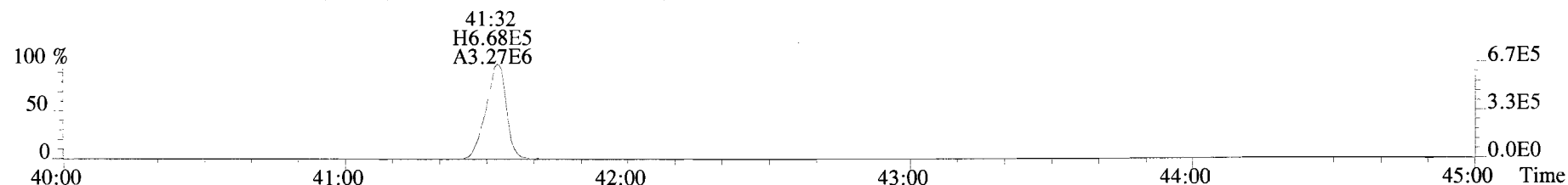
File:191023D1 #1-356 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



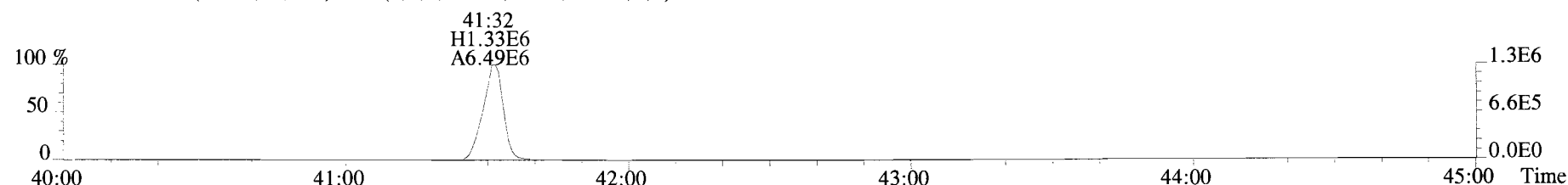
File:191023D1 #1-431 Acq:23-OCT-2019 13:20:00 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191023D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



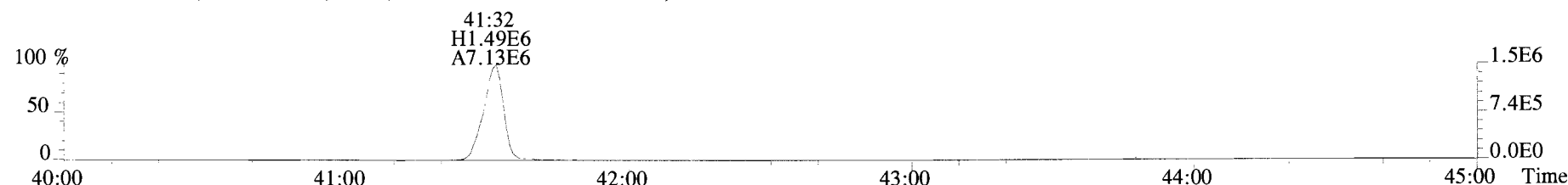
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



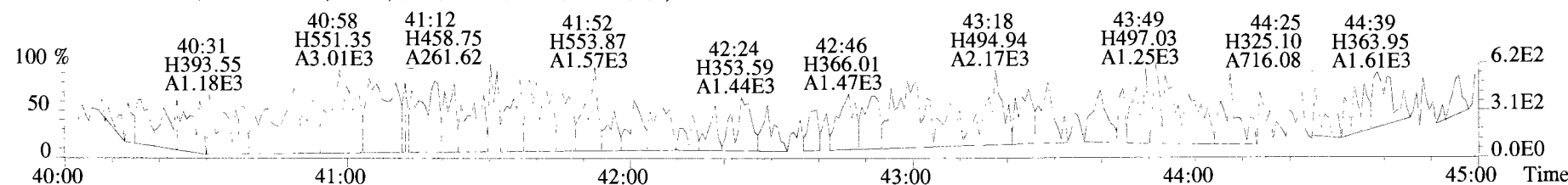
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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

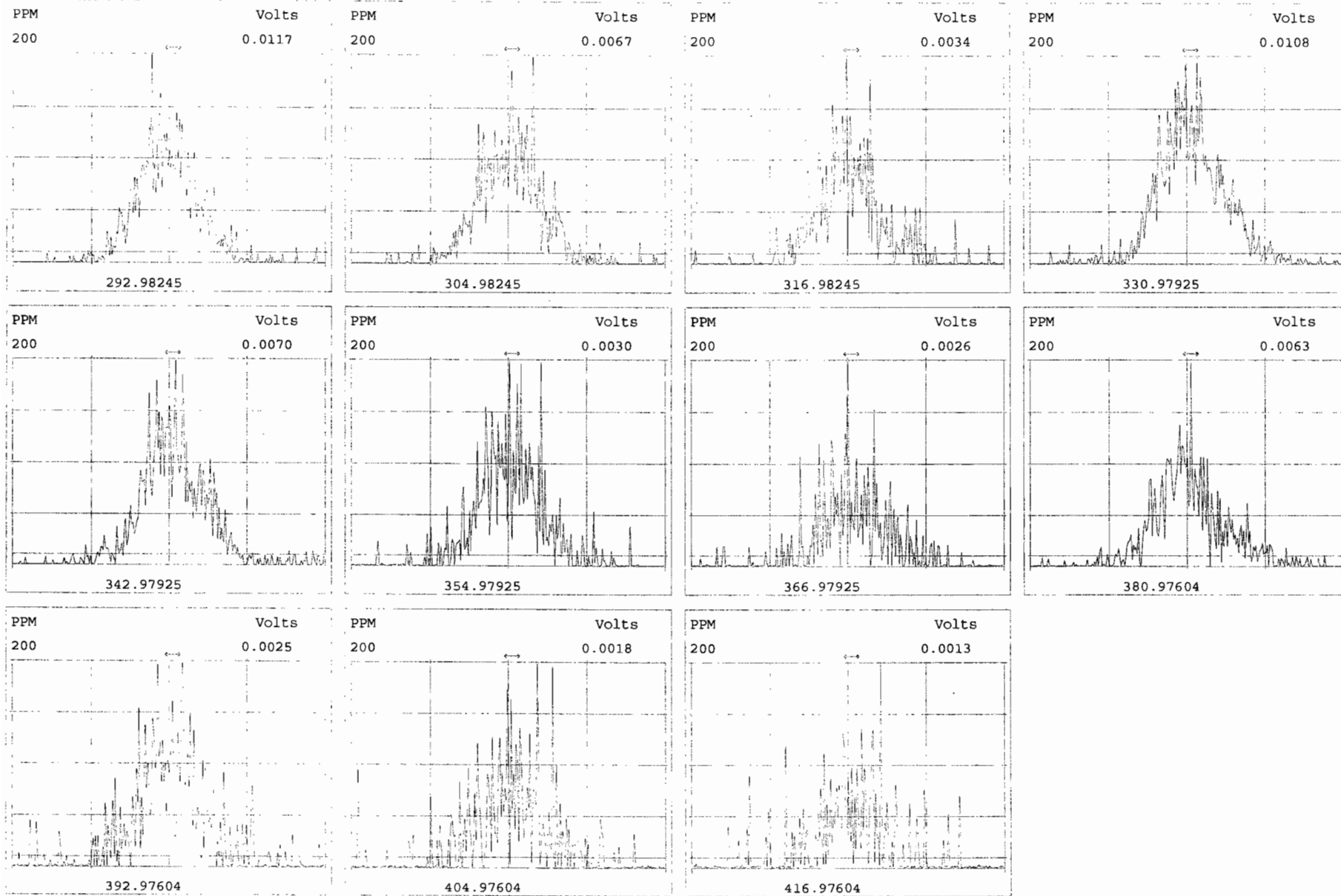


513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



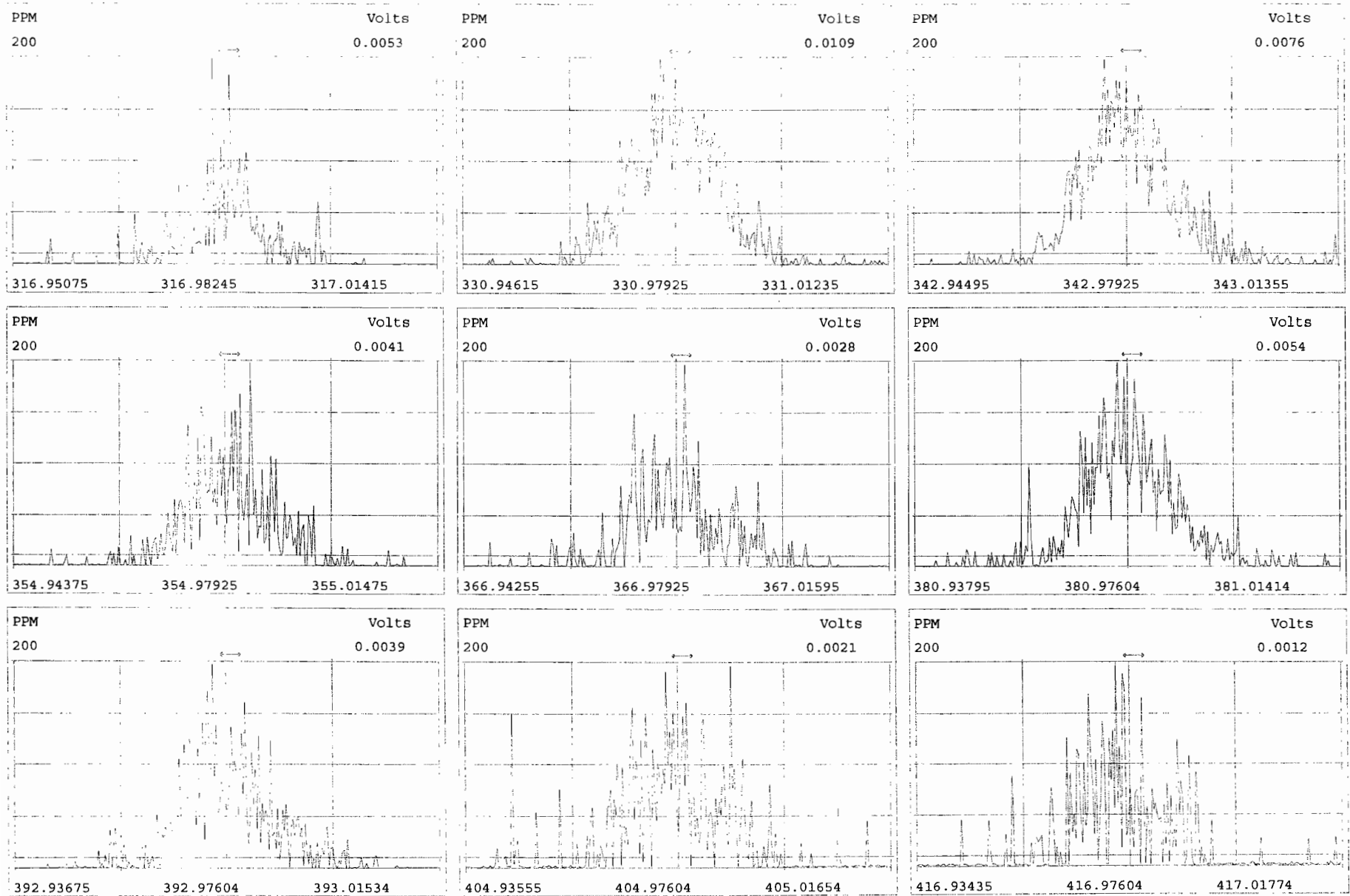
Peak Locate Examination:24-OCT-2019:01:27 File:RES_CHECK

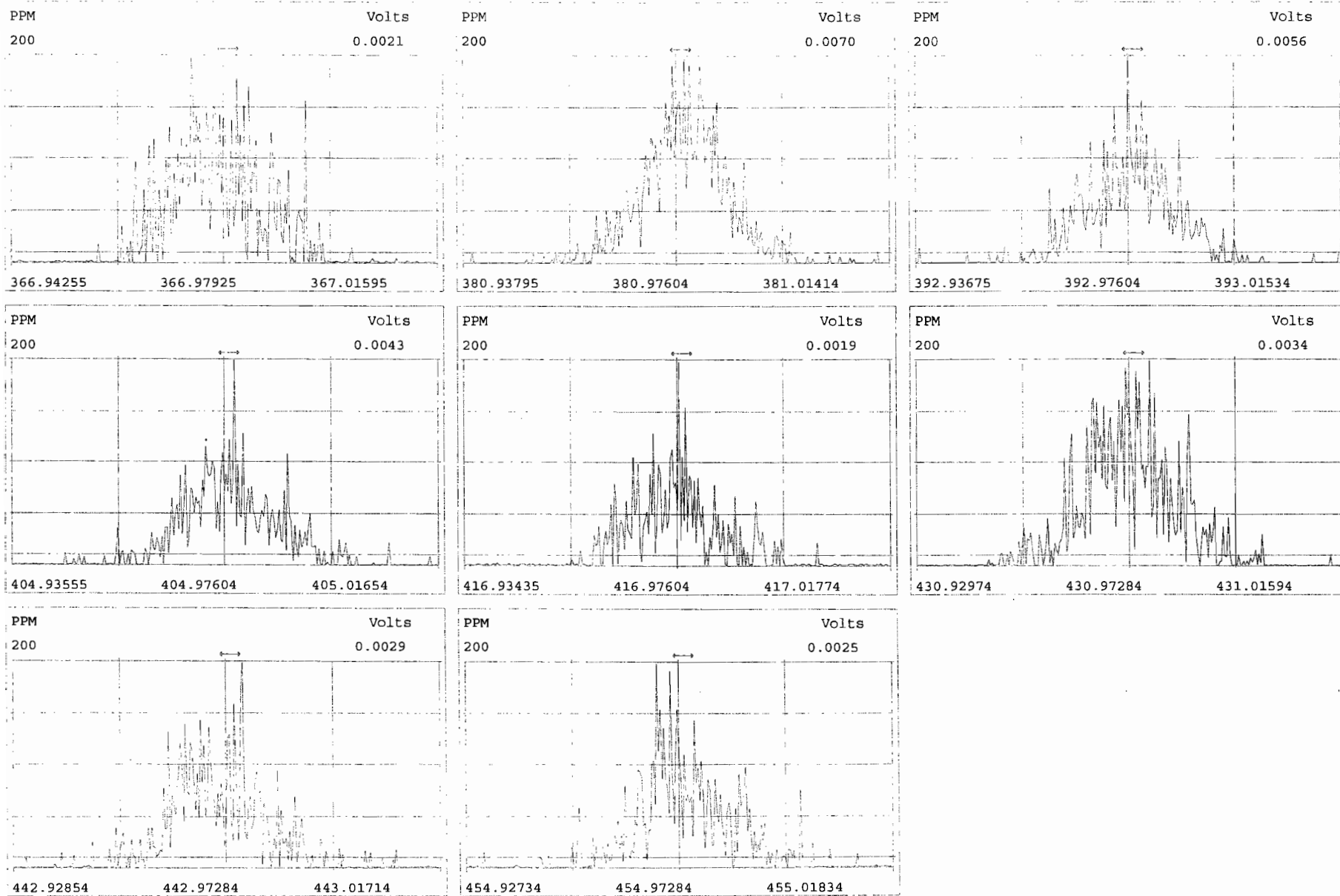
Experiment:OCDD_DB5 Function:1 Reference:PFK

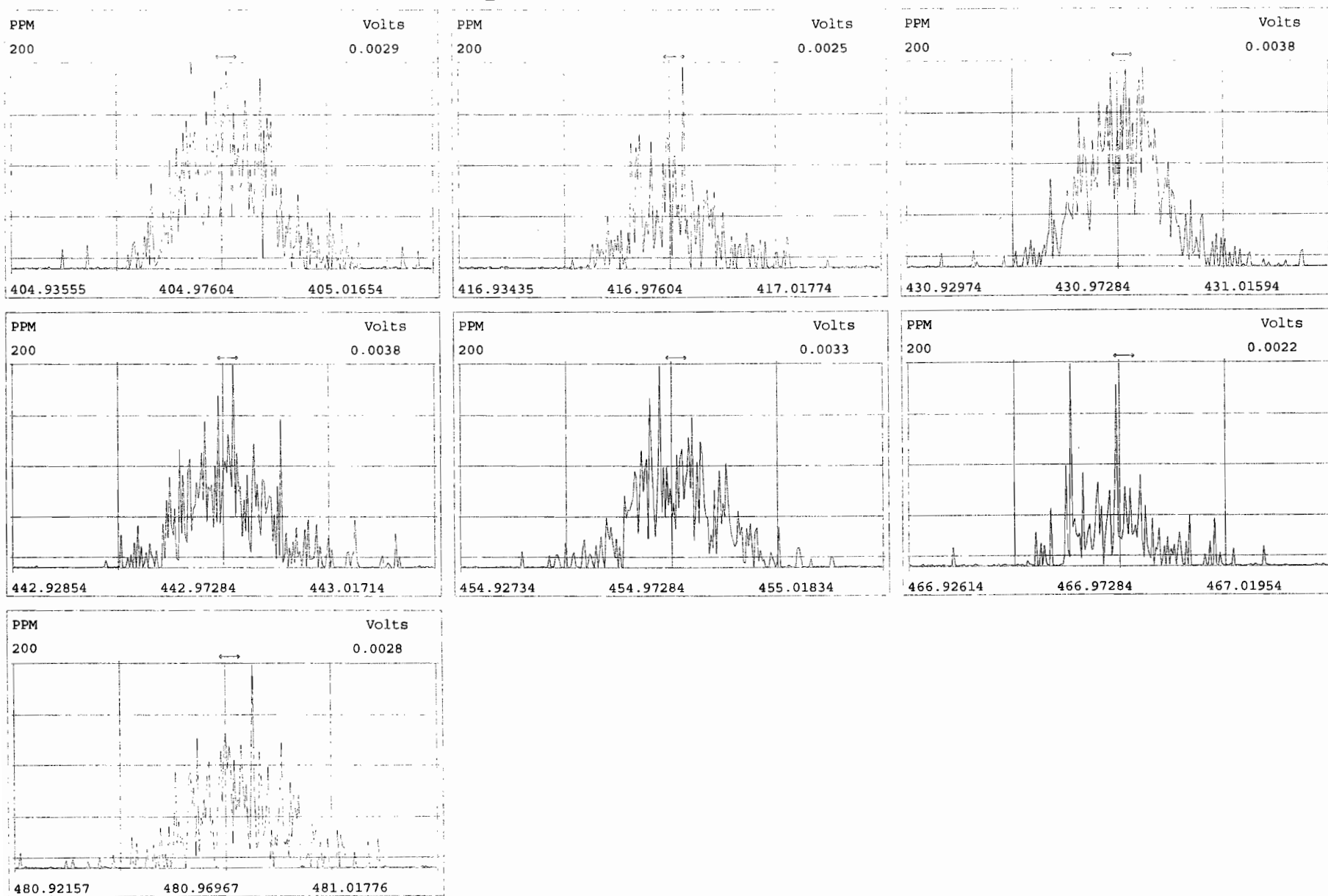


Peak Locate Examination:24-OCT-2019:01:28 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK

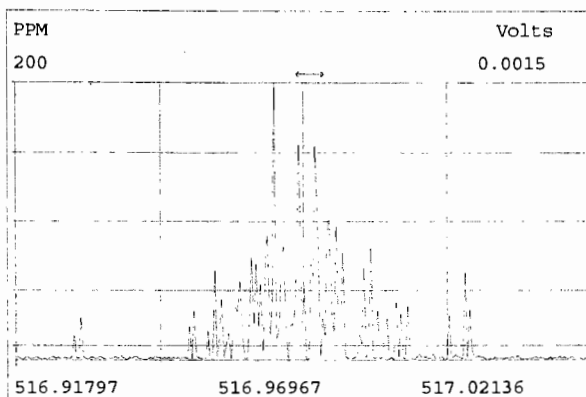
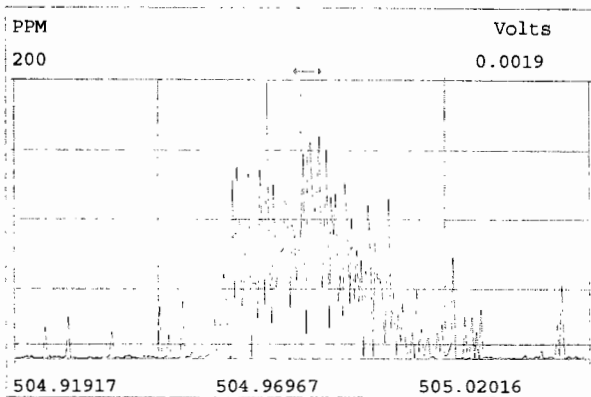
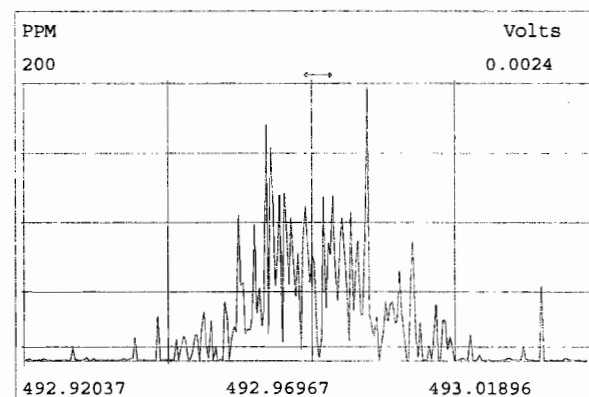
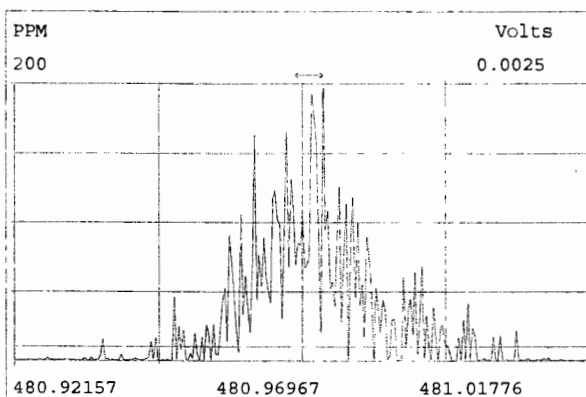
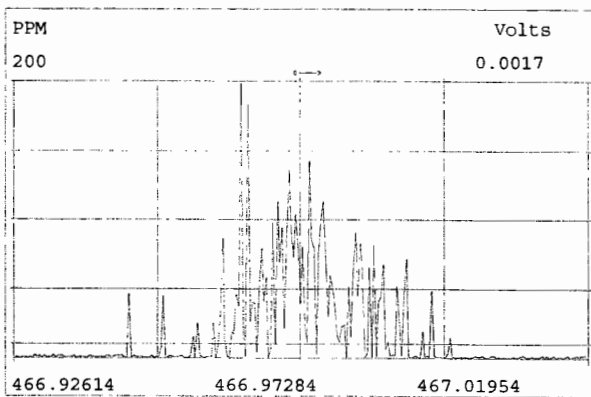
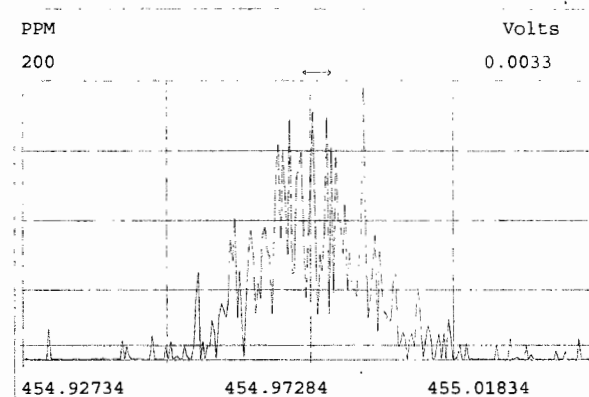
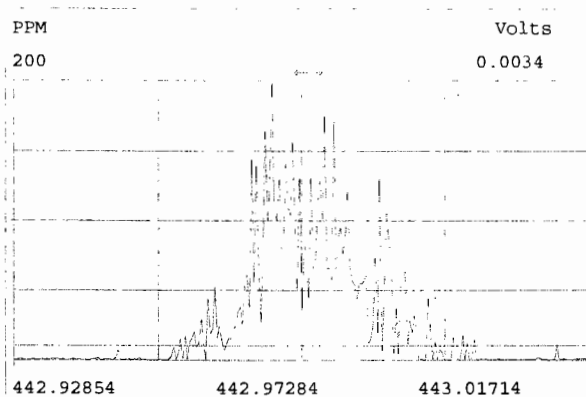
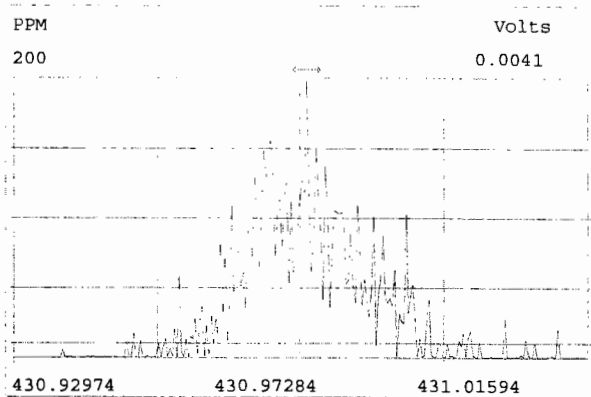






Peak Locate Examination:24-OCT-2019:01:31 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST19102302-1

Reviewed By: OT 10/25/19
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>	<input type="checkbox"/>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/> V
- Samples within 12 hour clock?	(Y)	N
- Bottle position verified?	<u>DB</u>	<input type="checkbox"/>

	<u>Beg.</u>	<u>End</u>
Mass resolution \geq	<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		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
<u>8280 CS1 End Standard:</u>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

FORM 4A
PCDE/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST191023D2-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC.	CONC.
	FORMING	ABUND.	LIMITS		FOUND	RANGE (3)
	RATIO (1)	RATIO	(2)			(ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	10.6	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.67	0.54-0.72	y	54.8	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	48.8	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	y	52.5	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	y	52.7	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	49.7	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	102	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	y	10.1	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.75	1.32-1.78	y	49.8	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.66	1.32-1.78	y	49.8	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.3	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	y	49.5	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.19	1.05-1.43	y	51.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.20	1.05-1.43	y	50.7	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	y	49.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.99	0.88-1.20	y	47.5	43.0 - 58.0
OCDF	M+2/M+4	0.89	0.76-1.02	y	99.9	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: 10/24/19

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: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

LABELED 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	103	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.60	0.54-0.72	y	77.8	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	104	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	88.5	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.28	1.05-1.43	y	94.0	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.00	0.88-1.20	y	111	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	233	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	106	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.56	1.32-1.78	y	94.2	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	88.3	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	108	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	99.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	100	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	105	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.42	0.37-0.51	y	108	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.40	0.37-0.51	y	114	77.0 - 129.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	y	247	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.71	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: 10/24/19

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: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

ZB-5MS IS Data Filename: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

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)	22:57	1,3,6,8-TCDF (F)	20:50
1,2,8,9-TCDD (L)	27:09	1,2,8,9-TCDF (L)	27:17
1,2,4,7,9-PeCDD (F)	28:45	1,3,4,6,8-PeCDF (F)	27:15
1,2,3,8,9-PeCDD (L)	31:08	1,2,3,8,9-PeCDF (L)	31:22
1,2,4,6,7,9-HxCDD (F)	32:33	1,2,3,4,6,8-HxCDF (F)	32:01
1,2,3,7,8,9-HxCDD (L)	34:30	1,2,3,7,8,9-HxCDF (L)	34:53
1,2,3,4,6,7,9-HpCDD (F)	37:08	1,2,3,4,6,7,8-HpCDF (F)	36:45
1,2,3,4,6,7,8-HpCDD (L)	37:59	1,2,3,4,7,8,9-HpCDF (L)	38:31

(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: DBDate: 10/24/19

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: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

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	1.000	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	1.021	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.196	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	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.185	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: 10/24/19

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-SMS

VER Data Filename: 191023D2 S#1 Analysis Date: 24-OCT-19 Time: 01:32:26

NATIVE ANALYTES	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	1.000	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	1.001	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	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.229	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.236	1.091-1.371

Analyst: DB

Date: 10/24/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191023D2-1

Filename: 191023D2 S:1 Acq:24-OCT-19 01:32:26
GC Column ID: ZB-5MS 1Cal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST191023D2-1
EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	7.63e+05	0.80 y	0.91	26:18	10.585		* 2.5		*	Total Tetra-Dioxins	77.2	77.7		*	*
1,2,3,7,8-PeCDD	2.38e+06	0.67 y	0.90	30:46	54.798		* 2.5		*	Total Penta-Dioxins	211	211		*	*
1,2,3,4,7,8-HxCDD	2.97e+06	1.26 y	1.10	34:06	48.808		* 2.5		*	Total Hexa-Dioxins	227	227		*	*
1,2,3,6,7,8-HxCDD	3.09e+06	1.18 y	0.94	34:13	52.474		* 2.5		*	Total Hepta-Dioxins	117	118		*	*
1,2,3,7,8,9-HxCDD	3.18e+06	1.25 y	0.96	34:30	52.725		* 2.5		*	Total Tetra-Furans	38.8	39.5		*	*
1,2,3,4,6,7,8-HpCDD	2.93e+06	0.98 y	0.98	37:59	49.652		* 2.5		*	Total Penta-Furans	224.84	225.24		*	*
OCDD	5.44e+06	0.89 y	0.96	41:19	101.61		* 2.5		*	Total Hexa-Furans	266	267		*	*
										Total Hepta-Furans	96.5	97.7		*	*
2,3,7,8-TCDF	1.14e+06	0.79 y	0.95	25:31	10.063		* 2.5		*						
1,2,3,7,8-PeCDF	4.19e+06	1.75 y	0.96	29:37	49.833		* 2.5		*						
2,3,4,7,8-PeCDF	4.11e+06	1.66 y	1.01	30:29	49.767		* 2.5		*						
1,2,3,4,7,8-HxCDF	4.33e+06	1.22 y	1.18	33:12	49.270		* 2.5		*						
1,2,3,6,7,8-HxCDF	4.51e+06	1.21 y	1.07	33:20	49.475		* 2.5		*						
2,3,4,6,7,8-HxCDF	4.52e+06	1.19 y	1.11	33:56	51.418		* 2.5		*						
1,2,3,7,8,9-HxCDF	3.87e+06	1.20 y	1.06	34:53	50.655		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	3.74e+06	1.01 y	1.13	36:45	48.959		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	3.33e+06	0.99 y	1.28	38:31	47.530		* 2.5		*						
OCDF	6.67e+06	0.89 y	0.95	41:33	99.871		* 2.5		*						
										Rec	Qual				
IS 13C-2,3,7,8-TCDD	7.96e+06	0.79 y	1.10	26:16	103.41					103					
IS 13C-1,2,3,7,8-PeCDD	4.82e+06	0.60 y	0.88	30:46	77.783					77.8					
IS 13C-1,2,3,4,7,8-HxCDD	5.53e+06	1.25 y	0.64	34:05	104.03					104					
IS 13C-1,2,3,6,7,8-HxCDD	6.27e+06	1.24 y	0.86	34:12	88.515					88.5					
IS 13C-1,2,3,7,8,9-HxCDD	6.27e+06	1.28 y	0.81	34:30	93.979					94.0					
IS 13C-1,2,3,4,6,7,8-HpCDD	6.02e+06	1.00 y	0.65	37:58	111.26					111					
IS 13C-OCDD	1.12e+07	0.90 y	0.58	41:19	232.86					116					
IS 13C-2,3,7,8-TCDF	1.19e+07	0.79 y	1.03	25:30	105.81					106					
IS 13C-1,2,3,7,8-PeCDF	8.75e+06	1.56 y	0.85	29:36	94.228					94.2					
IS 13C-2,3,4,7,8-PeCDF	8.13e+06	1.58 y	0.85	30:29	88.312					88.3					
IS 13C-1,2,3,4,7,8-HxCDF	7.47e+06	0.52 y	0.83	33:12	108.50					108					
IS 13C-1,2,3,6,7,8-HxCDF	8.52e+06	0.52 y	1.03	33:19	99.525					99.5					
IS 13C-2,3,4,6,7,8-HxCDF	7.89e+06	0.51 y	0.95	33:55	100.05					100					
IS 13C-1,2,3,7,8,9-HxCDF	7.20e+06	0.52 y	0.83	34:53	105.12					105					
IS 13C-1,2,3,4,6,7,8-HpCDF	6.77e+06	0.42 y	0.76	36:45	108.07					108					
IS 13C-1,2,3,4,7,8,9-HpCDF	5.48e+06	0.40 y	0.58	38:31	113.93					114					
IS 13C-OCDF	1.41e+07	0.90 y	0.69	41:32	247.50					124					
C/Up 37Cl-2,3,7,8-TCDD	8.17e+05		1.20	26:17	9.7090					97.1					
RS/RT 13C-1,2,3,4-TCDD	7.03e+06	0.82 y	1.00	25:43	100.00										
RS 13C-1,2,3,4-TCDF	1.09e+07	0.83 y	1.00	24:18	100.00										
RS/RT 13C-1,2,3,4,6,9-HxCDF	8.28e+06	0.51 y	1.00	33:36	100.00										

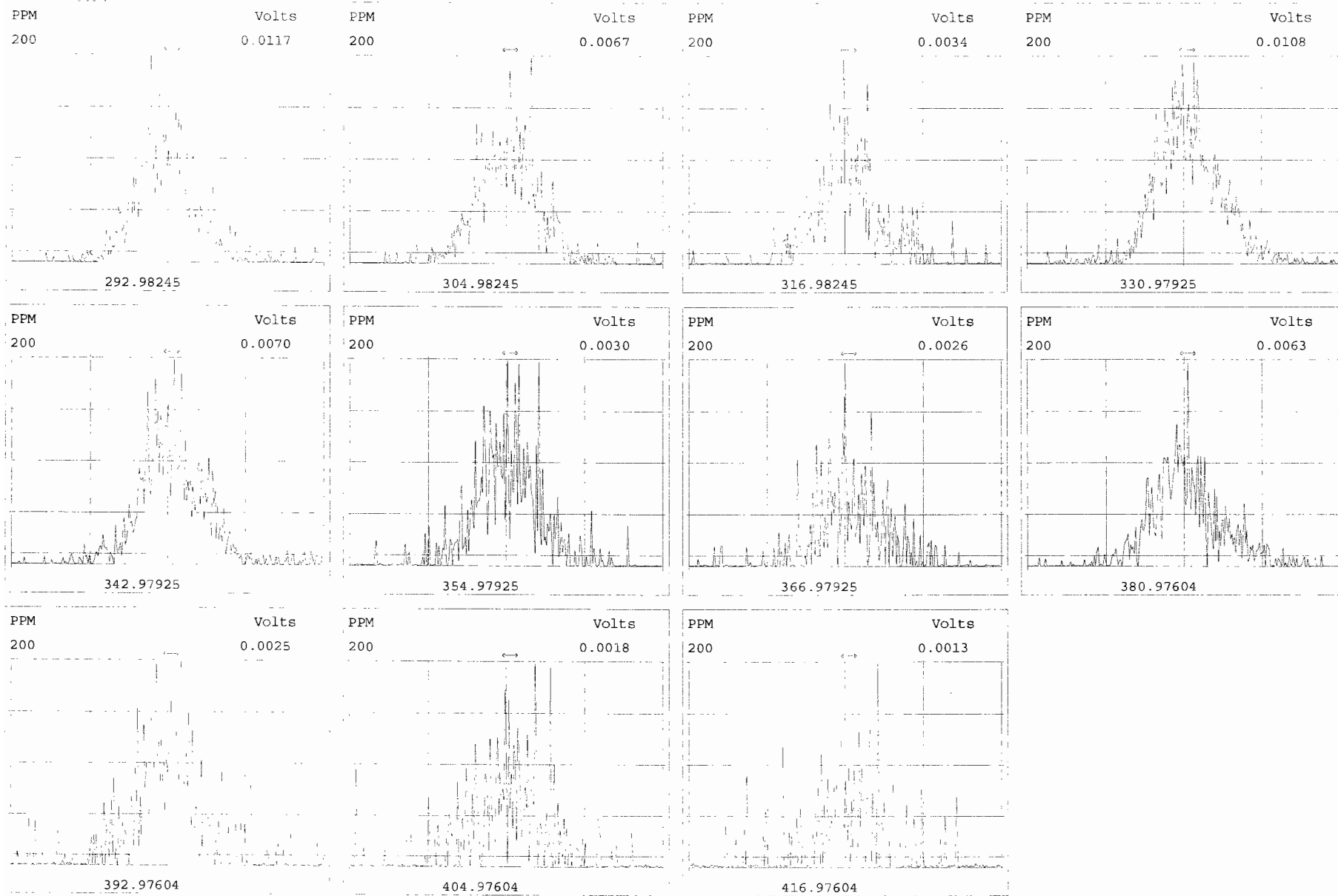
Integrations Reviewed
by DB Analyst: DB
by CT Analyst: CT
Date: 10/24/19 Date: 10/25/19

Vista Analytical Laboratory · Injection Log Run file: 191023D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191023D2	1	ST191023D2-1	DB	24-OCT-19	01:32:26	ST191023D2-1	NA
191023D2	2	SOLVENT BLANK	DB	24-OCT-19	02:20:10	ST191023D2-1	NA
191023D2	3	B9J0175-BLK1	DB	24-OCT-19	03:07:57	ST191023D2-1	NA
191023D2	4	1903420-01	DB	24-OCT-19	03:55:43	ST191023D2-1	NA
191023D2	5	1903420-02	DB	24-OCT-19	04:43:29	ST191023D2-1	NA
191023D2	6	1903420-03	DB	24-OCT-19	05:31:16	ST191023D2-1	NA
191023D2	7	1903420-04	DB	24-OCT-19	06:19:13	ST191023D2-1	NA
191023D2	8	1903420-05	DB	24-OCT-19	07:06:59	ST191023D2-1	NA
191023D2	9	1903420-06	DB	24-OCT-19	07:54:57	ST191023D2-1	NA
191023D2	10	B9J0175-DUP1	DB	24-OCT-19	08:42:43	ST191023D2-1	NA
191023D2	11	1903420-07	DB	24-OCT-19	09:30:38	ST191023D2-1	NA
191023D2	12	1903420-08	DB	24-OCT-19	10:18:24	ST191023D2-1	NA
191023D2	13	1903420-09	DB	24-OCT-19	11:06:20	ST191023D2-1	NA
191023D2	14	1903420-10	DB	24-OCT-19	11:54:15	ST191023D2-1	NA
191023D2	15	1903420-11	DB	24-OCT-19	12:42:11	ST191023D2-1	NA

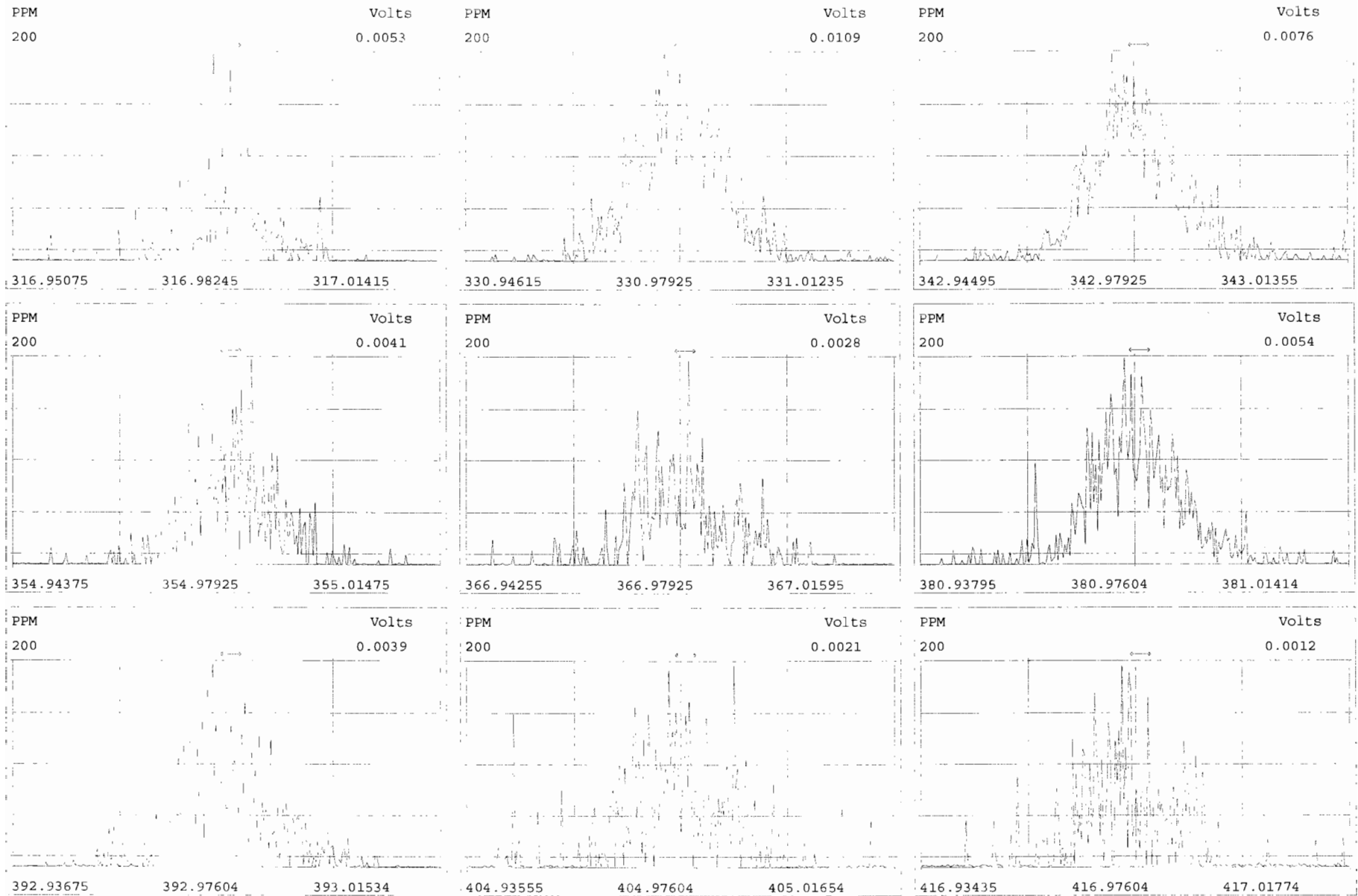
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Experiment:OCDD_DB5 Function:1 Reference:PFK



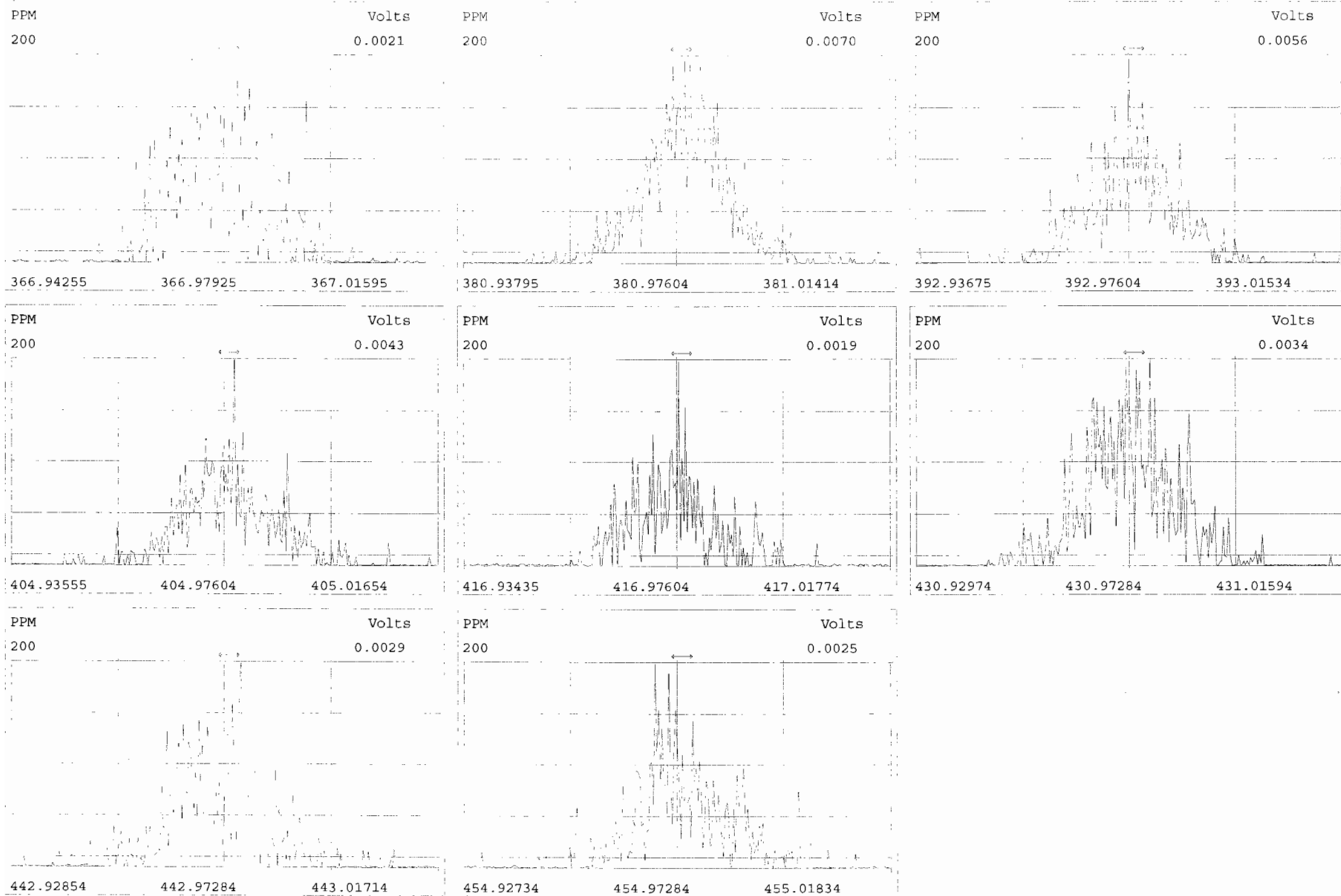
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Experiment:OCDD_DB5 Function:2 Reference:PFK



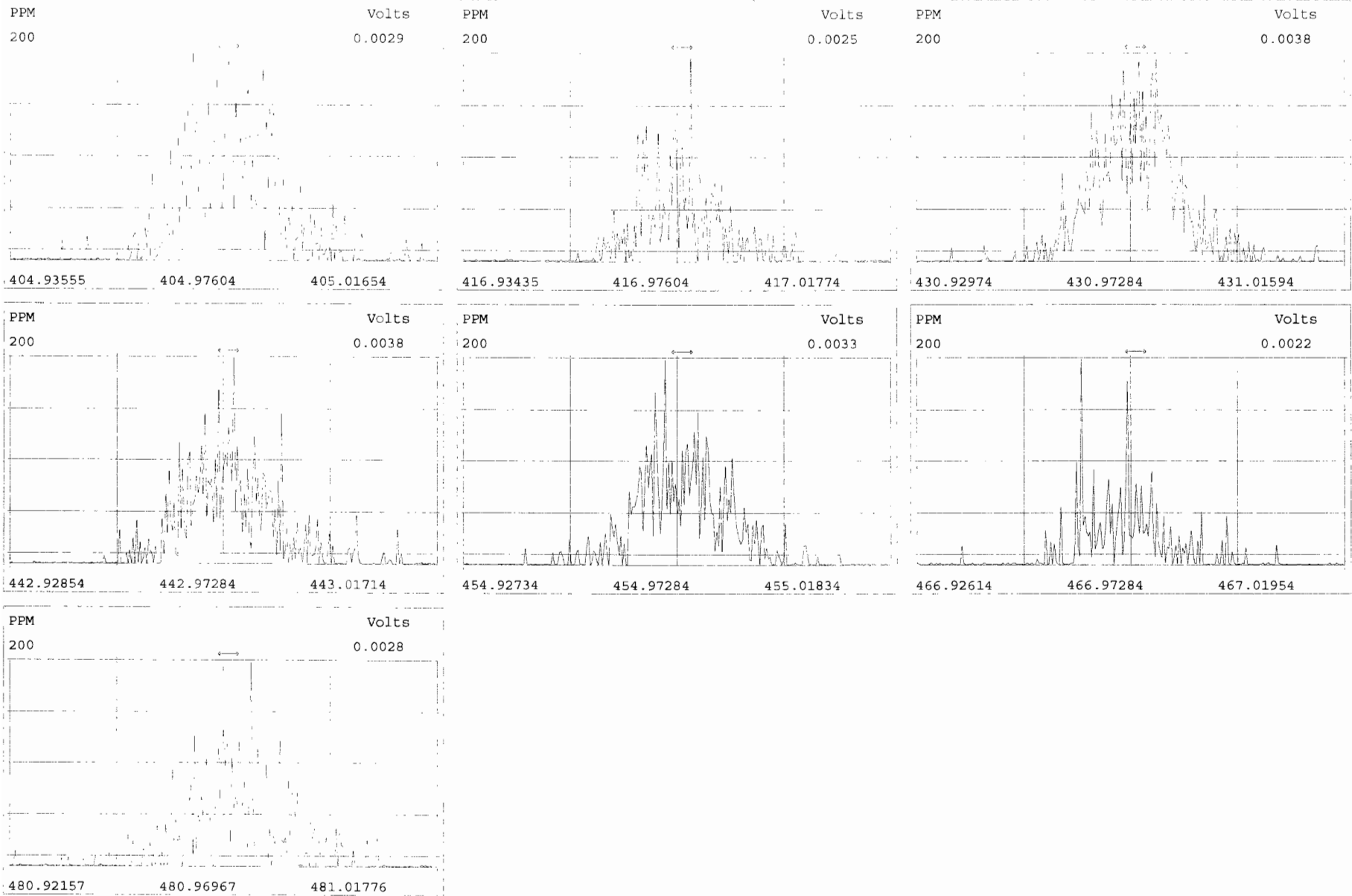
Peak Locate Examination: 24-OCT 2019:01:29 File: RES_CHECK

Experiment: OCDD_DB5 Function: 3 Reference: PFK



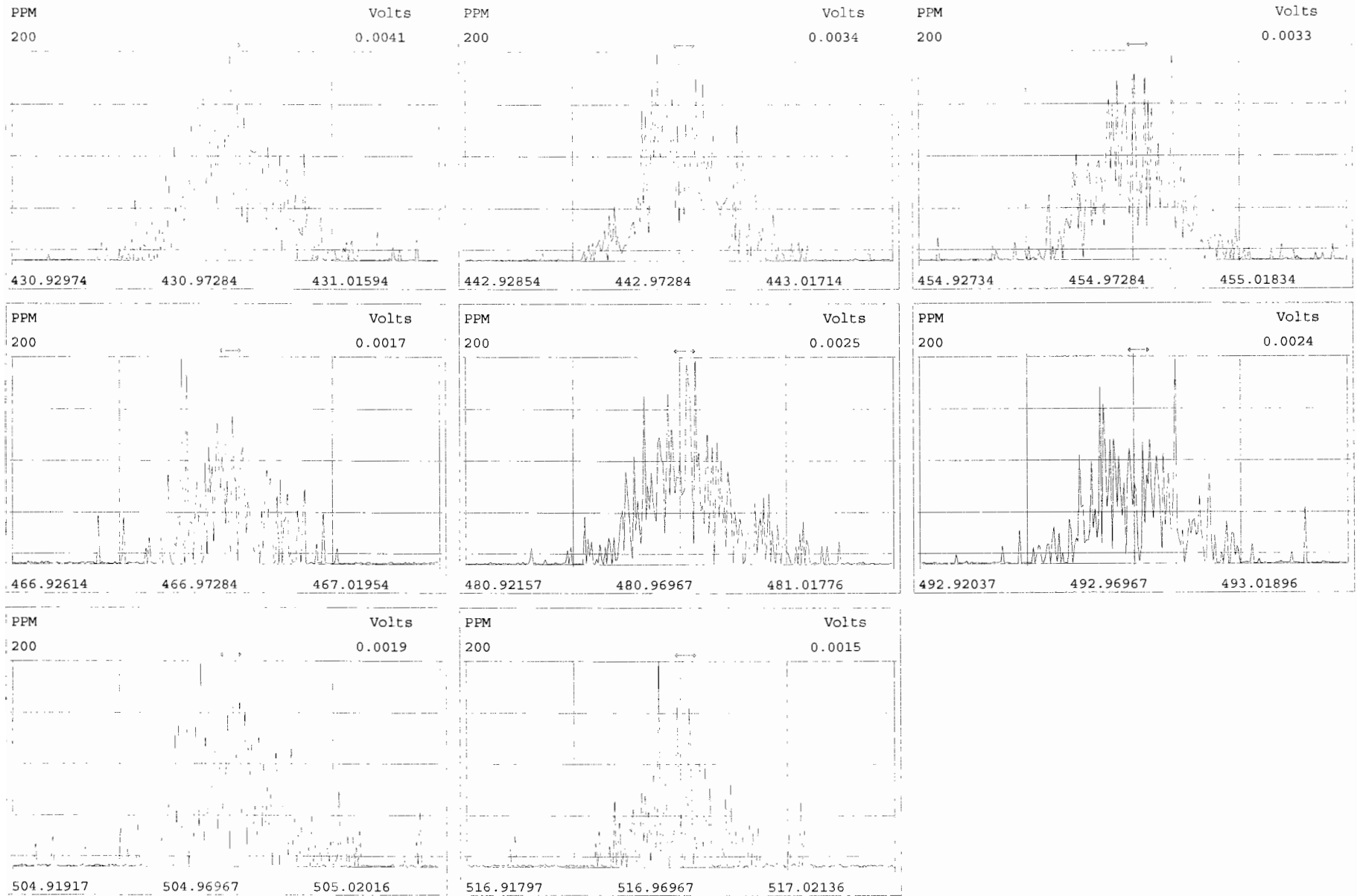
Peak Locate Examination:24-OCT-2019:01:30 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK

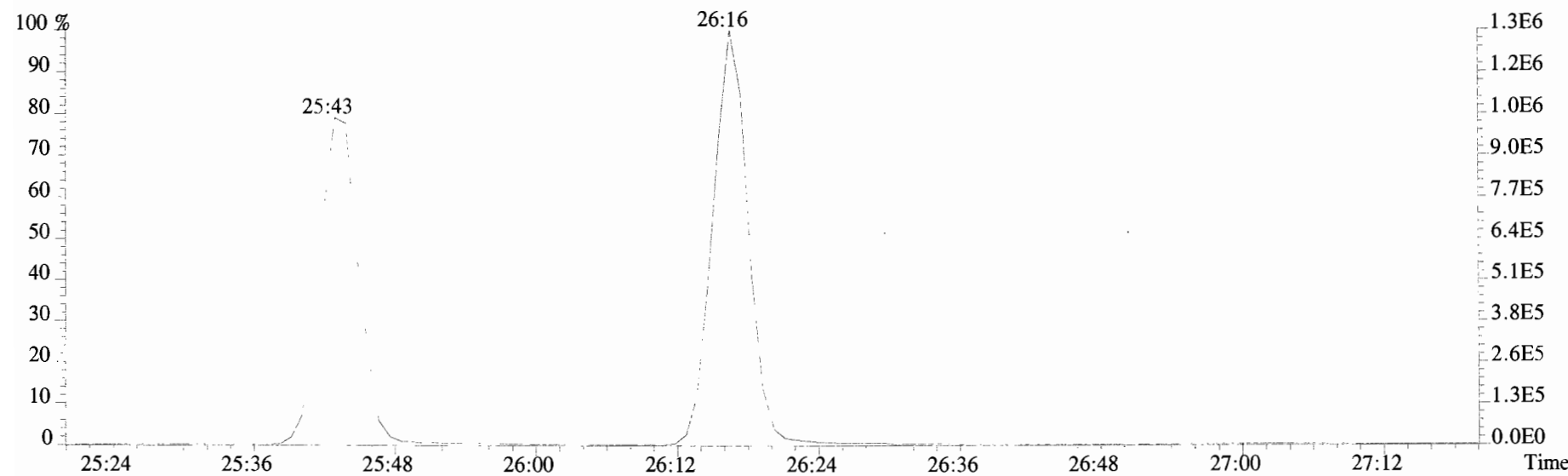
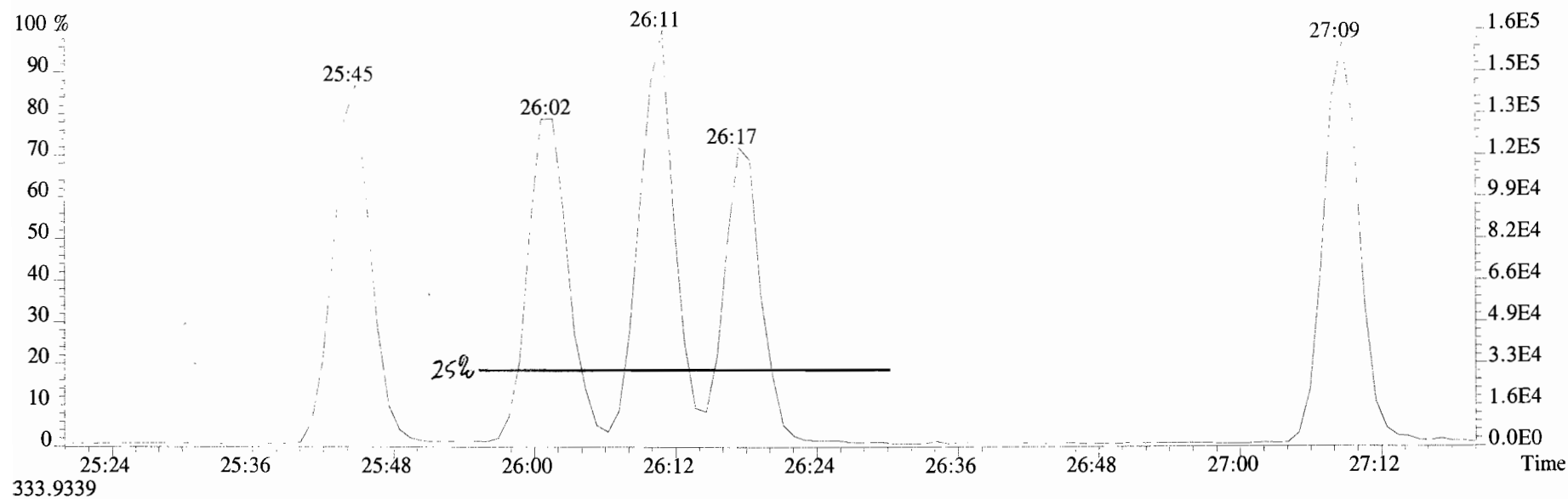


Peak Locate Examination:24-OCT-2019:01:31 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



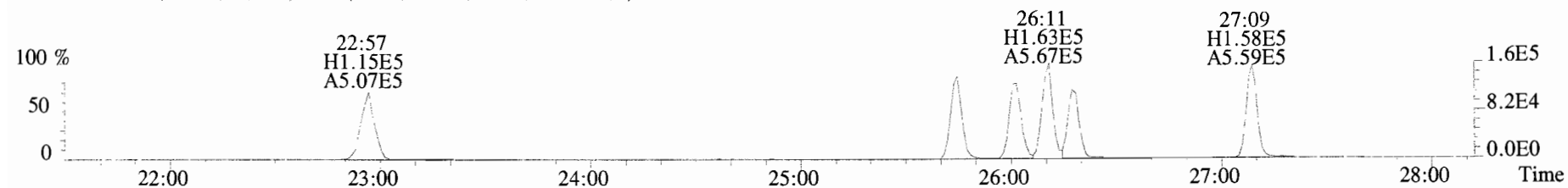
File: 191023D2 #1-493 Acq: 24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista_Analytical_Laboratory_VG7 Text: ST191023D2-1 1613 CS3 19C2204 Exp: OCDD_DB5
321.8936



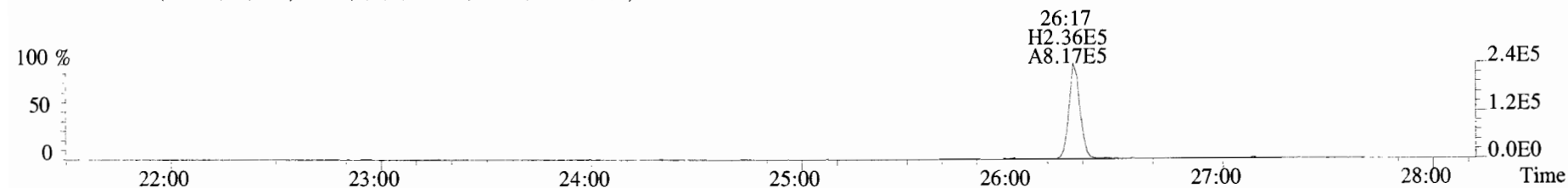
File:191023D2 #1-493 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



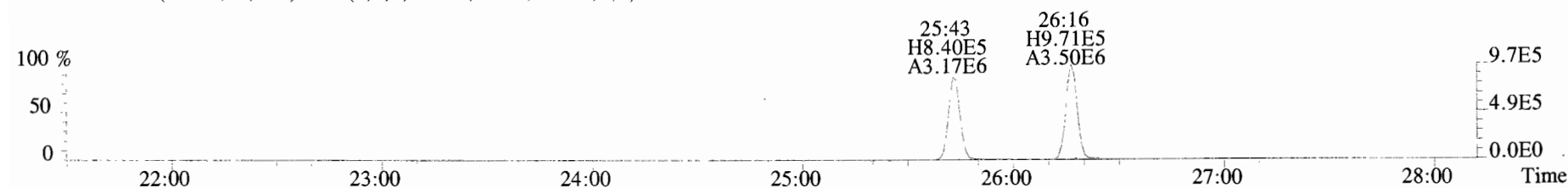
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



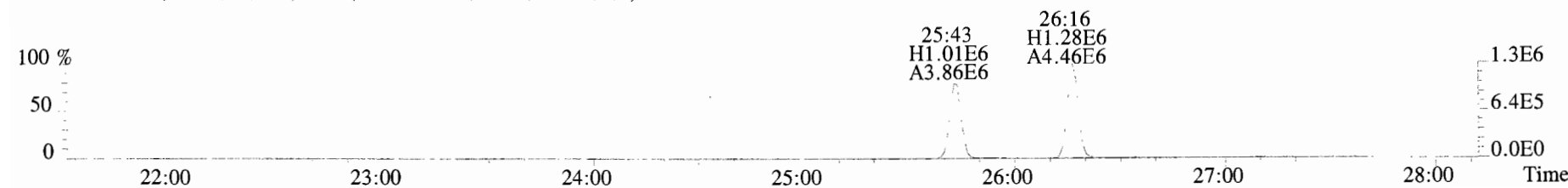
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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)

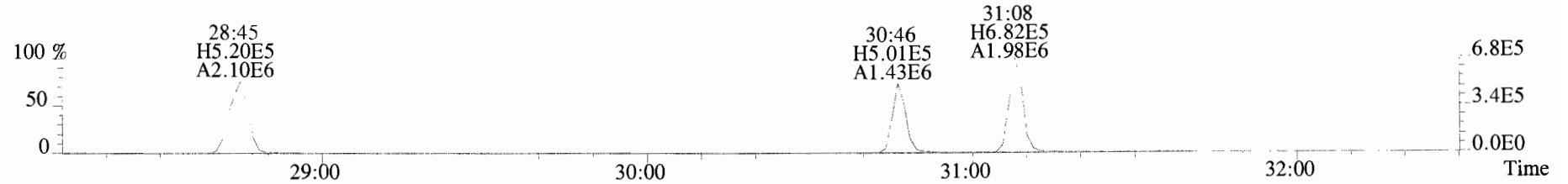


333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

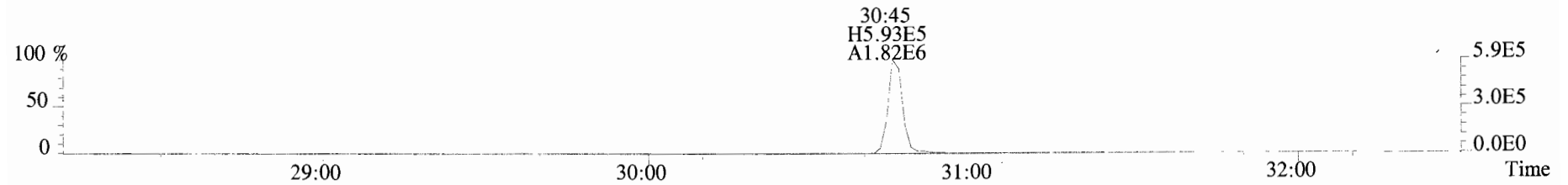
File:191023D2 #1-211 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



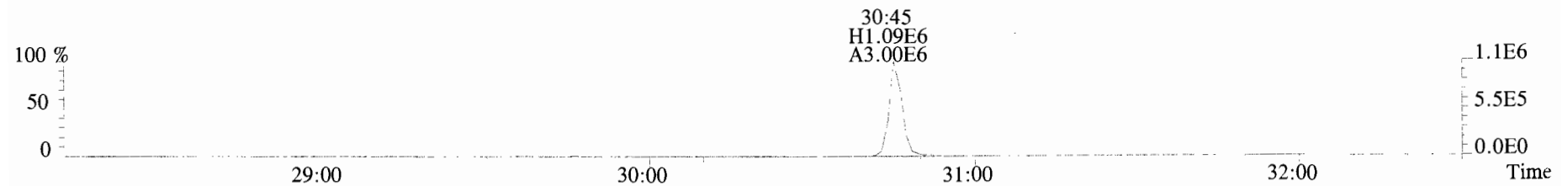
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



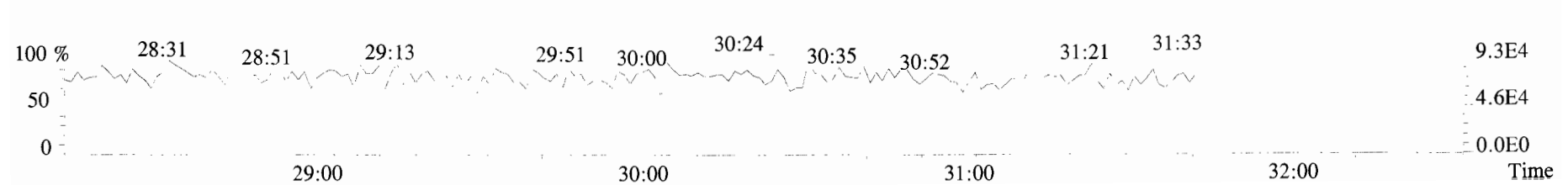
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



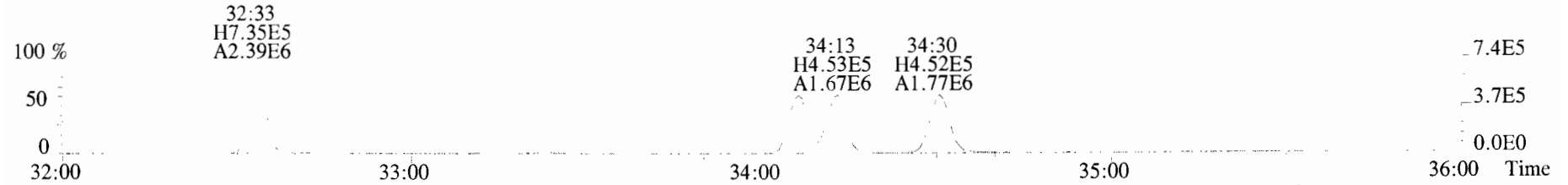
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



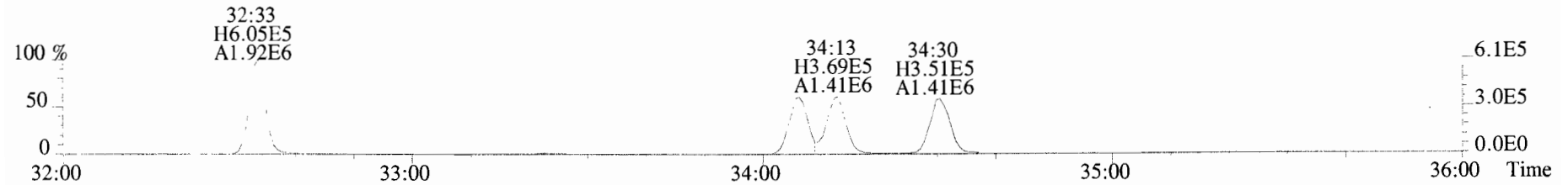
366.9792 F:2



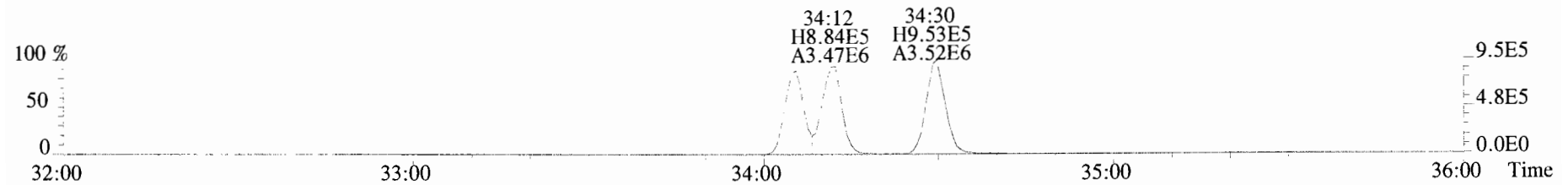
File:191023D2 #1-385 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



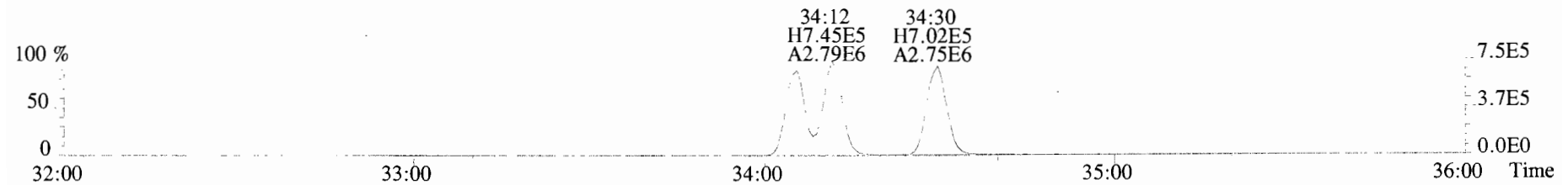
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



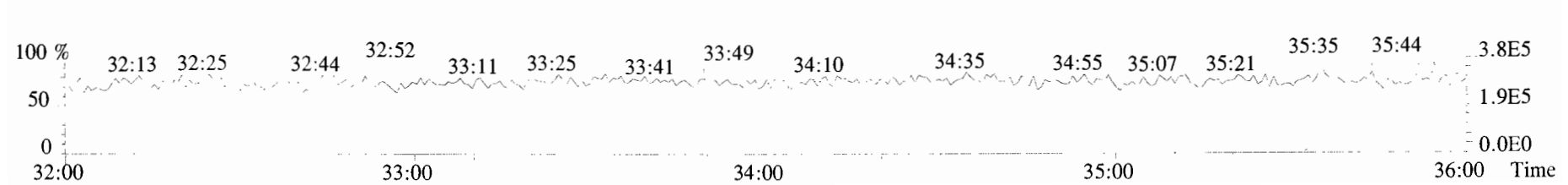
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



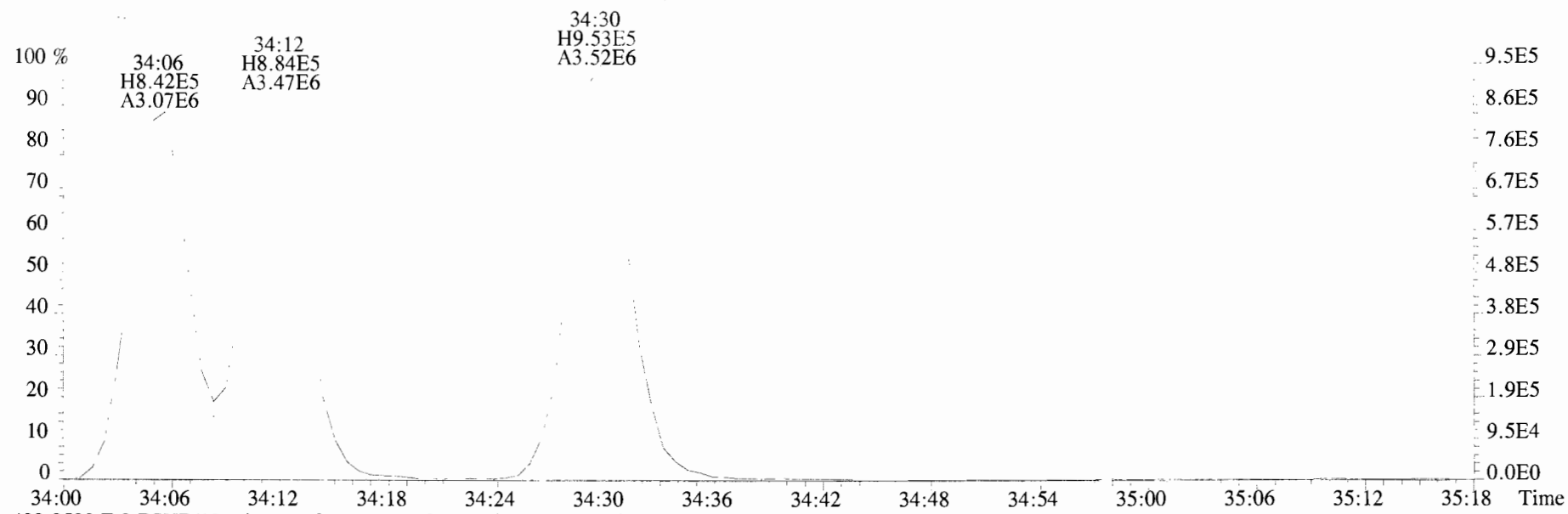
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



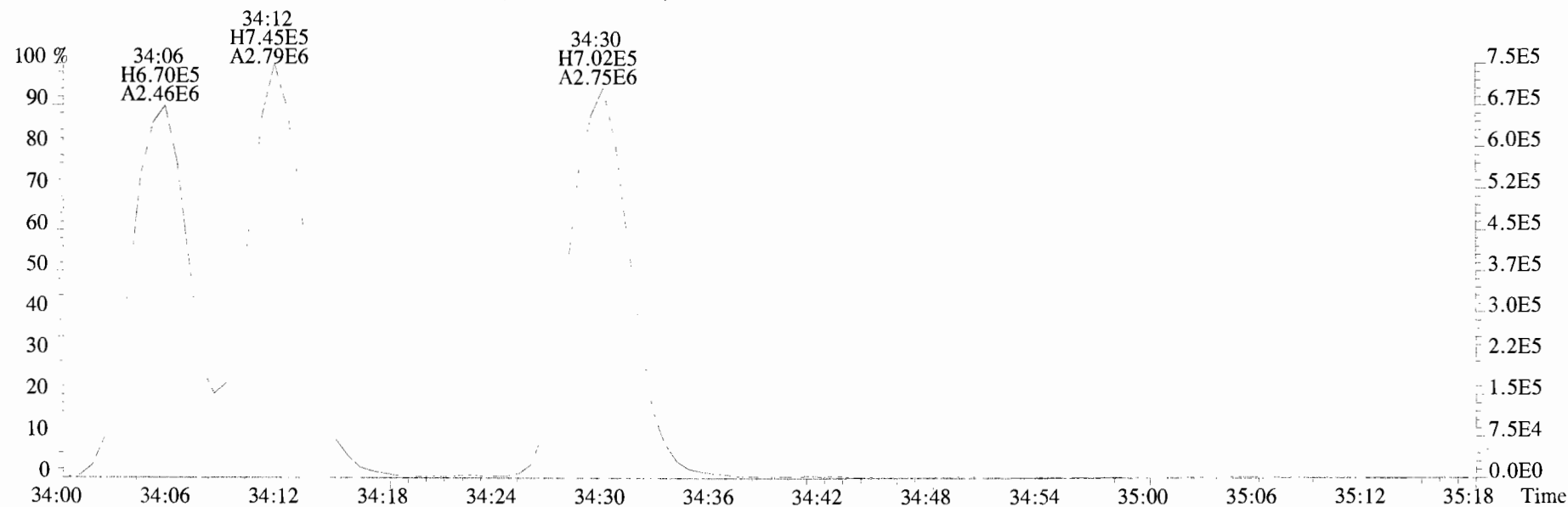
392.9760 F:3



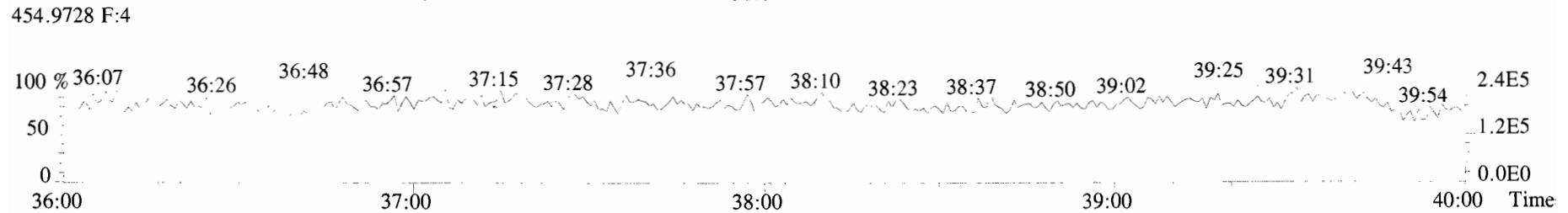
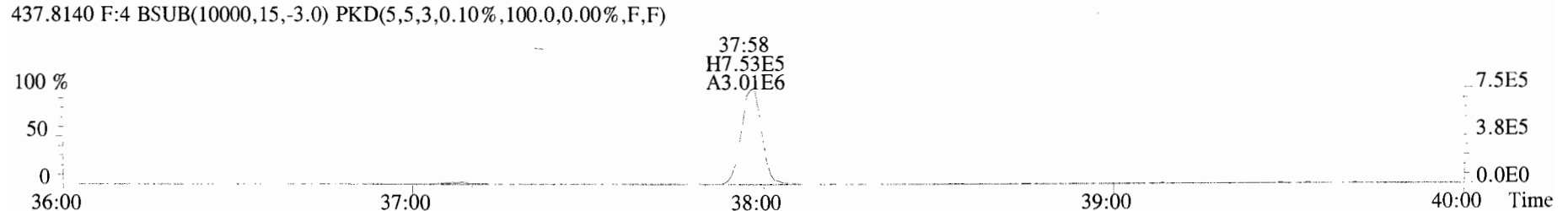
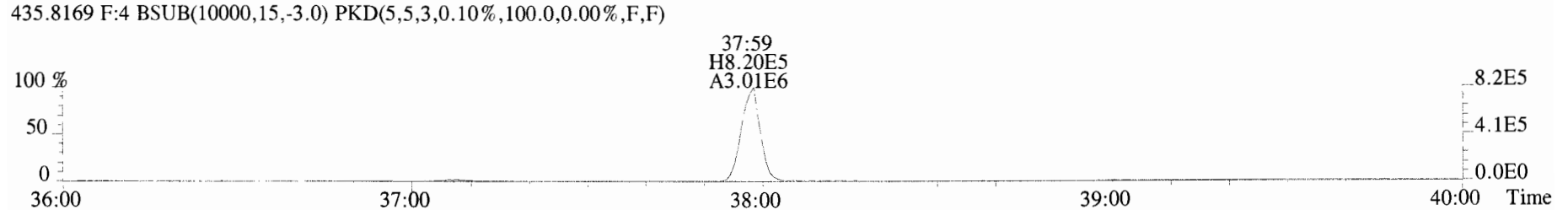
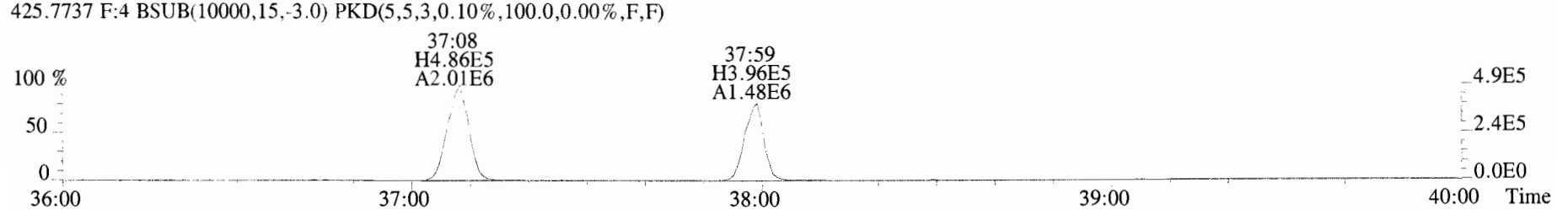
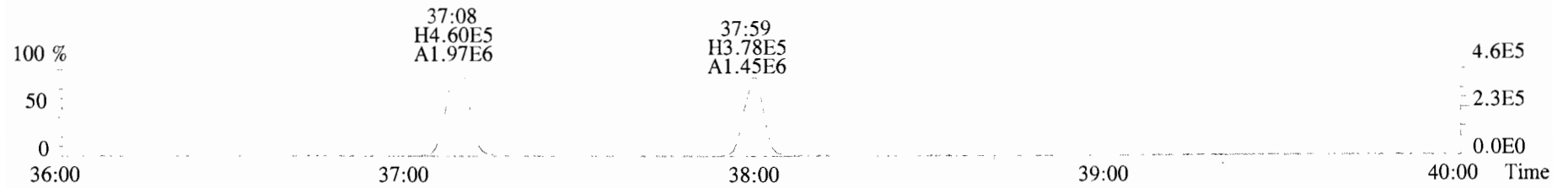
File:191023D2 #1-385 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



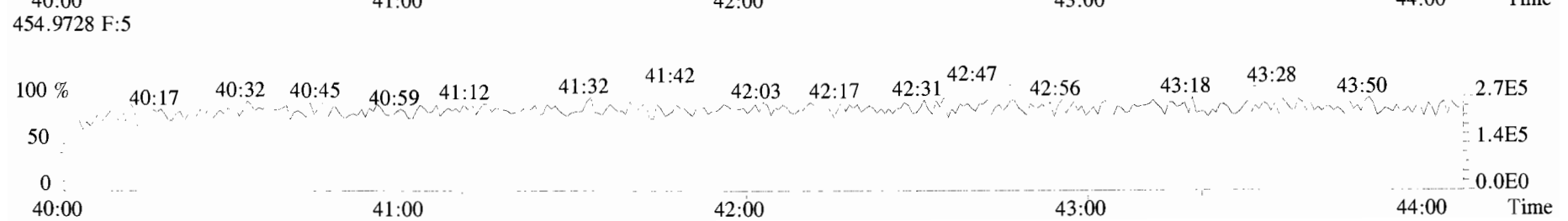
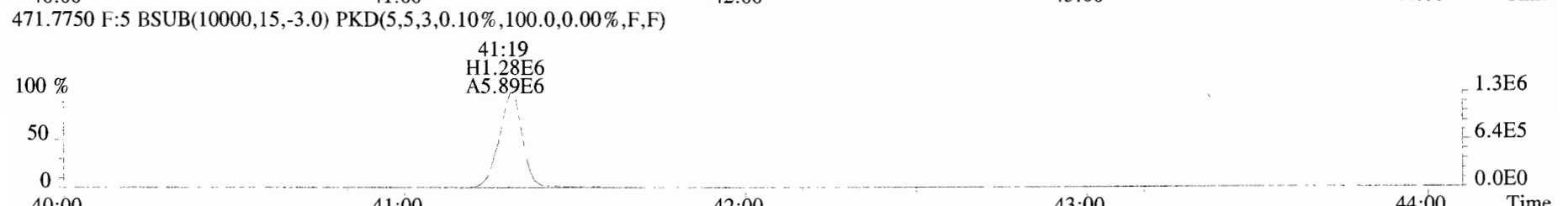
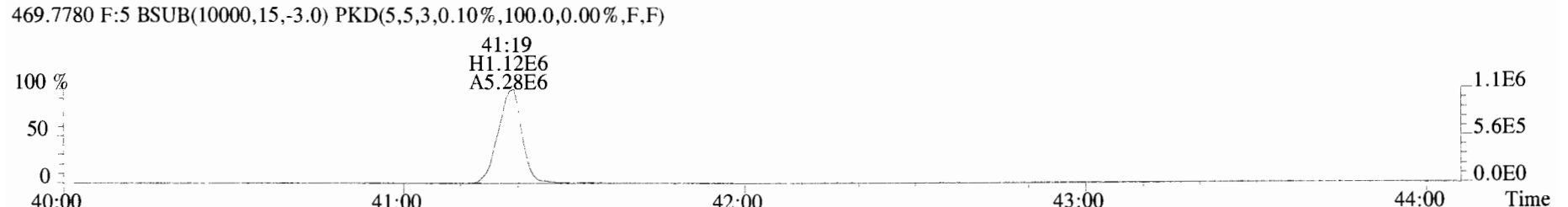
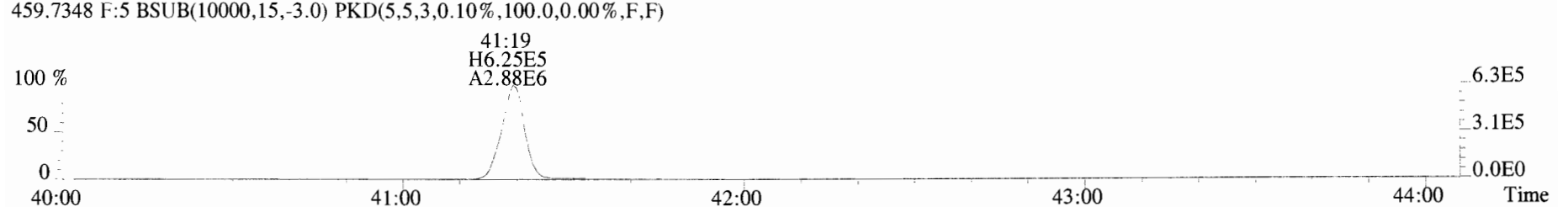
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



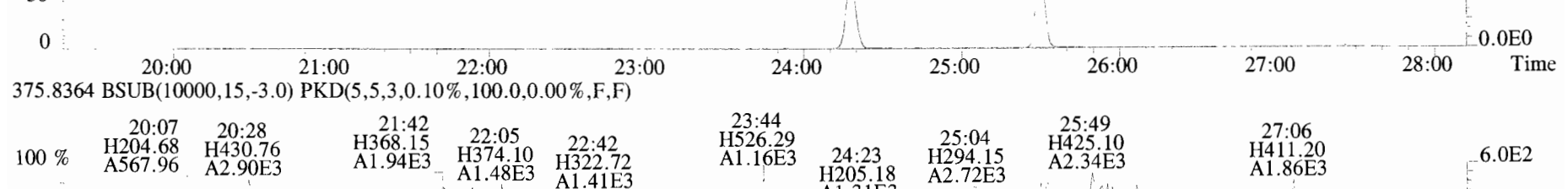
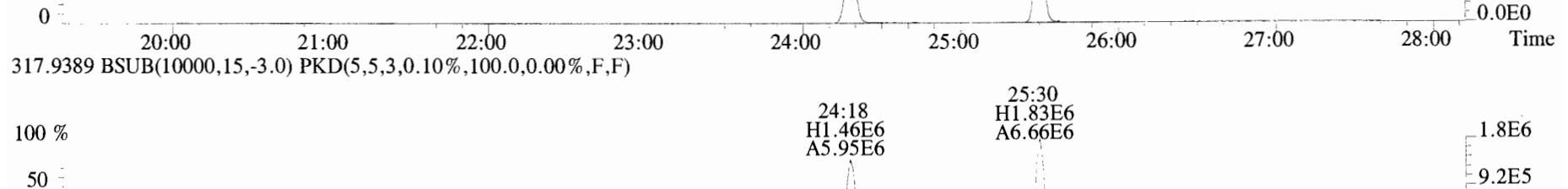
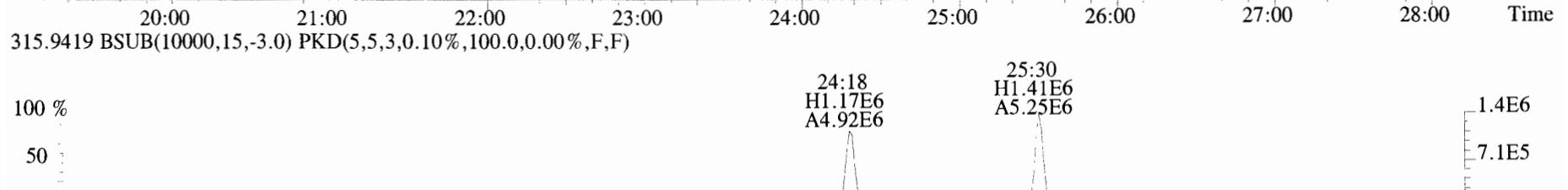
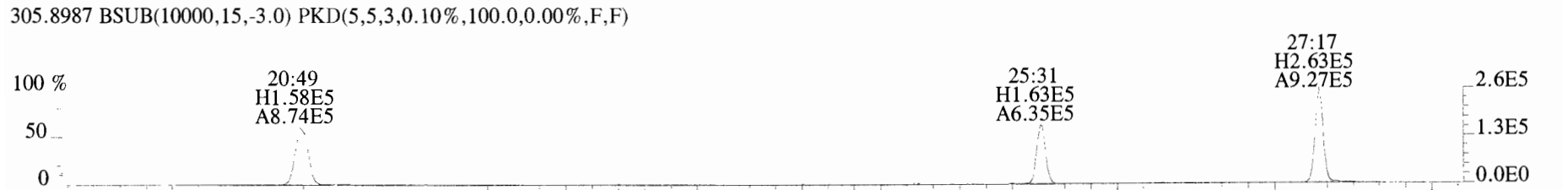
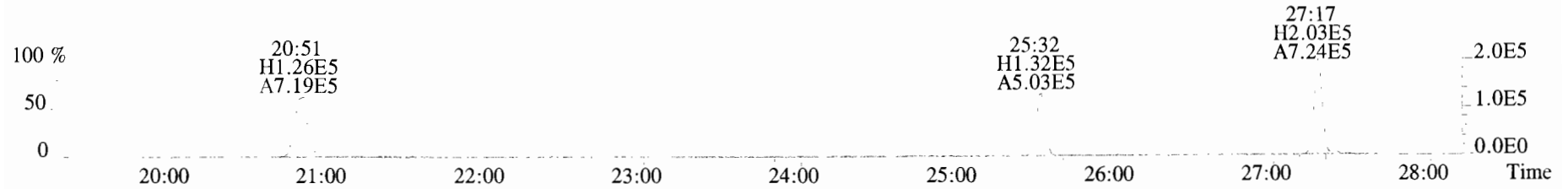
File:191023D2 #1-355 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



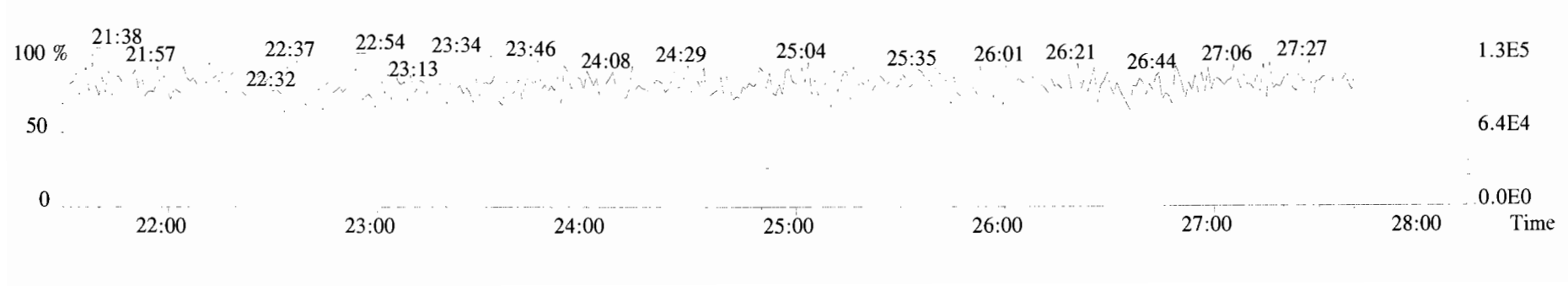
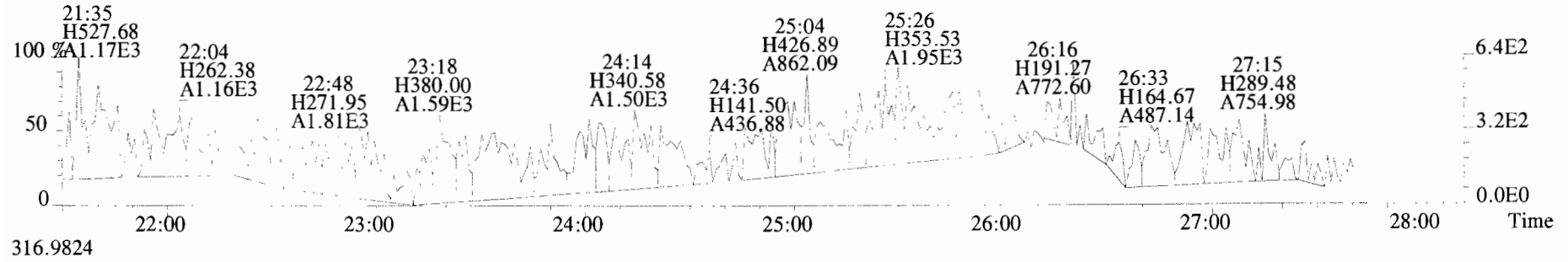
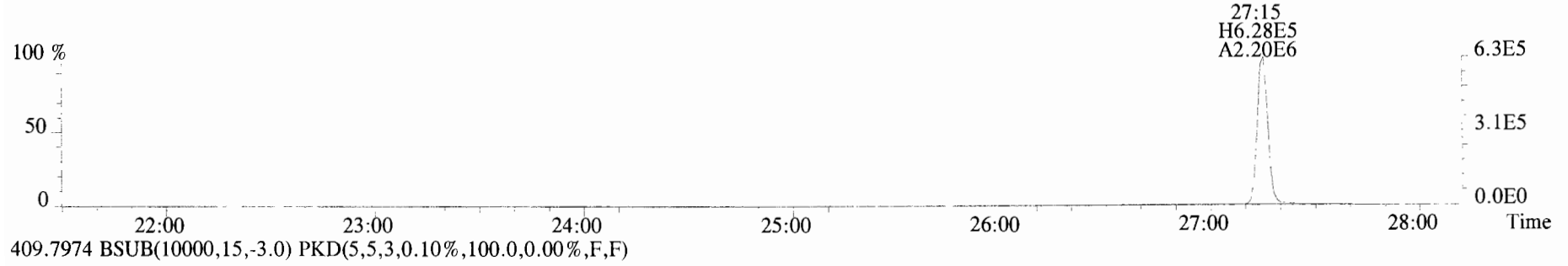
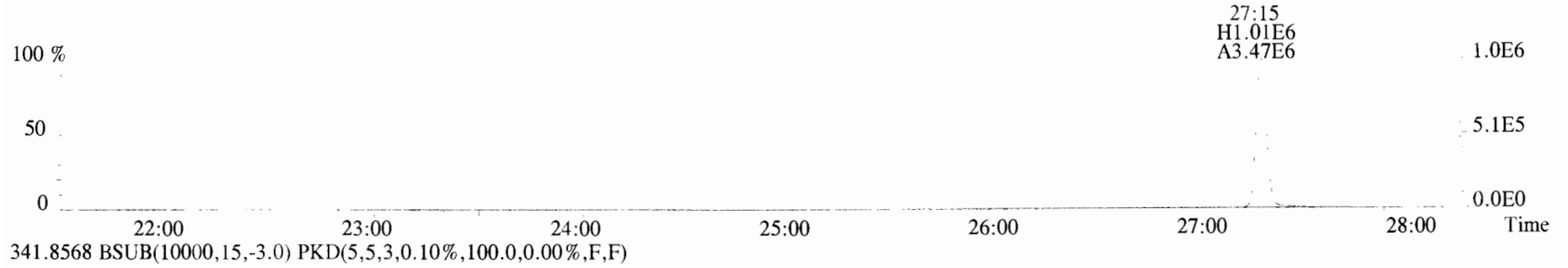
File:191023D2 #1-432 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



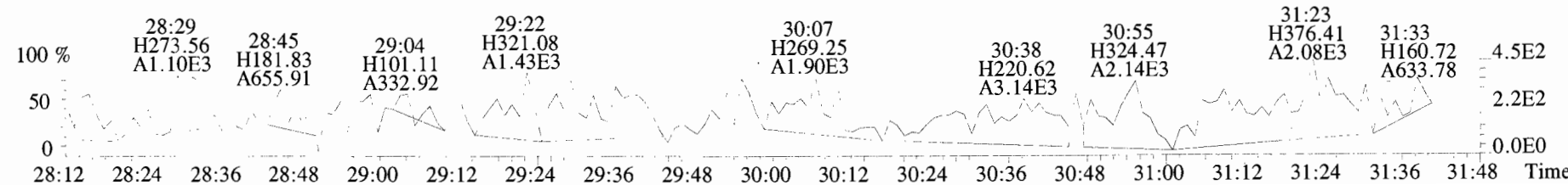
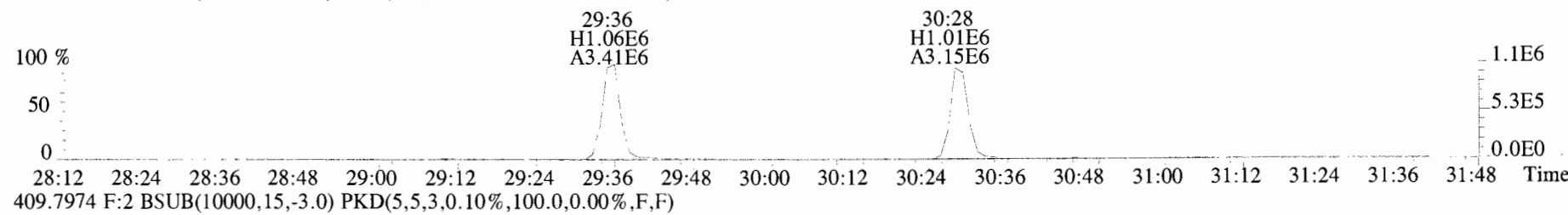
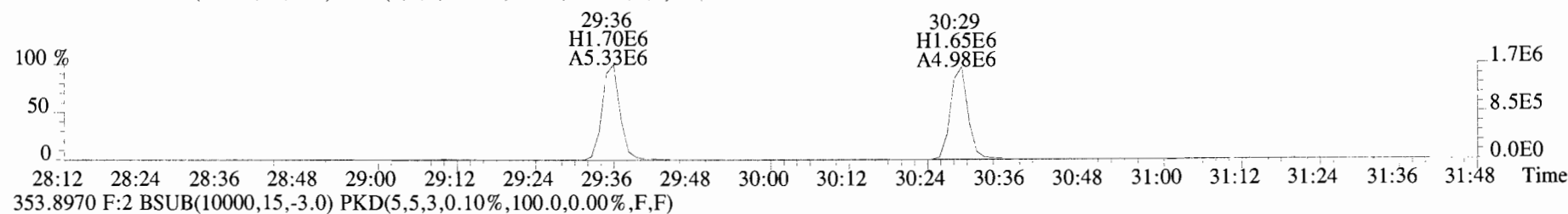
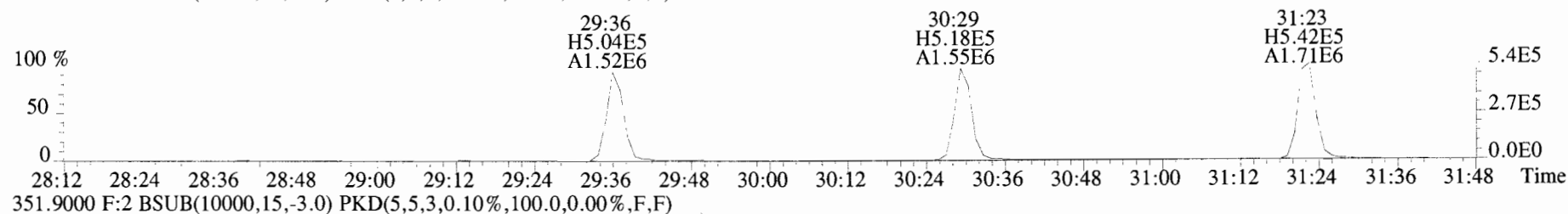
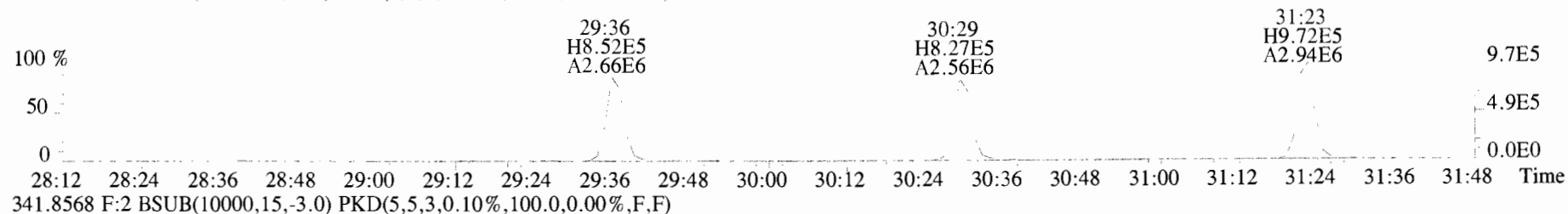
File:191023D2 #1-493 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



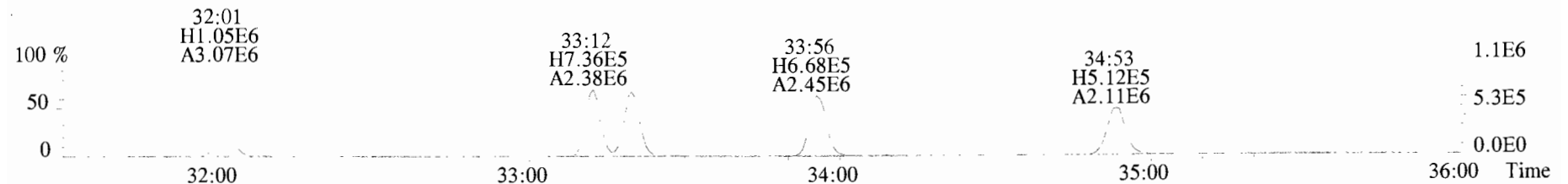
File:191023D2 #1-493 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



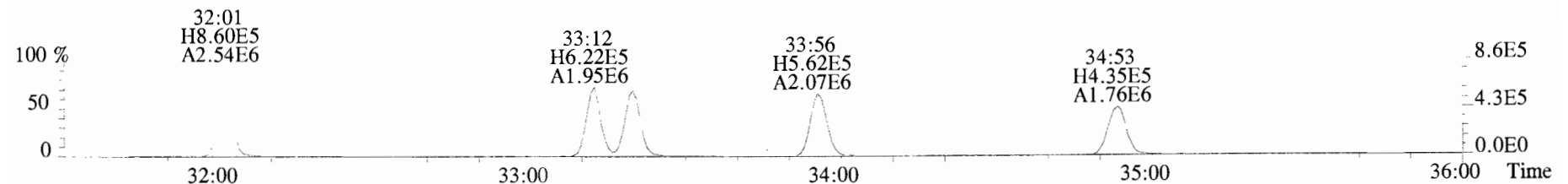
File:191023D2 #1-211 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



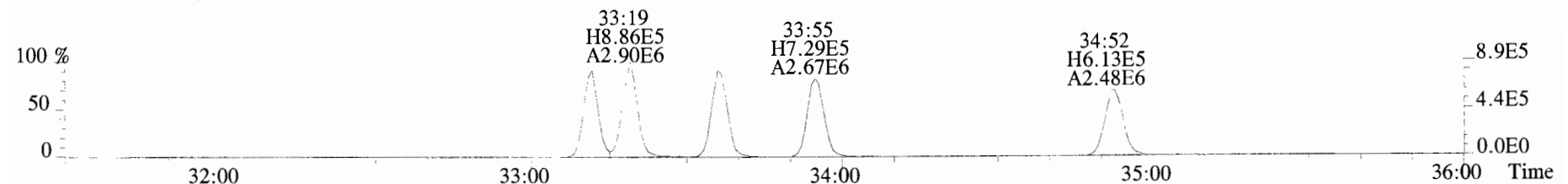
File:191023D2 #1-385 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



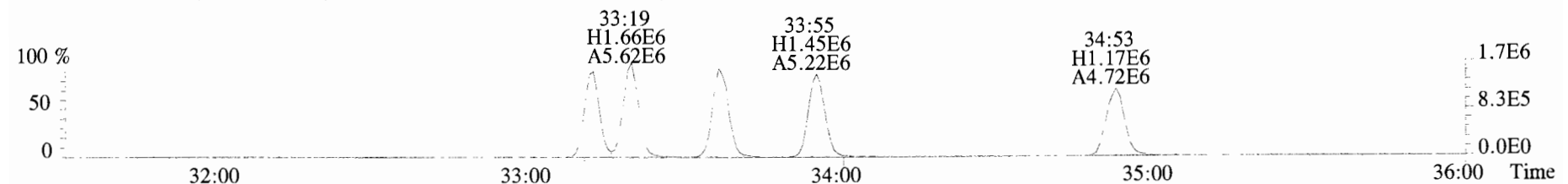
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



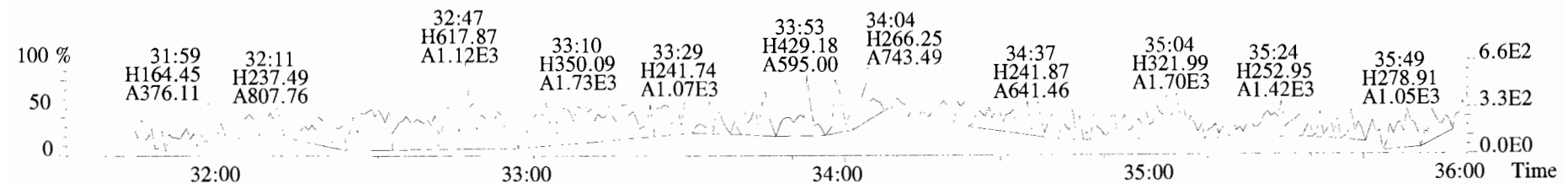
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



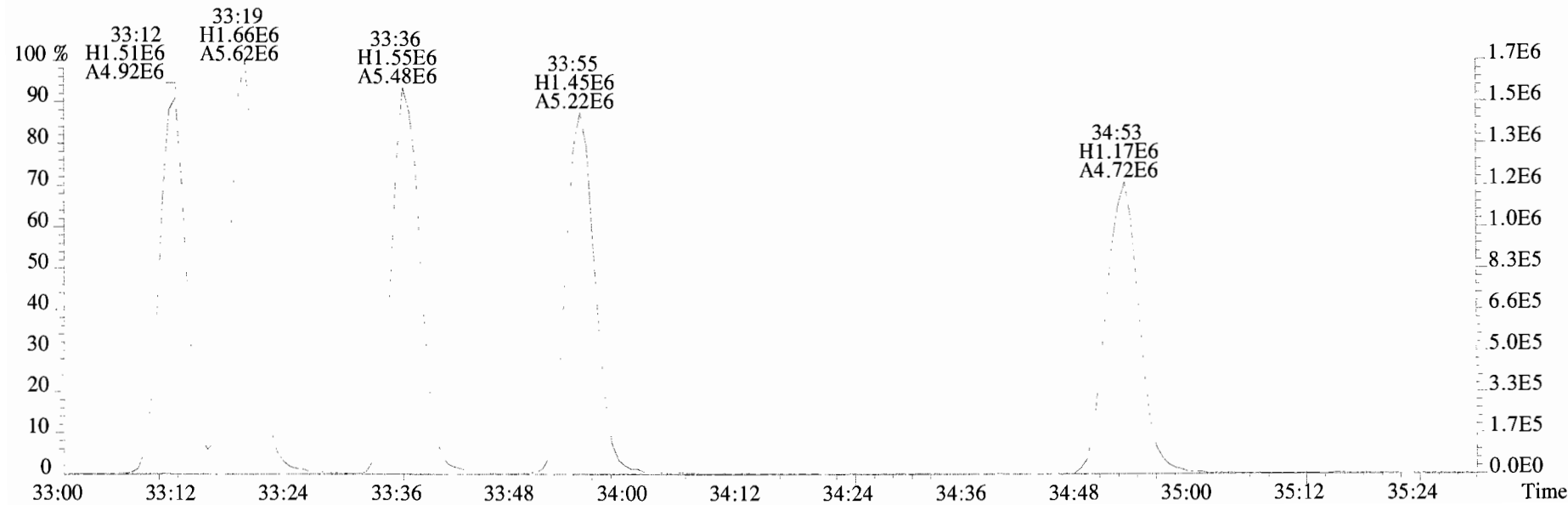
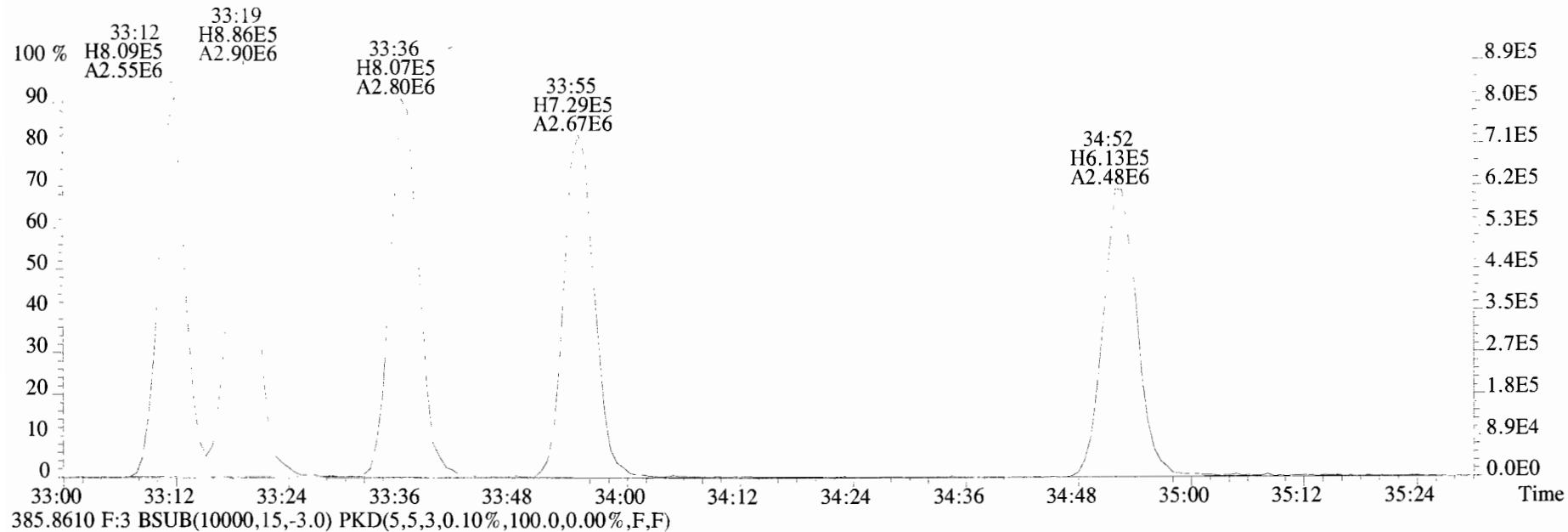
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



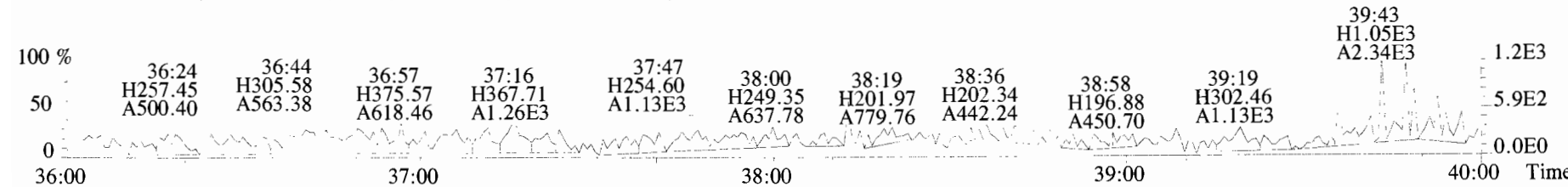
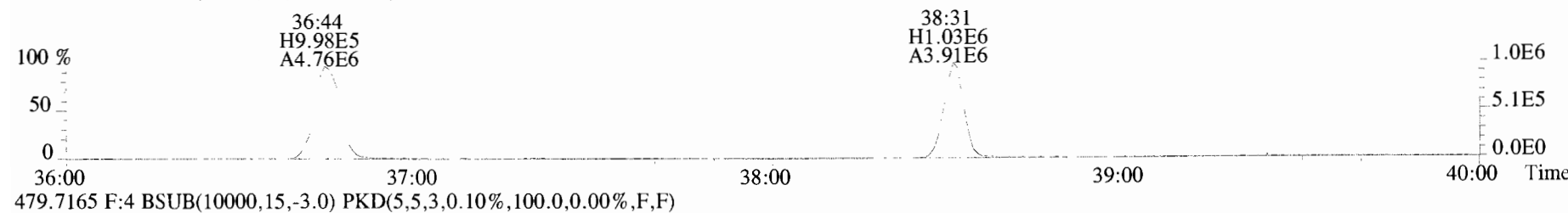
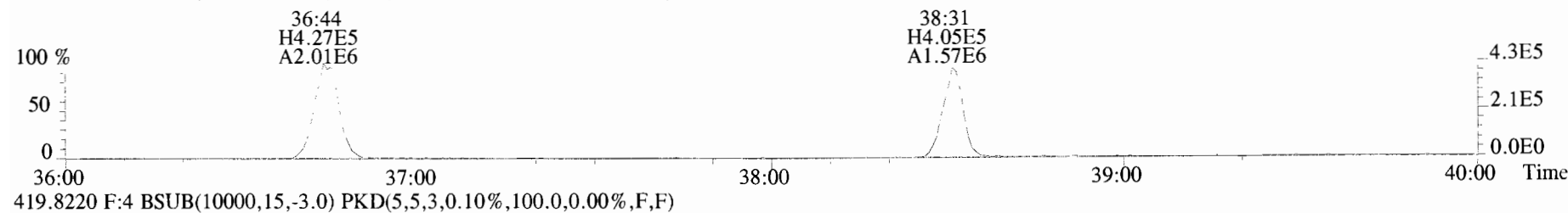
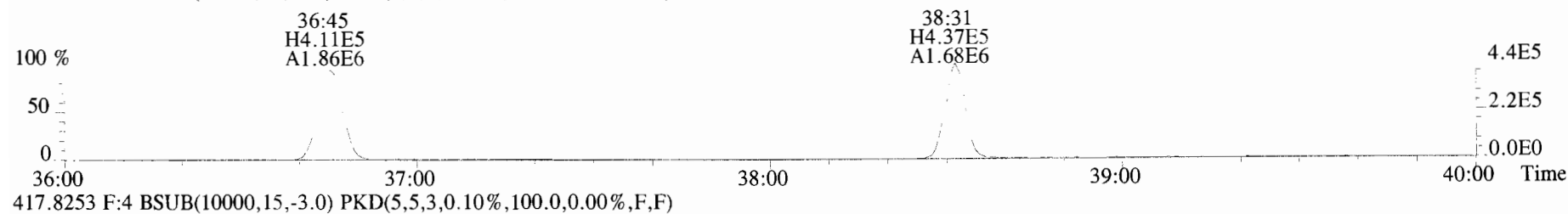
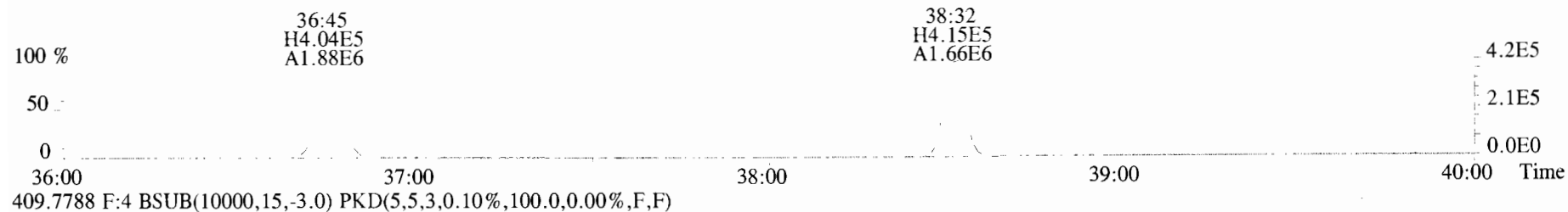
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



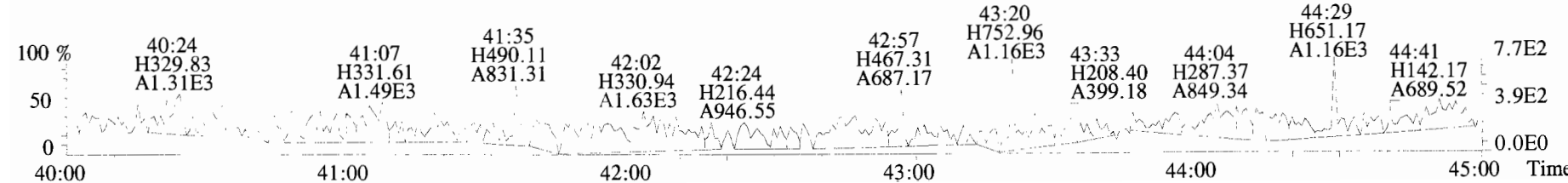
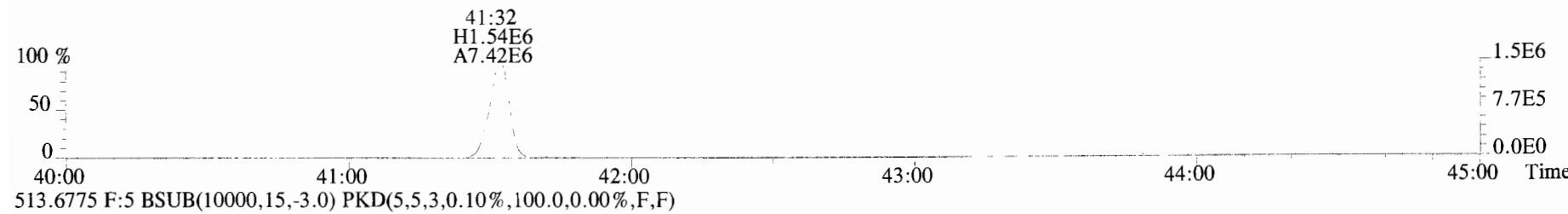
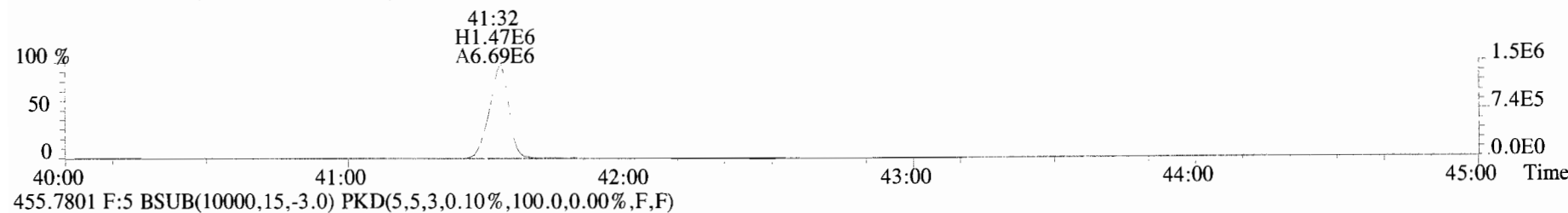
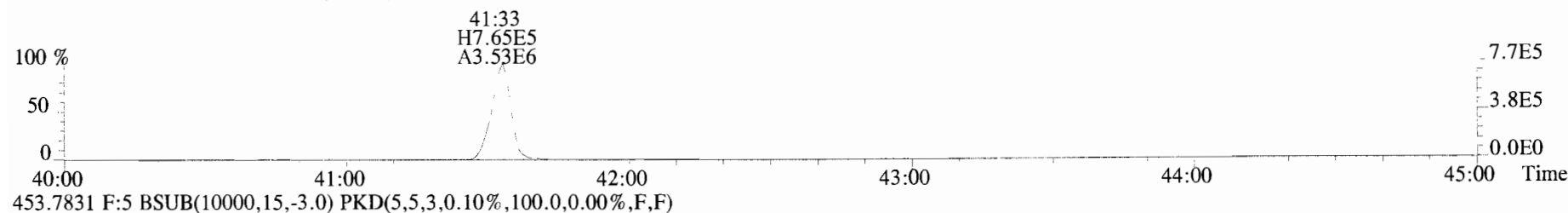
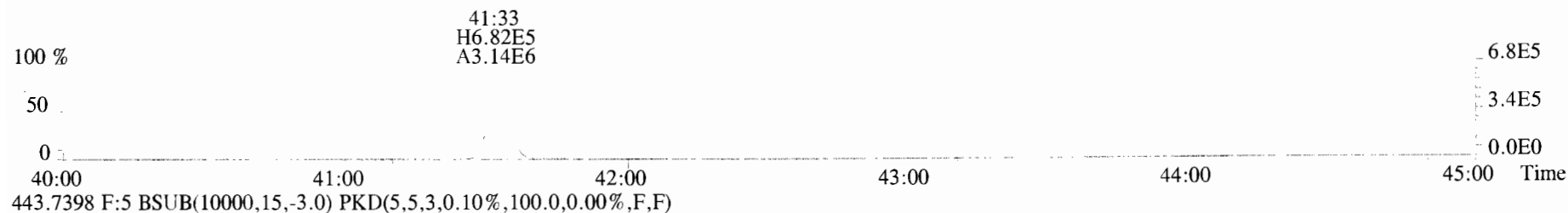
File:191023D2 #1-385 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5.5,3,0.10%,100.0,0.00%,F,F)

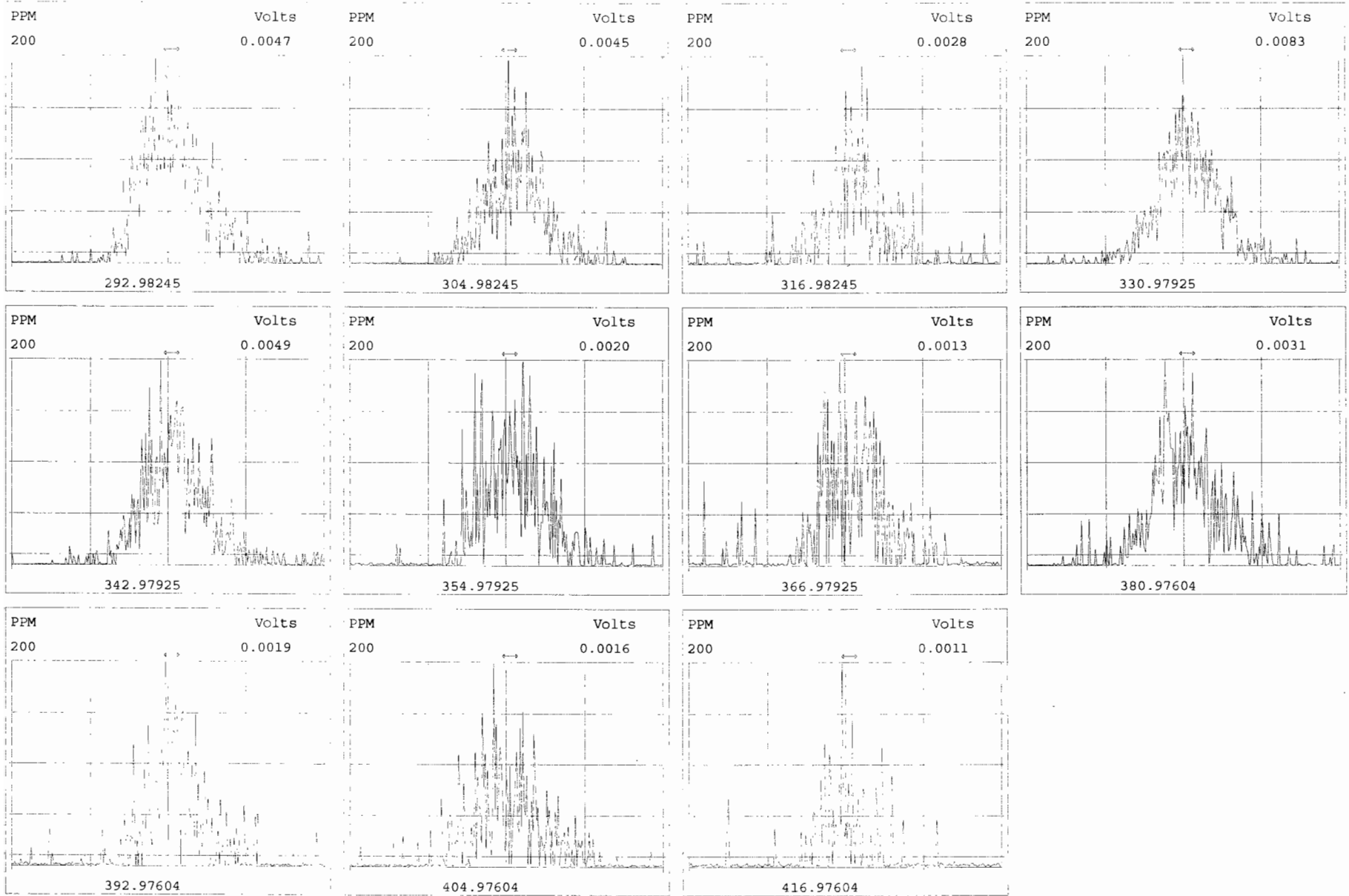


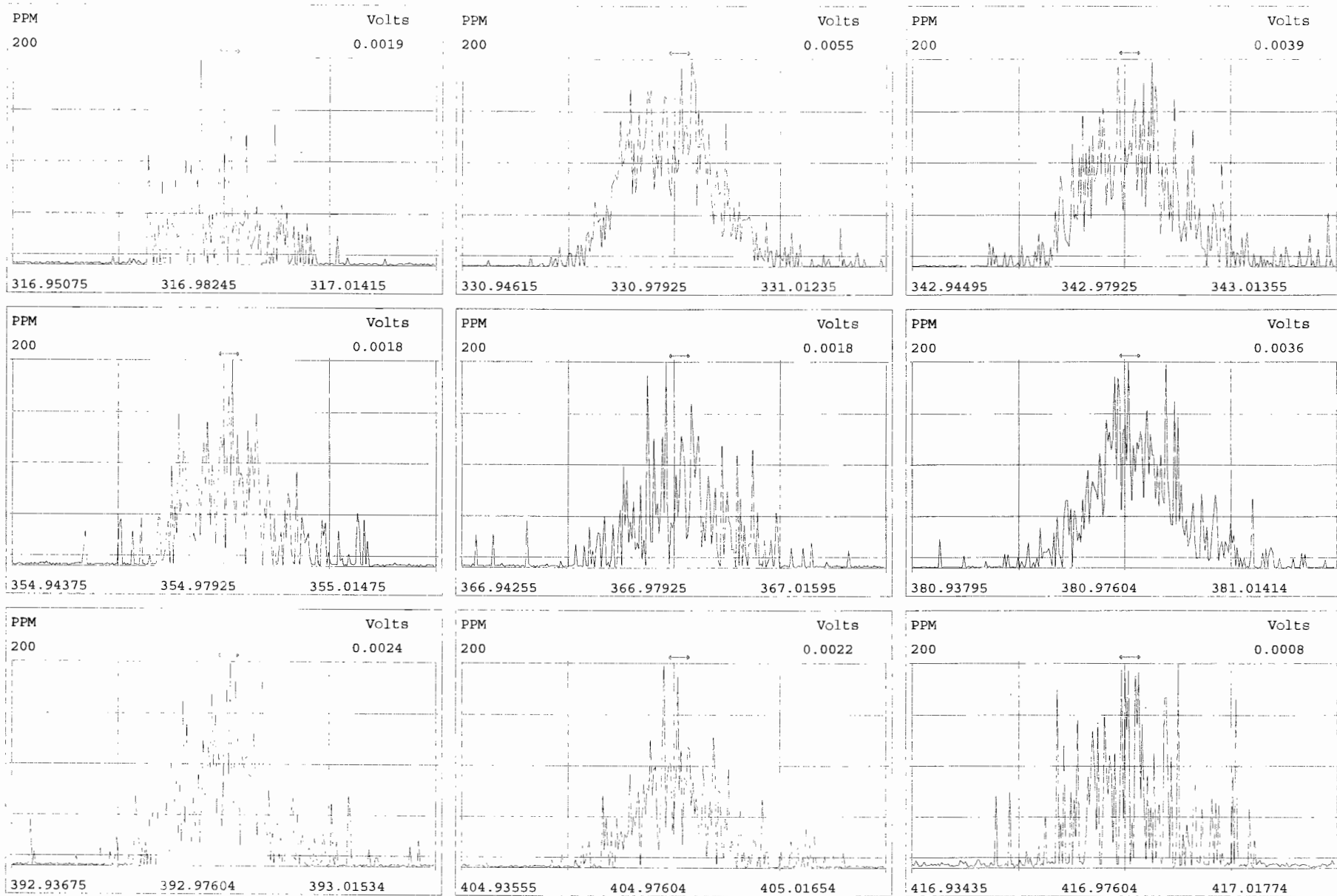
File:191023D2 #1-355 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

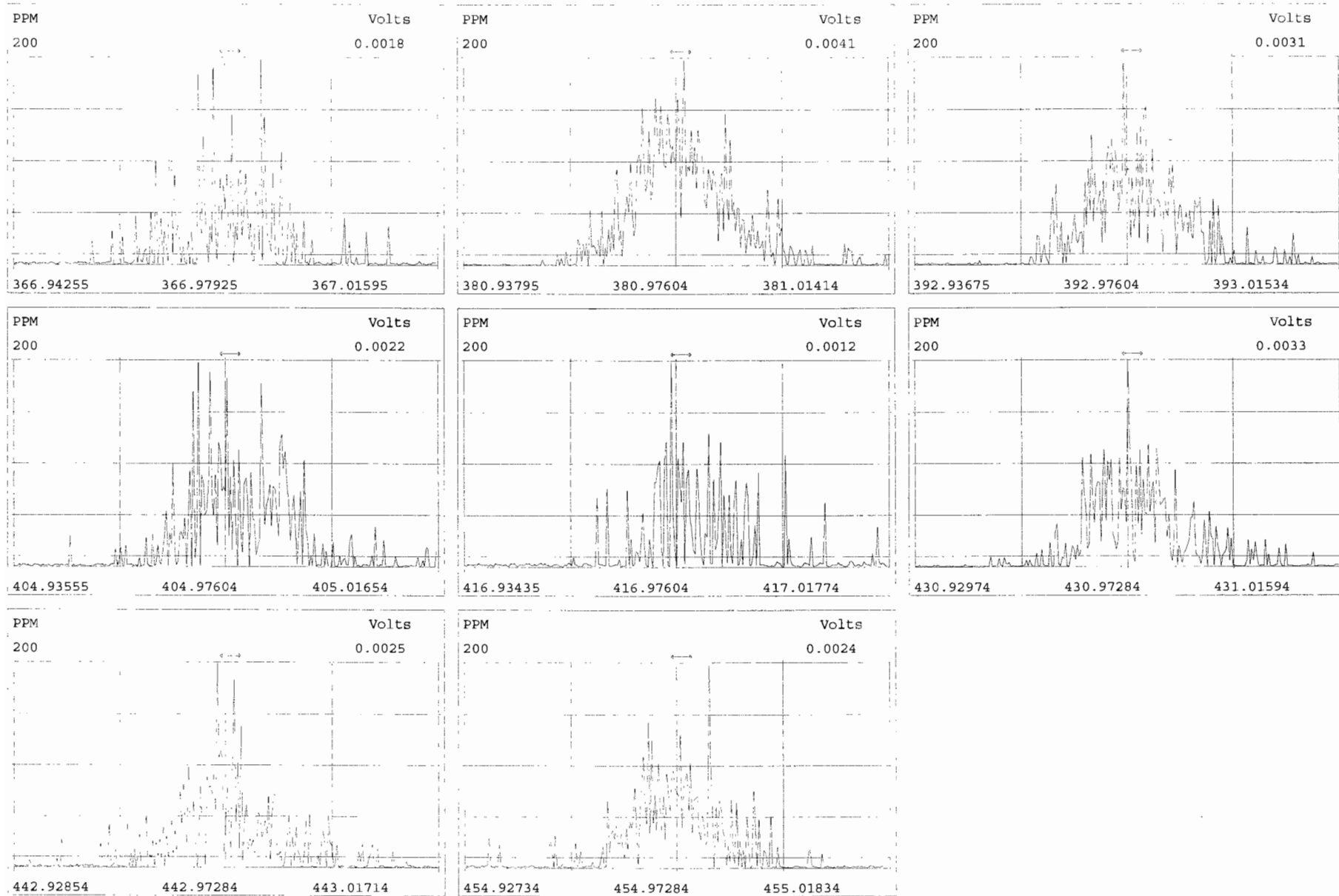


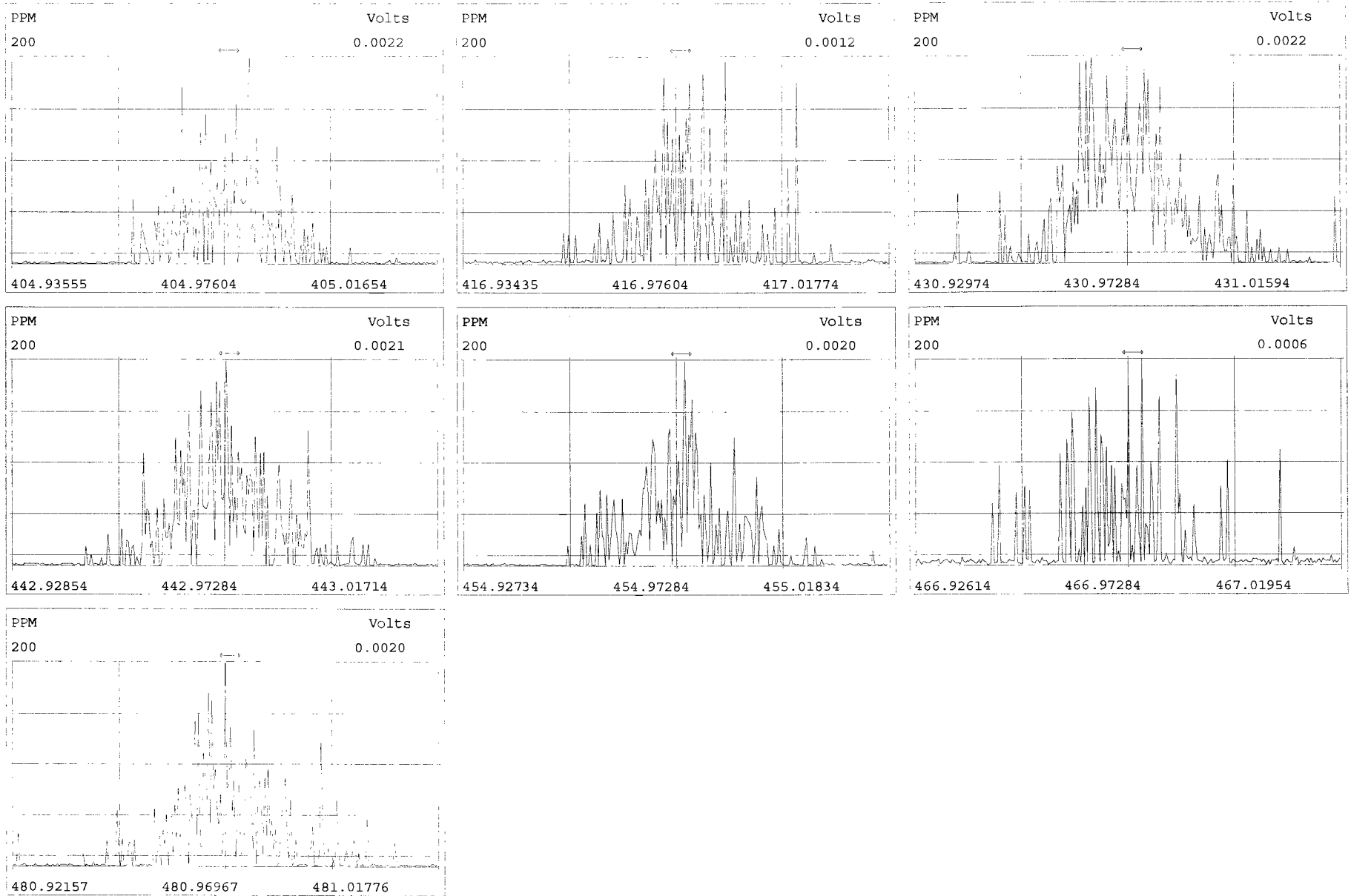
File:191023D2 #1-432 Acq:24-OCT-2019 01:32:26 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191023D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

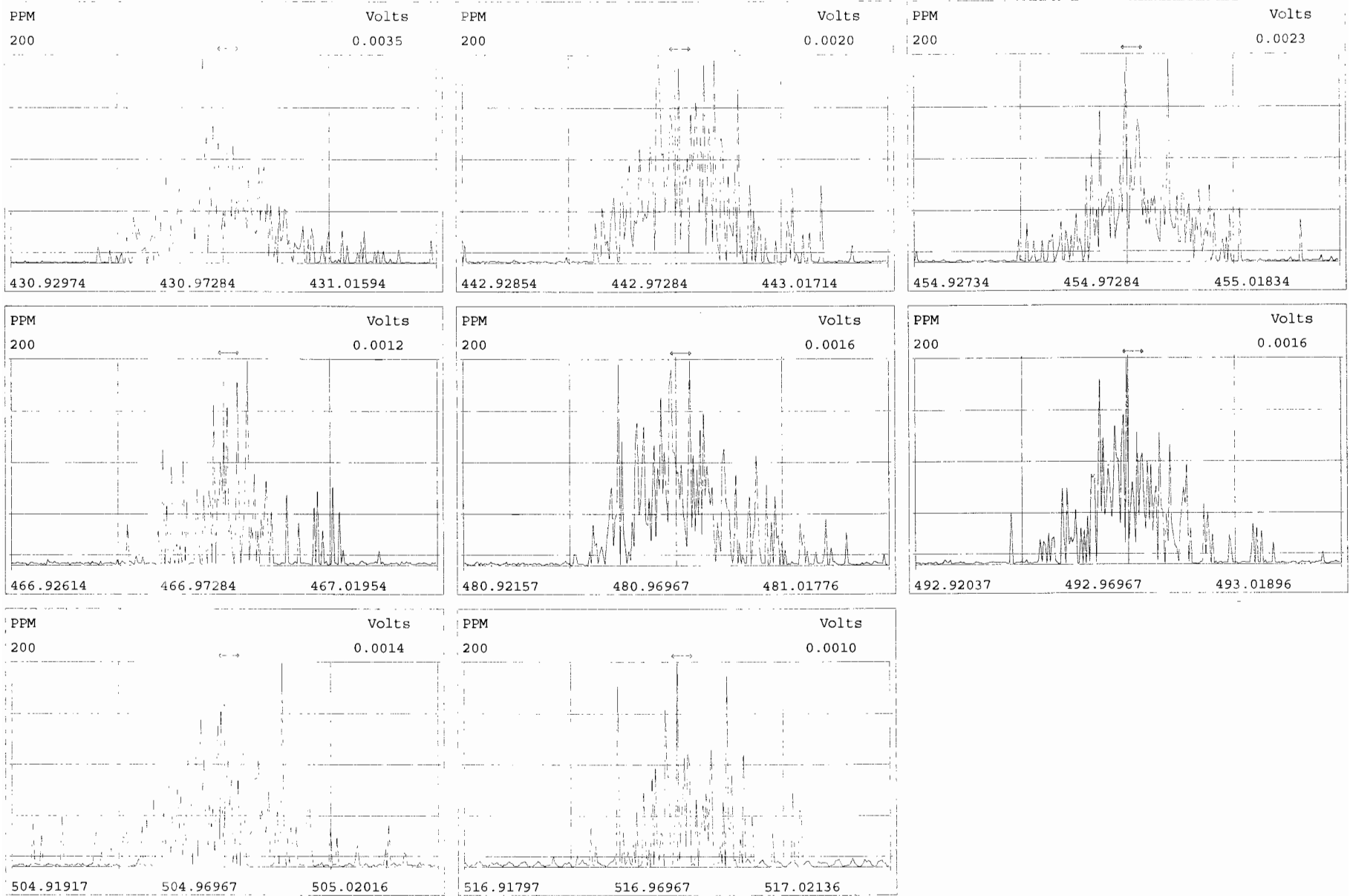












HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST(91024)1-1

Reviewed By: OT 10/29/19
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>DB</u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/> VP
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> Y	<input type="checkbox"/> N
- Bottle position verified?	<u>DB</u>	<u>DB</u>

	<u>Beg.</u>	<u>End</u>
Mass resolution \geq	<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		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
<u>8280 CS1 End Standard:</u>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST191024D1-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

NATIVE ANALYTES	M/Z'S	ION	QC	Pass	CONC.	CONC.
	FORMING	ABUND.	LIMITS		FOUND	RANGE (3)
	RATIO (1)	RATIO	(2)			(ng/mL)
2,3,7,8-TCDD	M/M+2	0.84	0.65-0.89	y	11.4	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	54.8	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	51.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	54.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.20	1.05-1.43	y	52.8	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	49.8	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	103	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.77	0.65-0.89	y	10.1	8.4 - 12.0
						8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	52.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	52.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	50.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	51.4	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	52.0	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.25	1.05-1.43	y	50.5	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.02	0.88-1.20	y	49.9	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.01	0.88-1.20	y	48.5	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	101	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: 10/24/19

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: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

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	0.77	0.65-0.89	y	102	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	106	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	102	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	87.5	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	96.0	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	105	72.0 - 138.0
13C-OCDD	M/M+2	0.88	0.76-1.02	y	211	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.79	0.65-0.89	y	101	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	y	99.9	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	101	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	104	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	97.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.8	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	106	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.45	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	0.89	0.76-1.02	y	216	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					10.2	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: 10/24/19

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: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

ZB-5MS IS Data Filename: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

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)	22:54	1,3,6,8-TCDF (F)	20:46
1,2,8,9-TCDD (L)	27:07	1,2,8,9-TCDF (L)	27:15
1,2,4,7,9-PeCDD (F)	28:43	1,3,4,6,8-PeCDF (F)	27:13
1,2,3,8,9-PeCDD (L)	31:07	1,2,3,8,9-PeCDF (L)	31:21
1,2,4,6,7,9-HxCDD (F)	32:32	1,2,3,4,6,8-HxCDF (F)	32:00
1,2,3,7,8,9-HxCDD (L)	34:29	1,2,3,7,8,9-HxCDF (L)	34:52
1,2,3,4,6,7,9-HpCDD (F)	37:07	1,2,3,4,6,7,8-HpCDF (F)	36:44
1,2,3,4,6,7,8-HpCDD (L)	37:58	1,2,3,4,7,8,9-HpCDF (L)	38:31

(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: DBDate: 10/24/19

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: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

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	1.001	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	1.197	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	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	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: 10/24/19

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: 191024D1 S#1 Analysis Date: 24-OCT-19 Time: 15:36:32

NATIVE ANALYTES	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	1.000	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	1.000	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	1.001	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	0.988	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	1.018	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	1.146	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.130	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.229	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.236	1.091-1.371

Analyst: DB

Date: 10/24/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191024D1-1

Filename: 191024D1 S:1 Acq:24 OCT-19 15:36:32
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

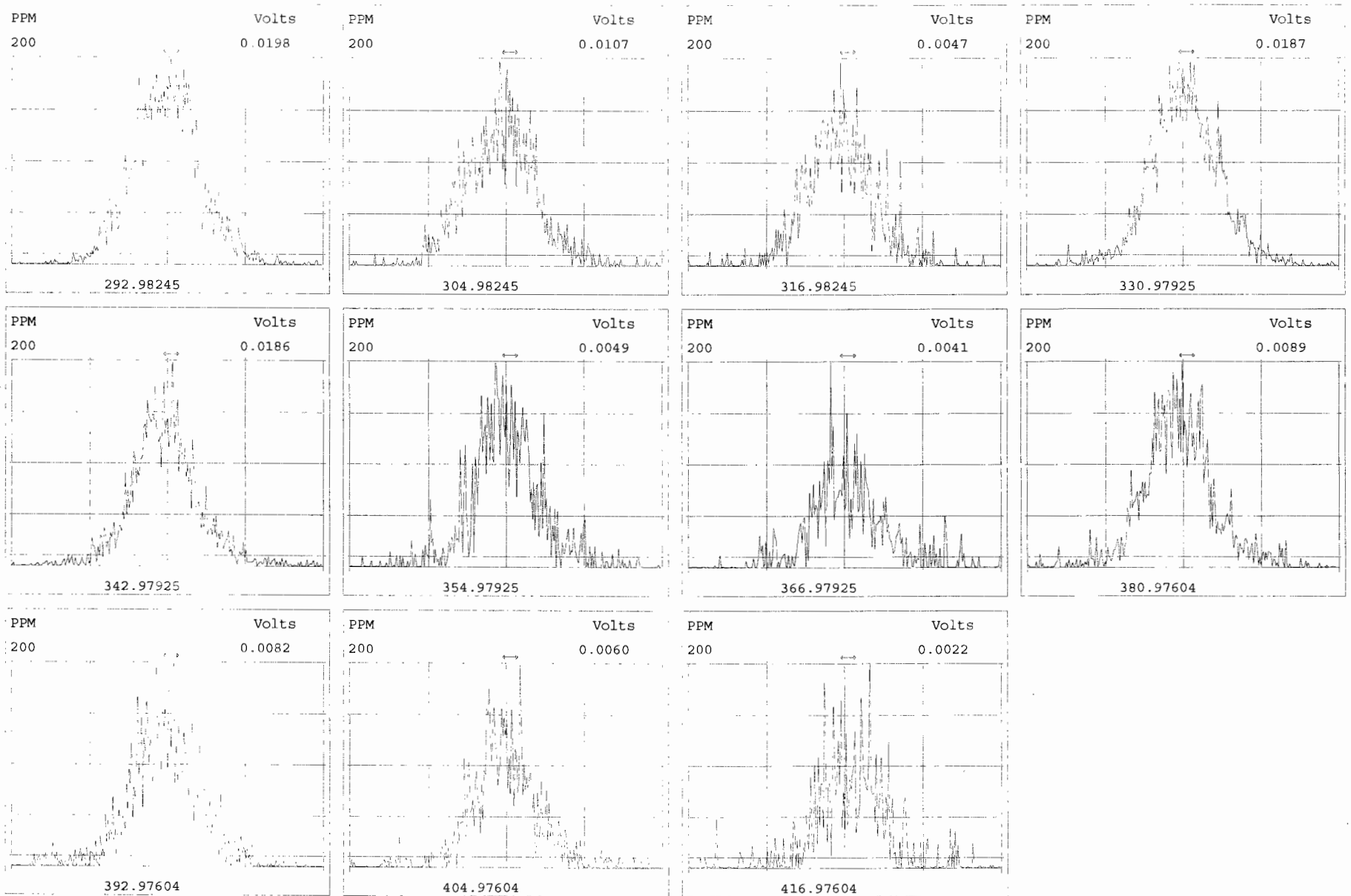
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EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	5.89e+05	0.84 y	0.91	26:16	11.414		* 2.5		*	Total Tetra-Dioxins	82.8	84.7	*	*	
1,2,3,7,8-PeCDD	2.34e+06	0.62 y	0.90	30:46	54.821		* 2.5		*	Total Penta-Dioxins	196	196	*	*	
1,2,3,4,7,8-HxCDD	2.48e+06	1.21 y	1.10	34:05	51.917		* 2.5		*	Total Hexa-Dioxins	235	237	*	*	
1,2,3,6,7,8-HxCDD	2.52e+06	1.22 y	0.94	34:11	54.417		* 2.5		*	Total Hepta-Dioxins	114	115	*	*	
1,2,3,7,8,9-HxCDD	2.59e+06	1.20 y	0.96	34:29	52.775		* 2.5		*	Total Tetra-Furans	39.1	41.5	*	*	
1,2,3,4,6,7,8-HpCDD	2.20e+06	1.05 y	0.98	37:58	49.789		* 2.5		*	Total Penta-Furans	225.00	225.52	*	*	
OCDD	4.00e+06	0.89 y	0.96	41:18	103.15		* 2.5		*	Total Hexa-Furans	273	273	*	*	
										Total Hepta-Furans	98.6	99.4	*	*	
2,3,7,8-TCDF	8.41e+05	0.77 y	0.95	25:28	10.096		* 2.5		*						
1,2,3,7,8-PeCDF	3.60e+06	1.61 y	0.96	29:35	52.373		* 2.5		*						
2,3,4,7,8-PeCDF	3.84e+06	1.62 y	1.01	30:29	52.722		* 2.5		*						
1,2,3,4,7,8-HxCDF	3.36e+06	1.25 y	1.18	33:11	50.073		* 2.5		*						
1,2,3,6,7,8-HxCDF	3.66e+06	1.23 y	1.07	33:19	51.379		* 2.5		*						
2,3,4,6,7,8-HxCDF	3.64e+06	1.20 y	1.11	33:55	51.981		* 2.5		*						
1,2,3,7,8,9-HxCDF	3.10e+06	1.25 y	1.06	34:52	50.470		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	2.92e+06	1.02 y	1.13	36:44	49.893		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	2.66e+06	1.01 y	1.28	38:31	48.540		* 2.5		*						
OCDF	4.67e+06	0.90 y	0.95	41:31	100.61		* 2.5		*						
										Rec	Qual				
IS 13C-2,3,7,8-TCDD	5.70e+06	0.77 y	1.10	26:15	102.41					102					
IS 13C-1,2,3,7,8-PeCDD	4.74e+06	0.63 y	0.88	30:44	105.79					106					
IS 13C-1,2,3,4,7,8-HxCDD	4.33e+06	1.27 y	0.64	34:04	102.19					102					
IS 13C-1,2,3,6,7,8-HxCDD	4.94e+06	1.28 y	0.86	34:11	87.500					87.5					
IS 13C-1,2,3,7,8,9-HxCDD	5.11e+06	1.26 y	0.81	34:28	96.009					96.0					
IS 13C-1,2,3,4,6,7,8-HpCDD	4.52e+06	1.02 y	0.65	37:57	104.75					105					
IS 13C-OCDD	8.09e+06	0.88 y	0.58	41:17	211.49					106					
IS 13C-2,3,7,8-TCDF	8.76e+06	0.79 y	1.03	25:28	100.90					101					
IS 13C-1,2,3,7,8-PeCDF	7.17e+06	1.63 y	0.85	29:34	99.949					99.9					
IS 13C-2,3,4,7,8-PeCDF	7.19e+06	1.62 y	0.85	30:27	101.08					101					
IS 13C-1,2,3,4,7,8-HxCDF	5.71e+06	0.51 y	0.83	33:10	103.95					104					
IS 13C-1,2,3,6,7,8-HxCDF	6.66e+06	0.51 y	1.03	33:18	97.518					97.5					
IS 13C-2,3,4,6,7,8-HxCDF	6.28e+06	0.51 y	0.95	33:54	99.835					99.8					
IS 13C-1,2,3,7,8,9-HxCDF	5.78e+06	0.52 y	0.83	34:51	105.89					106					
IS 13C-1,2,3,4,6,7,8-HpCDF	5.19e+06	0.45 y	0.76	36:43	103.76					104					
IS 13C-1,2,3,4,7,8,9-HpCDF	4.28e+06	0.43 y	0.58	38:30	111.62					112					
IS 13C-OCDF	9.80e+06	0.89 y	0.69	41:31	215.56					108					
C/Up 37Cl-2,3,7,8-TCDD	6.19e+05		1.20	26:16	10.166					102					
RS/RT 13C-1,2,3,4-TCDD	5.08e+06	0.80 y	1.00	25:41	100.00						Integrations	Reviewed			
RS 13C-1,2,3,4-TCDF	8.39e+06	0.80 y	1.00	24:15	100.00						by	by			
RS/RT 13C-1,2,3,4,6,9-HxCDF	6.60e+06	0.52 y	1.00	33:35	100.00						Analyst: <u>DB</u>	Analyst: <u>CT</u>			

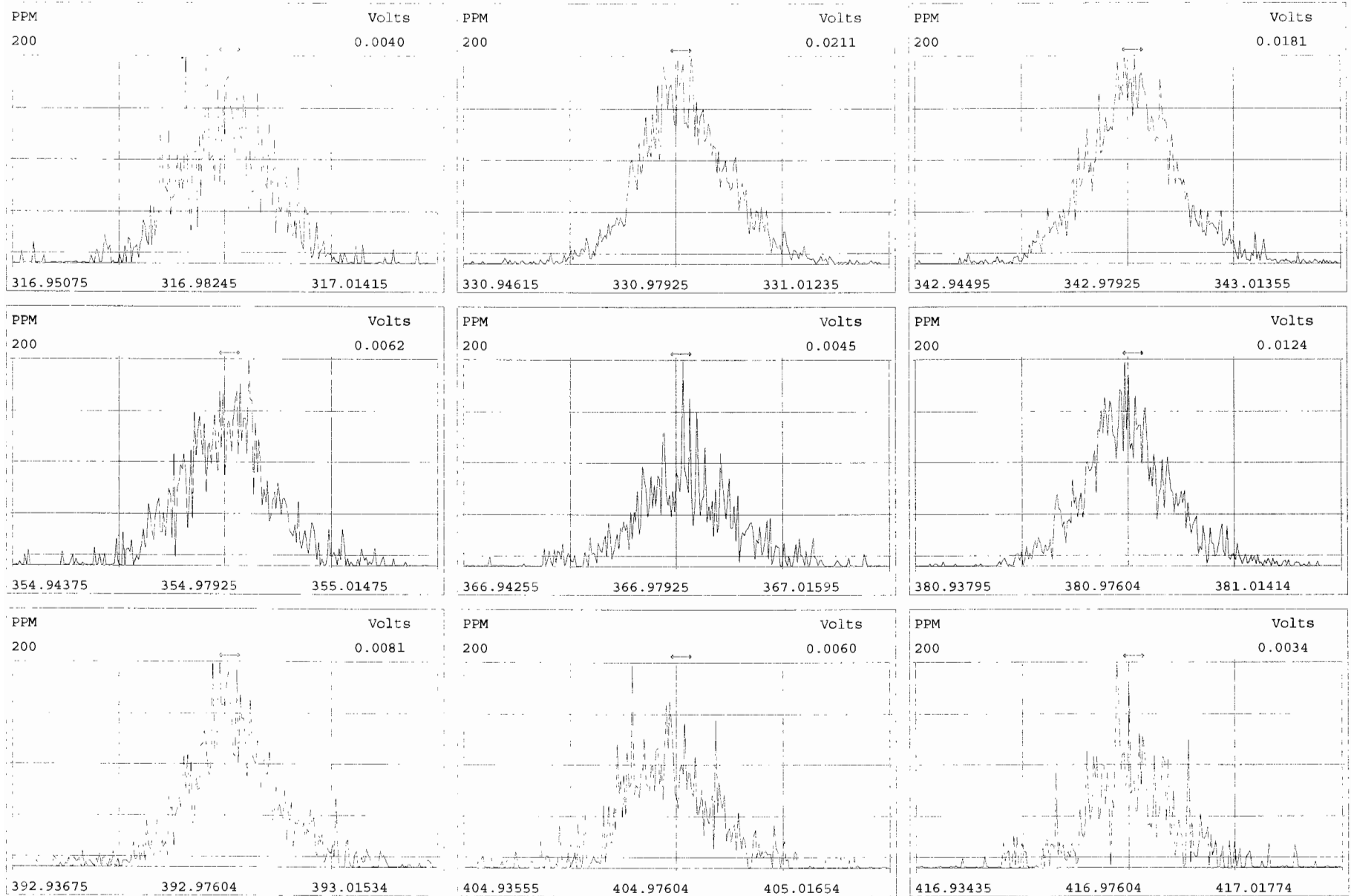
Date: 10/24/19 Date: 10/29/19

Vista Analytical Laboratory Injection Log Run file: 191024D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

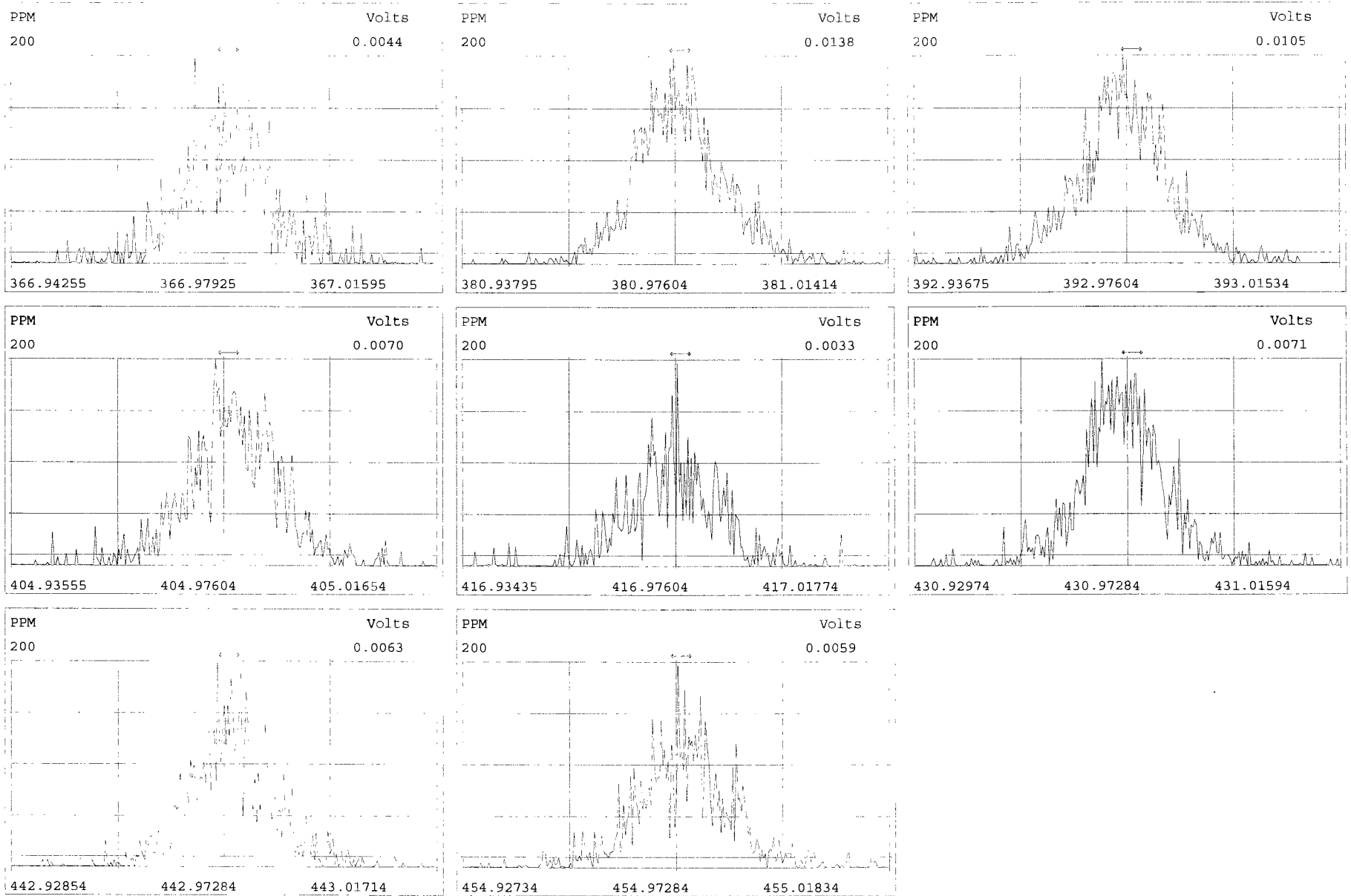
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191024D1	2	B9J0214-BS1	DB	24-OCT-19	16:24:28	ST191024D1-1	NA
191024D1	3	B9J0132-BS1	DB	24-OCT-19	17:12:25	ST191024D1-1	NA
191024D1	4	SOLVENT BLANK	DB	24-OCT-19	18:00:25	ST191024D1-1	NA
191024D1	5	B9J0214-BLK1	DB	24-OCT-19	18:48:20	ST191024D1-1	NA
191024D1	6	B9J0132-BLK1	DB	24-OCT-19	19:36:16	ST191024D1-1	NA
191024D1	7	QC191024D1-1	DB	24-OCT-19	20:24:01	ST191024D1-1	NA
191024D1	8	1903543-02	DB	24-OCT-19	21:11:47	ST191024D1-1	NA
191024D1	9	1903626-01	DB	24-OCT-19	21:59:42	ST191024D1-1	NA
191024D1	10	1903626-02	DB	24-OCT-19	22:47:35	ST191024D1-1	NA
191024D1	11	1903641-01	DB	24-OCT-19	23:35:24	ST191024D1-1	NA
191024D1	12	1903420-10	DB	25-OCT-19	00:23:09	ST191024D1-1	NA
191024D1	13	1903420-11	DB	25-OCT-19	01:11:03	ST191024D1-1	NA
191024D1	14	1903430-01	DB	25-OCT-19	01:58:52	ST191024D1-1	NA
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Experiment:OCDD_DB5 Function:2 Reference:PFK

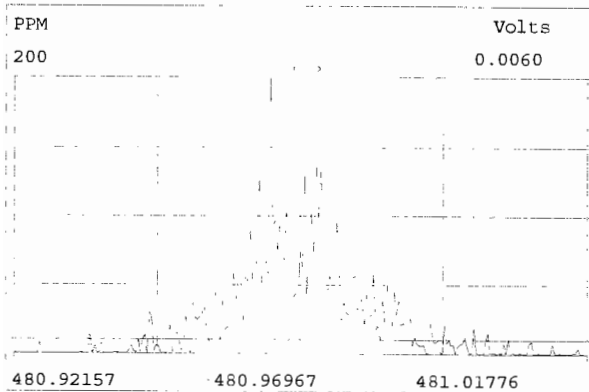
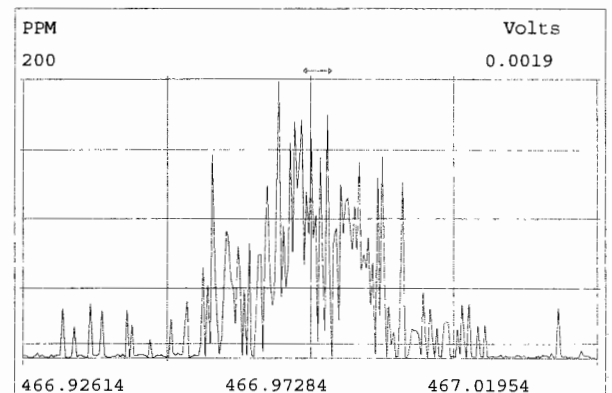
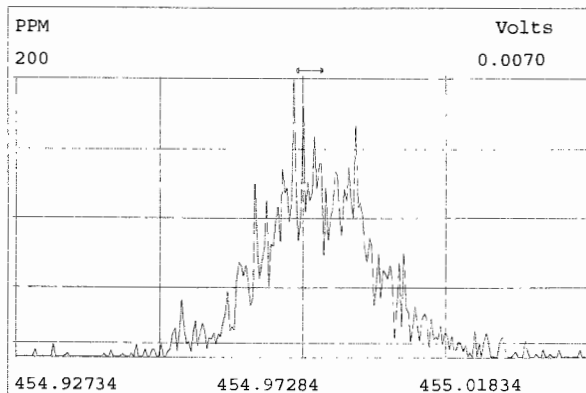
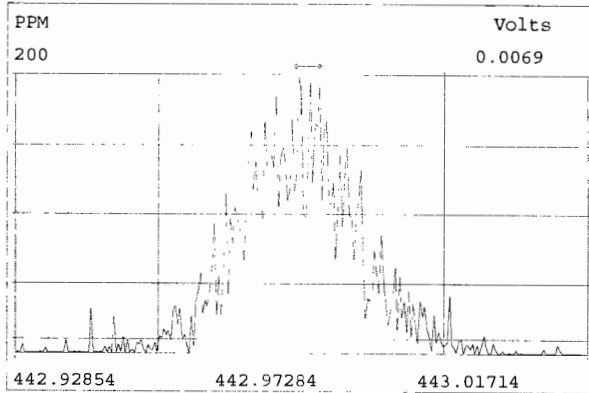
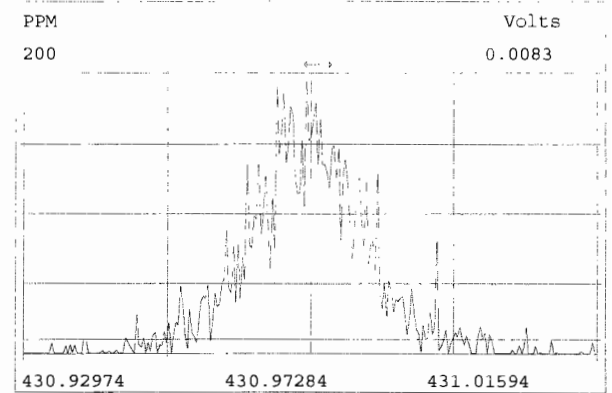
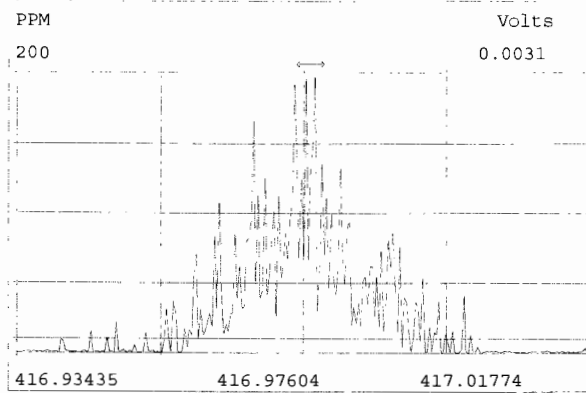
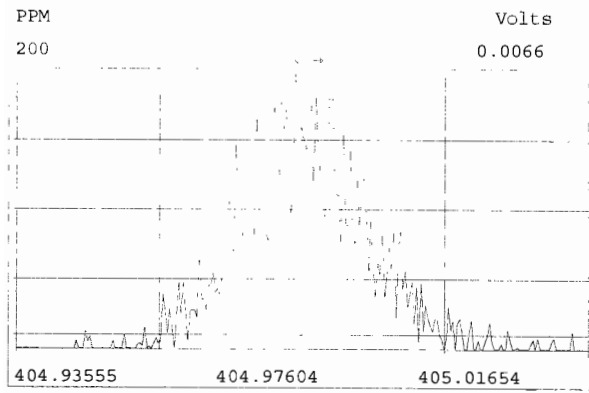


Experiment:OCDD_DB5 Function:3 Reference:PFK



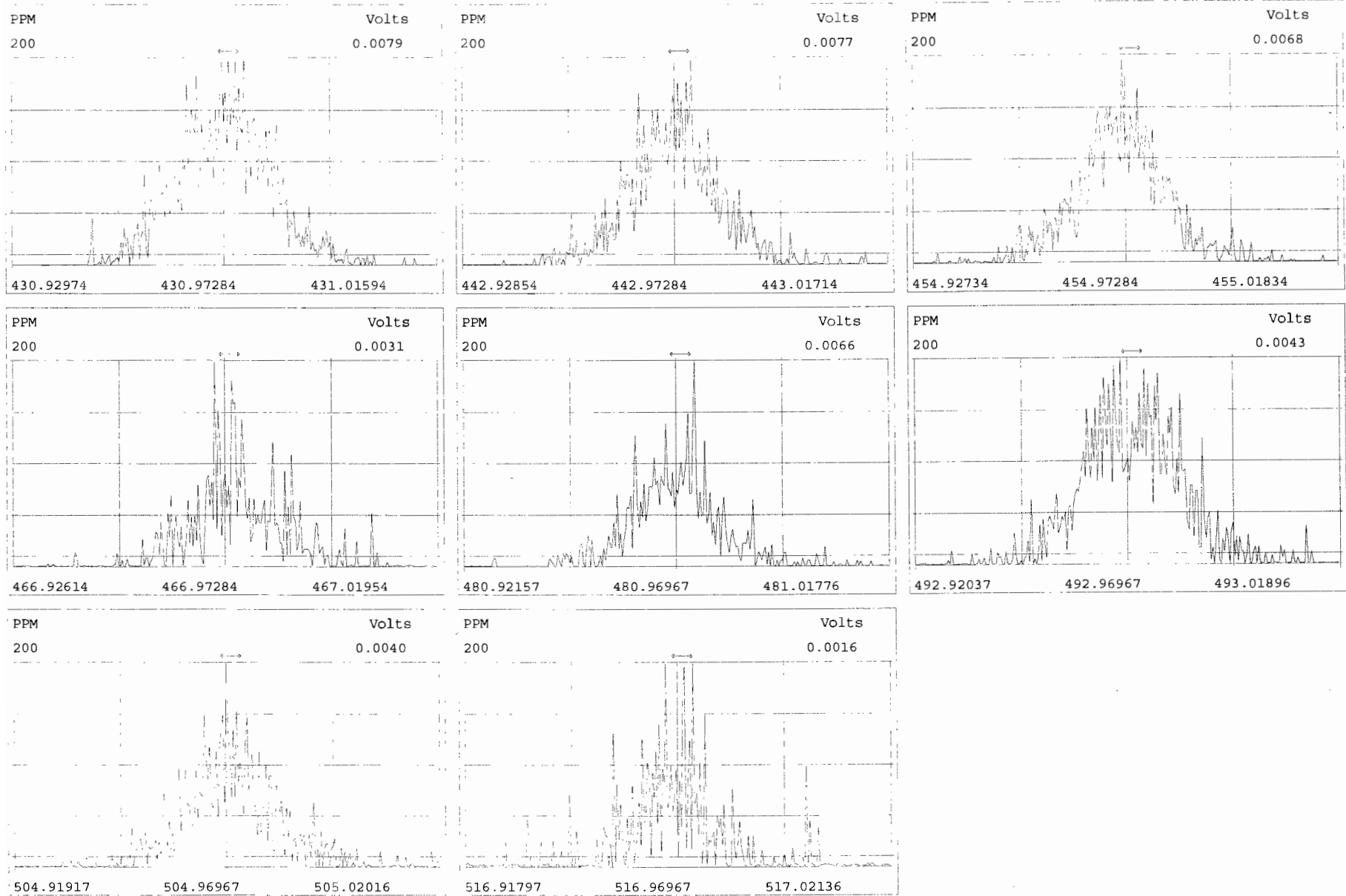
Peak Locate Examination:24-OCT-2019:15:35 File:191024D1

Experiment:OCDD_DB5 Function:4 Reference:PFK

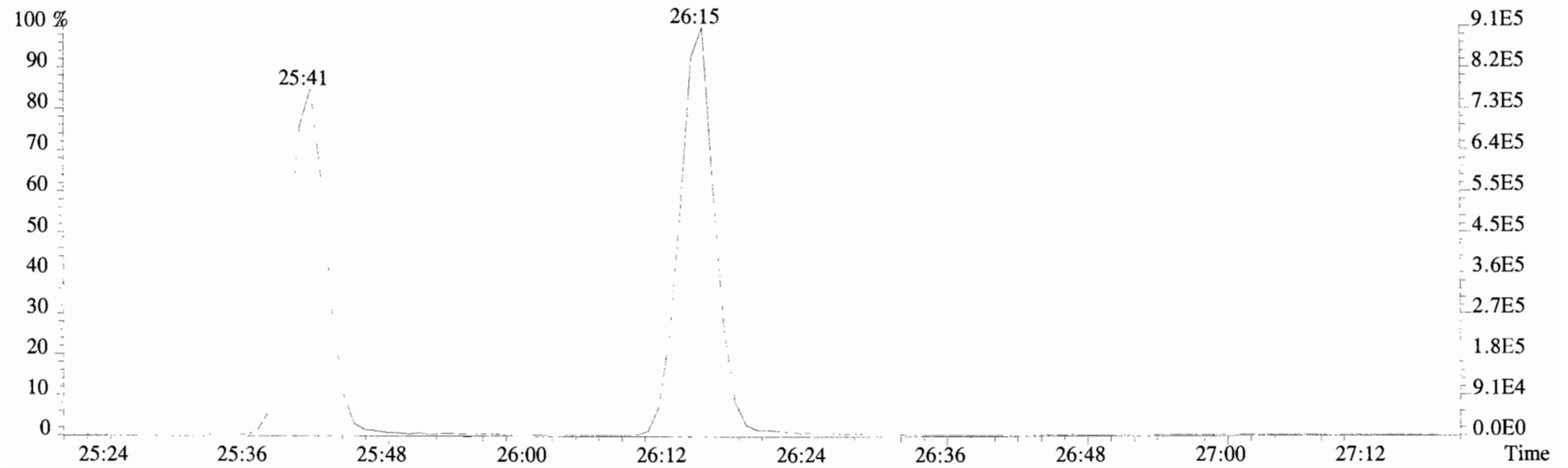
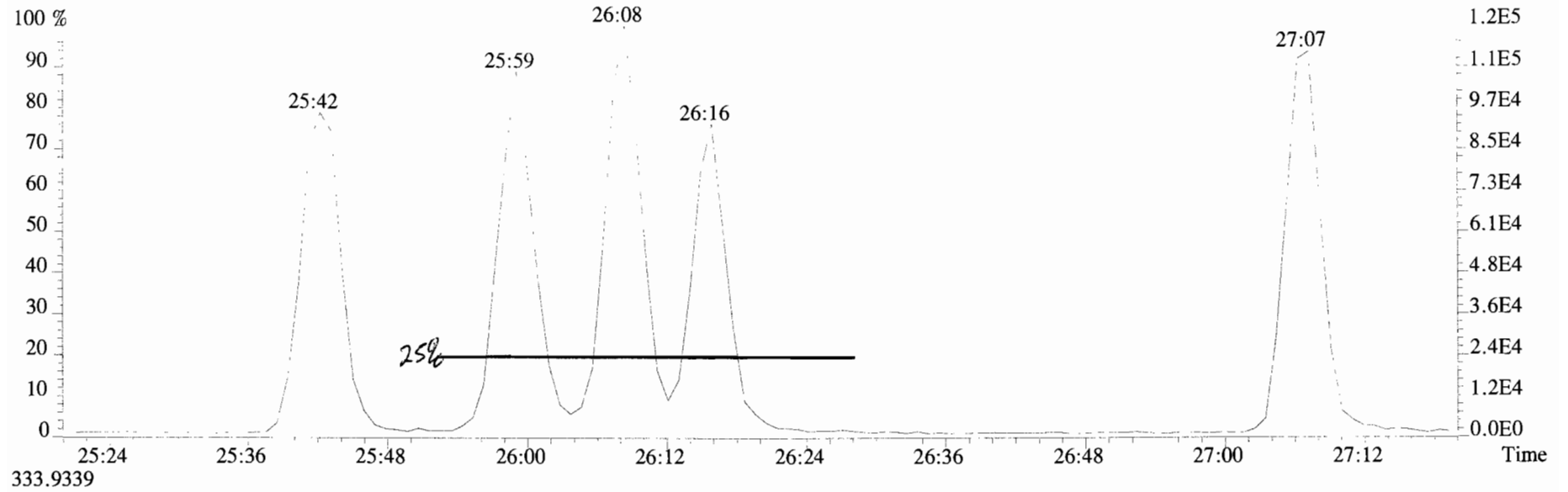


Peak Locate Examination:24-OCT-2019:15:35 File:191024D1

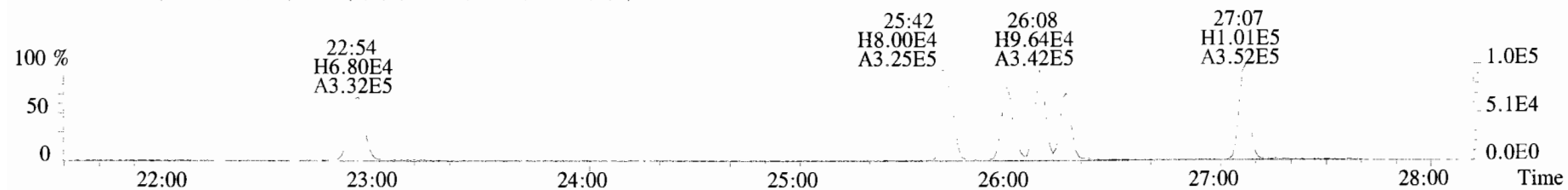
Experiment:OCDD_DB5 Function:5 Reference:PPK



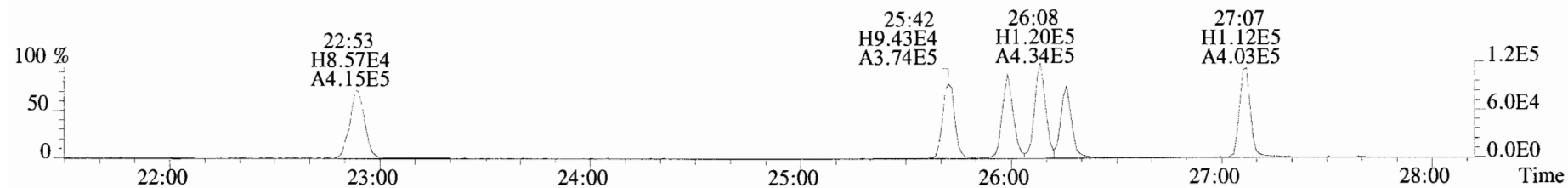
File:191024D1 #1-493 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



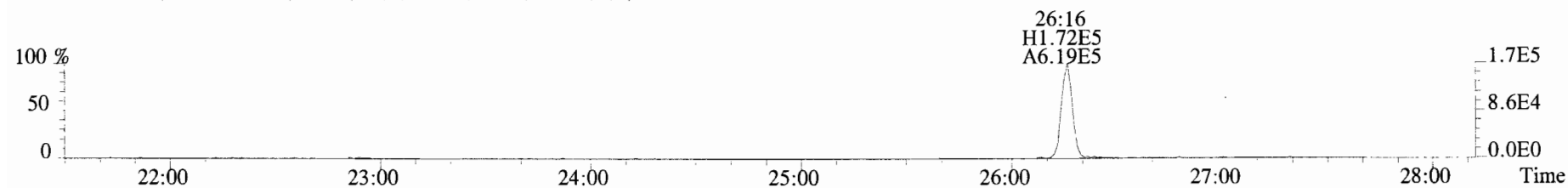
File:191024D1 #1-493 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



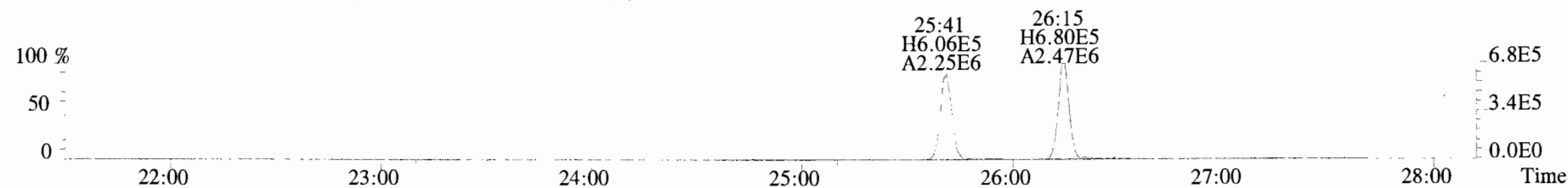
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



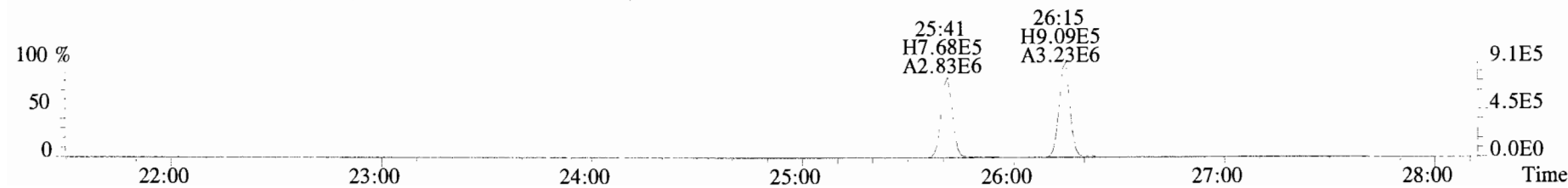
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



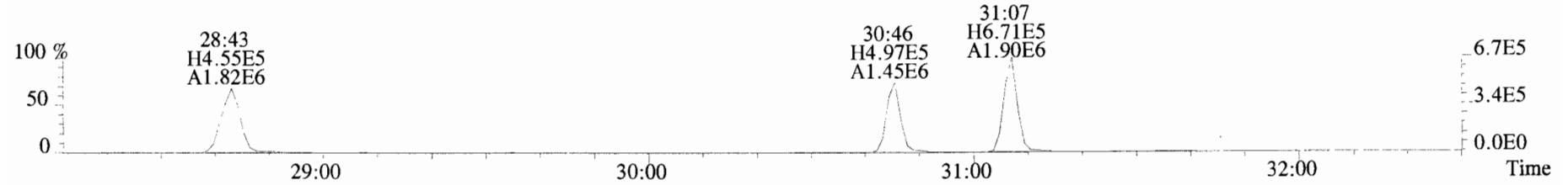
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



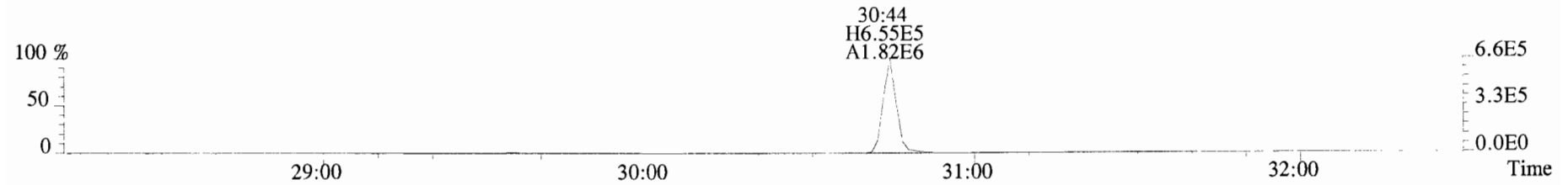
File:191024D1 #1-211 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



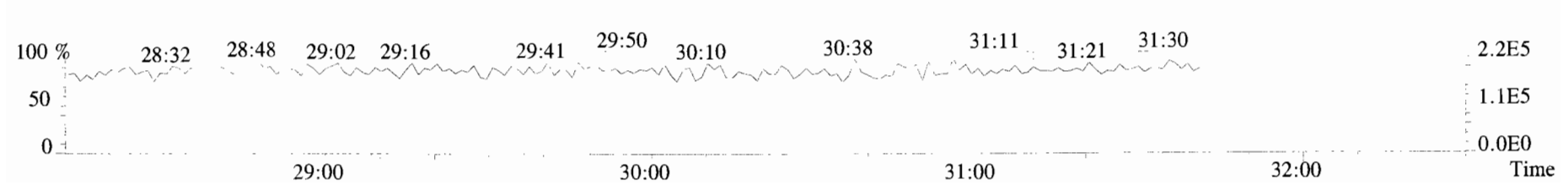
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



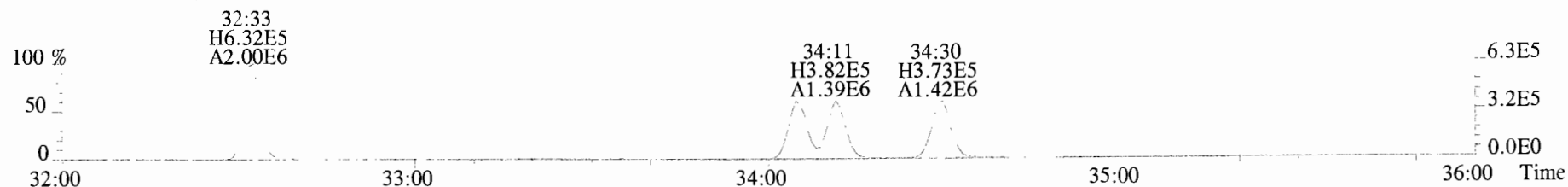
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



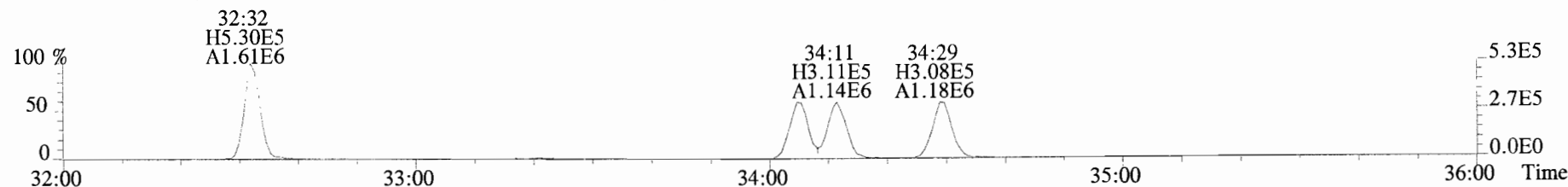
366.9792 F:2



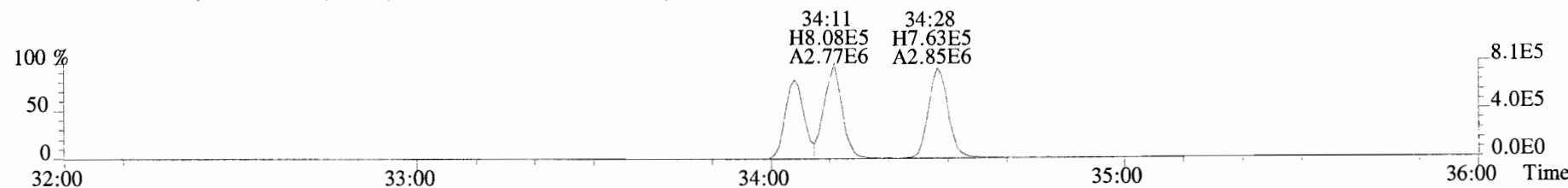
File:191024D1 #1-384 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



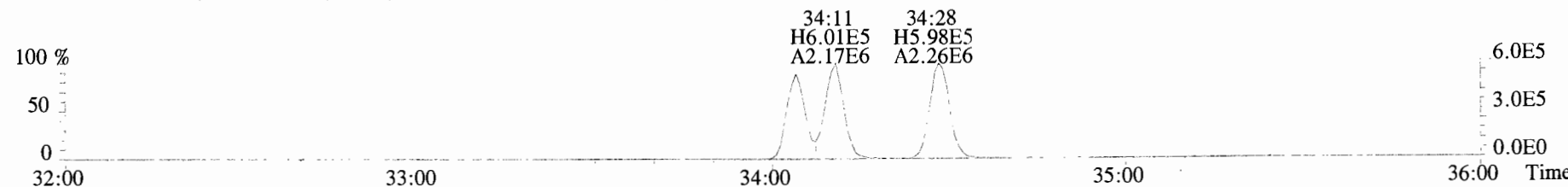
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



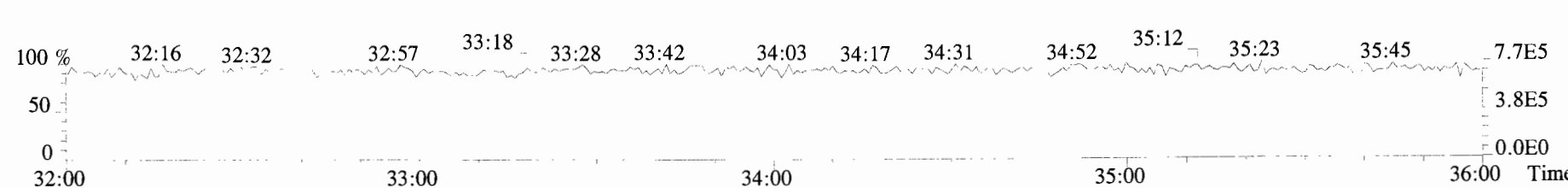
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



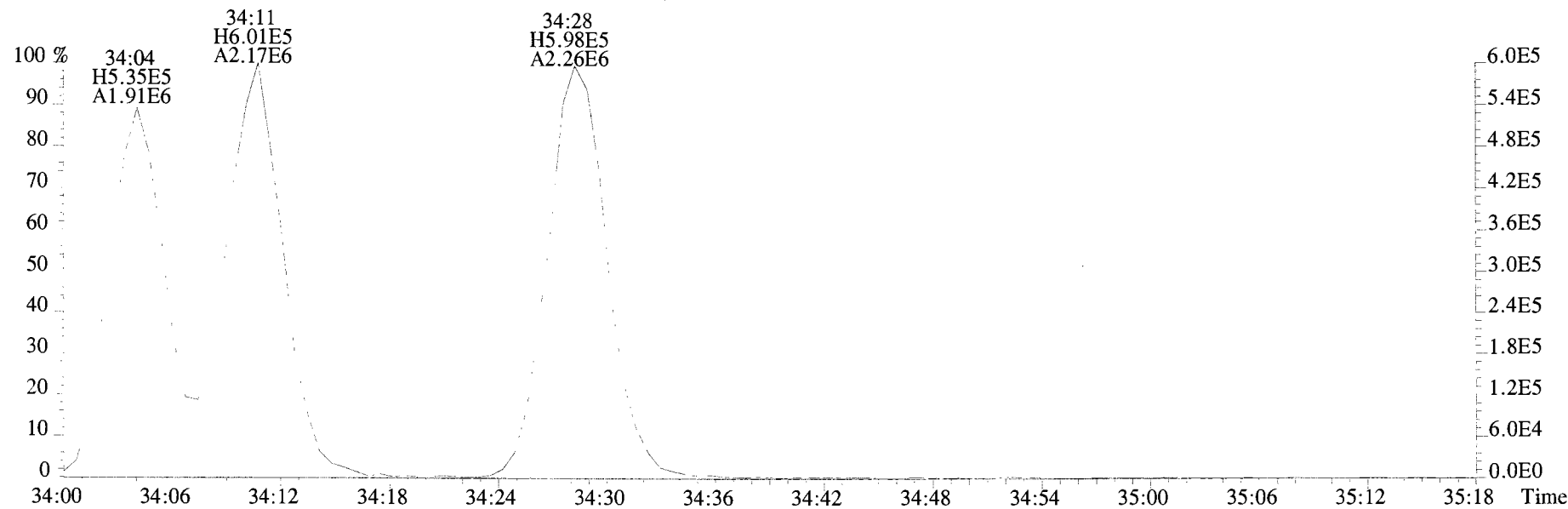
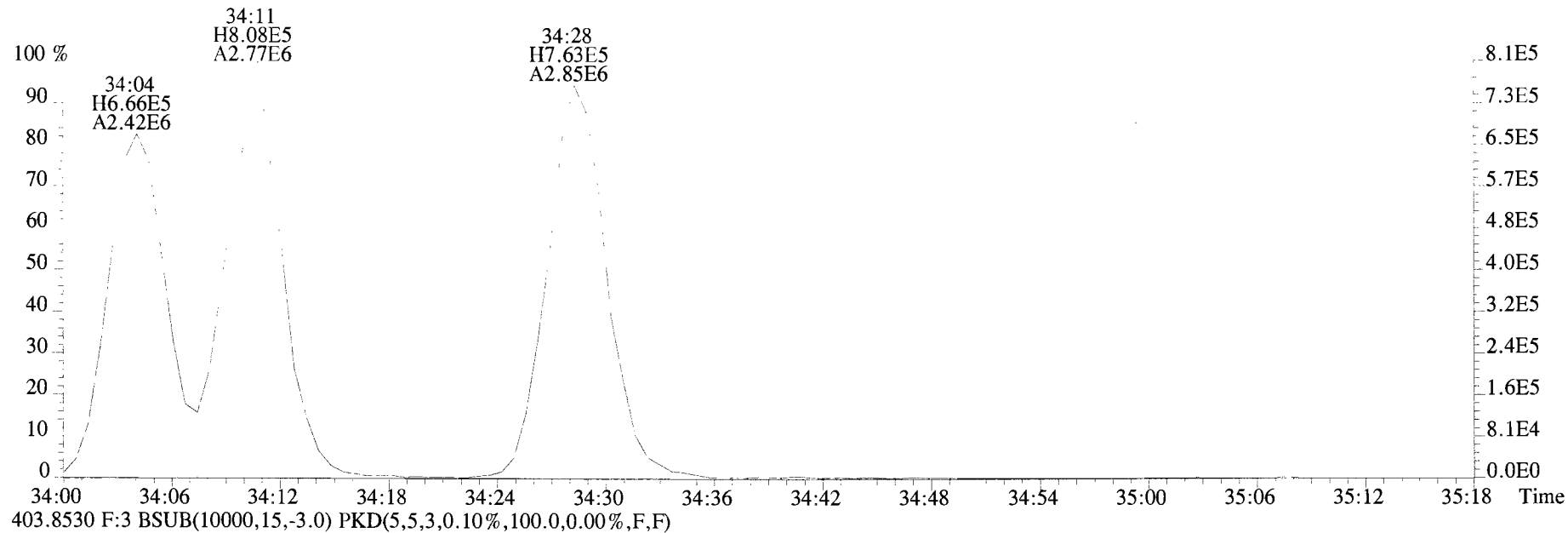
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



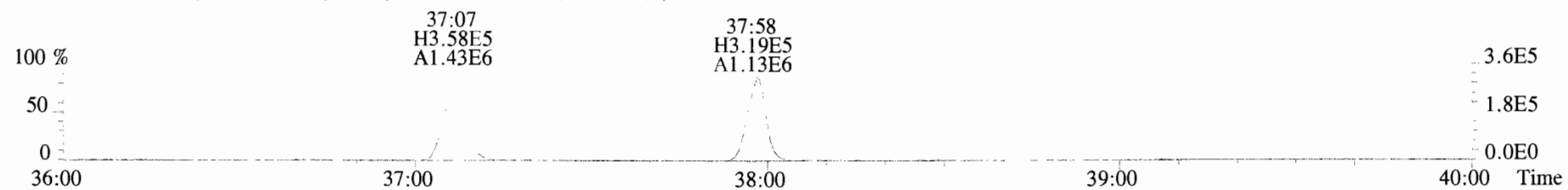
392.9760 F:3



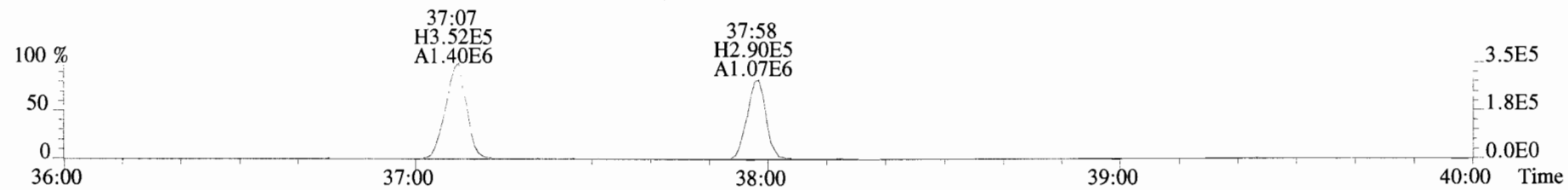
File:191024D1 #1-384 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



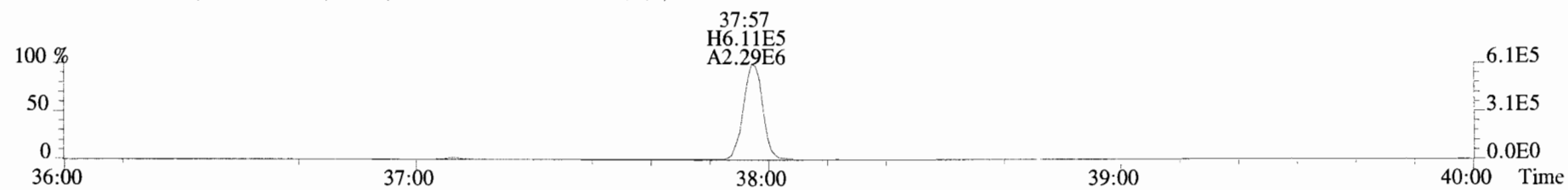
File:191024D1 #1-355 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista Analytical Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



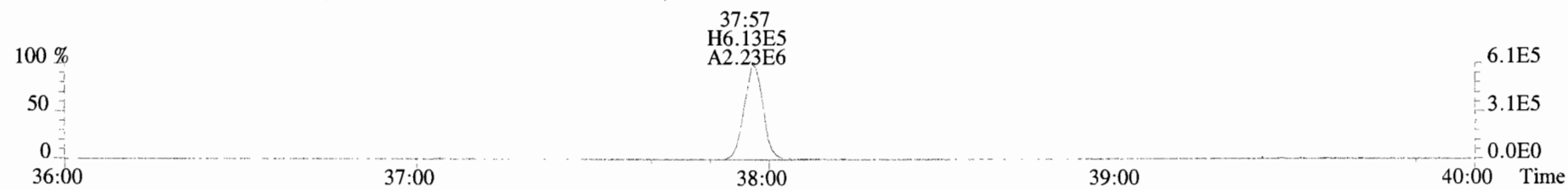
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



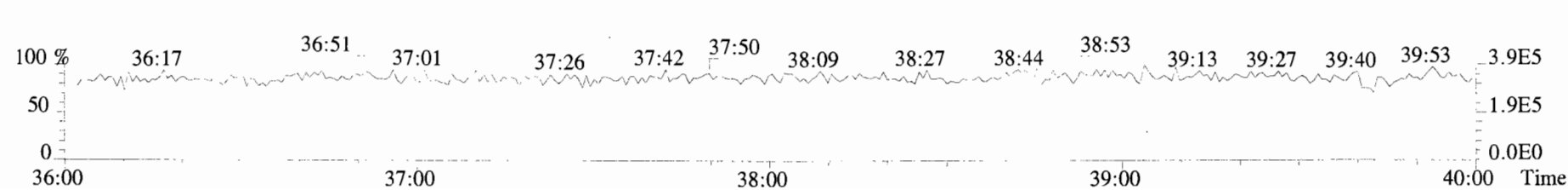
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



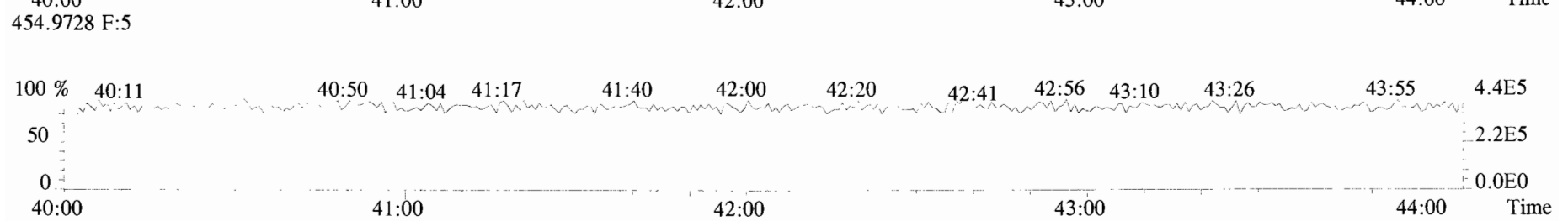
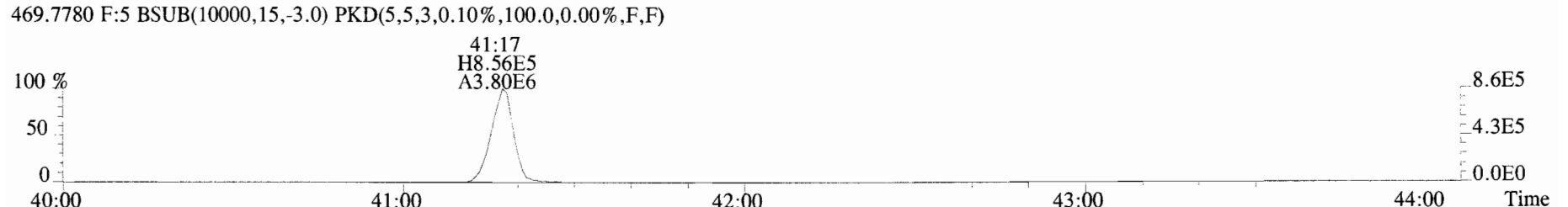
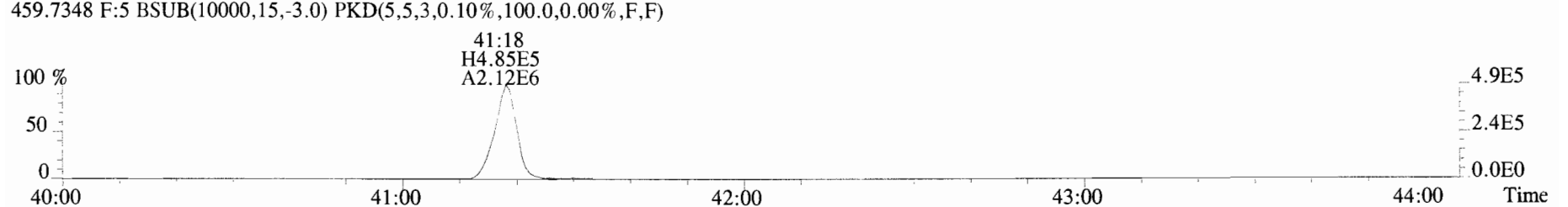
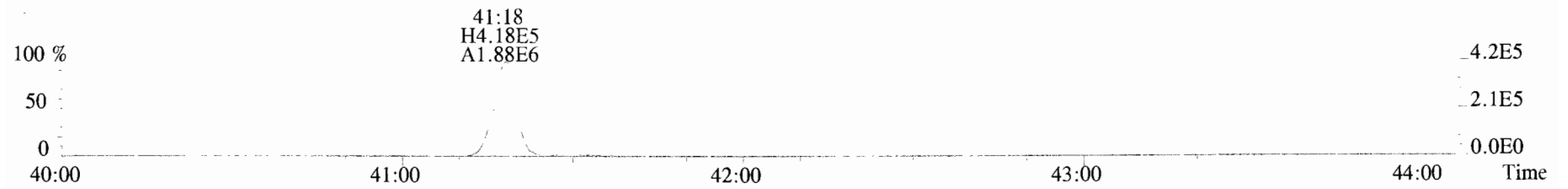
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



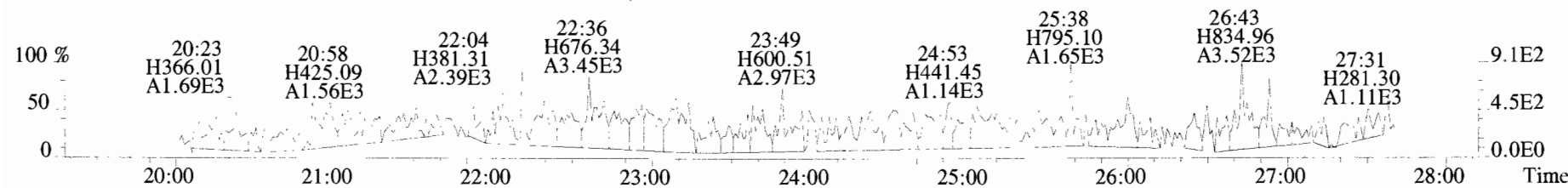
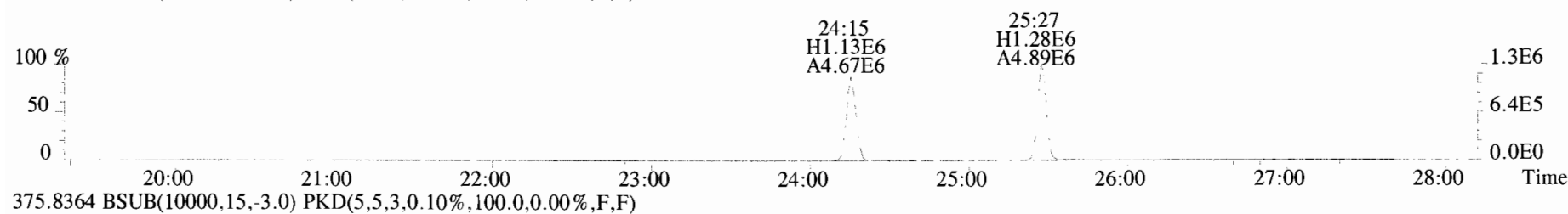
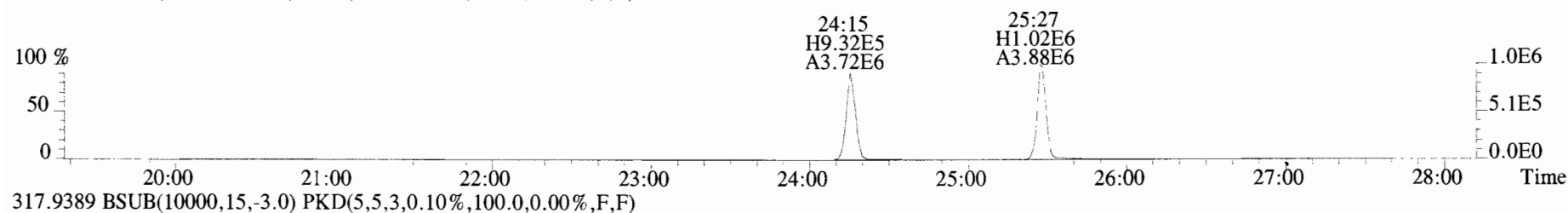
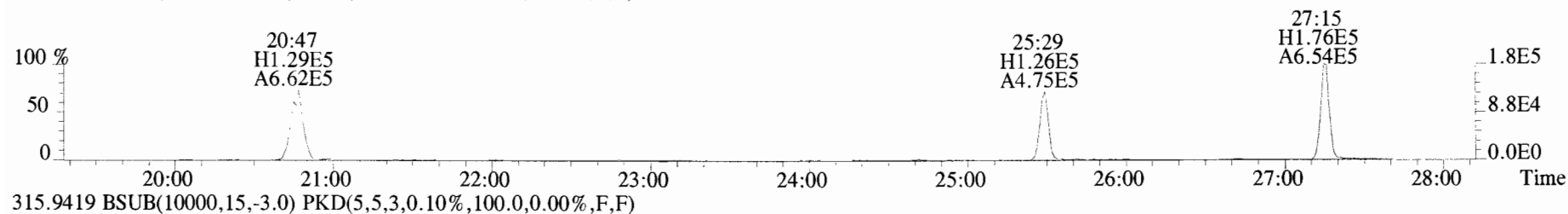
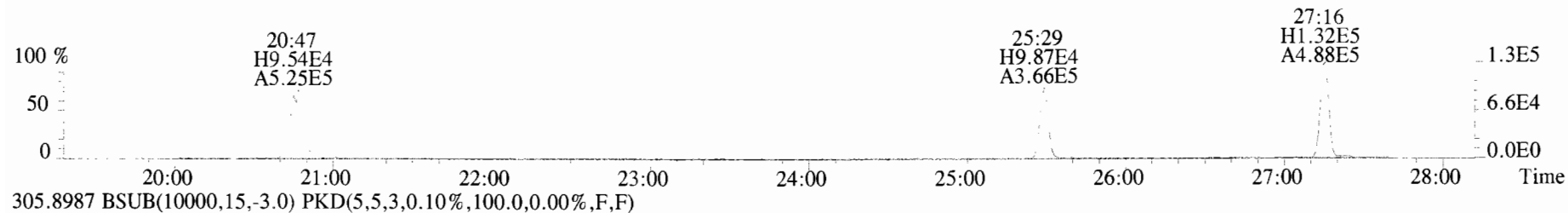
454.9728 F:4



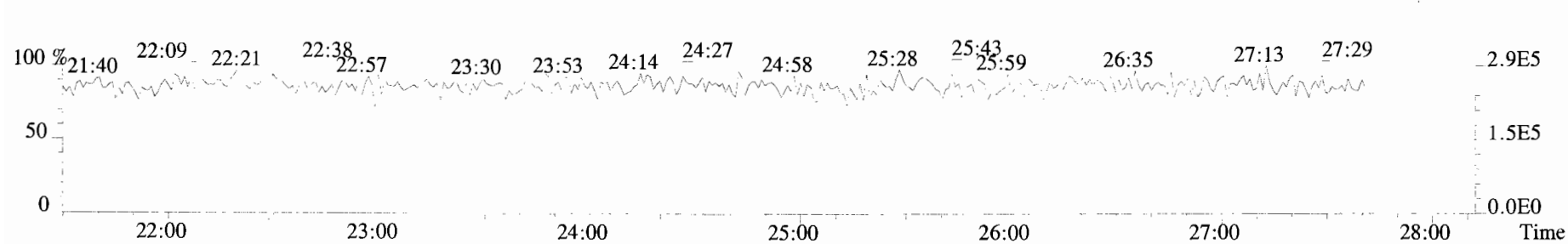
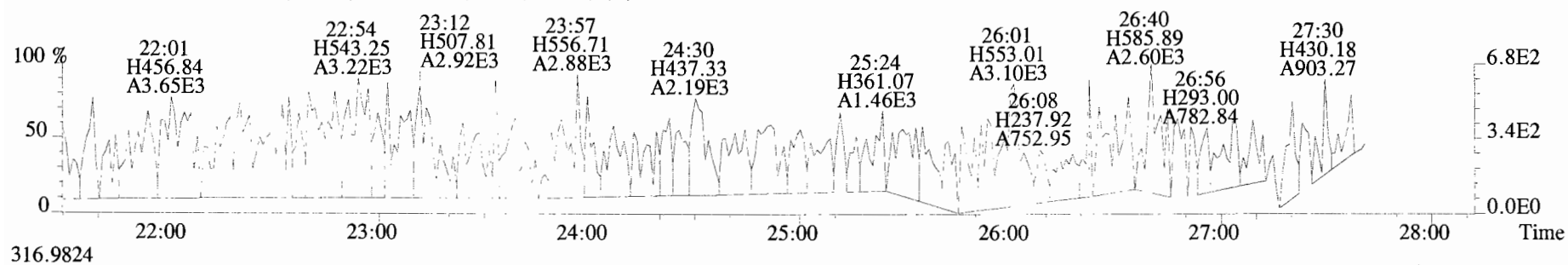
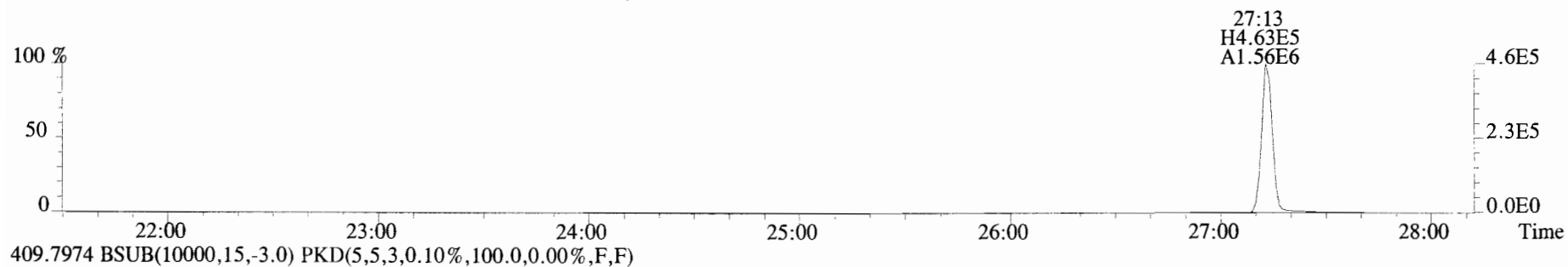
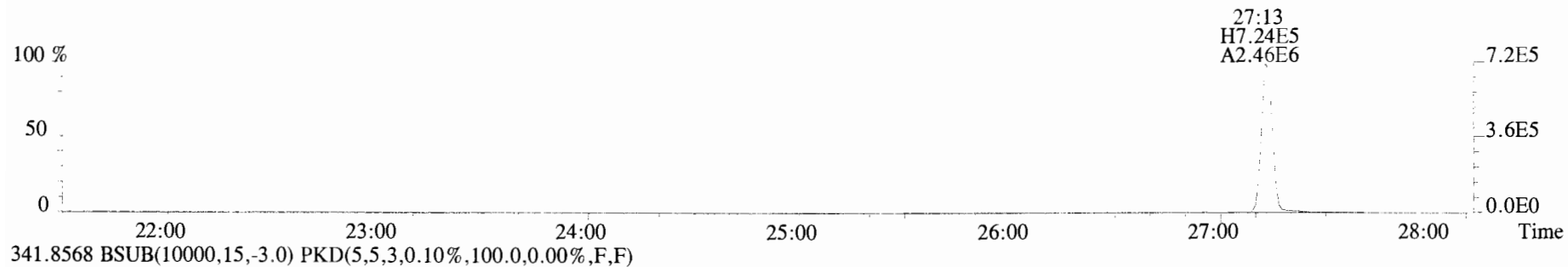
File:191024D1 #1-432 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



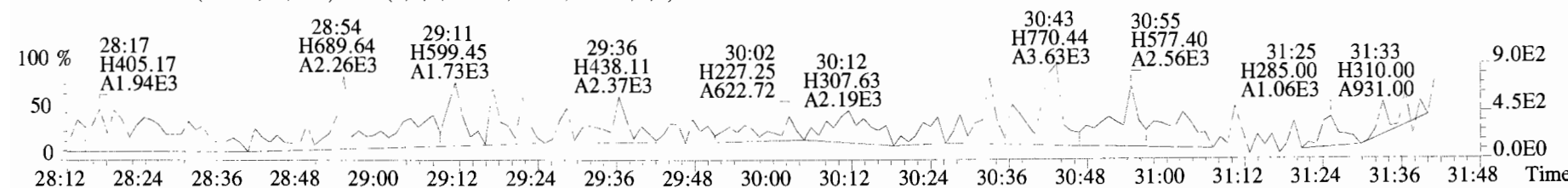
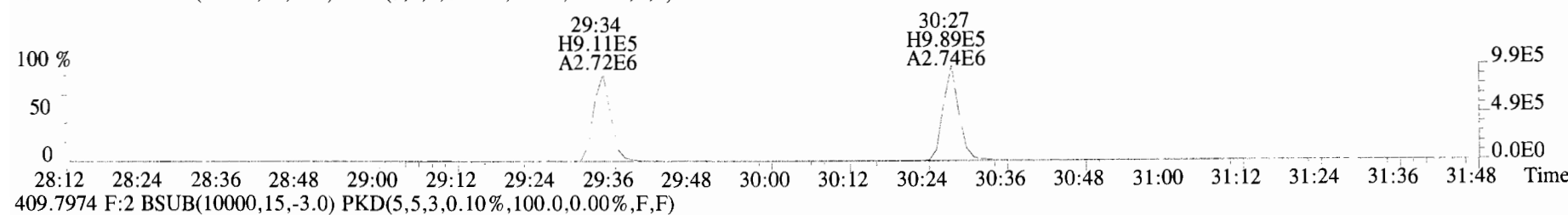
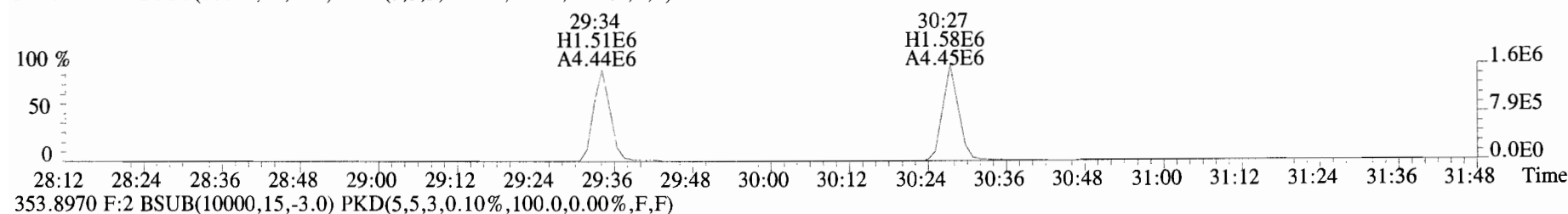
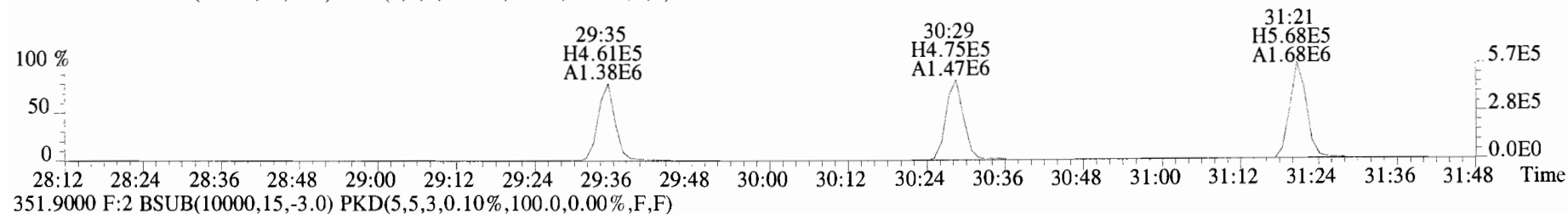
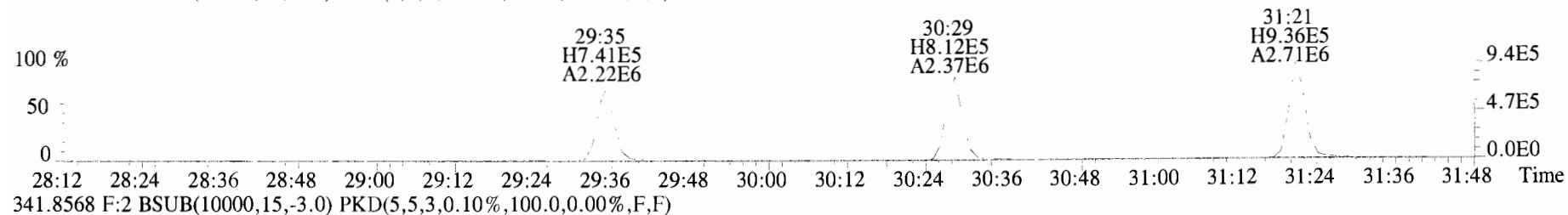
File:191024D1 #1-493 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



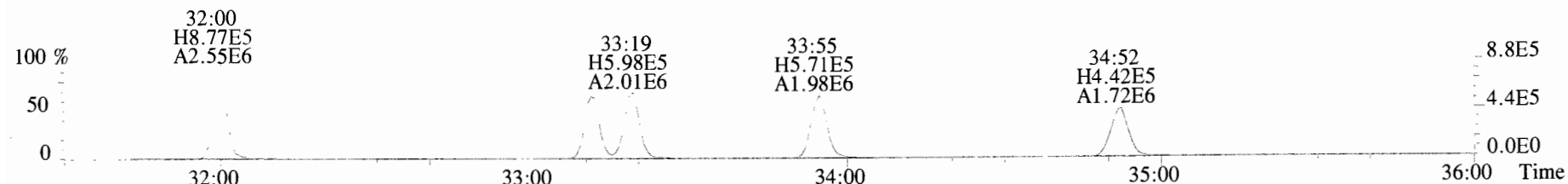
File:191024D1 #1-493 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



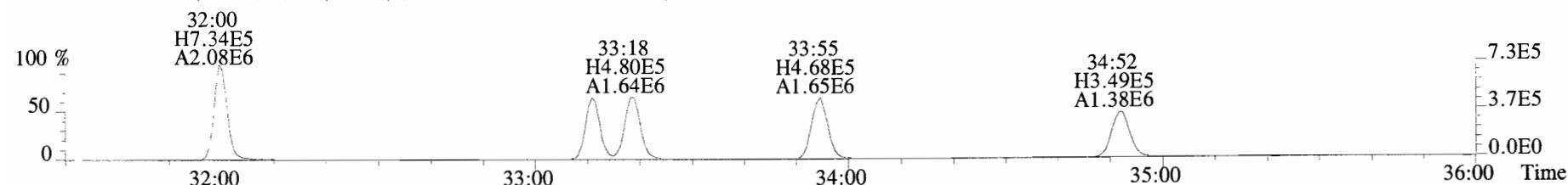
File:191024D1 #1-211 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



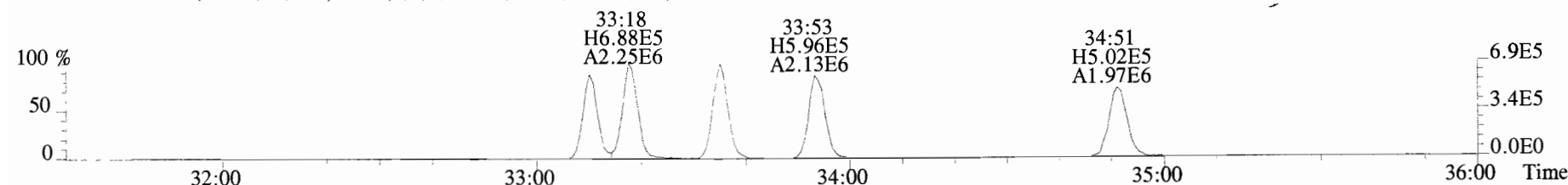
File:191024D1 #1-384 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



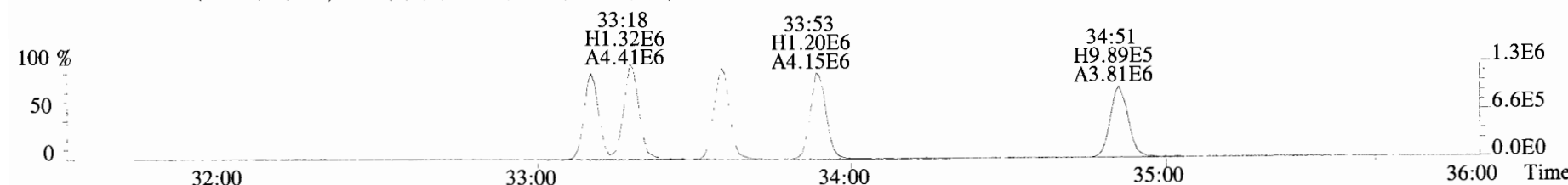
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



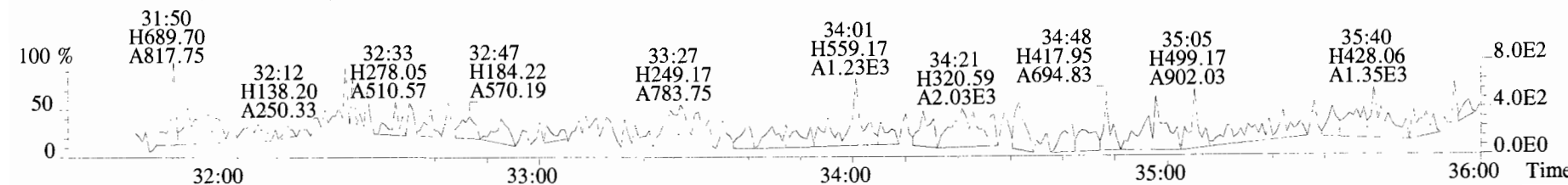
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



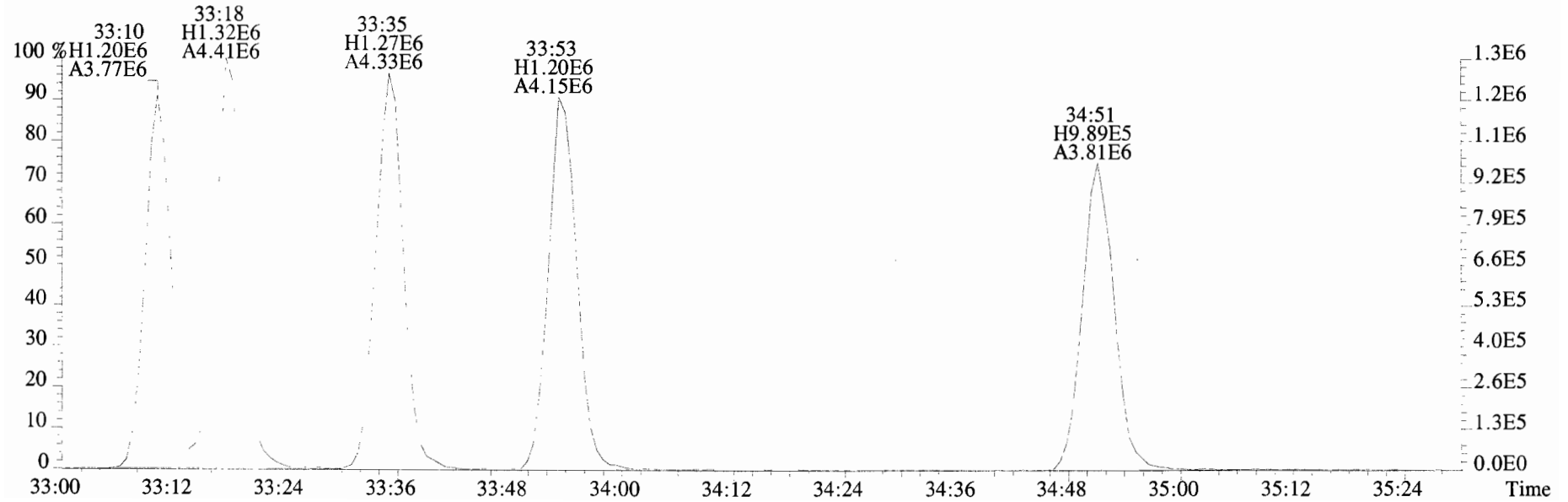
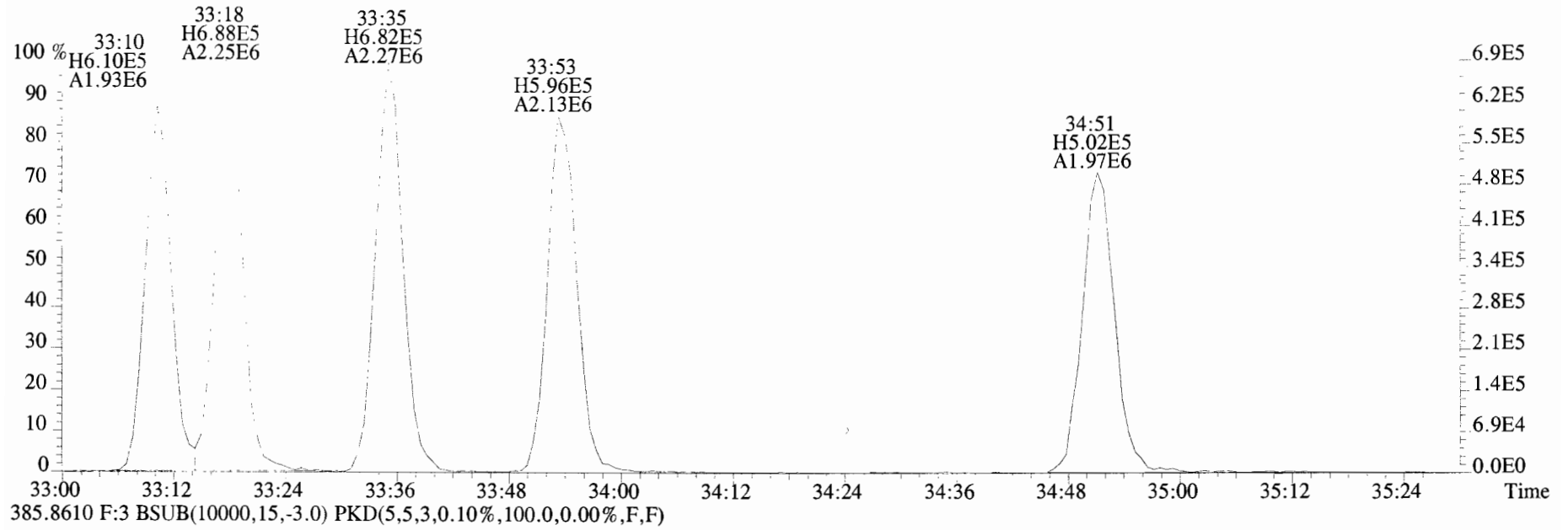
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



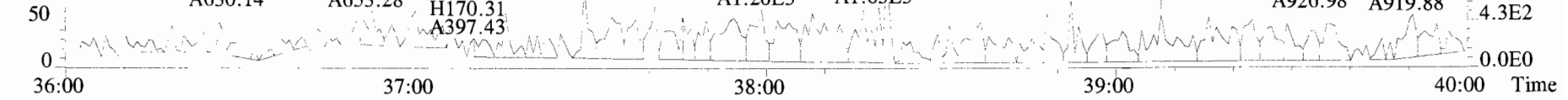
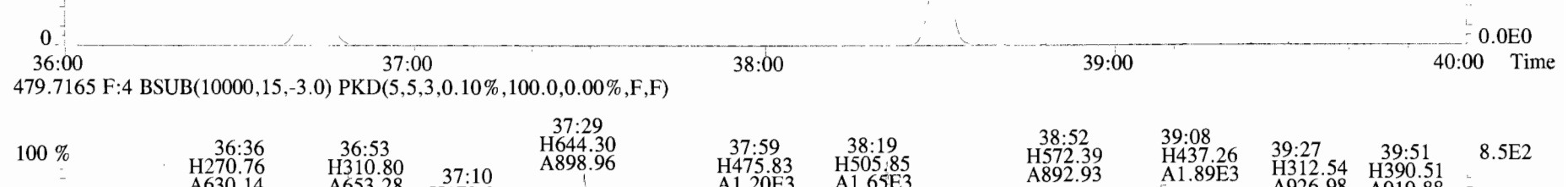
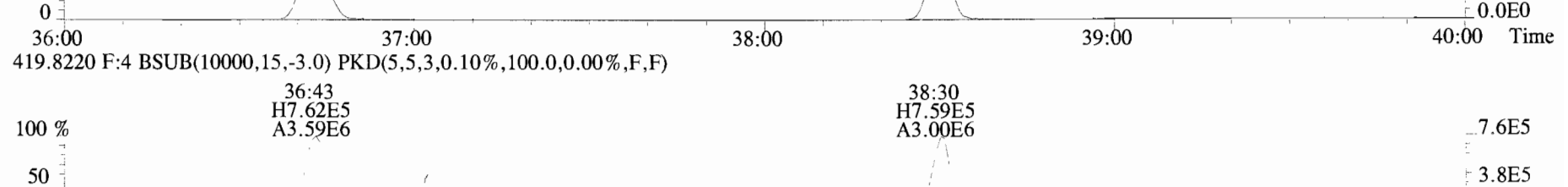
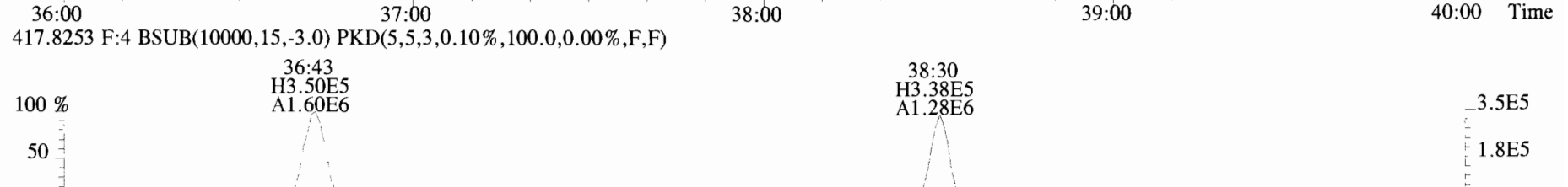
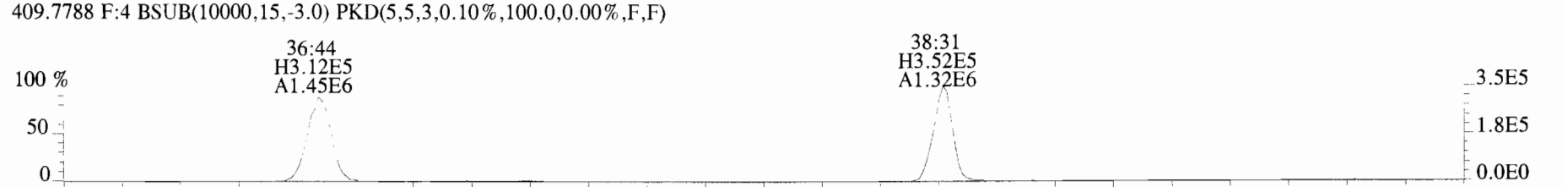
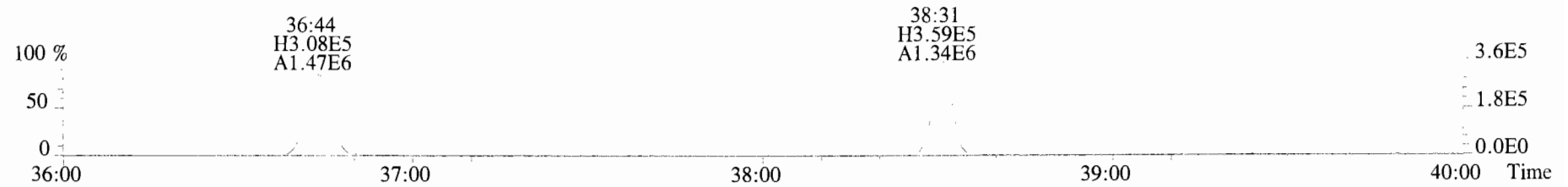
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



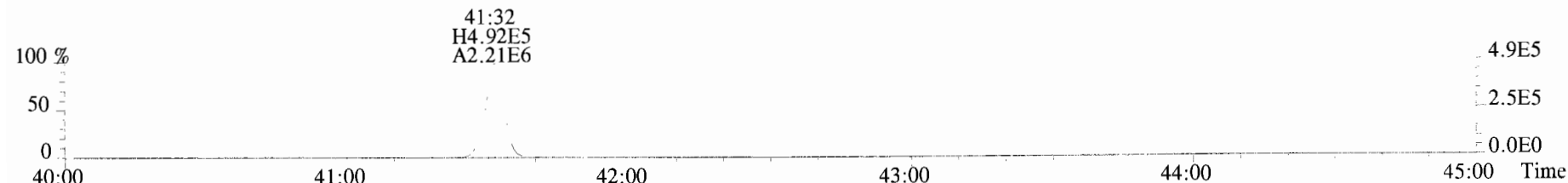
File:191024D1 #1-384 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



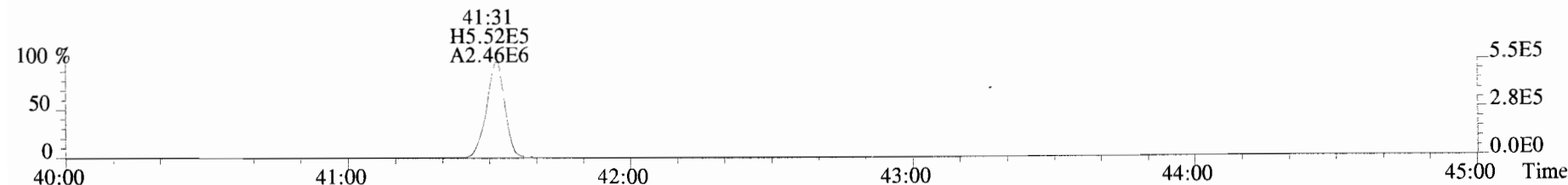
File:191024D1 #1-355 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



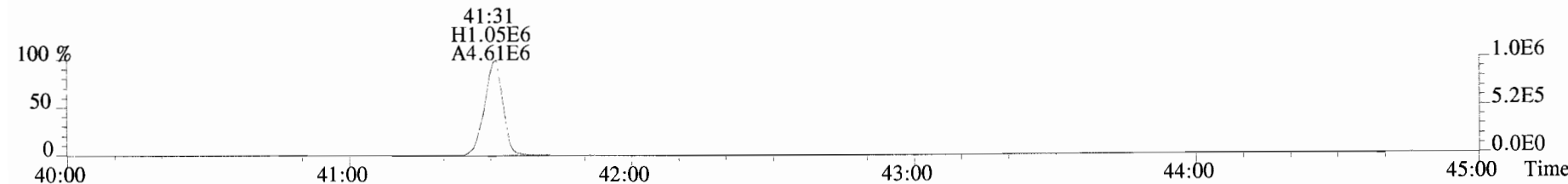
File:191024D1 #1-432 Acq:24-OCT-2019 15:36:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191024D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



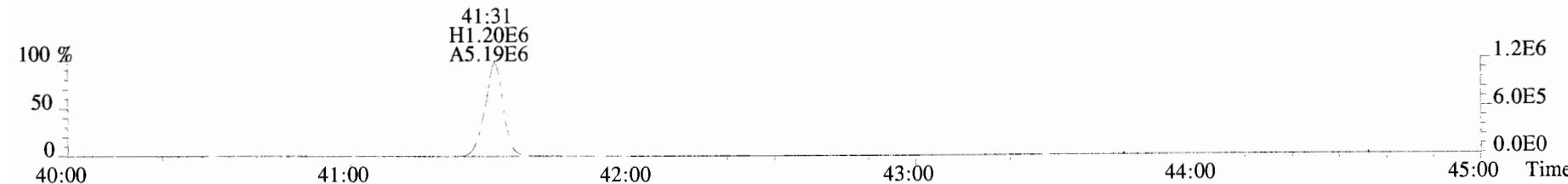
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



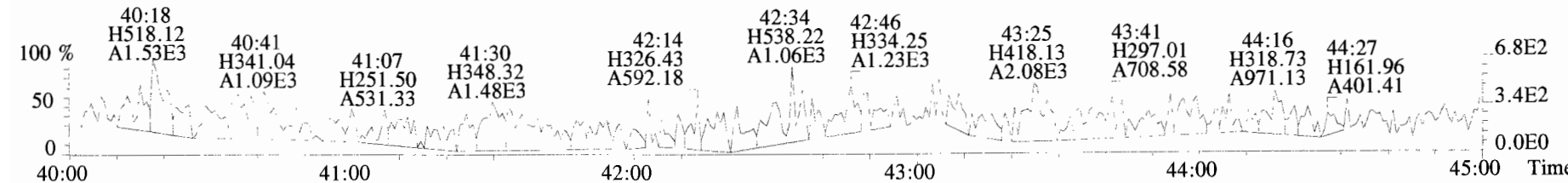
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

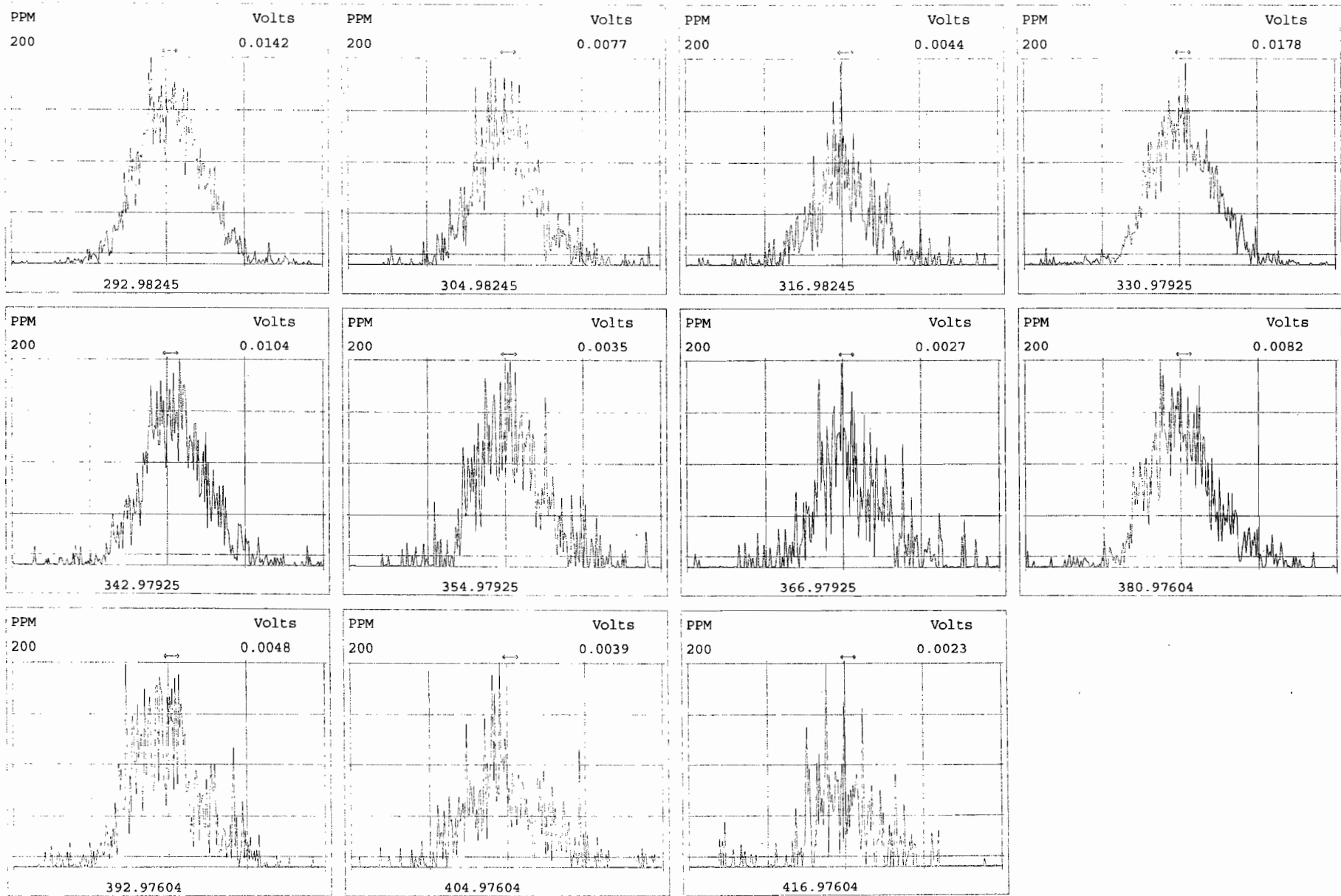


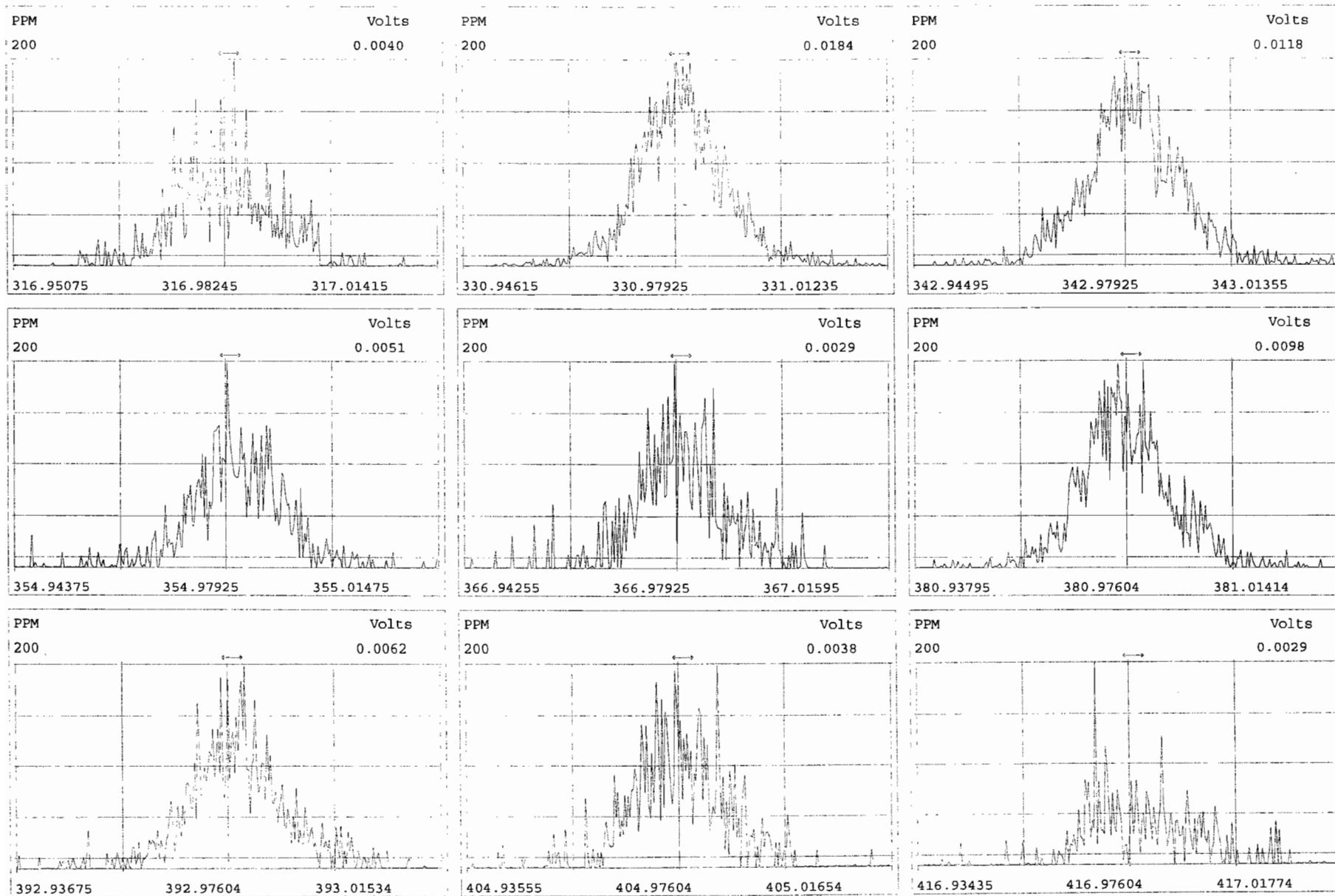
455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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

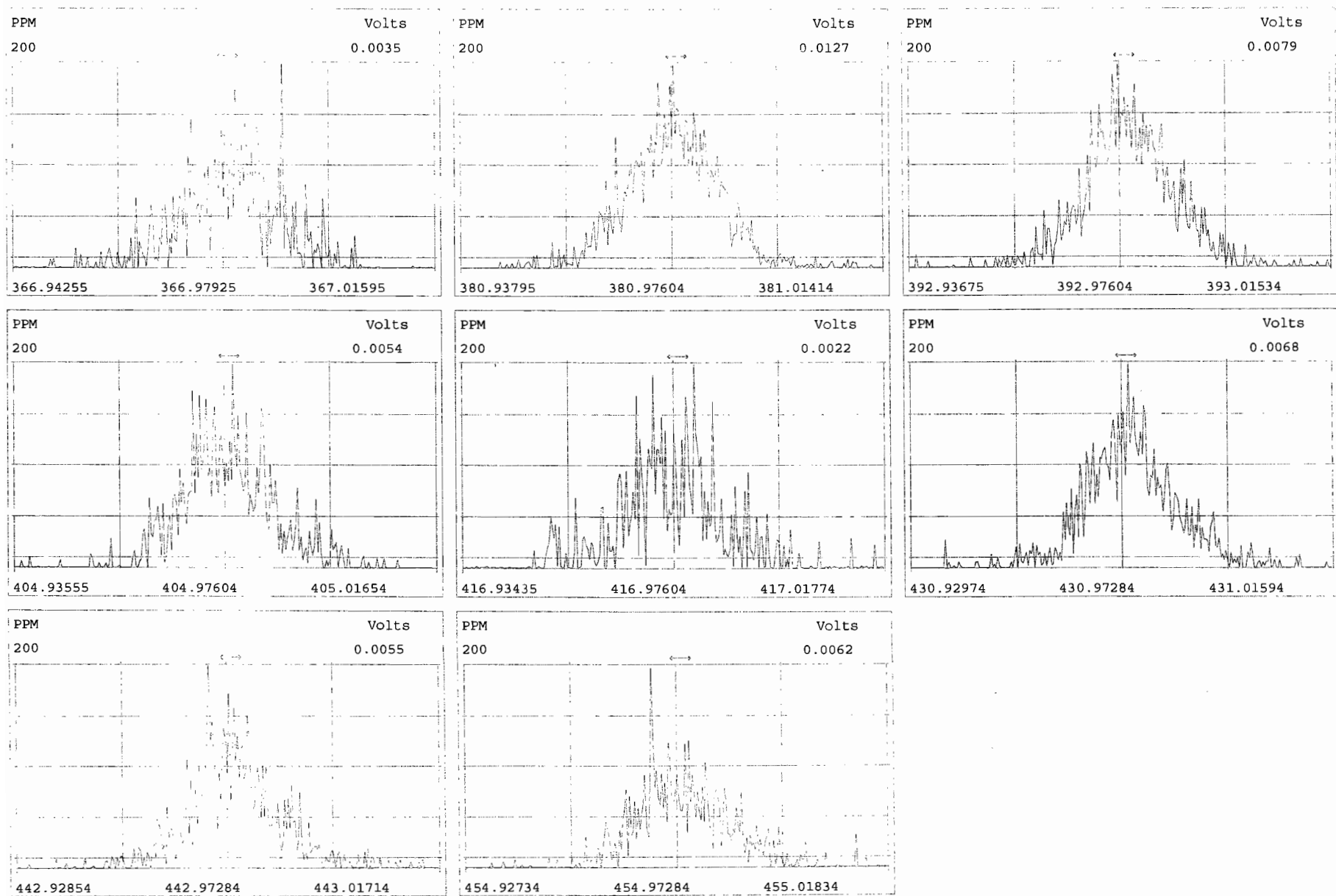


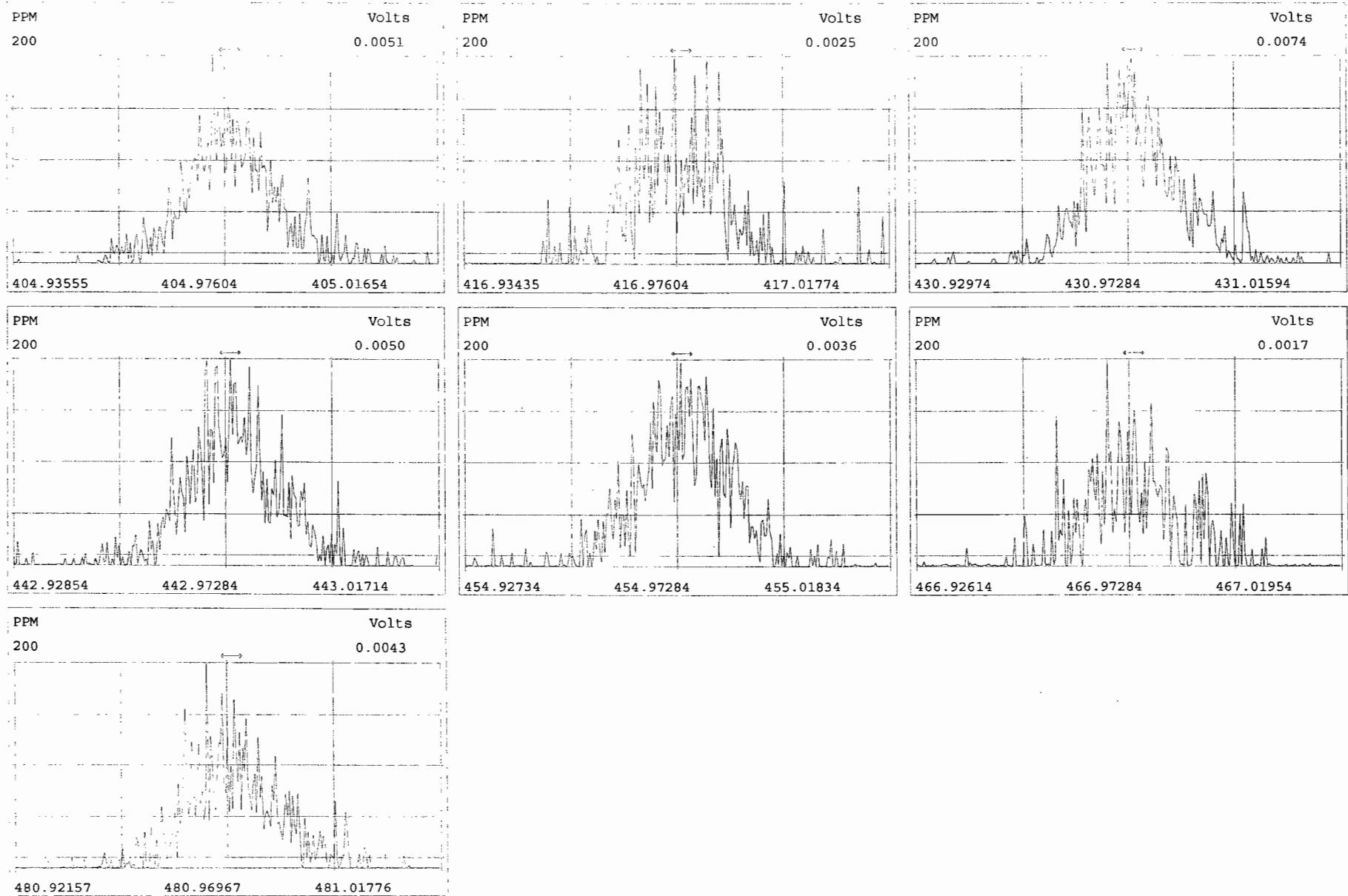




Peak Locate Examination:25-OCT-2019:03:46 File:RES_CHECK

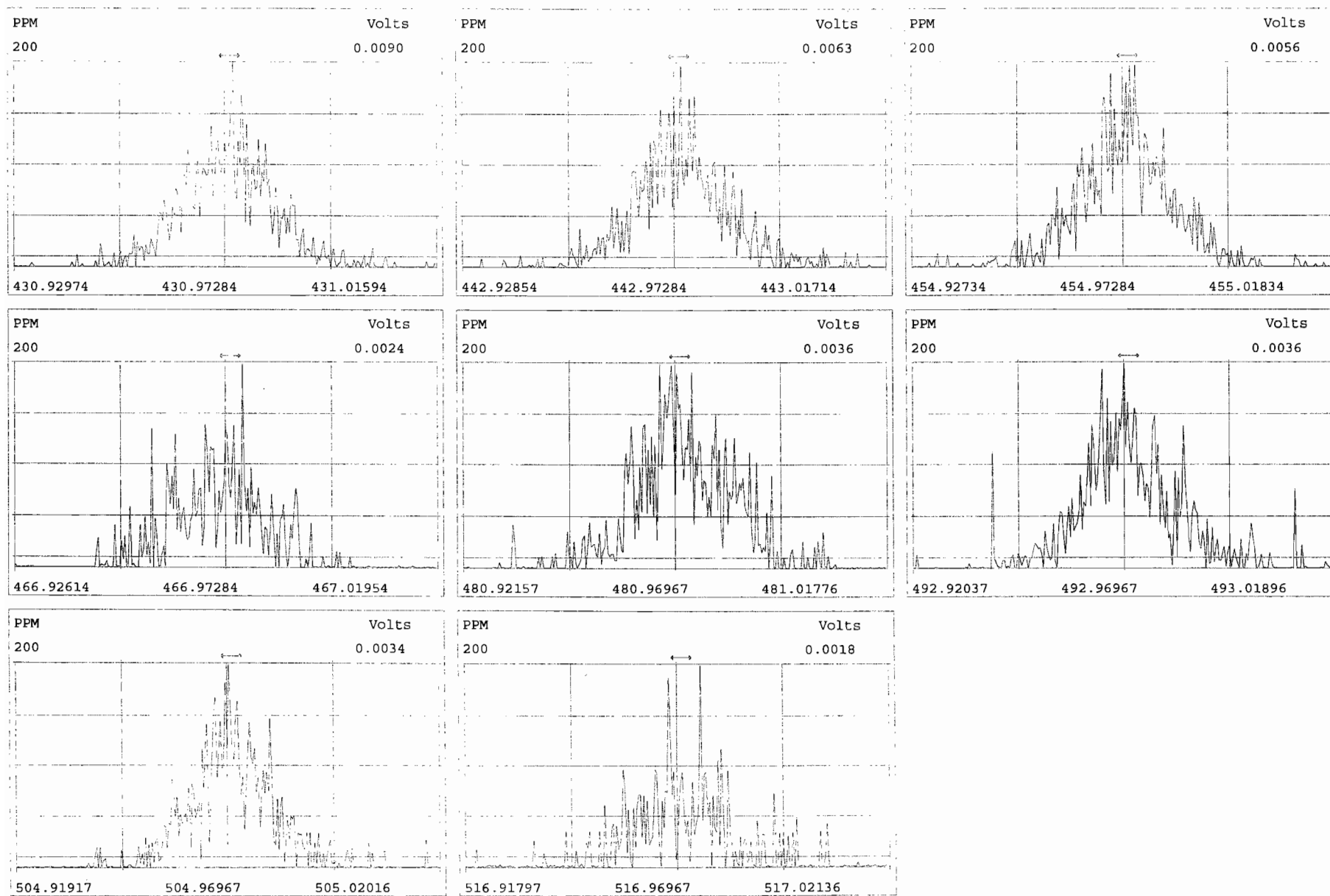
Experiment:OCDD_DB5 Function:3 Reference:PFK





Peak Locate Examination:25-OCT-2019:03:48 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



HKMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST191111D1-1

Reviewed By: CT 11/13/19
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>	<input type="checkbox"/>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> (Y)	<input type="checkbox"/> N
- Bottle position verified?	<u>DB</u>	<input type="checkbox"/>

	<u>Beg.</u>	<u>End</u>
Mass resolution ≥	<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		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
<u>8280 CS1 End Standard:</u>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.: CCAL ID: ST191111D1-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

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
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	53.6	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	52.1	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	52.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	y	53.3	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	50.2	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	104	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.74	0.65-0.89	y	9.82	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	51.8	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	50.8	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.1	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	y	49.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	50.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	y	49.6	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	101	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: JB

Date: 11/11/19

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: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

LABELED 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	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	103	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	98.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	92.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	y	93.5	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	107	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	211	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.80	0.65-0.89	y	101	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	103	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	102	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	0.52	0.43-0.59	y	99.3	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	101	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	103	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	105	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	112	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	226	96.0 - 415.0
CLEANUP STANDARD (3) 37Cl-2,3,7,8-TCDD					9.59	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: 11/11/19

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: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

ZB-5MS IS Data Filename: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

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)	22:50	1,3,6,8-TCDF (F)	20:43
1,2,8,9-TCDD (L)	27:05	1,2,8,9-TCDF (L)	27:13
1,2,4,7,9-PeCDD (F)	28:40	1,3,4,6,8-PeCDF (F)	27:11
1,2,3,8,9-PeCDD (L)	31:04	1,2,3,8,9-PeCDF (L)	31:19
1,2,4,6,7,9-HxCDD (F)	32:30	1,2,3,4,6,8-HxCDF (F)	31:57
1,2,3,7,8,9-HxCDD (L)	34:26	1,2,3,7,8,9-HxCDF (L)	34:49
1,2,3,4,6,7,9-HpCDD (F)	37:03	1,2,3,4,6,7,8-HpCDF (F)	36:40
1,2,3,4,6,7,8-HpCDD (L)	37:53	1,2,3,4,7,8,9-HpCDF (L)	38:25

(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: DBDate: 11/11/19

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-SMS

VER Data Filename: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT
	REFERENCE	RRT	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	1.000	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	1.197	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.992	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.152	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	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: 11/11/19

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: 191111D1 S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	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	1.000	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	0.992	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	1.018	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	1.129	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	1.234	1.091-1.371

Analyst: DB

Date: 11/11/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191111D1-1

Filename: 191111D1 S:1 Acq:11-NOV-19 10:19:32
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

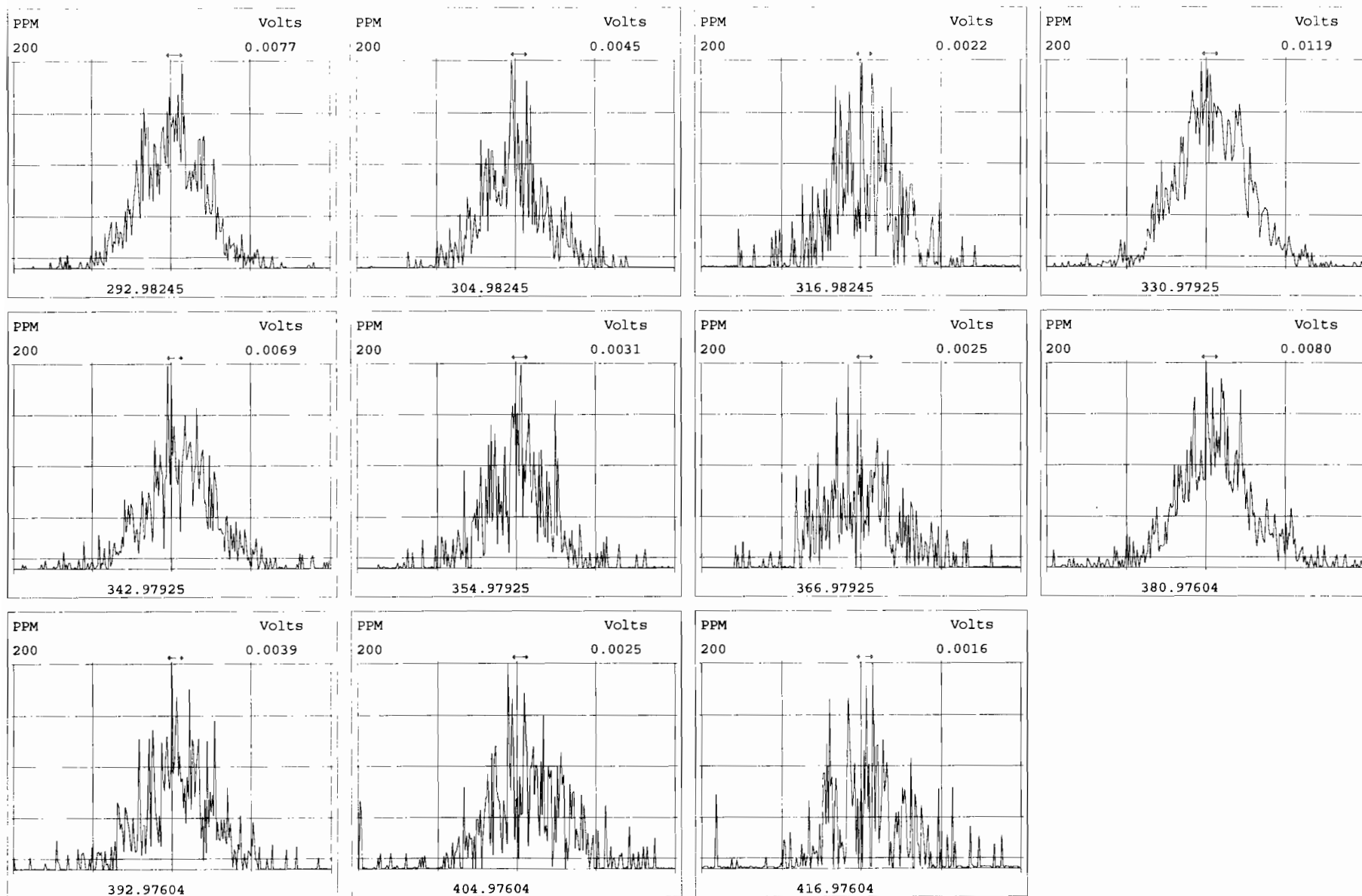
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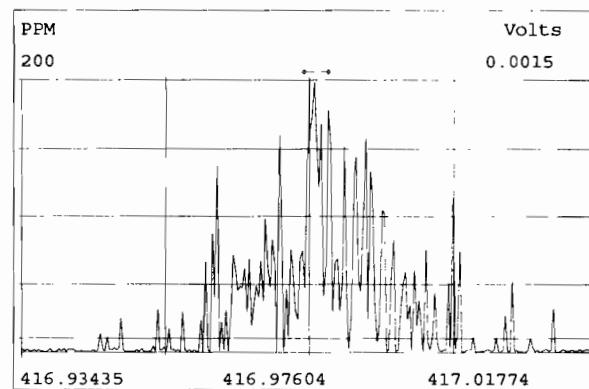
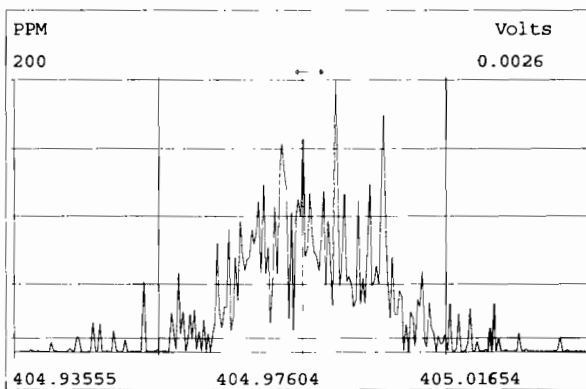
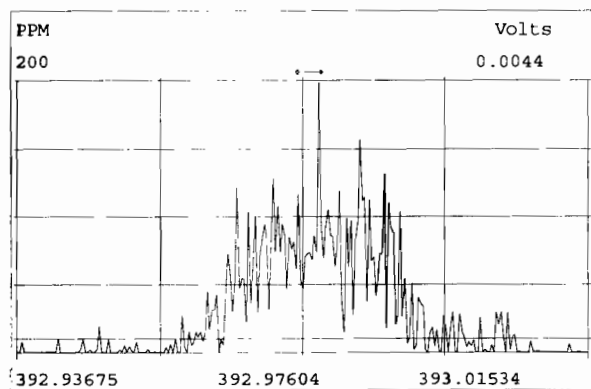
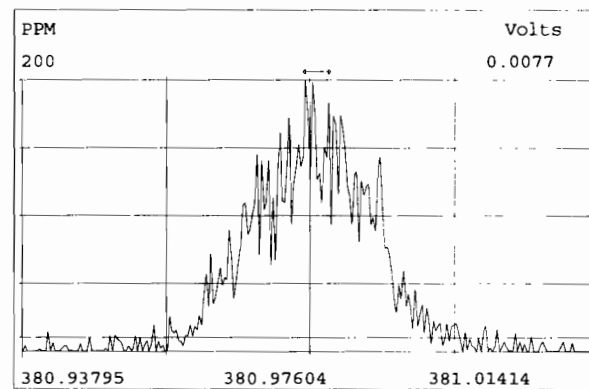
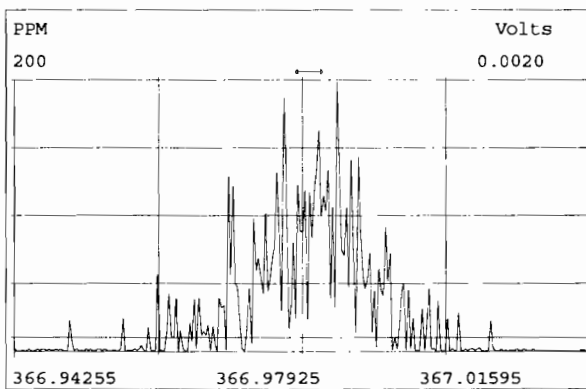
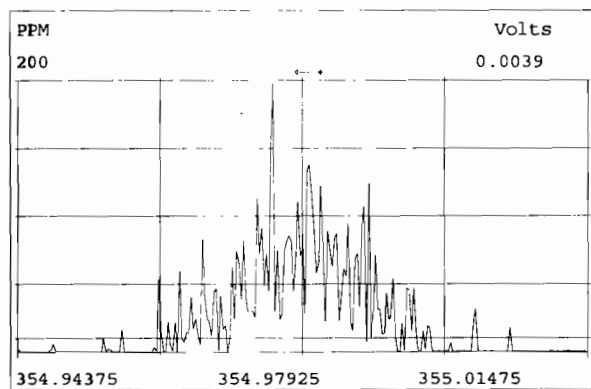
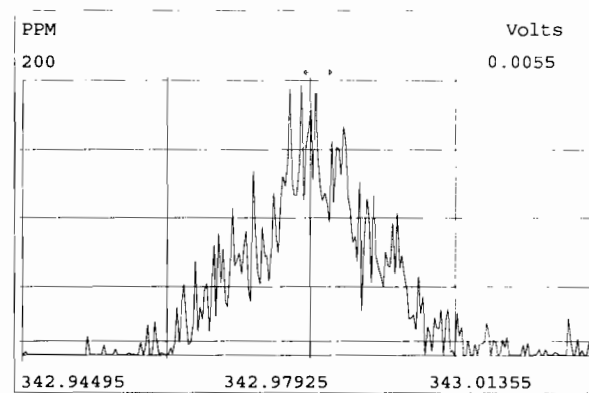
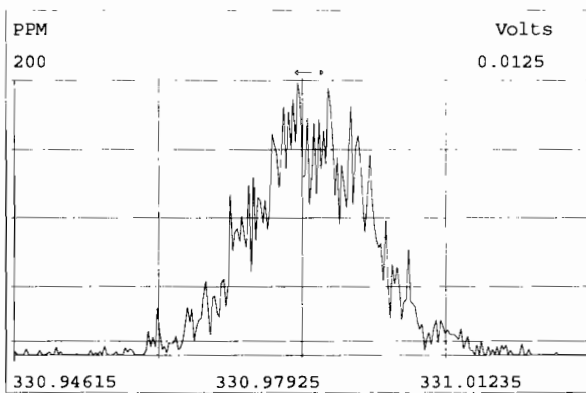
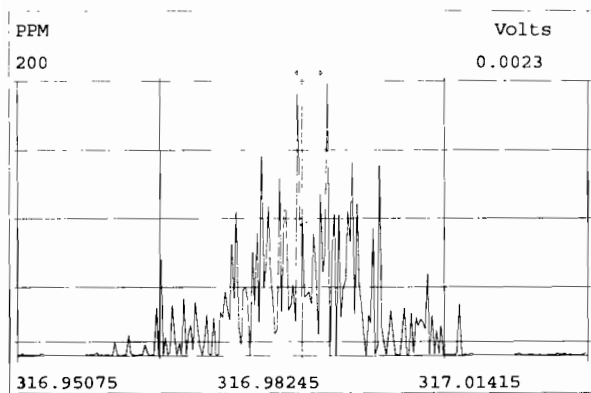
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	1.35e+06	0.79 y	0.91	26:13	11.525		* 2.5		*	Total Tetra-Dioxins	79.2	79.7		*	*
1,2,3,7,8-PeCDD	5.14e+06	0.63 y	0.90	30:43	53.581		* 2.5		*	Total Penta-Dioxins	201	201		*	*
1,2,3,4,7,8-HxCDD	5.45e+06	1.27 y	1.10	34:02	52.131		* 2.5		*	Total Hexa-Dioxins	232	234		*	*
1,2,3,6,7,8-HxCDD	5.81e+06	1.26 y	0.94	34:08	52.425		* 2.5		*	Total Hepta-Dioxins	116	117		*	*
1,2,3,7,8,9-HxCDD	5.77e+06	1.27 y	0.96	34:26	53.282		* 2.5		*	Total Tetra-Furans	38.6	39.3		*	*
1,2,3,4,6,7,8-HpCDD	5.14e+06	1.04 y	0.98	37:53	50.182		* 2.5		*	Total Penta-Furans	224.39	224.88		*	*
OCDD	9.10e+06	0.89 y	0.96	41:09	103.97		* 2.5		*	Total Hexa-Furans	266	267		*	*
										Total Hepta-Furans	100	101		*	*
2,3,7,8-TCDF	1.81e+06	0.74 y	0.95	25:26	9.8187		* 2.5		*						
1,2,3,7,8-PeCDF	8.12e+06	1.57 y	0.96	29:32	51.845		* 2.5		*						
2,3,4,7,8-PeCDF	8.24e+06	1.61 y	1.01	30:26	50.767		* 2.5		*						
1,2,3,4,7,8-HxCDF	7.41e+06	1.22 y	1.18	33:08	49.598		* 2.5		*						
1,2,3,6,7,8-HxCDF	8.21e+06	1.22 y	1.07	33:16	50.088		* 2.5		*						
2,3,4,6,7,8-HxCDF	8.07e+06	1.22 y	1.11	33:52	50.498		* 2.5		*						
1,2,3,7,8,9-HxCDF	6.64e+06	1.23 y	1.06	34:49	49.257		* 2.5		*						
1,2,3,4,6,7,8-HpCDF	6.68e+06	1.03 y	1.13	36:39	50.069		* 2.5		*						
1,2,3,4,7,8,9-HpCDF	6.19e+06	1.03 y	1.28	38:25	49.567		* 2.5		*						
OCDF	1.12e+07	0.91 y	0.95	41:23	101.21		* 2.5		*						
IS 13C-2,3,7,8-TCDD	1.30e+07	0.79 y	1.10	26:12	101.03					Rec	Qual				
IS 13C-1,2,3,7,8-PeCDD	1.06e+07	0.62 y	0.88	30:42	102.93					101					
IS 13C-1,2,3,4,7,8-HxCDD	9.49e+06	1.28 y	0.64	34:01	98.947					103					
IS 13C-1,2,3,6,7,8-HxCDD	1.18e+07	1.27 y	0.86	34:08	92.311					98.9					
IS 13C-1,2,3,7,8,9-HxCDD	1.13e+07	1.27 y	0.81	34:26	93.524					92.3					
IS 13C-1,2,3,4,6,7,8-HpCDD	1.05e+07	1.04 y	0.65	37:52	107.02					93.5					
IS 13C-OCDD	1.83e+07	0.90 y	0.58	41:09	210.85					107					
IS 13C-2,3,7,8-TCDF	1.94e+07	0.80 y	1.03	25:26	100.99					105					
IS 13C-1,2,3,7,8-PeCDF	1.63e+07	1.58 y	0.85	29:32	102.91					101					
IS 13C-2,3,4,7,8-PeCDF	1.60e+07	1.61 y	0.85	30:25	101.78					103					
IS 13C-1,2,3,4,7,8-HxCDF	1.27e+07	0.51 y	0.83	33:07	102.14					102					
IS 13C-1,2,3,6,7,8-HxCDF	1.53e+07	0.52 y	1.03	33:15	99.266					102					
IS 13C-2,3,4,6,7,8-HxCDF	1.43e+07	0.52 y	0.95	33:51	100.71					99.3					
IS 13C-1,2,3,7,8,9-HxCDF	1.27e+07	0.52 y	0.83	34:48	102.70					101					
IS 13C-1,2,3,4,6,7,8-HpCDF	1.18e+07	0.43 y	0.76	36:39	104.60					101					
IS 13C-1,2,3,4,7,8,9-HpCDF	9.76e+06	0.44 y	0.58	38:24	112.46					103					
IS 13C-OCDF	2.33e+07	0.89 y	0.69	41:22	226.13					105					
C/Up 37Cl-2,3,7,8-TCDD	1.34e+06		1.20	26:13	9.5950					112					
RS/RT 13C-1,2,3,4-TCDD	1.17e+07	0.80 y	1.00	25:39	100.00					113					
RS 13C-1,2,3,4-TCDF	1.85e+07	0.81 y	1.00	24:13	100.00										
RS/RT 13C-1,2,3,4,6,9-HxCDF	1.49e+07	0.51 y	1.00	33:32	100.00										

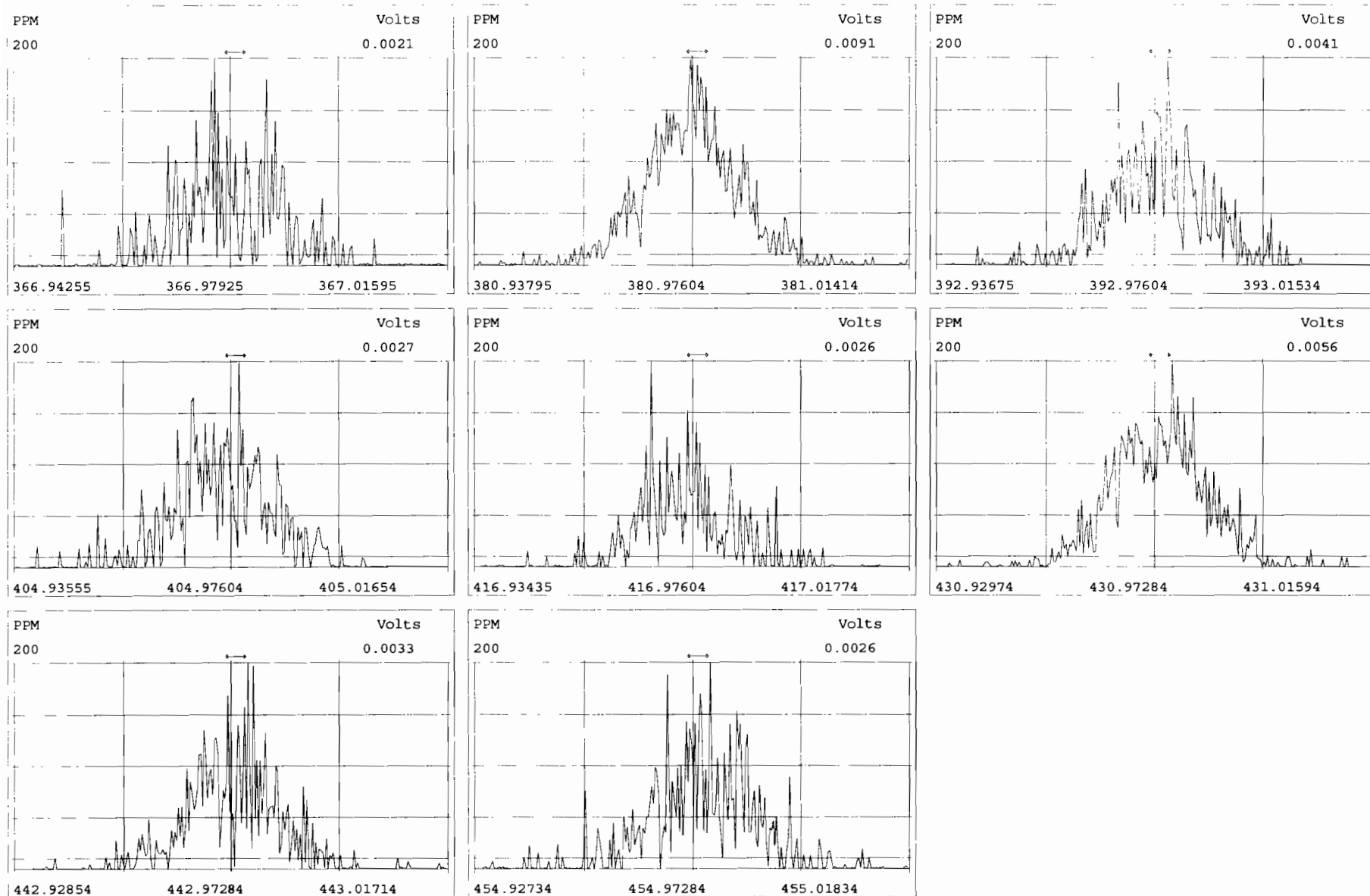
Integrations
by DB
Analyst: DB
Date: 11/11/19
Reviewed
by CT
Analyst: CT
Date: 11/13/19

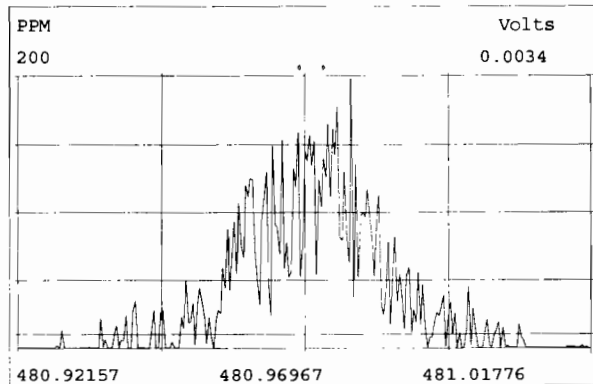
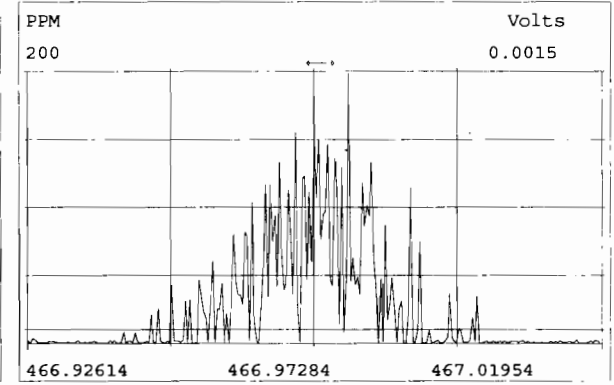
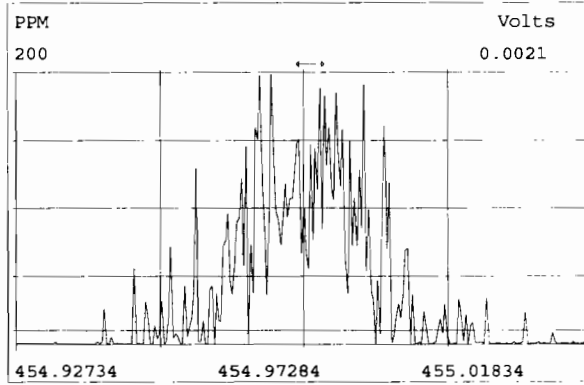
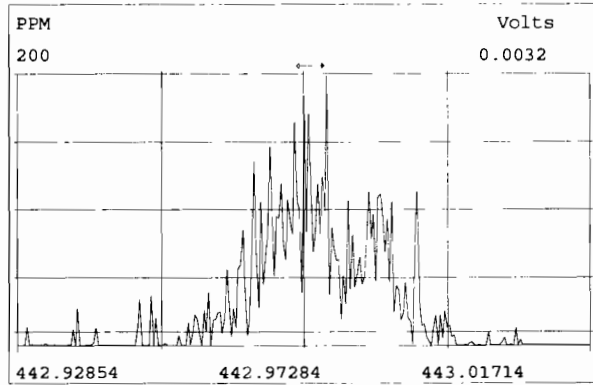
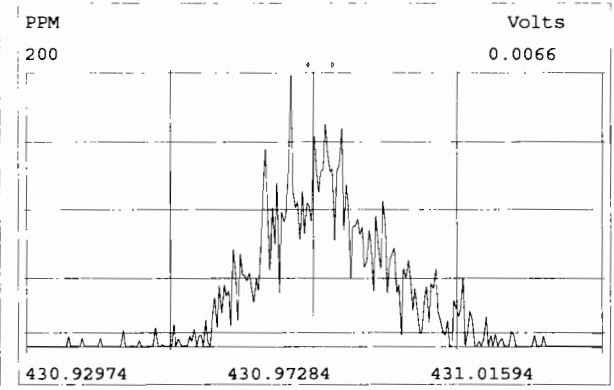
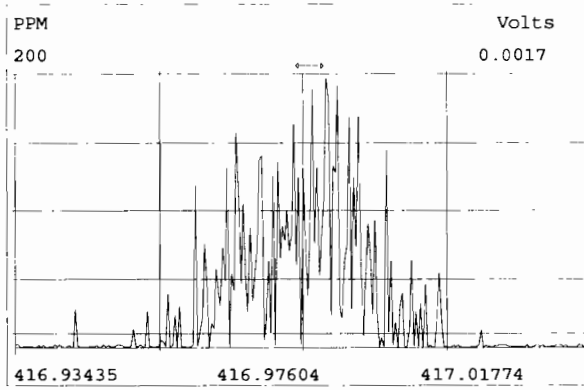
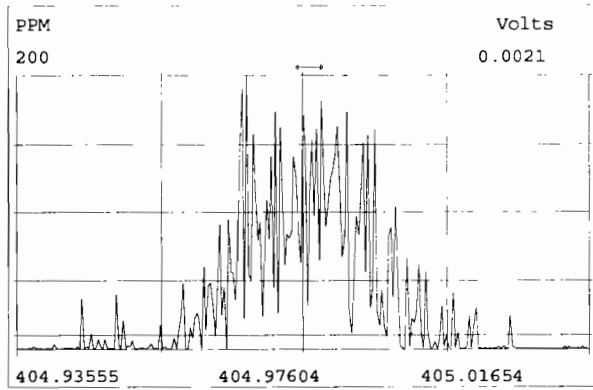
Vista Analytical Laboratory - Injection Log Run file: 191111D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191111D1	1	ST191111D1-1	DB	11-NOV-19	10:19:32	ST191111D1-1	NA
191111D1	2	B9J0332-BS1	DB	11-NOV-19	11:07:28	ST191111D1-1	NA
191111D1	3	SOLVENT BLANK	DB	11-NOV-19	11:55:24	ST191111D1-1	NA
191111D1	4	B9J0332-BLK1	DB	11-NOV-19	12:43:25	ST191111D1-1	NA
191111D1	5	B9J0144-DUP1	DB	11-NOV-19	13:31:22	ST191111D1-1	NA
191111D1	6	1903431-09	DB	11-NOV-19	14:19:19	ST191111D1-1	NA
191111D1	7	1903743-01	DB	11-NOV-19	15:07:15	ST191111D1-1	NA
191111D1	8	1903743-02	DB	11-NOV-19	15:55:12	ST191111D1-1	NA
191111D1	9	1903645-01	DB	11-NOV-19	16:43:10	ST191111D1-1	NA
191111D1	10	1903645-03	DB	11-NOV-19	17:30:56	ST191111D1-1	NA
191111D1	11	1903645-02	DB	11-NOV-19	18:18:51	ST191111D1-1	NA
191111D1	12	1903645-04	DB	11-NOV-19	19:06:37	ST191111D1-1	NA
191111D1	13	1903645-05	DB	11-NOV-19	19:54:22	ST191111D1-1	NA
191111D1	14	1903645-06	DB	11-NOV-19	20:42:07	ST191111D1-1	NA
191111D1	15	1903645-07	DB	11-NOV-19	21:29:52	ST191111D1-1	NA



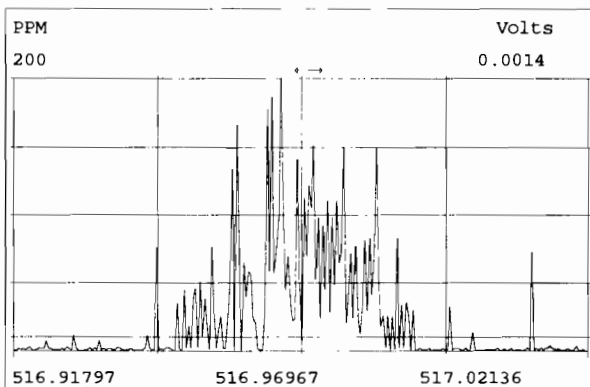
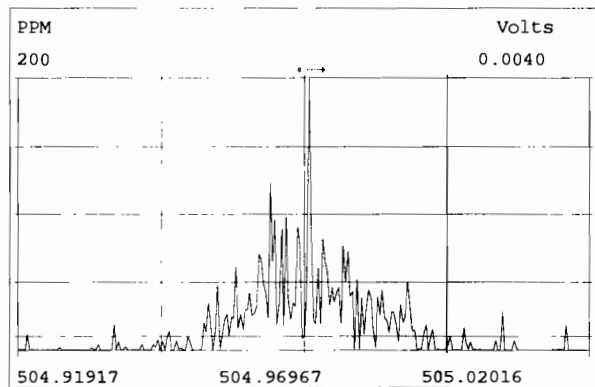
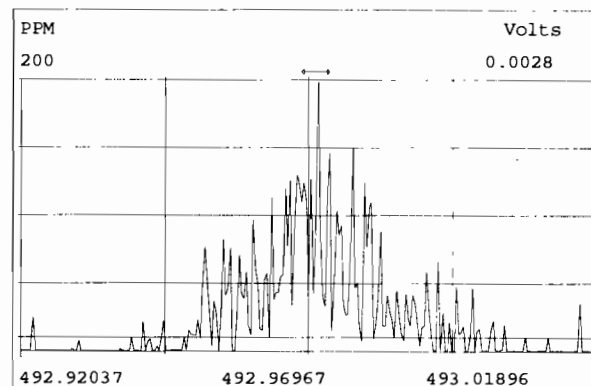
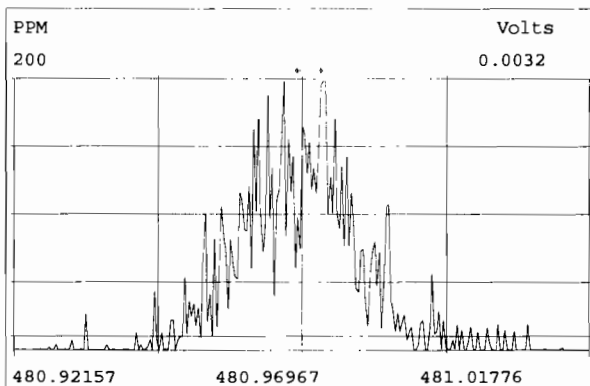
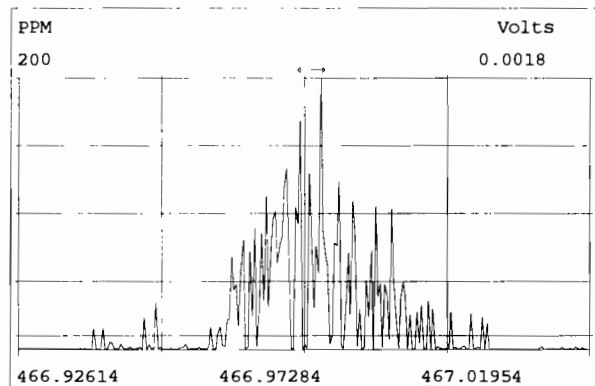
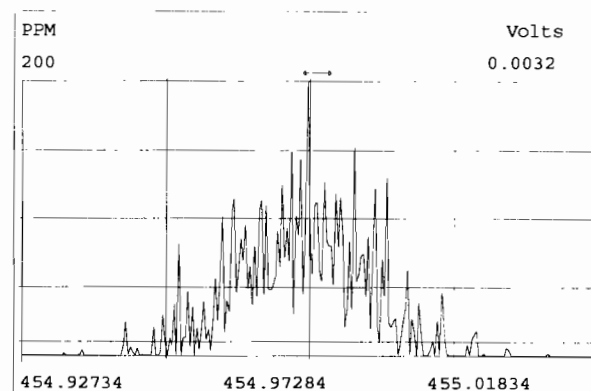
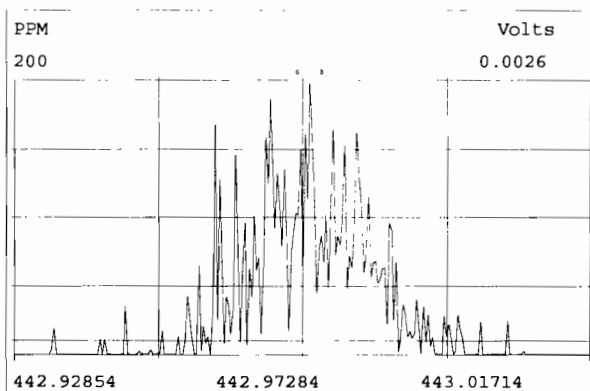
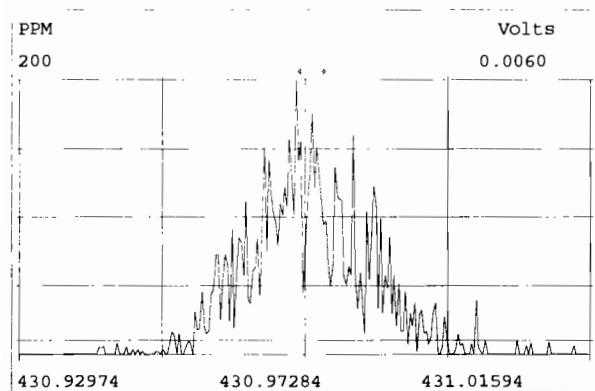




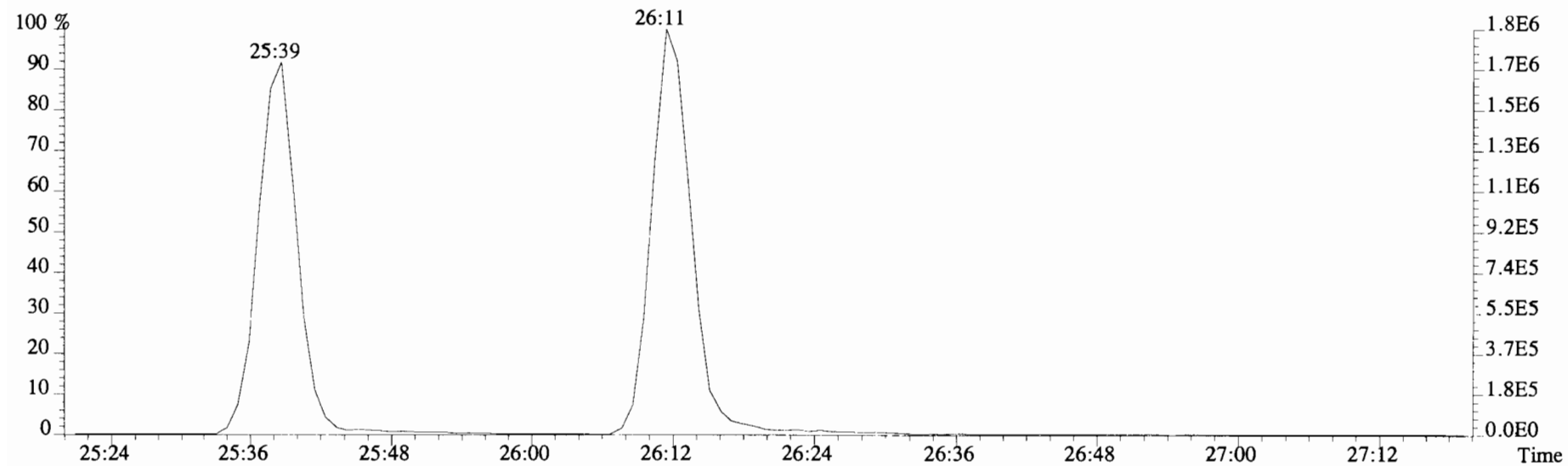
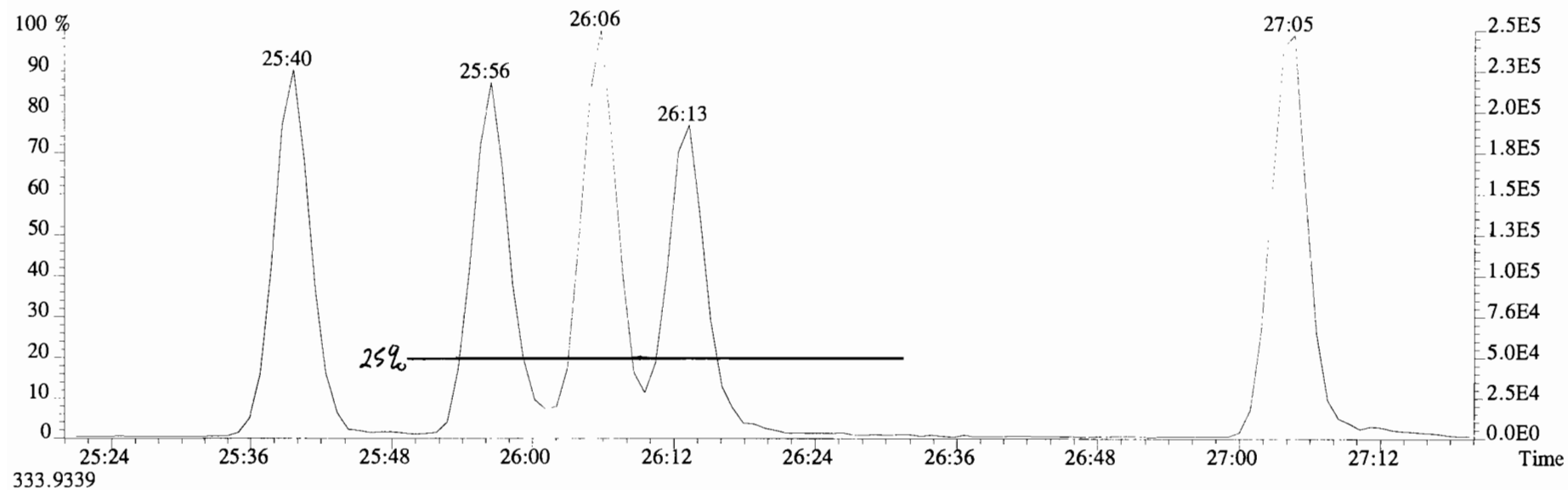


Peak Locate Examination:11-NOV-2019:10:18 File:191111D1

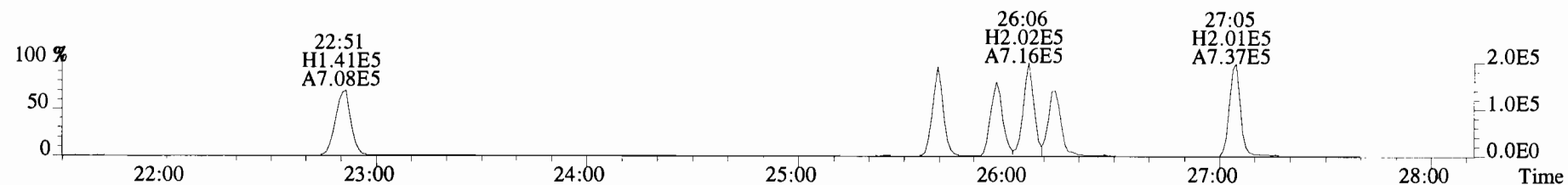
Experiment:OCDD_DB5 Function:5 Reference:PFK



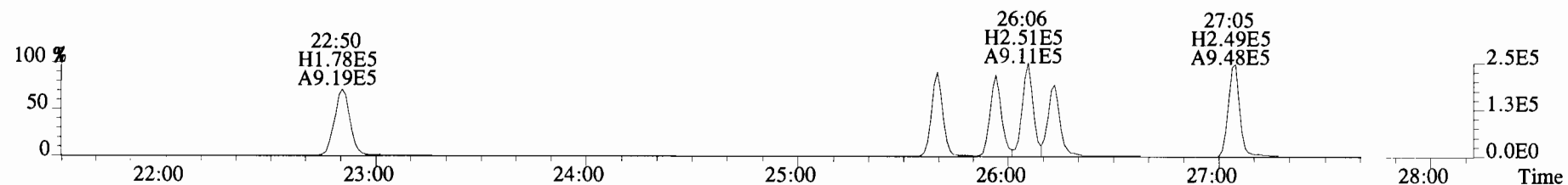
File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



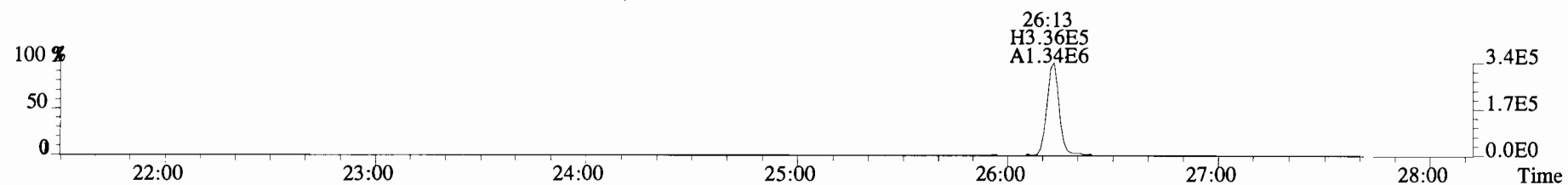
File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



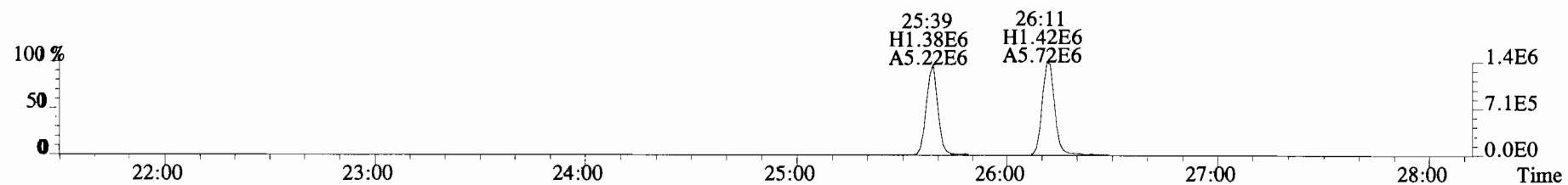
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



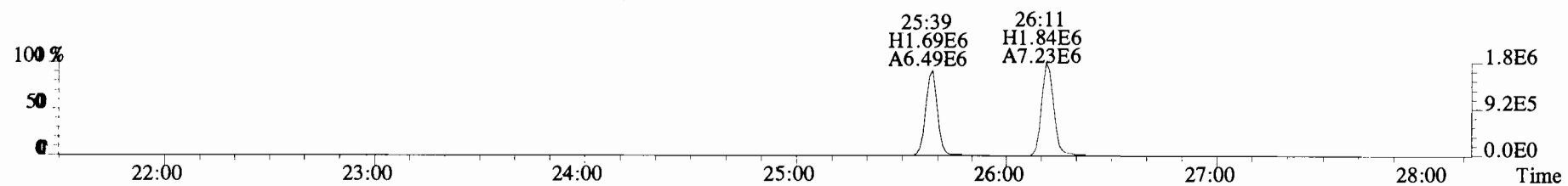
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



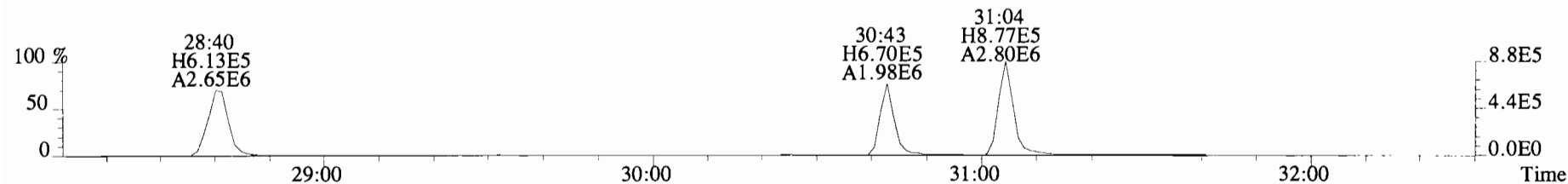
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



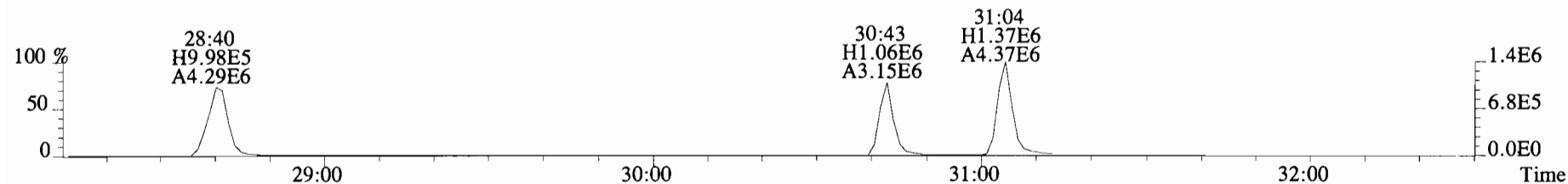
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



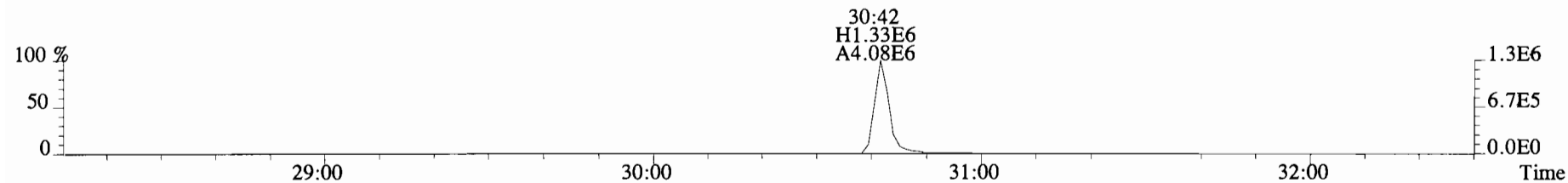
File:191111D1 #1-211 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



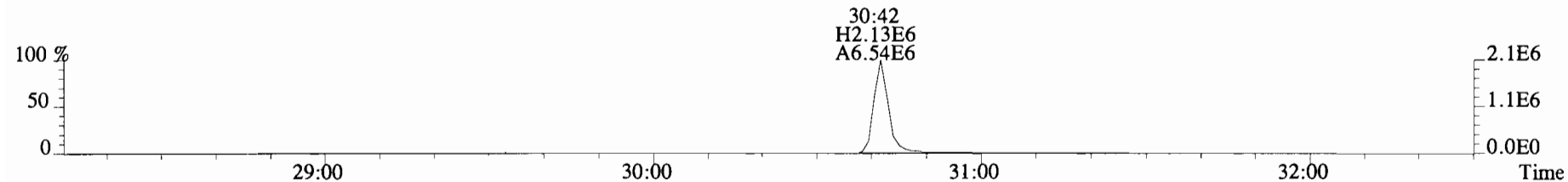
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



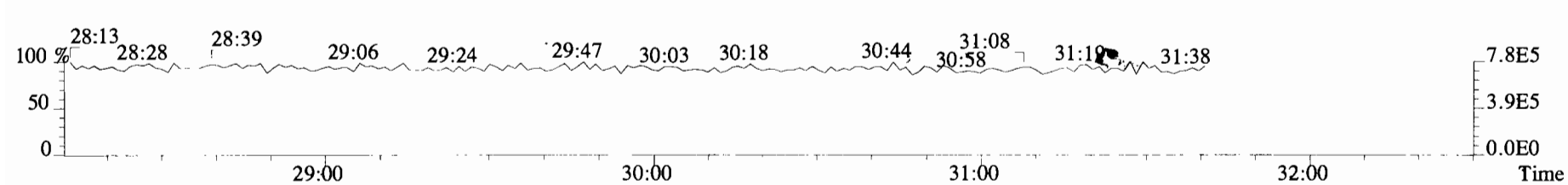
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



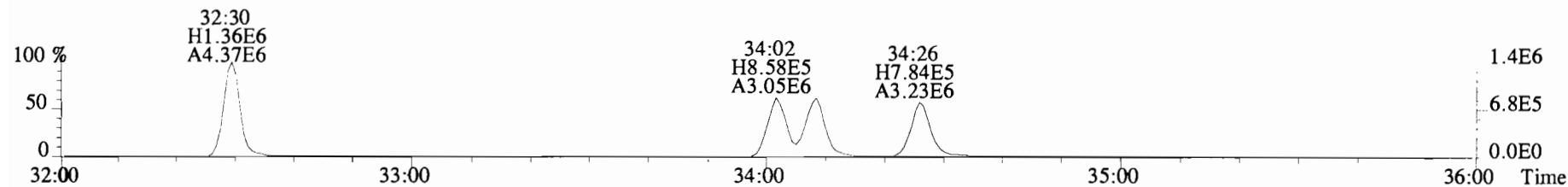
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



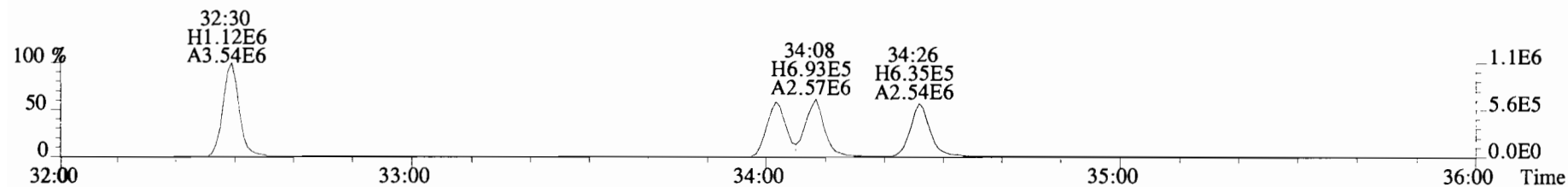
366.9792 F:2



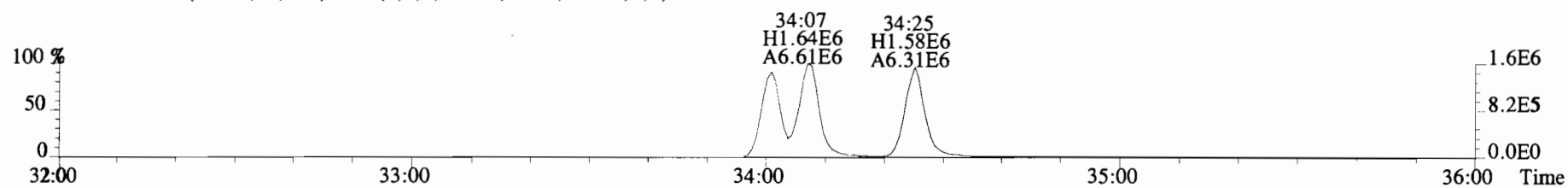
File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



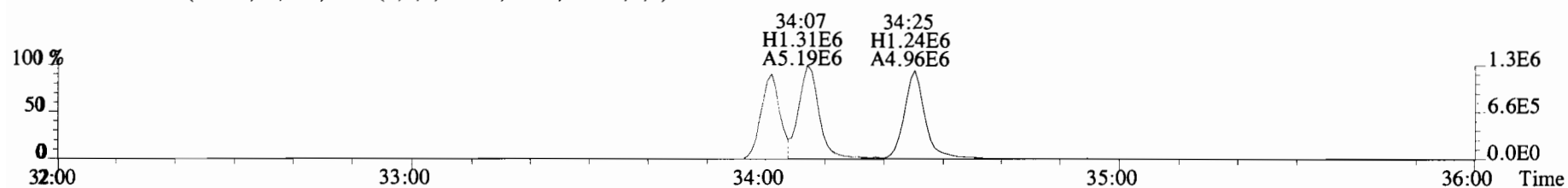
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



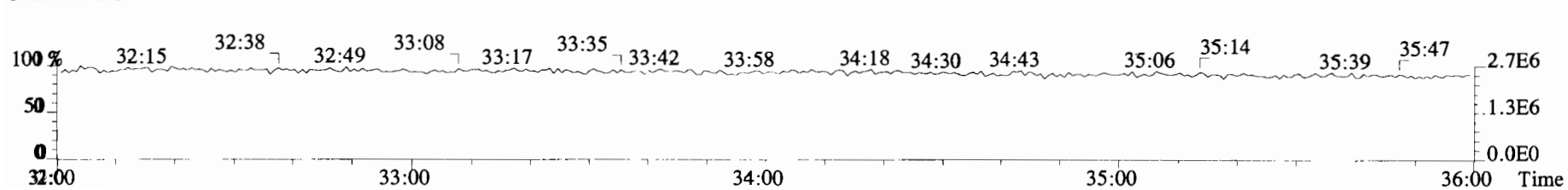
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



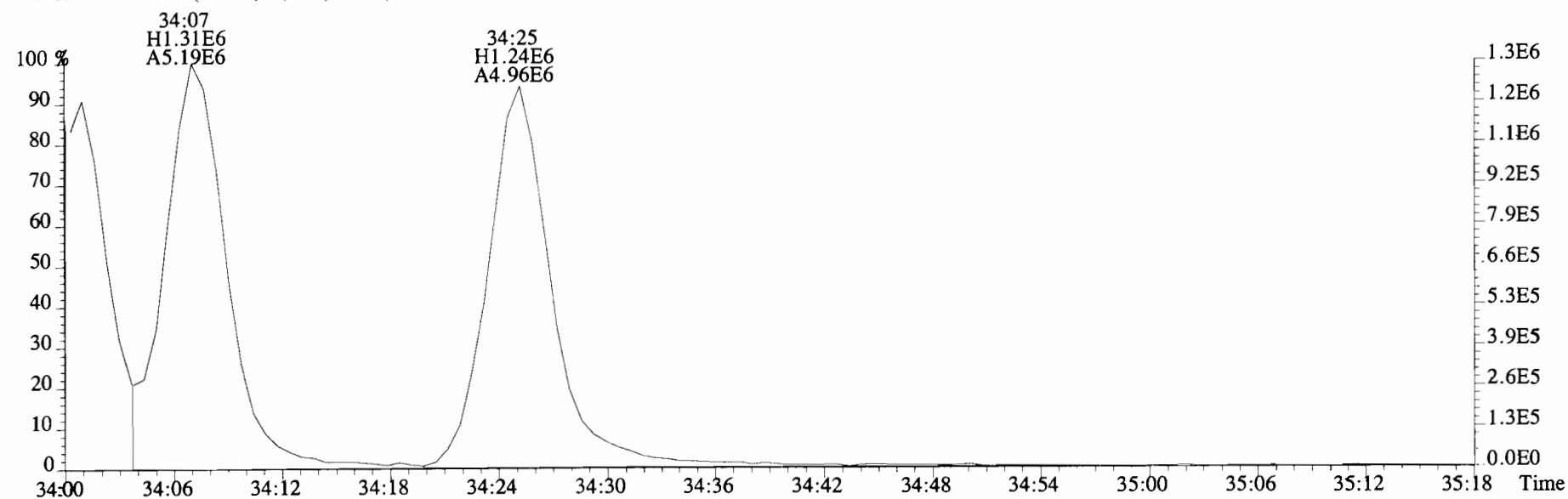
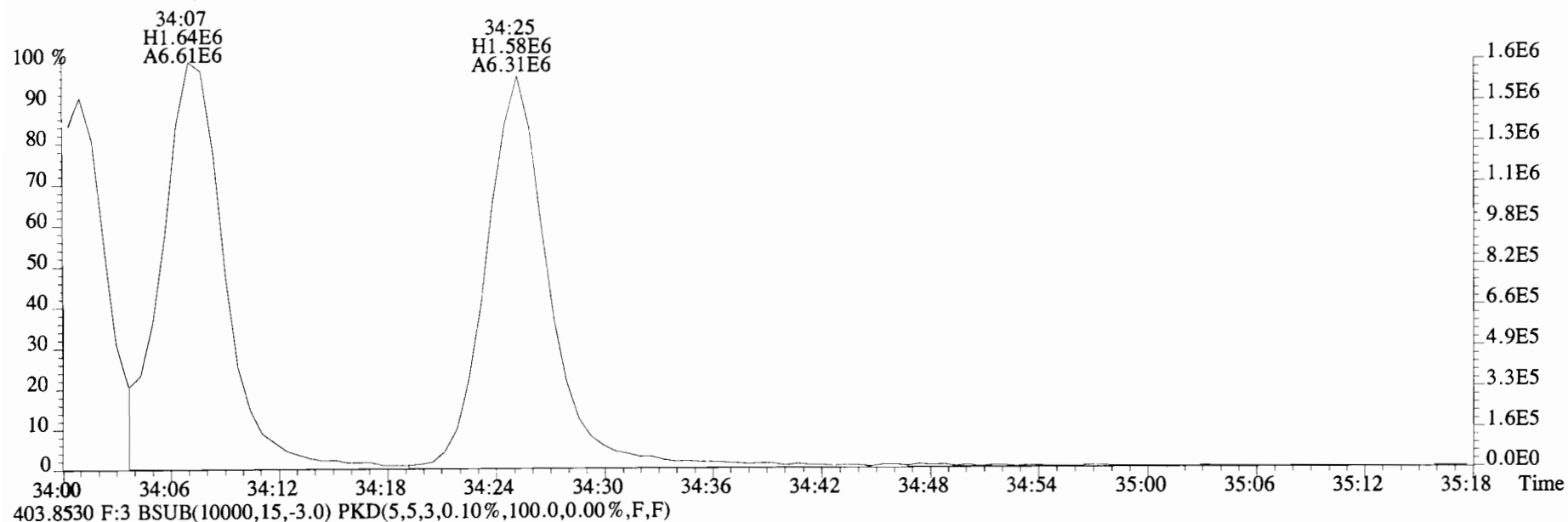
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



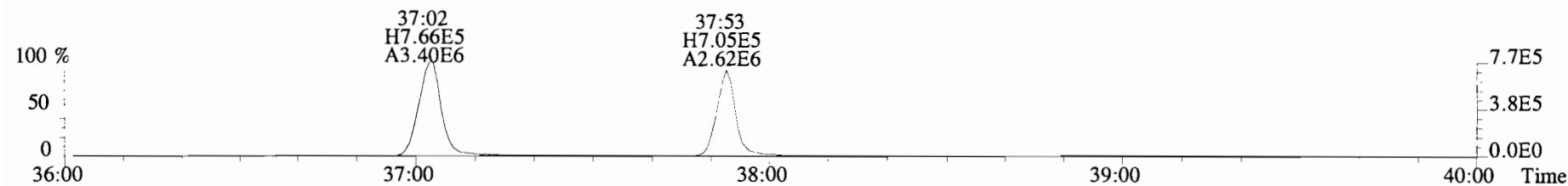
392.9760 F:3



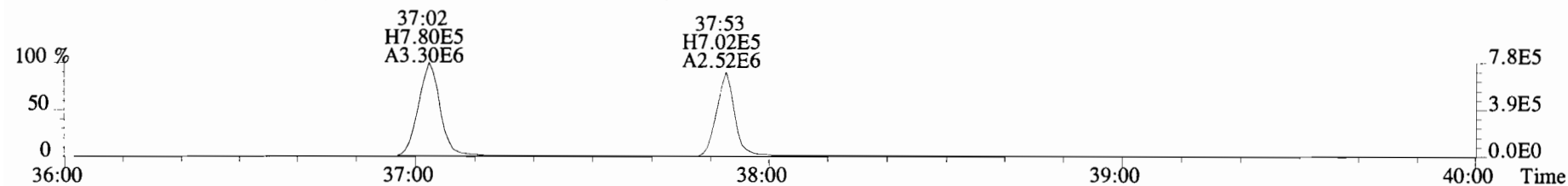
File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



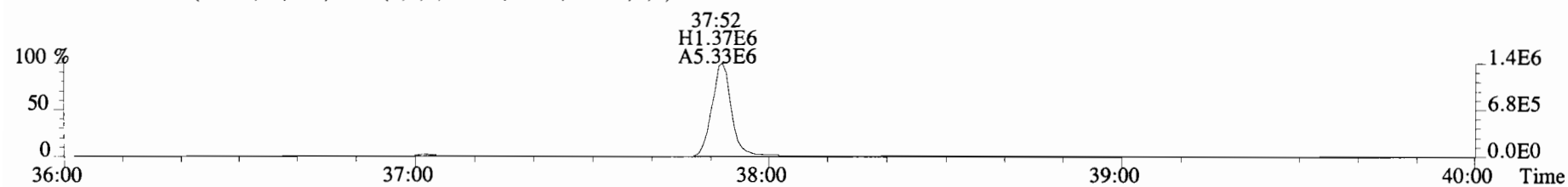
File:191111D1 #1-356 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



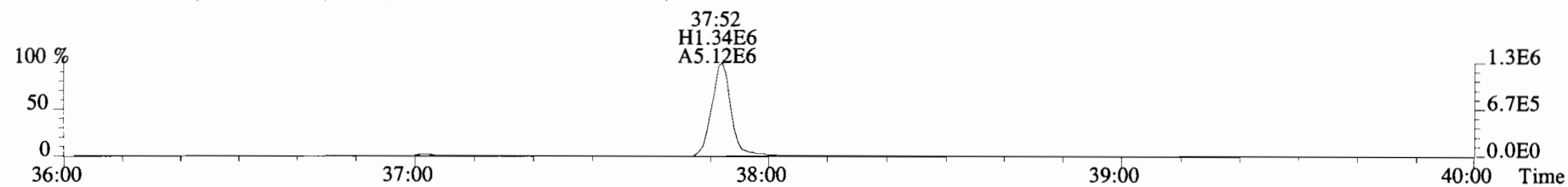
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



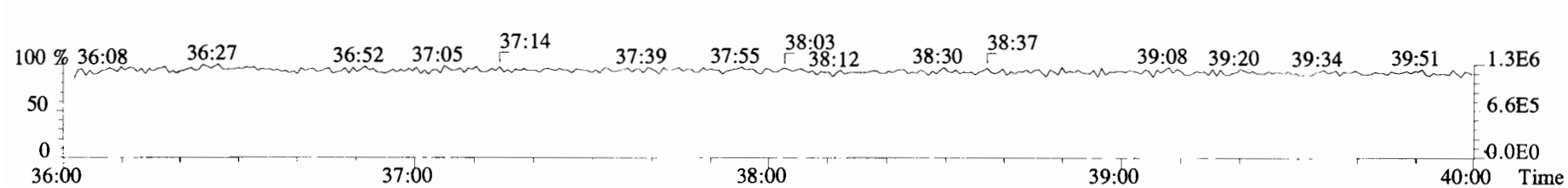
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



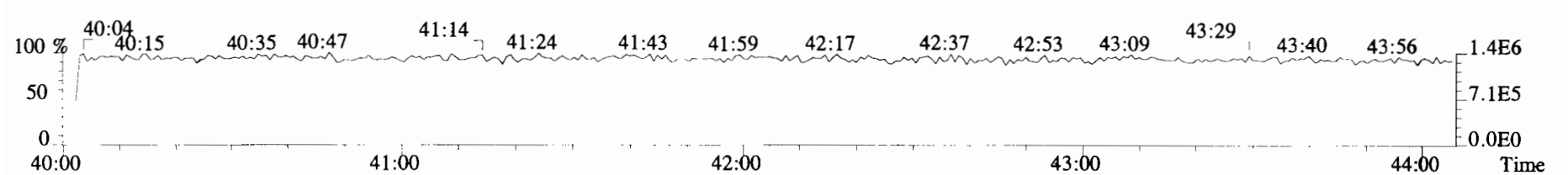
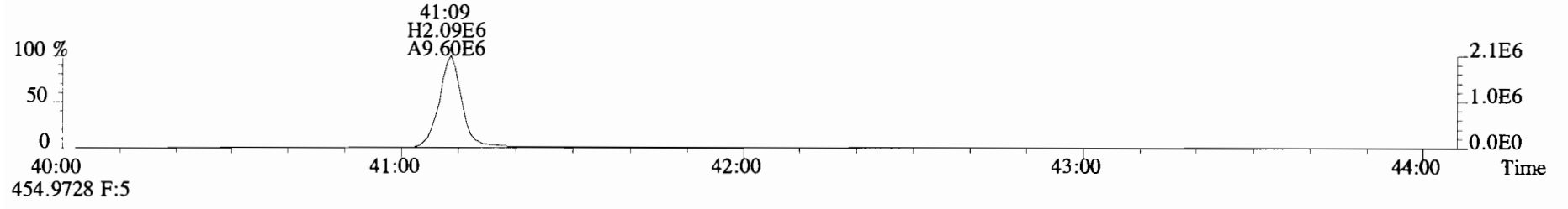
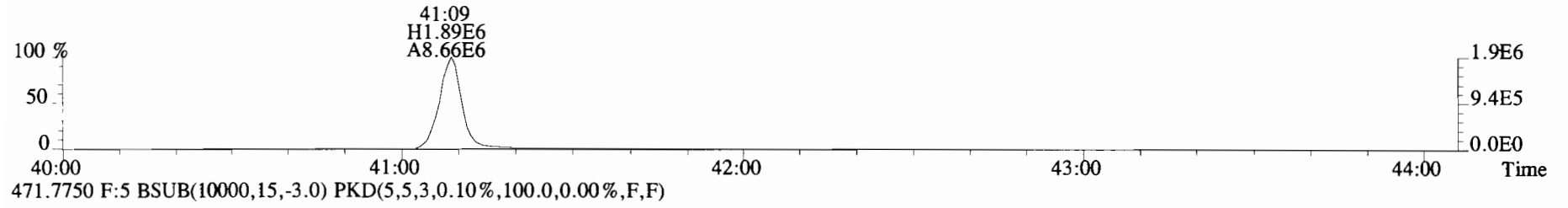
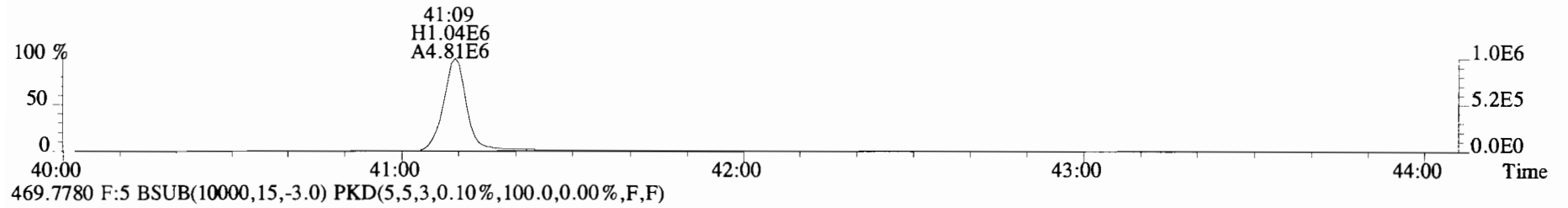
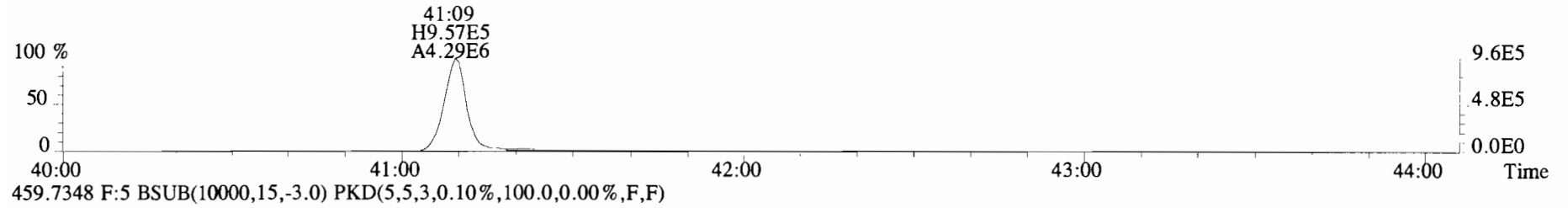
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



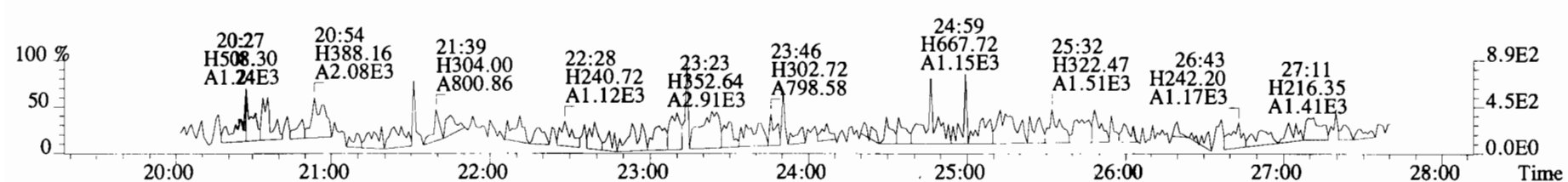
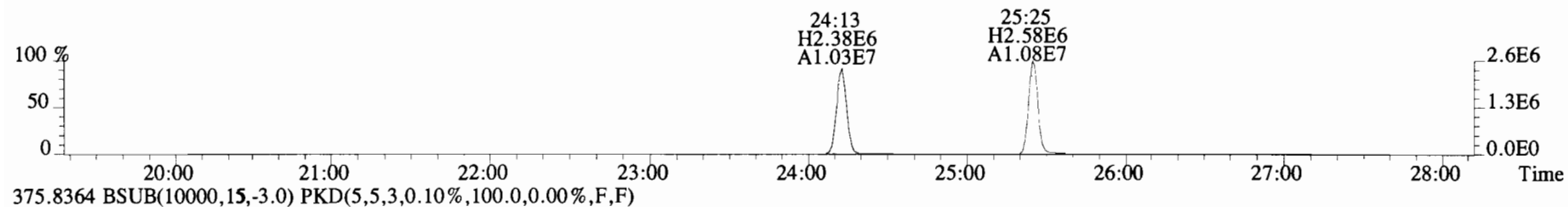
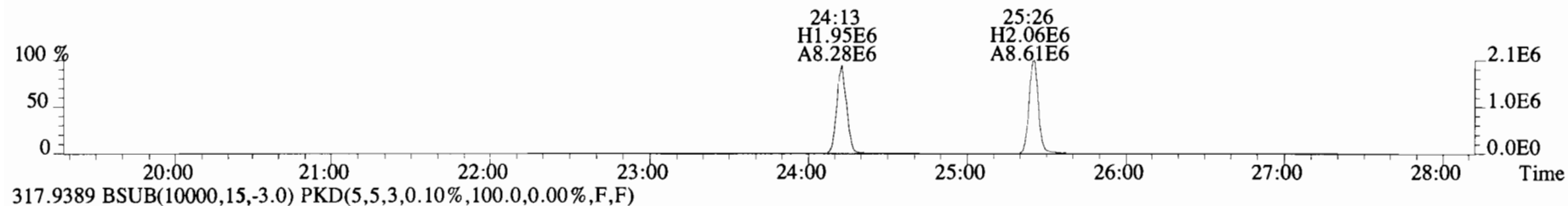
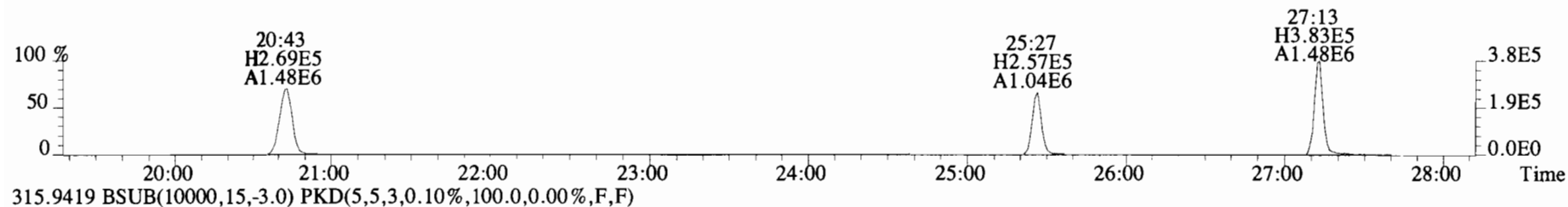
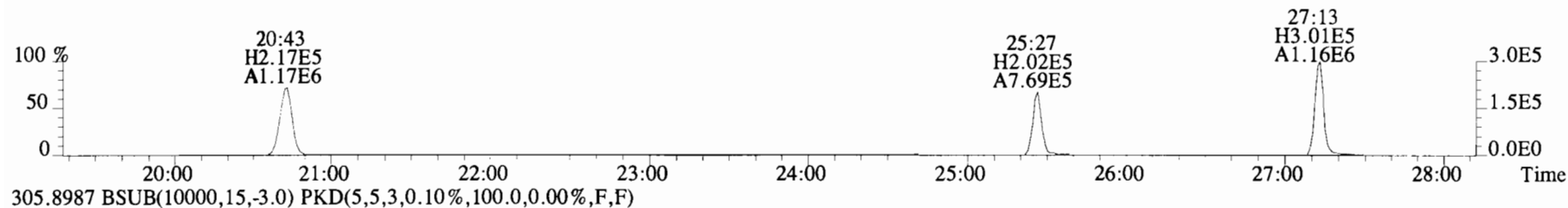
454.9728 F:4



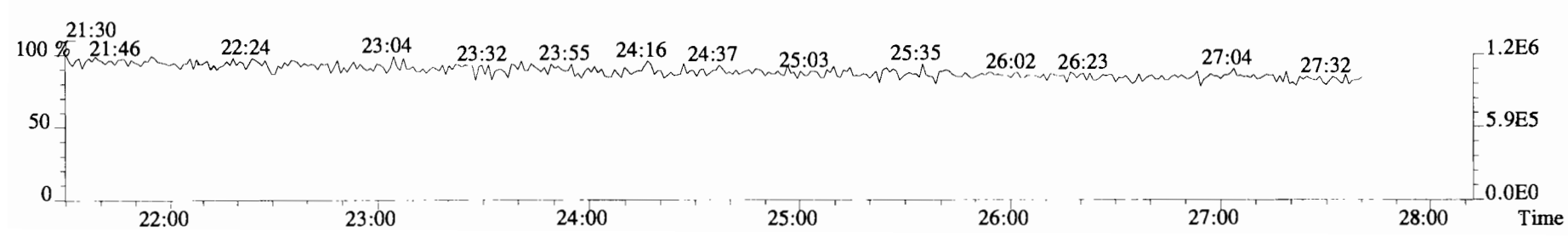
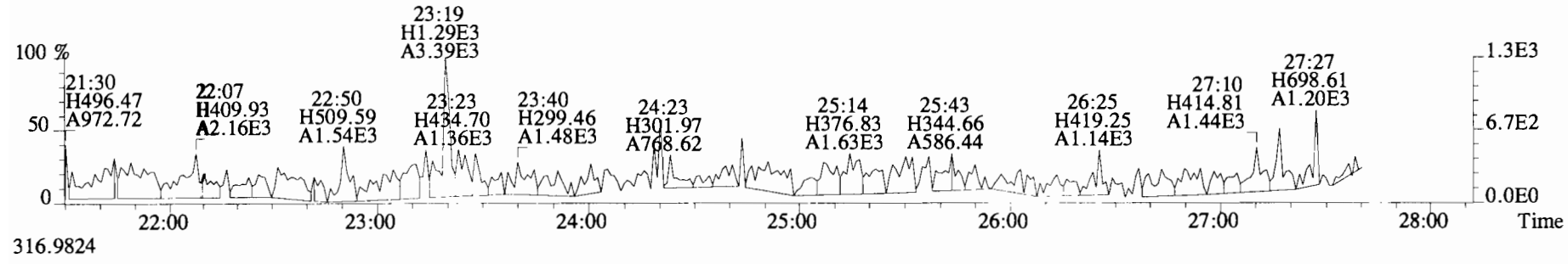
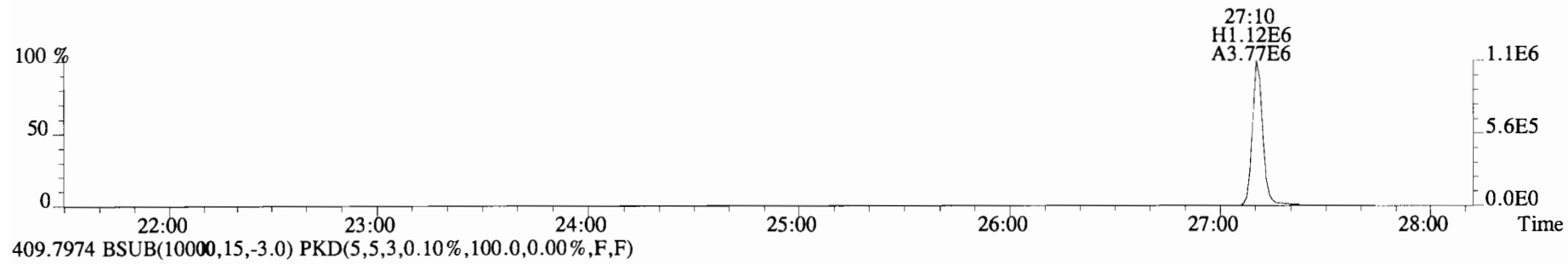
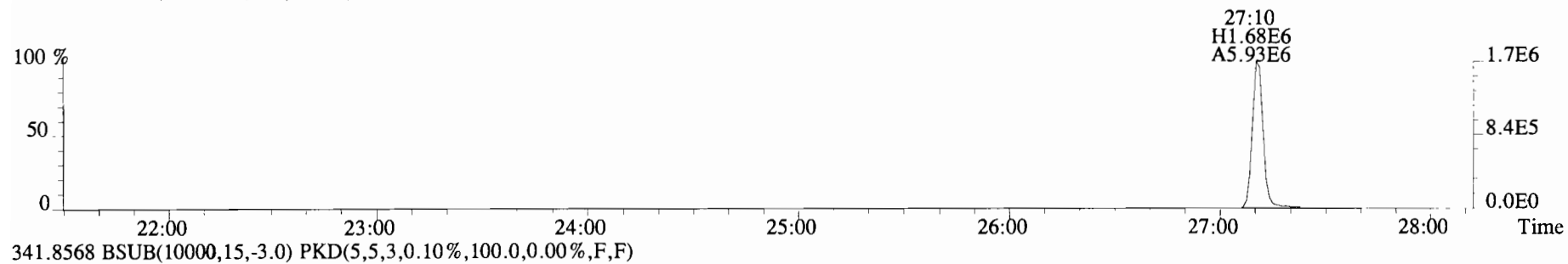
File:191111D1 #1-431 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



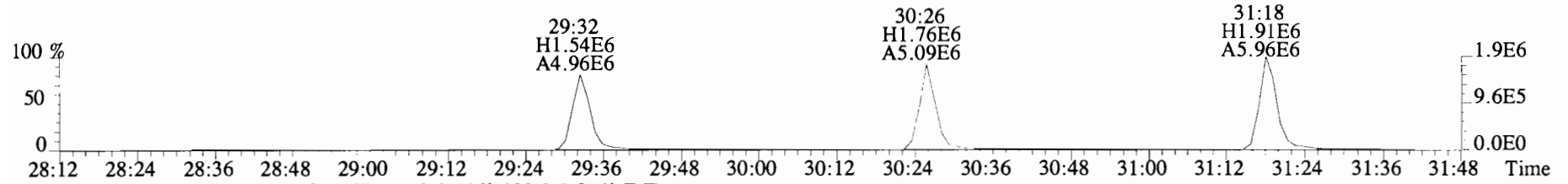
File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



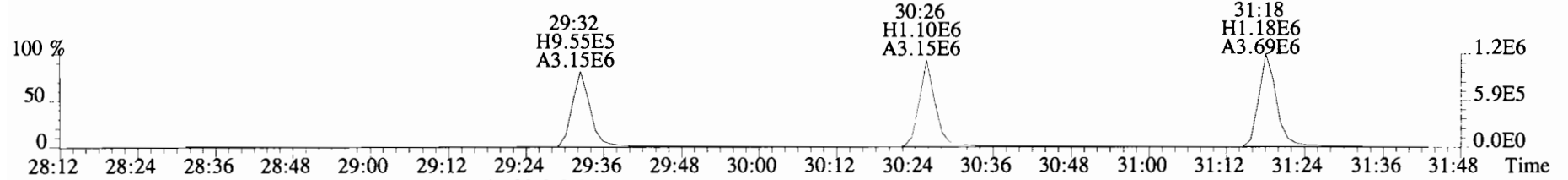
File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



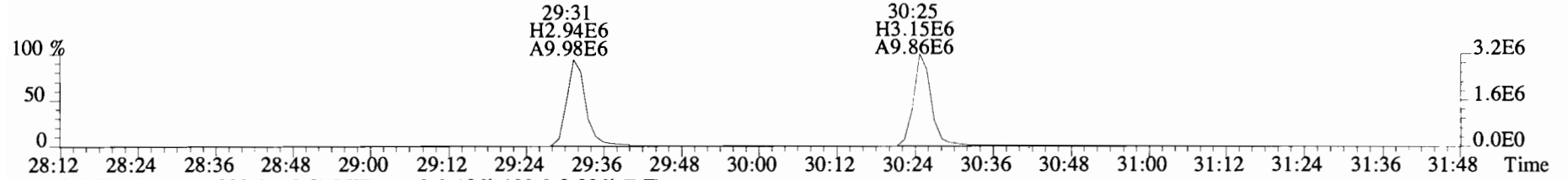
File:191111D1 #1-211 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



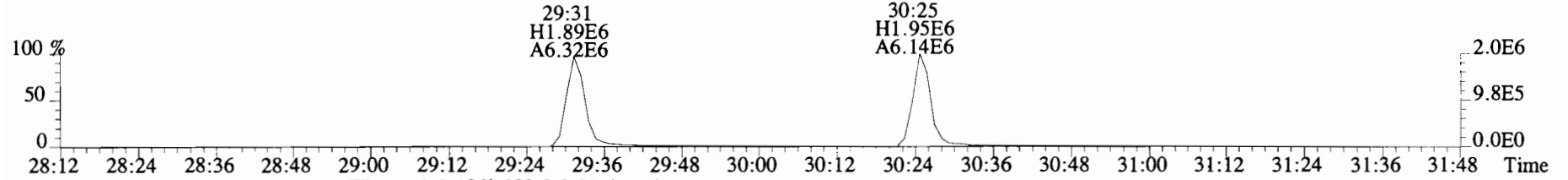
341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



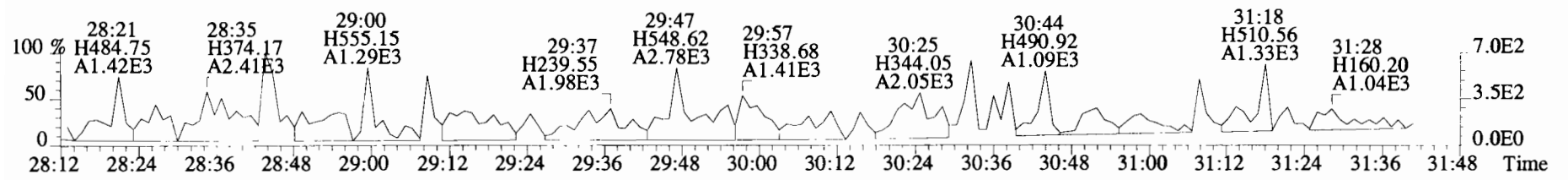
351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



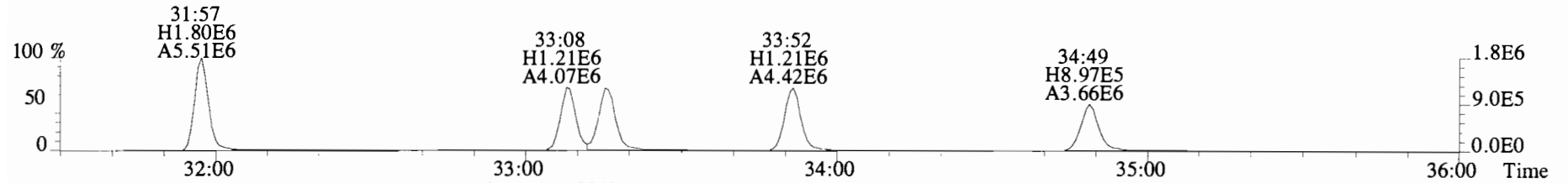
353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



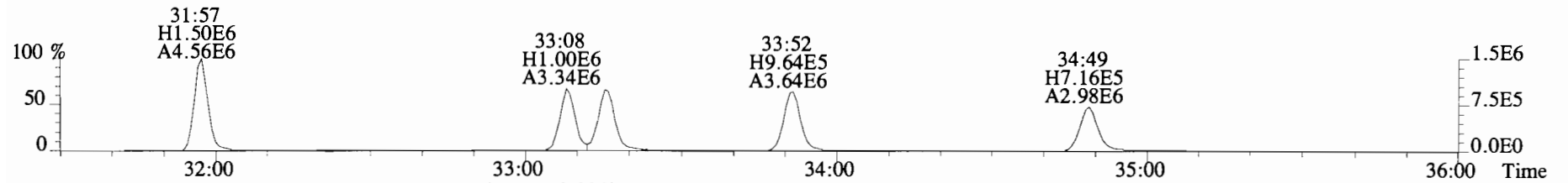
409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



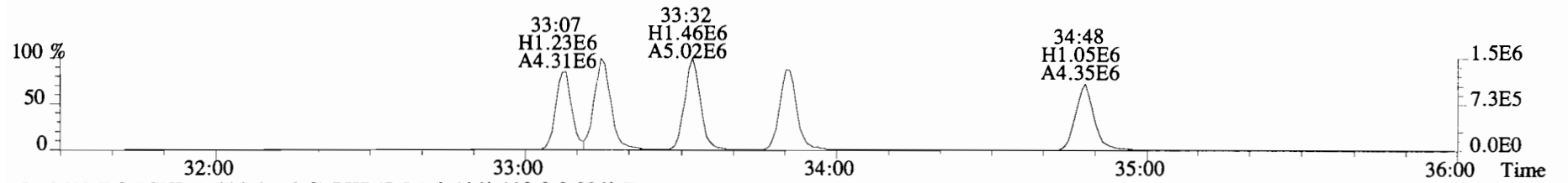
File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



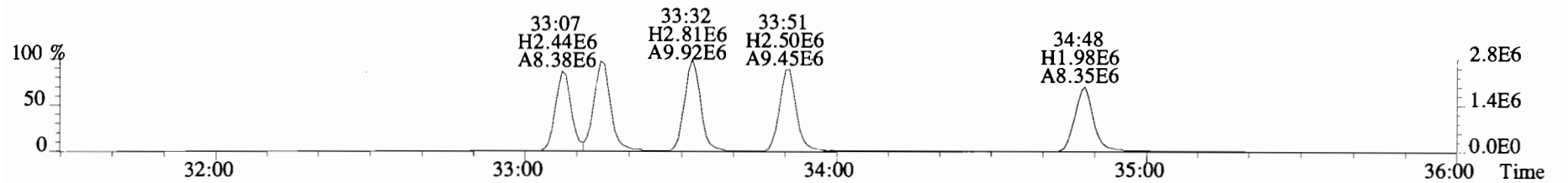
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



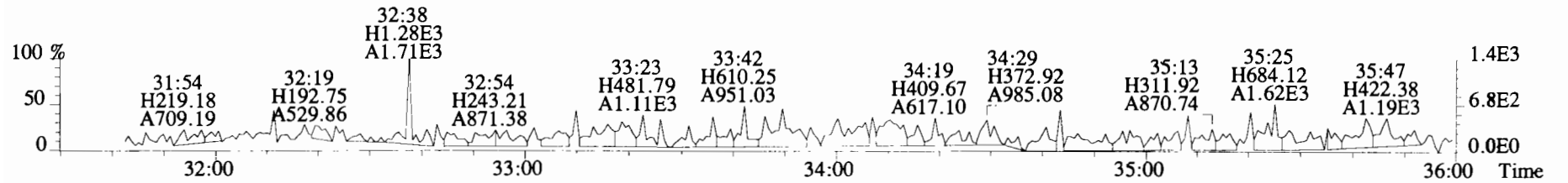
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



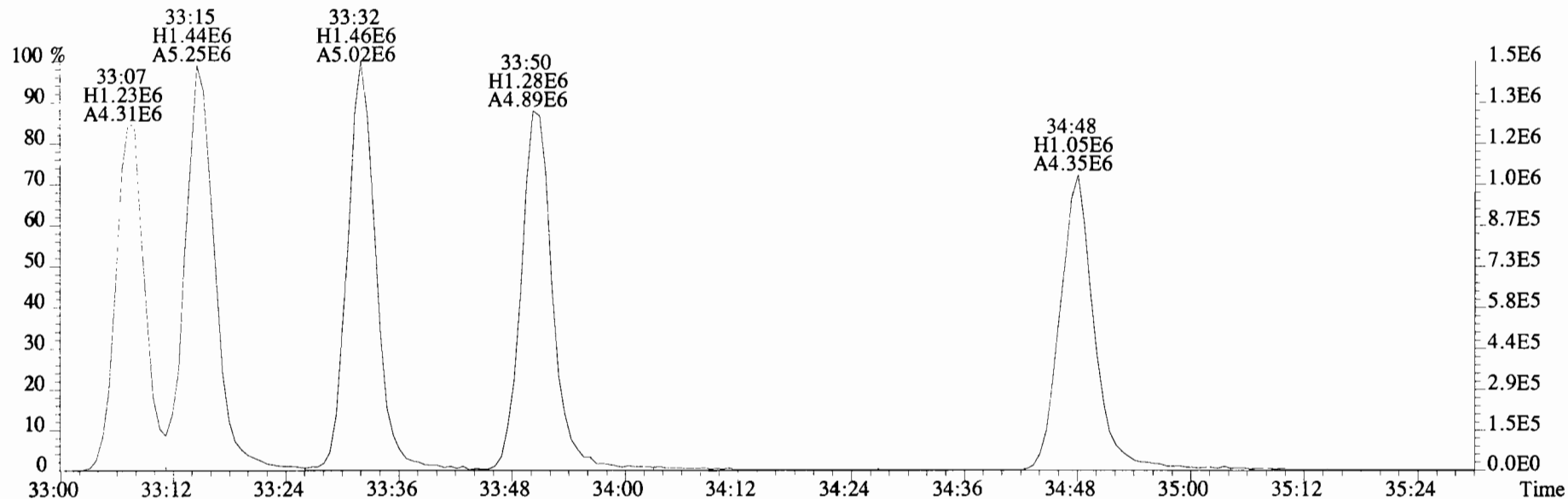
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



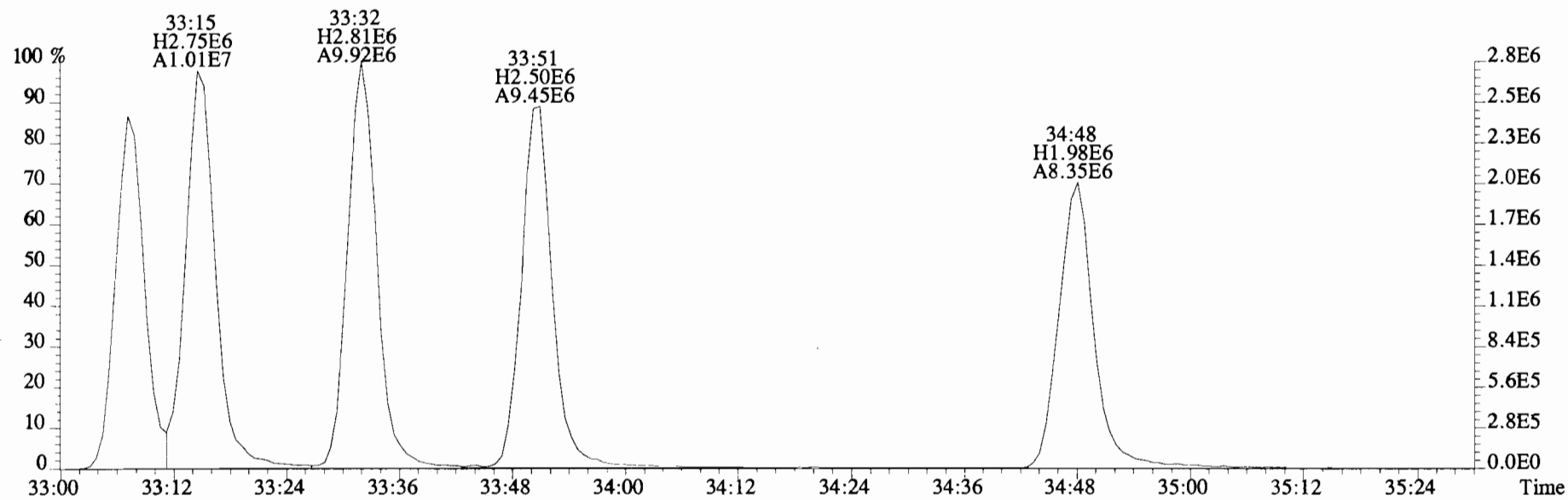
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



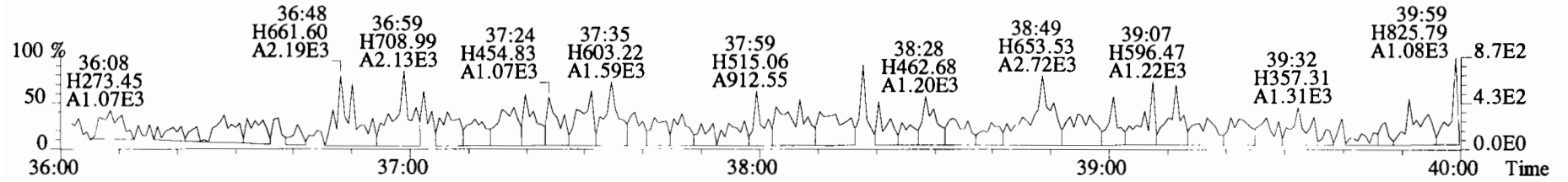
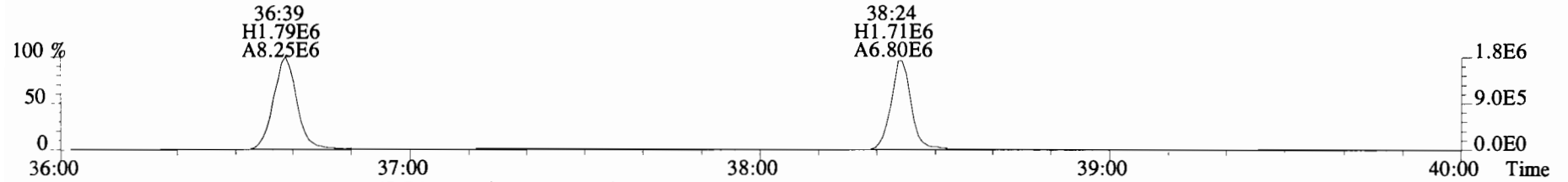
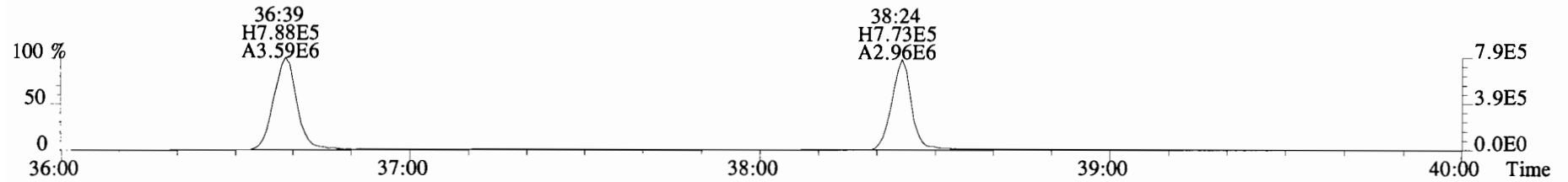
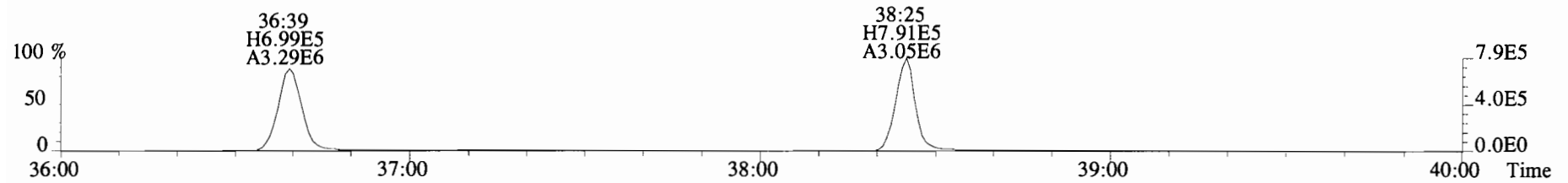
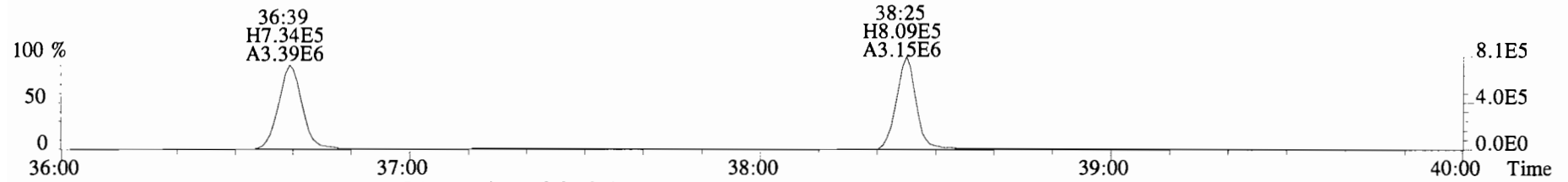
File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



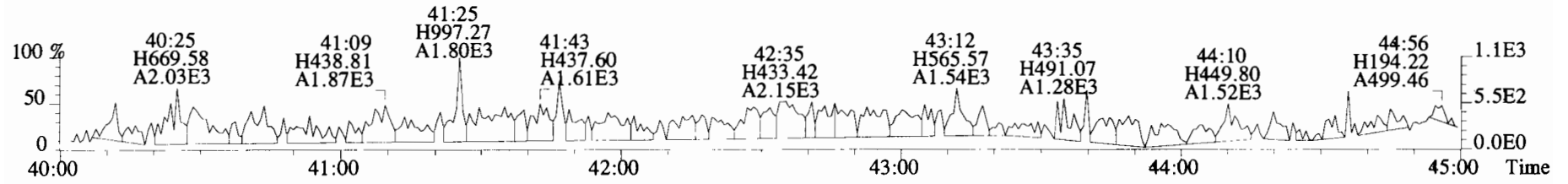
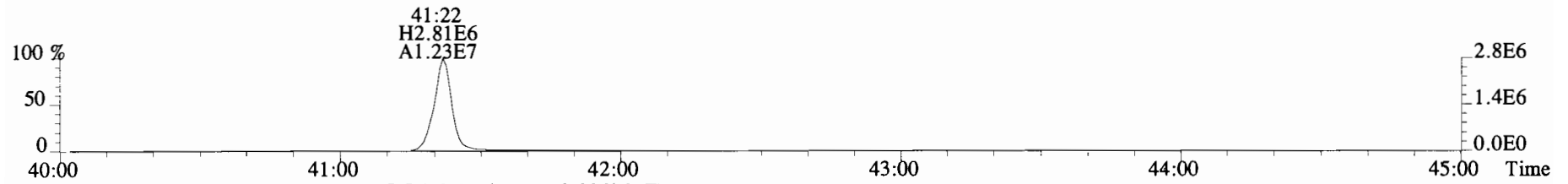
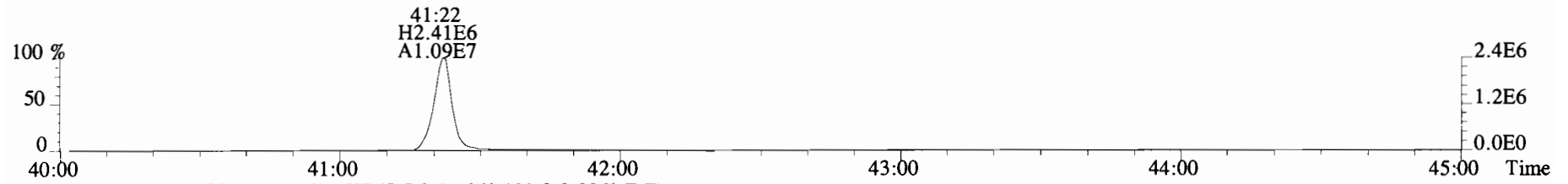
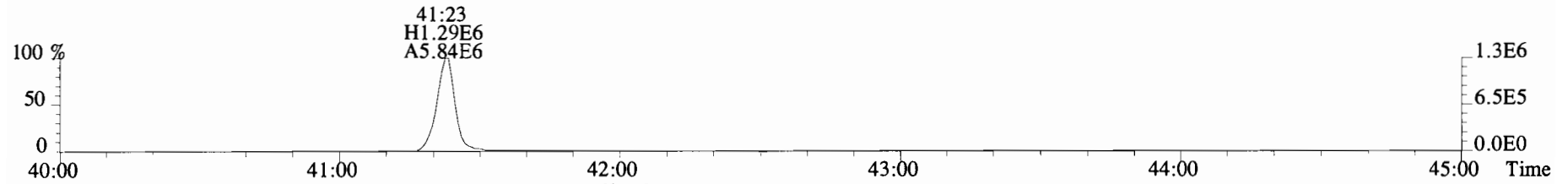
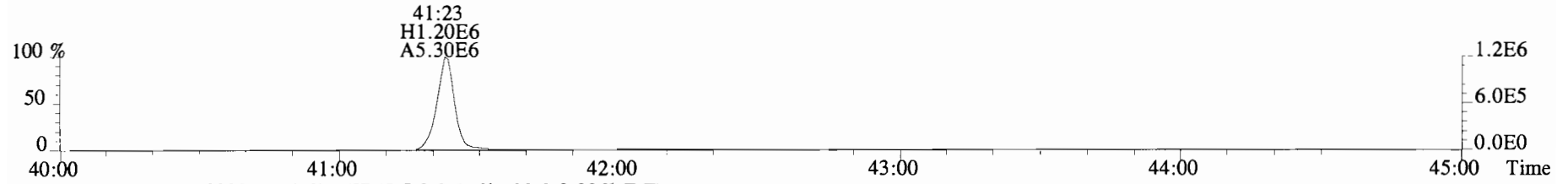
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

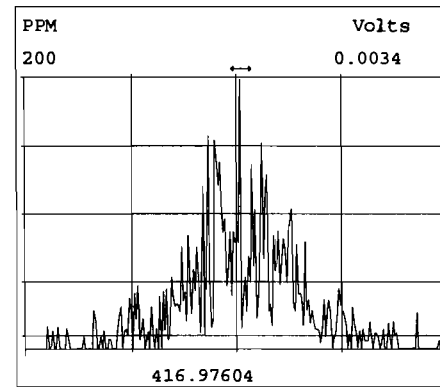
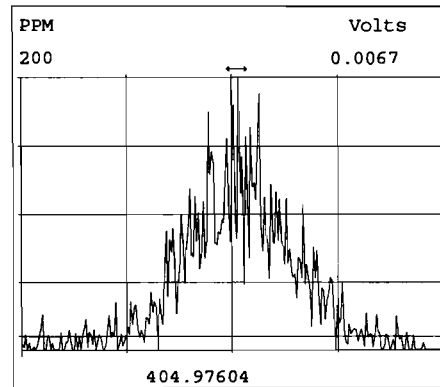
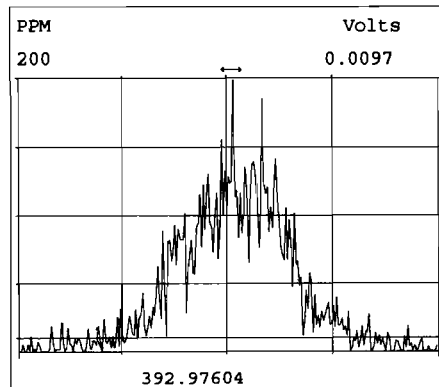
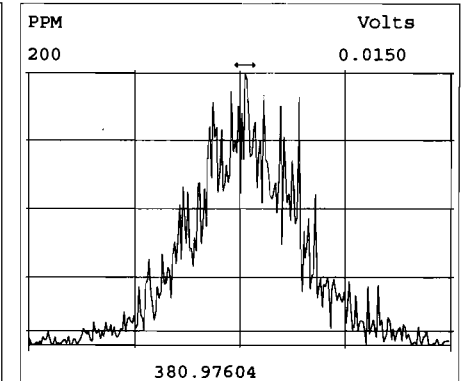
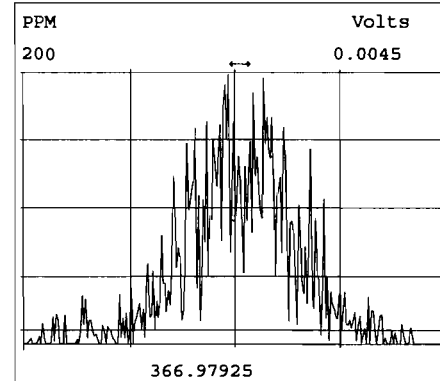
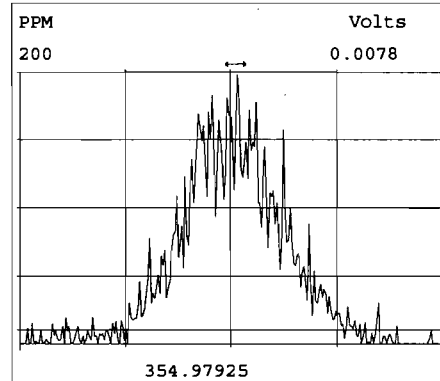
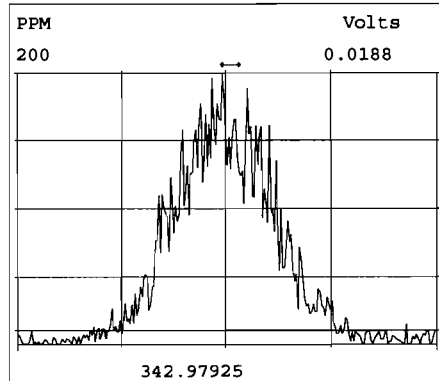
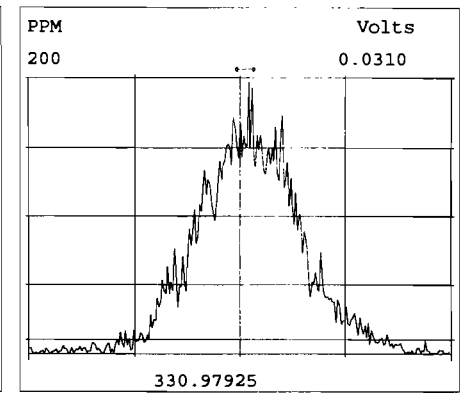
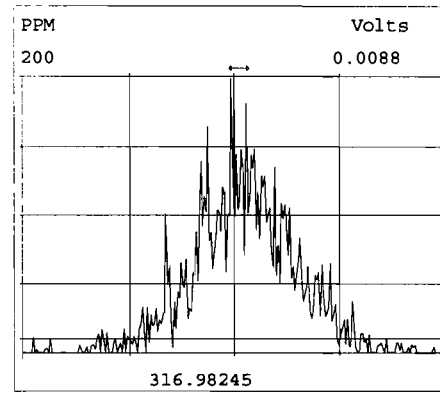
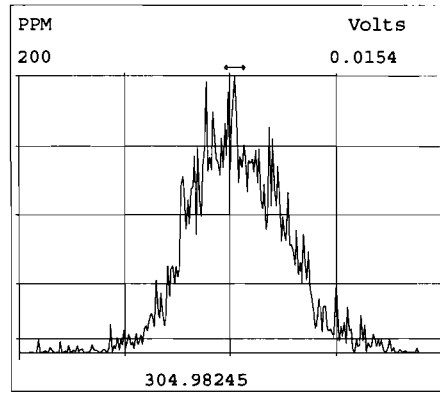
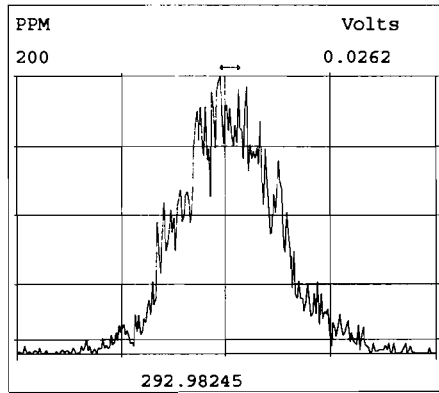


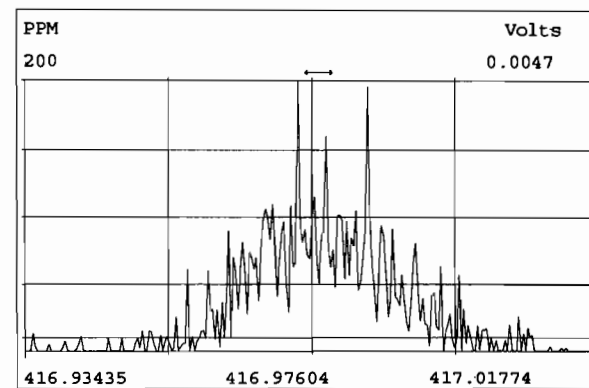
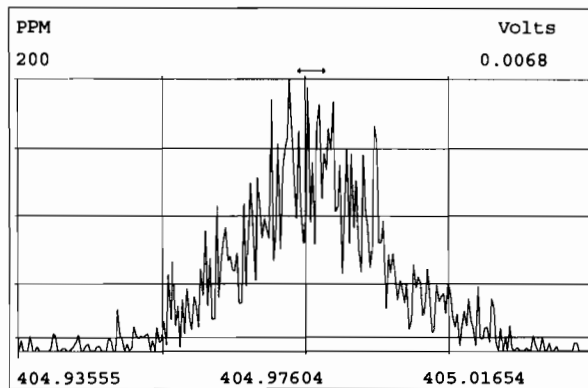
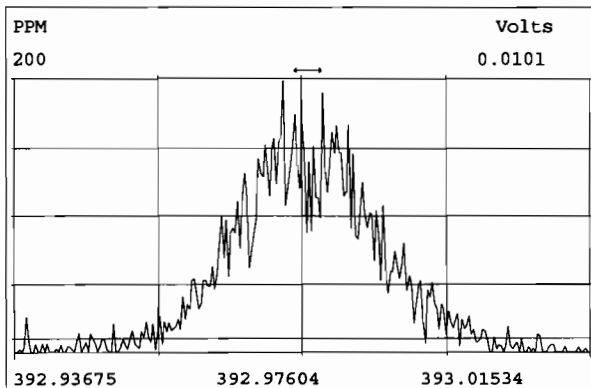
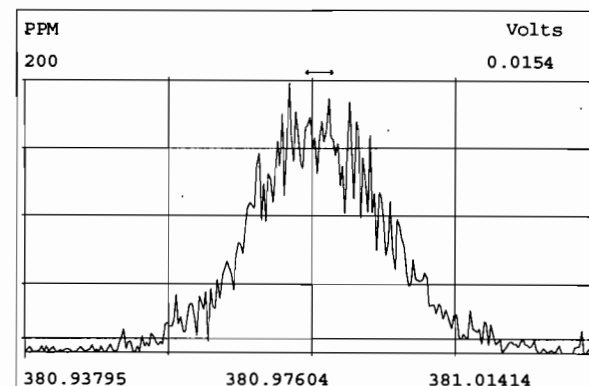
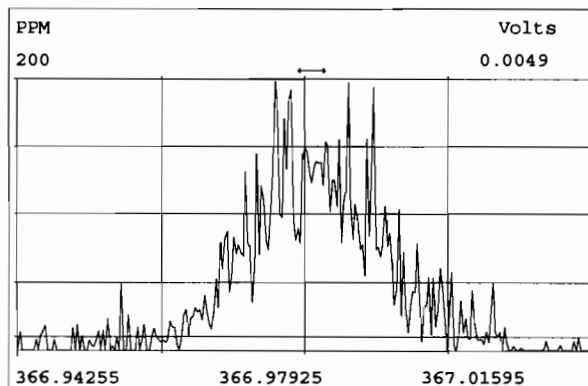
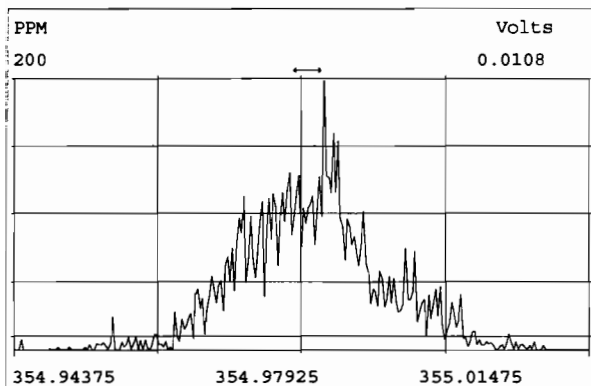
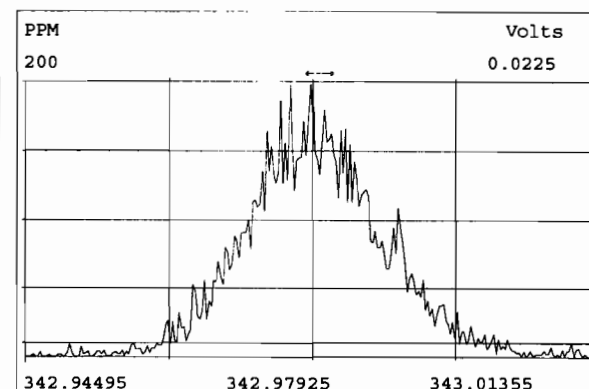
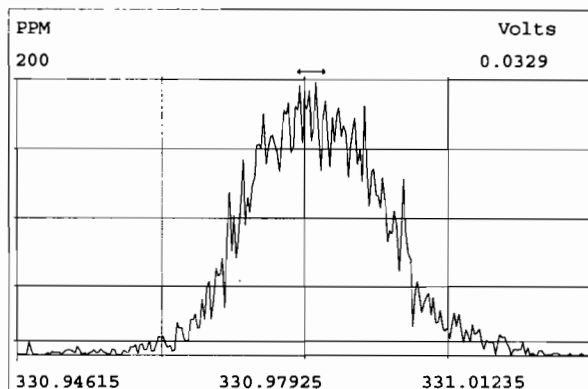
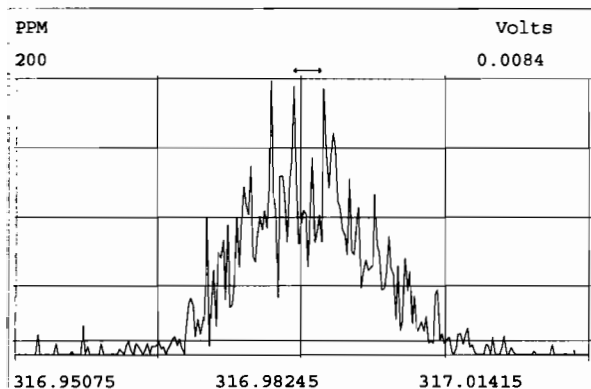
File:191111D1 #1-356 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

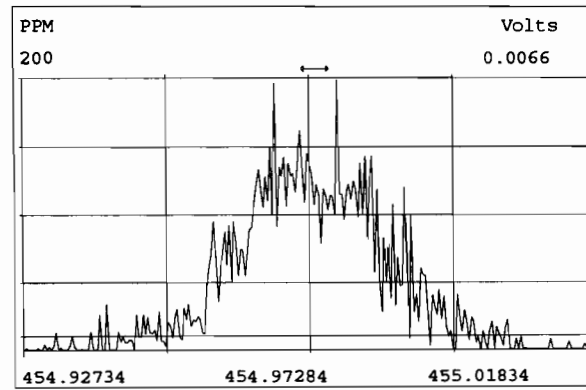
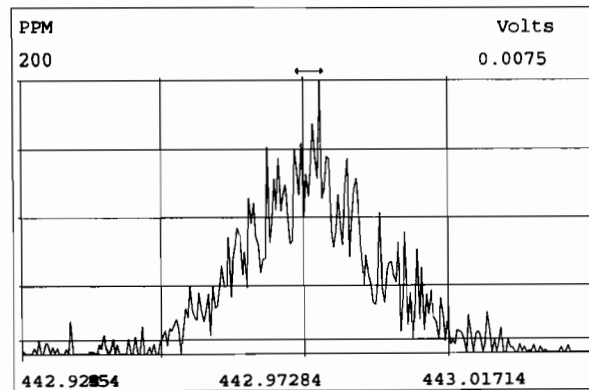
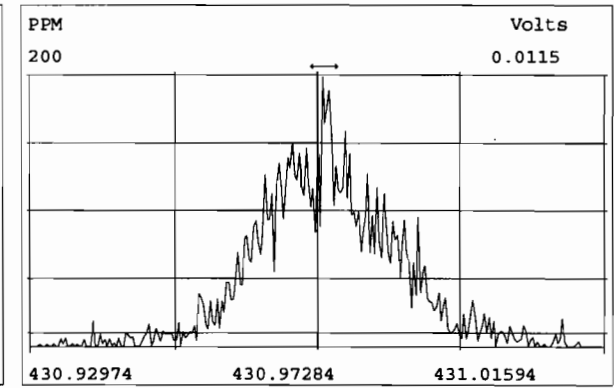
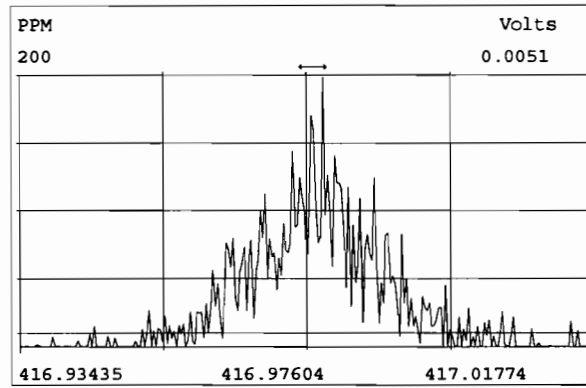
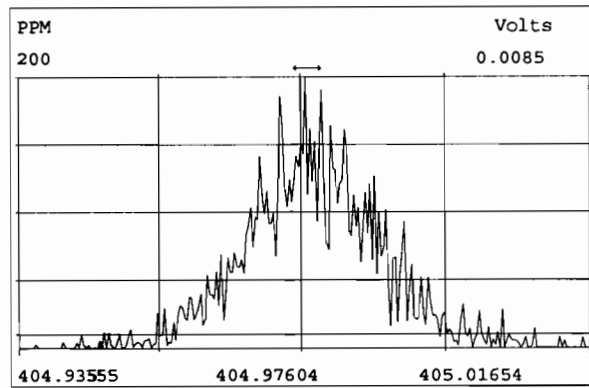
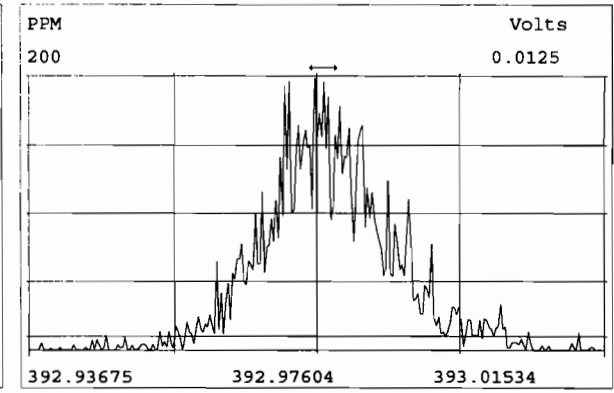
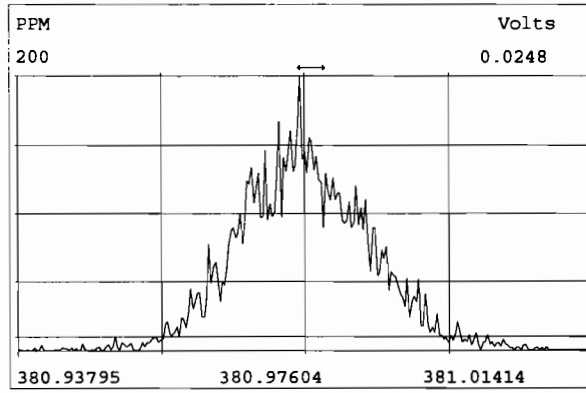
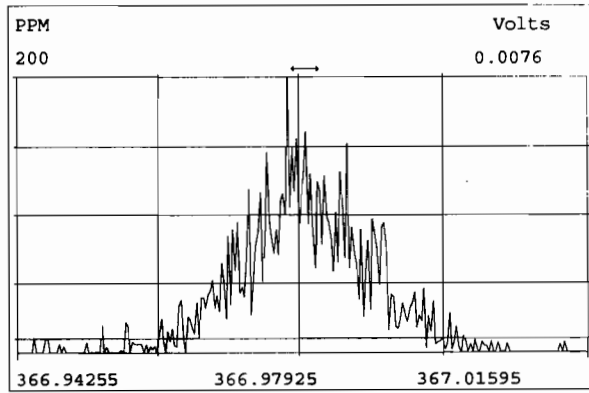


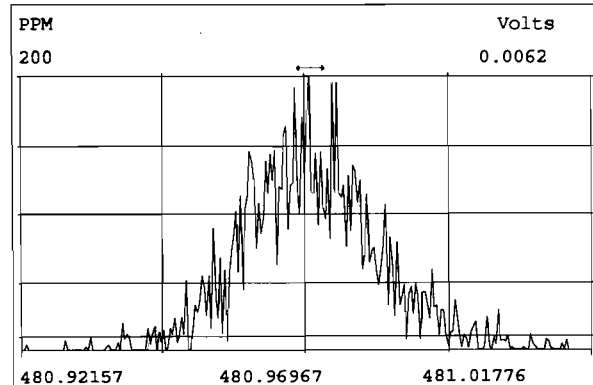
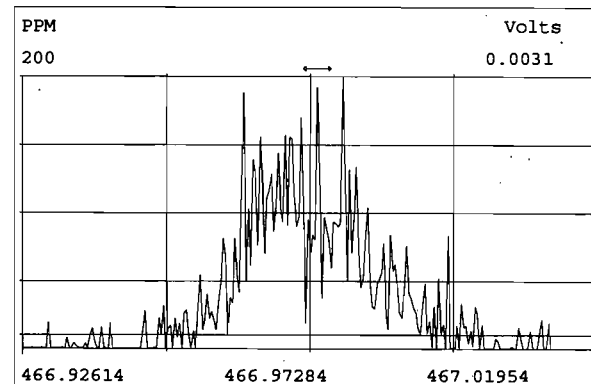
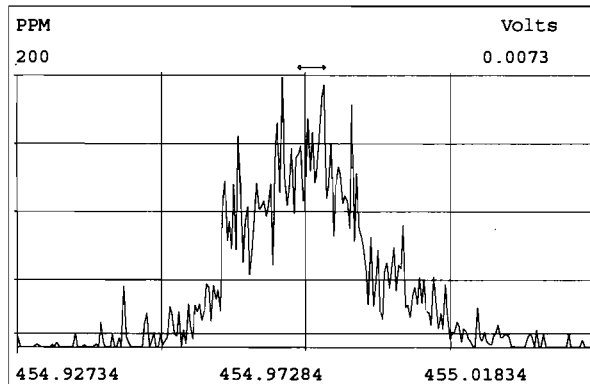
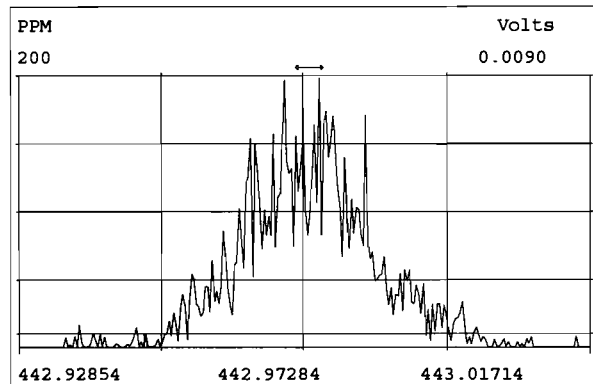
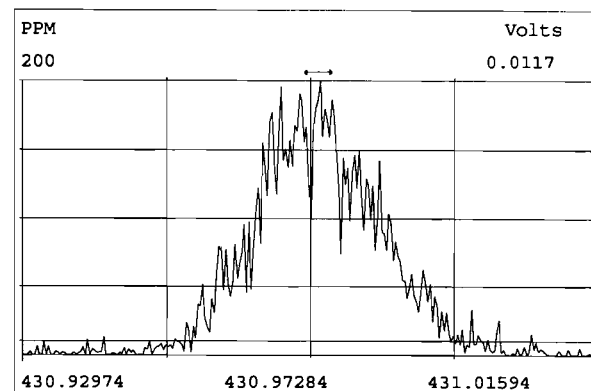
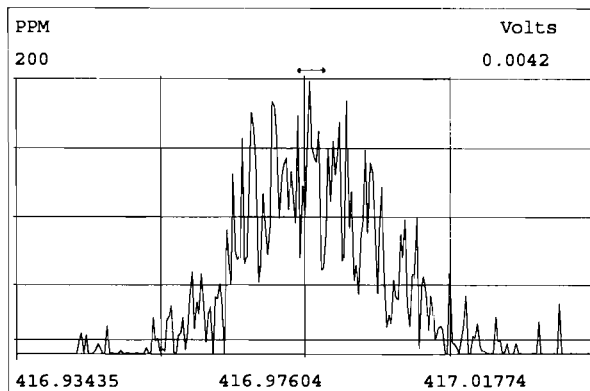
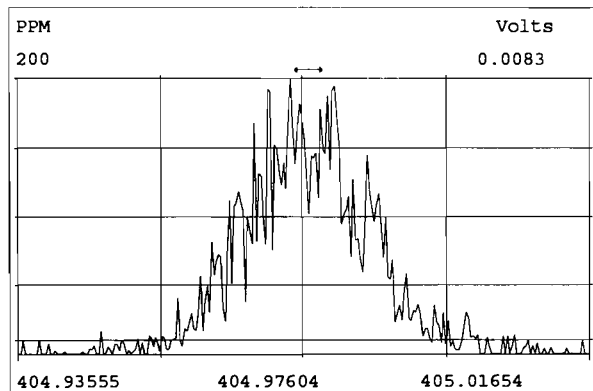
File:191111D1 #1-431 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

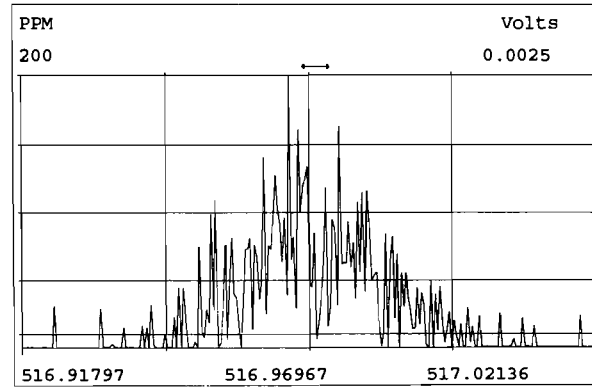
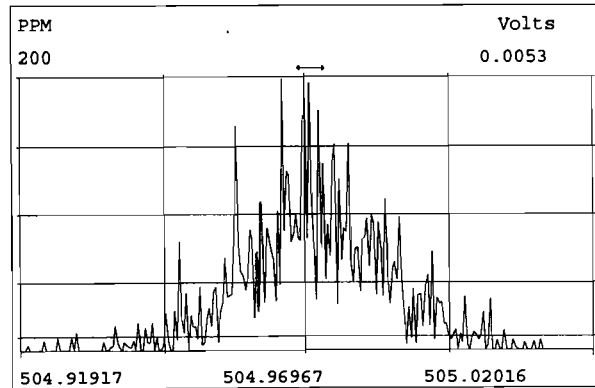
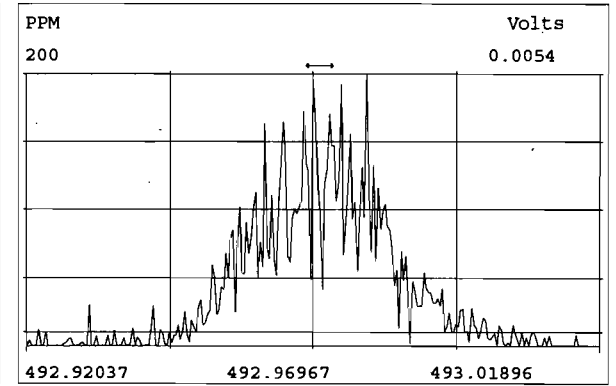
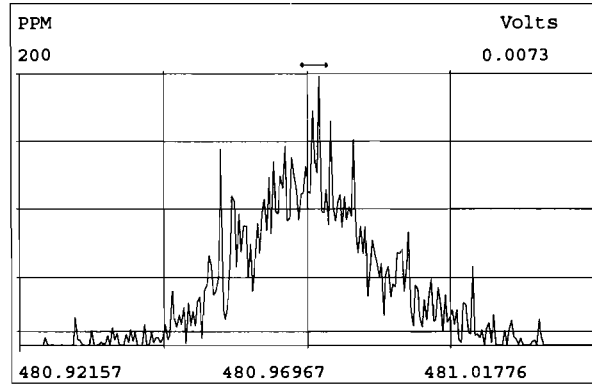
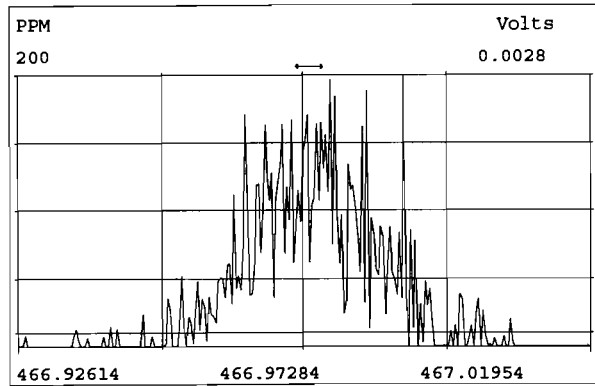
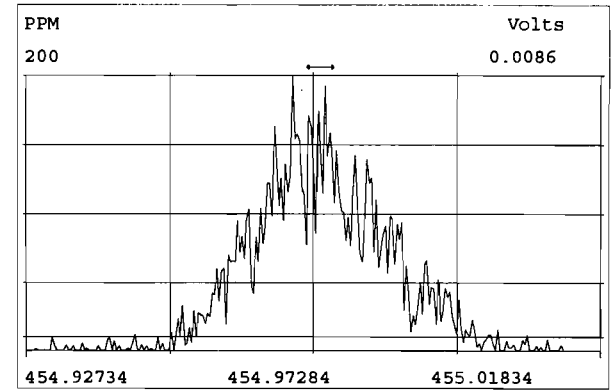
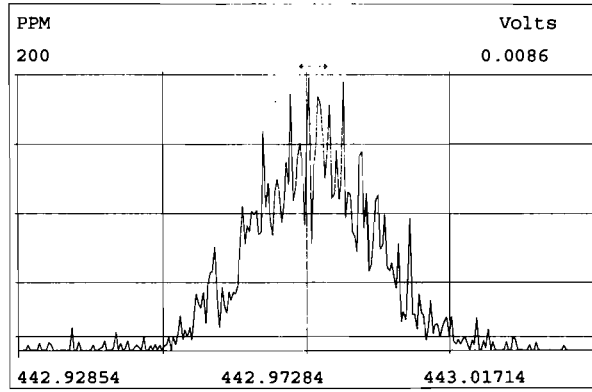
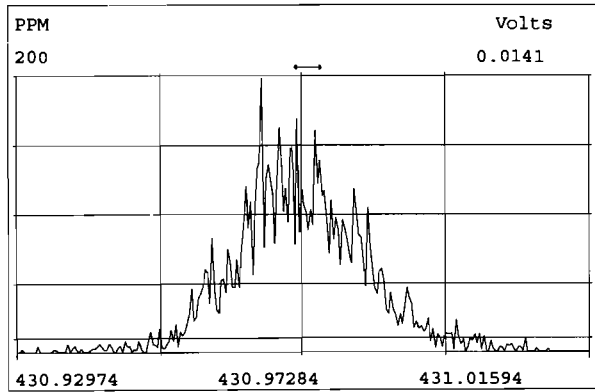












HKMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST(91111D)2-1

Reviewed By: PT 4/13/19
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>DB</u>
<u>Run Log:</u>		
- Correct Instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> (Y)	<input type="checkbox"/> N
- Bottle position verified?	<u>DB</u>	<u>DB</u>

	<u>Beg.</u>	<u>End</u>
Mass resolution \geq	<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		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
<u>8280 CS1 End Standard:</u>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST191111D2-1

Contract No.: SAS No.:

Initial Calibration Date: 10-9-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

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	0.80	0.65-0.89	y	10.8	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	53.5	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	48.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	53.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	52.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	y	52.0	43.0 - 58.0
OCDD	M+2/M+4	0.89	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	10.1	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	53.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	51.2	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	50.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	50.2	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	52.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.4	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	y	48.3	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	48.0	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	103	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: 11/12/19

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: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

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	0.80	0.65-0.89	y	103	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	106	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	88.8	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	93.5	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	108	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	209	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	y	104	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	114	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	111	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	108	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	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	100	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	105	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	112	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	y	120	77.0 - 129.0
13C-OCDF	M+2/M+4	0.91	0.76-1.02	y	223	96.0 - 415.0
CLEANUP STANDARD (3) 37Cl-2,3,7,8-TCDD					9.66	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: 11/12/19

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: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

ZB-5MS IS Data Filename: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

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)	22:53	1,3,6,8-TCDF (F)	20:46
1,2,8,9-TCDD (L)	27:05	1,2,8,9-TCDF (L)	27:14
1,2,4,7,9-PeCDD (F)	28:42	1,3,4,6,8-PeCDF (F)	27:12
1,2,3,8,9-PeCDD (L)	31:05	1,2,3,8,9-PeCDF (L)	31:19
1,2,4,6,7,9-HxCDD (F)	32:30	1,2,3,4,6,8-HxCDF (F)	31:58
1,2,3,7,8,9-HxCDD (L)	34:27	1,2,3,7,8,9-HxCDF (L)	34:49
1,2,3,4,6,7,9-HpCDD (F)	37:03	1,2,3,4,6,7,8-HpCDF (F)	36:40
1,2,3,4,6,7,8-HpCDD (L)	37:53	1,2,3,4,7,8,9-HpCDF (L)	38:25

(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: 11/12/19

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: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE			
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		1.000	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	1.196	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	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	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: 11/12/19

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: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

NATIVE ANALYTES	RETENTION TIME		RRT	QC LIMITS (1)
	REFERENCE			
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		1.000	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		1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF		1.001	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	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	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	1.233	1.091-1.371

Analyst: DB

Date: 11/12/19

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	1.45e+06	0.80 y	0.91	26:15	10.803			* 2.5	*
1,2,3,7,8-PeCDD	5.67e+06	0.64 y	0.90	30:44	53.517			* 2.5	*
1,2,3,4,7,8-HxCDD	5.98e+06	1.24 y	1.10	34:02	48.877			* 2.5	*
1,2,3,6,7,8-HxCDD	6.22e+06	1.23 y	0.94	34:09	53.195			* 2.5	*
1,2,3,7,8,9-HxCDD	6.22e+06	1.26 y	0.96	34:27	52.379			* 2.5	*
1,2,3,4,6,7,8-HpCDD	5.87e+06	1.03 y	0.98	37:53	51.979			* 2.5	*
OCDD	1.00e+07	0.89 y	0.96	41:10	104.87			* 2.5	*
2,3,7,8-TCDF	1.99e+06	0.78 y	0.95	25:28	10.133			* 2.5	*
1,2,3,7,8-PeCDF	9.53e+06	1.62 y	0.96	29:33	53.210			* 2.5	*
2,3,4,7,8-PeCDF	9.38e+06	1.57 y	1.01	30:27	51.175			* 2.5	*
1,2,3,4,7,8-HxCDF	8.75e+06	1.24 y	1.18	33:09	50.368			* 2.5	*
1,2,3,6,7,8-HxCDF	9.16e+06	1.20 y	1.07	33:16	50.175			* 2.5	*
2,3,4,6,7,8-HxCDF	9.17e+06	1.23 y	1.11	33:52	52.449			* 2.5	*
1,2,3,7,8,9-HxCDF	7.65e+06	1.22 y	1.06	34:49	50.390			* 2.5	*
1,2,3,4,6,7,8-HpCDF	7.59e+06	1.01 y	1.13	36:40	48.283			* 2.5	*
1,2,3,4,7,8,9-HpCDF	7.02e+06	1.02 y	1.28	38:25	48.020			* 2.5	*
OCDF	1.23e+07	0.90 y	0.95	41:23	102.80			* 2.5	*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	75.5	75.9		*	*
Total Penta-Dioxins	203	203		*	*
Total Hexa-Dioxins	229	229		*	*
Total Hepta-Dioxins	121	122		*	*
Total Tetra-Furans	40.0	40.3		*	*
Total Penta-Furans	226.32	226.32		*	*
Total Hexa-Furans	269	269		*	*
Total Hepta-Furans	96.4	97.2		*	*

IS	13C-2,3,7,8-TCDD	1.49e+07	0.80 y	1.10	26:13	102.79				
IS	13C-1,2,3,7,8-PeCDD	1.17e+07	0.62 y	0.88	30:42	100.83				
IS	13C-1,2,3,4,7,8-HxCDD	1.11e+07	1.27 y	0.64	34:01	105.61				
IS	13C-1,2,3,6,7,8-HxCDD	1.25e+07	1.26 y	0.86	34:08	88.800				
IS	13C-1,2,3,7,8,9-HxCDD	1.24e+07	1.24 y	0.81	34:25	93.463				
IS	13C-1,2,3,4,6,7,8-HpCDD	1.15e+07	1.05 y	0.65	37:52	107.55				
IS	13C-OCDD	1.99e+07	0.90 y	0.58	41:09	209.39				
IS	13C-2,3,7,8-TCDF	2.07e+07	0.78 y	1.03	25:26	104.02				
IS	13C-1,2,3,7,8-PeCDF	1.86e+07	1.60 y	0.85	29:33	113.66				
IS	13C-2,3,4,7,8-PeCDF	1.81e+07	1.60 y	0.85	30:26	111.10				
IS	13C-1,2,3,4,7,8-HxCDF	1.48e+07	0.51 y	0.83	33:08	108.27				
IS	13C-1,2,3,6,7,8-HxCDF	1.71e+07	0.52 y	1.03	33:15	100.69				
IS	13C-2,3,4,6,7,8-HxCDF	1.57e+07	0.51 y	0.95	33:51	100.46				
IS	13C-1,2,3,7,8,9-HxCDF	1.43e+07	0.52 y	0.83	34:48	105.43				
IS	13C-1,2,3,4,6,7,8-HpCDF	1.39e+07	0.44 y	0.76	36:39	112.24				
IS	13C-1,2,3,4,7,8,9-HpCDF	1.14e+07	0.43 y	0.58	38:25	119.79				
IS	13C-OCDF	2.52e+07	0.91 y	0.69	41:23	223.09				
C/Up	37Cl-2,3,7,8-TCDD	1.53e+06		1.20	26:14	9.6560				
RS/RT	13C-1,2,3,4-TCDD	1.32e+07	0.79 y	1.00	25:40	100.00				
RS	13C-1,2,3,4-TCDF	1.92e+07	0.79 y	1.00	24:14	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.64e+07	0.52 y	1.00	33:33	100.00				

Rec Qual

103
101
106
88.8
93.5
108
105
104
114
111
108
101
100
105
112
120
112

96.6

Integrations
by
Analyst: DB

Reviewed

by
Analyst: CT

Date: 11/12/19

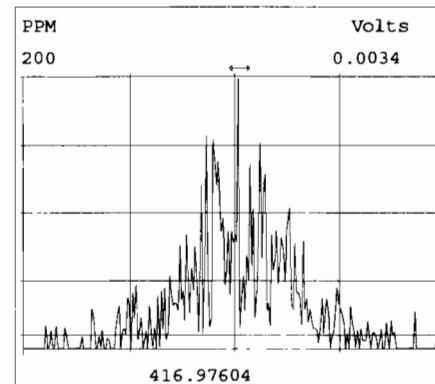
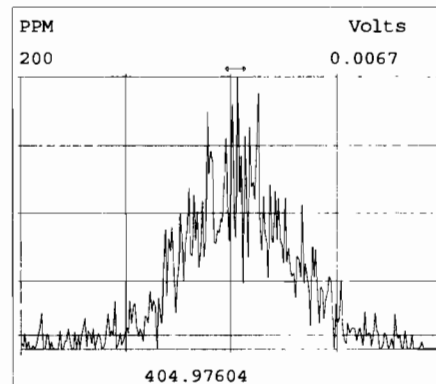
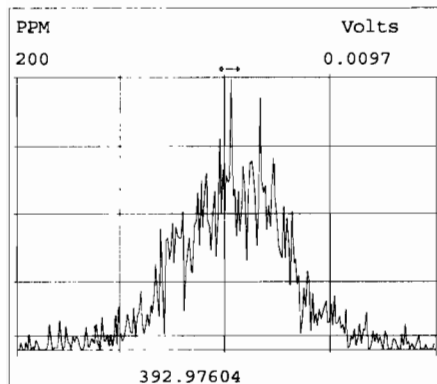
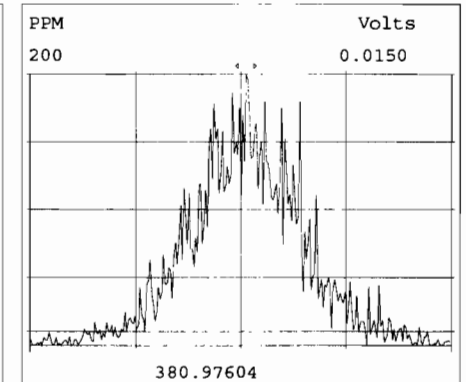
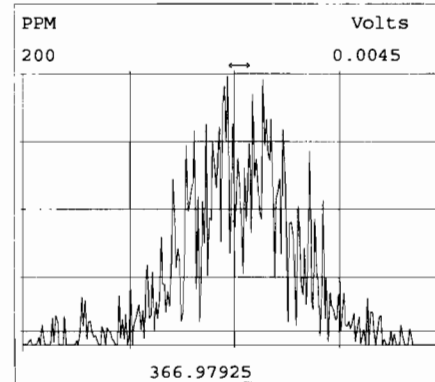
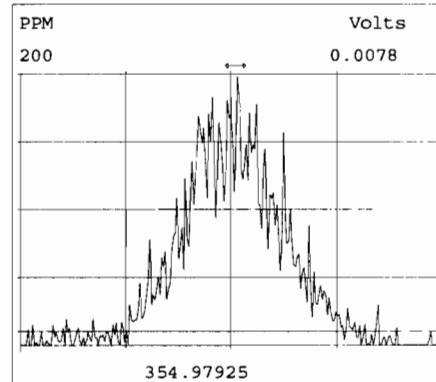
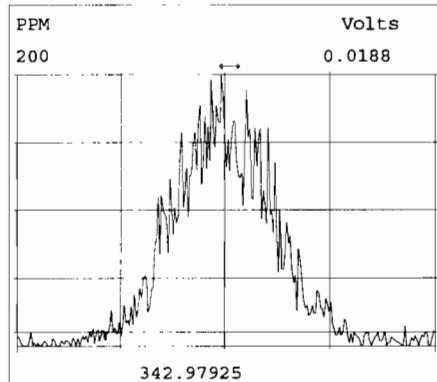
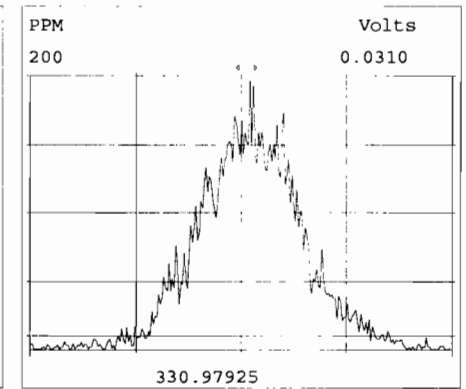
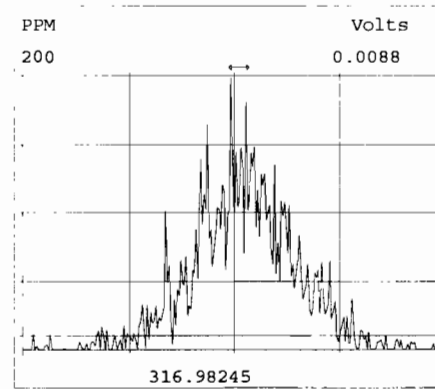
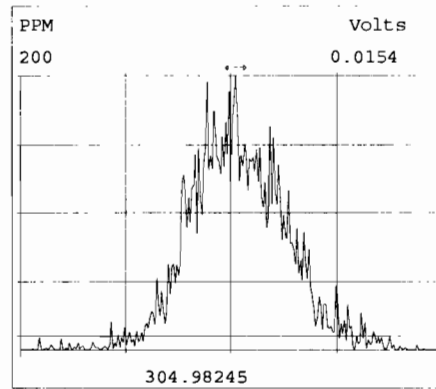
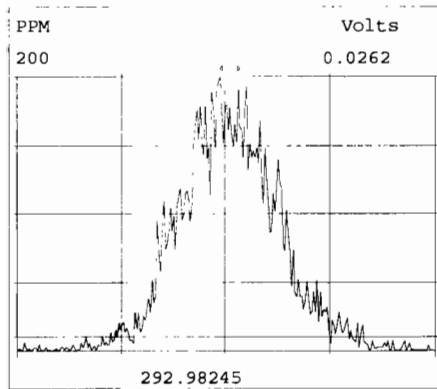
Date: 11/13/19

Vista Analytical Laboratory - Injection Log Run file: 191111D2 Instrument ID: VG-7 GC Column ID: ZB-5MS

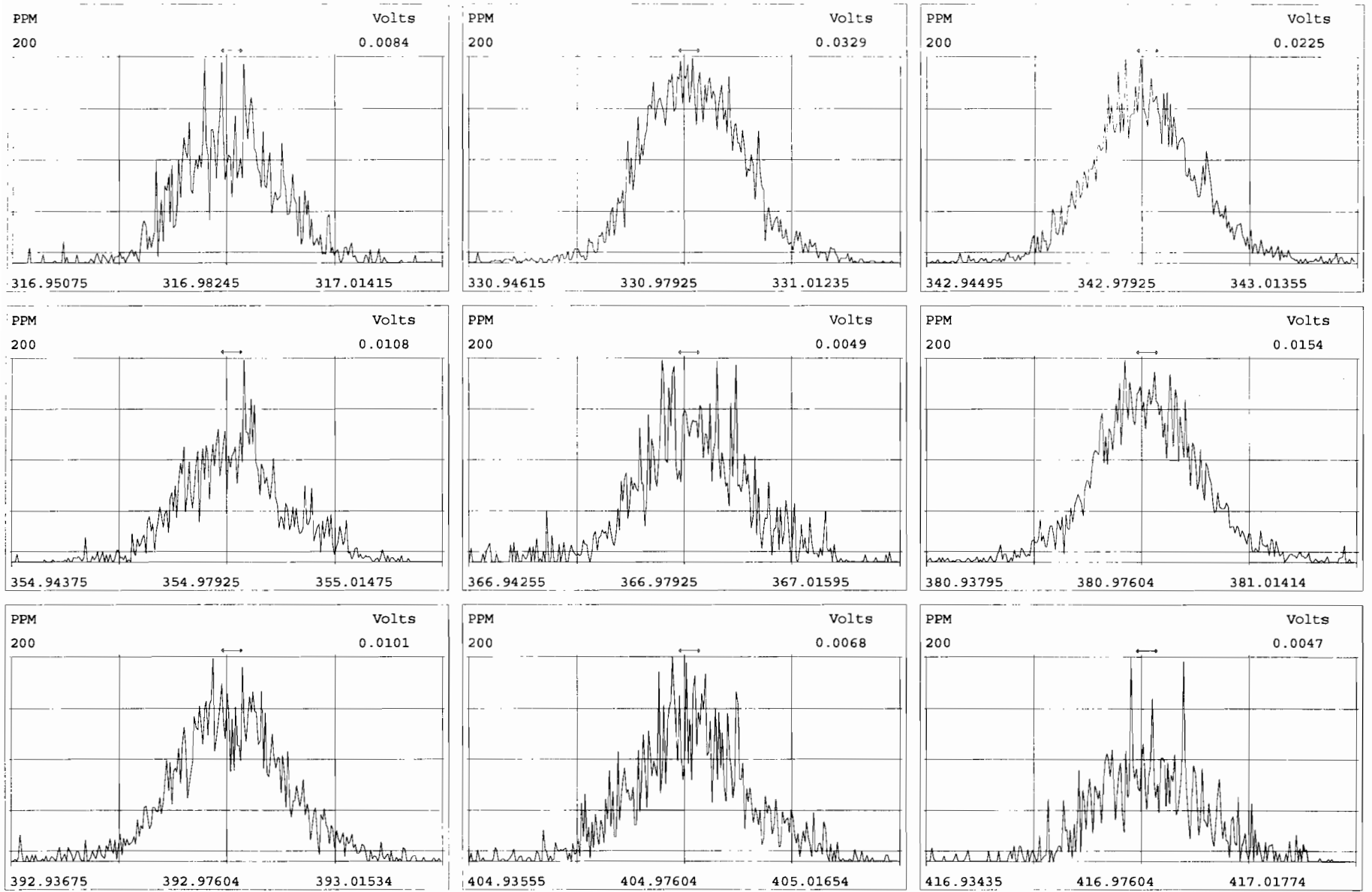
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191111D2	2	ST191111D2-2	DB	11-NOV-19	23:19:45	ST191111D2-2	ST191111D2-3
191111D2	3	B9K0035-BS1	DB	12-NOV-19	00:07:39	ST191111D2-2	ST191111D2-3
191111D2	4	SOLVENT BLANK	DB	12-NOV-19	00:55:34	NA	NA
191111D2	5	B9K0035-BLK1	DB	12-NOV-19	01:43:22	ST191111D2-2	ST191111D2-3
191111D2	6	1903830-01	DB	12-NOV-19	02:31:10	ST191111D2-2	ST191111D2-3
191111D2	7	1903645-08	DB	12-NOV-19	03:18:57	ST191111D2-1	NA
191111D2	8	1903420-11RE1	DB	12-NOV-19	04:06:44	ST191111D2-1	NA
191111D2	9	SOLVENT BLANK	DB	12-NOV-19	04:54:40	NA	NA
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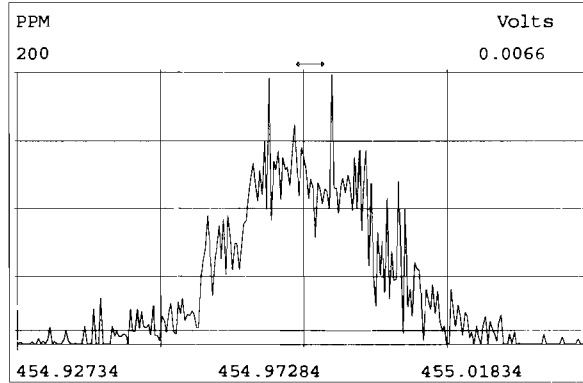
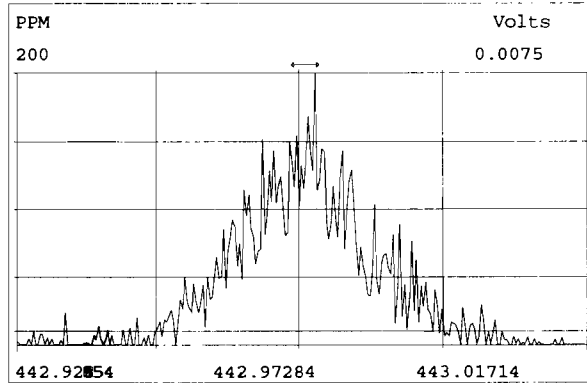
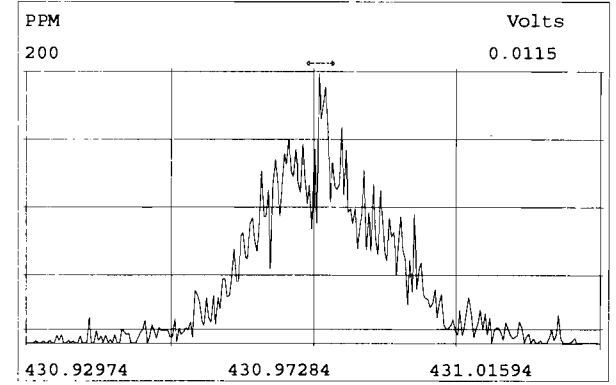
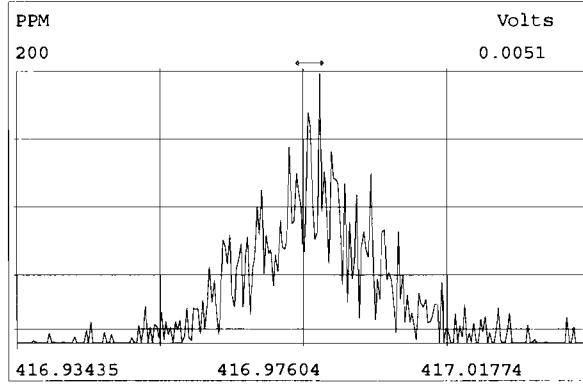
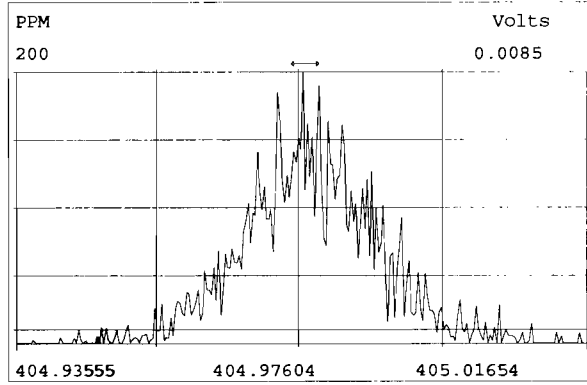
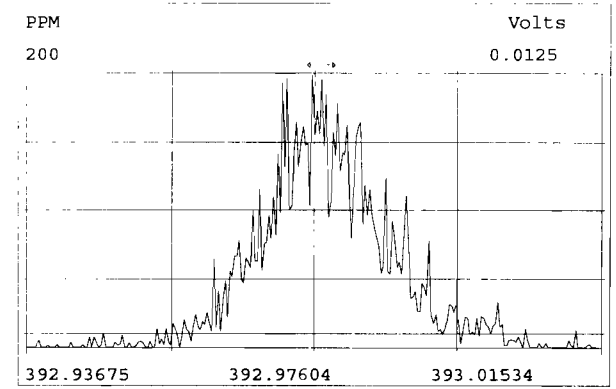
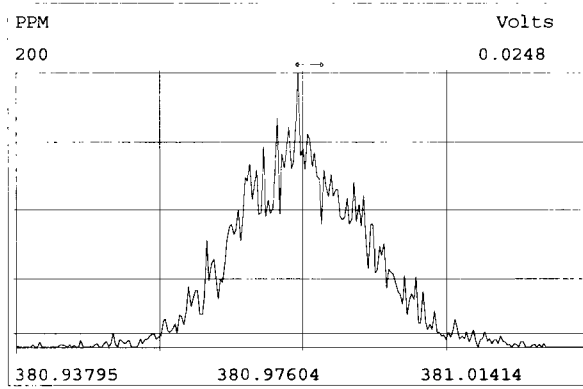
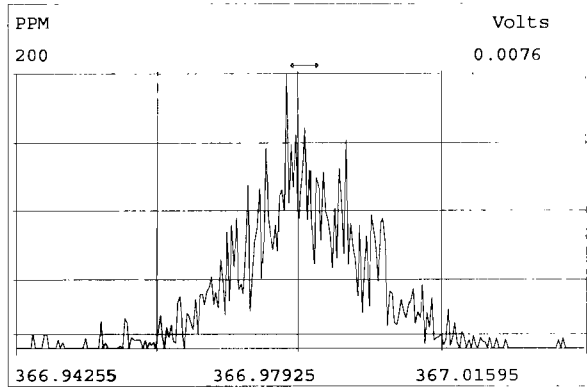
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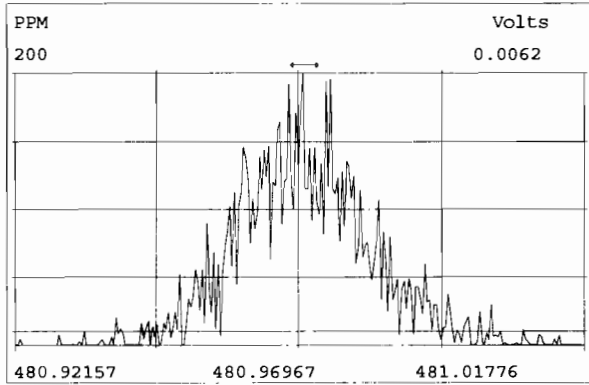
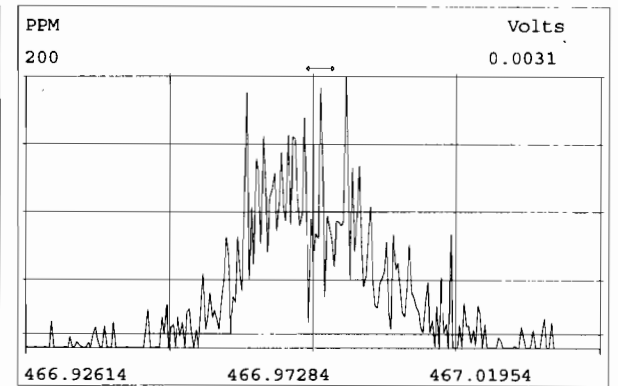
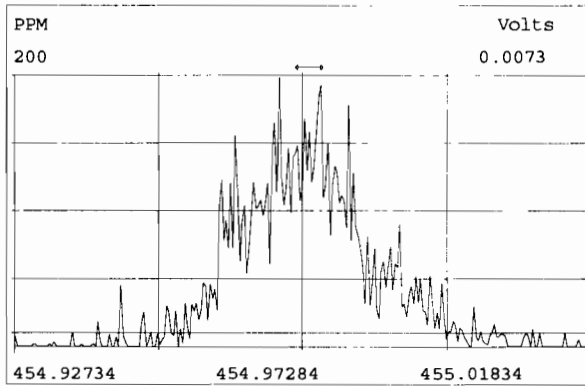
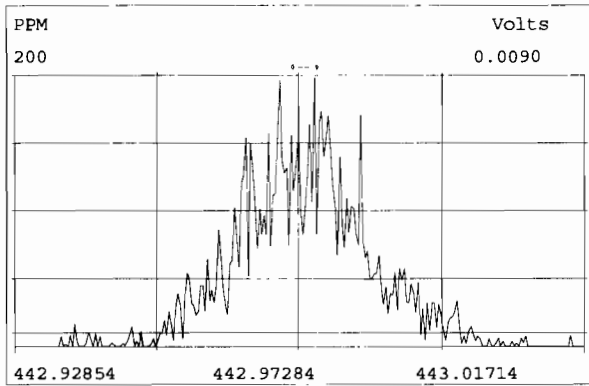
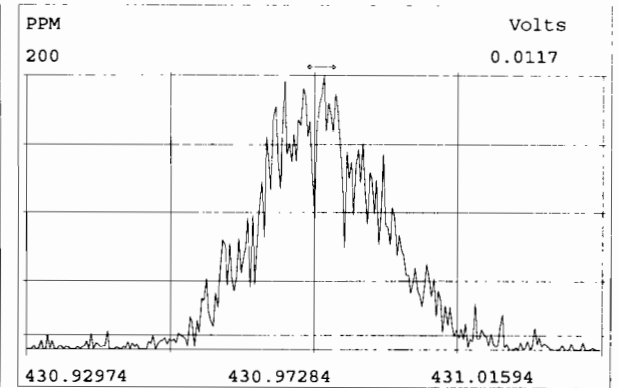
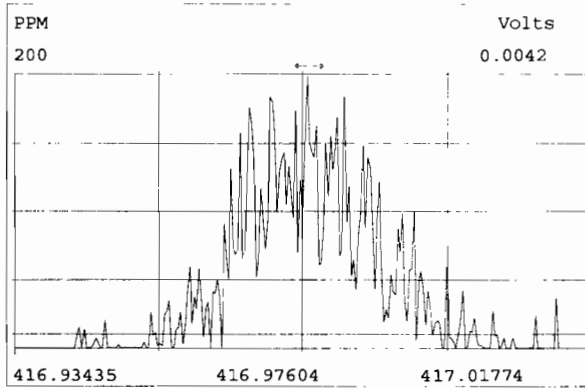
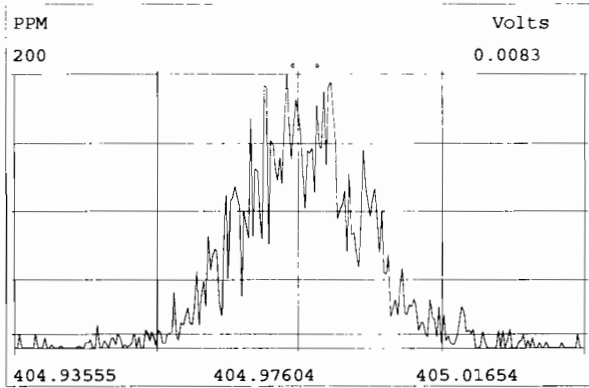
Experiment:OCDD_DB5 Function:1 Reference:PFK

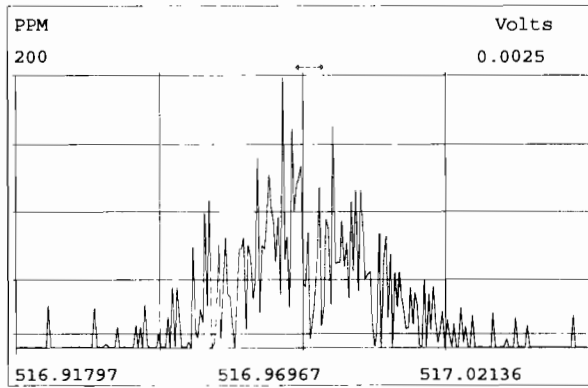
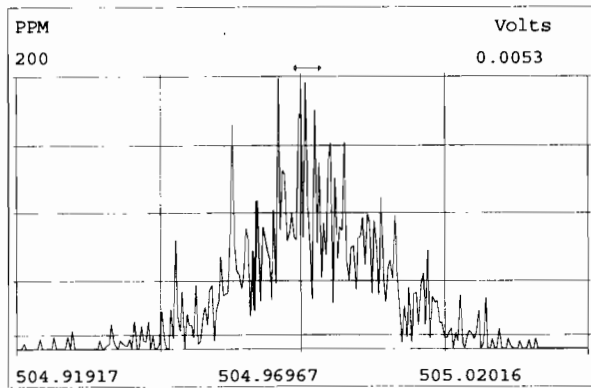
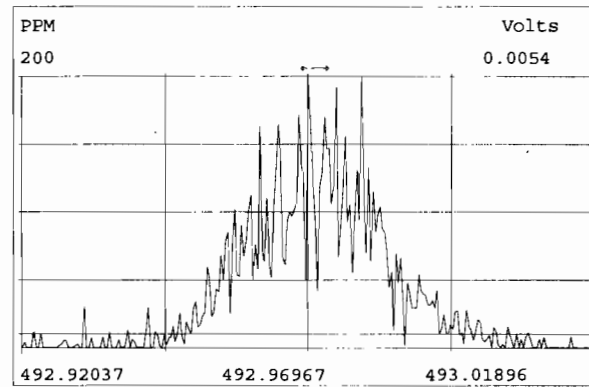
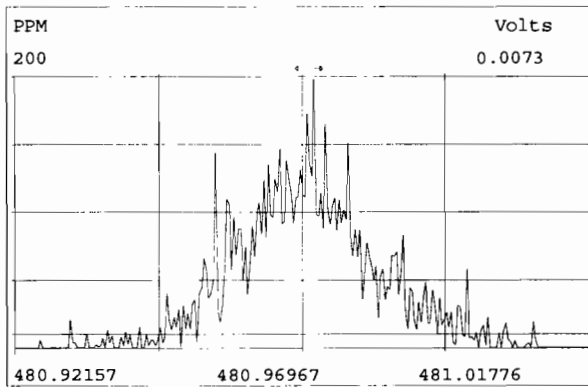
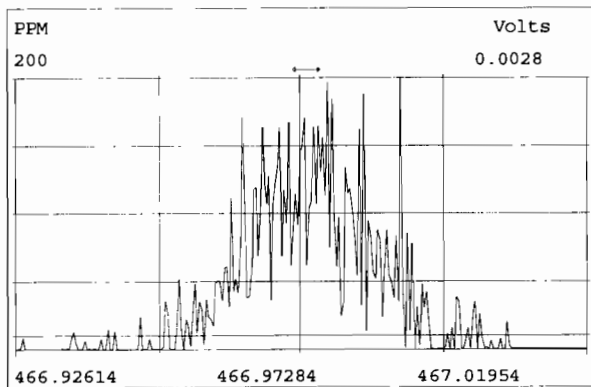
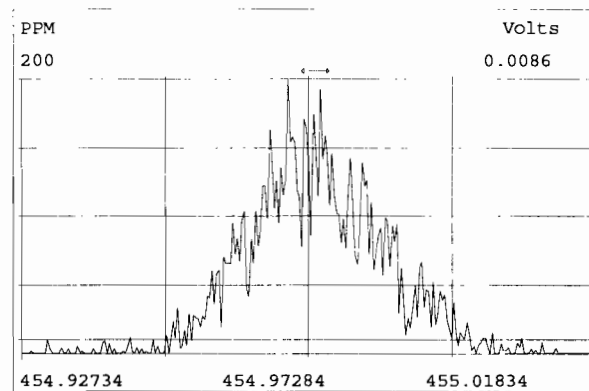
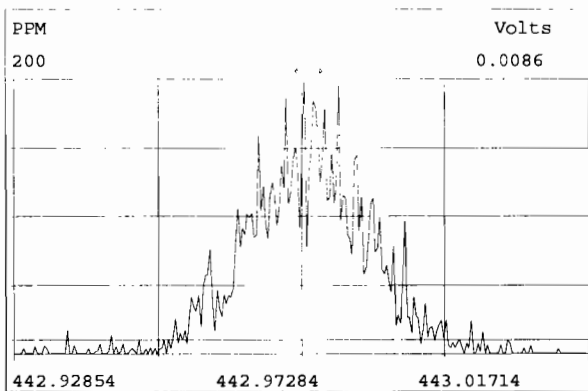
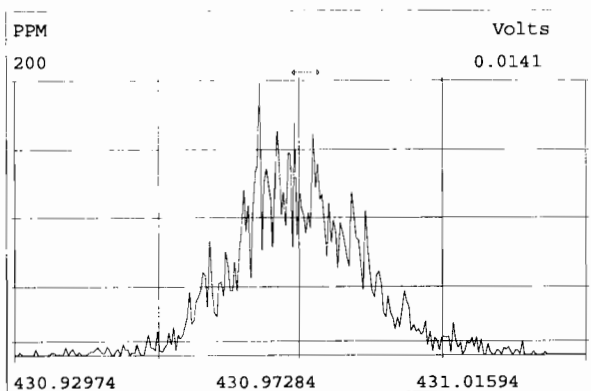


Peak Locate Examination:11-NOV-2019:22:28 File:RES_CHECK
Experiment:OCDD_DB5 Function:2 Reference:PFK

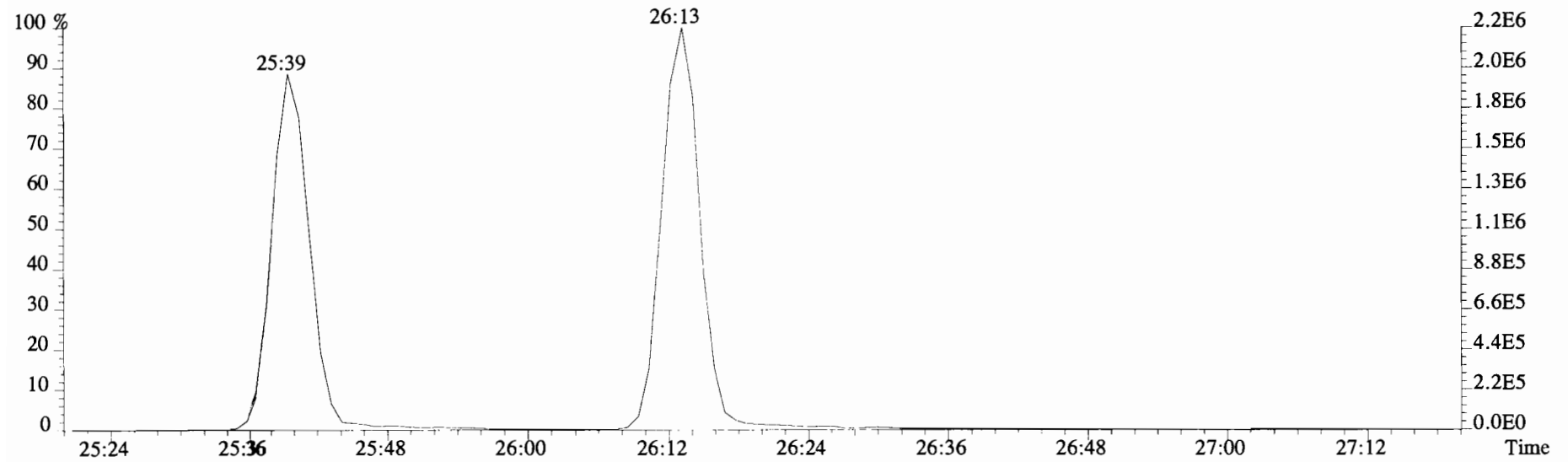
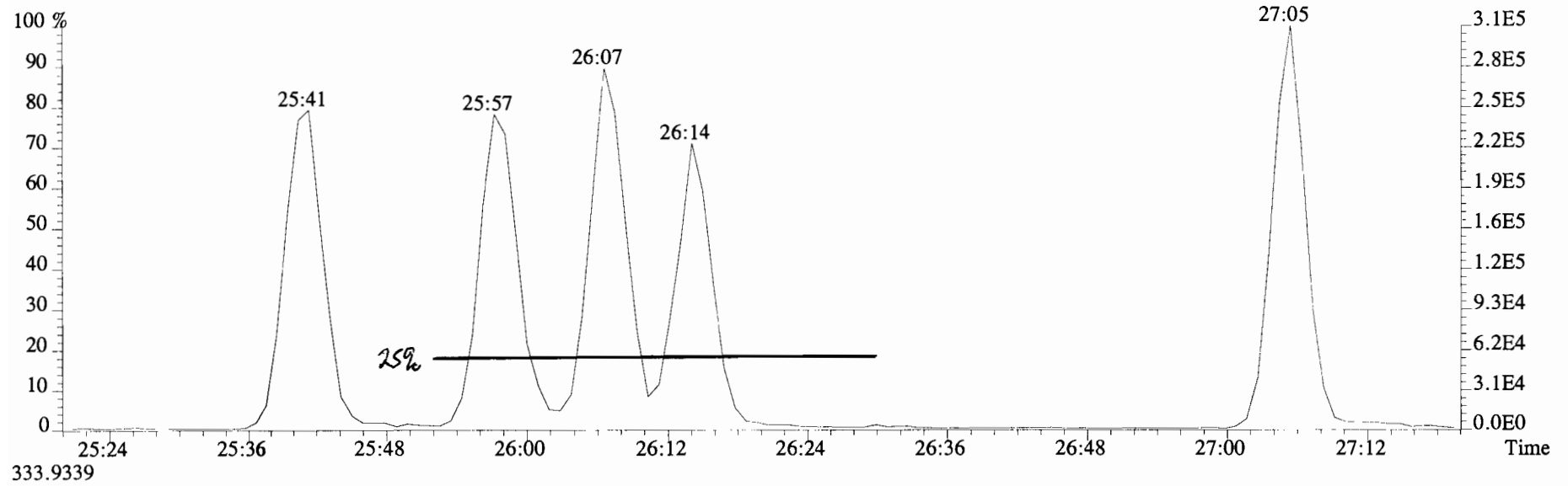




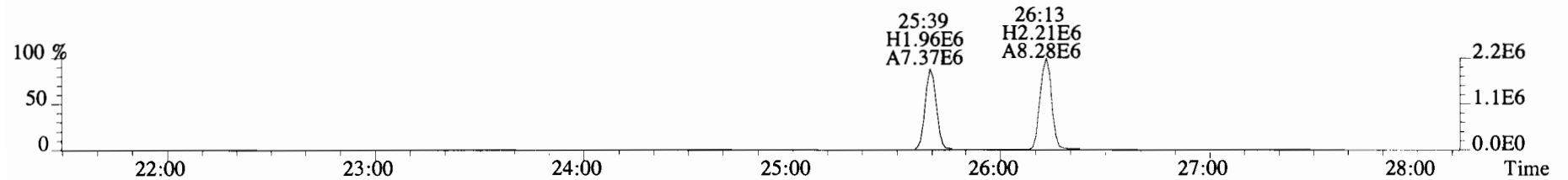
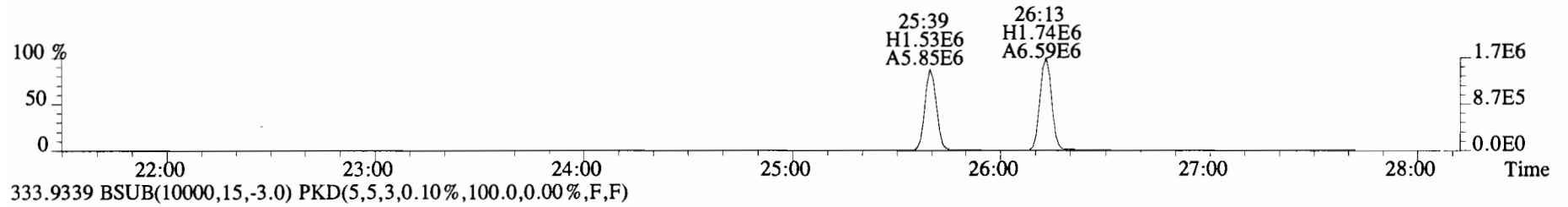
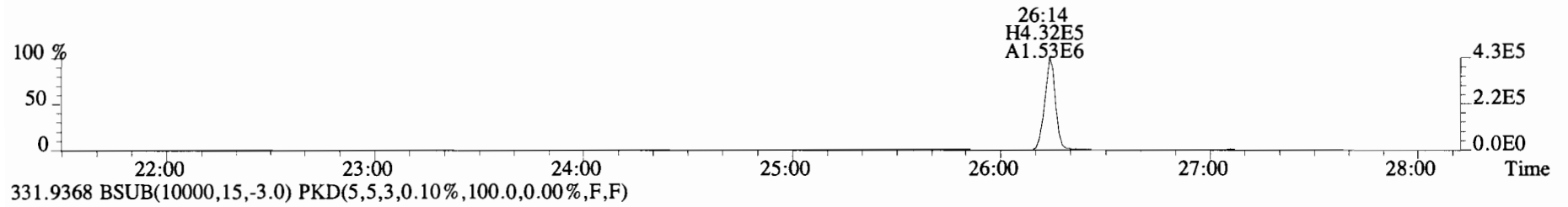
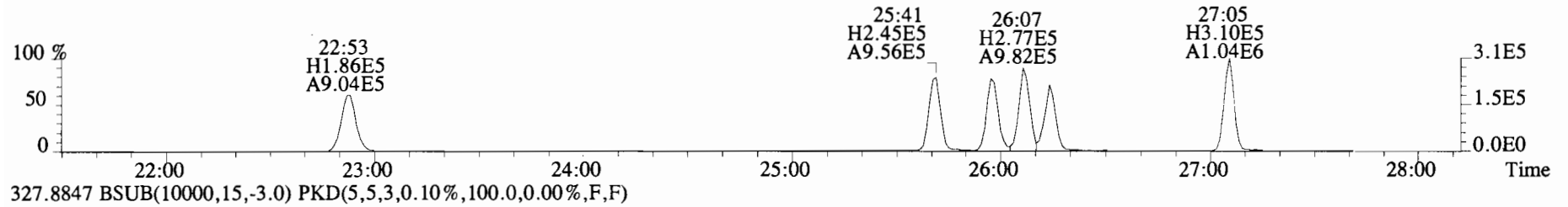
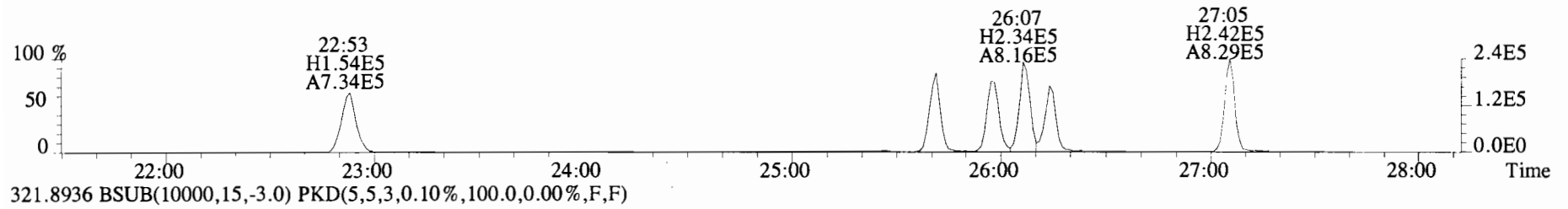




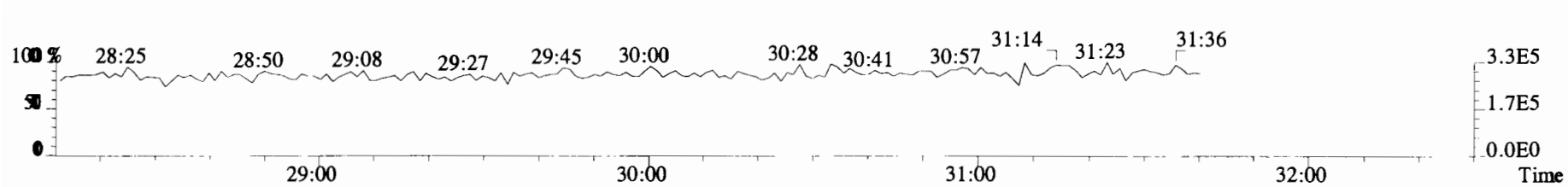
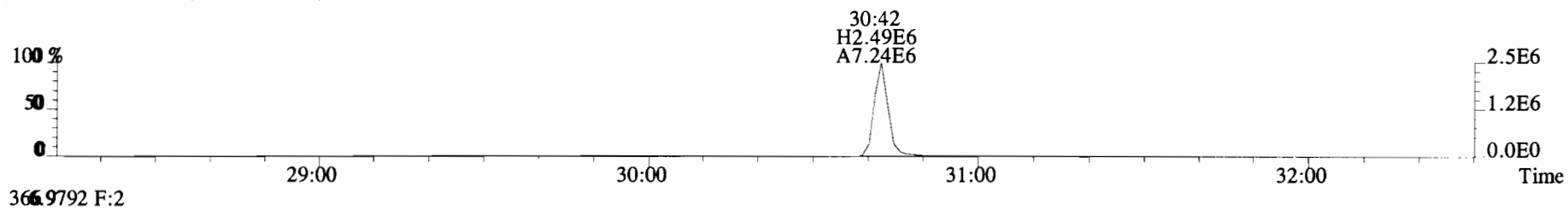
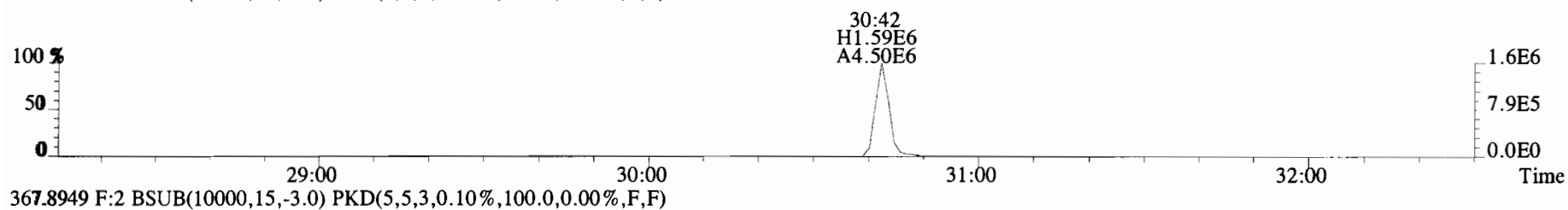
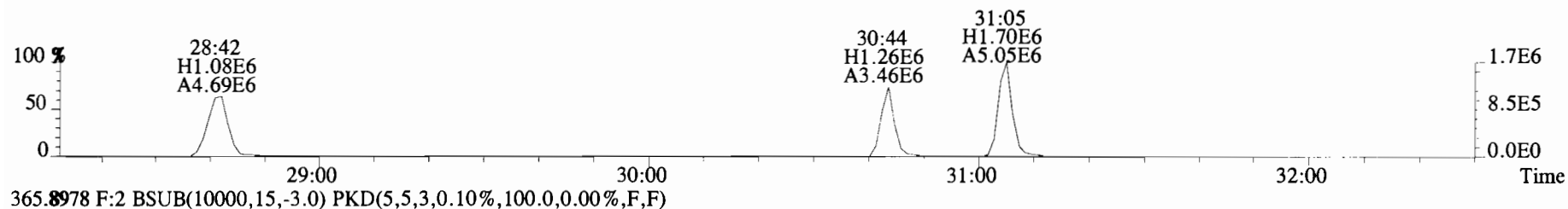
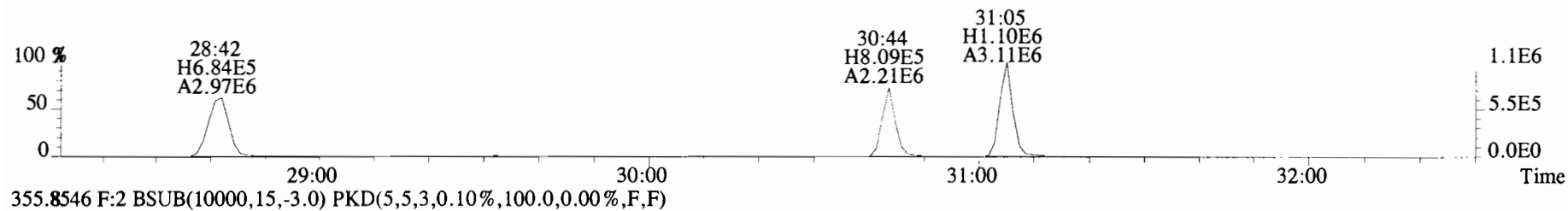
File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



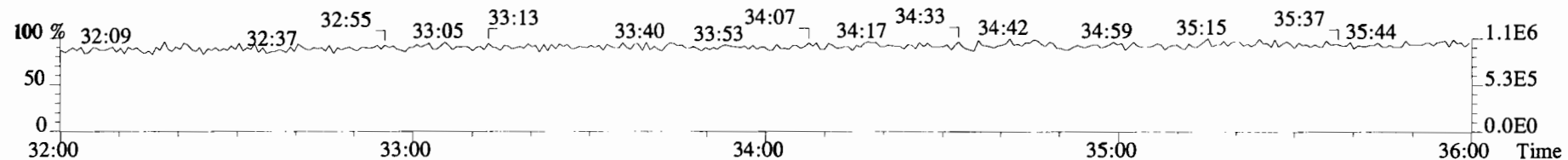
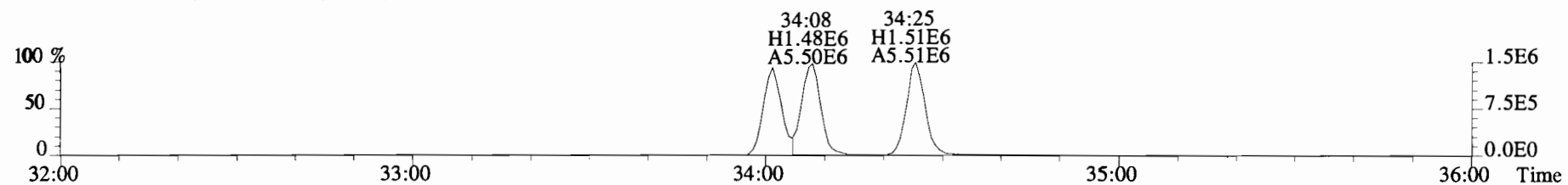
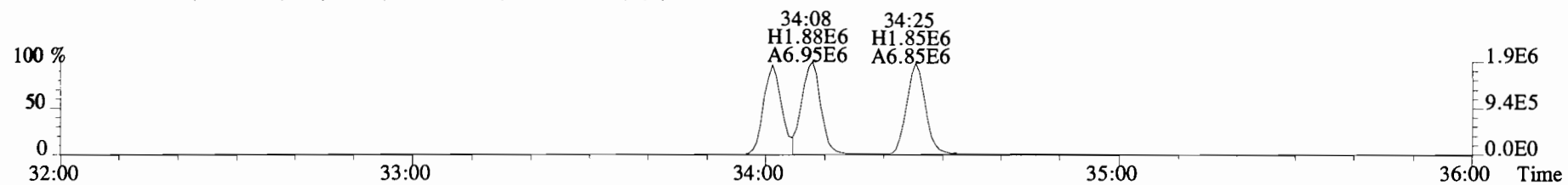
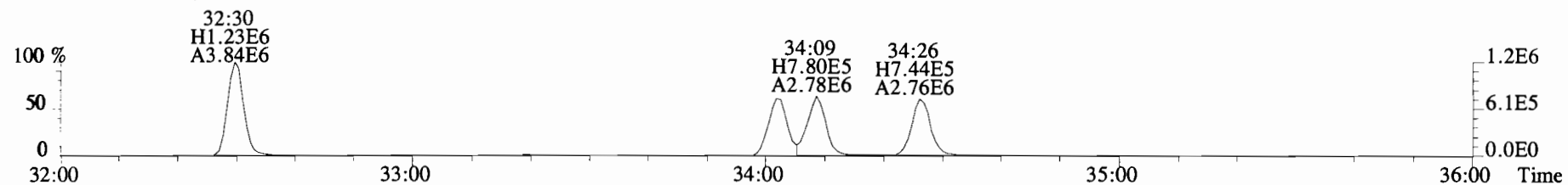
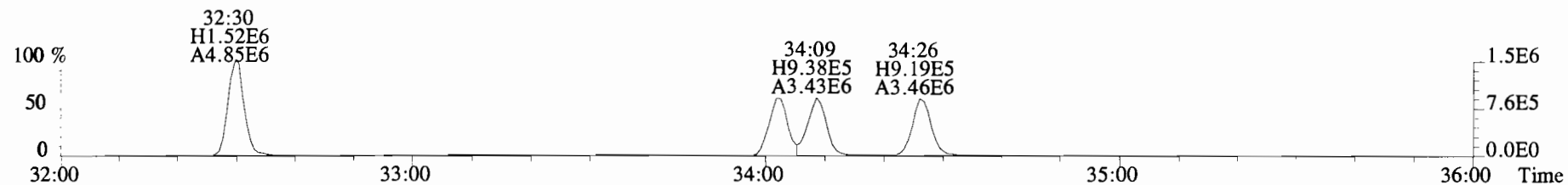
File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



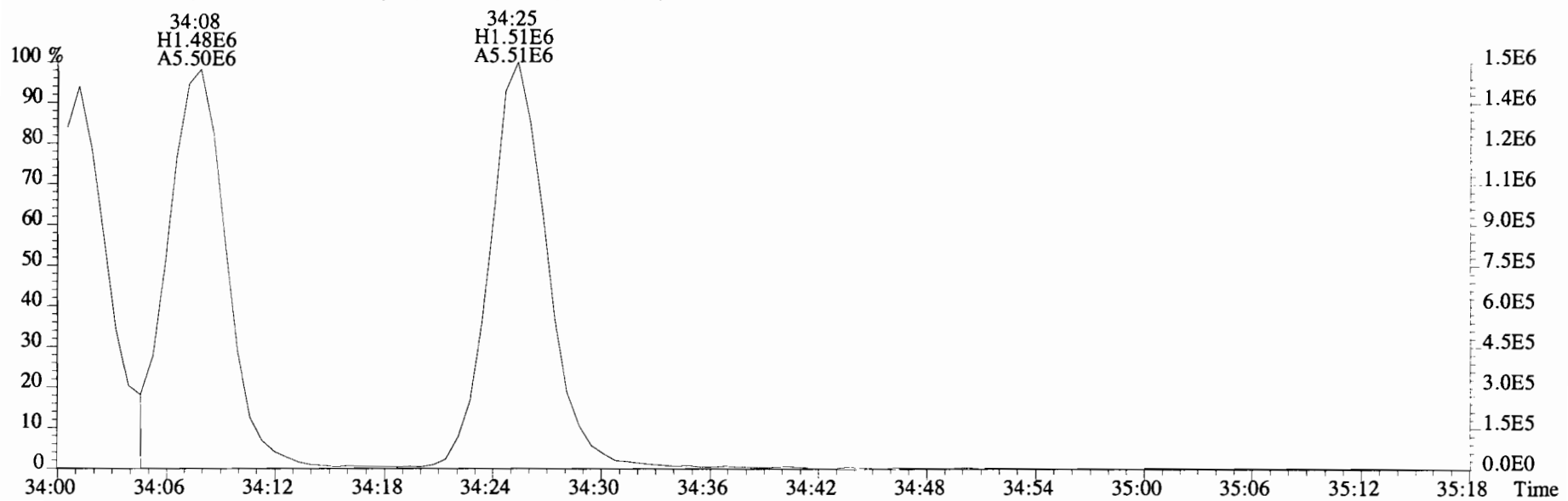
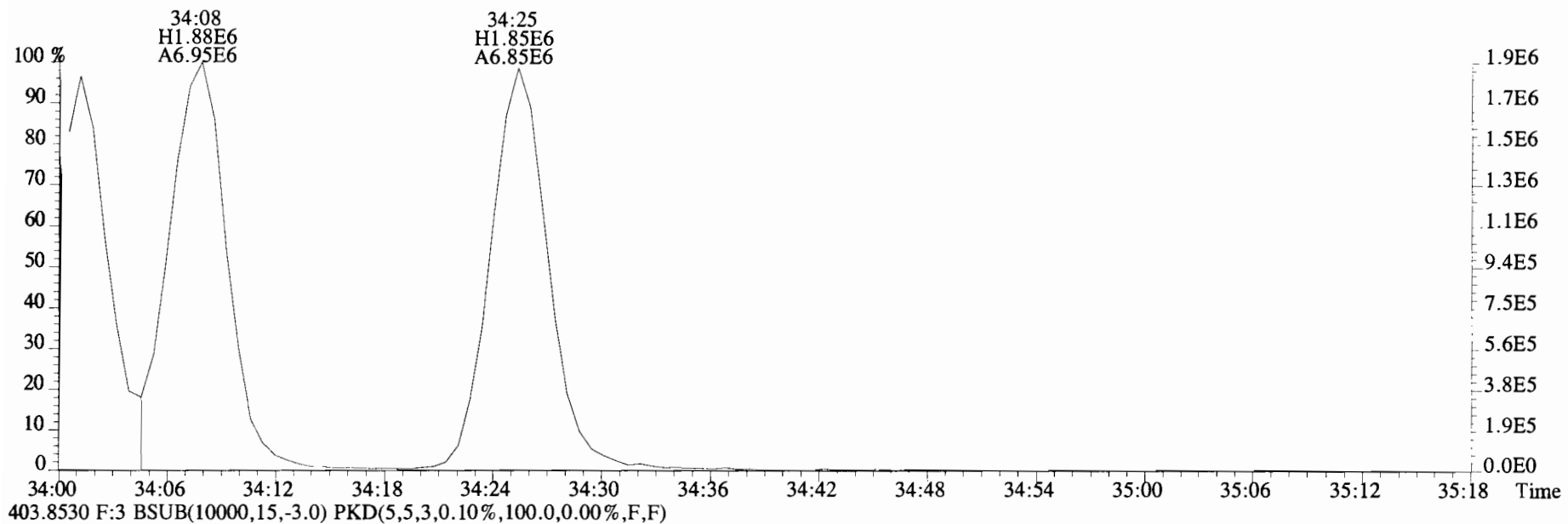
File:191111D2 #1-210 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



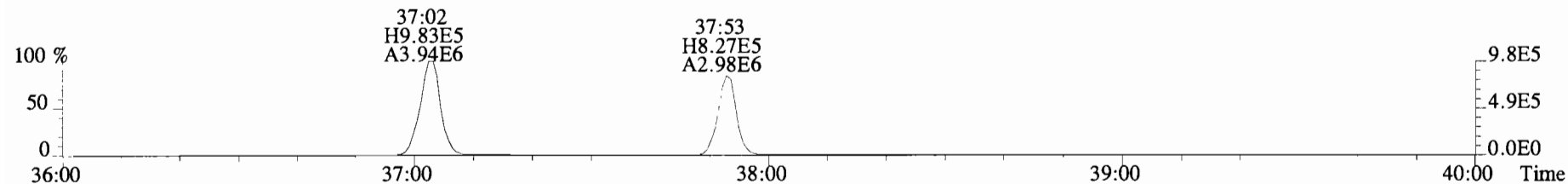
File:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



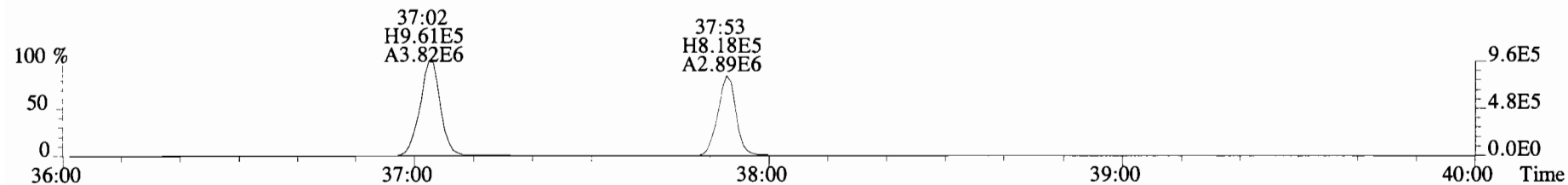
File:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



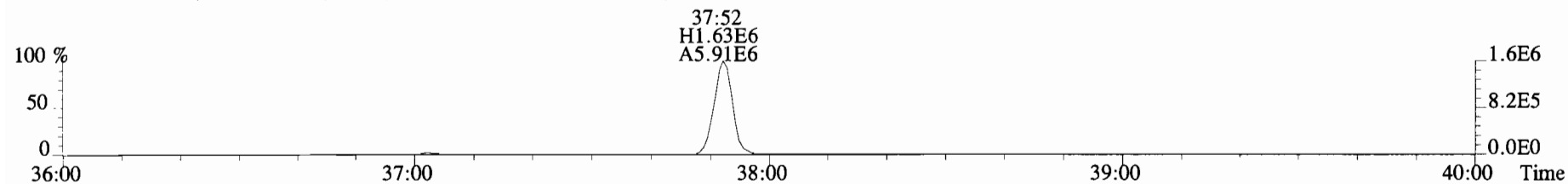
File:191111D2 #1-355 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



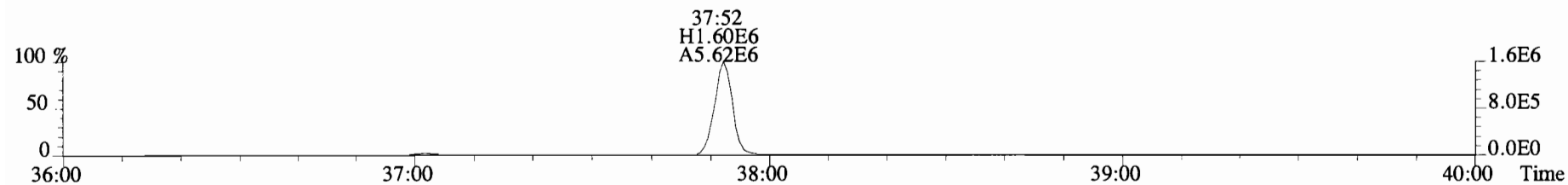
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



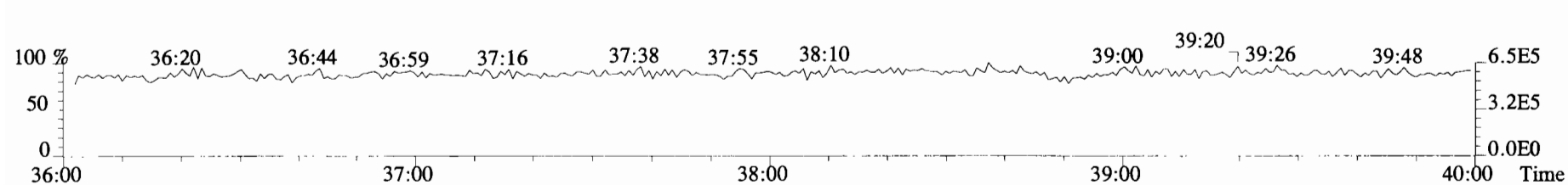
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



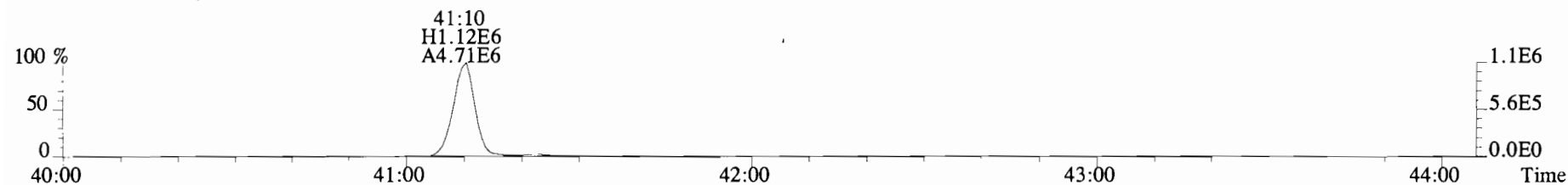
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



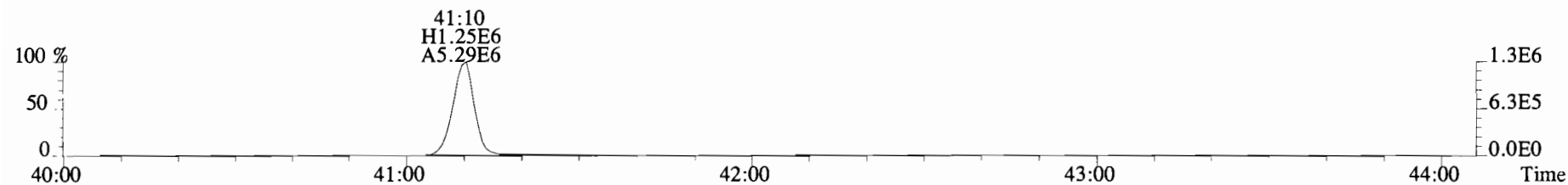
454.9728 F:4



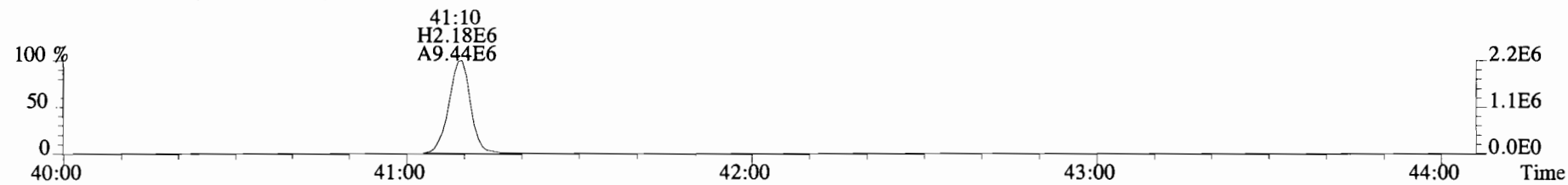
File:191111D2 #1-432 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



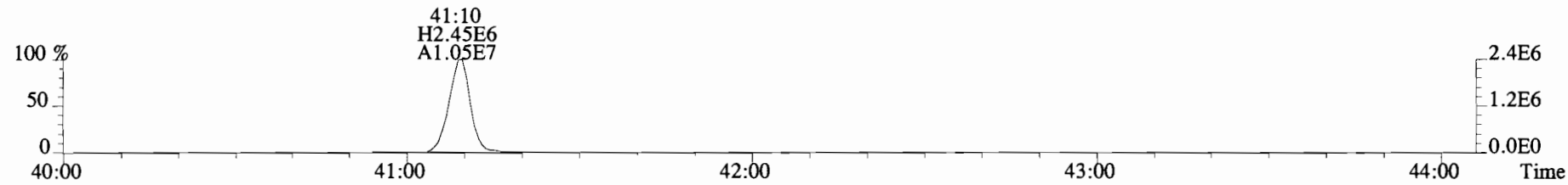
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



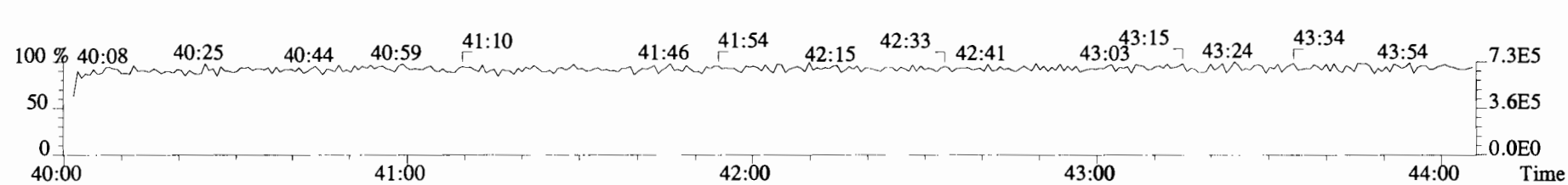
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



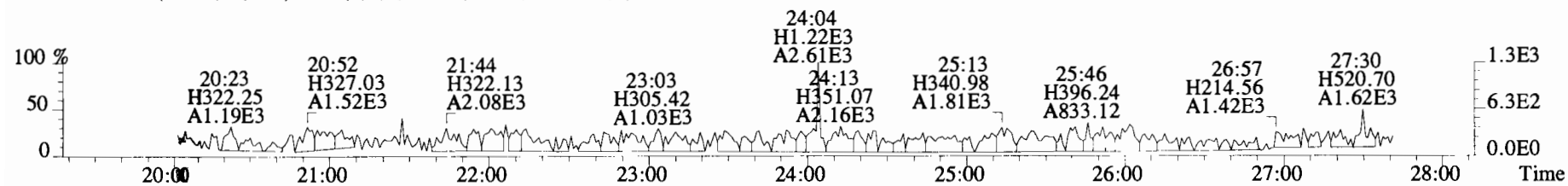
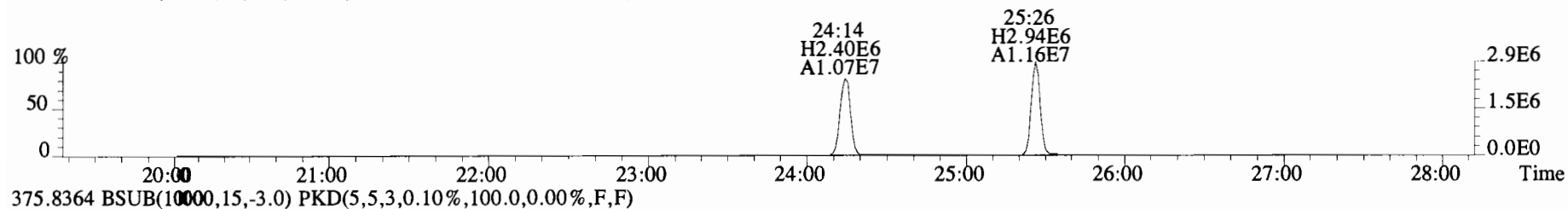
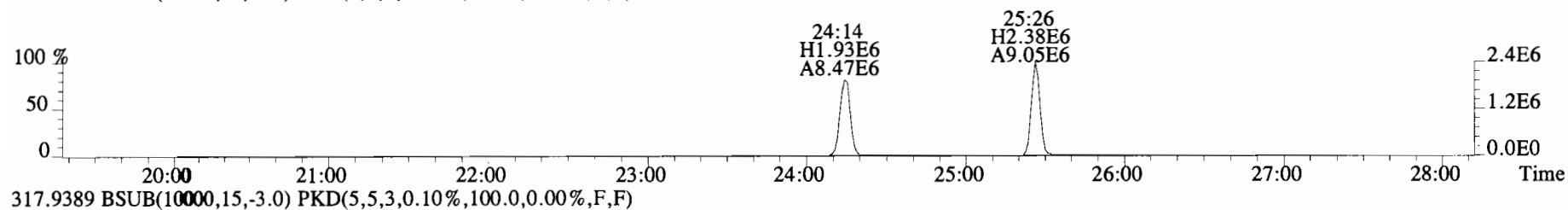
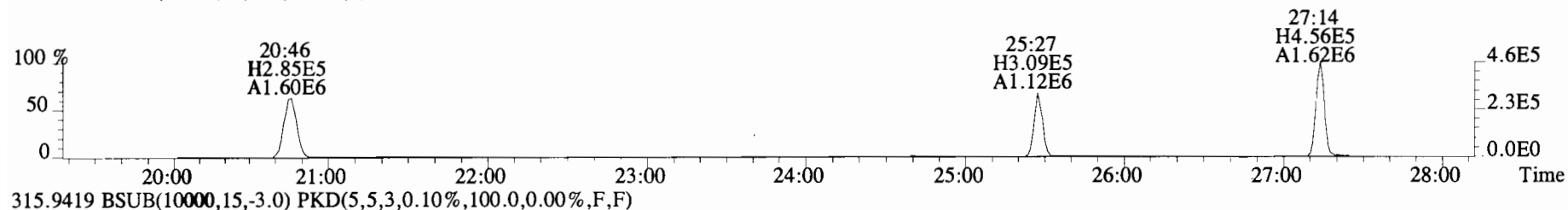
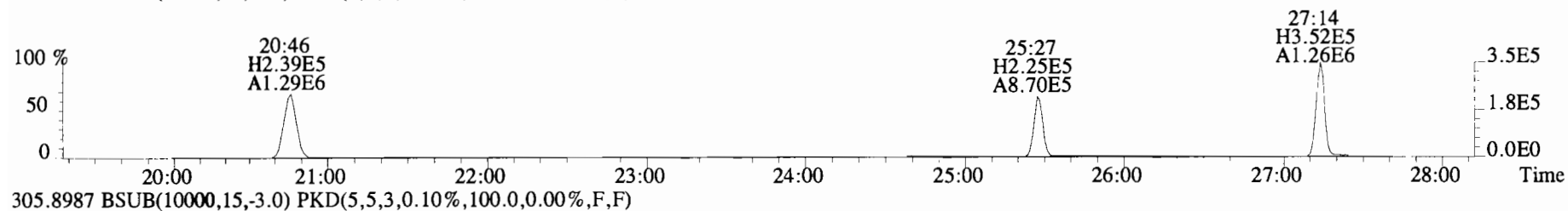
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



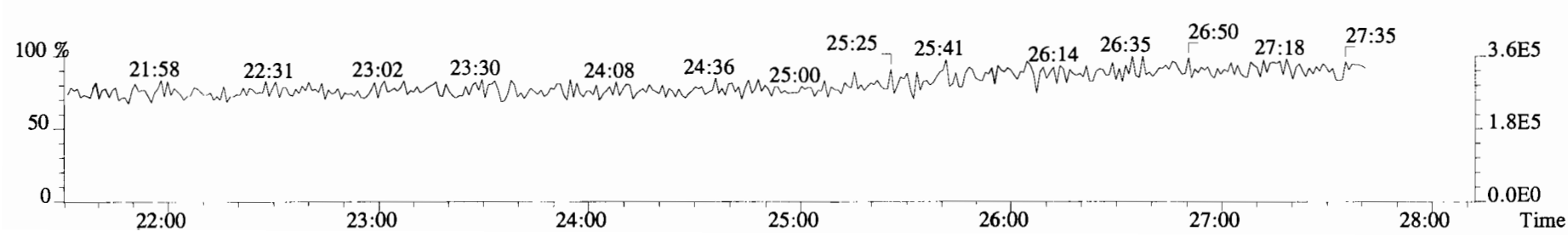
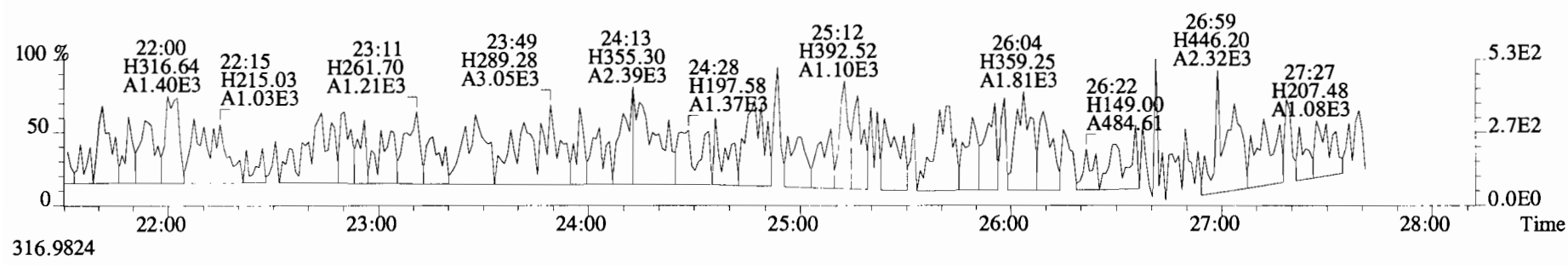
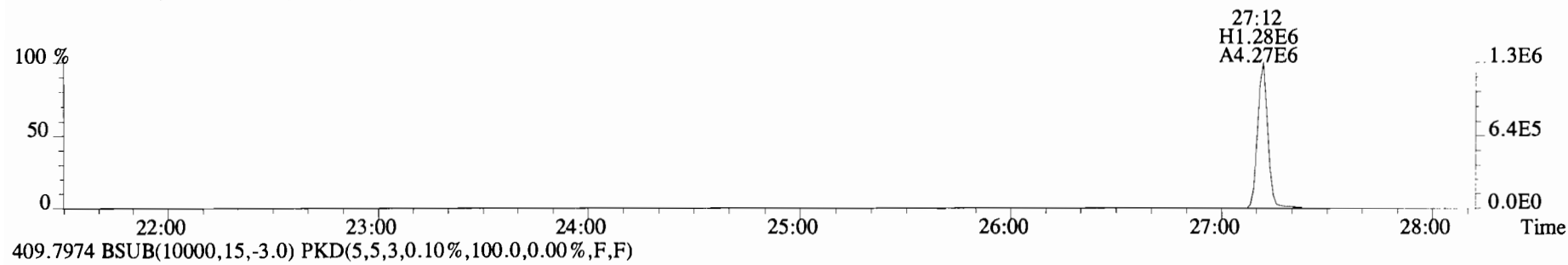
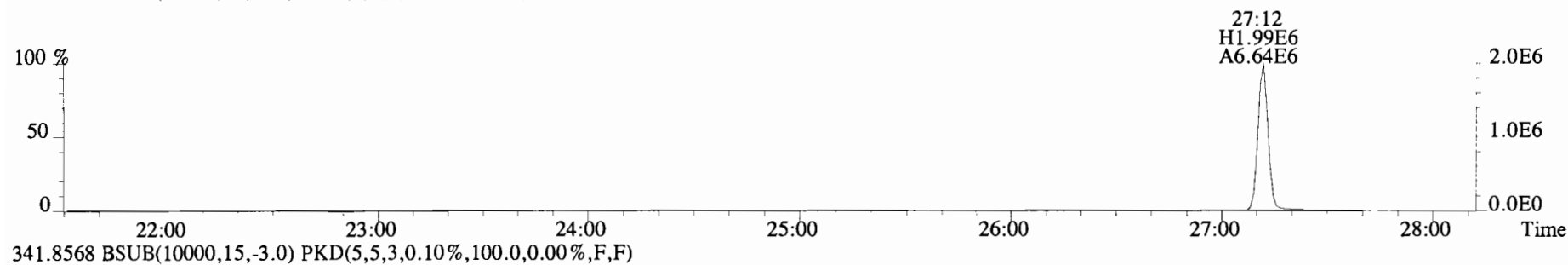
454.9728 F:5



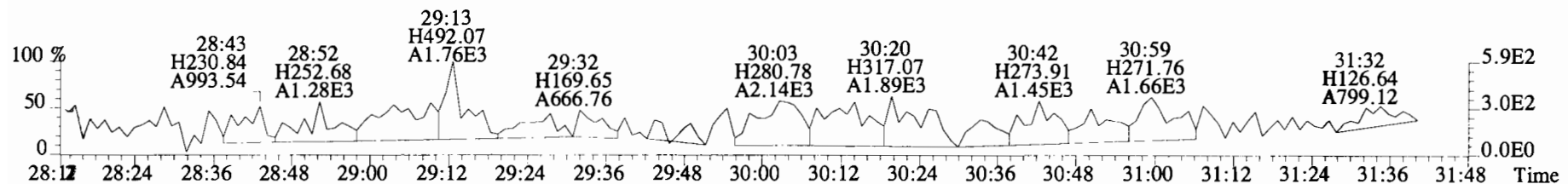
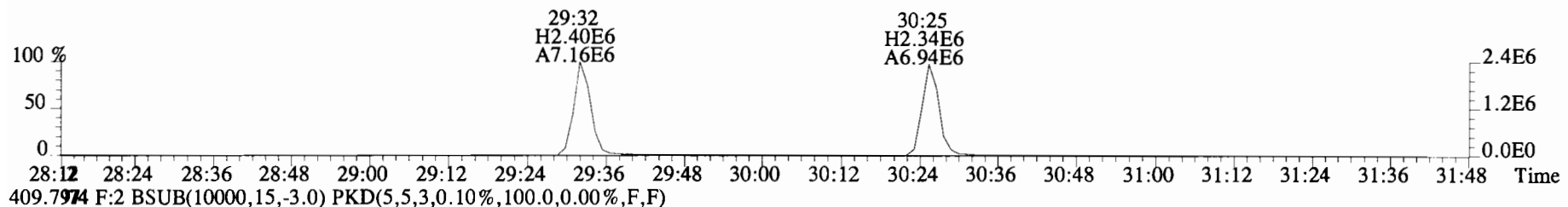
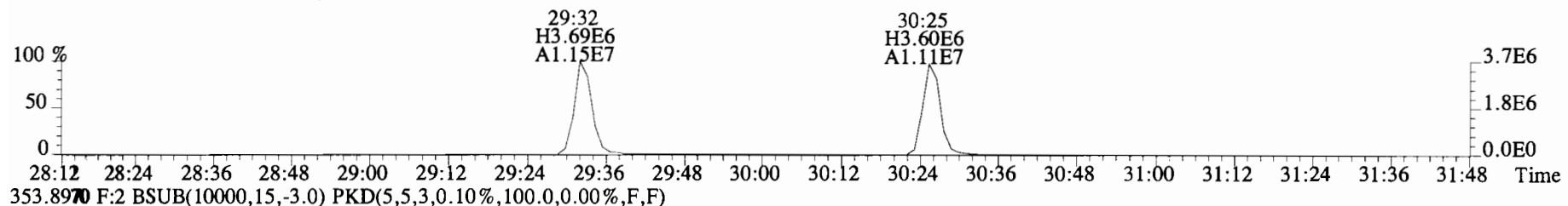
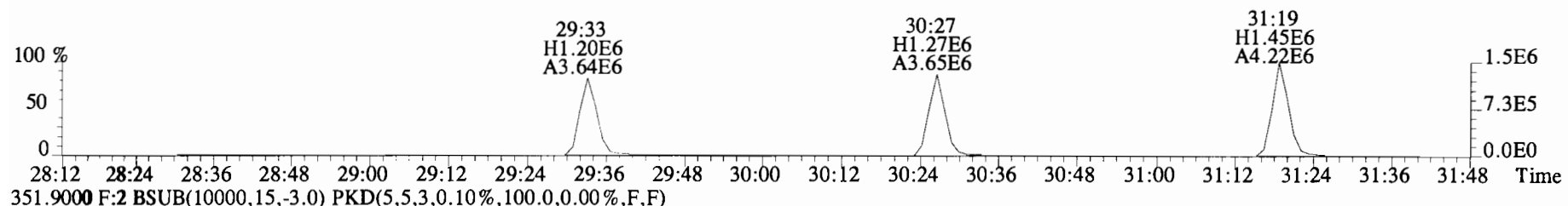
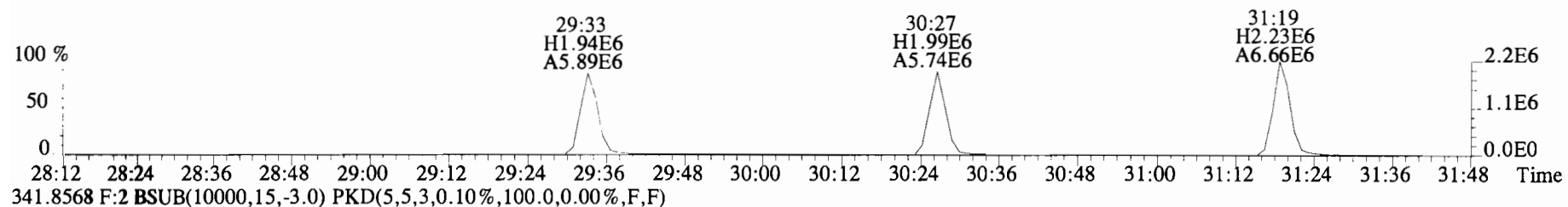
File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



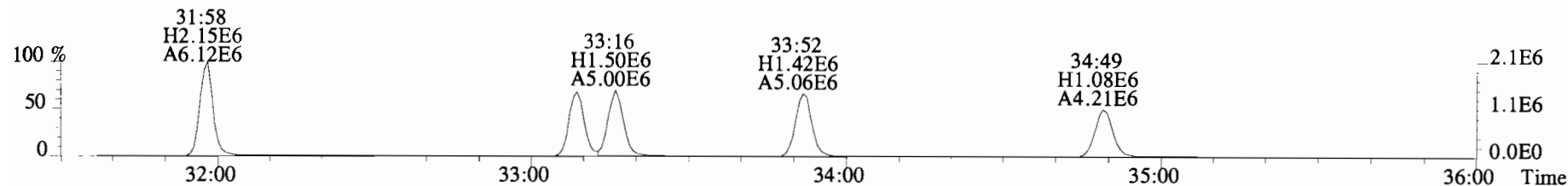
File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



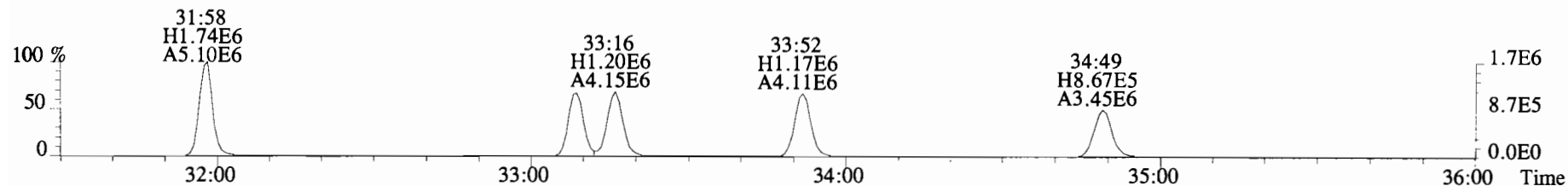
File:191111D2 #1-210 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical Laboratory VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



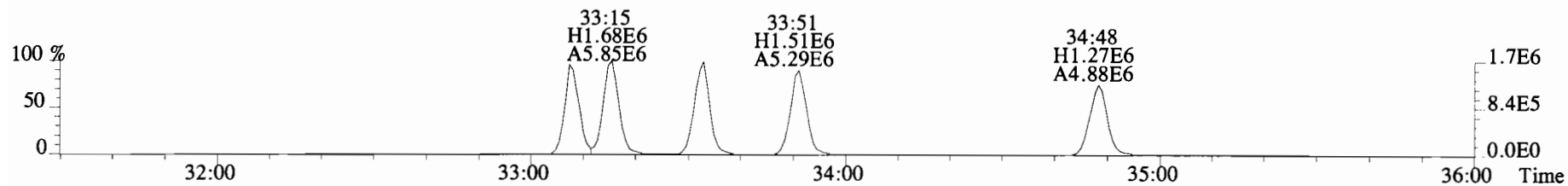
File:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



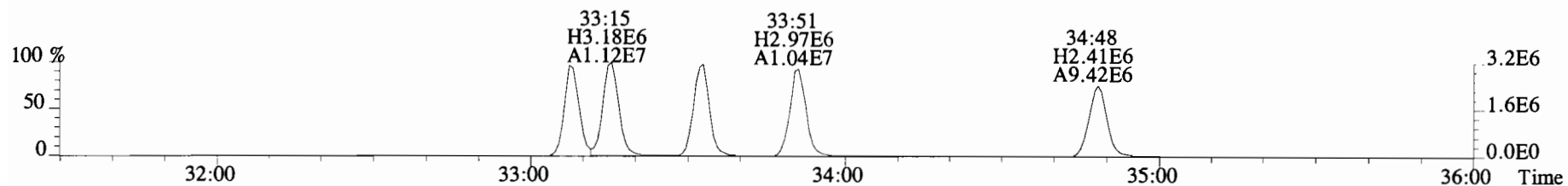
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



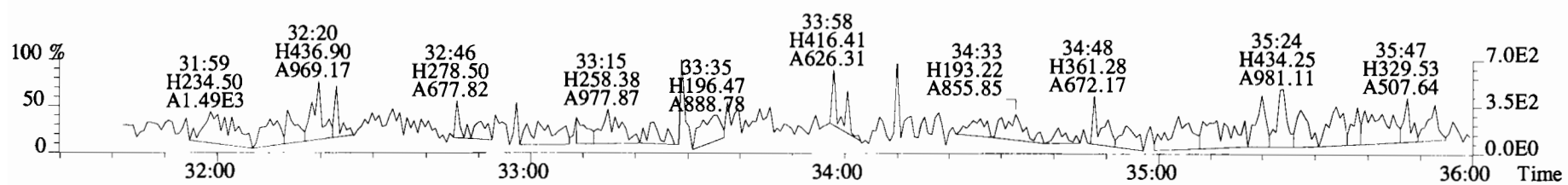
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



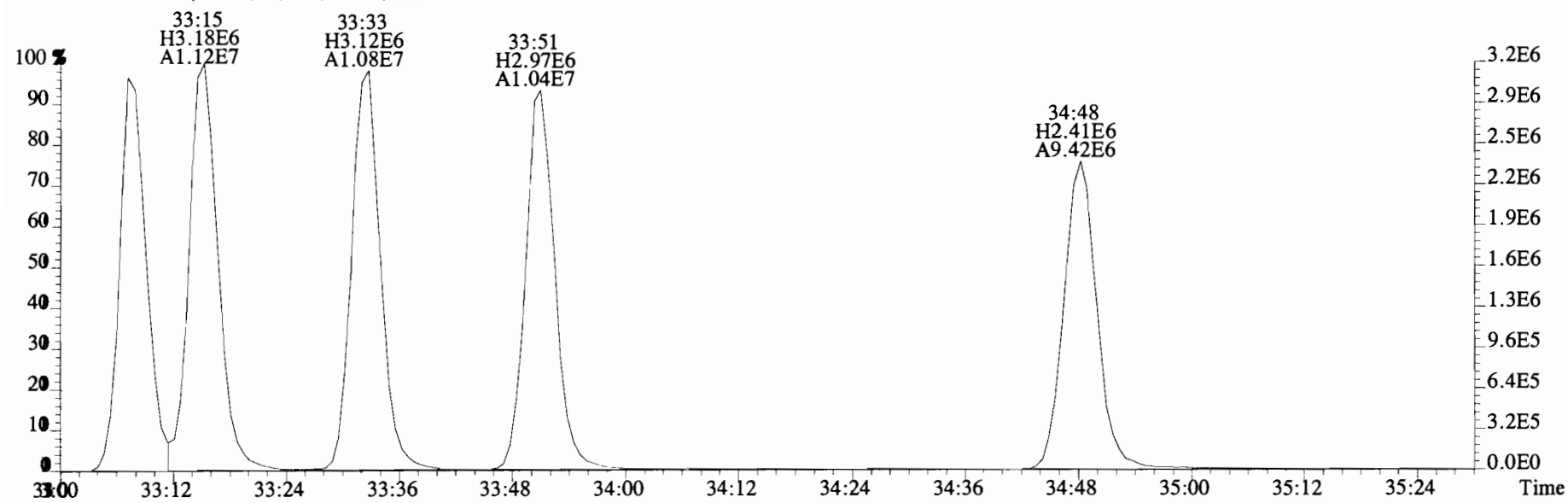
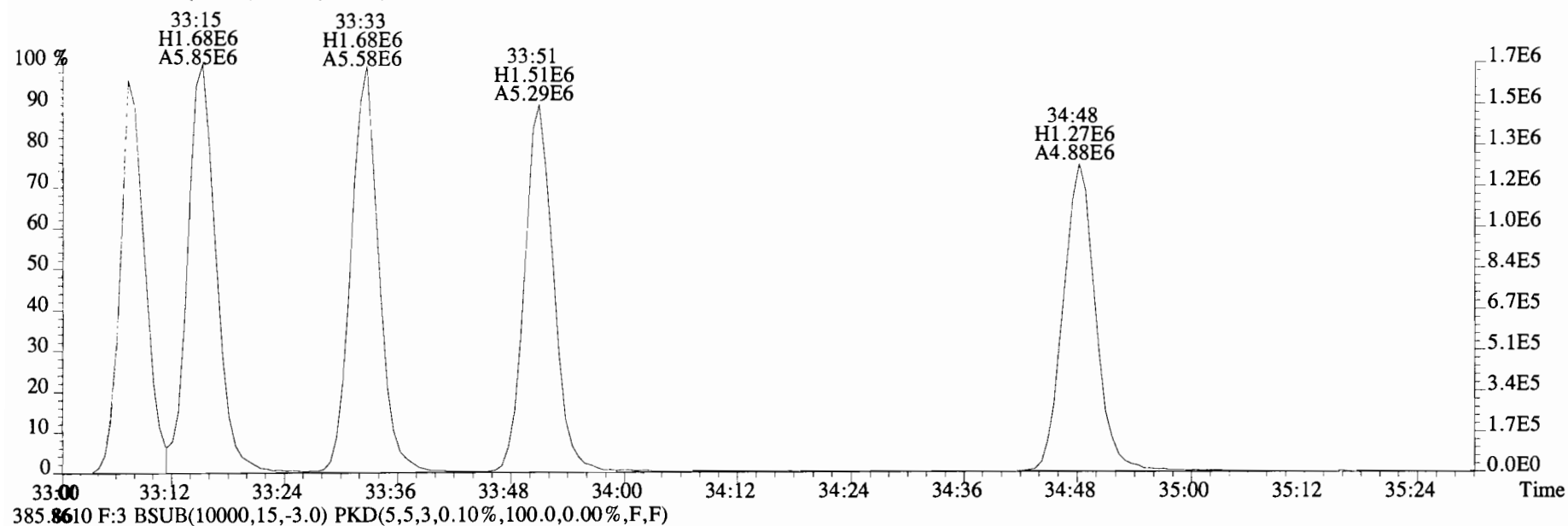
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



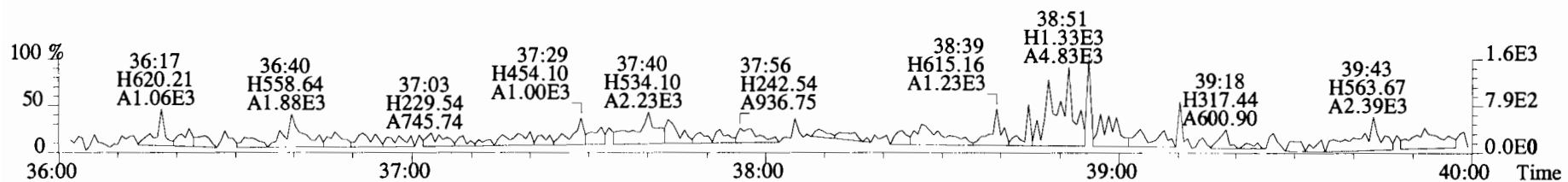
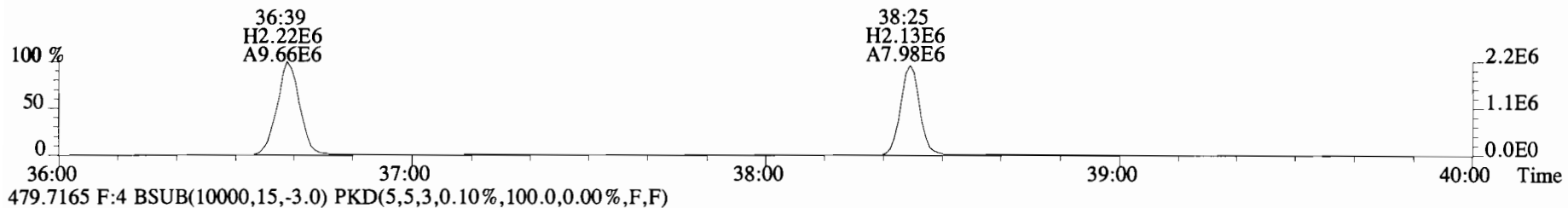
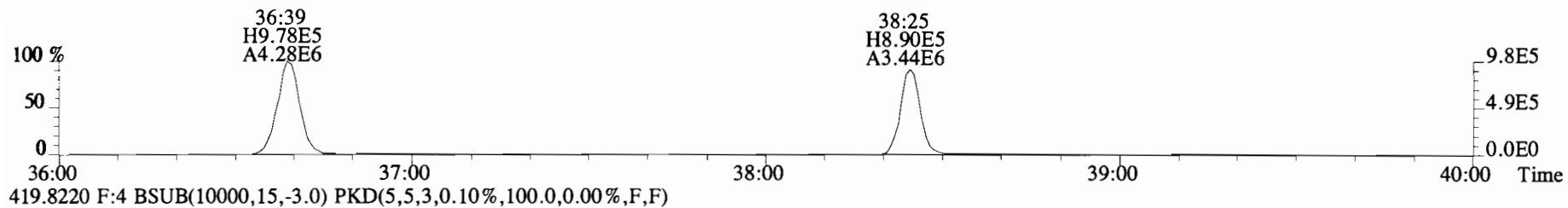
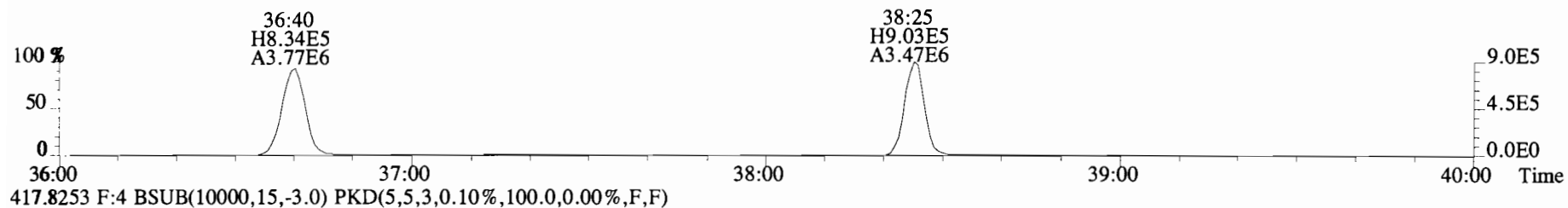
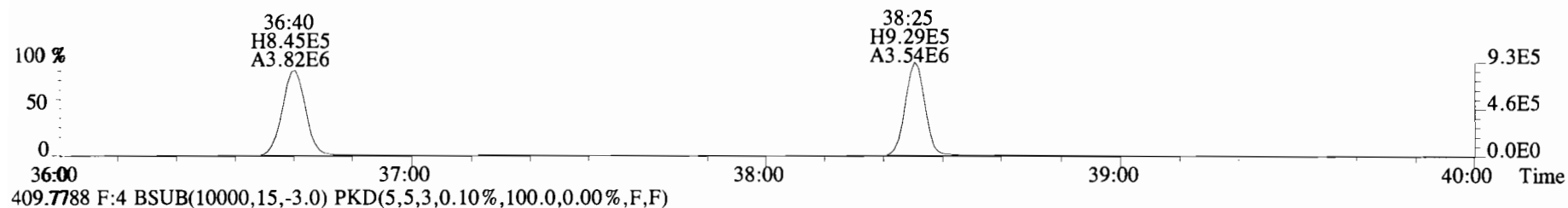
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



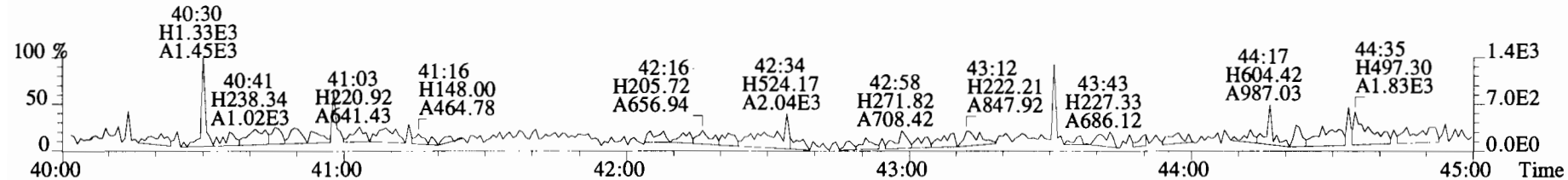
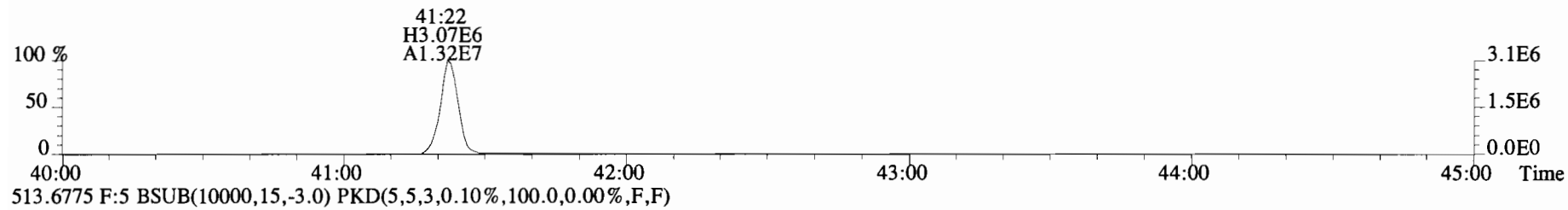
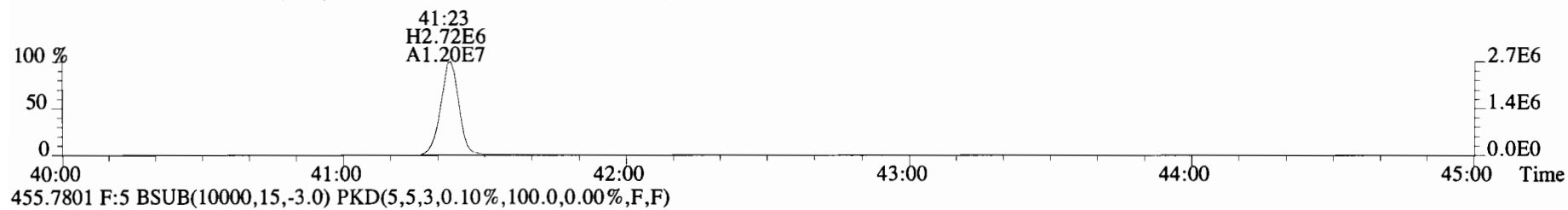
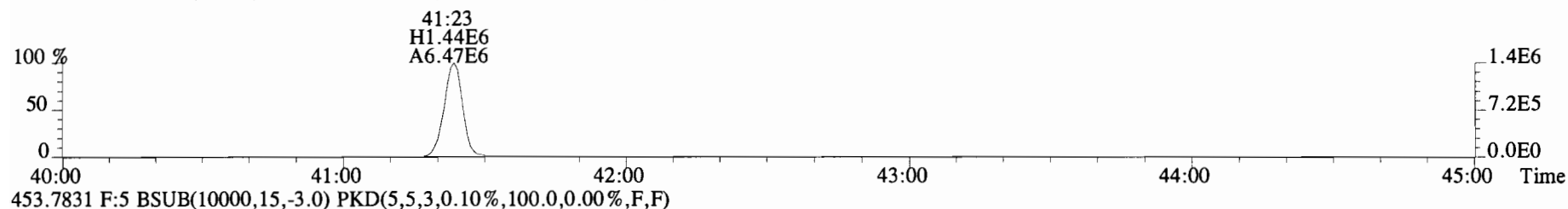
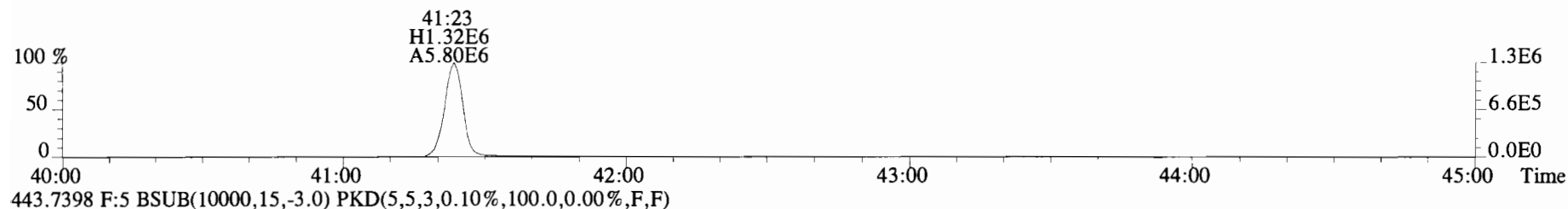
File:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata Analytical Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

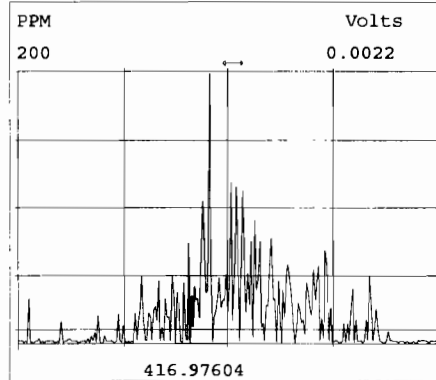
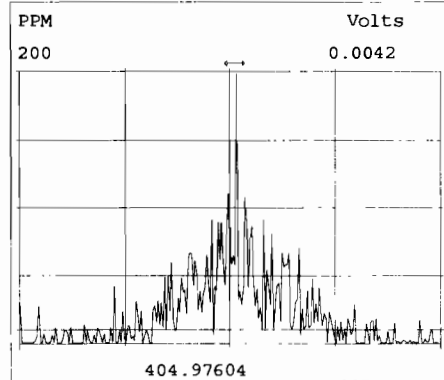
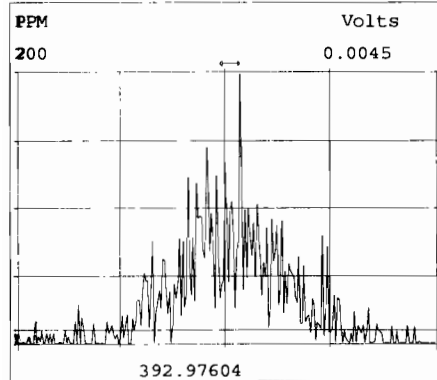
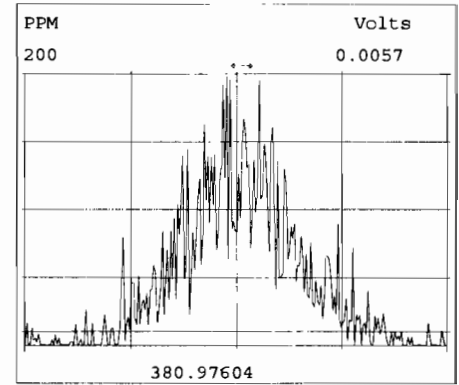
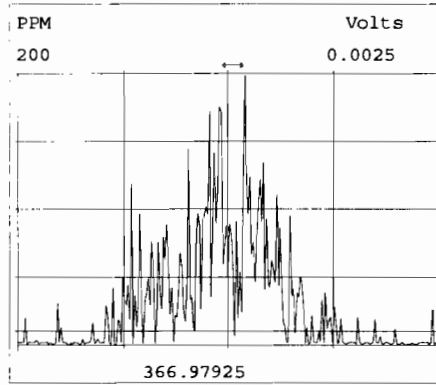
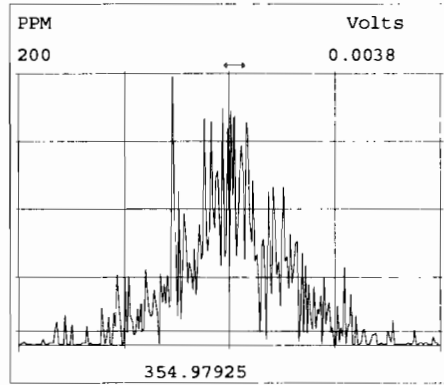
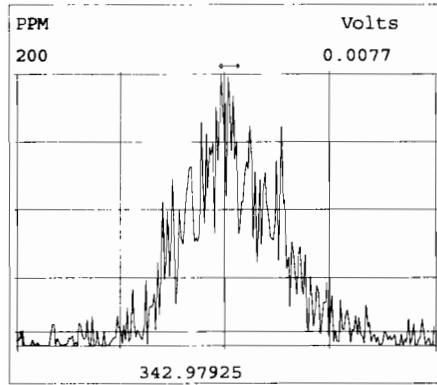
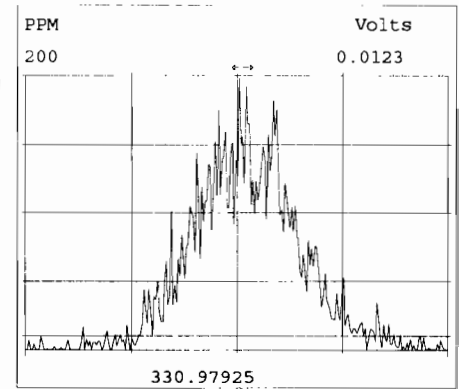
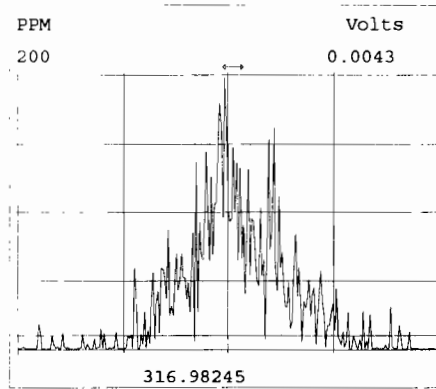
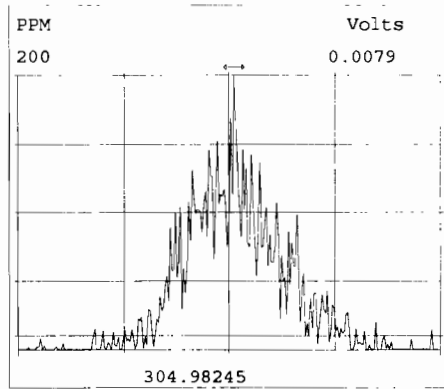
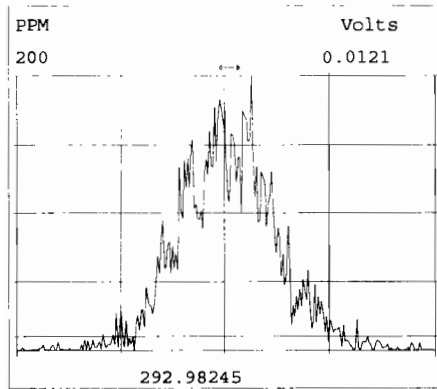


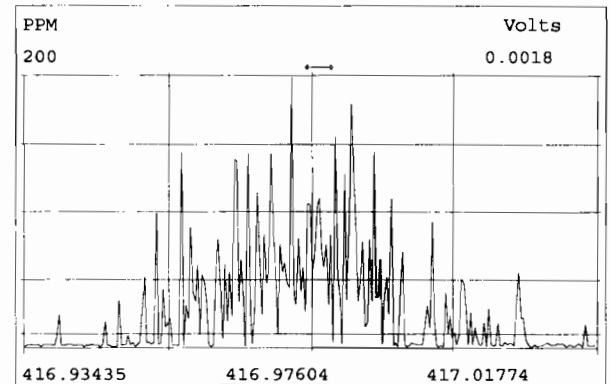
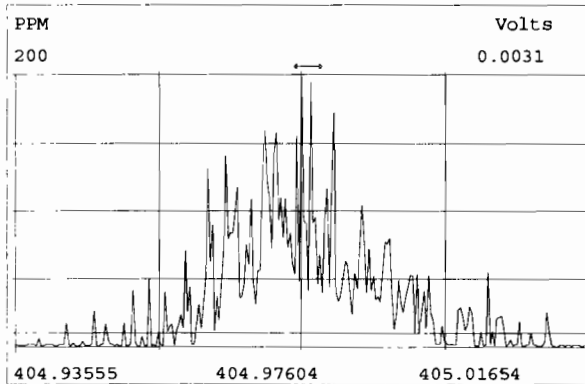
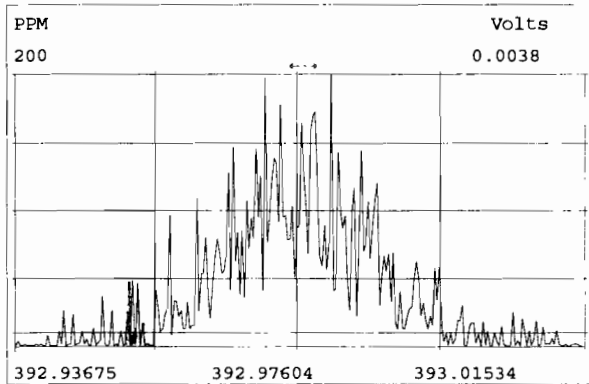
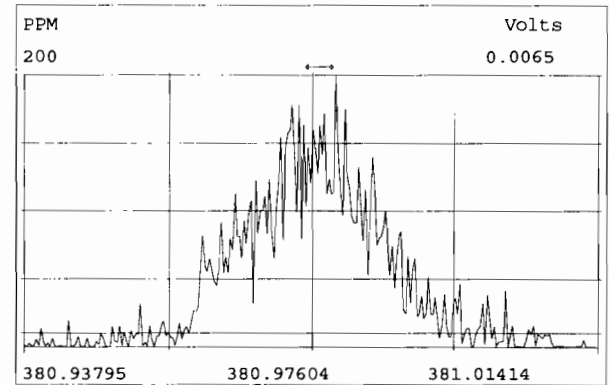
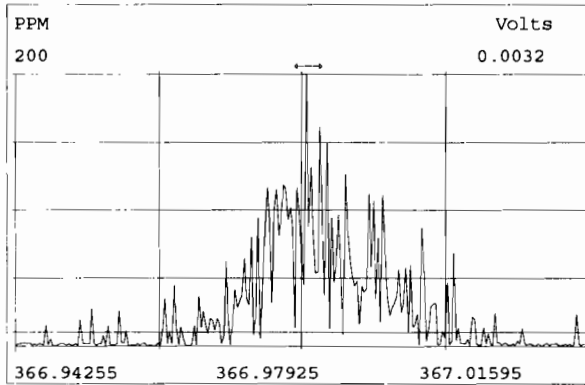
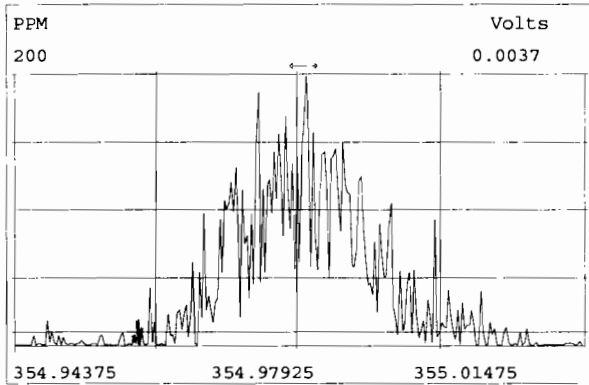
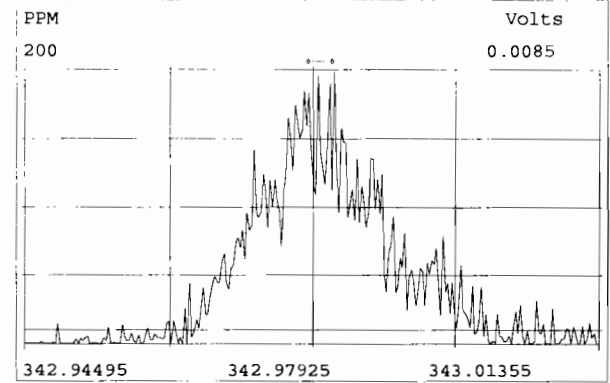
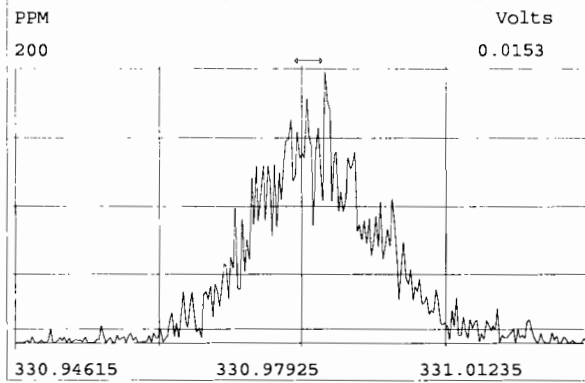
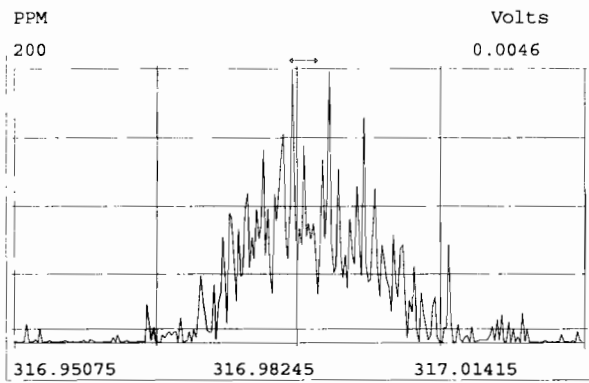
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407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

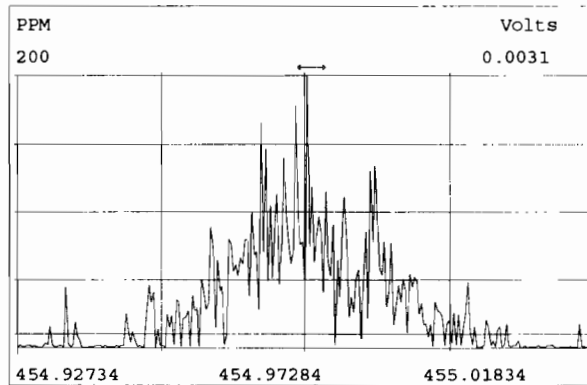
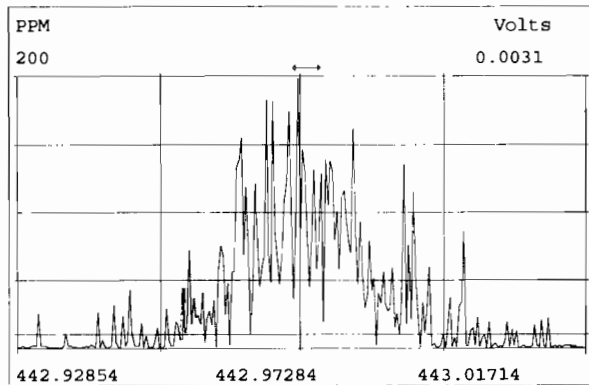
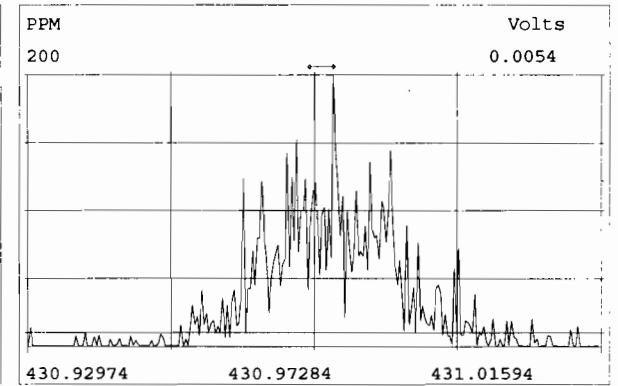
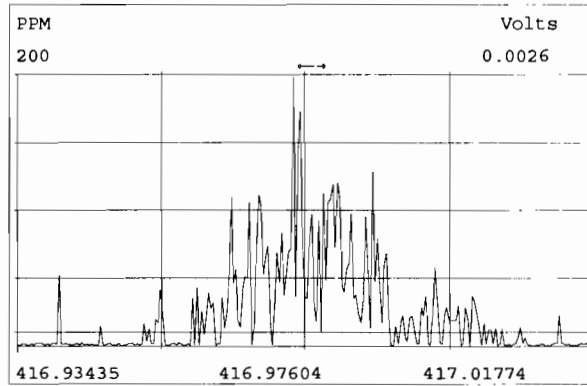
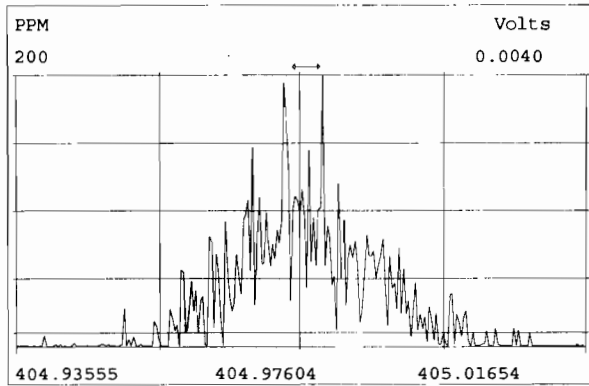
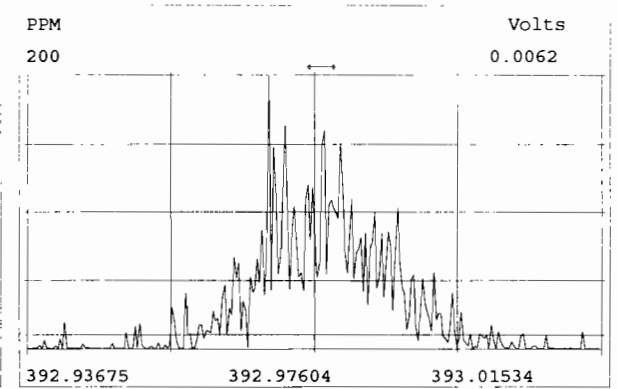
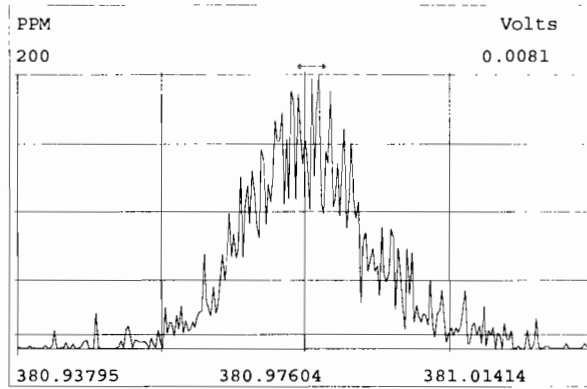
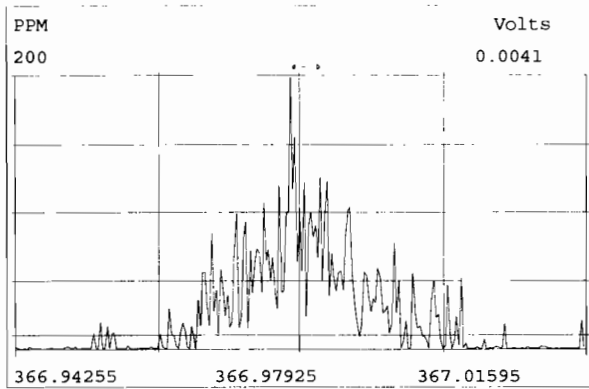


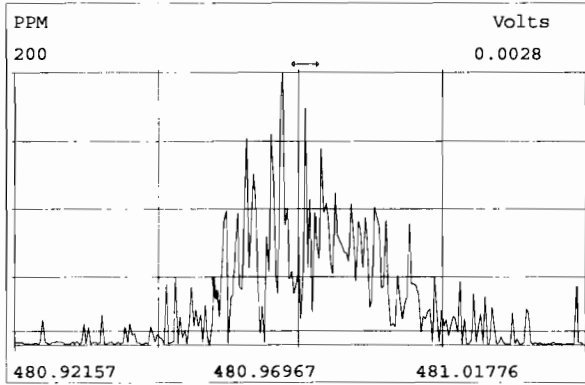
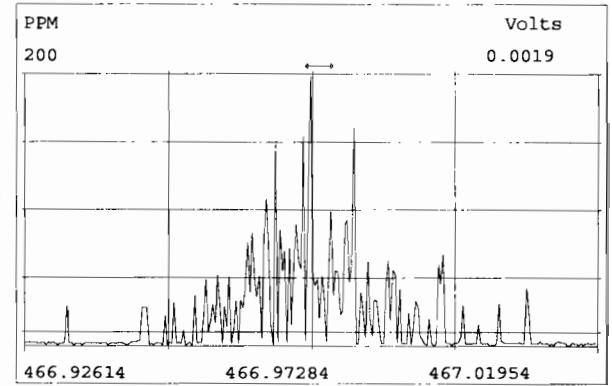
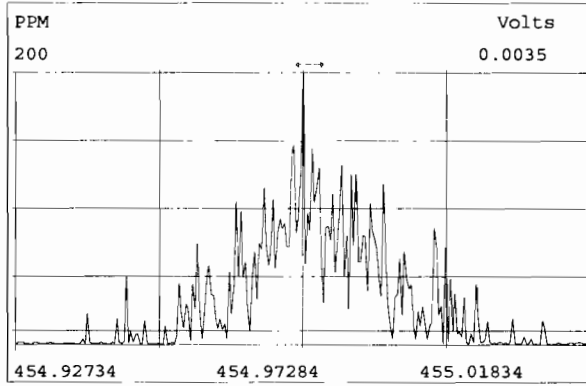
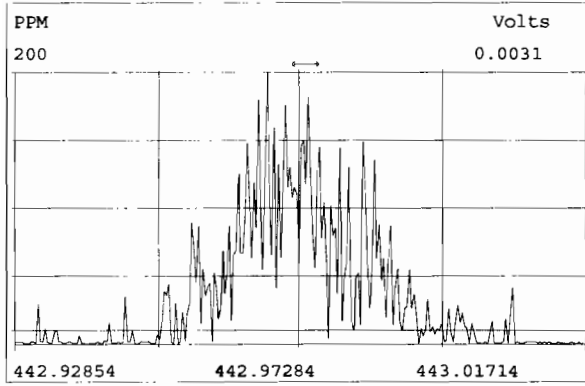
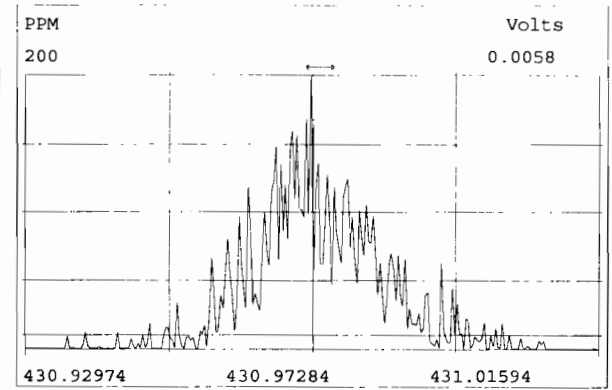
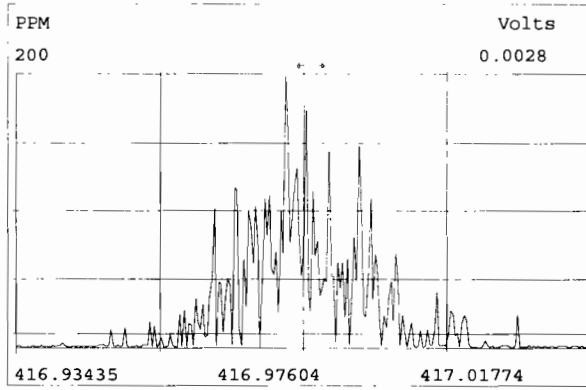
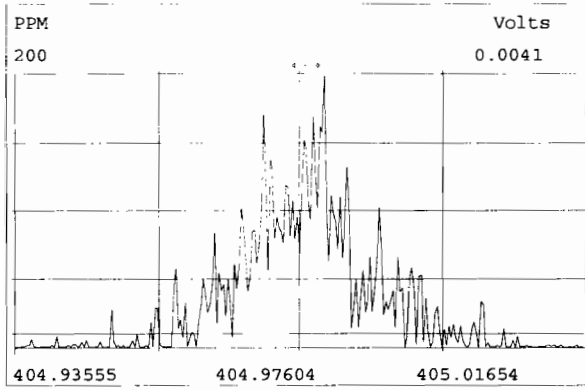
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441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

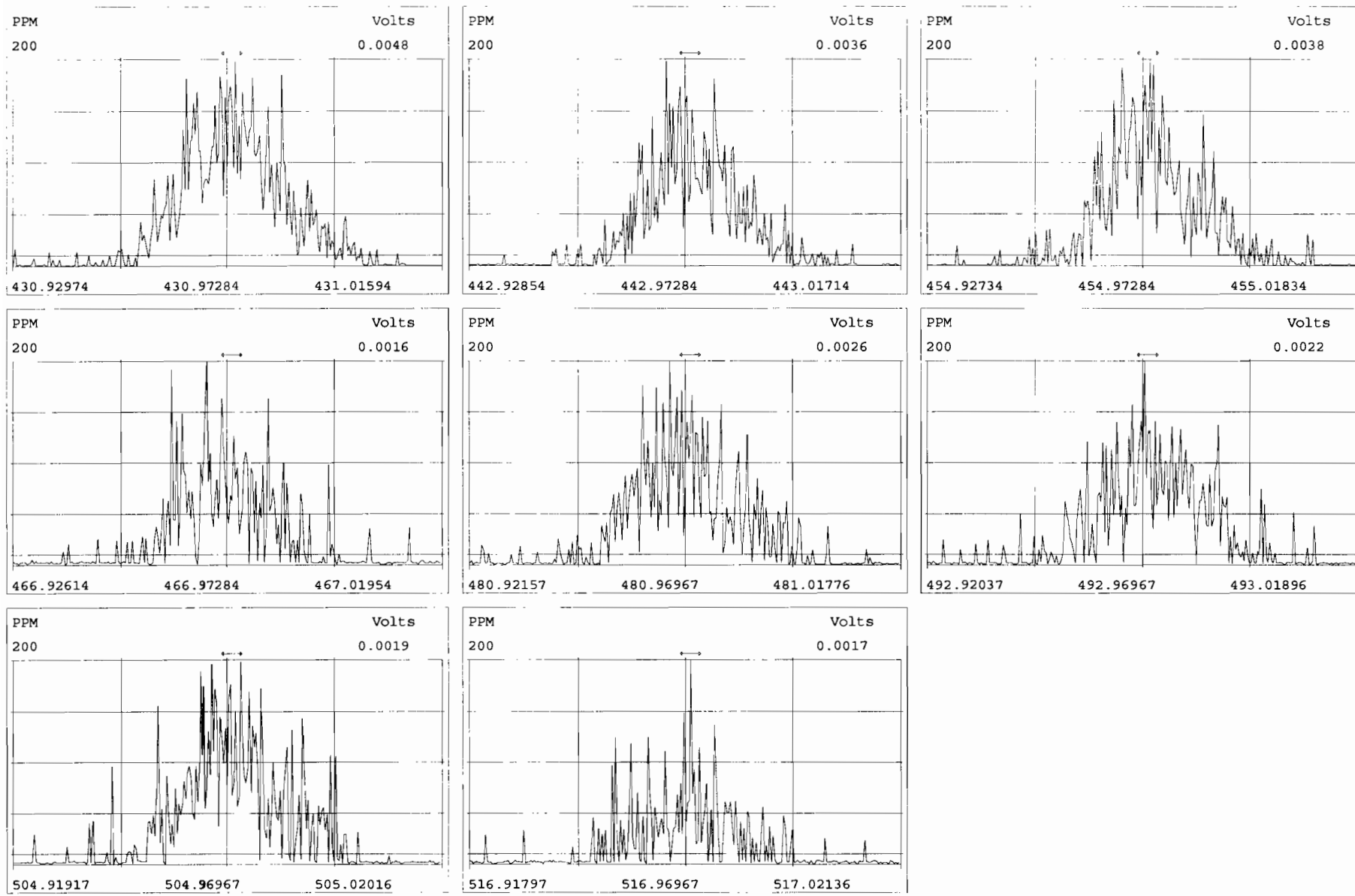












HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST191030D1-1

Reviewed By: CT 11/01/19
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>DB</u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	(Y)	N
- Bottle position verified?	<u>DB</u>	<u>DB</u>

Mass resolution \geq
 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:

FORM 4A/4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

CCAL ID: ST191030D1-1

Initial Calibration Date: 5-30-19

Instrument ID: VG-7

GC Column ID: DB-225

VER Data Filename: 191030D1 S#2 Analysis Date: 30-OCT-19 Time: 14:30:32

ANALYTES	M/Z'S	ION	QC	CONC.	CONC. RANGE	CONC. RANGE
	FORMING RATIO (1)	ABUND. RATIO	LIMITS (2)		1613 (ng/mL)	8290 (ng/mL)
2,3,7,8-TCDF	M/M+2	0.73	0.65-0.89	9.7	8.4 - 12.0 (3) 8.6 - 11.6 (4)	8.0 - 12.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	103.6	71.0 - 140.0 (3) 76.0 - 131.0 (4)	70.0 - 130.0

- (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 6a, Method 1613, under VER.
- (4) Contract required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DBDate: 10/30/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191030D1-1

Filename: 191030D1 S:2 Acq:30-OCT-19 14:30:32
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

ConCal: ST191030D1-1
EndCAL: NA

Page 1 of 1

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.37e+07	0.80 y	15:34	1.00	100.0	-
13C-2,3,7,8-TCDF	1.45e+07	0.79 y	17:46	1.02	103.6	103.6
2,3,7,8-TCDF	1.34e+06	0.73 y	17:47	0.95	9.749	

Integrations

by
Analyst: DB

Date: 10/30/19

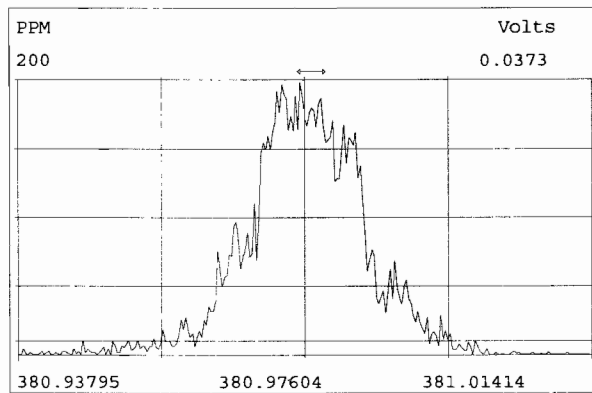
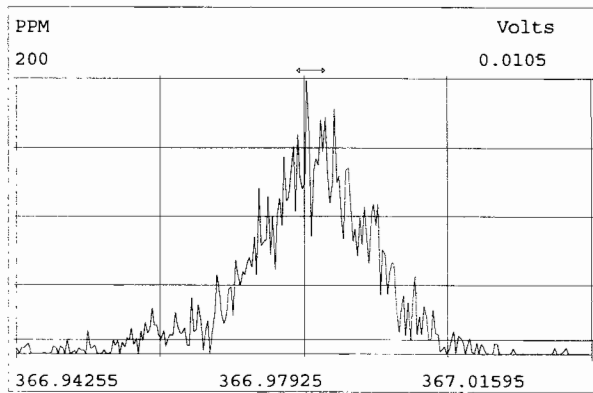
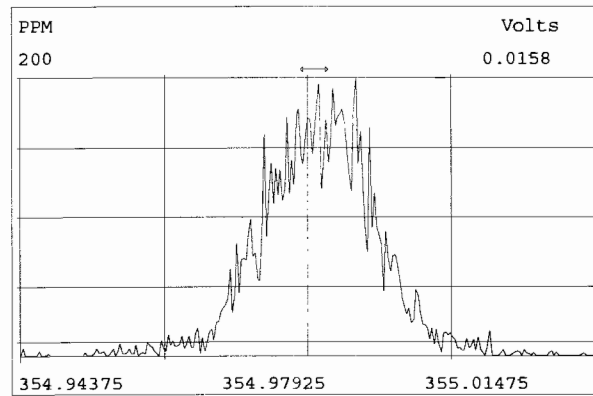
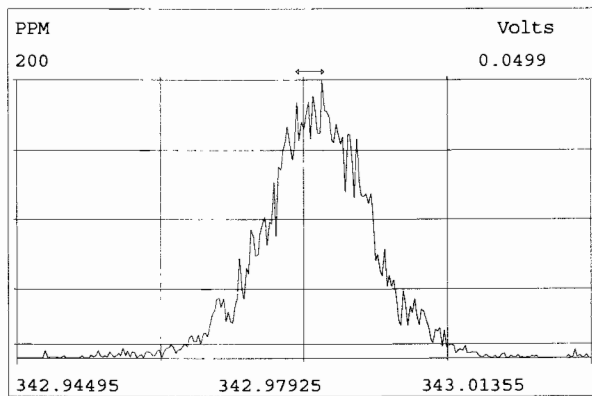
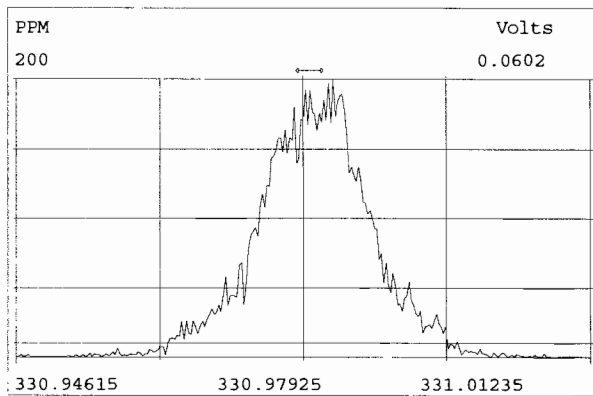
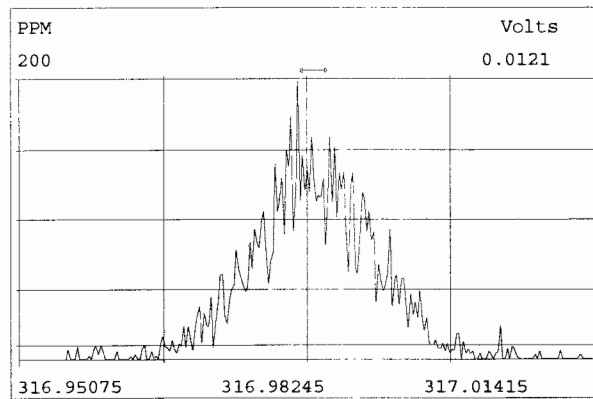
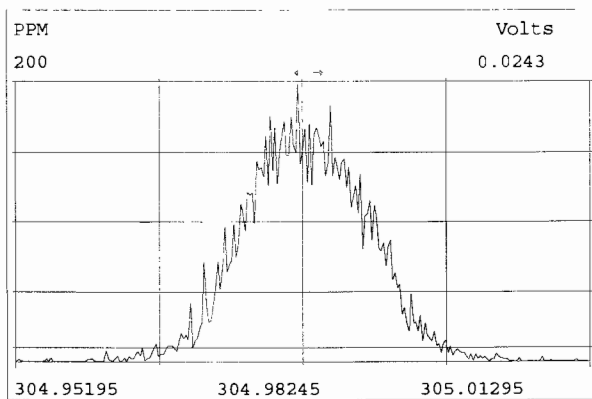
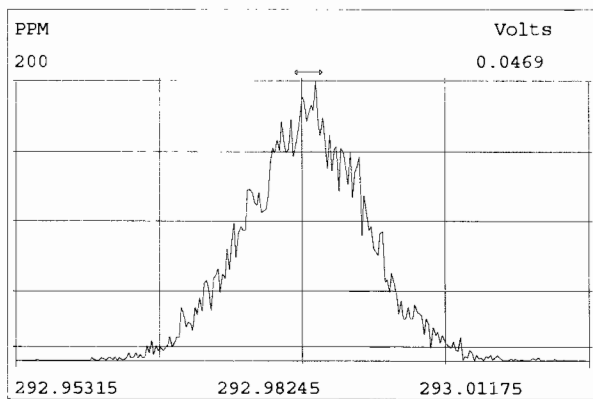
Reviewed

by
Analyst: CT

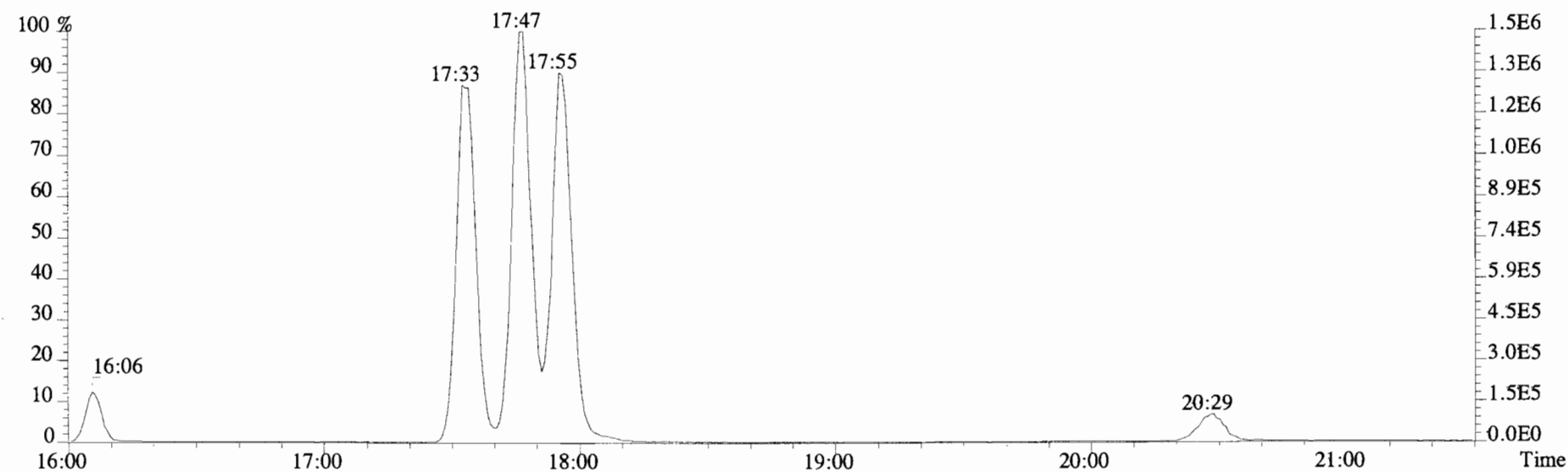
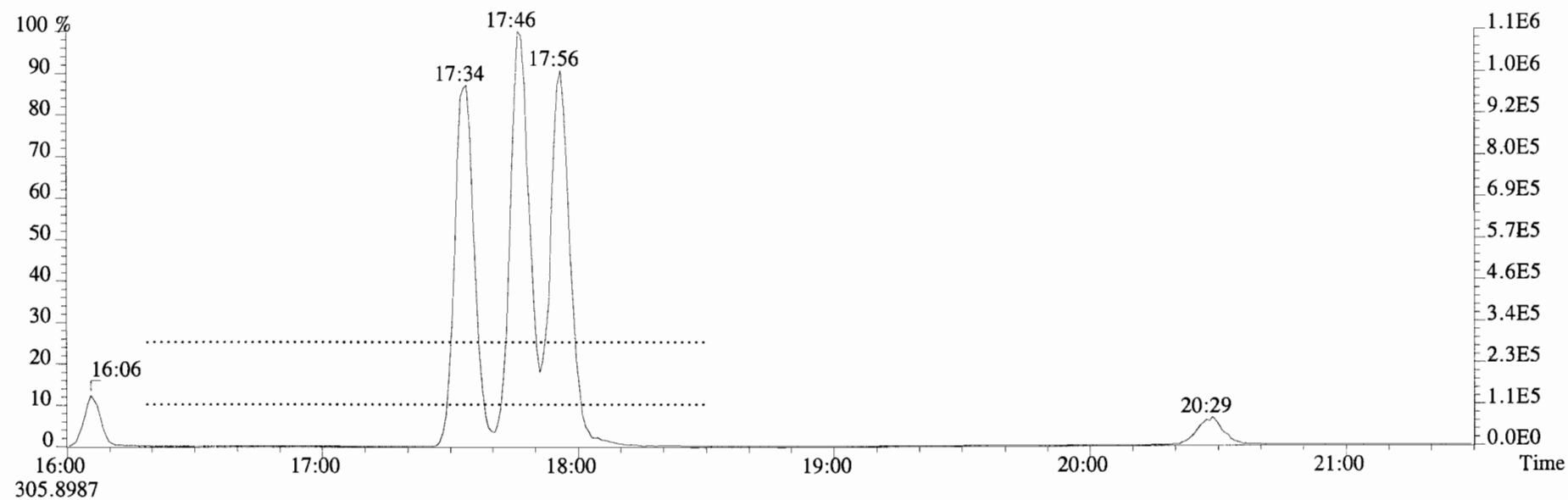
Date: 11/01/19

Vista Analytical Laboratory - Injection Log Run file: 191030D1 Instrument ID: VG-7 GC Column ID: DB-225

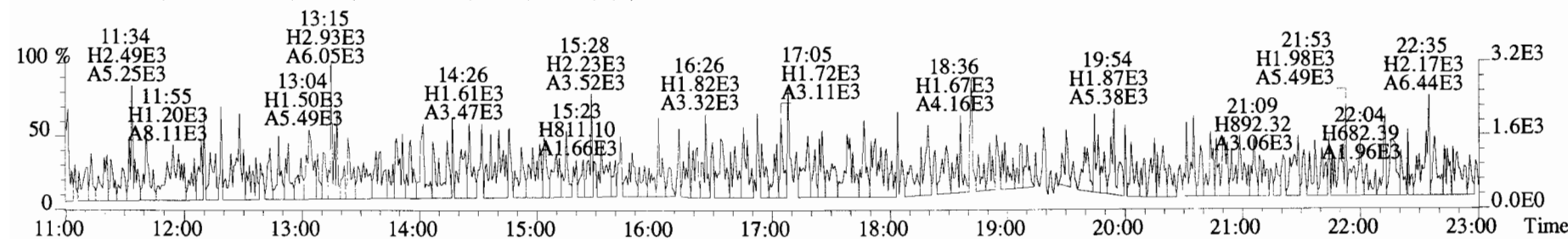
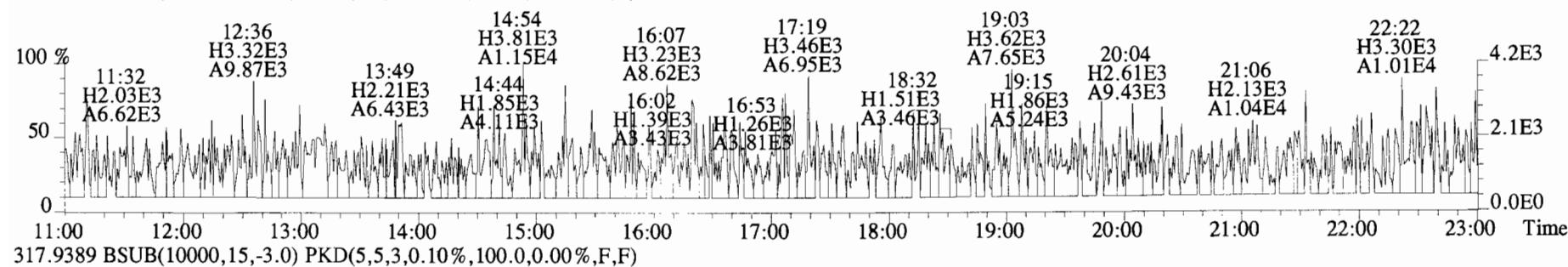
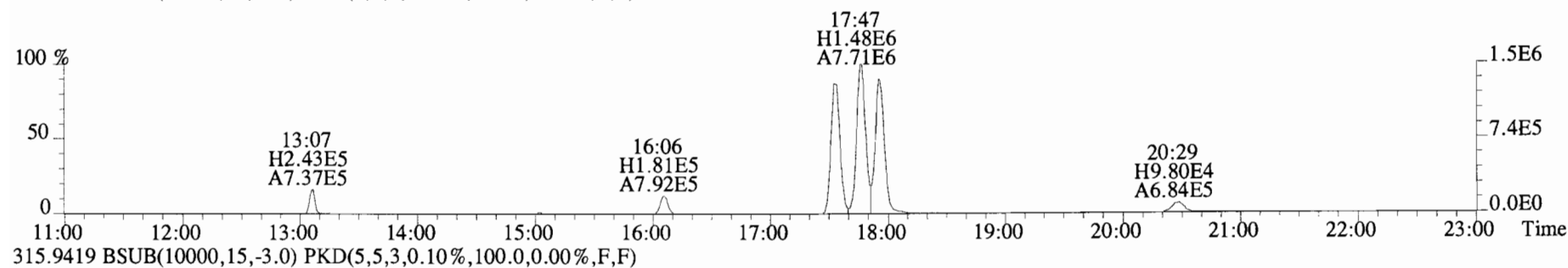
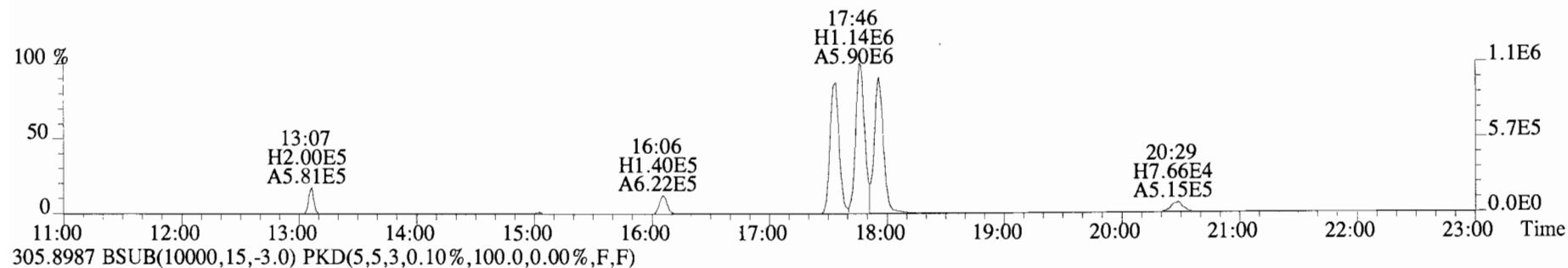
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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191030D1	2	ST191030D1-1	DB	30-OCT-19	14:30:32	ST191030D1-1	NA
191030D1	3	SOLVENT BLANK	DB	30-OCT-19	15:02:23	ST191030D1-1	NA
191030D1	4	1903430-13RE1	DB	30-OCT-19	15:34:14	ST191030D1-1	NA
191030D1	5	1903420-10RE1	DB	30-OCT-19	16:06:00	ST191030D1-1	NA
191030D1	6	1903285-06RE3	DB	30-OCT-19	16:37:44	ST191030D1-1	NA
191030D1	7	B9J0052-DUP1RE1	DB	30-OCT-19	17:09:35	ST191030D1-1	NA
191030D1	8	1903420-09RE1	DB	30-OCT-19	17:41:21	ST191030D1-1	NA
191030D1	9	1903546-14RE1	DB	30-OCT-19	18:13:11	ST191030D1-1	NA
191030D1	10	1903430-05RE1	DB	30-OCT-19	18:45:00	ST191030D1-1	NA
191030D1	11	1903430-06RE1	DB	30-OCT-19	19:16:49	ST191030D1-1	NA
191030D1	12	1903546-12RE1	DB	30-OCT-19	19:48:39	ST191030D1-1	NA
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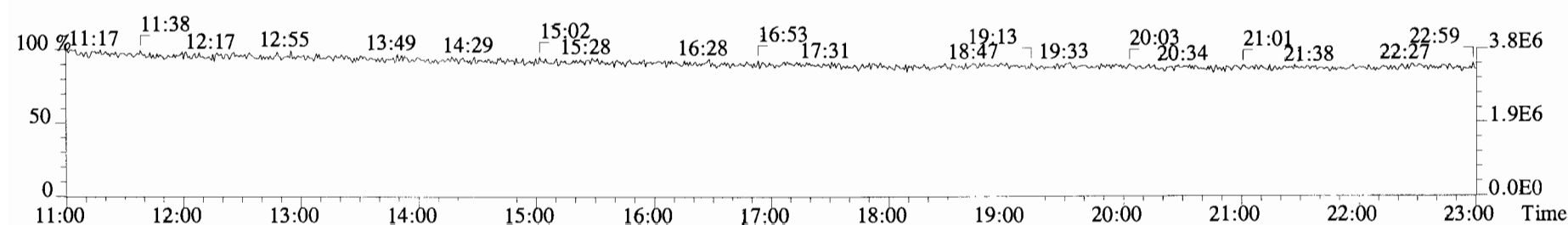
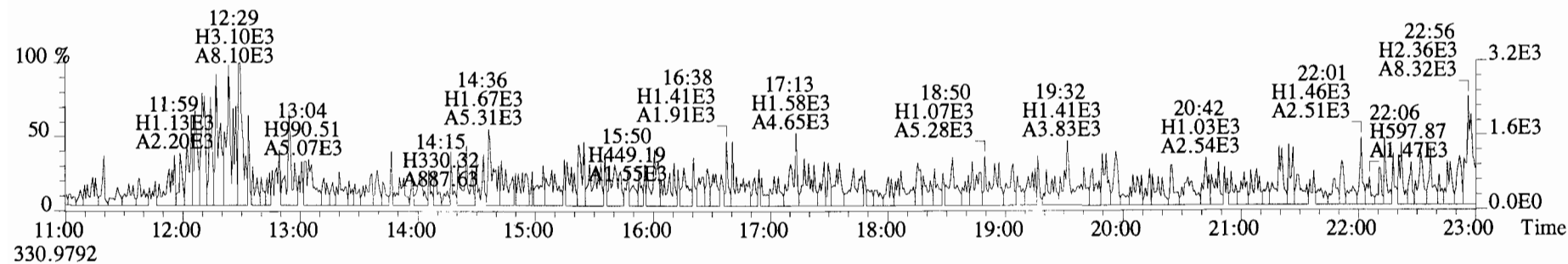
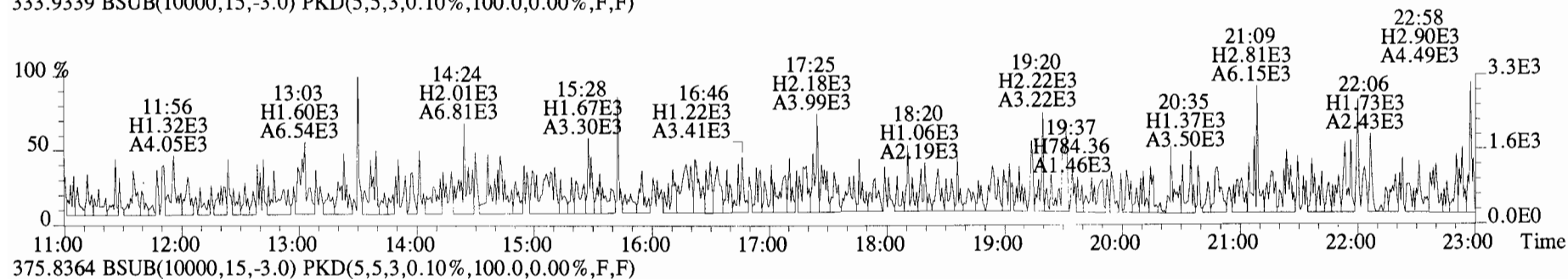
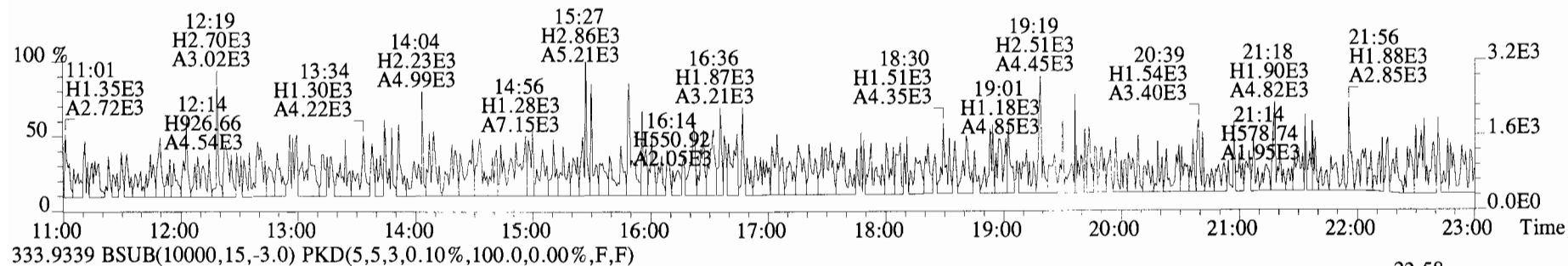
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Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:CP191030D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



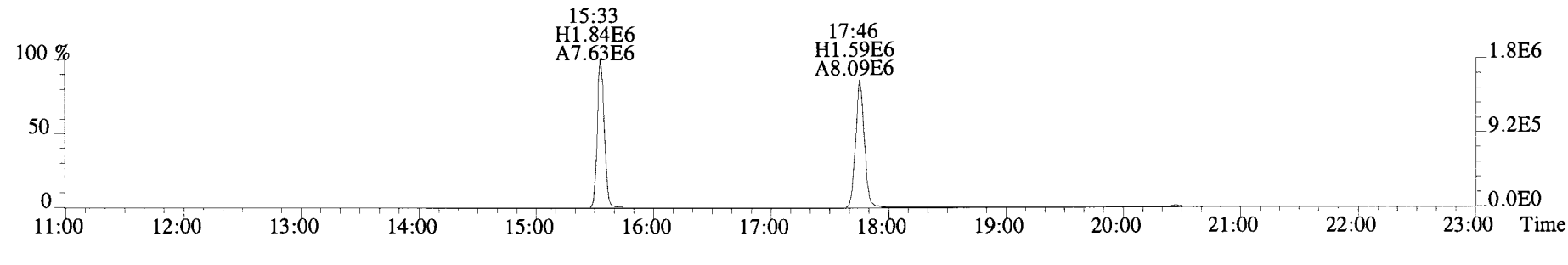
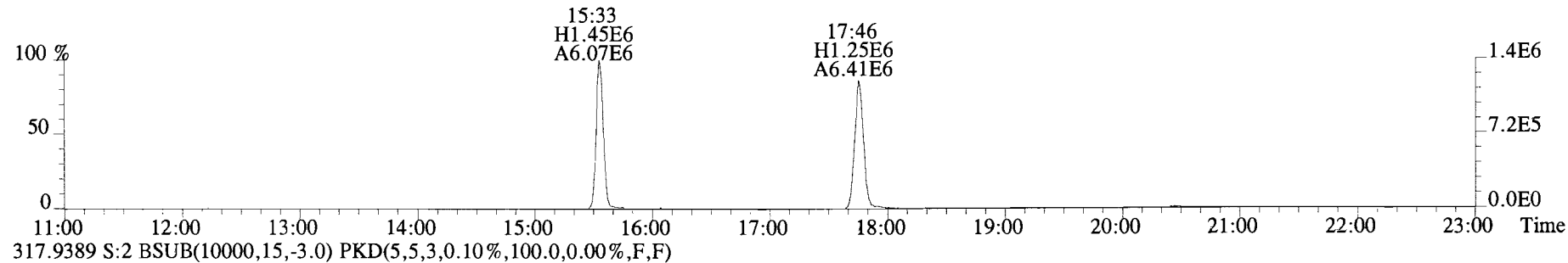
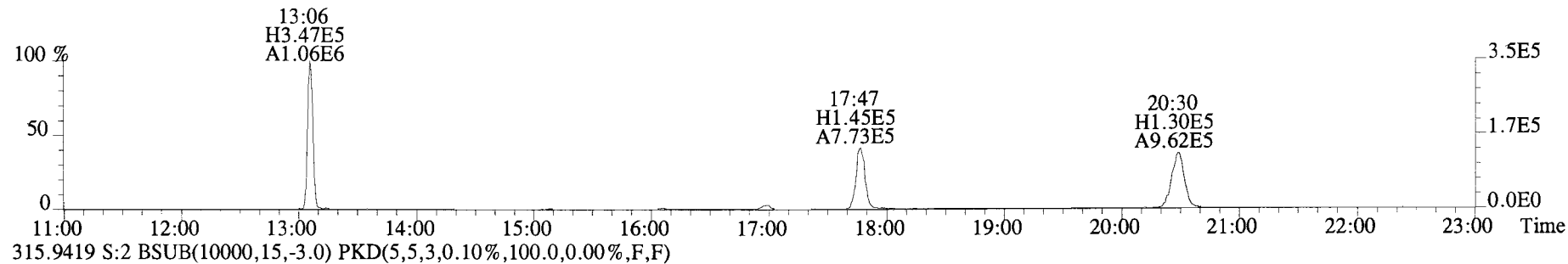
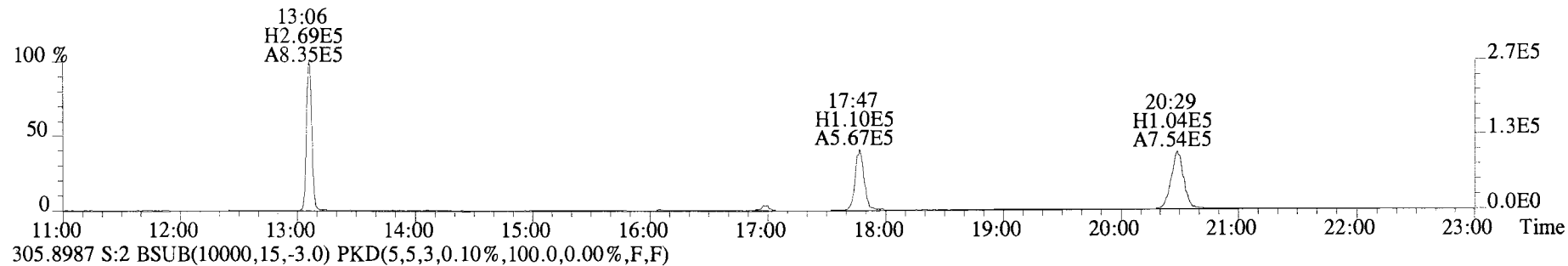
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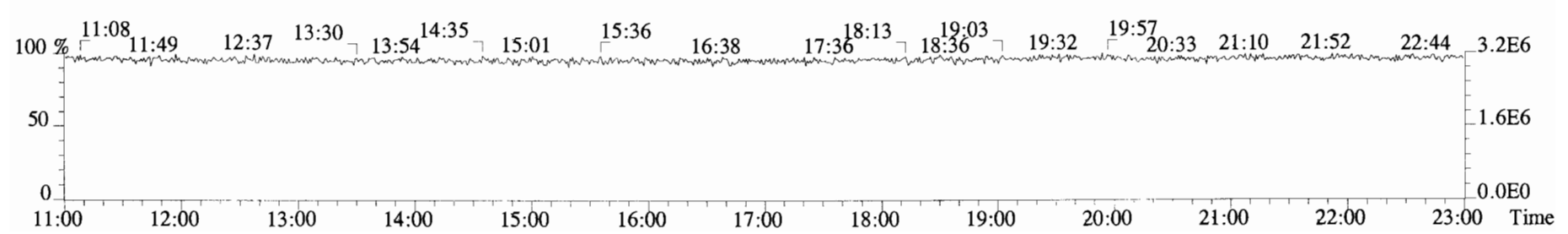
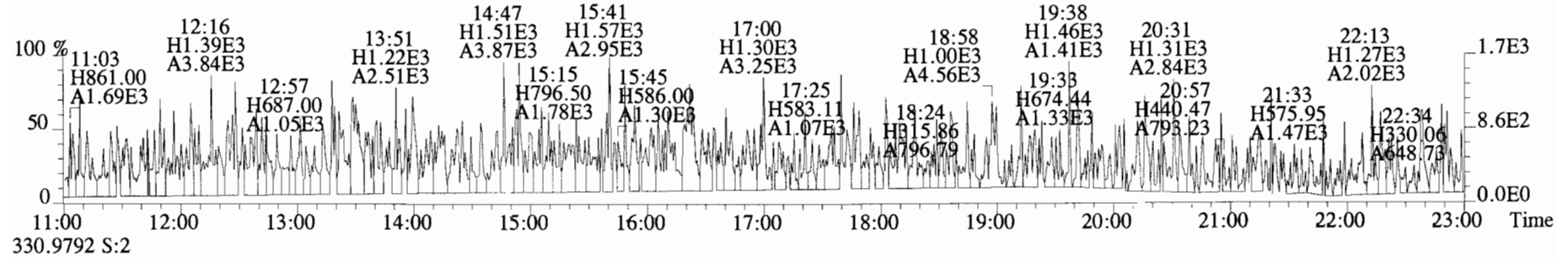
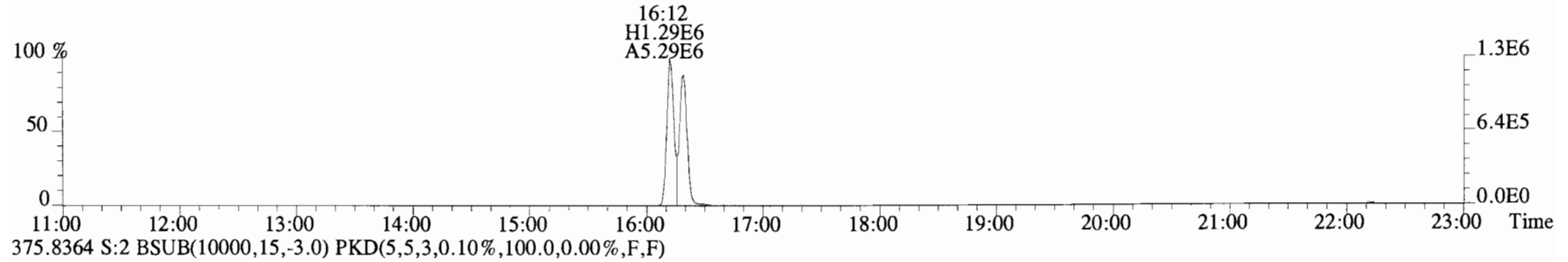
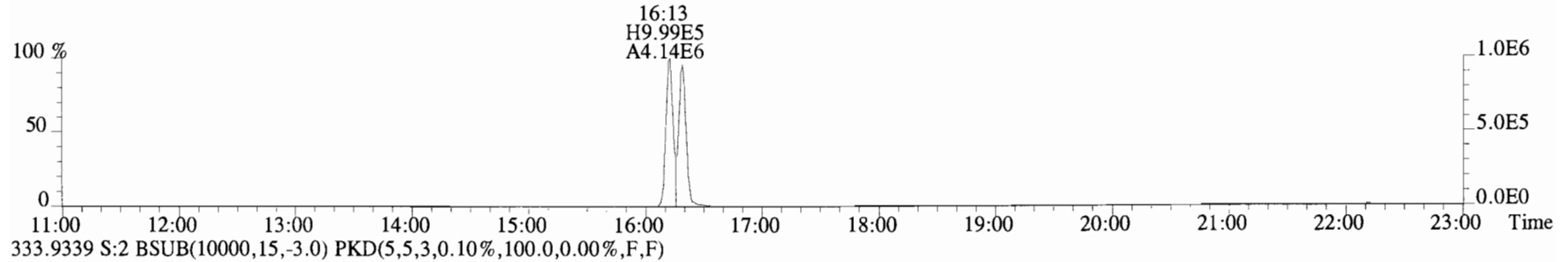
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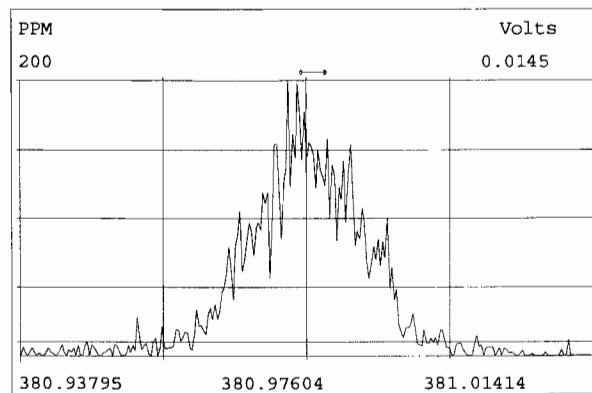
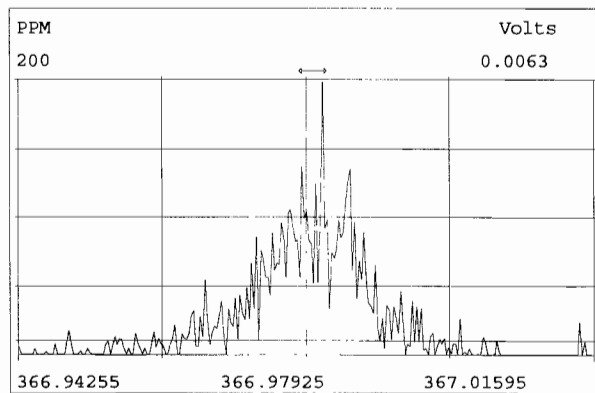
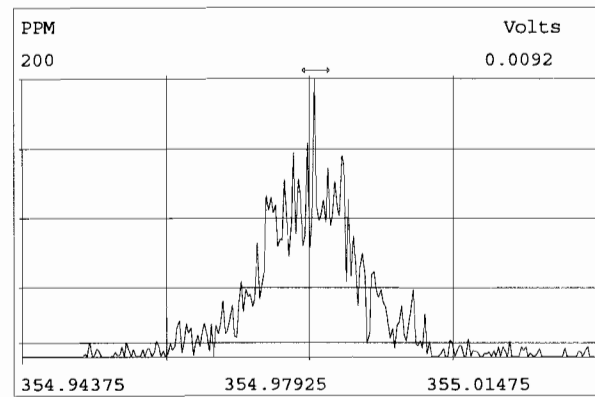
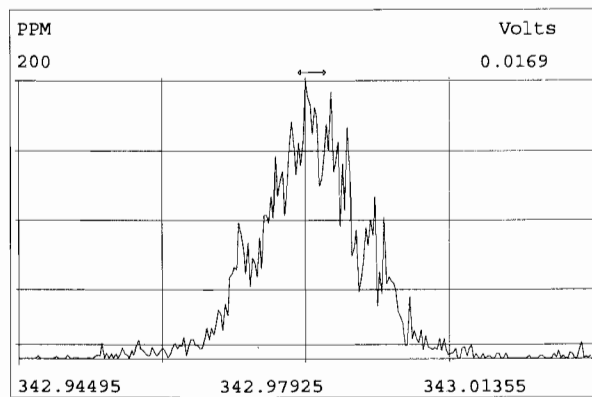
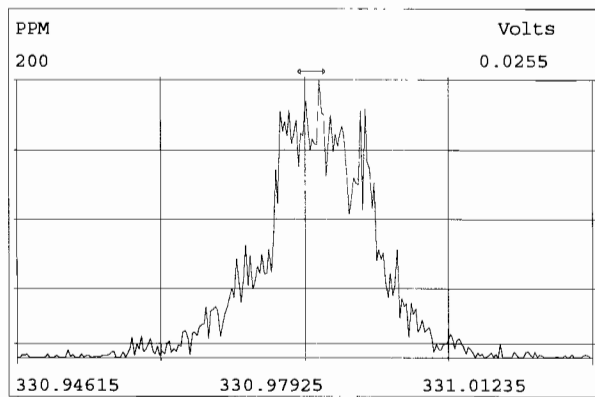
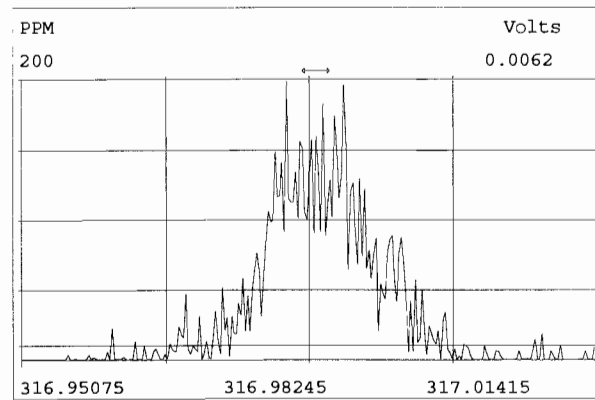
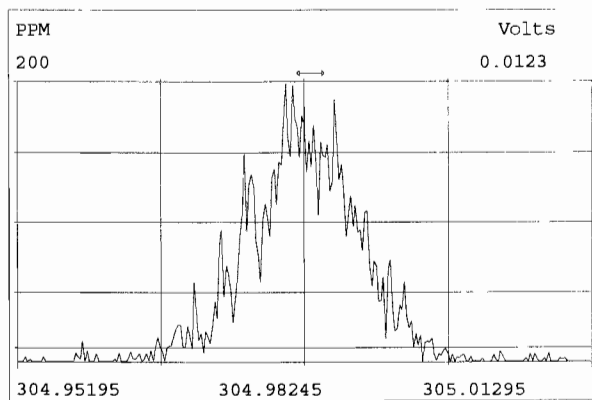
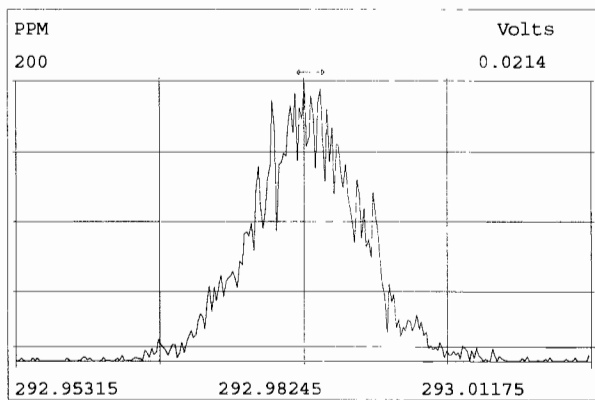


File:191030D1 #1-1682 Acq:30-OCT-2019 14:30:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata Analytical Laboratory_VG7 Text:ST191030D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191030D1 #1-1682 Acq:30-OCT-2019 14:30:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata Analytical Laboratory VG7 Text:ST191030D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





HKMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST191118D1-1

Reviewed By: CP 11/19/19
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>DB</u>
<u>Run Log:</u>		
- Correct Instrument listed?	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
- Samples within 12 hour clock?	<input checked="" type="checkbox"/> (Y)	<input type="checkbox"/> N
- Bottle position verified?	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	<u>Beg.</u>	<u>End</u>
Mass resolution \geq	<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		
Intergrated peaks display correctly?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
GC Break <20%		<input type="checkbox"/> NA
<u>8280 CS1 End Standard:</u>		
- Ratios within limits, S/N <2.5:1, CS1 within 12 hours		<input type="checkbox"/> NA

Comments:

FORM 4A/4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

CCAL ID: ST191118D1-1

Initial Calibration Date: 5-30-19

Instrument ID: VG-7

GC Column ID: DB-225

VER Data Filename: 191118D1 S#2 Analysis Date: 18-NOV-19 Time: 14:10:43

ANALYTES	M/Z'S	ION	QC	CONC.	CONC. RANGE	CONC. RANGE
	FORMING	ABUND.	LIMITS		1613	8290
	RATIO (1)	RATIO	(2)	FOUND	(ng/mL)	(ng/mL)
2,3,7,8-TCDF	M/M+2	0.80	0.65-0.89	10.1	8.4 - 12.0 (3) 8.6 - 11.6 (4)	8.0 - 12.0
13C-2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	108.5	71.0 - 140.0 (3) 76.0 - 131.0 (4)	70.0 - 130.0

- (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 6a, Method 1613, under VER.
- (4) Contract required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DBDate: 11/18/19

Client ID: 1613 CS3 19C2204
Lab ID: ST191118D1-1

Filename: 191118D1 S:2 Acq:18-NOV-19 14:10:43
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

ConCal: ST191118D1-1
EndCAL: NA

Page 1 of 1

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	2.11e+07	0.80 y	15:39	1.00	100.0	-
13C-2,3,7,8-TCDF	2.34e+07	0.79 y	17:47	1.02	108.5	108.5
2,3,7,8-TCDF	2.24e+06	0.80 y	17:48	0.95	10.07	

Integrations
by
Analyst: DB

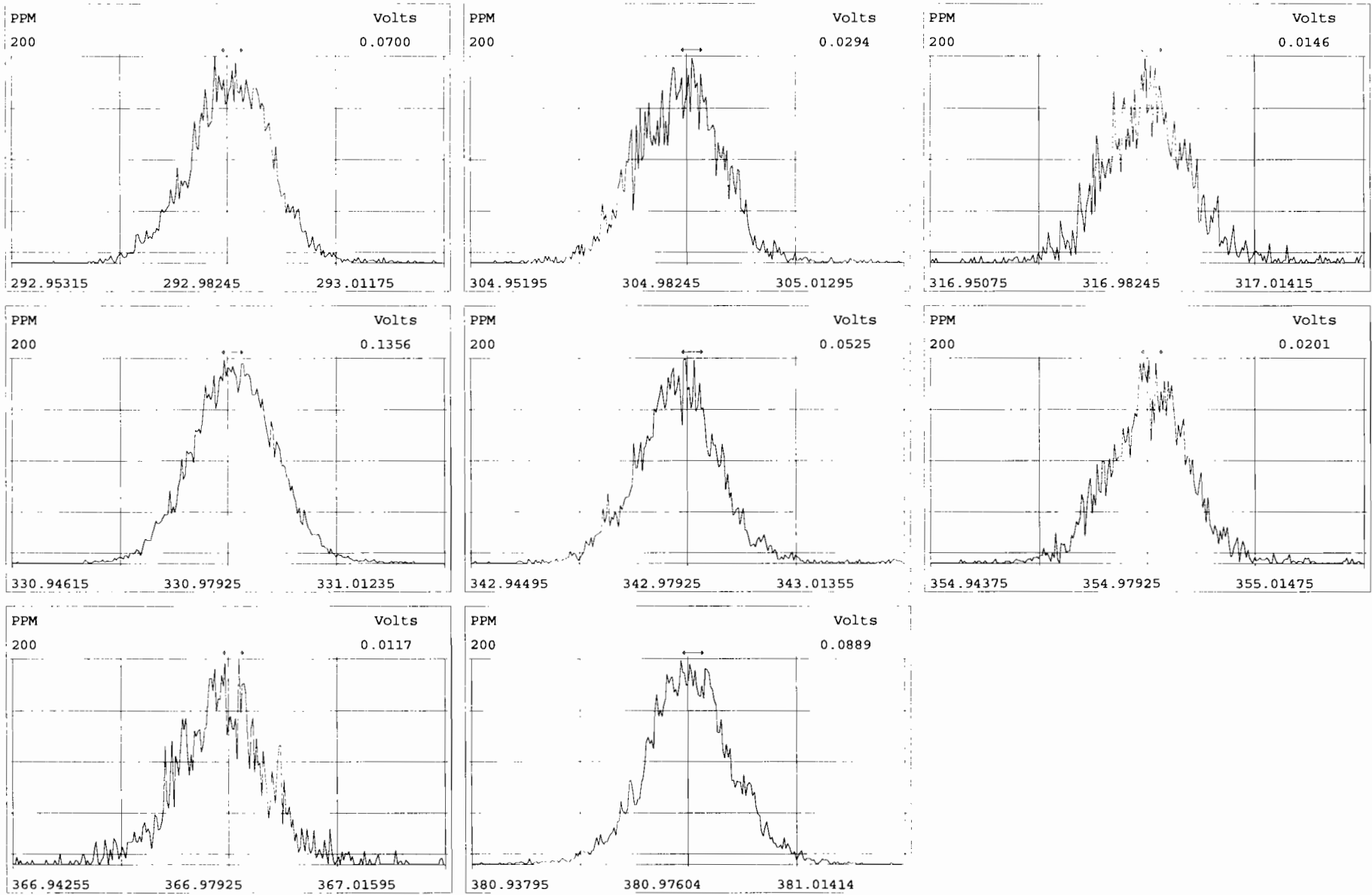
Date: 11/18/19

Reviewed
by
Analyst: CT

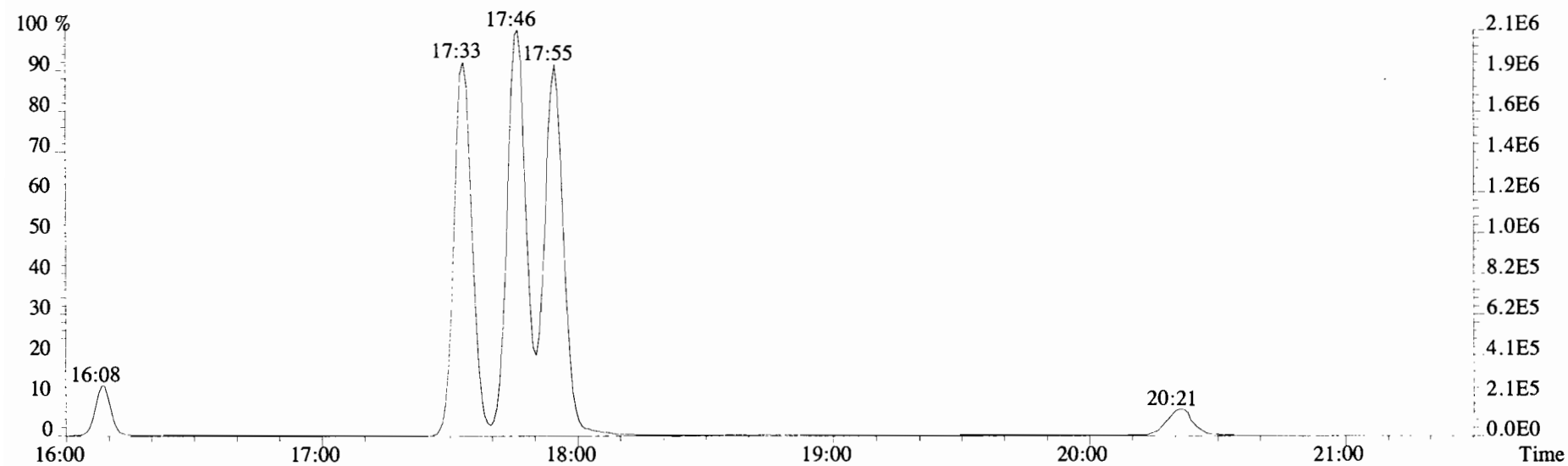
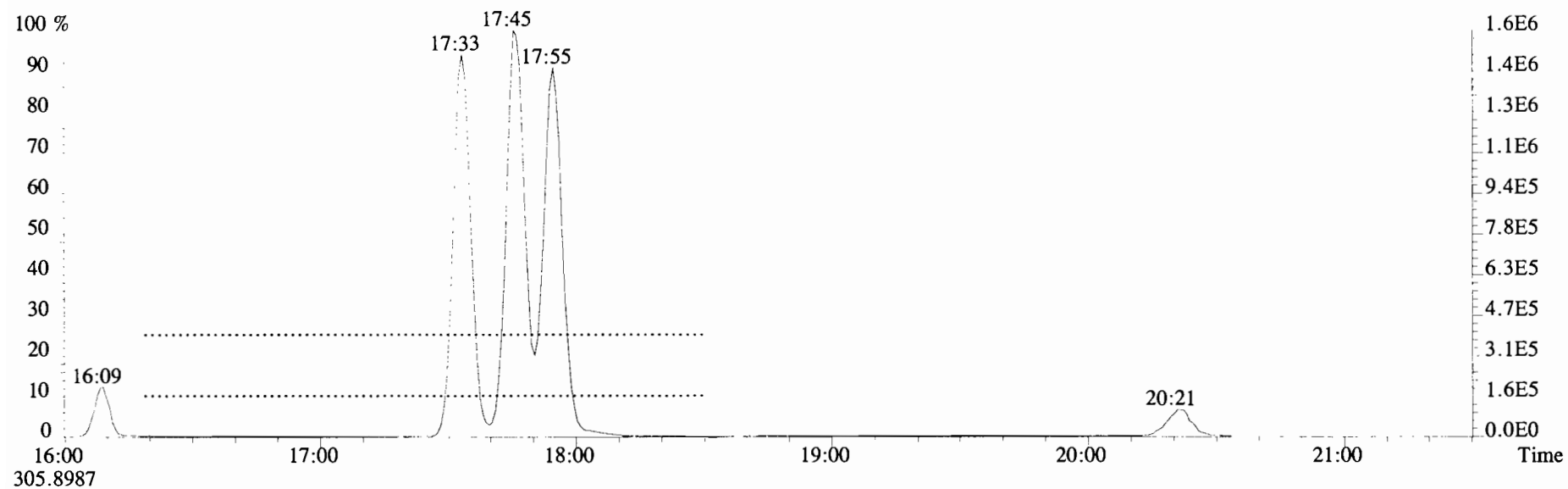
Date: 11/19/19

Vista Analytical Laboratory - Injection Log Run file: 191118D1 Instrument ID: VG-7 GC Column ID: DB-225

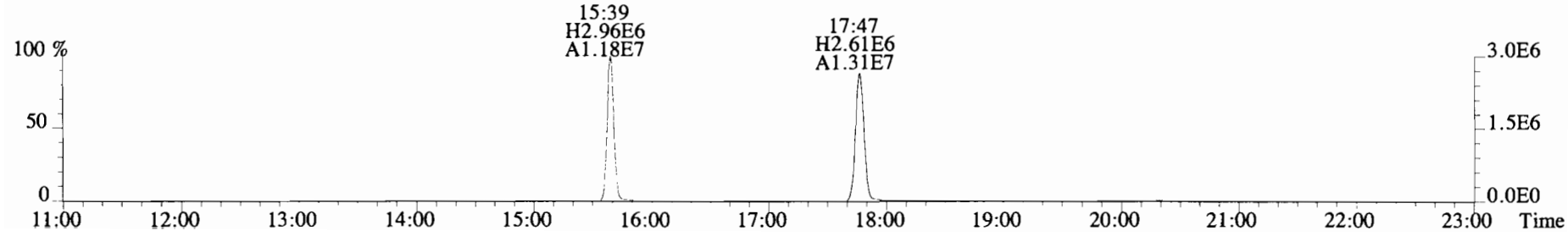
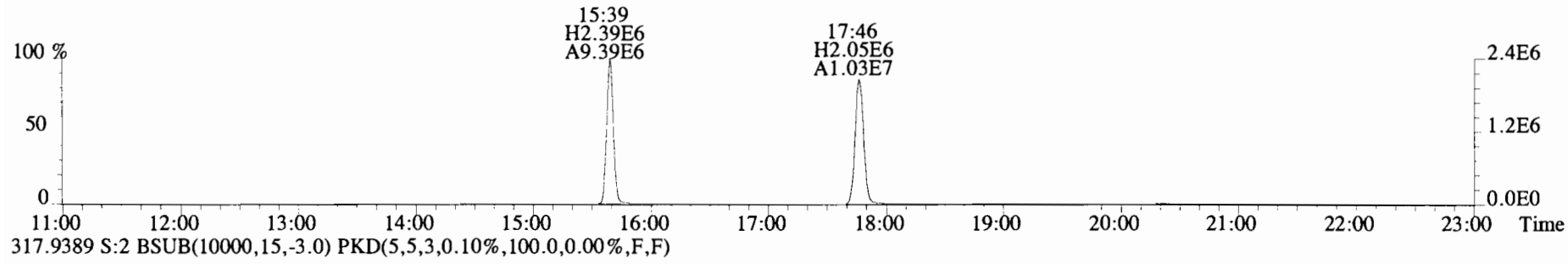
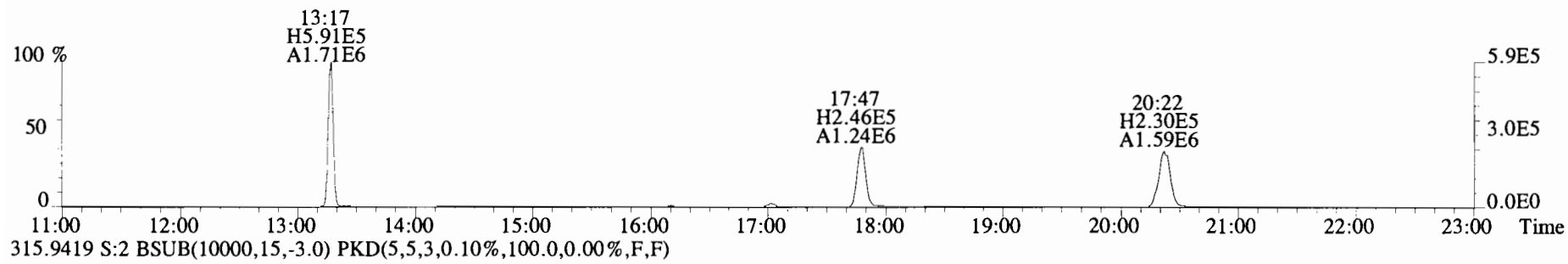
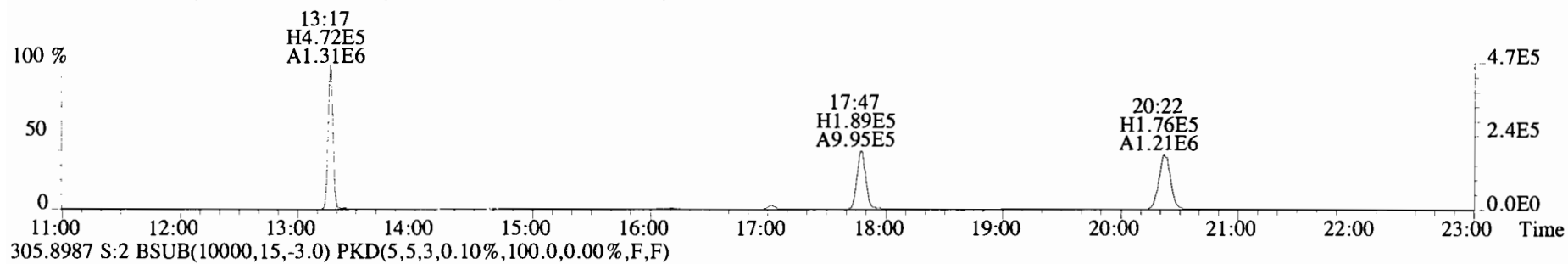
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191118D1	1	CP191118D1-1	DB	18-NOV-19	13:38:29	ST191118D1-1	NA
191118D1	2	ST191118D1-1	DB	18-NOV-19	14:10:43	ST191118D1-1	NA
191118D1	3	SOLVENT BLANK	DB	18-NOV-19	14:43:04	ST191118D1-1	NA
191118D1	4	1903659-03RE1	DB	18-NOV-19	15:15:25	ST191118D1-1	NA
191118D1	5	1903659-02RE1	DB	18-NOV-19	15:47:40	ST191118D1-1	NA
191118D1	6	1903565-18RE3	DB	18-NOV-19	16:20:00	ST191118D1-1	NA
191118D1	7	1903420-11RE2	DB	18-NOV-19	16:52:22	ST191118D1-1	NA
191118D1	8	1903565-17RE3	DB	18-NOV-19	17:24:37	ST191118D1-1	NA
191118D1	9	1903565-15RE3	DB	18-NOV-19	17:56:56	ST191118D1-1	NA



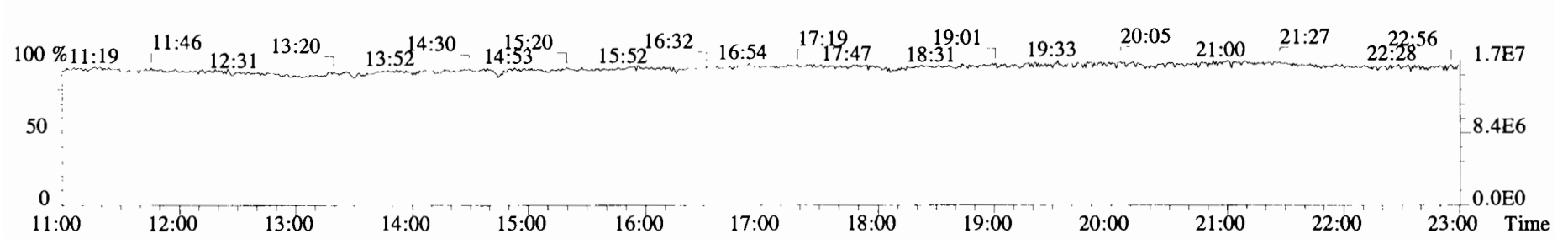
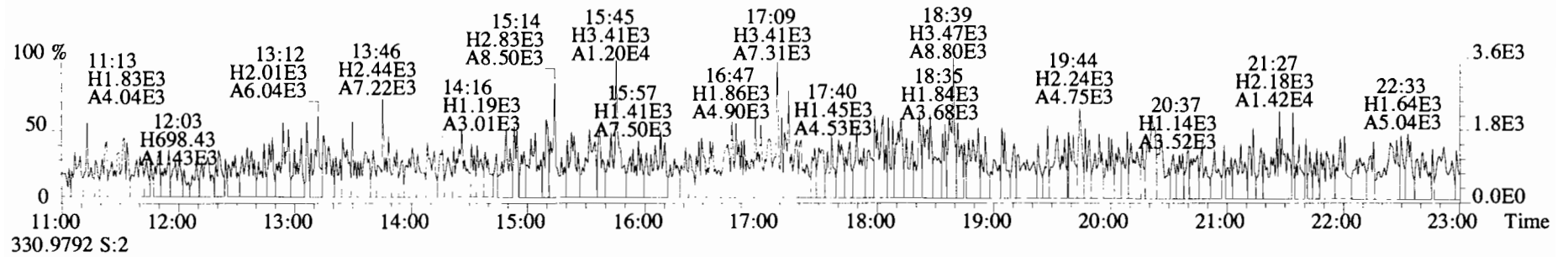
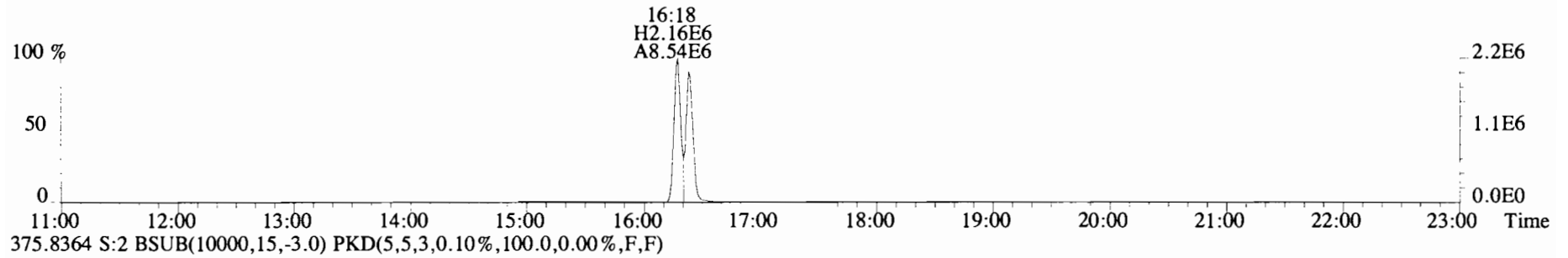
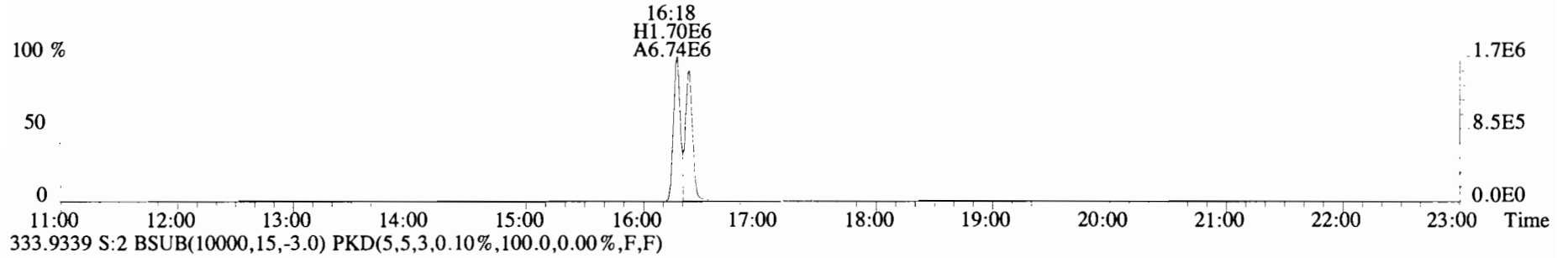
File:191118D1 #1-972 Acq:18-NOV-2019 13:38:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:CP191118D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016

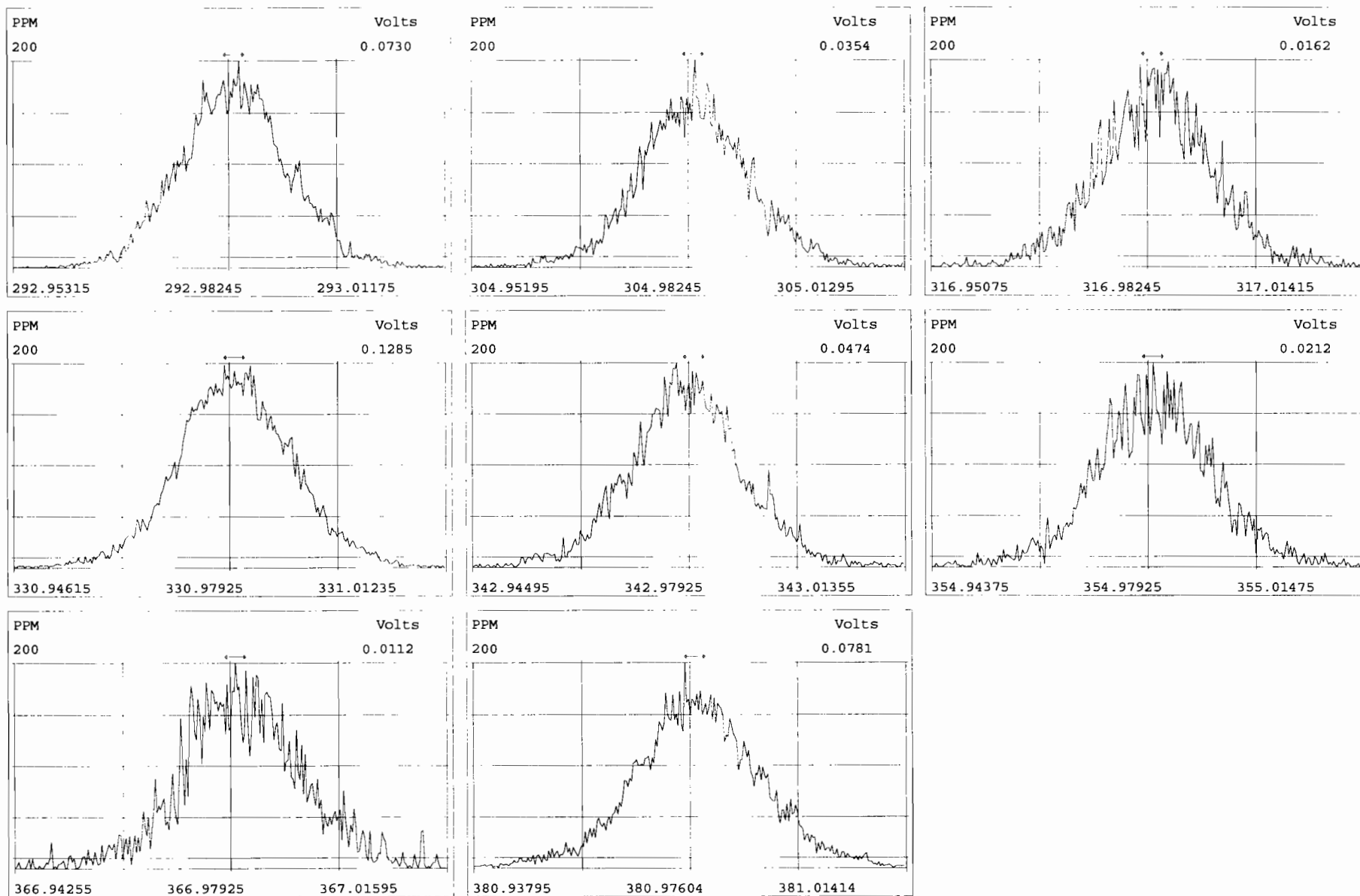


File:191118D1 #1-1682 Acq:18-NOV-2019 14:10:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata Analytical Laboratory VG7 Text:ST191118D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191118D1 #1-1682 Acq:18-NOV-2019 14:10:43 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata Analytical Laboratory VG7 Text:ST191118D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





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%

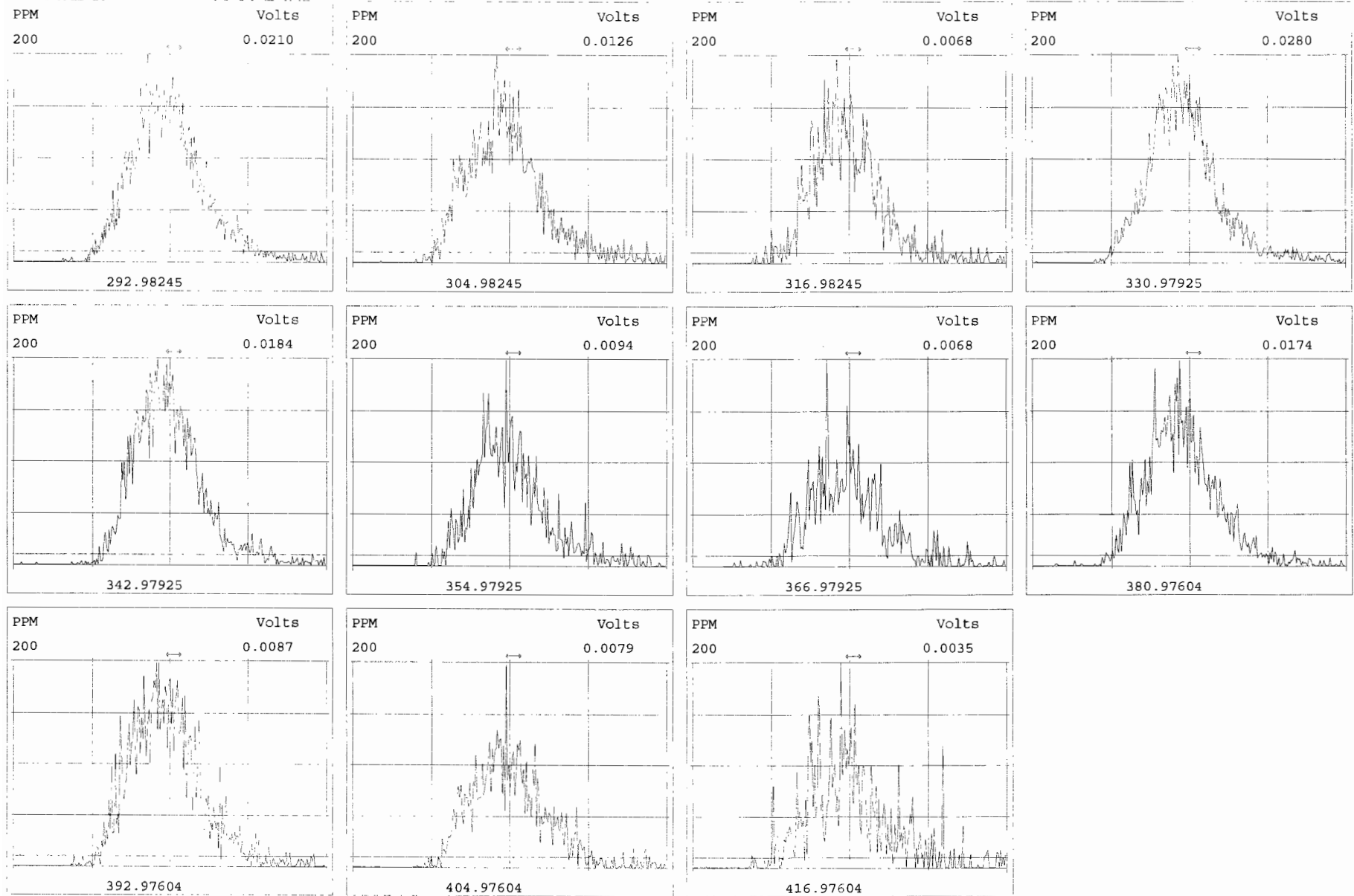
(1) To meet contract requirements, %Valley Height Between Compared Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DB

Date: 10/10/19

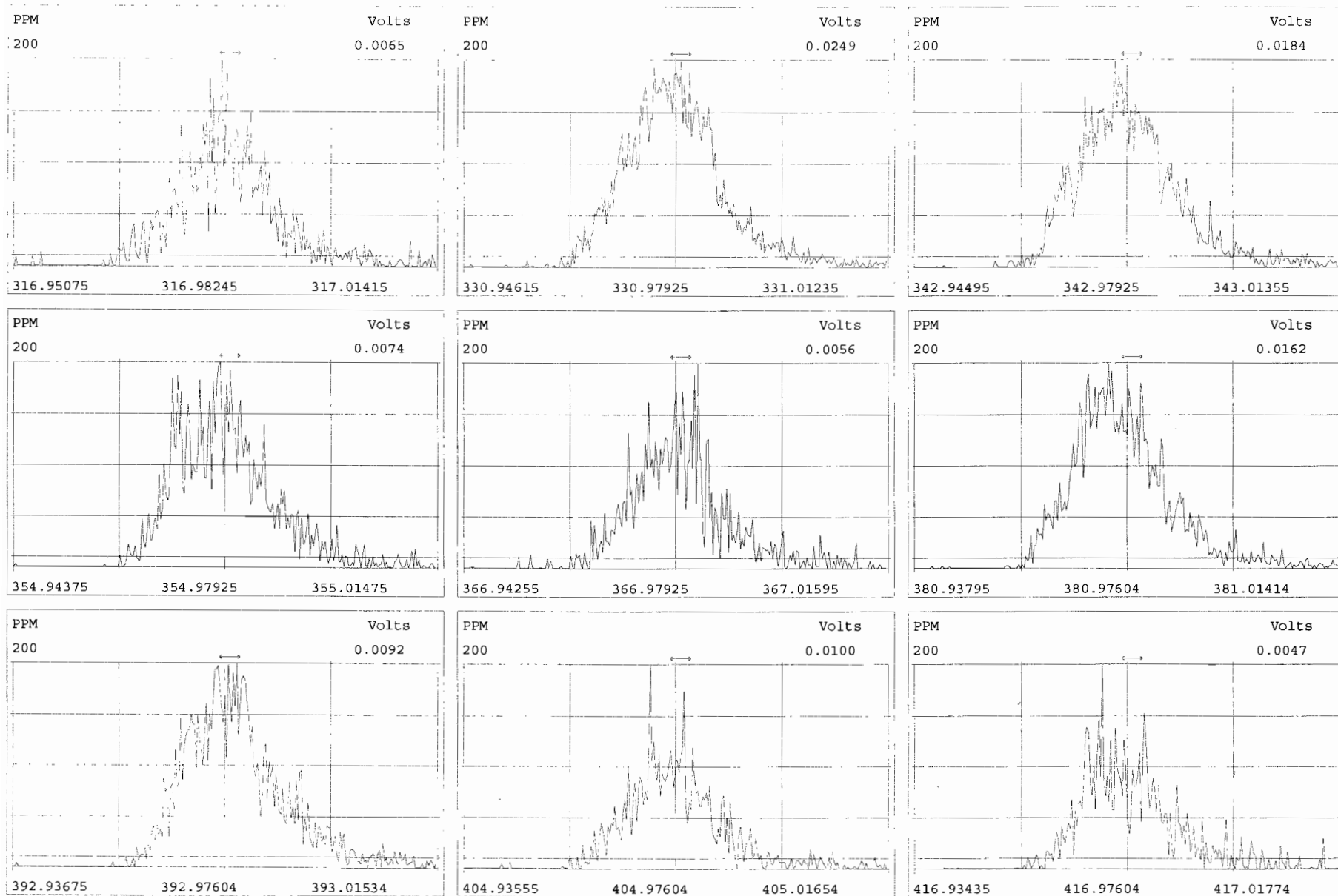
Peak Locate Examination: 9-OCT-2019:16:10 File:191009D1

Experiment:OCDD_DB5 Function:1 Reference:PPK



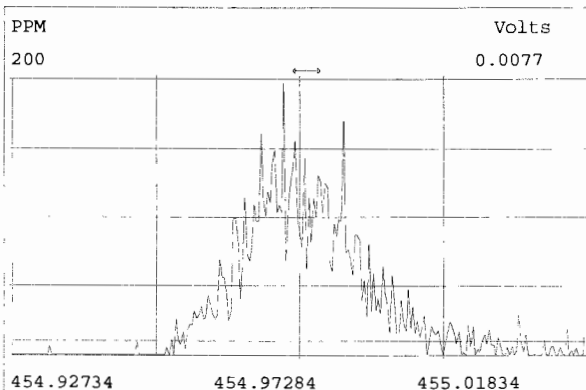
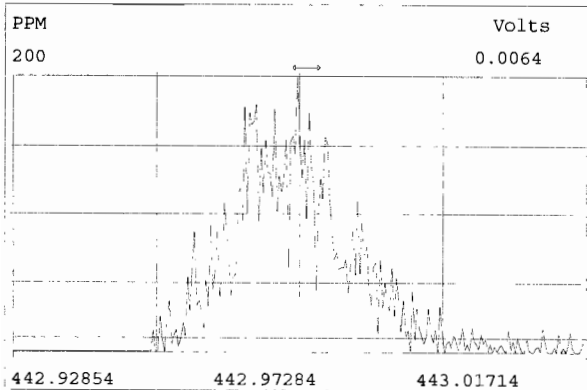
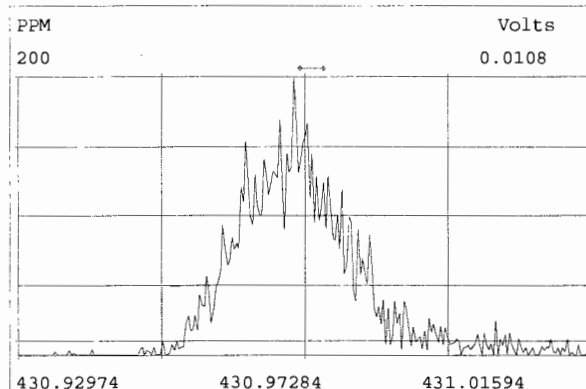
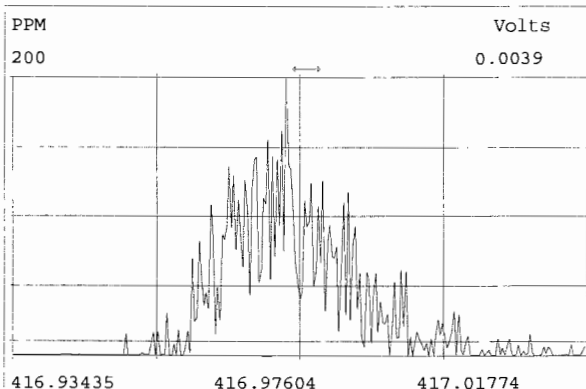
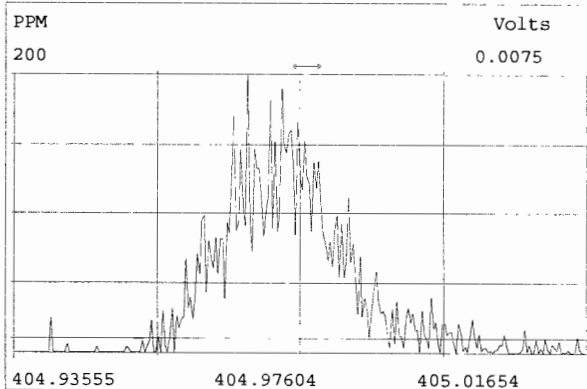
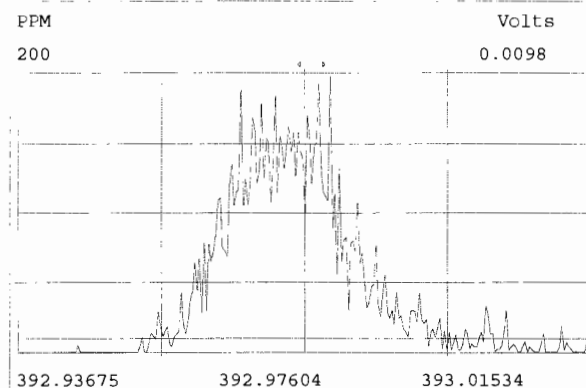
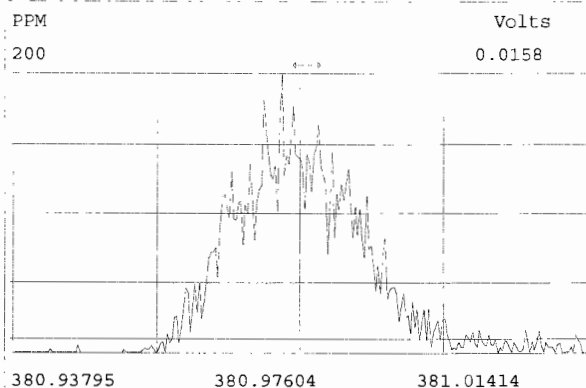
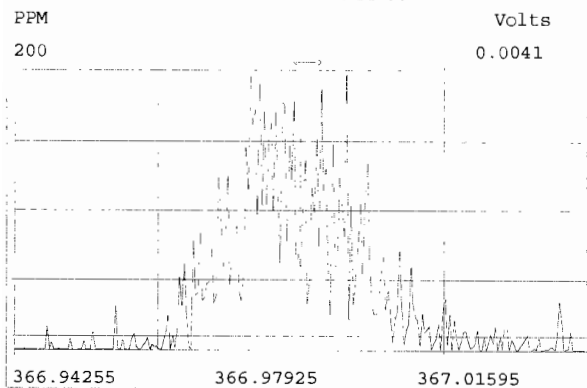
Peak Locate Examination: 9-OCT-2019:16:10 File:191009D1

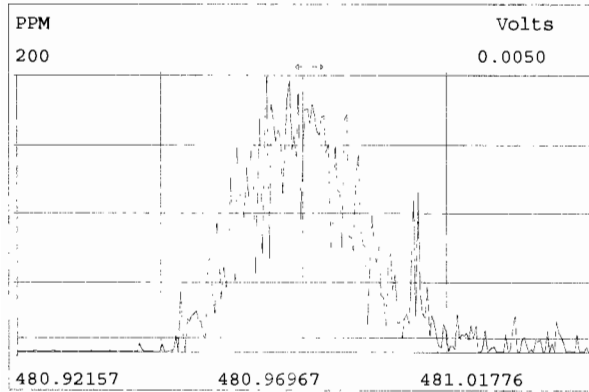
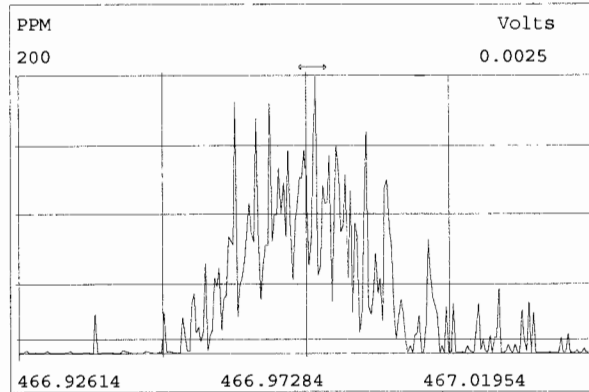
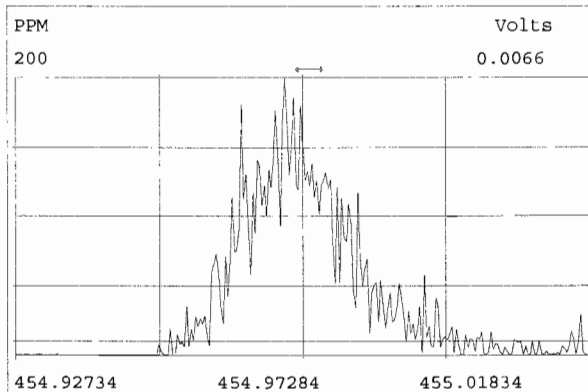
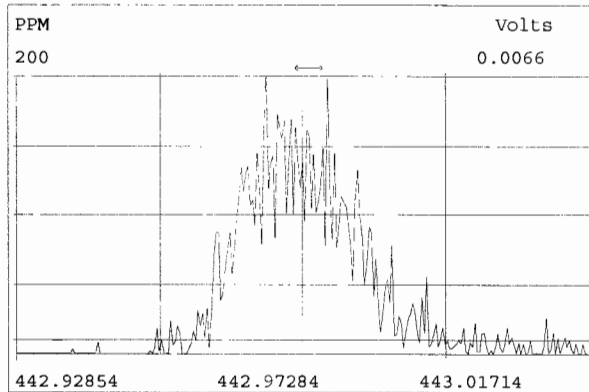
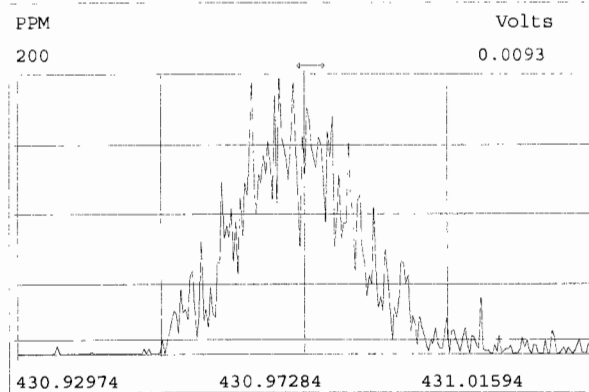
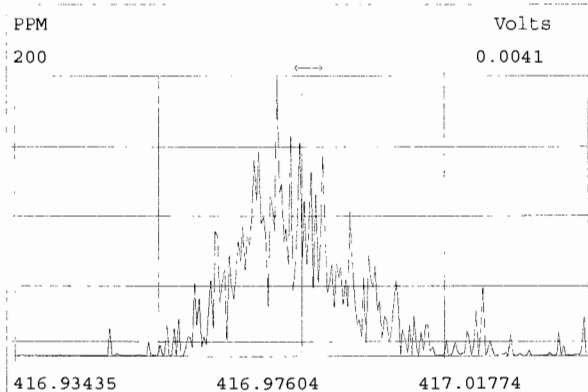
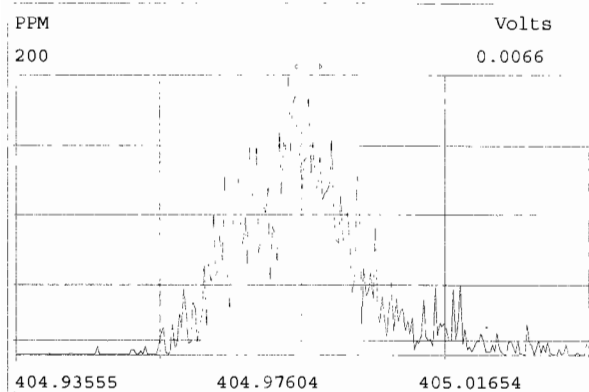
Experiment:OCDD_DB5 Function:2 Reference:PFK

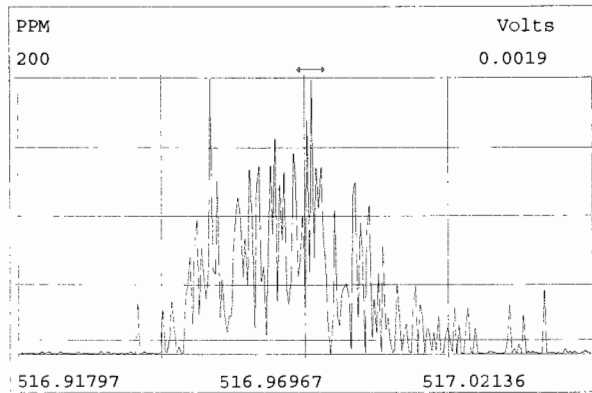
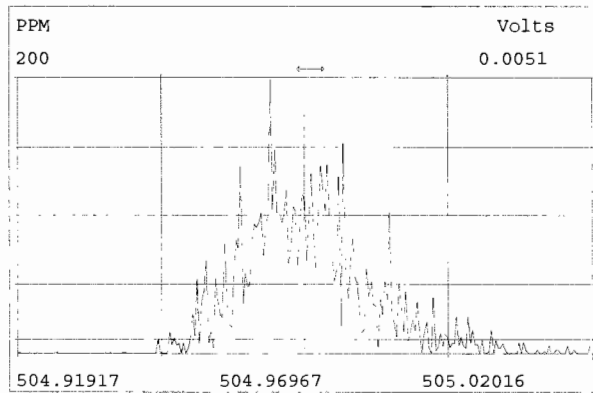
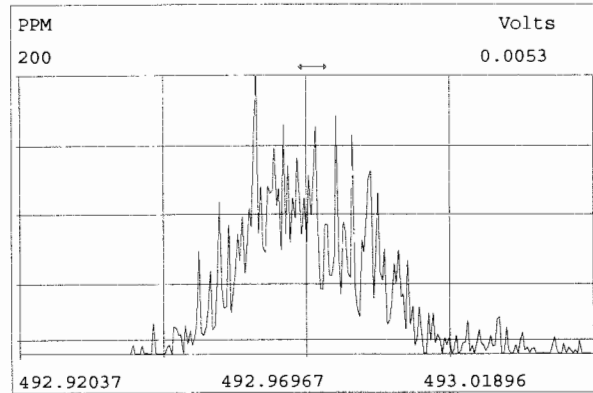
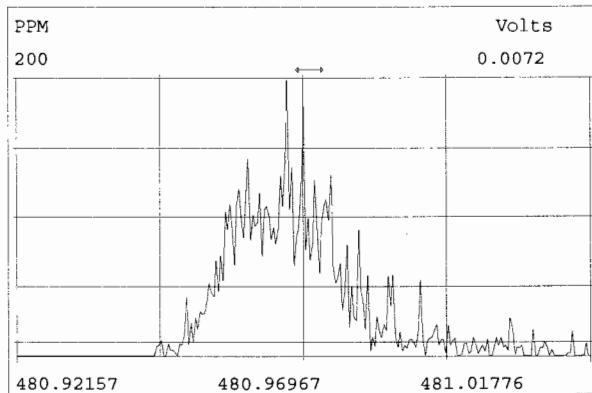
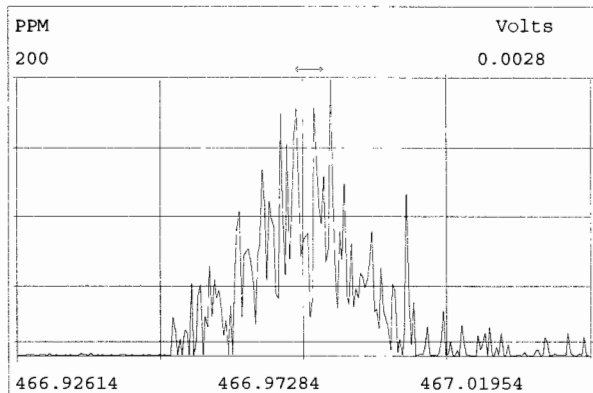
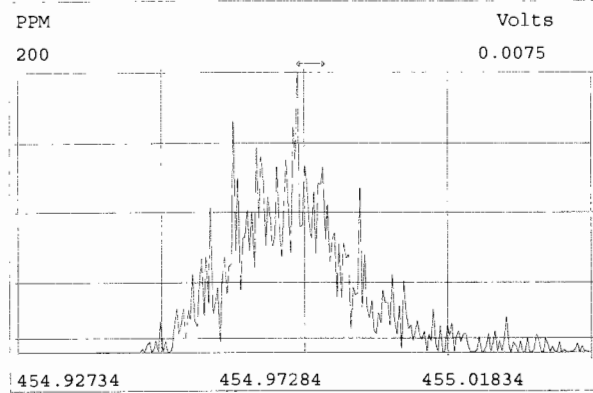
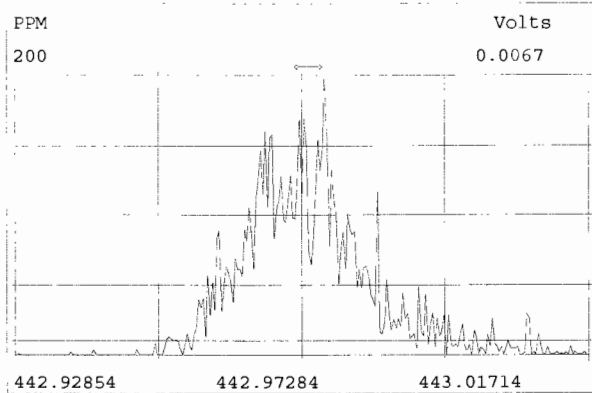
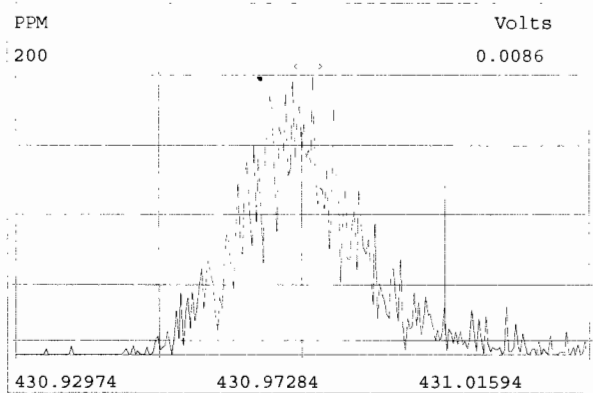


Peak Locate Examination: 9-OCT-2019:16:11 File:191009D1

Experiment:OCDD_DB5 Function:3 Reference:PFK



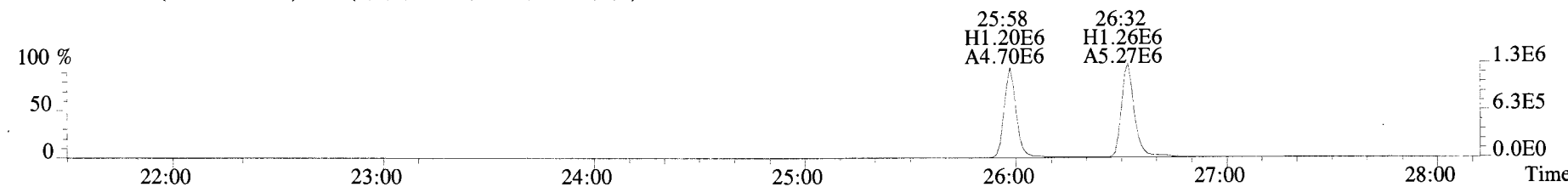
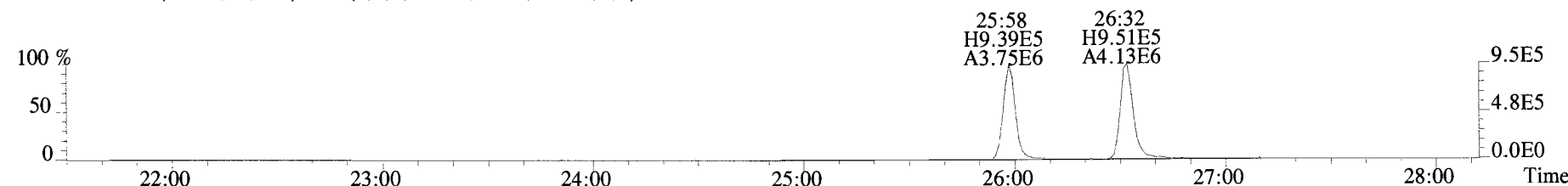
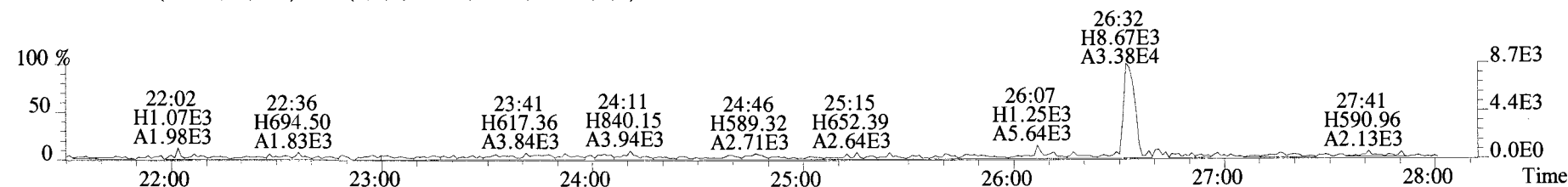
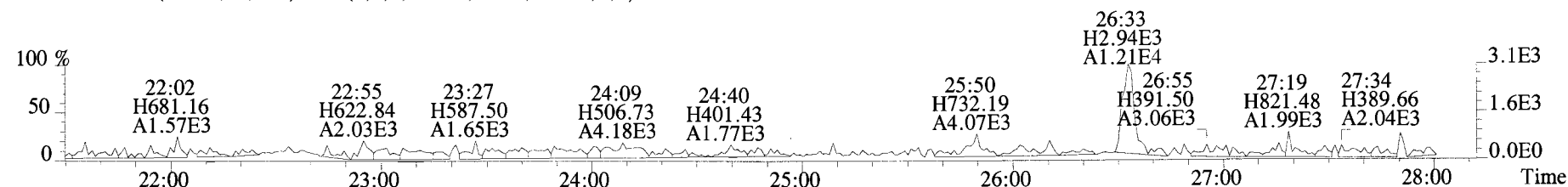
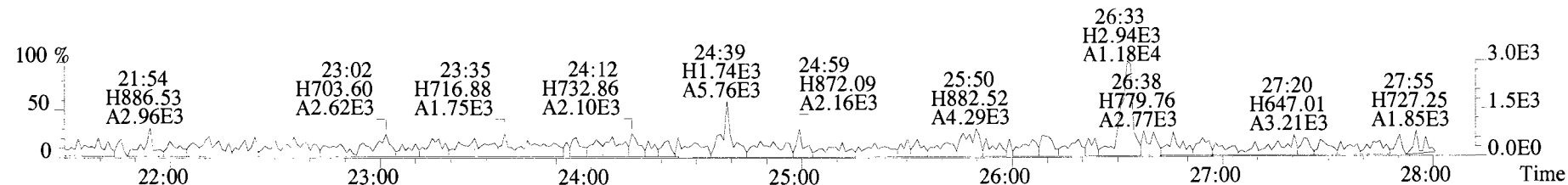




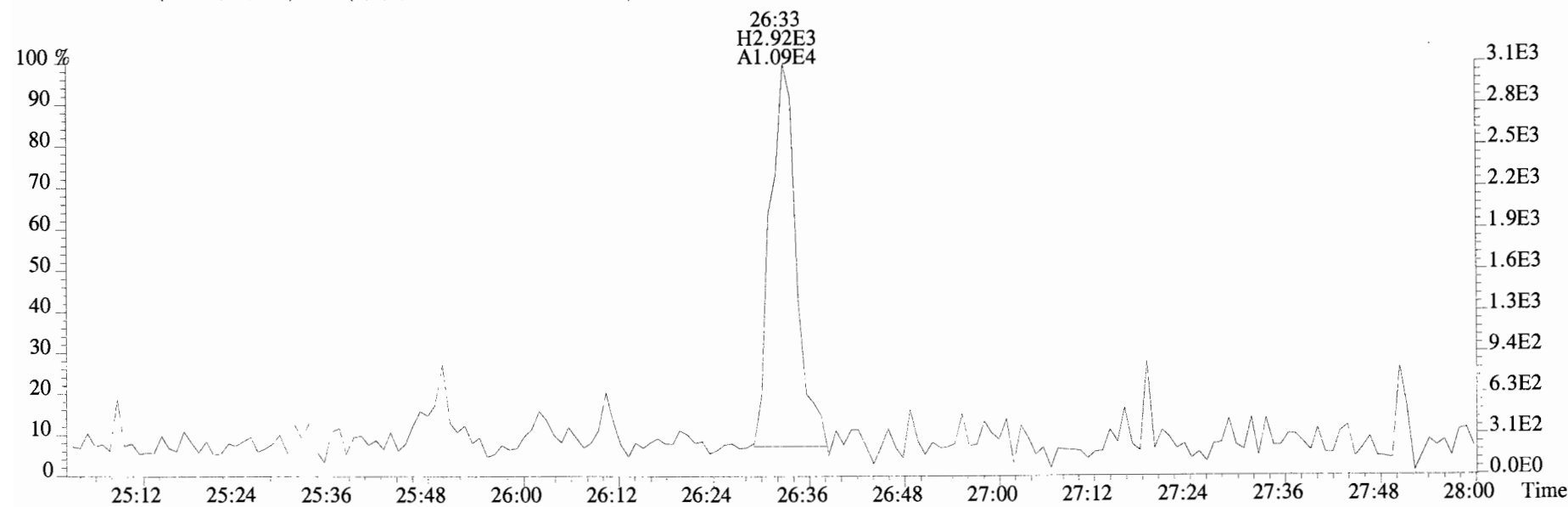
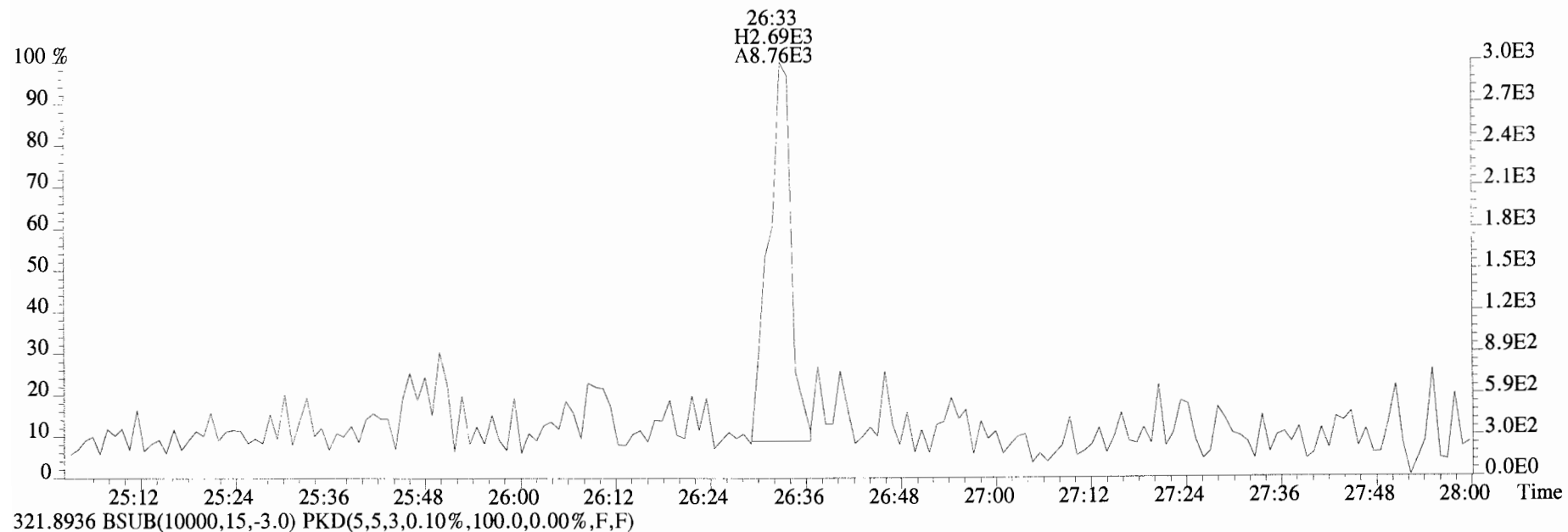
Vista Analytical Laboratory - Injection Log Run file: 191009D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
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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
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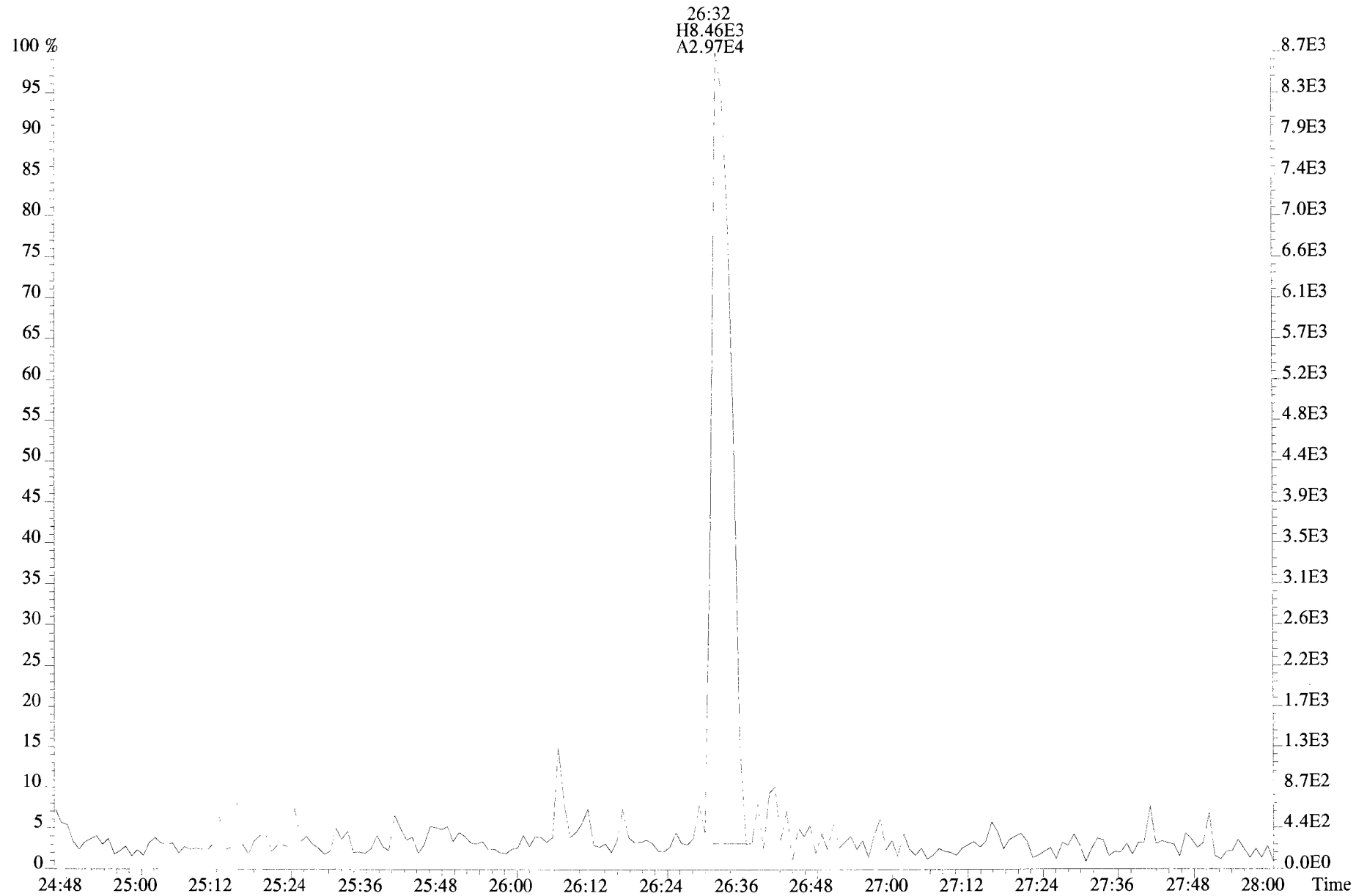
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



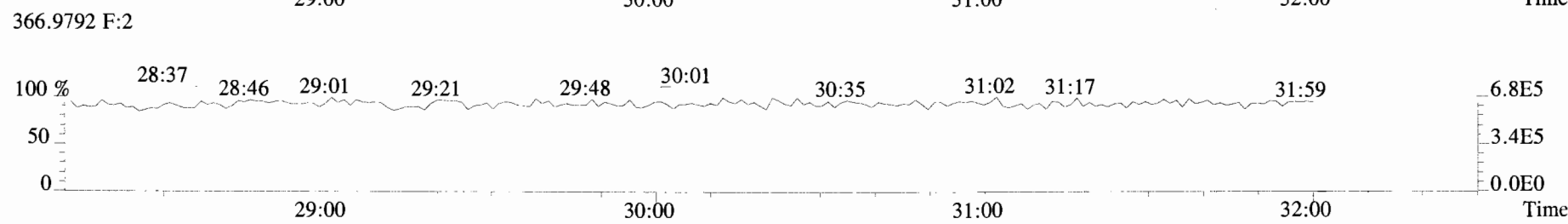
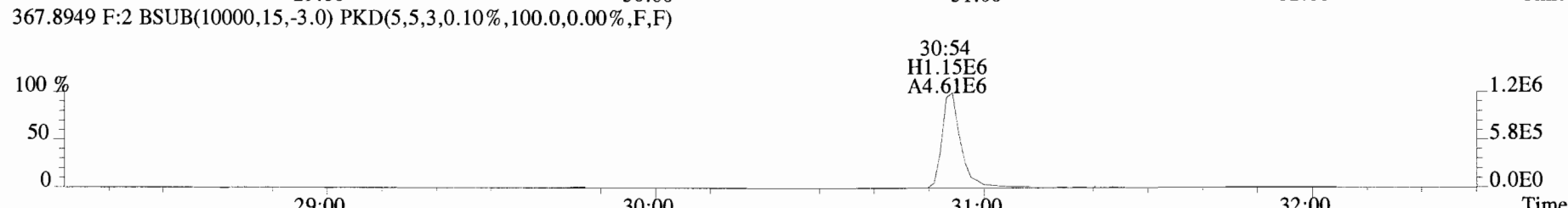
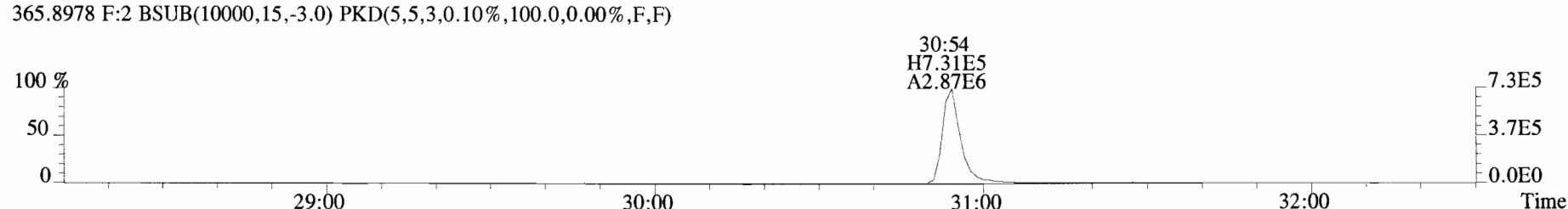
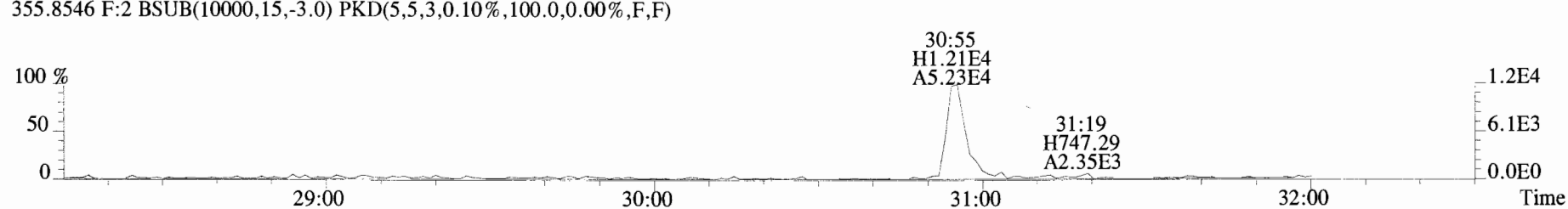
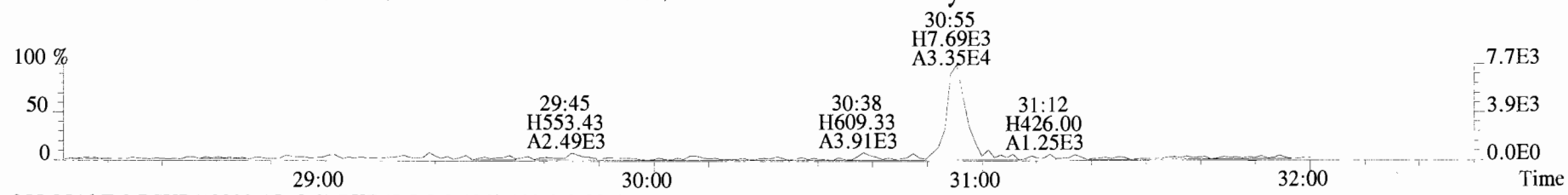
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



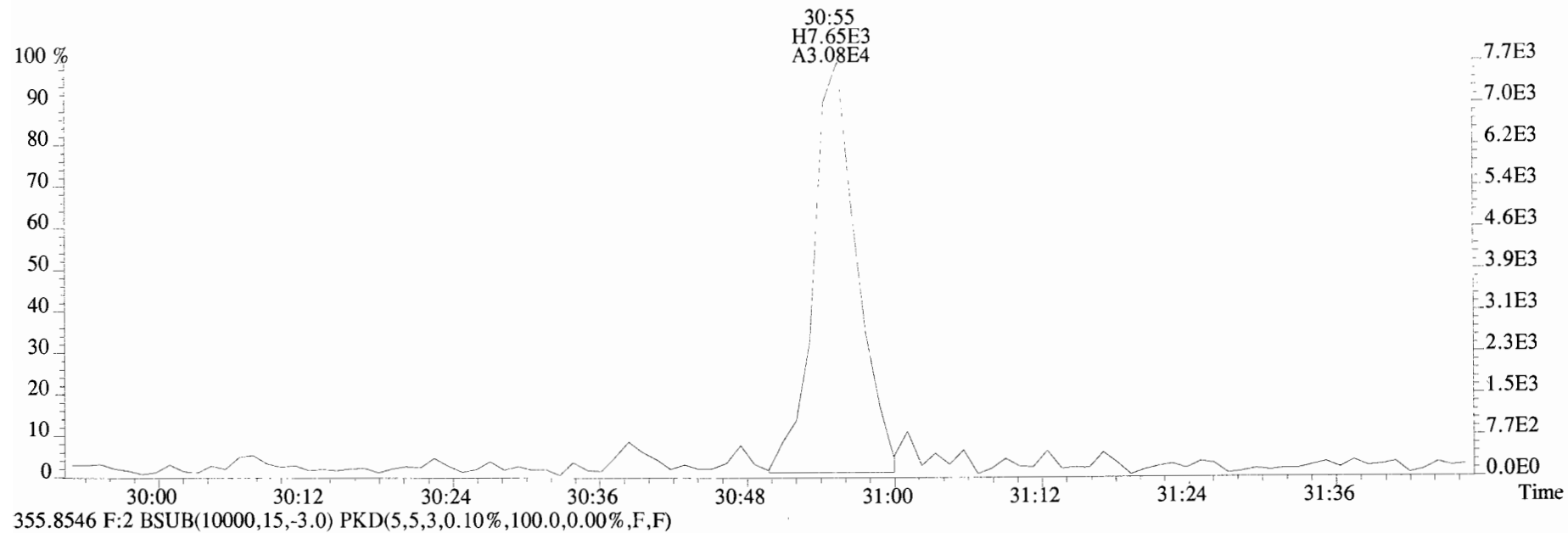
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
327.8847 BSub(10000,15,-3.0)



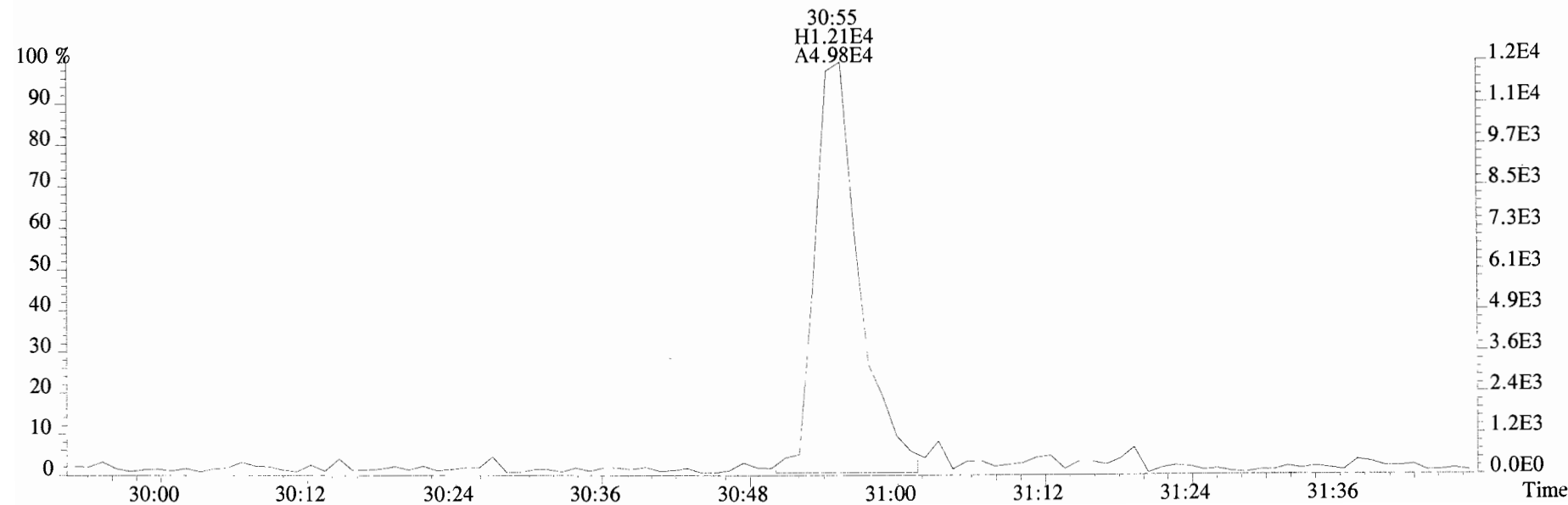
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



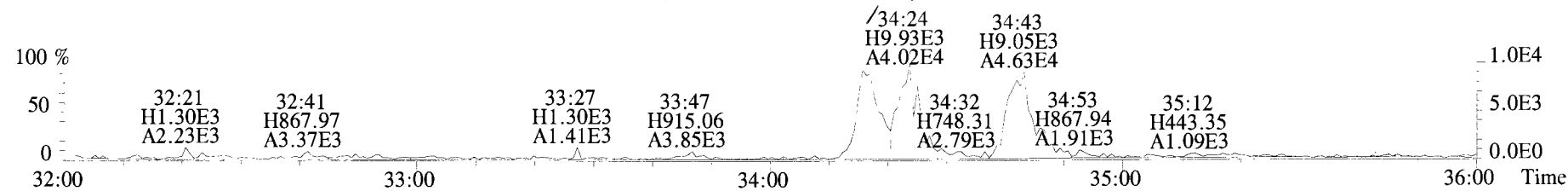
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



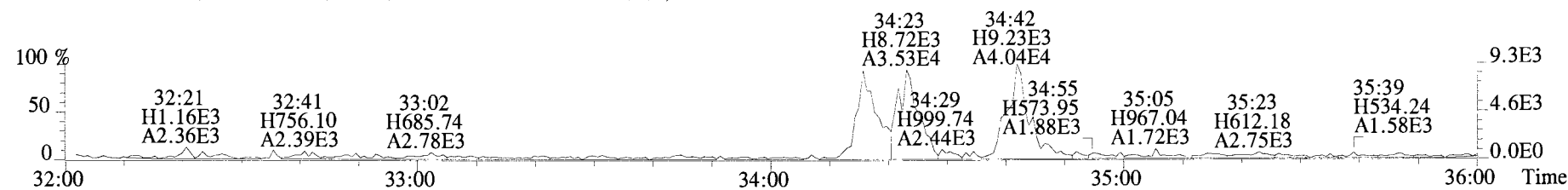
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



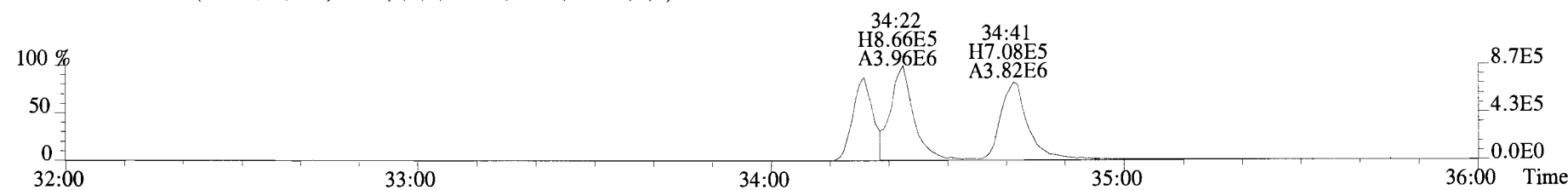
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



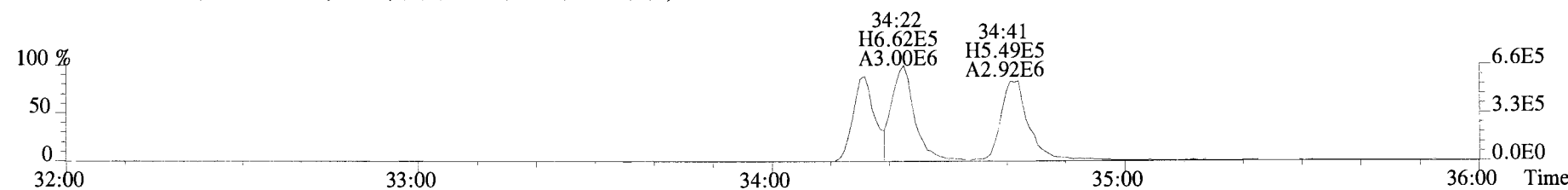
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



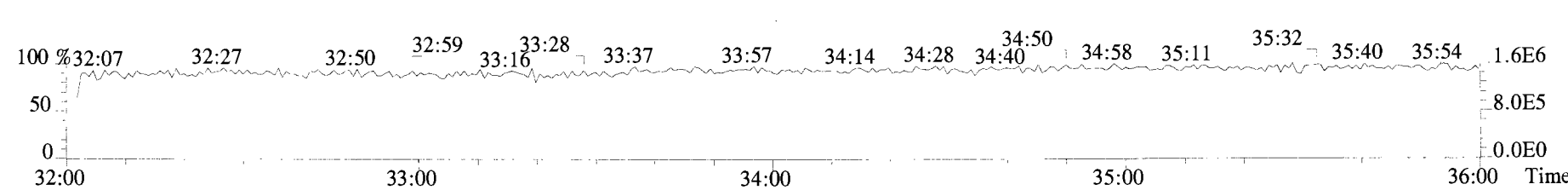
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



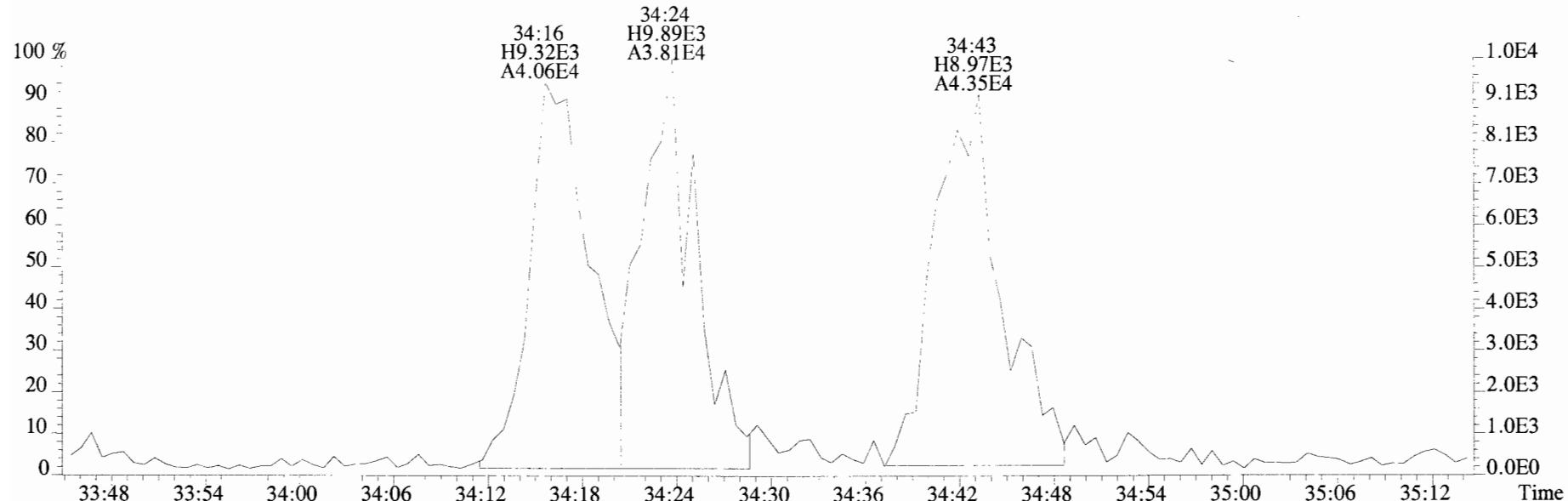
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



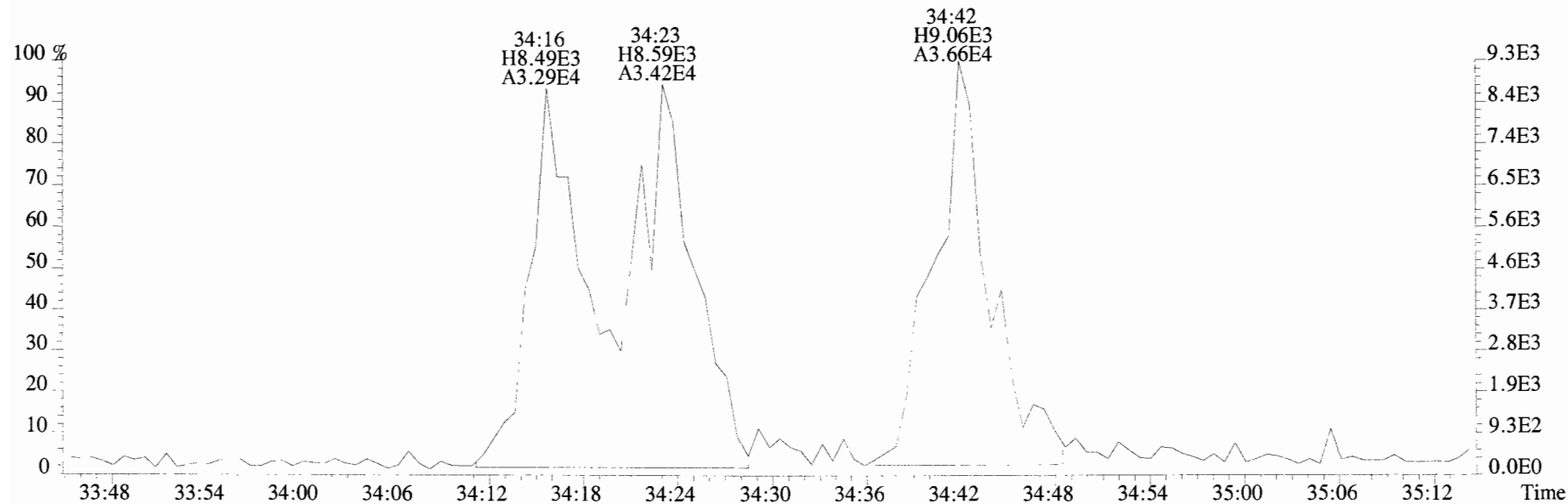
392.9760 F:3



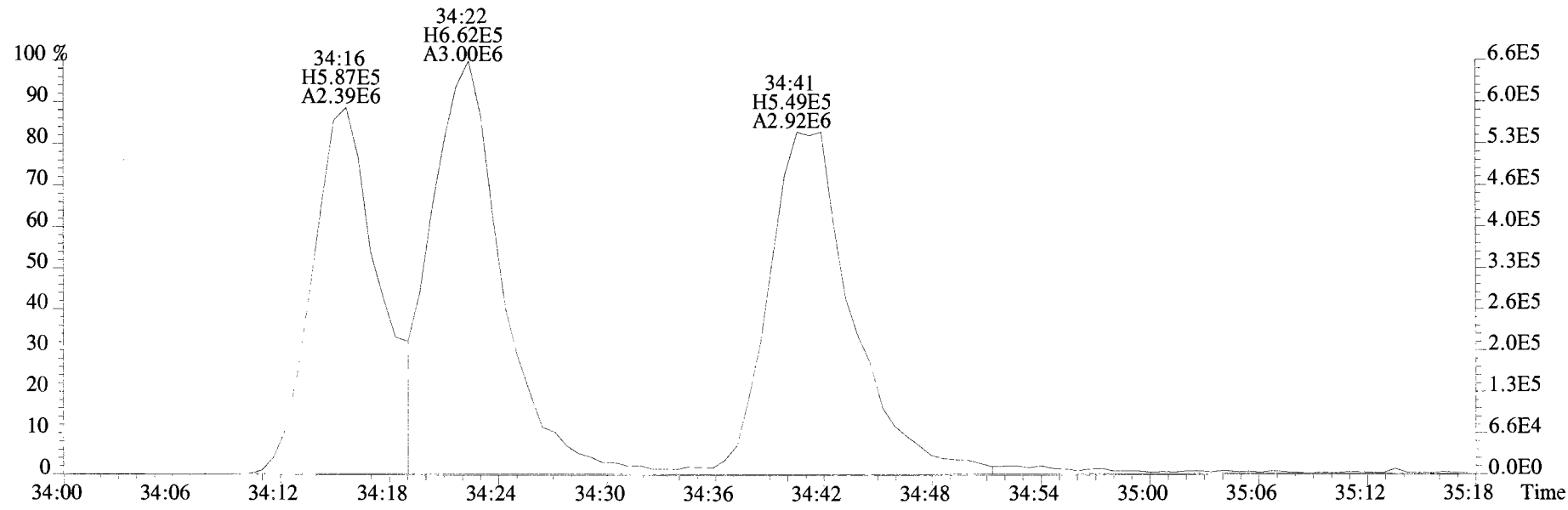
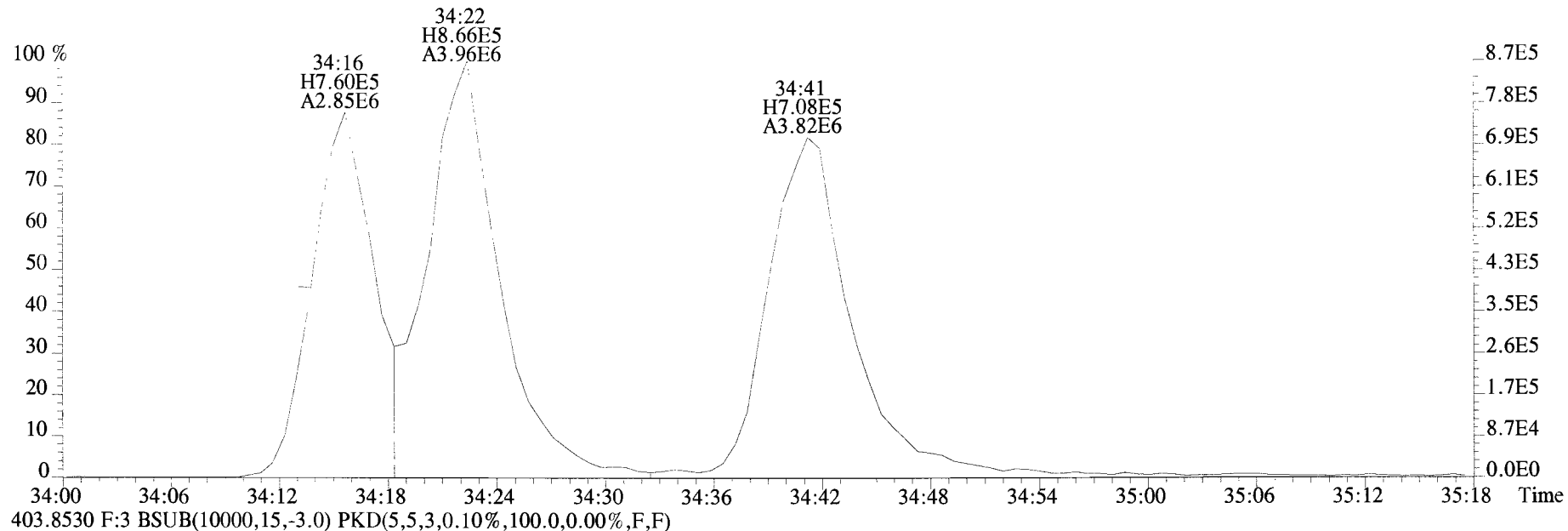
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



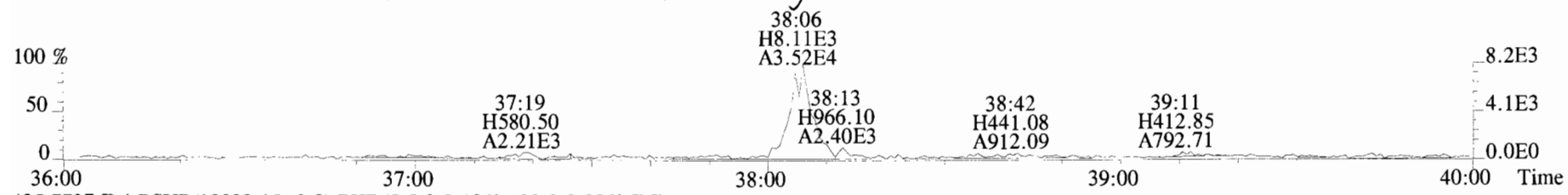
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



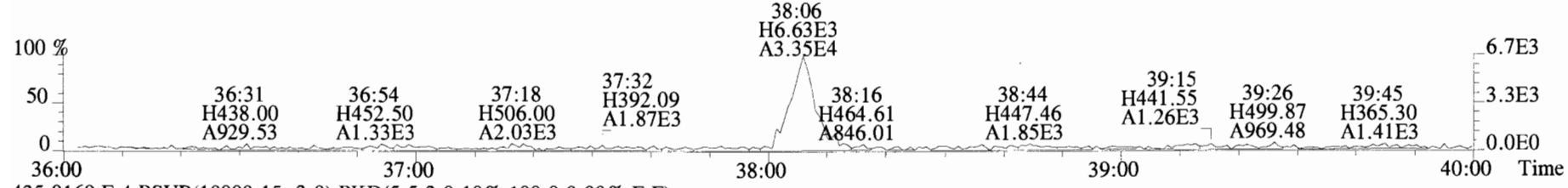
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



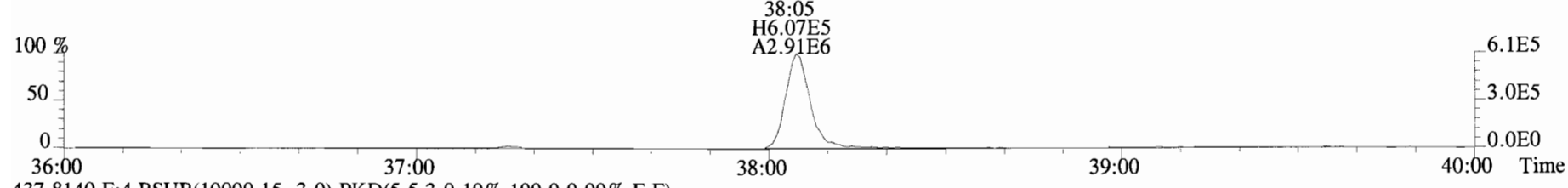
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
 423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



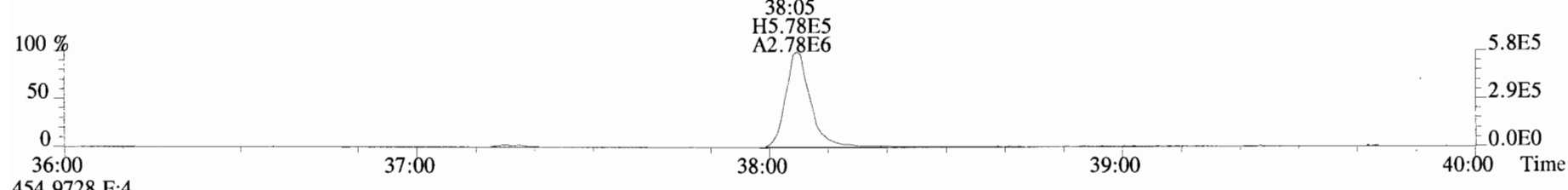
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



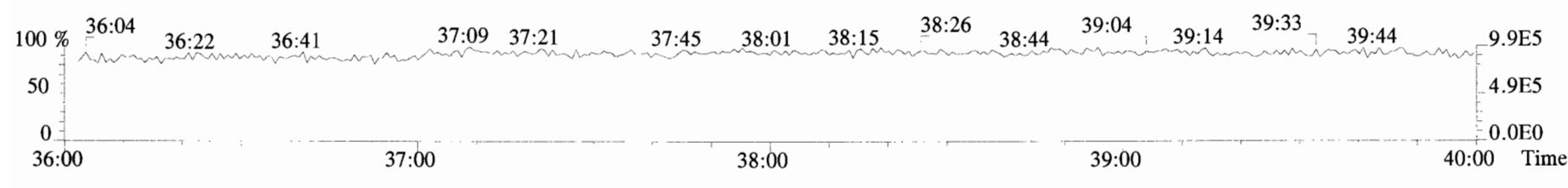
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



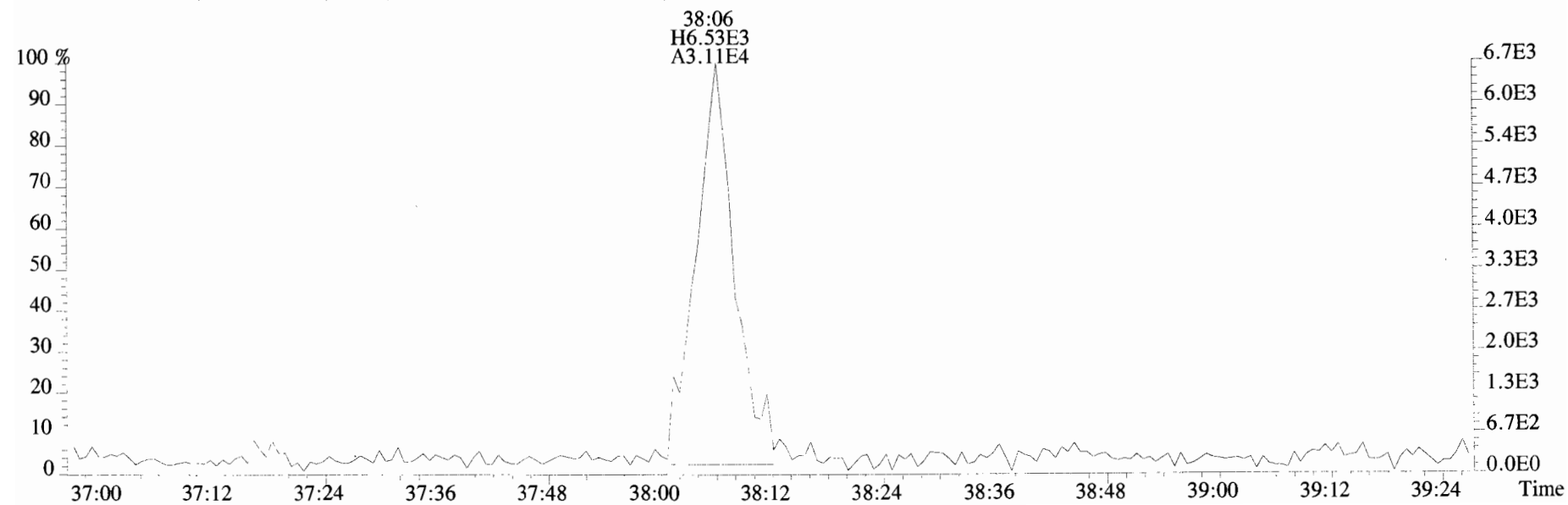
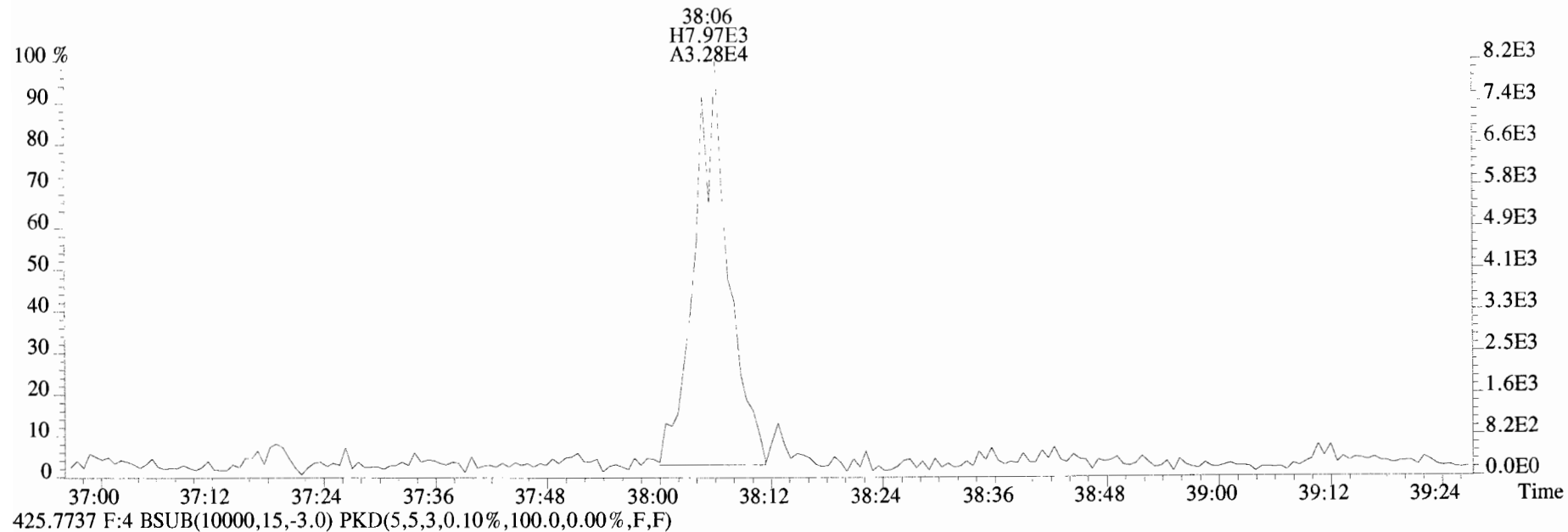
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



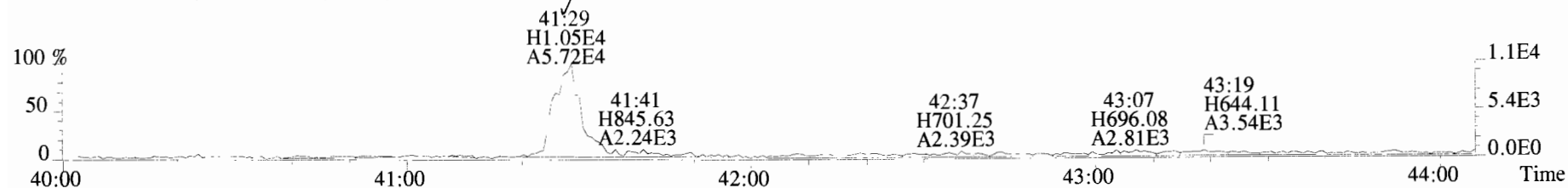
454.9728 F:4



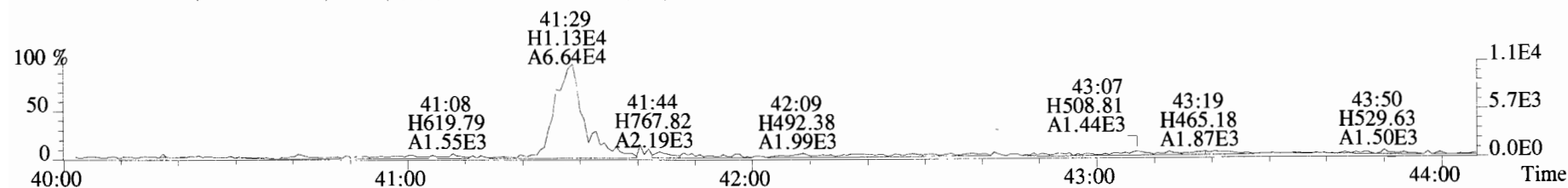
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



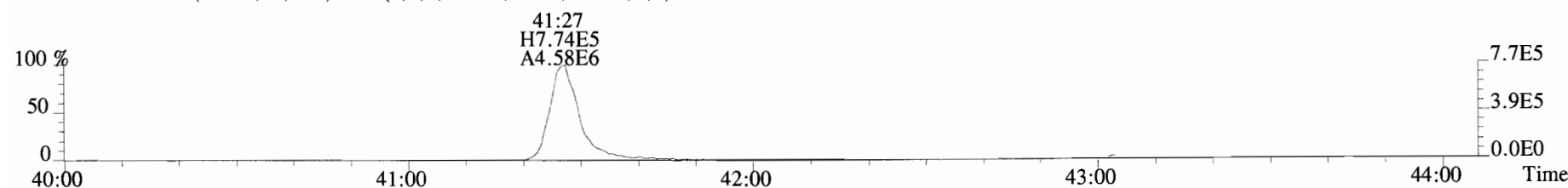
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



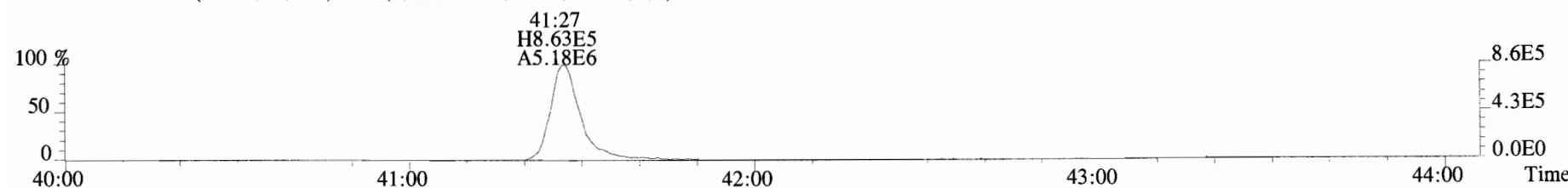
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



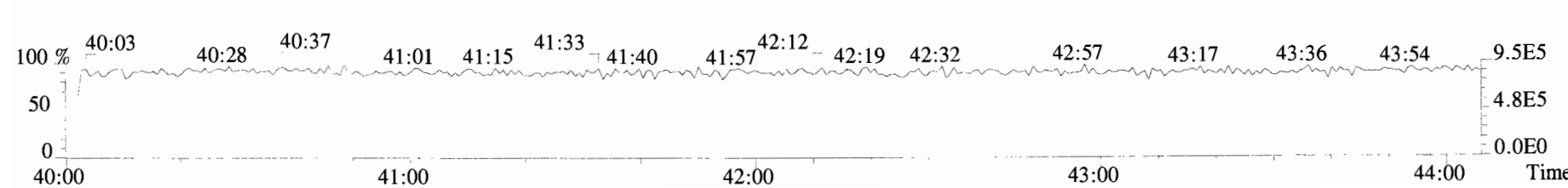
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



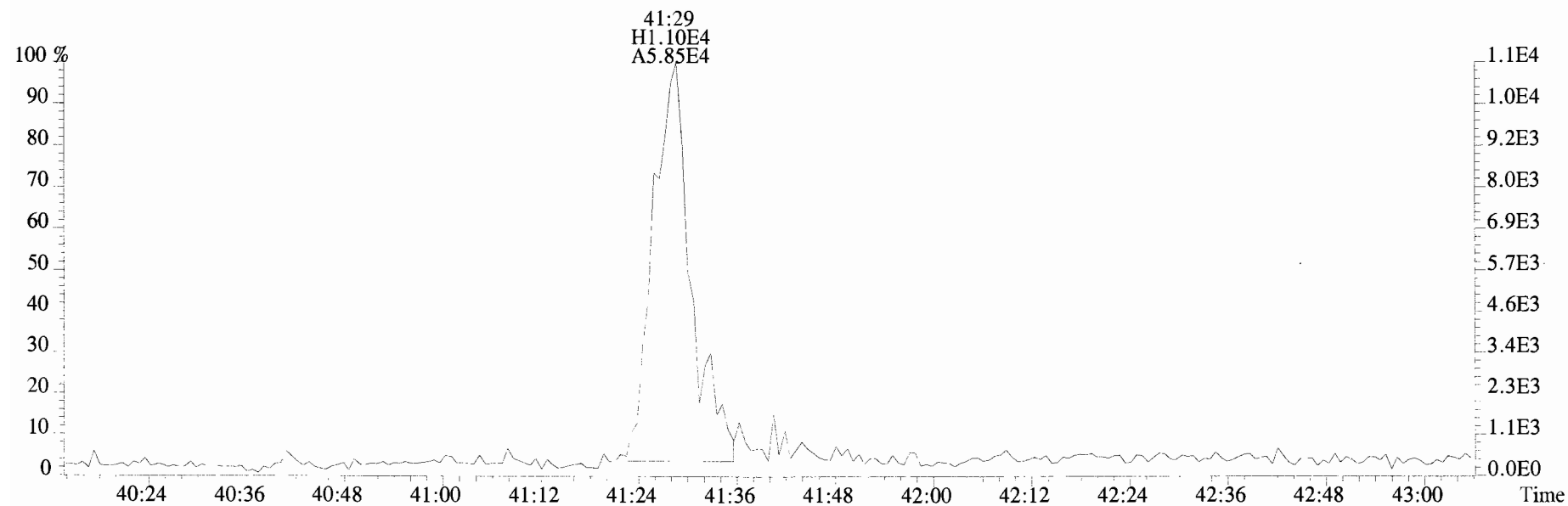
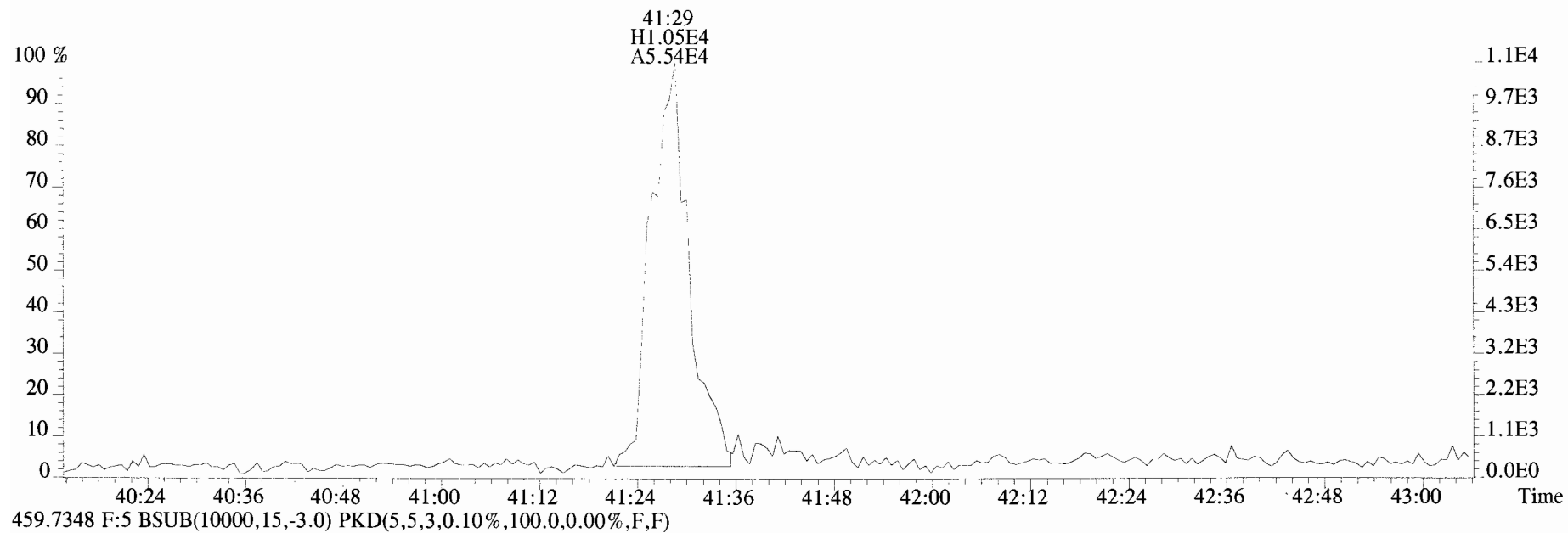
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



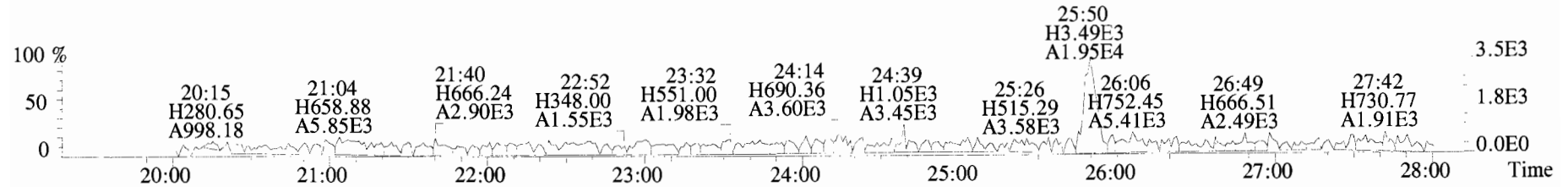
454.9728 F:5



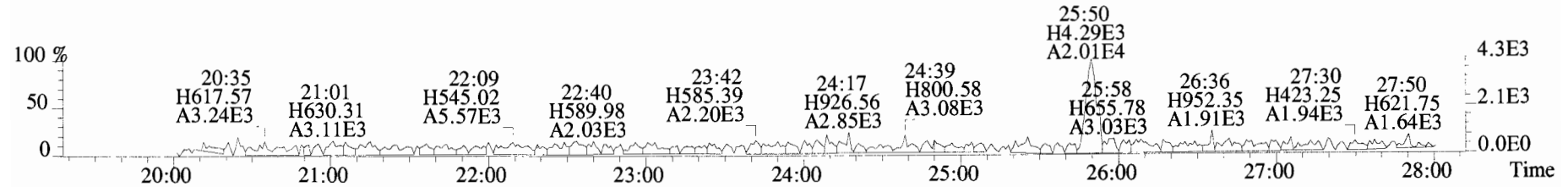
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



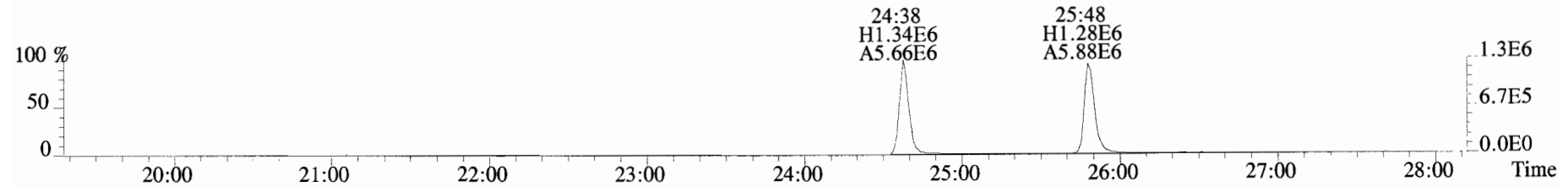
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



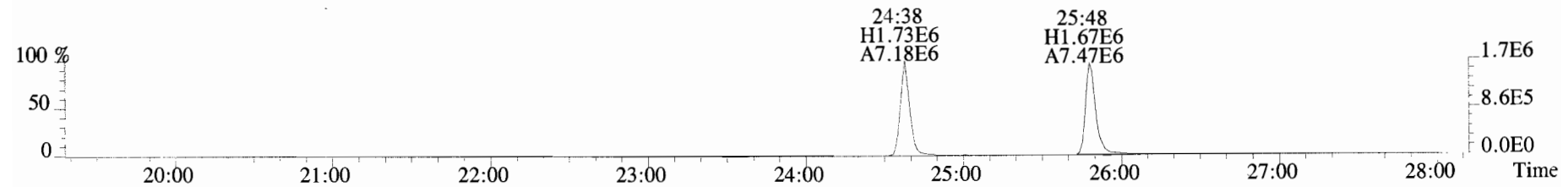
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



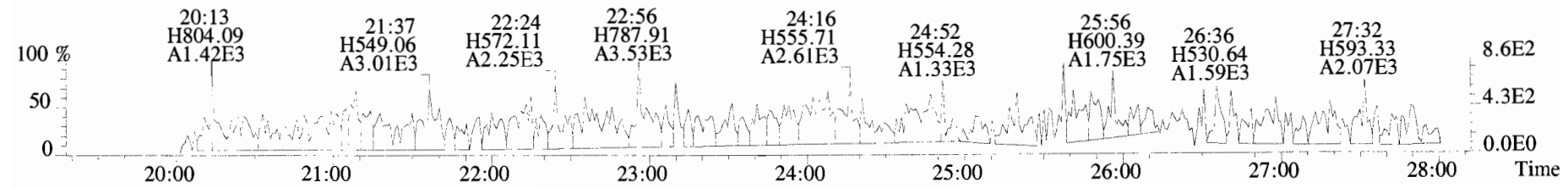
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



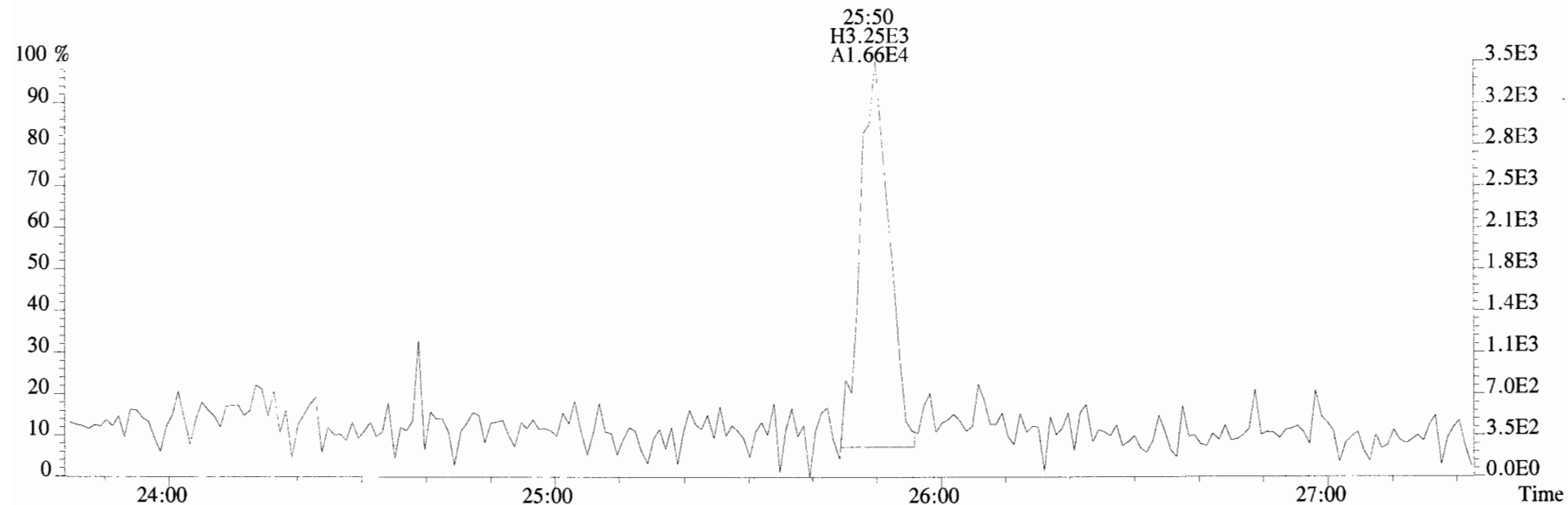
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



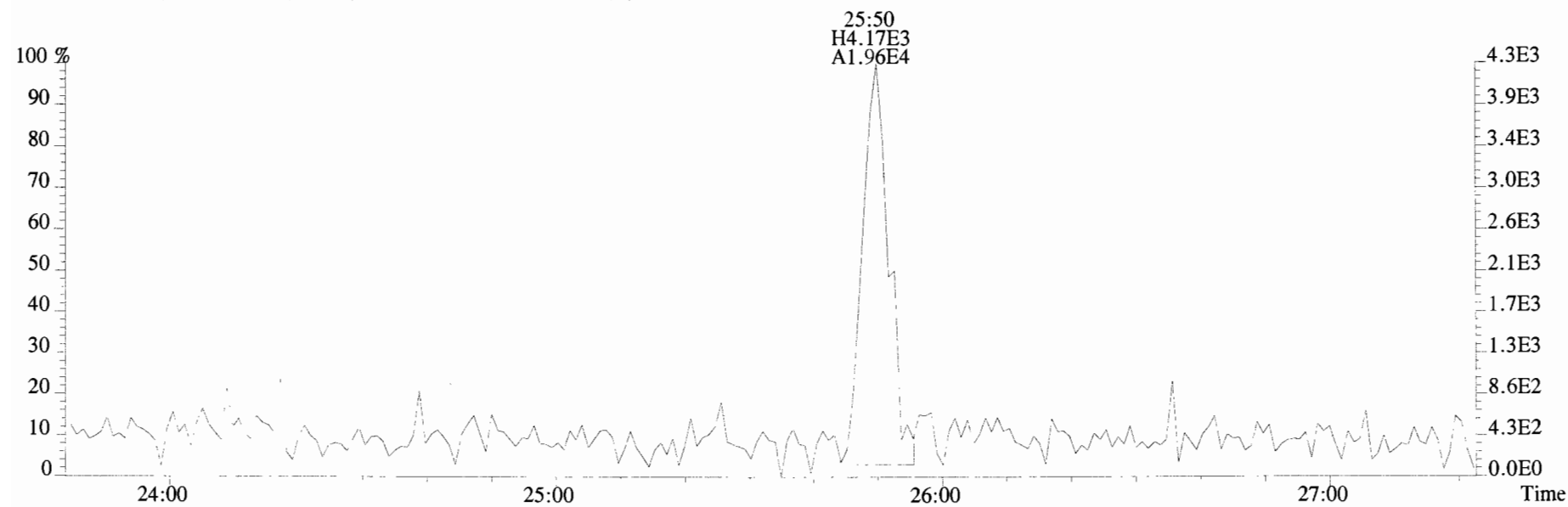
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



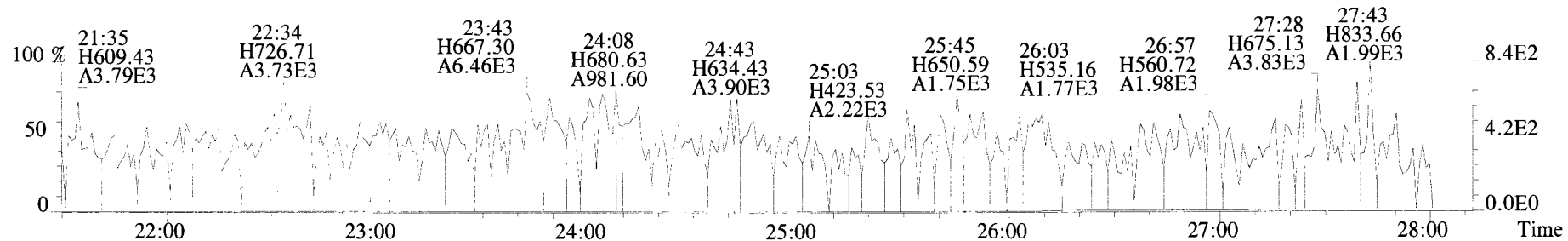
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



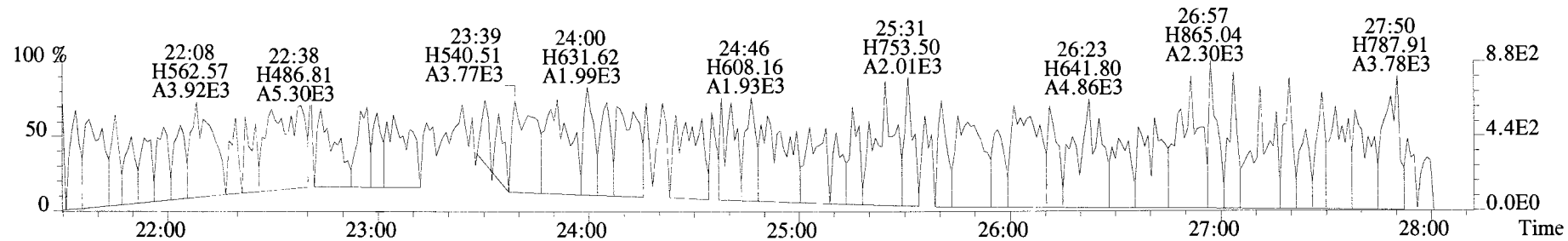
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



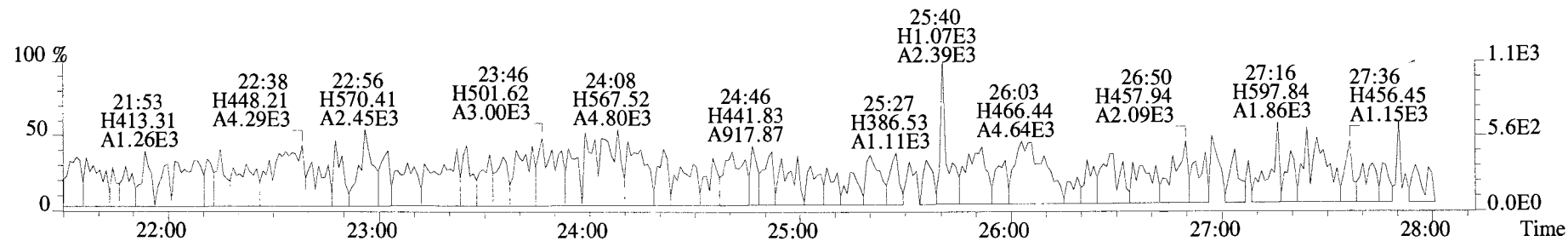
File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



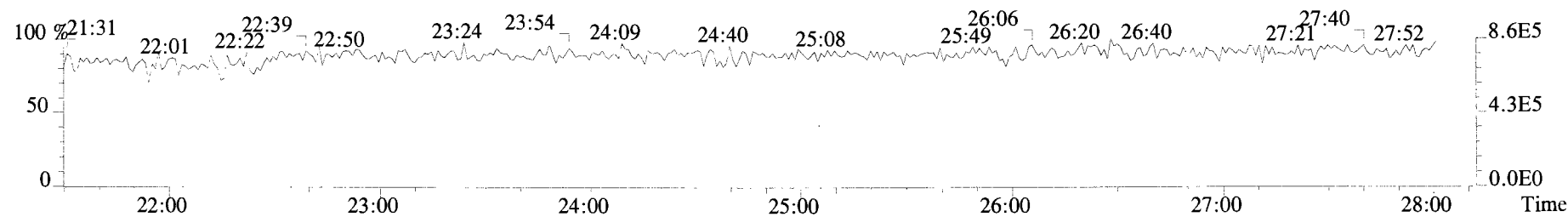
341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



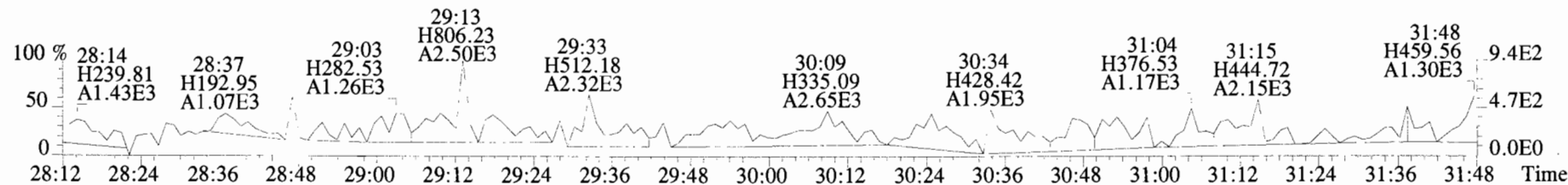
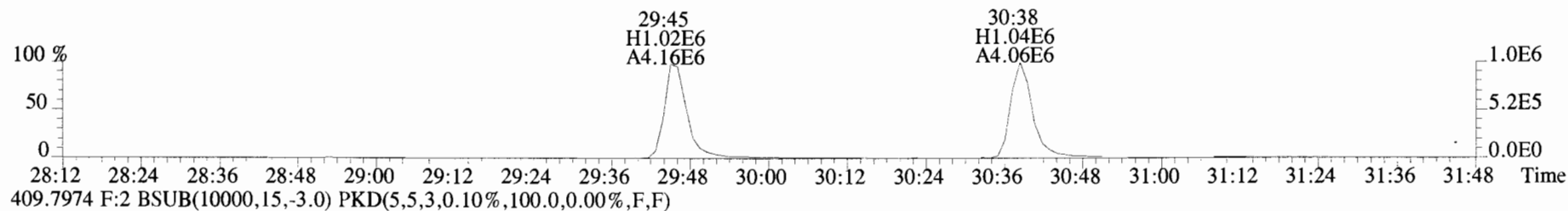
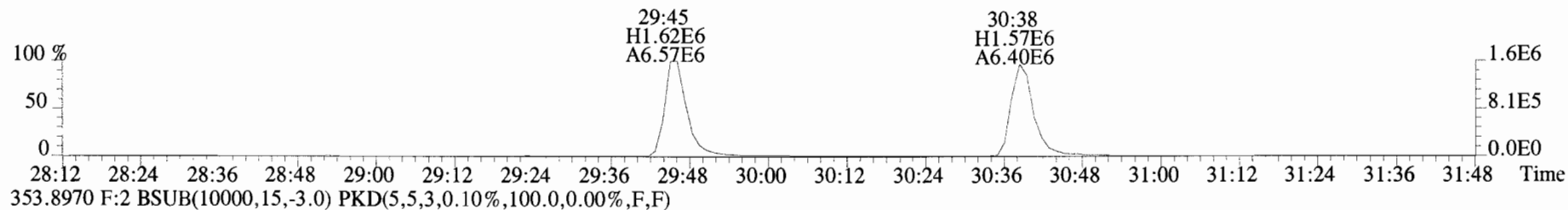
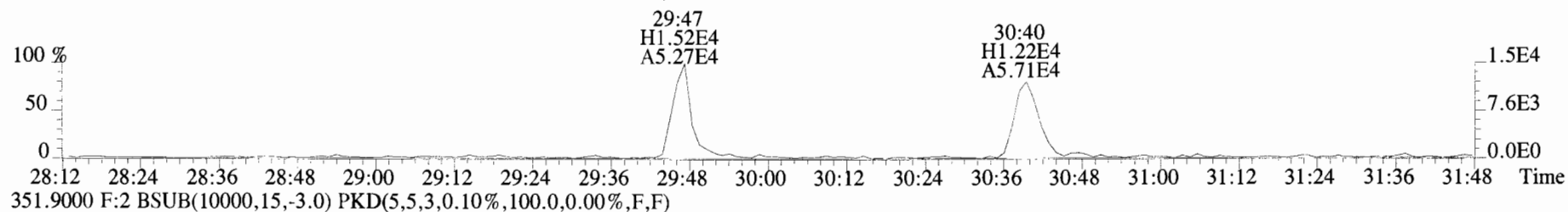
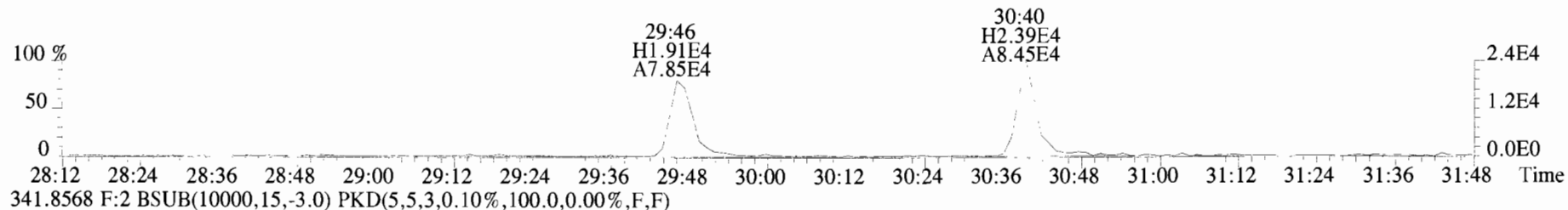
409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



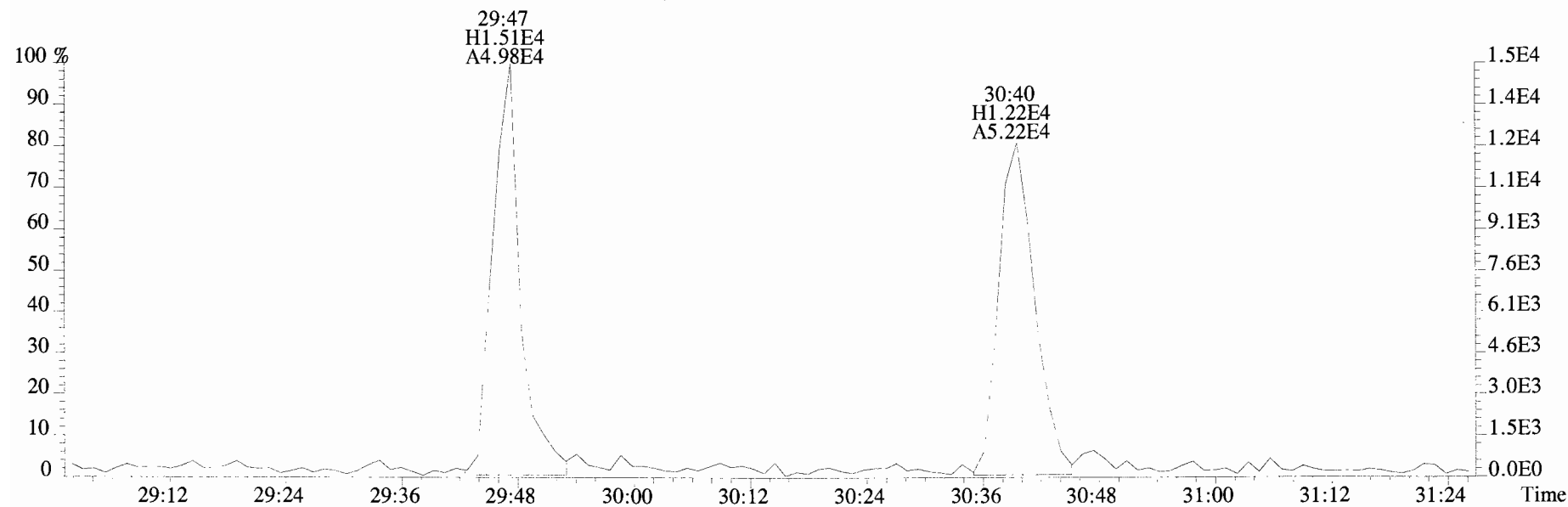
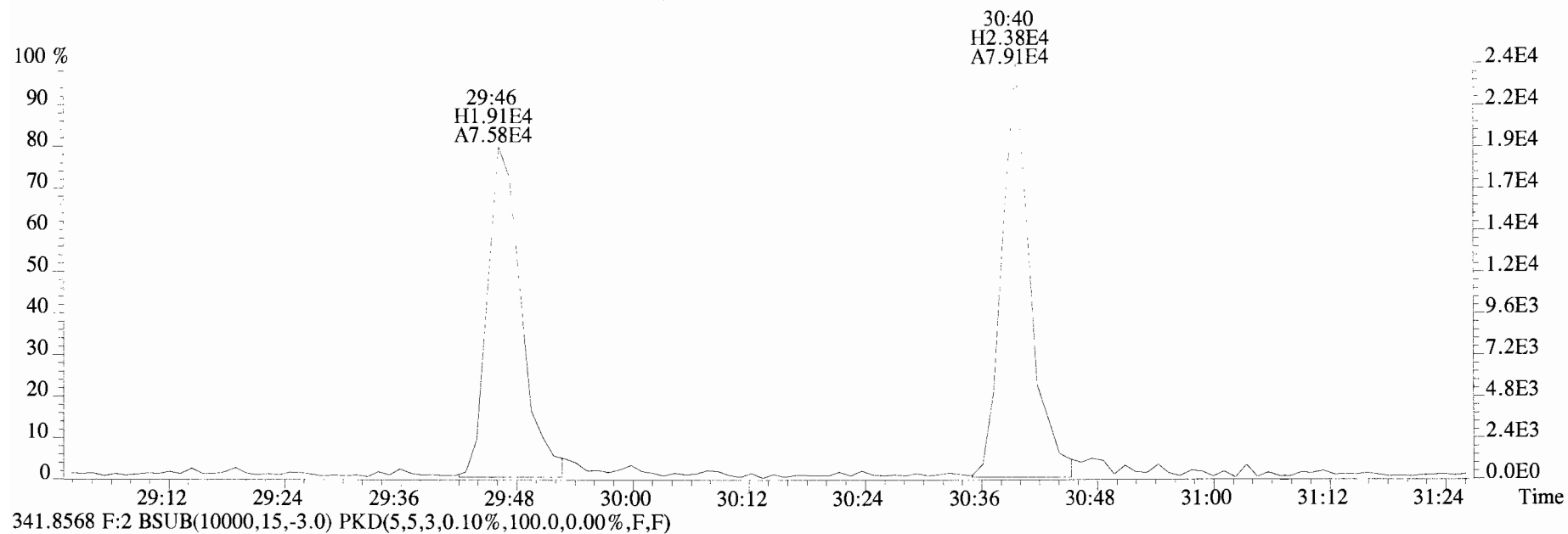
316.9824



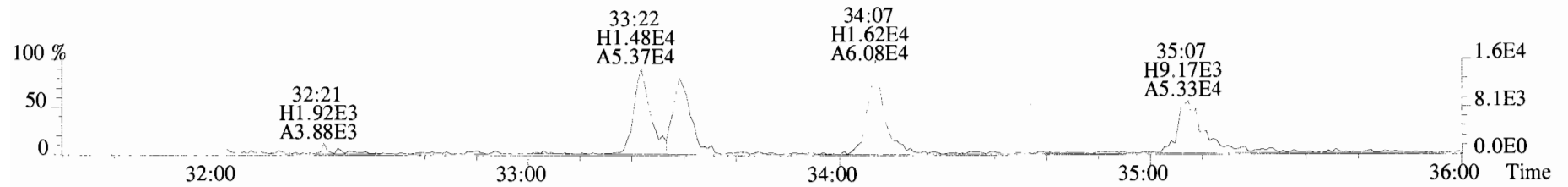
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



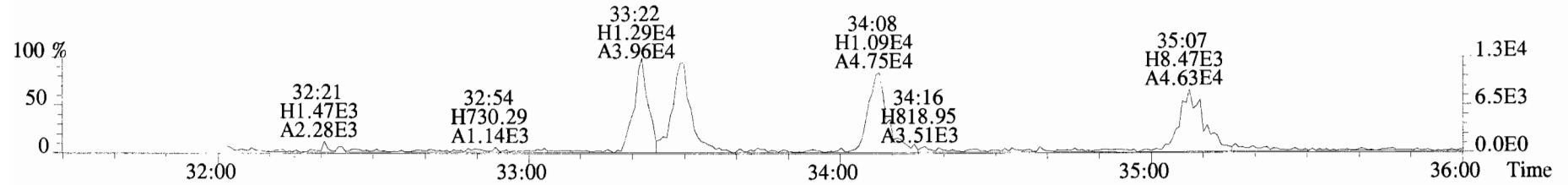
File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



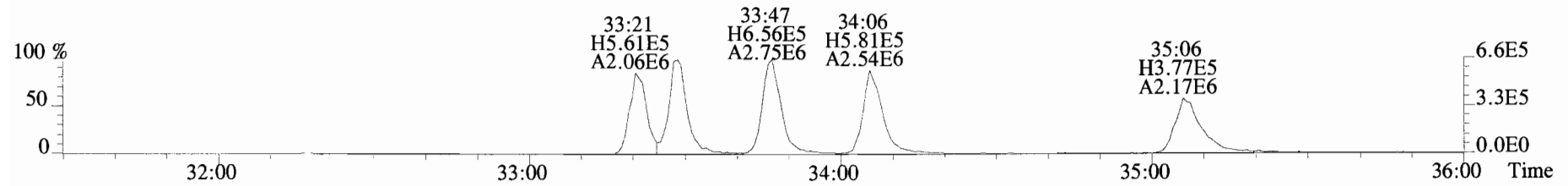
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



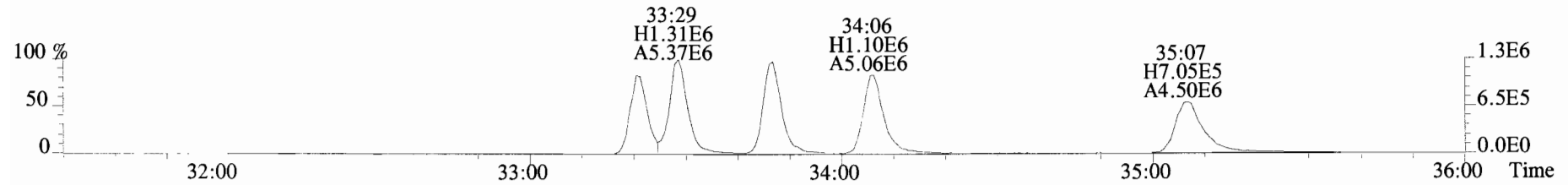
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



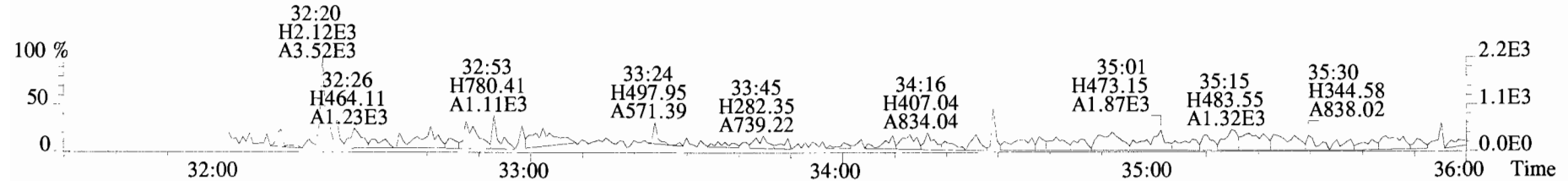
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



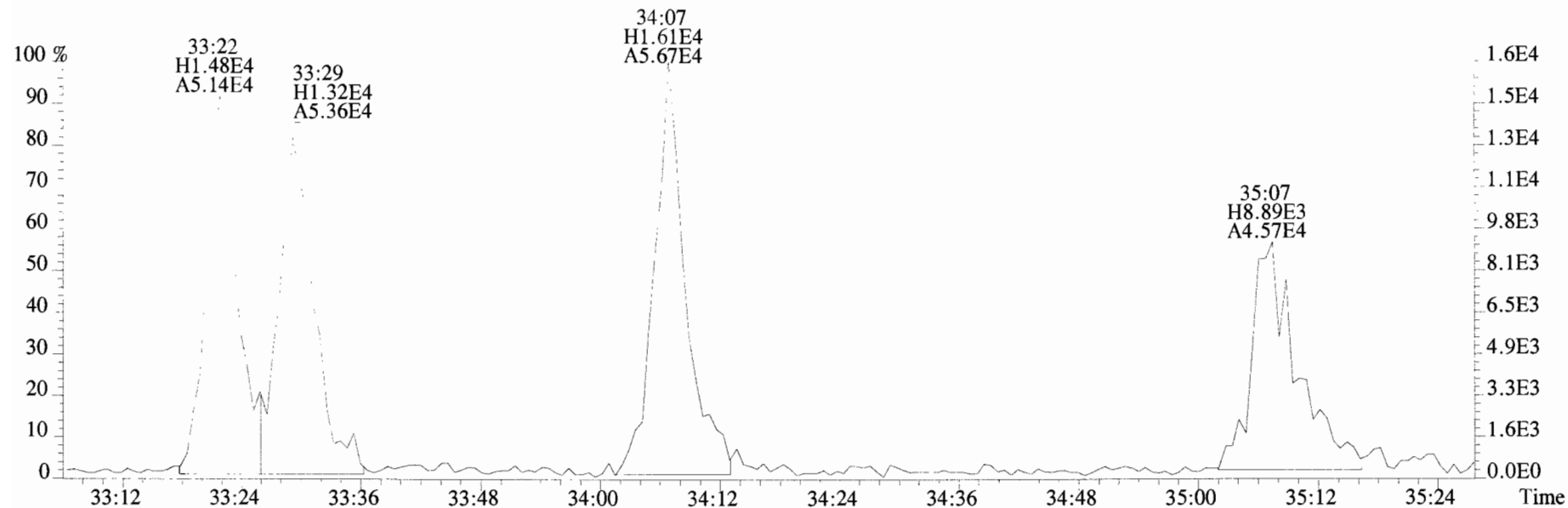
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



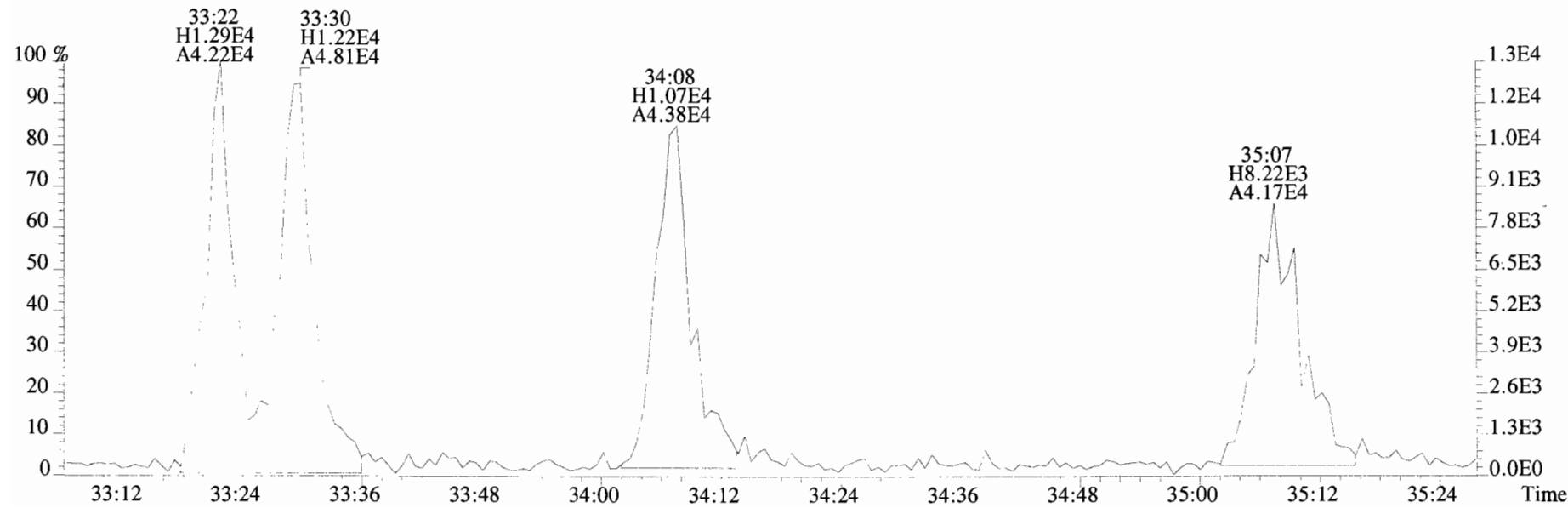
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



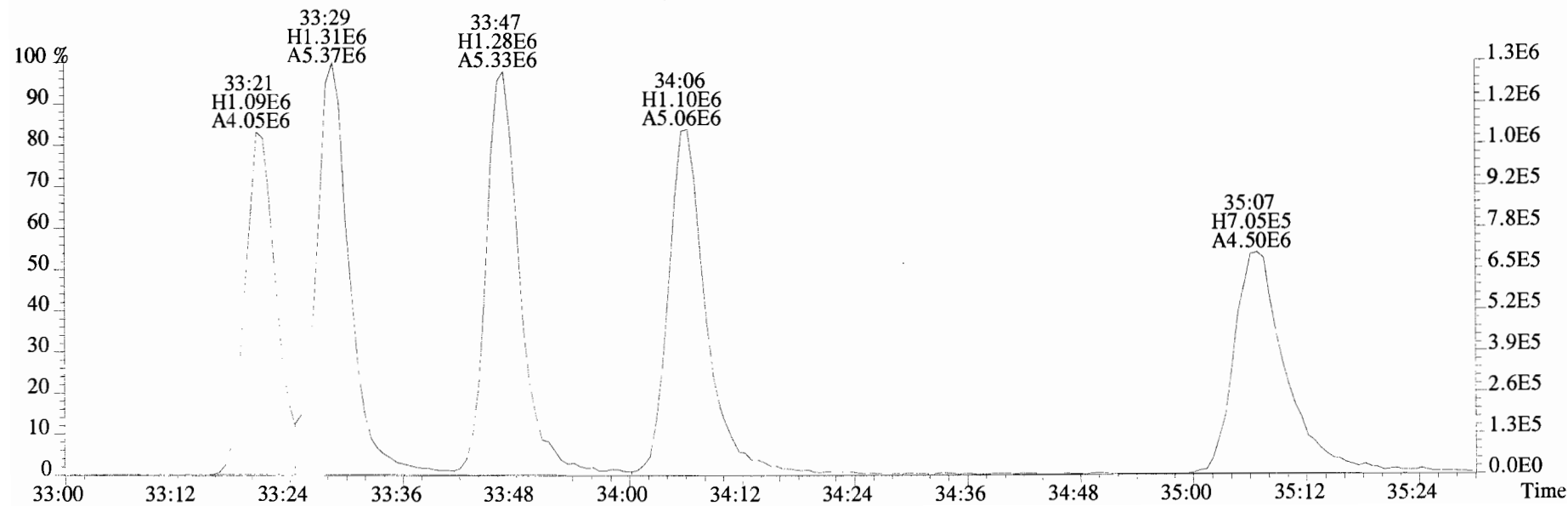
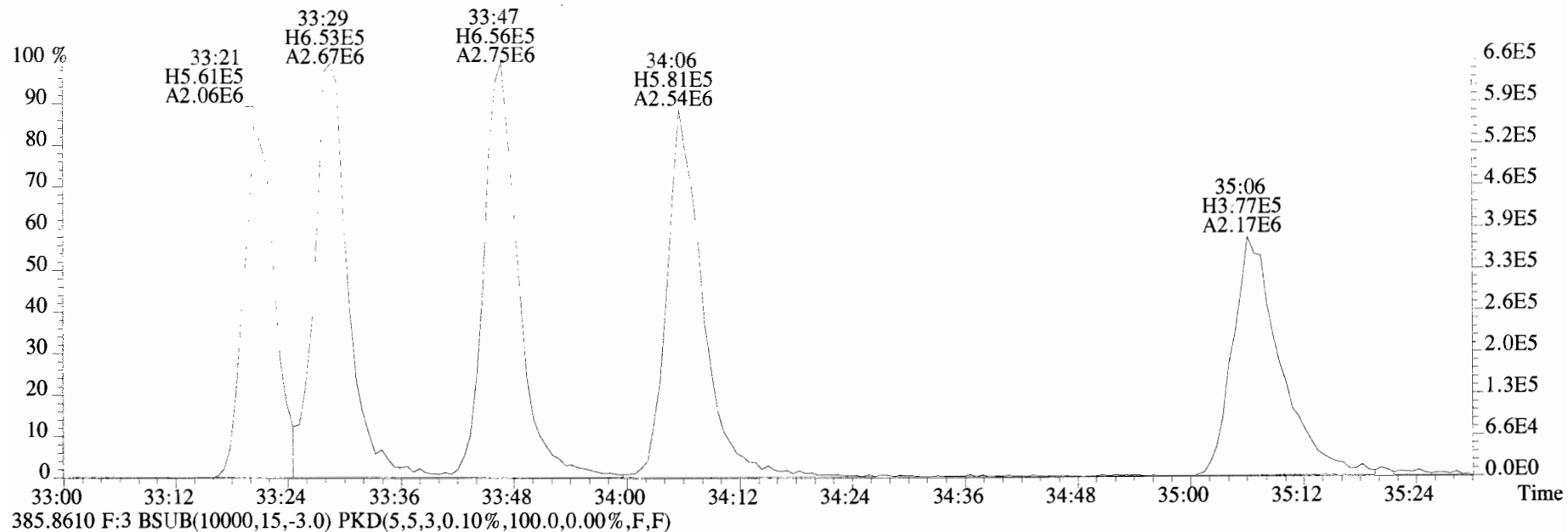
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0)



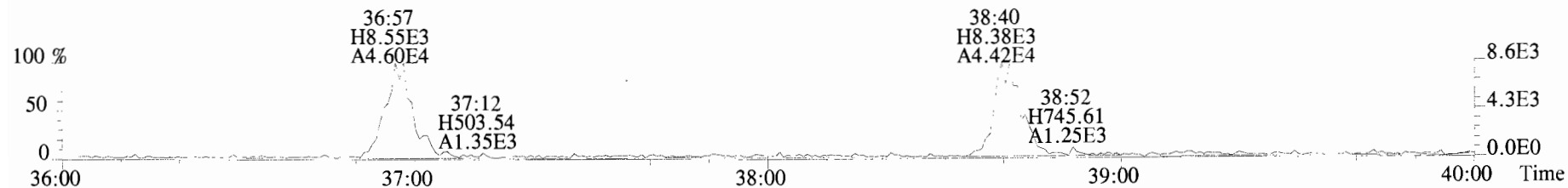
375.8178 F:3 BSUB(10000,15,-3.0)



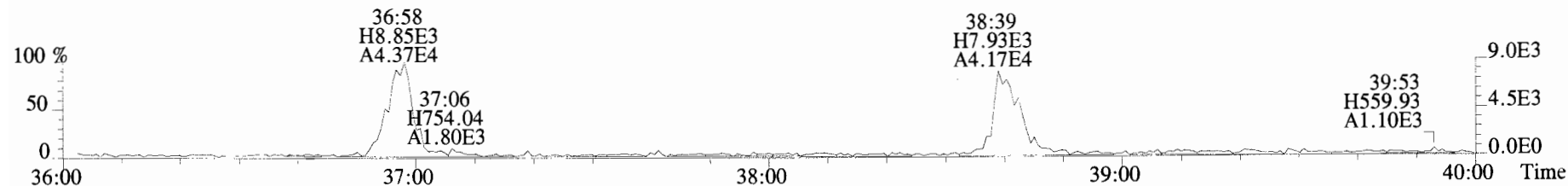
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
383.8639 F:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



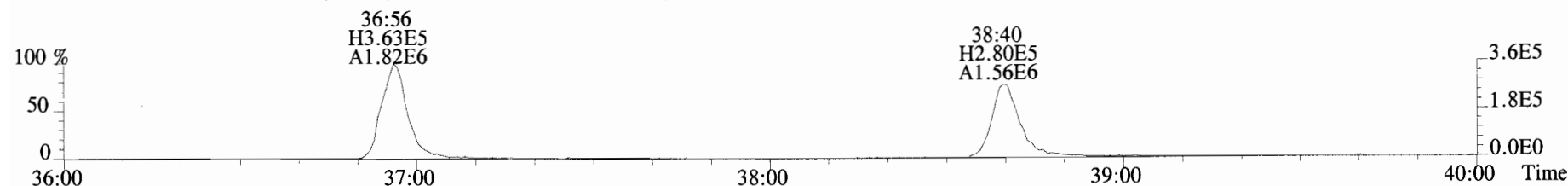
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



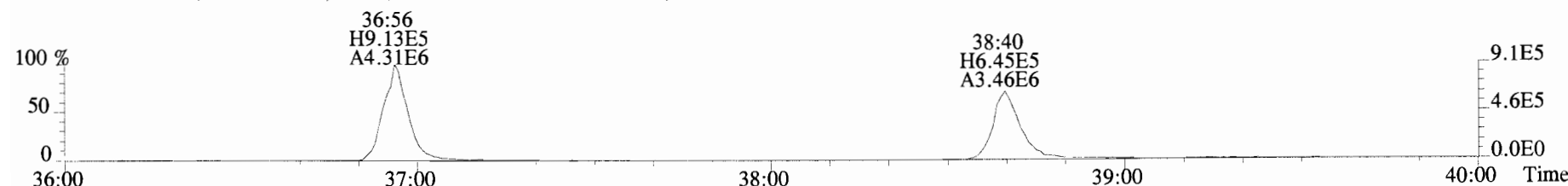
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



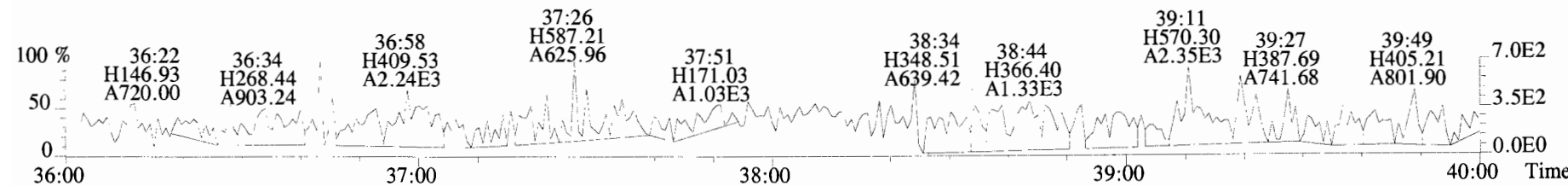
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



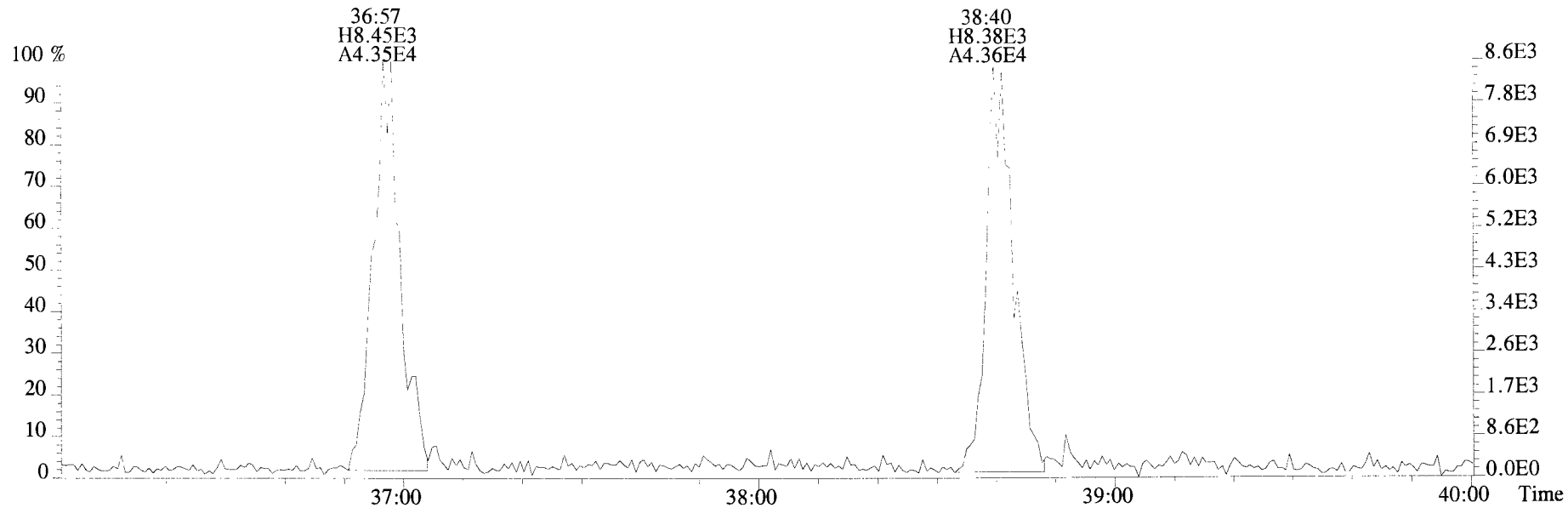
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



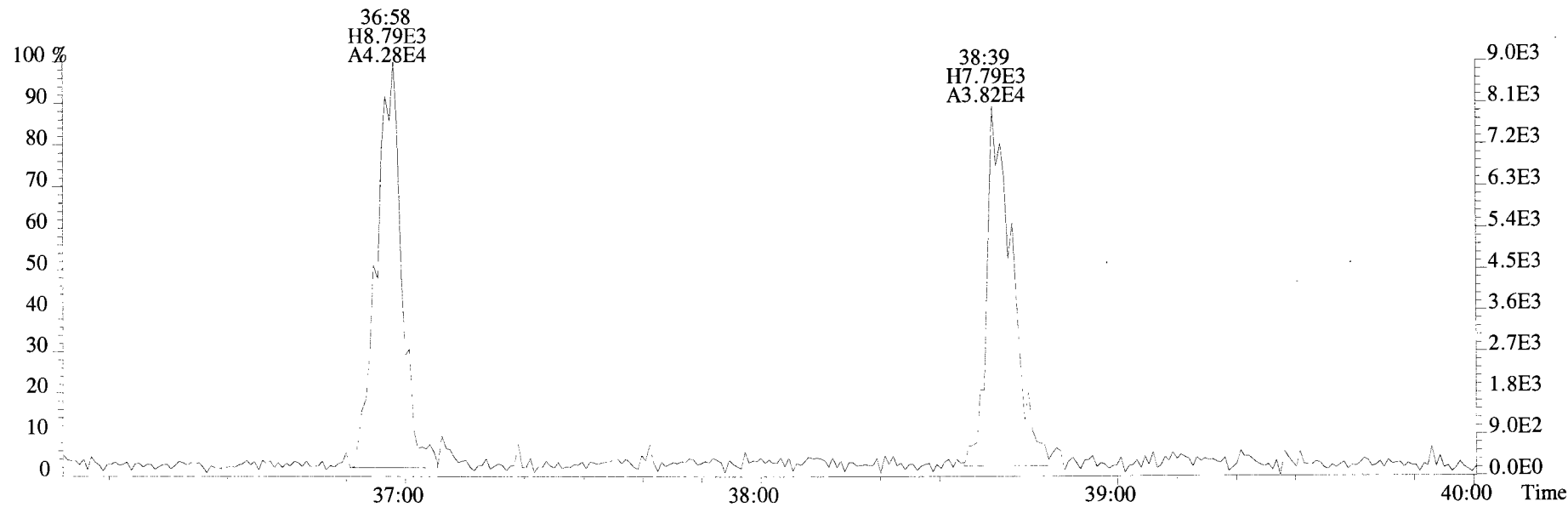
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



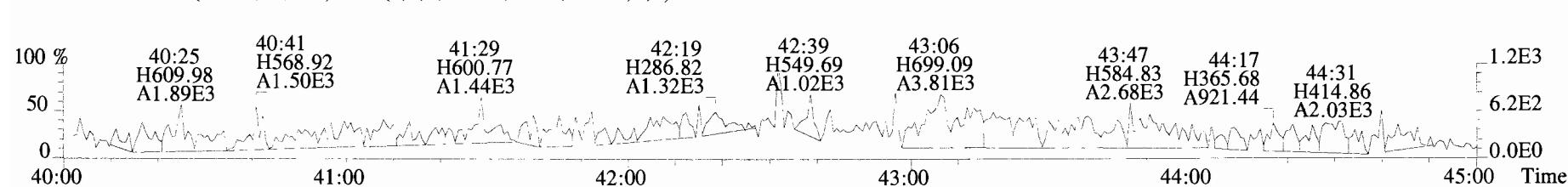
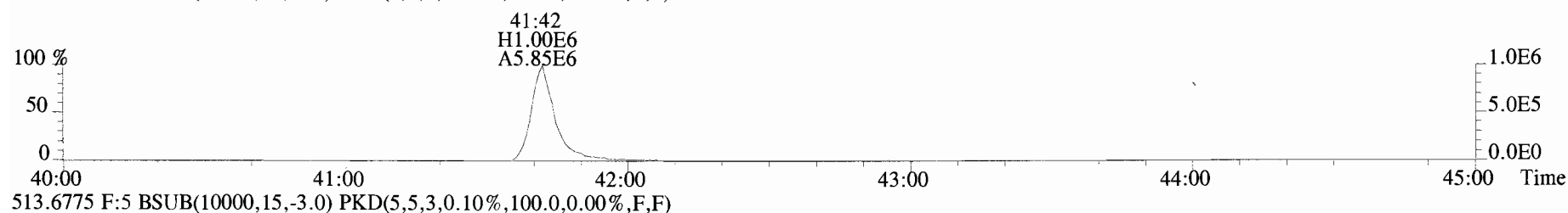
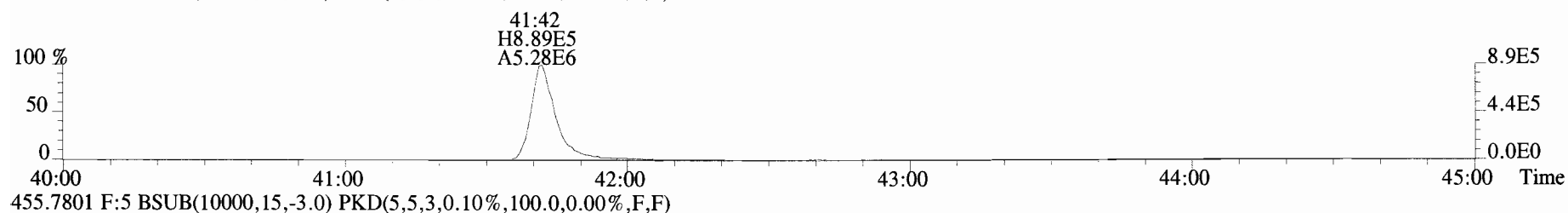
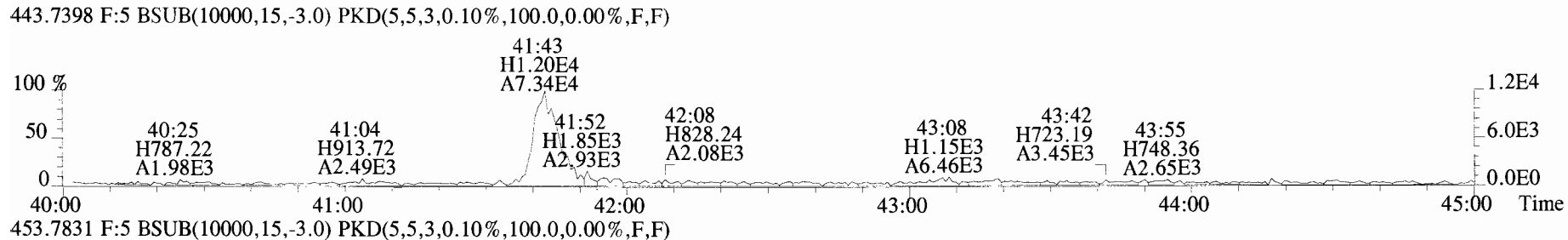
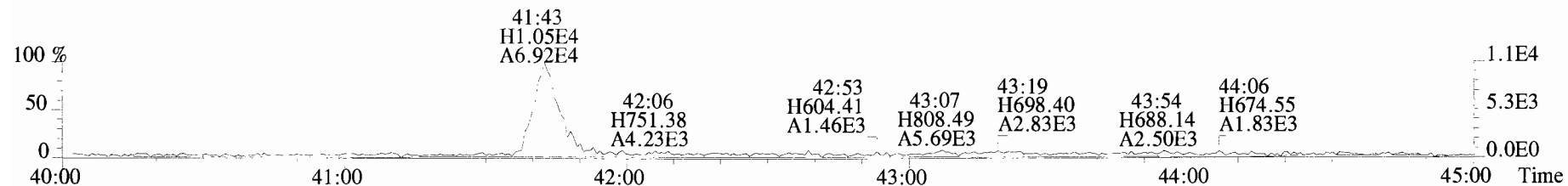
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



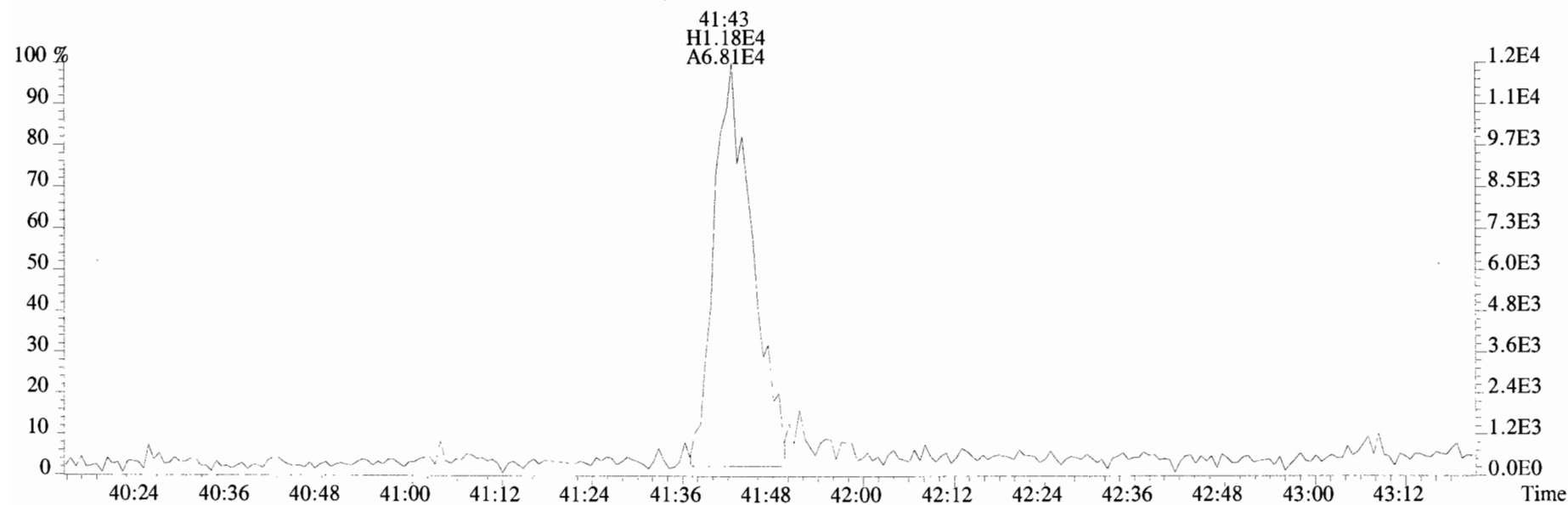
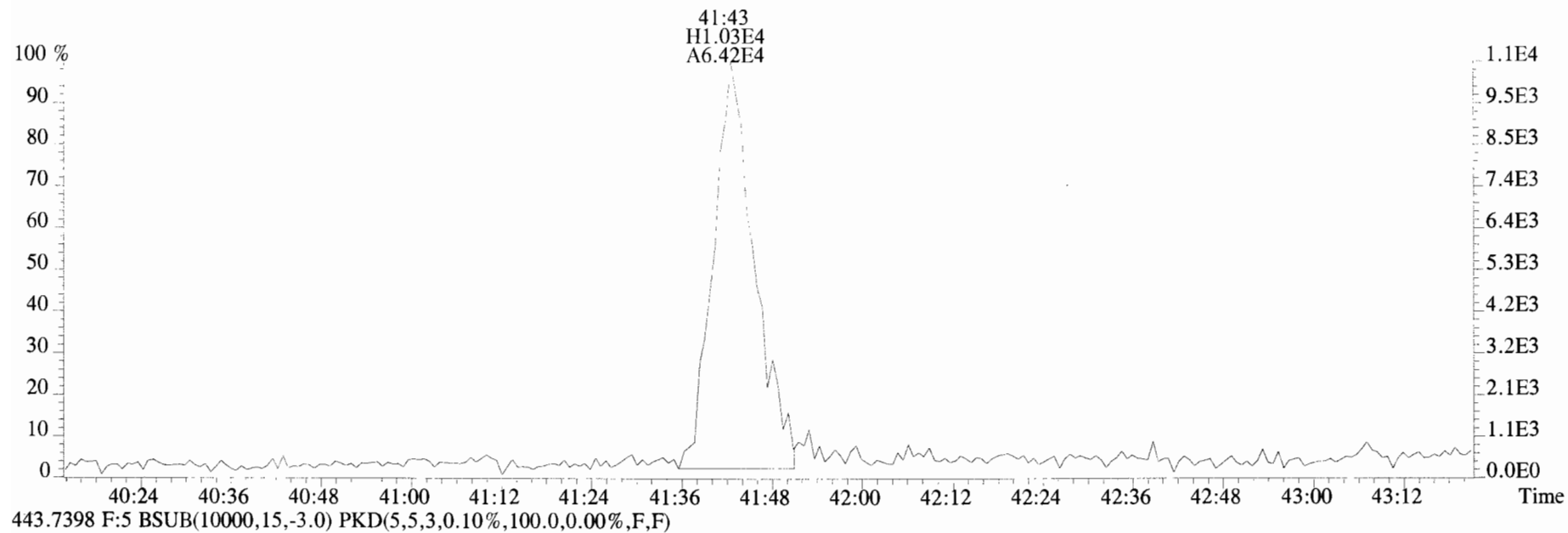
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



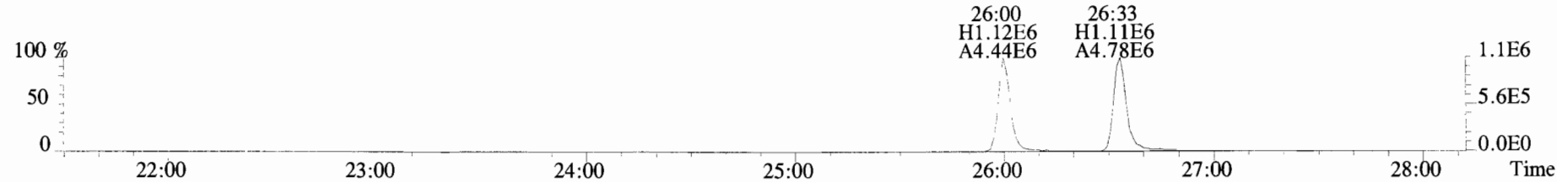
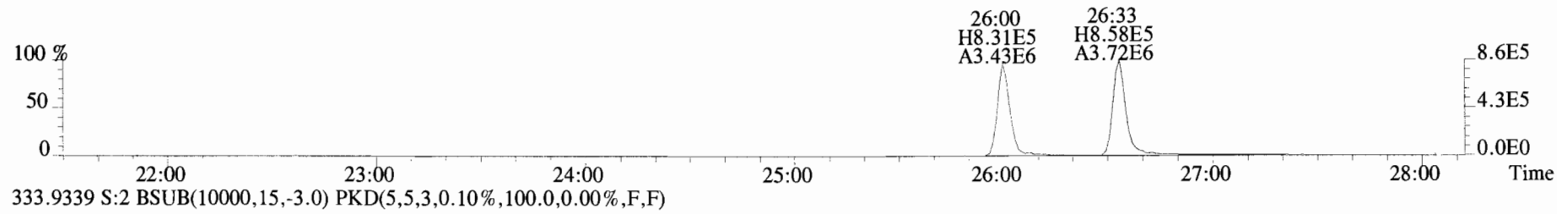
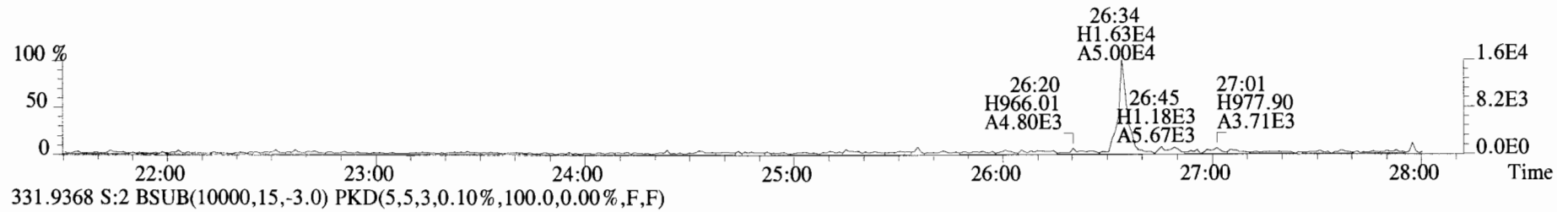
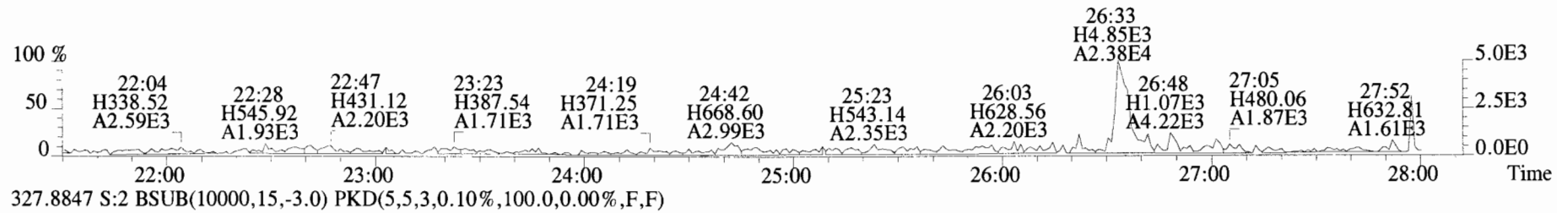
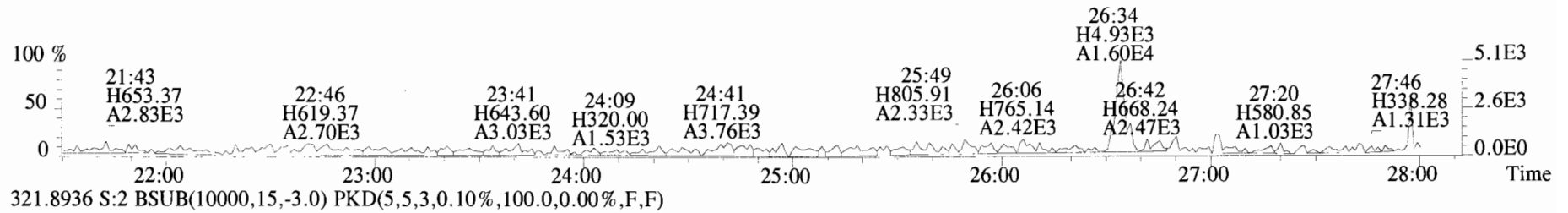
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



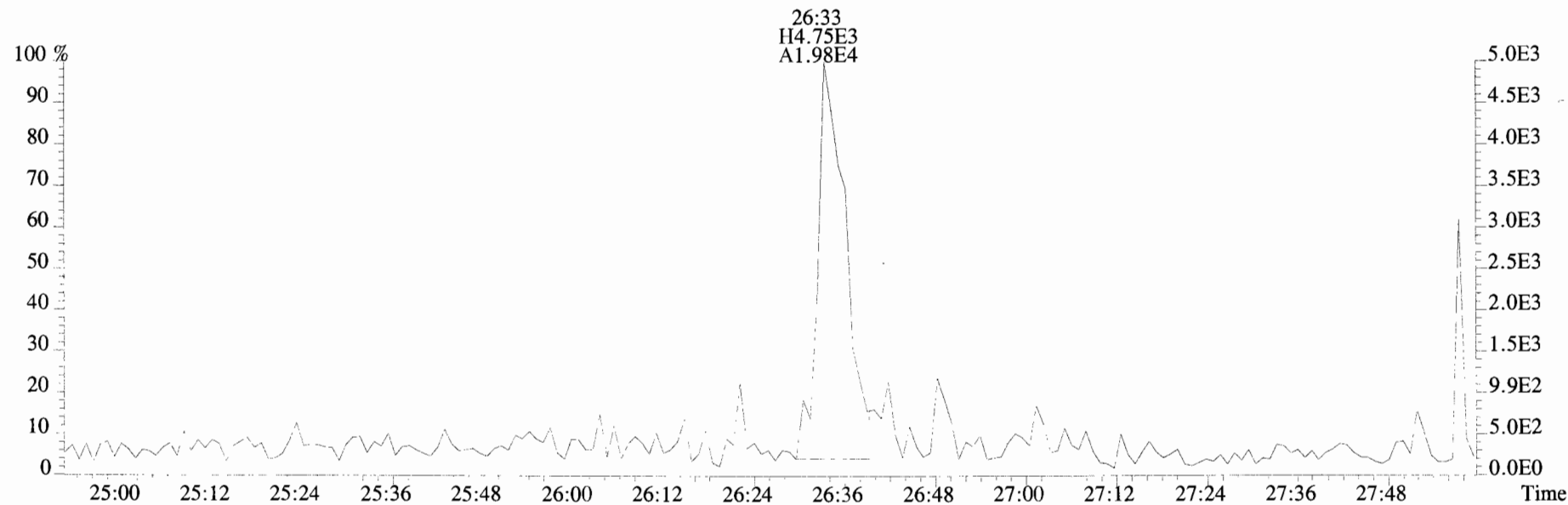
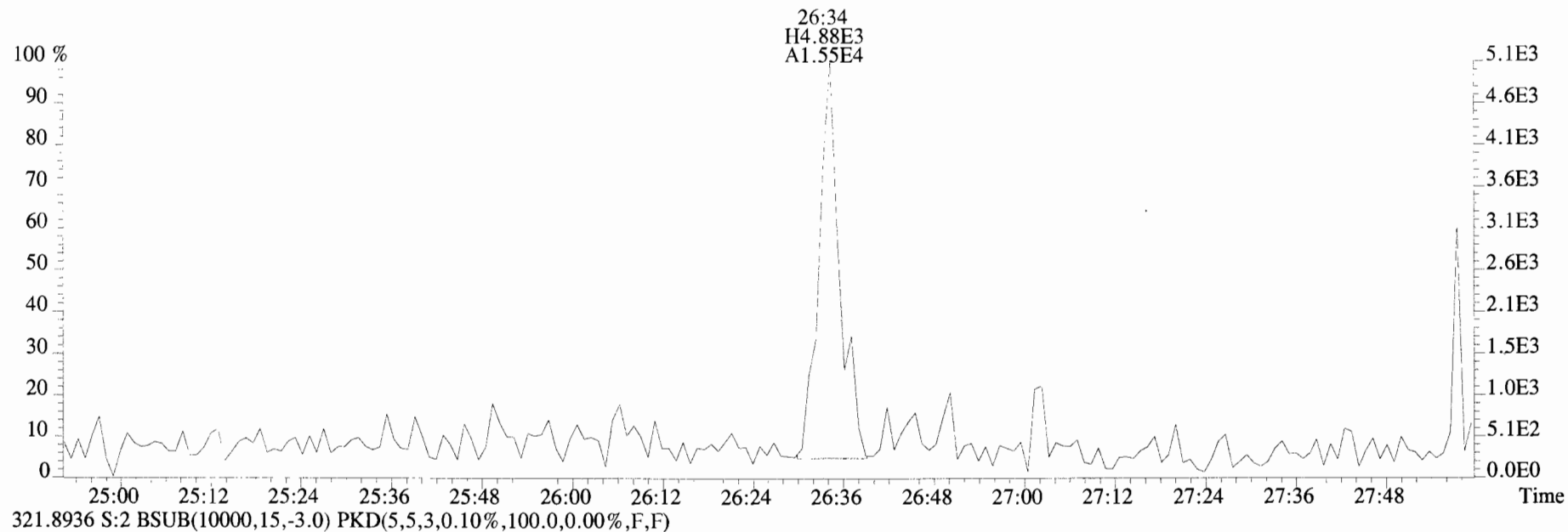
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



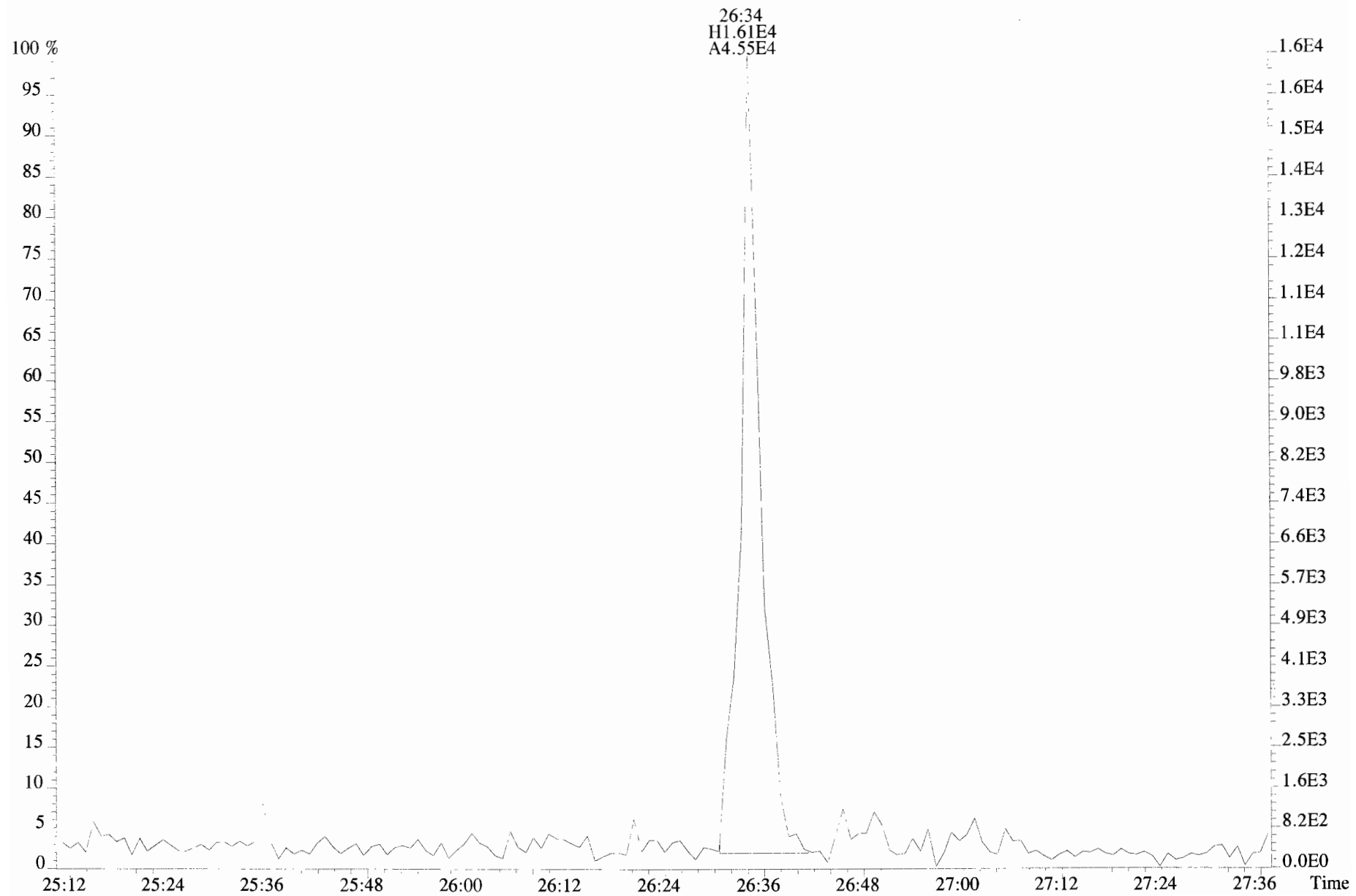
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



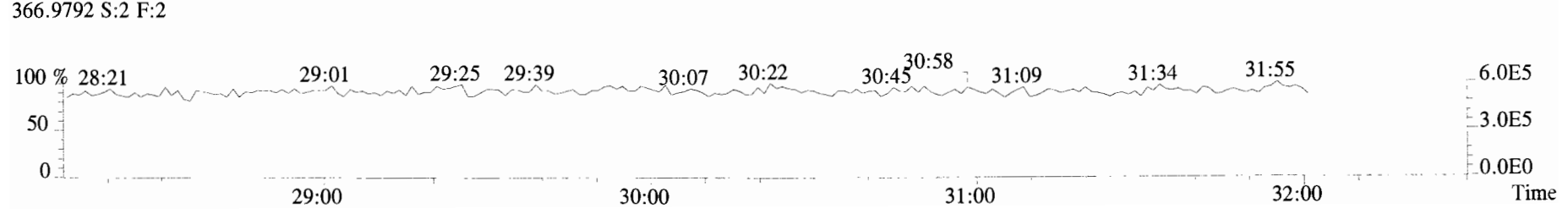
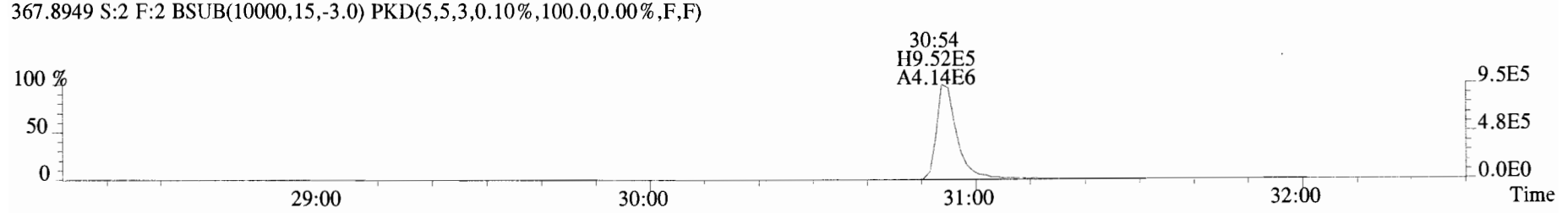
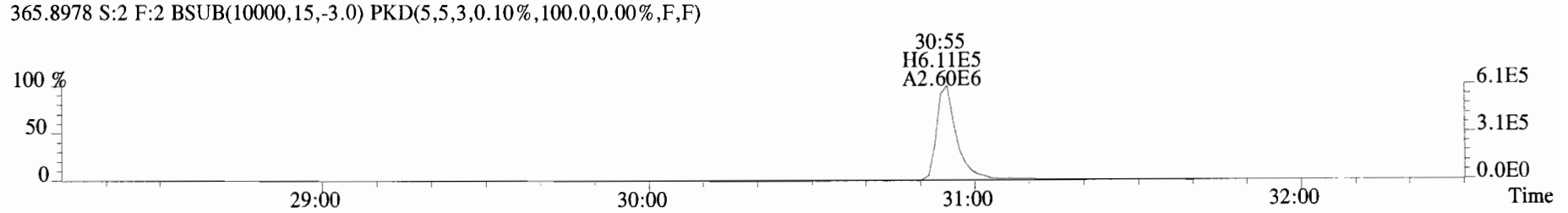
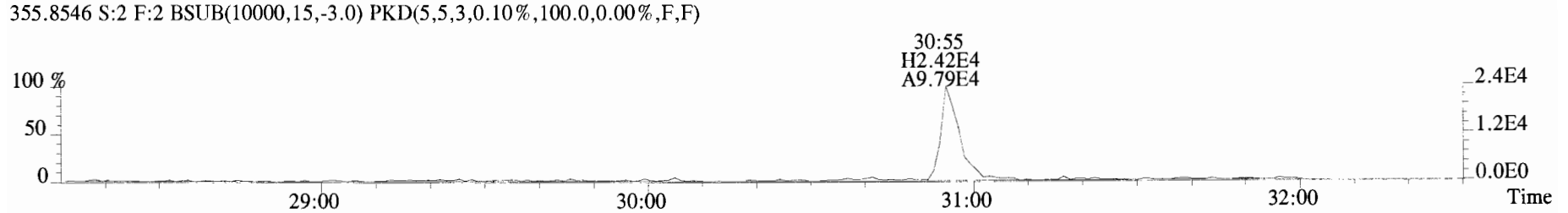
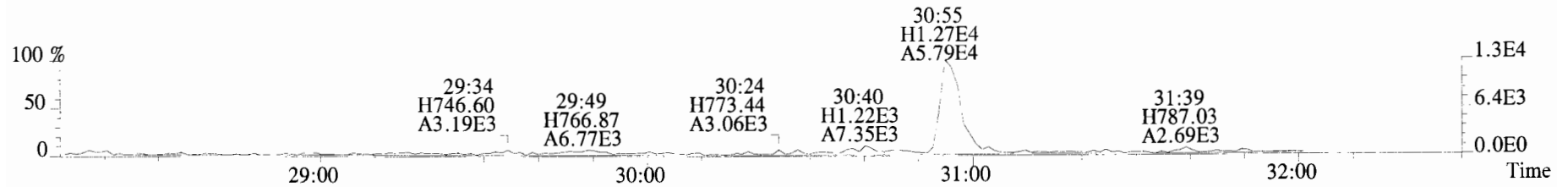
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



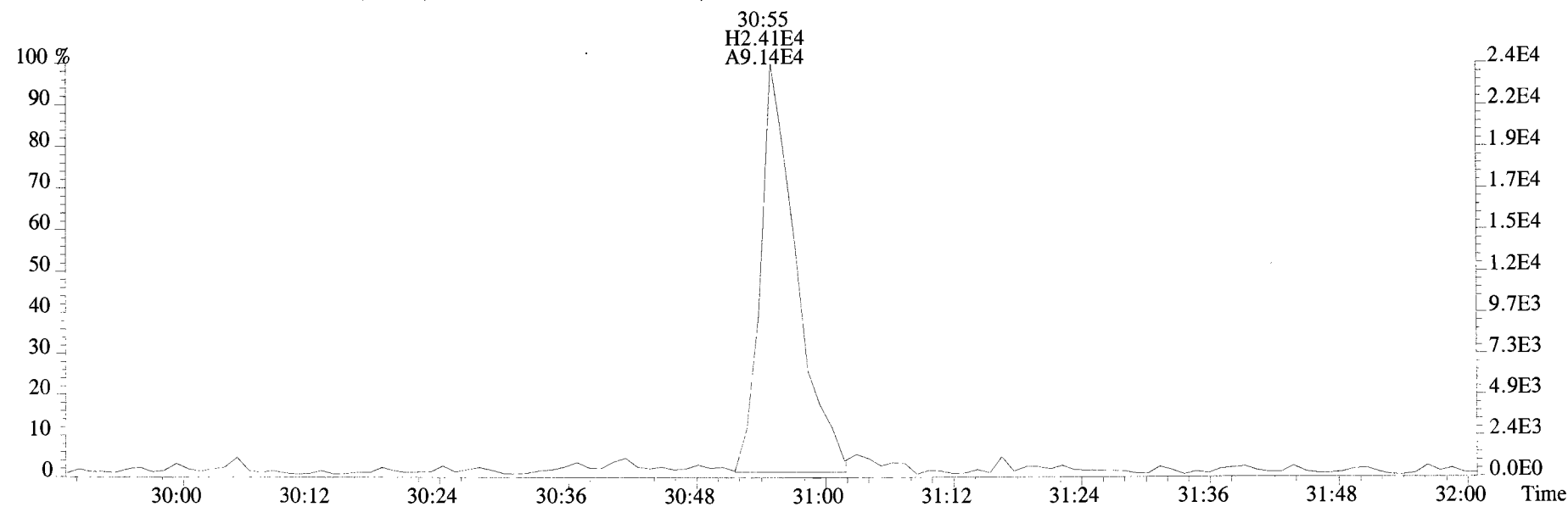
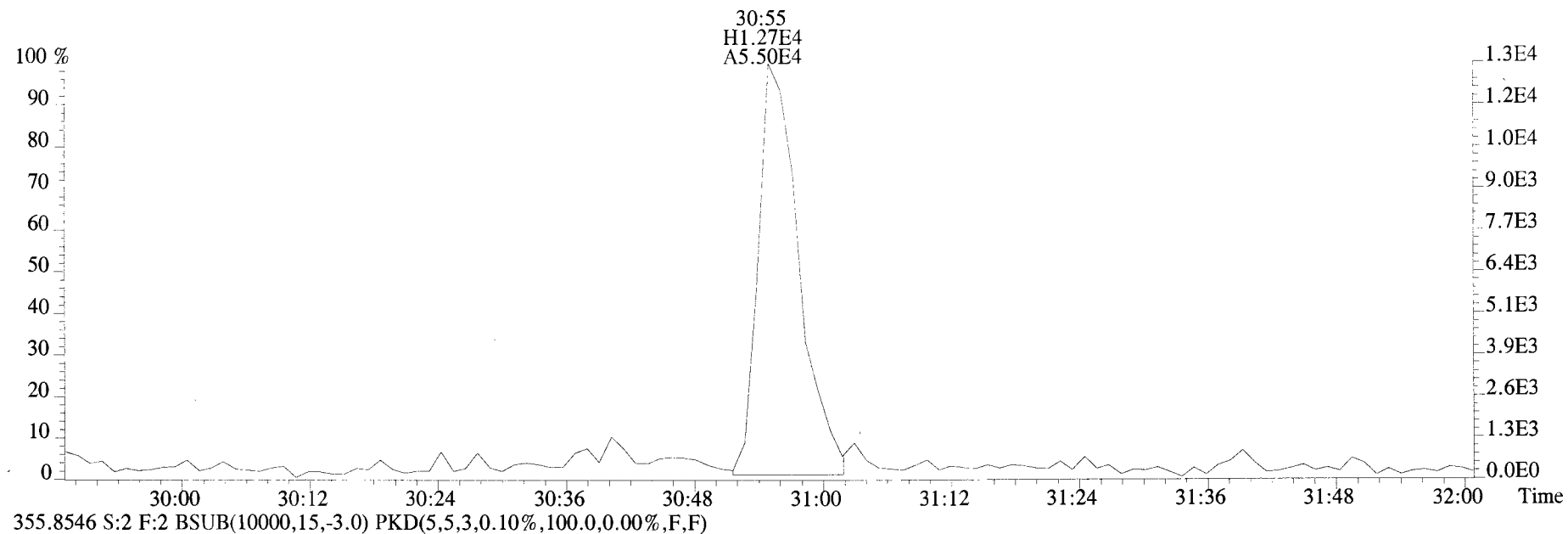
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
327.8847 S:2 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



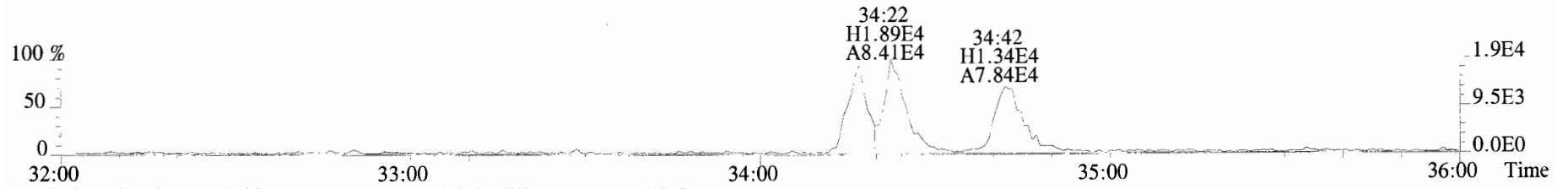
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



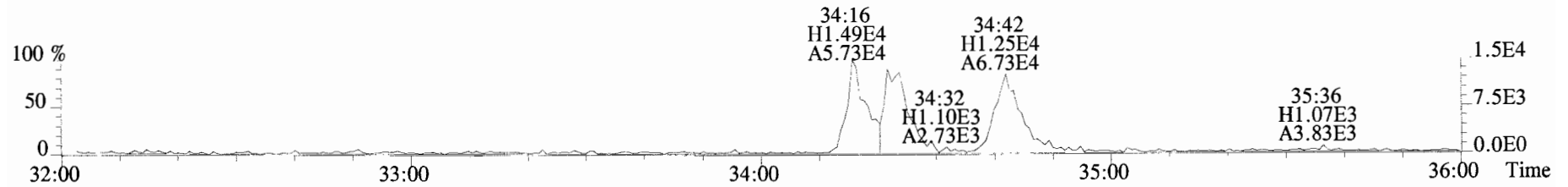
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



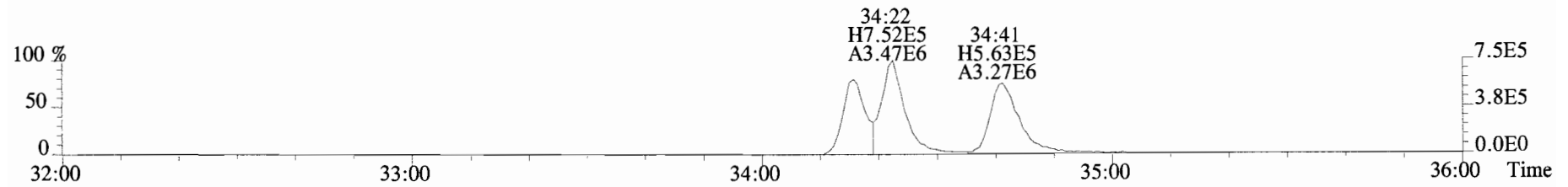
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



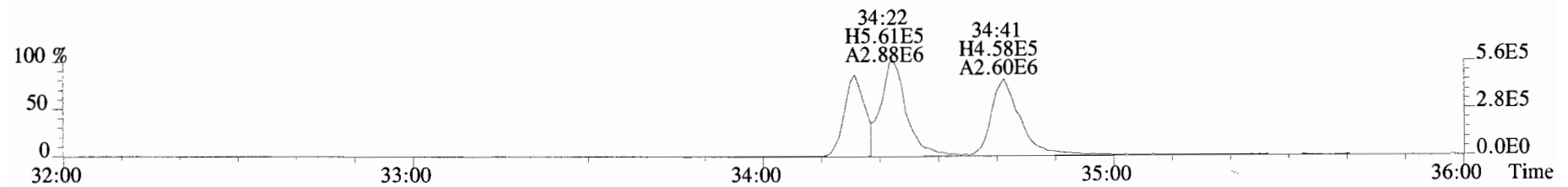
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



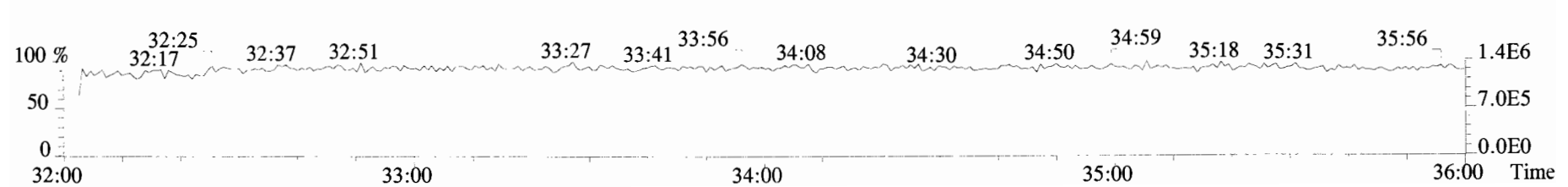
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



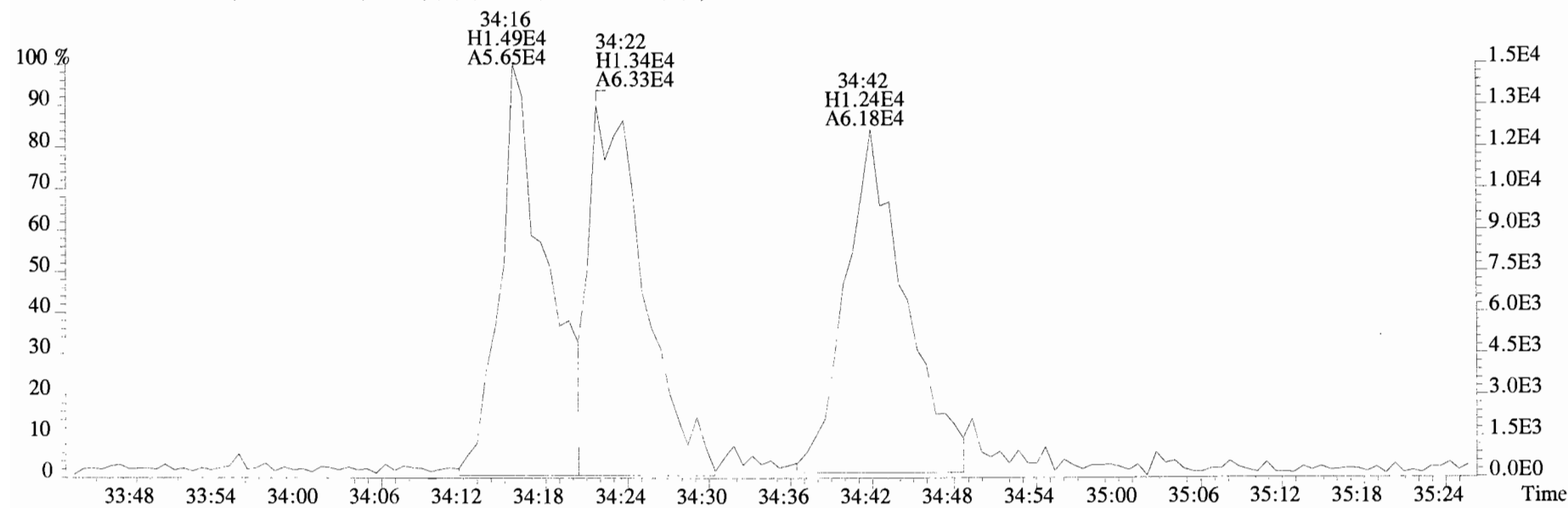
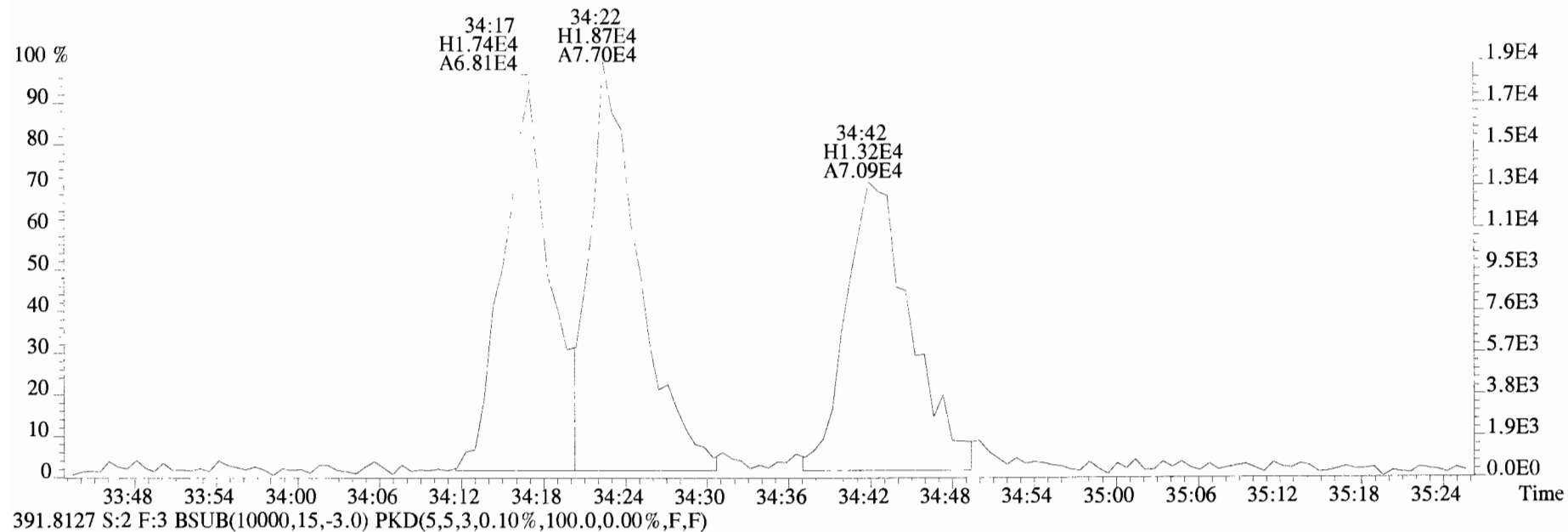
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



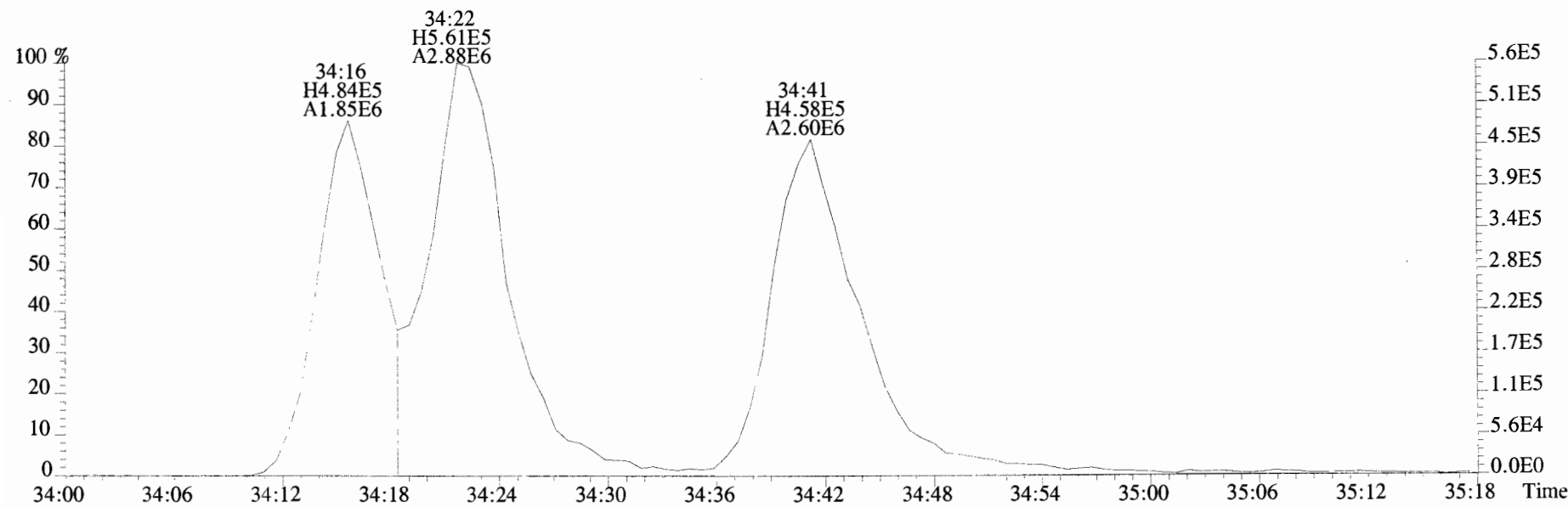
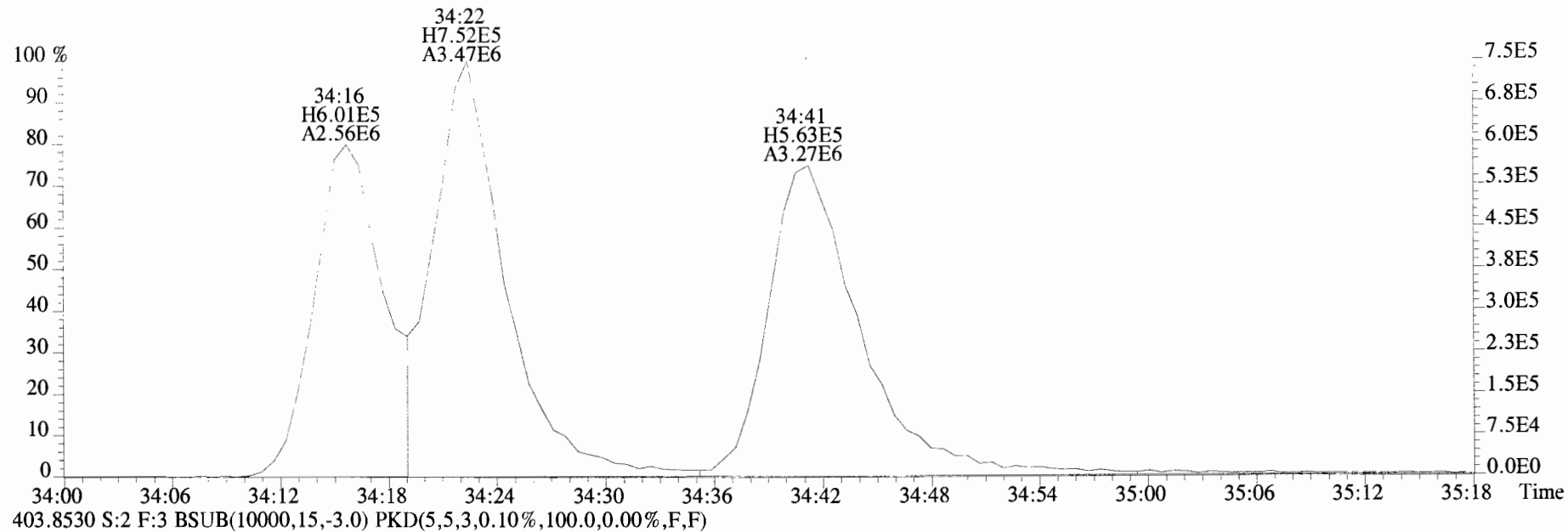
392.9760 S:2 F:3



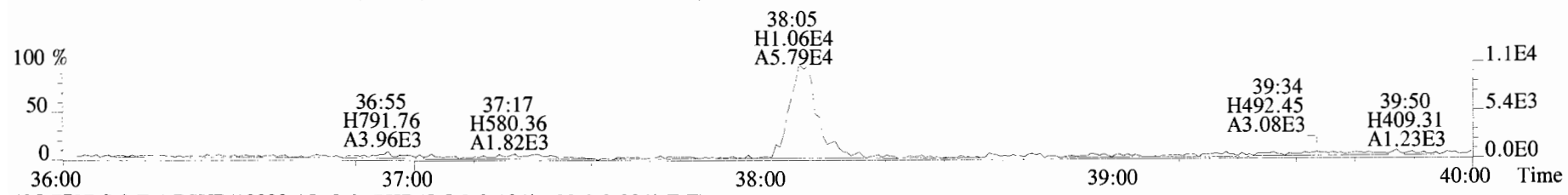
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



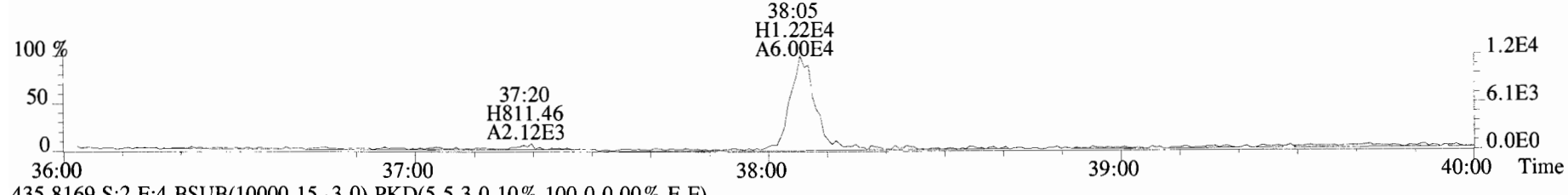
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



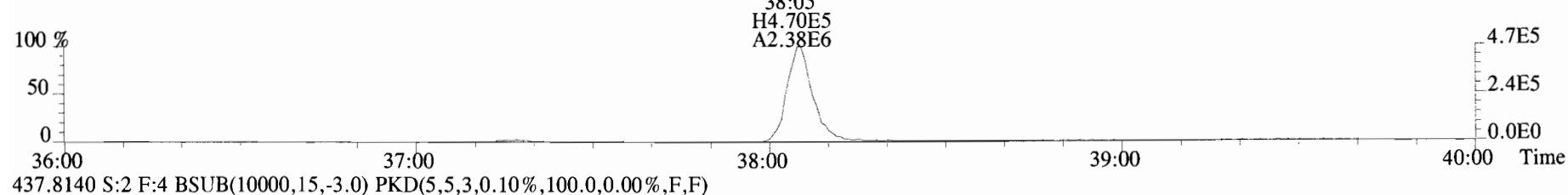
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
 423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



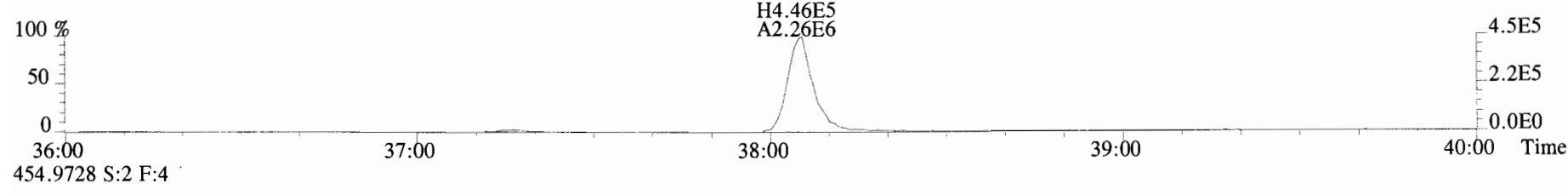
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



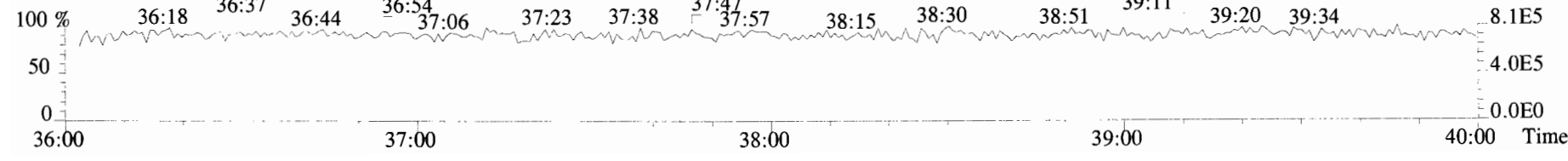
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



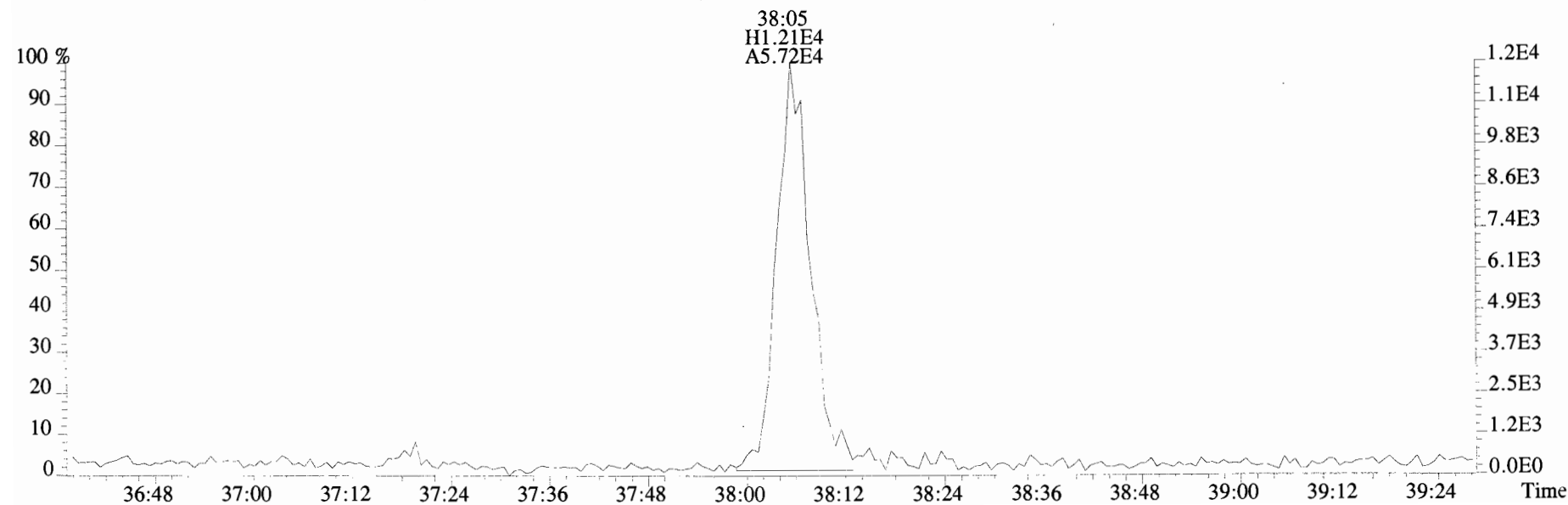
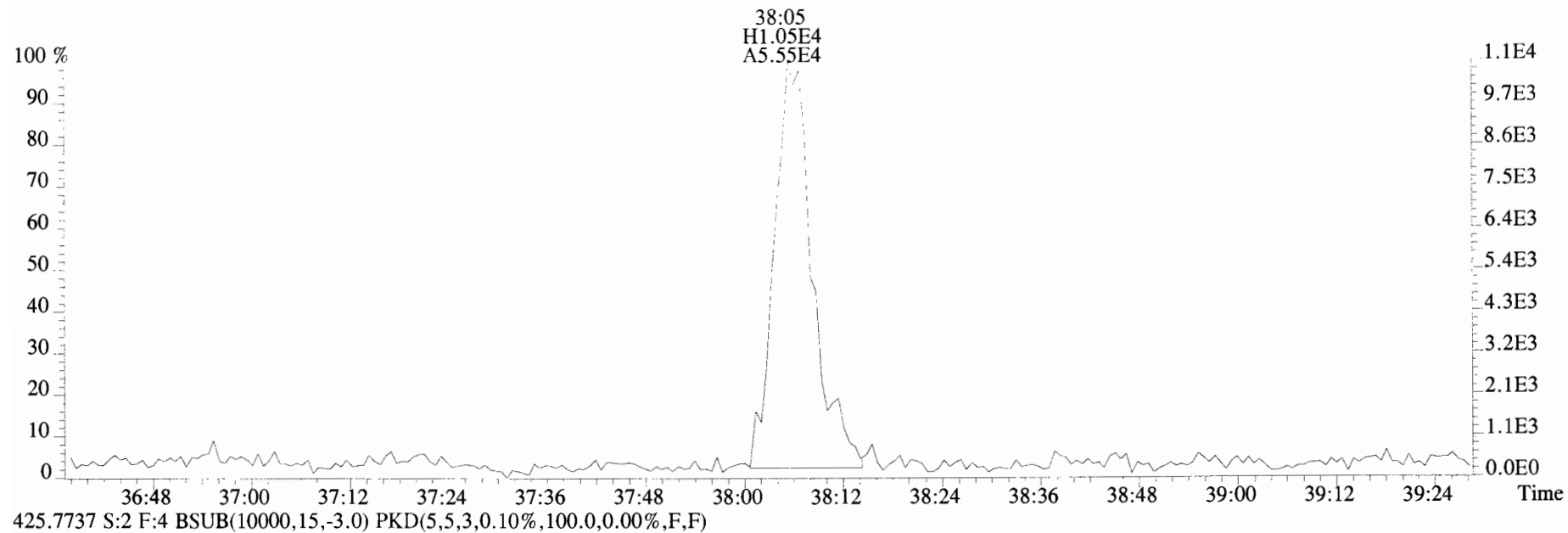
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



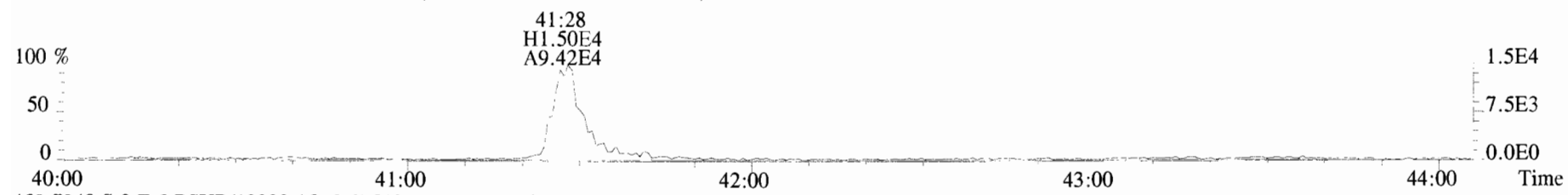
454.9728 S:2 F:4



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)



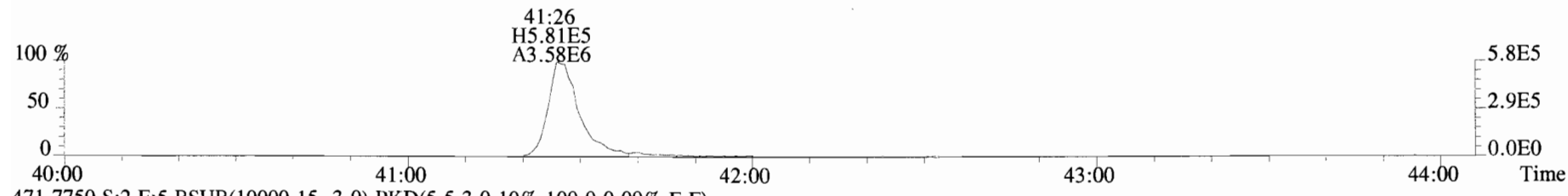
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



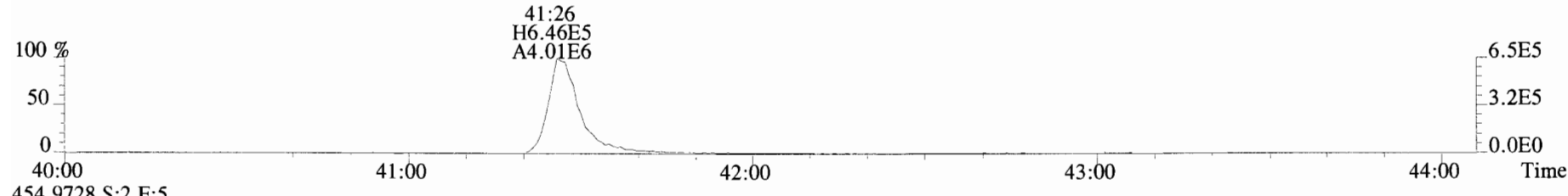
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



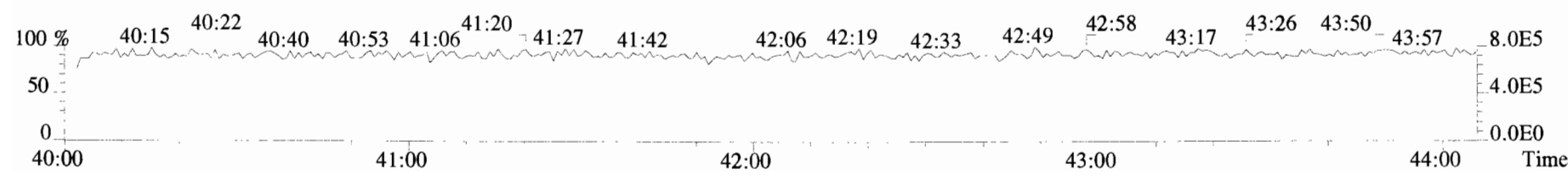
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



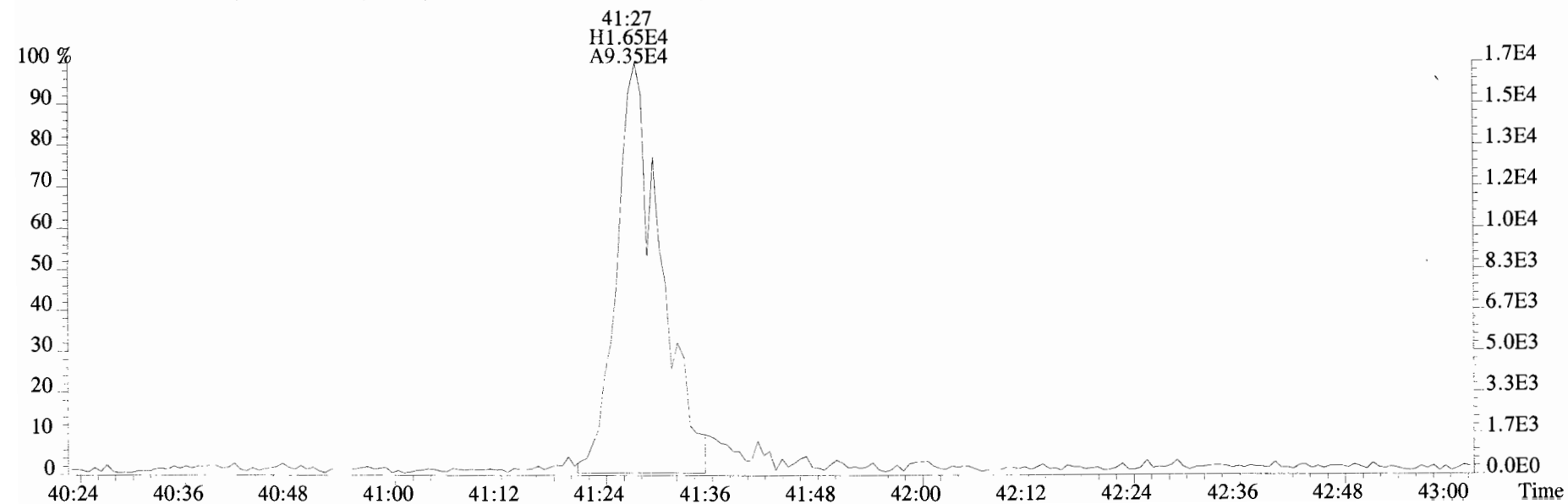
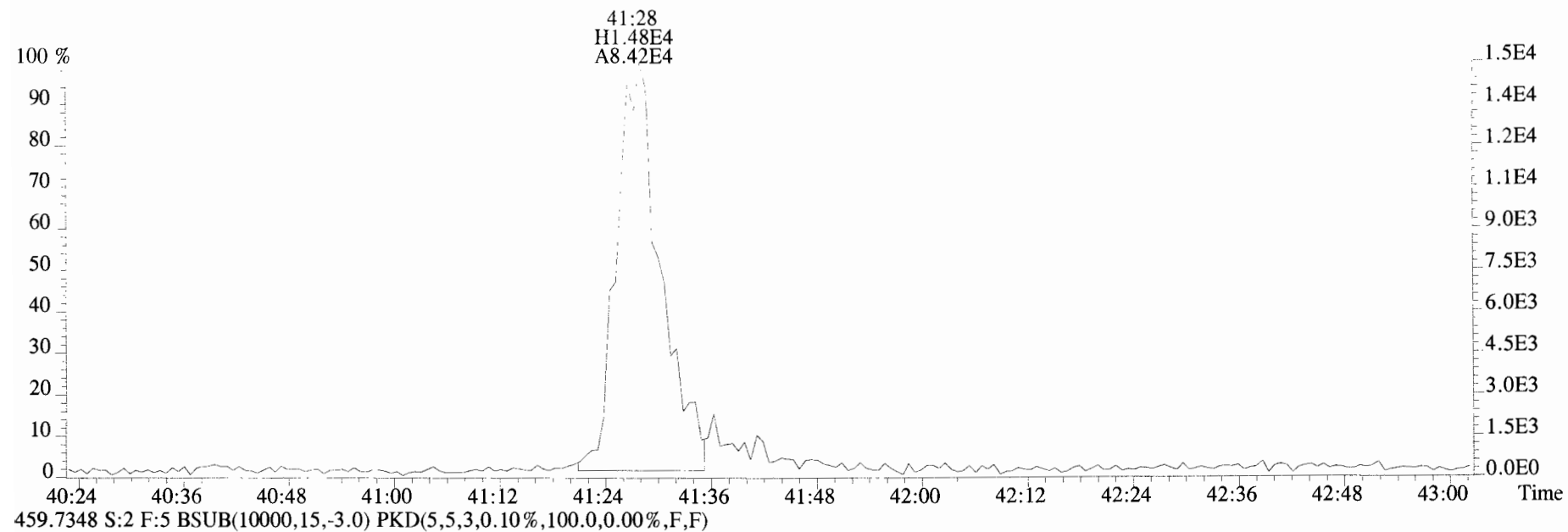
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



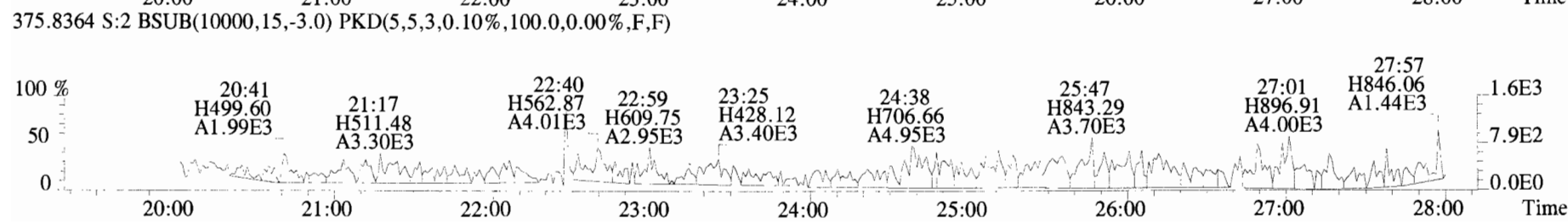
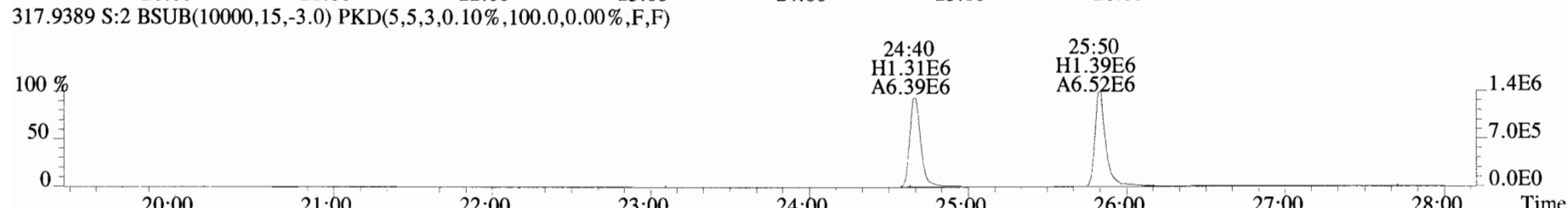
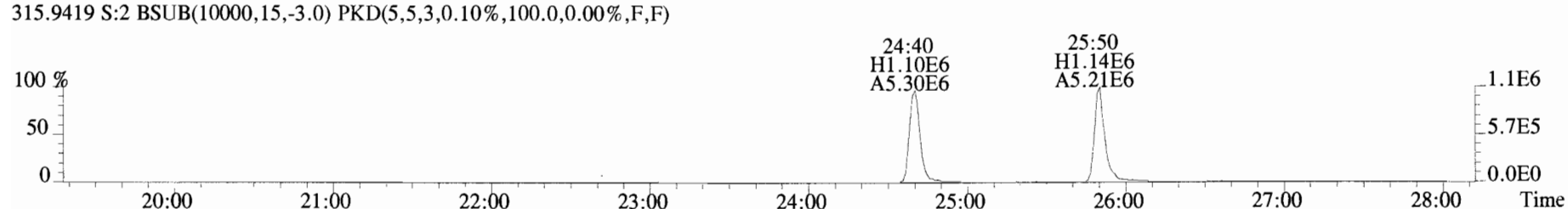
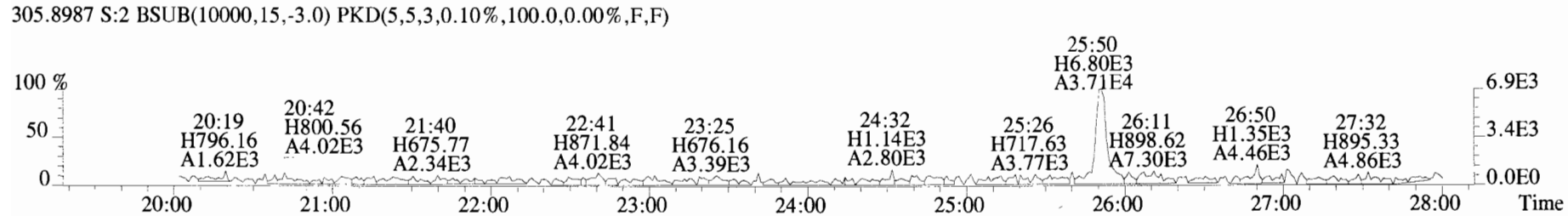
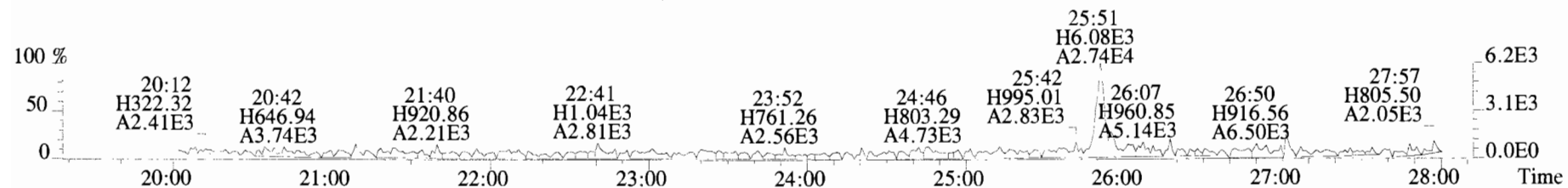
454.9728 S:2 F:5



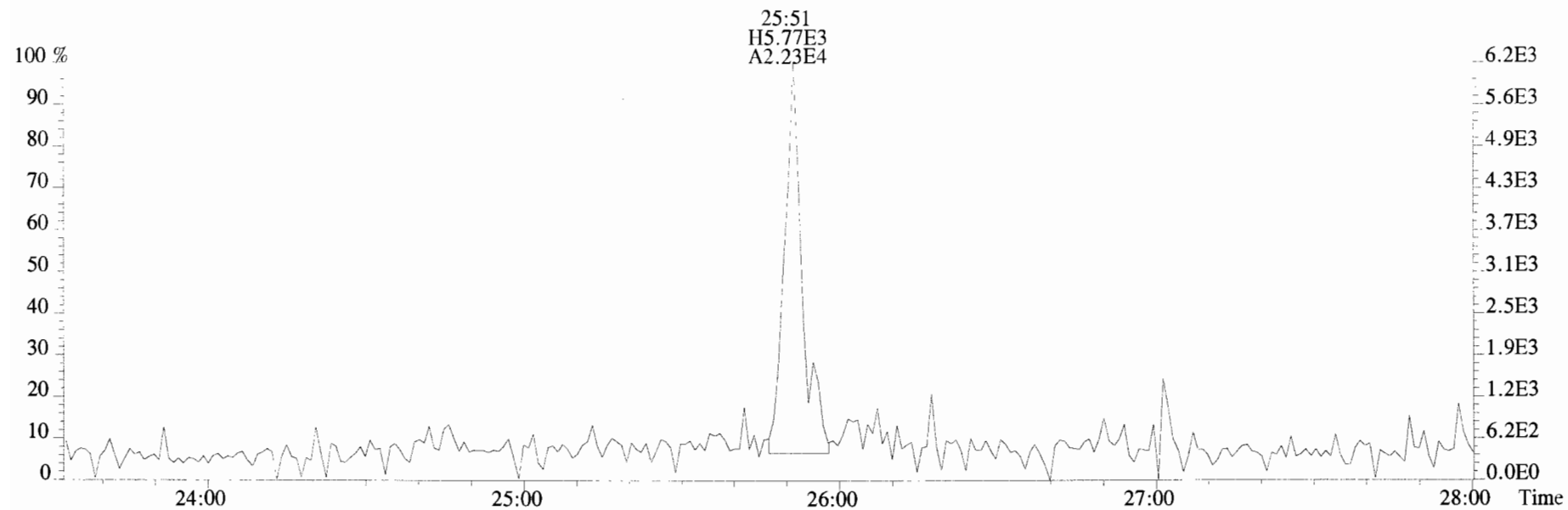
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



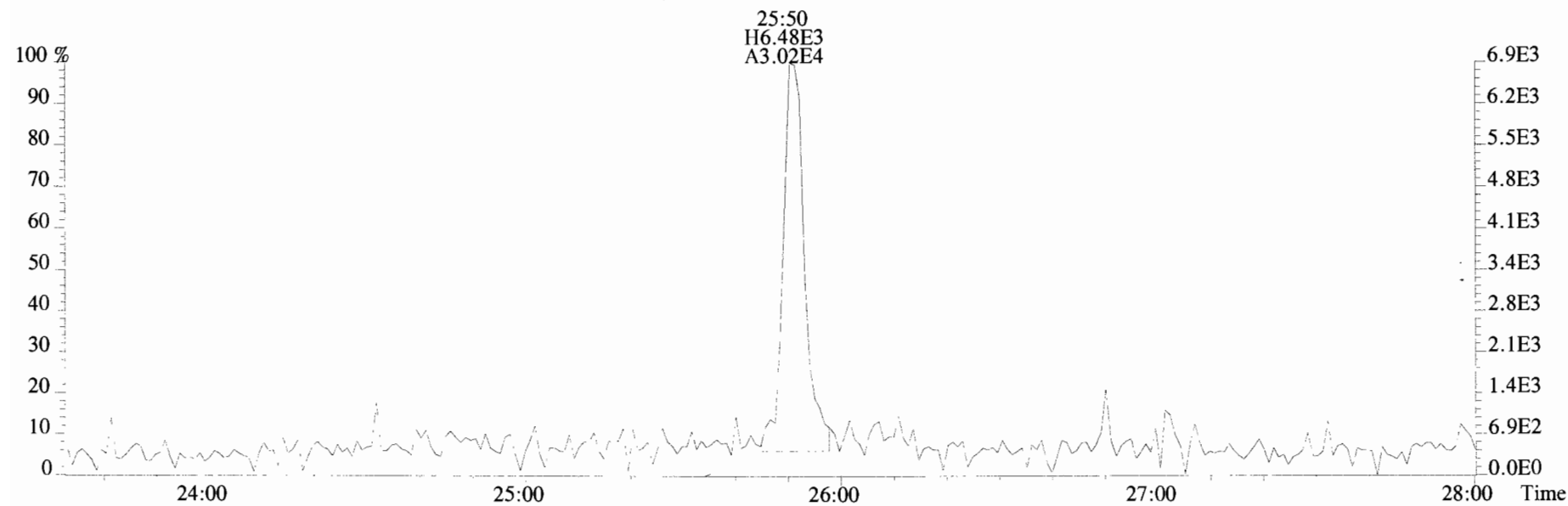
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



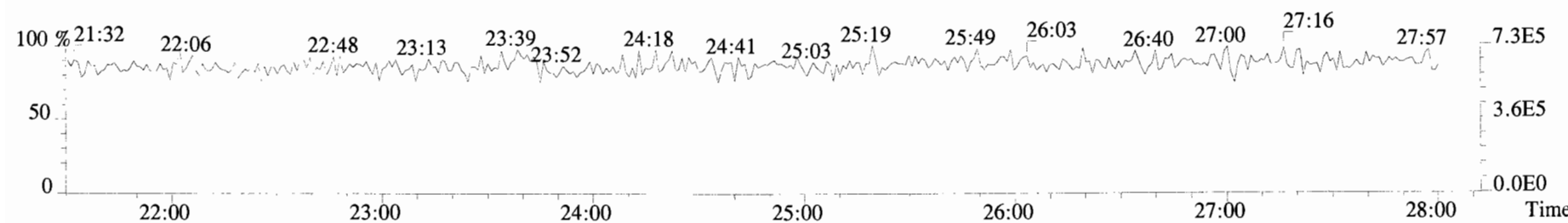
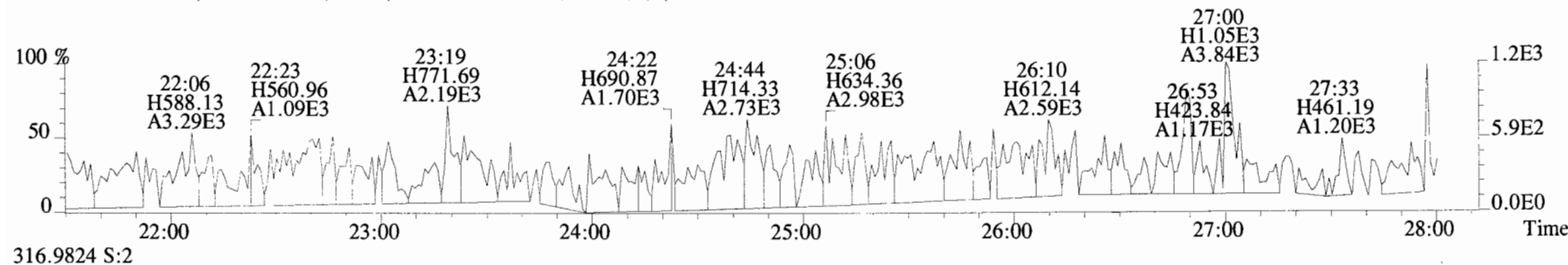
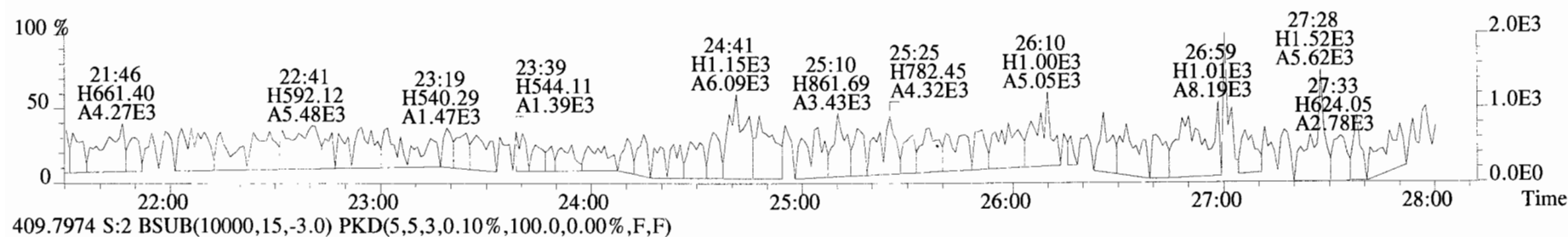
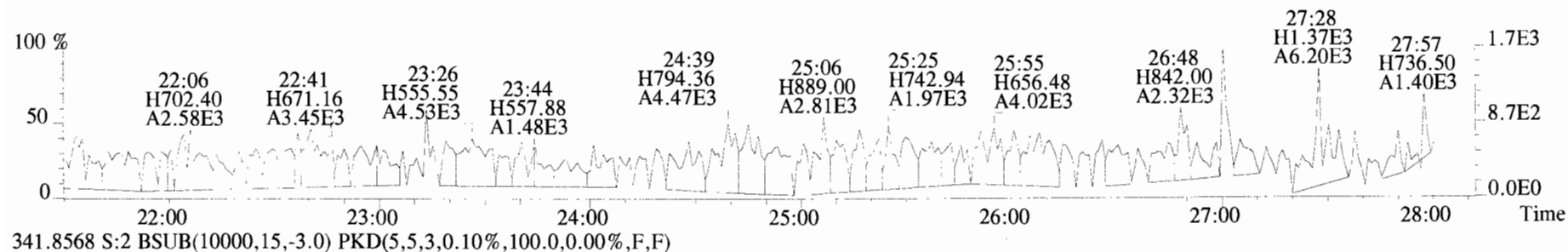
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



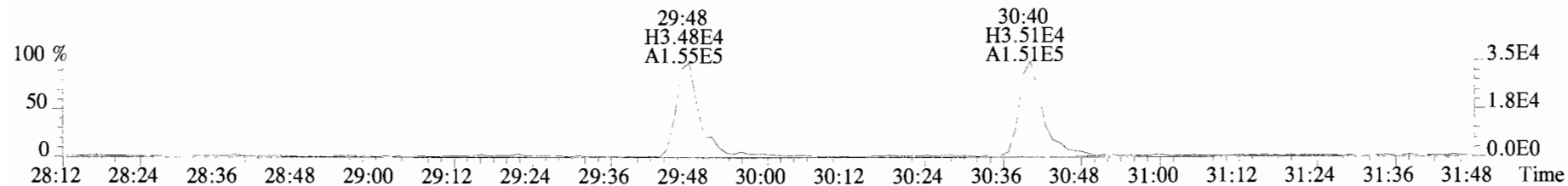
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



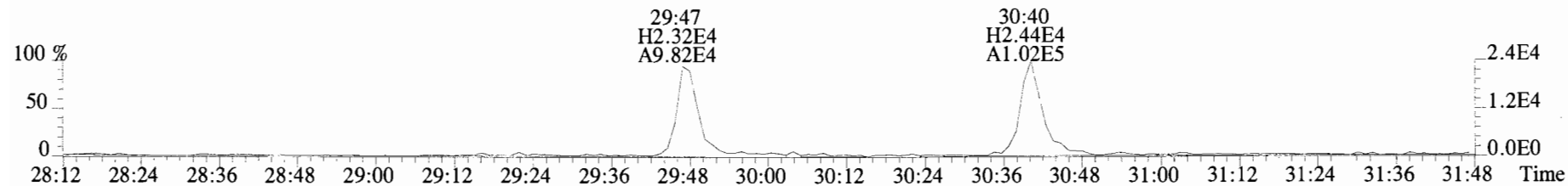
File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
 339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



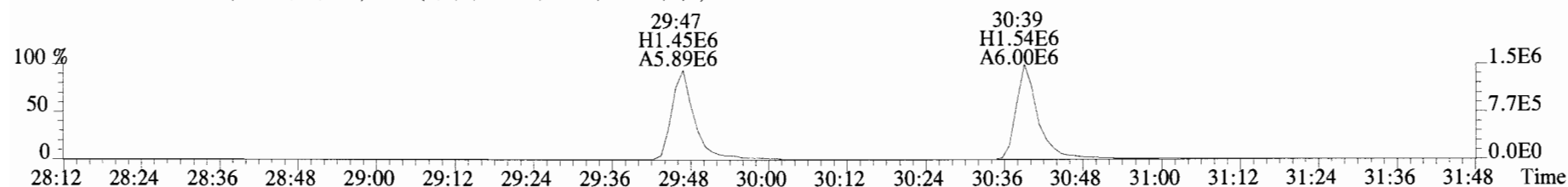
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



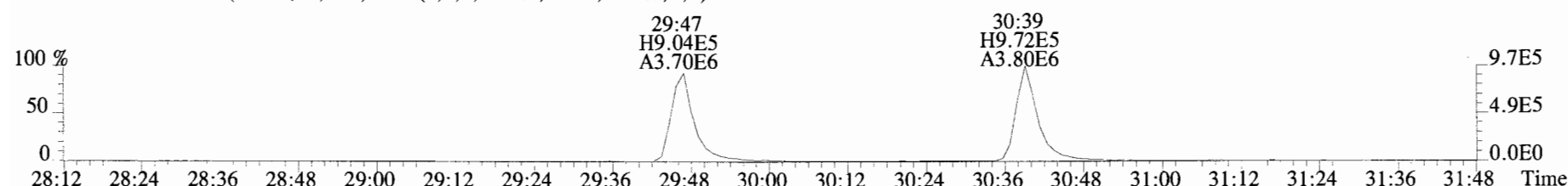
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



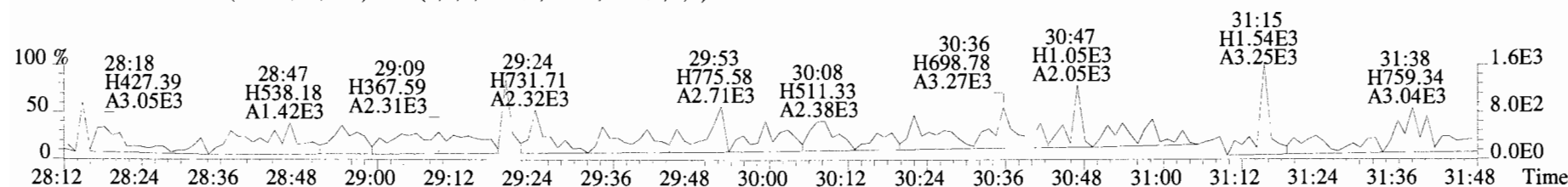
351.9000 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



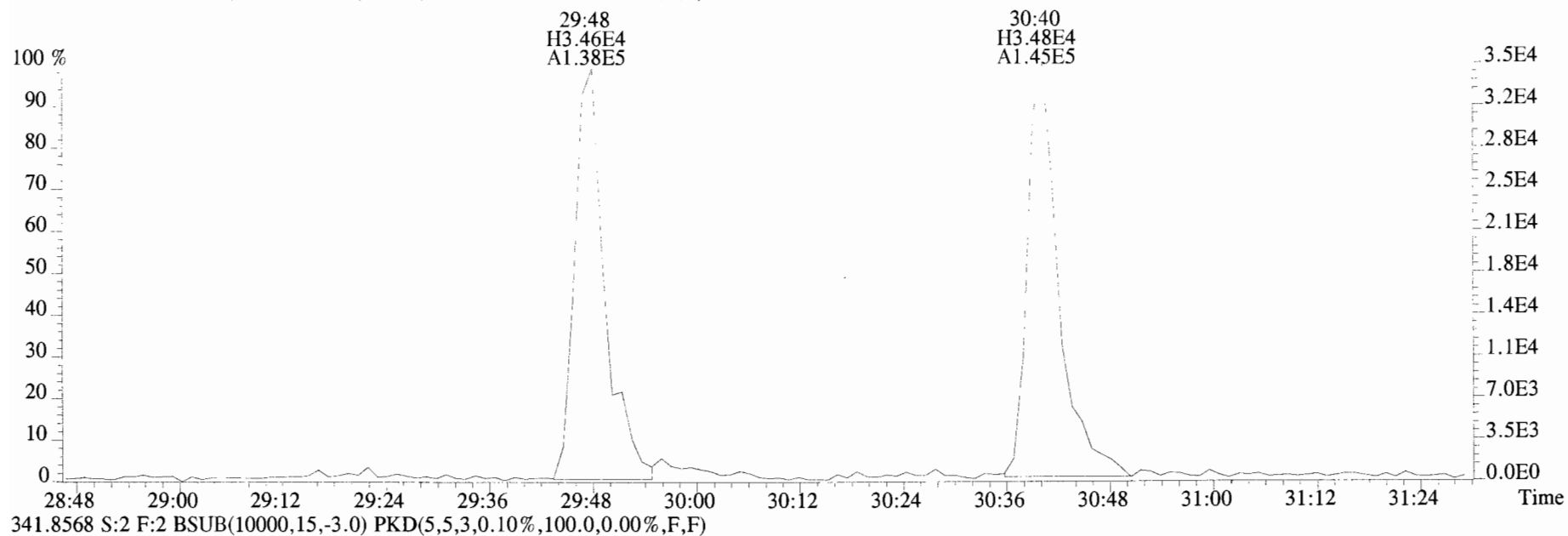
353.8970 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



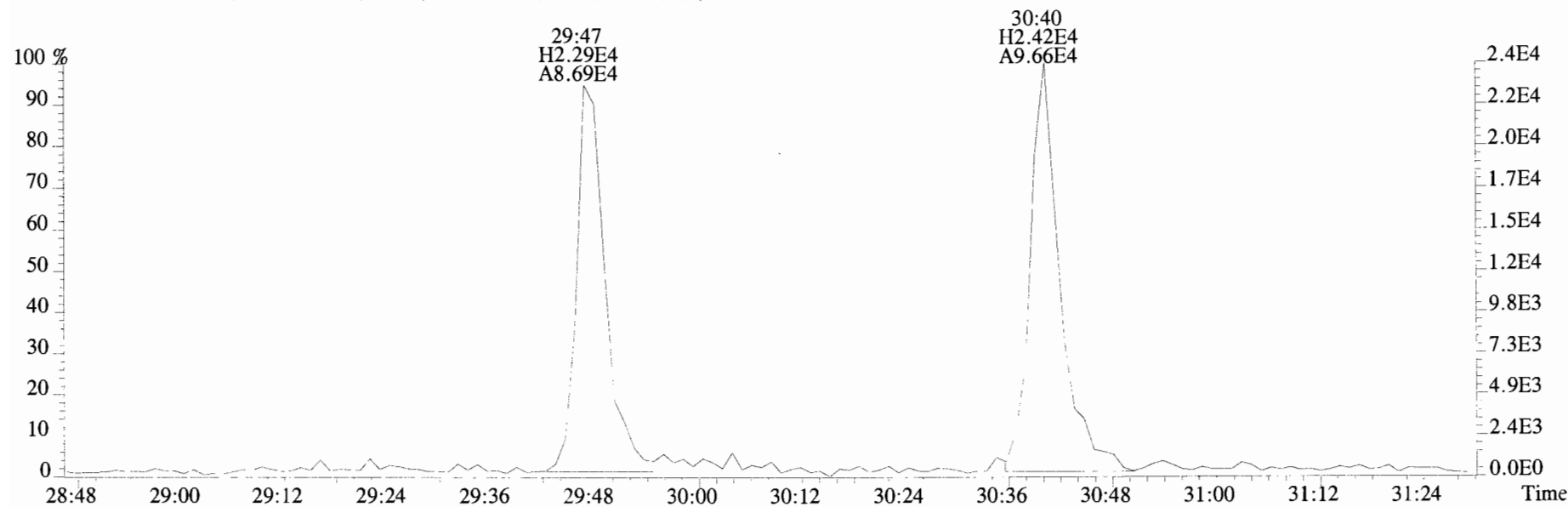
409.7974 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



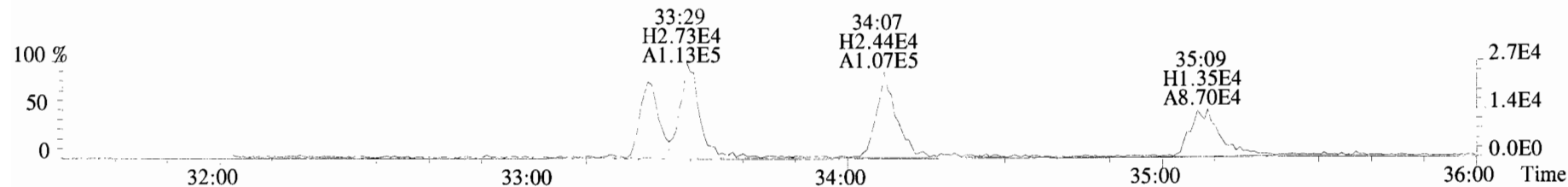
File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



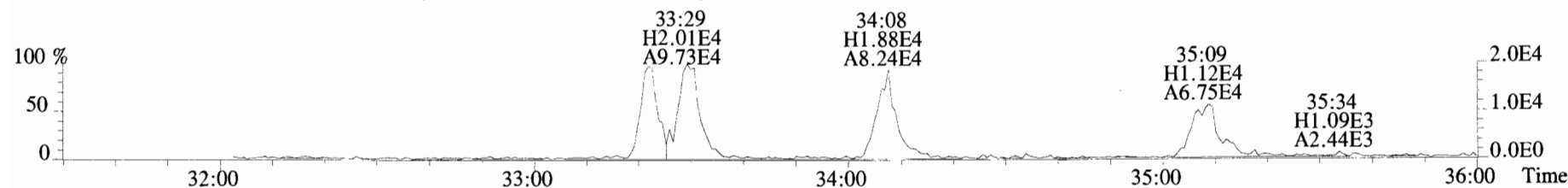
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



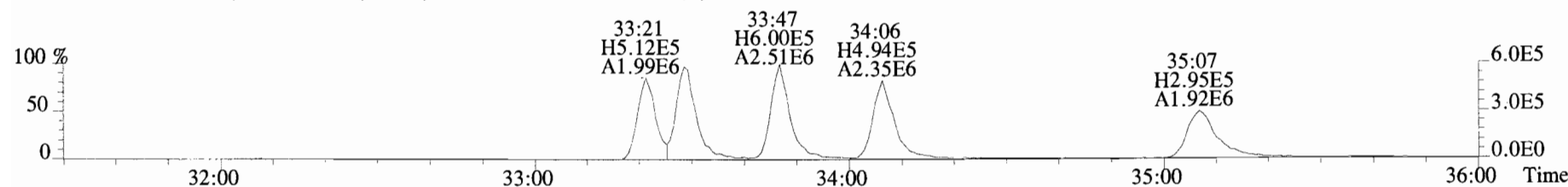
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



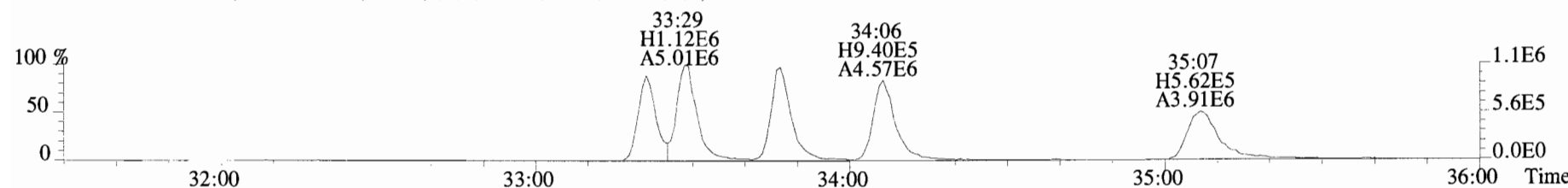
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



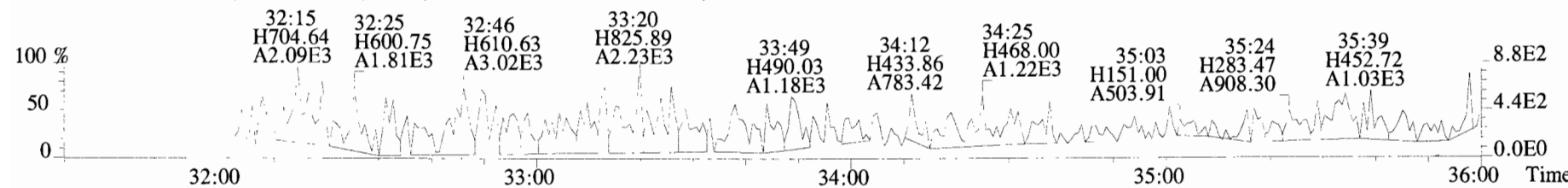
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



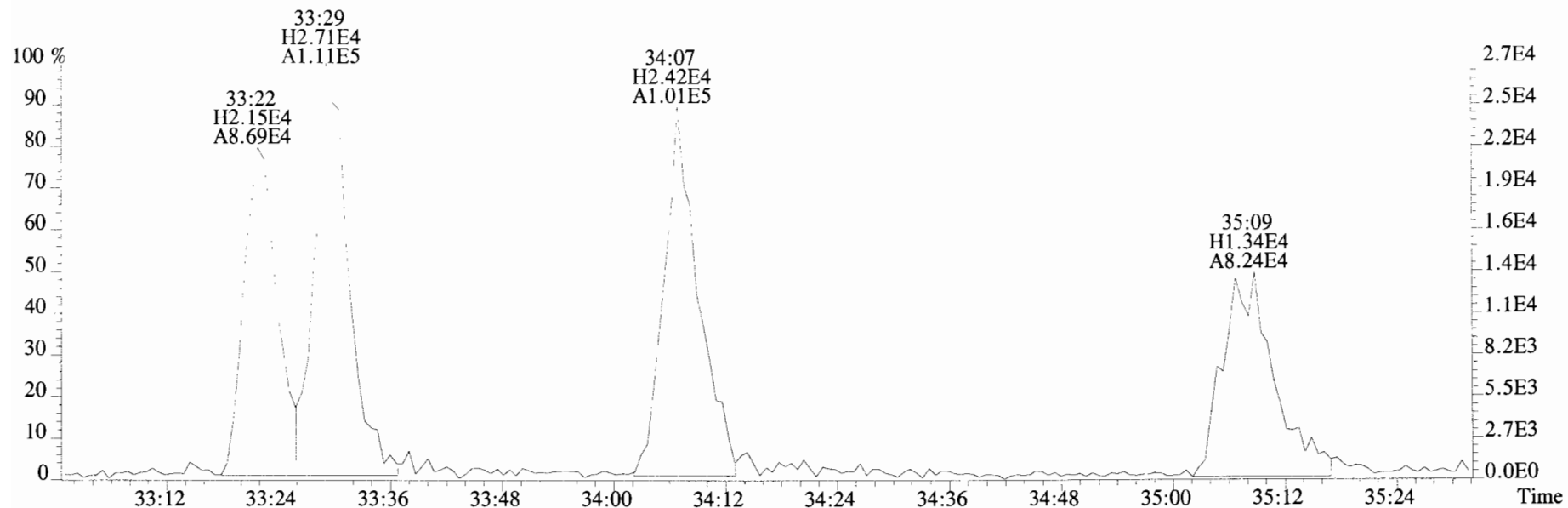
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



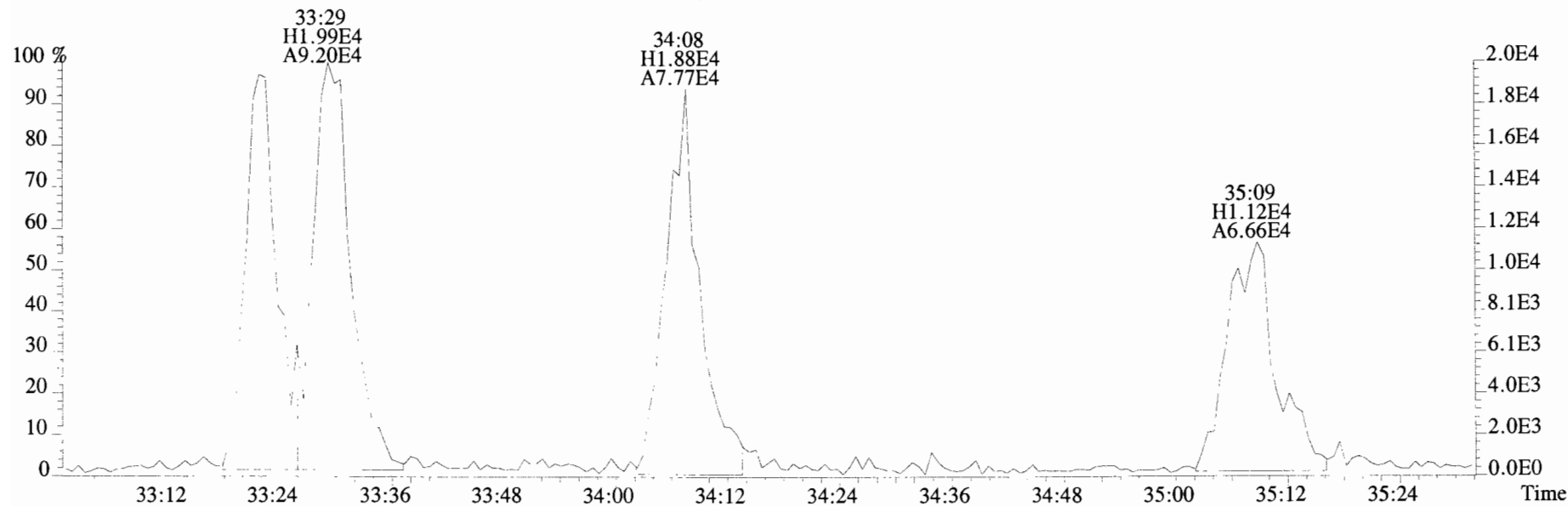
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



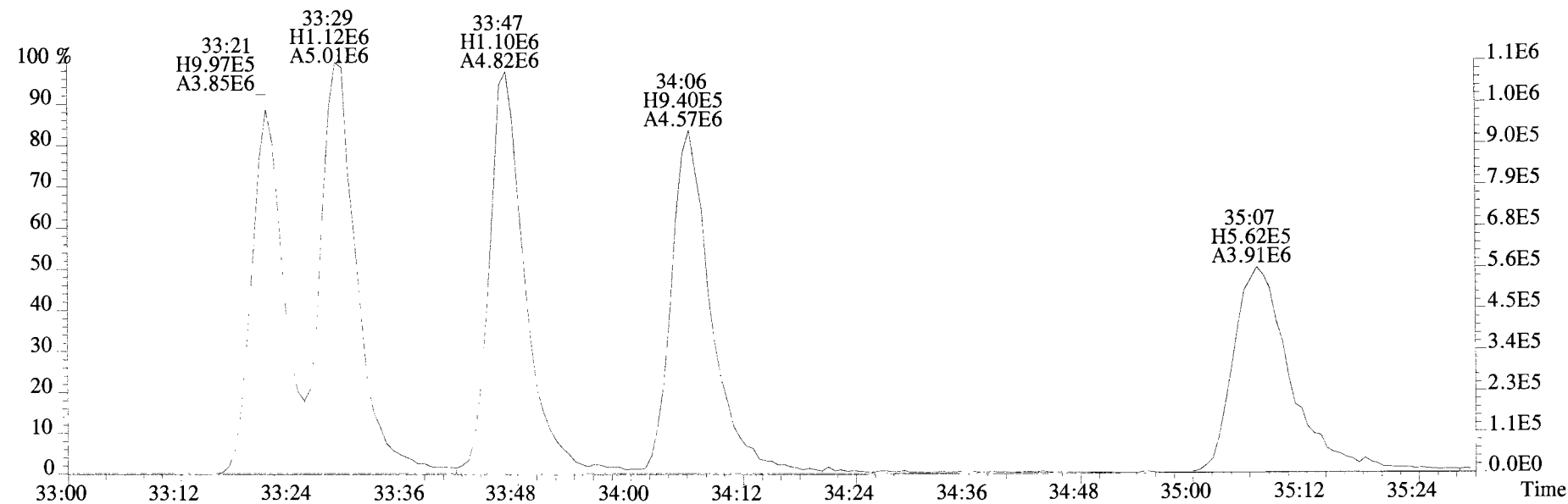
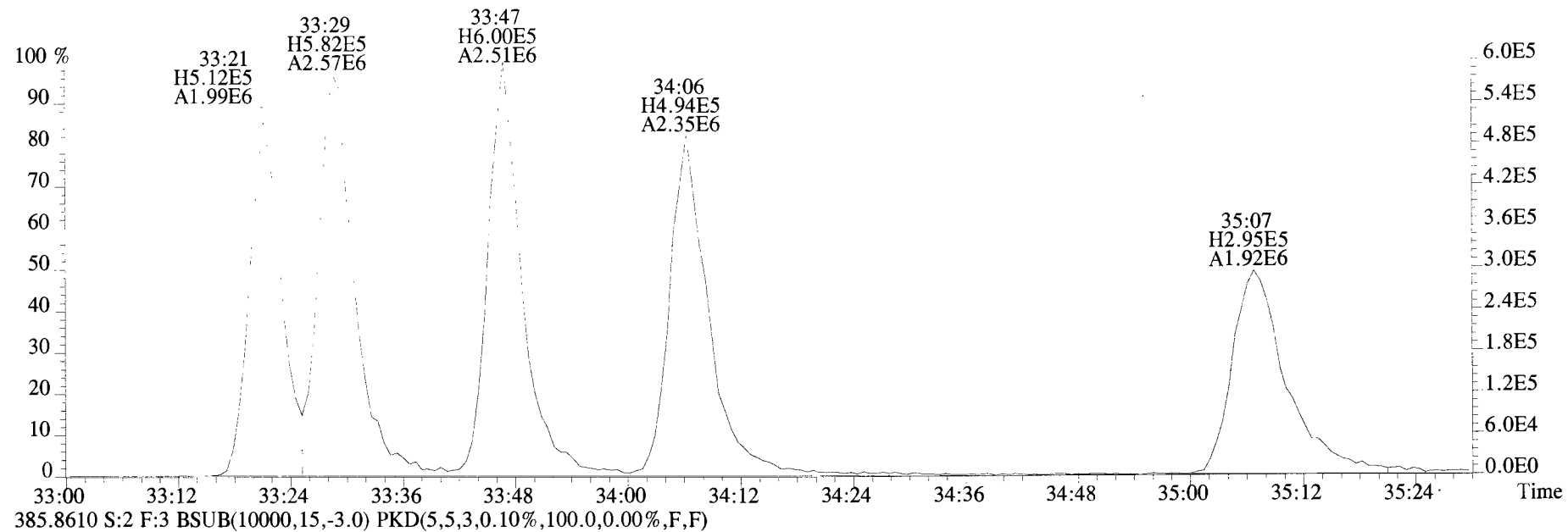
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



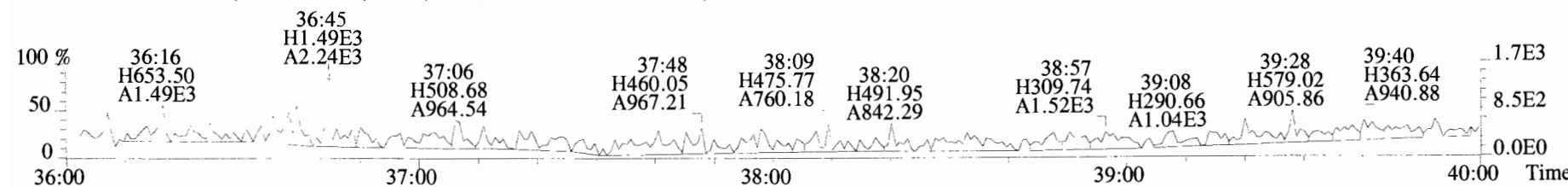
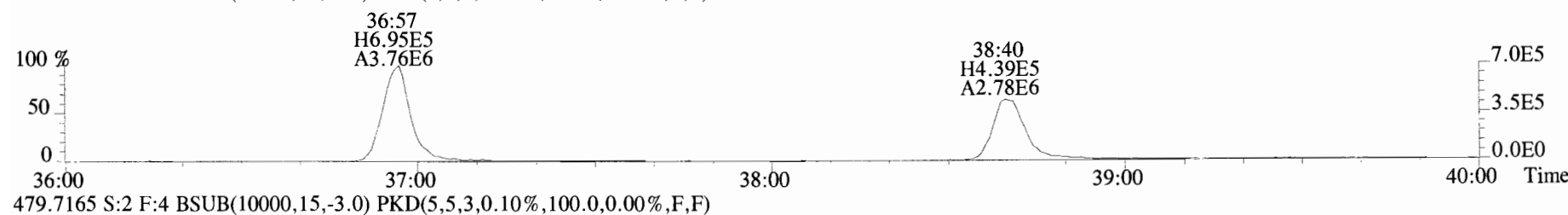
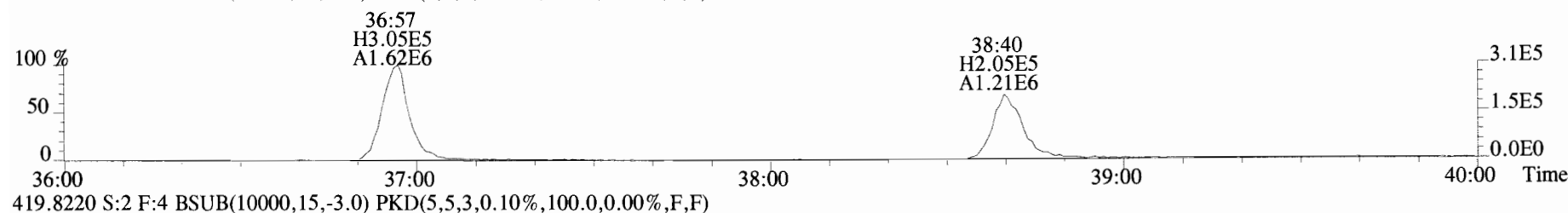
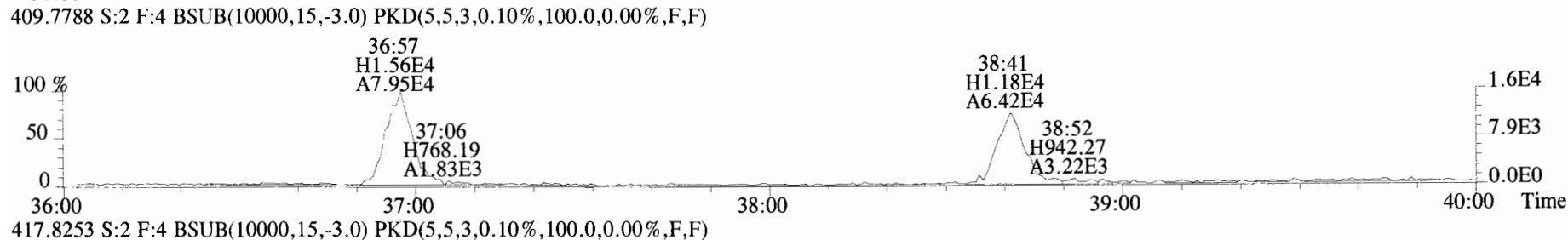
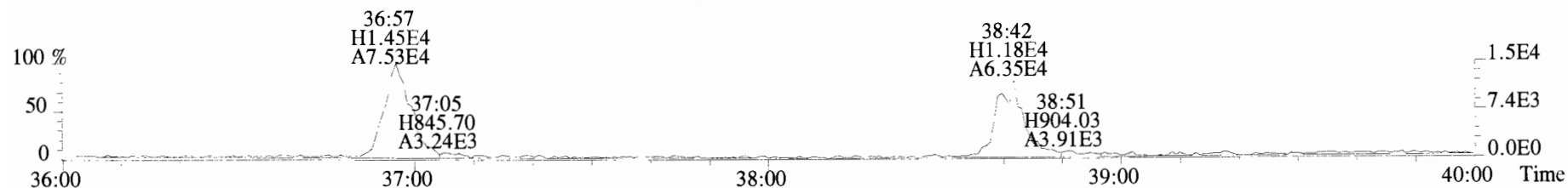
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



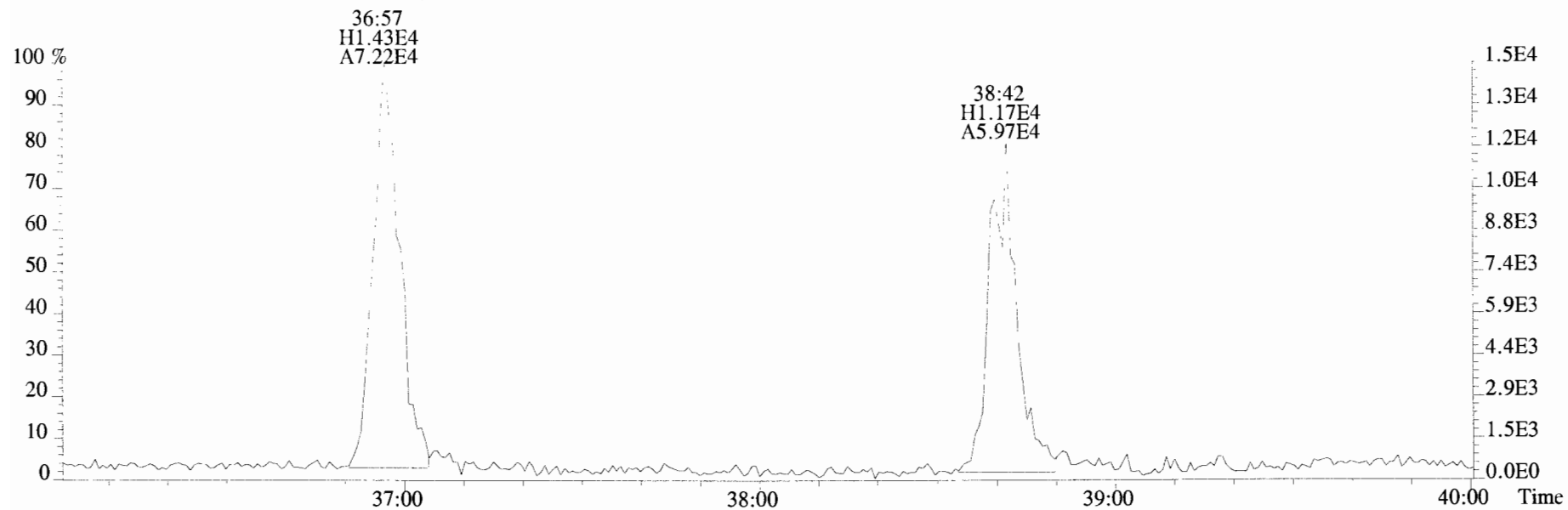
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



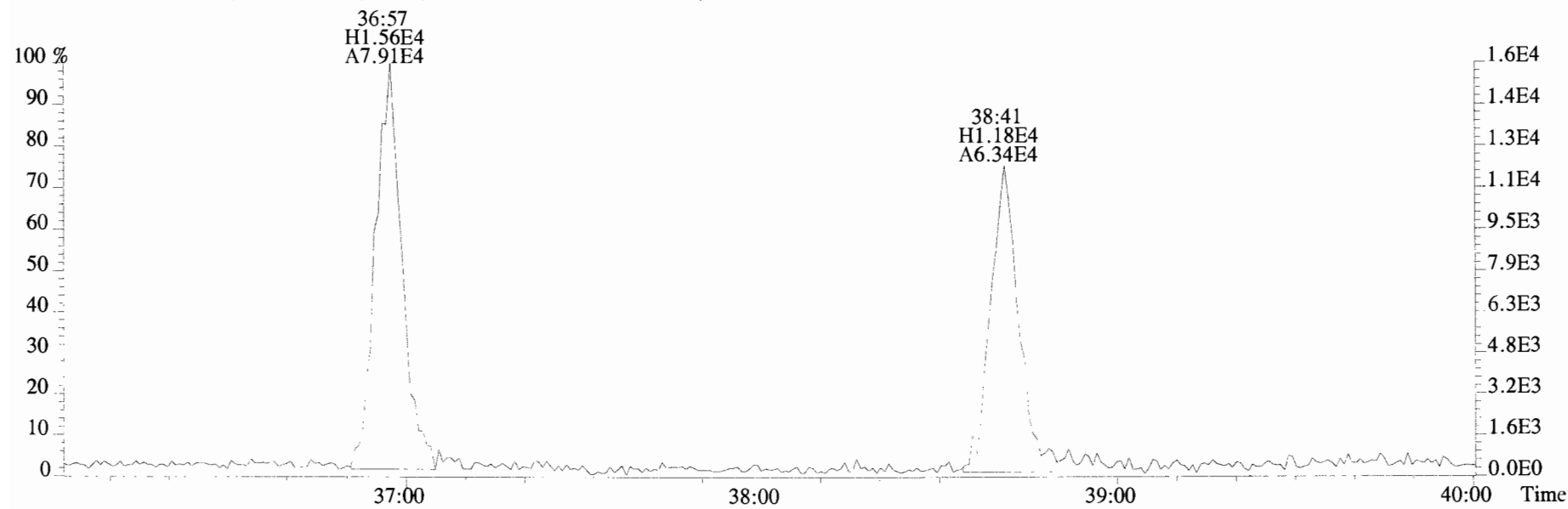
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text: Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
 407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



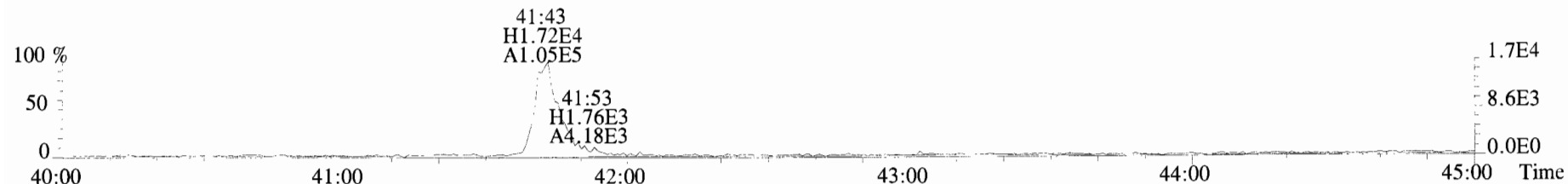
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



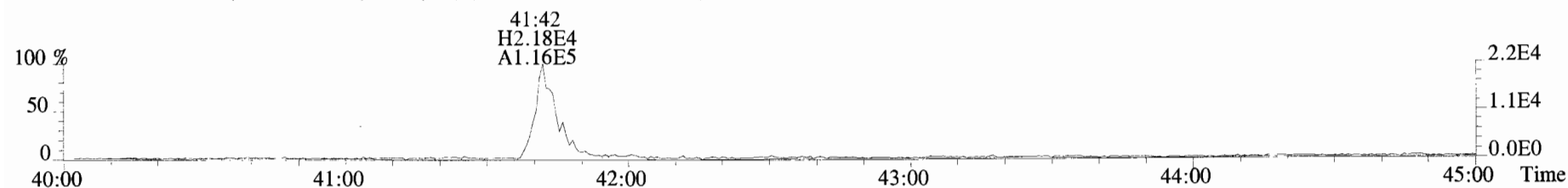
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



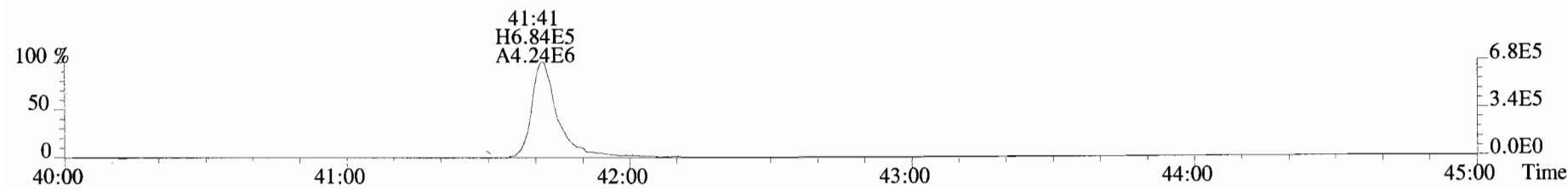
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
 441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



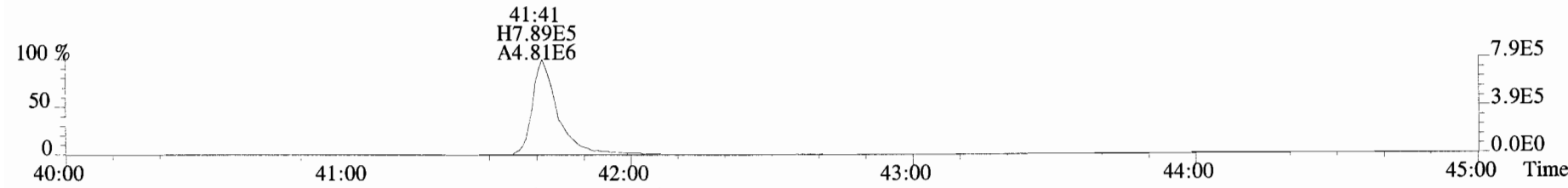
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



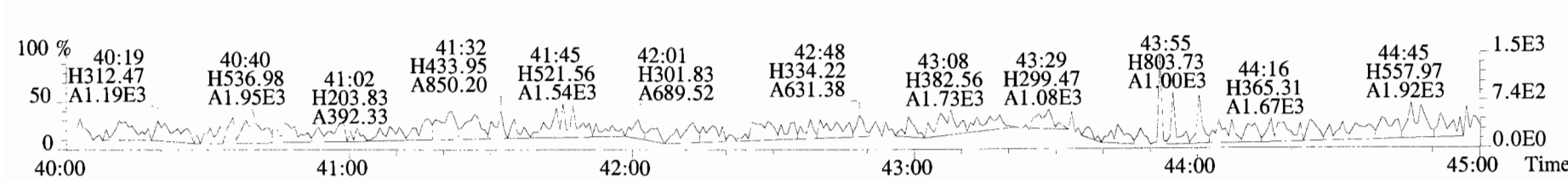
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



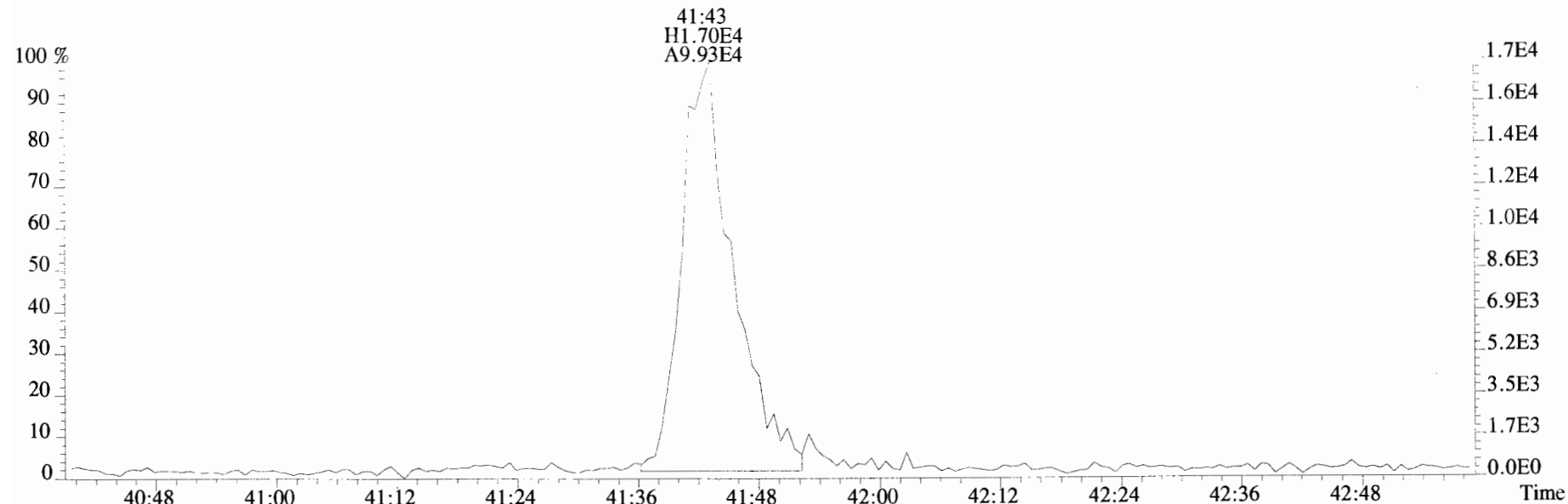
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



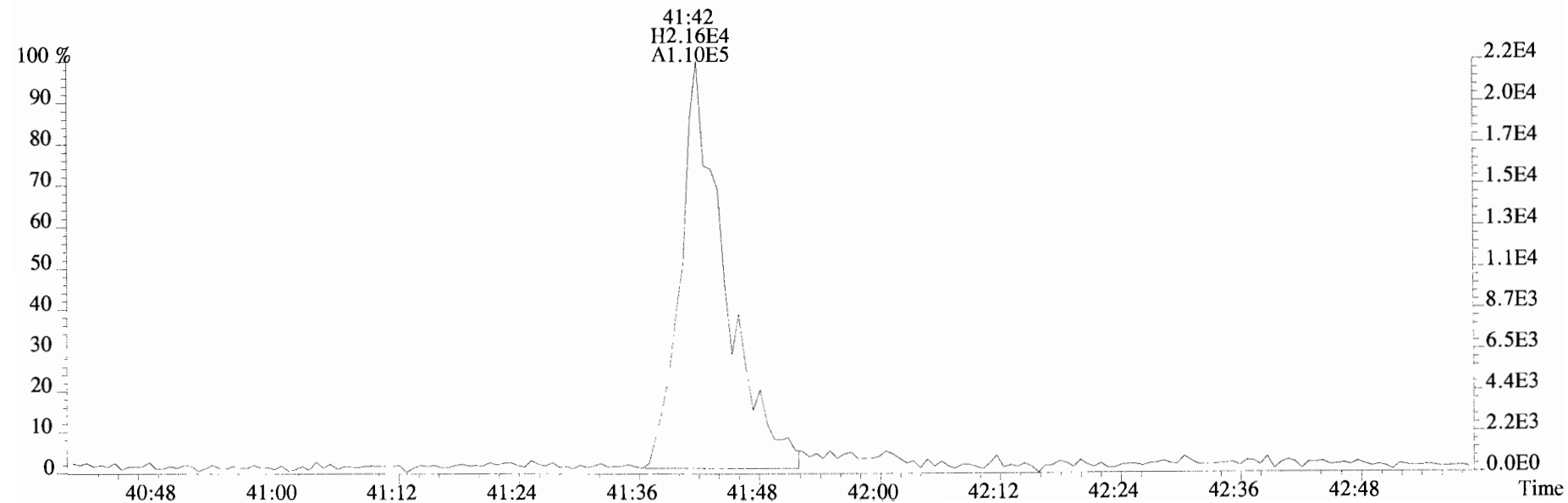
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



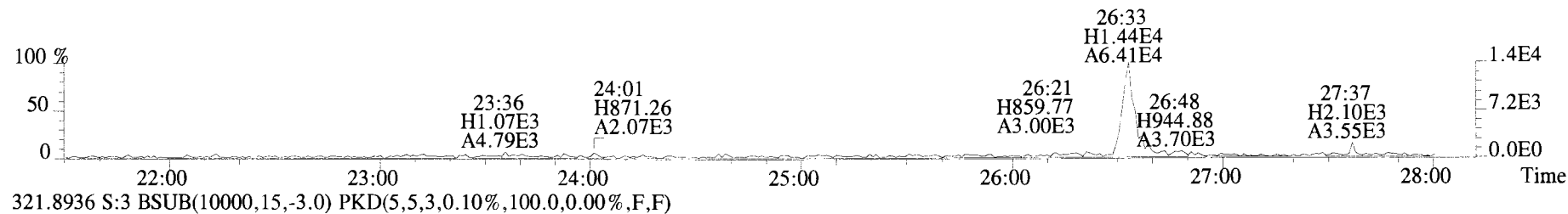
File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



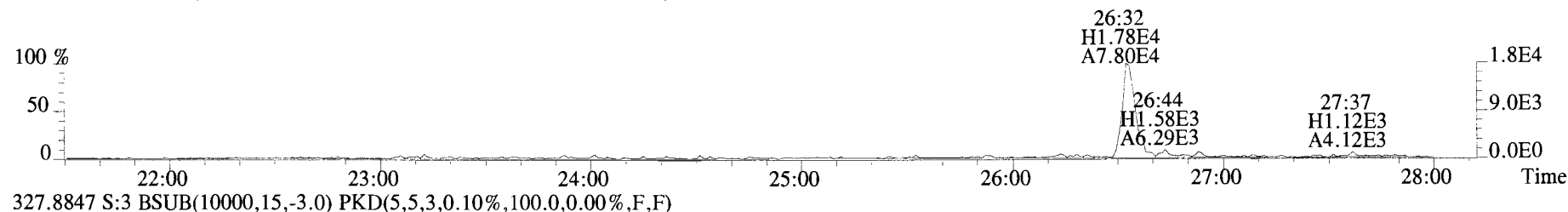
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



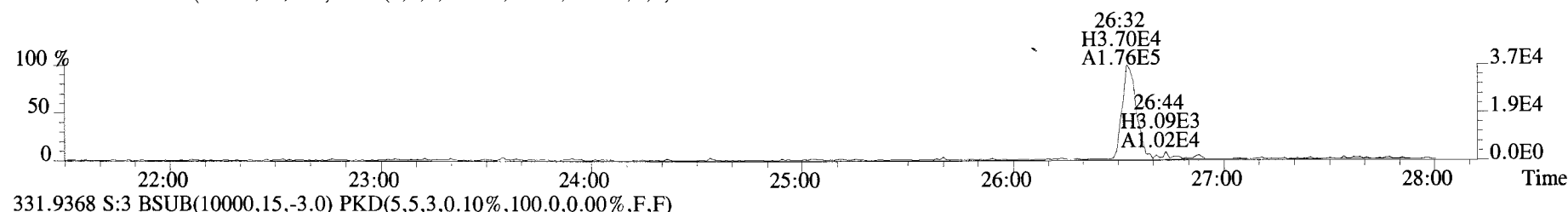
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



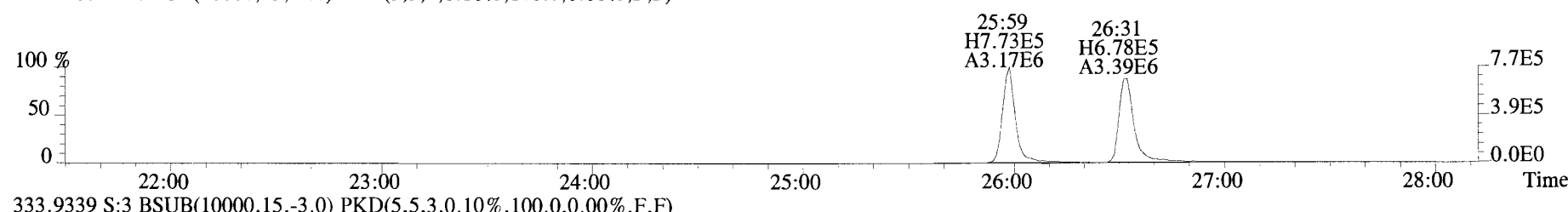
321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



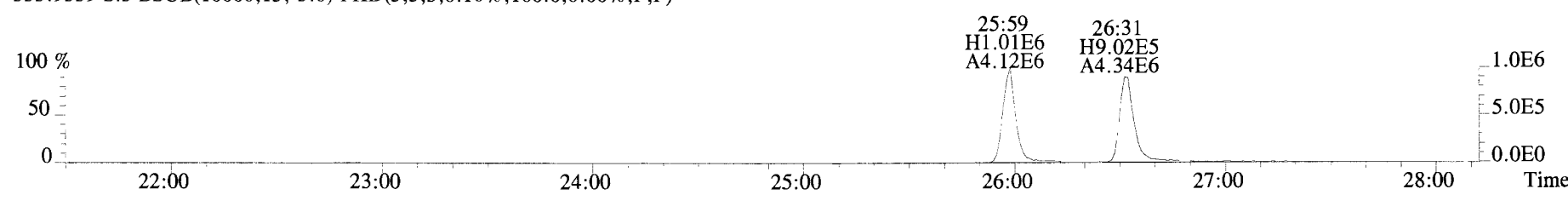
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



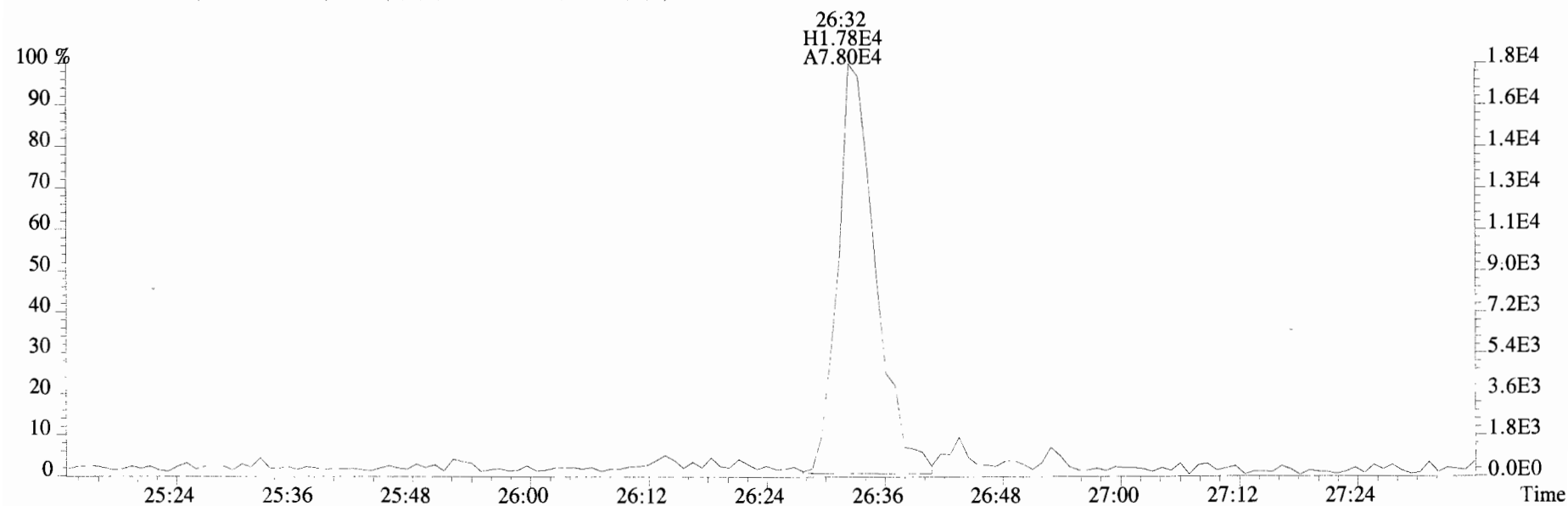
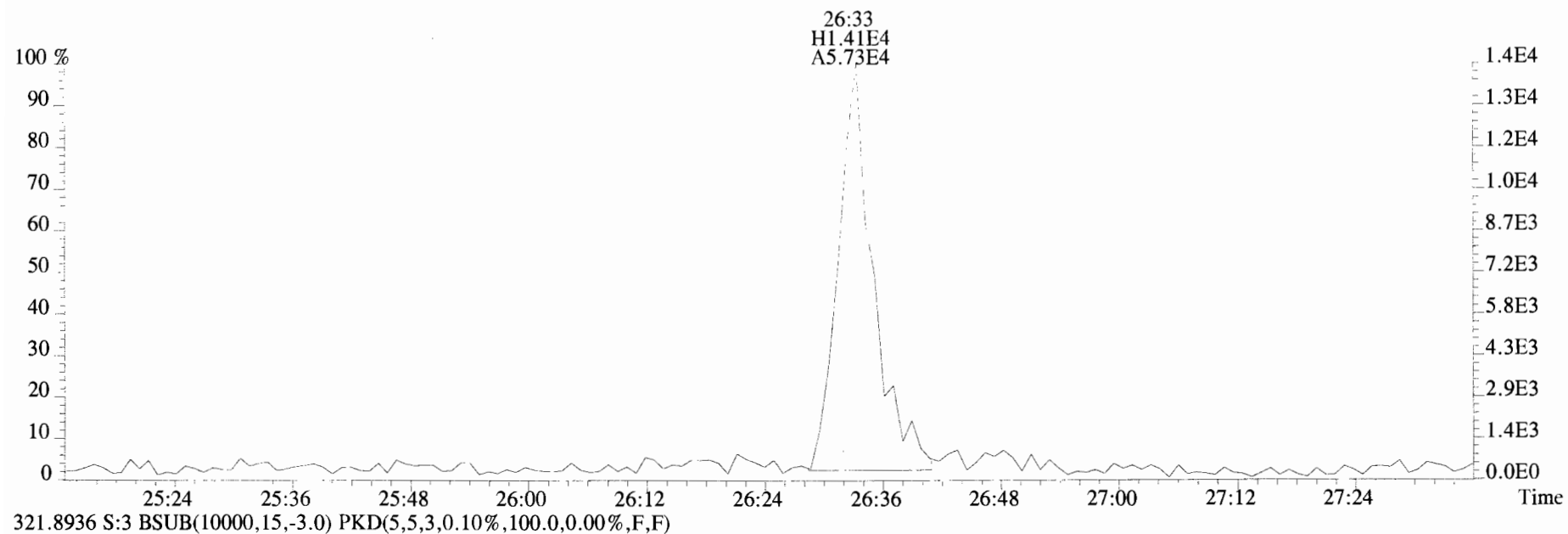
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



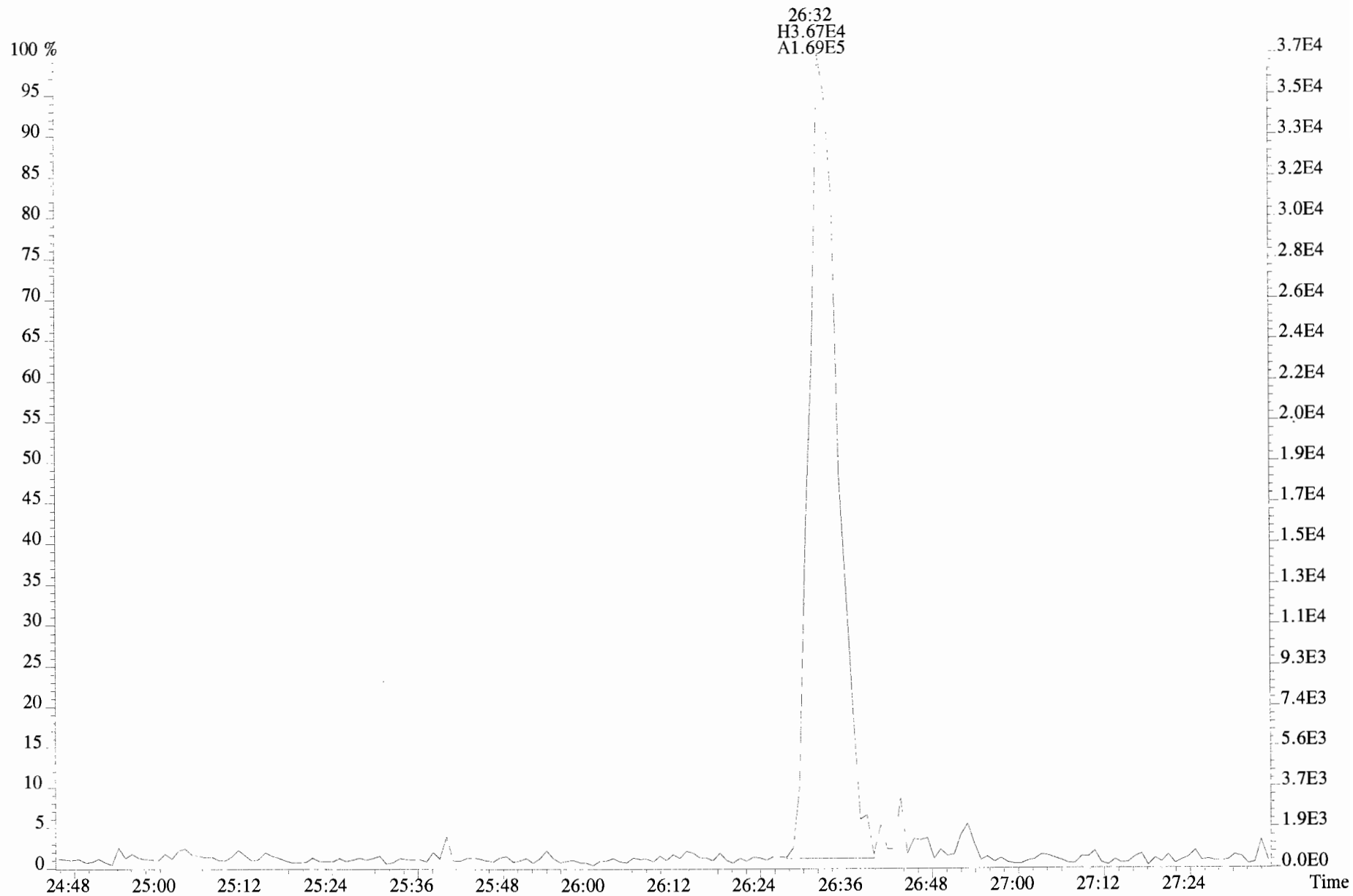
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



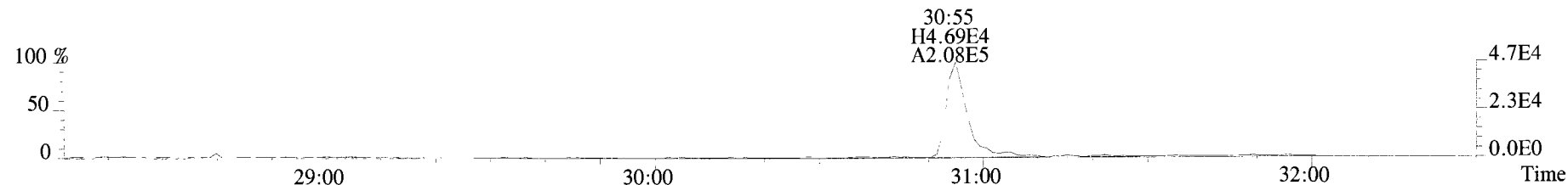
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



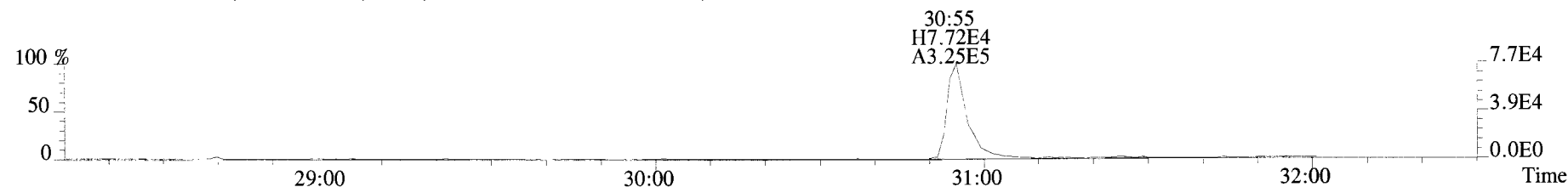
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
327.8847 S:3 BSub(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



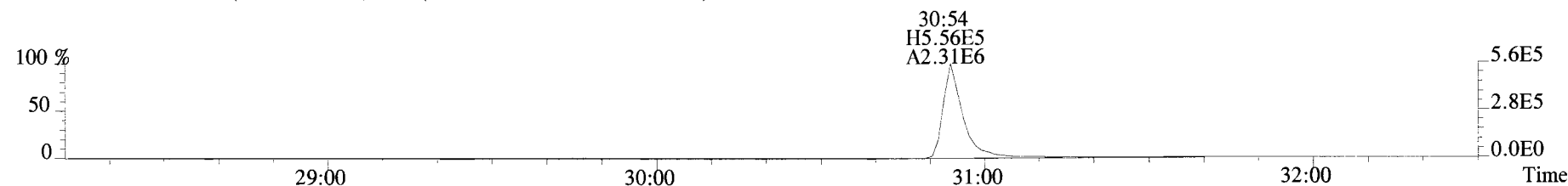
File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



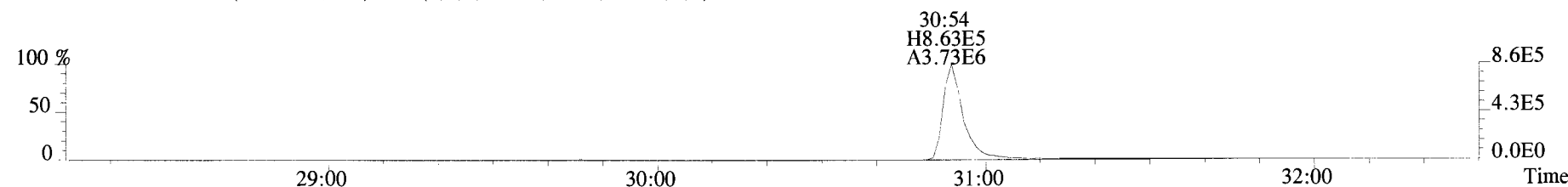
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



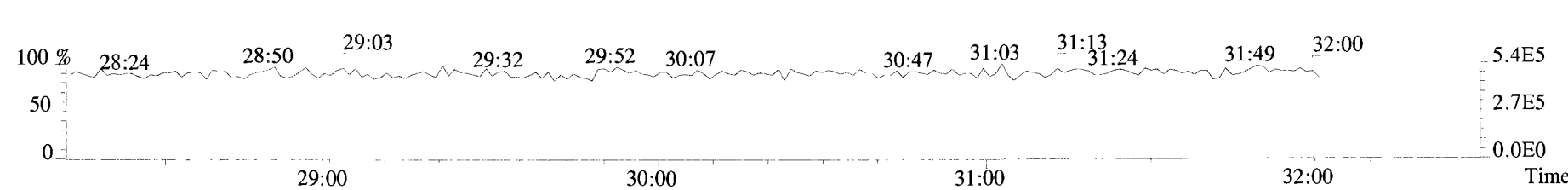
365.8978 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



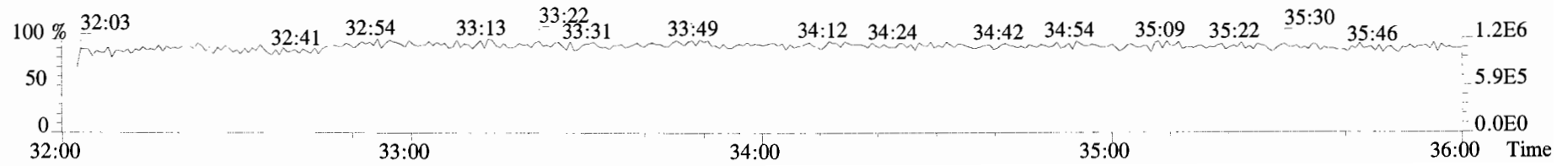
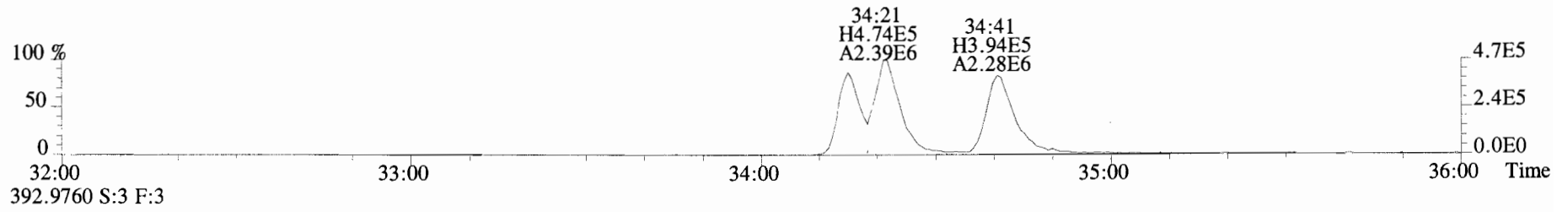
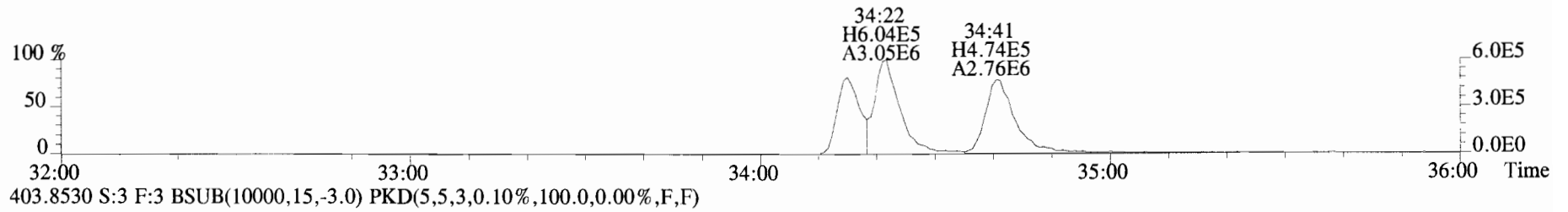
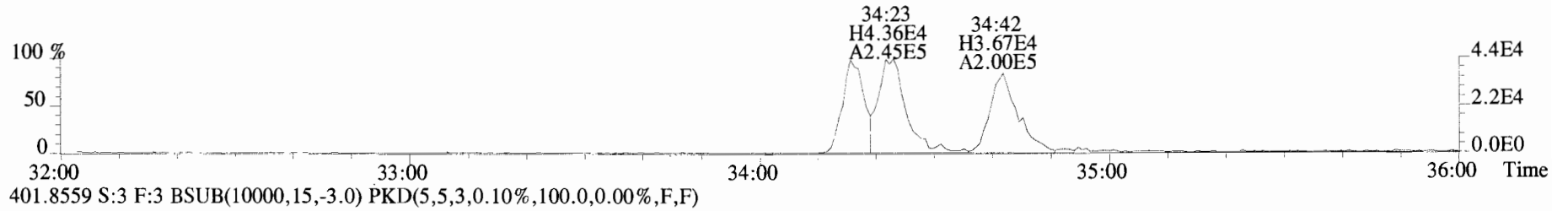
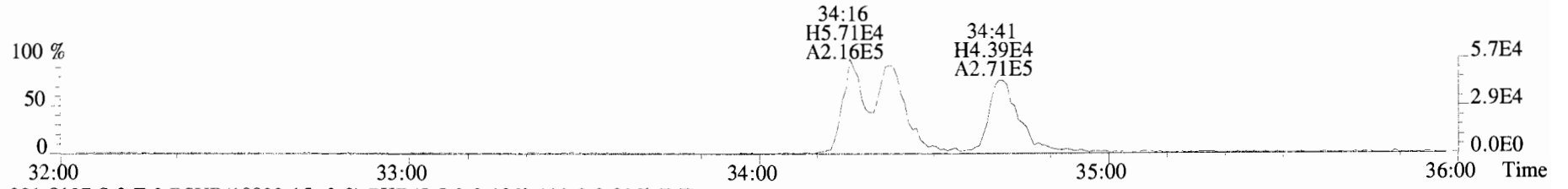
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



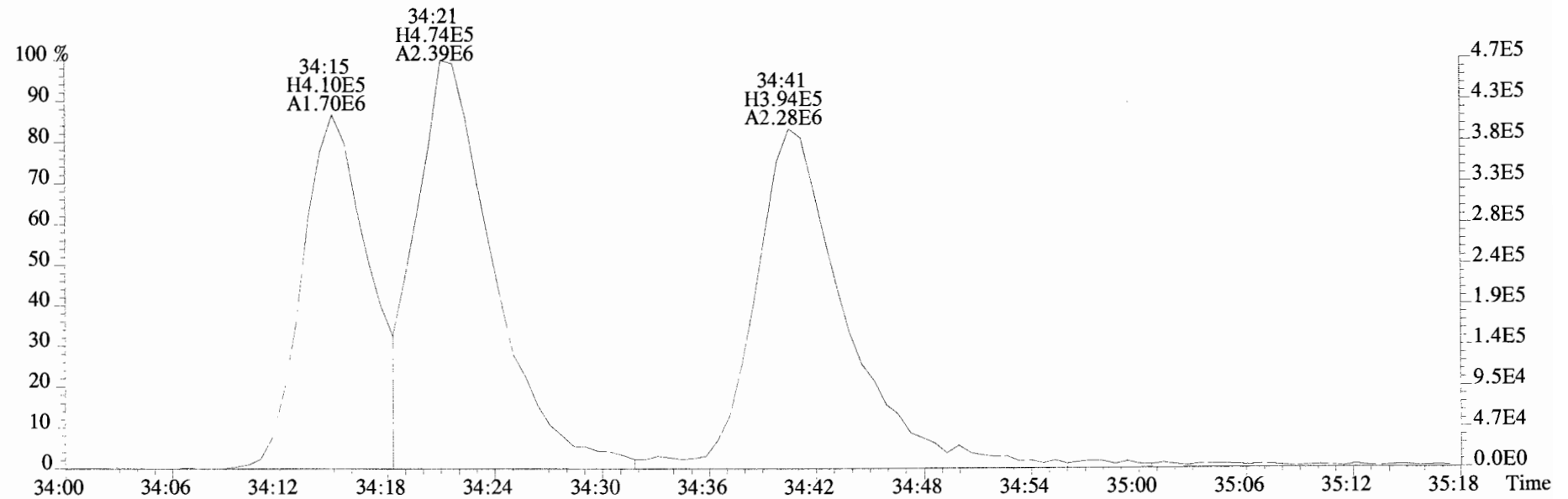
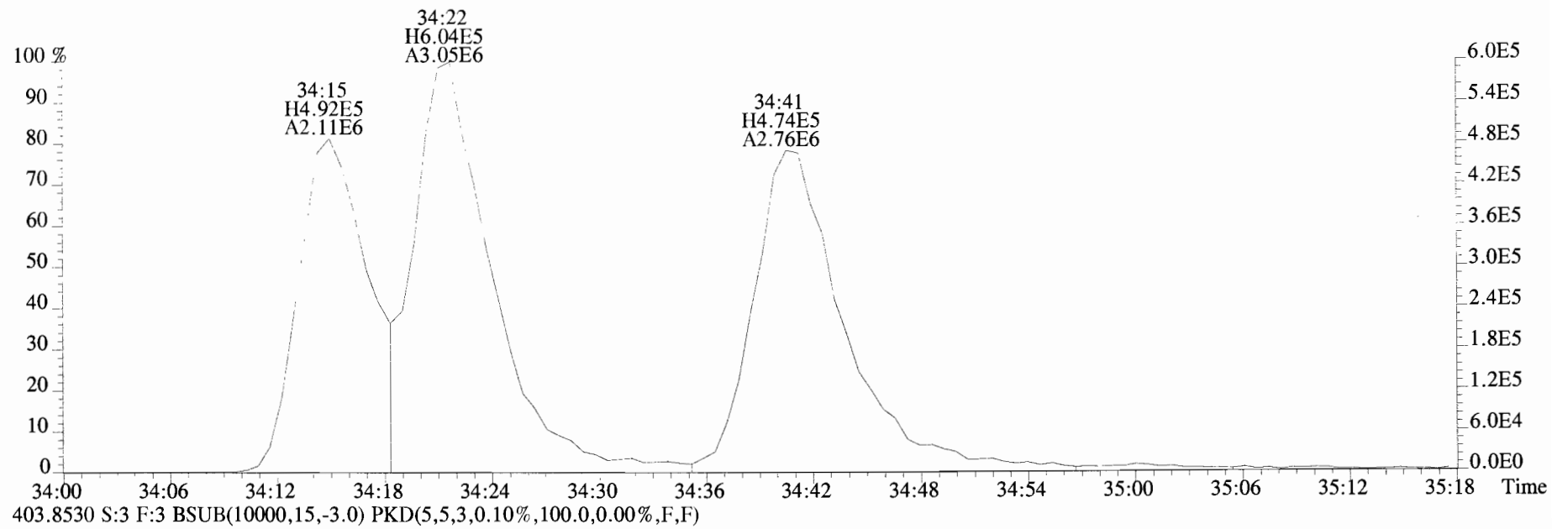
366.9792 S:3 F:2



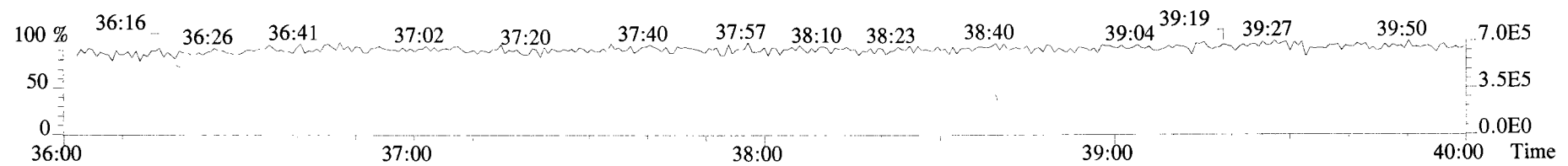
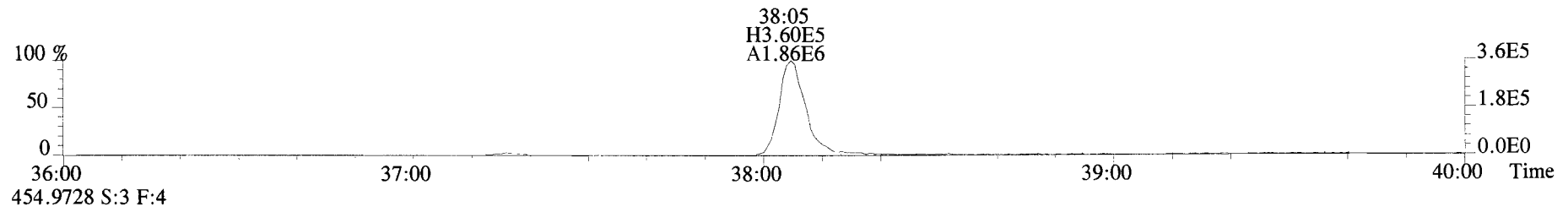
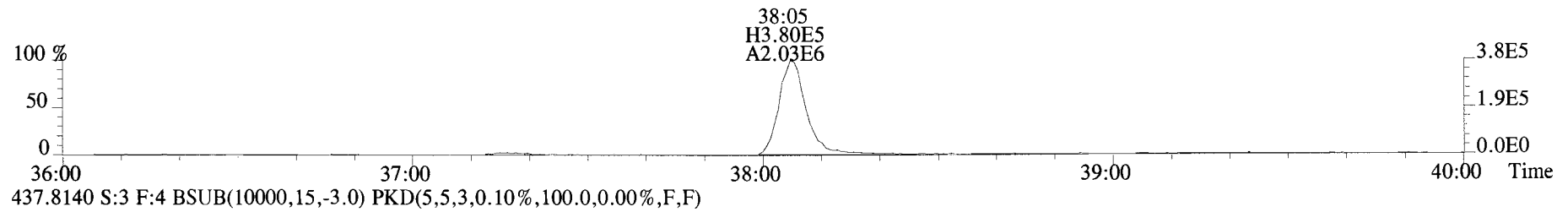
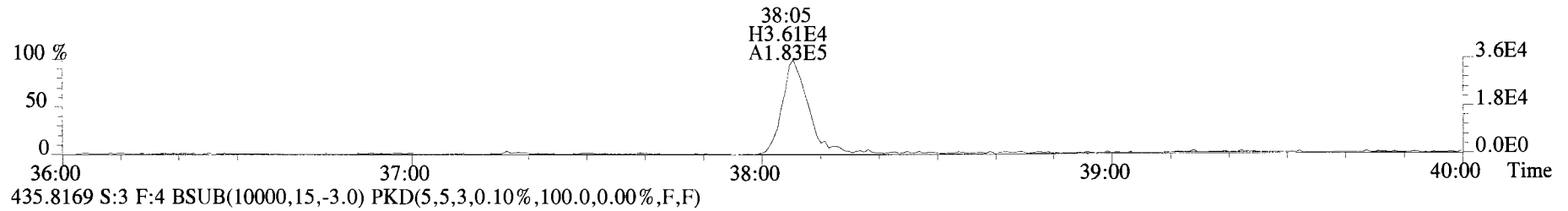
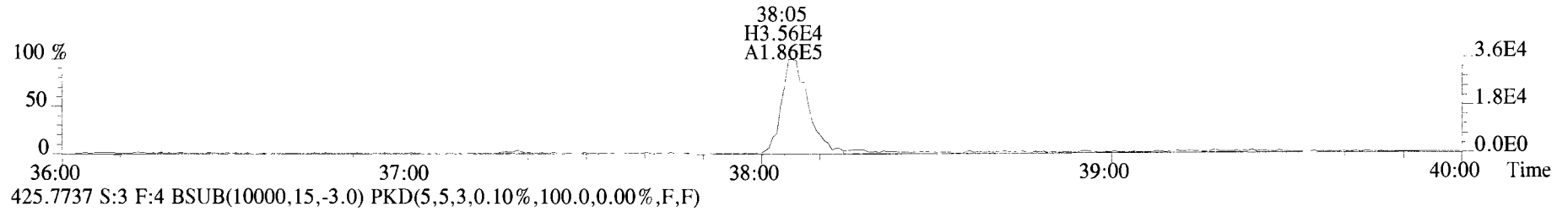
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



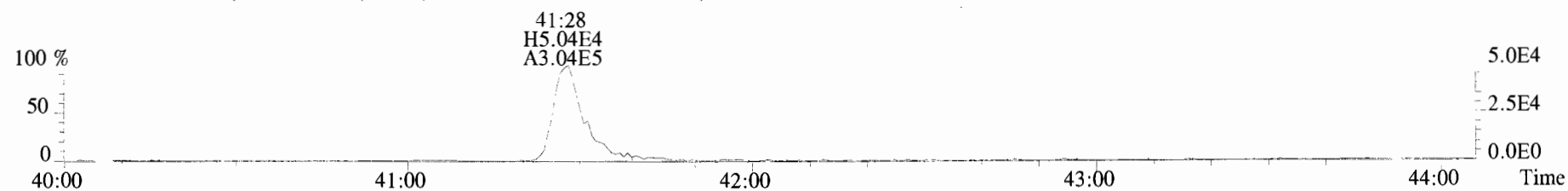
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



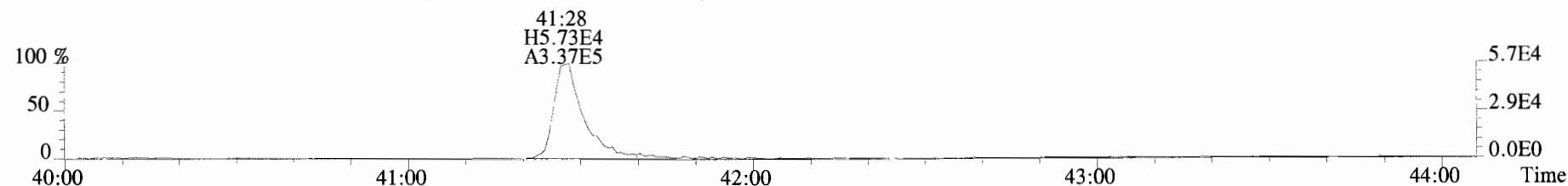
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



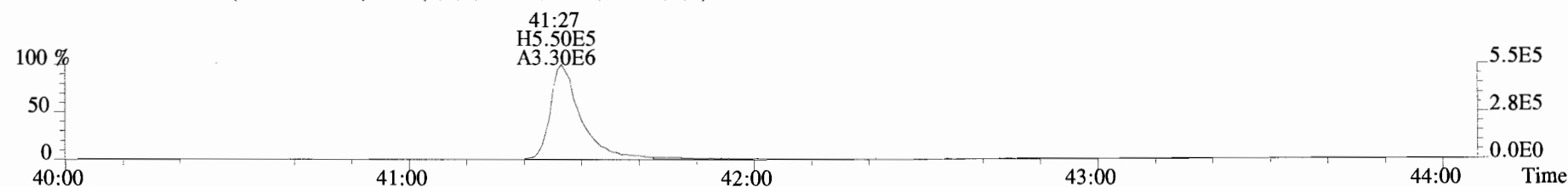
File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



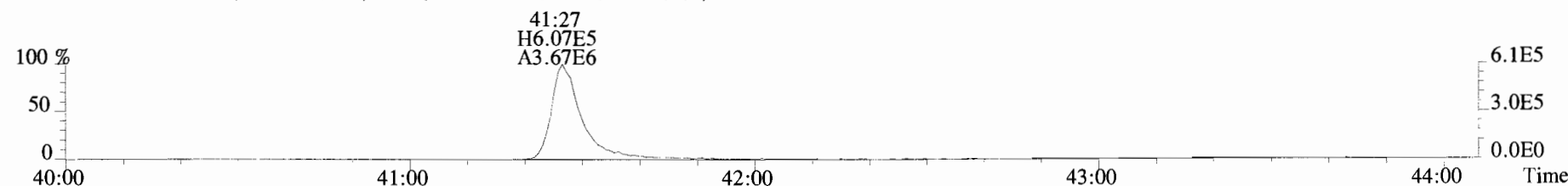
459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



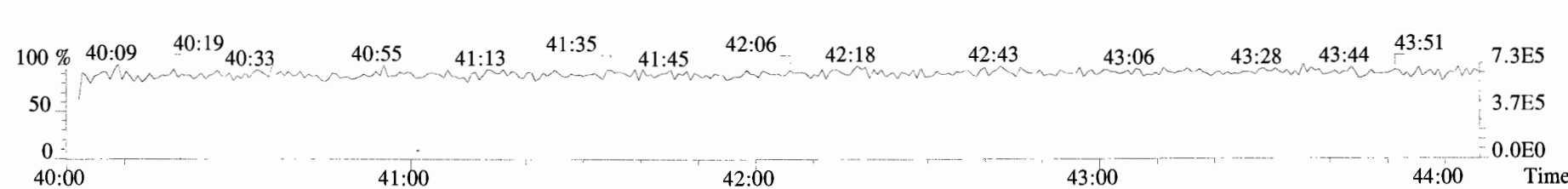
469.7780 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



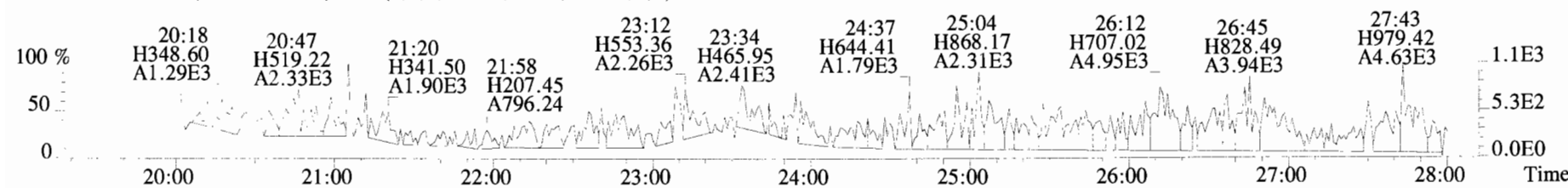
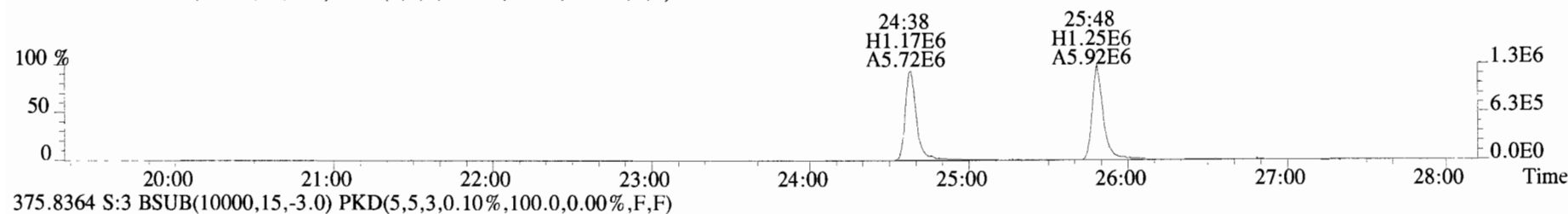
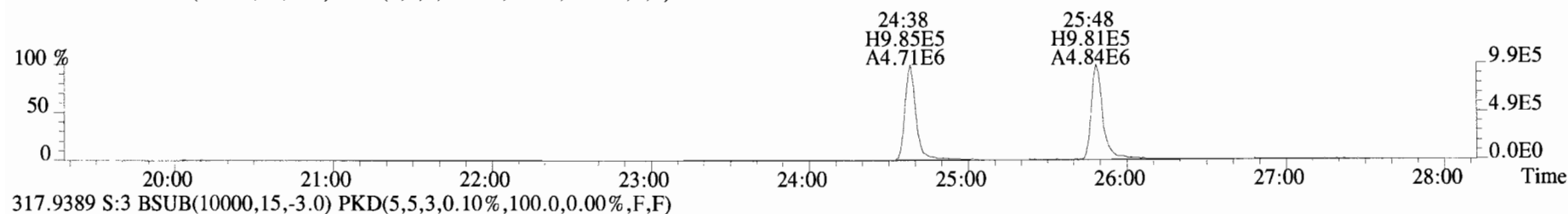
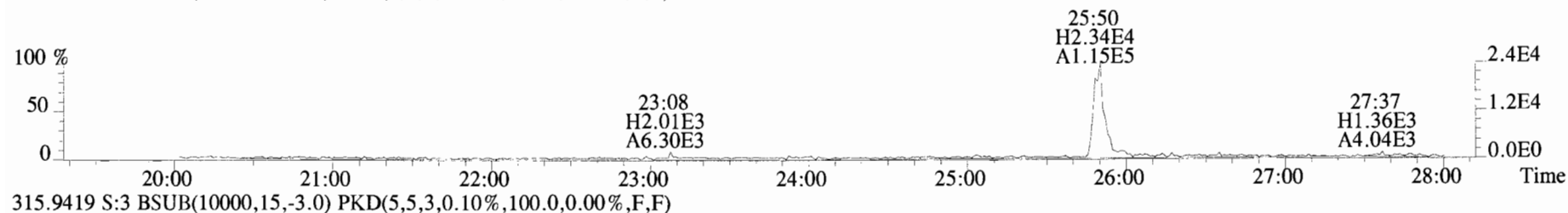
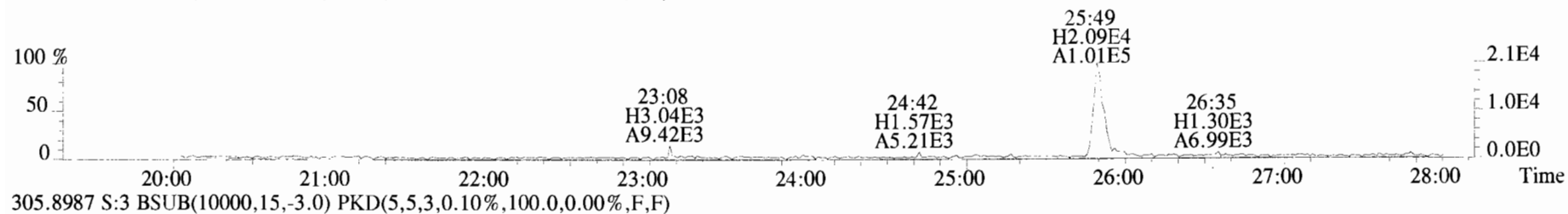
471.7750 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



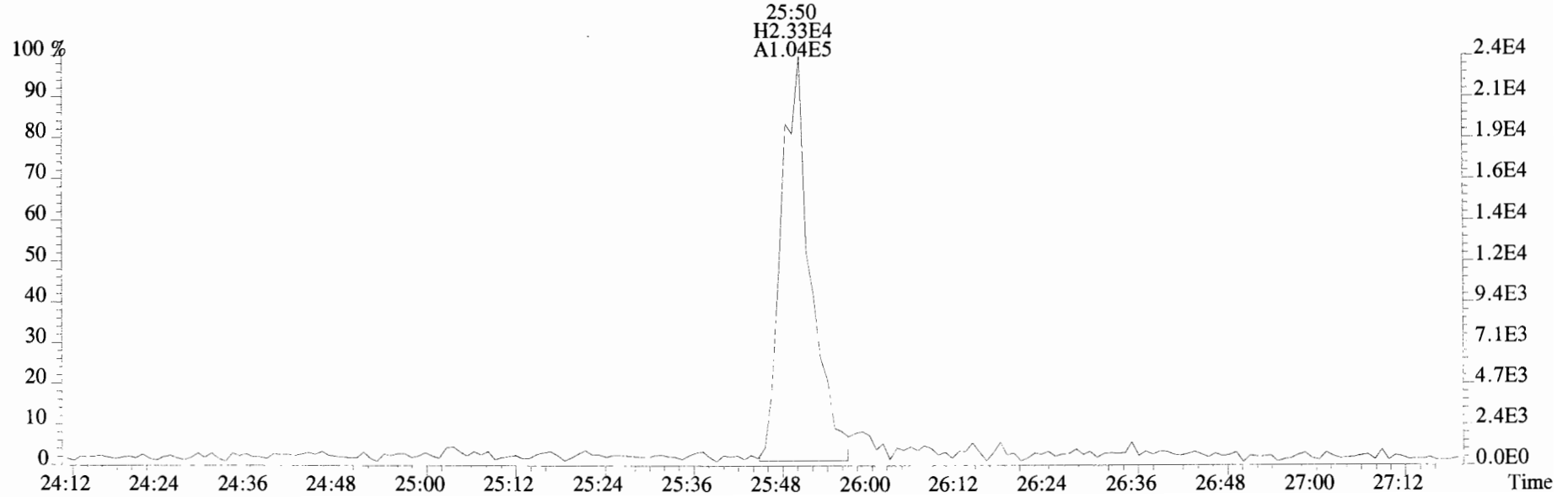
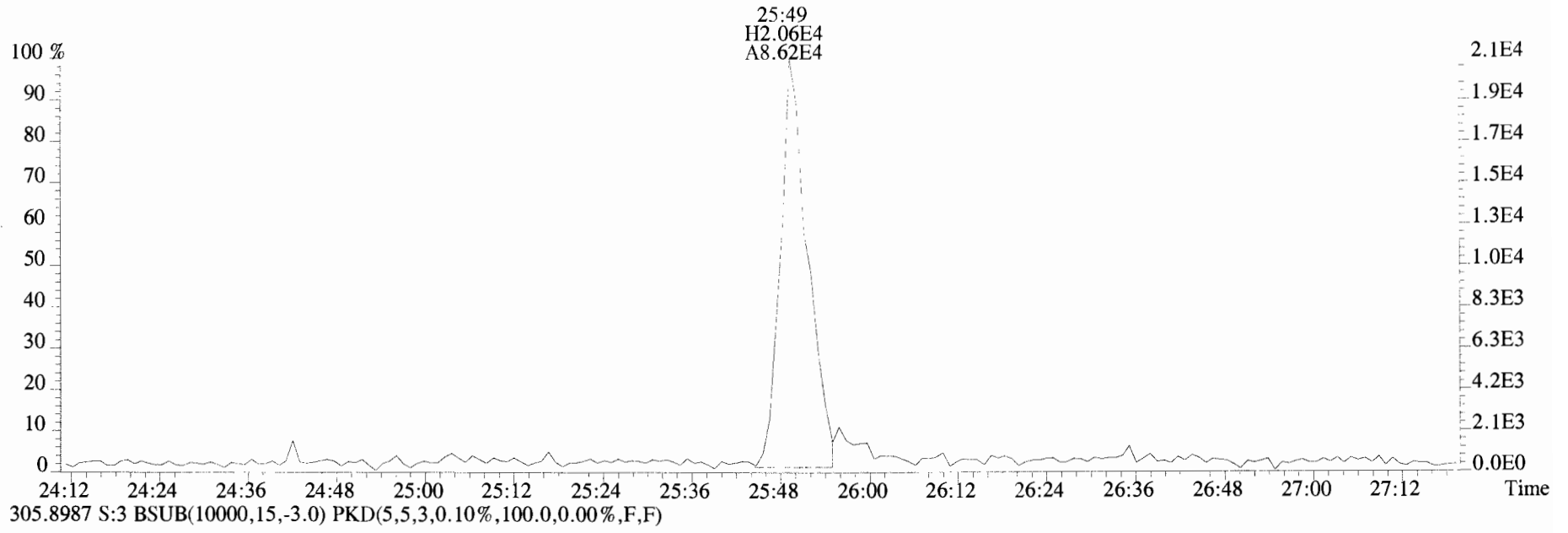
454.9728 S:3 F:5



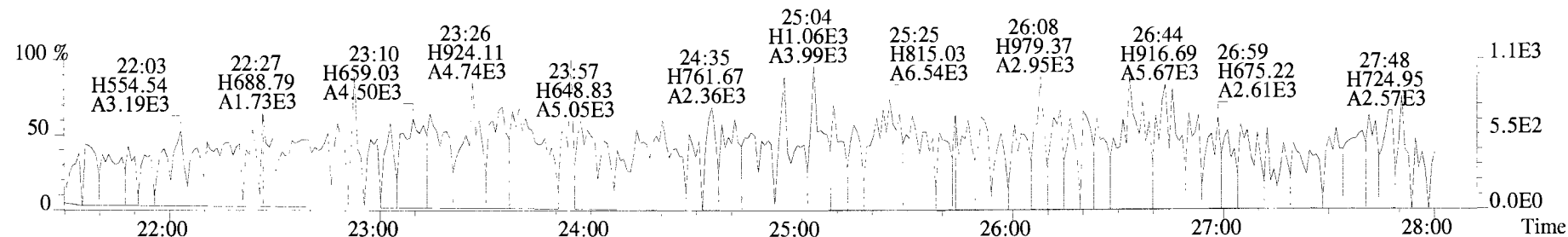
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



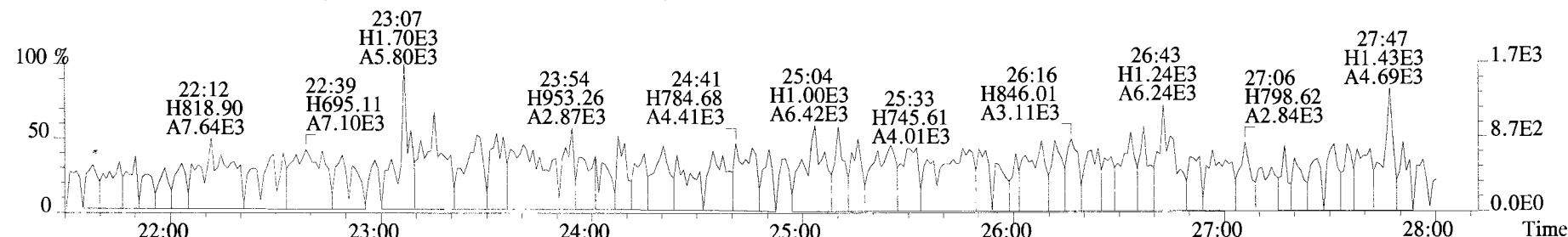
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



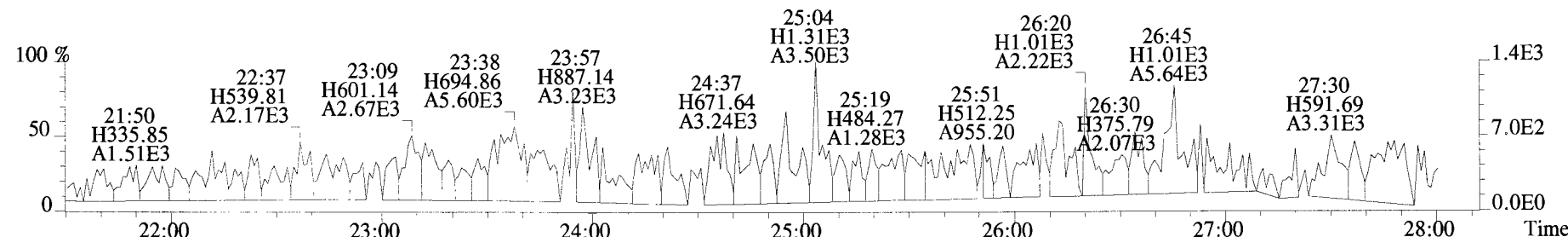
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



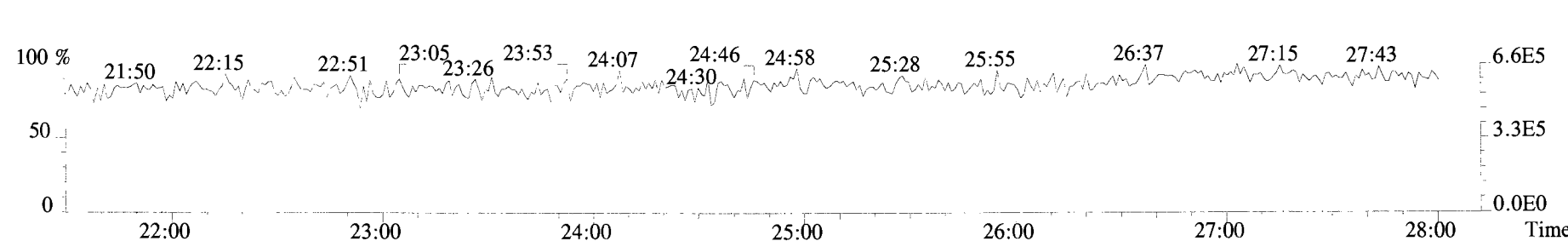
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



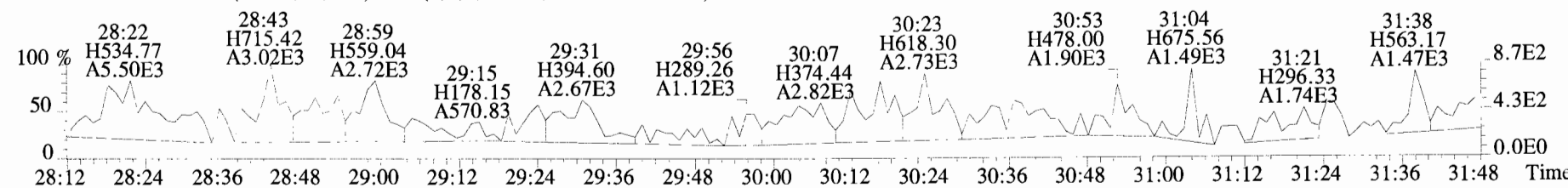
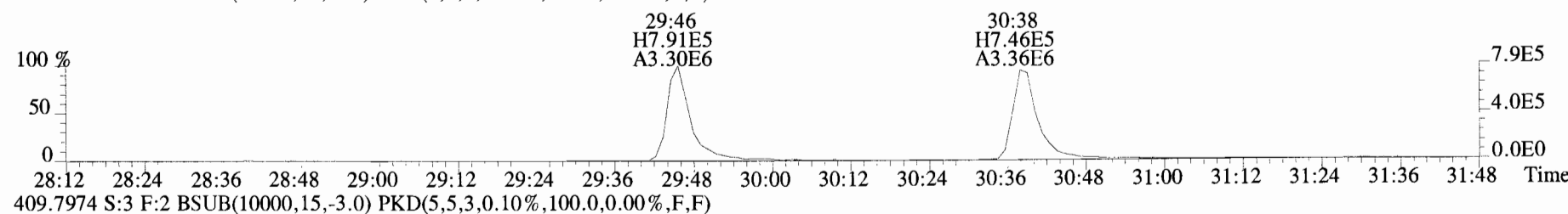
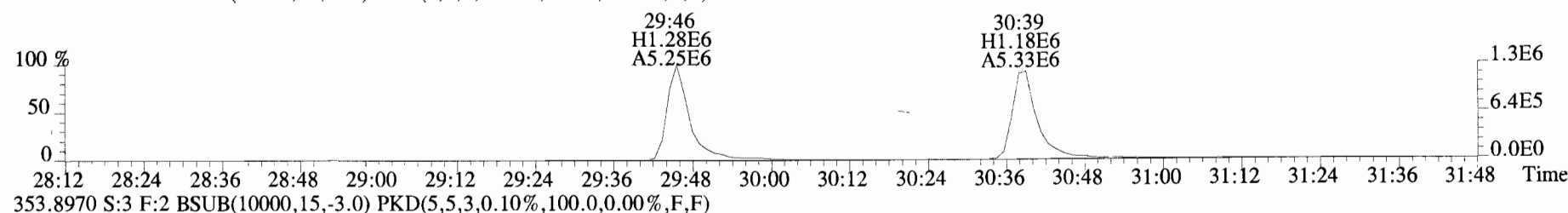
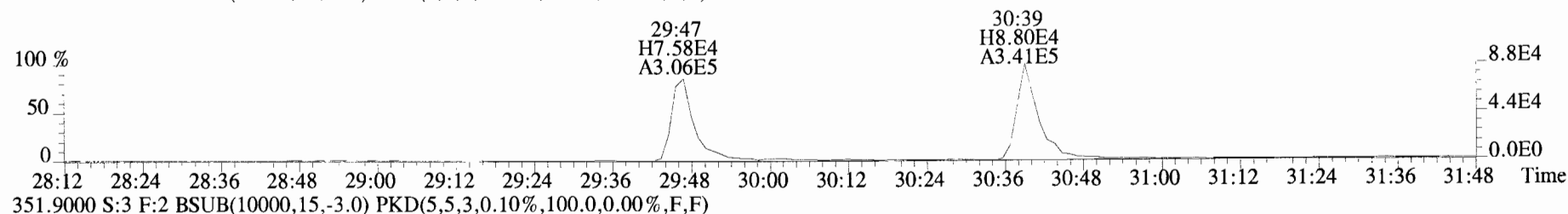
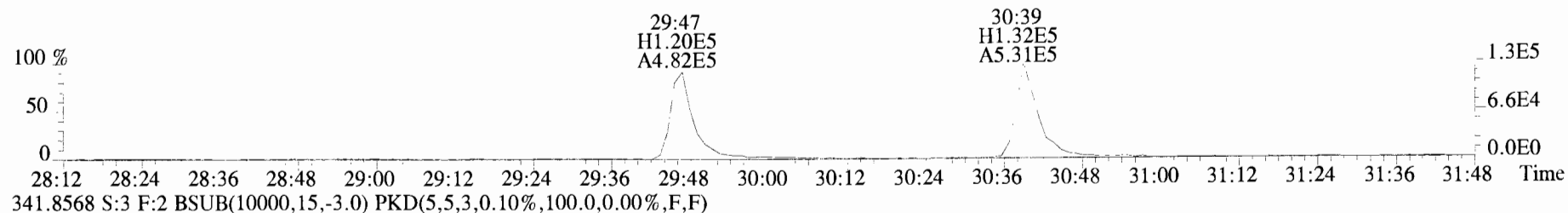
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



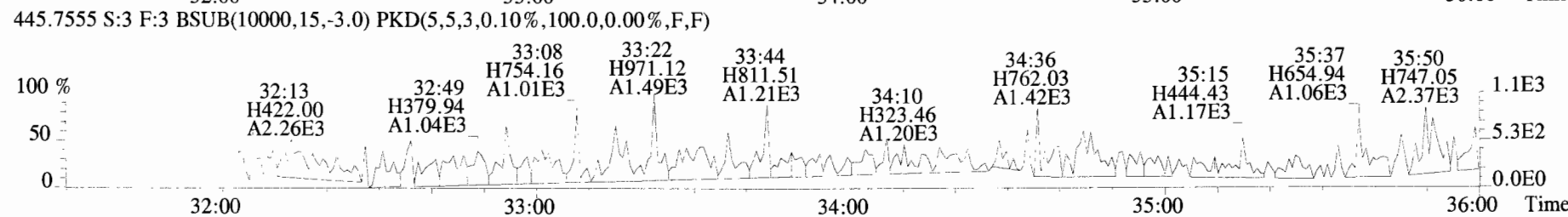
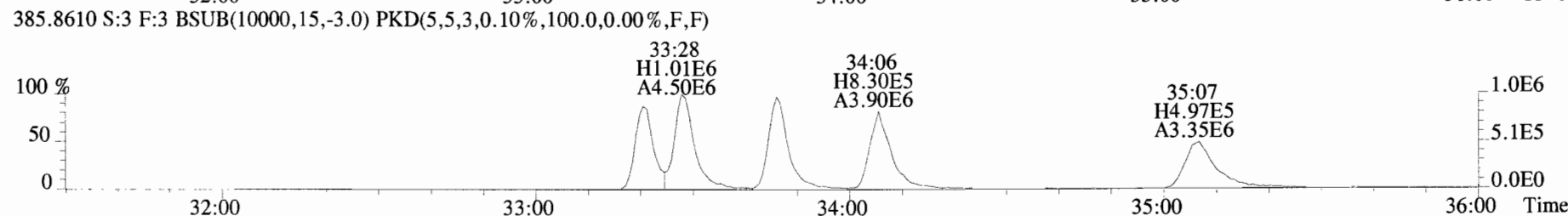
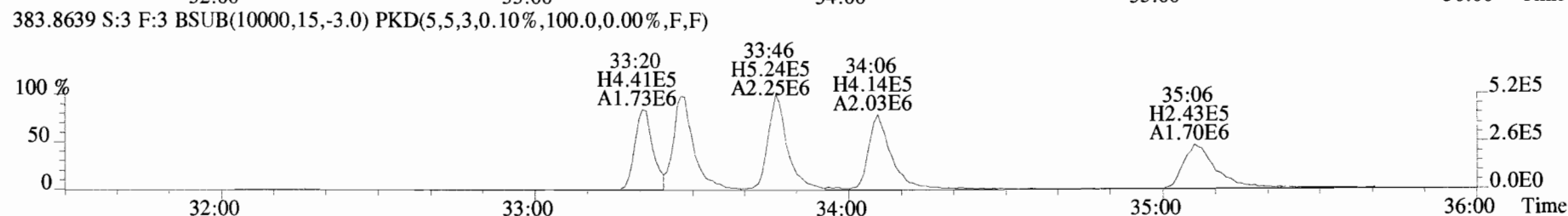
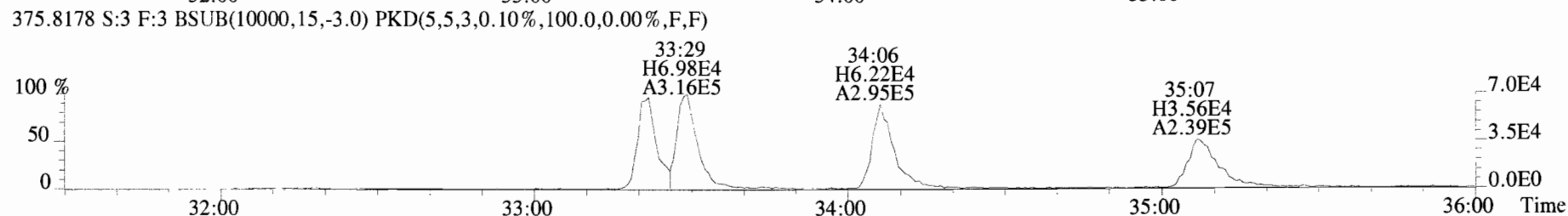
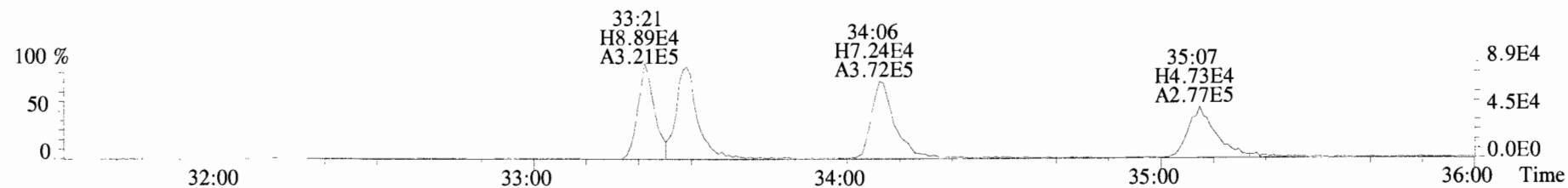
316.9824 S:3



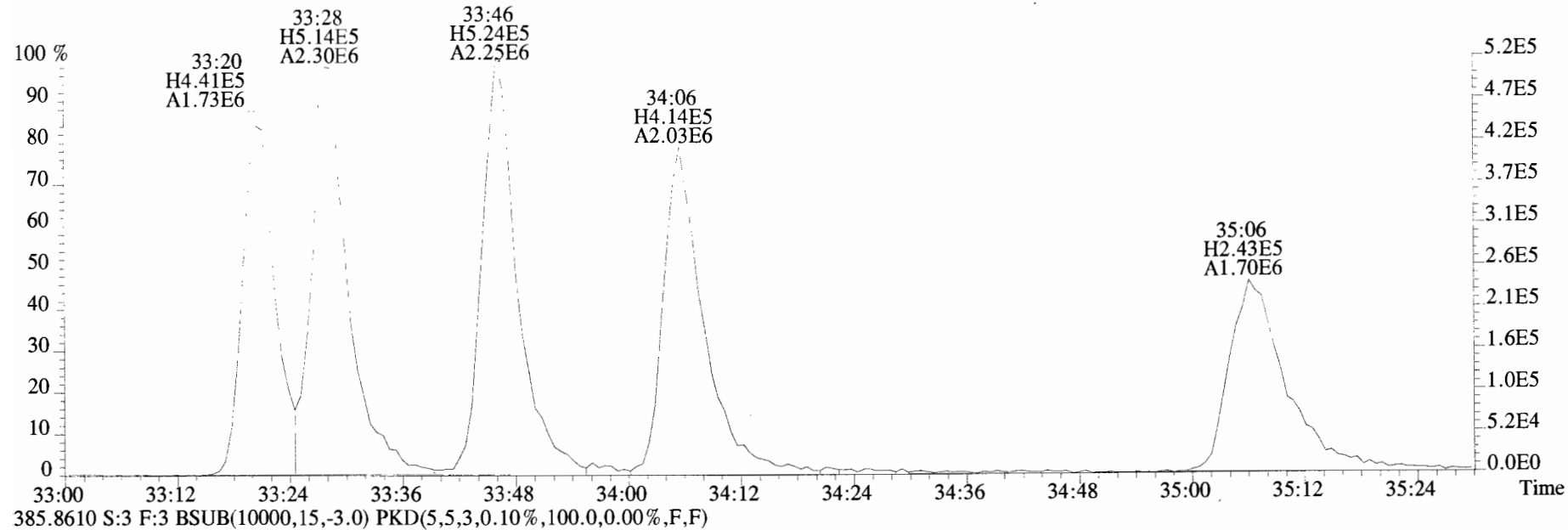
File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



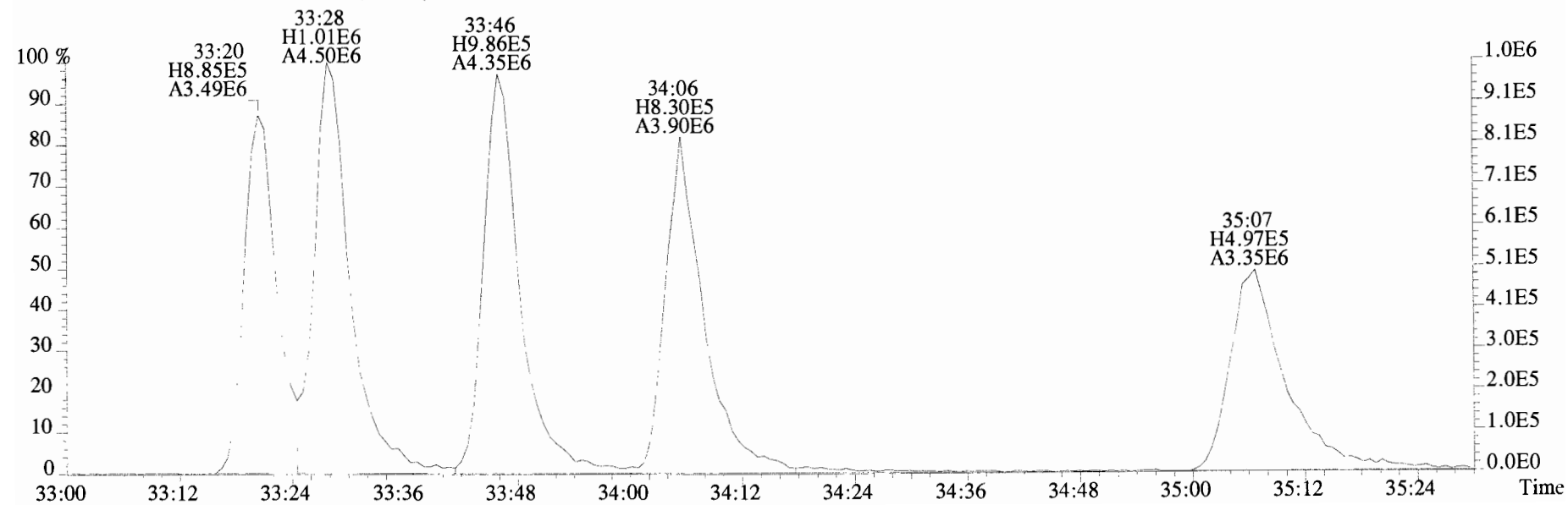
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



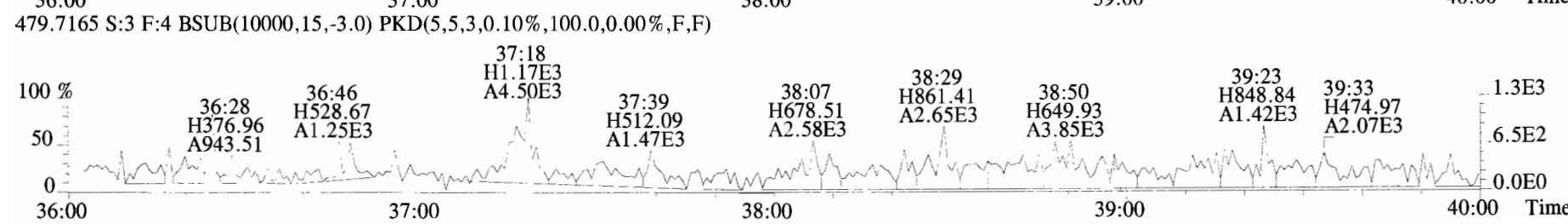
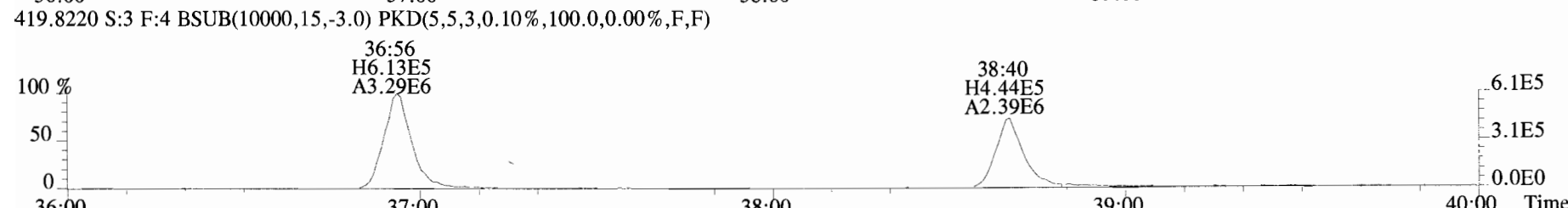
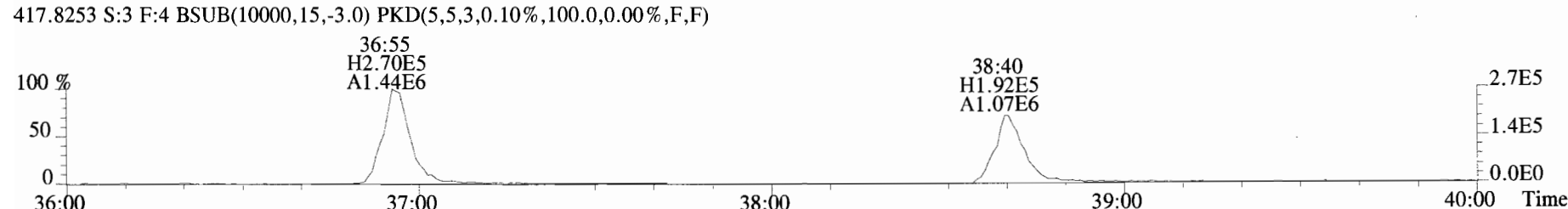
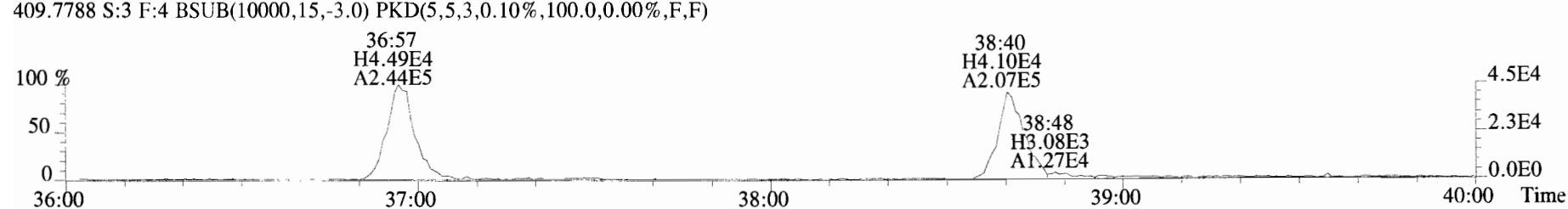
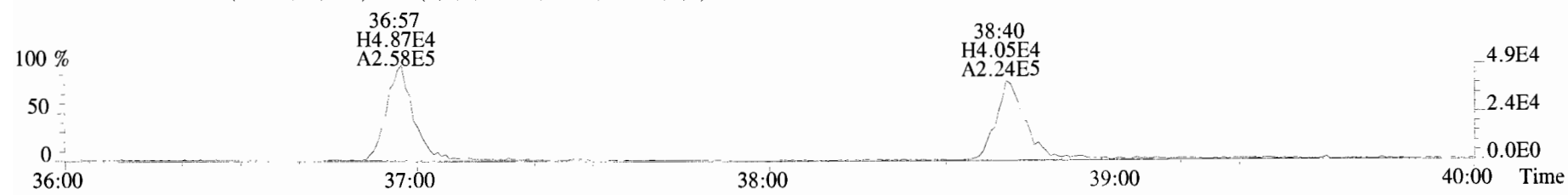
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



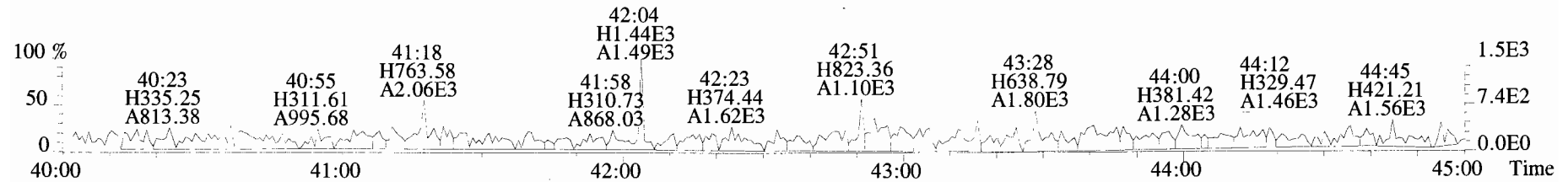
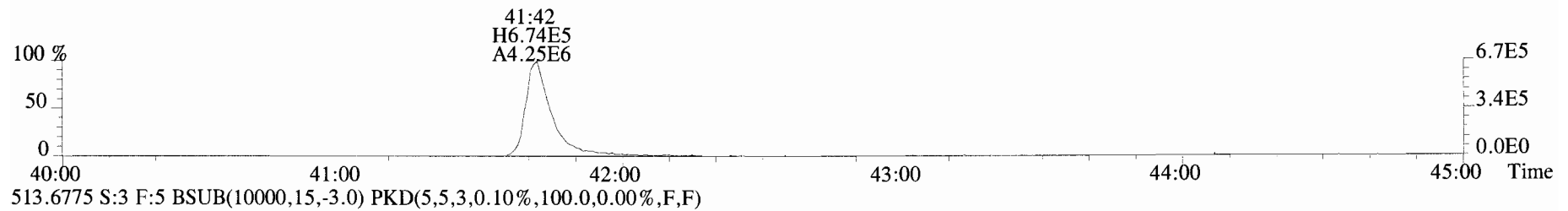
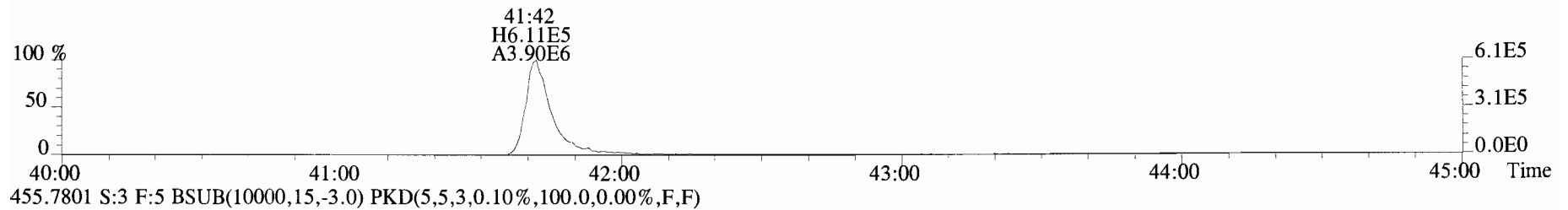
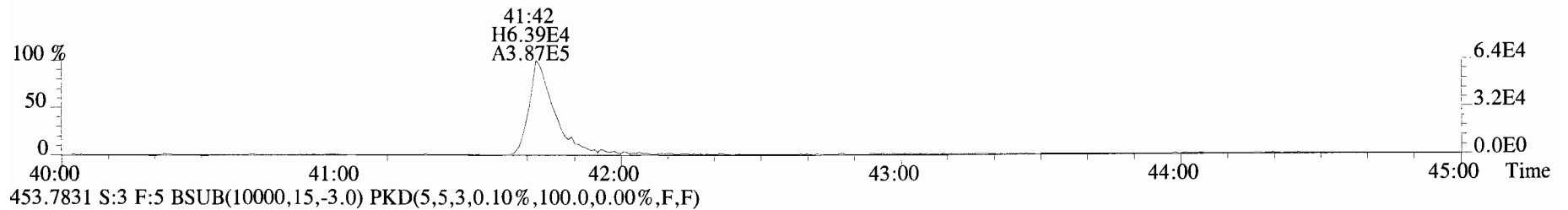
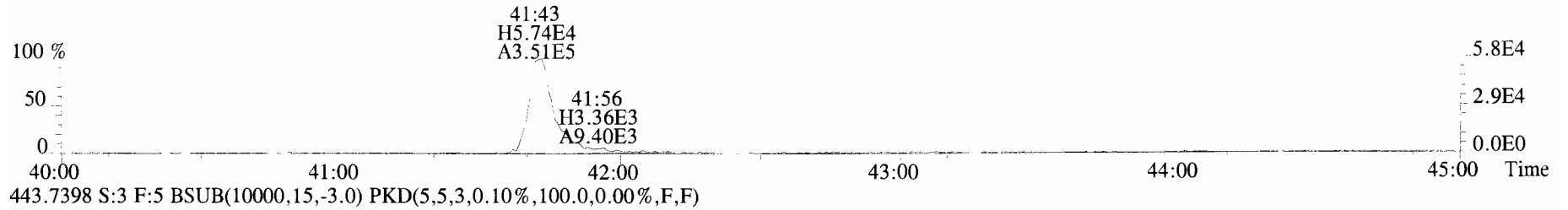
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



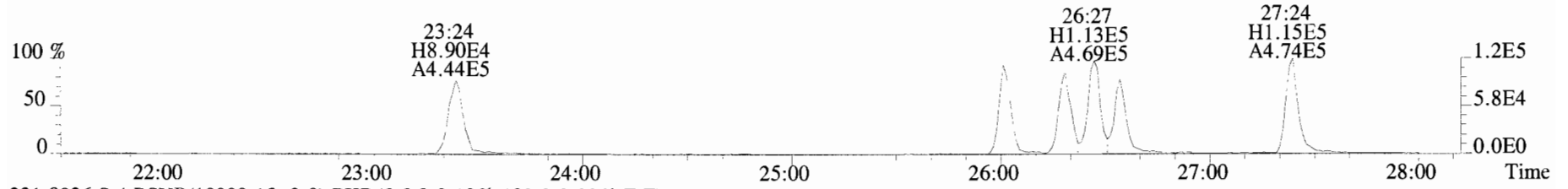
File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



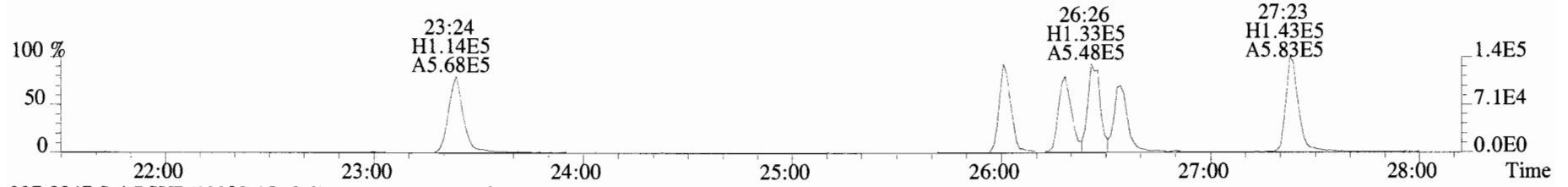
File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



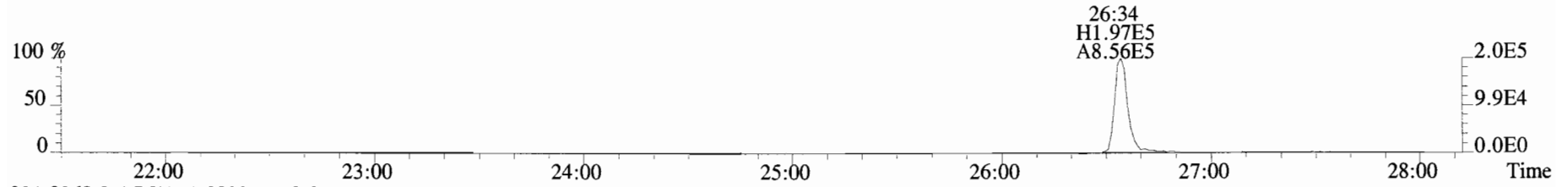
File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



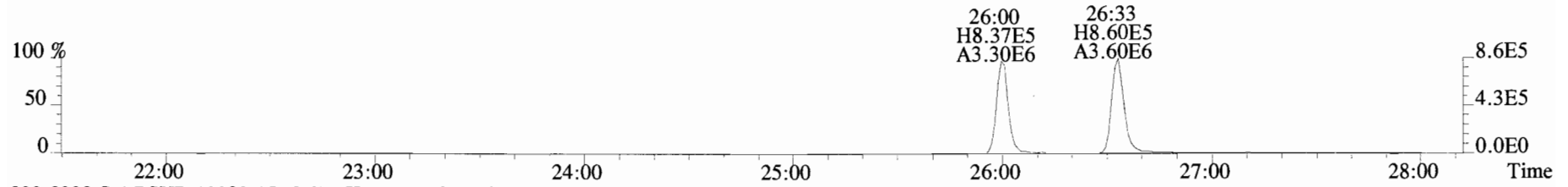
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



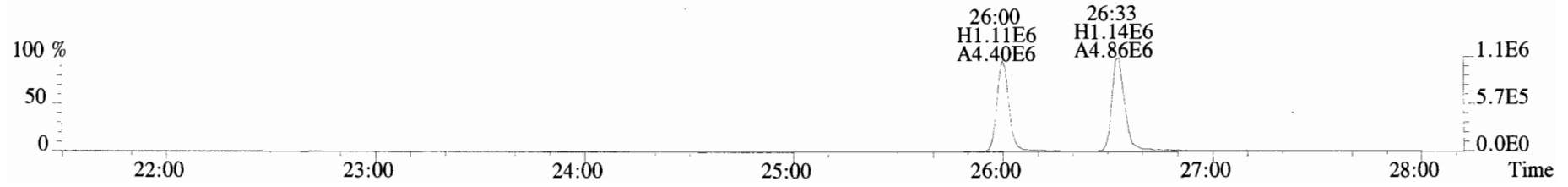
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



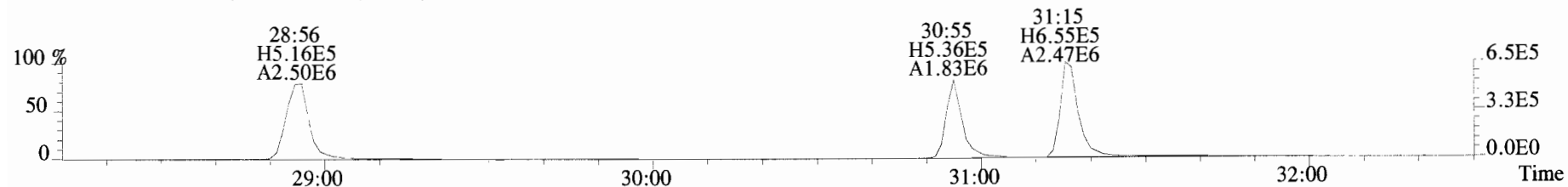
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



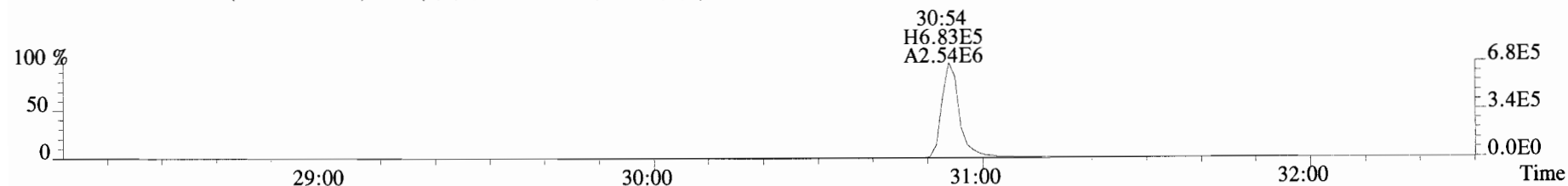
File:191009D1 #1-211 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



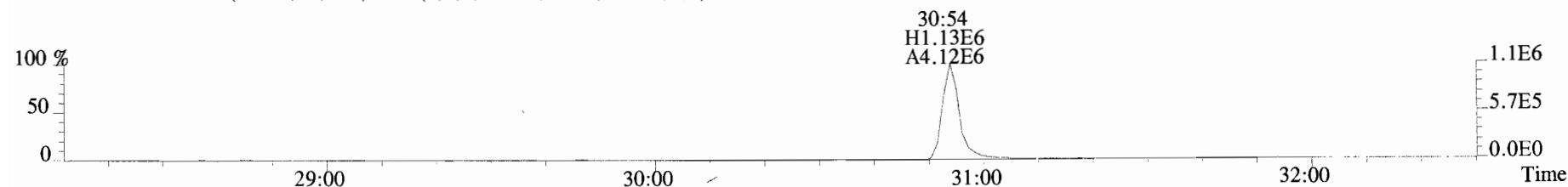
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



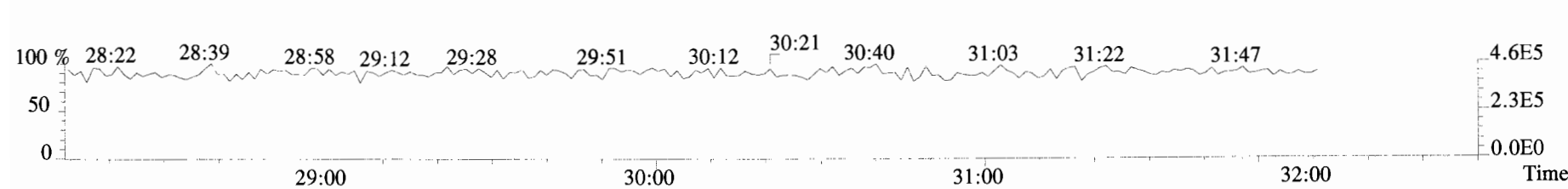
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



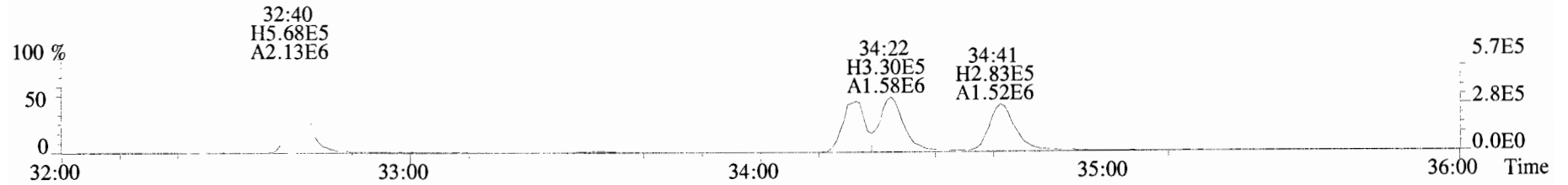
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



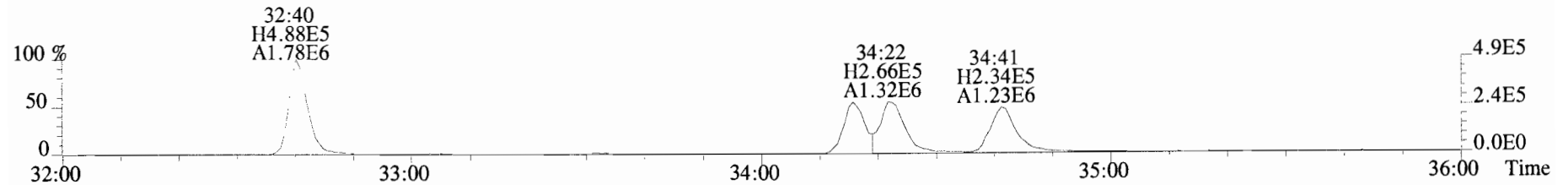
366.9792 S:4 F:2



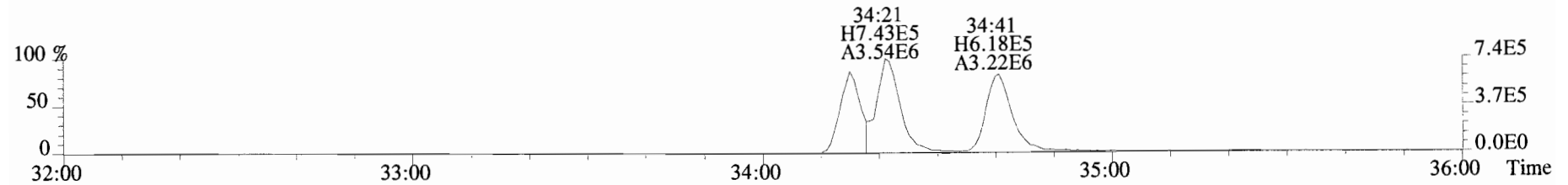
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



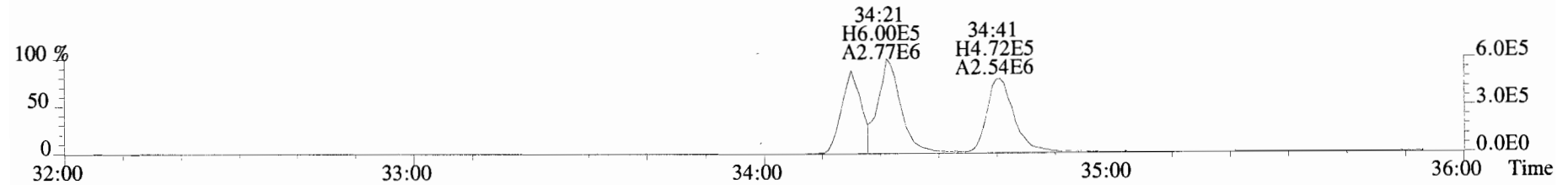
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



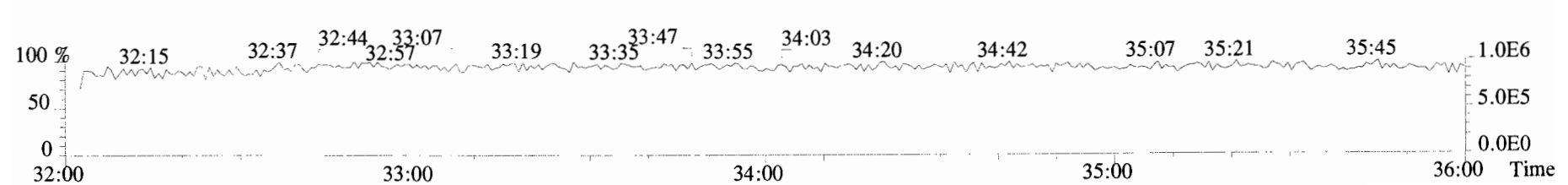
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



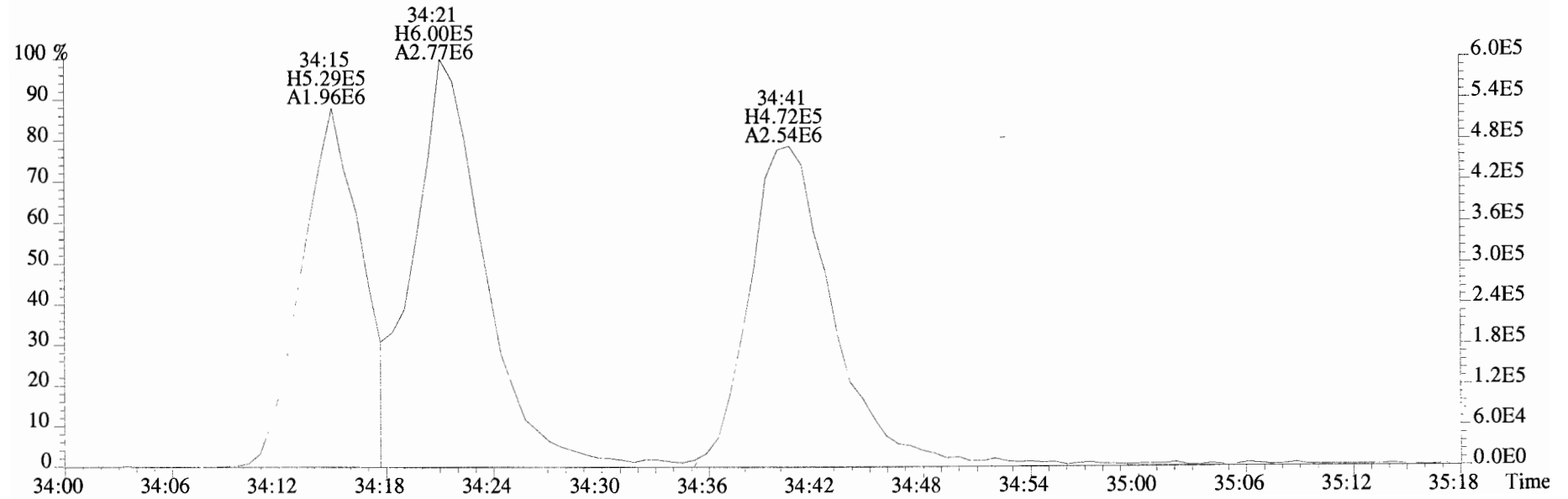
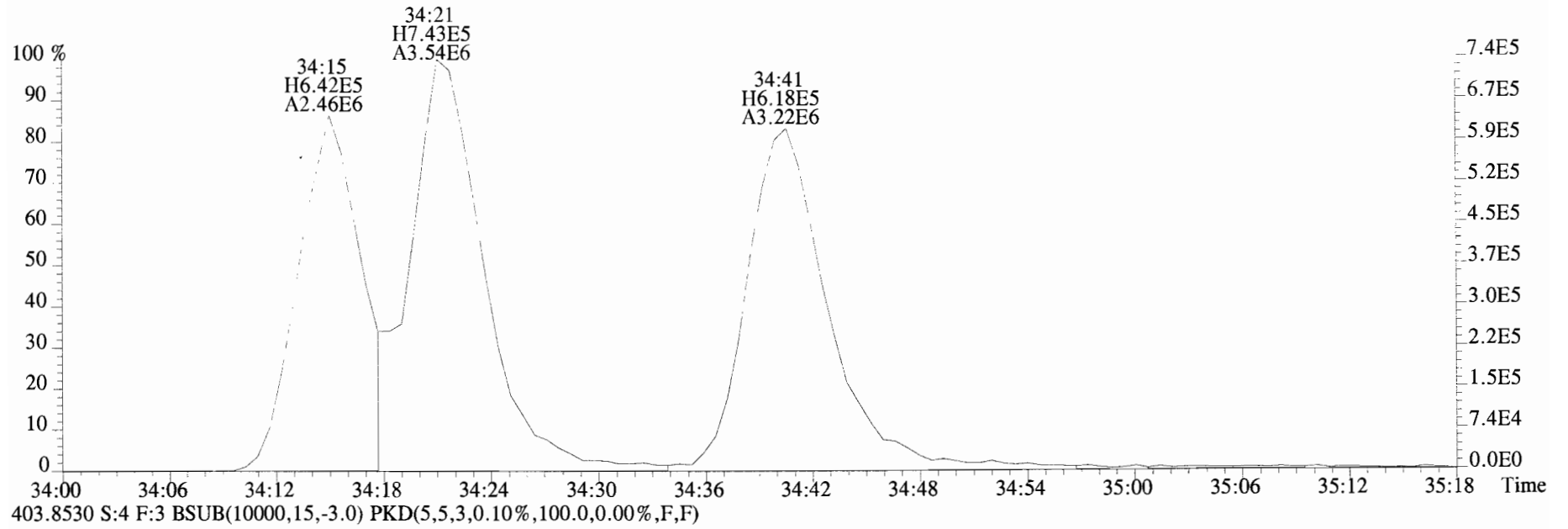
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



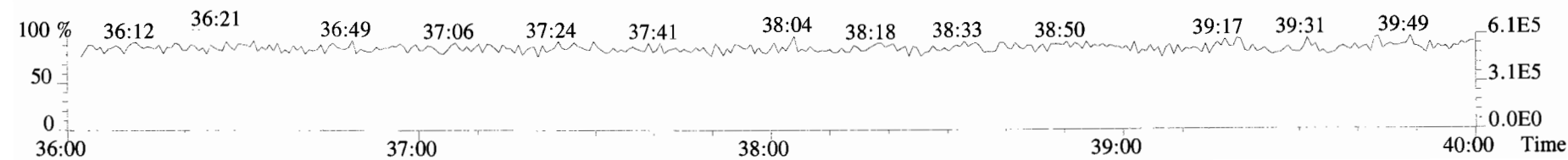
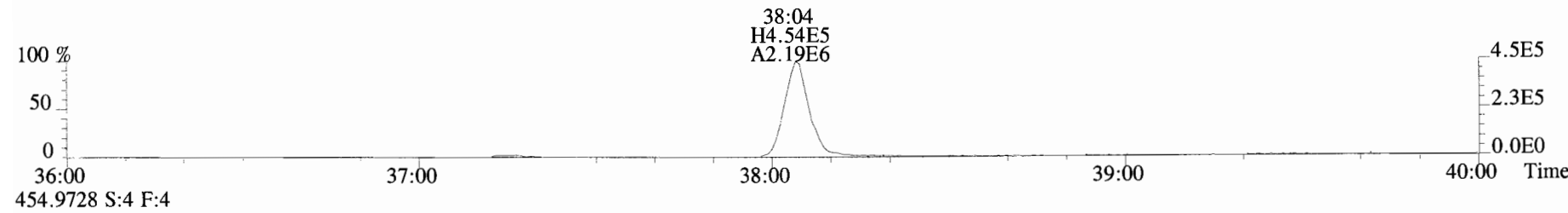
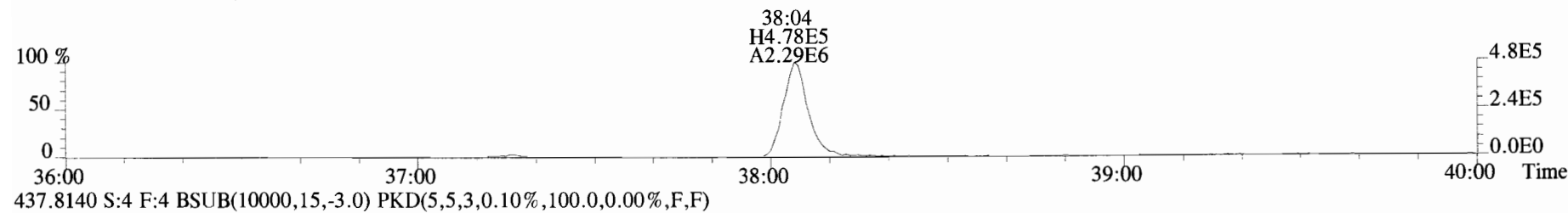
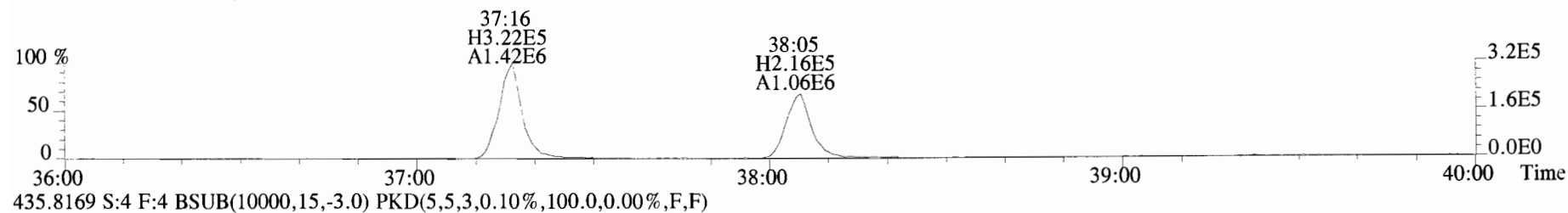
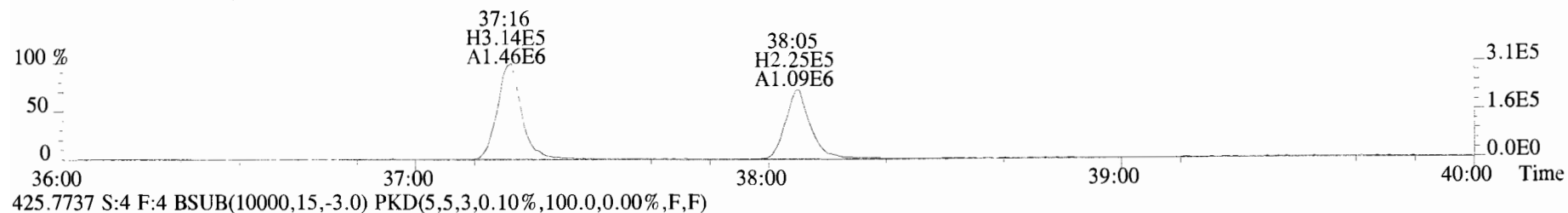
392.9760 S:4 F:3



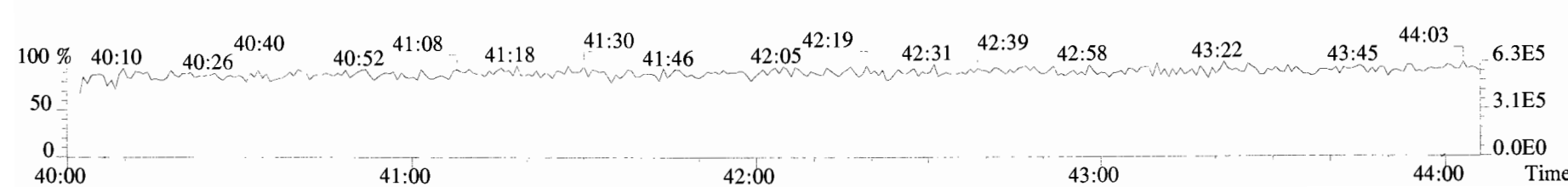
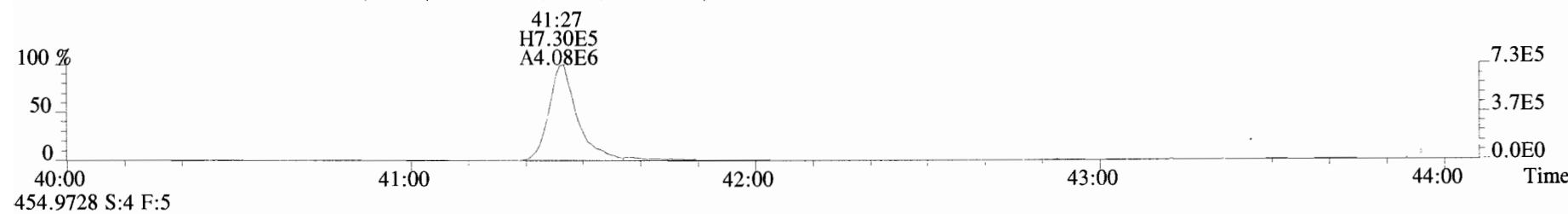
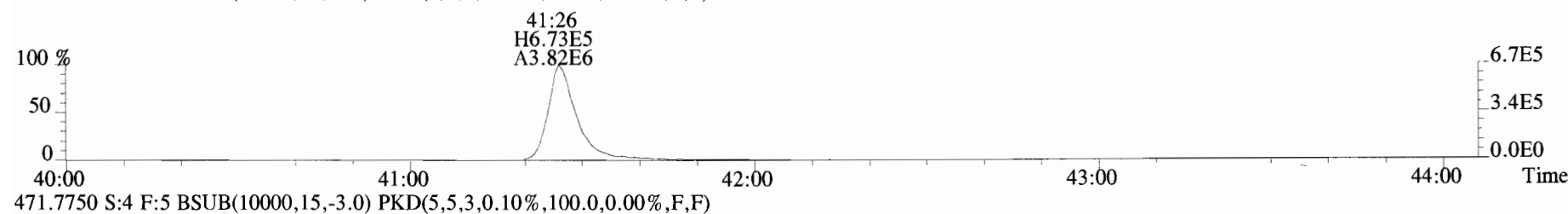
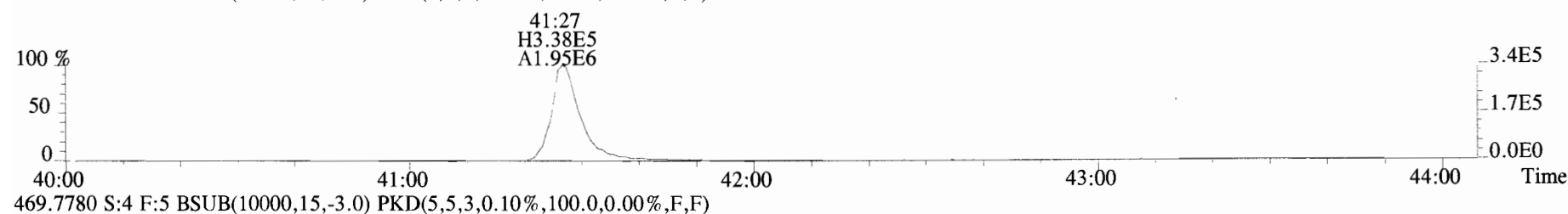
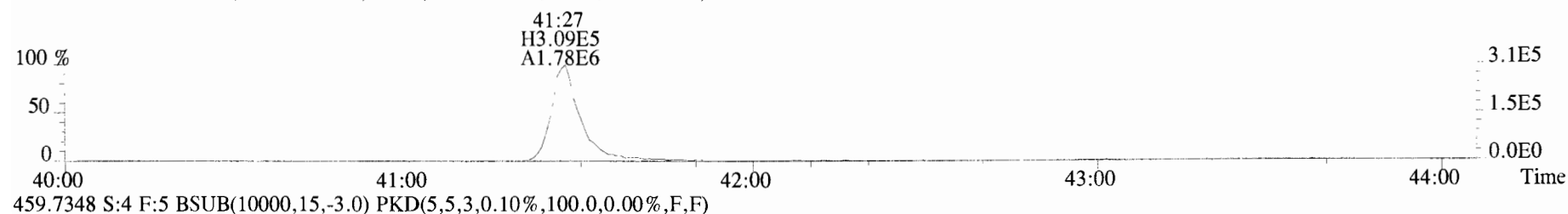
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



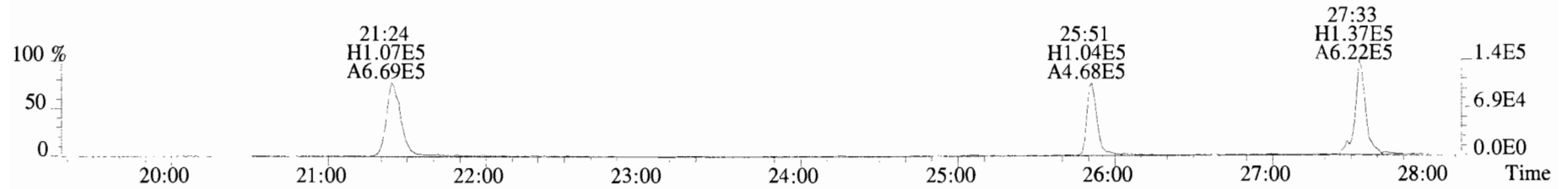
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



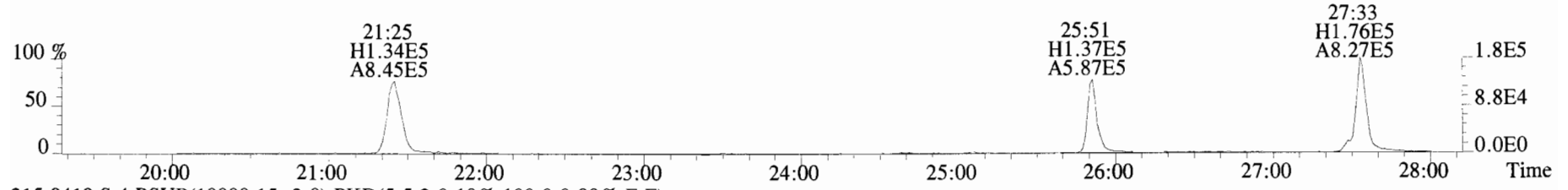
File:191009D1 #1-432 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



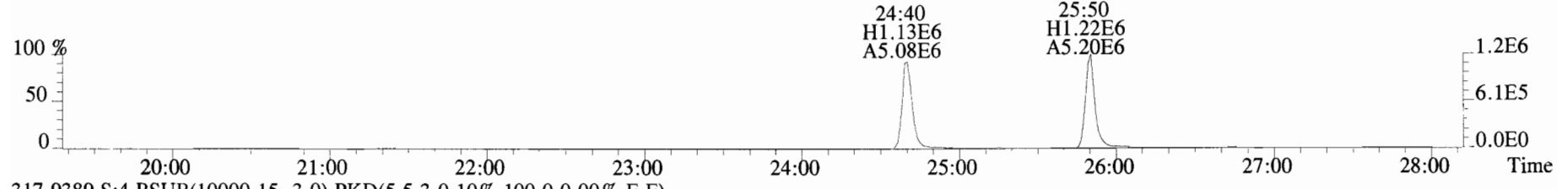
File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



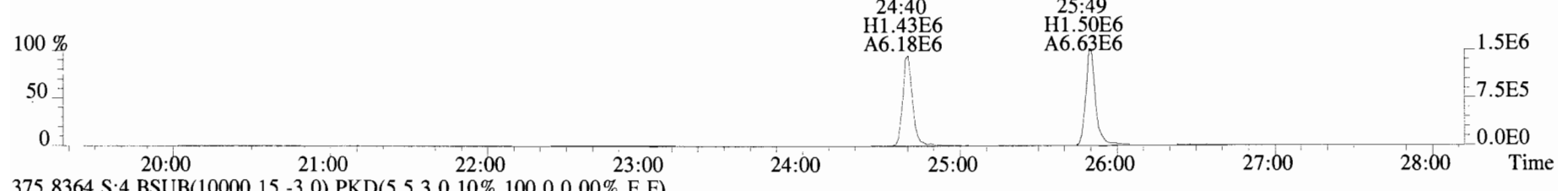
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



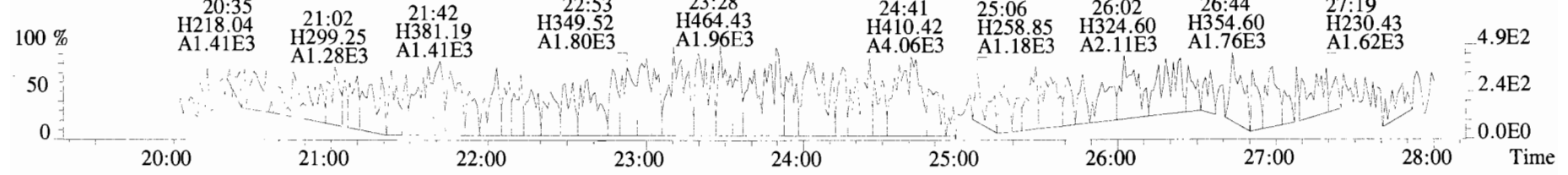
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



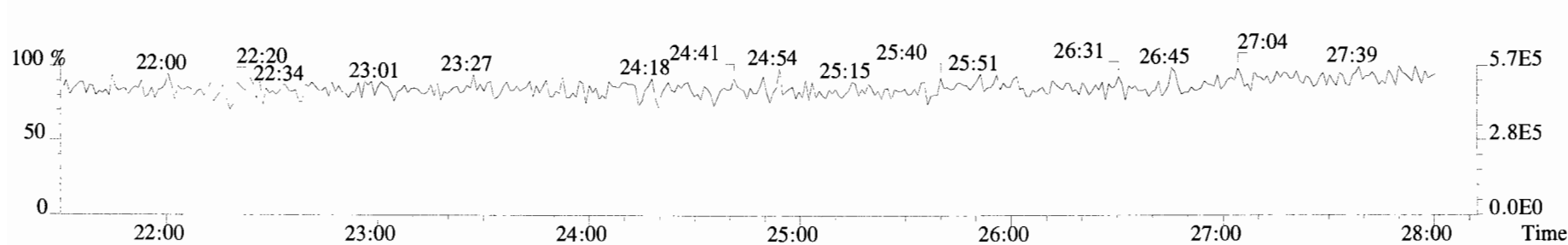
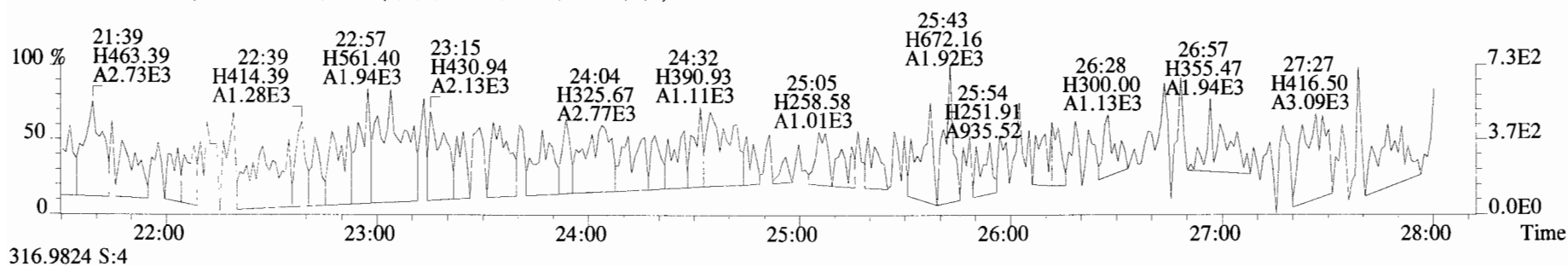
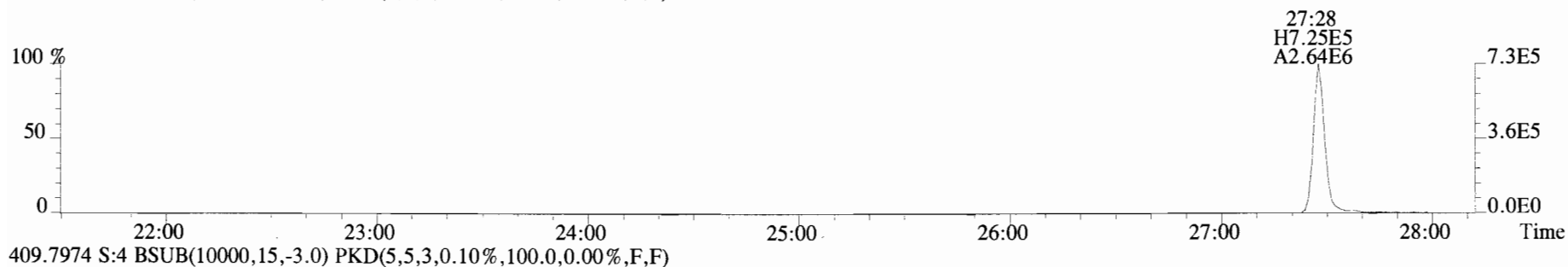
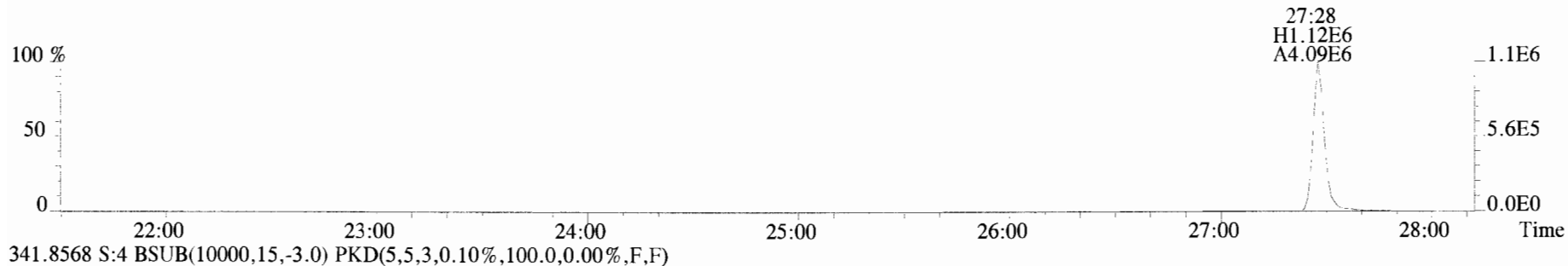
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



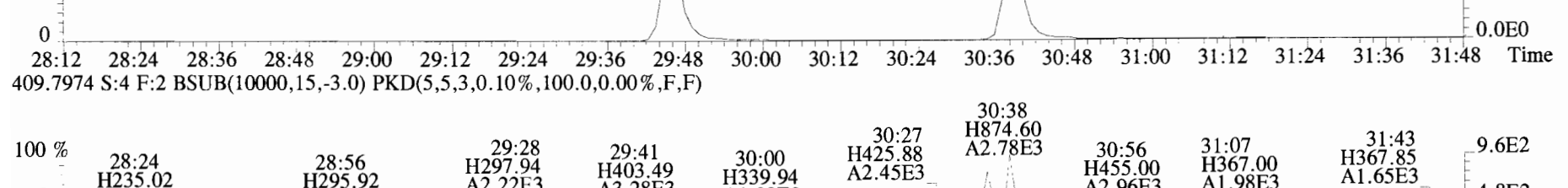
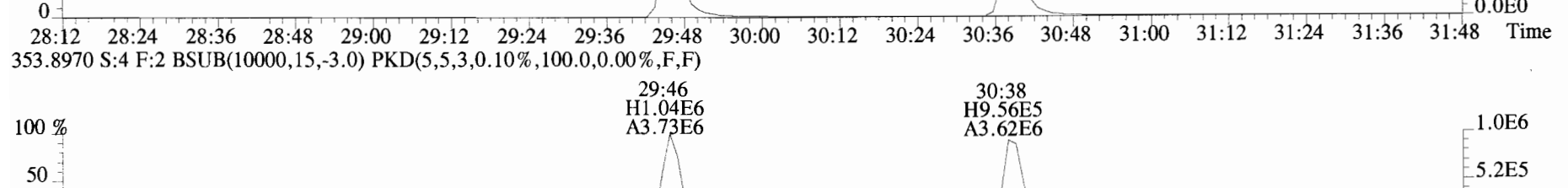
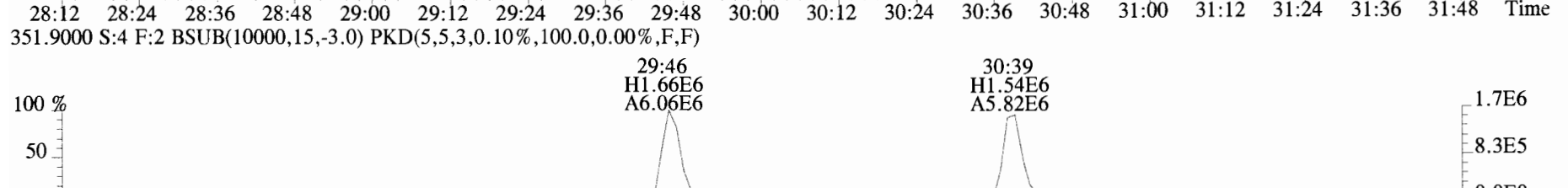
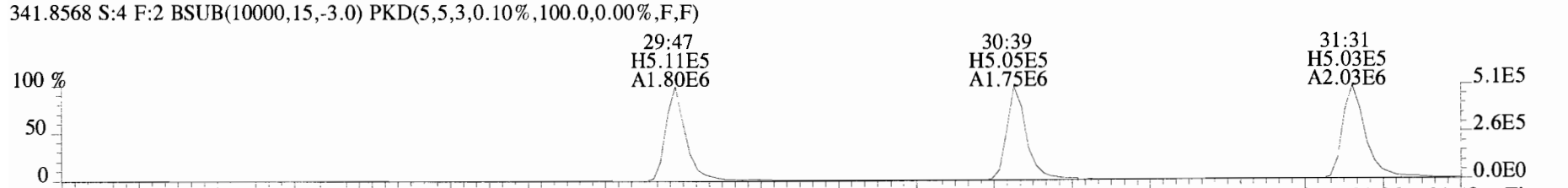
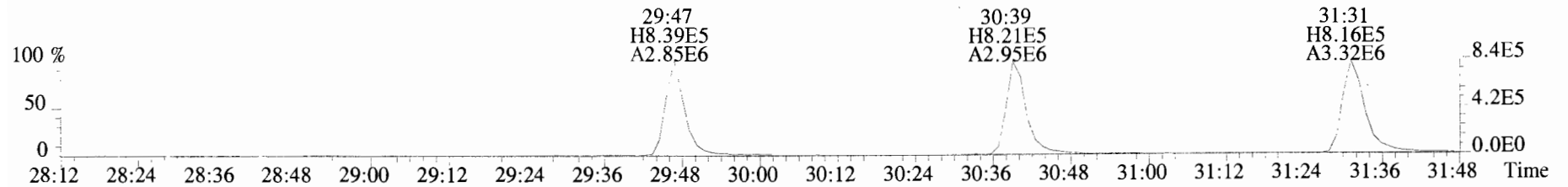
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



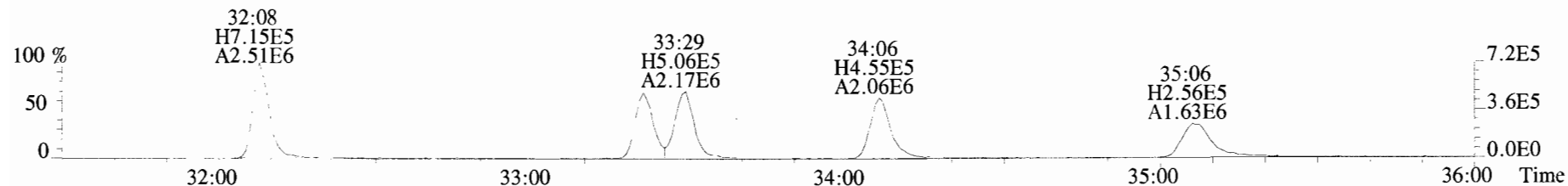
File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



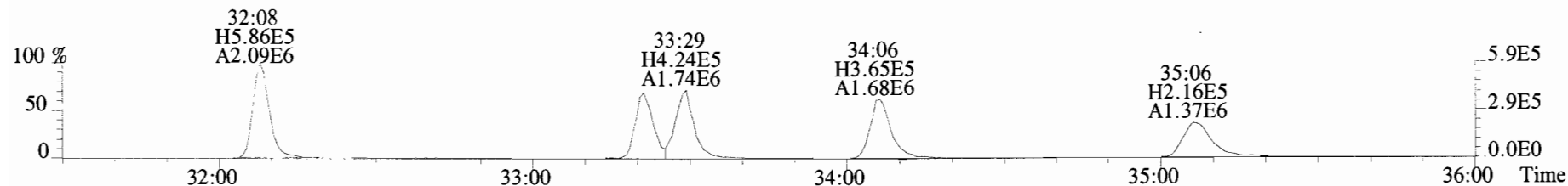
File:191009D1 #1-211 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



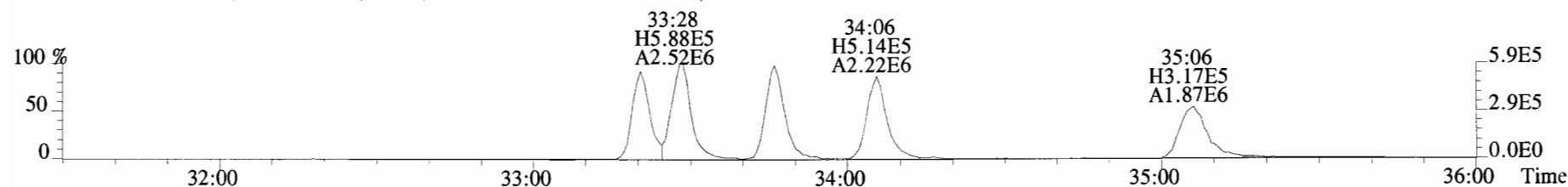
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



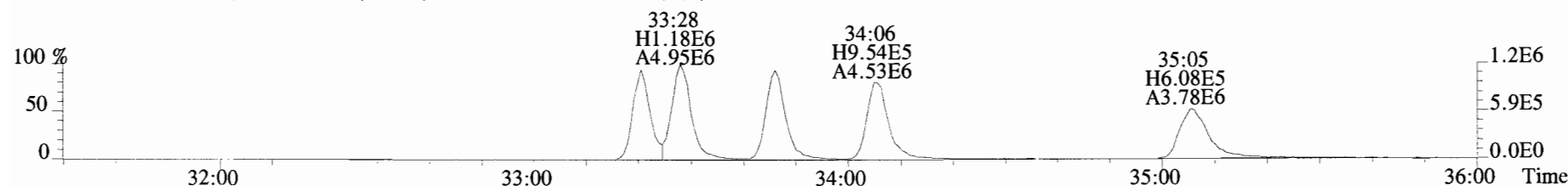
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



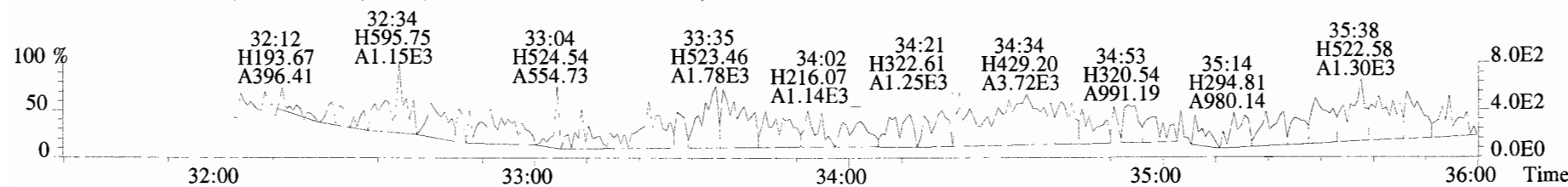
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



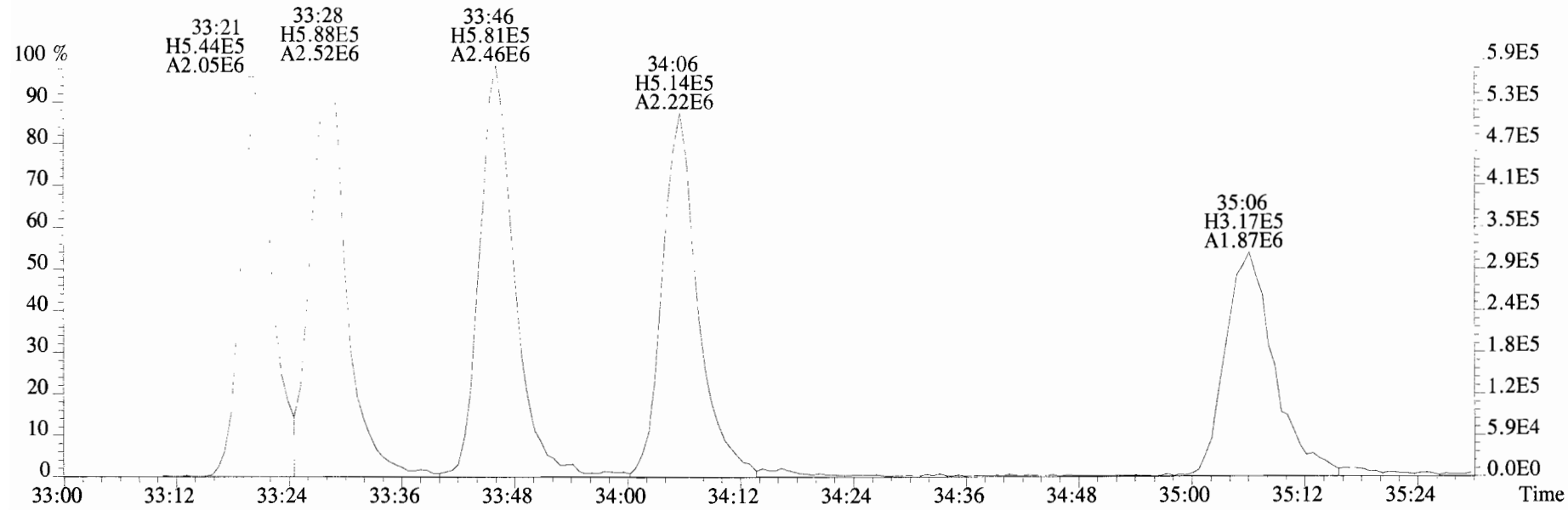
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



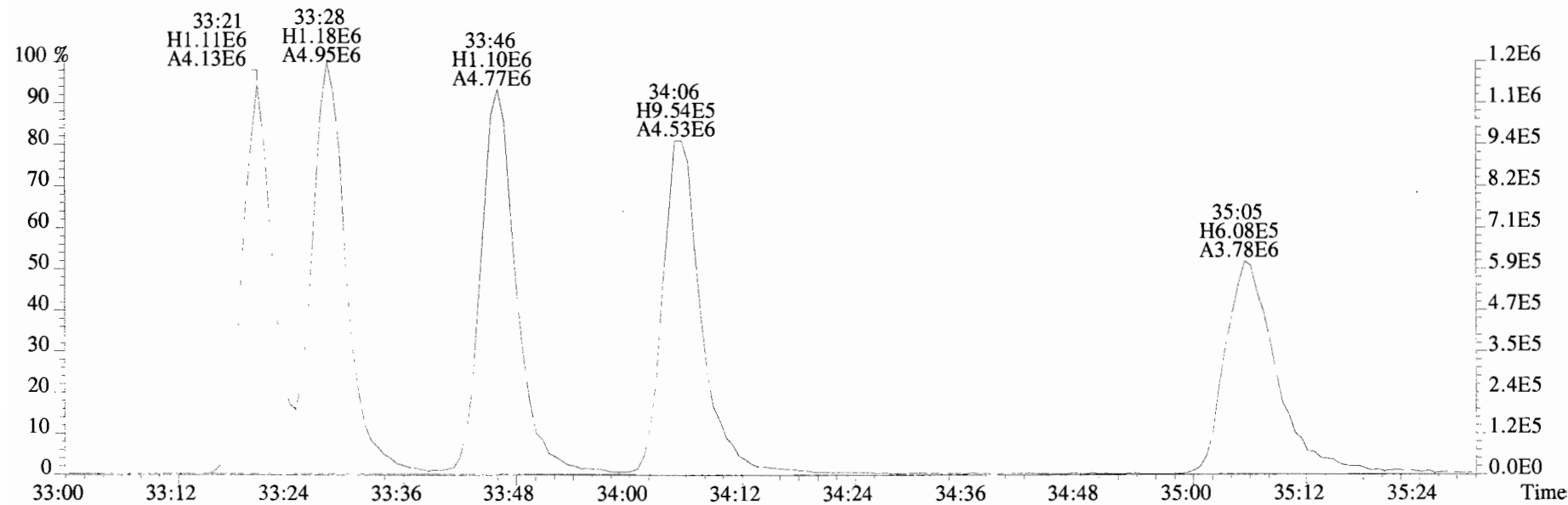
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



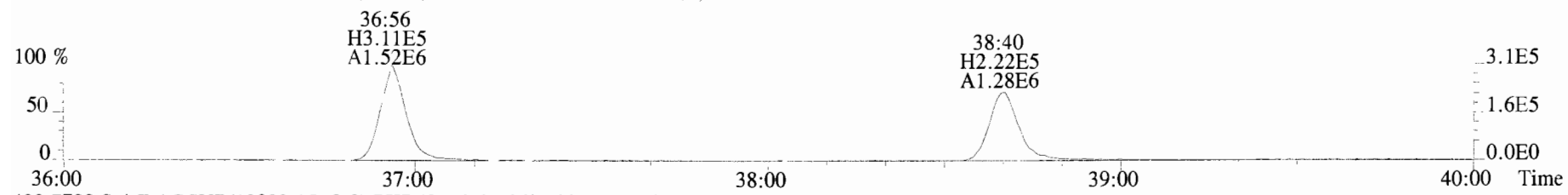
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



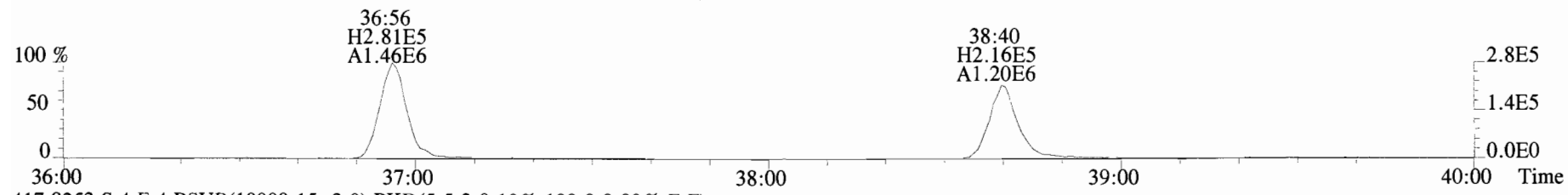
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



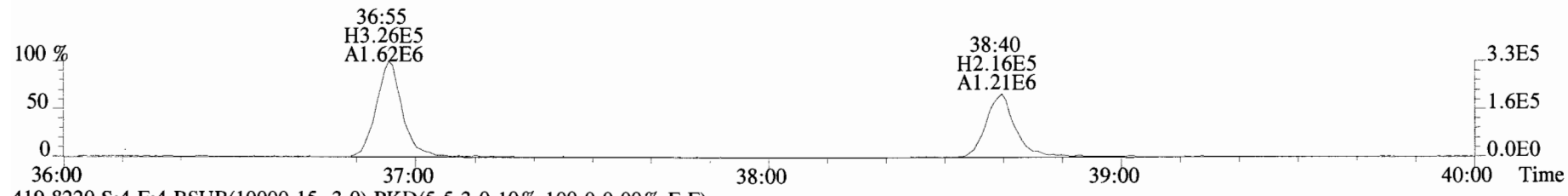
File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



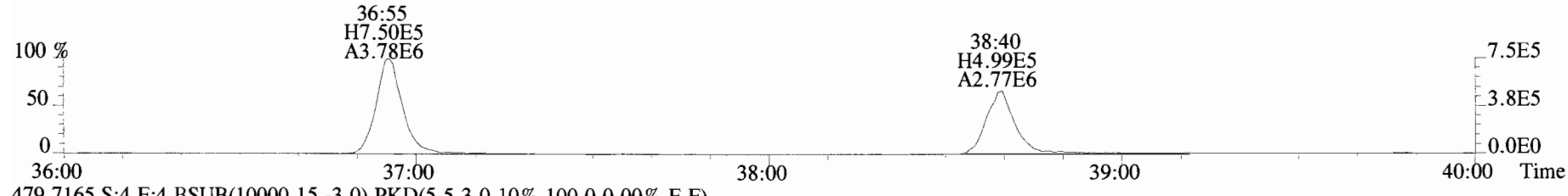
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



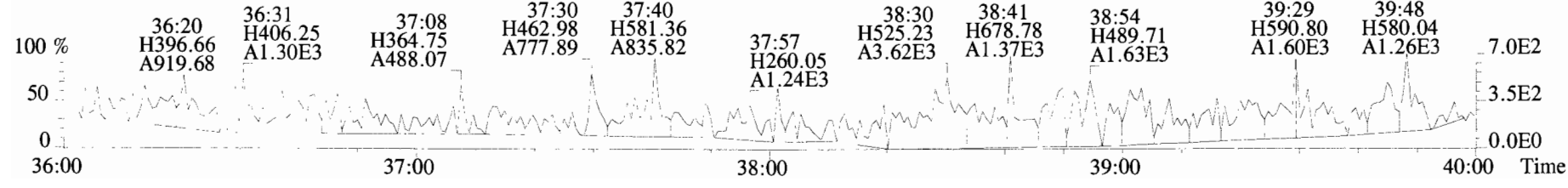
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



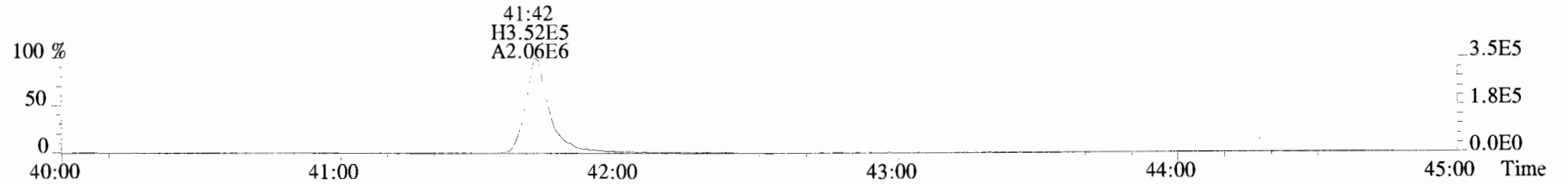
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



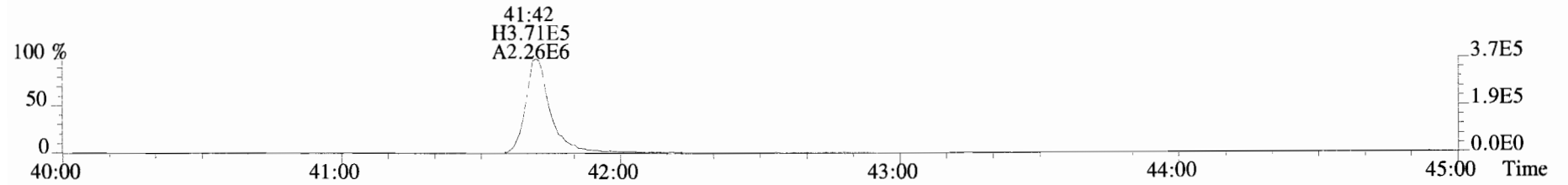
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



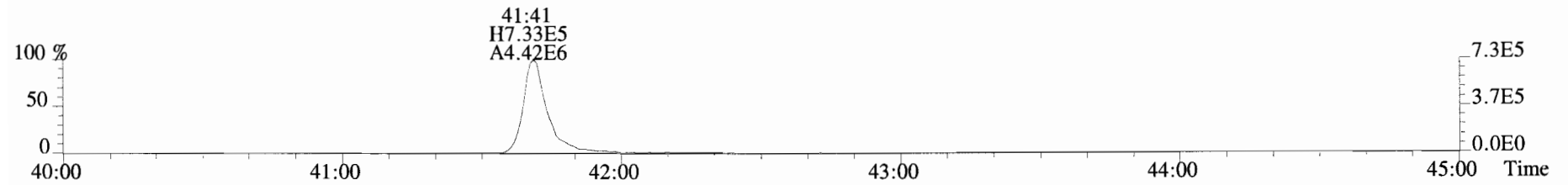
File:191009D1 #1-432 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



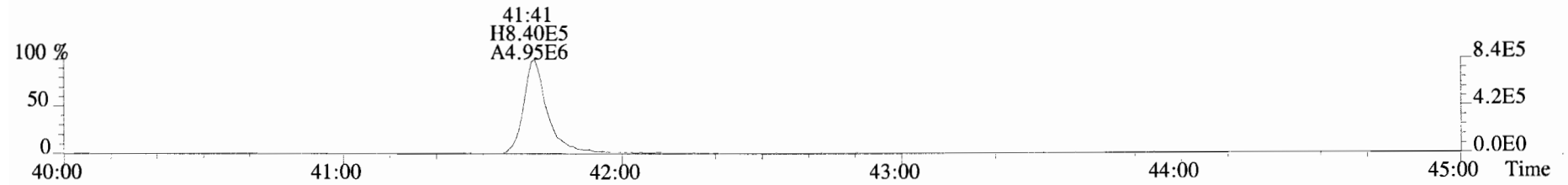
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



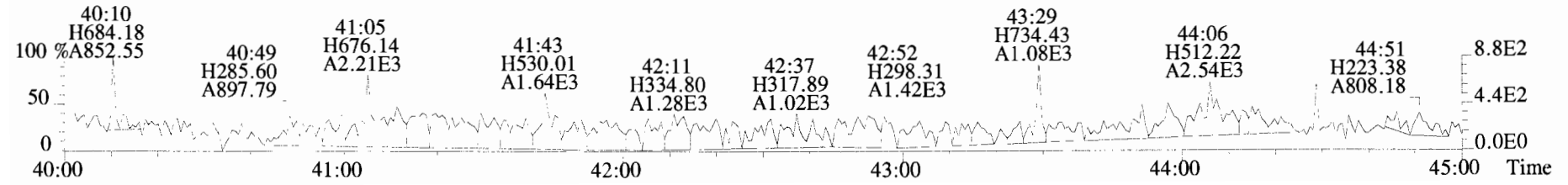
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



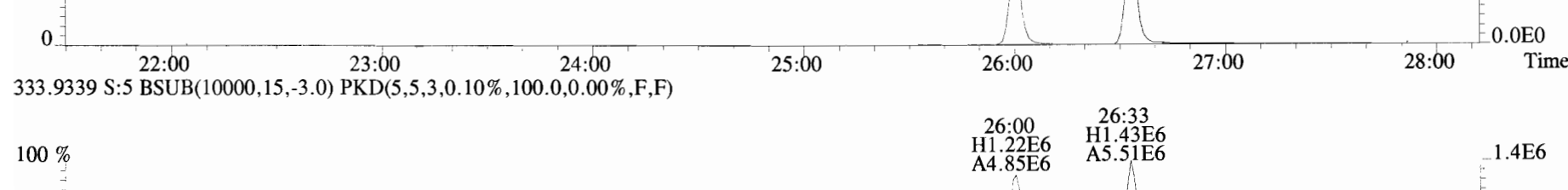
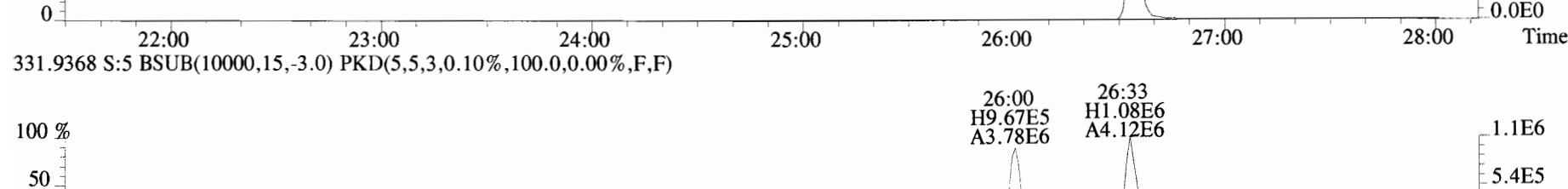
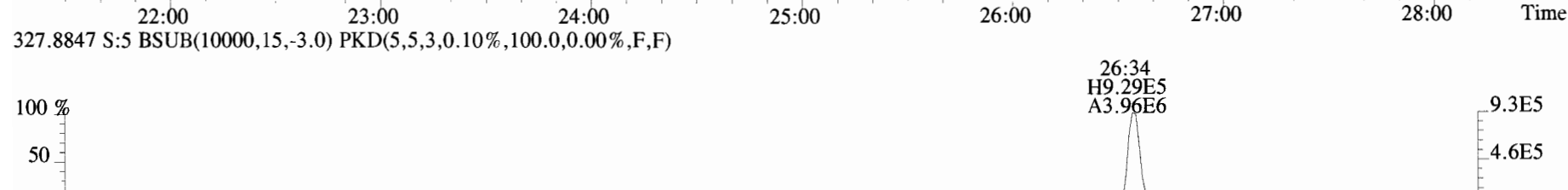
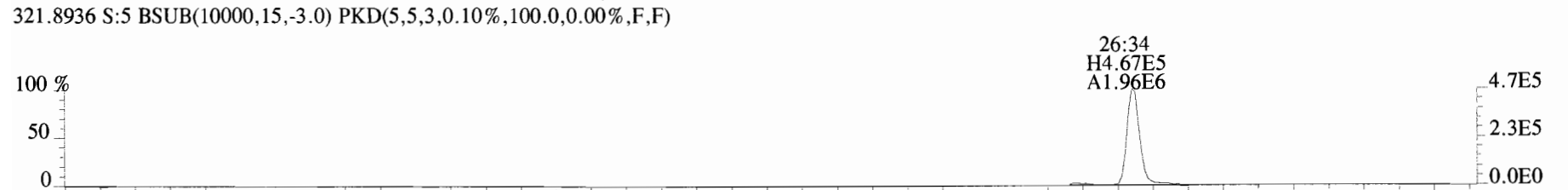
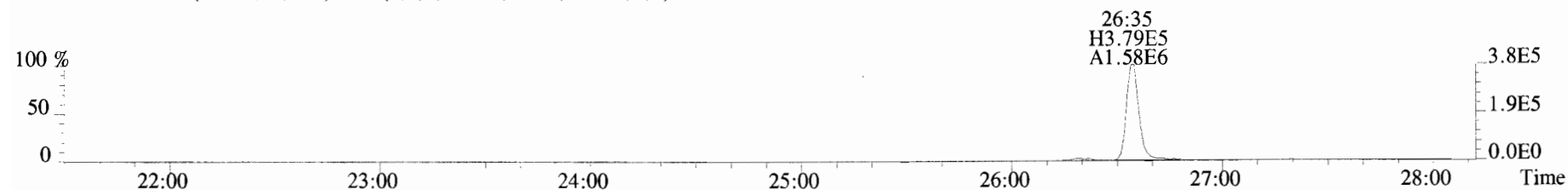
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



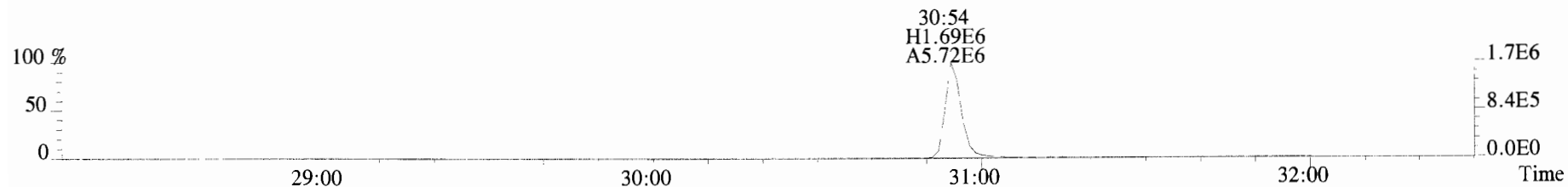
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



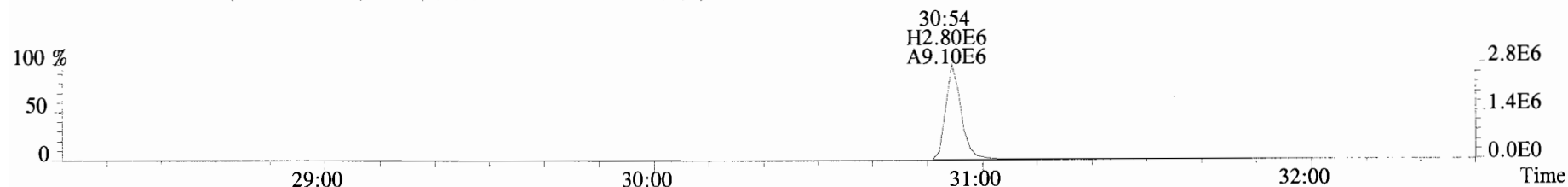
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



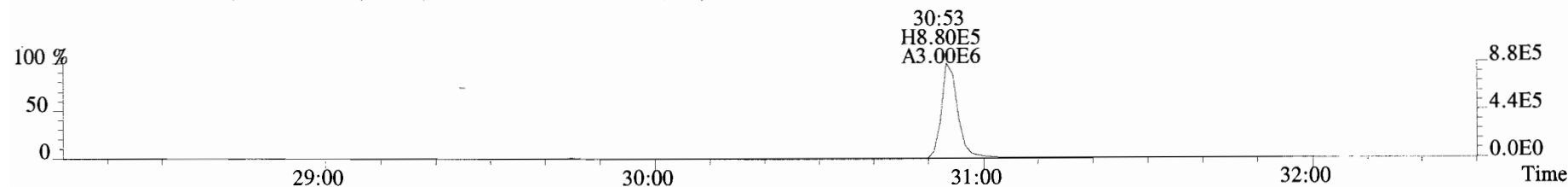
File:191009D1 #1-210 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



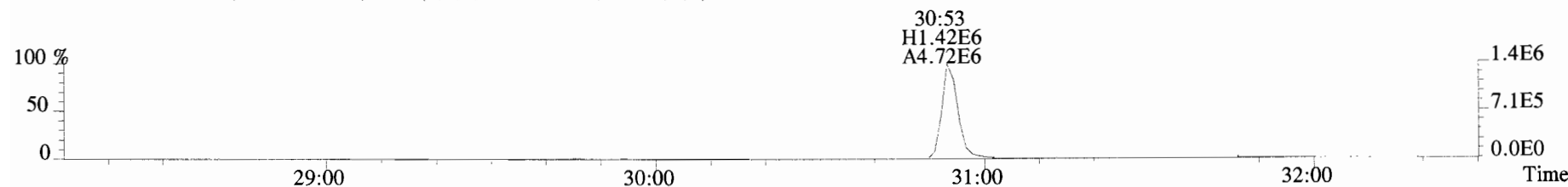
355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



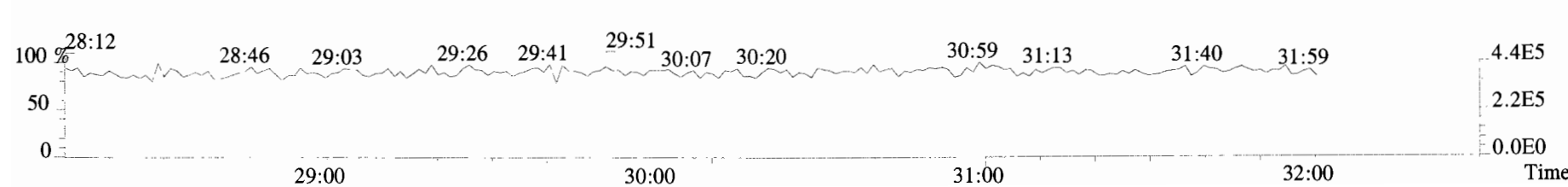
365.8978 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



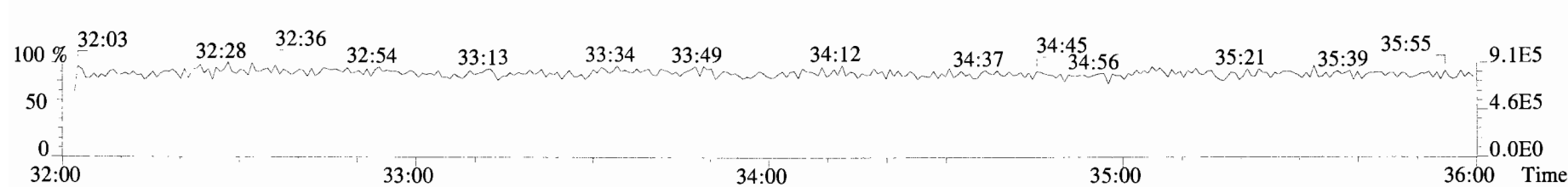
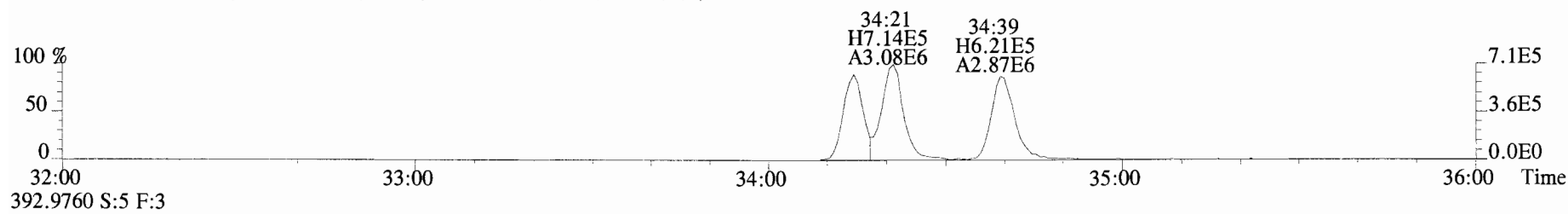
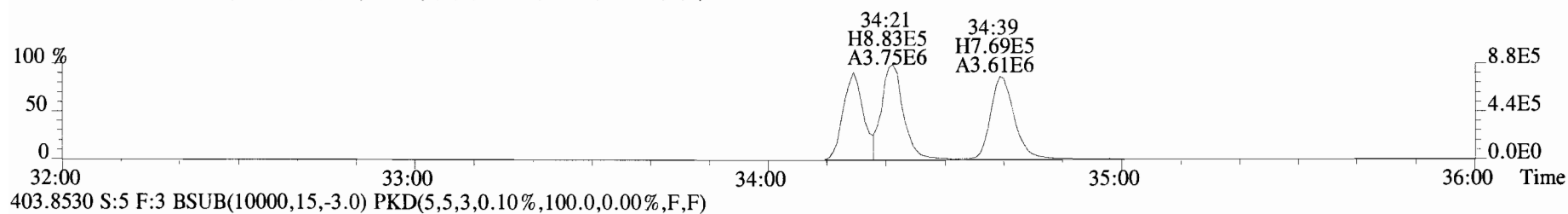
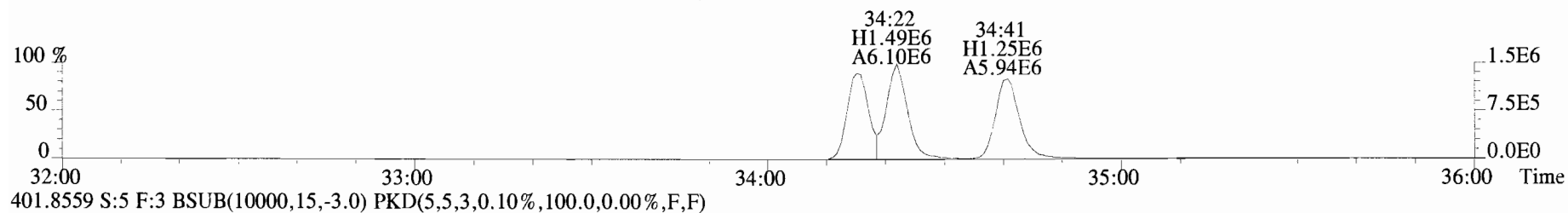
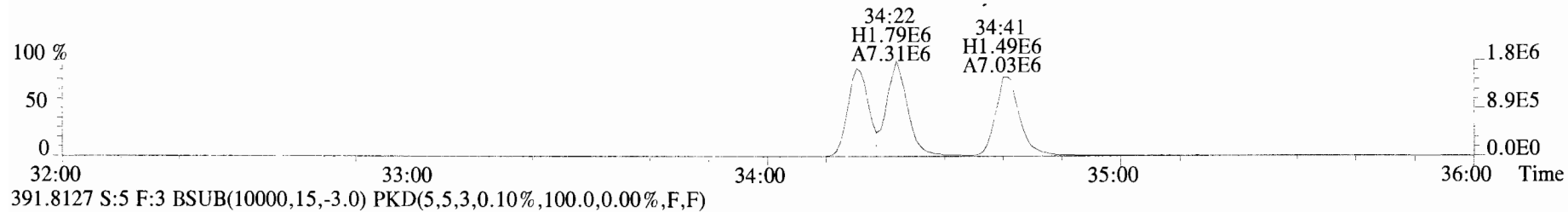
367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



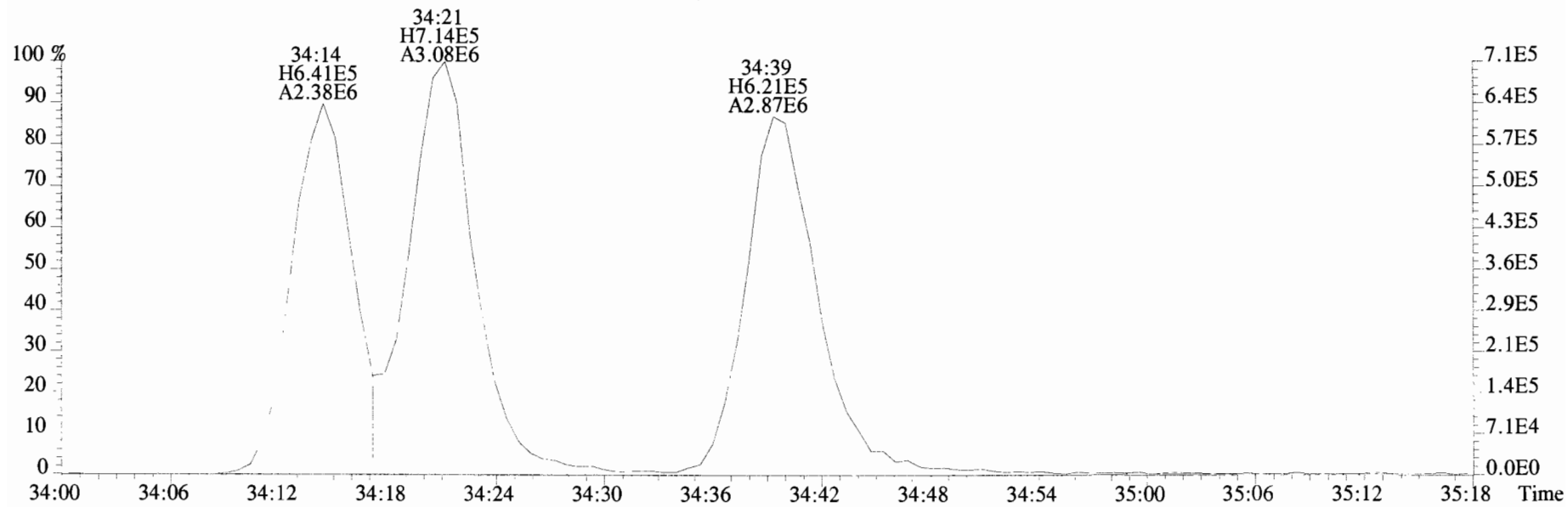
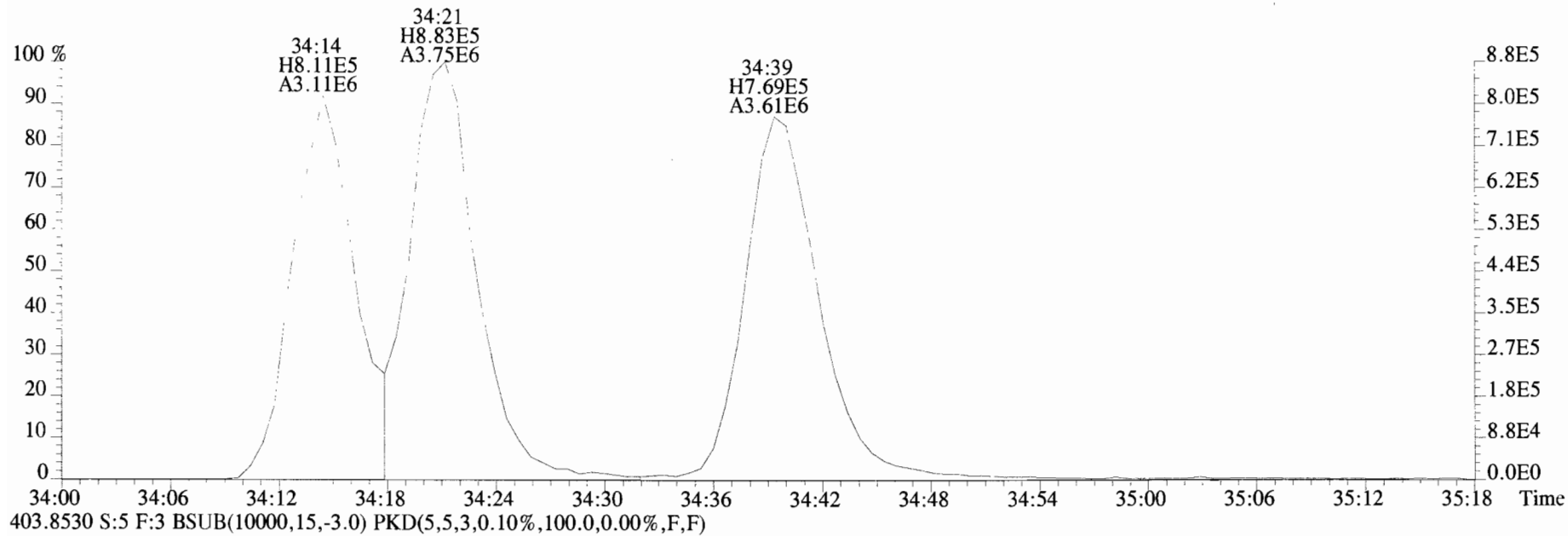
366.9792 S:5 F:2



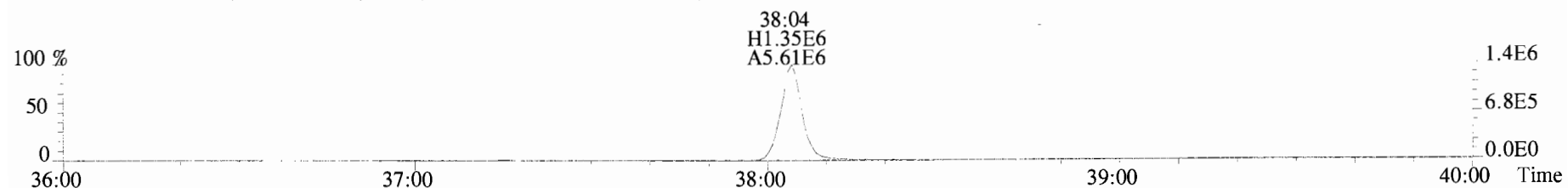
File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



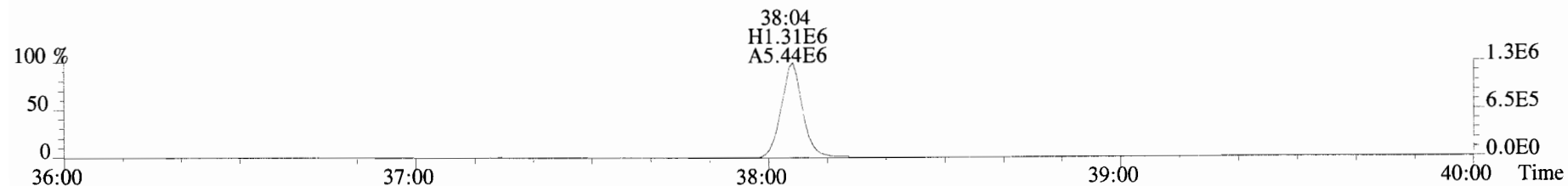
File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



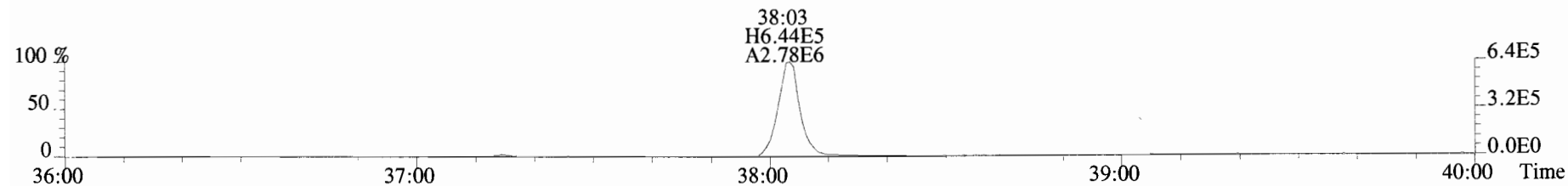
File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



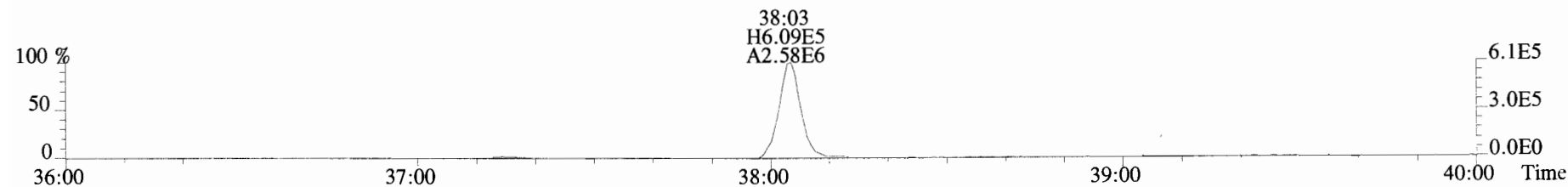
425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



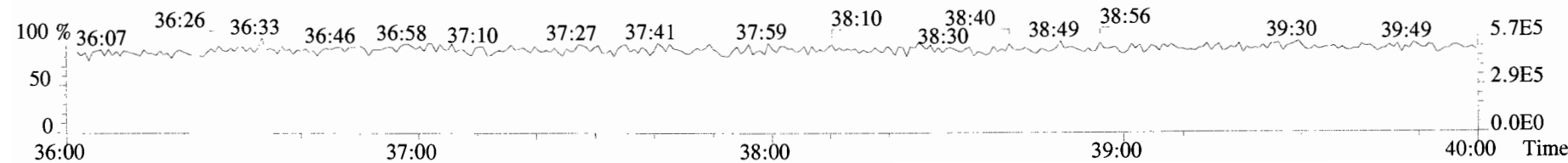
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



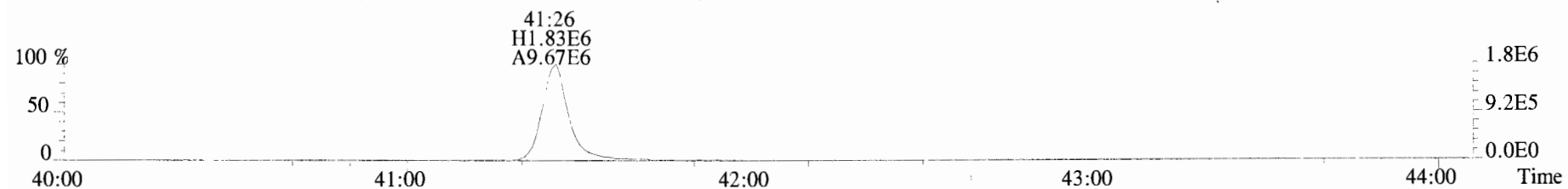
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



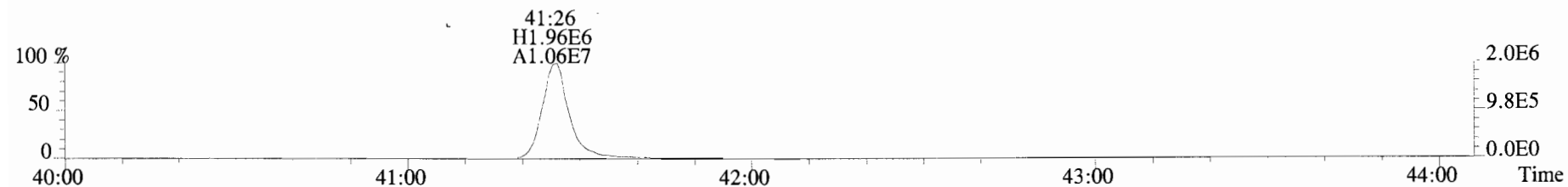
454.9728 S:5 F:4



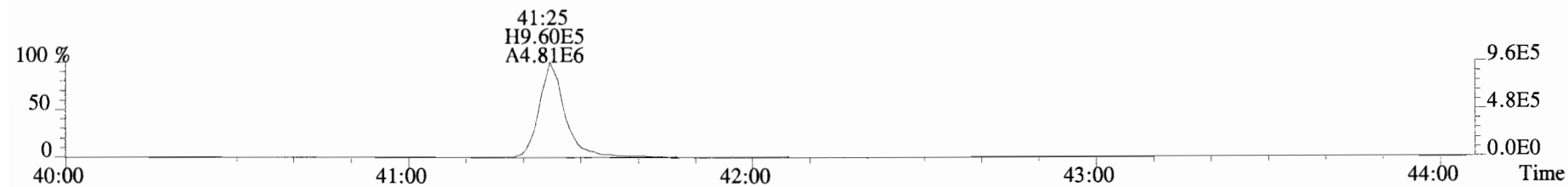
File:191009D1 #1-431 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



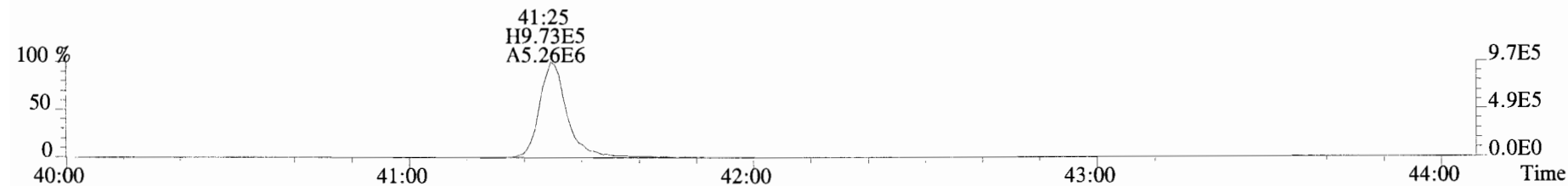
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



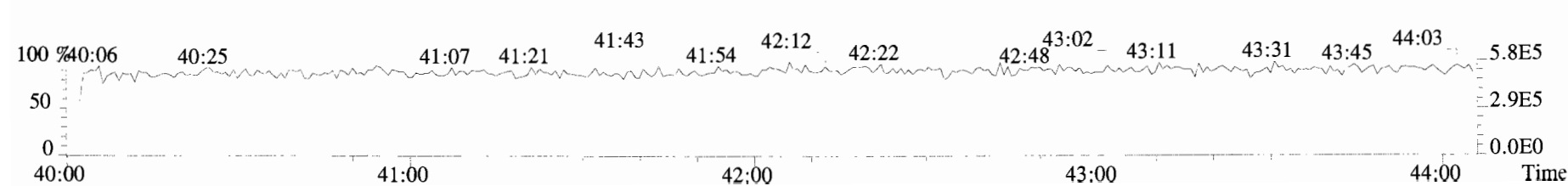
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



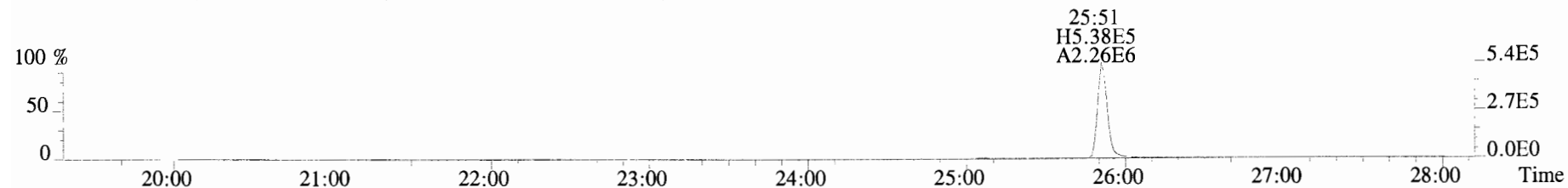
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



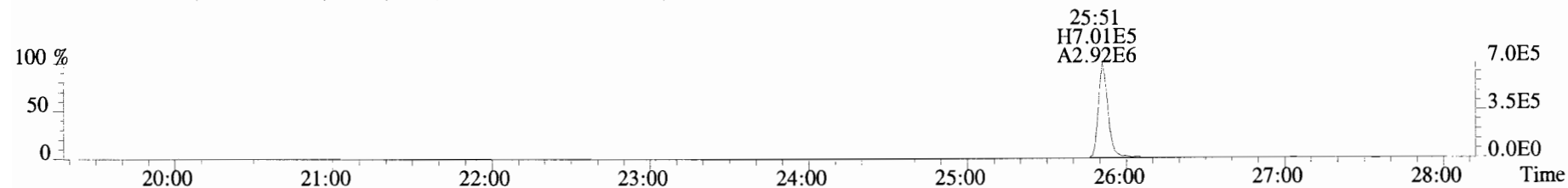
454.9728 S:5 F:5



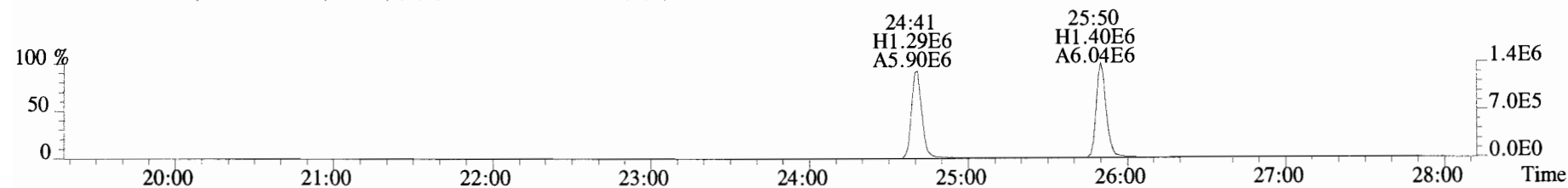
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



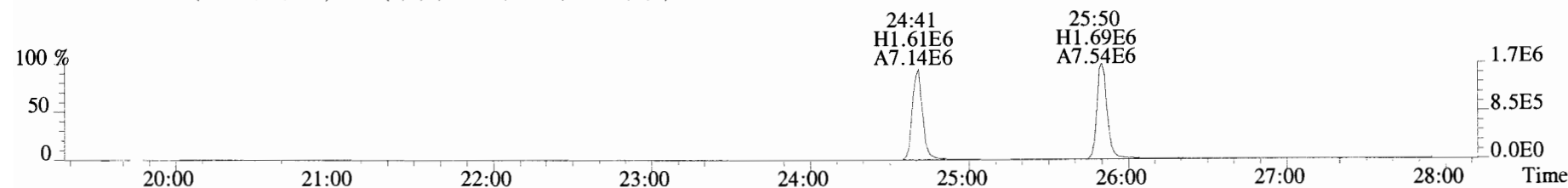
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



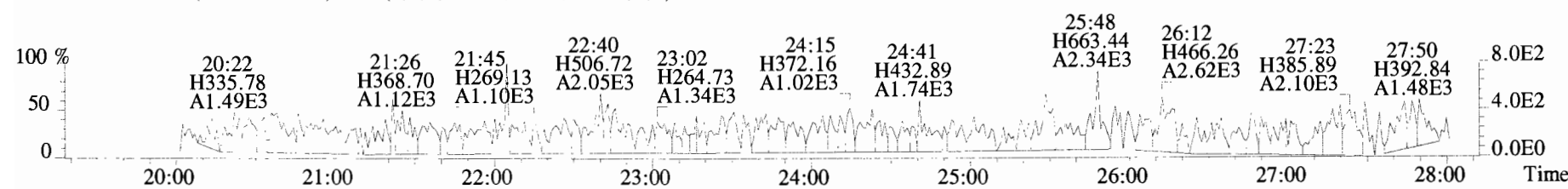
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



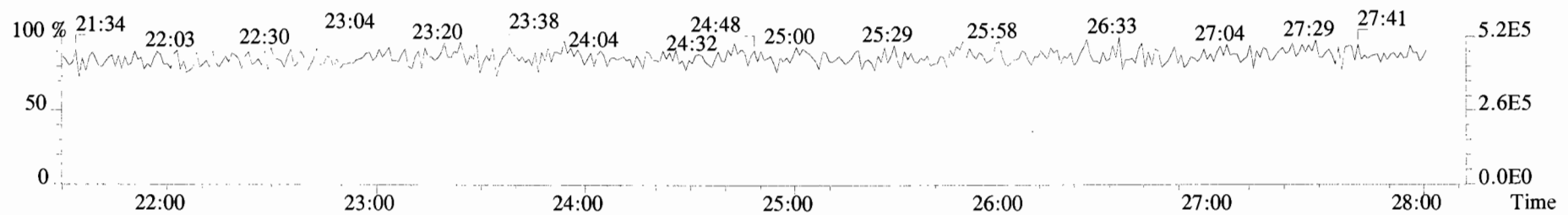
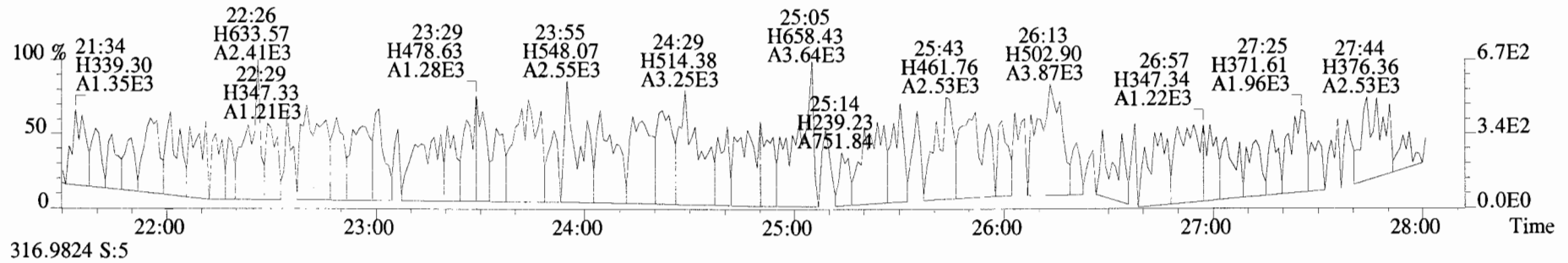
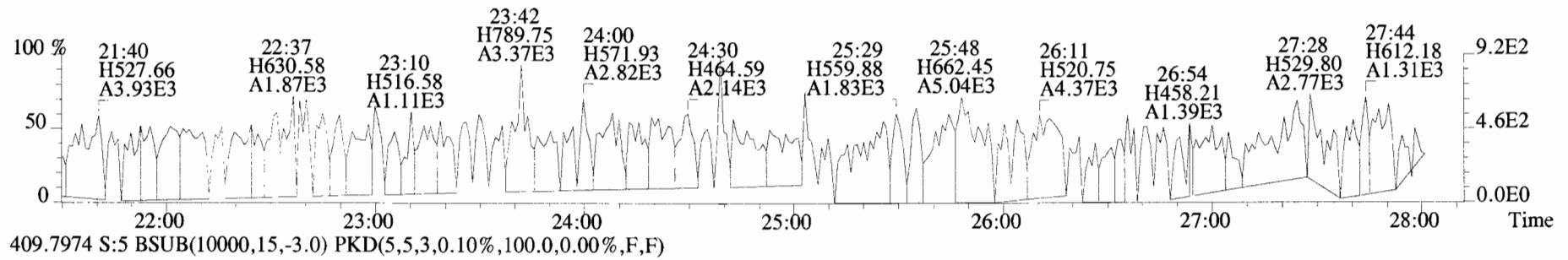
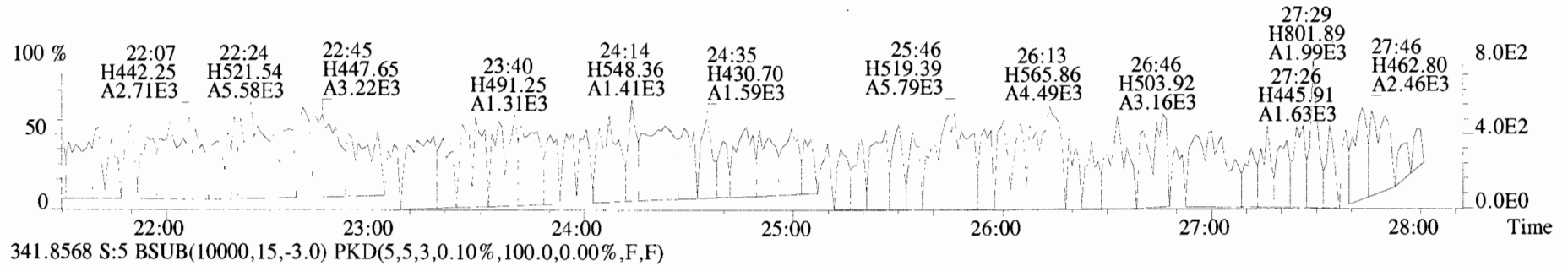
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



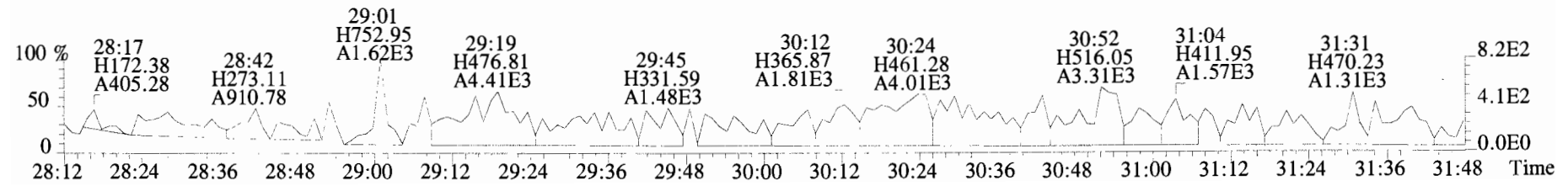
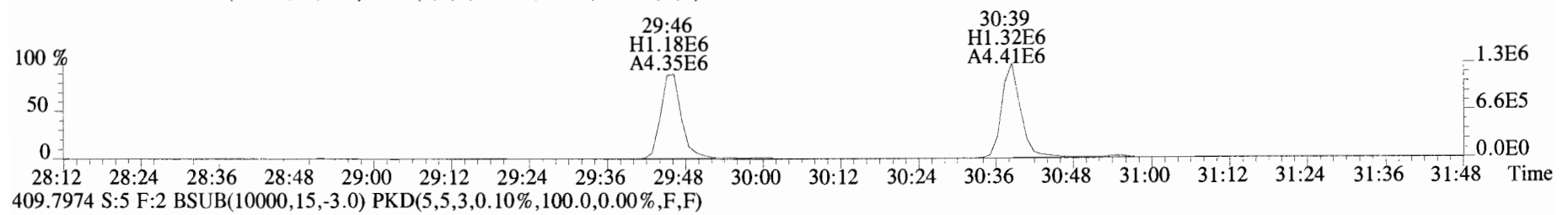
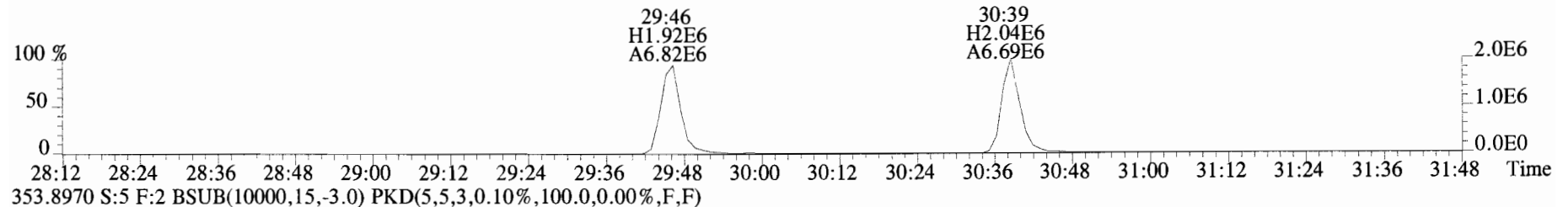
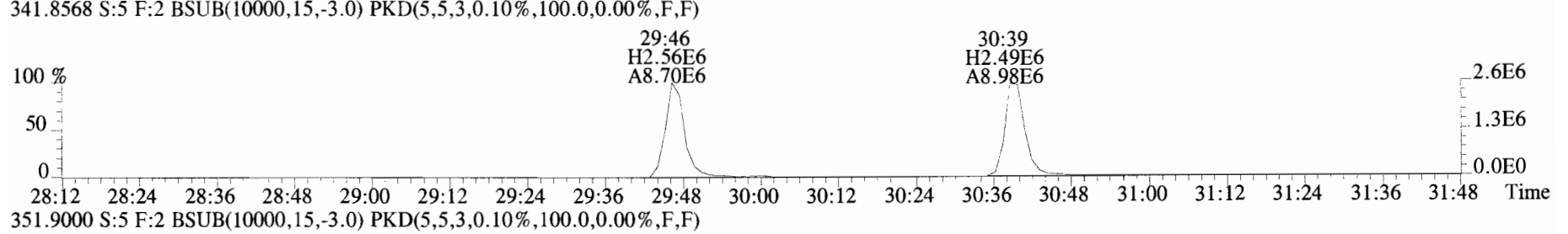
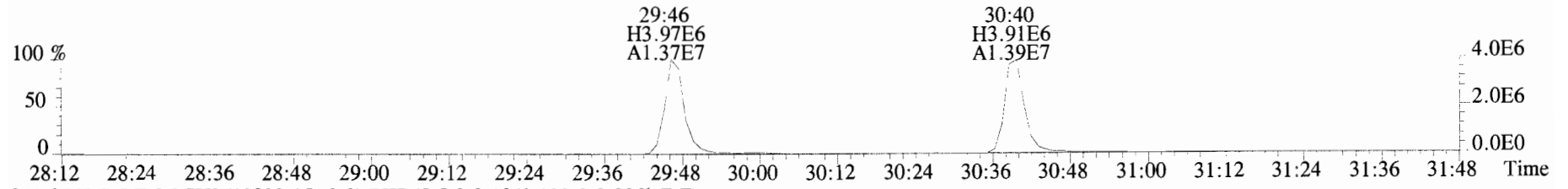
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



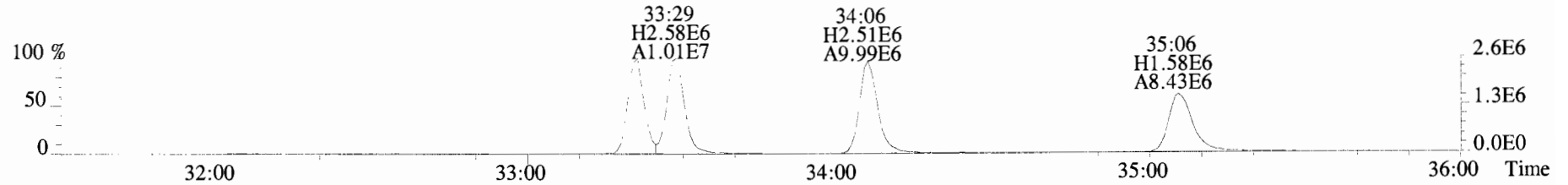
File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
 339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



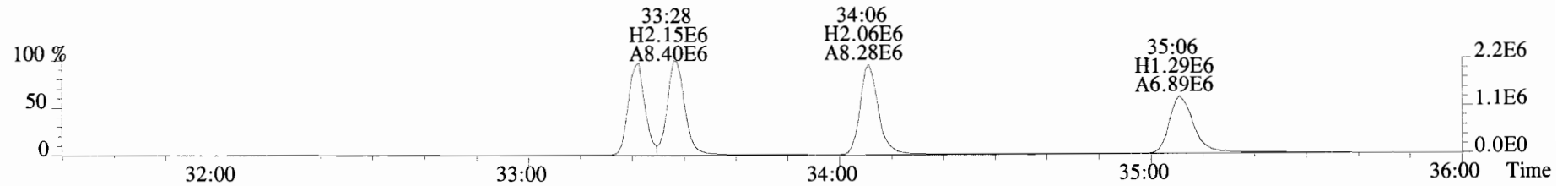
File:191009D1 #1-210 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



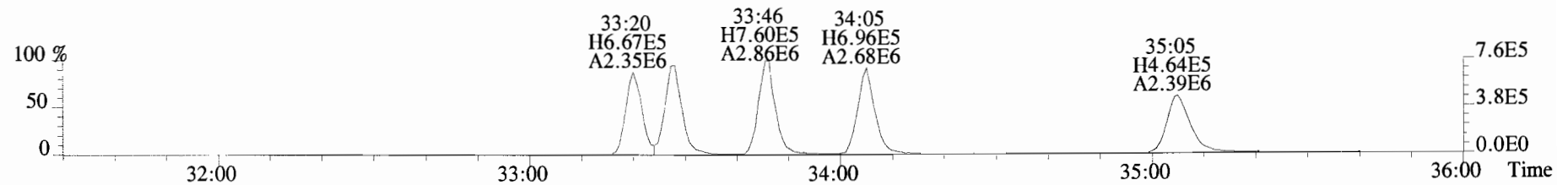
File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



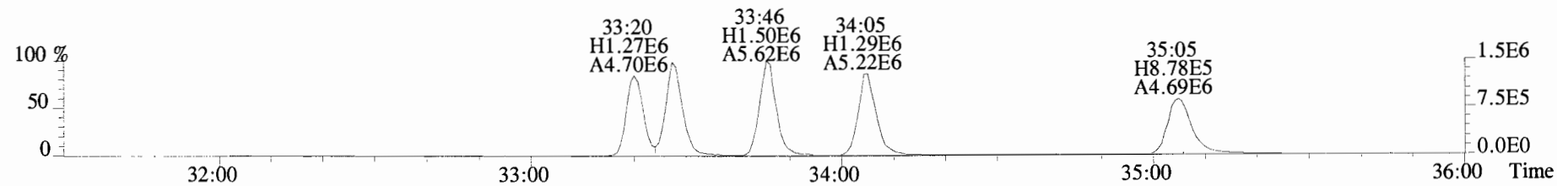
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



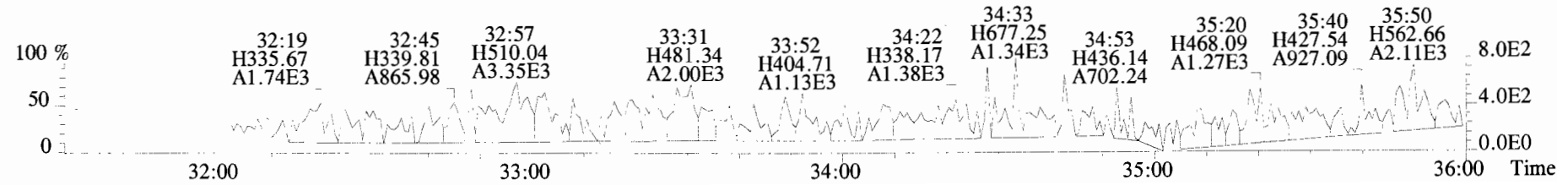
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



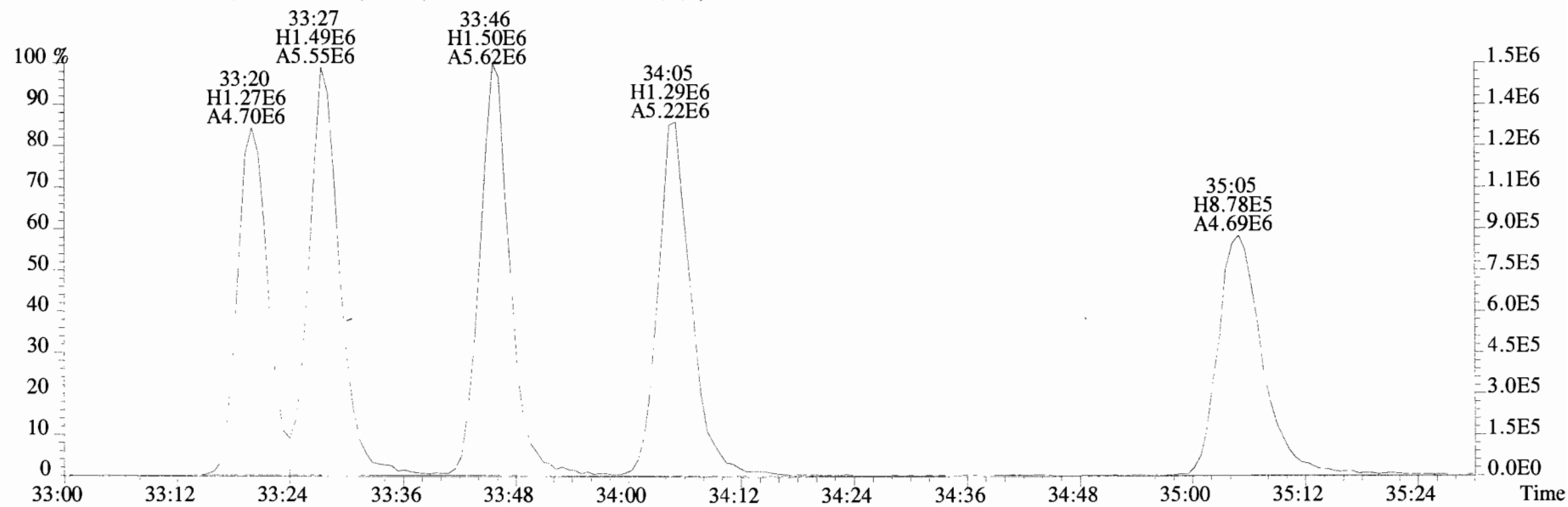
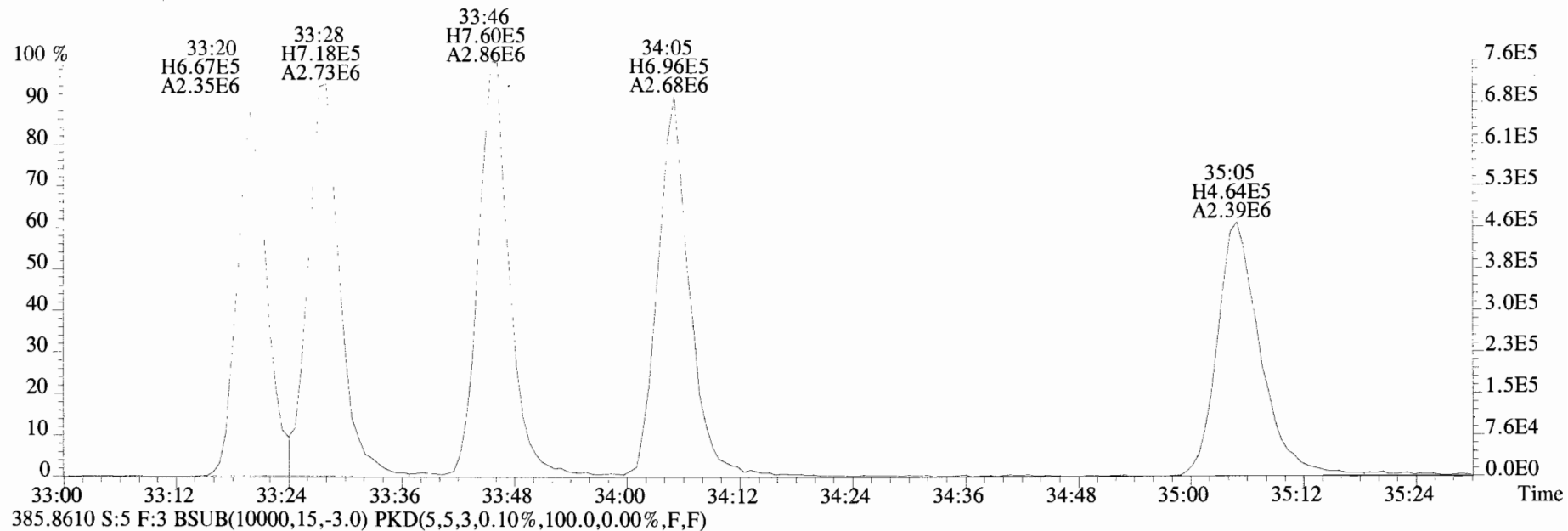
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



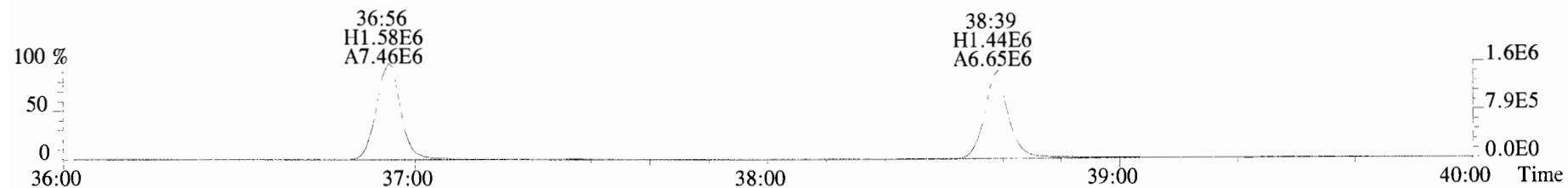
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



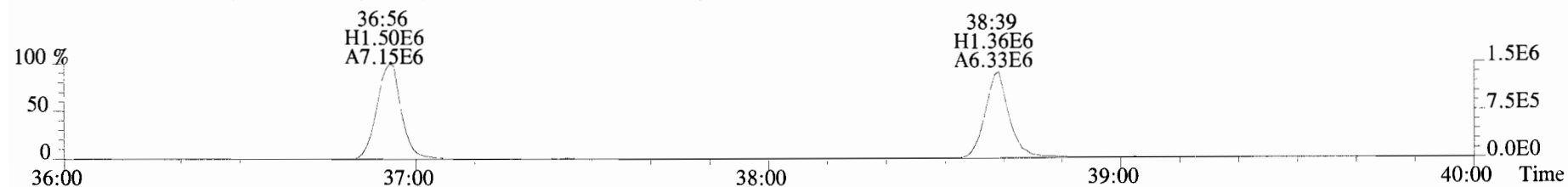
File: 191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text: ST191009D1-5 1613 CS4 19C2205 Exp: OCDD_DB5
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



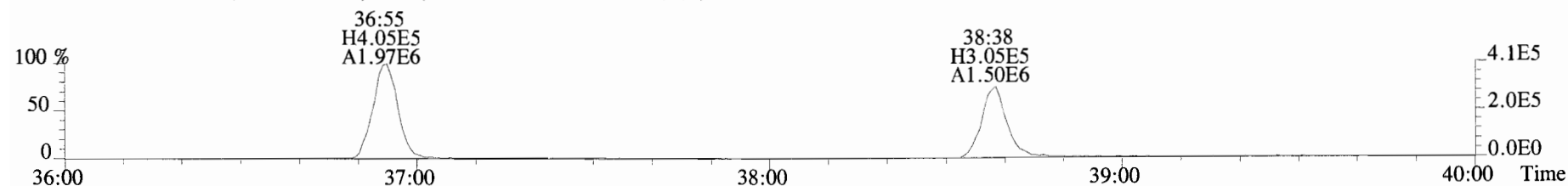
File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



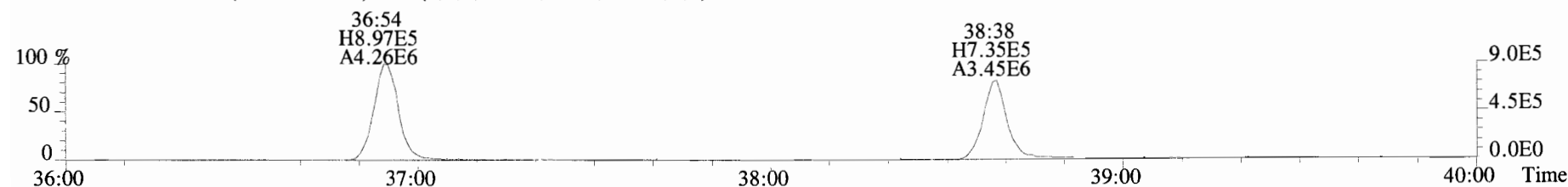
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



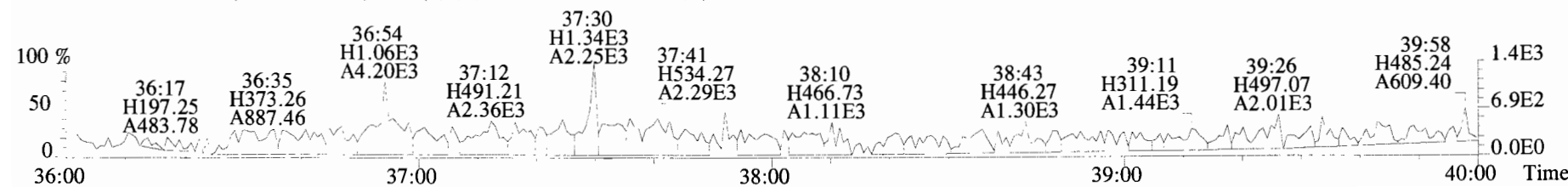
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



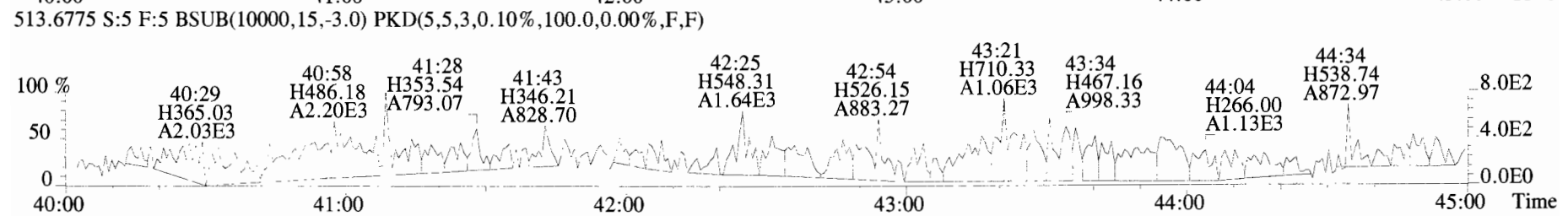
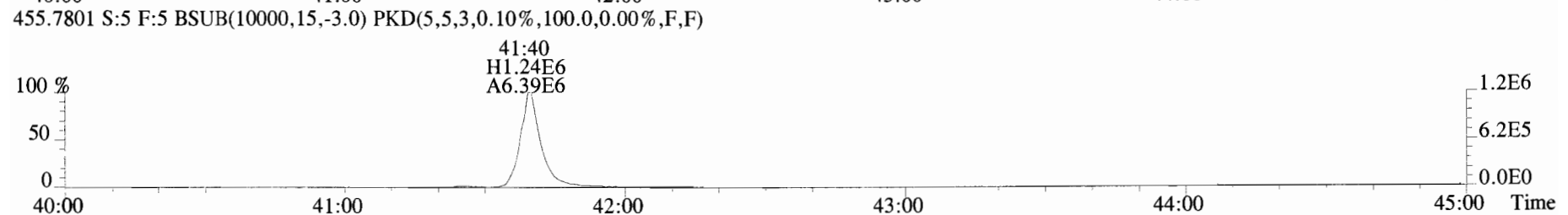
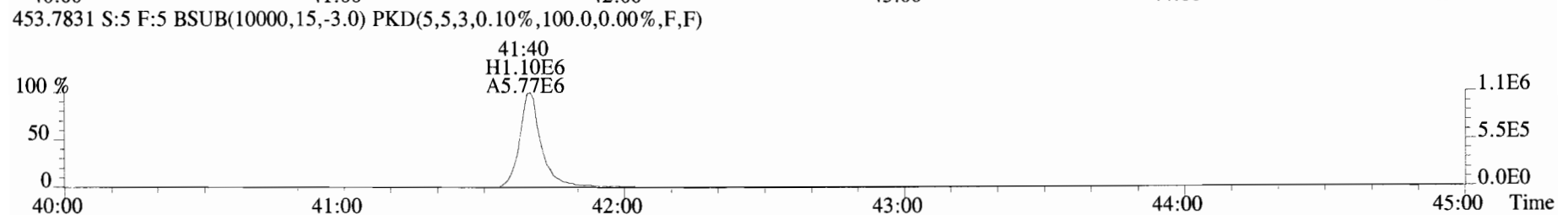
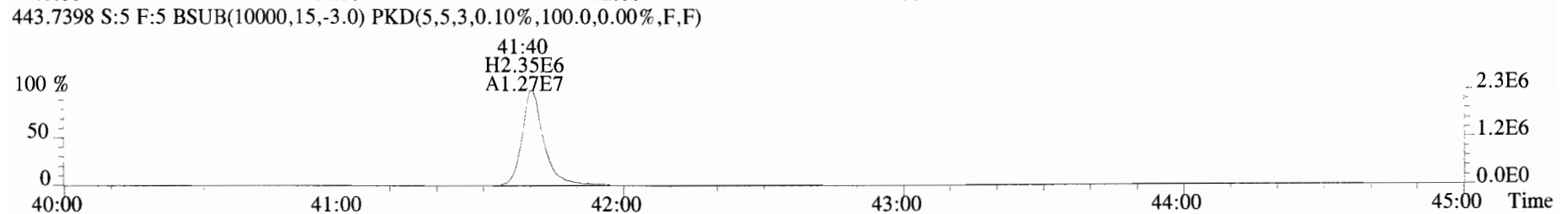
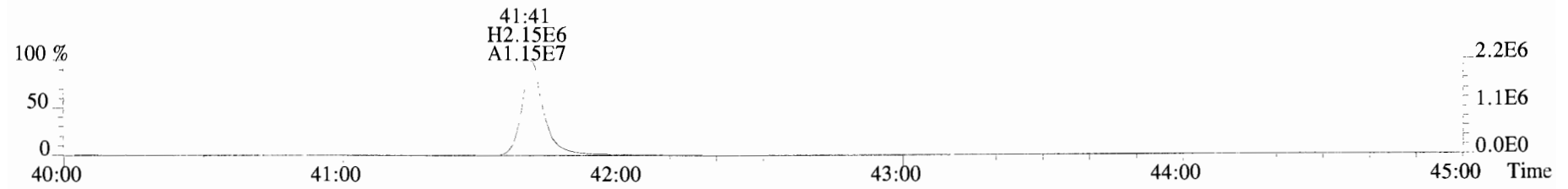
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



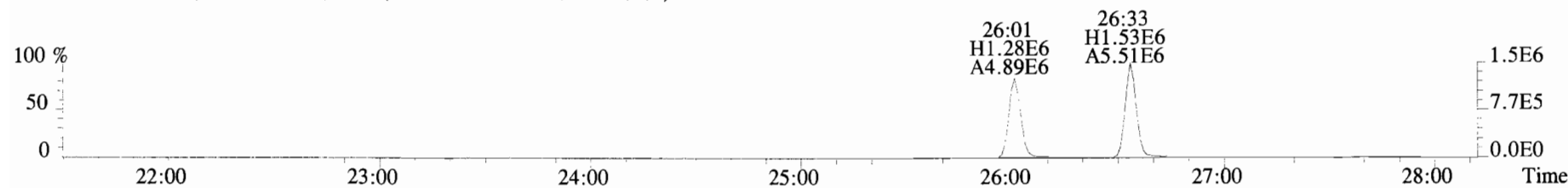
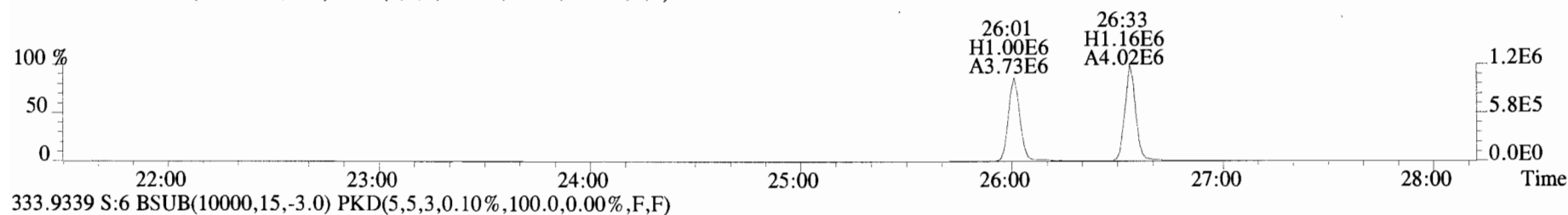
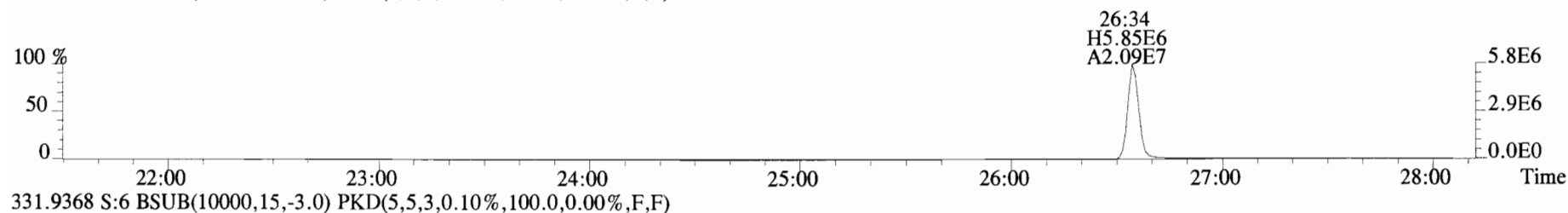
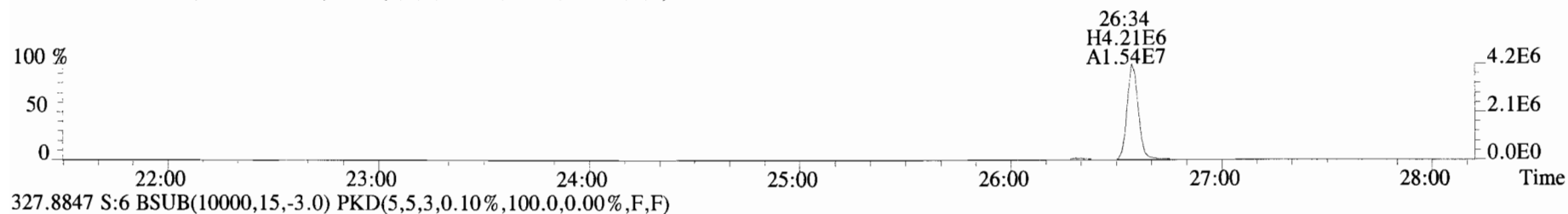
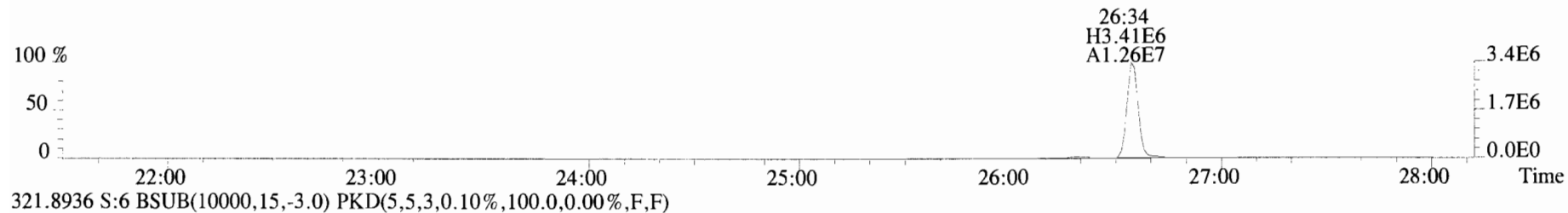
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



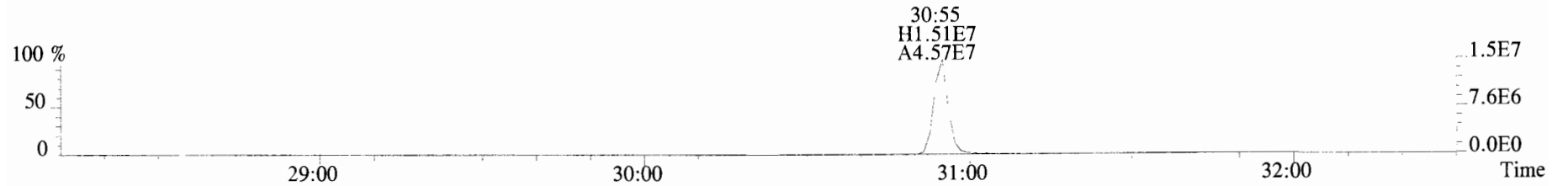
File:191009D1 #1-431 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



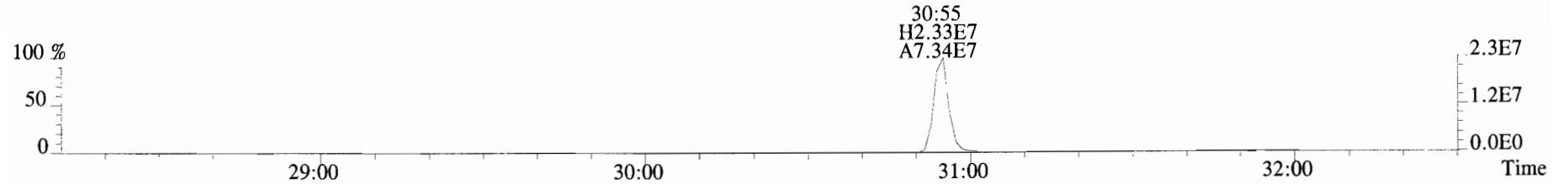
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



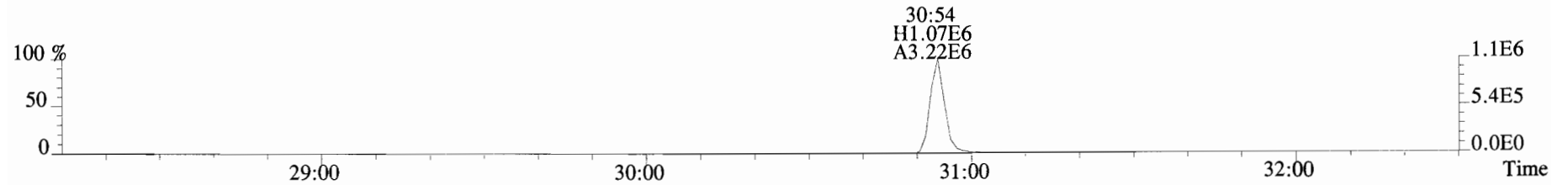
File:191009D1 #1-211 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



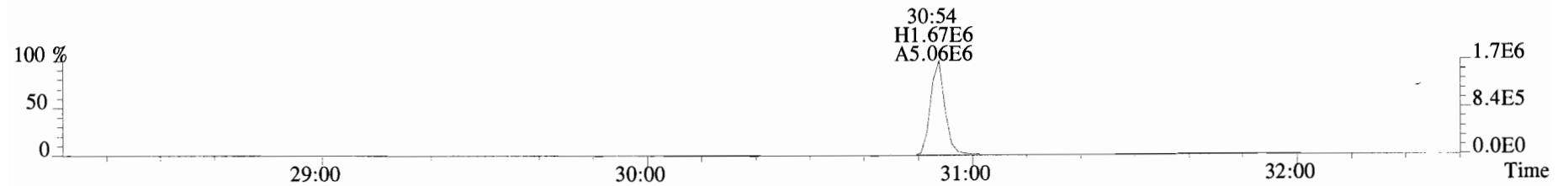
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



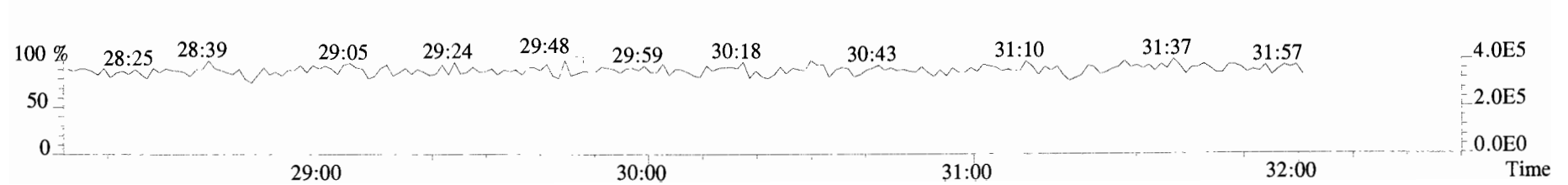
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



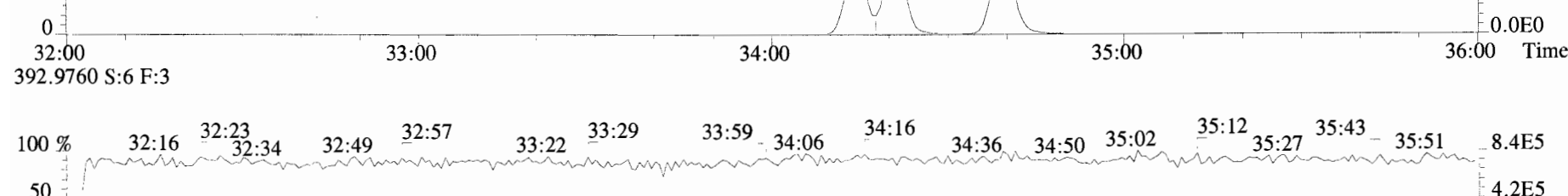
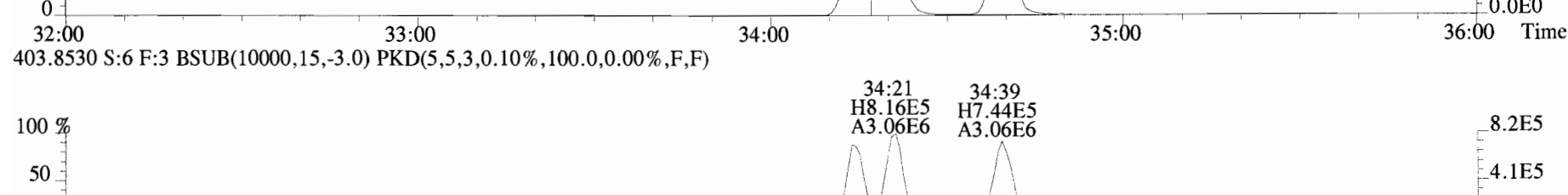
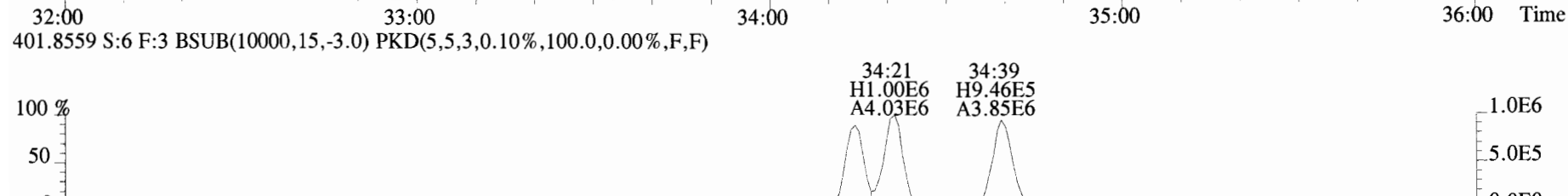
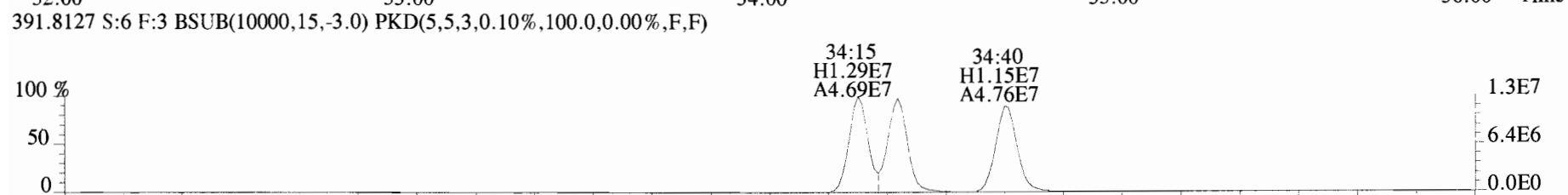
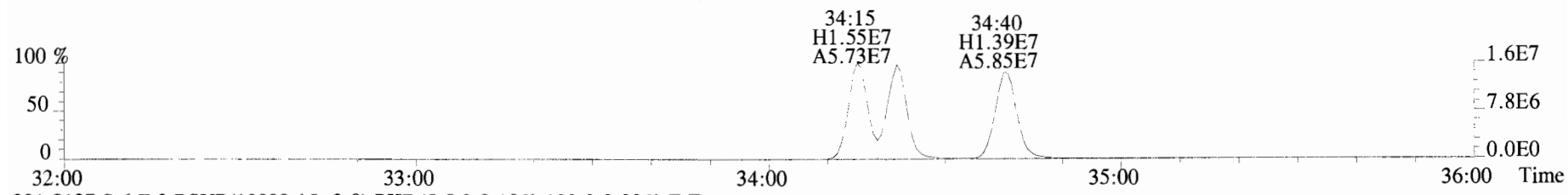
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



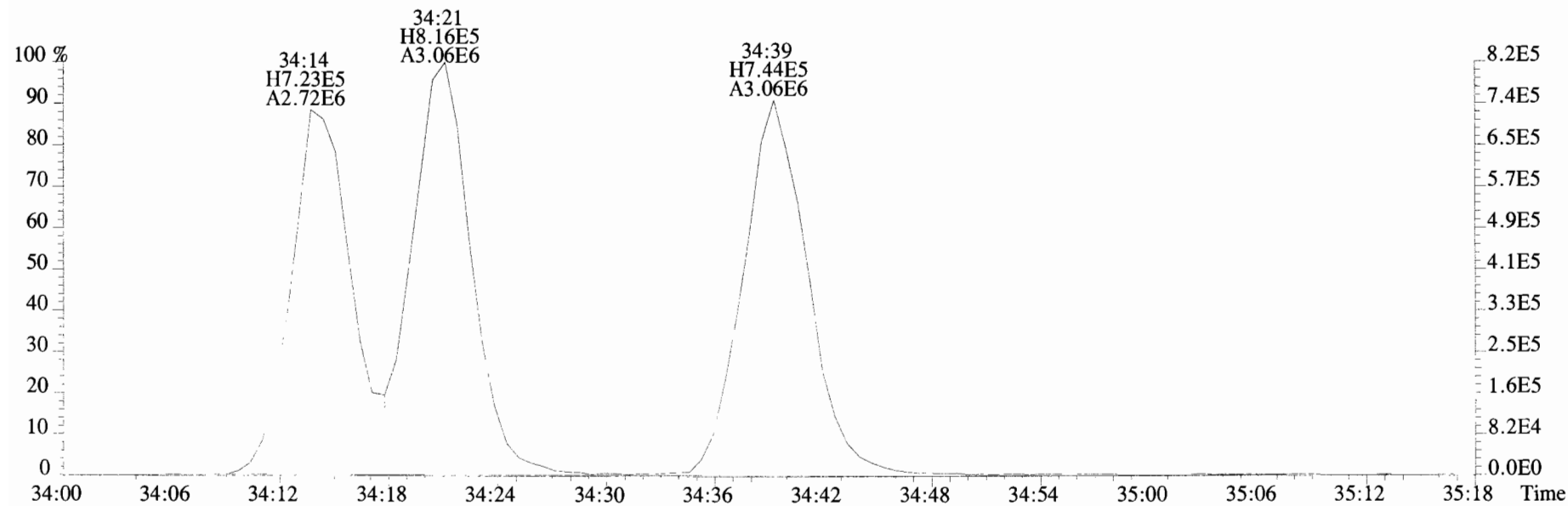
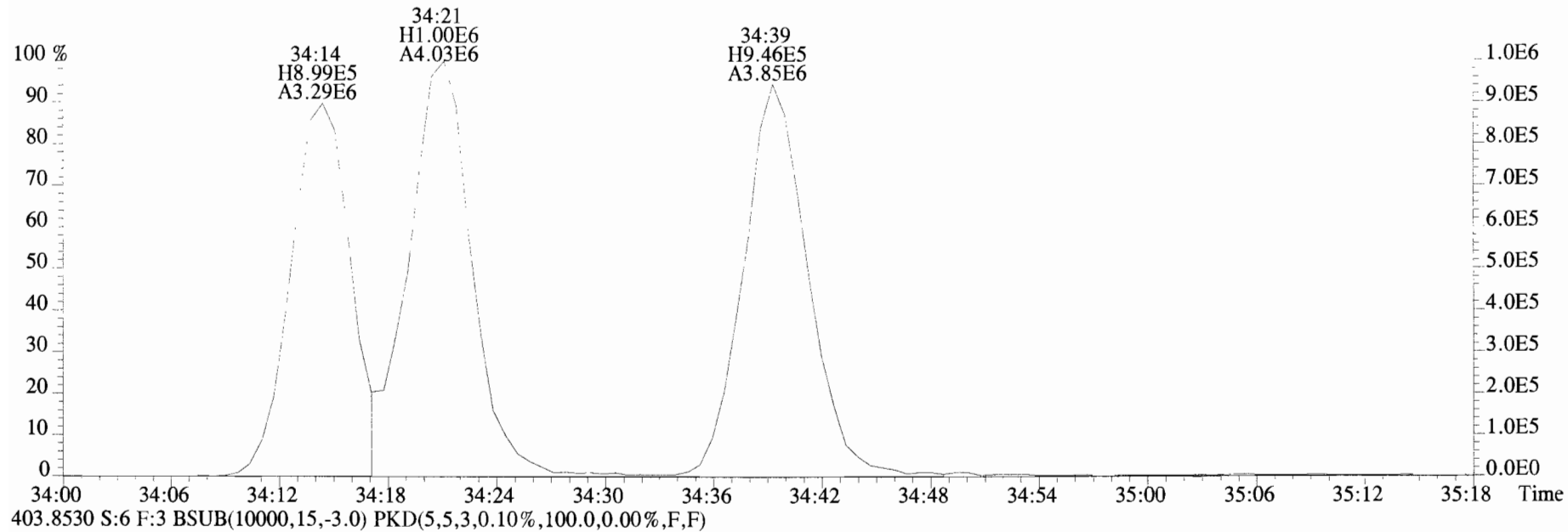
366.9792 S:6 F:2



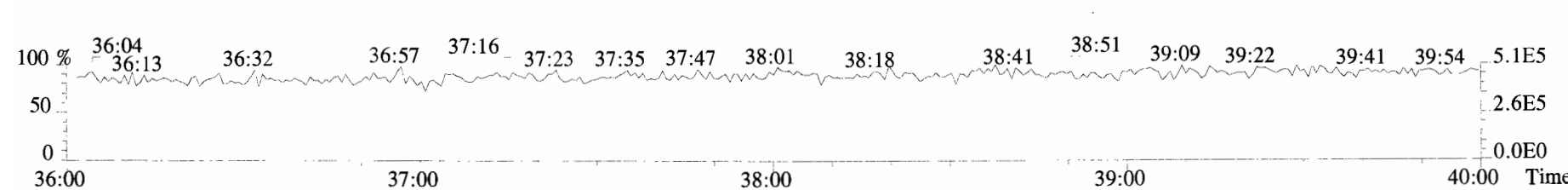
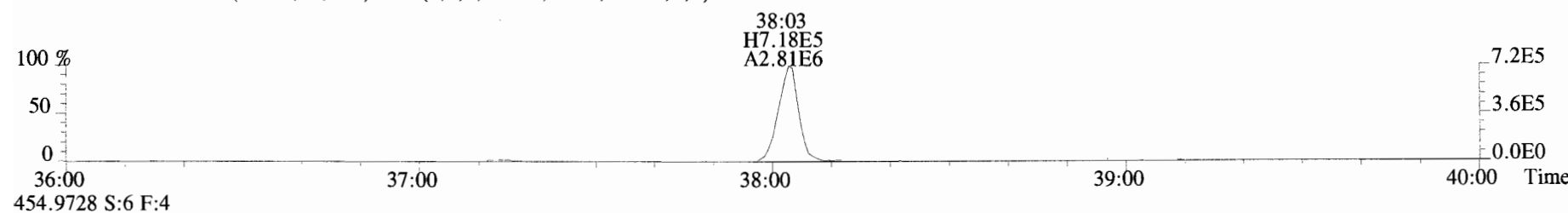
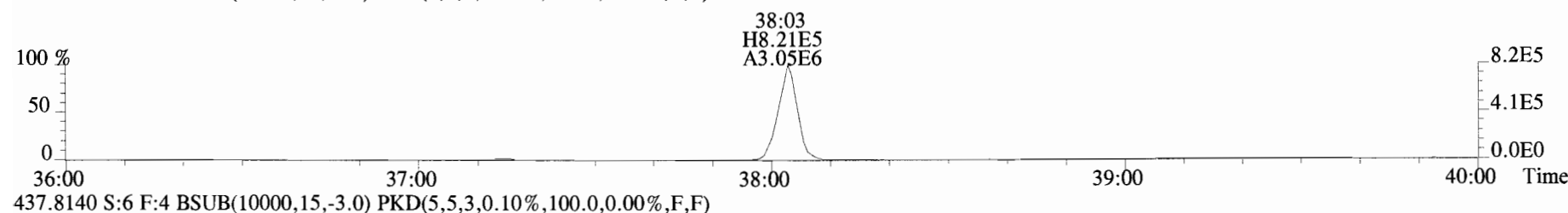
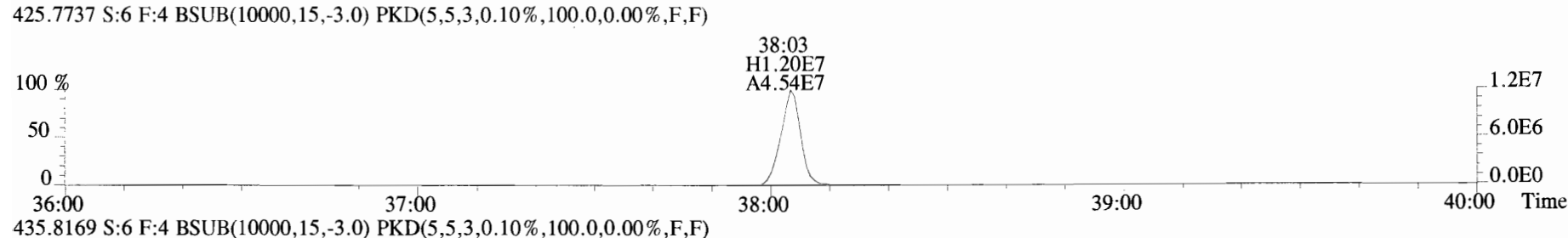
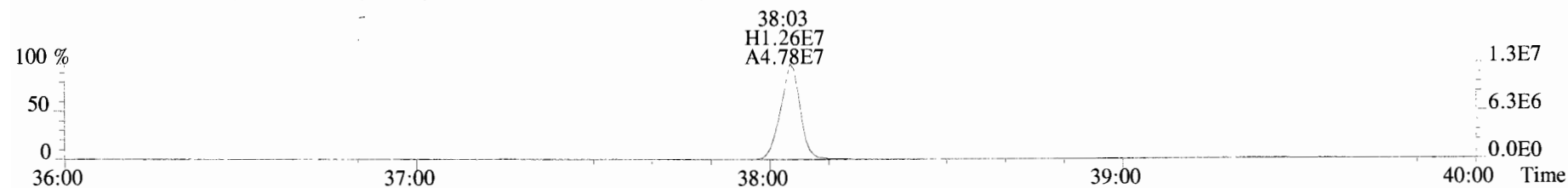
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



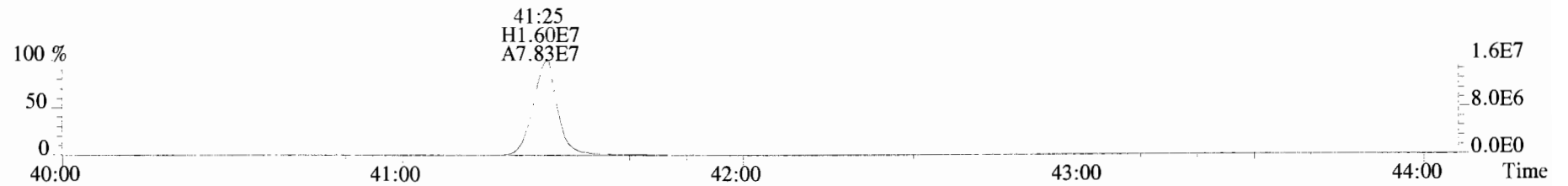
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



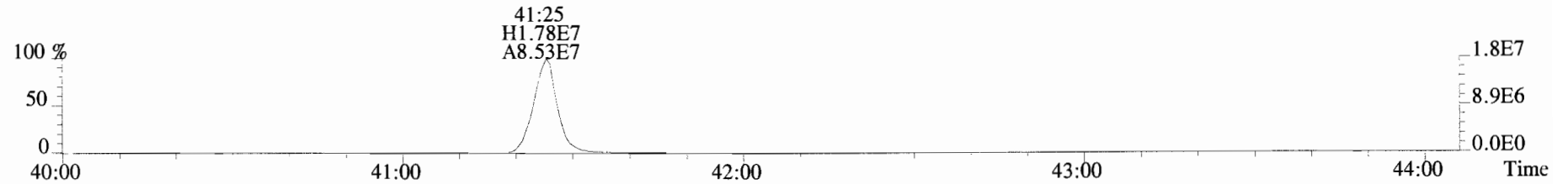
File:191009D1 #1-356 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



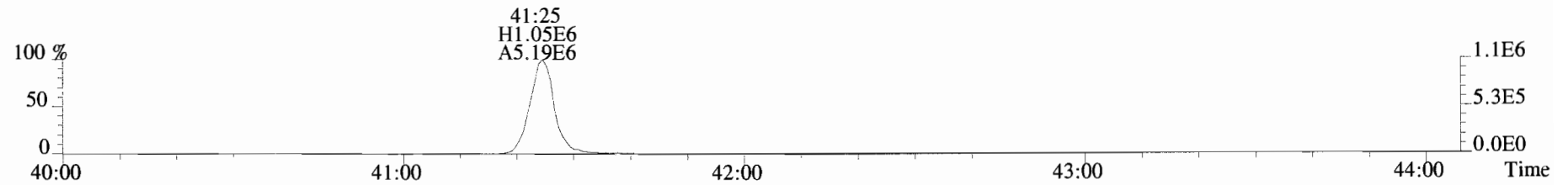
File:191009D1 #1-431 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



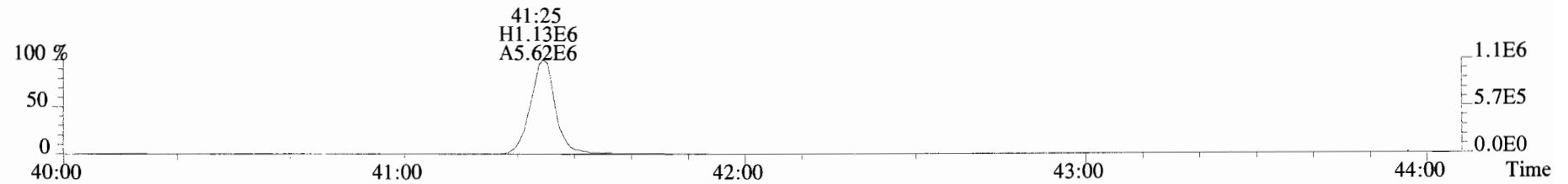
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



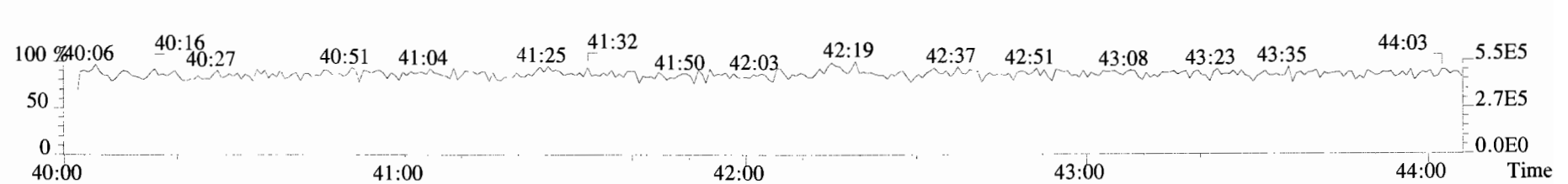
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



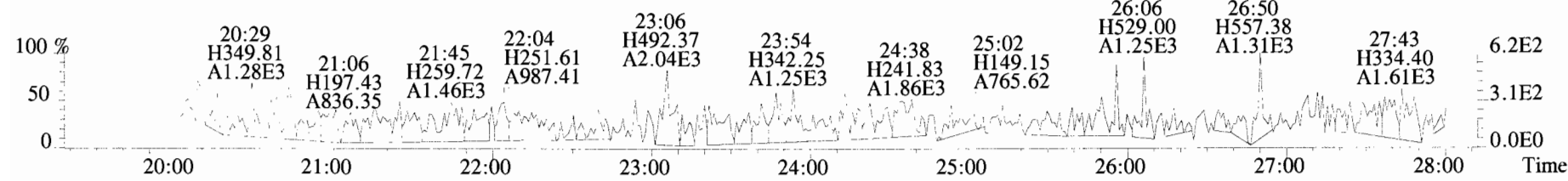
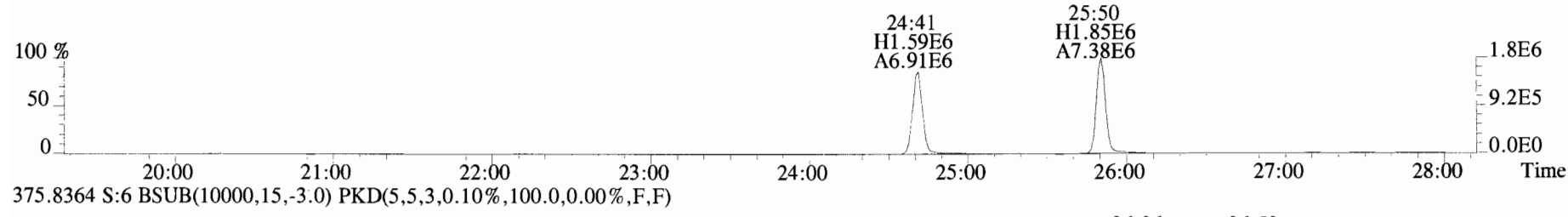
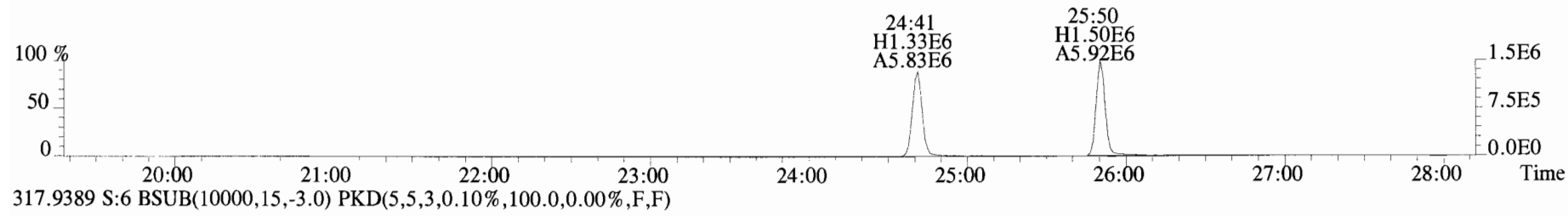
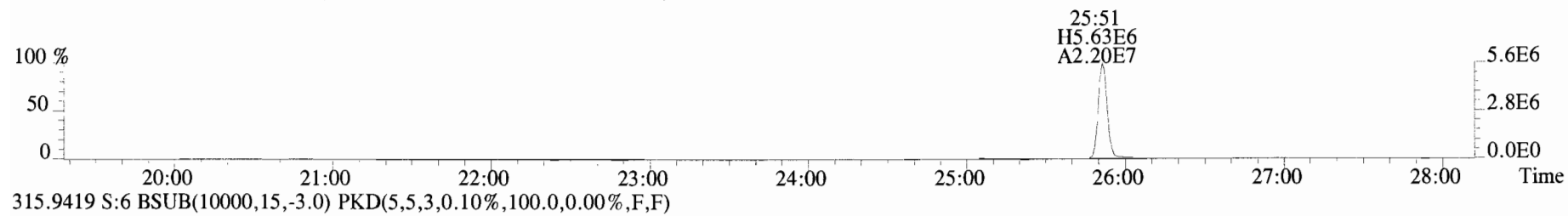
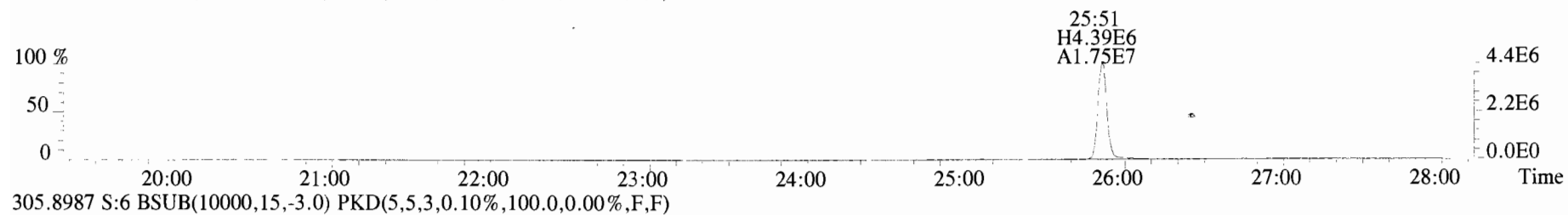
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



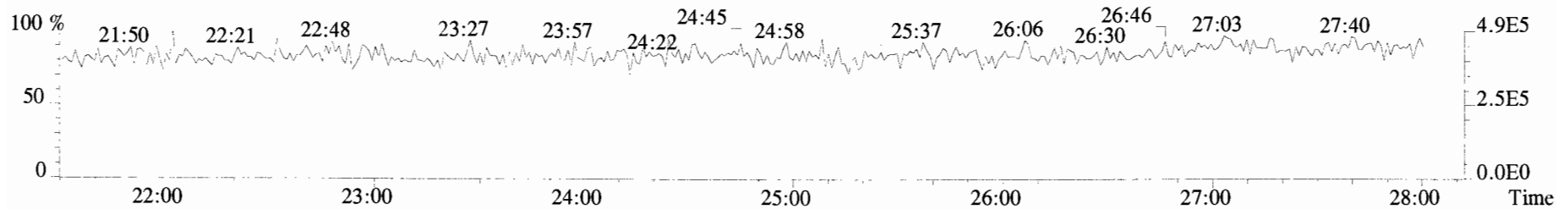
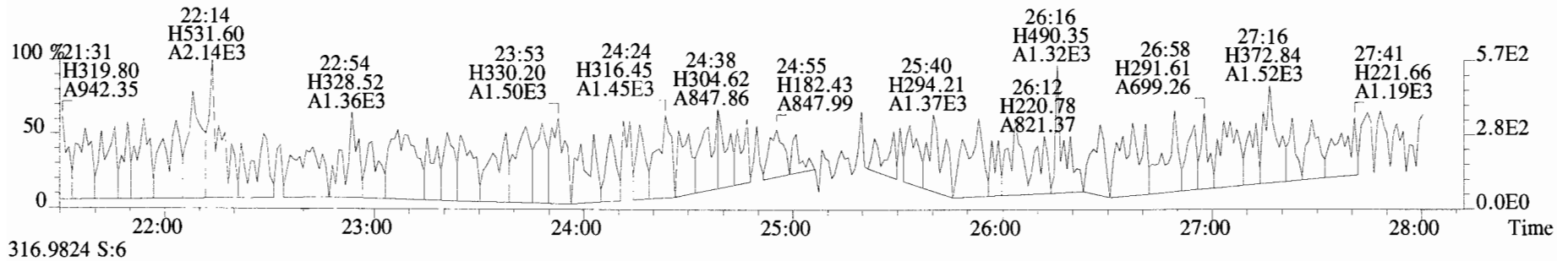
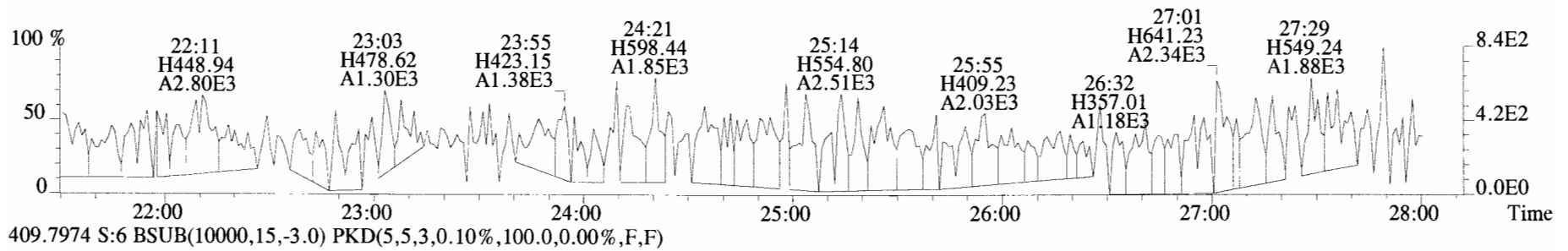
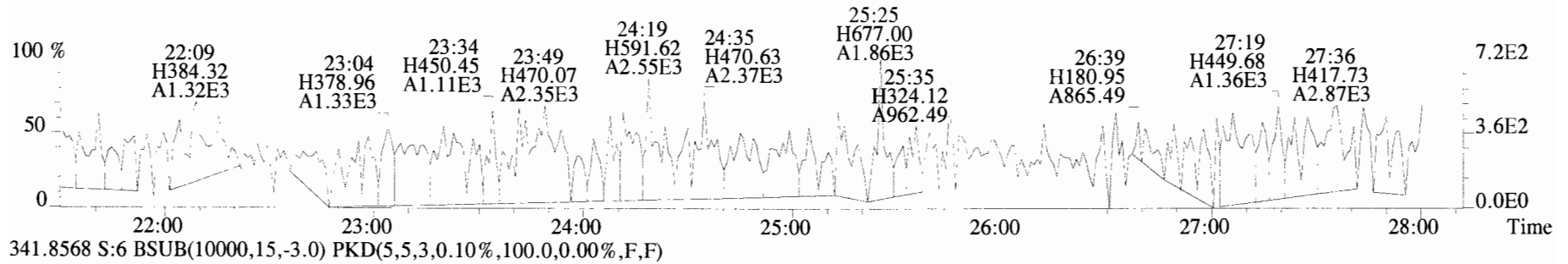
454.9728 S:6 F:5



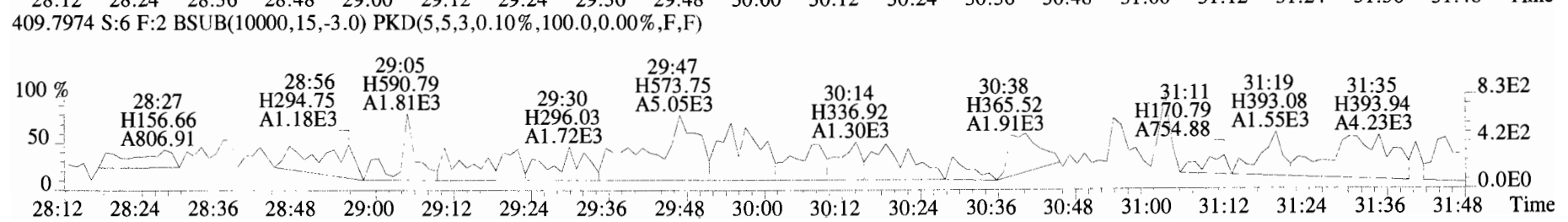
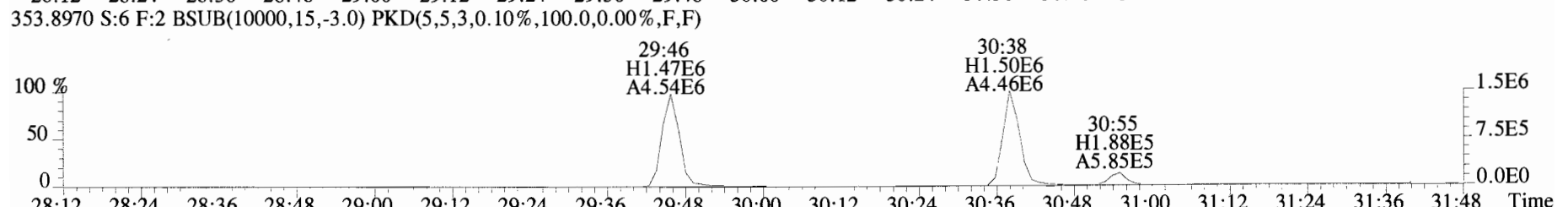
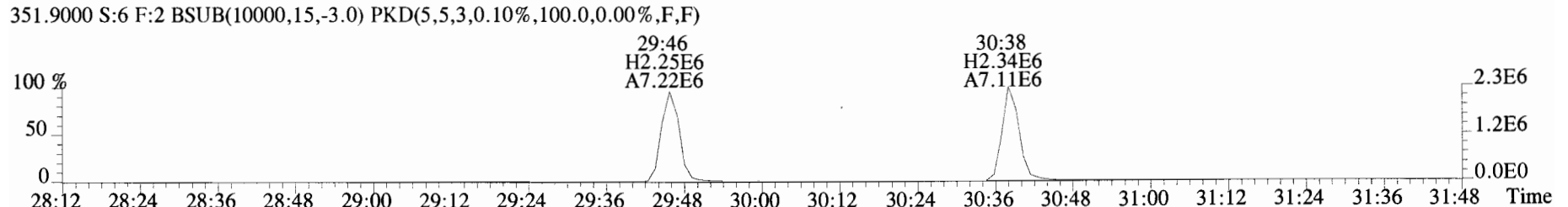
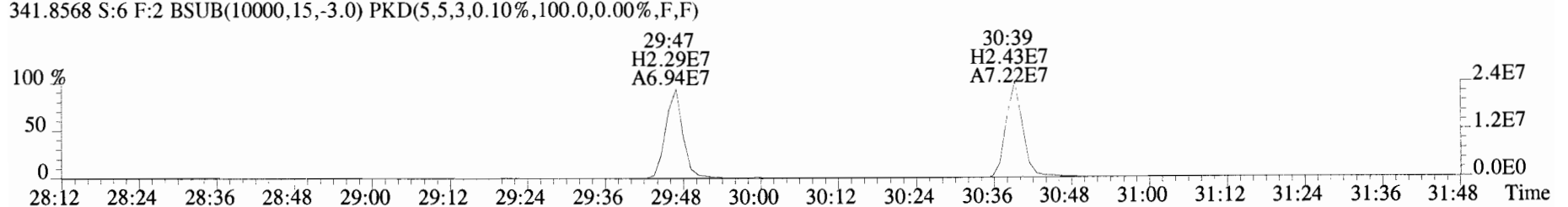
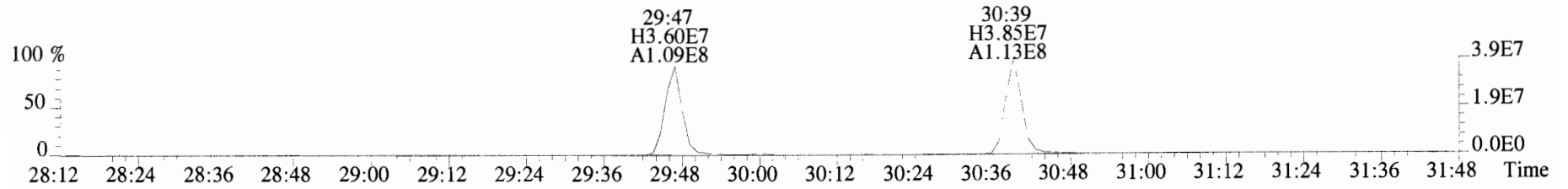
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



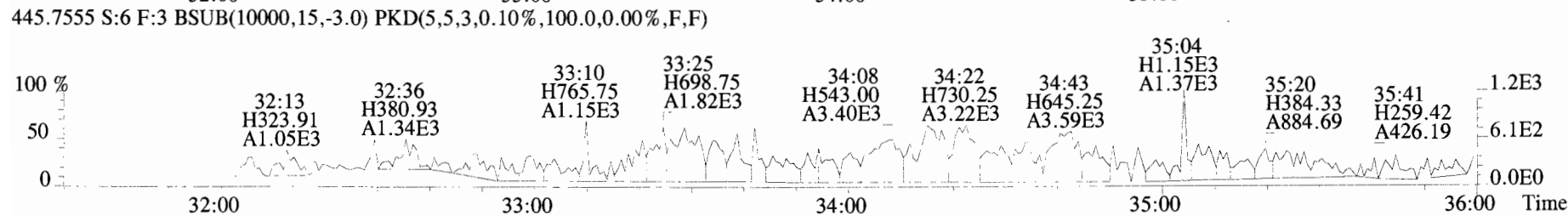
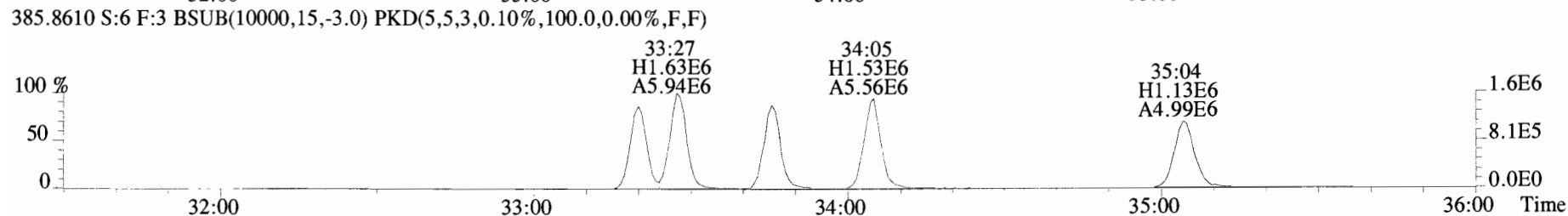
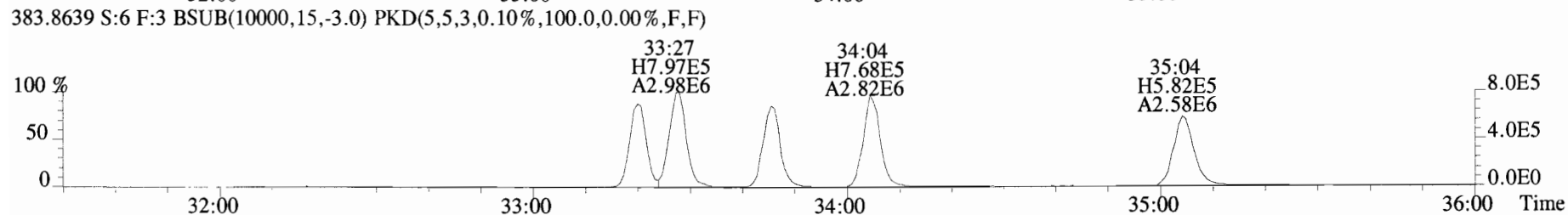
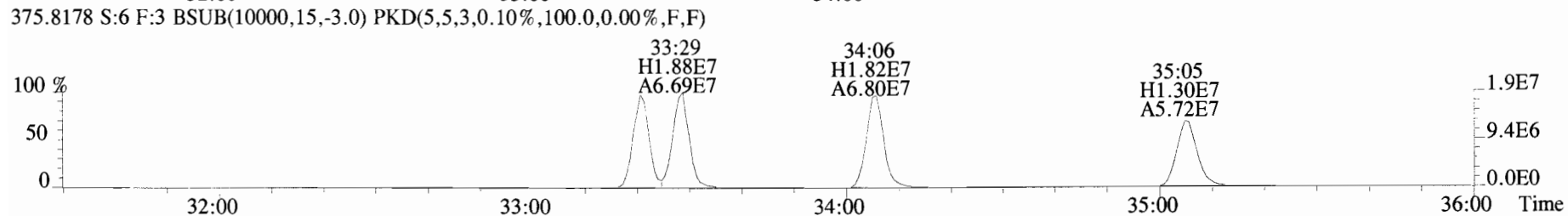
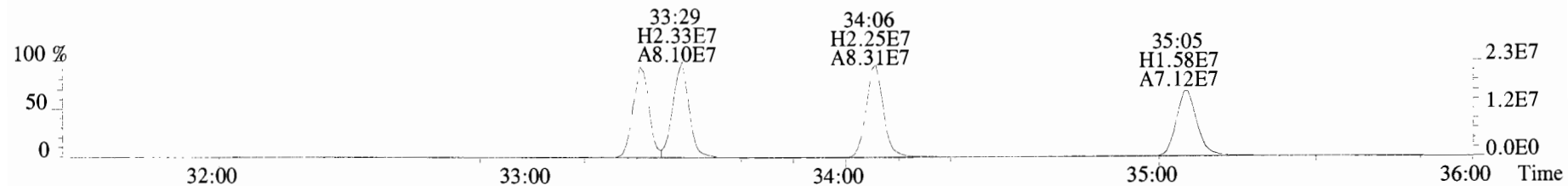
File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



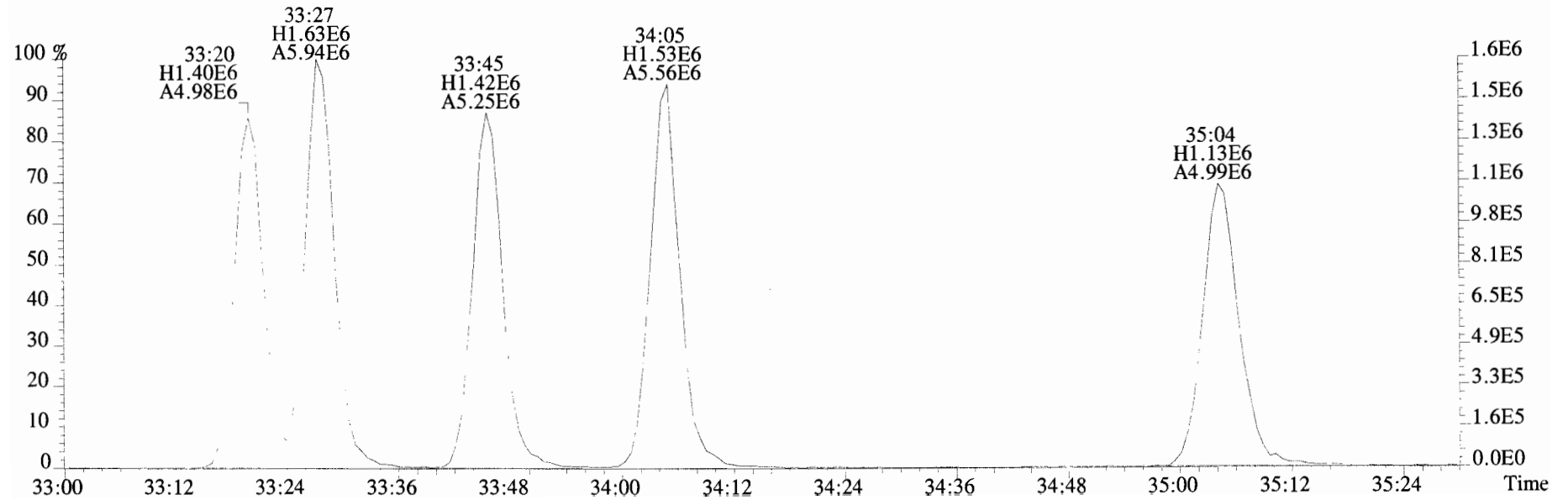
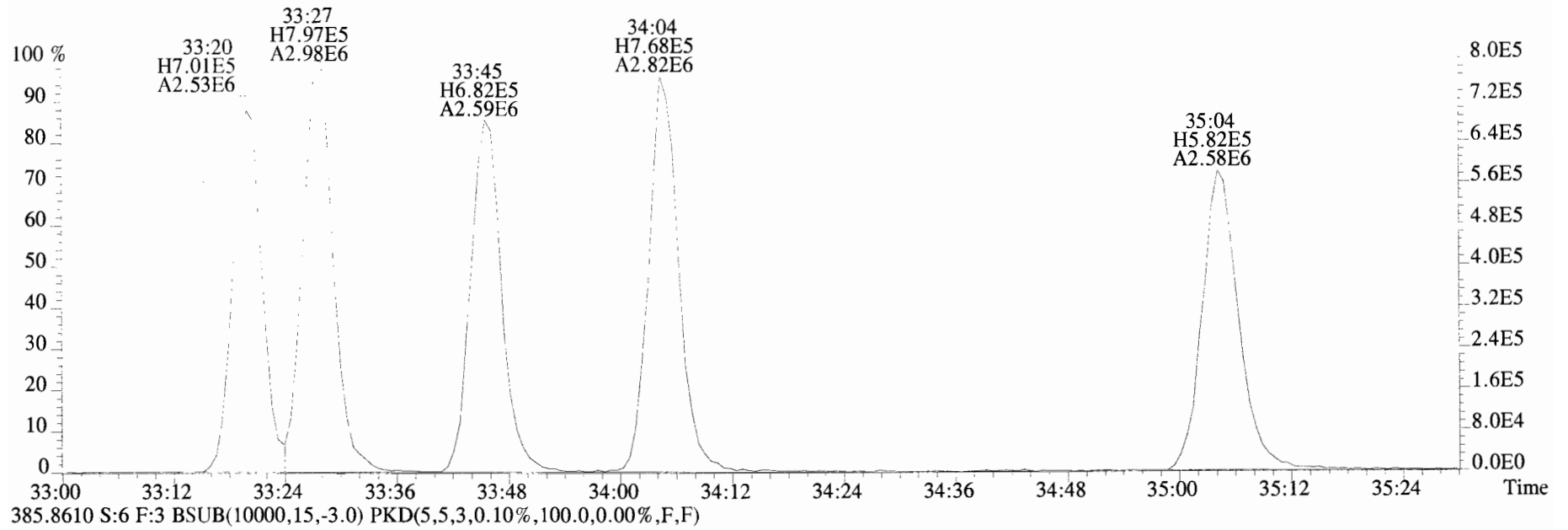
File:191009D1 #1-211 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



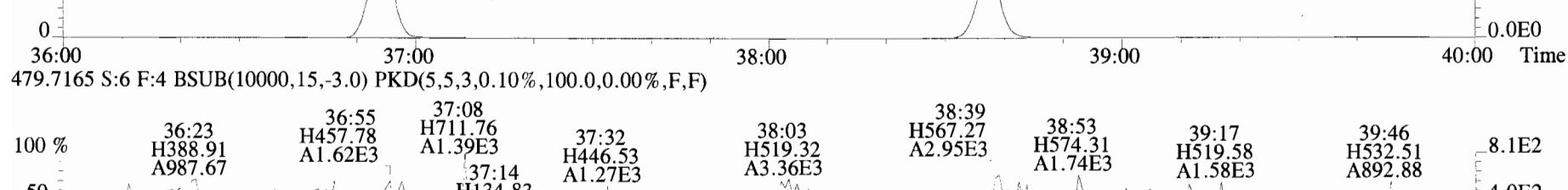
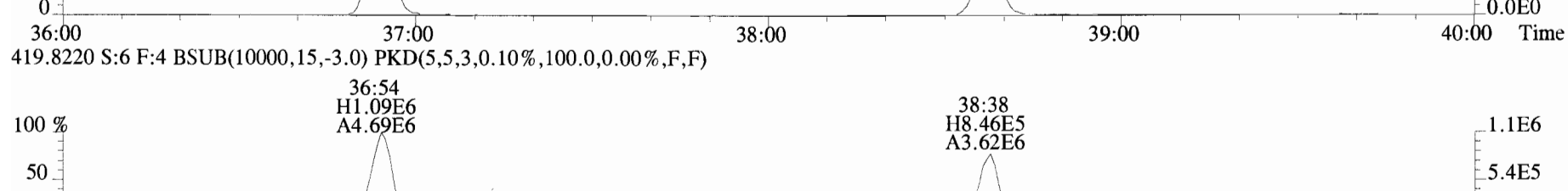
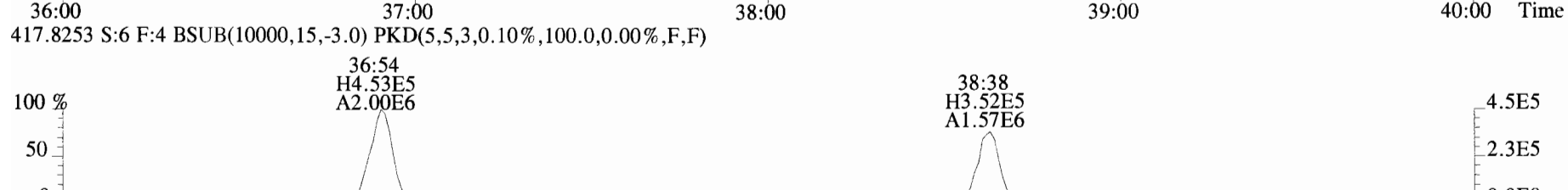
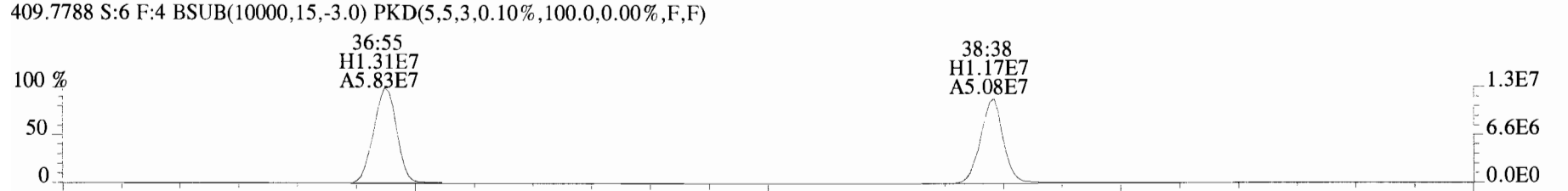
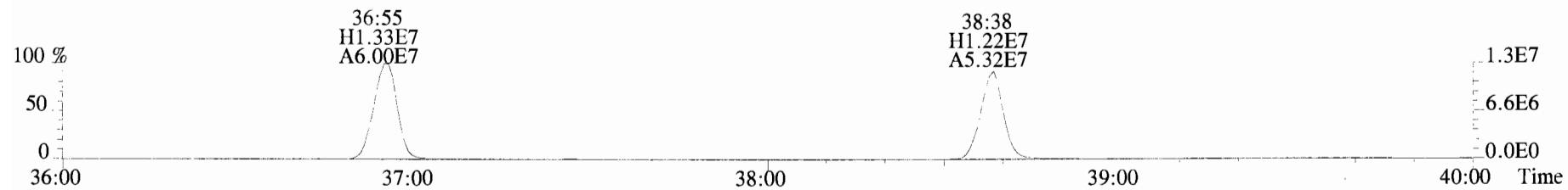
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



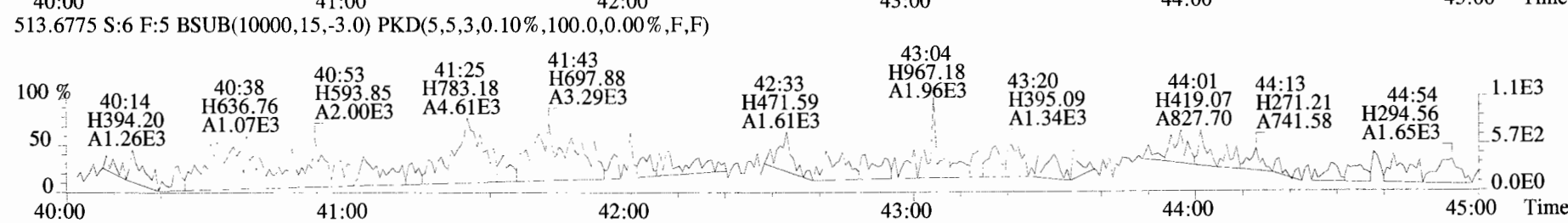
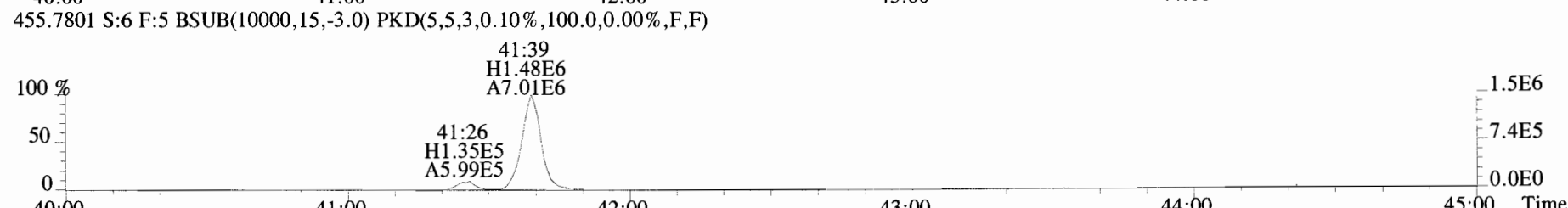
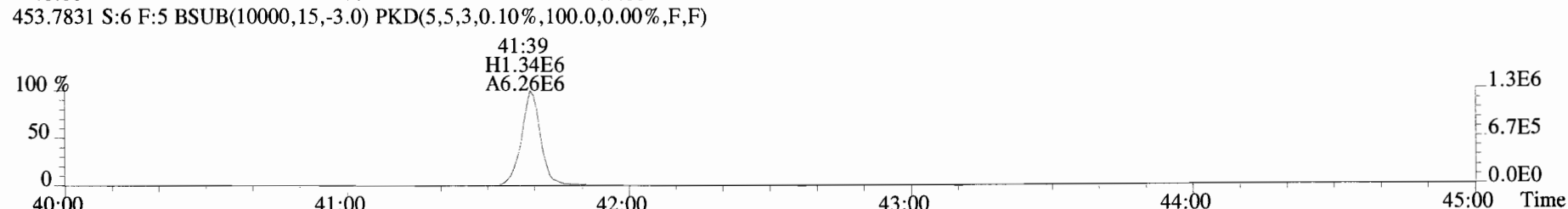
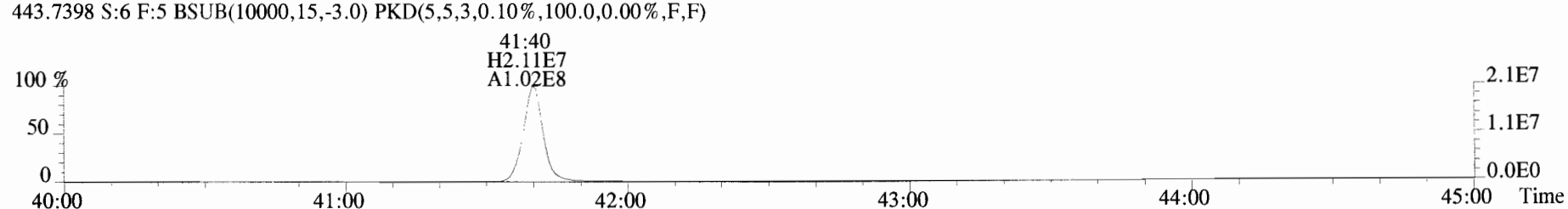
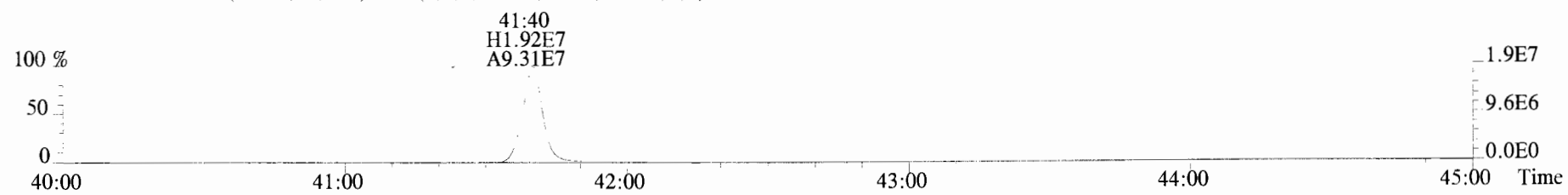
File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:191009D1 #1-356 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

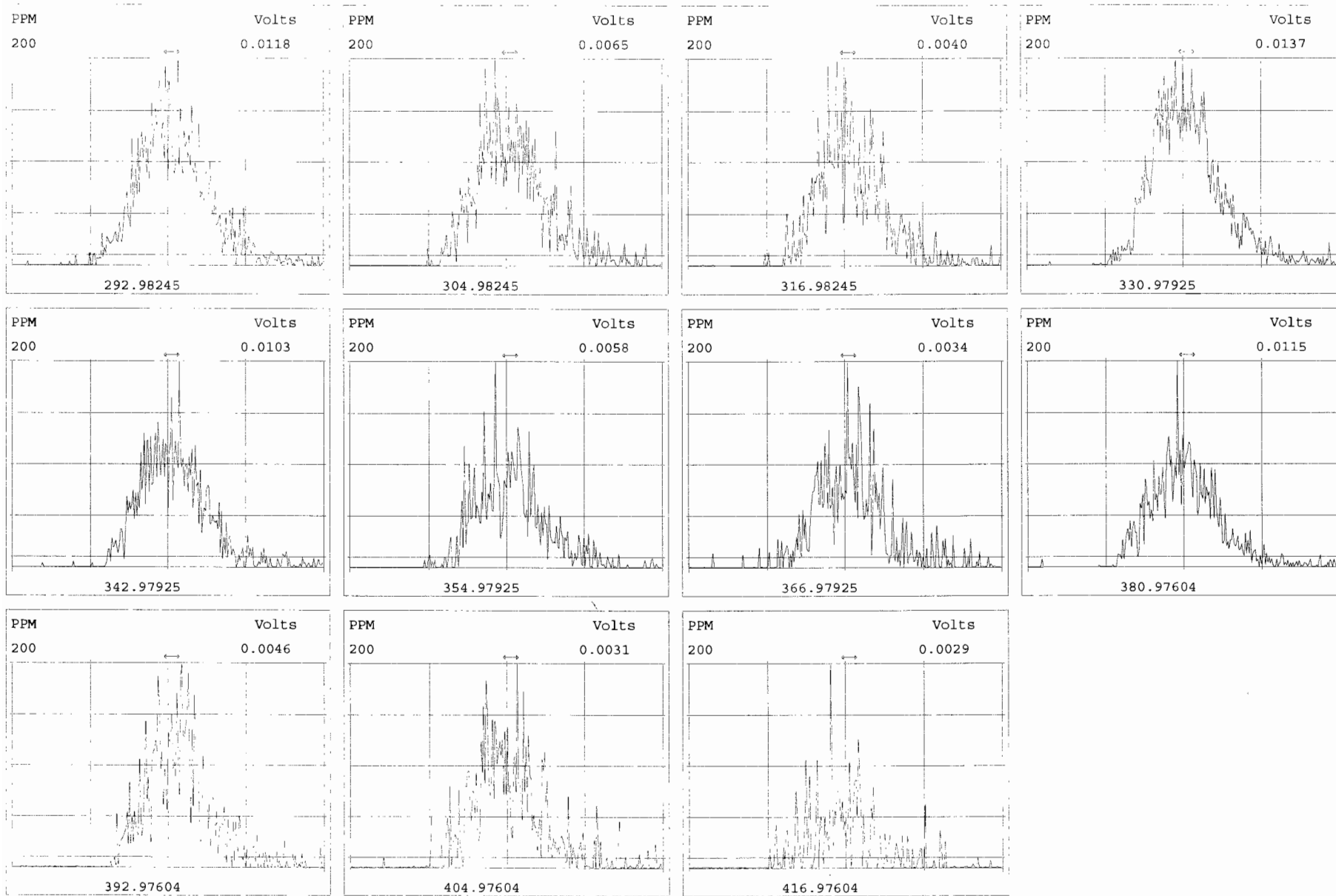


File:191009D1 #1-431 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



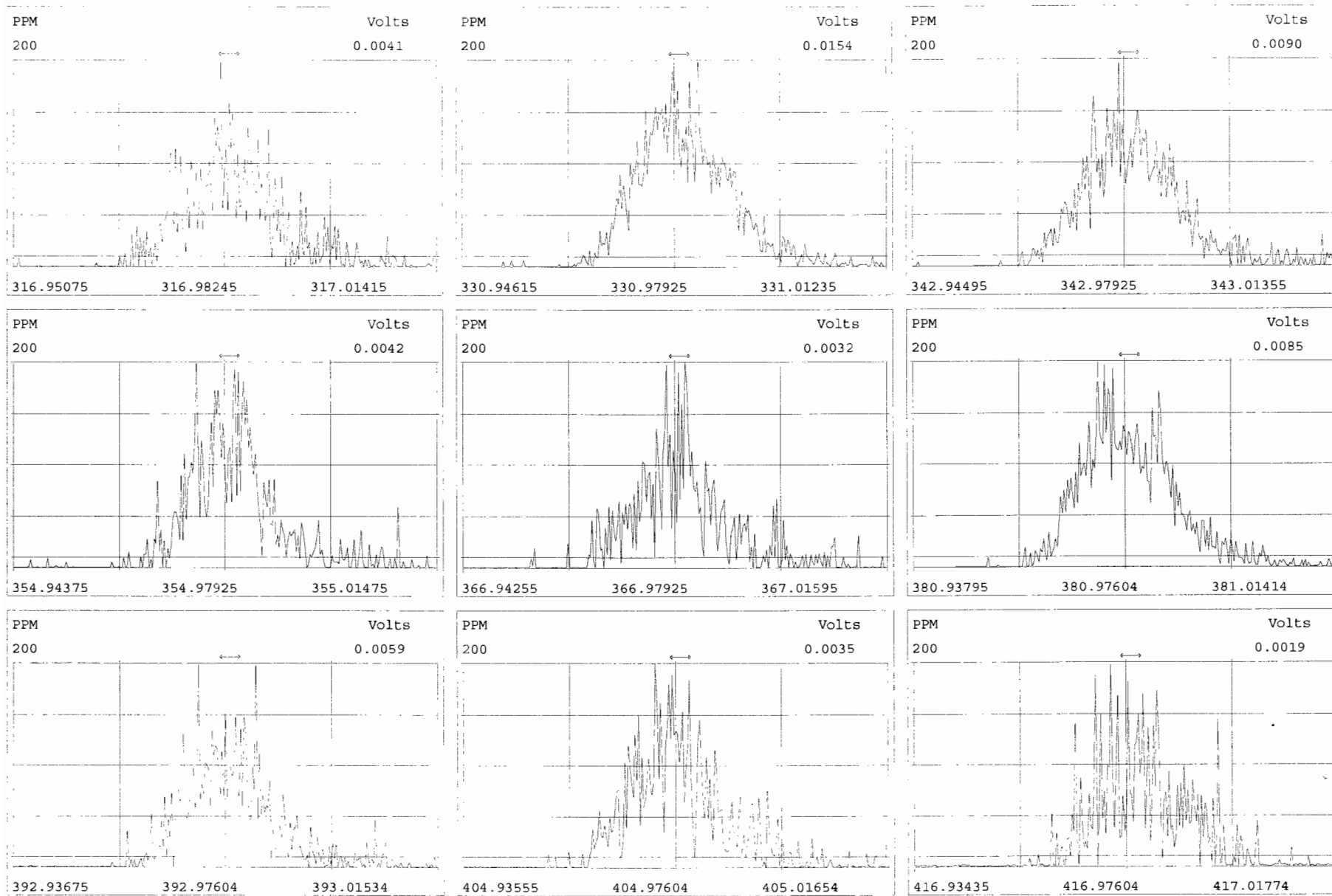
Peak Locate Examination:10-OCT-2019:06:40 File:RES_CHECK

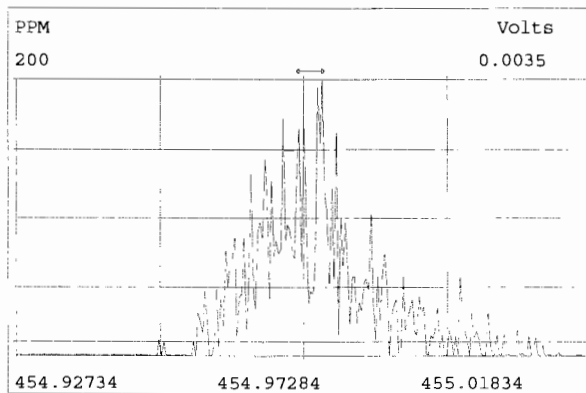
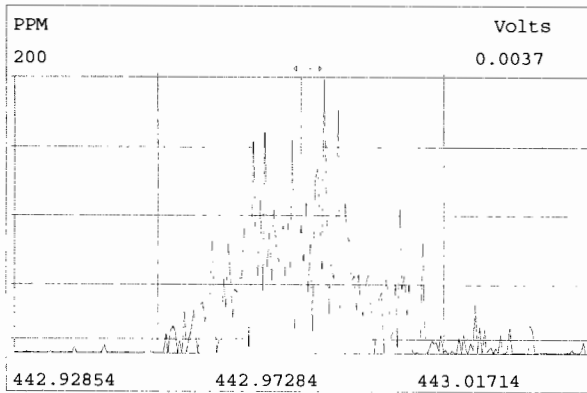
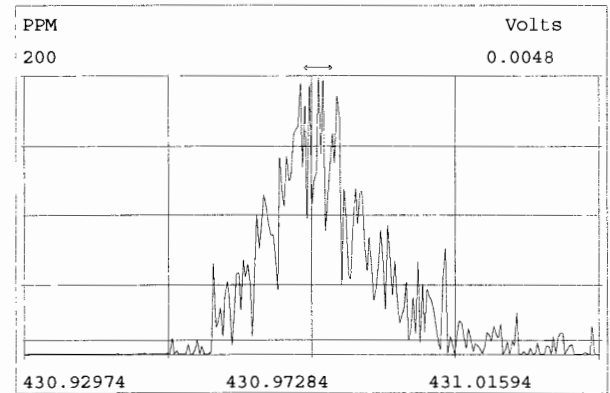
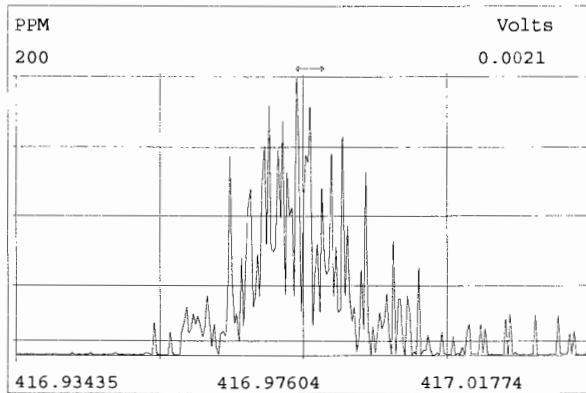
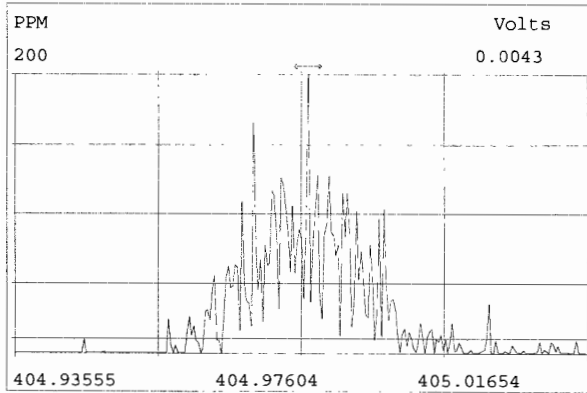
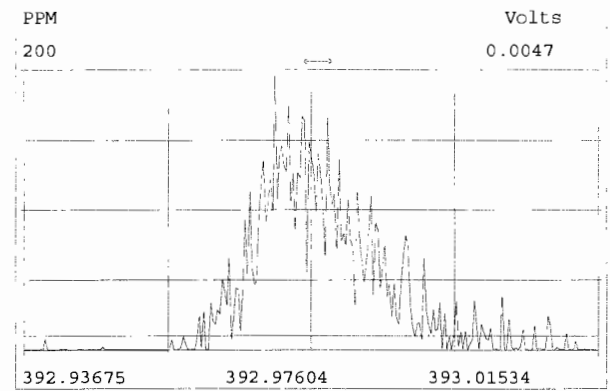
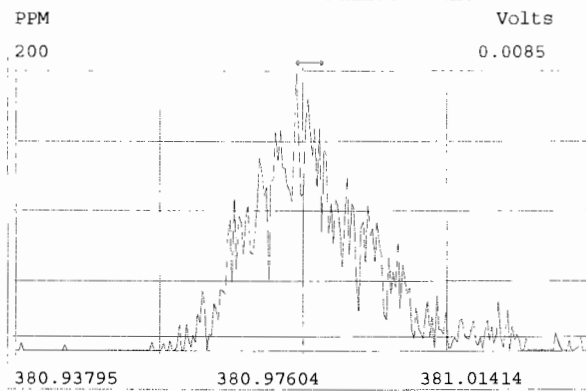
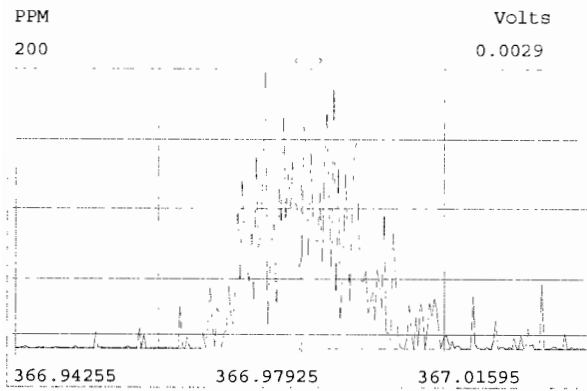
Experiment:OCDD_DB5 Function:1 Reference:PFK

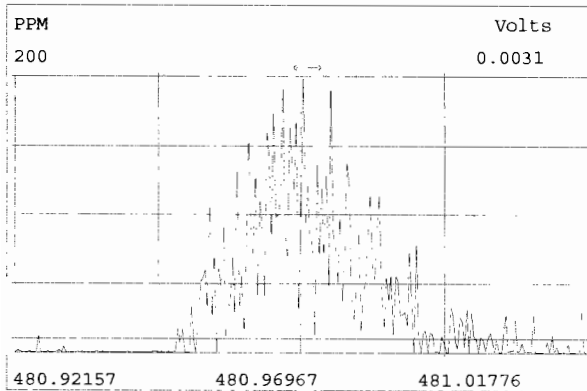
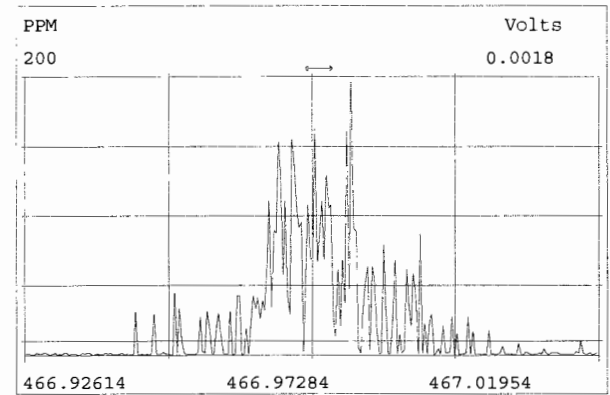
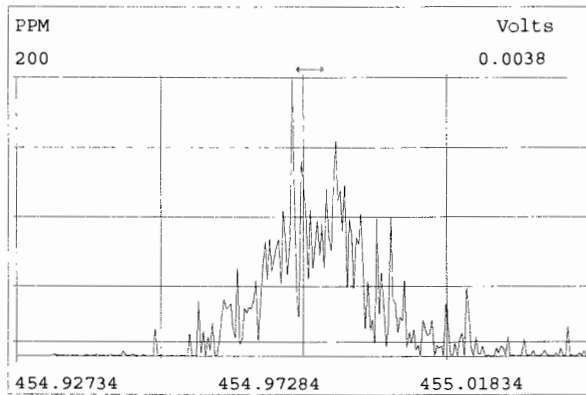
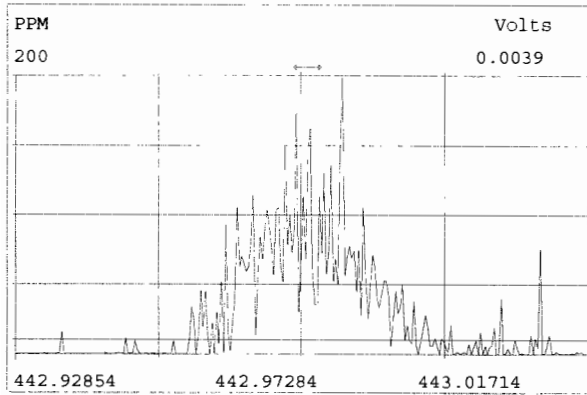
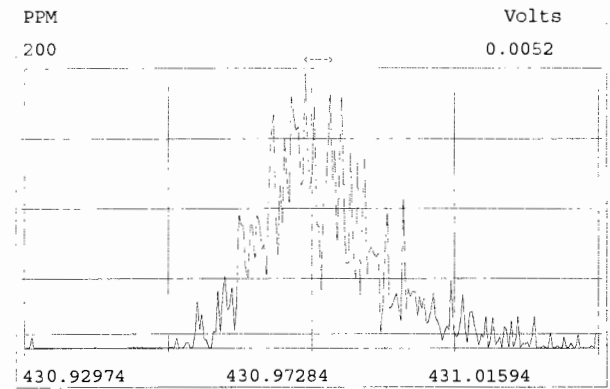
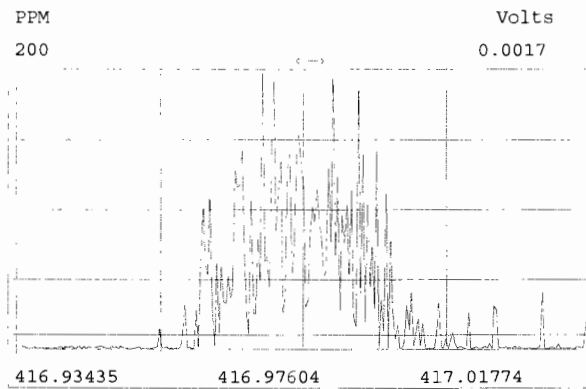
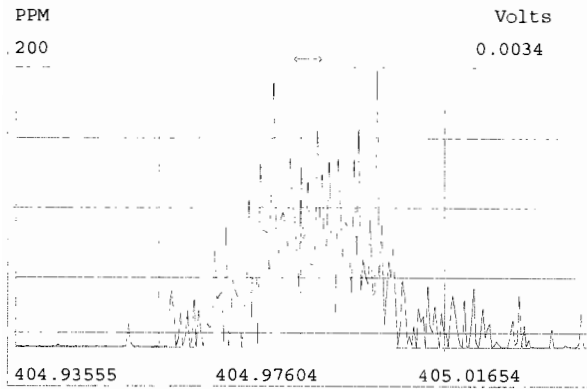


Peak Locate Examination:10-OCT-2019:06:41 File:RES_CHECK

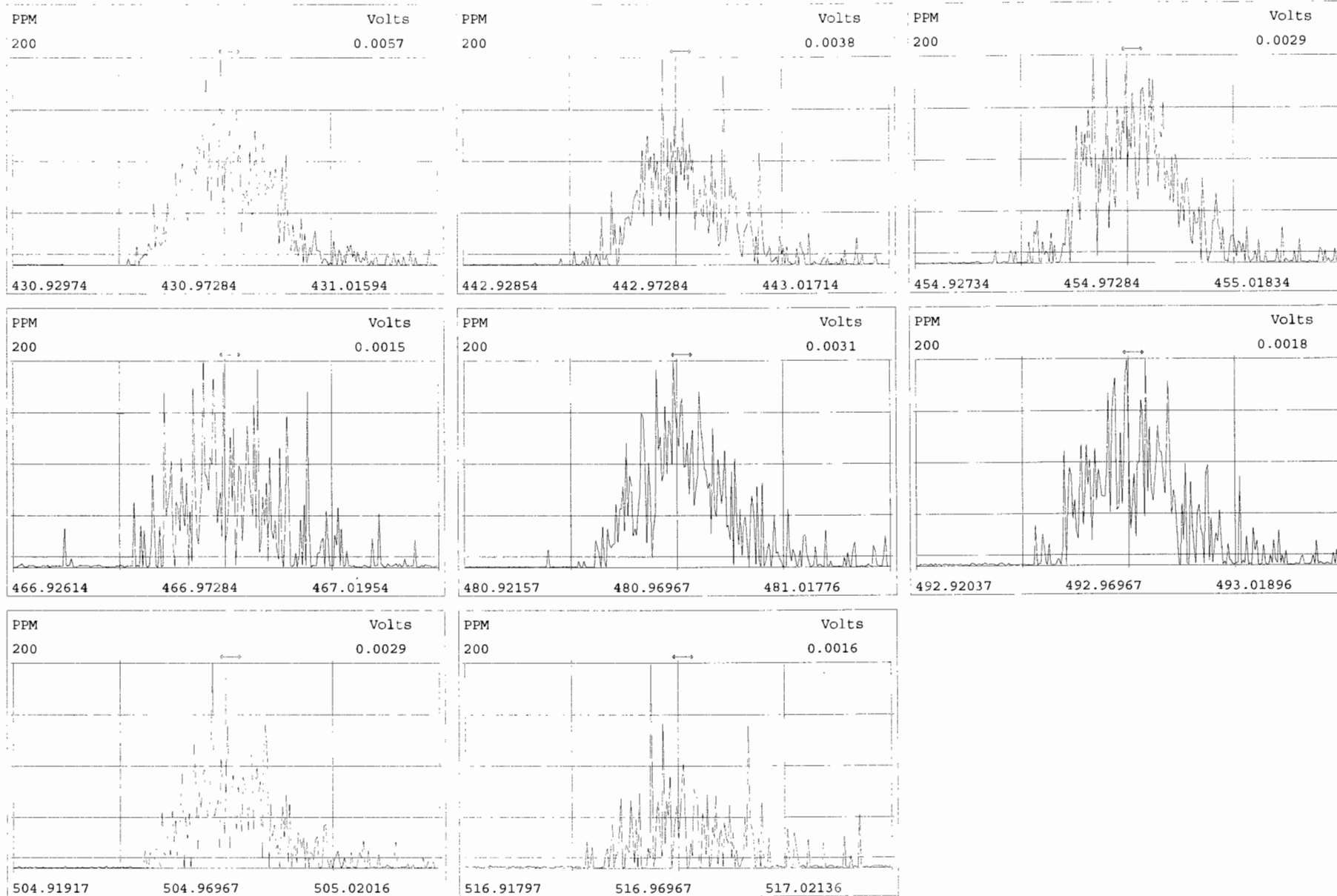
Experiment:OCDD_DB5 Function:2 Reference:PFK







Experiment:OCDD_DB5 Function:5 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

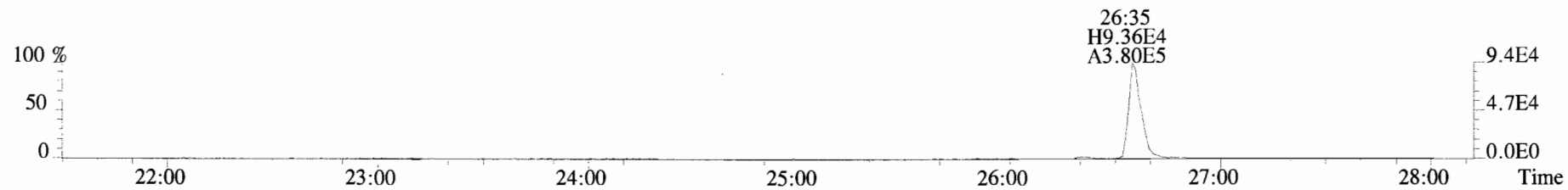
Filename: 191009D1 S:8 Acq: 9-OCT-19 21:46:34
GC Column ID: ZB-5MS ICal: 1613VG7-10-9-19 wt/vol: 1.000

ConCal: ST191009D1-4
EndCAL: NA

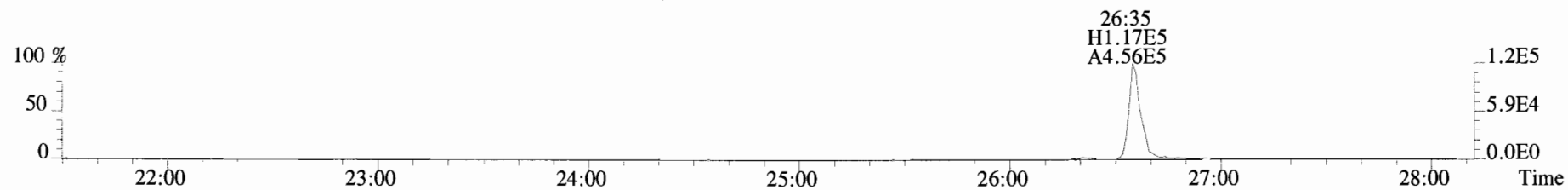
Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	8.36e+05	0.83 y	0.91	26:36	10.234		* 2.5		*	Total Tetra-Dioxins	10.4	11.4		*	*
1,2,3,7,8-PeCDD	3.38e+06	0.63 y	0.90	30:57	51.323		* 2.5		*	Total Penta-Dioxins	51.4	51.7		*	*
1,2,3,4,7,8-HxCDD	2.55e+06	1.31 y	1.10	34:18	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				90.8					
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 Reviewed
by DB by
Analyst: DB Analyst: CT
Date: 10/10/19 Date: 10/10/19

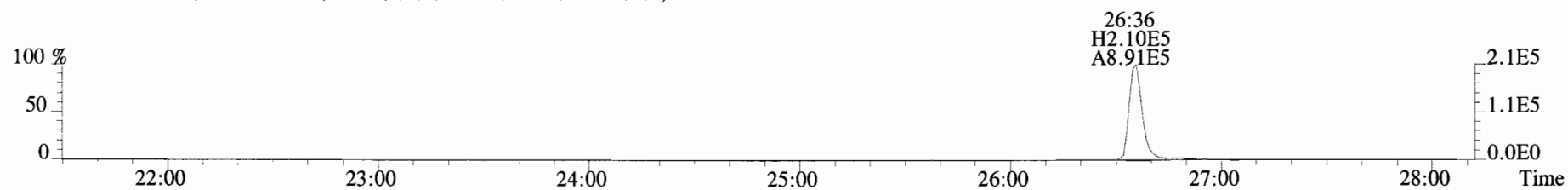
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



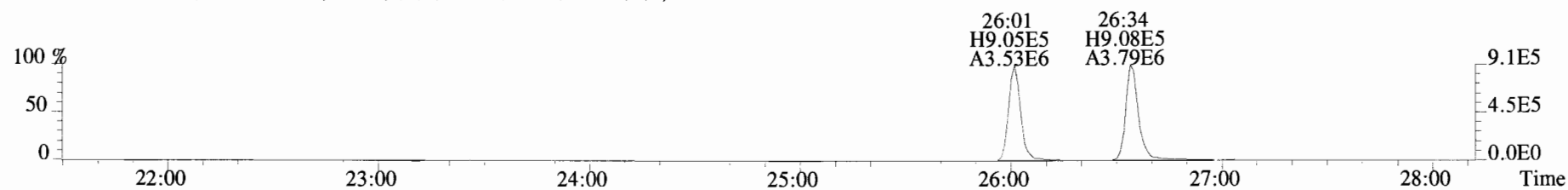
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



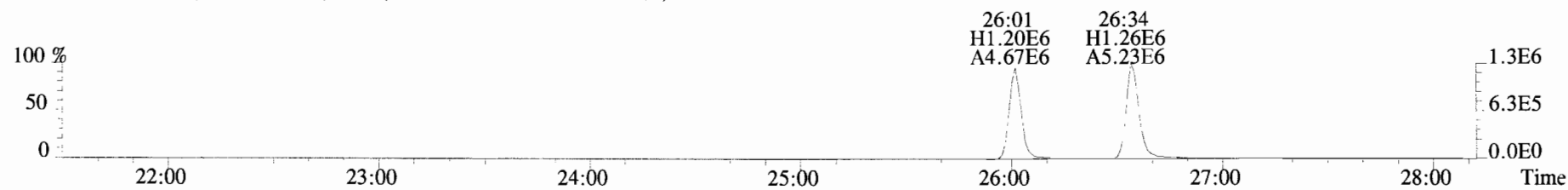
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



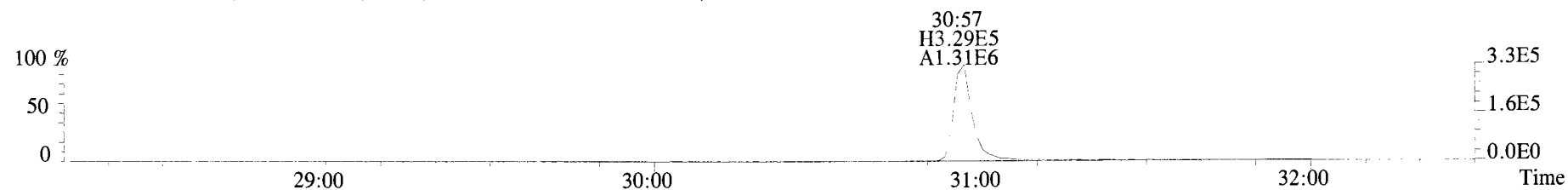
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



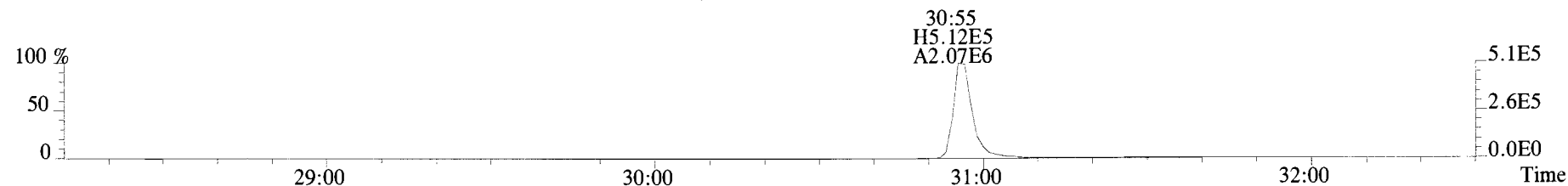
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



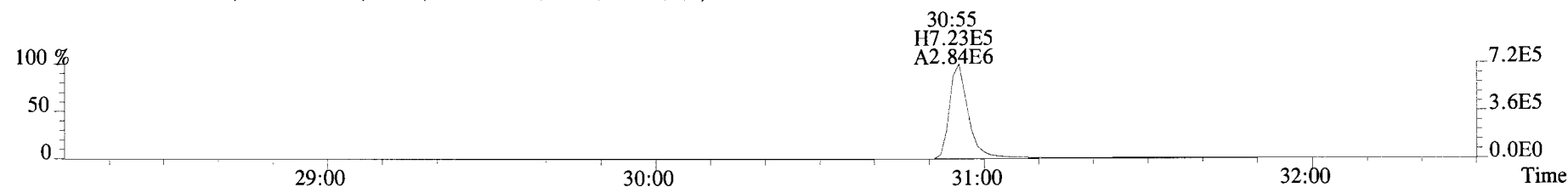
File:191009D1 #1-210 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



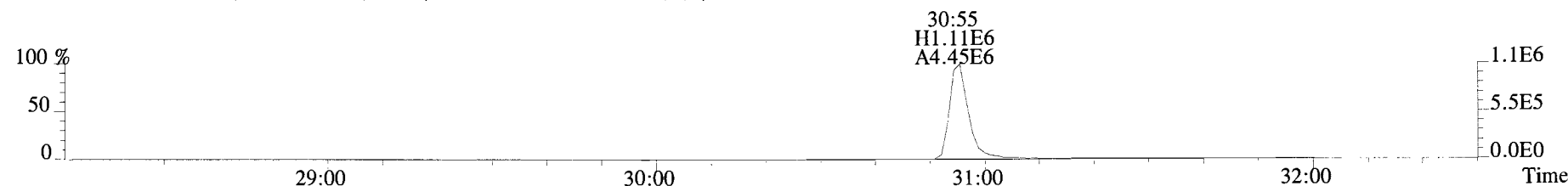
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



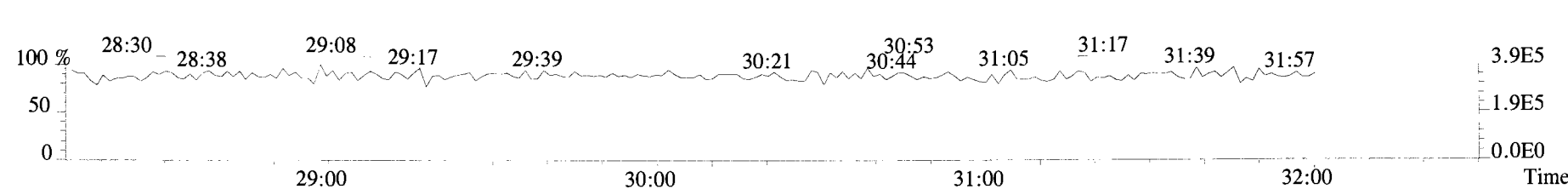
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



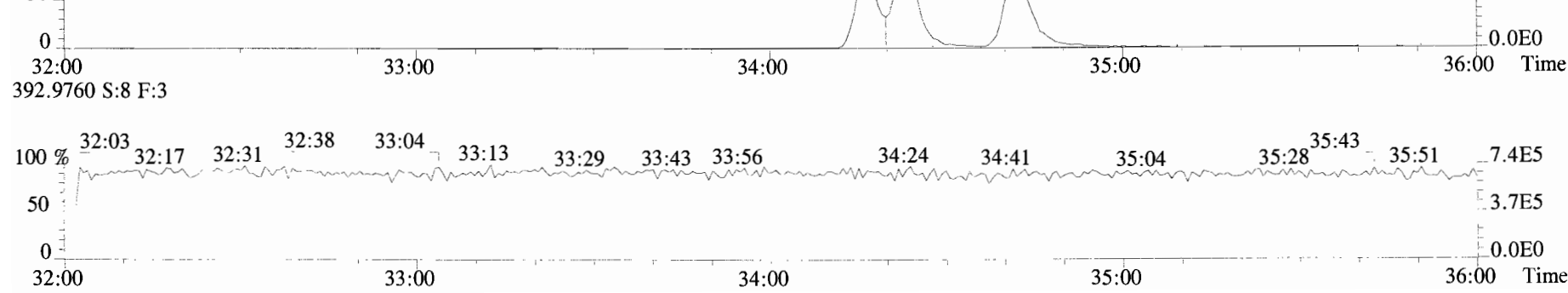
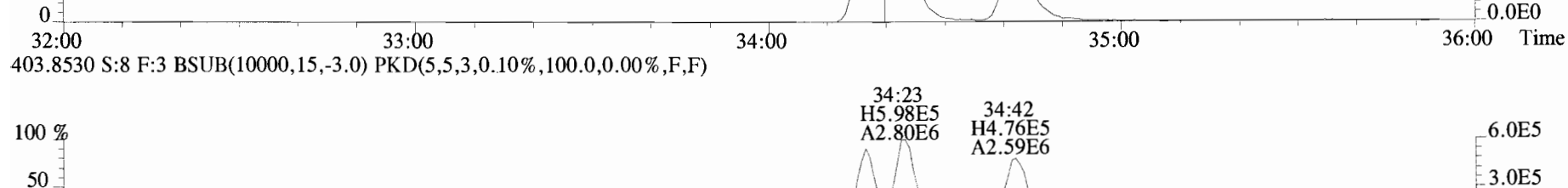
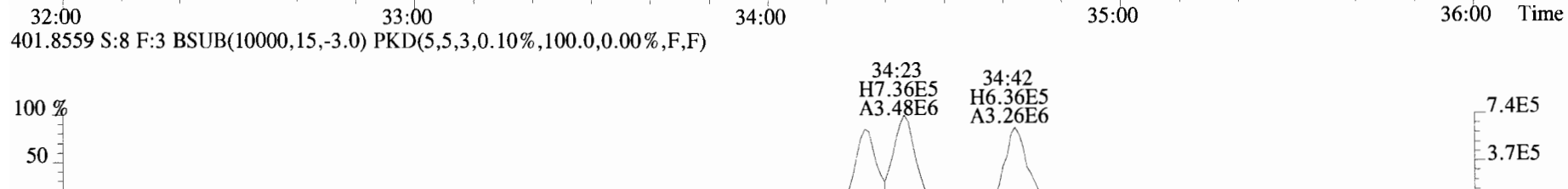
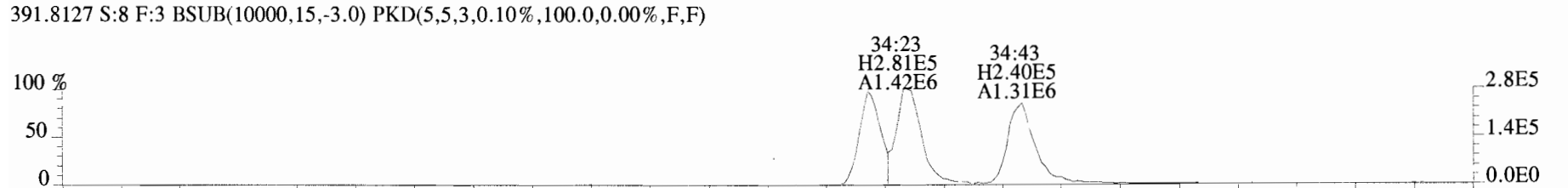
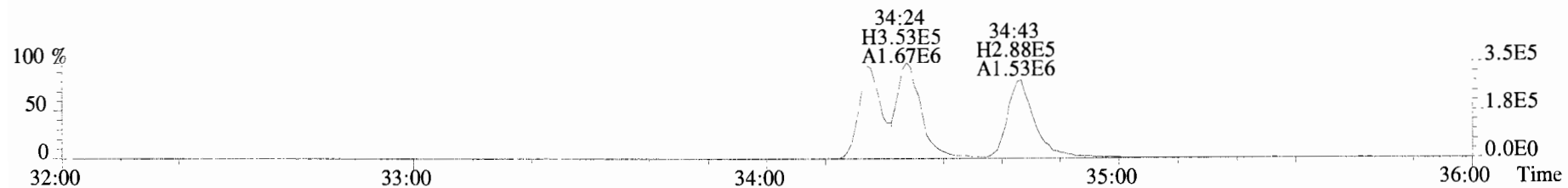
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



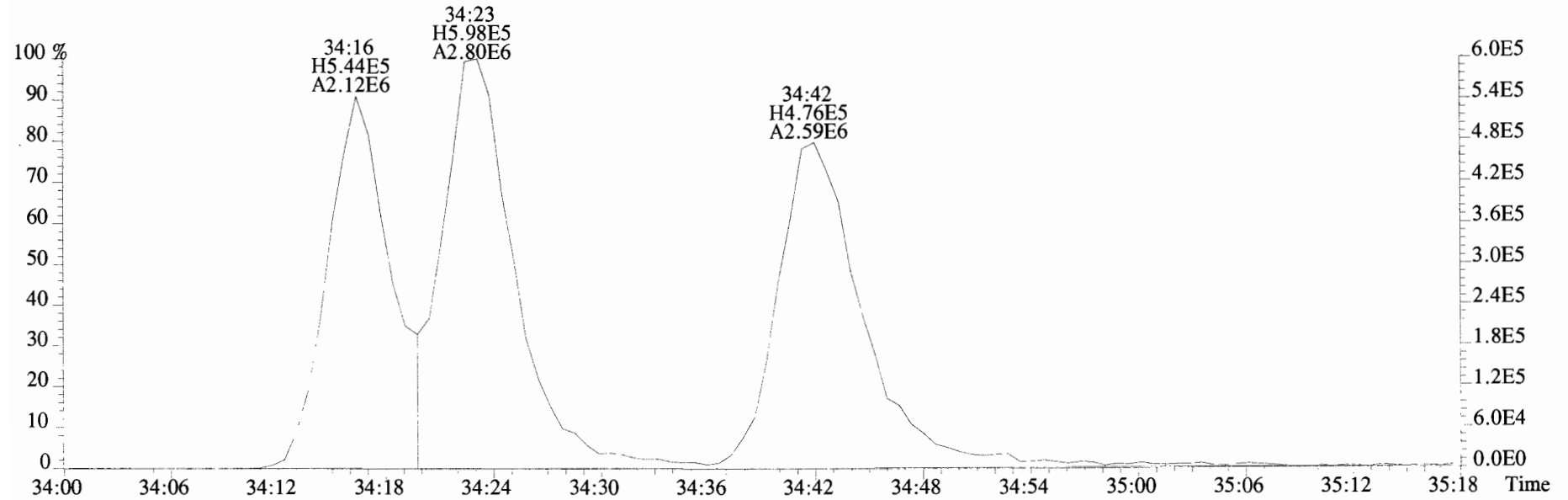
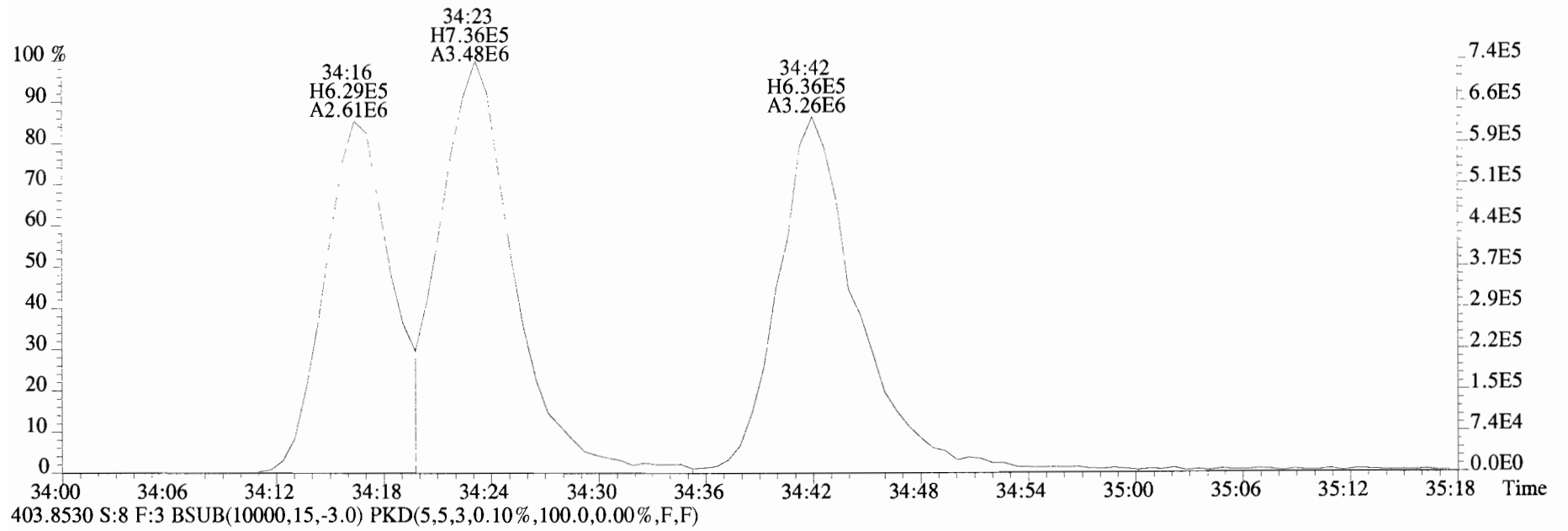
366.9792 S:8 F:2



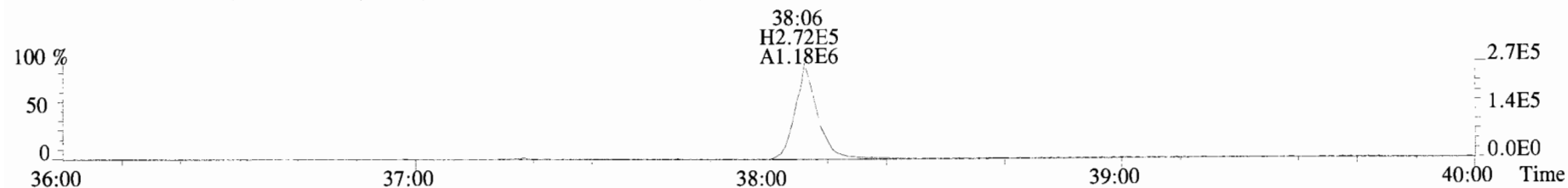
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



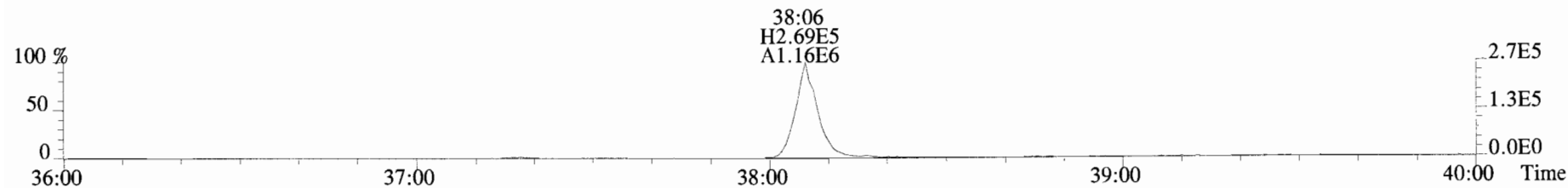
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



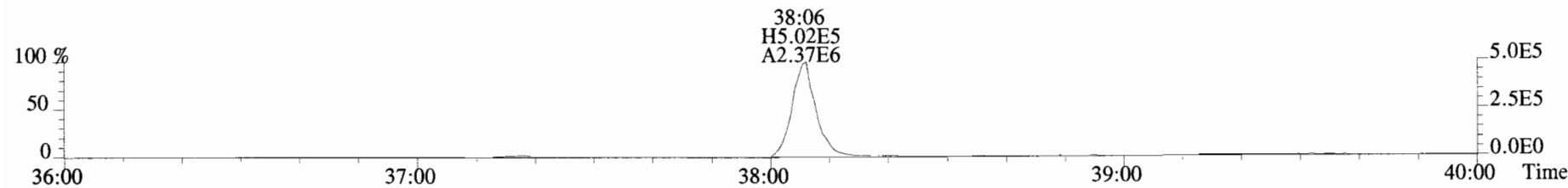
File:191009D1 #1-356 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



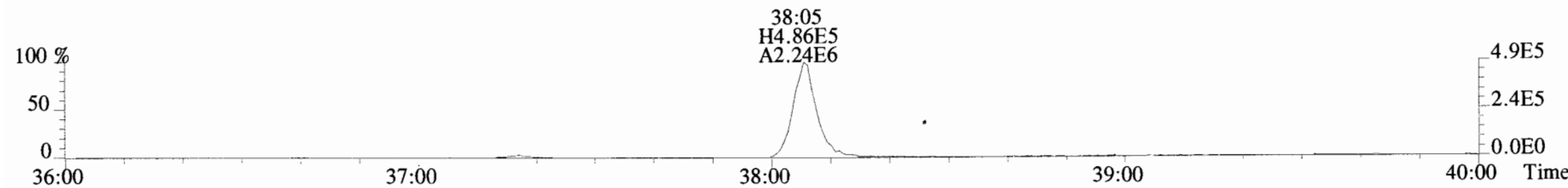
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



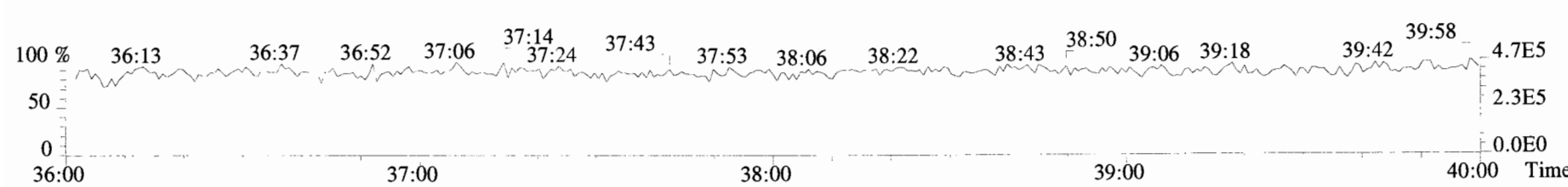
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



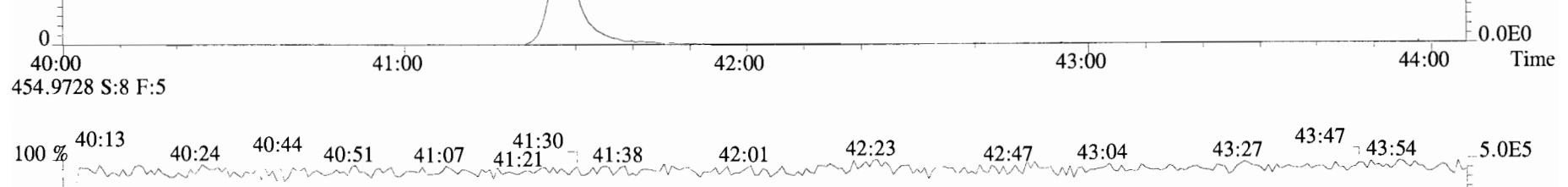
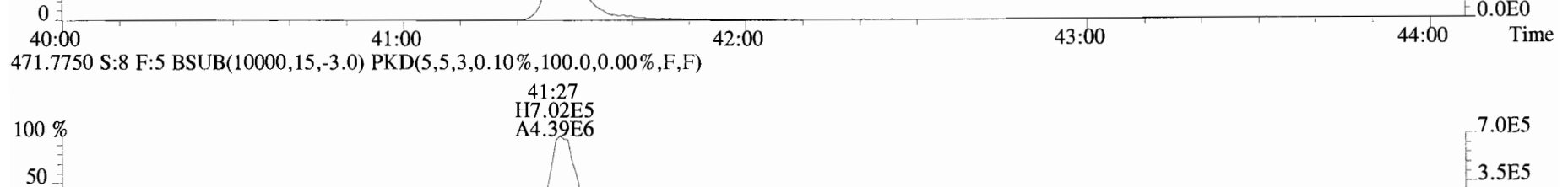
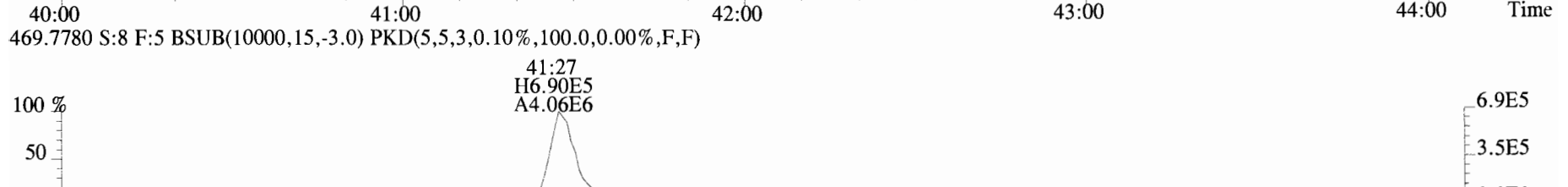
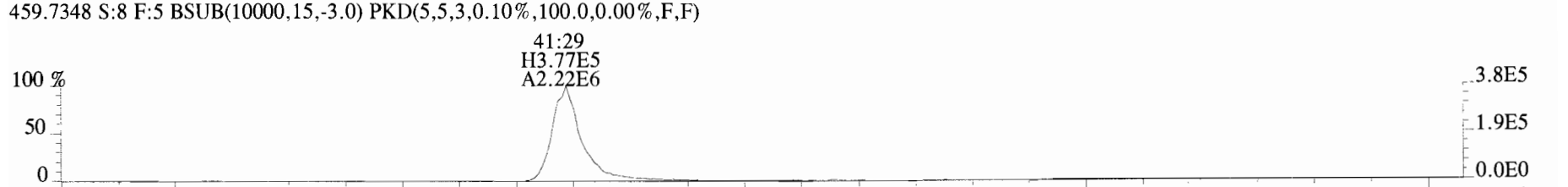
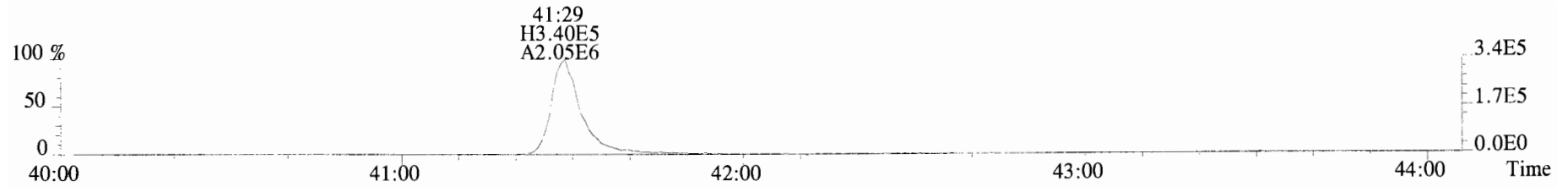
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



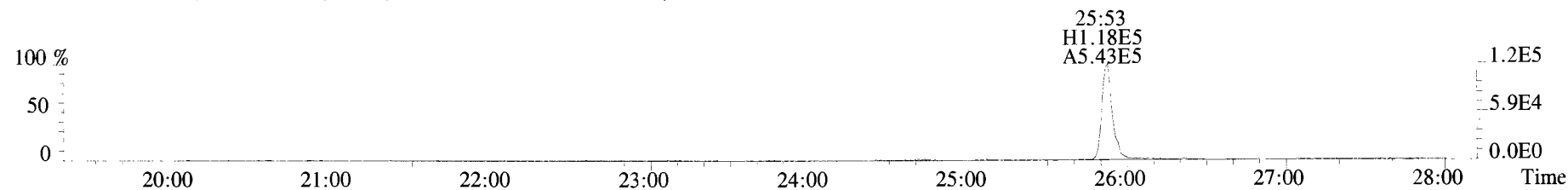
454.9728 S:8 F:4



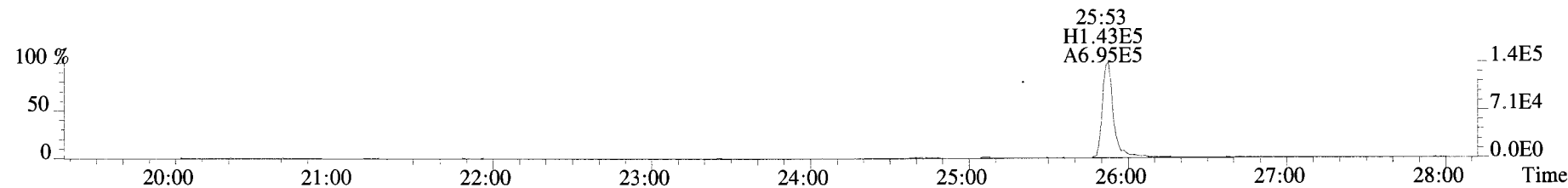
File:191009D1 #1-431 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



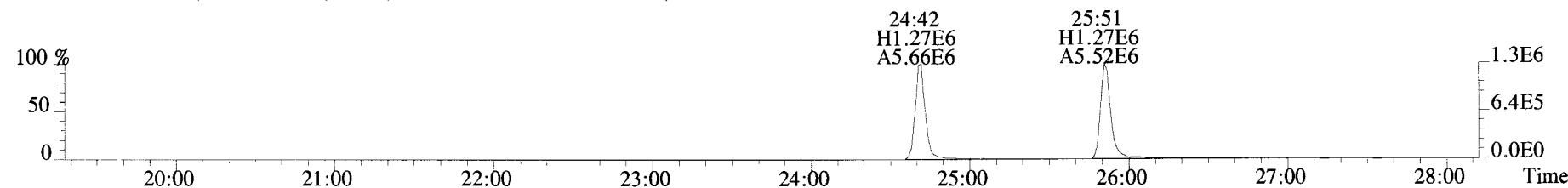
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



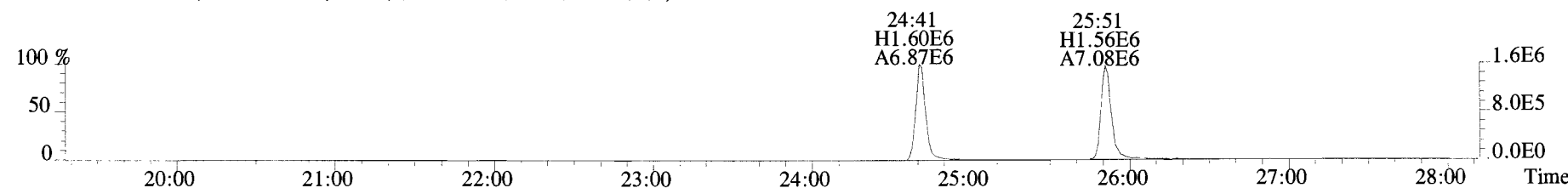
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



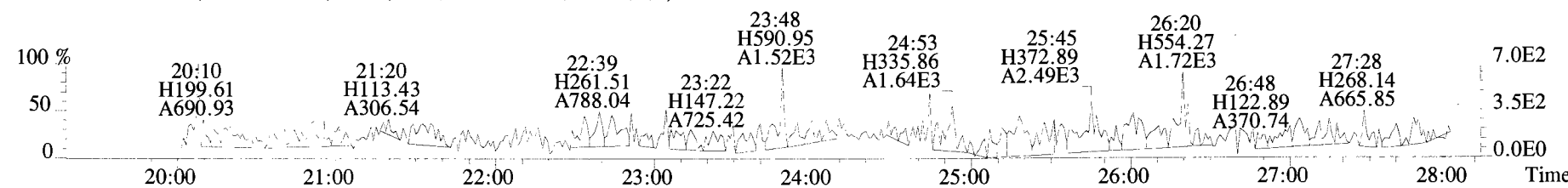
315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



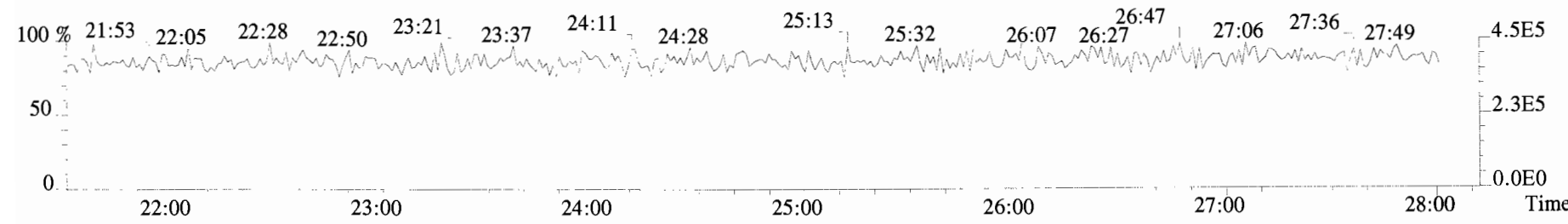
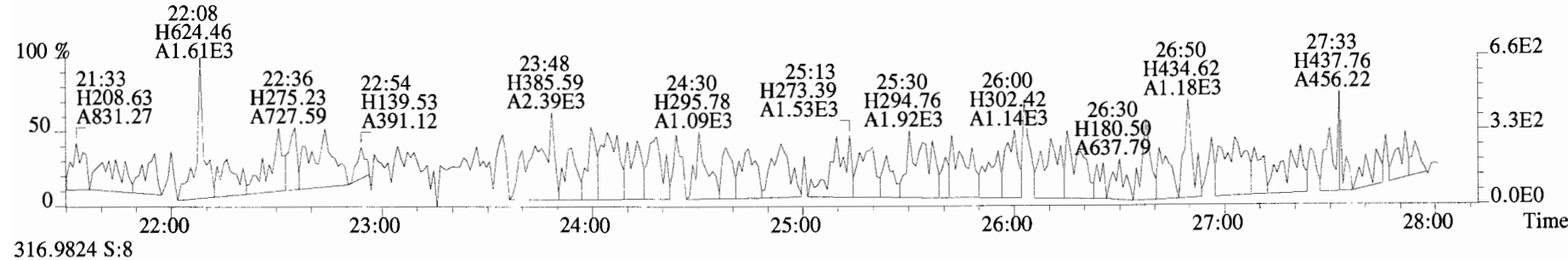
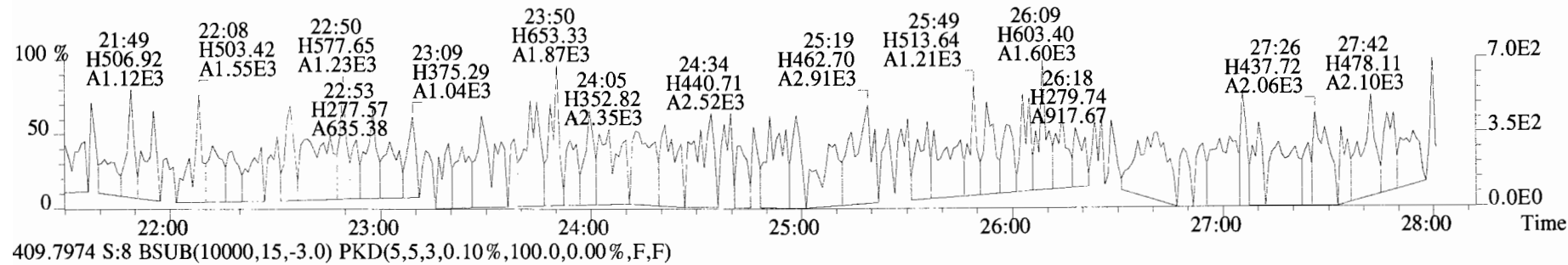
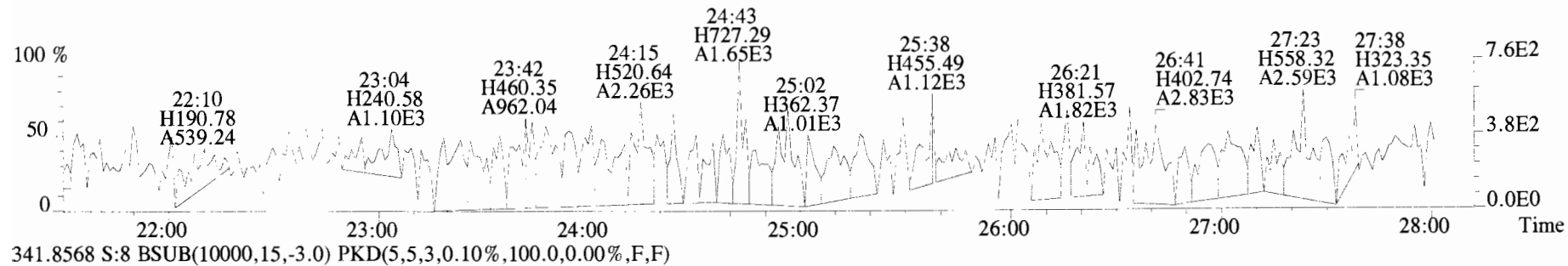
317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



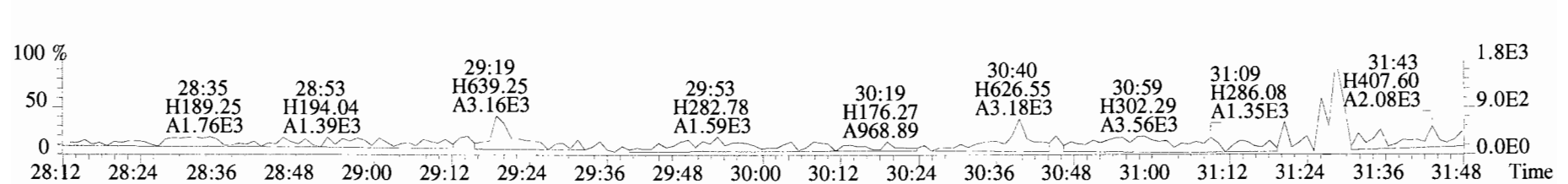
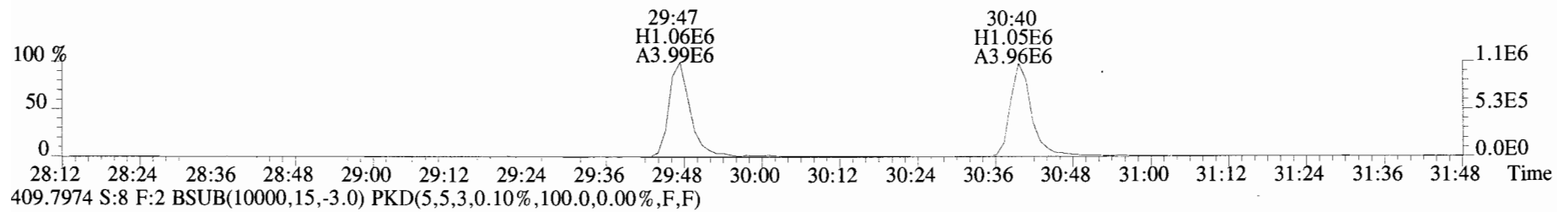
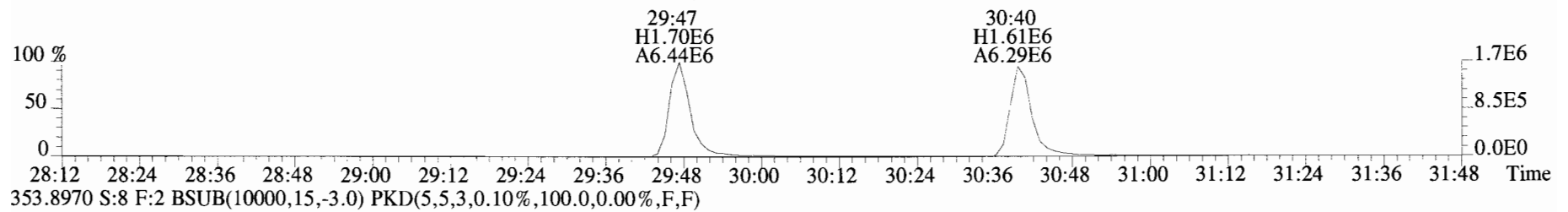
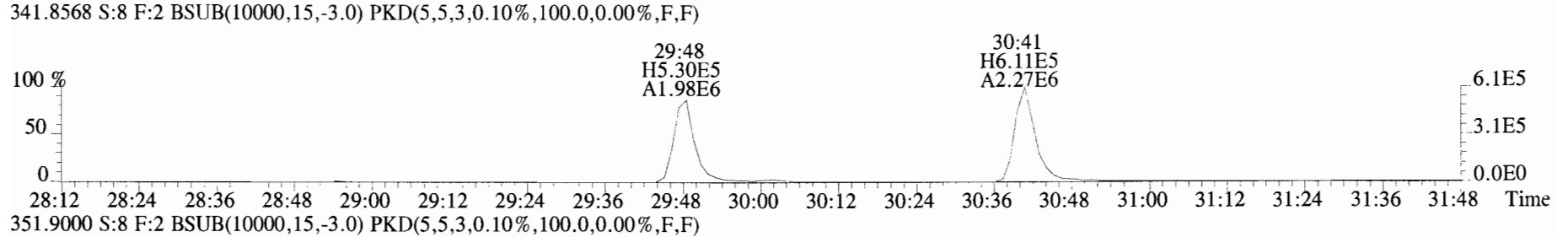
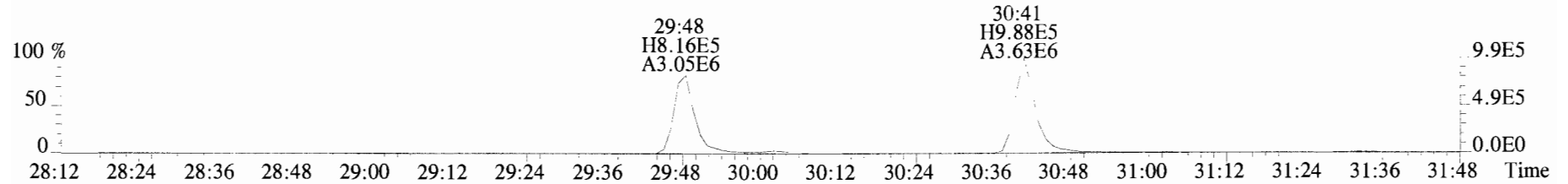
375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



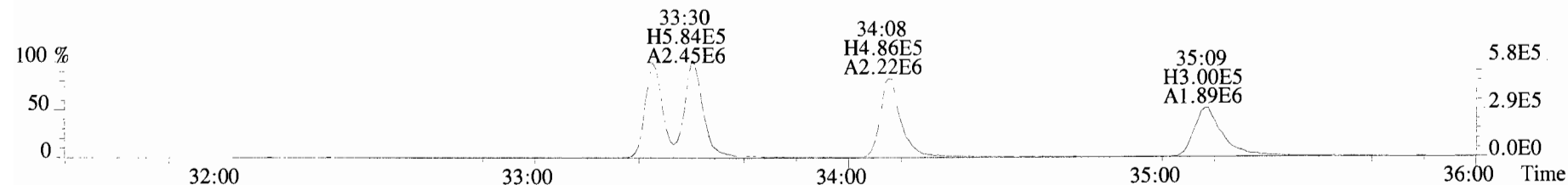
File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



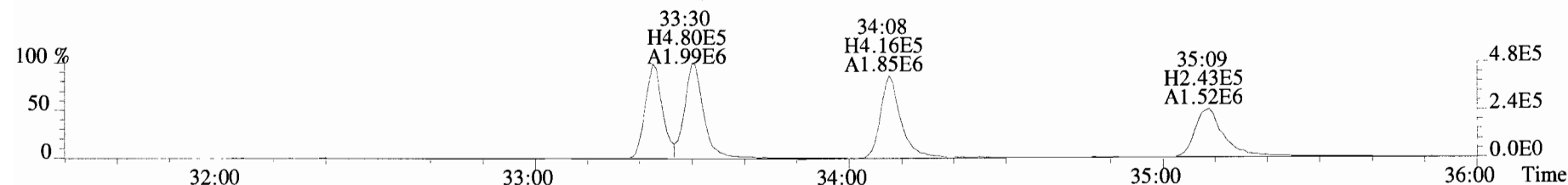
File:191009D1 #1-210 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



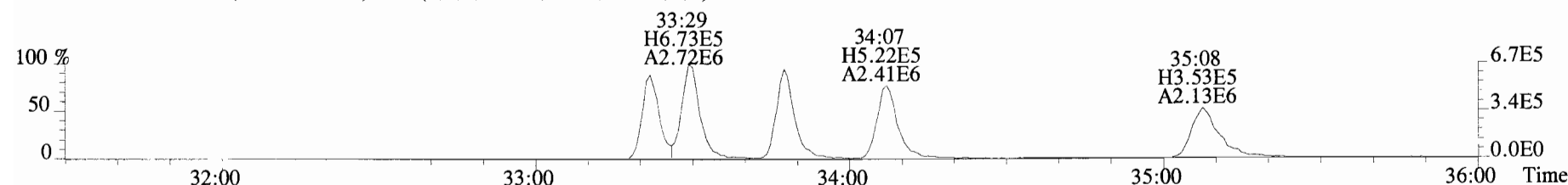
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



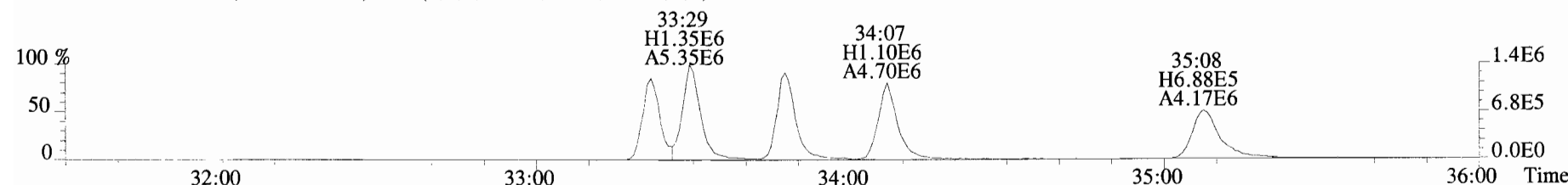
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



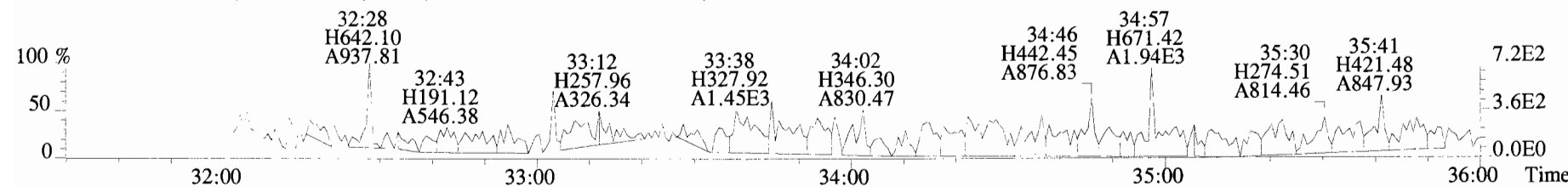
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



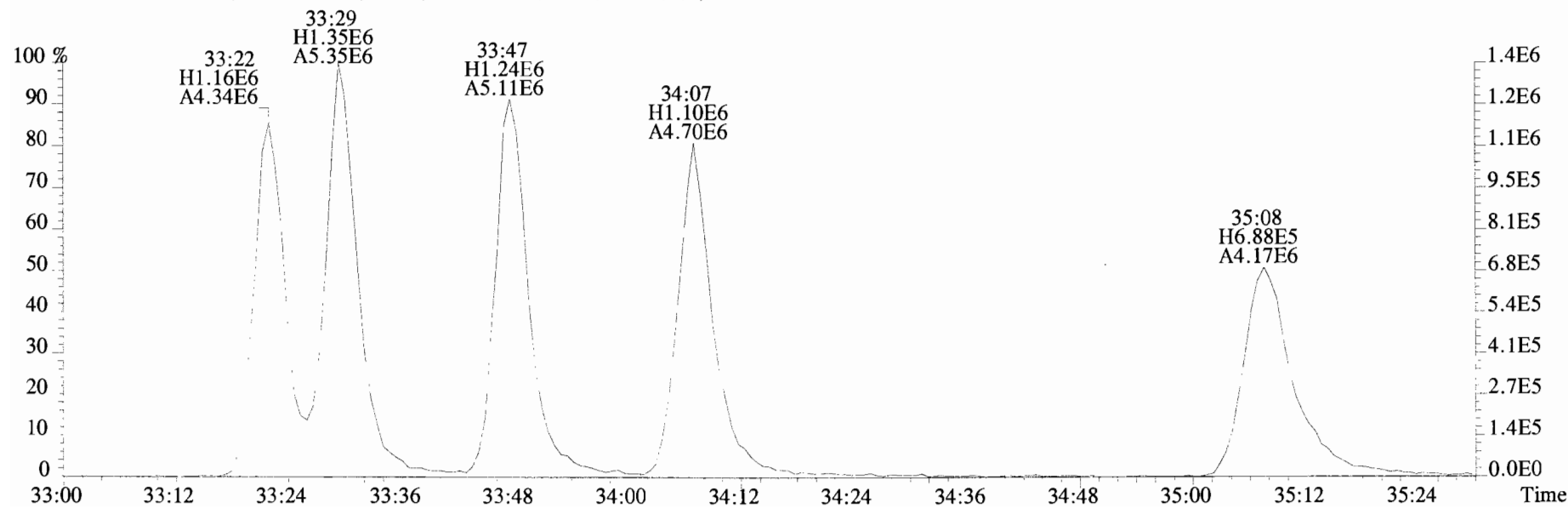
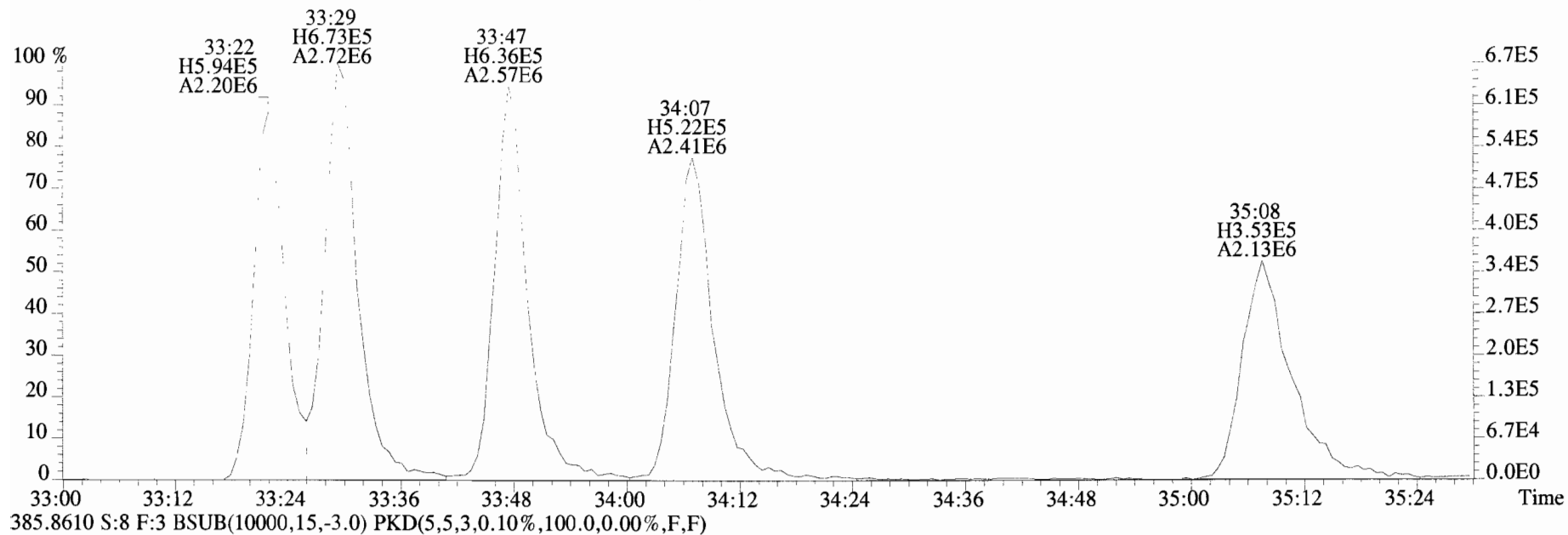
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



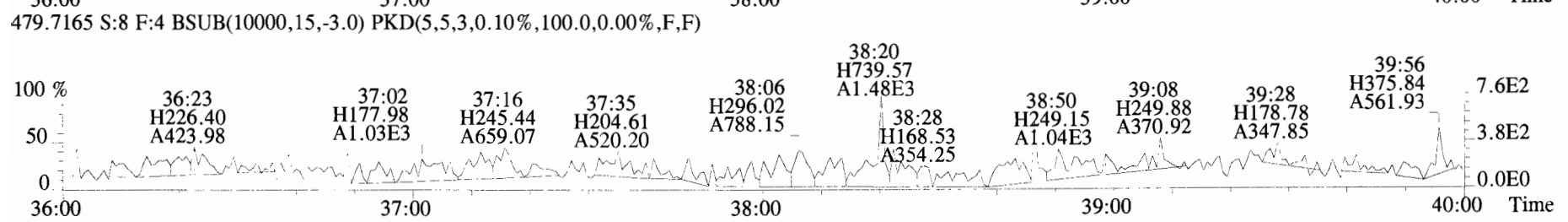
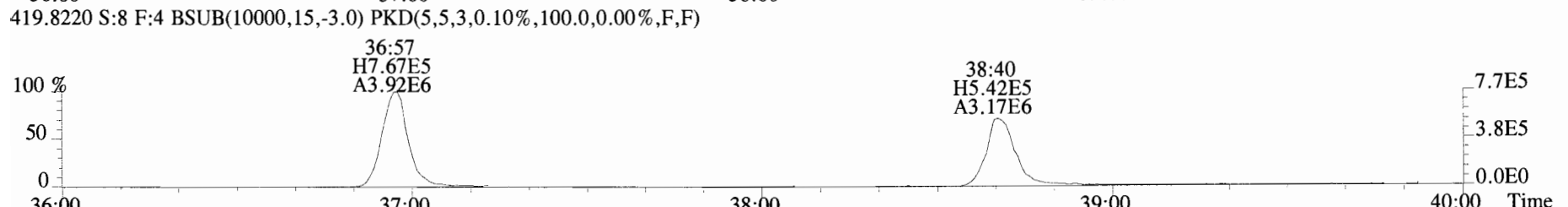
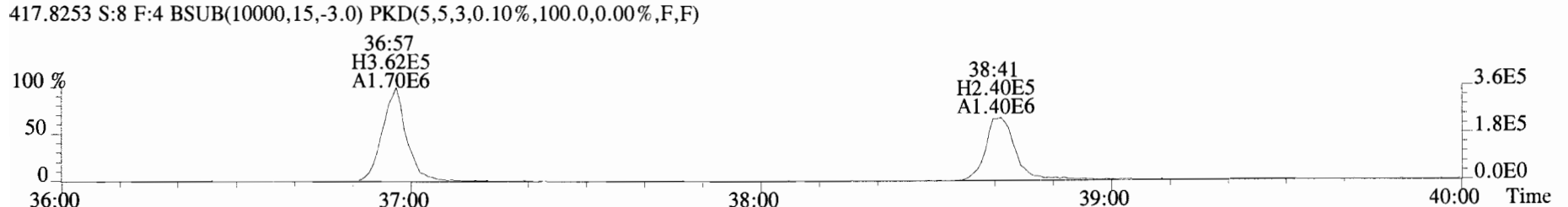
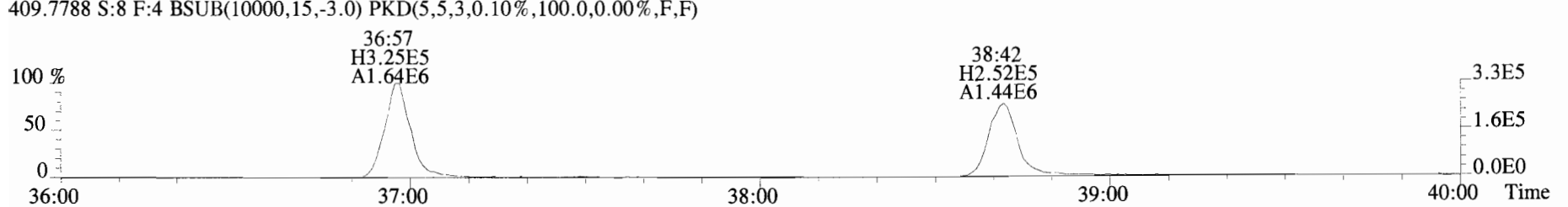
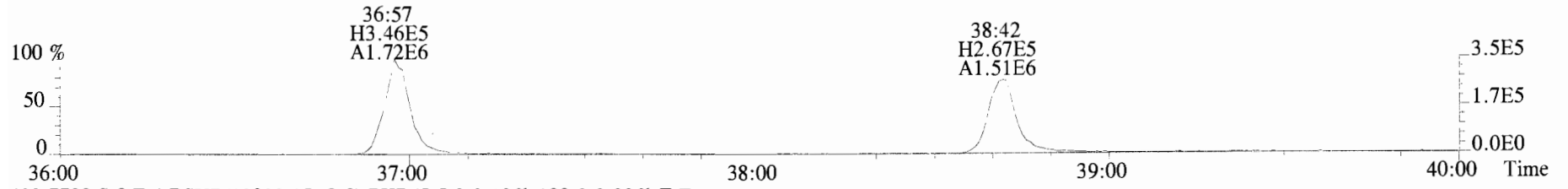
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



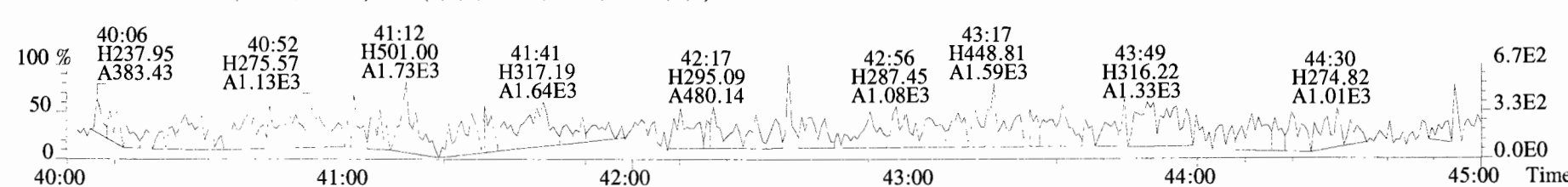
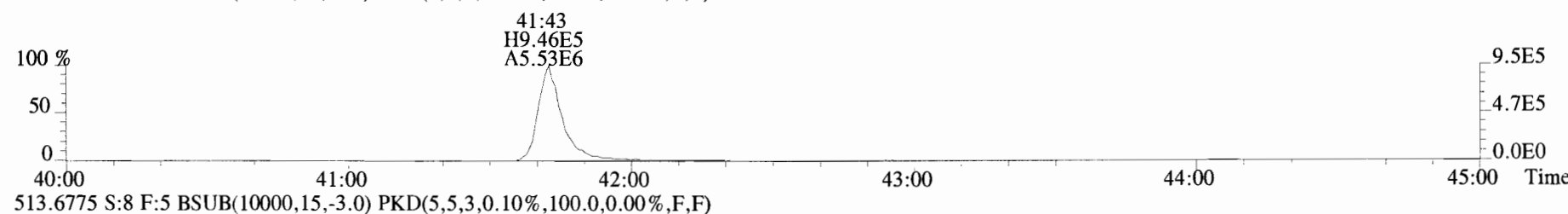
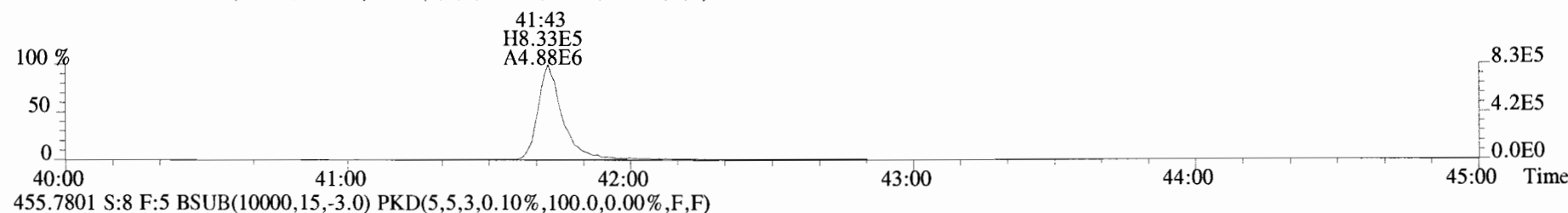
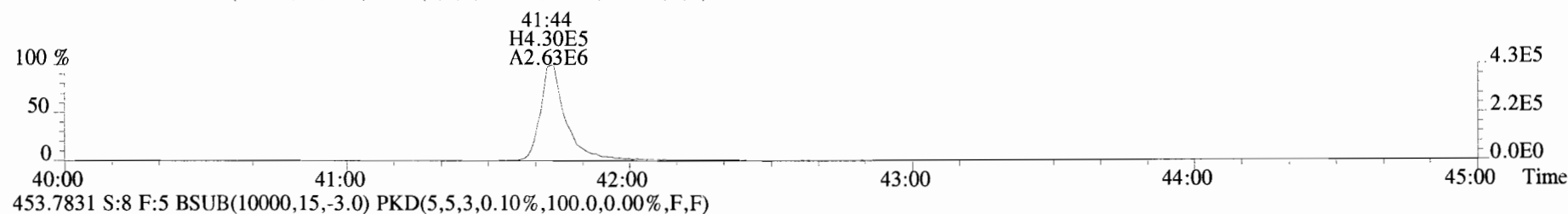
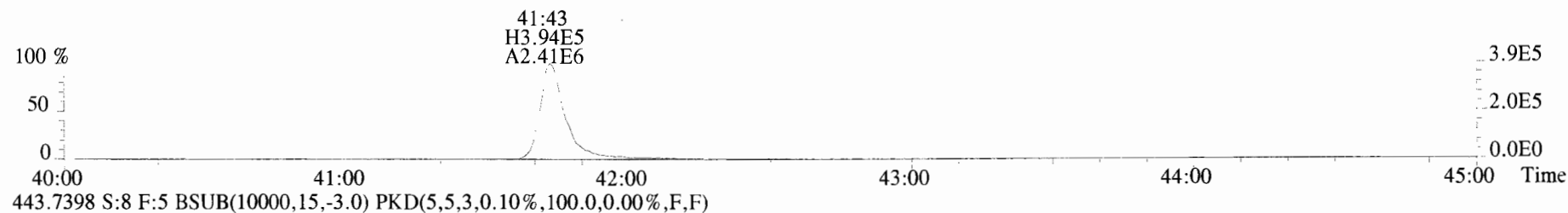
File:191009D1 #1-355 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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)



Initial Calibration RRF Summary (ICAL)

Vista Analytical Laboratory

Run: Analyte: TCDF

Cal: 1613TCDFVG7-5-30-19

Inst. ID. VG-7

Data filename: 190530D1

Samp# 3	Samp# 4	Samp# 5	Samp# 6	Samp# 7	Samp# 8
100	100	100	100	100	100

Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
13C-1,2,3,4-TCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-2,3,7,8-TCDF	1.0212	4.27 %	1.07	1.04	1.03	1.05	0.98	0.96
2,3,7,8-TCDF	0.9476	9.58 %	1.12	0.93	0.88	0.87	0.97	0.92

DB CT
5/30/19 05/31/19

Filename: 190530D1 S: 3 Acquired: 30-MAY-19 12:05:38
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-1 1613 CS0 19C2201

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.38e+07	0.80 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.47e+07	0.81 y	18:05	-	1.07
2,3,7,8-TCDF	0.250	4.11e+04	0.87 y	18:06	-	1.12

DB
5/30/19

Filename: 190530D1 S: 4 Acquired: 30-MAY-19 12:37:29
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-2 1613 CS1 19C2202

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.24e+07	0.82 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.30e+07	0.78 y	18:05	-	1.04
2,3,7,8-TCDF	0.500	6.06e+04	0.67 y	18:05	-	0.93

DB
5/30/19

Filename: 190530D1 S: 5 Acquired: 30-MAY-19 13:09:20
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-3 1613 CS2 19C2203

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.21e+07	0.82 y	15:48	-	1.00
13C-2,3,7,8-TCDF	100	1.24e+07	0.80 y	18:04	-	1.03
2,3,7,8-TCDF	2.00	2.18e+05	0.74 y	18:05	-	0.88

DB
5/30/19

Filename: 190530D1 S: 6 Acquired: 30-MAY-19 13:41:11
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-4 1613 CS3 19C2204

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.28e+07	0.81 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.34e+07	0.80 y	18:05	-	1.05
2,3,7,8-TCDF	10.0	1.17e+06	0.73 y	18:06	-	0.87

DB
5/30/19

Filename: 190530D1 S: 7 Acquired: 30-MAY-19 14:13:01
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-5 1613 CS4 19C2205

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.30e+07	0.81 y	15:49	-	1.00
13C-2,3,7,8-TCDF	100	1.28e+07	0.80 y	18:05	-	0.98
2,3,7,8-TCDF	40.0	4.95e+06	0.77 y	18:06	-	0.97

DB
5/30/19

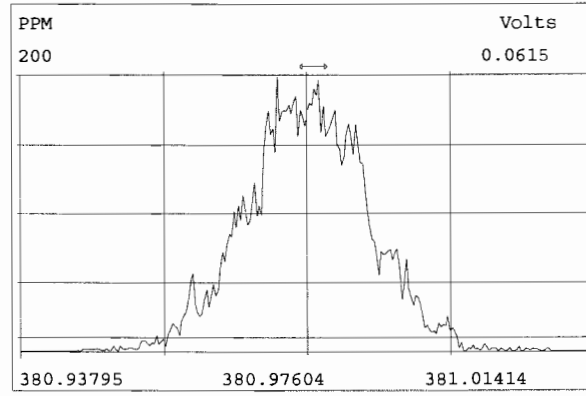
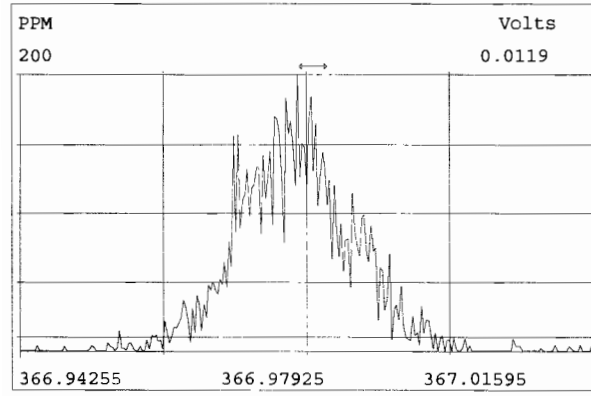
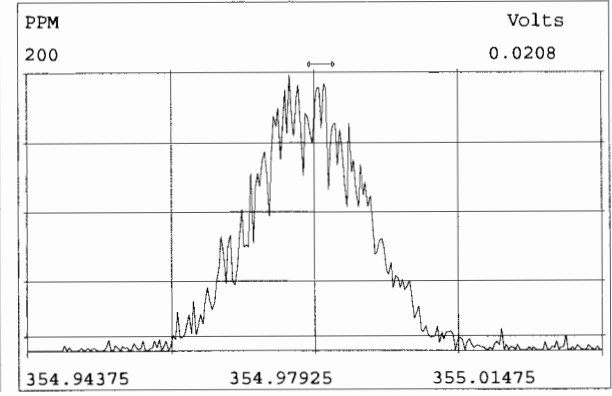
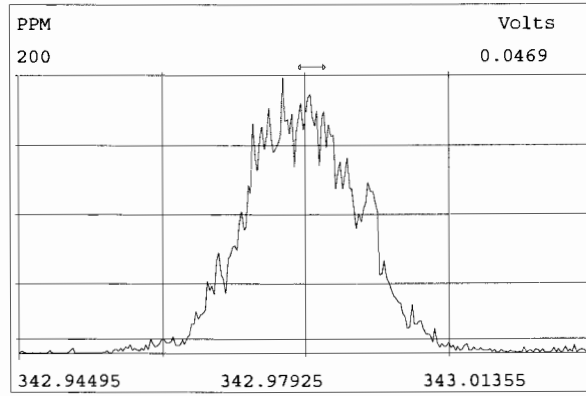
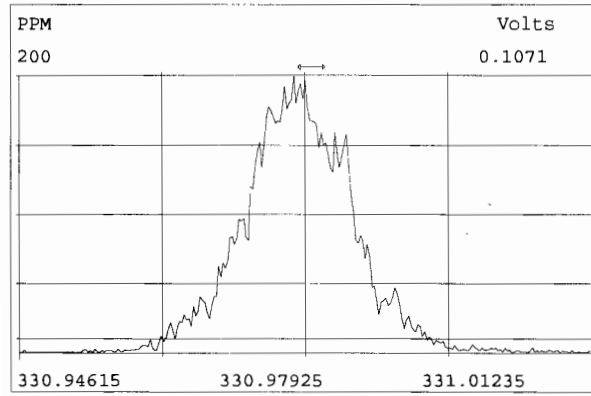
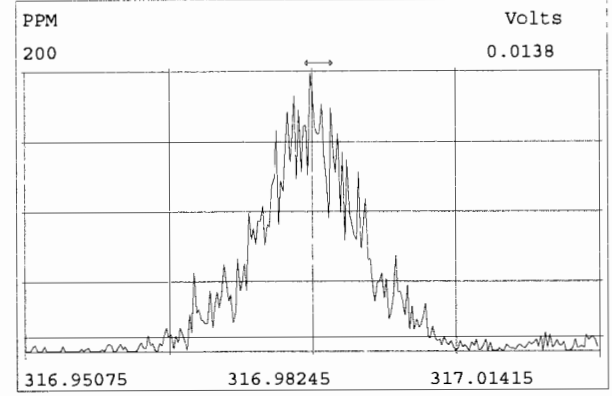
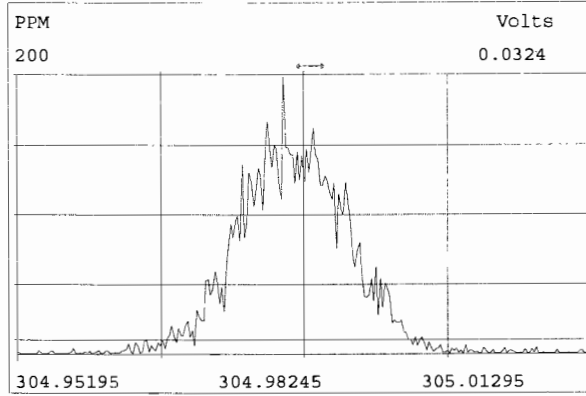
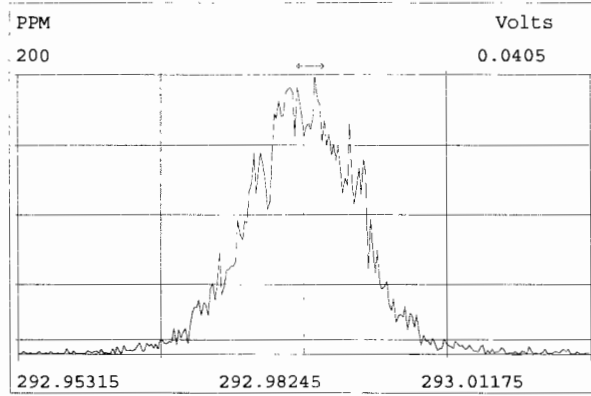
Filename: 190530D1 S: 8 Acquired: 30-MAY-19 14:44:52
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-6 1613 CS5 19C2206

Name	Amount	Resp	RA	RT	RF	RRF
13C-1,2,3,4-TCDF	100	1.29e+07	0.80 y	15:48	-	1.00
13C-2,3,7,8-TCDF	100	1.24e+07	0.80 y	18:05	-	0.96
2,3,7,8-TCDF	300	3.42e+07	0.74 y	18:06	-	0.92

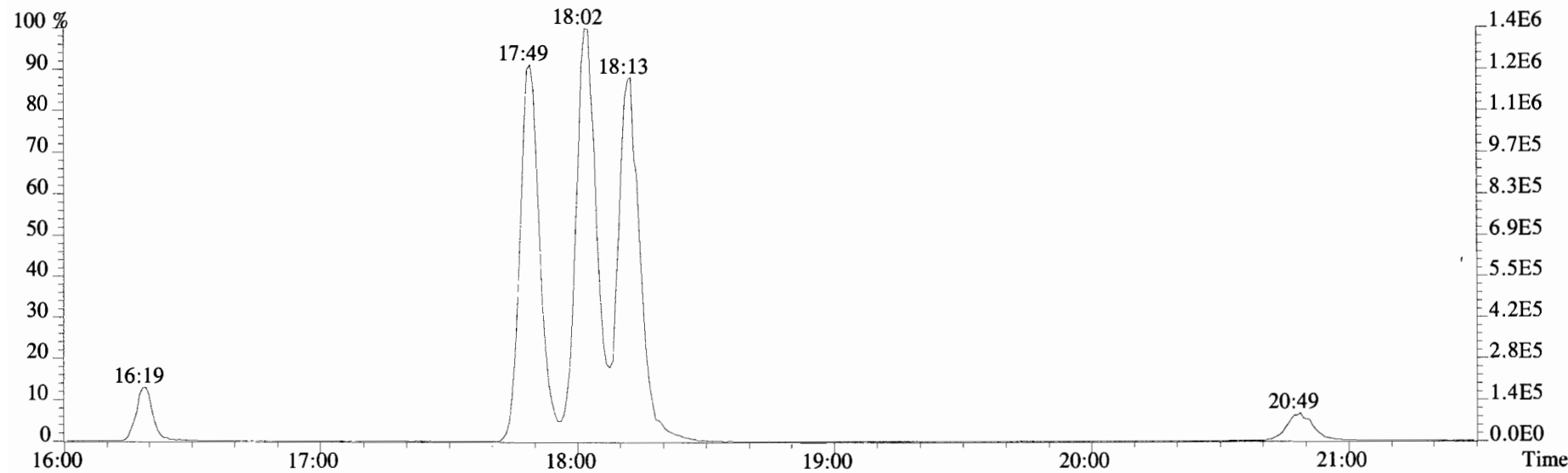
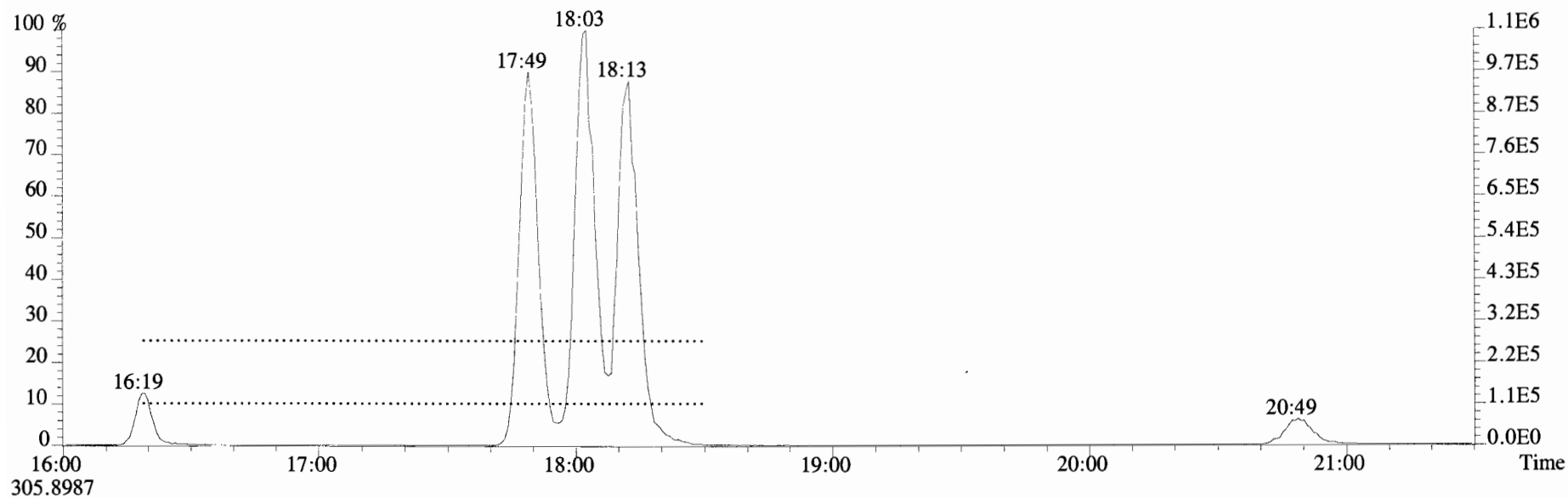
DB
5/30/19

Vista Analytical Laboratory - Injection Log Run file: 190530D1 Instrument ID: VG-7 GC Column ID: DB-225

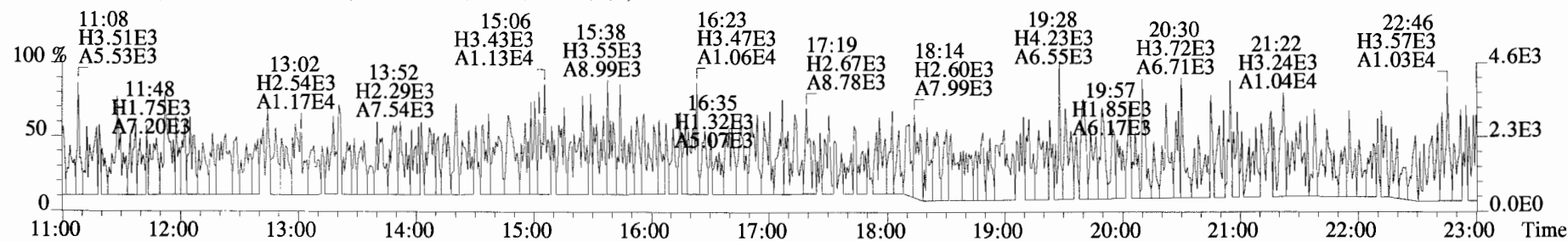
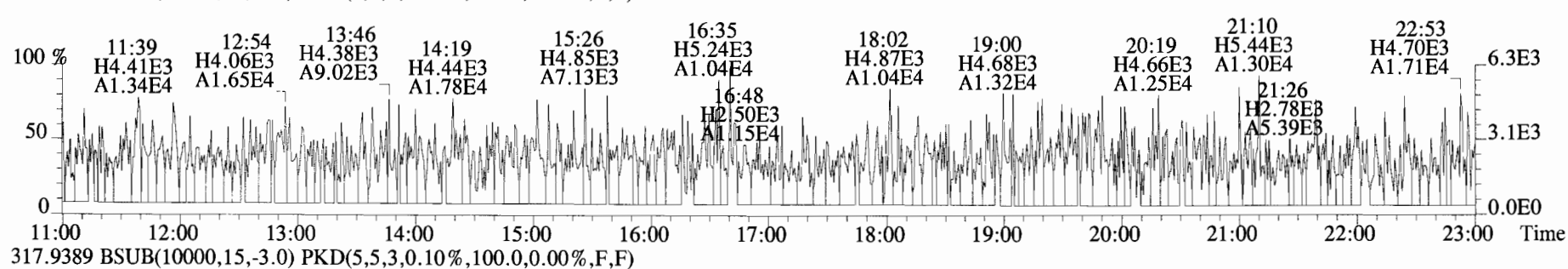
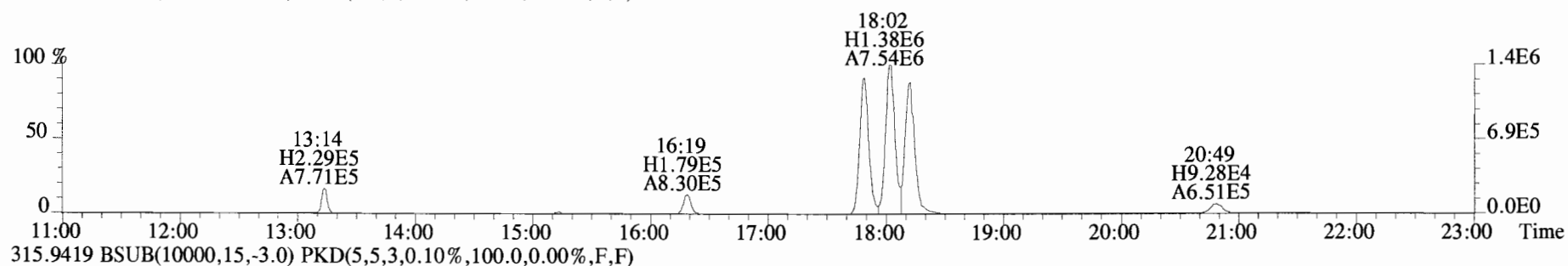
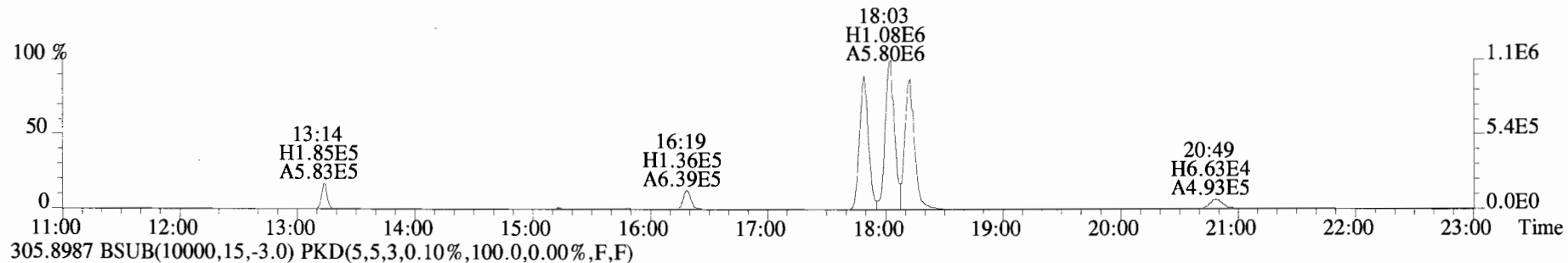
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190530D1	1	CP190530D1-1	DB	30-MAY-19	11:02:08	ST190530D1-4	NA
190530D1	2	SOLVENT BLANK	DB	30-MAY-19	11:33:52	ST190530D1-4	NA
190530D1	3	ST190530D1-1	DB	30-MAY-19	12:05:38	ST190530D1-4	NA
190530D1	4	ST190530D1-2	DB	30-MAY-19	12:37:29	ST190530D1-4	NA
190530D1	5	ST190530D1-3	DB	30-MAY-19	13:09:20	ST190530D1-4	NA
190530D1	6	ST190530D1-4	DB	30-MAY-19	13:41:11	ST190530D1-4	NA
190530D1	7	ST190530D1-5	DB	30-MAY-19	14:13:01	ST190530D1-4	NA
190530D1	8	ST190530D1-6	DB	30-MAY-19	14:44:52	ST190530D1-4	NA
190530D1	9	SOLVENT BLANK	DB	30-MAY-19	15:16:42	ST190530D1-4	NA
190530D1	10	SS190528D1-1	DB	30-MAY-19	15:48:32	ST190530D1-4	NA
190530D1	11	SOLVENT BLANK	DB	30-MAY-19	16:20:23	ST190530D1-4	NA
190530D1	12	1901028-05RE1	DB	30-MAY-19	16:52:12	ST190530D1-4	NA
190530D1	13	1901028-07RE1	DB	30-MAY-19	17:24:02	ST190530D1-4	NA
190530D1	14	1901028-08RE1	DB	30-MAY-19	17:55:52	ST190530D1-4	NA
190530D1	15	1901028-09RE1	DB	30-MAY-19	18:27:41	ST190530D1-4	NA



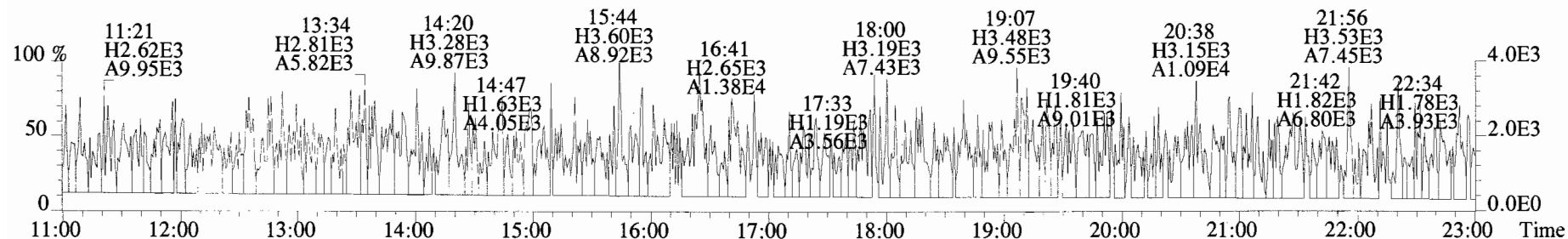
File:190530D1 #1-1559 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



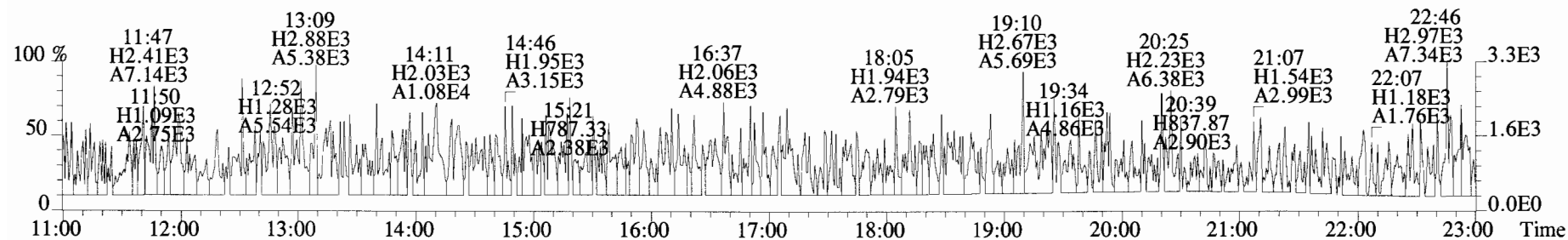
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



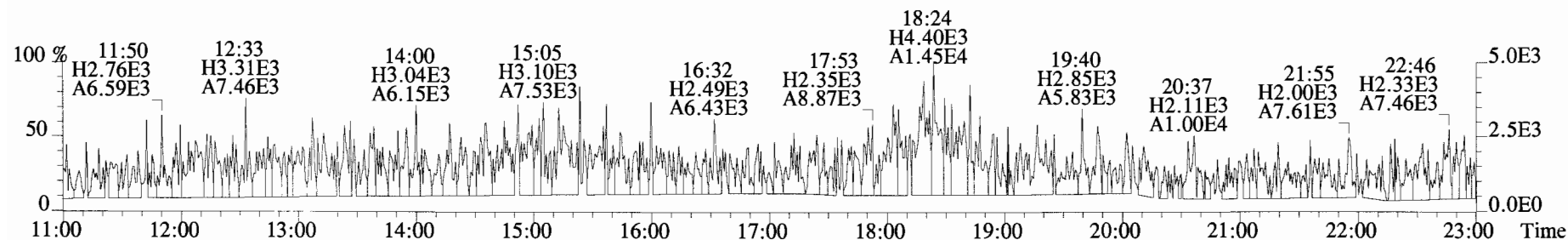
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
 331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



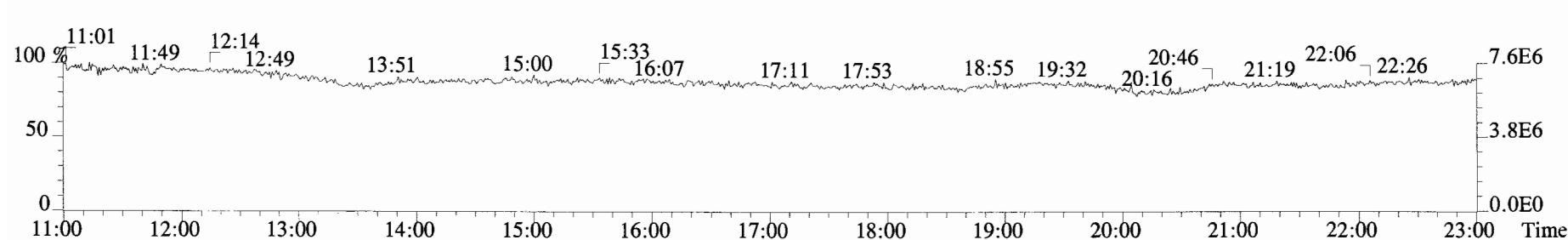
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



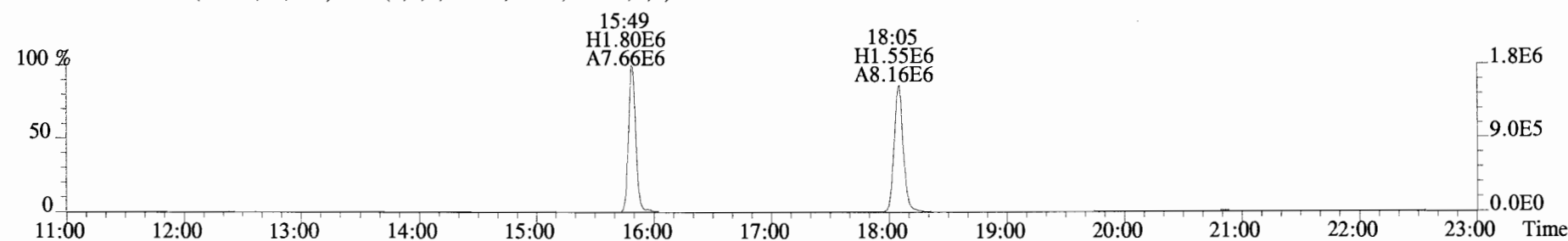
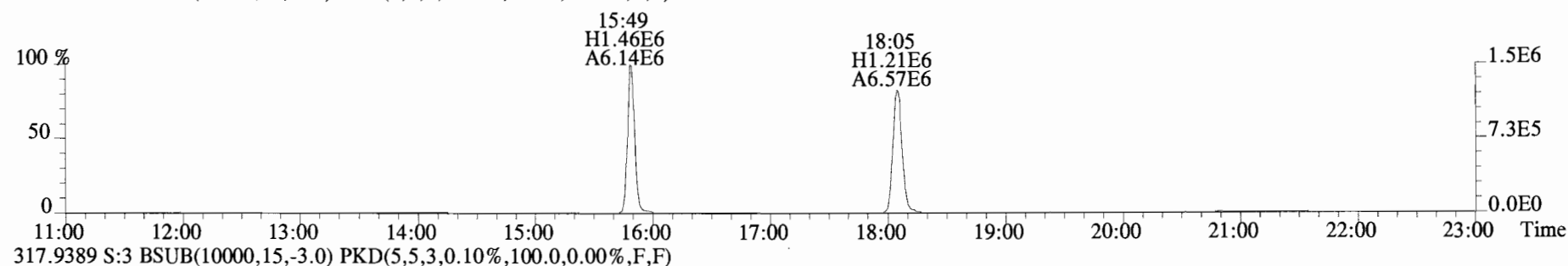
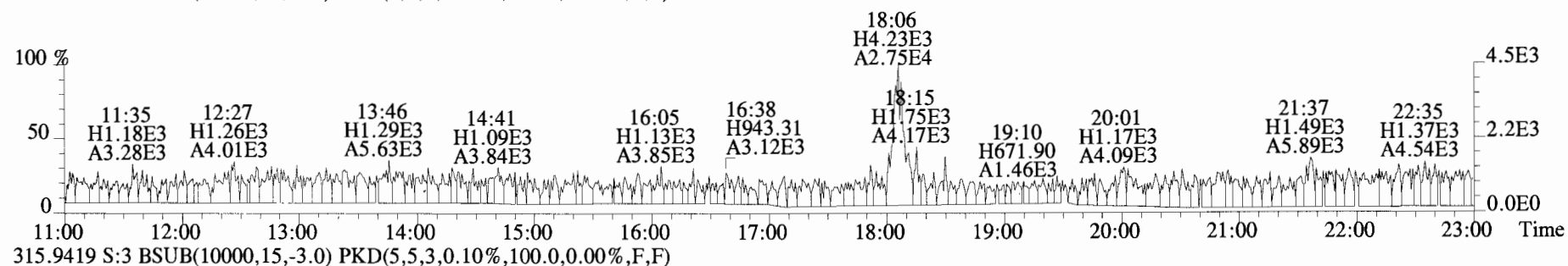
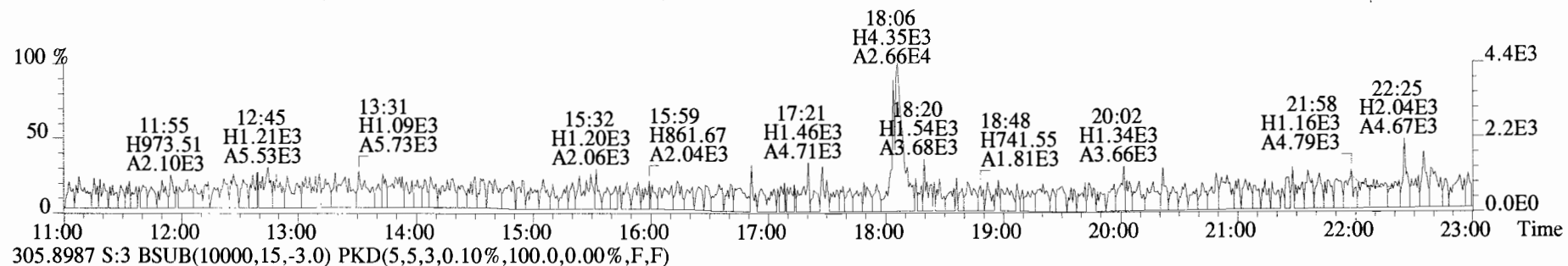
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



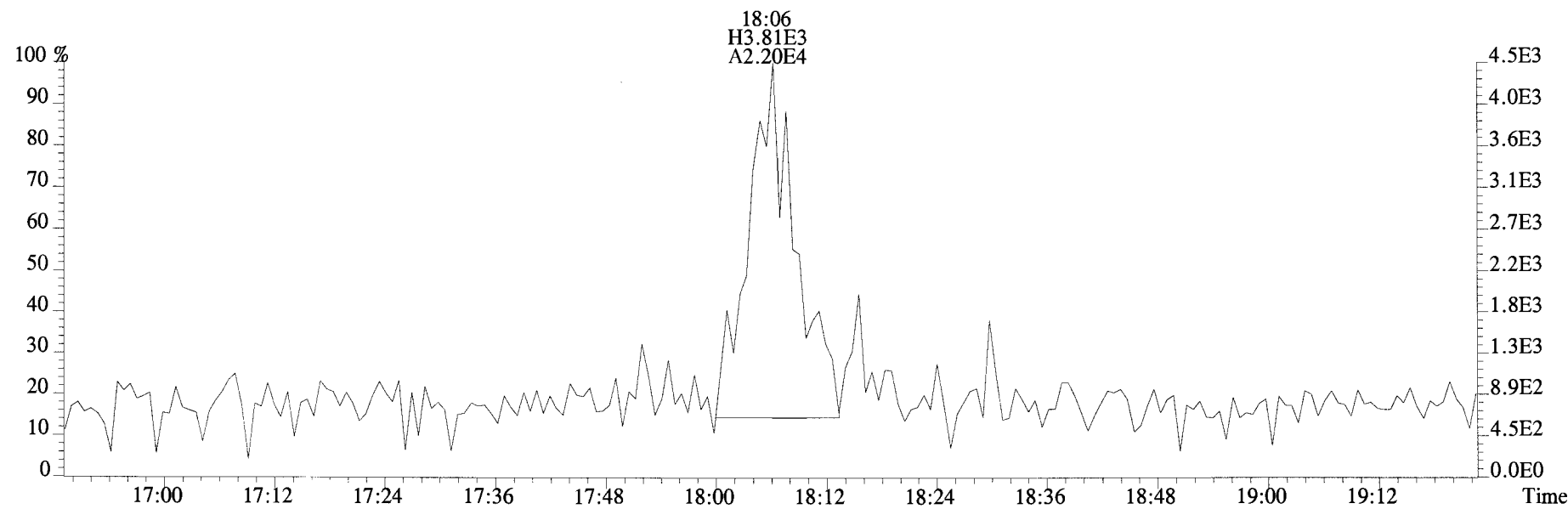
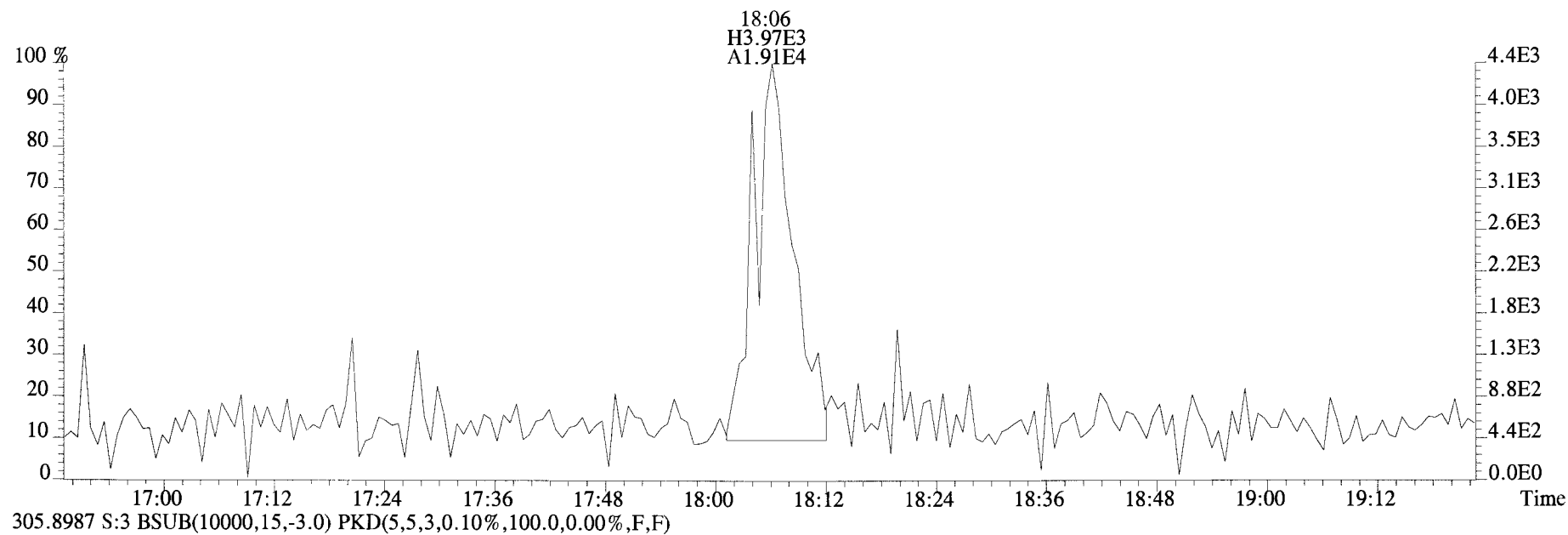
330.9792



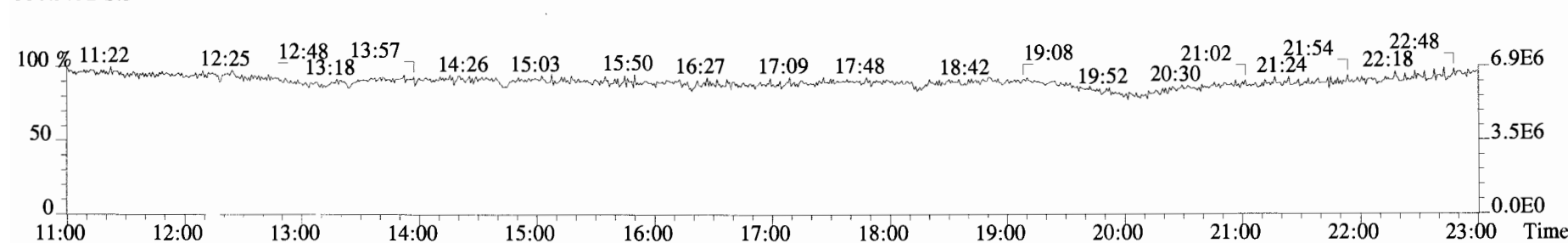
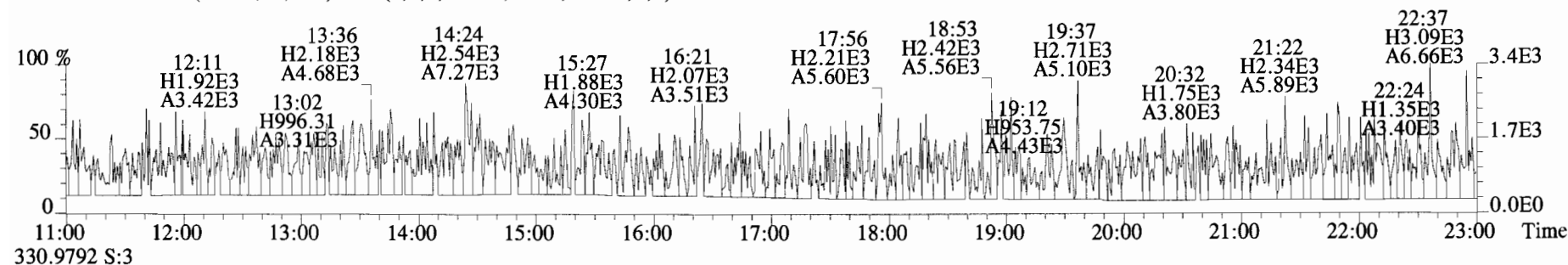
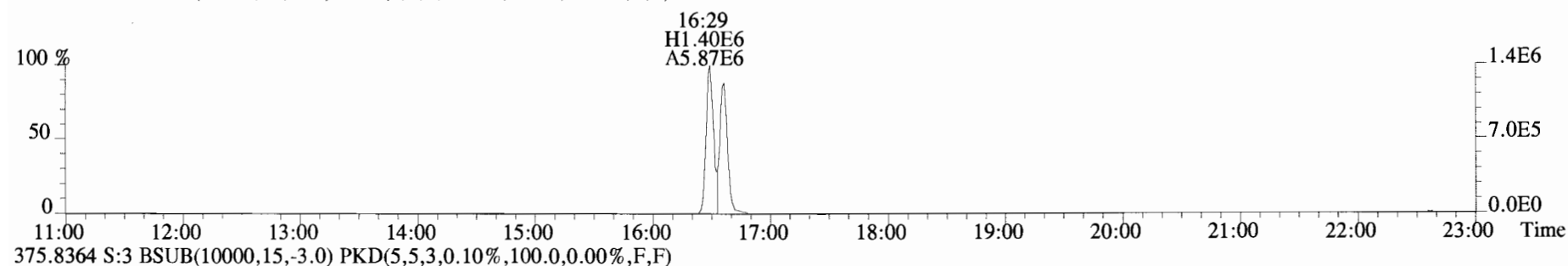
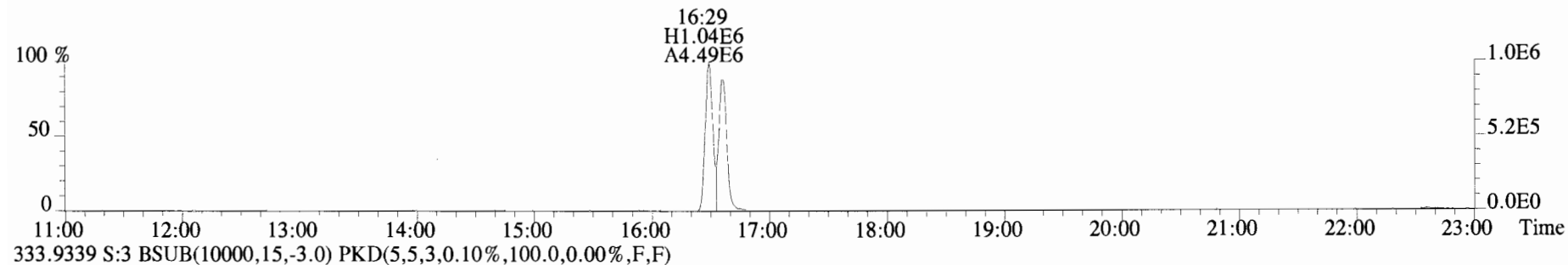
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



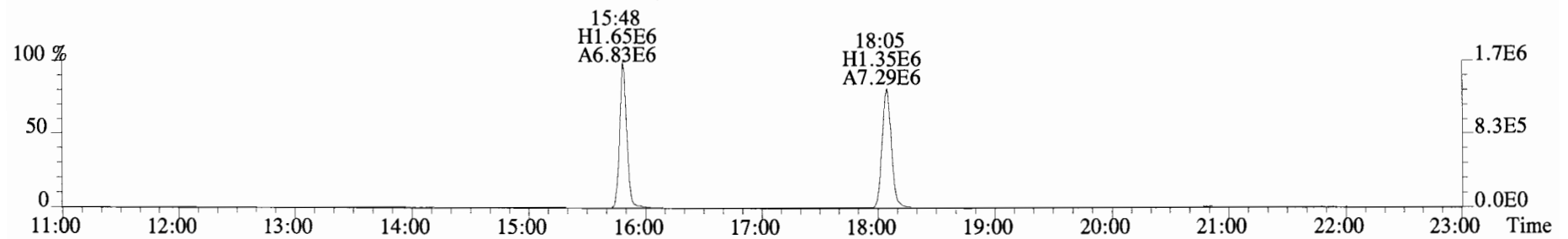
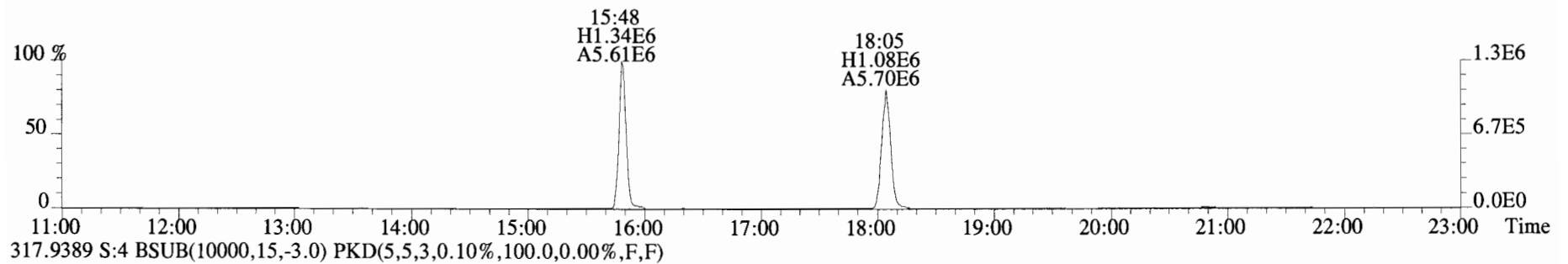
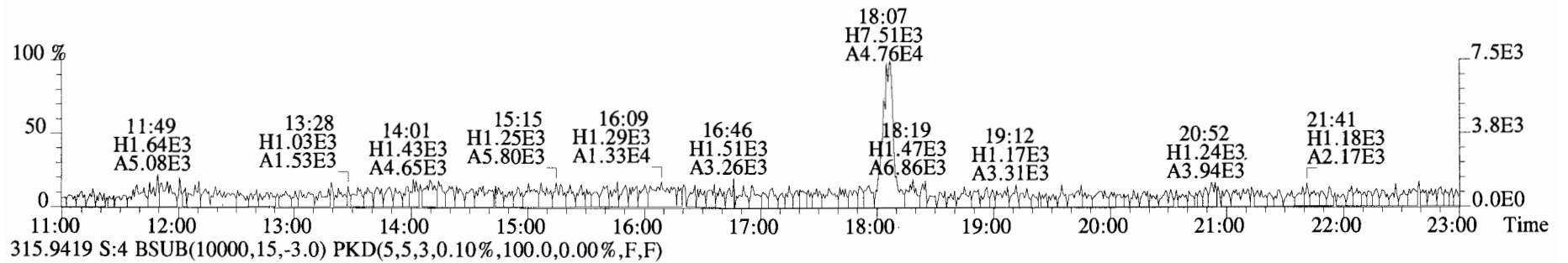
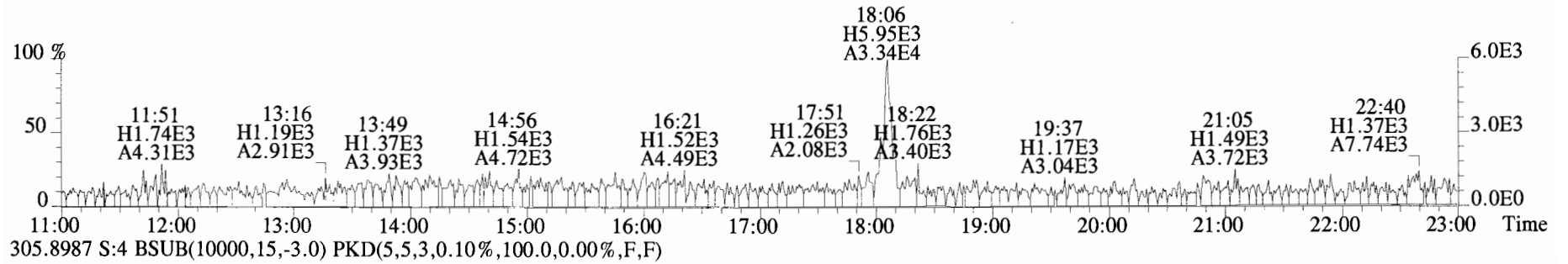
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



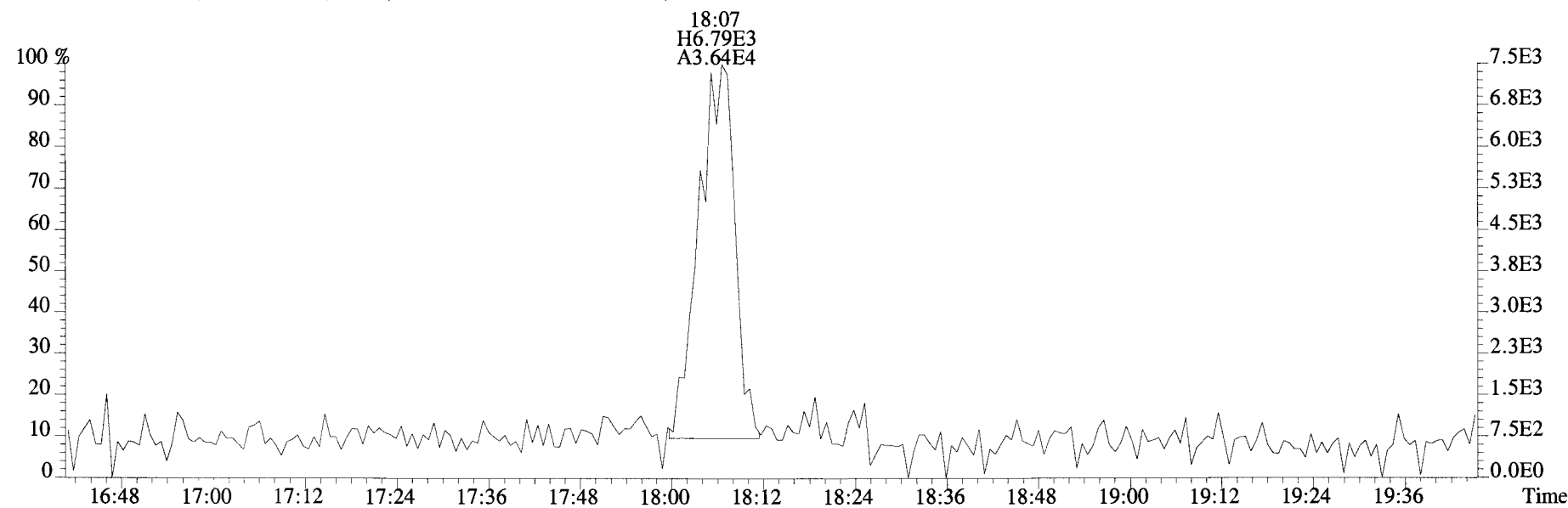
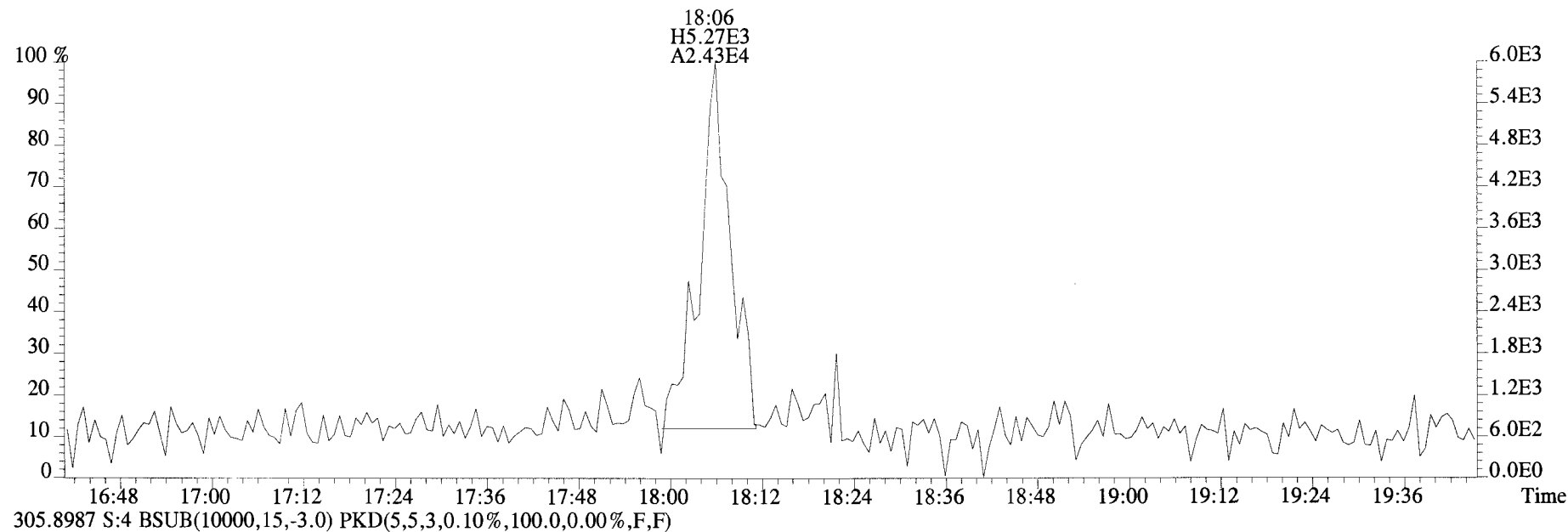
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



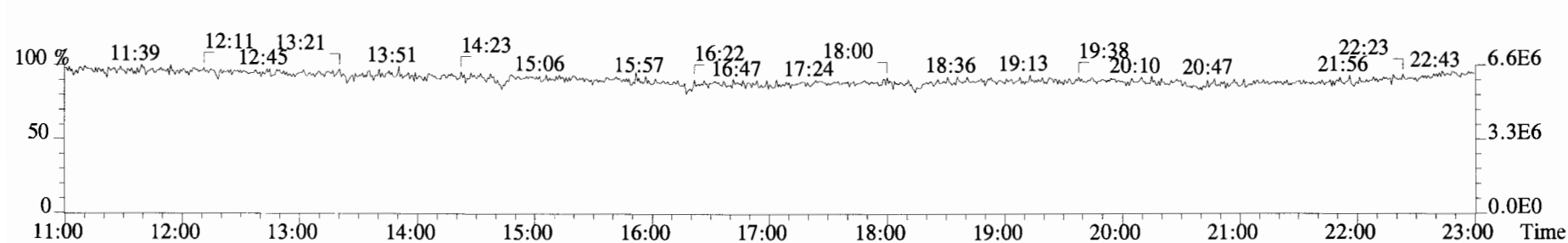
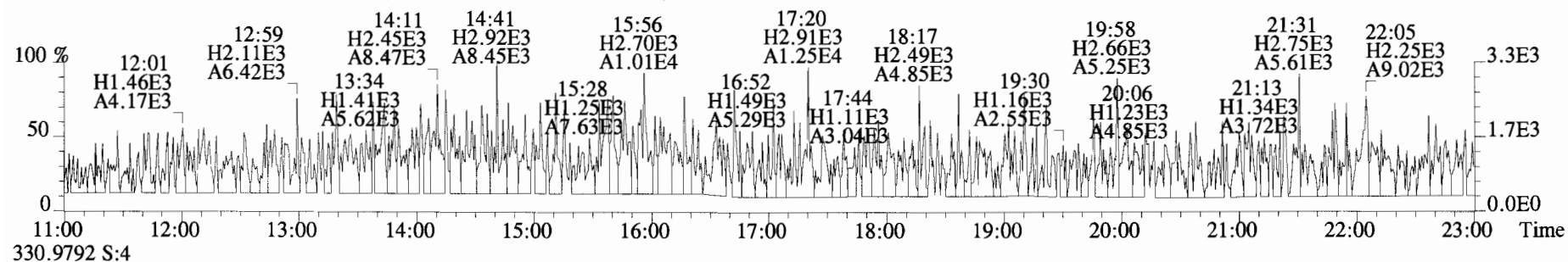
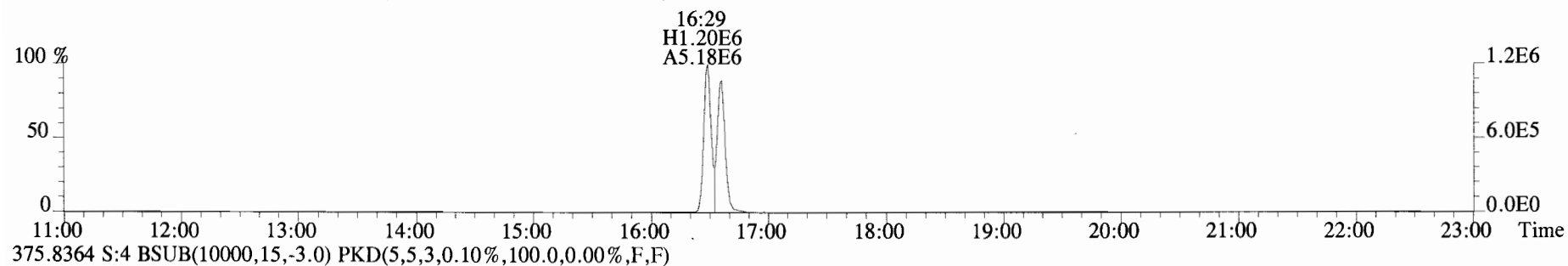
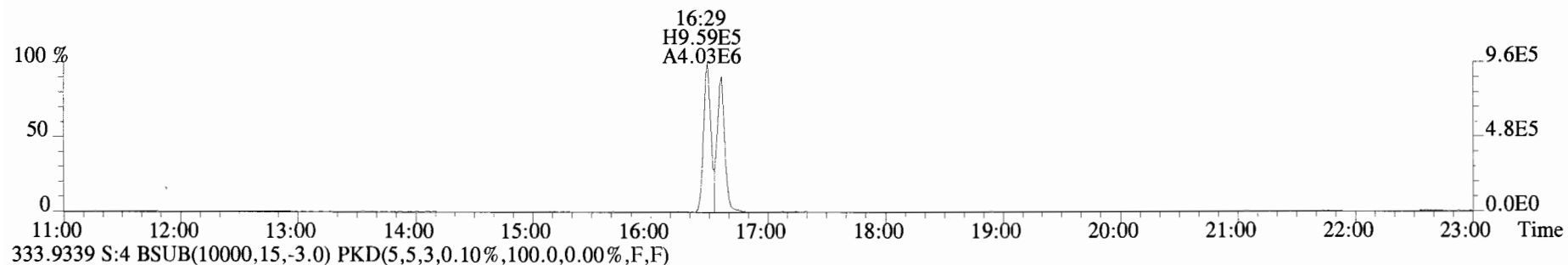
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



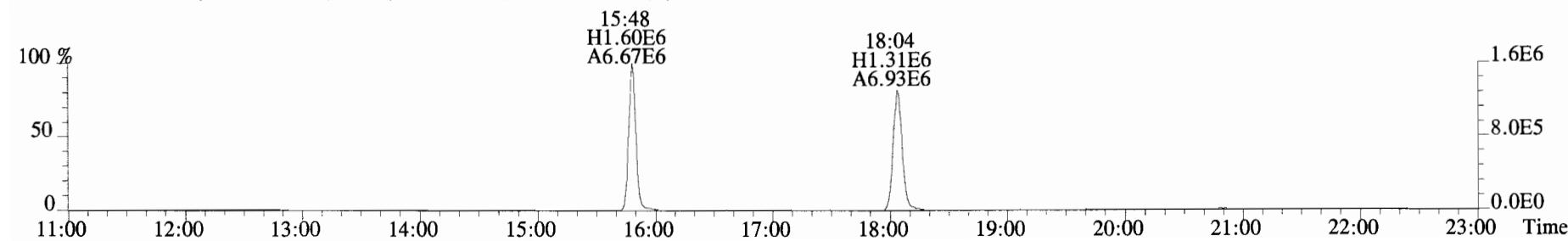
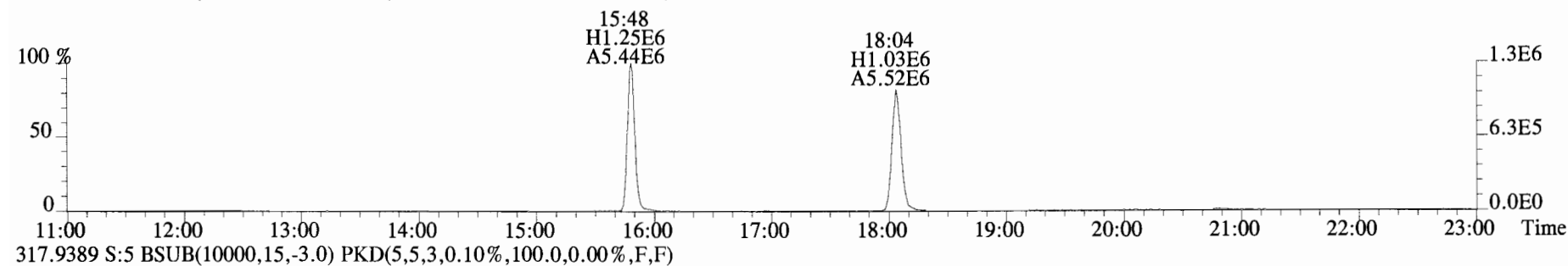
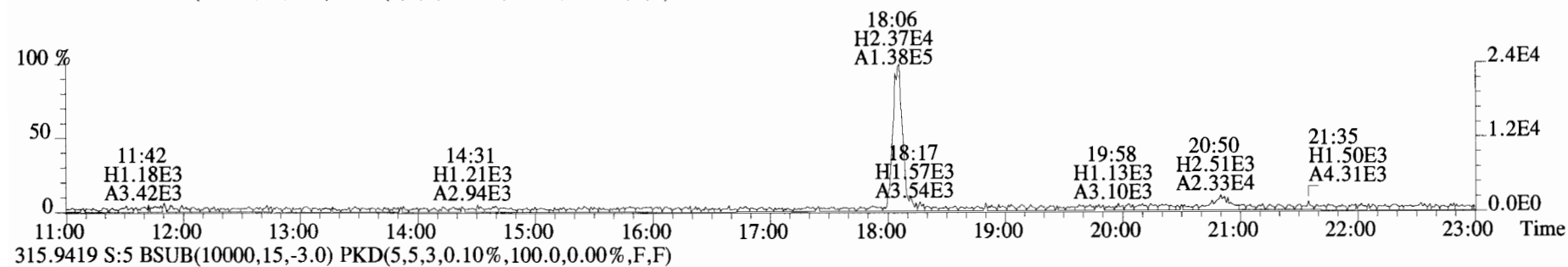
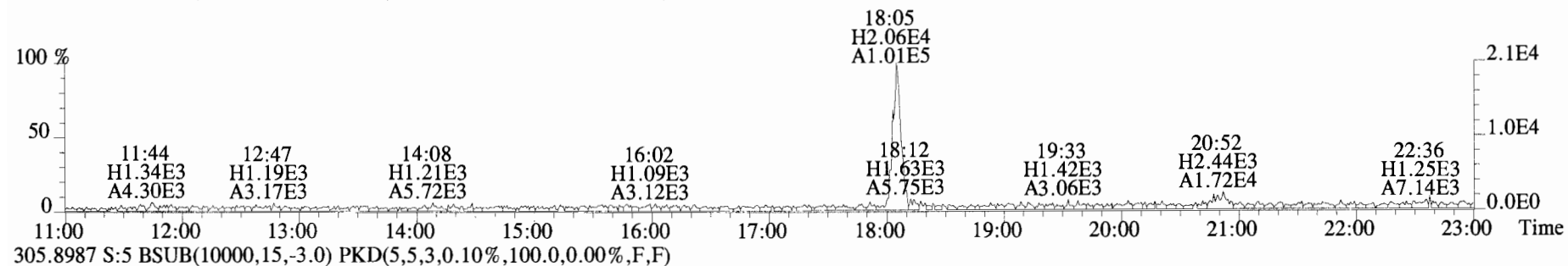
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



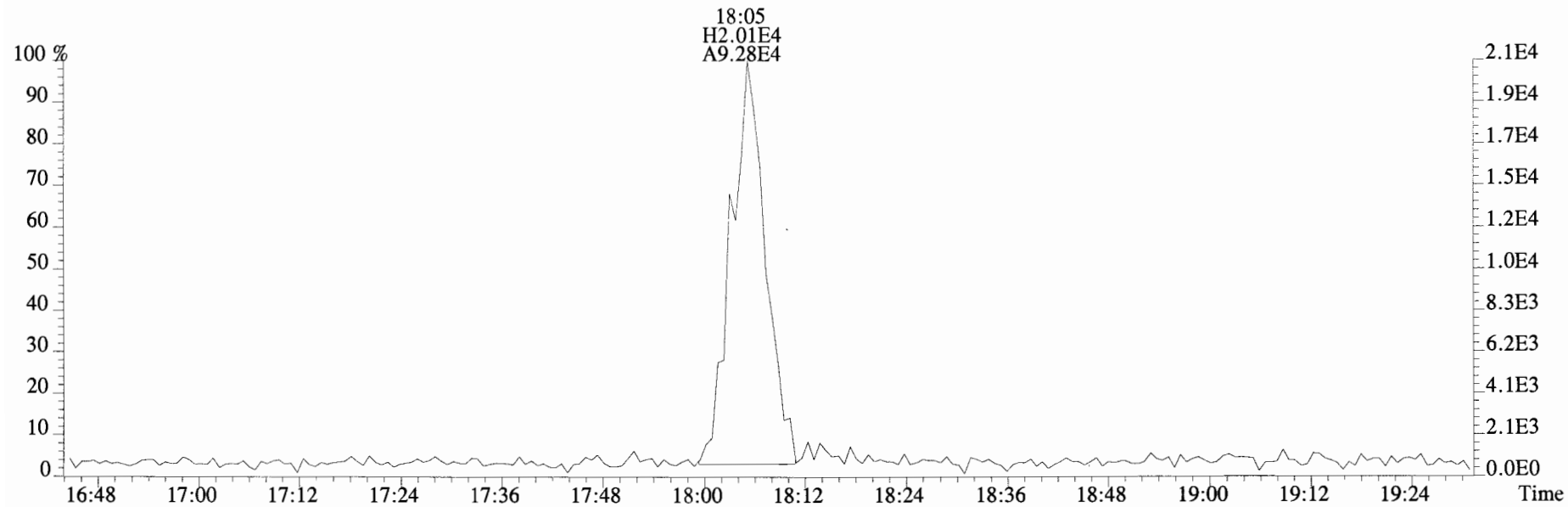
File:190530D1 #1-1683 Acq:30-MAY-2019 12:37:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory_VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



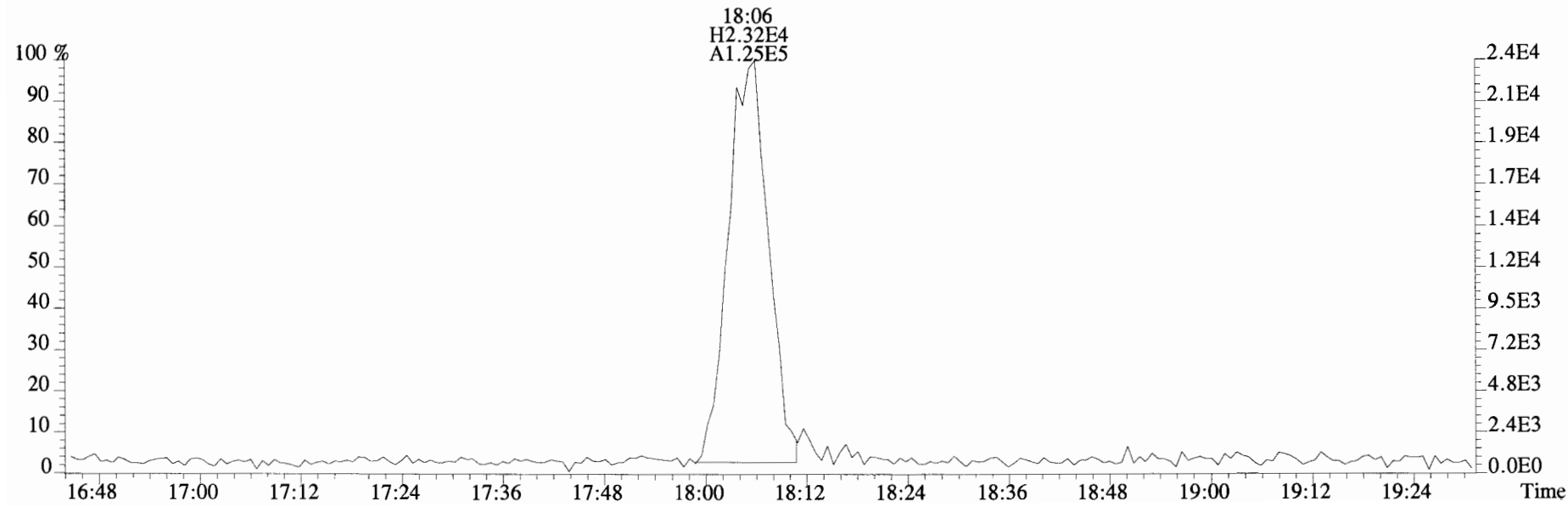
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



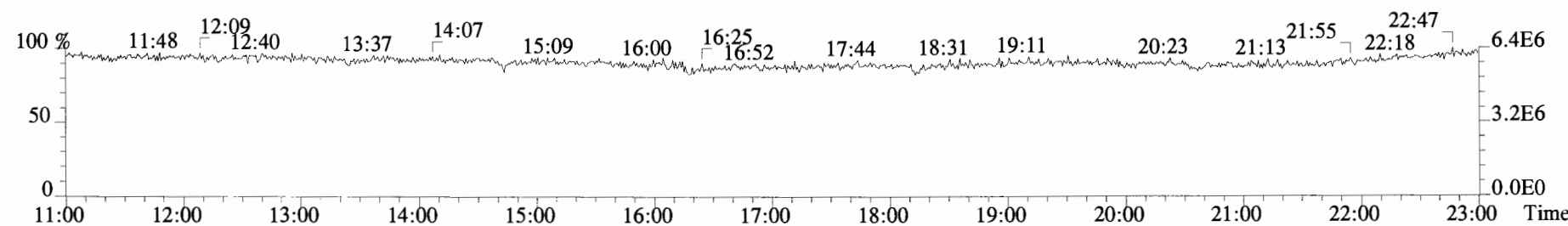
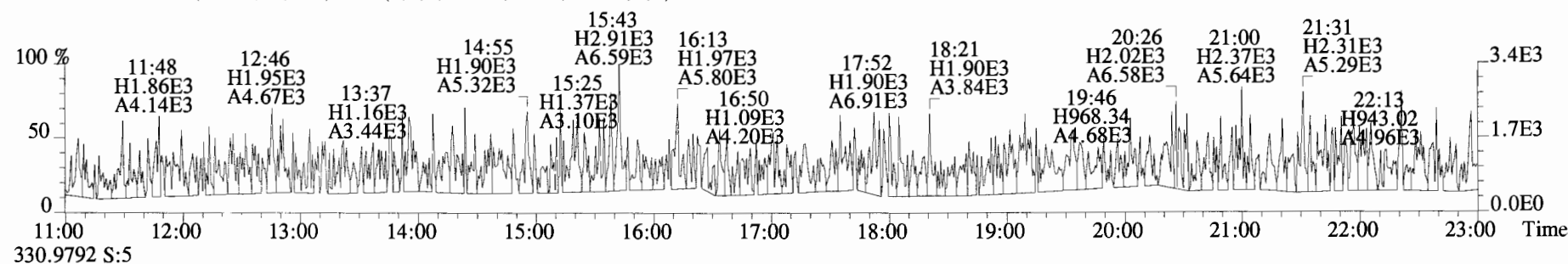
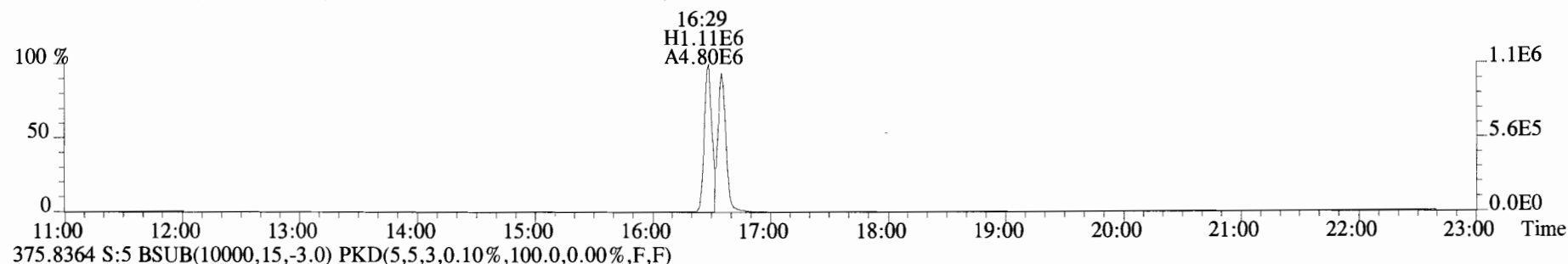
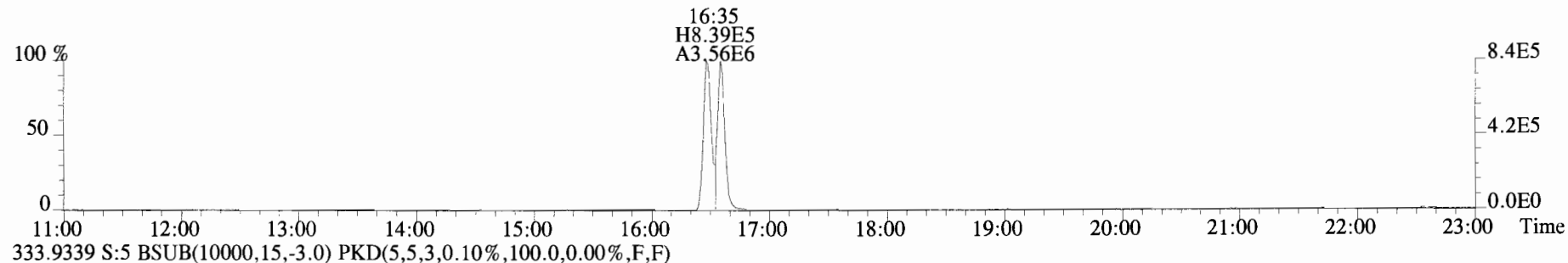
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



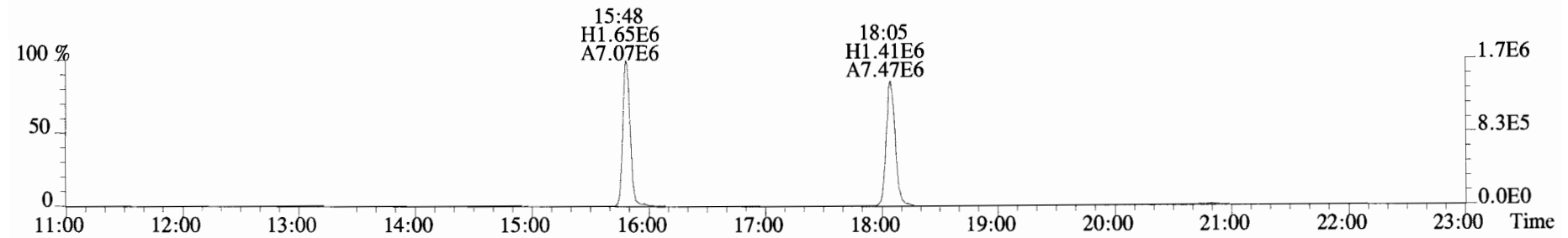
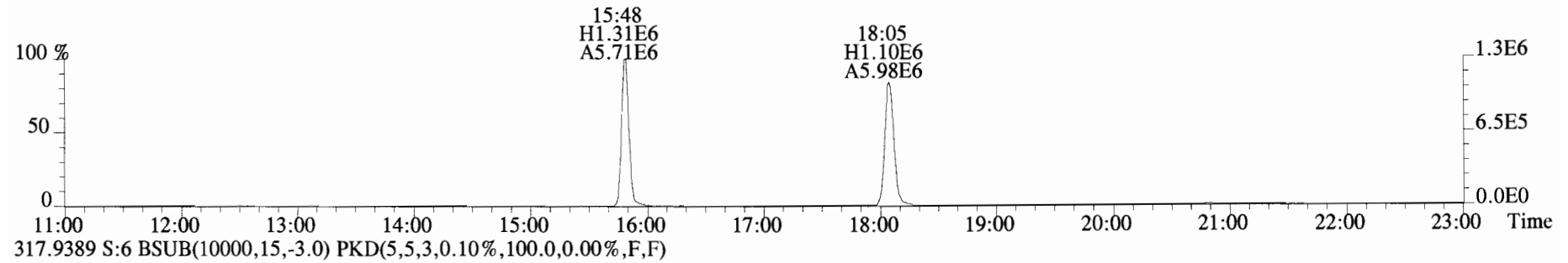
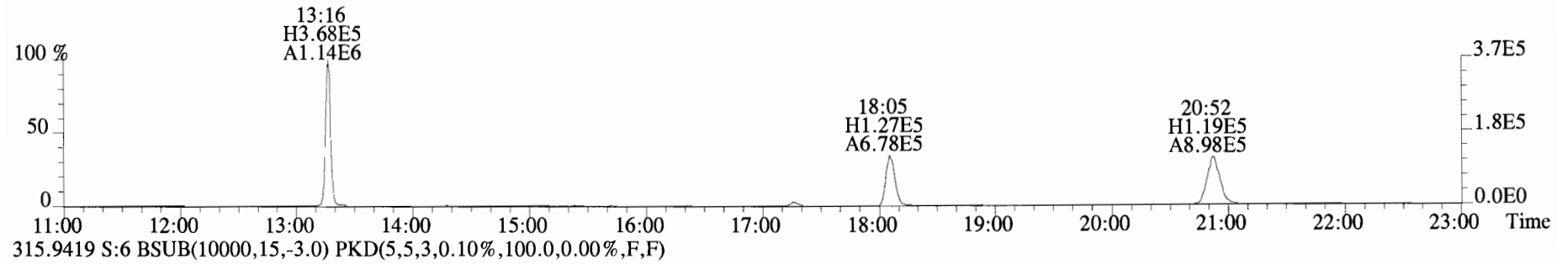
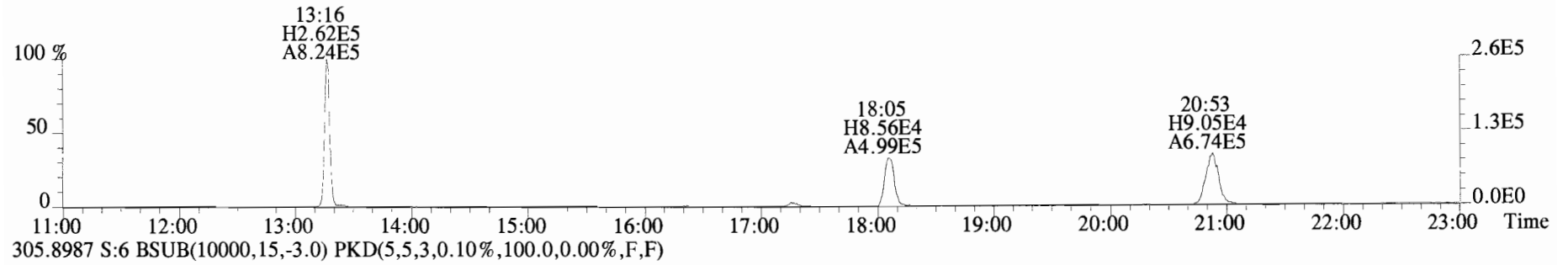
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



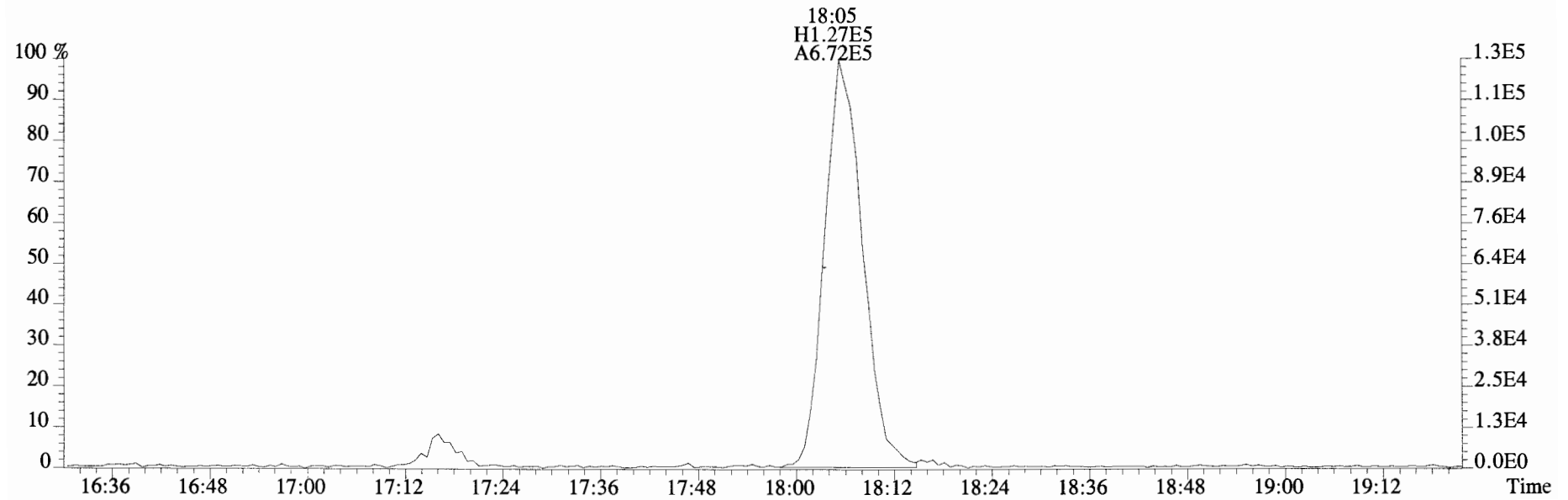
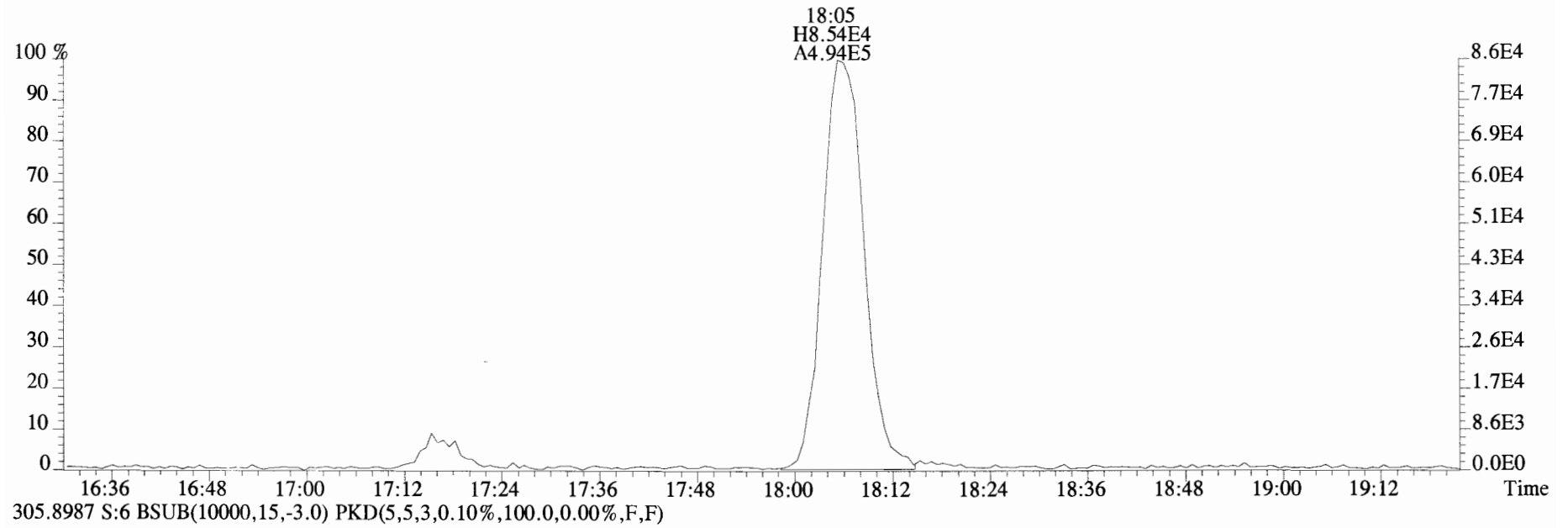
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



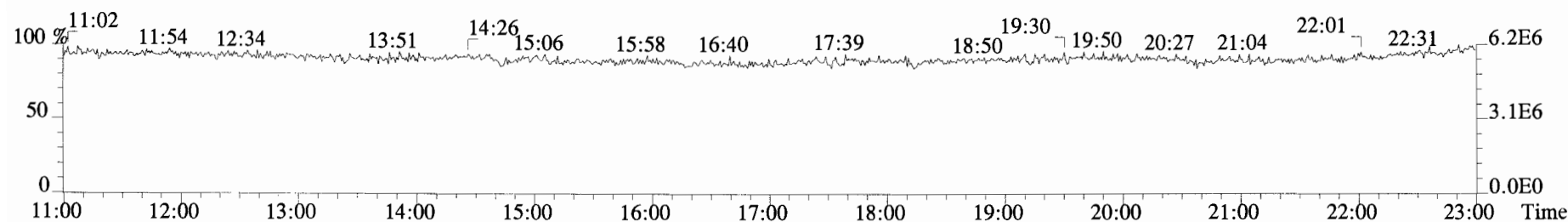
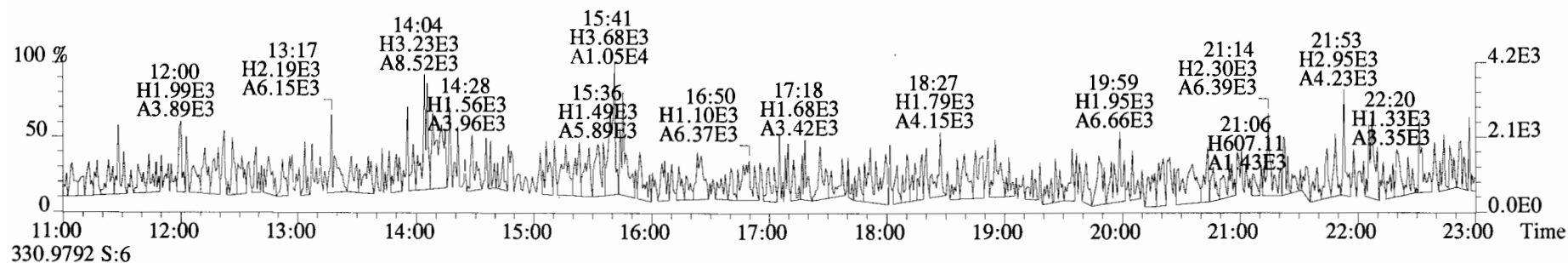
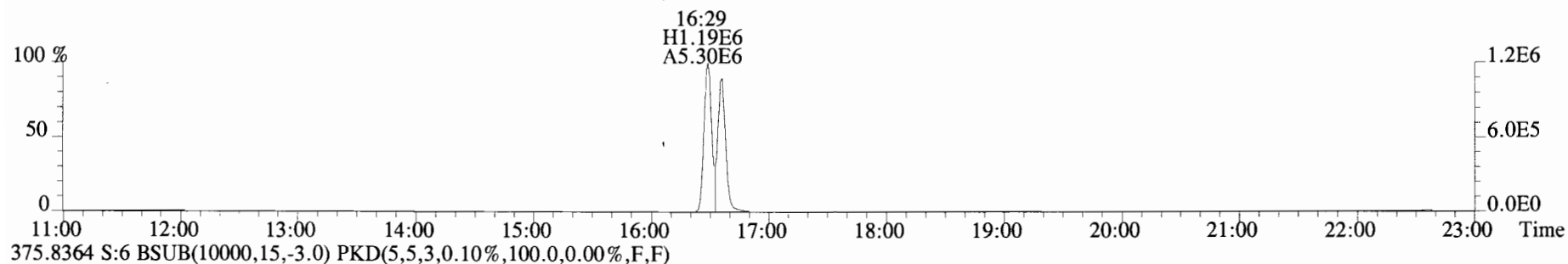
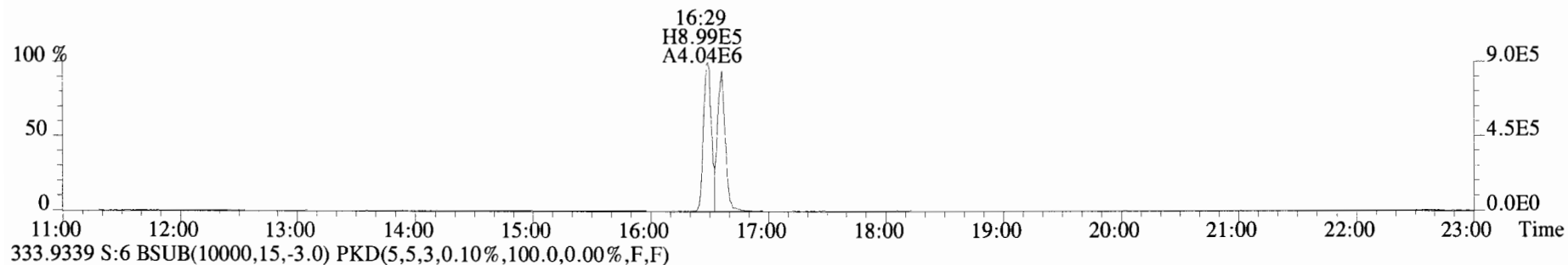
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



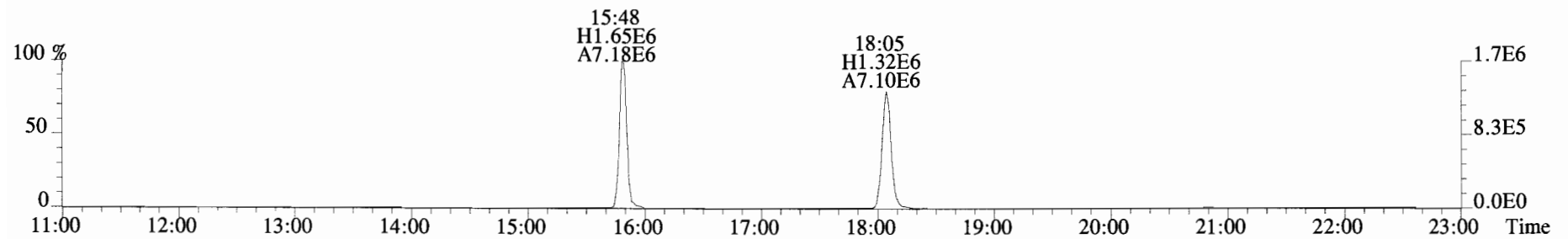
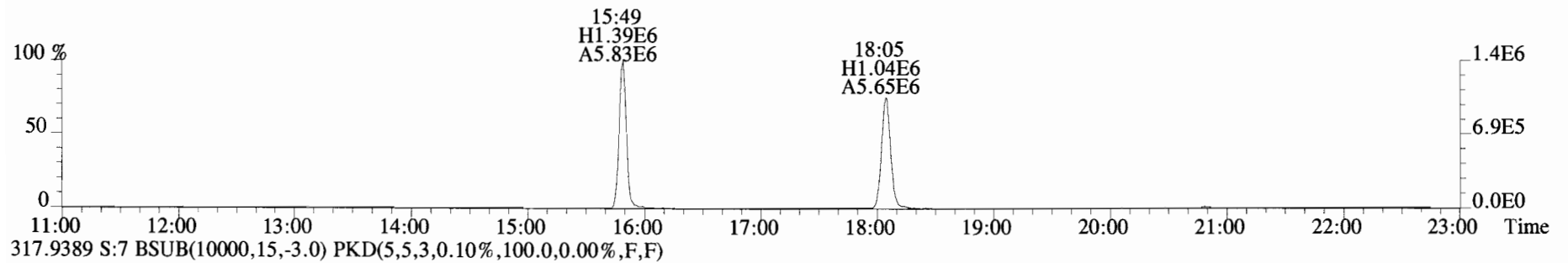
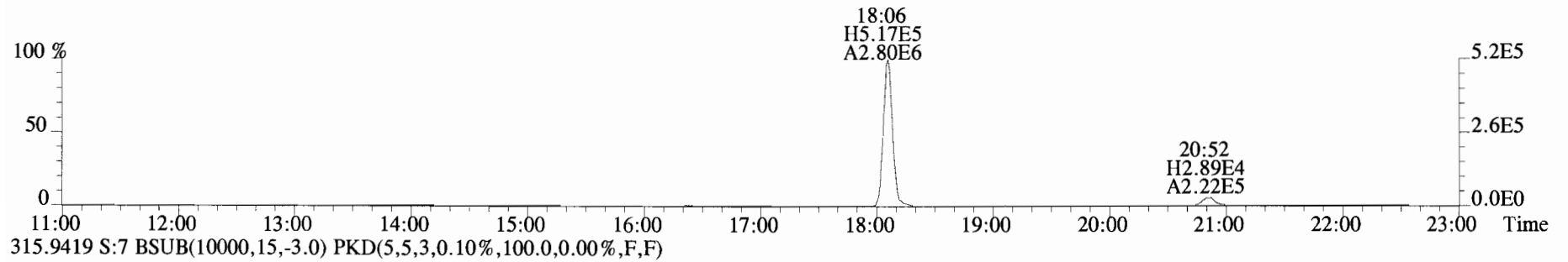
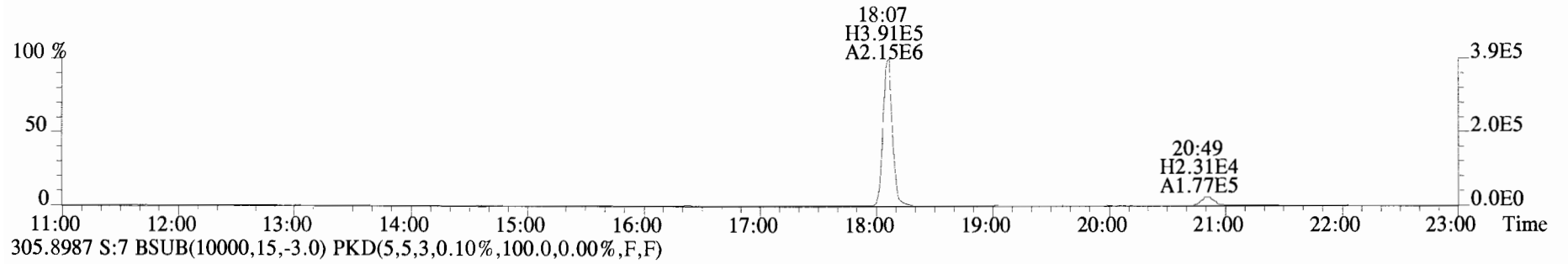
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



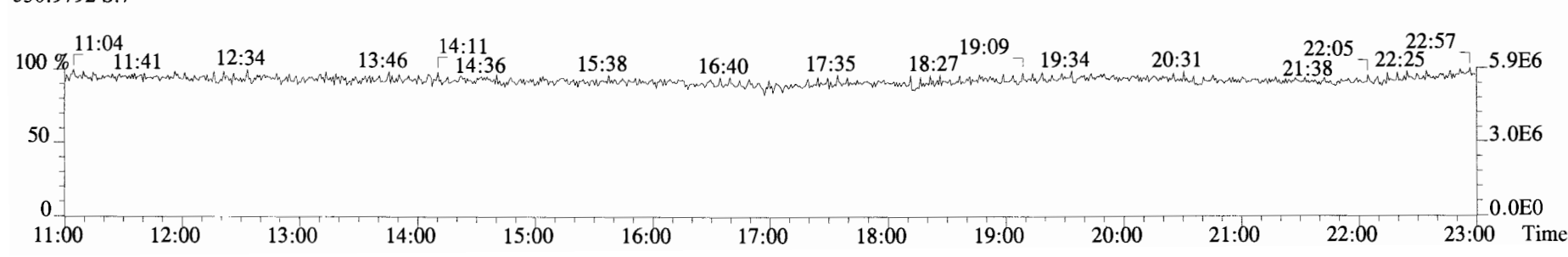
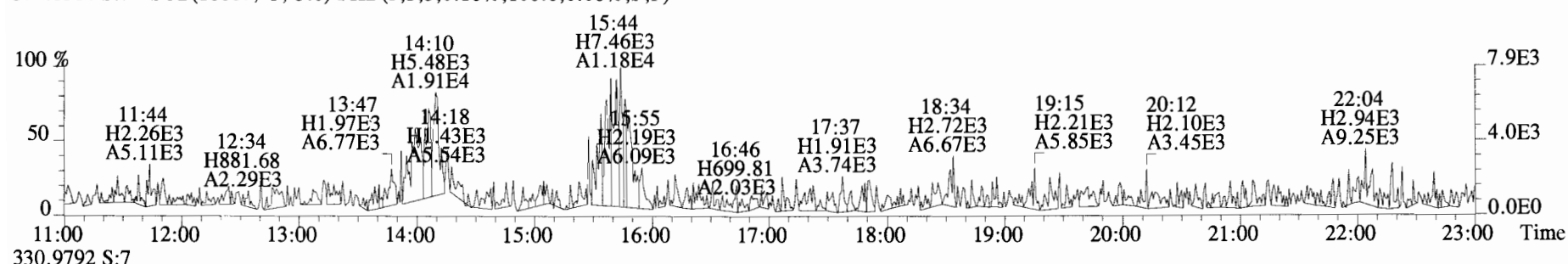
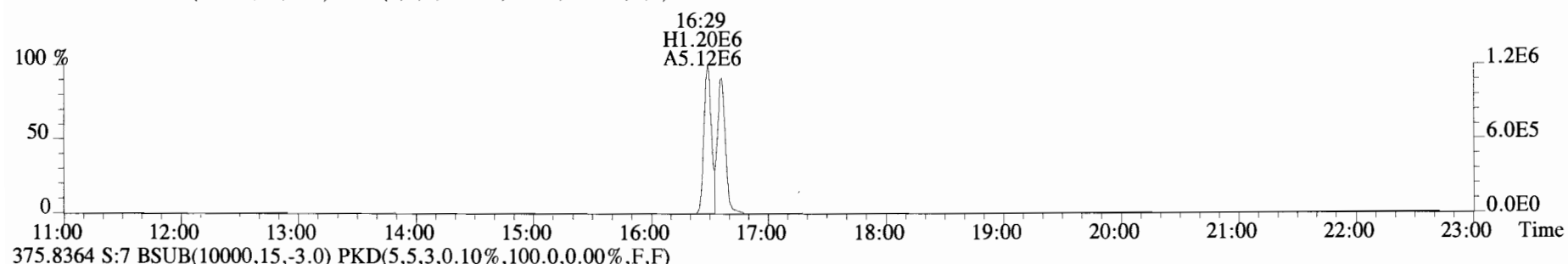
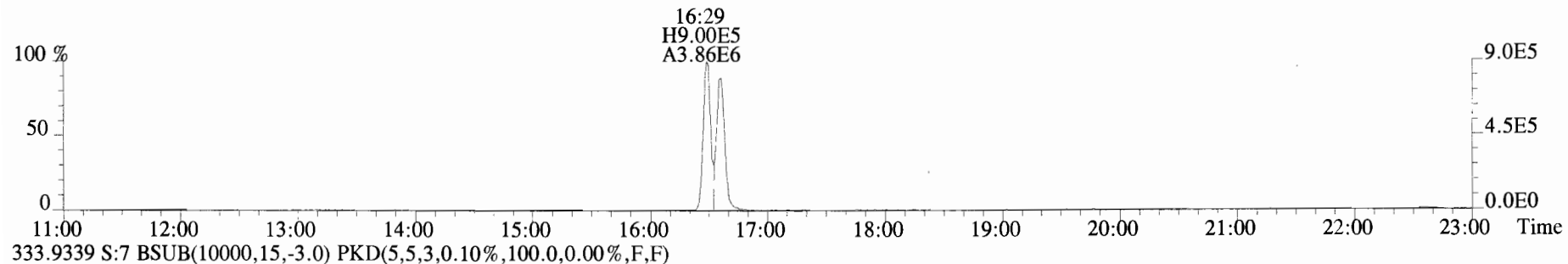
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



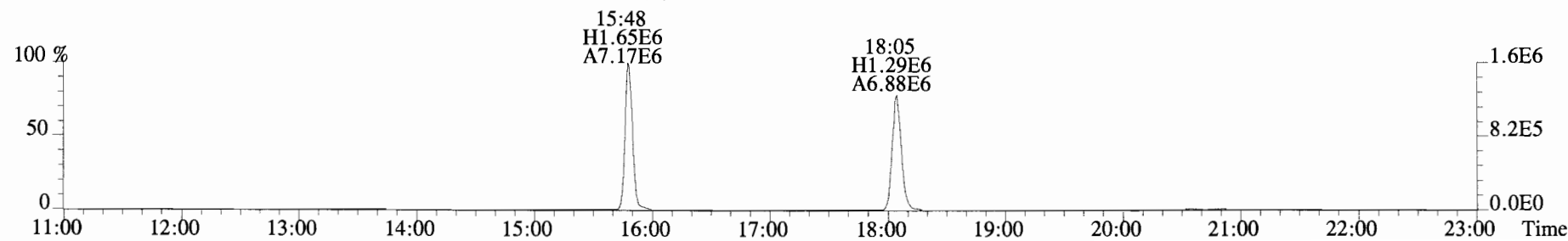
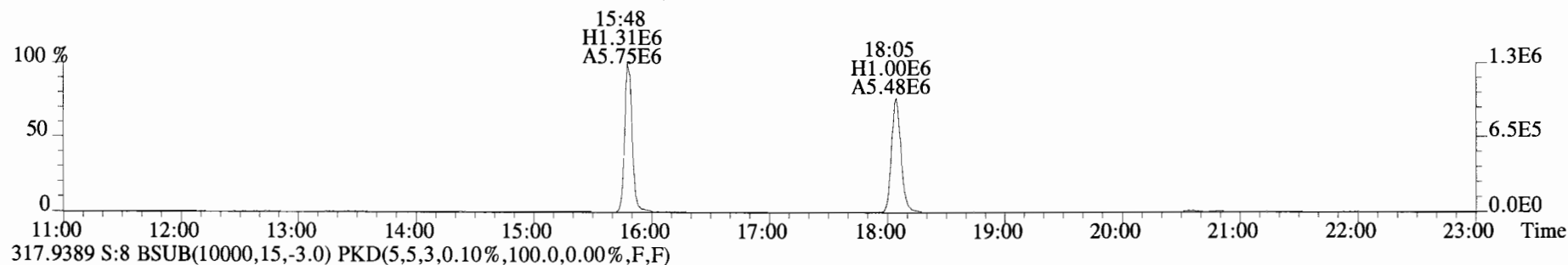
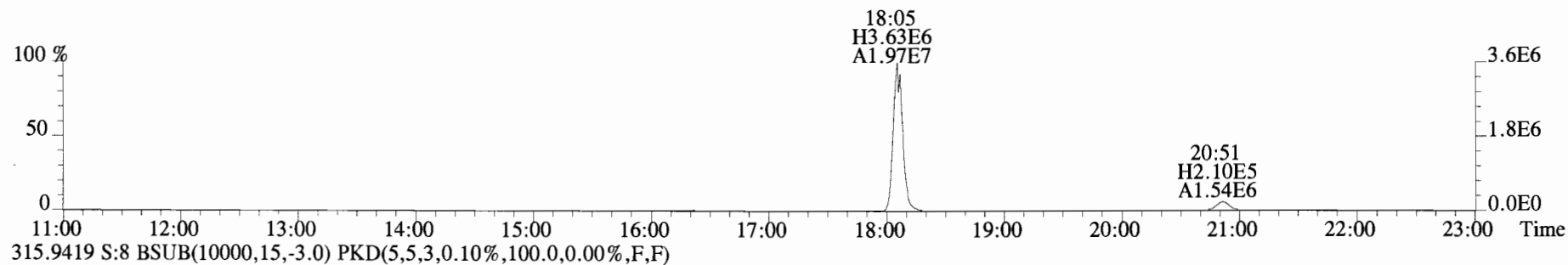
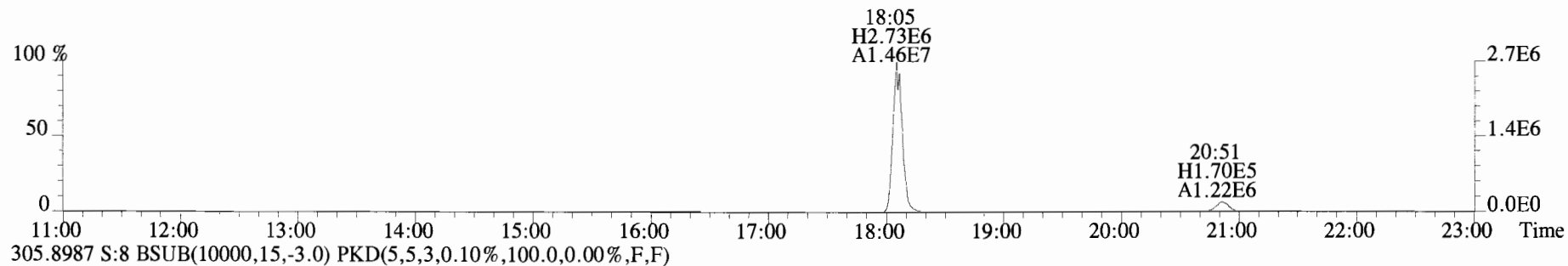
File:190530D1 #1-1682 Acq:30-MAY-2019 14:13:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



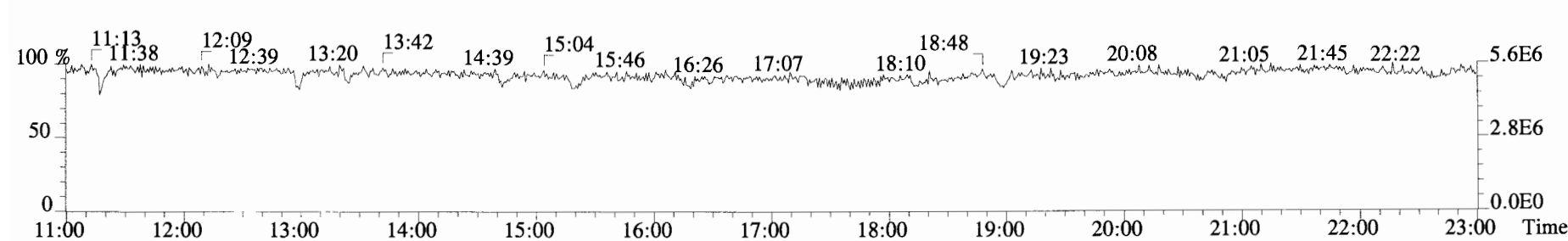
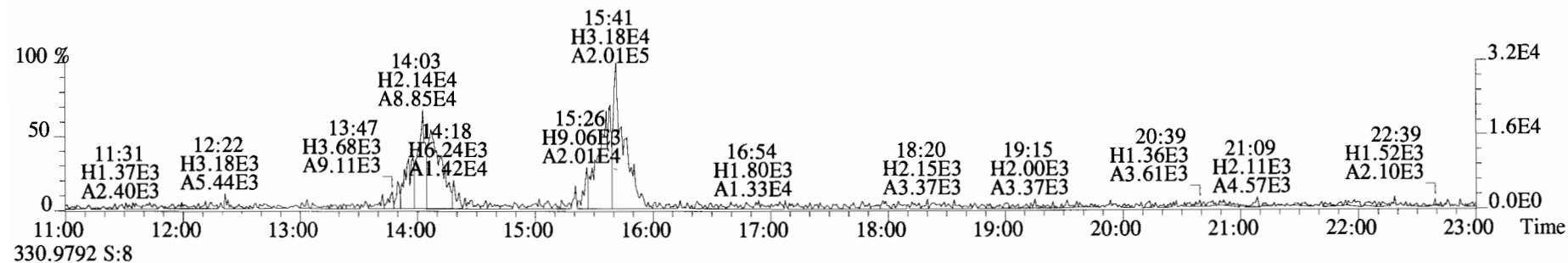
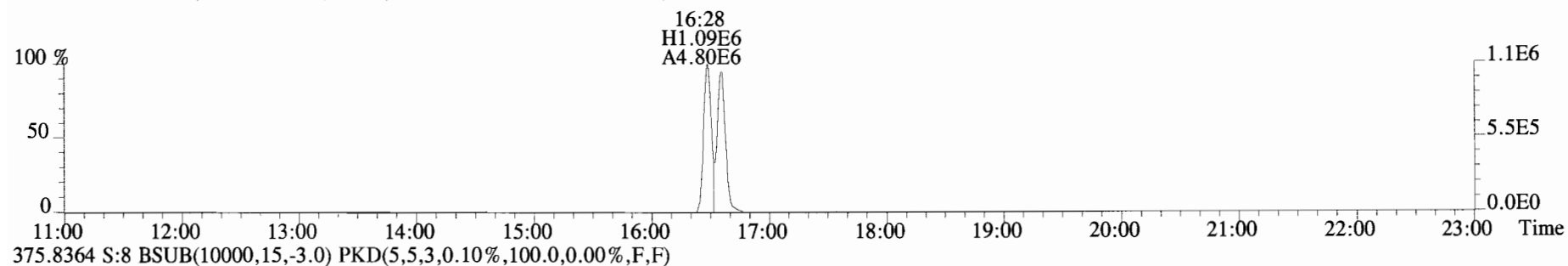
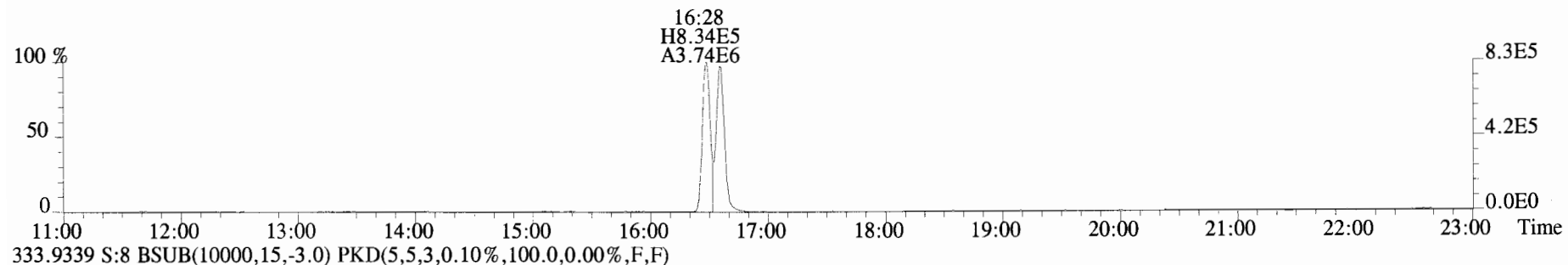
File:190530D1 #1-1682 Acq:30-MAY-2019 14:13:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190530D1 #1-1682 Acq:30-MAY-2019 14:44:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-6 1613 CS5 19C2206 Exp:TCDF_DB225
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

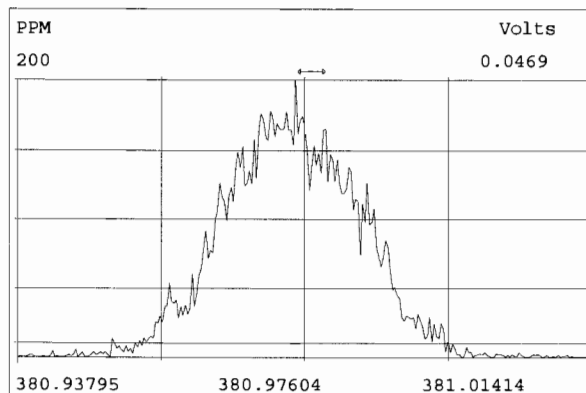
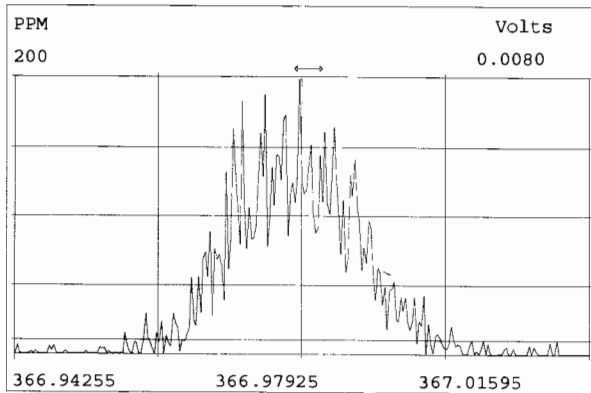
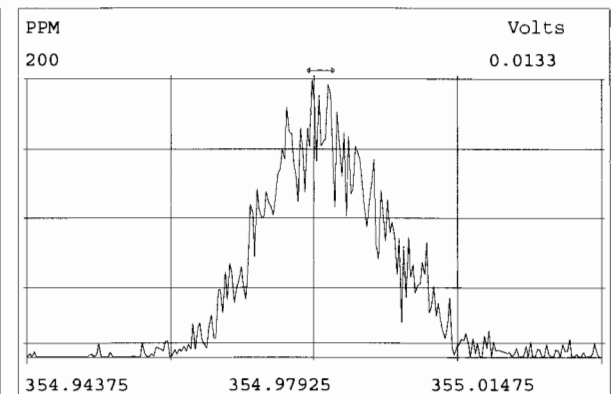
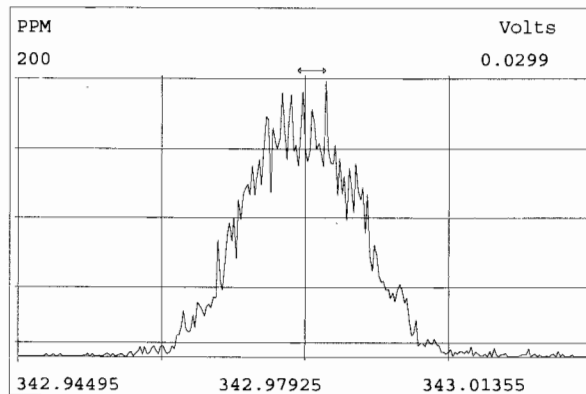
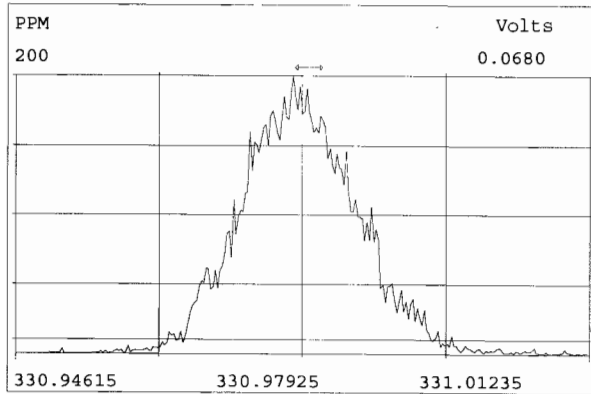
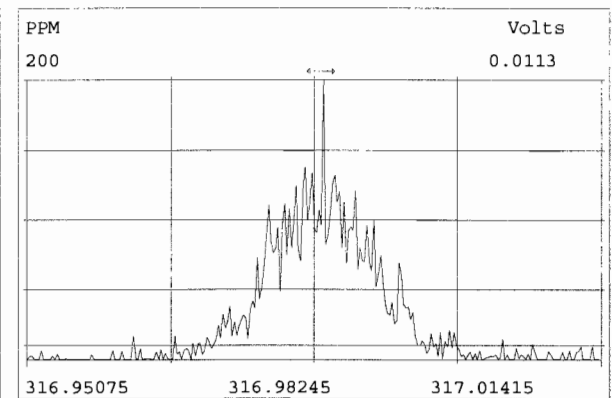
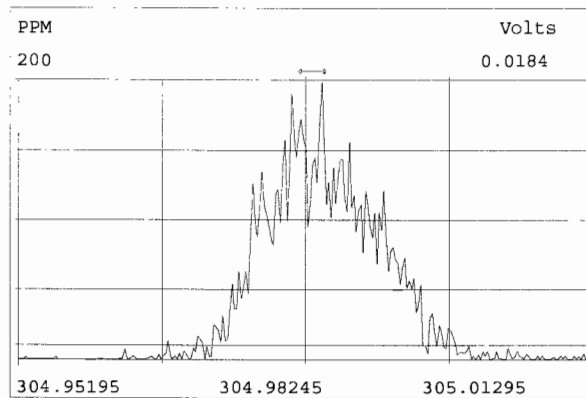
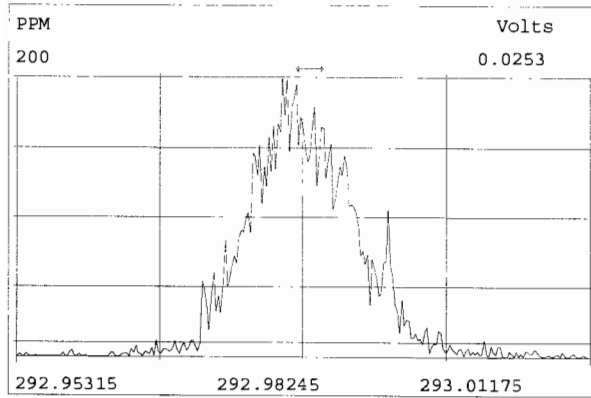


File:190530D1 #1-1682 Acq:30-MAY-2019 14:44:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-6 1613 CS5 19C2206 Exp:TCDF_DB225
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination:30-MAY-2019:19:09 File:RES_CHECK

Experiment:TCDF_DB225 Function:1 Reference:PFK



Client ID: 1613 SSS 19C2207
Lab ID: SS190528D1-1

Filename: 190530D1 S:10 Acq:30-MAY-19 15:48:32
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

ConCal: ST190530D1-4
EndCAL: NA

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.15e+07	0.82 y	15:48	1.00	100.0	-
13C-2,3,7,8-TCDF	1.18e+07	0.80 y	18:04	1.02	100.0	100.0
2,3,7,8-TCDF	1.08e+06	0.74 y	18:05	0.95	9.628	

Integrations

by
Analyst: DB

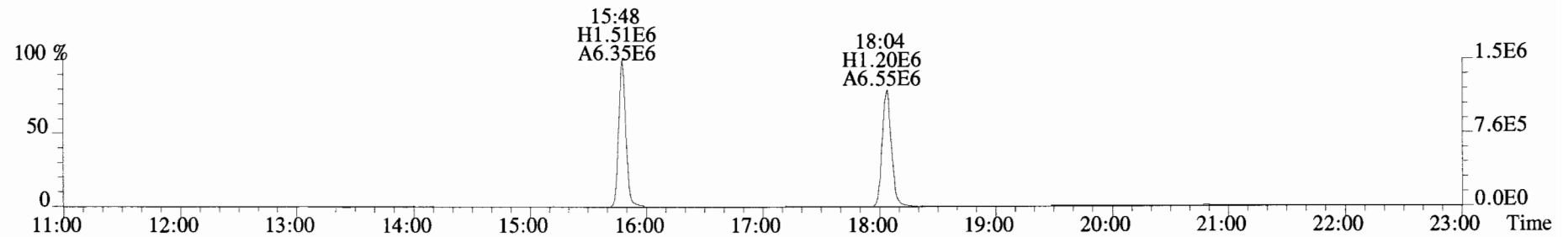
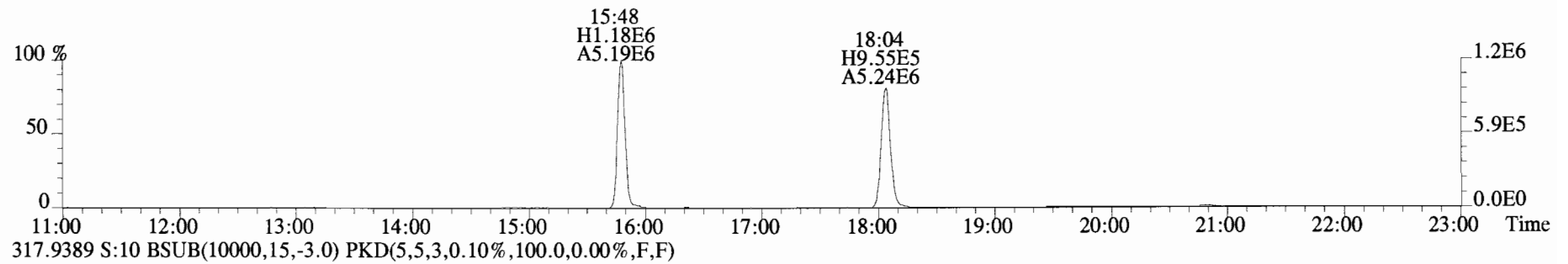
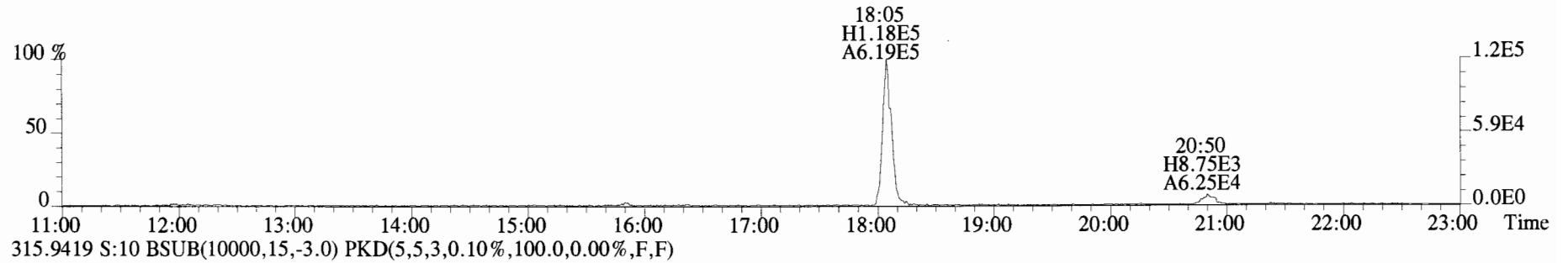
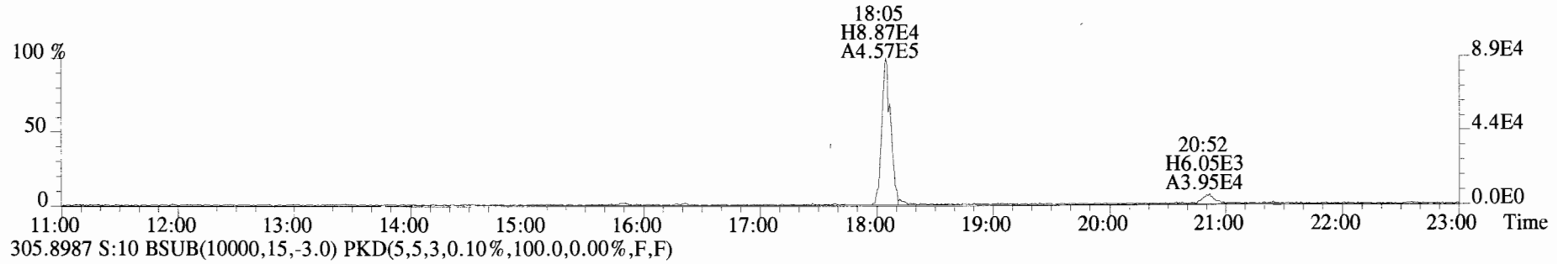
Date: 5/31/19

Reviewed

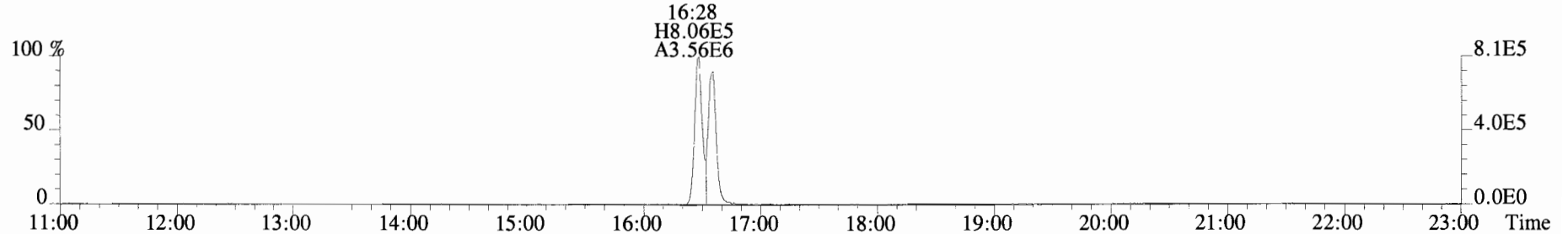
by
Analyst: CT

Date: 05/31/19

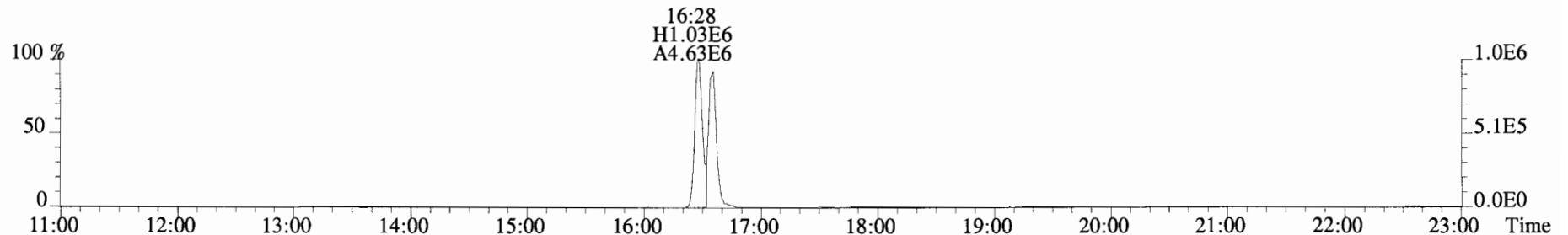
File:190530D1 #1-1682 Acq:30-MAY-2019 15:48:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Vista Analytical Laboratory_VG7 Text:SS190528D1-1 1613 SSS 19C2207 Exp:TCDF_DB225
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



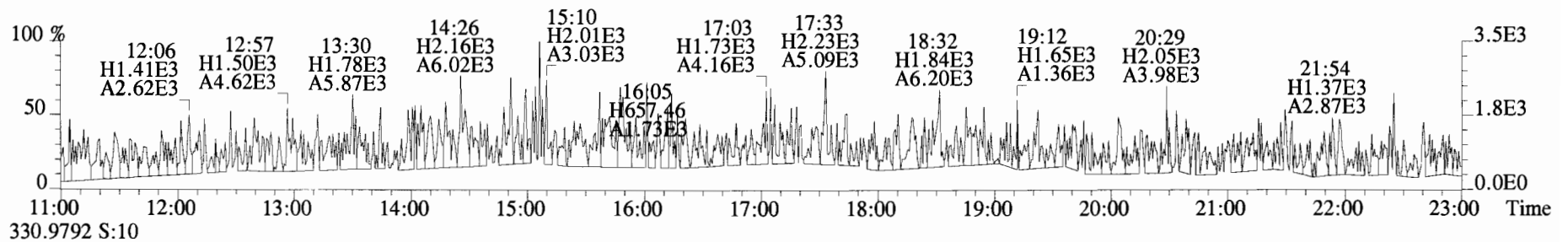
File:190530D1 #1-1682 Acq:30-MAY-2019 15:48:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#10 File Text:Vista Analytical Laboratory VG7 Text:SS190528D1-1 1613 SSS 19C2207 Exp:TCDF_DB225
 331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



330.9792 S:10

