



July 02, 2019

Vista Work Order No. 1901248

Ms. Cindy Fields
Anchor QEA, LLC
720 Olive Way, Suite 1900
Seattle, WA 98101

Dear Ms. Fields,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on May 30, 2019 under your Project Name 'Port of Portland T4 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. 1901248**Case Narrative****Sample Condition on Receipt:**

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

Analytical Notes:**EPA Method 1613B**

These samples were extracted and analyzed for tetra-through-octa chlorinated dioxins and furans by EPA Method 1613B using a ZB-5MS GC column.

The result for 2,3,7,8-TCDF is reported from the confirmation analyzed on July 01, 2019 at 14:42 using a DB-225 GC column. Due to a LIMS limitation, the DB-225 GC column is not reflected on the datasheet.

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 the preparation batch. No analytes were detected in the Method Blank. The OPR recoveries were within the method acceptance criteria.

As requested, a duplicate was performed on sample "T4-PDI2019-SC29-190524-05-07". The RPDs were out of the acceptance criteria for 1,2,3,6,7,8-HxCDD, 1,2,3,4,6,7,8-HpCDD, OCDD and OCDF.

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

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1901248-01	FD-201905241641	24-May-19 00:00	30-May-19 10:09	Amber Glass, 120 mL
1901248-02	T4-PDI2019-SC29-190524-01-03	24-May-19 16:41	30-May-19 10:09	Amber Glass, 120 mL
1901248-03	T4-PDI2019-SC29-190524-03-05	24-May-19 16:41	30-May-19 10:09	Amber Glass, 120 mL
1901248-04	T4-PDI2019-SC29-190524-05-07	DUP24-May-19 16:41	30-May-19 10:09	Amber Glass, 120 mL Amber Glass, 120 mL

ANALYTICAL RESULTS

Sample ID: Method Blank				EPA Method 1613B				
Matrix:	Solid	QC Batch:	B9F0172	Lab Sample:	B9F0172-BLK1			
Sample Size:	5.00 g	Date Extracted:	18-Jun-2019 8:48	Date Analyzed :	25-Jun-19 17:28 Column: ZB-5MS			
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.518			IS 13C-2,3,7,8-TCDD	47.0	25 - 164	
1,2,3,7,8-PeCDD	ND	0.496			13C-1,2,3,7,8-PeCDD	49.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.470			13C-1,2,3,4,7,8-HxCDD	53.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.487			13C-1,2,3,6,7,8-HxCDD	57.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.499			13C-1,2,3,7,8,9-HxCDD	62.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.496			13C-1,2,3,4,6,7,8-HpCDD	65.2	23 - 140	
OCDD	ND	0.524			13C-OCDD	68.8	17 - 157	
2,3,7,8-TCDF	ND	0.481			13C-2,3,7,8-TCDF	38.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.611			13C-1,2,3,7,8-PeCDF	35.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.603			13C-2,3,4,7,8-PeCDF	33.5	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.257			13C-1,2,3,4,7,8-HxCDF	59.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.235			13C-1,2,3,6,7,8-HxCDF	65.1	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.245			13C-2,3,4,6,7,8-HxCDF	67.1	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.451			13C-1,2,3,7,8,9-HxCDF	57.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.296			13C-1,2,3,4,6,7,8-HpCDF	45.2	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.333			13C-1,2,3,4,7,8,9-HpCDF	47.0	26 - 138	
OCDF	ND	0.496			13C-OCDF	65.3	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	49.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)			
					TEQMinWHO2005Dioxin	0.00		
TOTALS								
Total TCDD	ND	0.518						
Total PeCDD	ND	0.496						
Total HxCDD	ND	0.486						
Total HpCDD	ND	0.496						
Total TCDF	ND	0.481						
Total PeCDF	ND	0.607						
Total HxCDF	ND	0.288						
Total HpCDF	ND	0.315						

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: 5.00 g		QC Batch: B9F0172 Date Extracted: 18-Jun-2019 8:48			Lab Sample: B9F0172-BS1 Date Analyzed: 25-Jun-19 15:53 Column: ZB-5MS		
Analyte	Amt Found (ng/Kg)	Spike Amt	%R	Limits	Labeled Standard	%R	LCL-UCL
2,3,7,8-TCDD	57.0	40.0	143	67 - 158	IS 13C-2,3,7,8-TCDD	70.2	20 - 175
1,2,3,7,8-PeCDD	223	200	112	70 - 142	13C-1,2,3,7,8-PeCDD	84.0	21 - 227
1,2,3,4,7,8-HxCDD	209	200	105	70 - 164	13C-1,2,3,4,7,8-HxCDD	88.5	21 - 193
1,2,3,6,7,8-HxCDD	215	200	107	76 - 134	13C-1,2,3,6,7,8-HxCDD	87.3	25 - 163
1,2,3,7,8,9-HxCDD	206	200	103	64 - 162	13C-1,2,3,7,8,9-HxCDD	90.0	21 - 193
1,2,3,4,6,7,8-HpCDD	193	200	96.6	70 - 140	13C-1,2,3,4,6,7,8-HpCDD	82.9	26 - 166
OCDD	397	400	99.2	78 - 144	13C-OCDD	88.5	13 - 199
2,3,7,8-TCDF	40.0	40.0	100	75 - 158	13C-2,3,7,8-TCDF	56.8	22 - 152
1,2,3,7,8-PeCDF	184	200	91.8	80 - 134	13C-1,2,3,7,8-PeCDF	60.8	21 - 192
2,3,4,7,8-PeCDF	185	200	92.6	68 - 160	13C-2,3,4,7,8-PeCDF	62.3	13 - 328
1,2,3,4,7,8-HxCDF	211	200	105	72 - 134	13C-1,2,3,4,7,8-HxCDF	83.1	19 - 202
1,2,3,6,7,8-HxCDF	218	200	109	84 - 130	13C-1,2,3,6,7,8-HxCDF	83.3	21 - 159
2,3,4,6,7,8-HxCDF	215	200	107	70 - 156	13C-2,3,4,6,7,8-HxCDF	87.5	22 - 176
1,2,3,7,8,9-HxCDF	219	200	110	78 - 130	13C-1,2,3,7,8,9-HxCDF	89.0	17 - 205
1,2,3,4,6,7,8-HpCDF	187	200	93.3	82 - 122	13C-1,2,3,4,6,7,8-HpCDF	71.1	21 - 158
1,2,3,4,7,8,9-HpCDF	184	200	92.2	78 - 138	13C-1,2,3,4,7,8,9-HpCDF	77.4	20 - 186
OCDF	417	400	104	63 - 170	13C-OCDF	84.8	13 - 199
					CRS 37Cl-2,3,7,8-TCDD	77.1	31 - 191

LCL-UCL - Lower control limit - upper control limit

Sample ID: FD-201905241641					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901248-01	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	9.45 g	QC Batch:	B9F0172	Date Extracted:	18-Jun-2019 8:48	
Date Collected:	24-May-2019 0:00		% Solids:	53.5	Date Analyzed :	01-Jul-19 22:03	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.215			IS	13C-2,3,7,8-TCDD	34.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.176				13C-1,2,3,7,8-PeCDD	56.7	25 - 181	
1,2,3,4,7,8-HxCDD	0.354			J		13C-1,2,3,4,7,8-HxCDD	79.9	32 - 141	
1,2,3,6,7,8-HxCDD	1.65			J		13C-1,2,3,6,7,8-HxCDD	72.2	28 - 130	
1,2,3,7,8,9-HxCDD	0.527			J		13C-1,2,3,7,8,9-HxCDD	82.1	32 - 141	
1,2,3,4,6,7,8-HpCDD	44.2					13C-1,2,3,4,6,7,8-HpCDD	87.2	23 - 140	
OCDD	352					13C-OCDD	84.4	17 - 157	
2,3,7,8-TCDF	ND	0.181				13C-2,3,7,8-TCDF	27.8	24 - 169	
1,2,3,7,8-PeCDF	ND	0.192				13C-1,2,3,7,8-PeCDF	47.8	24 - 185	
2,3,4,7,8-PeCDF	0.341			J		13C-2,3,4,7,8-PeCDF	43.6	21 - 178	
1,2,3,4,7,8-HxCDF	0.775			J		13C-1,2,3,4,7,8-HxCDF	78.8	26 - 152	
1,2,3,6,7,8-HxCDF	0.303			J		13C-1,2,3,6,7,8-HxCDF	75.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND		0.243			13C-2,3,4,6,7,8-HxCDF	79.9	28 - 136	
1,2,3,7,8,9-HxCDF	0.183			J		13C-1,2,3,7,8,9-HxCDF	79.9	29 - 147	
1,2,3,4,6,7,8-HpCDF	4.04			J		13C-1,2,3,4,6,7,8-HpCDF	80.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	0.365			J		13C-1,2,3,4,7,8,9-HpCDF	87.4	26 - 138	
OCDF	11.7					13C-OCDF	83.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	35.9	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		1.08		
TOTALS									
Total TCDD	ND	0.215							
Total PeCDD	ND	0.176							
Total HxCDD	13.6								
Total HpCDD	116								
Total TCDF	ND	0.181							
Total PeCDF	2.47								
Total HxCDF	7.51		7.89						
Total HpCDF	15.0								

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: T4-PDI2019-SC29-190524-01-03					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901248-02	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	9.61 g	QC Batch:	B9F0172	Date Extracted:	18-Jun-2019 8:48	
Date Collected:	24-May-2019 16:41		% Solids:	52.3	Date Analyzed :	25-Jun-19 19:04	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.841			IS	13C-2,3,7,8-TCDD	37.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.955				13C-1,2,3,7,8-PeCDD	51.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	1.12				13C-1,2,3,4,7,8-HxCDD	56.7	32 - 141	
1,2,3,6,7,8-HxCDD	4.80			J		13C-1,2,3,6,7,8-HxCDD	60.7	28 - 130	
1,2,3,7,8,9-HxCDD	2.22			J		13C-1,2,3,7,8,9-HxCDD	62.7	32 - 141	
1,2,3,4,6,7,8-HpCDD	126					13C-1,2,3,4,6,7,8-HpCDD	57.9	23 - 140	
OCDD	1360					13C-OCDD	69.4	17 - 157	
2,3,7,8-TCDF	ND	0.711				13C-2,3,7,8-TCDF	29.2	24 - 169	
1,2,3,7,8-PeCDF	ND	0.810				13C-1,2,3,7,8-PeCDF	34.8	24 - 185	
2,3,4,7,8-PeCDF	1.30			J		13C-2,3,4,7,8-PeCDF	32.8	21 - 178	
1,2,3,4,7,8-HxCDF	3.07			J		13C-1,2,3,4,7,8-HxCDF	63.6	26 - 152	
1,2,3,6,7,8-HxCDF	1.38			J		13C-1,2,3,6,7,8-HxCDF	68.7	26 - 123	
2,3,4,6,7,8-HxCDF	1.26			J		13C-2,3,4,6,7,8-HxCDF	70.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.494				13C-1,2,3,7,8,9-HxCDF	68.8	29 - 147	
1,2,3,4,6,7,8-HpCDF	12.9					13C-1,2,3,4,6,7,8-HpCDF	45.0	28 - 143	
1,2,3,4,7,8,9-HpCDF	2.04			J		13C-1,2,3,4,7,8,9-HpCDF	49.6	26 - 138	
OCDF	54.9					13C-OCDF	69.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	52.4	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		3.50		
TOTALS									
Total TCDD	2.32								
Total PeCDD	1.47								
Total HxCDD	41.4		44.4						
Total HpCDD	313								
Total TCDF	ND	0.711							
Total PeCDF	7.41								
Total HxCDF	16.5		26.4						
Total HpCDF	14.9		44.9						

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: T4-PDI2019-SC29-190524-03-05					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901248-03	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	9.87 g	QC Batch:	B9F0172	Date Extracted:	18-Jun-2019 8:48	
Date Collected:	24-May-2019 16:41		% Solids:	53.8	Date Analyzed :	28-Jun-19 00:54	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.150			IS	13C-2,3,7,8-TCDD	77.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.218				13C-1,2,3,7,8-PeCDD	74.4	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.205				13C-1,2,3,4,7,8-HxCDD	84.2	32 - 141	
1,2,3,6,7,8-HxCDD	1.85			J		13C-1,2,3,6,7,8-HxCDD	79.9	28 - 130	
1,2,3,7,8,9-HxCDD	0.759			J		13C-1,2,3,7,8,9-HxCDD	82.5	32 - 141	
1,2,3,4,6,7,8-HpCDD	37.4					13C-1,2,3,4,6,7,8-HpCDD	98.9	23 - 140	
OCDD	573					13C-OCDD	89.6	17 - 157	
2,3,7,8-TCDF	0.376			J		13C-2,3,7,8-TCDF	68.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.239				13C-1,2,3,7,8-PeCDF	72.2	24 - 185	
2,3,4,7,8-PeCDF	ND		0.409			13C-2,3,4,7,8-PeCDF	69.1	21 - 178	
1,2,3,4,7,8-HxCDF	1.26			J		13C-1,2,3,4,7,8-HxCDF	87.7	26 - 152	
1,2,3,6,7,8-HxCDF	0.425			J		13C-1,2,3,6,7,8-HxCDF	87.7	26 - 123	
2,3,4,6,7,8-HxCDF	0.322			J		13C-2,3,4,6,7,8-HxCDF	90.9	28 - 136	
1,2,3,7,8,9-HxCDF	0.355			J		13C-1,2,3,7,8,9-HxCDF	91.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	4.07			J		13C-1,2,3,4,6,7,8-HpCDF	93.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	0.341			J		13C-1,2,3,4,7,8,9-HpCDF	105	26 - 138	
OCDF	8.54			J		13C-OCDF	89.8	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	73.3	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		1.13		
TOTALS									
Total TCDD	ND	0.150							
Total PeCDD	0.499		0.884						
Total HxCDD	11.6								
Total HpCDD	83.7								
Total TCDF	1.06								
Total PeCDF	2.36		2.77						
Total HxCDF	8.45		9.26						
Total HpCDF	13.7								

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: T4-PDI2019-SC29-190524-05-07					EPA Method 1613B				
Client Data			Sample Data		Laboratory Data				
Name:	Anchor QEA, LLC		Matrix:	Sediment	Lab Sample:	1901248-04	Date Received:	30-May-2019 10:09	
Project:	Port of Portland T4 PDI		Sample Size:	9.09 g	QC Batch:	B9F0172	Date Extracted:	18-Jun-2019 8:48	
Date Collected:	24-May-2019 16:41		% Solids:	56.4	Date Analyzed :	25-Jun-19 20:39	Column:	ZB-5MS	
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard		%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.544			IS	13C-2,3,7,8-TCDD	42.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.547				13C-1,2,3,7,8-PeCDD	55.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.923				13C-1,2,3,4,7,8-HxCDD	55.9	32 - 141	
1,2,3,6,7,8-HxCDD	1.65			J		13C-1,2,3,6,7,8-HxCDD	61.1	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.978				13C-1,2,3,7,8,9-HxCDD	62.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	36.8					13C-1,2,3,4,6,7,8-HpCDD	64.5	23 - 140	
OCDD	362					13C-OCDD	67.1	17 - 157	
2,3,7,8-TCDF	ND	0.372				13C-2,3,7,8-TCDF	37.1	24 - 169	
1,2,3,7,8-PeCDF	ND		0.449			13C-1,2,3,7,8-PeCDF	40.8	24 - 185	
2,3,4,7,8-PeCDF	ND	0.526				13C-2,3,4,7,8-PeCDF	36.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND		0.892			13C-1,2,3,4,7,8-HxCDF	66.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.299				13C-1,2,3,6,7,8-HxCDF	69.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.316				13C-2,3,4,6,7,8-HxCDF	71.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.531				13C-1,2,3,7,8,9-HxCDF	66.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND		3.00			13C-1,2,3,4,6,7,8-HpCDF	43.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.437				13C-1,2,3,4,7,8,9-HpCDF	50.5	26 - 138	
OCDF	10.4					13C-OCDF	69.5	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	56.4	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)				
					TEQMinWHO2005Dioxin		0.645		
TOTALS									
Total TCDD	ND	0.544							
Total PeCDD	ND	0.547							
Total HxCDD	15.5								
Total HpCDD	78.7								
Total TCDF	ND	0.372							
Total PeCDF	1.25		1.70						
Total HxCDF	5.55		6.98						
Total HpCDF	ND		9.84						

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: T4-PDI2019-SC29-190524-05-07		QC Batch: B9F0172		Lab Sample: B9F0172-DUP3				
Source LabNumber: 1901248-04		Date Extracted: 18-Jun-2019 8:48		Date Analyzed: 01-Jul-19 14:42 Column: ZB-5MS				
Matrix: Solid				25-Jun-19 21:27 Column: ZB-5MS				
Sample Size: 8.87 g								
Analyte	Conc. (ng/Kg)	DL	EMPC	Qualifiers	Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	1.36				IS 13C-2,3,7,8-TCDD	65.4	25 - 164	
1,2,3,7,8-PeCDD	ND		3.00		13C-1,2,3,7,8-PeCDD	78.4	25 - 181	
1,2,3,4,7,8-HxCDD	6.63				13C-1,2,3,4,7,8-HxCDD	70.8	32 - 141	
1,2,3,6,7,8-HxCDD	47.3				13C-1,2,3,6,7,8-HxCDD	75.4	28 - 130	
1,2,3,7,8,9-HxCDD	16.7				13C-1,2,3,7,8,9-HxCDD	74.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	663				13C-1,2,3,4,6,7,8-HpCDD	82.0	23 - 140	
OCDD	8990				13C-OCDD	89.9	17 - 157	
2,3,7,8-TCDF	11.9				13C-2,3,7,8-TCDF	54.2	24 - 169	
1,2,3,7,8-PeCDF	31.7				13C-1,2,3,7,8-PeCDF	55.4	24 - 185	
2,3,4,7,8-PeCDF	13.3				13C-2,3,4,7,8-PeCDF	49.3	21 - 178	
1,2,3,4,7,8-HxCDF	50.2				13C-1,2,3,4,7,8-HxCDF	86.0	26 - 152	
1,2,3,6,7,8-HxCDF	17.8				13C-1,2,3,6,7,8-HxCDF	89.1	26 - 123	
2,3,4,6,7,8-HxCDF	9.42				13C-2,3,4,6,7,8-HxCDF	88.2	28 - 136	
1,2,3,7,8,9-HxCDF	8.14				13C-1,2,3,7,8,9-HxCDF	83.2	29 - 147	
1,2,3,4,6,7,8-HpCDF	84.7				13C-1,2,3,4,6,7,8-HpCDF	59.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	8.48				13C-1,2,3,4,7,8,9-HpCDF	66.4	26 - 138	
OCDF	229				13C-OCDF	91.2	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	69.2	35 - 197	
					Toxic Equivalent Quotient (TEQ) Data (pg/g dry wt)			
					TEQMinWHO2005Dioxin 33.4			
TOTALS								
Total TCDD	9.64		12.7					
Total PeCDD	22.6		32.7					
Total HxCDD	297							
Total HpCDD	1390							
Total TCDF	46.1		54.3					
Total PeCDF	95.0		134					
Total HxCDF	266							
Total HpCDF	266							

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: T4-PDI2019-SC29-190524-05-07 Source LabNumber: 1901248-04 Matrix: Solid					Duplicate Lab Sample: B9F0172-DUP3				
Analyte	Dup Conc. (ng/Kg)	Source Conc.	RPD	RPD Limits	Labeled Standard	Dup %R	Source %R	LCL-UCL	
2,3,7,8-TCDD	1.36	ND	#	25	IS 13C-2,3,7,8-TCDD	65.4	42.3	25 - 164	
1,2,3,7,8-PeCDD	ND	ND	NA	25	13C-1,2,3,7,8-PeCDD	78.4	55.8	25 - 181	
1,2,3,4,7,8-HxCDD	6.63	ND	#	25	13C-1,2,3,4,7,8-HxCDD	70.8	55.9	32 - 141	
1,2,3,6,7,8-HxCDD	47.3	1.65	187	25	13C-1,2,3,6,7,8-HxCDD	75.4	61.1	28 - 130	
1,2,3,7,8,9-HxCDD	16.7	ND	#	25	13C-1,2,3,7,8,9-HxCDD	74.4	62.3	32 - 141	
1,2,3,4,6,7,8-HpCDD	663	36.8	179	25	13C-1,2,3,4,6,7,8-HpCDD	82.0	64.5	23 - 140	
OCDD	8990	362	185	25	13C-OCDD	89.9	67.1	17 - 157	
2,3,7,8-TCDF	11.9	ND	#	25	13C-2,3,7,8-TCDF	54.2	37.1	24 - 169	
1,2,3,7,8-PeCDF	31.7	ND	#	25	13C-1,2,3,7,8-PeCDF	55.4	40.8	24 - 185	
2,3,4,7,8-PeCDF	13.3	ND	#	25	13C-2,3,4,7,8-PeCDF	49.3	36.6	21 - 178	
1,2,3,4,7,8-HxCDF	50.2	ND	#	25	13C-1,2,3,4,7,8-HxCDF	86.0	66.6	26 - 152	
1,2,3,6,7,8-HxCDF	17.8	ND	#	25	13C-1,2,3,6,7,8-HxCDF	89.1	69.6	26 - 123	
2,3,4,6,7,8-HxCDF	9.42	ND	#	25	13C-2,3,4,6,7,8-HxCDF	88.2	71.9	28 - 136	
1,2,3,7,8,9-HxCDF	8.14	ND	#	25	13C-1,2,3,7,8,9-HxCDF	83.2	66.4	29 - 147	
1,2,3,4,6,7,8-HpCDF	84.7	ND	#	25	13C-1,2,3,4,6,7,8-HpCDF	59.3	43.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	8.48	ND	#	25	13C-1,2,3,4,7,8,9-HpCDF	66.4	50.5	26 - 138	
OCDF	229	10.4	183	25	13C-OCDF	91.2	69.5	17 - 157	
					CRS 37Cl-2,3,7,8-TCDD	69.2	56.4	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.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
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
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
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	E87777-20
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	180001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	015
Texas Commission on Environmental Quality	T104704189-19-10
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

COC ID:

VISTA-20190524-175731

POC: # Cindy Fields ((206)-903-3394)

Project: Port of Portland T4 PDI

Sample Custodian:

CO

1201 3rd Avenue, Suite 2600, Seattle, WA 98101

Client: The Port of Portland

1901248 1.3c Lab:

Vista Analytical Laboratory

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	FD-201905241641	FD	SE	05/24/2019		1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
002	T4-PDI2019-SC29-190524-01-03	N	SE	05/24/2019	16:41	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
003	T4-PDI2019-SC29-190524-03-05	N	SE	05/24/2019	16:41	1	<input type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C
004	T4-PDI2019-SC29-190524-05-07	N	SE	05/24/2019	16:41	2	<input checked="" type="checkbox"/>	Dioxins and Furans	E1613B	30	0-6 °C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature <i>Casey Janisch</i>	Signature <i>D. Thomas</i>	Signature <i>Tanna Goddy</i>	Signature <i>Ashley Mason</i>	Signature	Signature
Print Name Casey Janisch	Print Name	Print Name Tanna Goddy	Print Name Ashley Mason	Print Name	Print Name
Company Anchor OEA	Company Apex	Company Apex	Company Vista	Company	Company
Date/Time 05/25/19 0645	Date/Time 05/25/19 0645	Date/Time 5-24-19 12:25	Date/Time 05/30/19 1009	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 #: 1901248 TAT std

Samples Arrival:	Date/Time 05/30/19 1009	Initials: agm	Location: WR-2
			Shelf/Rack: N/A
Logged In:	Date/Time 05/30/19 1706	Initials: VBSB	Location: WR-2
			Shelf/Rack: G4
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 type="checkbox"/> Blue Ice	<input type="checkbox"/> Dry Ice
	<input type="checkbox"/> None		
Temp °C: 1.3 (uncorrected)	Probe used: Y <input checked="" type="checkbox"/> N		Thermometer ID: IR-3
Temp °C: 1.3 (corrected)			

	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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Shipping Documentation Present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Airbill <u>1 of 2</u> Trk # <u>7753 3804 0790</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"/> Na ₂ S ₂ O ₃	<input type="checkbox"/> Trizma	<input type="checkbox"/> None
	<input type="checkbox"/> Other	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Shipping Container	<input checked="" type="checkbox"/> Vista	<input type="checkbox"/> Client	<input checked="" type="checkbox"/> Retain
	<input type="checkbox"/> Return	<input type="checkbox"/> Dispose	

Comments:

FD-201905241641
T4-PDI2019-SC 29-190524-01-03

 03-05
 05-07 (A/B jar)

EXTRACTION INFORMATION

Process Sheet
Workorder: **1901248**

Prep Expiration: 2020-05-23
Client: Anchor QEA, LLC

Workorder Due: 20-Jun-19 00:00

TAT: 21

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

Prep Batch: B9F0172

Prep Data Entered: AO 06/21/19
Date and Initials

Initial Sequence: S9F0057

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1901248-01	<input checked="" type="checkbox"/>	FD-201905241641	30-May-19 10:09	WR-2 G-4	
1901248-02	<input checked="" type="checkbox"/>	T4-PDI2019-SC29-190524-01-03	30-May-19 10:09	WR-2 G-4	
1901248-03	<input checked="" type="checkbox"/>	T4-PDI2019-SC29-190524-03-05	30-May-19 10:09	WR-2 G-4	
1901248-04	<input checked="" type="checkbox"/>	T4-PDI2019-SC29-190524-05-07	30-May-19 10:09	WR-2 G-4	DUP

+ 1901384.
Batch w/ 1901247: 1901249. (2) 06/03/19

WO Comments: **PREP: Requires one dup and ~~one SRM~~ per batch of 20 samples.**

Extract 1g of SRM 1944 - see sample control for SRM sample.

Pre-Prep Check Out: _____

Prep Check Out: _____

Prep Reconciled Initials/Date: BNS 06/18/19

Pre-Prep Check In: _____

Prep Check In: _____

Spike Reconciled Initials/Date: DF 06/18/19

VialBoxID: Chicken Nuggets

PREPARATION BENCH SHEET

Matrix: Solid

B9F0172

Chemist: AO

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 18-Jun-19 08:48

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	B9F0172-BLK1	NA	15.00	06/18/19	06/20/19	NA	BL 06/20/19	BL 06/20/19	BL 06/20/19	06/21/19
<input type="checkbox"/>	B9F0172-BS1	J	(5.00)							
<input type="checkbox"/>	B9F0172-DUP1 1901247-02	9.50	9.68							
<input type="checkbox"/>	B9F0172-DUP2 1901247-09	9.29	9.53							
<input type="checkbox"/>	B9F0172-DUP3 1901248-04	8.87	8.87							
<input type="checkbox"/>	B9F0172-DUP4 1901384-04	6.42	6.83							
<input type="checkbox"/>	1901247-01	8.74	8.95							
<input type="checkbox"/>	1901247-02	9.50	9.97							
<input type="checkbox"/>	1901247-03	9.87	10.05							
<input type="checkbox"/>	1901247-04	9.61	9.75							
<input type="checkbox"/>	1901247-05	7.29	7.49							
<input type="checkbox"/>	1901247-06	8.52	8.75							
<input type="checkbox"/>	1901247-07	9.11	9.18							
<input type="checkbox"/>	1901247-08	9.08	9.71							
<input type="checkbox"/>	1901247-09	9.29	9.47							

IS Name <u>V3</u>	NS Name <u>V5</u>	CRS Name <u>V3</u>	RS Name <u>V3</u>	Cycle Time	APP: SEFUN <u>SOX</u> <u>SDS</u>	Check Out: <u>AO</u> <u>06/18/19</u>
PCDD/F <u>1901902, 10mL</u>	PCDD/F <u>18F1913, 10mL</u>	PCDD/F <u>1851001, 10mL</u>	PCDD/F <u>1851002, 10mL</u>	Start Date/Time <u>06/18/19 1330</u>	SOLV: <u>TO1</u>	Check In: <u>AO</u> <u>06/18/19</u>
PCB	PCB	PCB	PCB	Stop Date/Time <u>06/19/19 530</u>	Other <u>NA</u>	Balance ID: <u>HRMS-8</u>
PAH	PAH	PAH	PAH	Final Volume(s) <u>C14</u>	<u>20mL</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
 Work Order 1901248

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

① Comment 3. BL 06/20/19

PREPARATION BENCH SHEET

Matrix: Solid

B9F0172

Chemist: AO

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Prep Date/Time: 18-Jun-19 08:48

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
<input type="checkbox"/>	1901247-10	7.42	7.85	AO DF 06/18/19	BL 06/20/19	12A	BL 06/21/19	BL 06/20/19	BL 06/20/19	2C MD 05/21/19
<input type="checkbox"/>	1901248-01	9.35	9.82	T	T		T	T	T	T
<input type="checkbox"/>	1901248-02	9.55	9.61	T						
<input type="checkbox"/>	1901248-03	9.30	9.87	T						
<input type="checkbox"/>	1901248-04	8.87	9.09	T						
<input type="checkbox"/>	1901249-02	9.97	9.98	T						
<input type="checkbox"/>	1901305-02	6.46	6.70	T						
<input type="checkbox"/>	1901305-06	6.64	6.81	T						
<input type="checkbox"/>	1901305-07	6.21	6.34	T						
<input type="checkbox"/>	1901384-04	6.42	6.60	T	T	T	T	T	T	T

(A) 9.45 AO 06/18/19

IS Name <u>V7</u>	NS Name <u>V8</u>	CRS Name <u>V3</u>	RS Name <u>V3</u>	Cycle Time	APP: SEFUN <u>SOX</u> <u>SDS</u>	Check Out: Chemist/Date: <u>AO 06/18/19</u>
PCDD/F <u>1901902, 10uL</u>	PCDD/F <u>181913, 10uL</u>	PCDD/F <u>1851001, 10uL</u>	PCDD/F <u>1851002, 10uL</u>	Start Date/Time	SOLV: <u>Toluene</u>	Check In: Chemist/Date: <u>AO 06/18/19</u>
PCB	PCB	PCB	PCB	Stop Date/Time	Other <u>N/A</u>	Balance ID: <u>HRMS-8</u>
PAH	PAH	PAH	PAH		Final Volume(s) <u>C14</u> <u>20uL</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 formed during filtration
- 5 = Sample homogenized in secondary container
- 6 = Sample clogged during extraction; pipetted and used Nitrogen to assist

Solids estimate

Batch: B9F0131

Lab ID	Analysis	% Solids	Entered	Target weight	Weigh this much
1901247-01	Percent Solids	57.22		5.00	8.74
1901247-02	Percent Solids	52.60		5.00	9.50
1901247-03	Percent Solids	50.64		5.00	9.87
1901247-04	Percent Solids	52.04		5.00	9.61
1901247-05	Percent Solids	68.63		5.00	7.29
1901247-06	Percent Solids	58.70		5.00	8.52
1901247-07	Percent Solids	54.90		5.00	9.11
1901247-08	Percent Solids	55.04		5.00	9.08
1901247-09	Percent Solids	53.80		5.00	9.29
1901247-10	Percent Solids	67.43		5.00	7.42
1901248-01	Percent Solids	53.49		5.00	9.35
1901248-02	Percent Solids	52.34		5.00	9.55
1901248-03	Percent Solids	53.78		5.00	9.30
1901248-04	Percent Solids	56.37		5.00	8.87
1901249-02	Percent Solids	50.15		5.00	9.97

BATCH ID B9F0131

Test Code: %Moist/%Solids

Units: %

Oven ID: 01 02

Data Entry Verified by:
(Initial and Date) ao 010/17/19

HRMS-8

06/13/19 1140	06/17/19 1248
---------------	---------------

[illegible]

*Sample homogenized in sample container unless otherwise noted.

BATCH ID B9F0131

Test Code: %Moist/%Solids

Units: %

Oven ID: 01 02

(Initial and Date) **NA**

HRMS-8

Date/Time IN: Date/Time OUT

Date/Time IN:	Date/Time OUT:
06/18/19 1140	06/14/19 1248

[illegible]

*Sample homogenized in sample container unless otherwise noted.

LabNumber	WetWeight (Initial)	% Solids (Extraction Solids)	DryWeight	Final	Extracted	Ext By	Spike	SpikeAmount	ClientMatrix	Analysis
1901247-01	8.95 /	57.22021	5.1212	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-02	9.97 /	52.60483	5.2447	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-03	10.05 /	50.63986	5.0893	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-04	9.75 /	52.0436	5.0743	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-05	7.49 /	68.63237	5.1406	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-06	8.75 /	58.69566	5.1359	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-07	9.18 /	54.90197	5.0400	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-08	9.71 /	55.03598	5.3440	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-09	9.47 /	53.79913	5.0948	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901247-10	7.85 /	67.42857	5.2931	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901248-01	9.45 /	53.4902	5.0548	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901248-02	9.61 /	52.33766	5.0296	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901248-03	9.87 /	53.77551	5.3076	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901248-04	9.09 /	56.37481	5.1245	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901249-02	9.98 /	50.15166	5.0051	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901305-02	6.7 /	77.42364	5.1874	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901305-06	6.81 /	75.32096	5.1294	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901305-07	6.34 /	80.5668	5.1079	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
1901384-04	6.6 /	77.83843	5.1373	20	18-Jun-19 08:48	ACO			Sediment	1613 Full List
B9F0172-BLK1	5 /			20	18-Jun-19 08:48	ACO				QC
B9F0172-BS1	5 /			20	18-Jun-19 08:48	ACO	18F1913 /	10 /		QC
B9F0172-DUP1	9.68 /			20	18-Jun-19 08:48	ACO				QC
B9F0172-DUP2	9.53 /			20	18-Jun-19 08:48	ACO				QC
B9F0172-DUP3	8.87 /			20	18-Jun-19 08:48	ACO				QC
B9F0172-DUP4	6.83 /			20 /	18-Jun-19 08:48 /	ACO /				QC

SAMPLE DATA – EPA METHOD 1613

Client ID: Method Blank
Lab ID: B9F0172-BLK1

Filename: 190625D1 S:4 Acq:25-JUN-19 17:28:52
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 5.000

ConCal: ST190625D1-1
EndCAL: NA

Page 3 of 3

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF _η	*		176 2.5	0.518	
1,2,3,7,8-PeCDD	*	* n	0.87	NotF _η	*		215 2.5	0.496	
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF _η	*		166 2.5	0.470	
1,2,3,6,7,8-HxCDD	*	* n	0.93	NotF _η	*		166 2.5	0.487	
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF _η	*		166 2.5	0.499	
1,2,3,4,6,7,8-HpCDD	*	* n	0.99	NotF _η	*		205 2.5	0.496	
OCDD	*	* n	0.99	NotF _η	*		176 2.5	0.524	
2,3,7,8-TCDF	*	* n	0.94	NotF _η	*		262 2.5	0.481	
1,2,3,7,8-PeCDF	*	* n	0.92	NotF _η	*		240 2.5	0.611	
2,3,4,7,8-PeCDF	*	* n	0.96	NotF _η	*		240 2.5	0.603	
1,2,3,4,7,8-HxCDF	*	* n	1.15	NotF _η	*		218 2.5	0.257	
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF _η	*		218 2.5	0.235	
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF _η	*		218 2.5	0.245	
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF _η	*		218 2.5	0.451	
1,2,3,4,6,7,8-HpCDF	*	* n	1.06	NotF _η	*		135 2.5	0.296	
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF _η	*		135 2.5	0.333	
OCDF	*	* n	0.94	NotF _η	*		177 2.5	0.496	

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		176	0.518
Total Penta-Dioxins	*	*		215	0.496
Total Hexa-Dioxins	*	*		166	0.486
Total Hepta-Dioxins	*	*		205	0.496
Total Tetra-Furans	*	*		262	0.481
Total Penta-Furans	0.0000	0.0000		240	0.607
Total Hexa-Furans	*	*		218	0.288
Total Hepta-Furans	*	*		135	0.315

							Rec	Qual
IS	13C-2,3,7,8-TCDD	3.15e+06	0.84 y	1.11	26:04	188.15	47.0	
IS	13C-1,2,3,7,8-PeCDD	2.93e+06	0.61 y	0.98	30:33	198.34	49.6	
IS	13C-1,2,3,4,7,8-HxCDD	2.69e+06	1.35 y	0.68	33:49	213.26	53.3	
IS	13C-1,2,3,6,7,8-HxCDD	3.58e+06	1.39 y	0.84	33:56	228.18	57.0	
IS	13C-1,2,3,7,8,9-HxCDD	3.80e+06	1.38 y	0.81	34:15	250.91	62.7	
IS	13C-1,2,3,4,6,7,8-HpCDD	3.33e+06	1.00 y	0.69	37:41	260.66	65.2	
IS	13C-OCDD	6.41e+06	0.90 y	0.62	40:57	550.49	68.8	
IS	13C-2,3,7,8-TCDF	4.96e+06	0.83 y	1.05	25:19	155.69	38.9	
IS	13C-1,2,3,7,8-PeCDF	4.08e+06	1.52 y	0.95	29:23	141.22	35.3	
IS	13C-2,3,4,7,8-PeCDF	3.79e+06	1.57 y	0.94	30:17	133.90	33.5	
IS	13C-1,2,3,4,7,8-HxCDF	3.82e+06	0.51 y	0.86	32:56	239.18	59.8	
IS	13C-1,2,3,6,7,8-HxCDF	4.96e+06	0.51 y	1.02	33:04	260.23	65.1	
IS	13C-2,3,4,6,7,8-HxCDF	4.76e+06	0.50 y	0.95	33:40	268.36	67.1	
IS	13C-1,2,3,7,8,9-HxCDF	3.74e+06	0.51 y	0.87	34:39	231.41	57.9	
IS	13C-1,2,3,4,6,7,8-HpCDF	2.72e+06	0.38 y	0.81	36:27	180.60	45.2	
IS	13C-1,2,3,4,7,8,9-HpCDF	2.21e+06	0.38 y	0.63	38:14	187.85	47.0	
IS	13C-OCDF	7.62e+06	0.92 y	0.78	41:11	522.63	65.3	
C/Up	37Cl-2,3,7,8-TCDD	1.47e+06		1.22	26:06	79.830	49.9	
RS/RT	13C-1,2,3,4-TCDD	6.06e+06	0.88 y	1.00	25:29	400.00		
RS	13C-1,2,3,4-TCDF	1.21e+07	0.81 y	1.00	24:05	400.00		
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.46e+06	0.52 y	1.00	33:21	400.00		

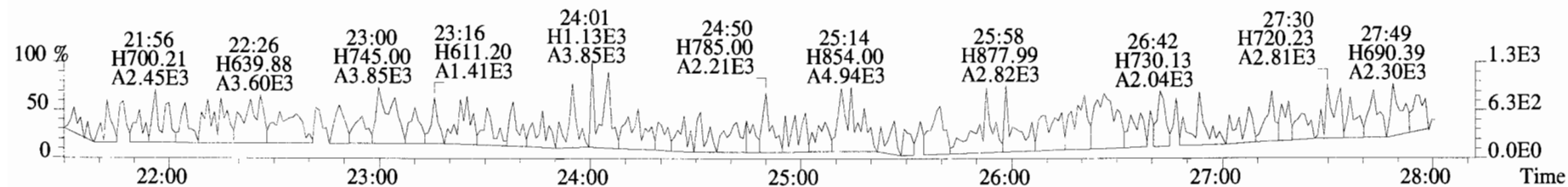
Integrations
by
Analyst: DB

Date: 6/28/19

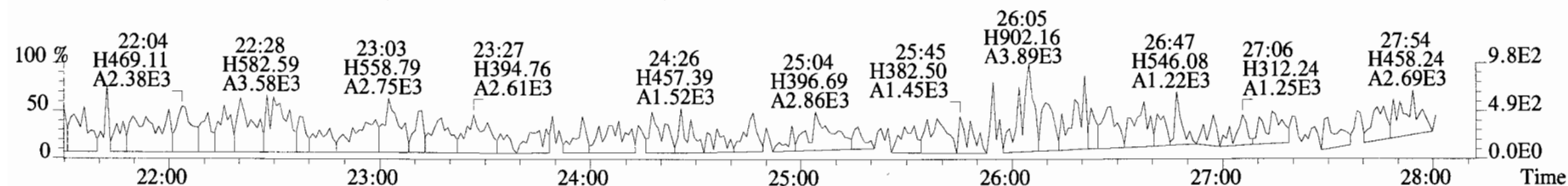
Reviewed
by
Analyst: CT

Date: 06/29/19

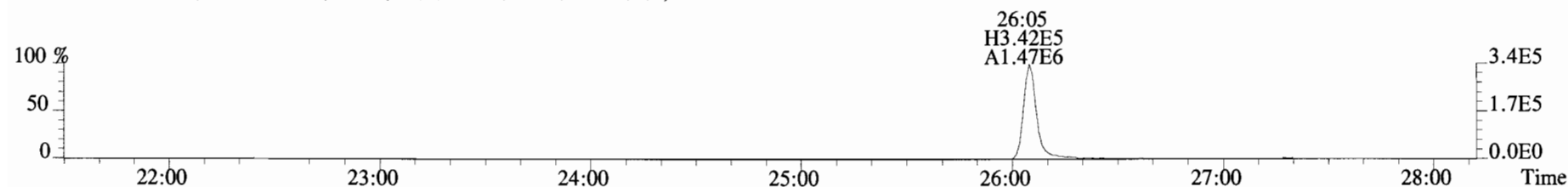
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 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



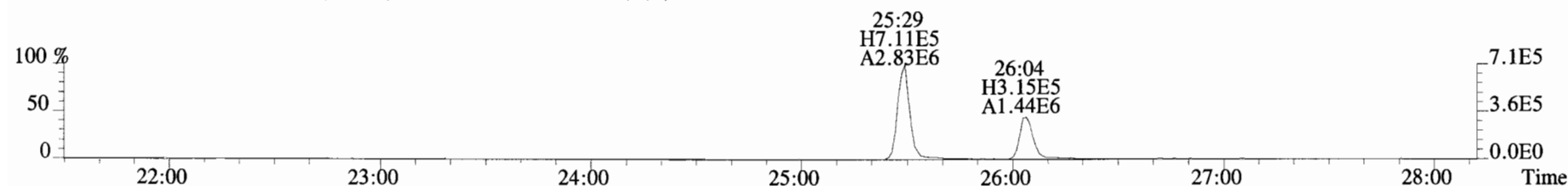
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



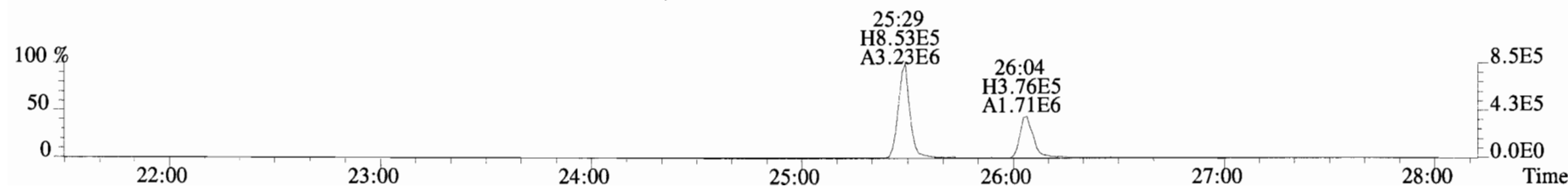
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



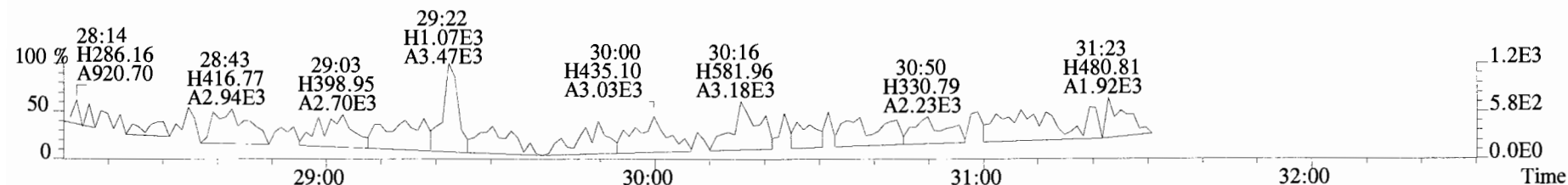
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



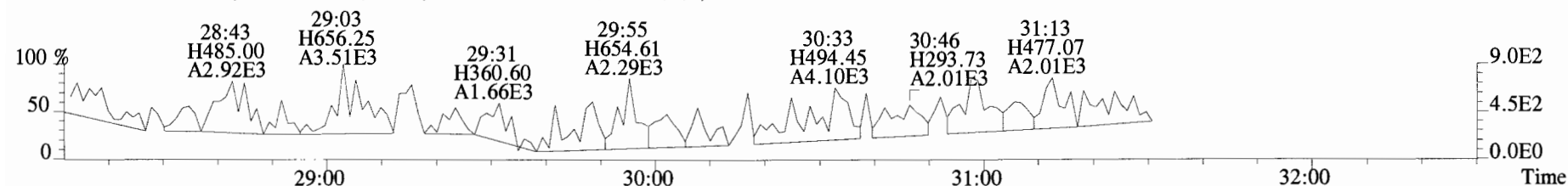
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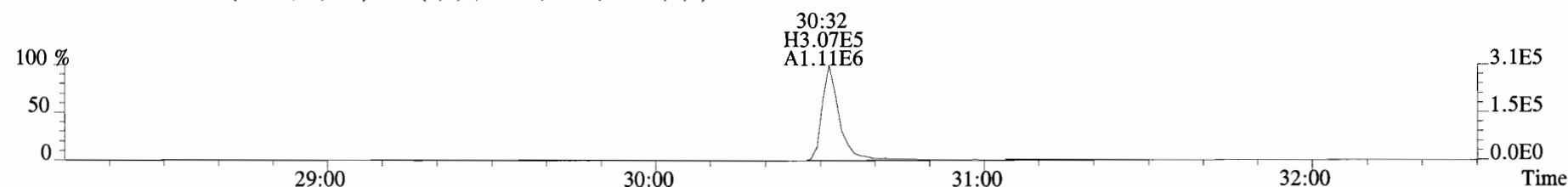
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 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



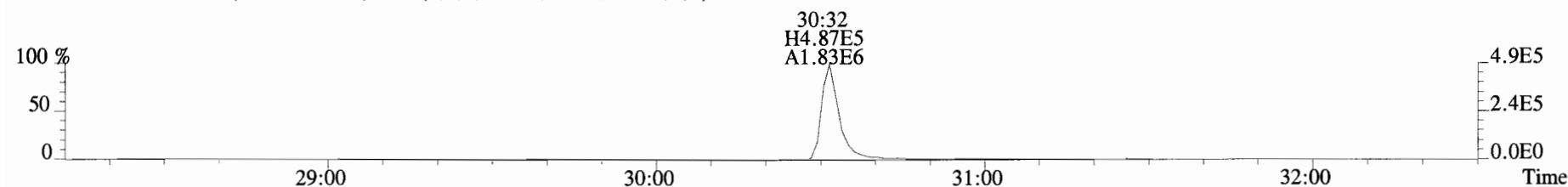
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



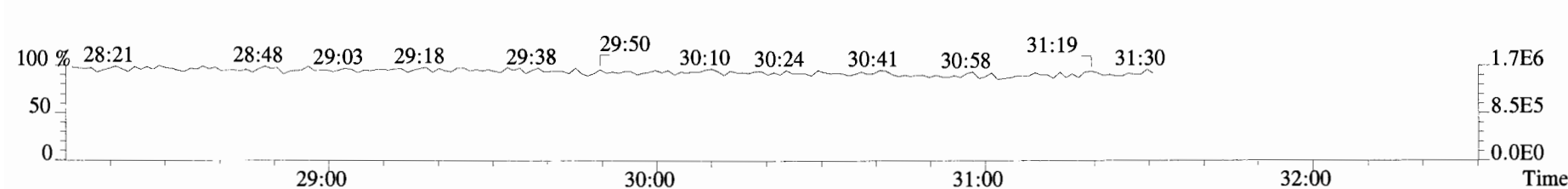
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



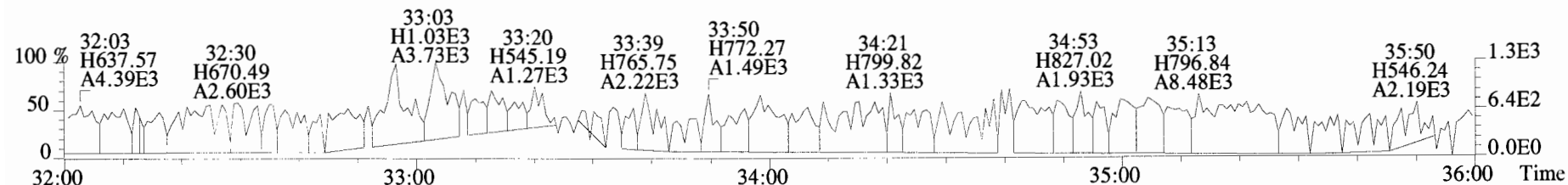
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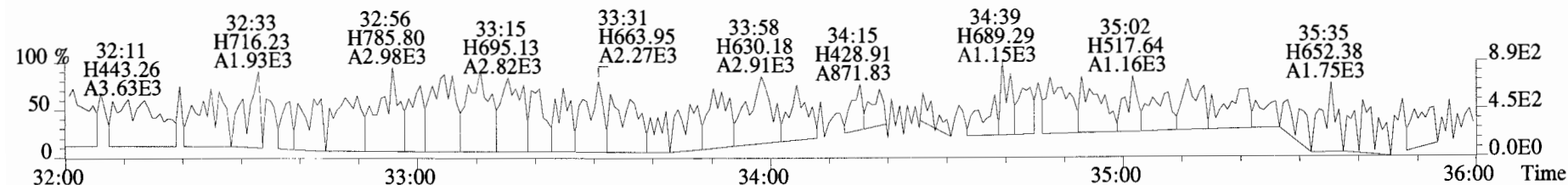
366.9792 S:4 F:2



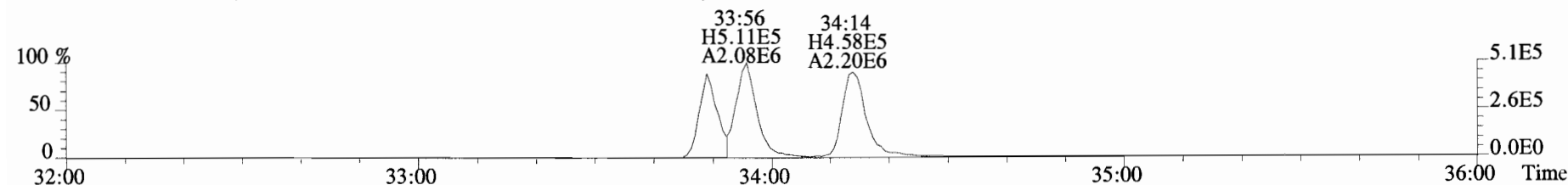
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Sample#4 File Text: Vista Analytical Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



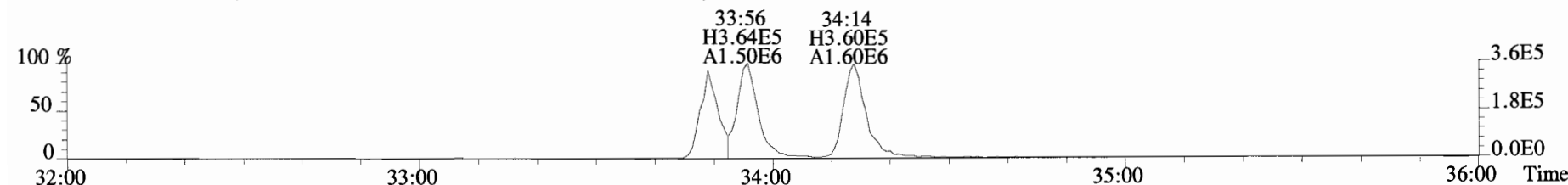
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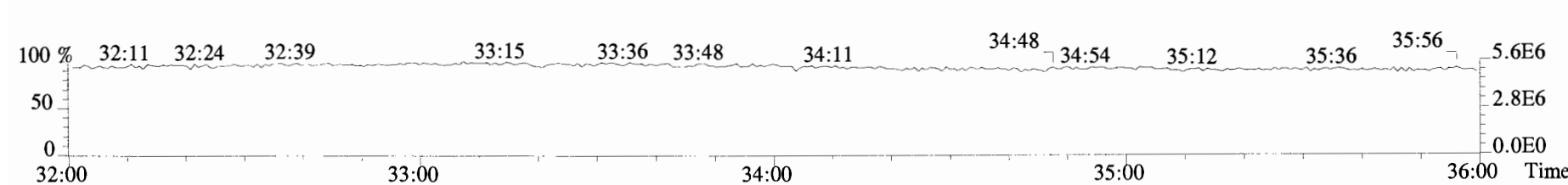
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



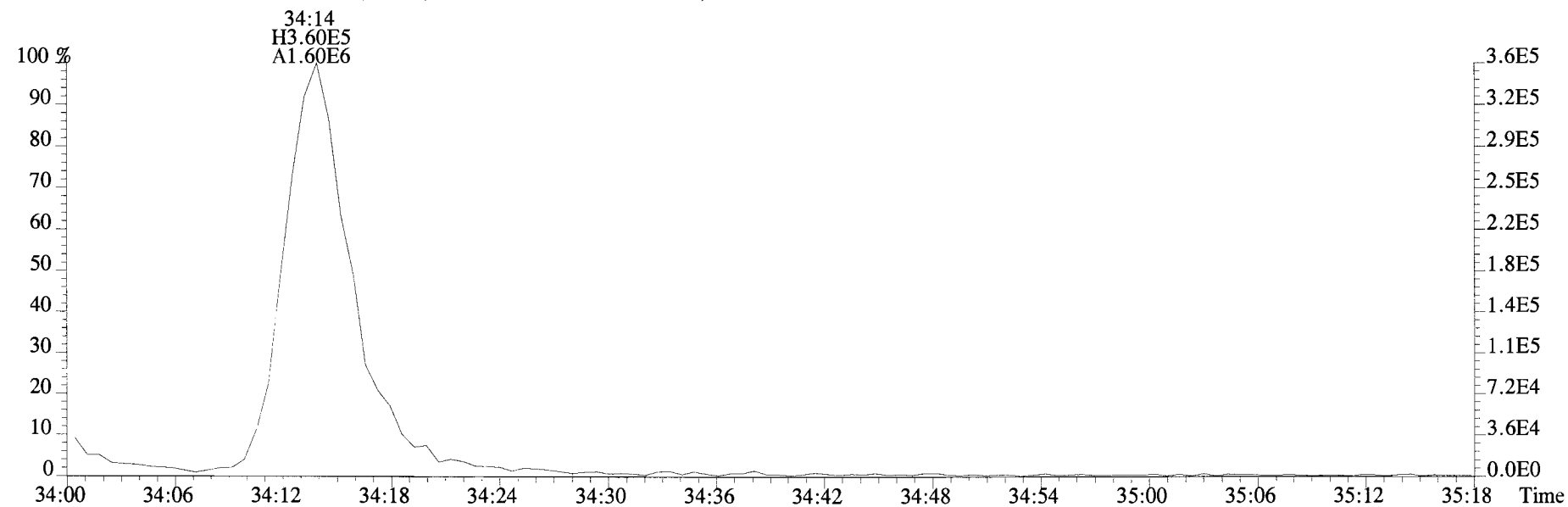
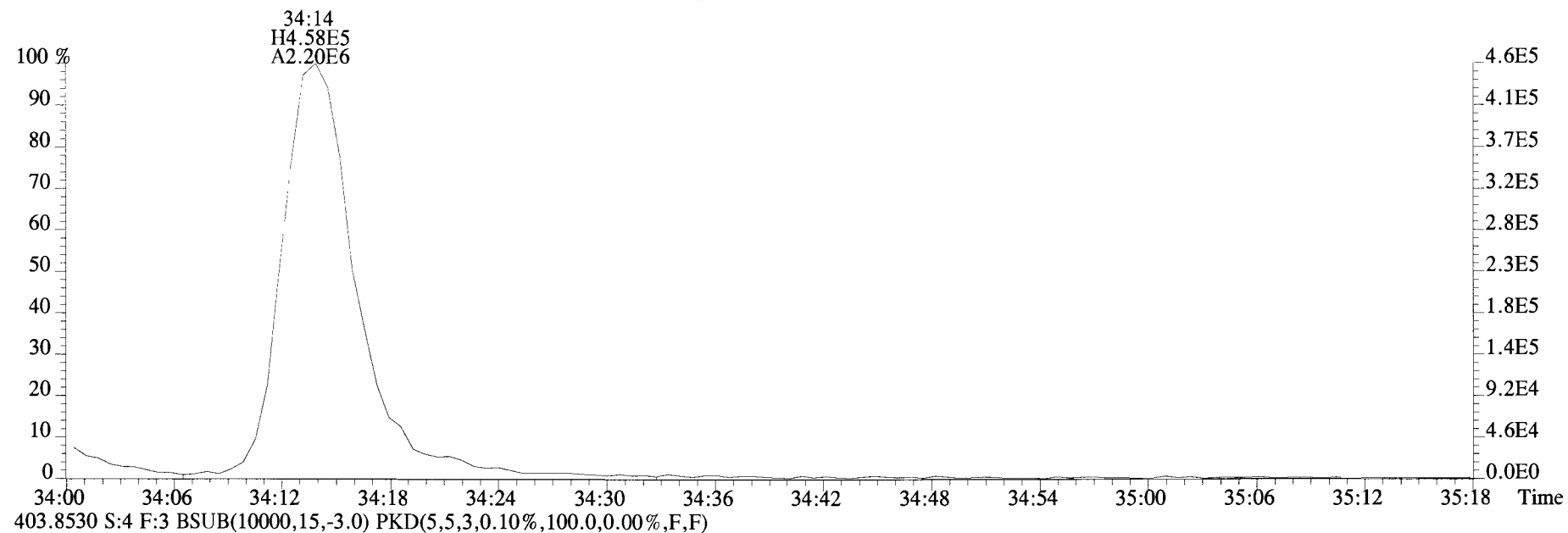
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



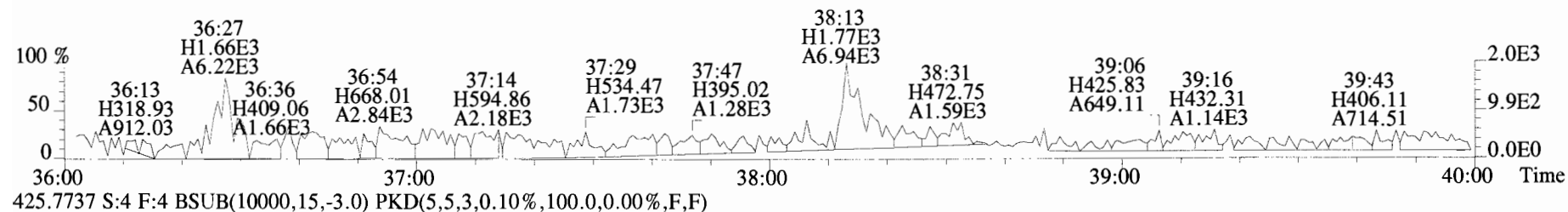
392.9760 S:4 F:3



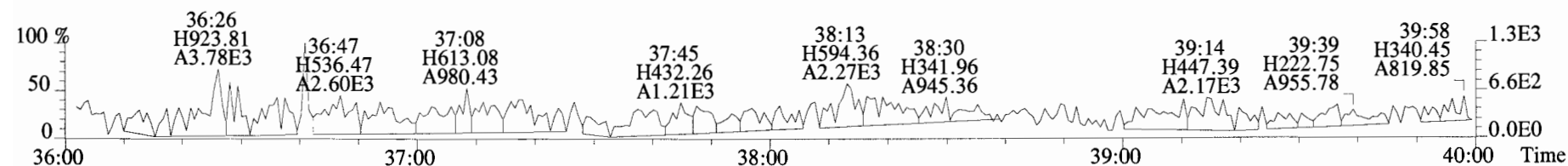
File:190625D1 #1-399 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



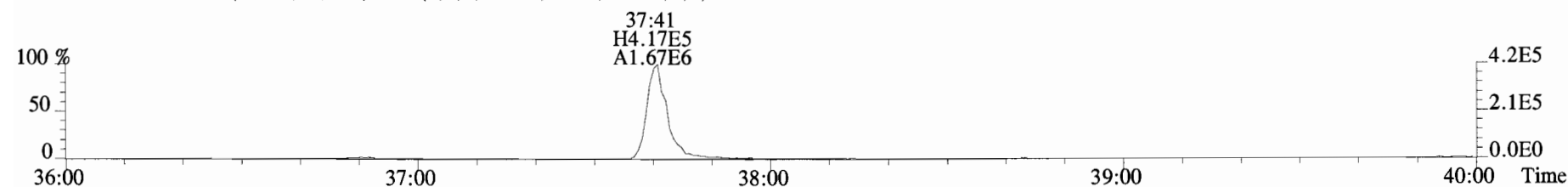
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 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



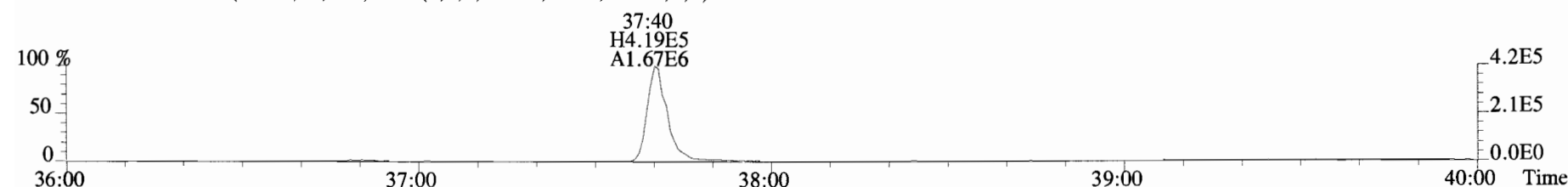
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



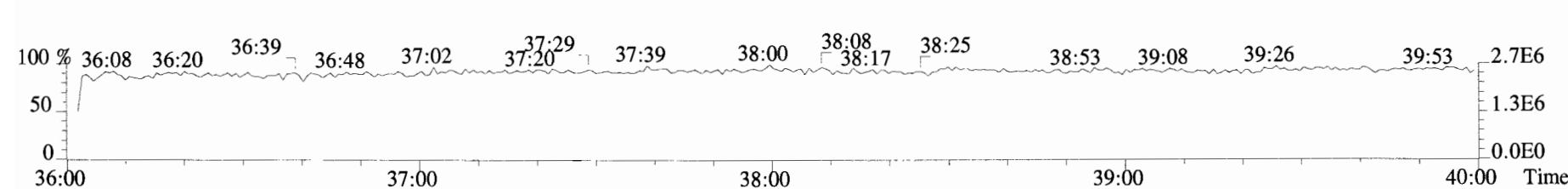
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



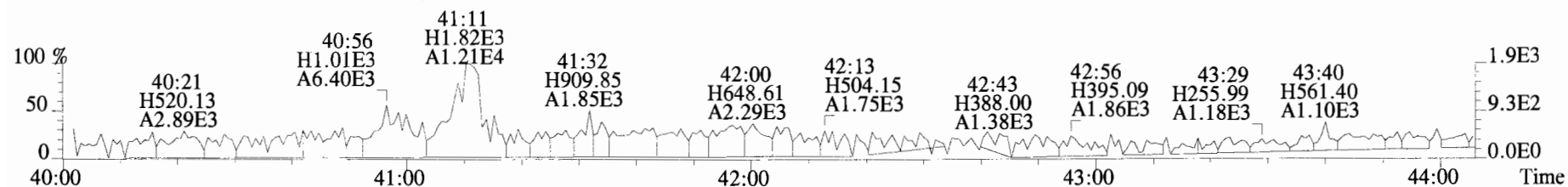
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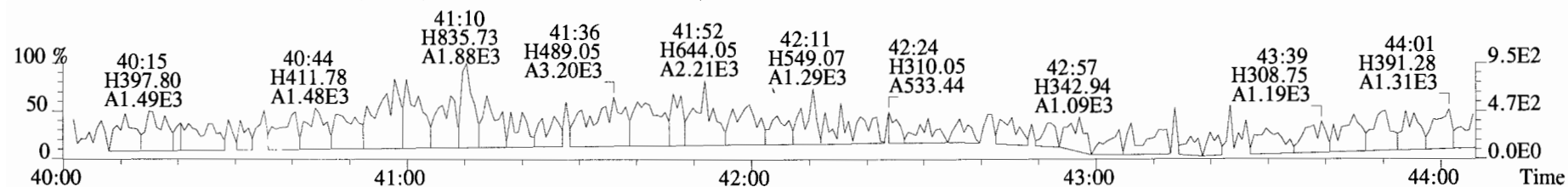
454.9728 S:4 F:4



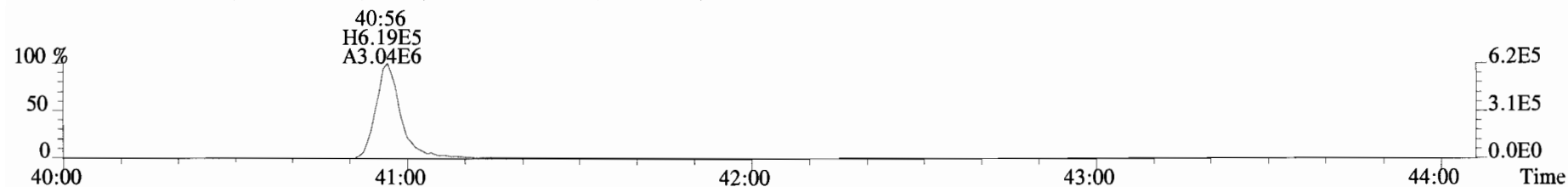
File:190625D1 #1-432 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



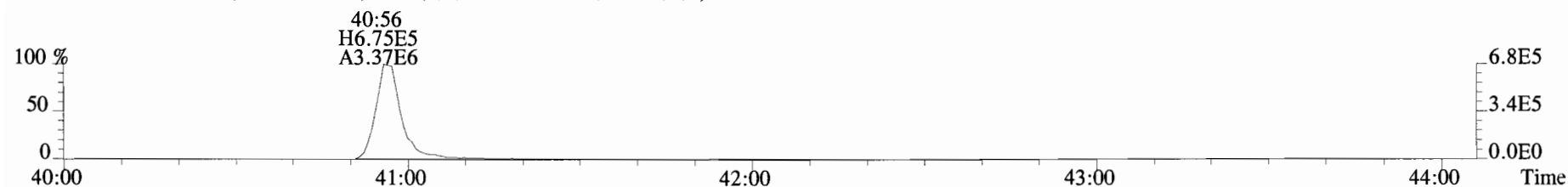
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



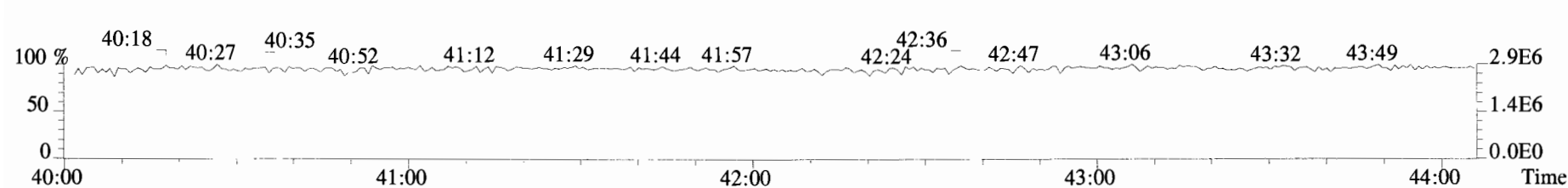
469.7780 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



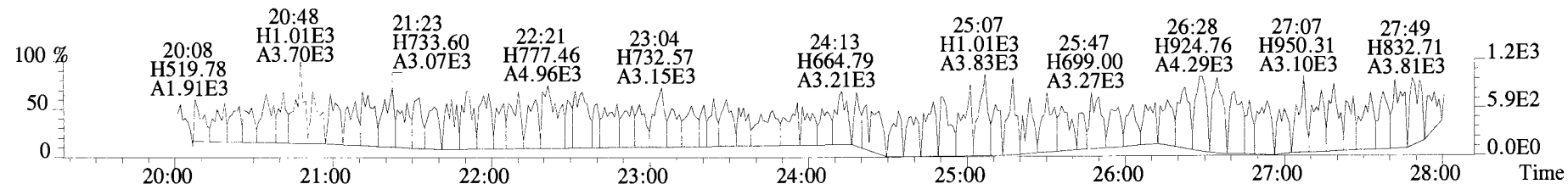
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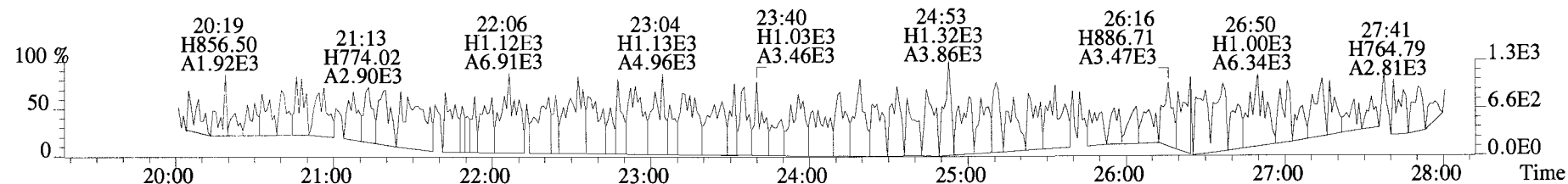
454.9728 S:4 F:5



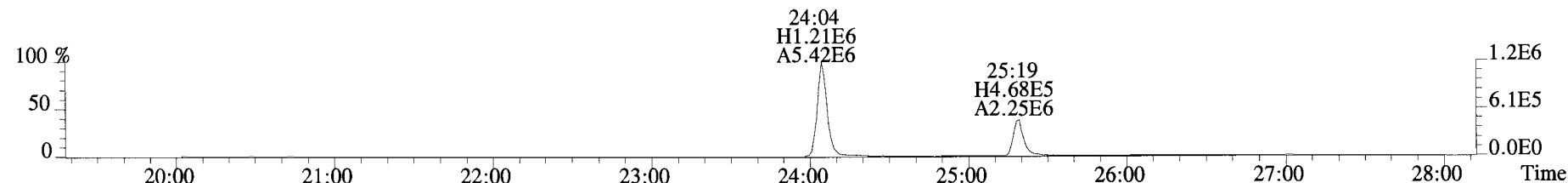
File:190625D1 #1-514 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



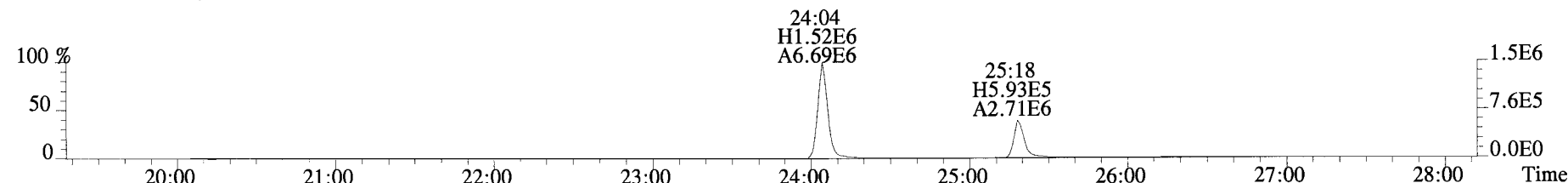
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



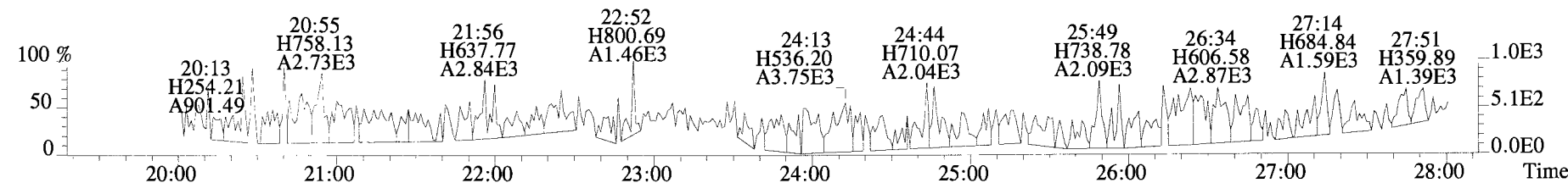
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



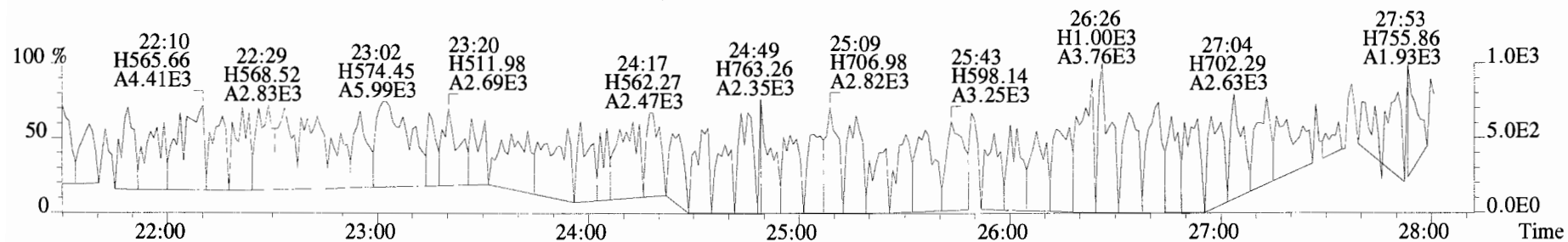
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



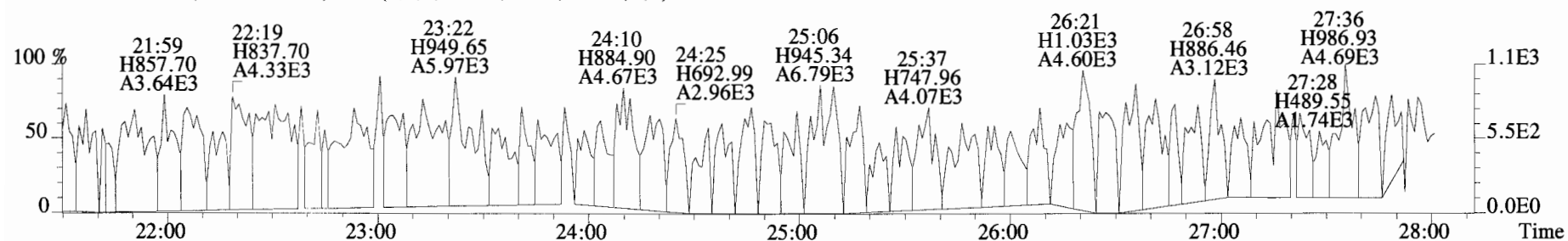
375.8364 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



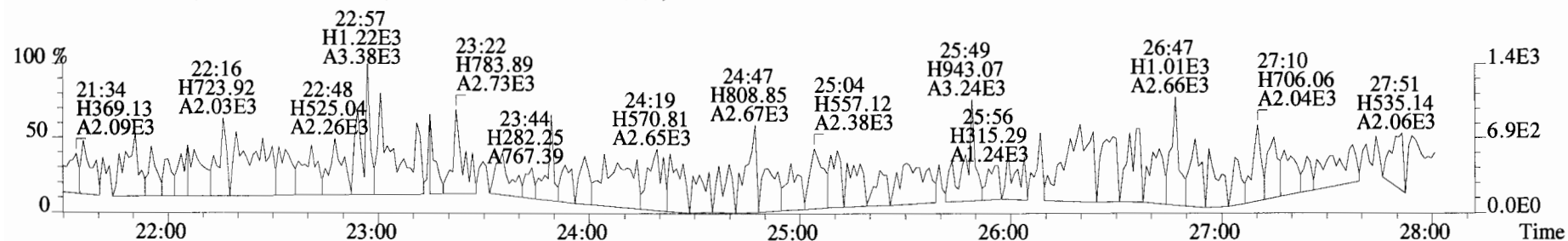
File:190625D1 #1-514 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



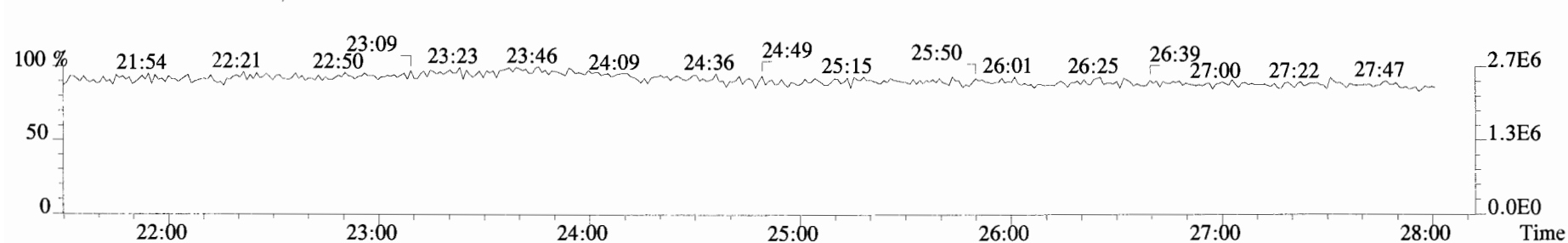
341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



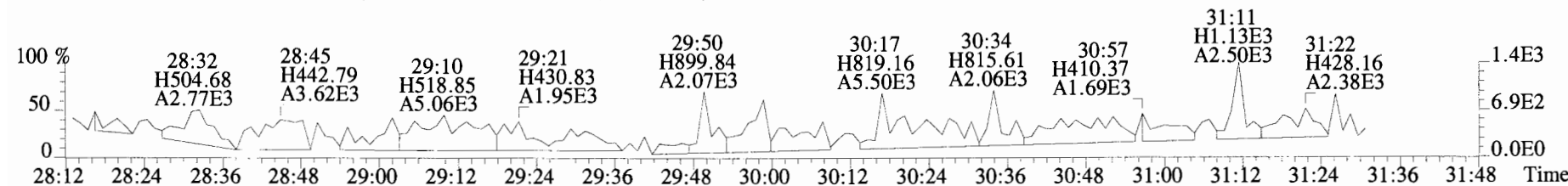
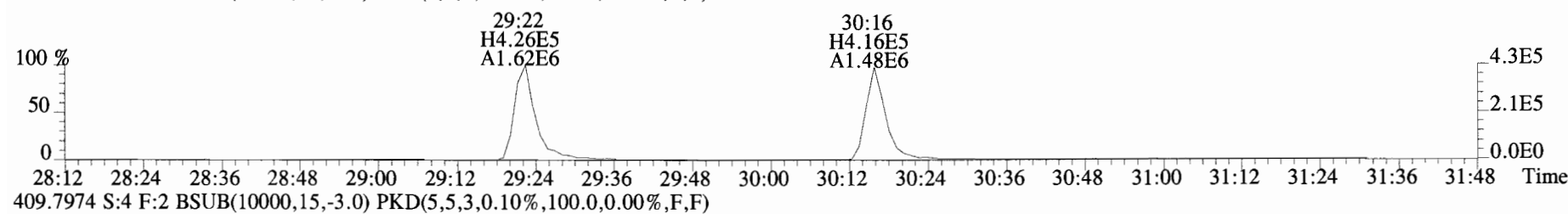
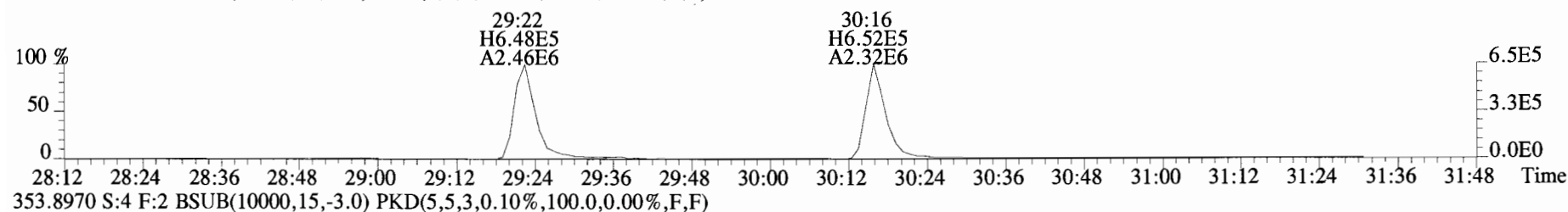
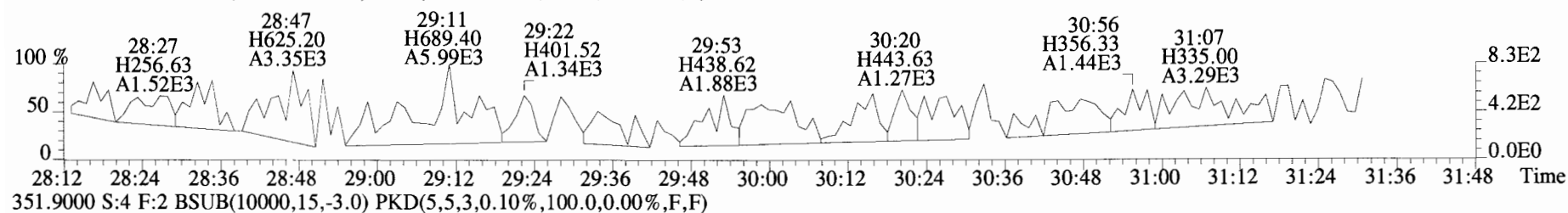
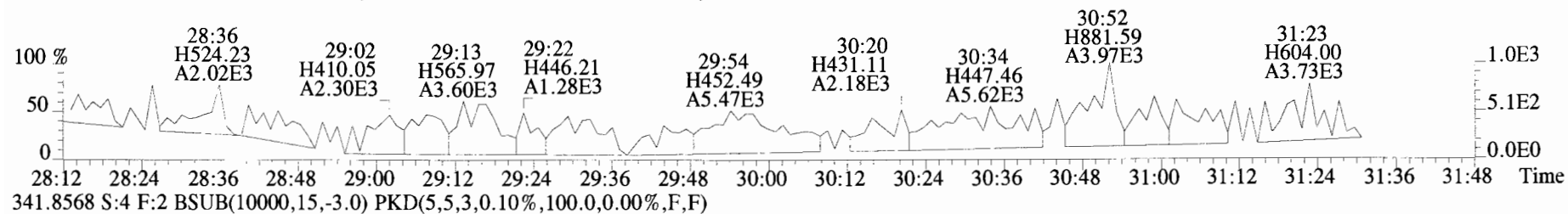
409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



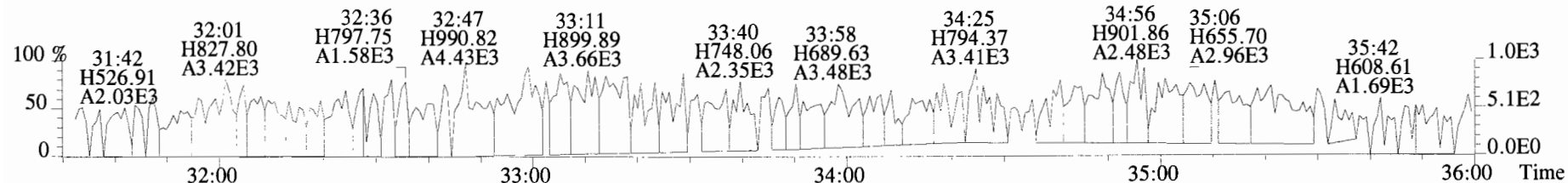
316.9824 S:4



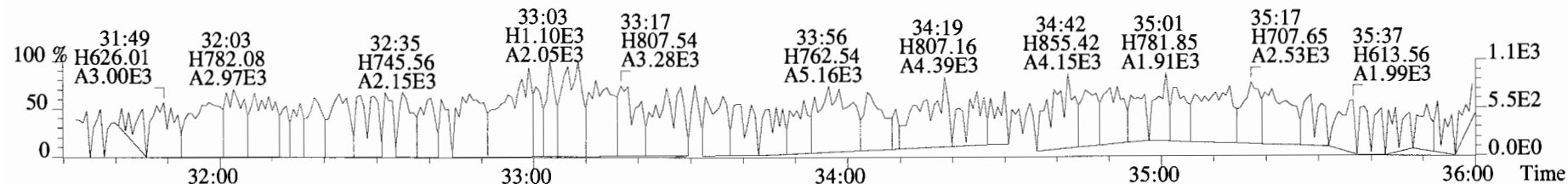
File:190625D1 #1-184 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



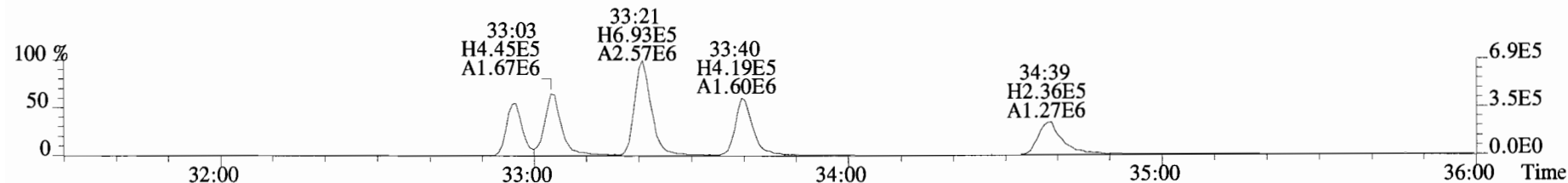
File:190625D1 #1-399 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



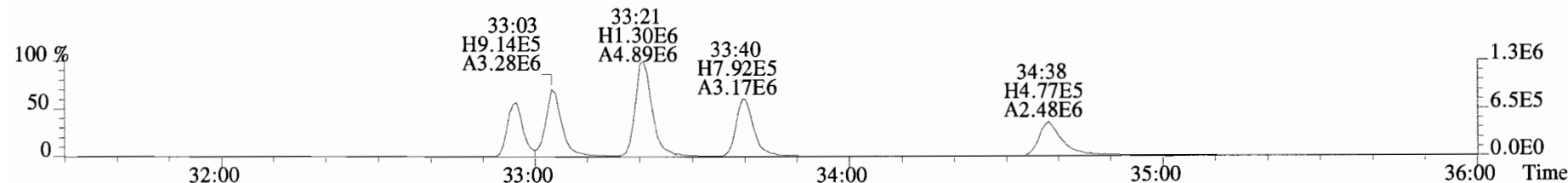
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



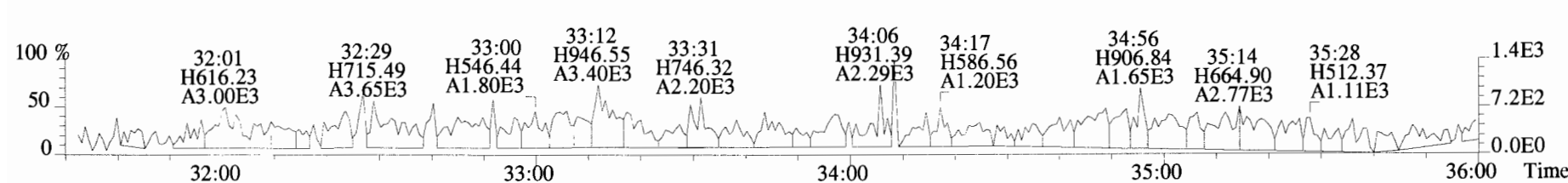
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



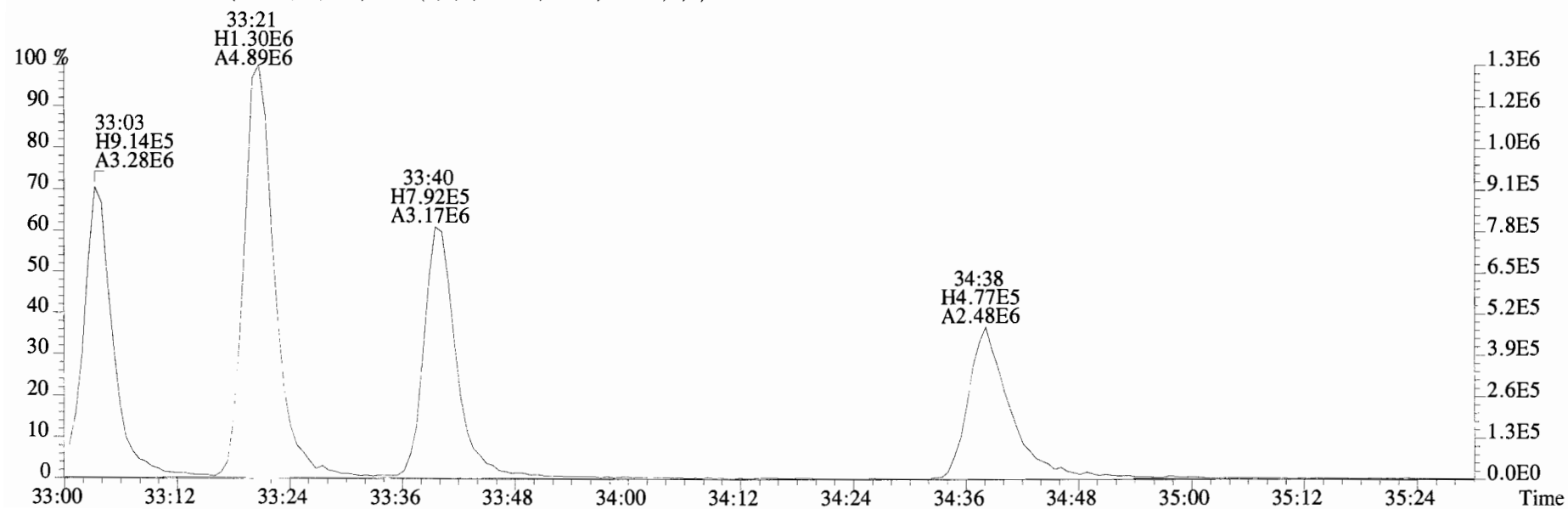
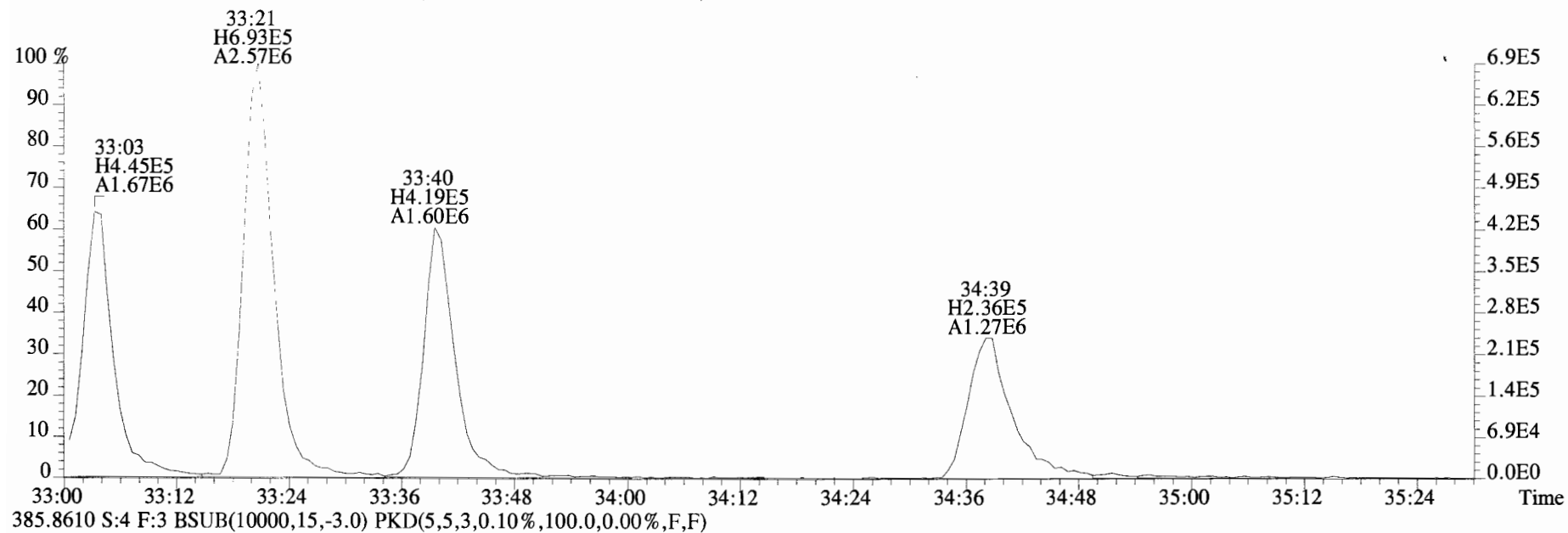
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



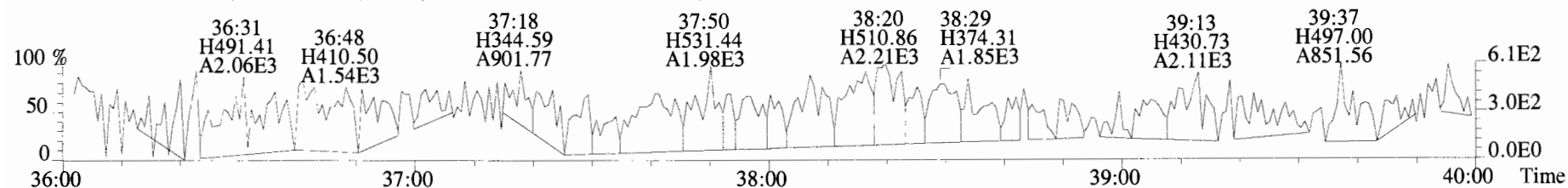
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



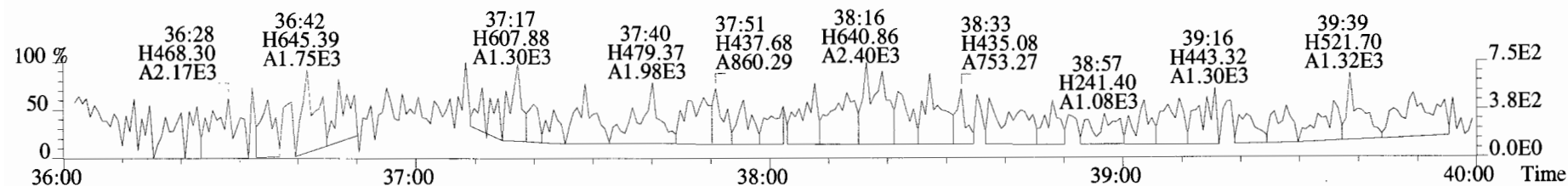
File:190625D1 #1-399 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



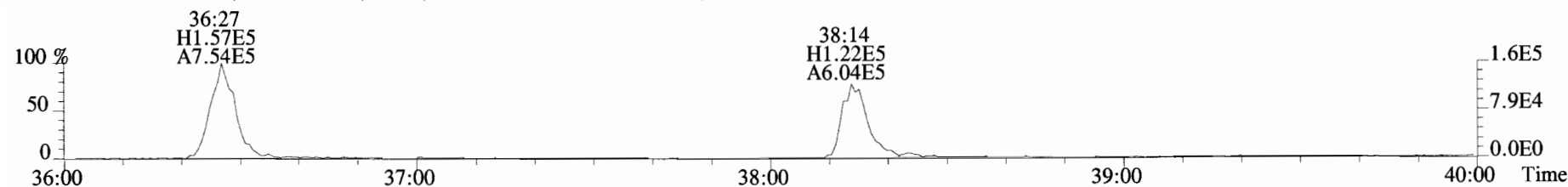
File:190625D1 #1-355 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



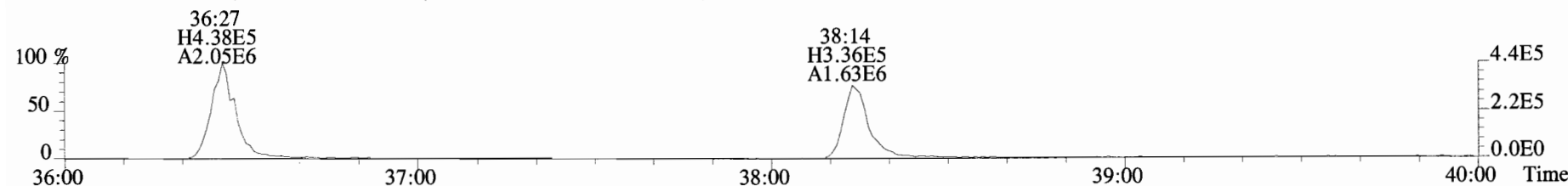
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



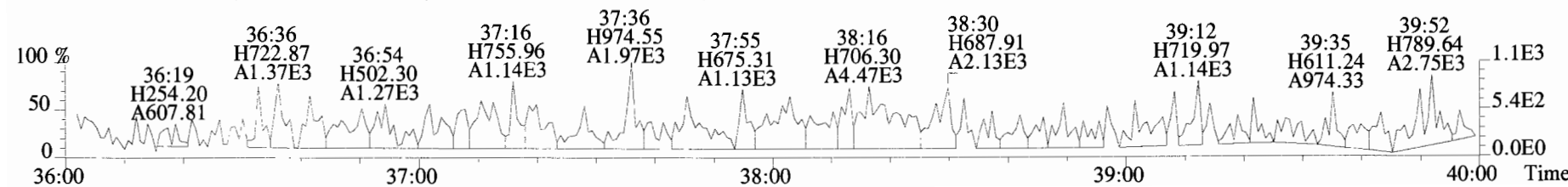
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



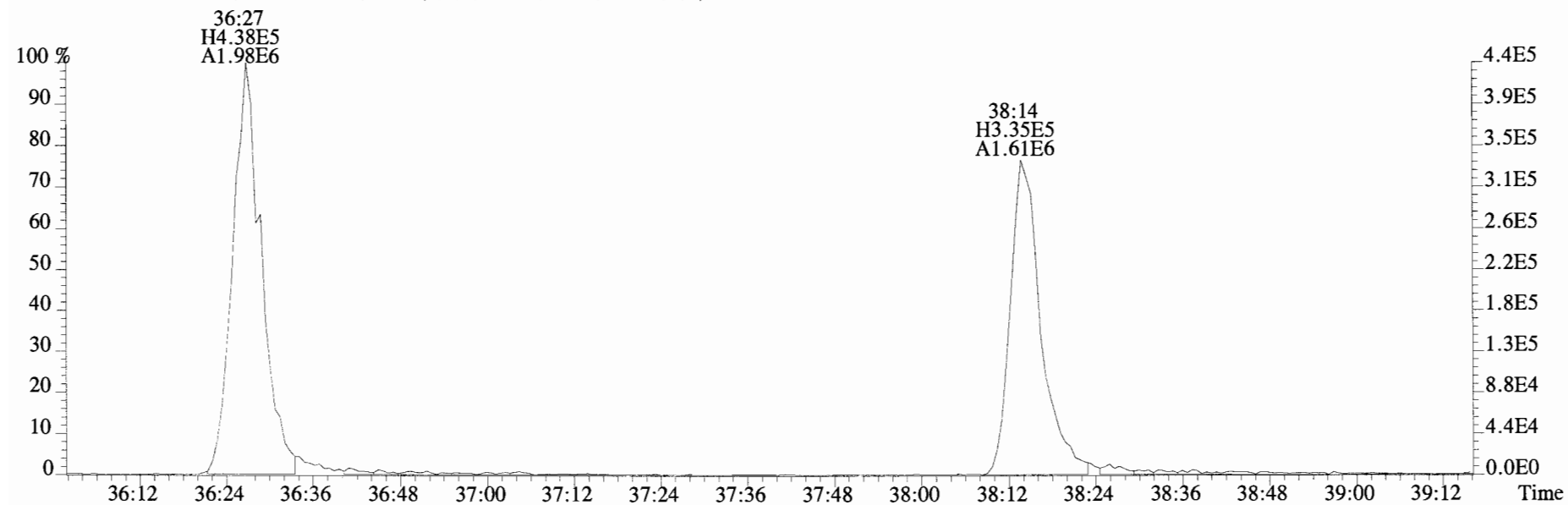
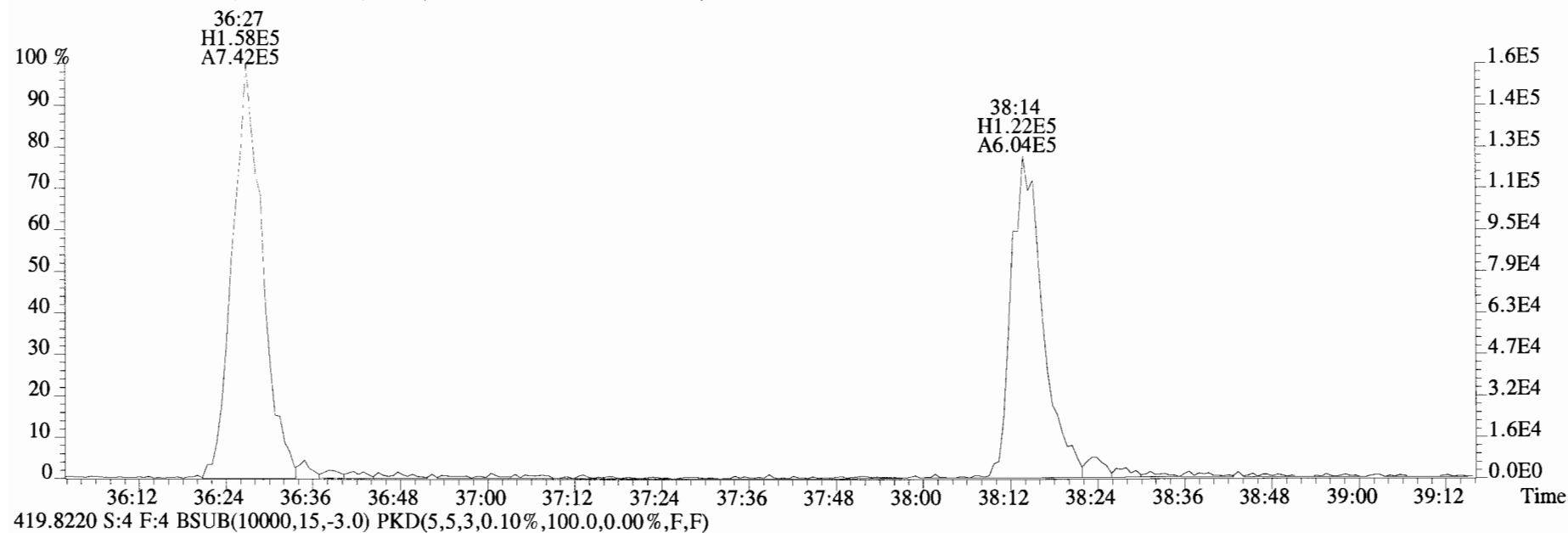
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



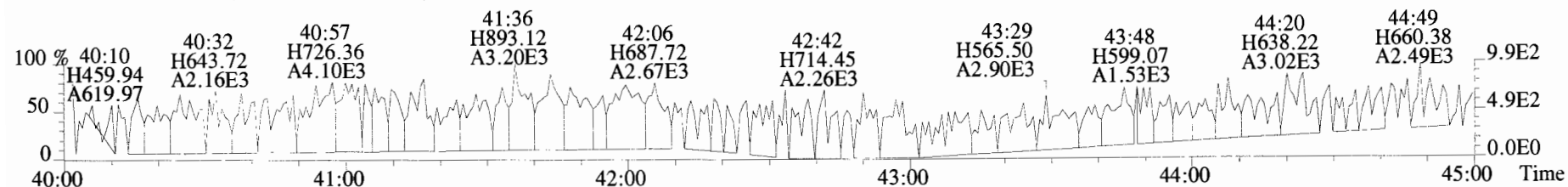
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



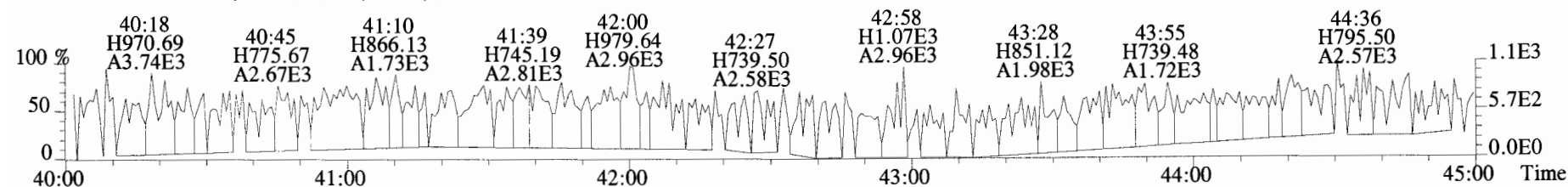
File:190625D1 #1-355 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



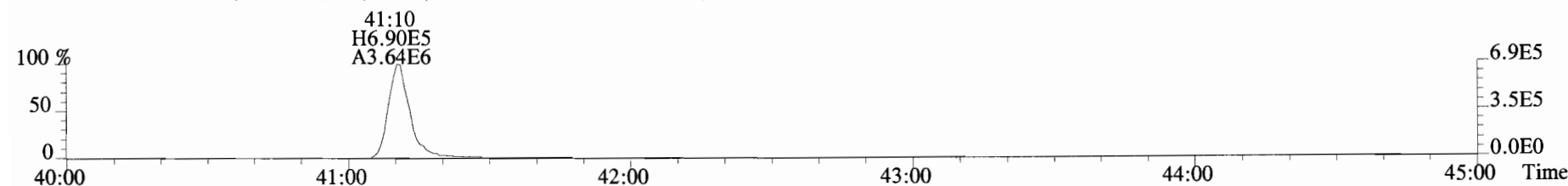
File:190625D1 #1-432 Acq:25-JUN-2019 17:28:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory VG7 Text:B9F0172-BLK1 Method Blank 5 Exp:OCDD_DB5
 441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



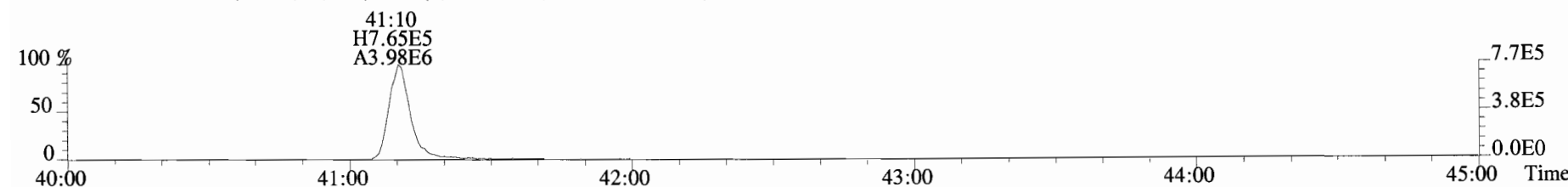
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



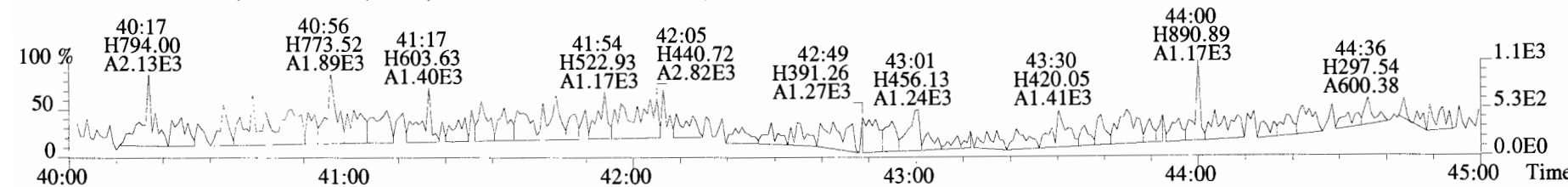
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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: B9F0172-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190625D1-2

Ext. Date: Shift: Day Analysis Date: 25-JUN-19 Time: 15:53:21

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	14.3	6.7 - 15.8 7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	55.8	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	52.3	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	53.7	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	51.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	48.3	35.0 - 70.0
OCDD	100	99.2	78.0 - 144.0
2,3,7,8-TCDF	10	10.0	7.5 - 15.8 8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	45.9	40.0 - 67.0
2,3,4,7,8-PeCDF	50	46.3	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	52.7	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	54.5	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	53.7	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	54.8	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	46.7	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	46.1	39.0 - 69.0
OCDF	100	104	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: 6/26/19

FORM 8B

PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

Lab Name: Vista Analytical Laboratory Extraction Batch: B9F0172-BS1

Contract No.: SAS No.:

Matrix (aqueous/solid/leachate): SOLID OPR Data Filename: 190625D1-2

Ext. Date: Shift: Day Analysis Date: 25-JUN-19 Time: 15:53:21

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	70.2	20.0 - 175.0 25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	84.0	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	88.5	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	87.3	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	90.0	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	82.9	26.0 - 166.0
13C-OCDD	200	177	26.0 - 397.0
13C-2,3,7,8-TCDF	100	56.8	22.0 - 152.0 26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	60.8	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	62.3	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	83.1	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	83.3	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	87.5	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	89.0	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	71.1	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	77.4	20.0 - 186.0
13C-OCDF	200	170	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	30.8	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. 10/94Analyst: DBDate: 6/26/19

Client ID: OPR
Lab ID: B9F0172-BS1

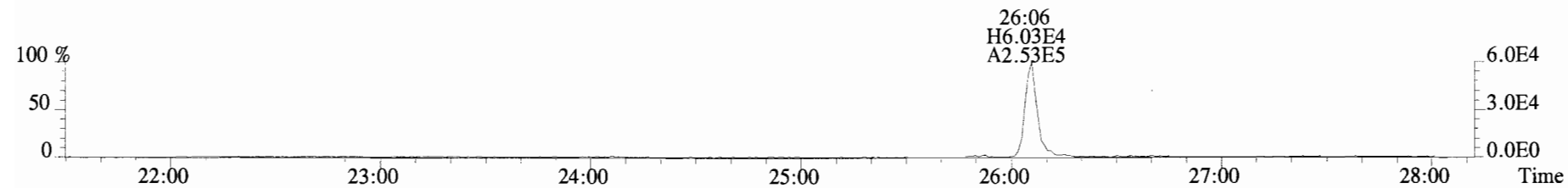
Filename: 190625D1 S:2 Acq:25-JUN-19 15:53:21
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190625D1-1
EndCAL: NA

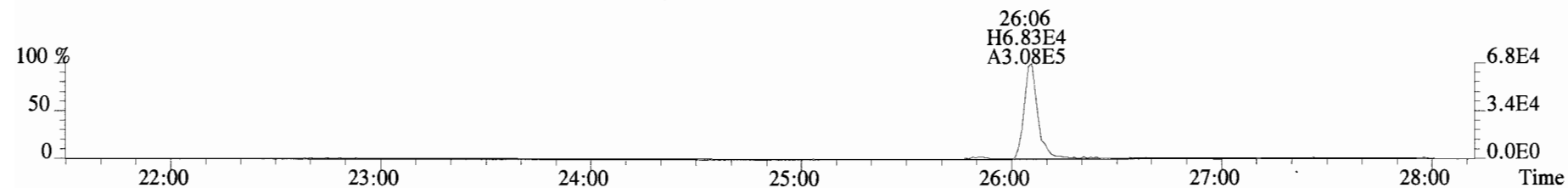
Page 2 of 2

							Name	Conc	EMPC	Qual	noise	DL	
							Total Tetra-Dioxins	15.2	19.6		*	*	
							Total Penta-Dioxins	55.8	57.0		*	*	
							Total Hexa-Dioxins	159	160		*	*	
							Total Hepta-Dioxins	49.7	51.7		*	*	
							Total Tetra-Furans	12.1	17.0		*	*	
							Total Penta-Furans	93.633	98.228		*	*	
							Total Hexa-Furans	216	218		*	*	
							Total Hepta-Furans	93.2	96.0		*	*	
							Rec	Qual					
IS	13C-2,3,7,8-TCDD	4.37e+06	0.84 y	1.11	26:05	70.164	70.2						
IS	13C-1,2,3,7,8-PeCDD	4.62e+06	0.64 y	0.98	30:33	84.040	84.0						
IS	13C-1,2,3,4,7,8-HxCDD	4.10e+06	1.37 y	0.68	33:50	88.515	88.5						
IS	13C-1,2,3,6,7,8-HxCDD	5.04e+06	1.32 y	0.84	33:56	87.348	87.3						
IS	13C-1,2,3,7,8,9-HxCDD	5.02e+06	1.38 y	0.81	34:15	90.034	90.0						
IS	13C-1,2,3,4,6,7,8-HpCDD	3.90e+06	1.02 y	0.69	37:41	82.884	82.9						
IS	13C-OCDD	7.59e+06	0.89 y	0.62	40:57	176.95	88.5						
IS	13C-2,3,7,8-TCDF	6.64e+06	0.78 y	1.05	25:20	56.763	56.8						
IS	13C-1,2,3,7,8-PeCDF	6.45e+06	1.59 y	0.95	29:23	60.768	60.8						
IS	13C-2,3,4,7,8-PeCDF	6.48e+06	1.64 y	0.94	30:17	62.291	62.3						
IS	13C-1,2,3,4,7,8-HxCDF	4.89e+06	0.51 y	0.86	32:57	83.113	83.1						
IS	13C-1,2,3,6,7,8-HxCDF	5.84e+06	0.53 y	1.02	33:04	83.330	83.3						
IS	13C-2,3,4,6,7,8-HxCDF	5.72e+06	0.53 y	0.95	33:41	87.512	87.5						
IS	13C-1,2,3,7,8,9-HxCDF	5.30e+06	0.51 y	0.87	34:39	89.035	89.0						
IS	13C-1,2,3,4,6,7,8-HpCDF	3.94e+06	0.38 y	0.81	36:28	71.118	71.1						
IS	13C-1,2,3,4,7,8,9-HpCDF	3.36e+06	0.40 y	0.63	38:15	77.360	77.4						
IS	13C-OCDF	9.10e+06	0.89 y	0.78	41:12	169.51	84.8						
C/Up	37C1-2,3,7,8-TCDD	2.11e+06		1.22	26:06	30.832	77.1	Integrations		Reviewed			
							by	Analyst: <u>DB</u>		by			
RS/RT	13C-1,2,3,4-TCDD	5.63e+06	0.88 y	1.00	25:29	100.00	Analyst: <u>CT</u>						
RS	13C-1,2,3,4-TCDF	1.11e+07	0.78 y	1.00	24:05	100.00							
RS/RT	13C-1,2,3,4,6,9-HxCDF	6.87e+06	0.51 y	1.00	33:22	100.00							

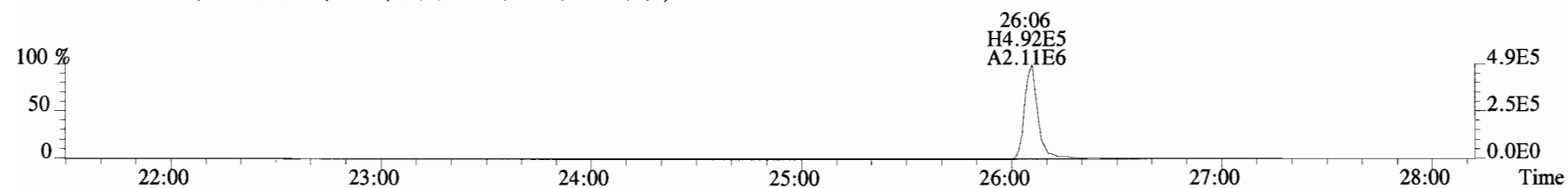
File:190625D1 #1-514 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



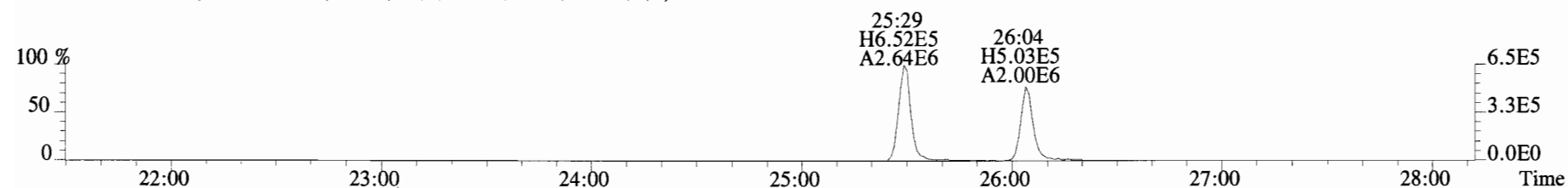
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



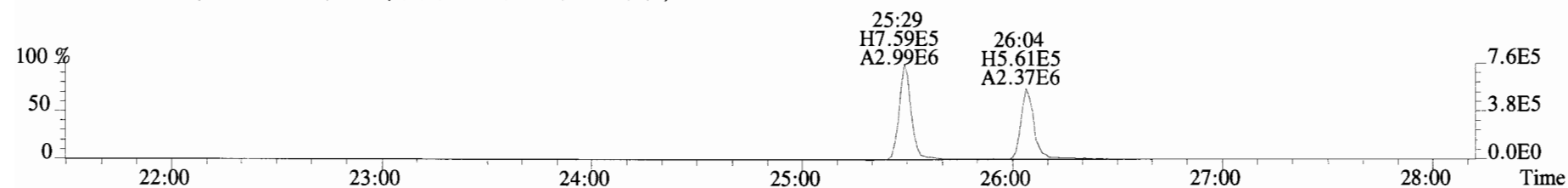
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



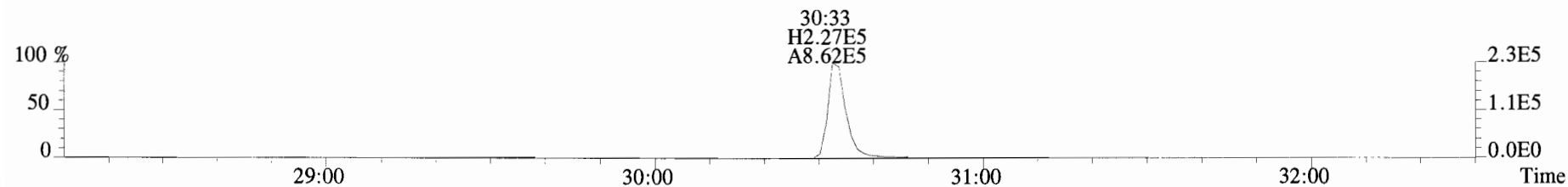
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



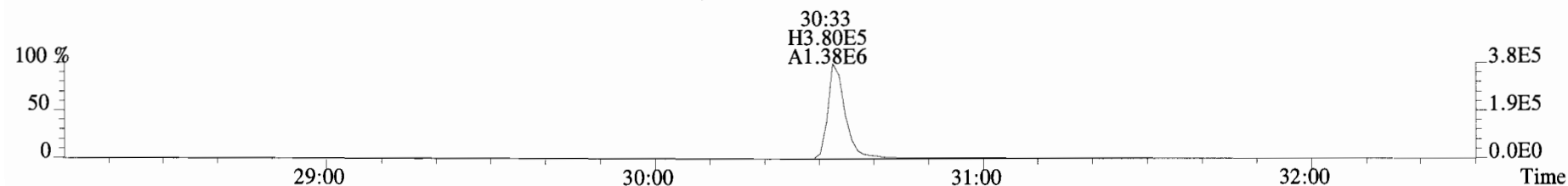
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



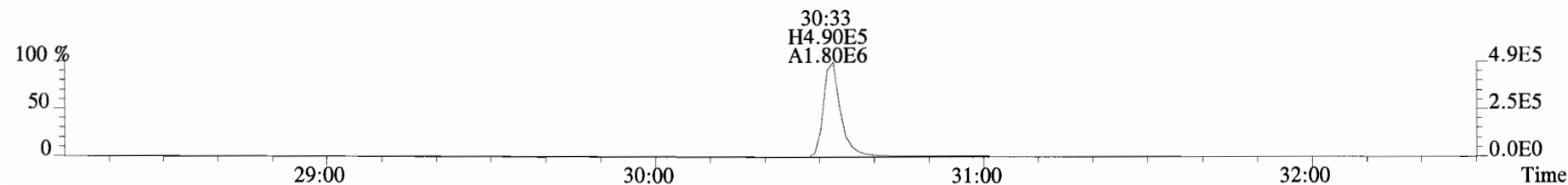
File:190625D1 #1-184 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



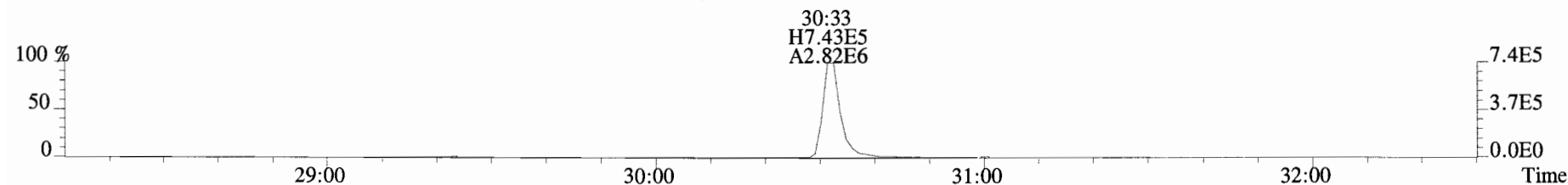
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



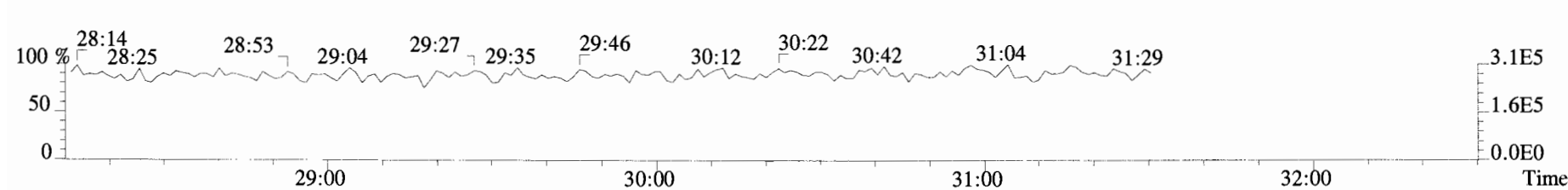
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



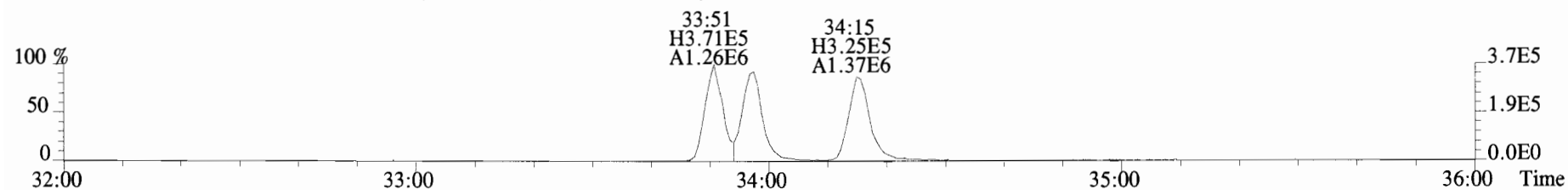
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



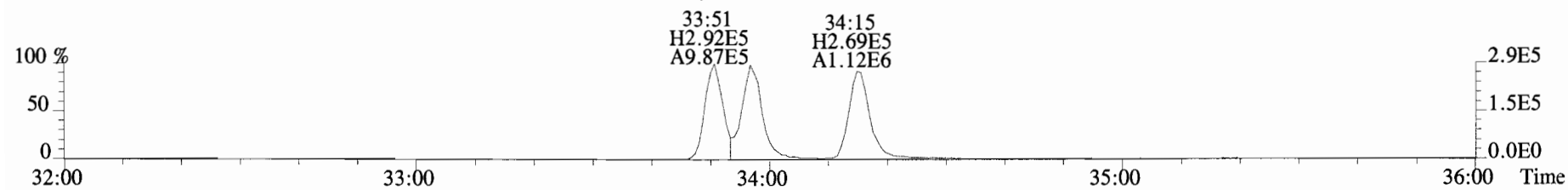
366.9792 S:2 F:2



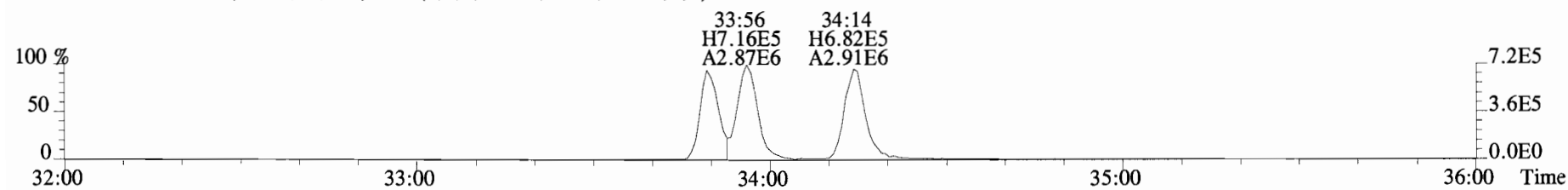
File:190625D1 #1-400 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



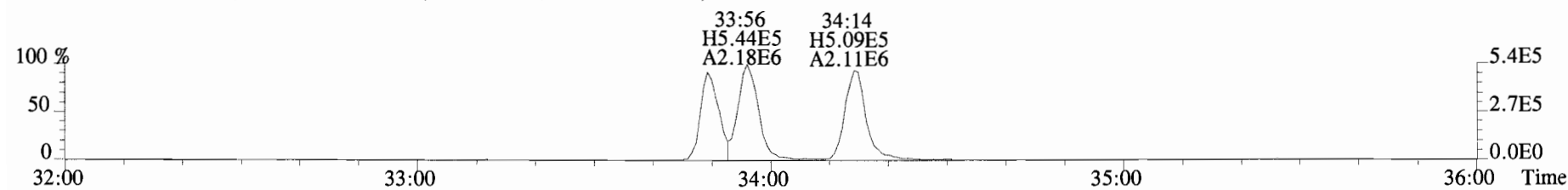
391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



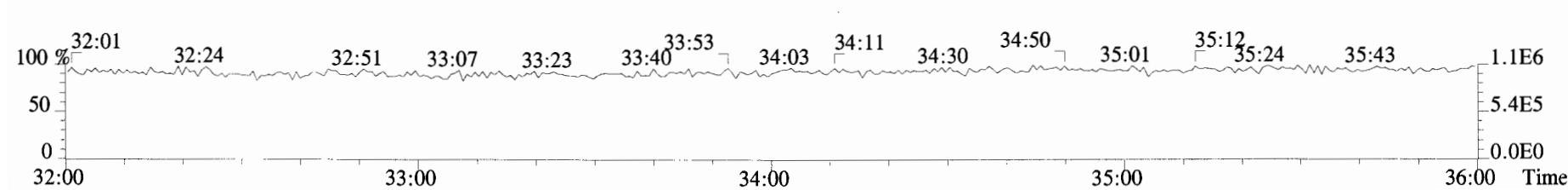
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



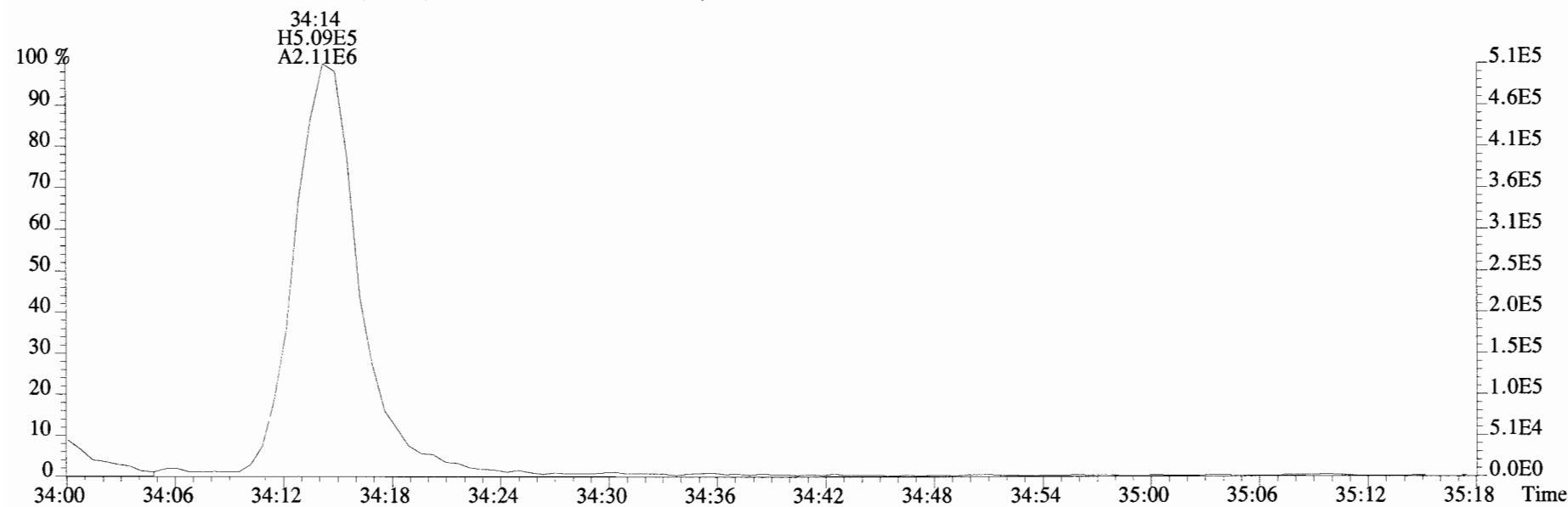
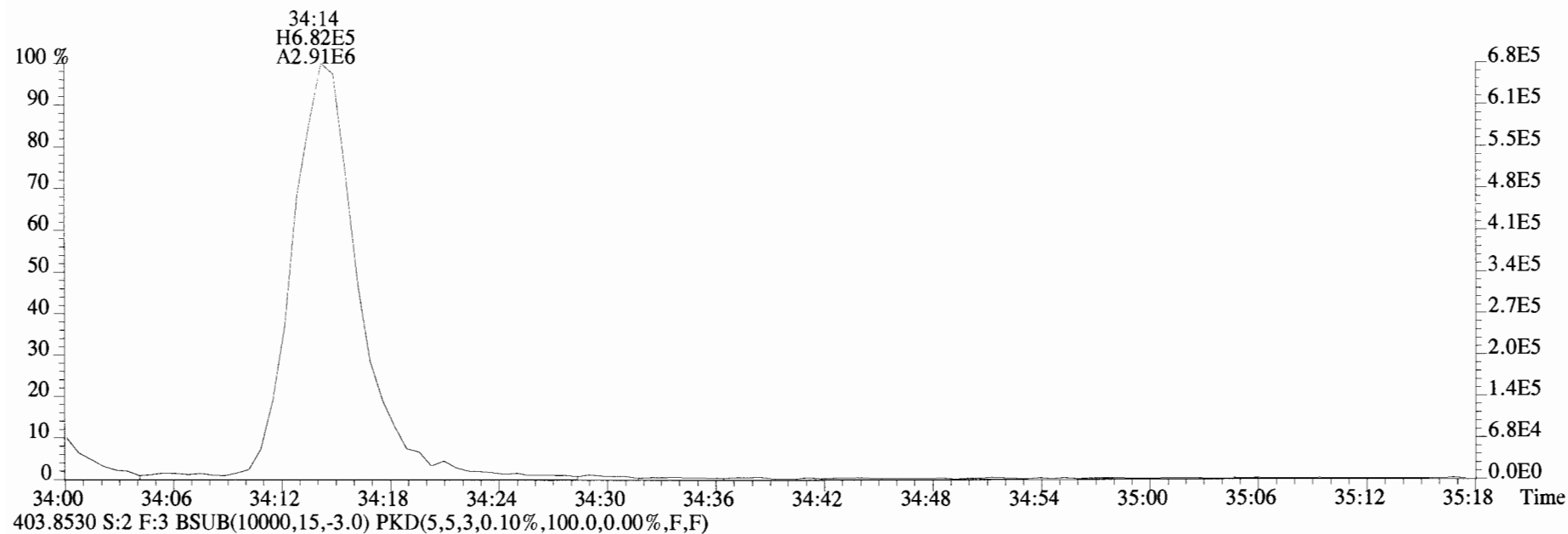
403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



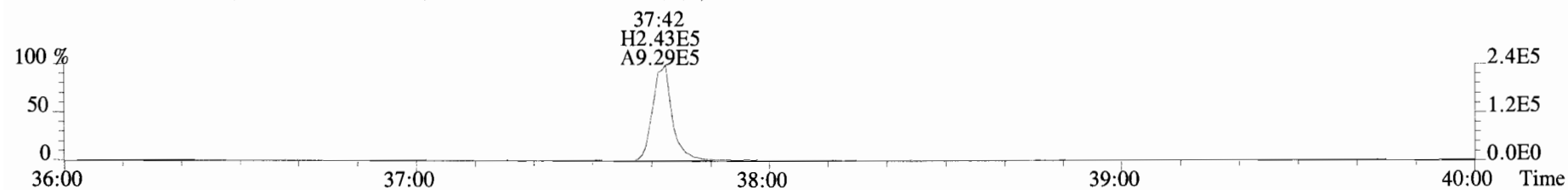
392.9760 S:2 F:3



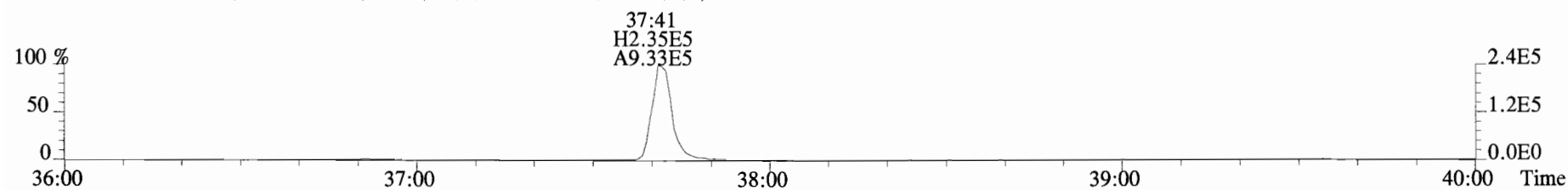
File:190625D1 #1-400 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



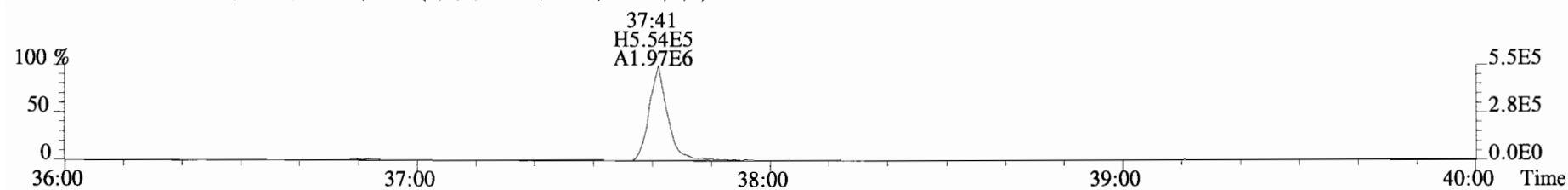
File:190625D1 #1-355 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



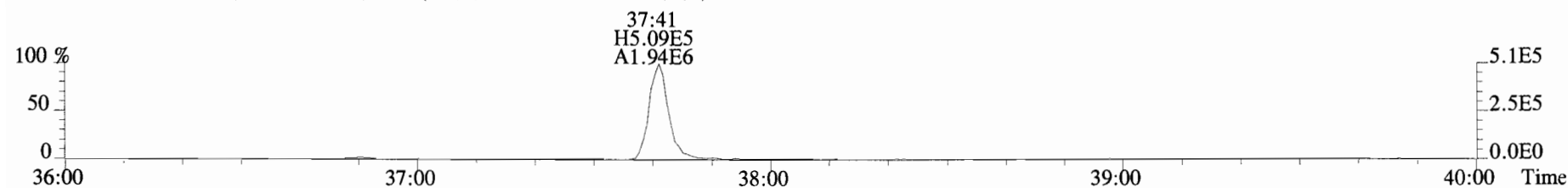
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



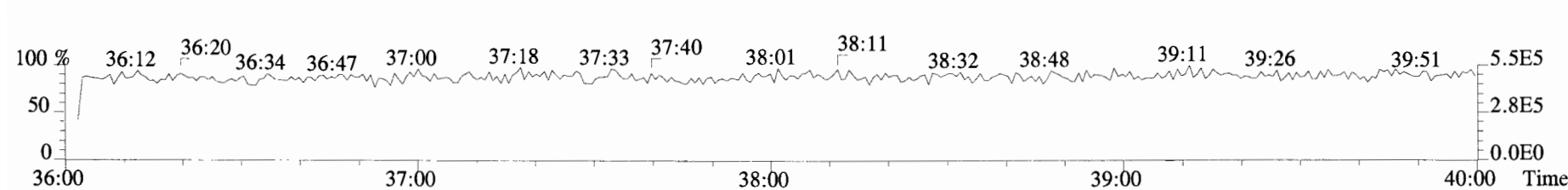
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



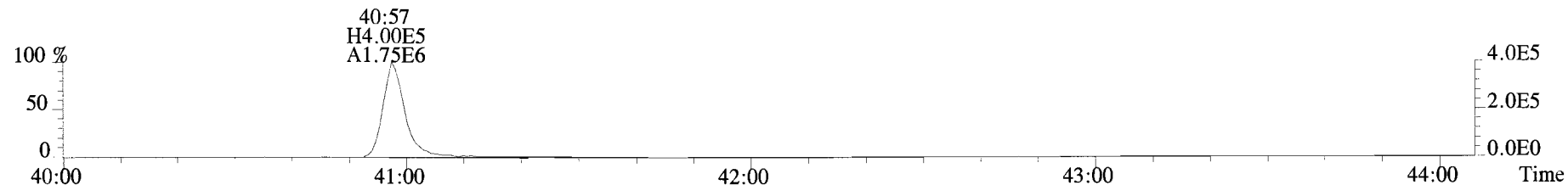
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



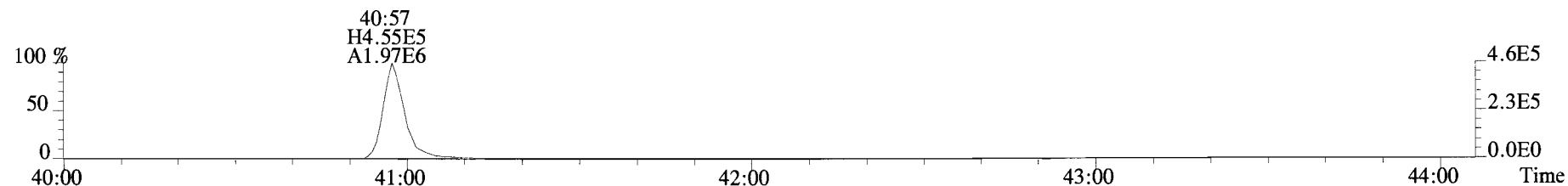
454.9728 S:2 F:4



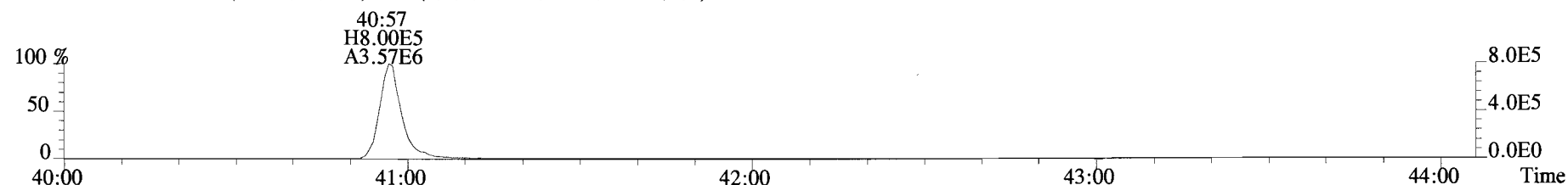
File:190625D1 #1-432 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



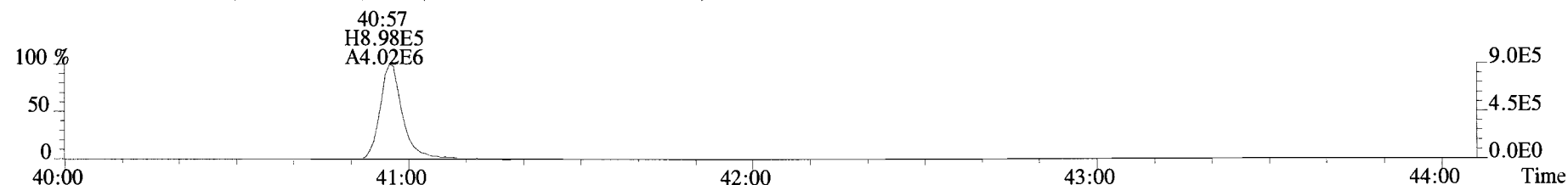
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



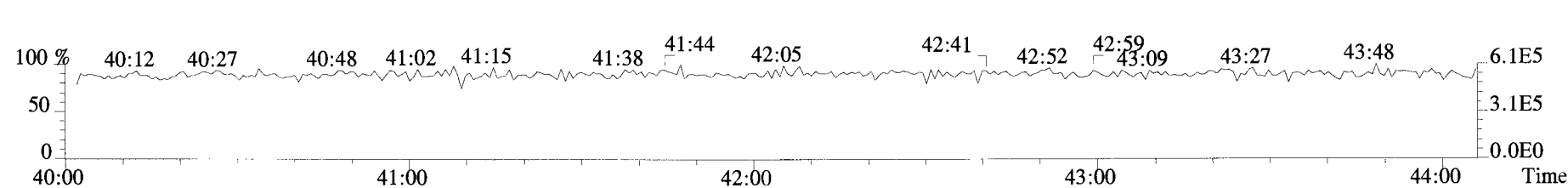
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



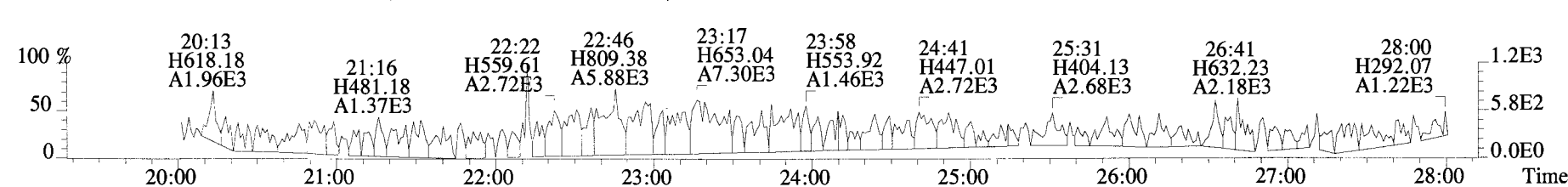
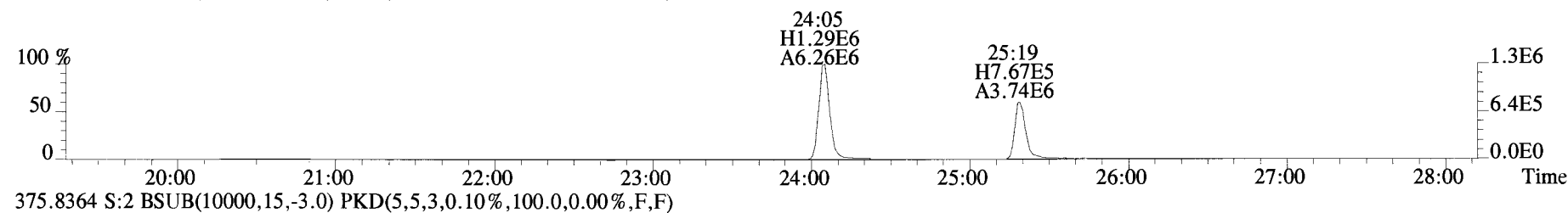
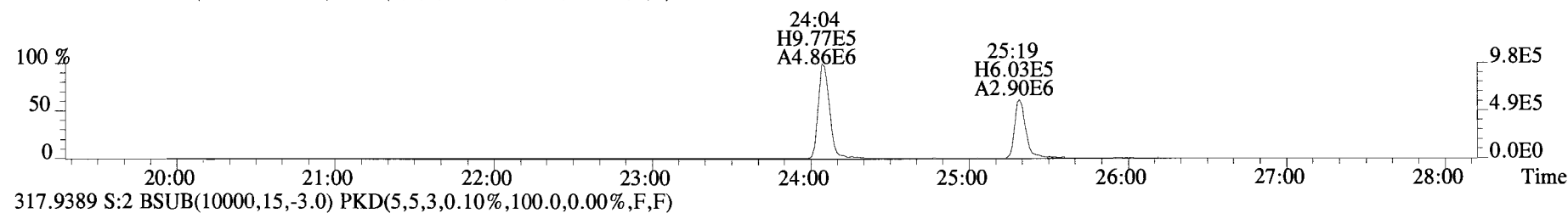
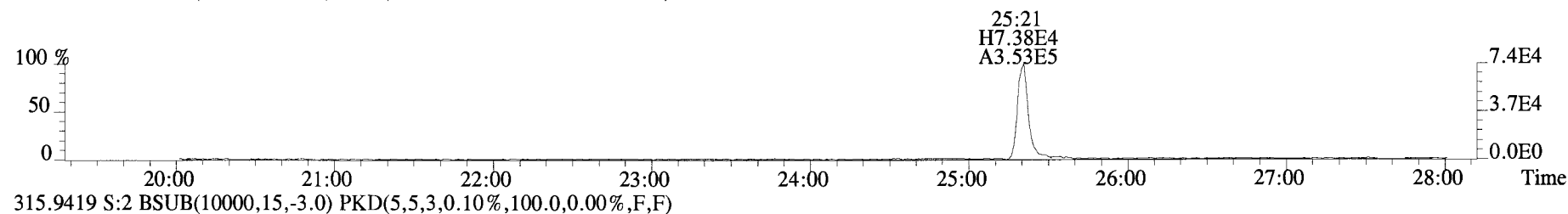
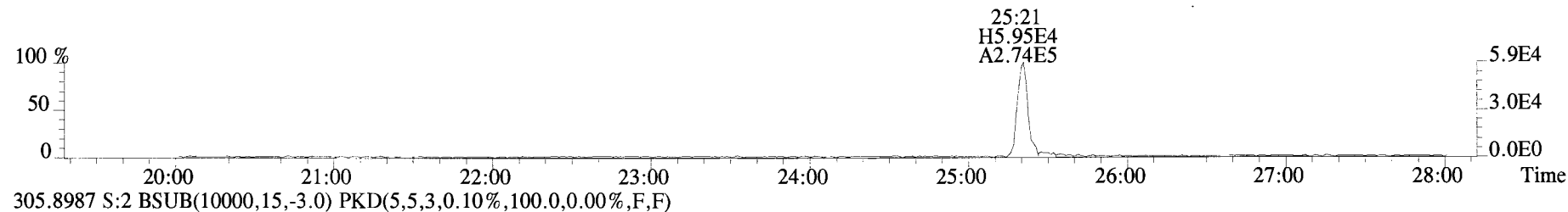
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



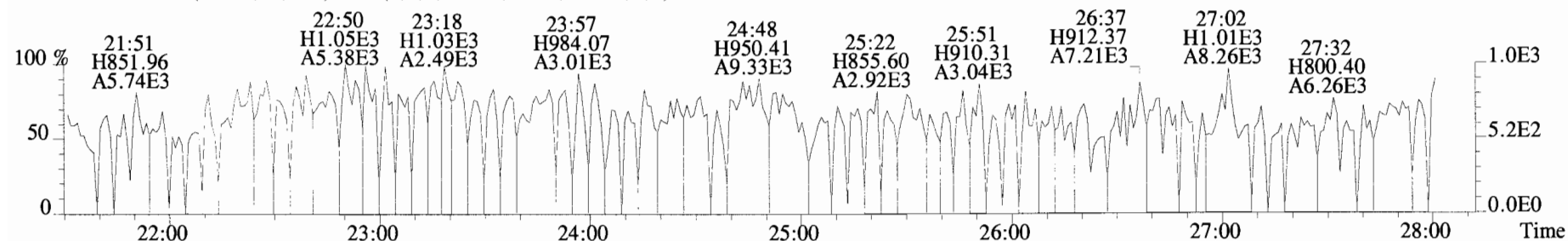
454.9728 S:2 F:5



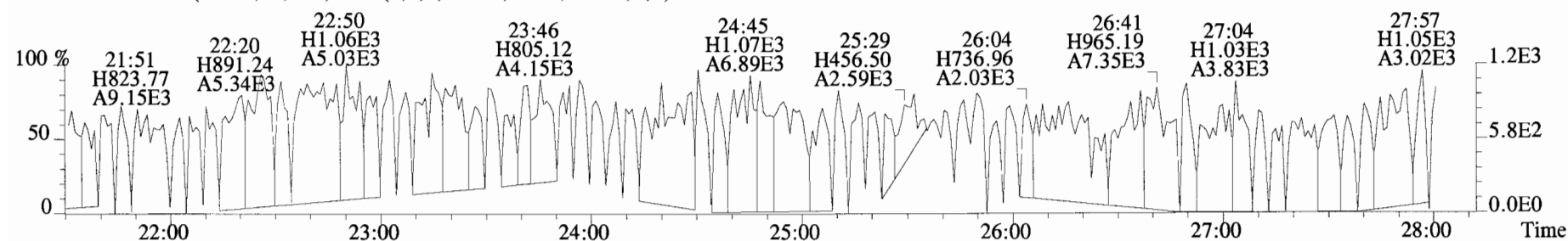
File:190625D1 #1-514 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



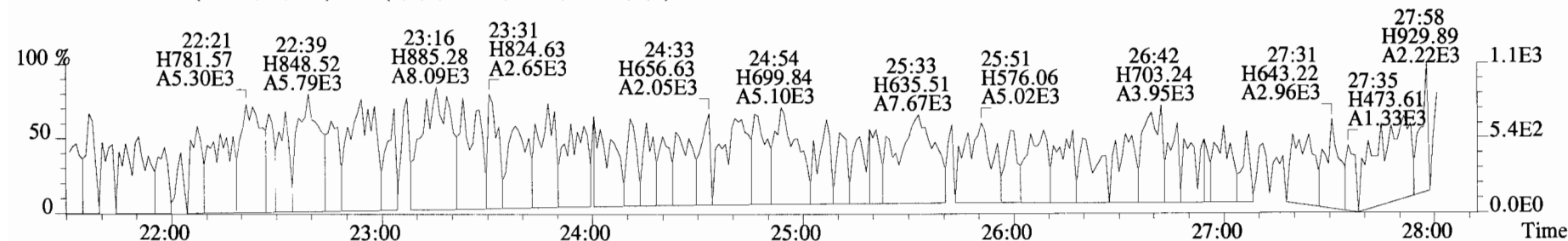
File:190625D1 #1-514 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



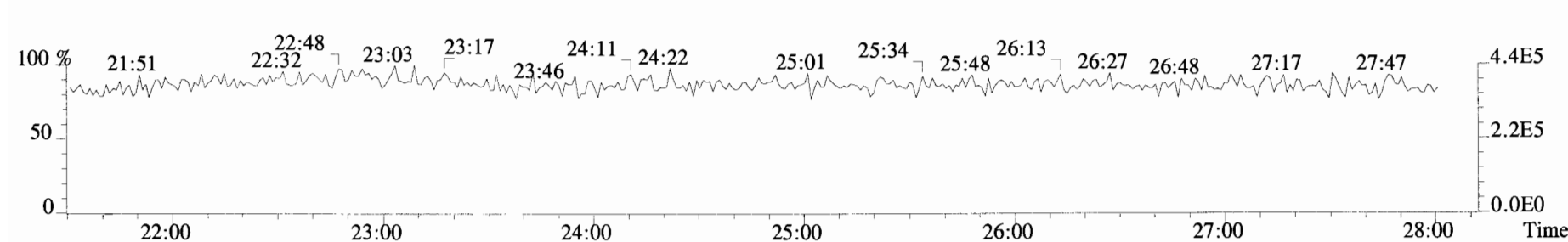
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



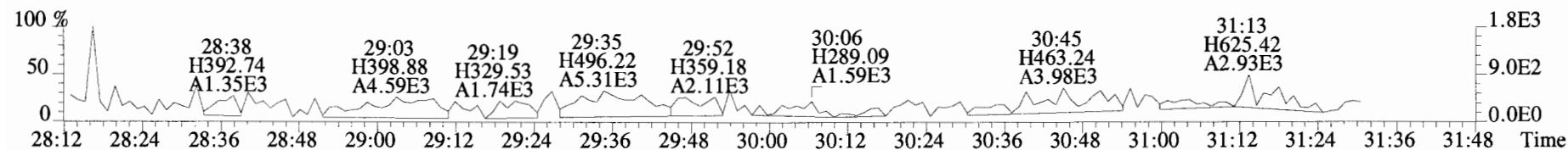
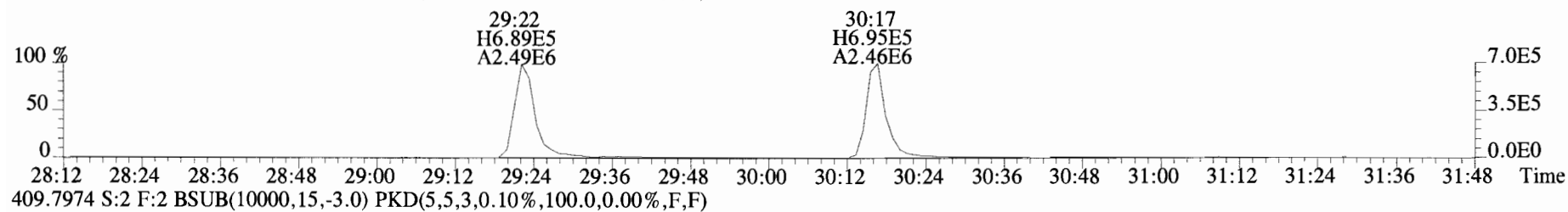
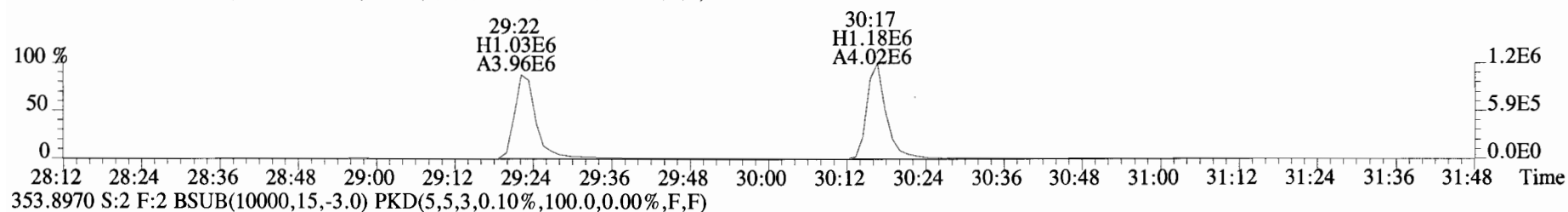
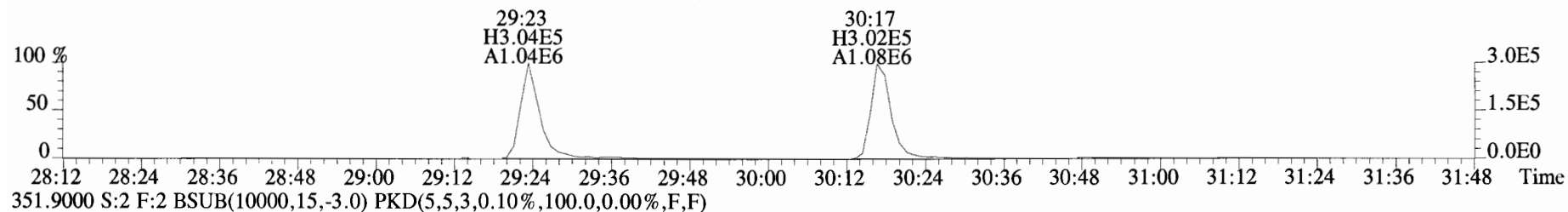
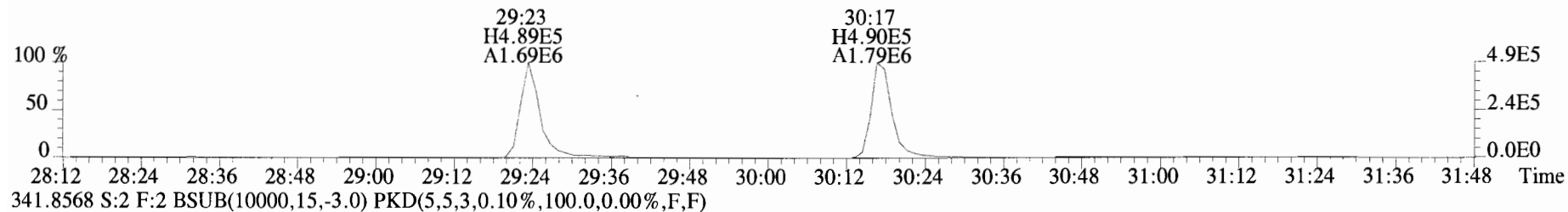
409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



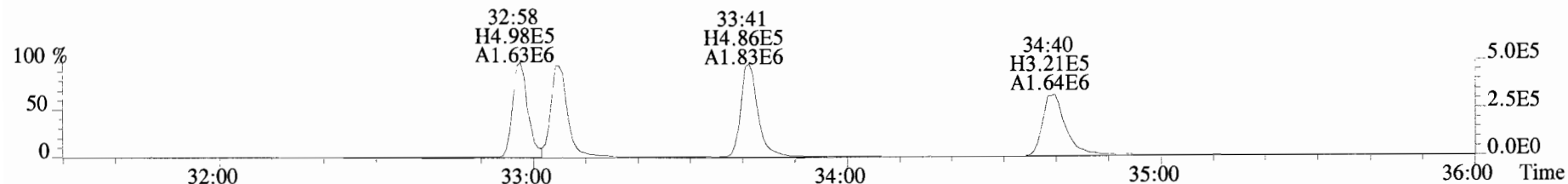
316.9824 S:2



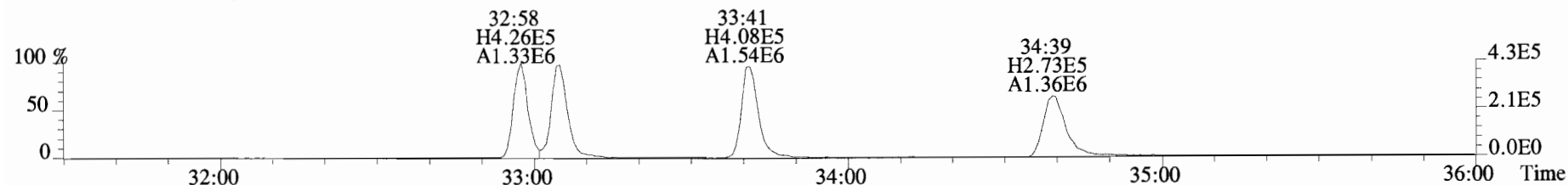
File:190625D1 #1-184 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



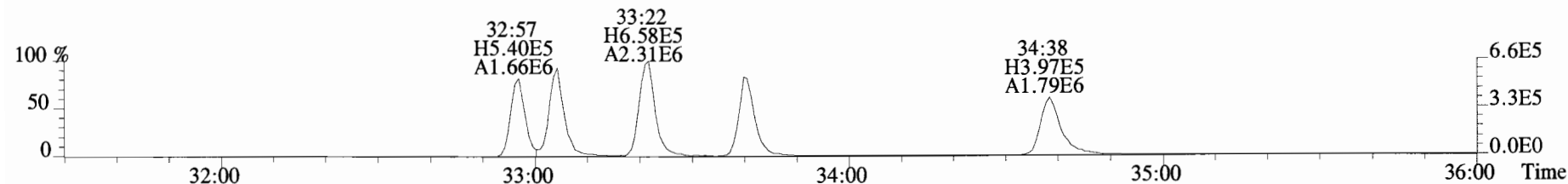
File:190625D1 #1-400 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



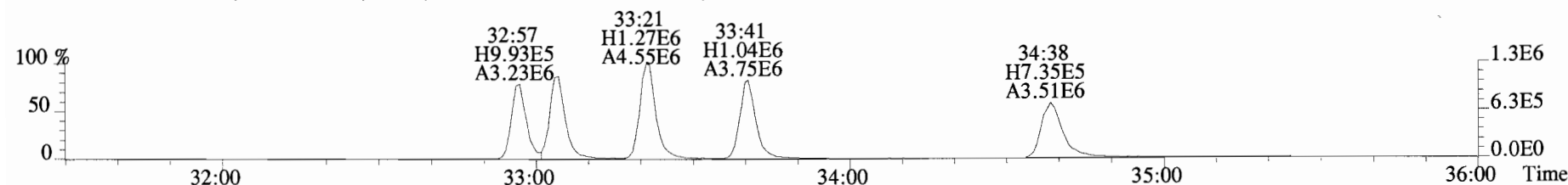
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



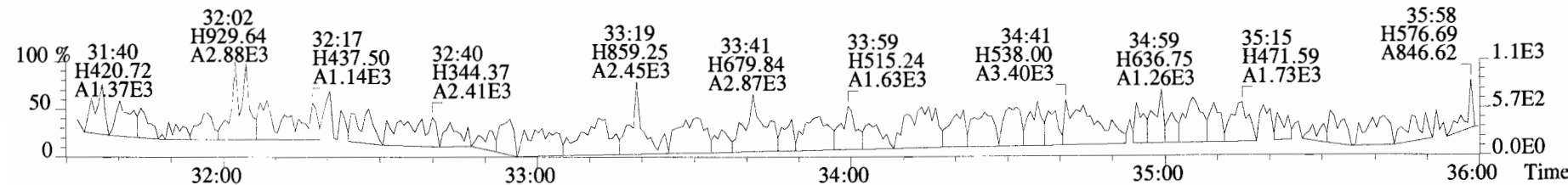
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



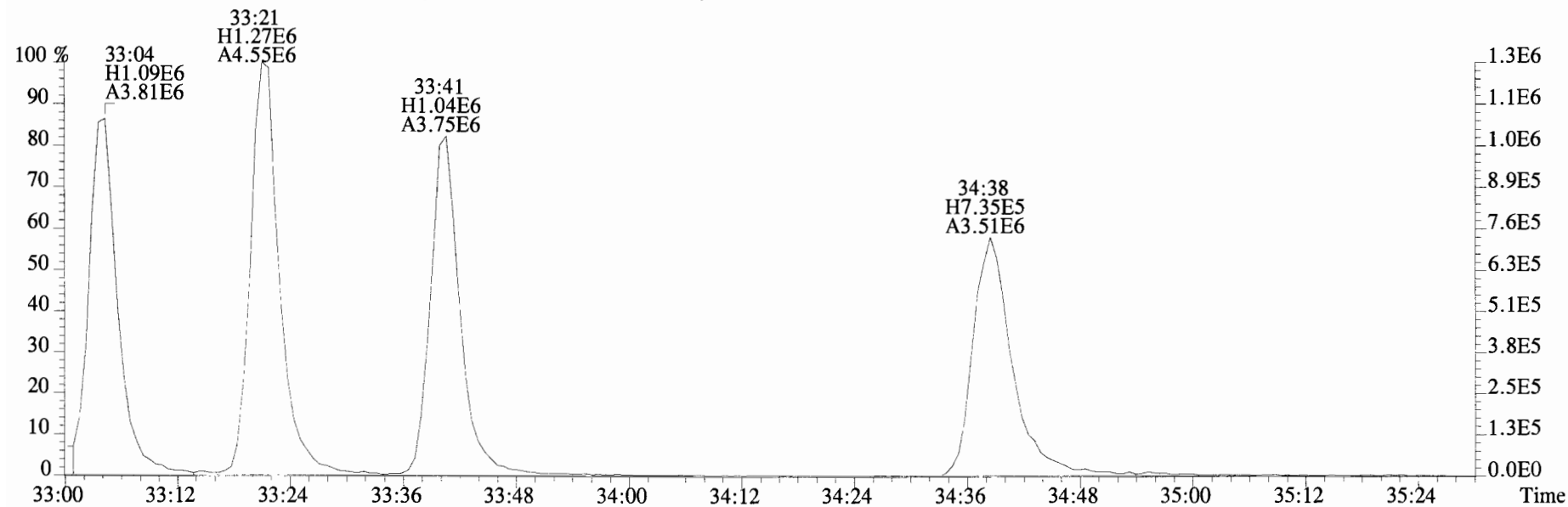
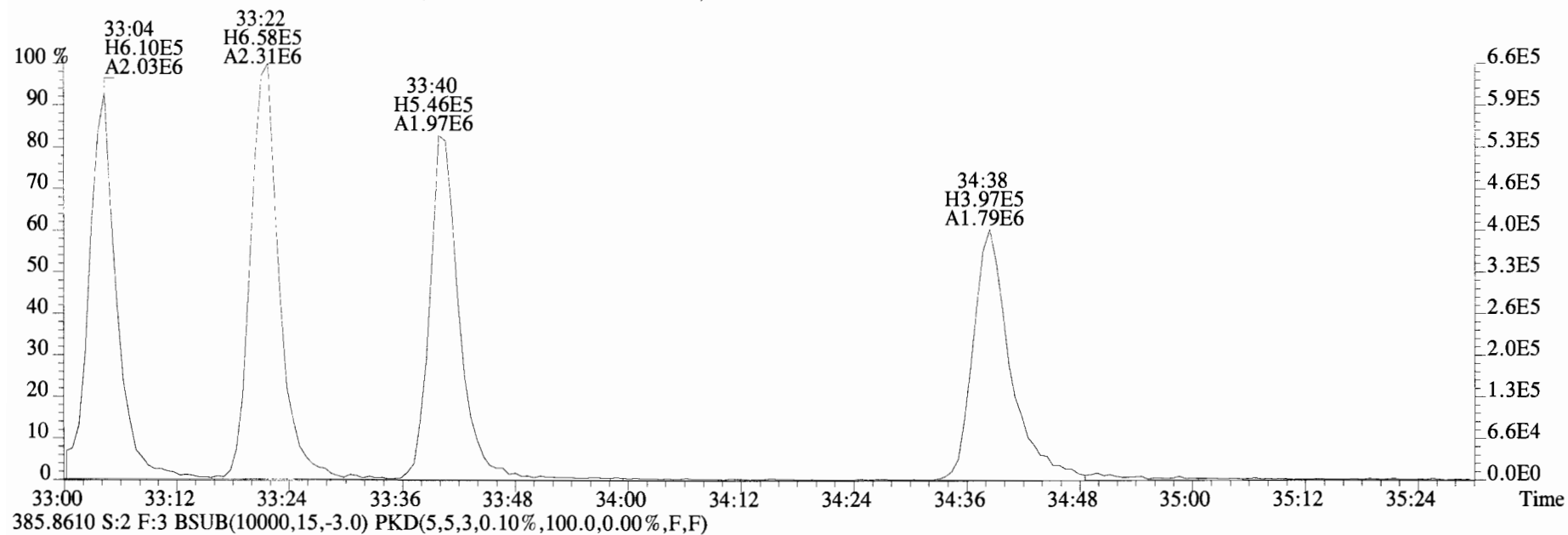
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



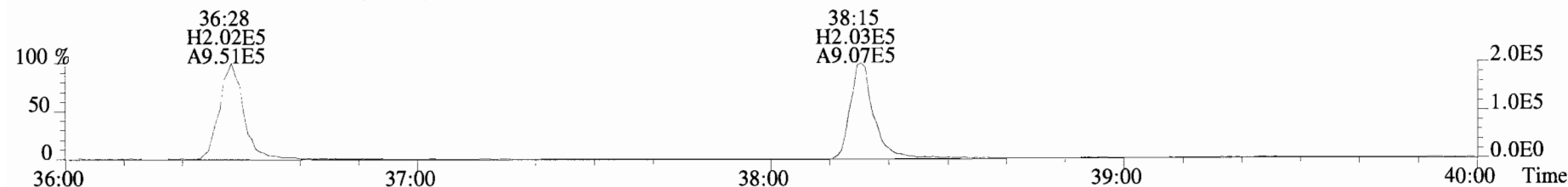
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



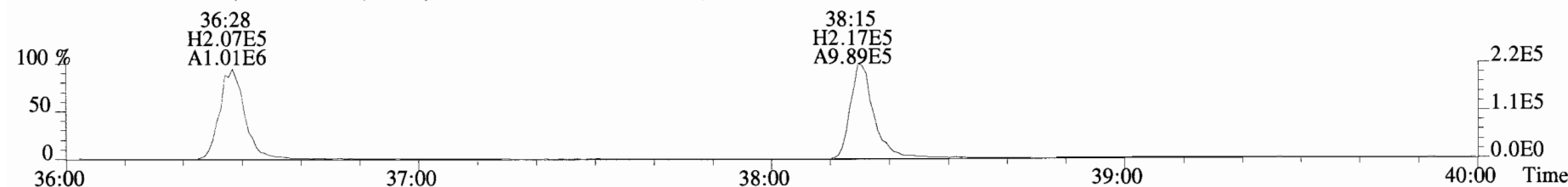
File:190625D1 #1-400 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
 383.8639 S:2 F:3 BSUB(T0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



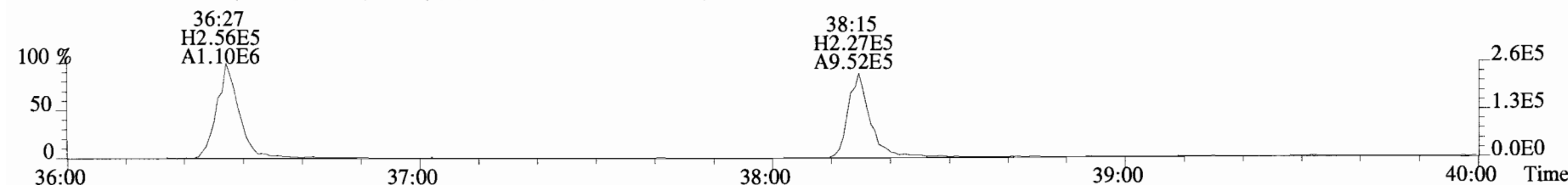
File:190625D1 #1-355 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
 407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



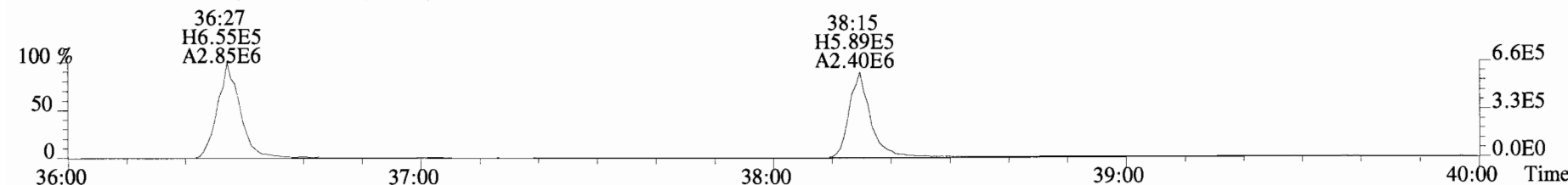
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



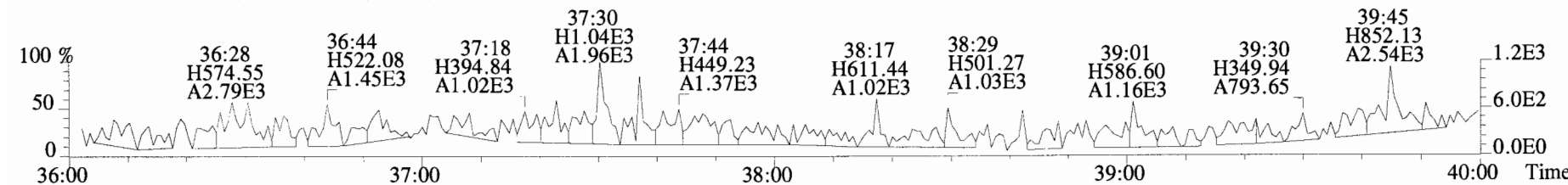
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



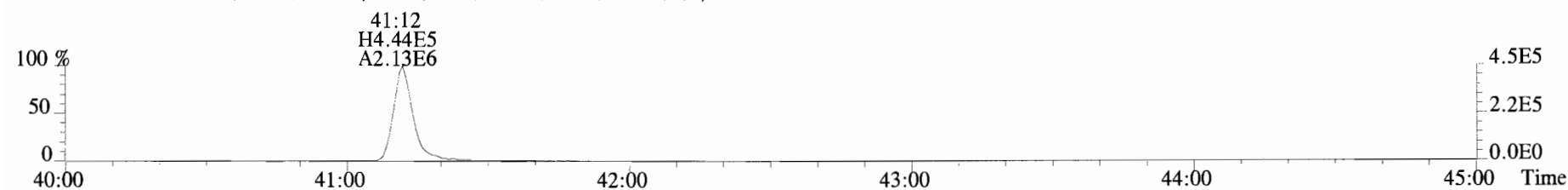
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



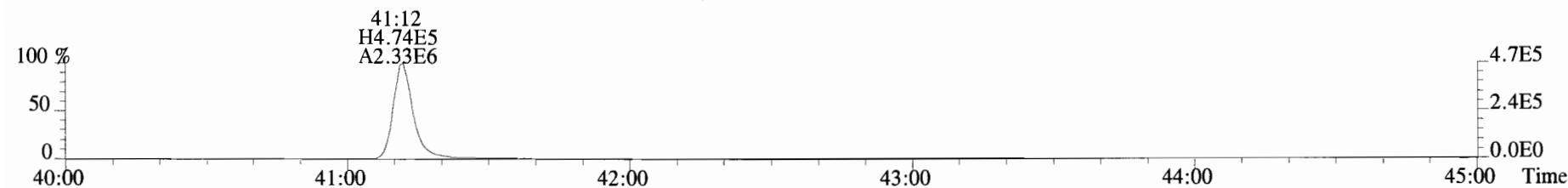
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



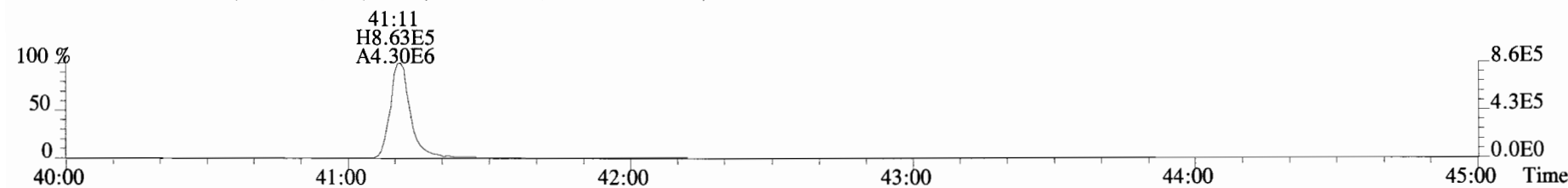
File:190625D1 #1-432 Acq:25-JUN-2019 15:53:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-BS1 OPR 5 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



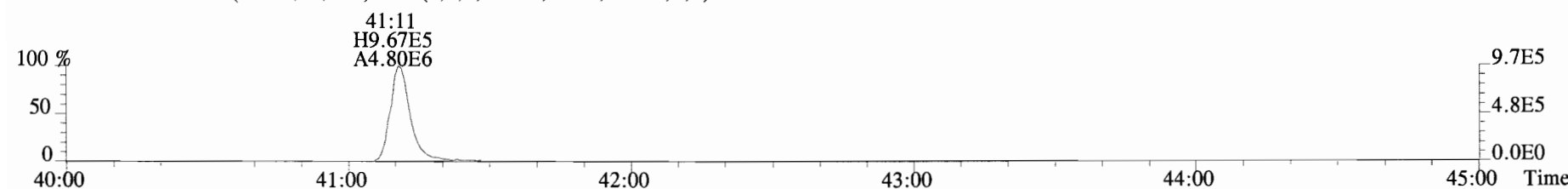
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



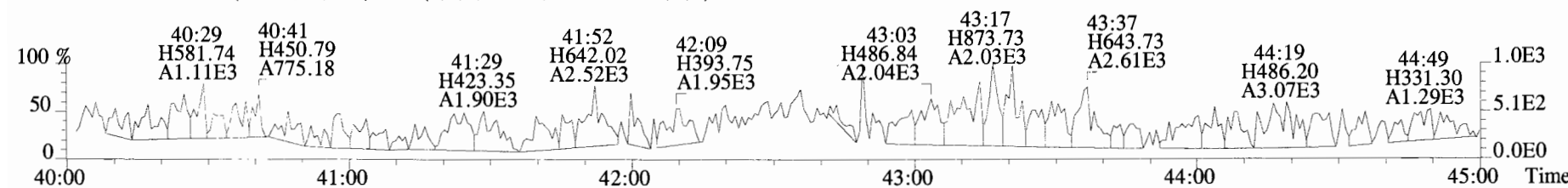
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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)



Client ID: FD-201905241641
Lab ID: 1901248-01

Filename: 190701D2 S:6 Acq: 1-JUL-19 22:03:37
GC Column ID: ZB-SMS ICal: 1613VG7-5-10-19 wt/vol: 5.055 ✓

ConCal: ST190701D2-1
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	0.90	NotF _η	*		167	2.5	0.215	Total Tetra-Dioxins	*	*		167	0.215
		1,2,3,7,8-PeCDD	*	* n	0.87	NotF _η	*		260	2.5	0.176	Total Penta-Dioxins	*	*		260	0.176
		1,2,3,4,7,8-HxCDD	7.63e+03	1.31 y	1.05	34:25	0.35400		*	2.5	*	Total Hexa-Dioxins	13.6	13.6		*	*
		1,2,3,6,7,8-HxCDD	3.55e+04	1.25 y	0.93	34:31	1.6544		*	2.5	*	Total Hepta-Dioxins	116	116		*	*
		1,2,3,7,8,9-HxCDD	1.28e+04	1.36 y	0.96	34:49	0.52730		*	2.5	*	Total Tetra-Furans	*	*		168	0.181
		1,2,3,4,6,7,8-HpCDD	9.93e+05	1.01 y	0.99	38:11	44.195		*	2.5	*	Total Penta-Furans	2.4677	2.4677		*	*
		OCDD	6.97e+06	0.92 y	0.99	41:35	352.40		*	2.5	*	Total Hexa-Furans	7.51	7.89		*	*
												Total Hepta-Furans	15.0	15.0		*	*
		2,3,7,8-TCDF	*	* n	0.94	NotF _η	*		168	2.5	0.181						
		1,2,3,7,8-PeCDF	*	* n	0.92	NotF _η	*		228	2.5	0.192						
		2,3,4,7,8-PeCDF	7.22e+03	1.71 y	0.96	30:48	0.34130		*	2.5	*						
		1,2,3,4,7,8-HxCDF	2.29e+04	1.40 y	1.15	33:29	0.77498		*	2.5	*						
		1,2,3,6,7,8-HxCDF	9.25e+03	1.09 y	1.04	33:37	0.30323		*	2.5	*						
		2,3,4,6,7,8-HxCDF	7.71e+03	0.97 n	1.10	34:14	0.24319		*	2.5	*						
		1,2,3,7,8,9-HxCDF	4.95e+03	1.32 y	1.03	35:14	0.18254		*	2.5	*						
		1,2,3,4,6,7,8-HpCDF	1.06e+05	0.96 y	1.06	37:04	4.0435		*	2.5	*						
		1,2,3,4,7,8,9-HpCDF	9.40e+03	1.04 y	1.23	38:45	0.36546		*	2.5	*						
		OCDF	2.74e+05	0.88 y	0.94	41:49	11.706		*	2.5	*						
												Rec	Qual				
IS	13C-2,3,7,8-TCDD	5.26e+06	0.77 y	1.11	26:46	135.64						34.3					
IS	13C-1,2,3,7,8-PeCDD	7.67e+06	0.61 y	0.98	31:02	224.17						56.7					
IS	13C-1,2,3,4,7,8-HxCDD	8.12e+06	1.27 y	0.68	34:24	316.22						79.9					
IS	13C-1,2,3,6,7,8-HxCDD	9.14e+06	1.30 y	0.84	34:31	285.69						72.2					
IS	13C-1,2,3,7,8,9-HxCDD	1.00e+07	1.27 y	0.81	34:49	324.67						82.1					
IS	13C-1,2,3,4,6,7,8-HpCDD	8.99e+06	1.04 y	0.69	38:11	344.83						87.2					
IS	13C-OCDD	1.59e+07	0.93 y	0.62	41:34	668.17						84.4					
IS	13C-2,3,7,8-TCDF	6.28e+06	0.78 y	1.05	26:03	110.07						27.8					
IS	13C-1,2,3,7,8-PeCDF	9.80e+06	1.56 y	0.95	29:54	189.29						47.8					
IS	13C-2,3,4,7,8-PeCDF	8.74e+06	1.60 y	0.94	30:47	172.41						43.6					
IS	13C-1,2,3,4,7,8-HxCDF	1.02e+07	0.52 y	0.86	33:29	311.72						78.8					
IS	13C-1,2,3,6,7,8-HxCDF	1.16e+07	0.51 y	1.02	33:37	299.39						75.7					
IS	13C-2,3,4,6,7,8-HxCDF	1.14e+07	0.50 y	0.95	34:14	315.97						79.9					
IS	13C-1,2,3,7,8,9-HxCDF	1.04e+07	0.52 y	0.87	35:14	315.93						79.9					
IS	13C-1,2,3,4,6,7,8-HpCDF	9.74e+06	0.43 y	0.81	37:03	317.11						80.1					
IS	13C-1,2,3,4,7,8,9-HpCDF	8.30e+06	0.44 y	0.63	38:45	345.61						87.4					
IS	13C-OCDF	1.97e+07	0.89 y	0.78	41:49	663.54						83.9					
C/Up	37C1-2,3,7,8-TCDD	2.43e+06		1.22	26:47	56.879						35.9					
												Integrations		Reviewed			
												by		by			
RS/RT	13C-1,2,3,4-TCDD	1.39e+07	0.77 y	1.00	26:14	395.65						Analyst: <u>DB</u>			Analyst: <u>C7</u>		
RS	13C-1,2,3,4-TCDF	2.14e+07	0.82 y	1.00	24:55	395.65											
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.50e+07	0.52 y	1.00	33:54	395.65											

Totals class: HxCDD EMPC

Entry #: 23

Run: 8

File: 190701D2

S: 6 I: 1 F: 3

Acquired: 1-JUL-19 22:03:37

Processed: 2-JUL-19 09:35:58

Total Concentration: 13.581

Unnamed Concentration: 11.045

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
32:48	6.294e+04	4.826e+04	1.30 y	1.112e+05	4.9588	
33:25	8.694e+03	6.515e+03	1.33 y	1.521e+04	0.67825	
33:40	6.280e+04	5.034e+04	1.25 y	1.131e+05	5.0455	
33:47	4.343e+03	3.795e+03	1.14 y	8.138e+03	0.36290	
34:25	4.320e+03	3.305e+03	1.31 y	7.625e+03	0.35400	1,2,3,4,7,8-HxCDD
34:31	1.976e+04	1.577e+04	1.25 y	3.553e+04	1.6544	1,2,3,6,7,8-HxCDD
34:49	7.402e+03	5.447e+03	1.36 y	1.285e+04	0.52730	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 8

File: 190701D2

S: 6 I: 1 F: 4

Acquired: 1-JUL-19 22:03:37

Processed: 2-JUL-19 09:35:58

Total Concentration: 115.78

Unnamed Concentration: 71.583

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
37:22	8.059e+05	8.020e+05	1.00 y	1.608e+06	71.583
38:11	4.989e+05	4.938e+05	1.01 y	9.927e+05	44.195

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

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 8 File: 190701D2 S: 6 I: 1 F: 1
Acquired: 1-JUL-19 22:03:37 Processed: 2-JUL-19 09:35:58

Total Concentration: 1.3147 Unnamed Concentration: 1.315

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:40	1.774e+04	1.120e+04	1.58 y	2.894e+04	1.3147

Totals class: PeCDF EMPC

Entry #: 31

Run: 8

File: 190701D2

S: 6 I: 1 F: 2

Acquired: 1-JUL-19 22:03:37 Processed: 2-JUL-19 09:35:58

Total Concentration: 1.1530

Unnamed Concentration: 0.812

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
29:02	1.037e+04	7.496e+03	1.38 y	1.787e+04	0.81167
30:48	4.559e+03	2.664e+03	1.71 y	7.223e+03	0.34130

2,3,4,7,8-PeCDF

Totals class: HxCDF EMPC

Entry #: 33

Run: 8 File: 190701D2 S: 6 I: 1 F: 3

Acquired: 1-JUL-19 22:03:37 Processed: 2-JUL-19 09:35:58

Total Concentration: 7.8853

Unnamed Concentration: 6.381

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:15	1.460e+04	1.219e+04	1.20 y	2.679e+04	0.90173
32:26	3.538e+04	2.841e+04	1.25 y	6.379e+04	2.1472
33:00	5.296e+04	4.212e+04	1.26 y	9.508e+04	3.2004
33:29	1.336e+04	9.574e+03	1.40 y	2.294e+04	0.77498
33:37	4.820e+03	4.432e+03	1.09 y	9.252e+03	0.30323
34:14	4.266e+03	4.382e+03	0.97 n	7.706e+03	0.24319
35:14	2.813e+03	2.137e+03	1.32 y	4.950e+03	0.18254
35:18	2.687e+03	1.751e+03	1.53 n	3.922e+03	0.13202

Totals class: HpCDF EMPC

Entry #: 35

Run: 8

File: 190701D2

S: 6 I: 1 F: 4

Acquired: 1-JUL-19 22:03:37

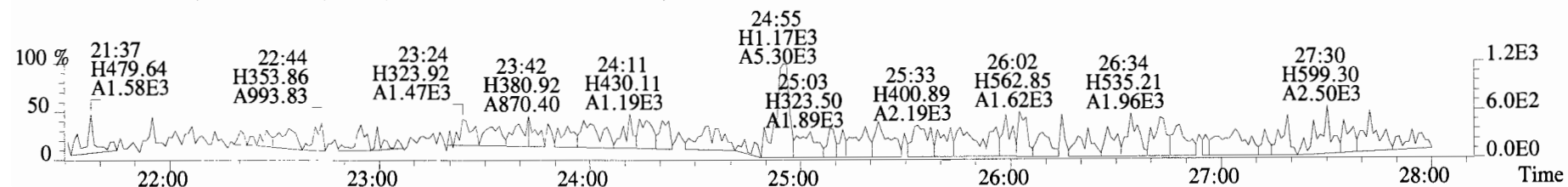
Processed: 2-JUL-19 09:35:58

Total Concentration: 15.031

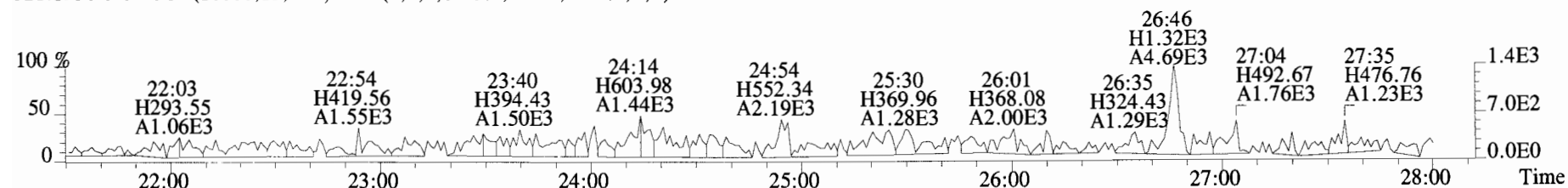
Unnamed Concentration: 10.622

RT	ml Resp	m2 Resp	RA	Resp Concentration		Name
37:04	5.190e+04	5.409e+04	0.96 y	1.060e+05	4.0435	1,2,3,4,6,7,8-HpCDF
37:33	1.378e+05	1.370e+05	1.01 y	2.748e+05	10.622	
38:45	4.792e+03	4.606e+03	1.04 y	9.398e+03	0.36546	1,2,3,4,7,8,9-HpCDF

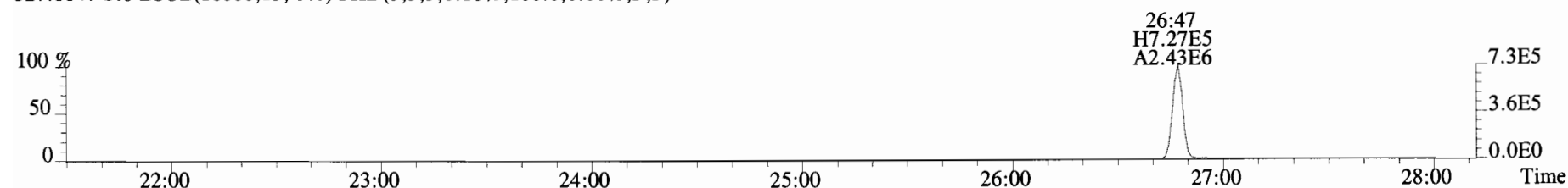
File:190701D2 #1-514 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



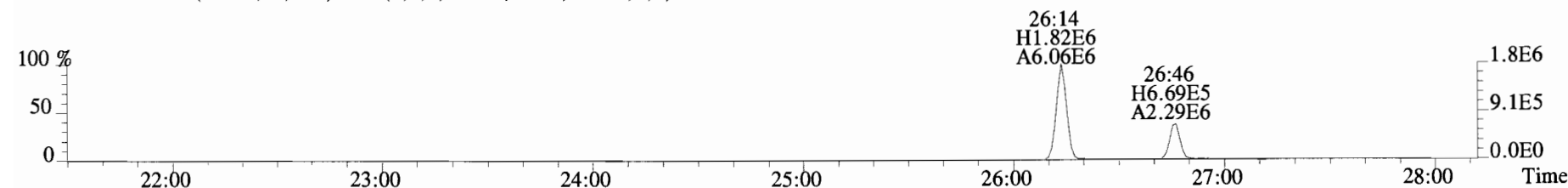
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



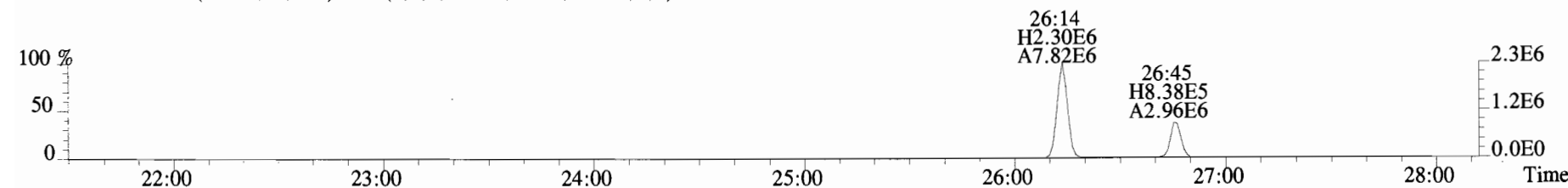
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



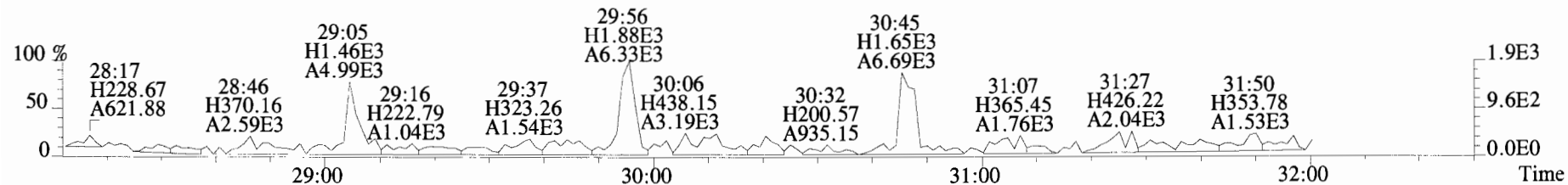
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



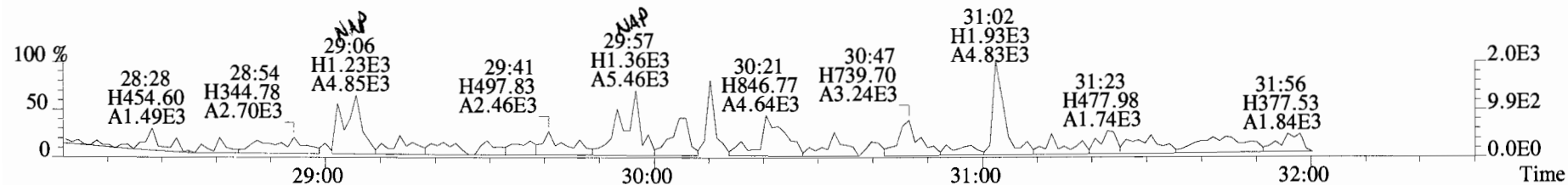
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



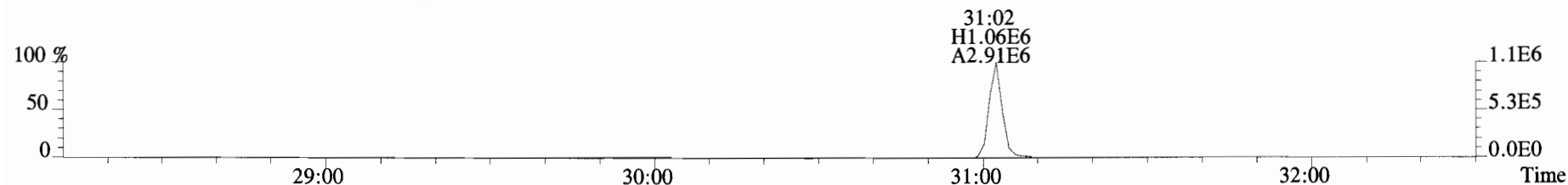
File:190701D2 #1-211 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



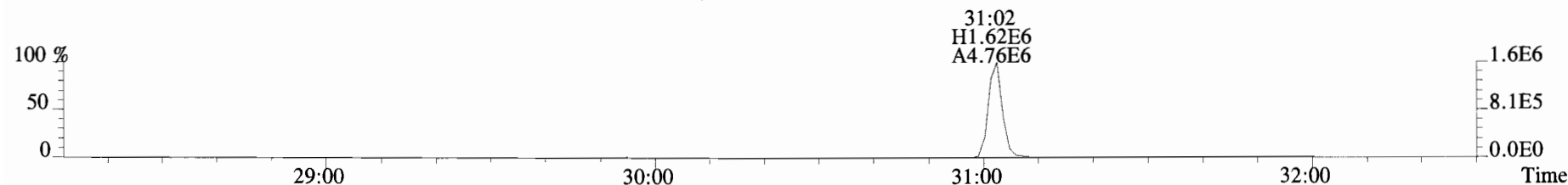
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



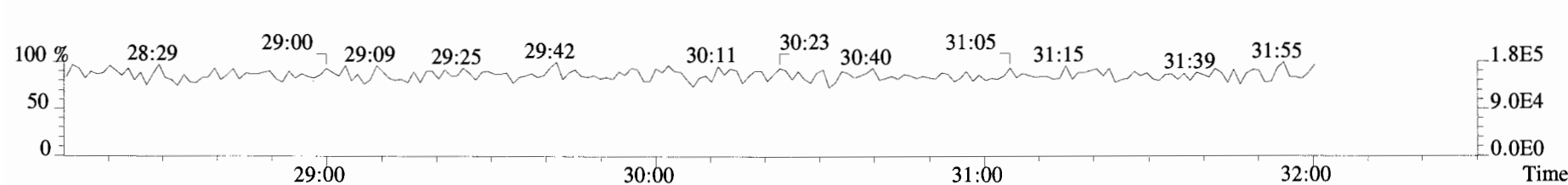
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



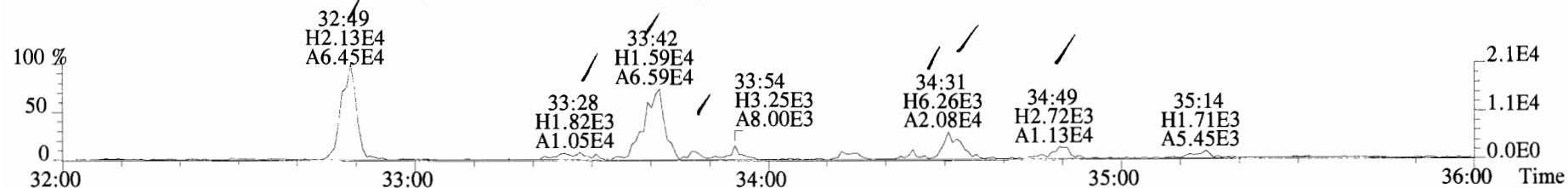
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



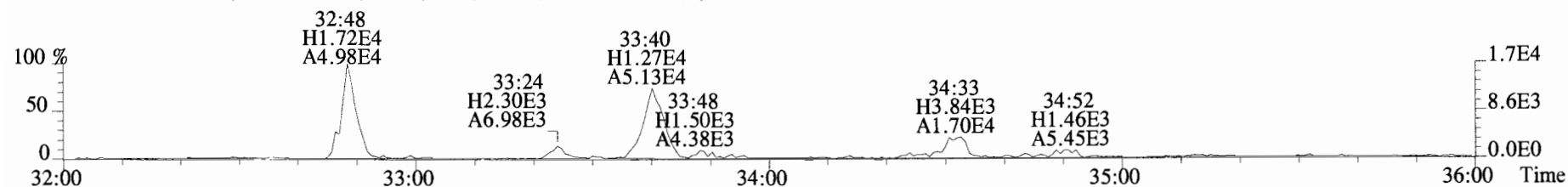
366.9792 S:6 F:2



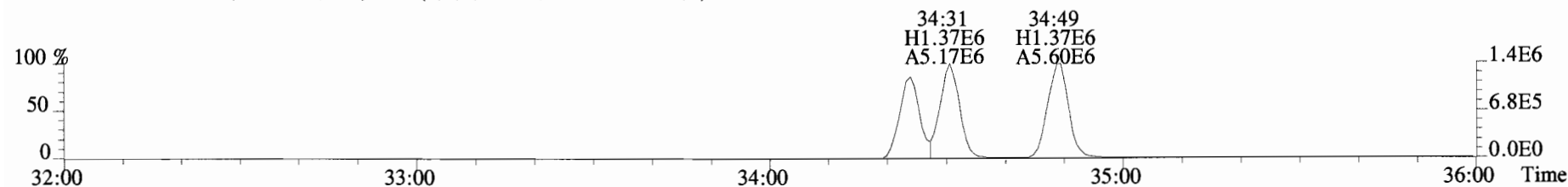
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



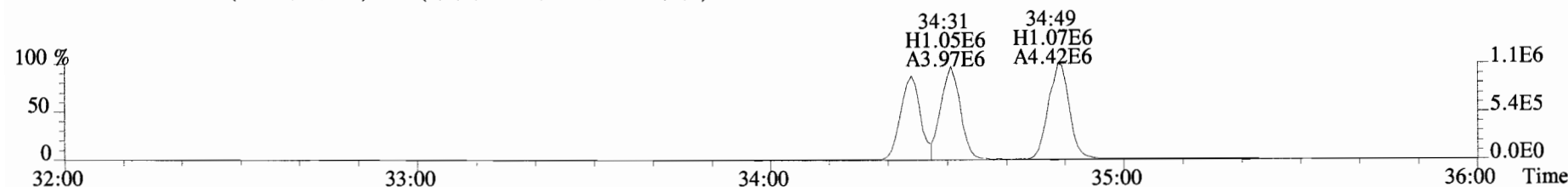
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



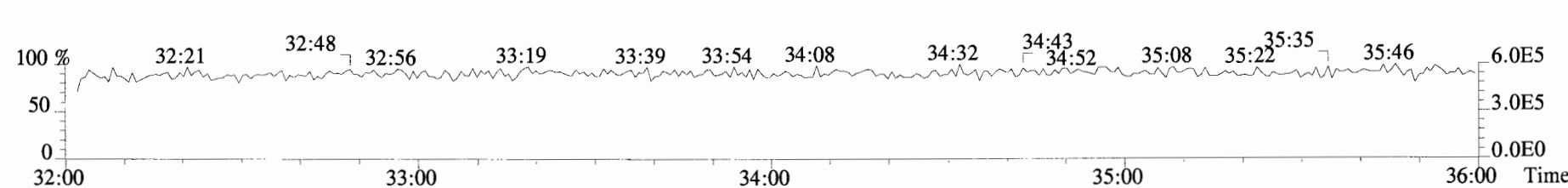
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



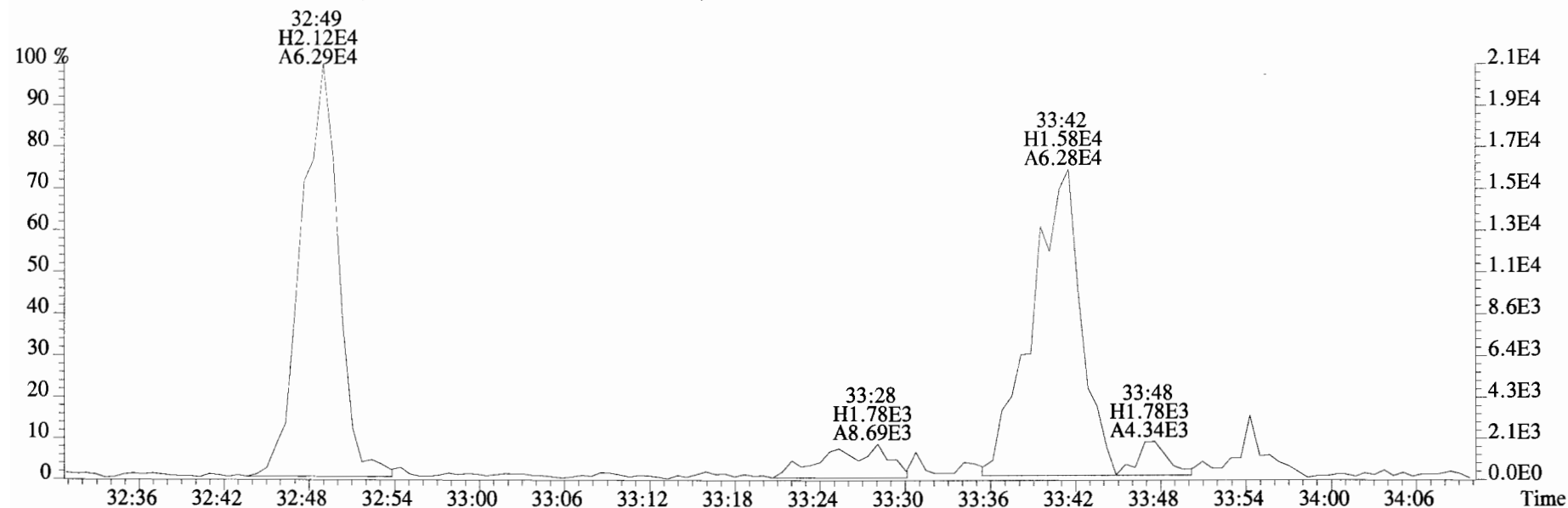
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



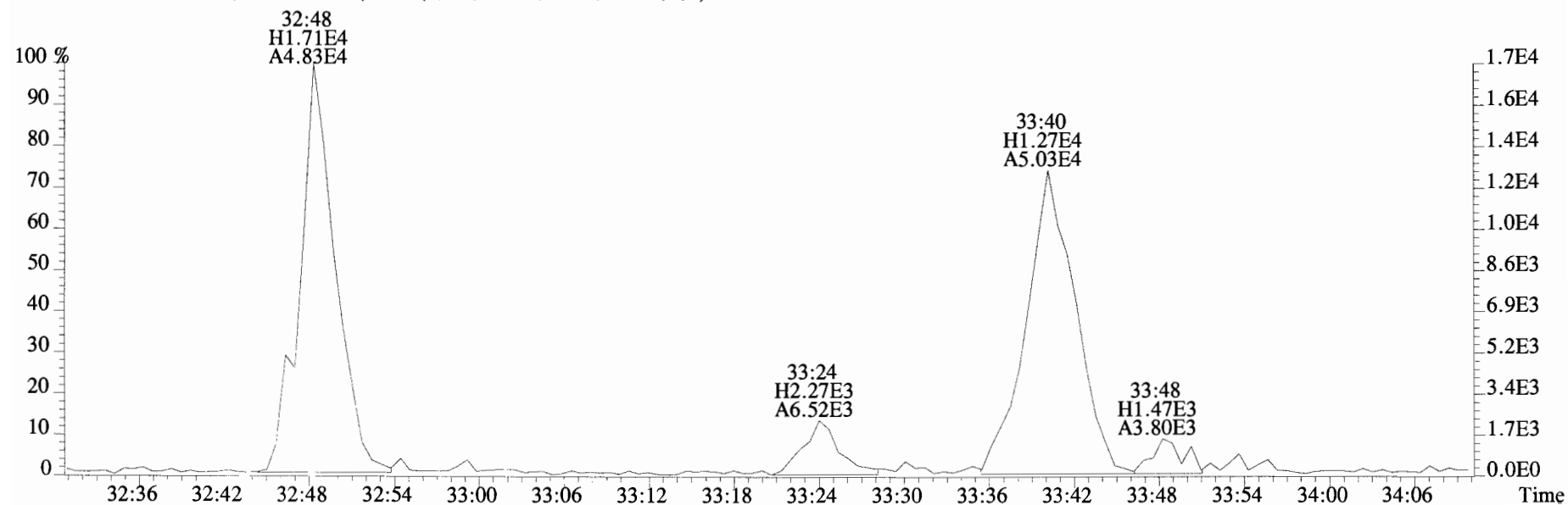
392.9760 S:6 F:3



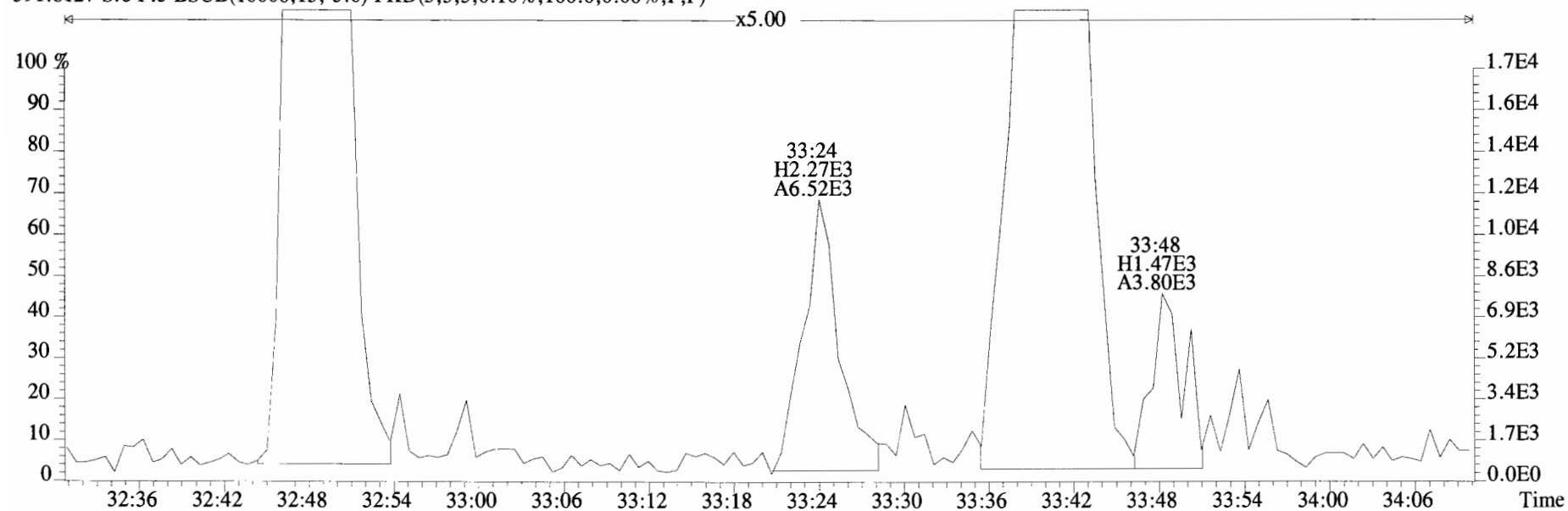
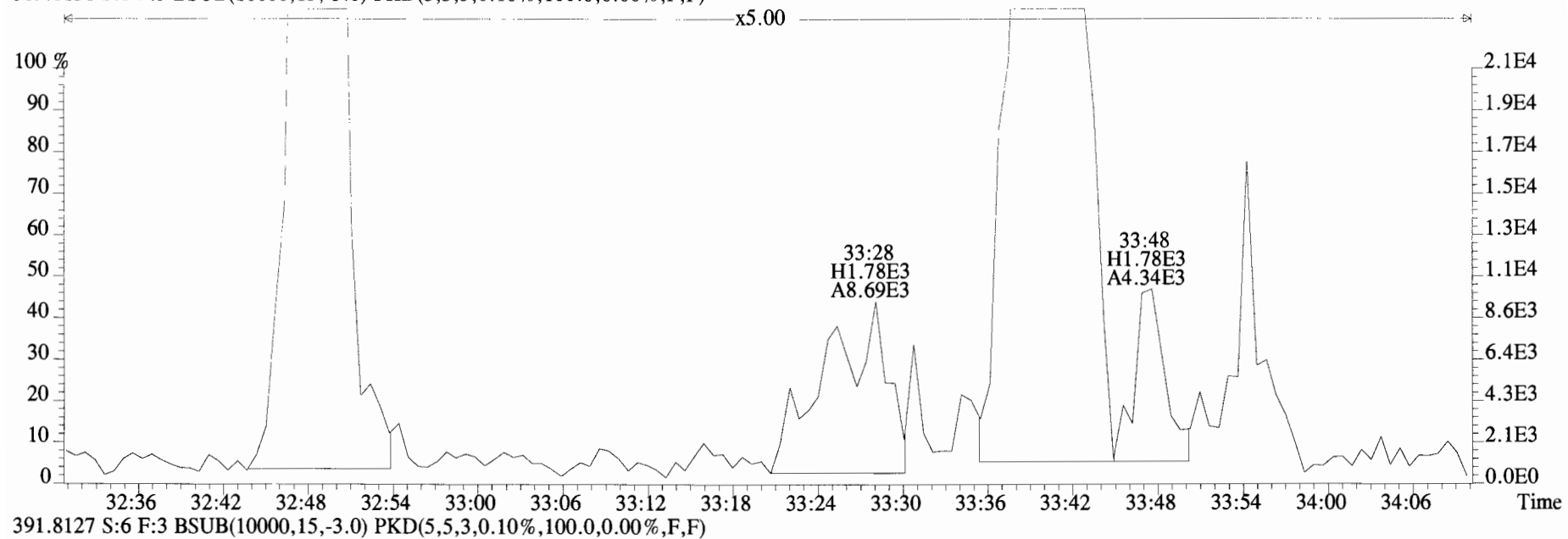
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



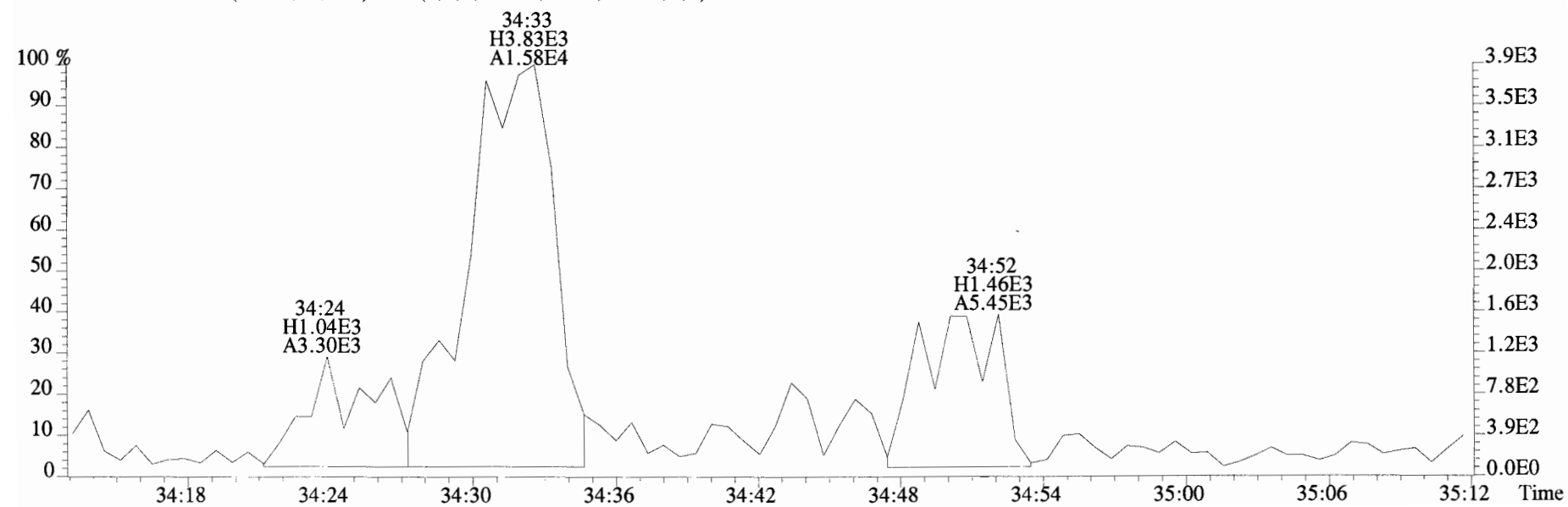
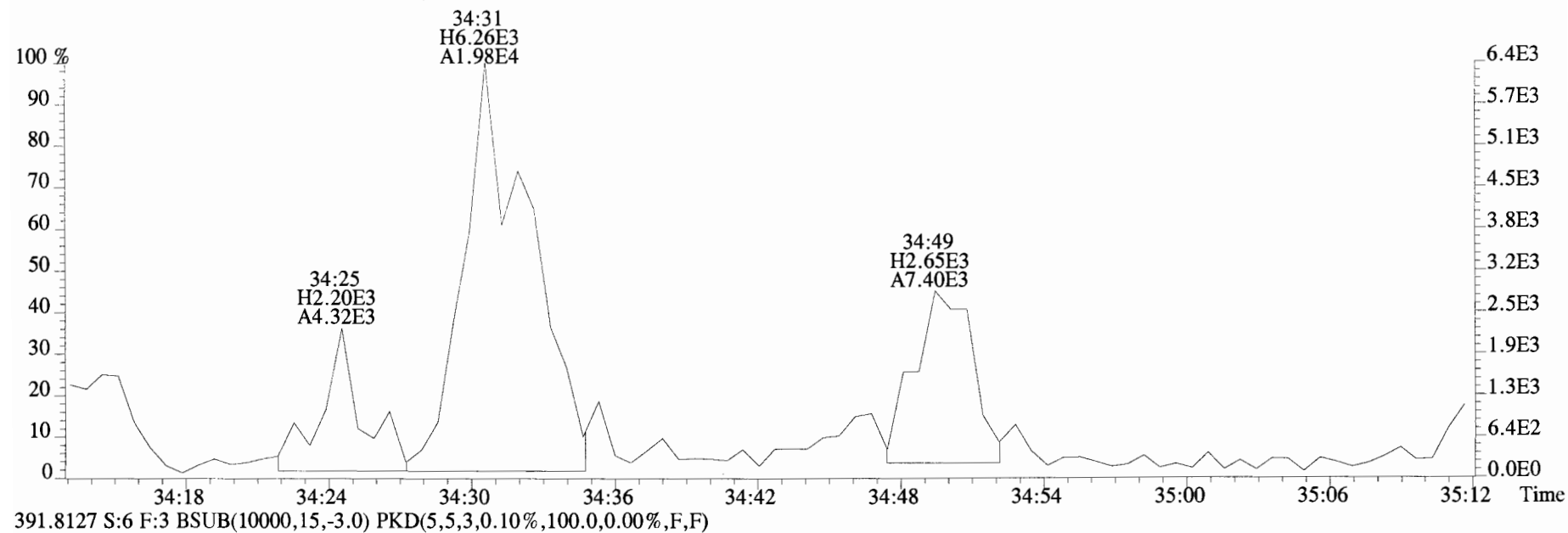
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



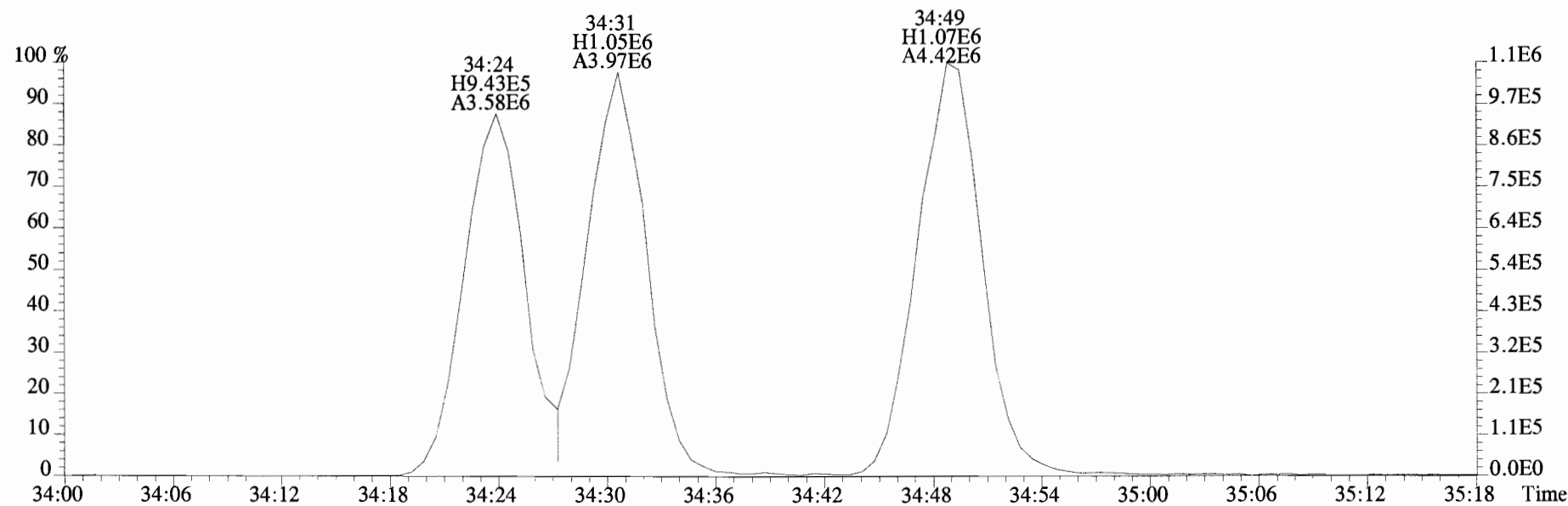
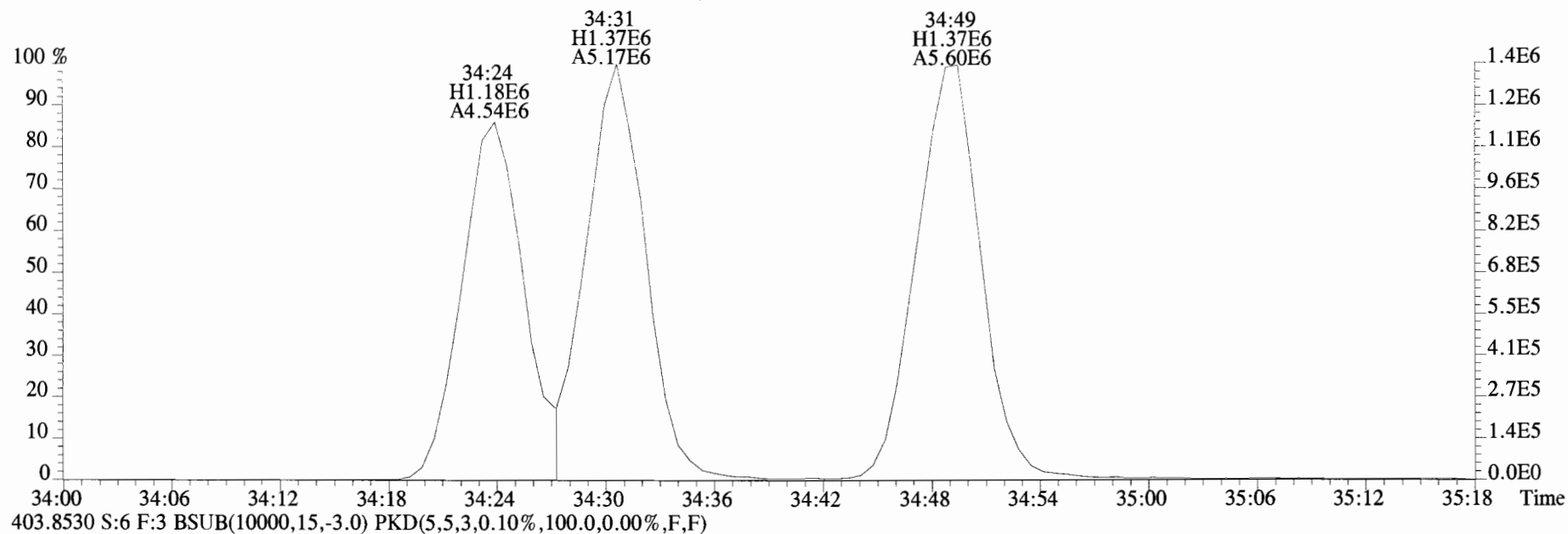
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



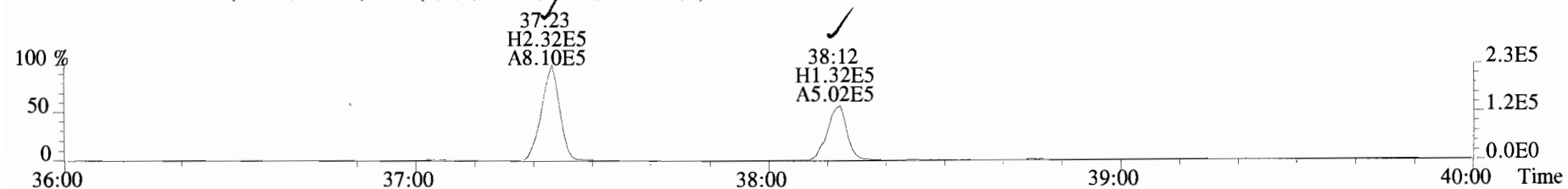
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



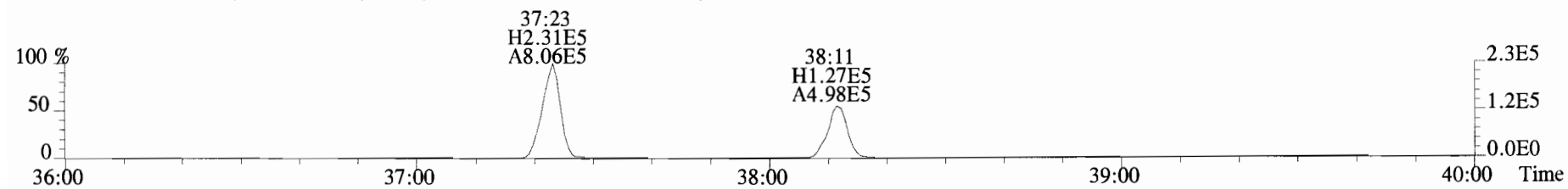
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



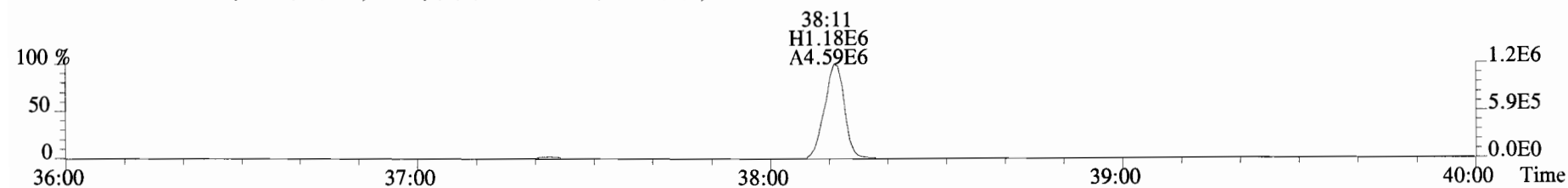
File:190701D2 #1-356 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



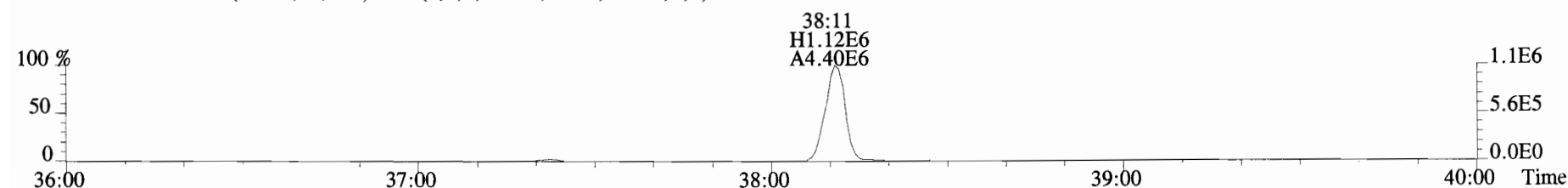
425.7737 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



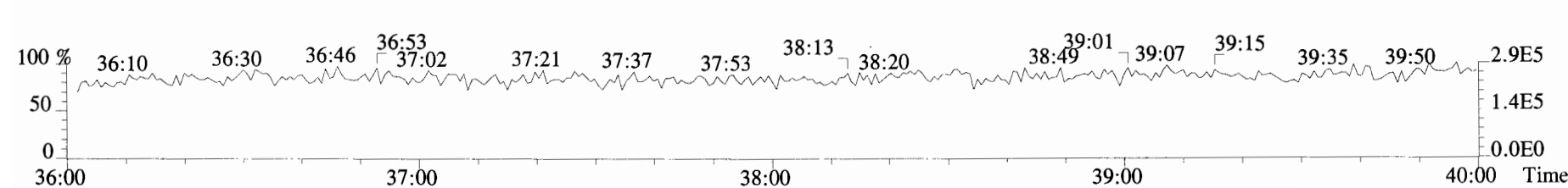
435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



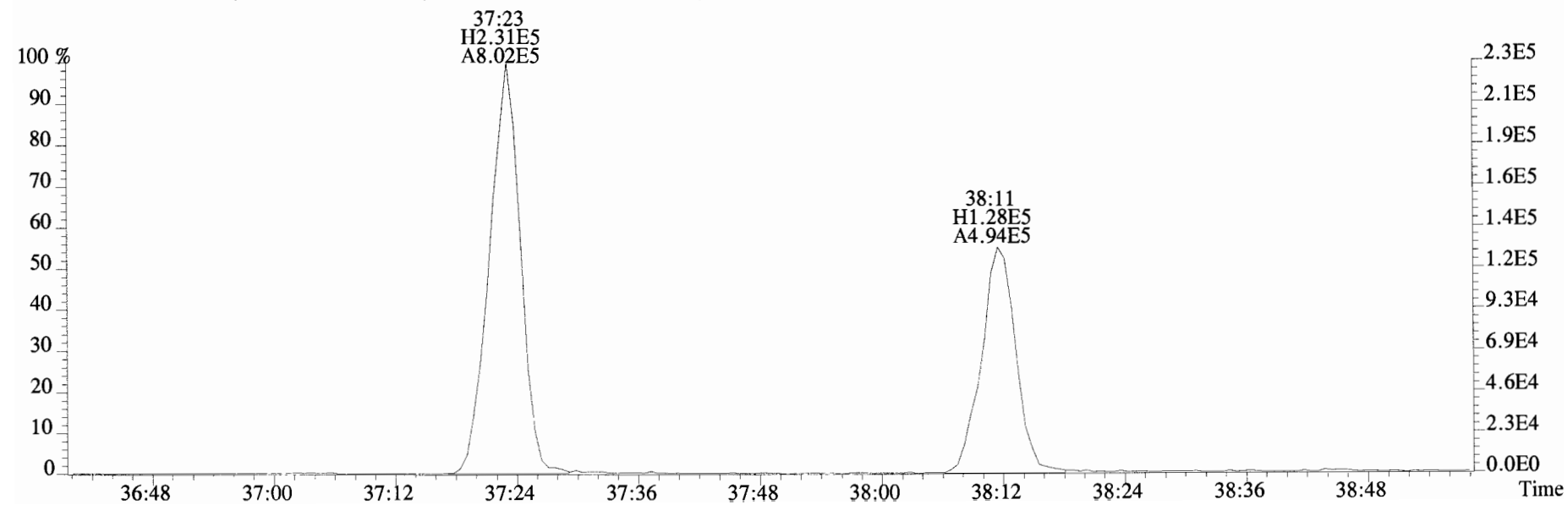
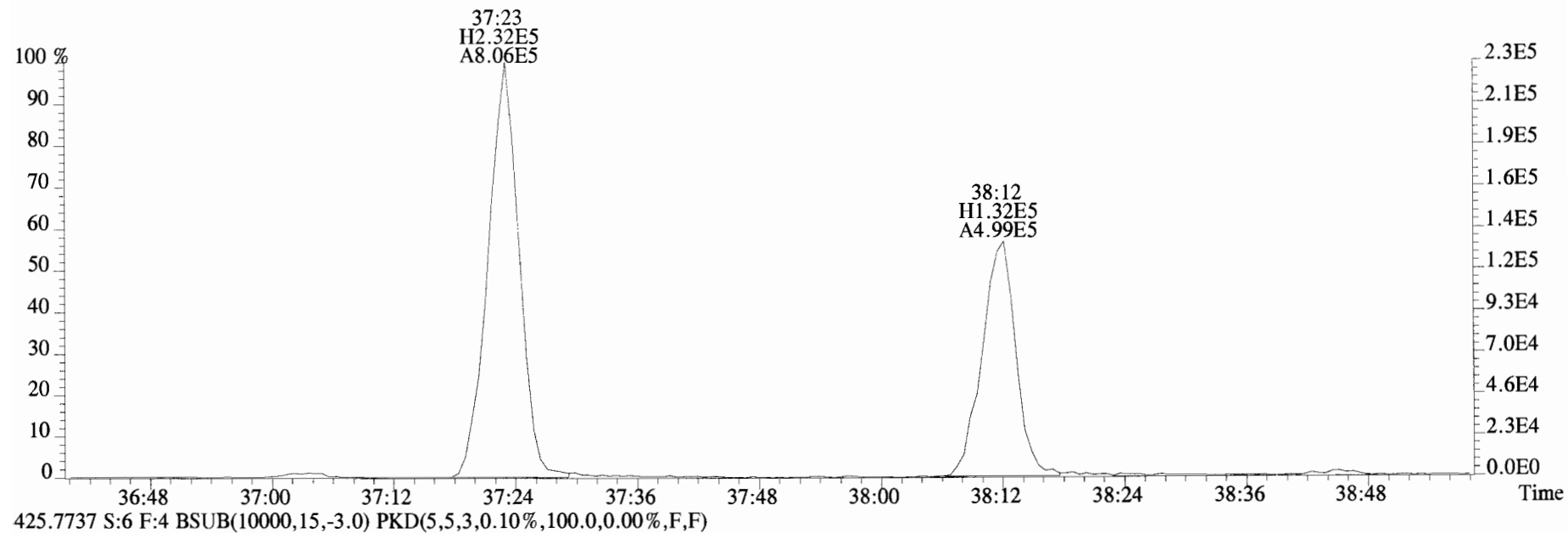
437.8140 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



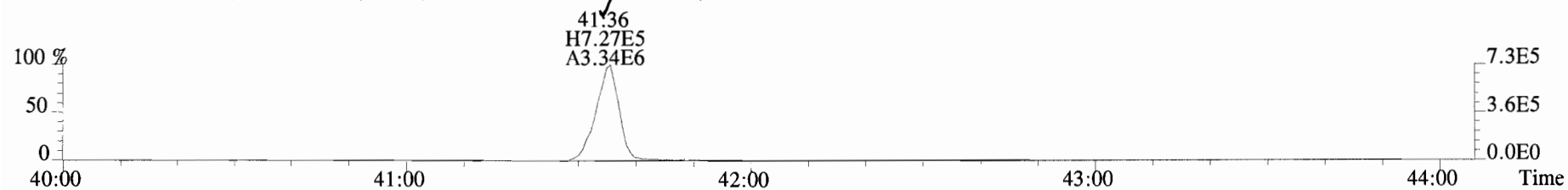
454.9728 S:6 F:4



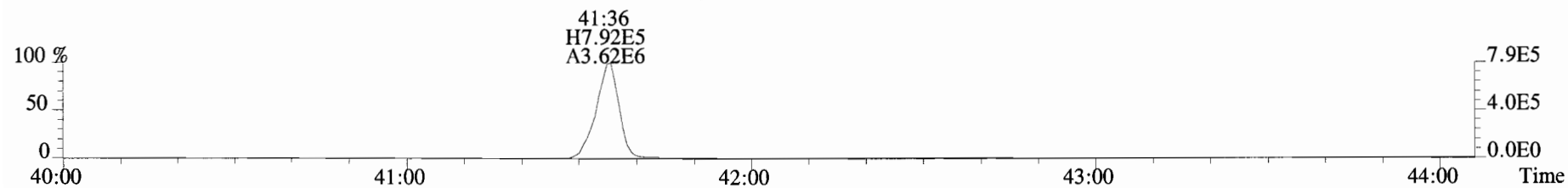
File:190701D2 #1-356 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



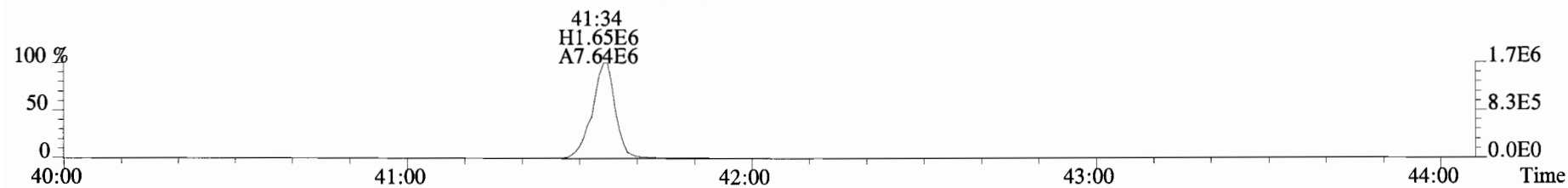
File:190701D2 #1-432 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



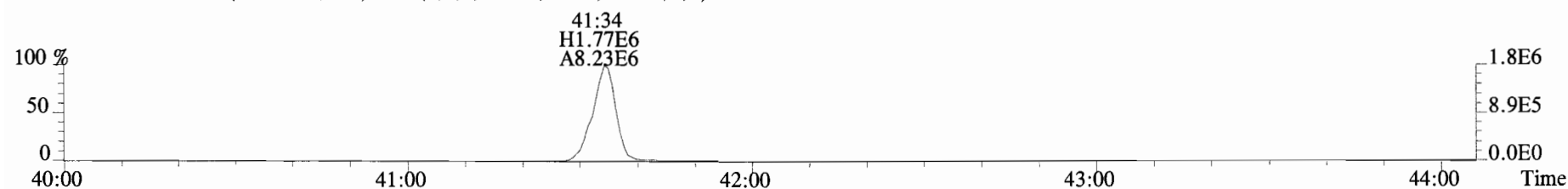
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



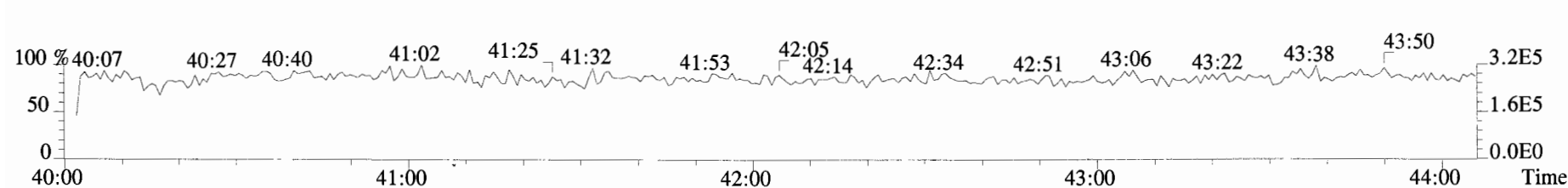
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



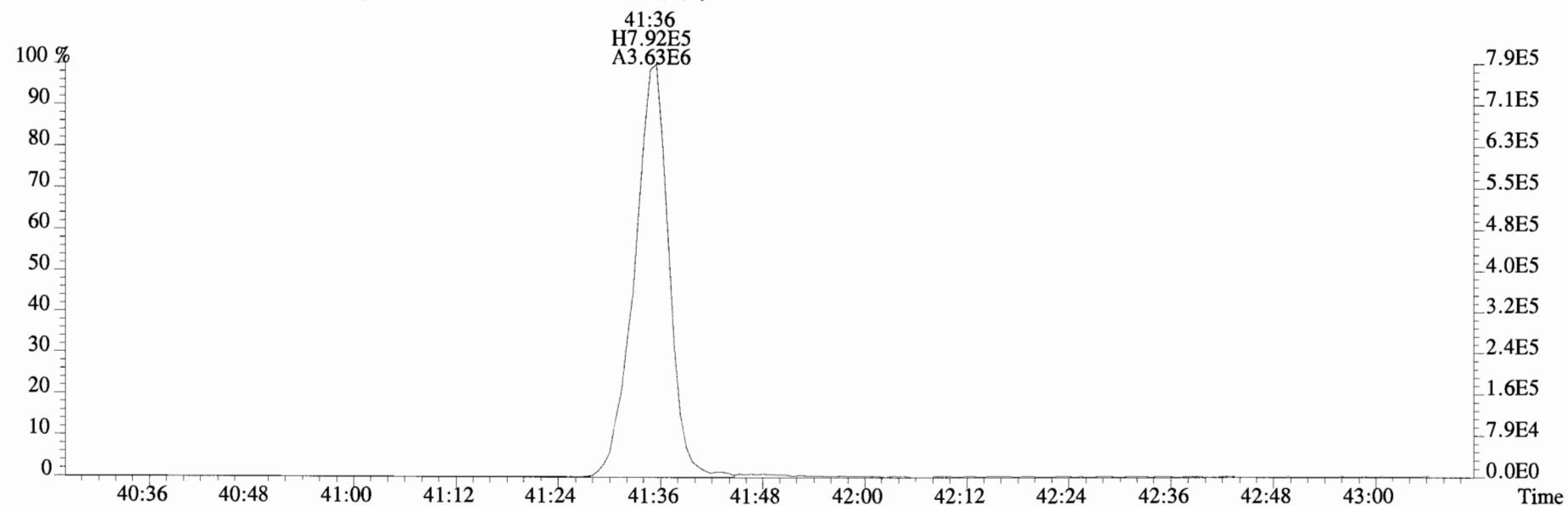
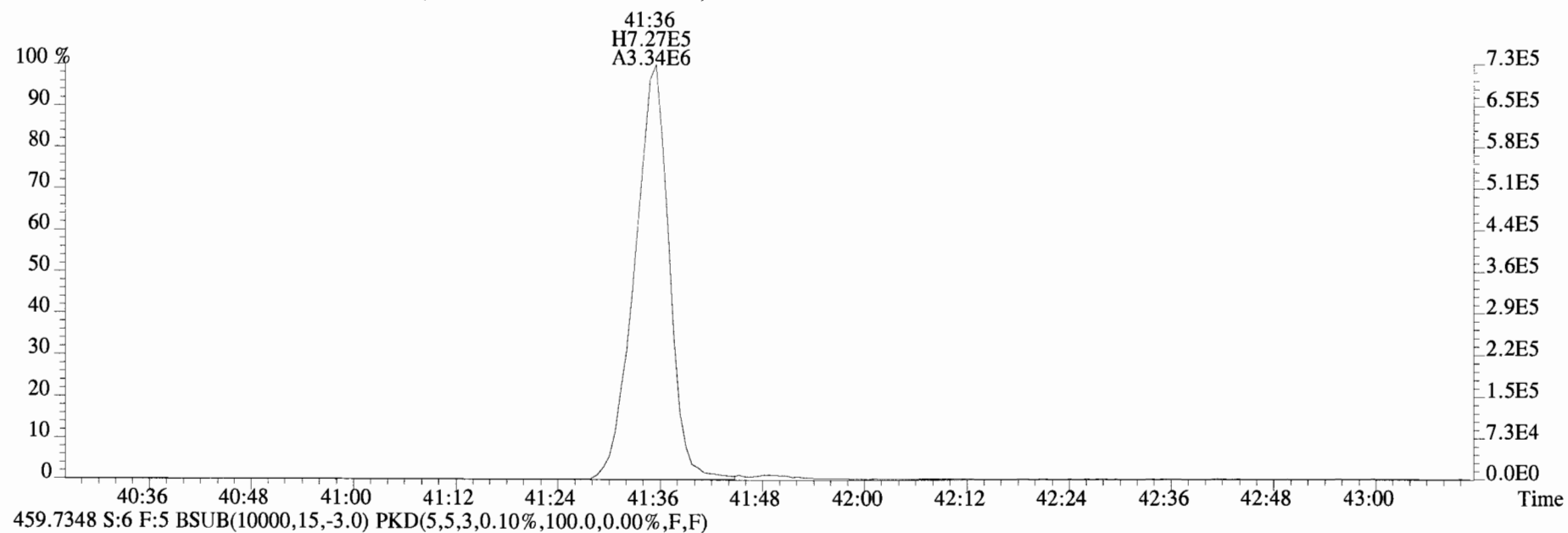
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



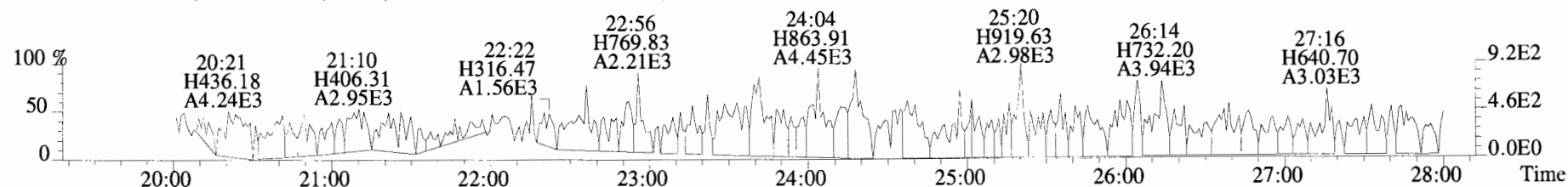
454.9728 S:6 F:5



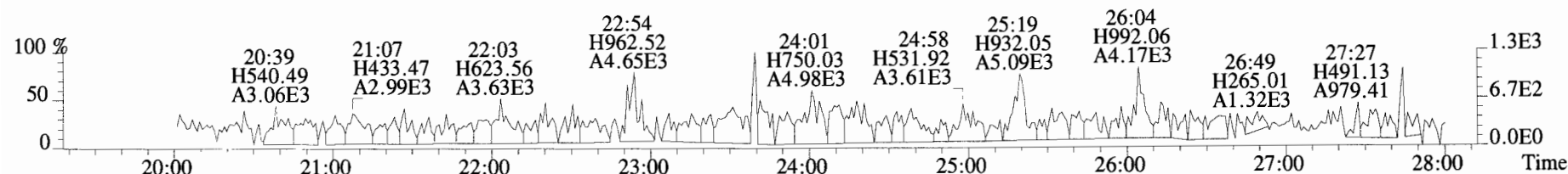
File:190701D2 #1-432 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



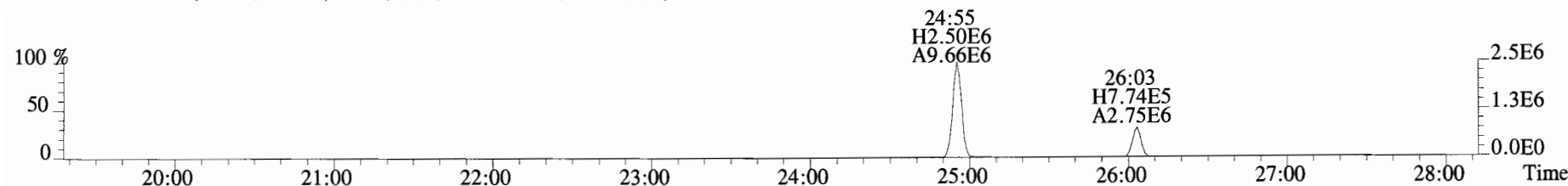
File:190701D2 #1-514 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



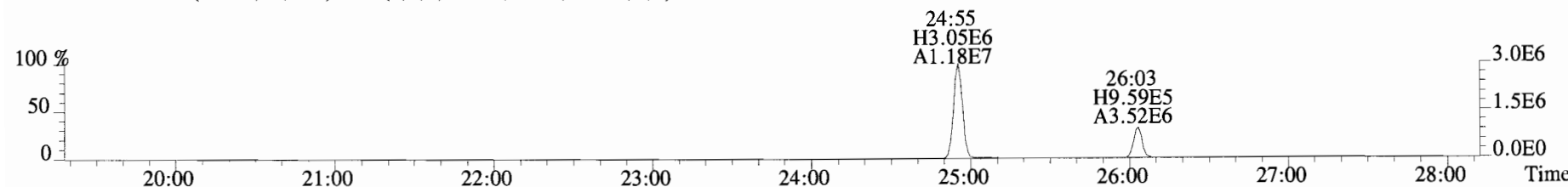
305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



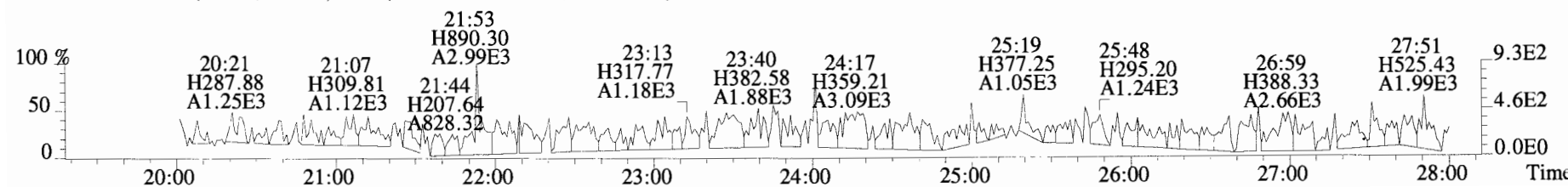
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



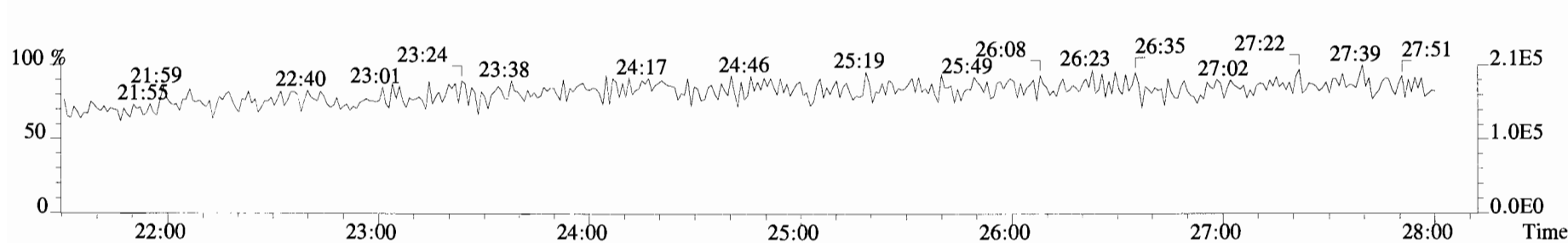
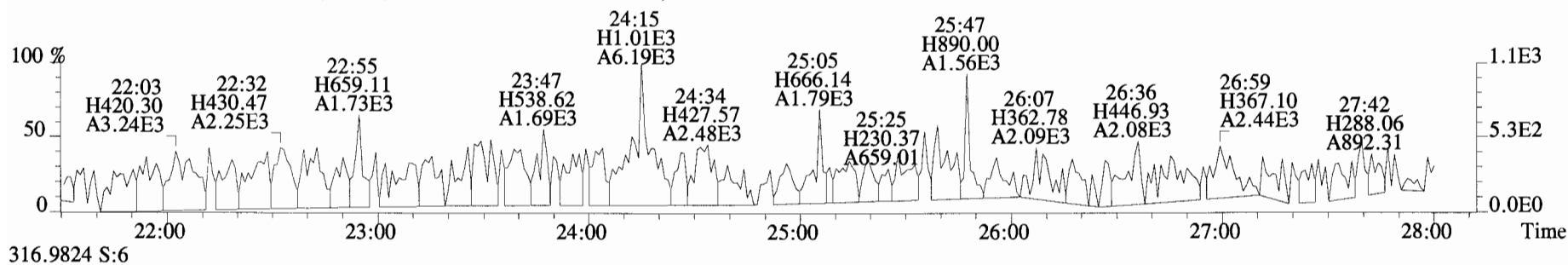
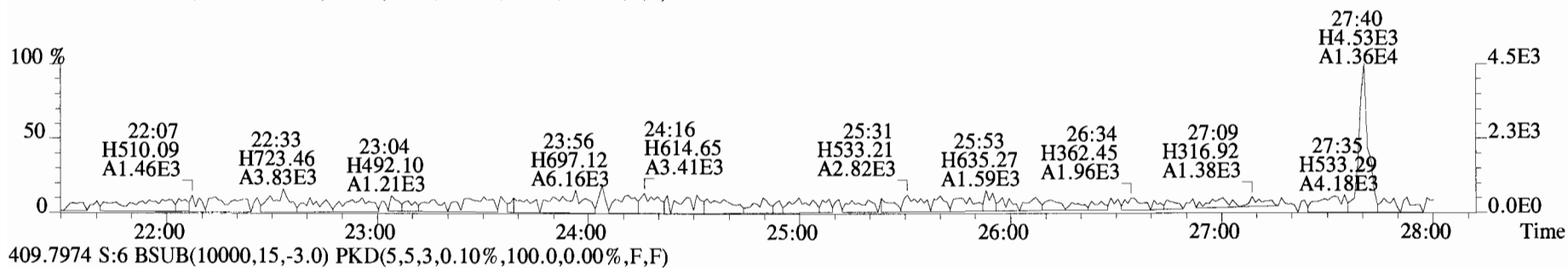
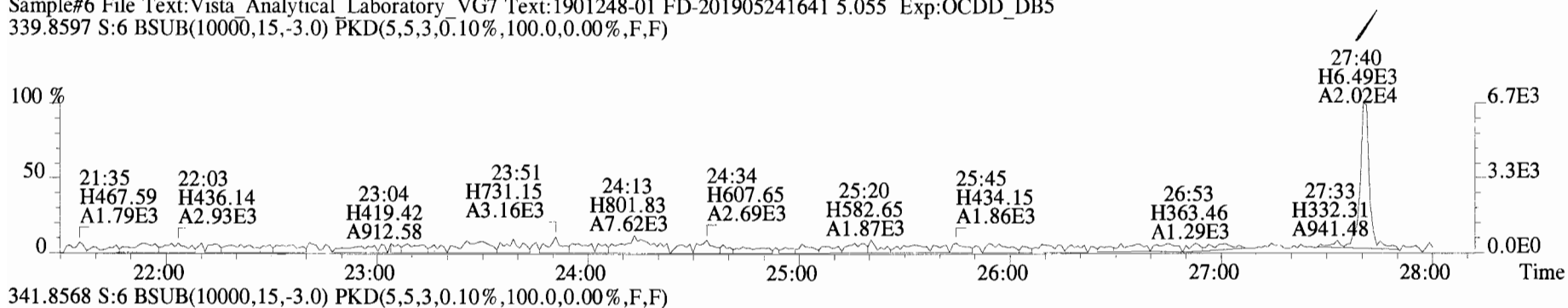
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



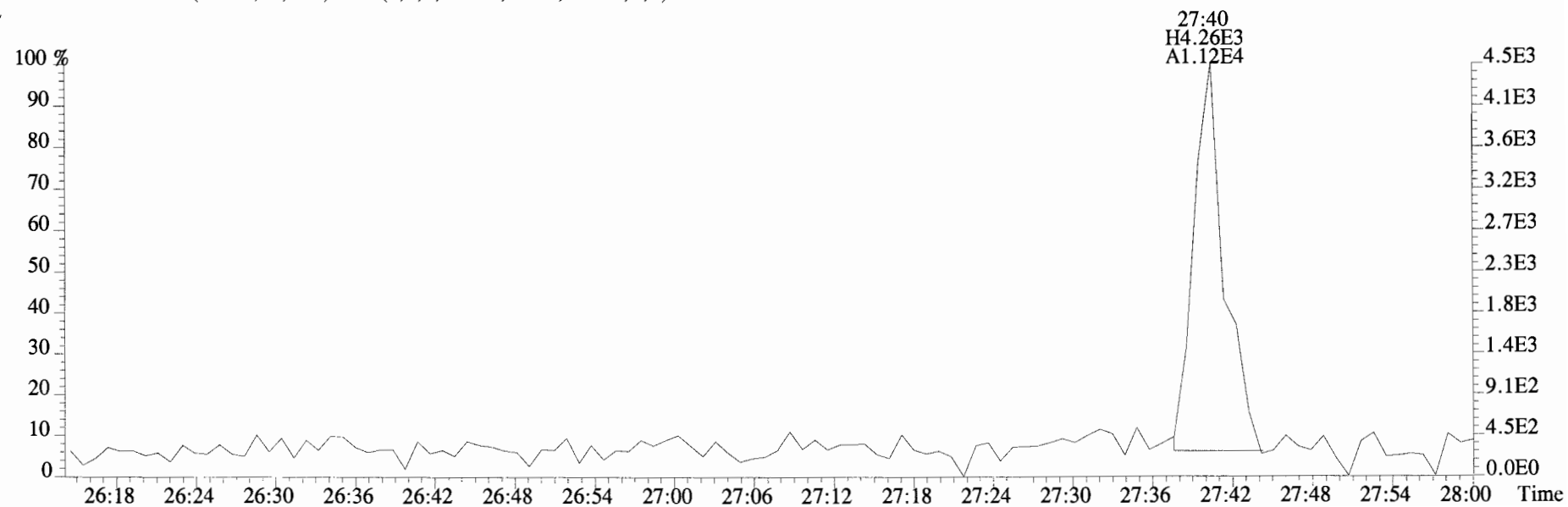
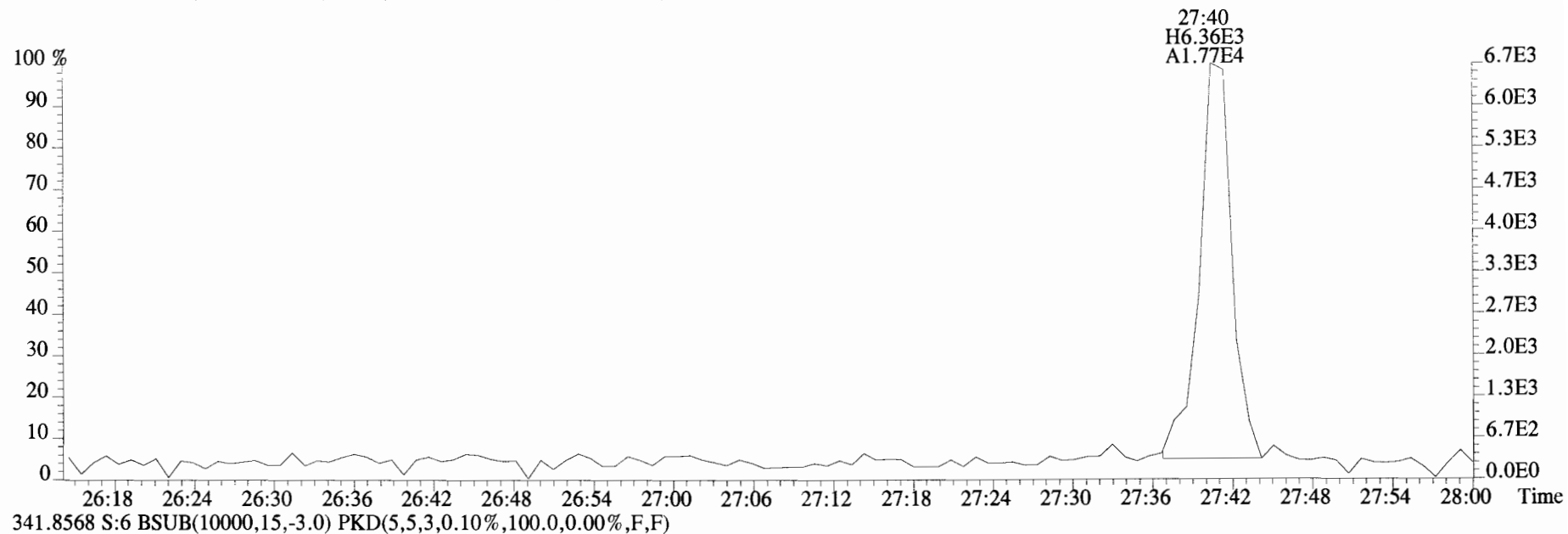
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



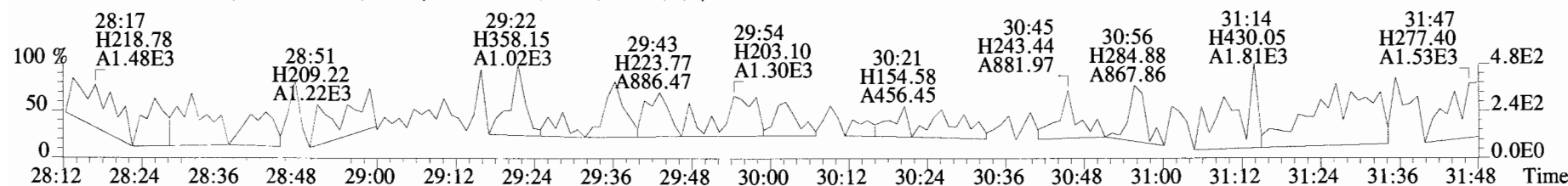
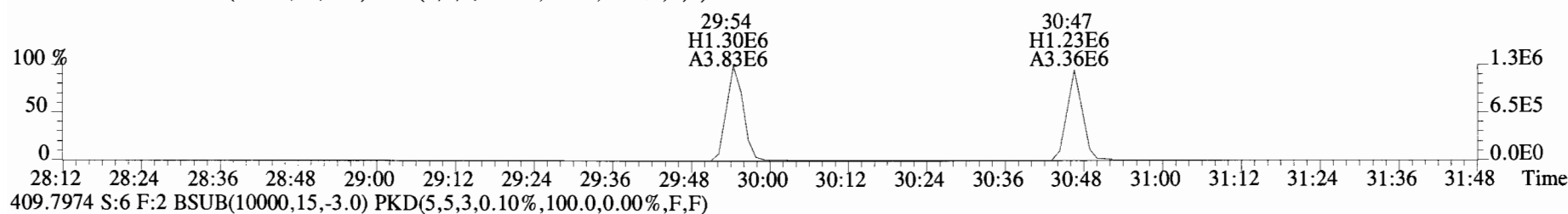
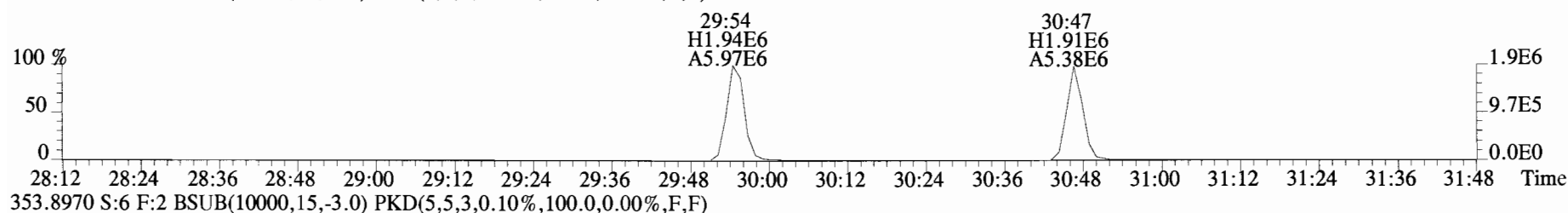
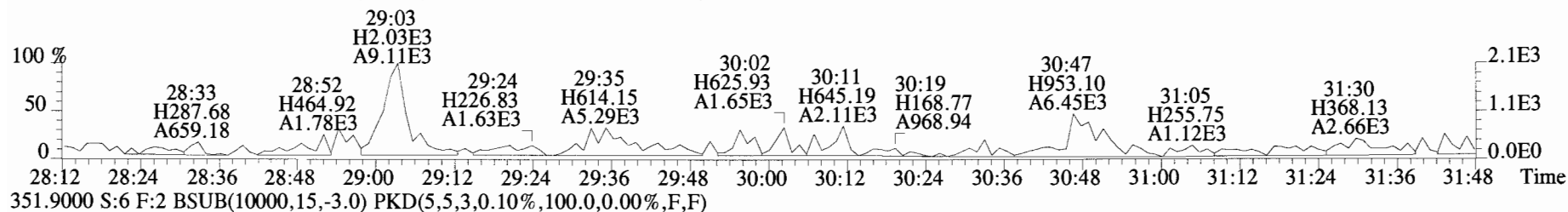
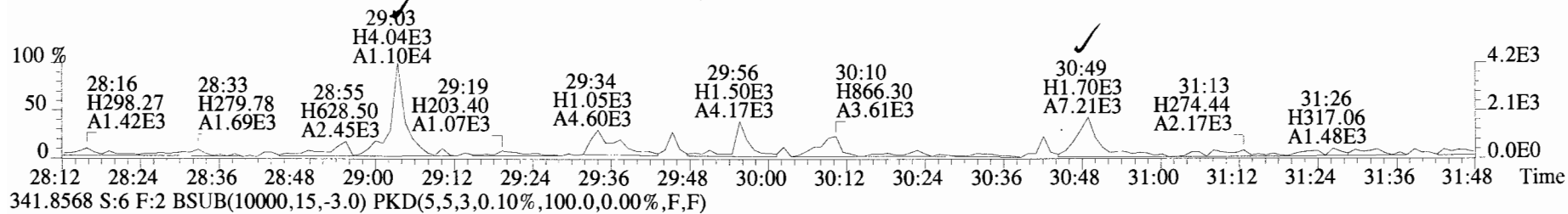
File:190701D2 #1-514 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



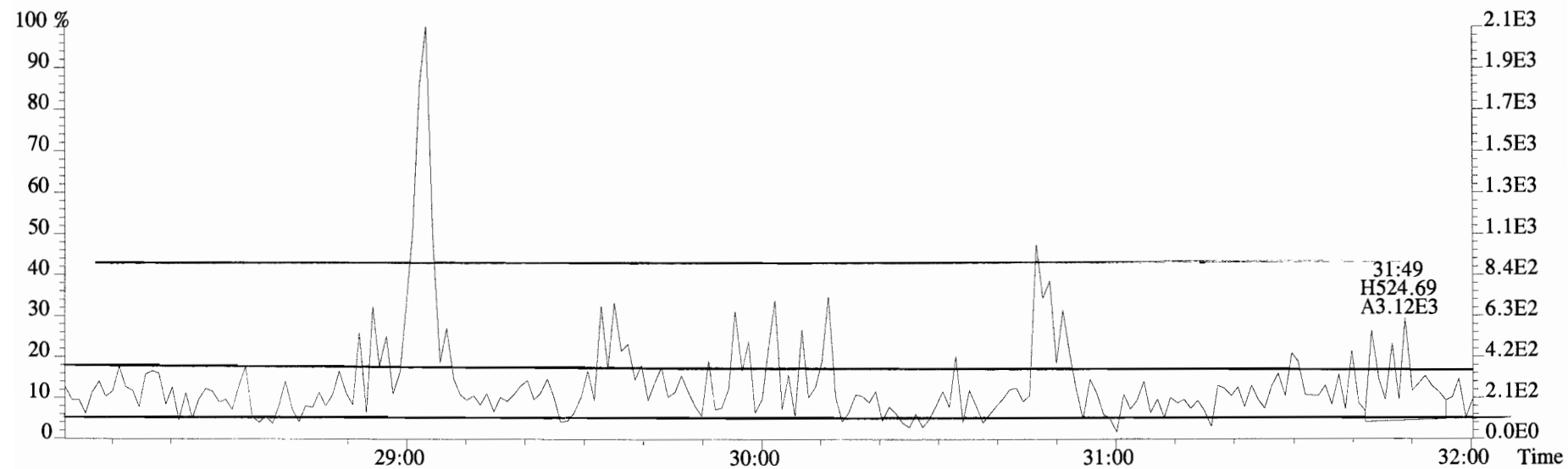
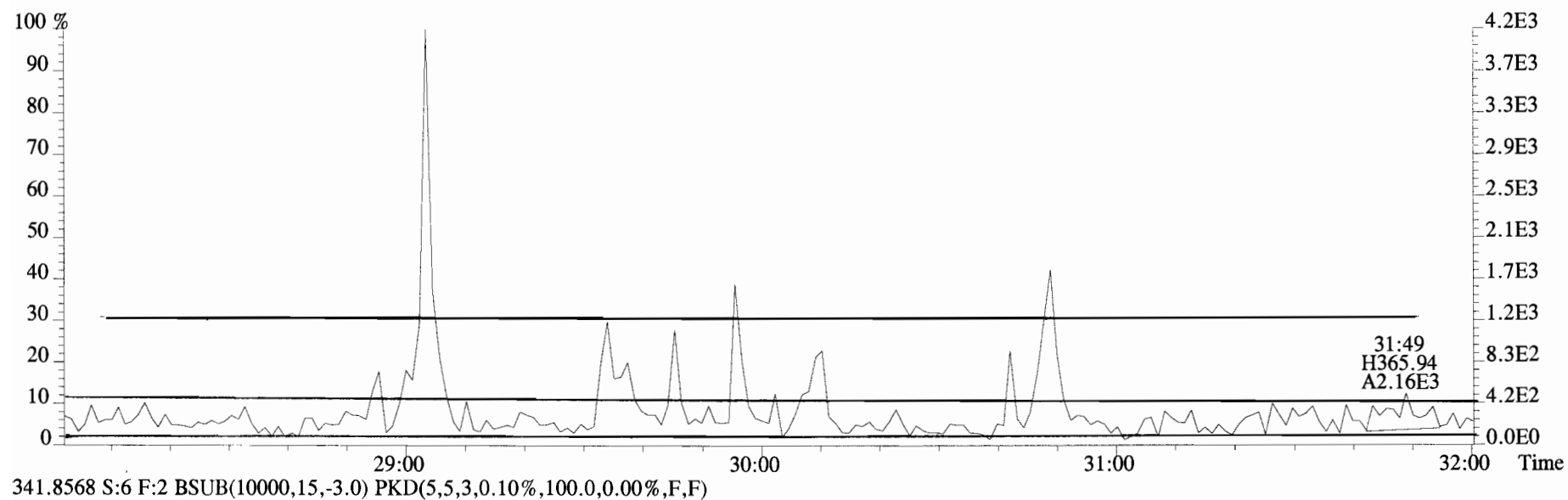
File:190701D2 #1-514 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



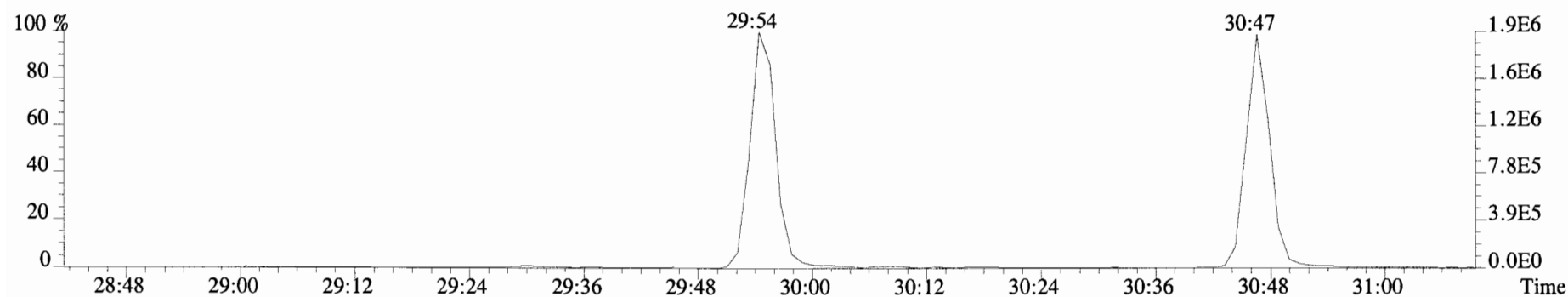
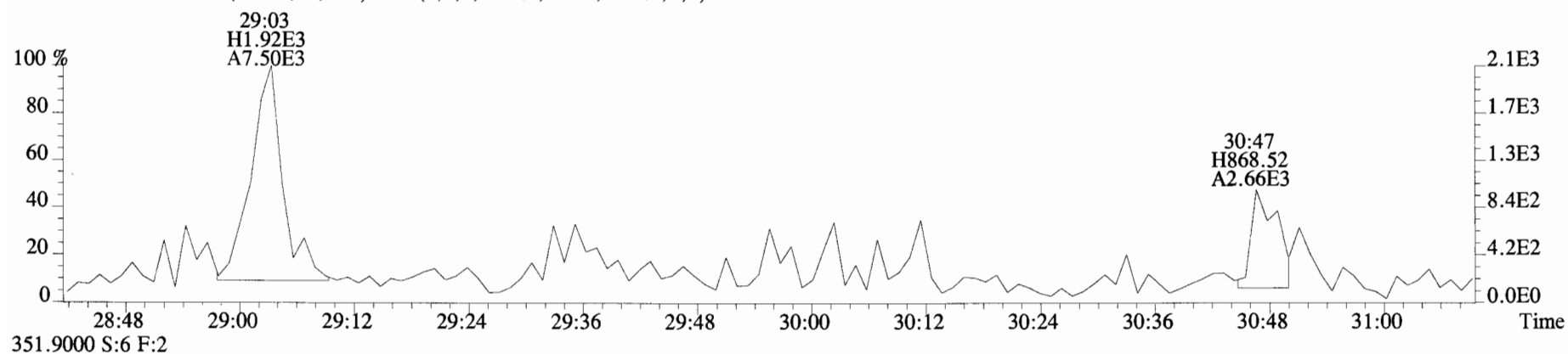
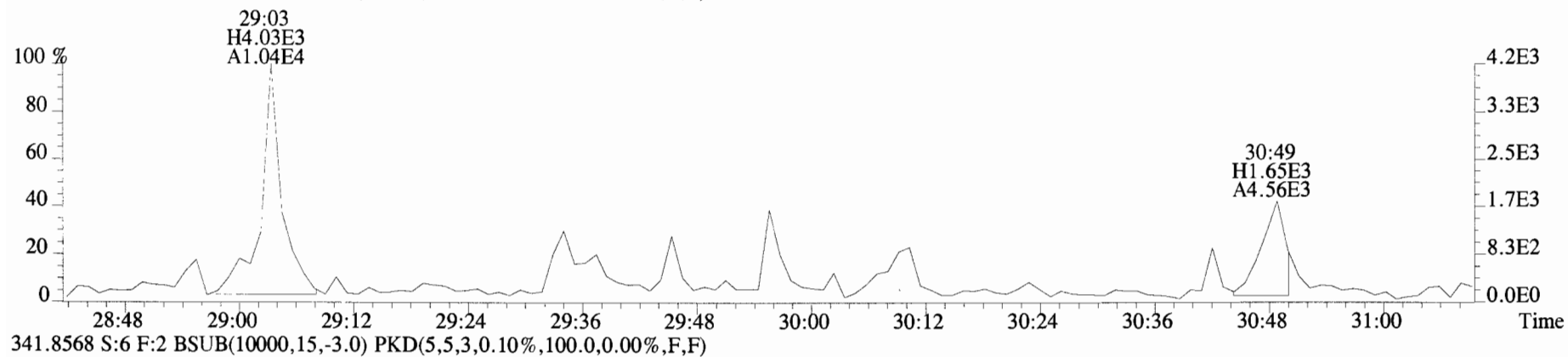
File:190701D2 #1-211 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



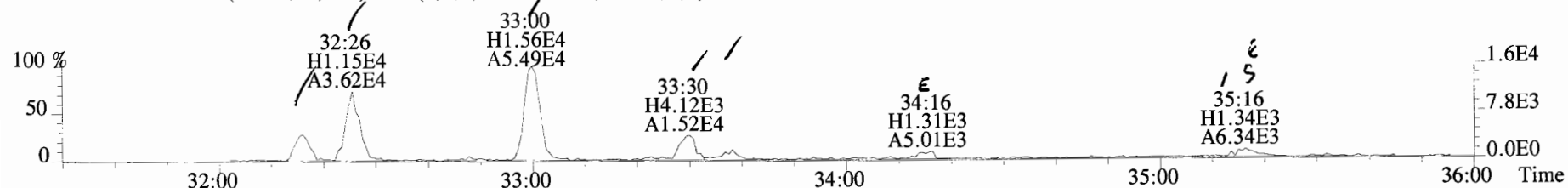
File:190701D2 #1-211 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



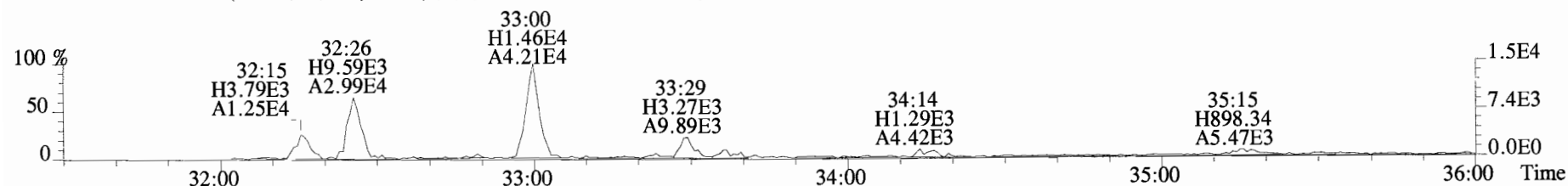
File:190701D2 #1-211 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



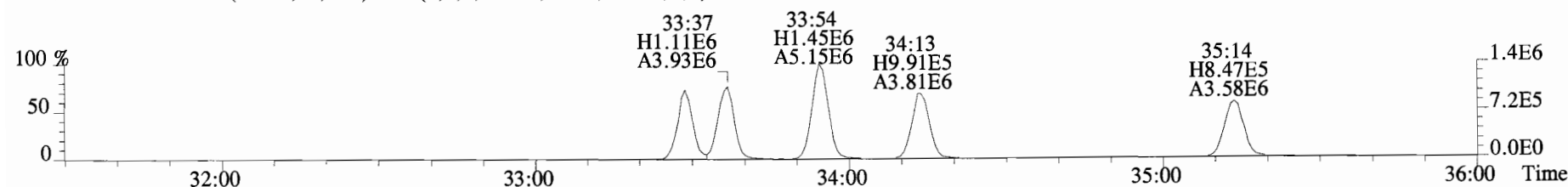
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



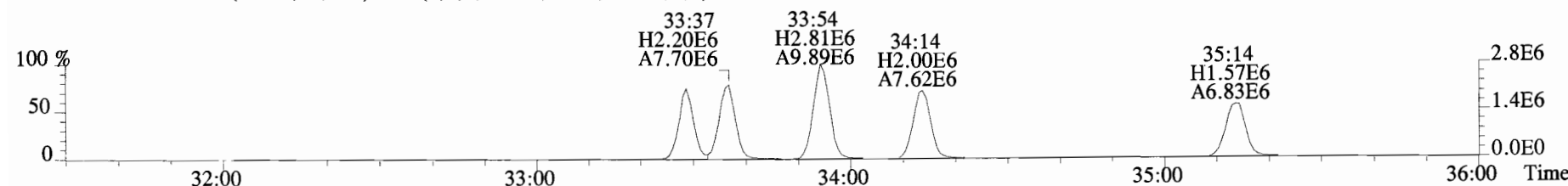
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



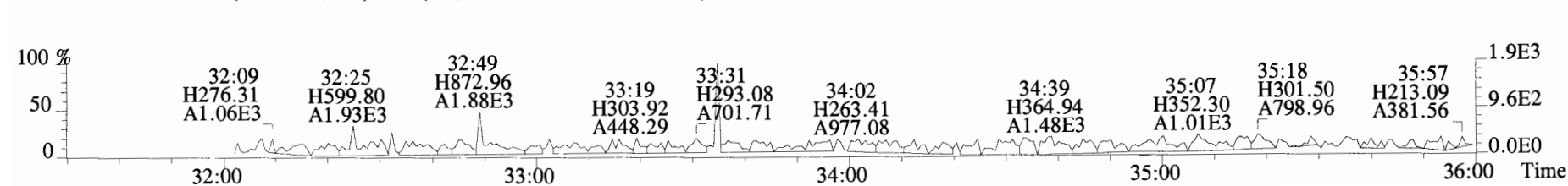
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



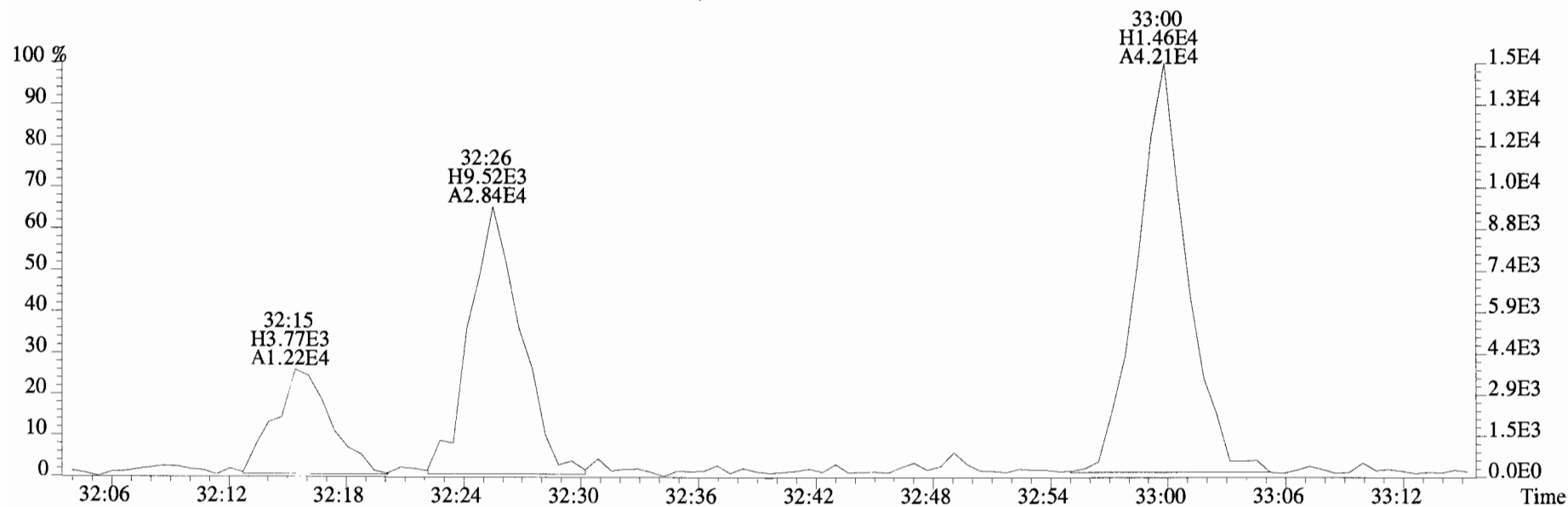
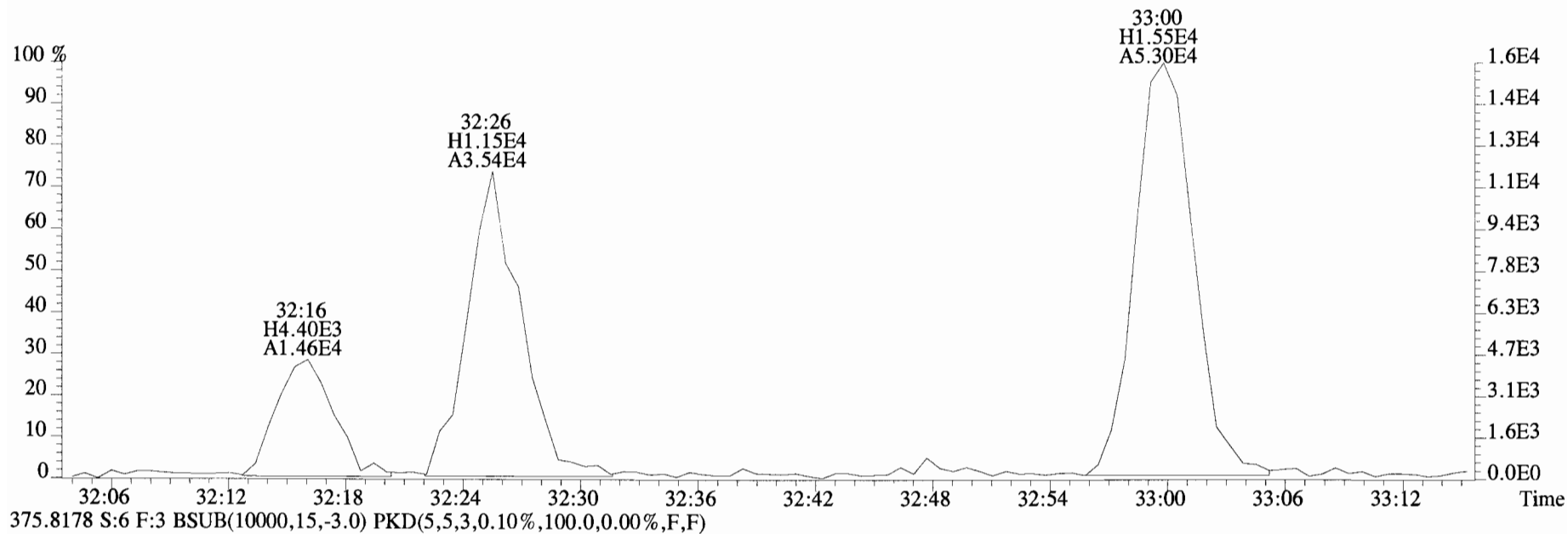
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



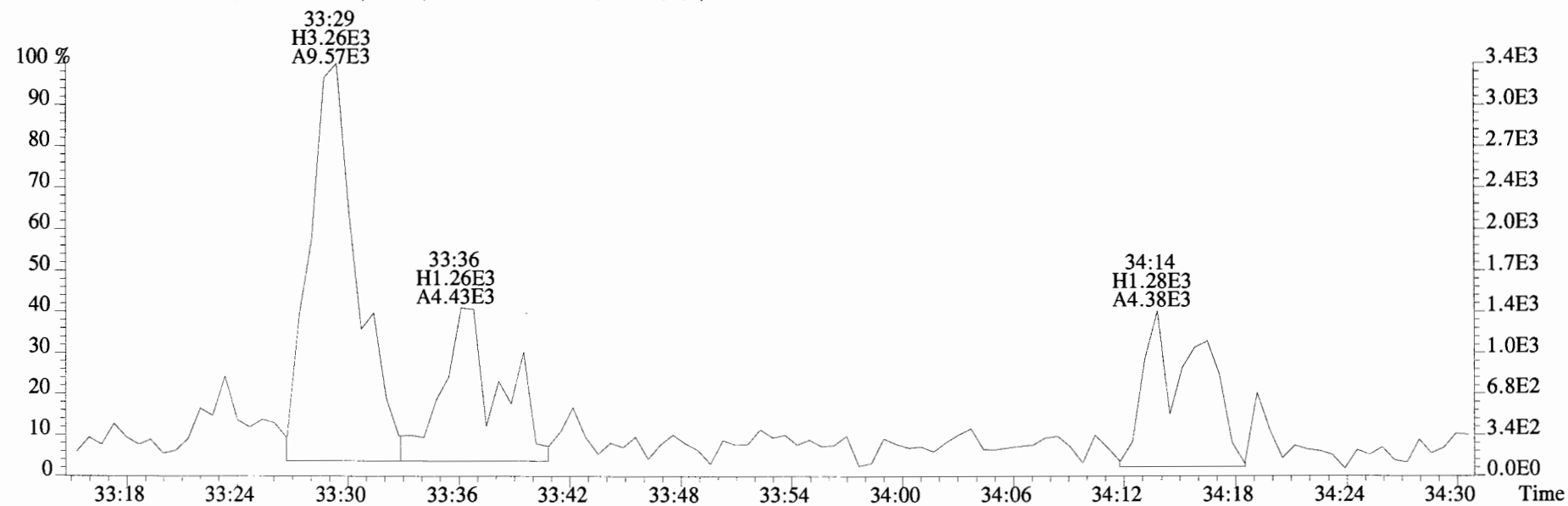
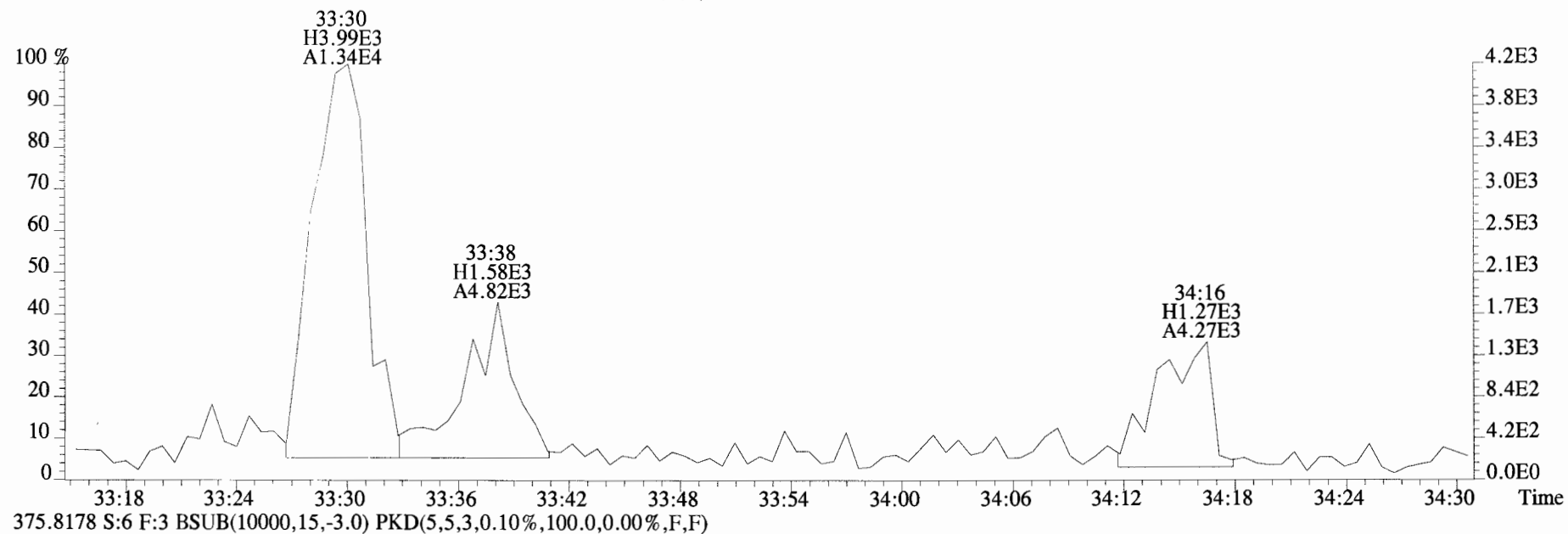
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



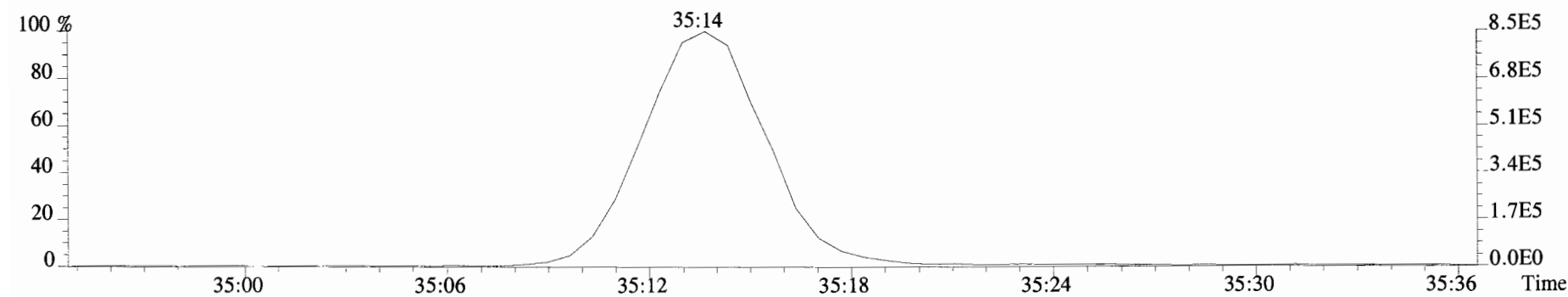
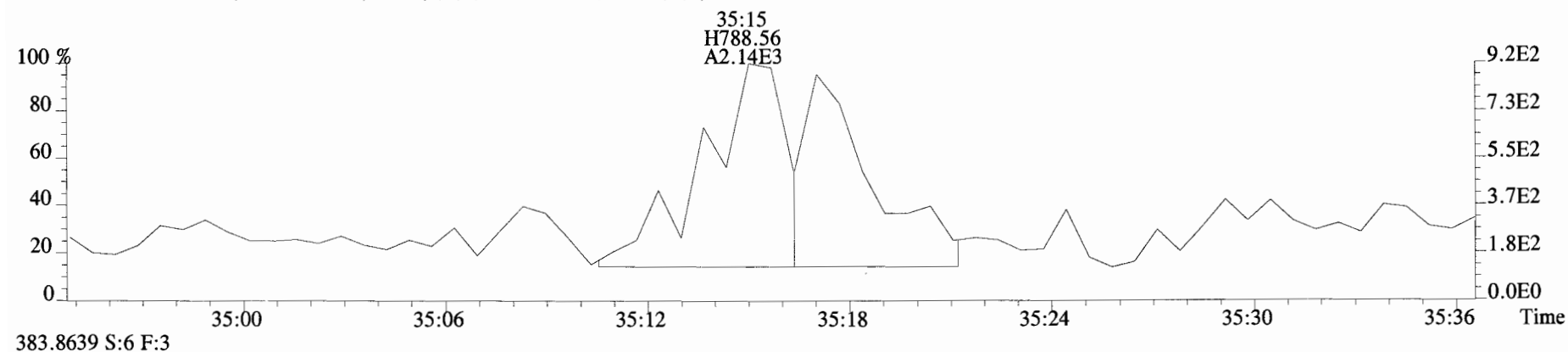
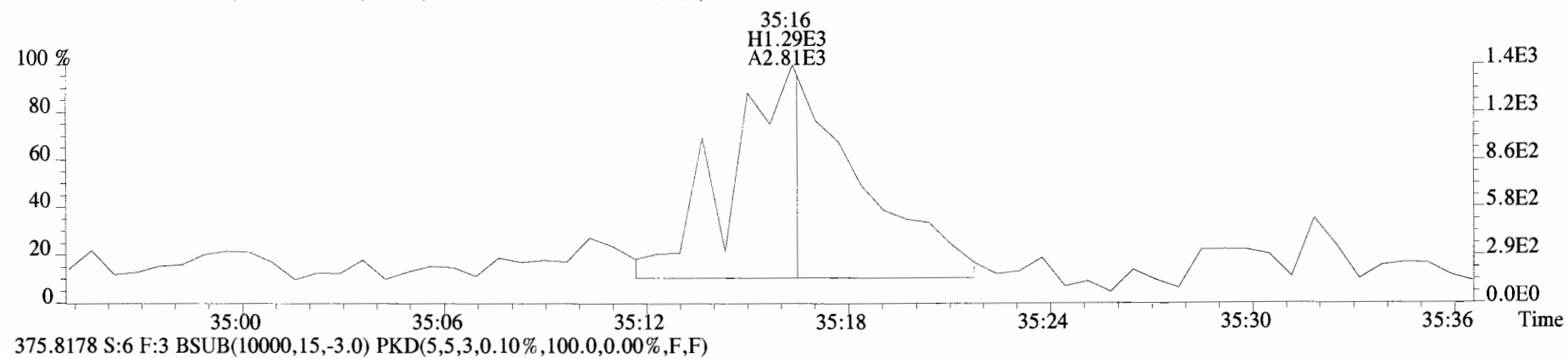
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



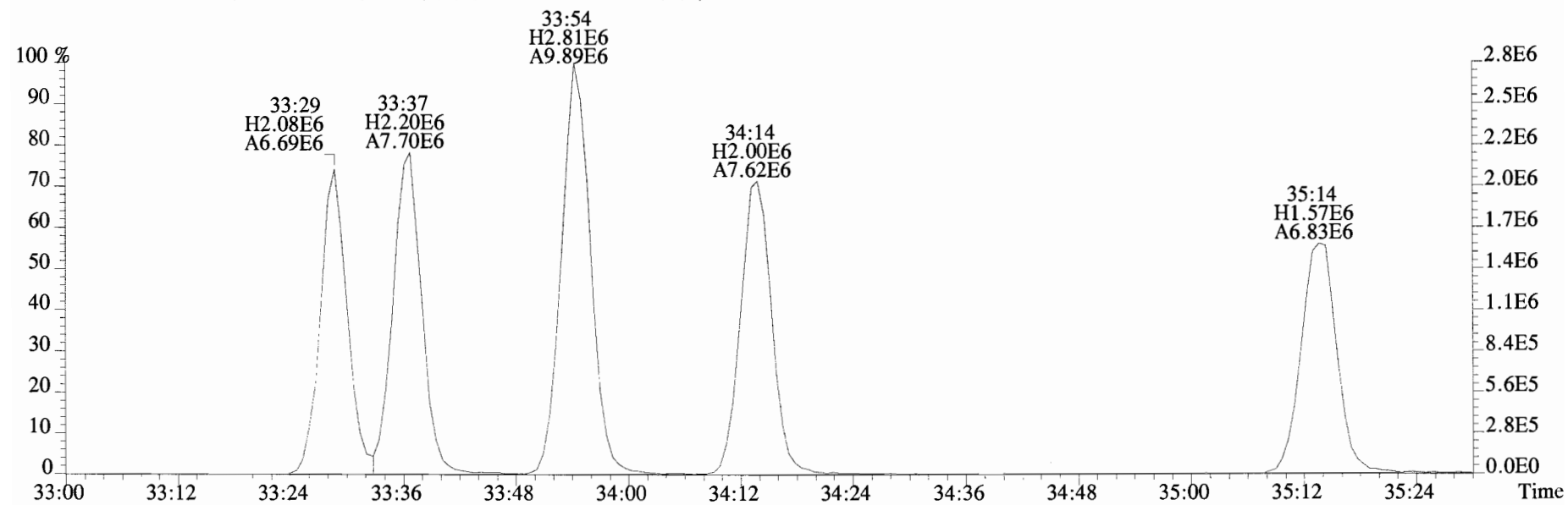
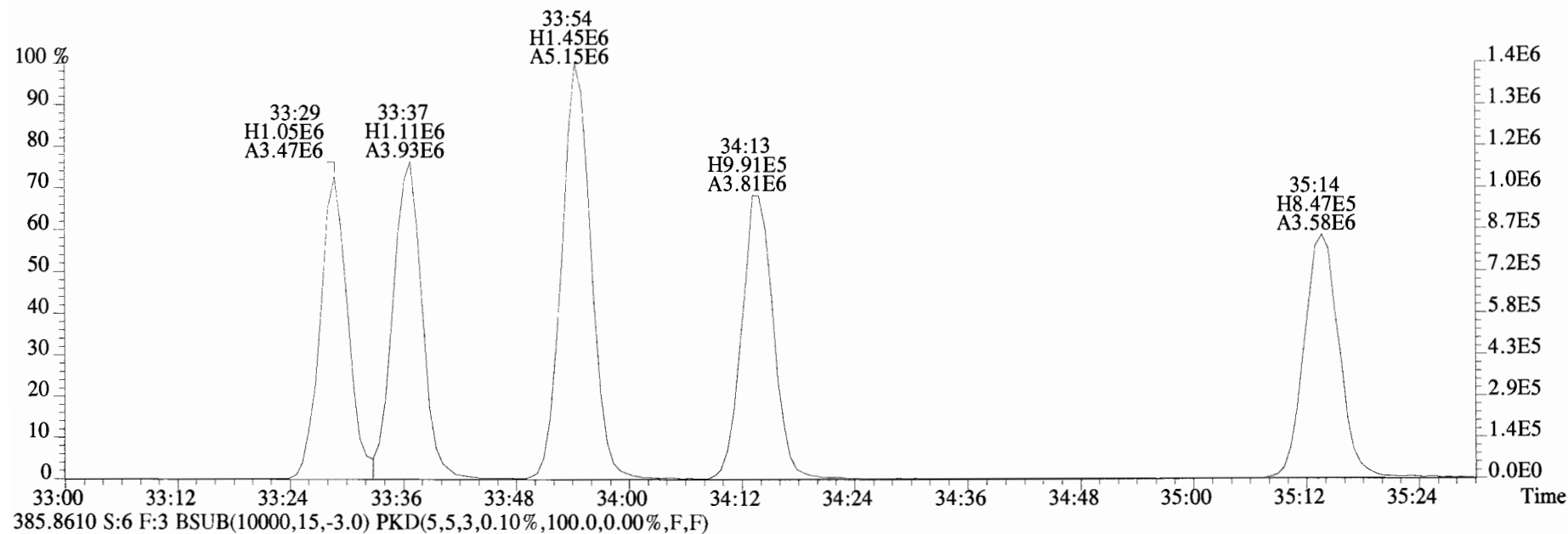
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



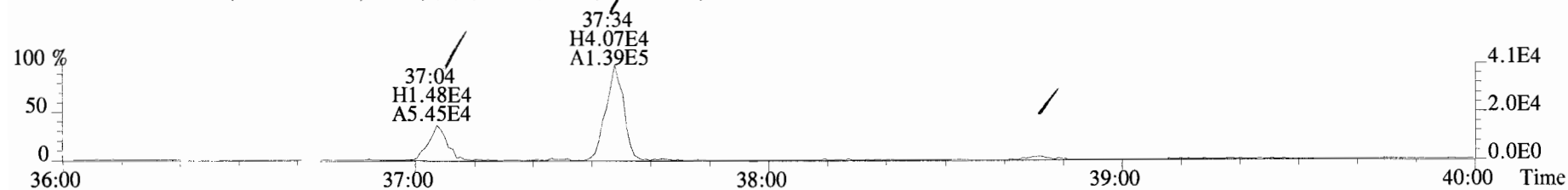
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



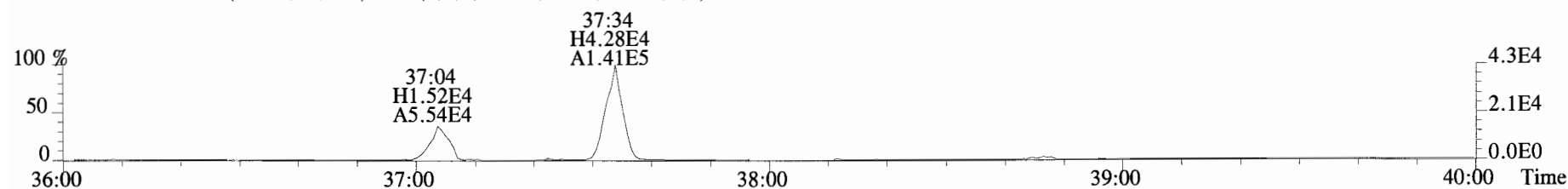
File:190701D2 #1-355 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



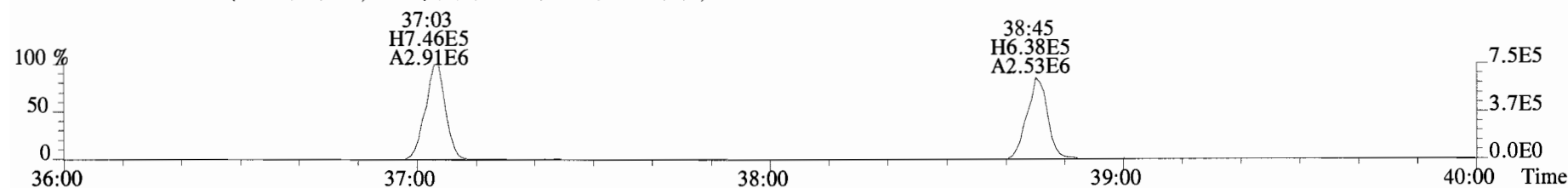
File:190701D2 #1-356 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista_Analytical_Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



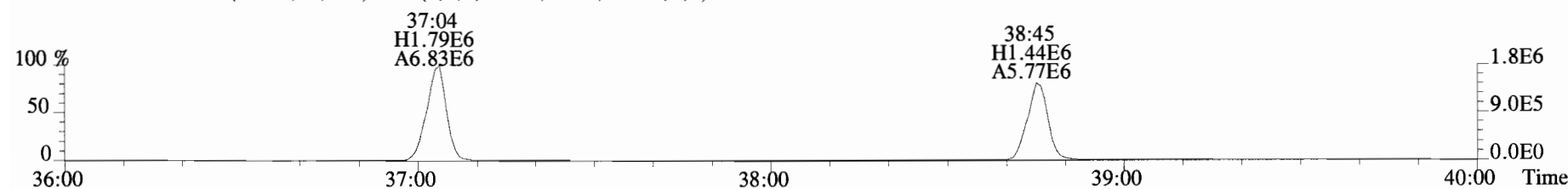
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



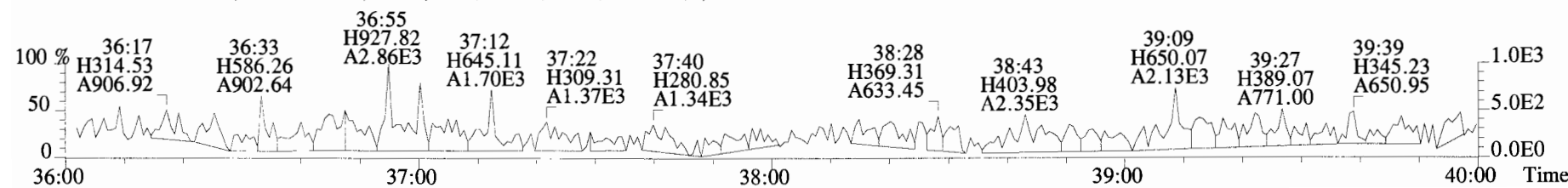
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



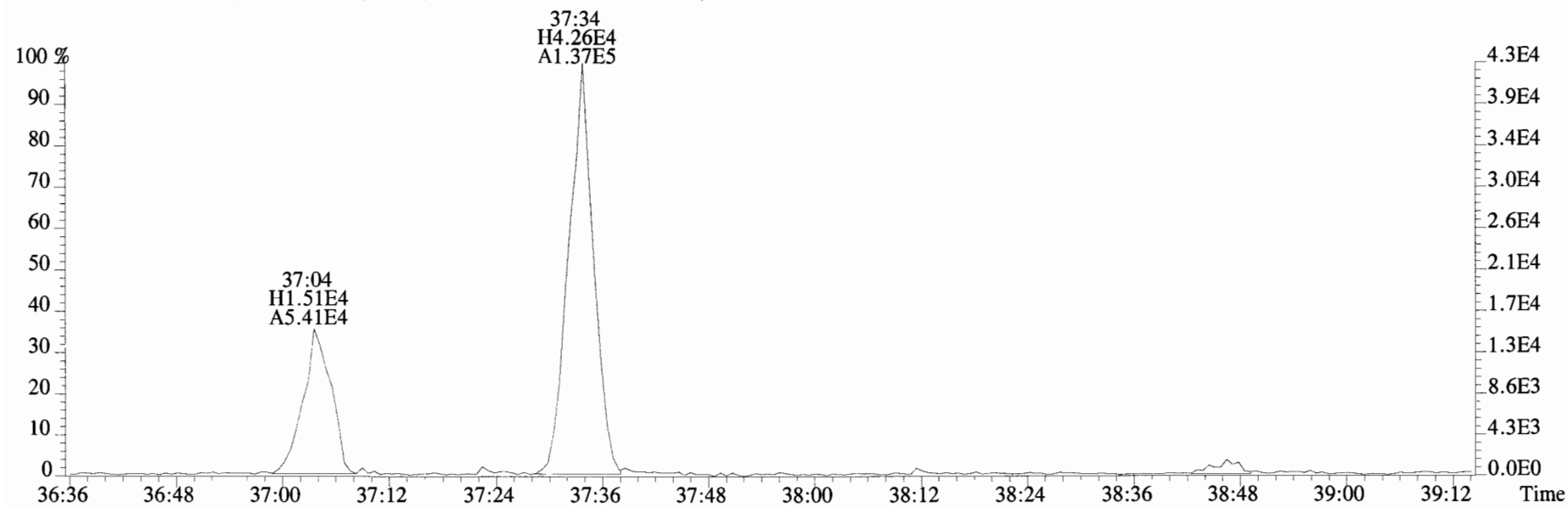
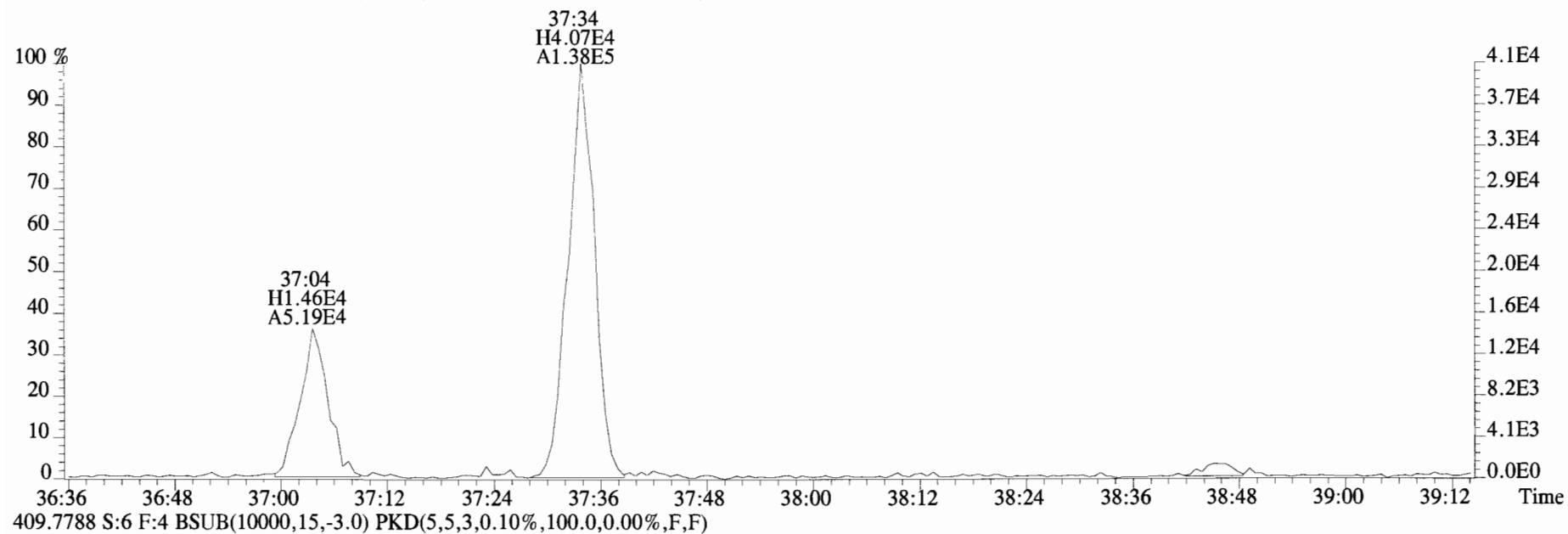
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



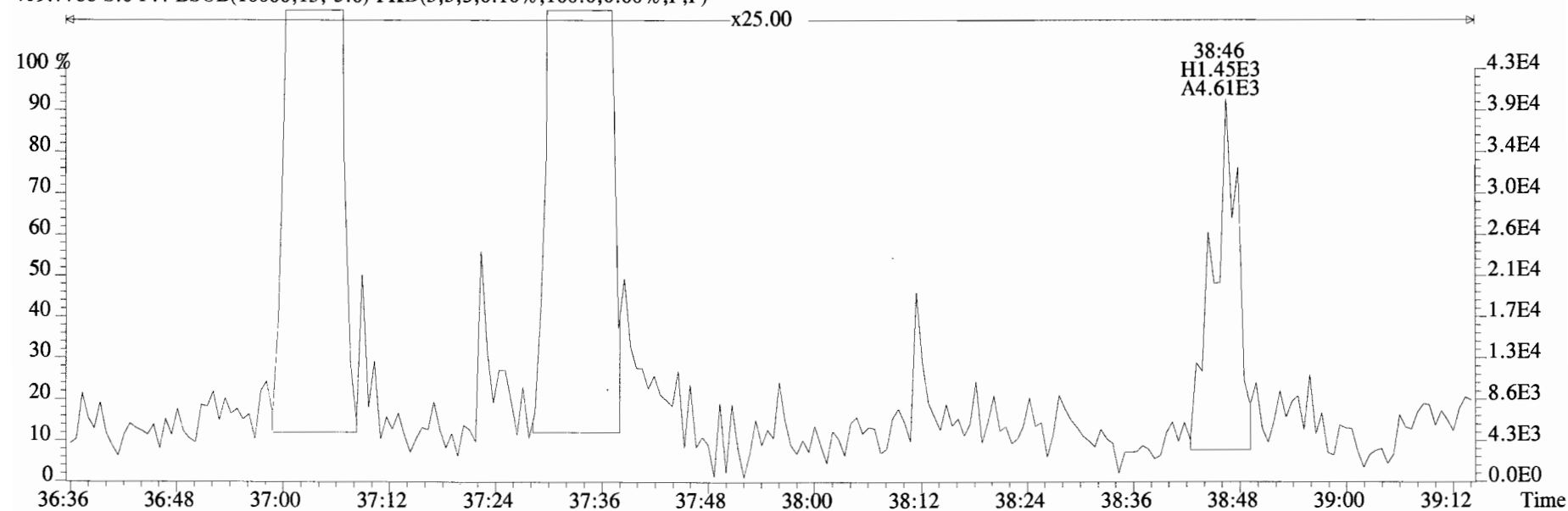
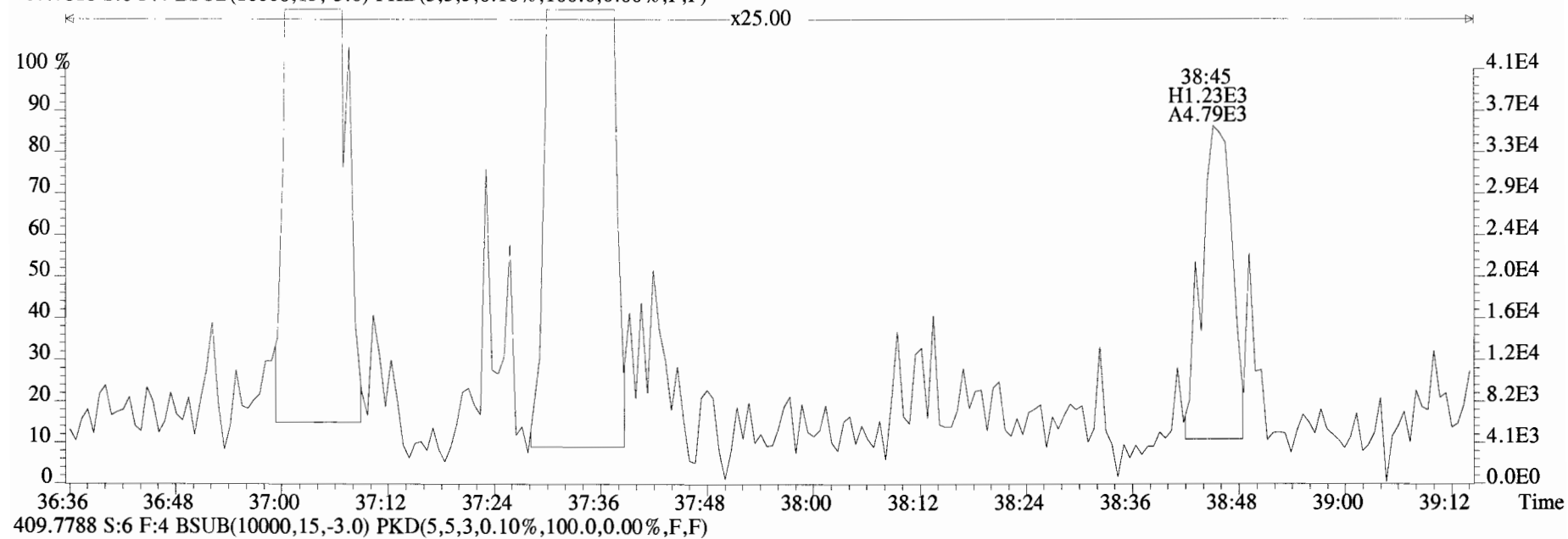
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



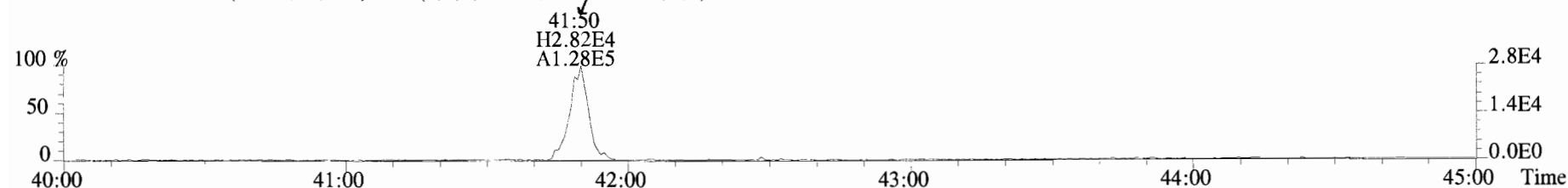
File:190701D2 #1-356 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



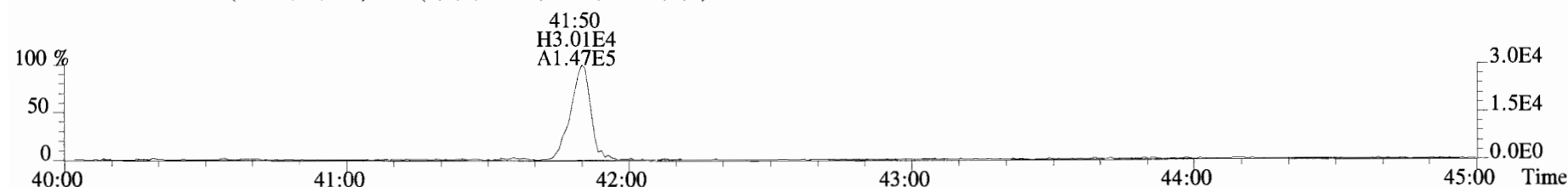
File:190701D2 #1-356 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 Exp:OCDD_DB5
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



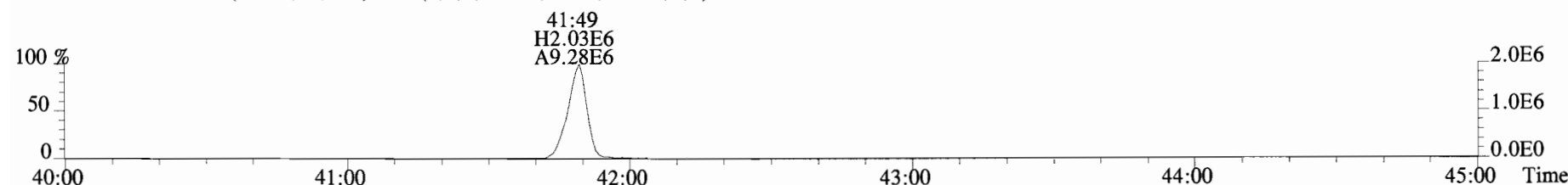
File: 190701D2 #1-432 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory_VG7 Text: 1901248-01 FD-201905241641 5.055 Exp: OCDD_DB5
 441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



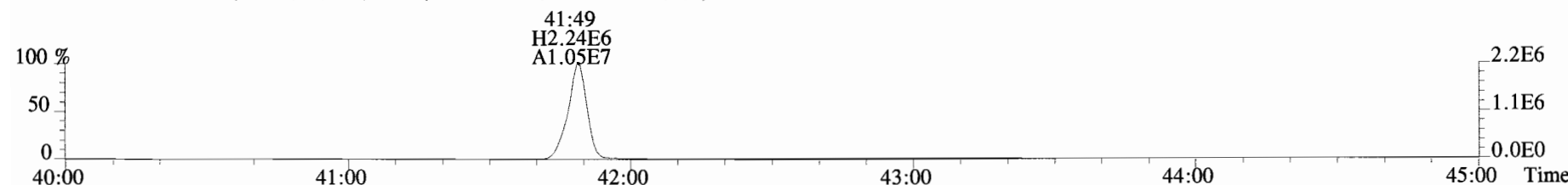
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



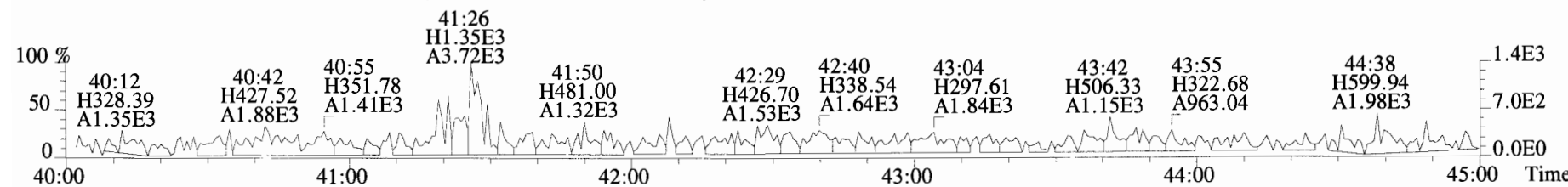
453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



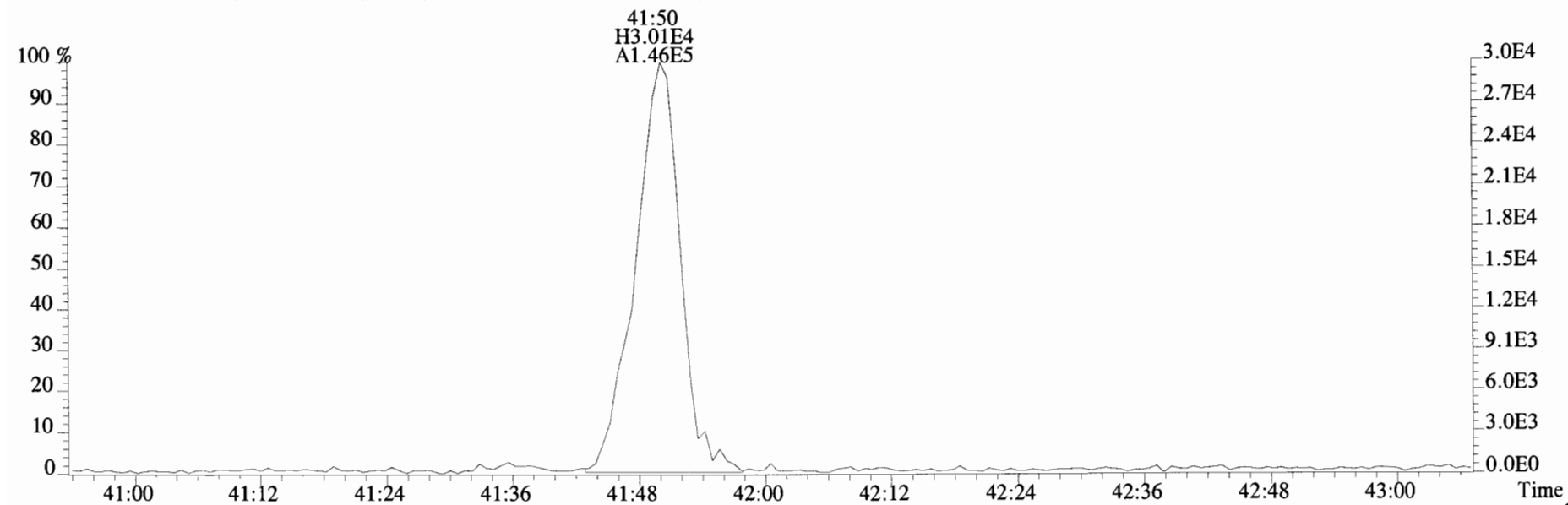
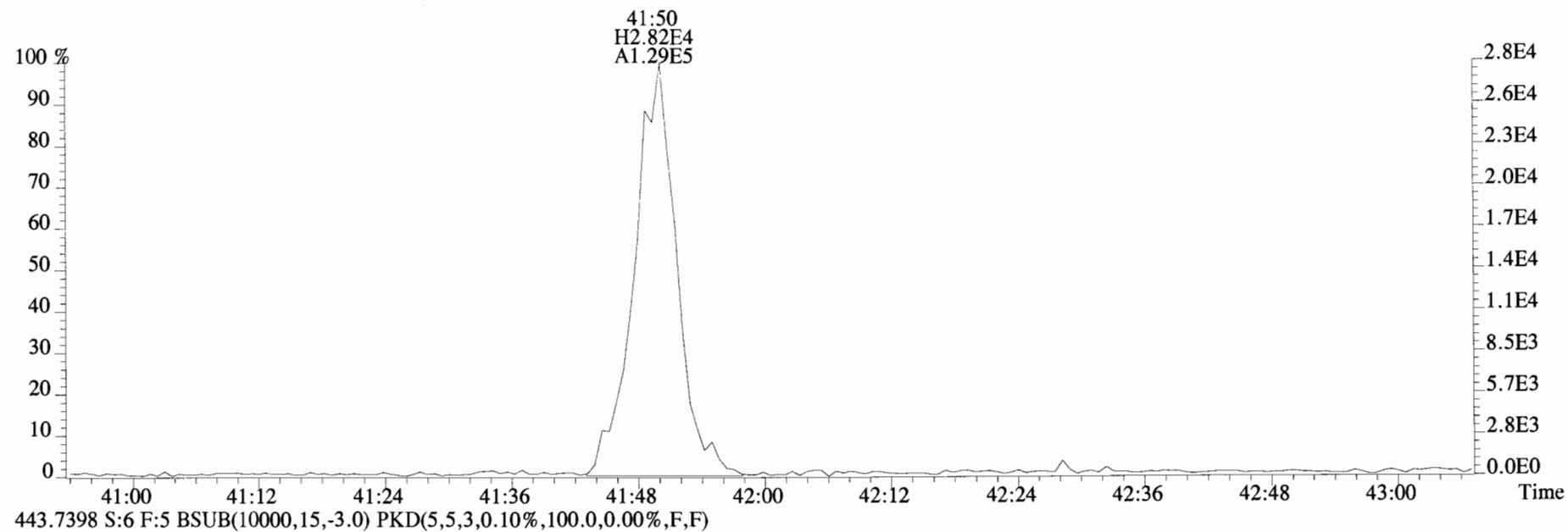
455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190701D2 #1-432 Acq: 1-JUL-2019 22:03:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-01 FD-201905241641 5.055 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)



Client ID: T4-PDI2019-SC29-190524 Filename: 190625D1 S:6 Acq:25-JUN-19 19:04:24

Lab ID: 1901248-02

GC Column ID: ZB-5MS

ICal: 1613VG7-5-10-19

wt/vol: 5.030

ConCal: ST190625D1-1

EndCAL: NA

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Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF _q	*		220	2.5	0.841
1,2,3,7,8-PeCDD	*	* n	0.87	NotF _q	*		364	2.5	0.955
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF _q	*		374	2.5	1.12
1,2,3,6,7,8-HxCDD	3.97e+04	1.36 y	0.93	33:57	4.8045		*	2.5	*
1,2,3,7,8,9-HxCDD	1.90e+04	1.07 y	0.96	34:15	2.2243		*	2.5	*
1,2,3,4,6,7,8-HpCDD	8.58e+05	0.97 y	0.99	37:42	125.64		*	2.5	*
OCDD	1.01e+07	0.90 y	0.99	40:57	1356.5		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF _q	*		269	2.5	0.711
1,2,3,7,8-PeCDF	*	* n	0.92	NotF _q	*		270	2.5	0.810
2,3,4,7,8-PeCDF	1.05e+04	1.37 y	0.96	30:18	1.2992		*	2.5	*
1,2,3,4,7,8-HxCDF	3.35e+04	1.15 y	1.15	32:57	3.0663		*	2.5	*
1,2,3,6,7,8-HxCDF	1.75e+04	1.10 y	1.04	33:04	1.3771		*	2.5	*
2,3,4,6,7,8-HxCDF	1.61e+04	1.14 y	1.10	33:42	1.2618		*	2.5	*
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF _q	*		266	2.5	0.494
1,2,3,4,6,7,8-HpCDF	8.68e+04	0.89 y	1.06	36:28	12.879		*	2.5	*
1,2,3,4,7,8,9-HpCDF	1.36e+04	0.95 y	1.23	38:16	2.0389		*	2.5	*
OCDF	4.91e+05	0.95 y	0.94	41:12	54.930		*	2.5	*

IS	13C-2,3,7,8-TCDD	2.31e+06	0.88 y	1.11	26:04	149.79
IS	13C-1,2,3,7,8-PeCDD	2.79e+06	0.66 y	0.98	30:33	205.35
IS	13C-1,2,3,4,7,8-HxCDD	2.65e+06	1.36 y	0.68	33:50	225.31
IS	13C-1,2,3,6,7,8-HxCDD	3.54e+06	1.36 y	0.84	33:56	241.52
IS	13C-1,2,3,7,8,9-HxCDD	3.52e+06	1.31 y	0.81	34:15	249.30
IS	13C-1,2,3,4,6,7,8-HpCDD	2.75e+06	0.99 y	0.69	37:41	230.29
IS	13C-OCDD	6.00e+06	0.88 y	0.62	40:57	551.71
IS	13C-2,3,7,8-TCDF	3.35e+06	0.81 y	1.05	25:20	116.29
IS	13C-1,2,3,7,8-PeCDF	3.62e+06	1.57 y	0.95	29:24	138.26
IS	13C-2,3,4,7,8-PeCDF	3.35e+06	1.57 y	0.94	30:17	130.48
IS	13C-1,2,3,4,7,8-HxCDF	3.77e+06	0.52 y	0.86	32:57	252.71
IS	13C-1,2,3,6,7,8-HxCDF	4.86e+06	0.51 y	1.02	33:04	273.32
IS	13C-2,3,4,6,7,8-HxCDF	4.63e+06	0.51 y	0.95	33:41	279.38
IS	13C-1,2,3,7,8,9-HxCDF	4.13e+06	0.53 y	0.87	34:40	273.76
IS	13C-1,2,3,4,6,7,8-HpCDF	2.52e+06	0.37 y	0.81	36:27	179.00
IS	13C-1,2,3,4,7,8,9-HpCDF	2.17e+06	0.38 y	0.63	38:15	197.31
IS	13C-OCDF	7.56e+06	0.88 y	0.78	41:11	555.69

C/Up	37C1-2,3,7,8-TCDD	1.41e+06		1.22	26:06	83.322
RS/RT	13C-1,2,3,4-TCDD	5.54e+06	0.86 y	1.00	25:29	397.64
RS	13C-1,2,3,4-TCDF	1.09e+07	0.83 y	1.00	24:06	397.64
RS/RT	13C-1,2,3,4,6,9-HxCDF	6.92e+06	0.51 y	1.00	33:22	397.64

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	2.32	2.32		*	*
Total Penta-Dioxins	1.47	1.47		*	*
Total Hexa-Dioxins	41.4	44.4		*	*
Total Hepta-Dioxins	313	313		*	*
Total Tetra-Furans	*	*		269	0.711
Total Penta-Furans	7.4095	7.4095		*	*
Total Hexa-Furans	16.5	26.4		*	*
Total Hepta-Furans	14.9	44.9		*	*

Rec Qual

37.7

51.6

56.7

60.7

62.7

57.9

69.4

29.2

34.8

32.8

63.6

68.7

70.3

68.8

45.0

49.6

69.9

52.4

Integrations
by
Analyst: DBReviewed
by
Analyst: C7Date: 6/27/19Date: 06/28/19

Totals class: TCDD EMPC

Entry #: 19

Run: 11

File: 190625D1

S: 6 I: 1 F: 1

Acquired: 25-JUN-19 19:04:24

Processed: 26-JUN-19 09:27:38

Total Concentration: 2.3213

Unnamed Concentration: 2.321

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
25:51	5.322e+03	6.819e+03	0.78 y	1.214e+04	2.3213

Totals class: PeCDD EMPC

Entry #: 21

Run: 11

File: 190625D1

S: 6 I: 1 F: 2

•

Acquired: 25-JUN-19 19:04:24

Processed: 26-JUN-19 09:27:38

Total Concentration: 1.4732

Unnamed Concentration: 1.473

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:31	3.565e+03	5.460e+03	0.65 y	9.025e+03	1.4732

Totals class: HxCDD EMPC

Entry #: 23

Run: 11

File: 190625D1

S: 6 I: 1 F: 3

Acquired: 25-JUN-19 19:04:24

Processed: 26-JUN-19 09:27:38

Total Concentration: 44.413

Unnamed Concentration: 37.384

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:18	6.739e+04	6.138e+04	1.10 y	1.288e+05	16.221
32:52	9.683e+03	6.410e+03	1.51 n	1.436e+04	1.8087
33:08	7.904e+04	6.524e+04	1.21 y	1.443e+05	18.175
33:15	5.185e+03	6.603e+03	0.79 n	9.366e+03	1.1798
33:57	2.287e+04	1.686e+04	1.36 y	3.972e+04	4.8045 1,2,3,6,7,8-HxCDD
34:15	9.809e+03	9.143e+03	1.07 y	1.895e+04	2.2243 1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 11

File: 190625D1

S: 6 I: 1 F: 4

Acquired: 25-JUN-19 19:04:24

Processed: 26-JUN-19 09:27:38

Total Concentration: 312.50

Unnamed Concentration: 186.865

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:51	6.220e+05	6.546e+05	0.95 y	1.277e+06	186.86
37:42	4.218e+05	4.365e+05	0.97 y	8.583e+05	125.64

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

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 11 File: 190625D1 S: 6 I: 1 F: 1
Acquired: 25-JUN-19 19:04:24 Processed: 26-JUN-19 09:27:38

Total Concentration: 3.2037 Unnamed Concentration: 3.204

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:02	1.607e+04	1.030e+04	1.56 y	2.637e+04	3.2037

Totals class: PeCDF EMPC

Entry #: 31

Run: 11

File: 190625D1

S: 6 I: 1 F: 2

Acquired: 25-JUN-19 19:04:24

Processed: 26-JUN-19 09:27:38

Total Concentration: 4.2058

Unnamed Concentration: 2.907

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:30	1.524e+04	8.690e+03	1.75 y	2.393e+04	2.9066
30:18	6.047e+03	4.426e+03	1.37 y	1.047e+04	1.2992 2,3,4,7,8-PeCDF

Totals class: HxCDF EMPC

Entry #: 33

Run: 11 File: 190625D1 S: 6 I: 1 F: 3

Acquired: 25-JUN-19 19:04:24 Processed: 26-JUN-19 09:27:38

Total Concentration: 26.418

Unnamed Concentration: 20.713

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:47	1.597e+04	1.483e+04	1.08 y	3.080e+04	2.6150
31:56	4.963e+04	4.130e+04	1.20 y	9.093e+04	7.7201
32:29	6.482e+04	6.384e+04	1.02 n	1.171e+05	9.9423
32:57	1.795e+04	1.555e+04	1.15 y	3.350e+04	3.0663
33:04	9.150e+03	8.318e+03	1.10 y	1.747e+04	1.3771
33:42	8.570e+03	7.530e+03	1.14 y	1.610e+04	1.2618
34:41	2.876e+03	2.255e+03	1.28 y	5.131e+03	0.43566

Totals class: HpCDF EMPC

Entry #: 35

Run: 11

File: 190625D1

S: 6 I: 1 F: 4

Acquired: 25-JUN-19 19:04:24

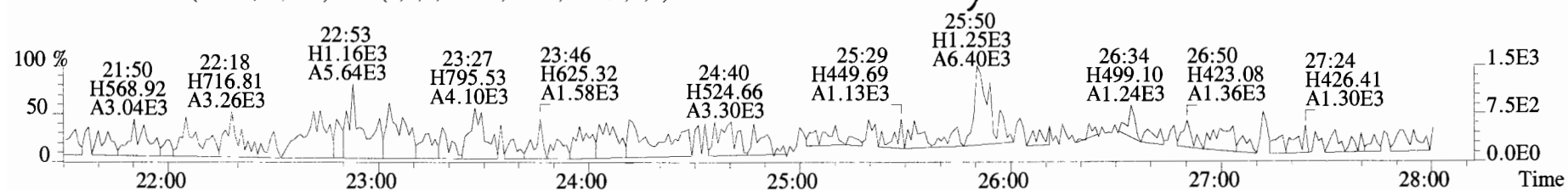
Processed: 26-JUN-19 09:27:38

Total Concentration: 44.868

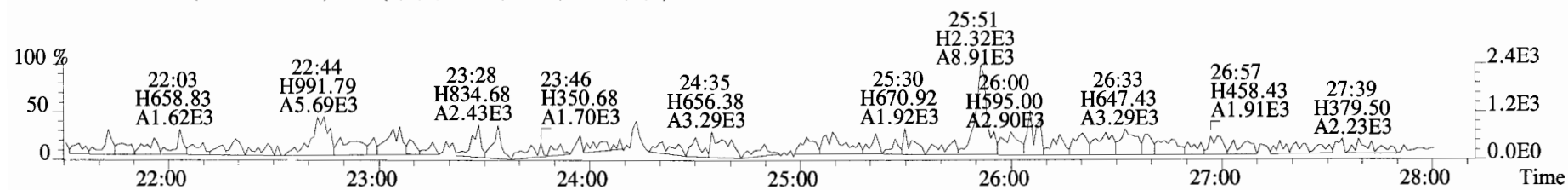
Unnamed Concentration: 29.950

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
36:28	4.086e+04	4.592e+04	0.89 y	8.678e+04	12.879	1,2,3,4,6,7,8-HpCDF
37:03	1.021e+05	1.181e+05	0.86 n	2.003e+05	29.950	
38:16	6.641e+03	6.990e+03	0.95 y	1.363e+04	2.0389	1,2,3,4,7,8,9-HpCDF

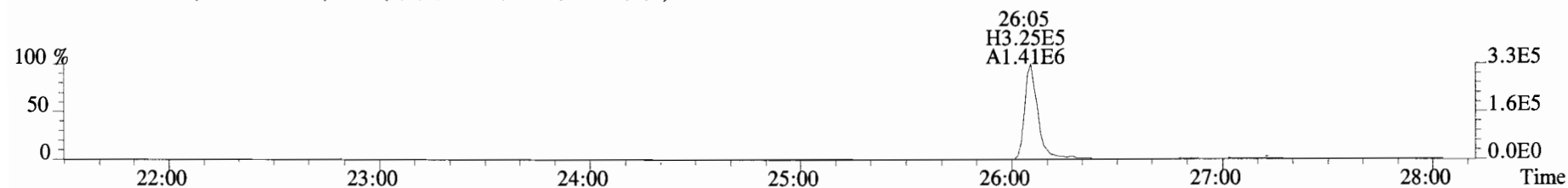
File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



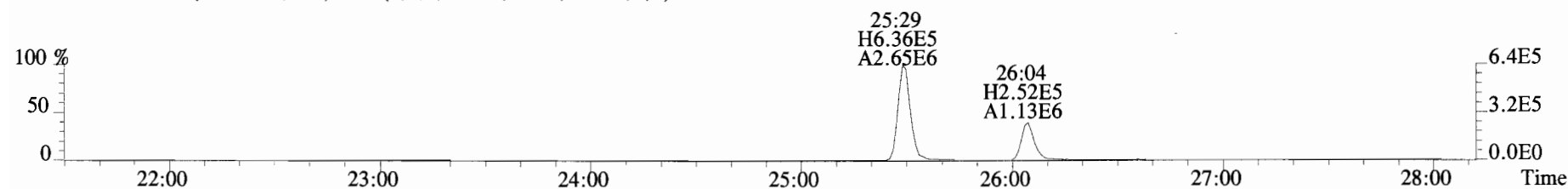
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



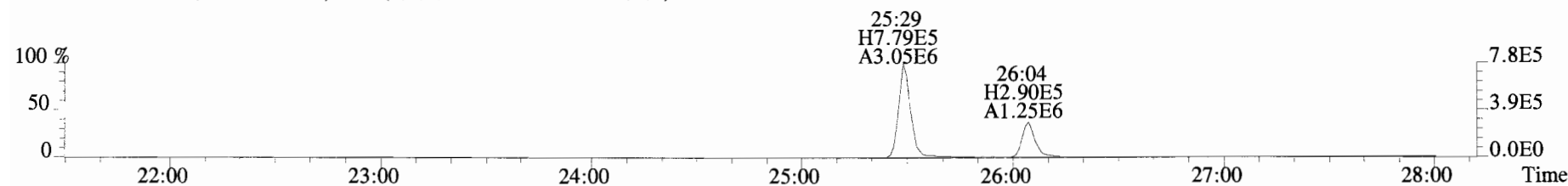
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



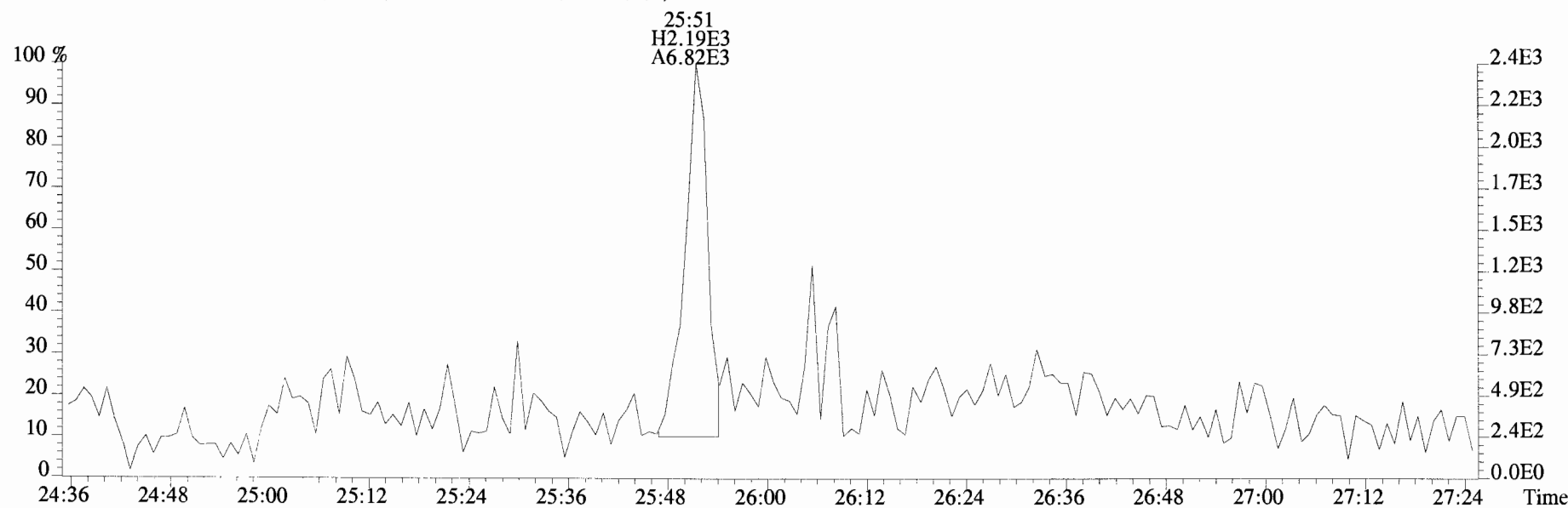
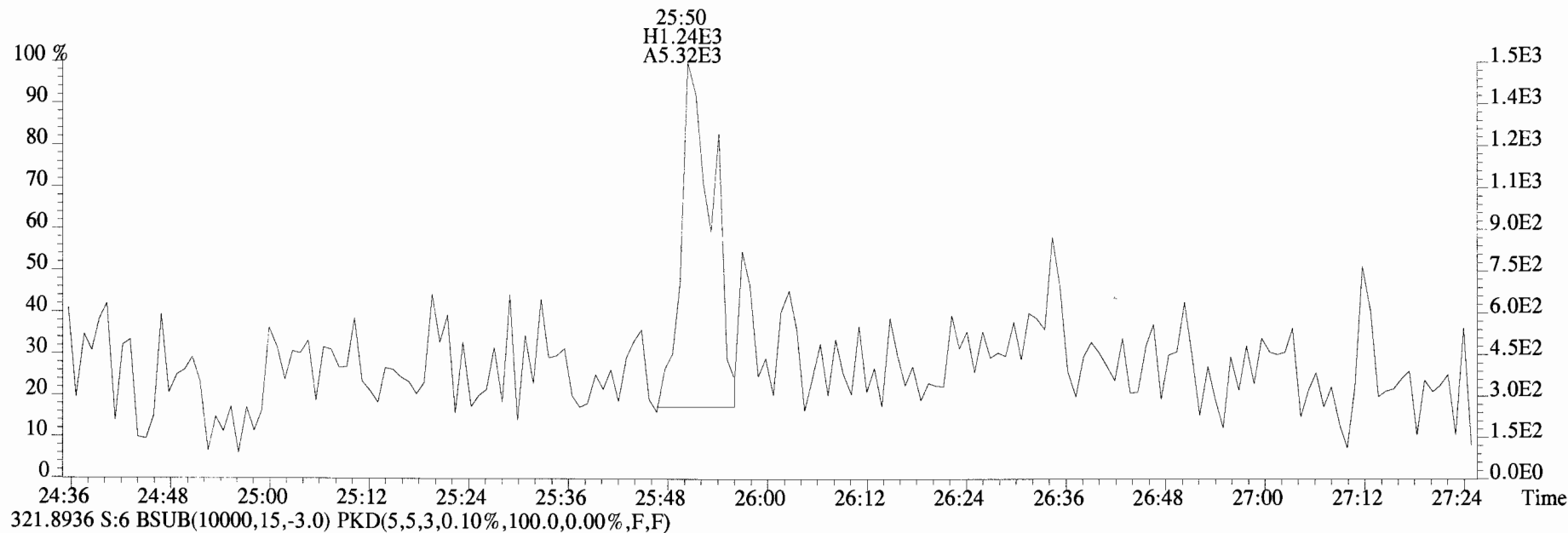
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



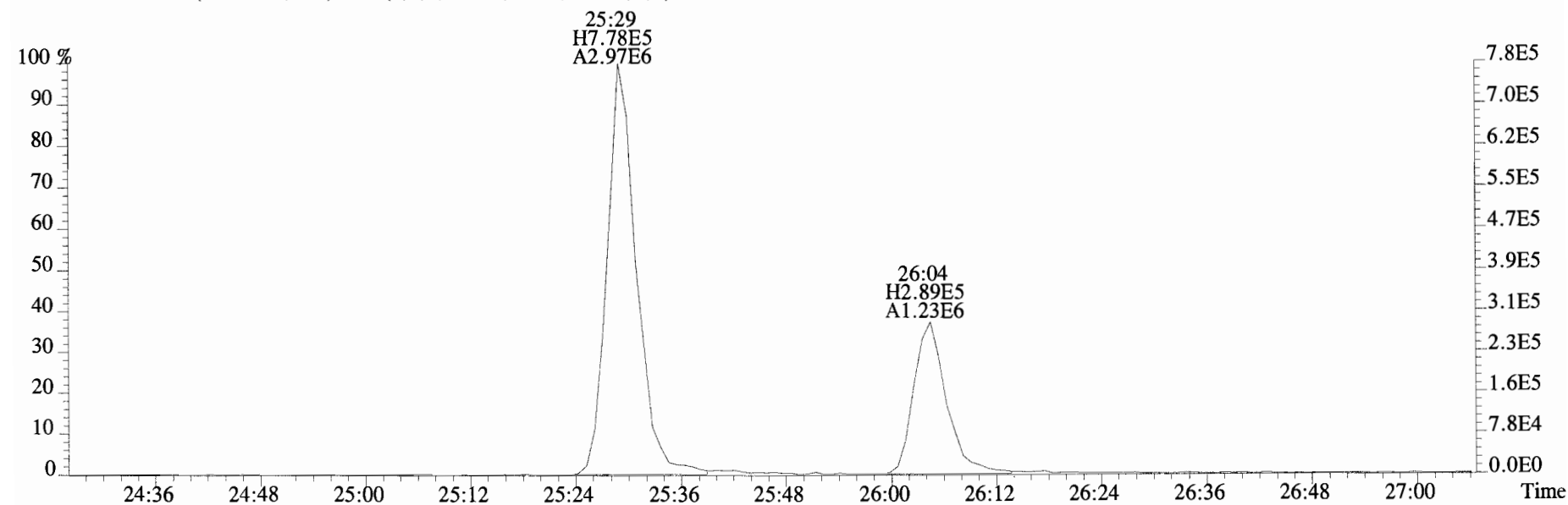
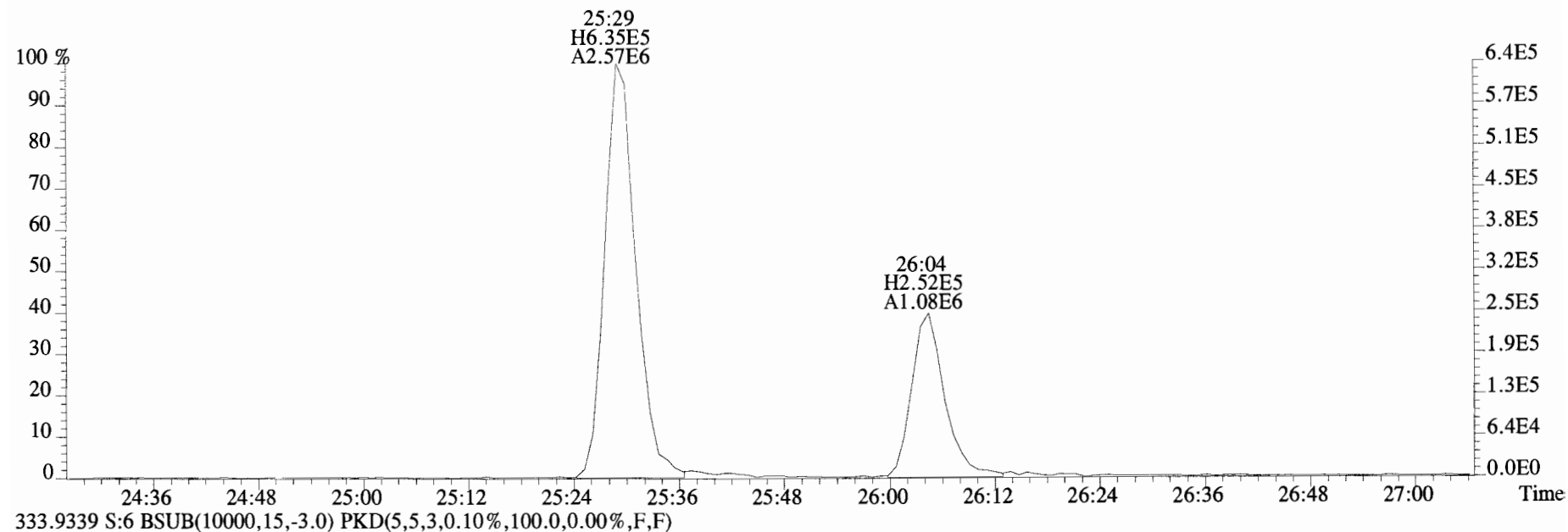
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



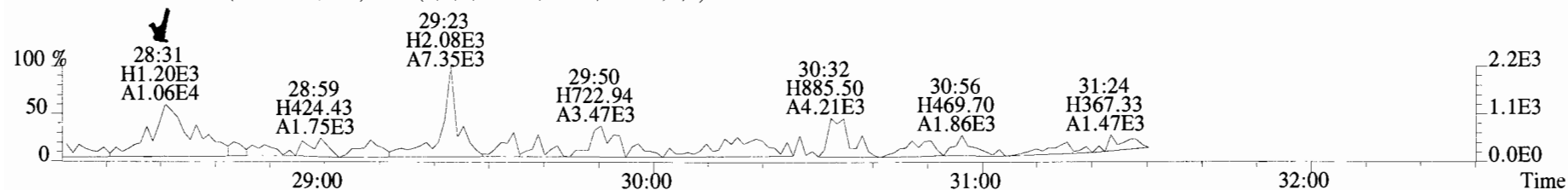
File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



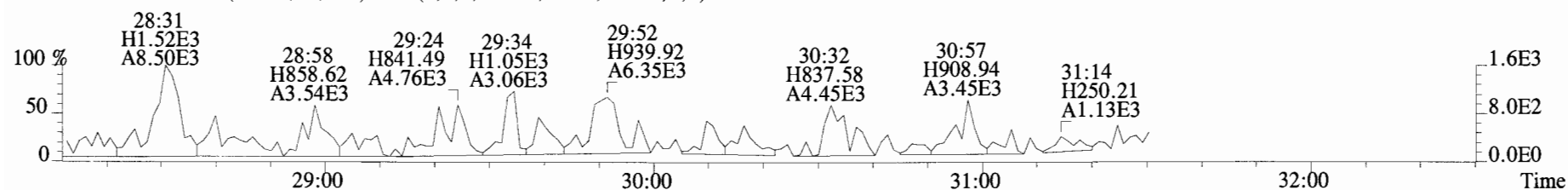
File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



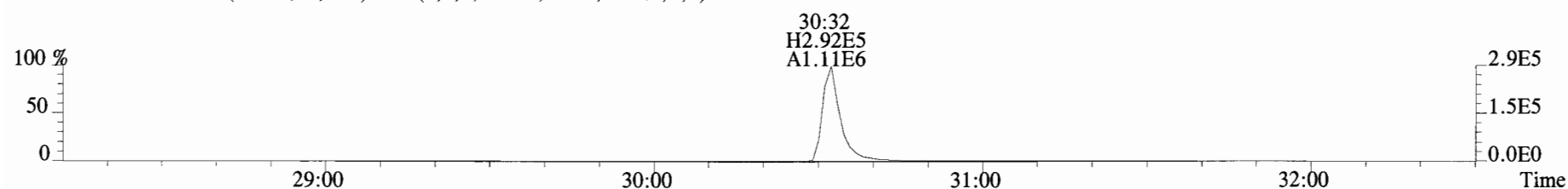
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



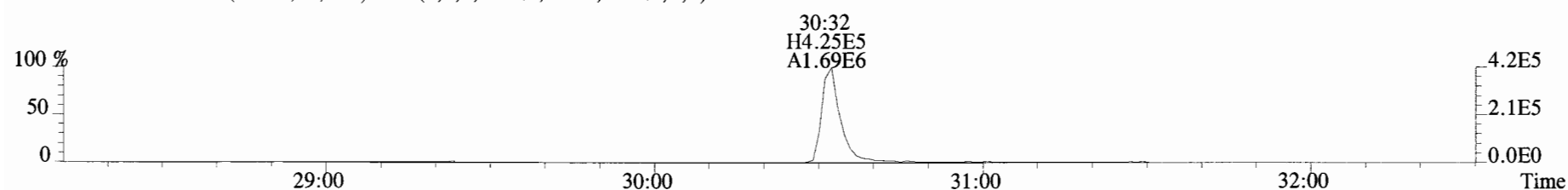
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



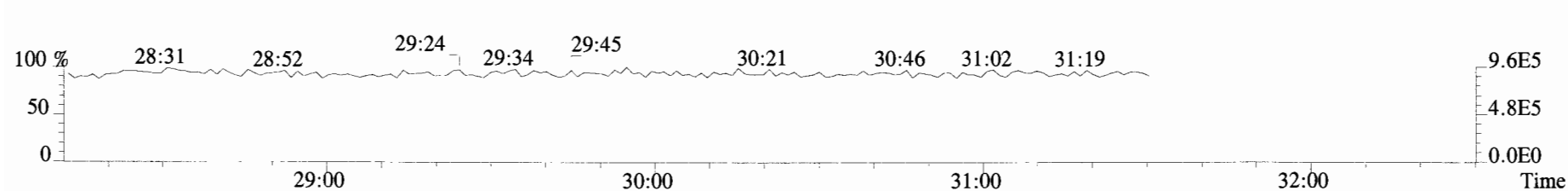
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



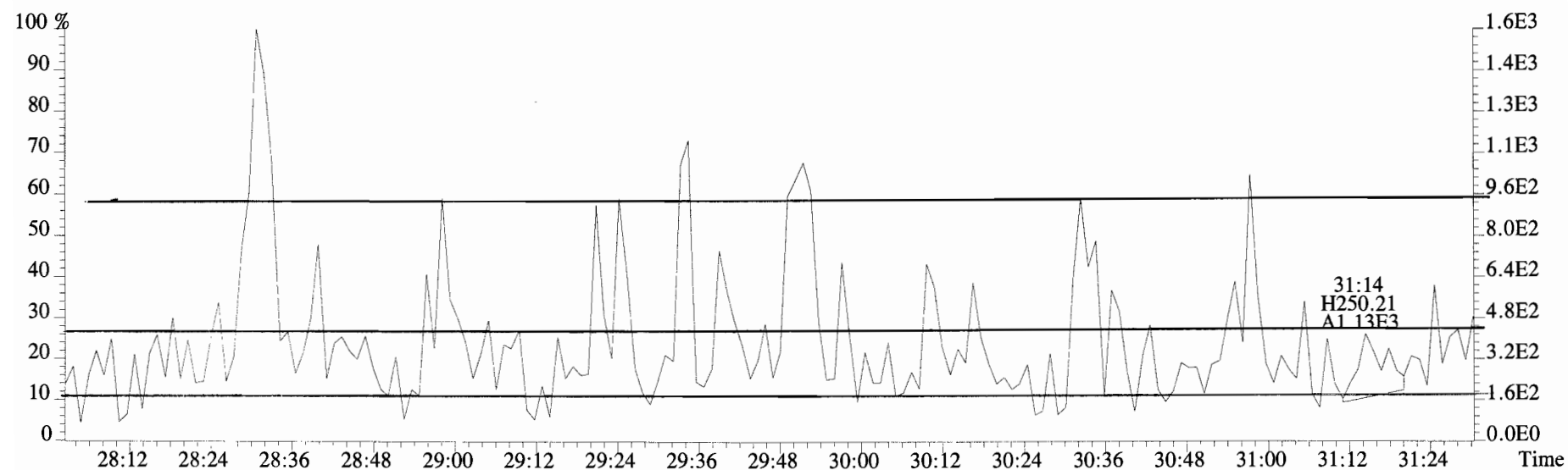
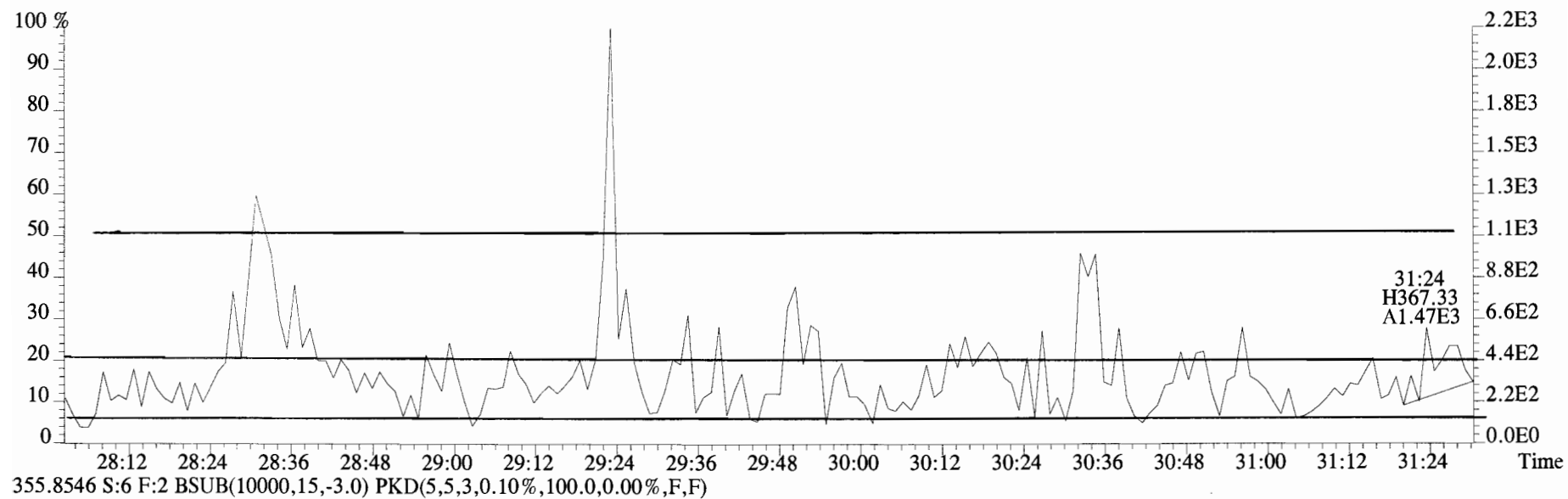
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



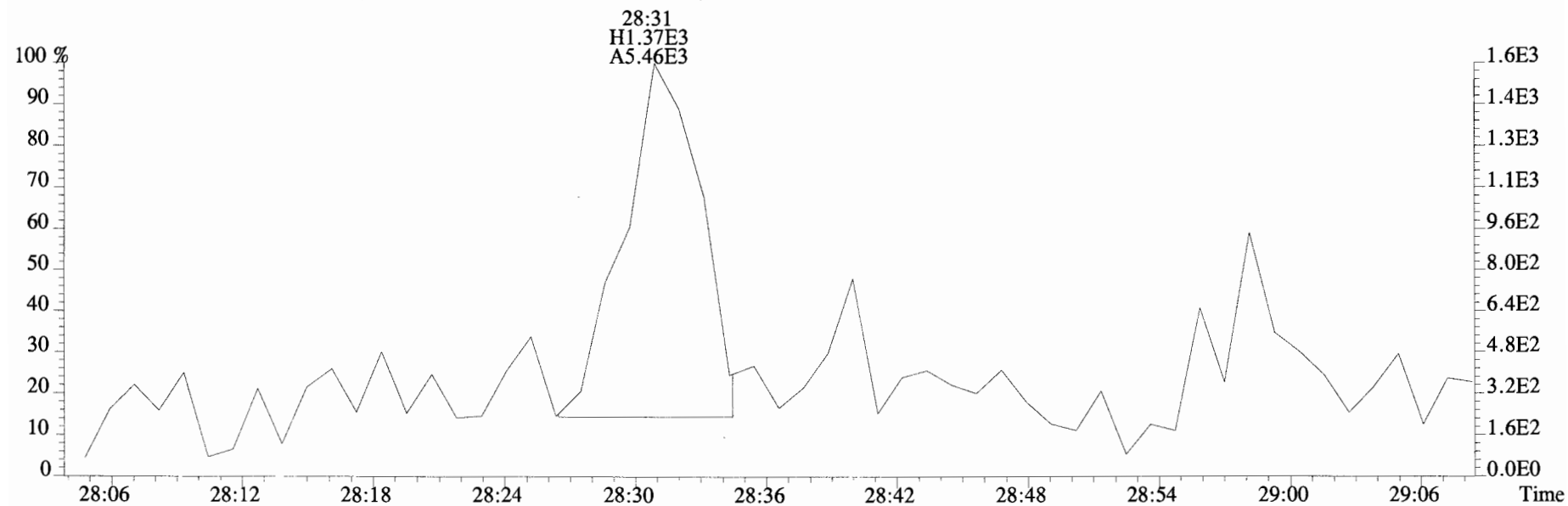
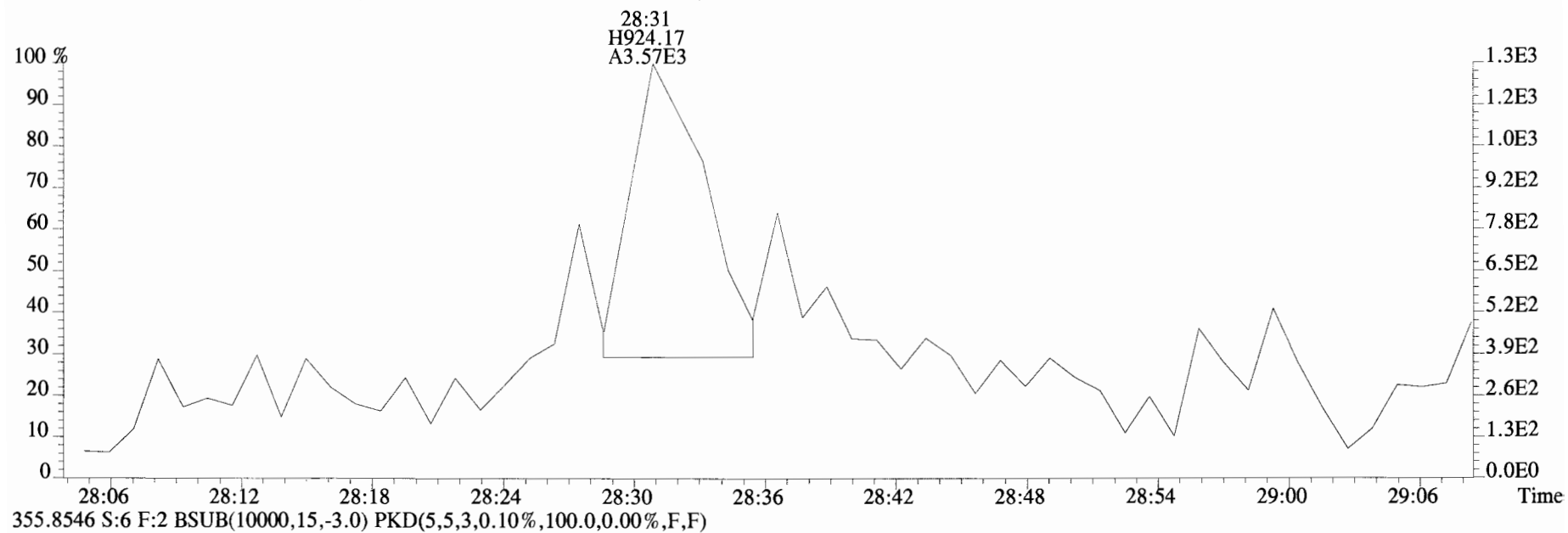
366.9792 S:6 F:2



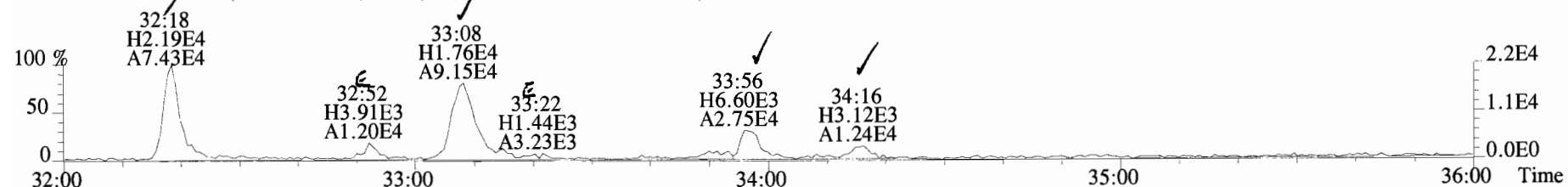
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



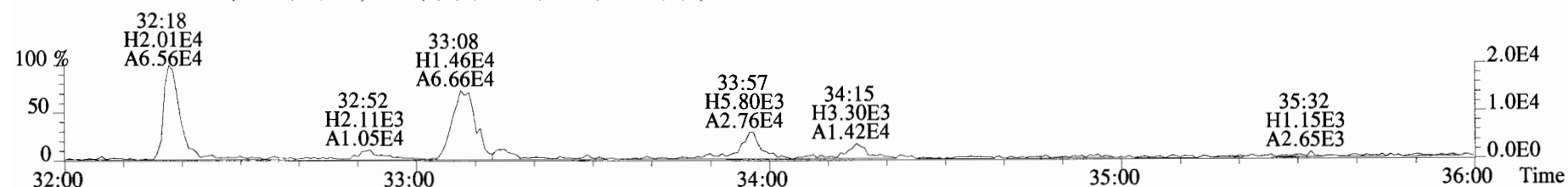
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



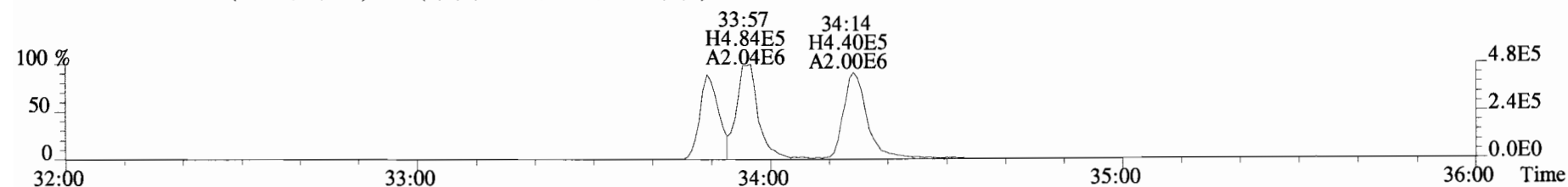
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



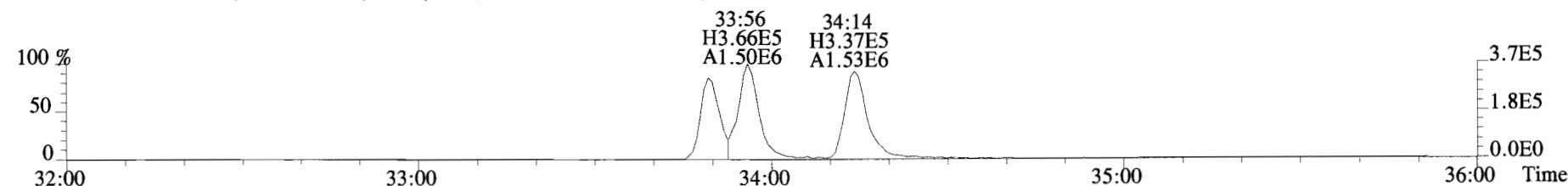
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



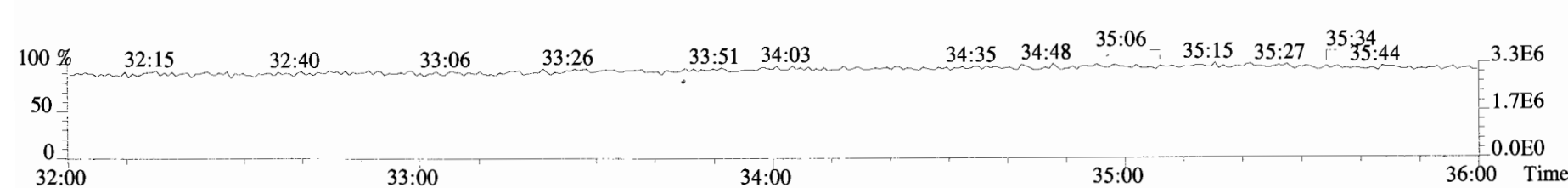
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



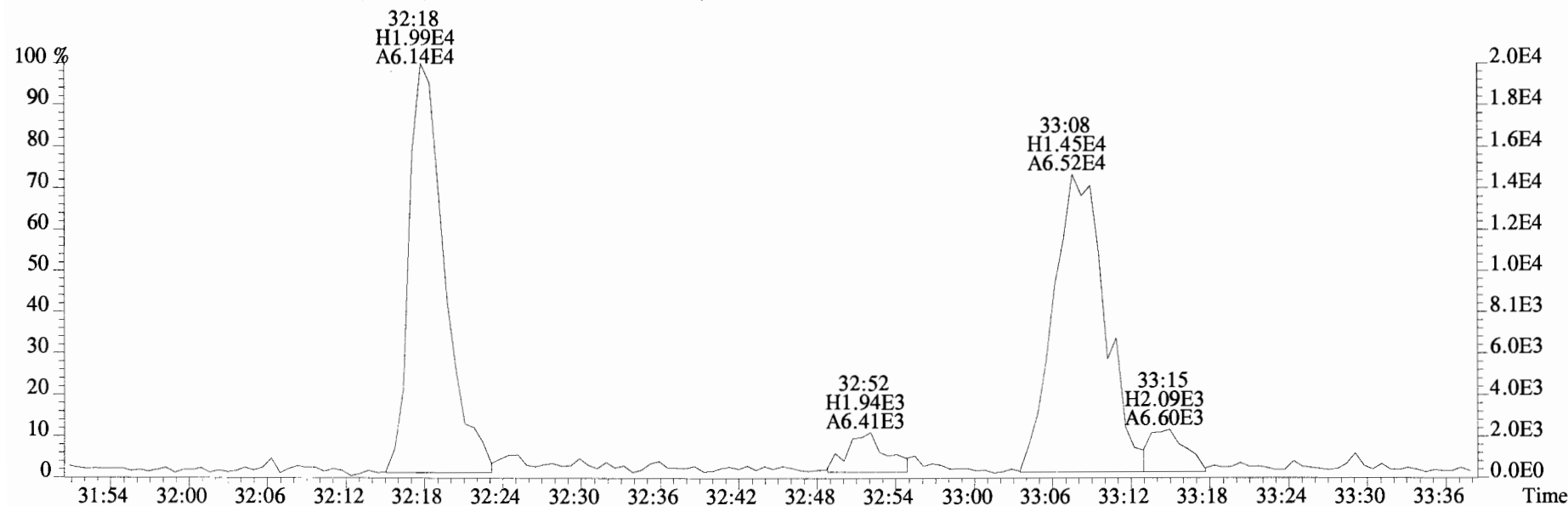
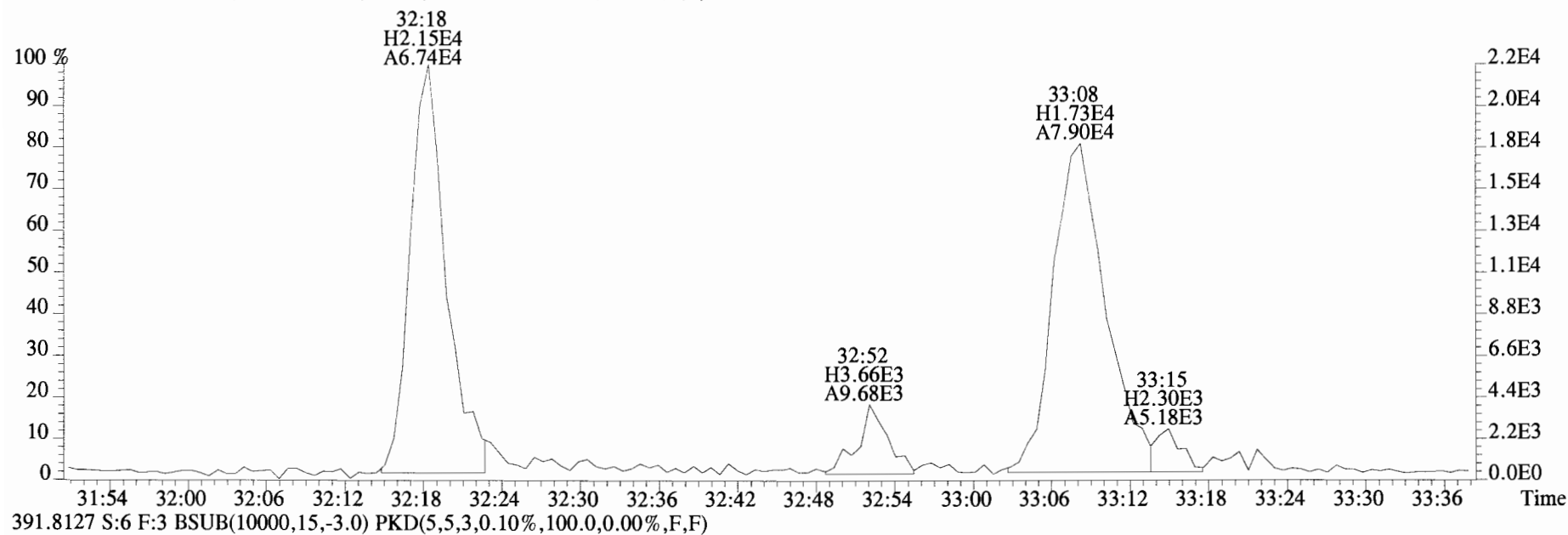
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



392.9760 S:6 F:3



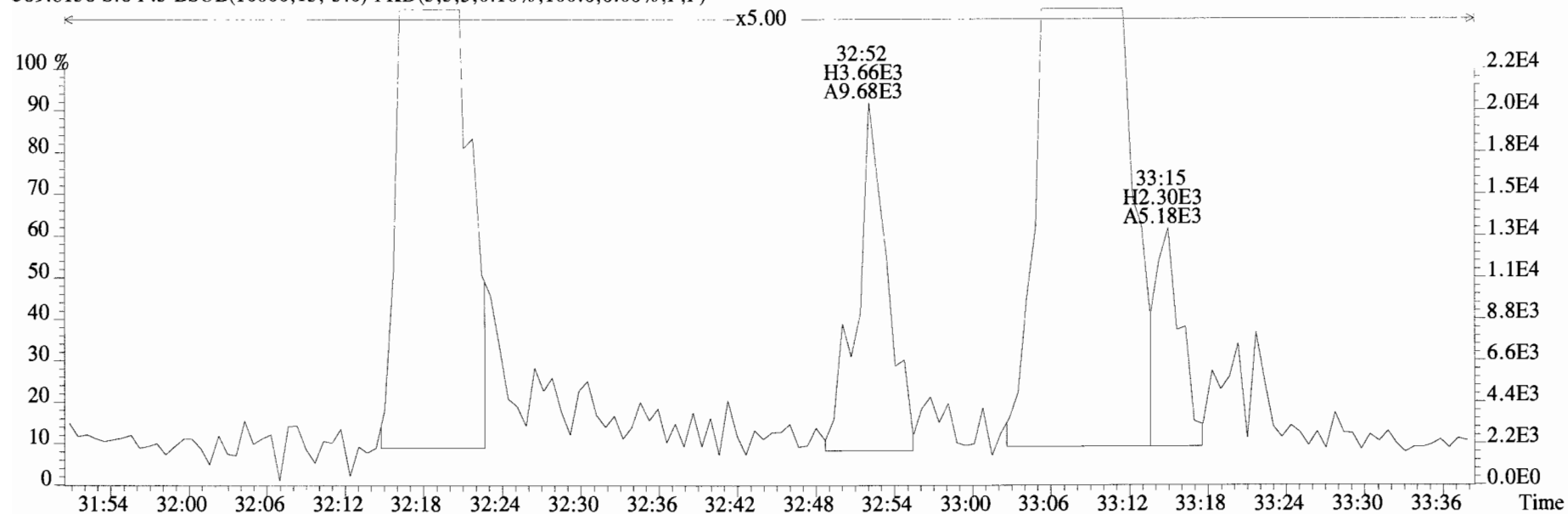
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



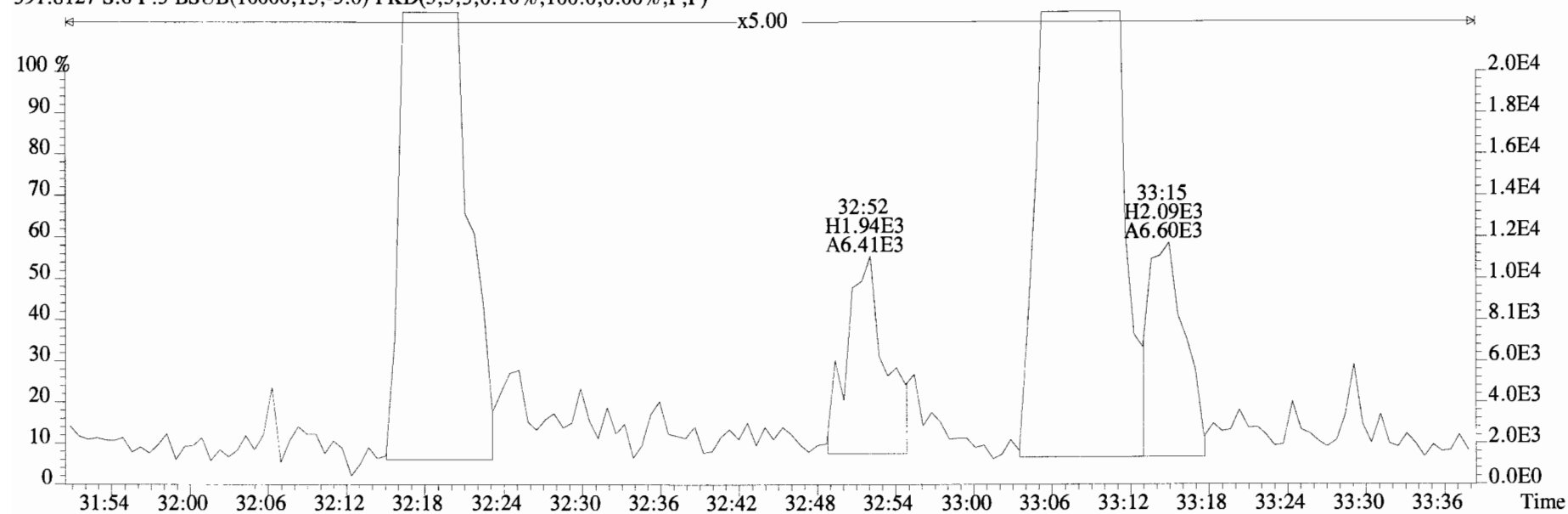
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE

Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5

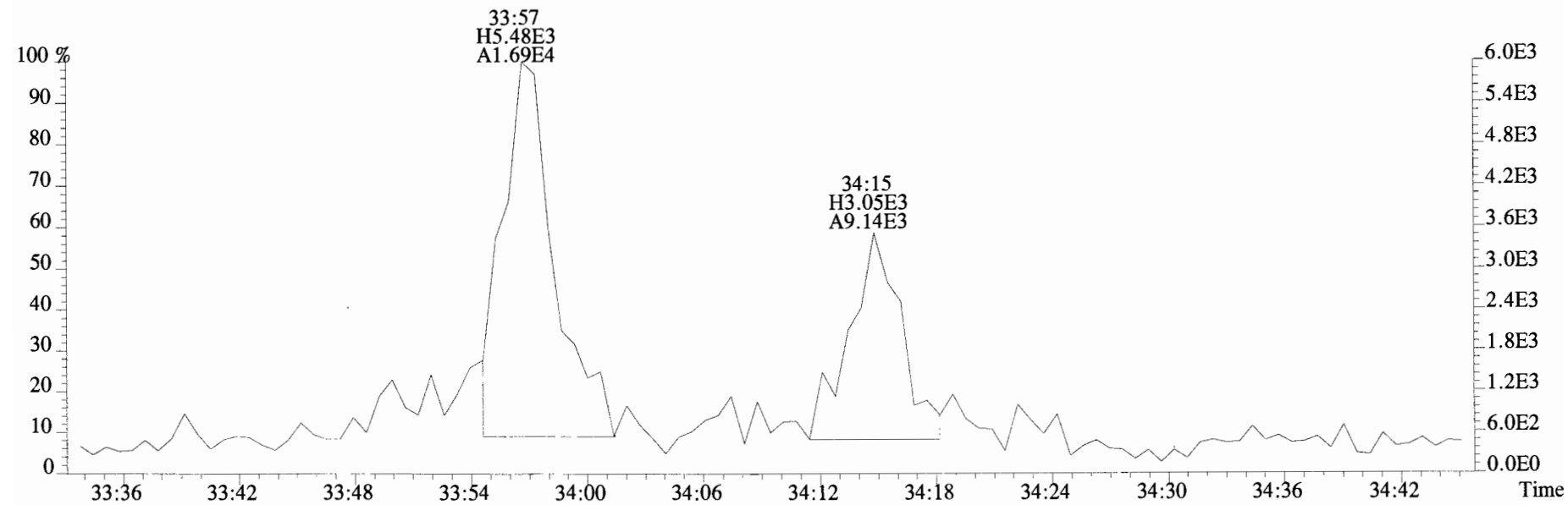
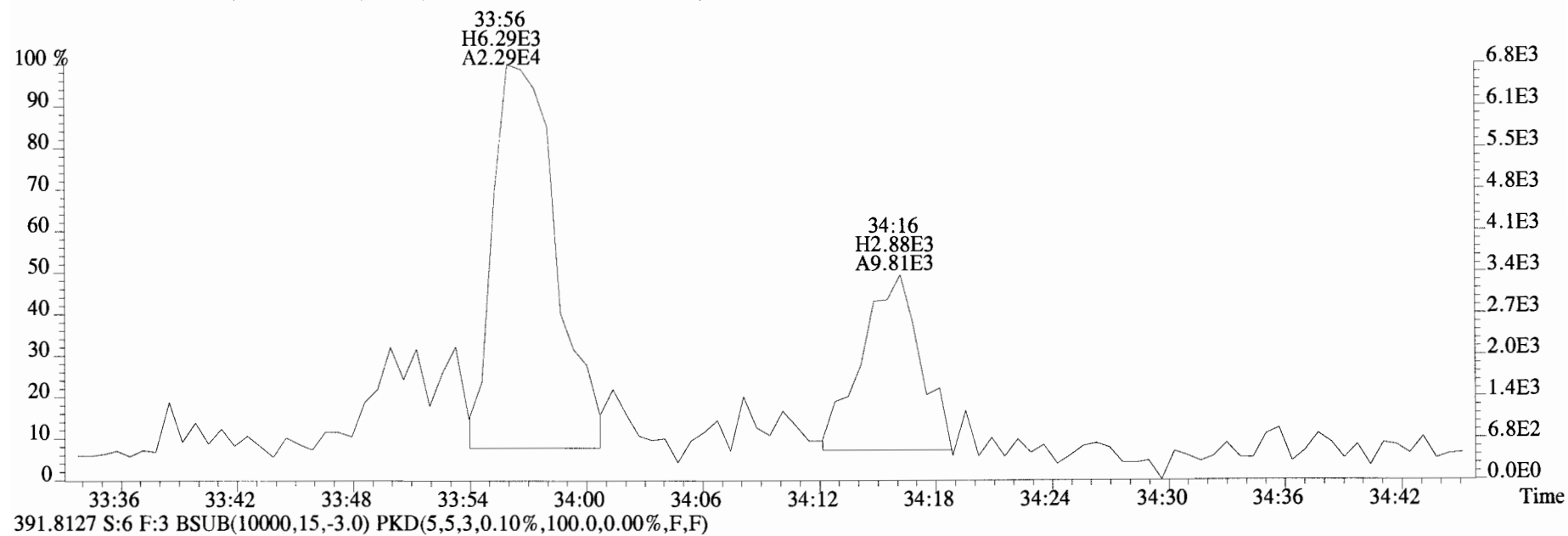
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



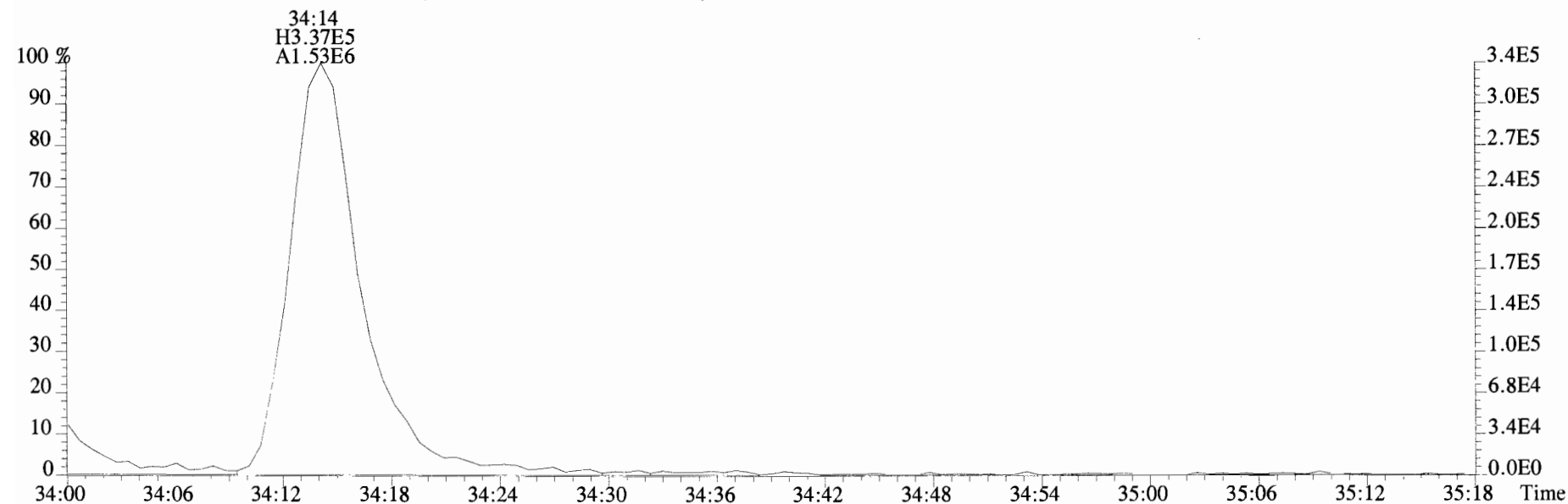
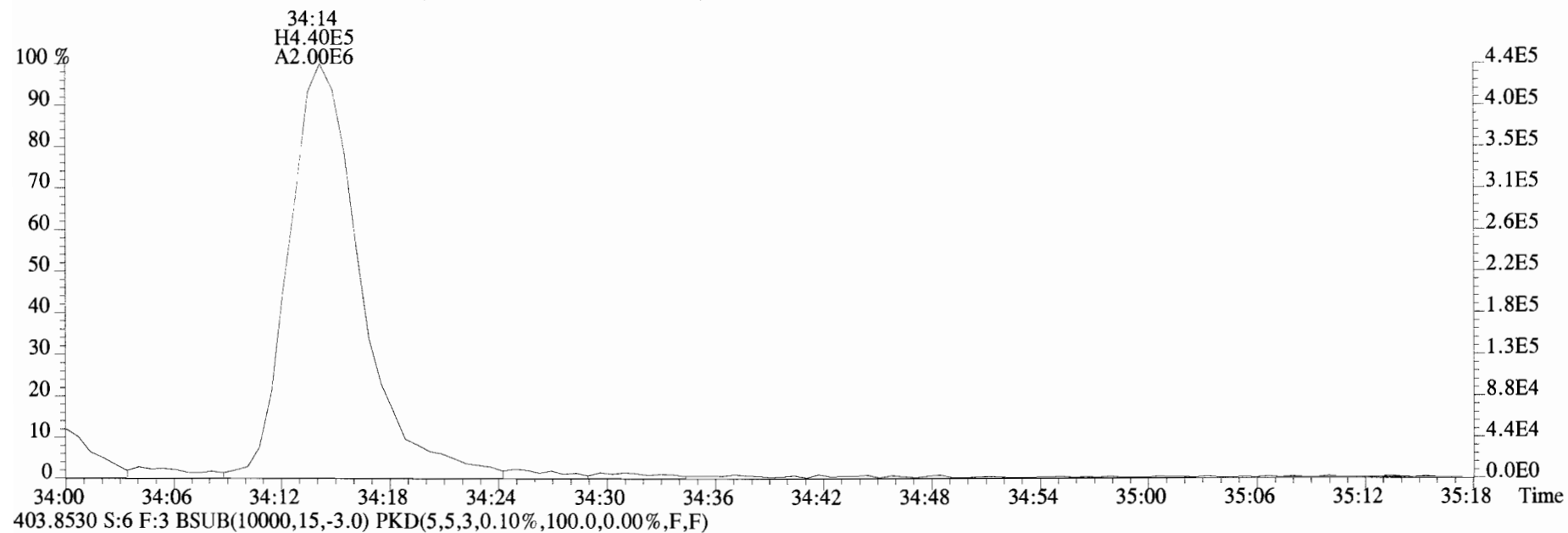
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



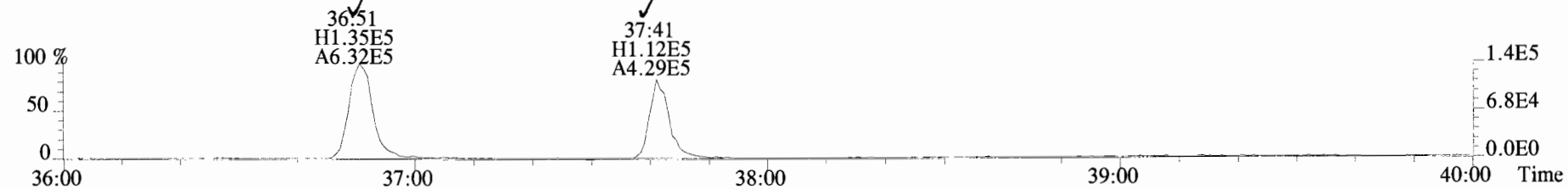
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



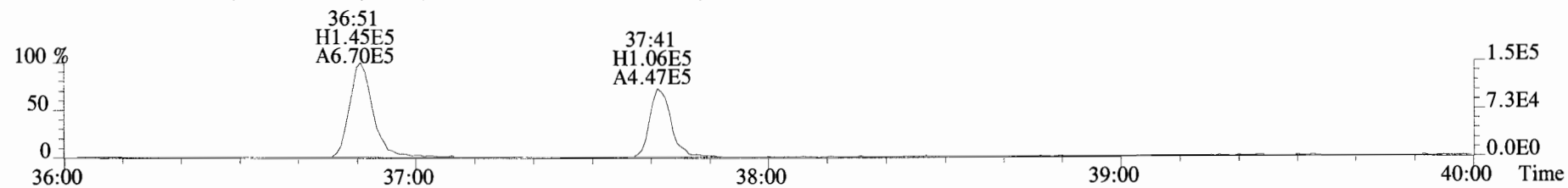
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



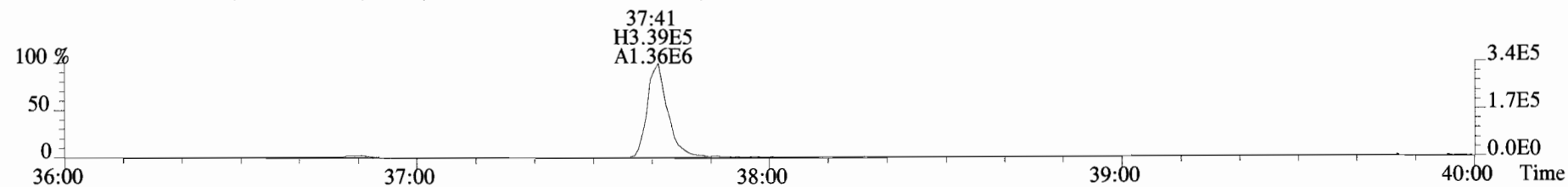
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



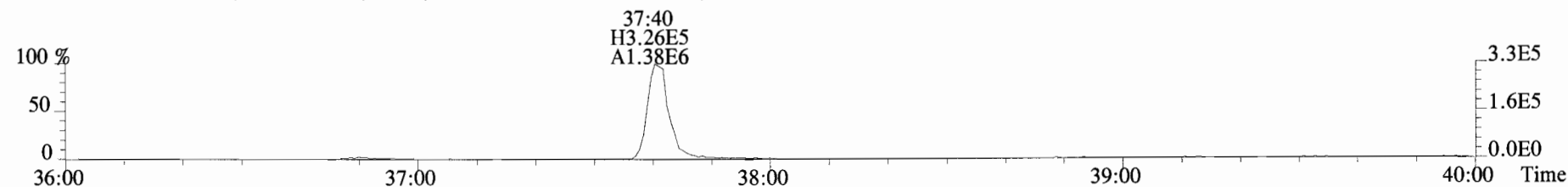
425.7737 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



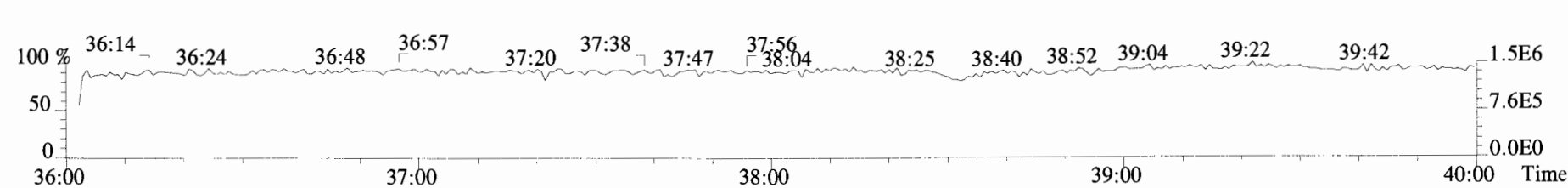
435.8169 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



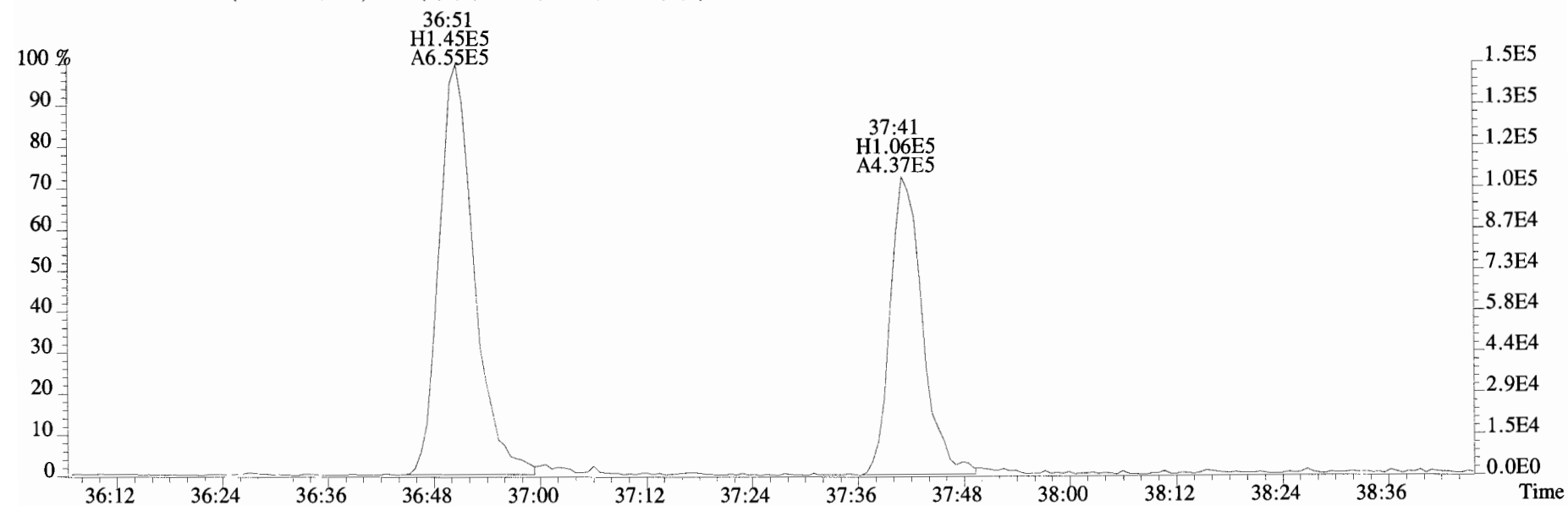
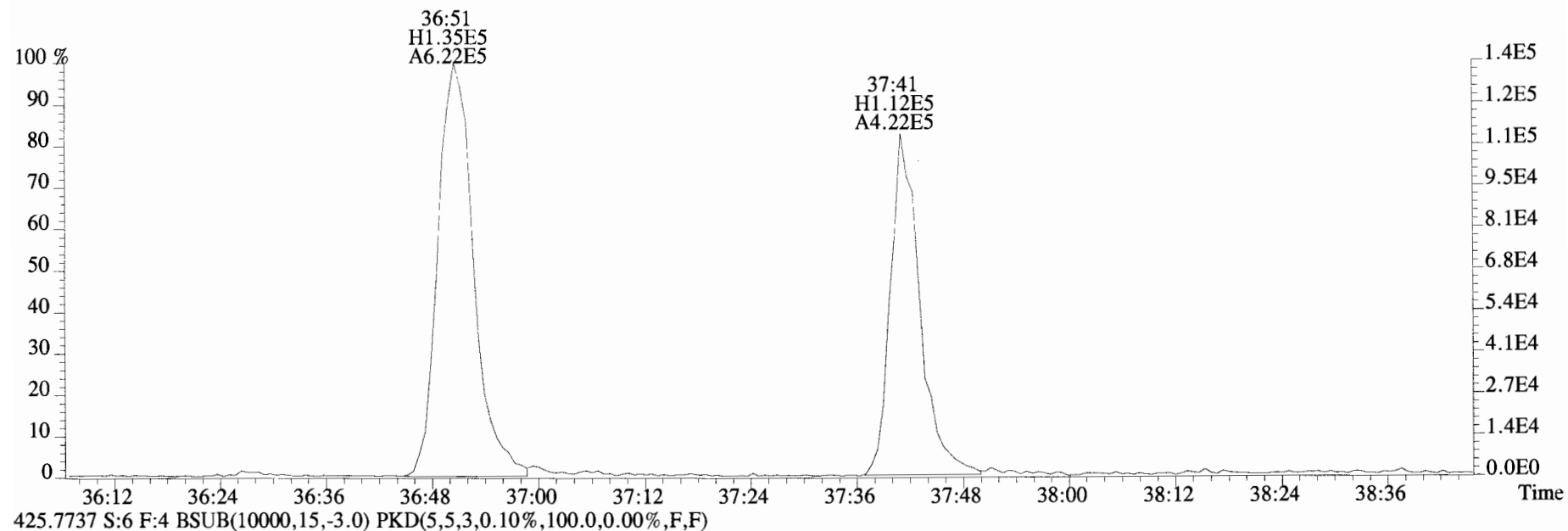
437.8140 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



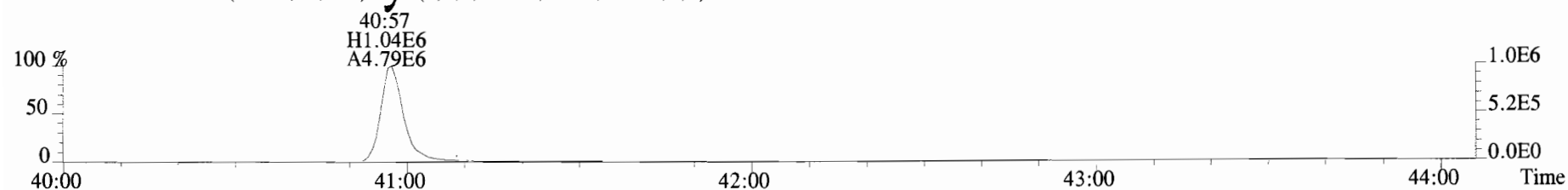
454.9728 S:6 F:4



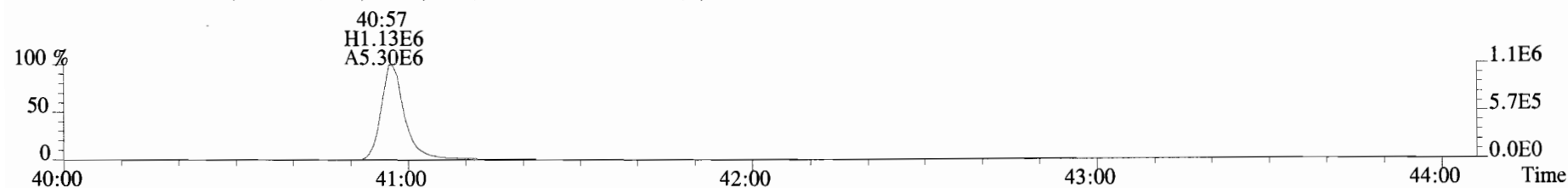
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



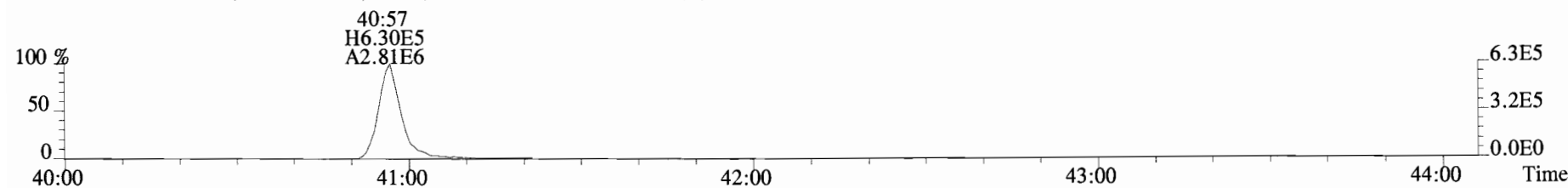
File:190625D1 #1-432 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



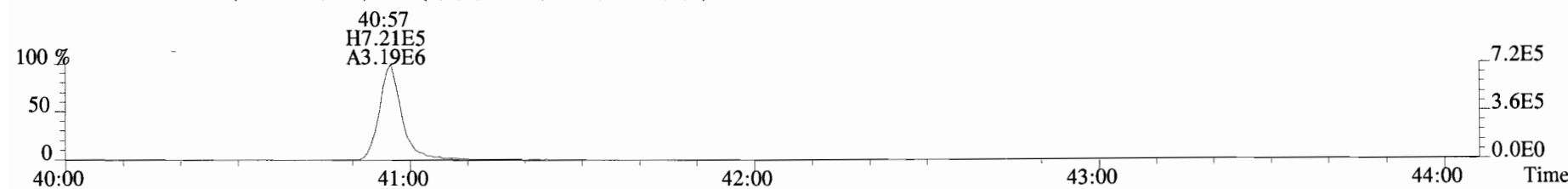
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



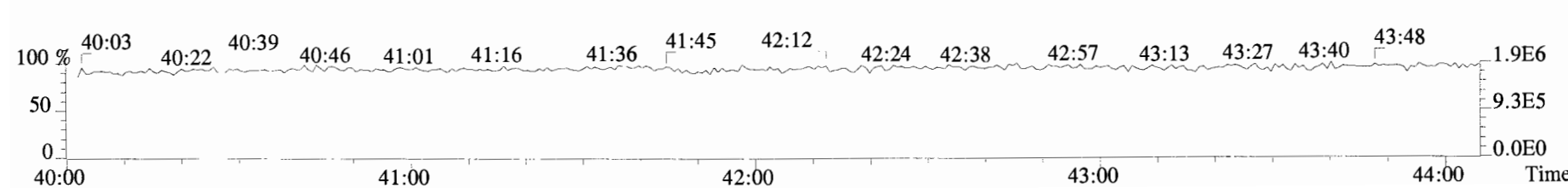
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



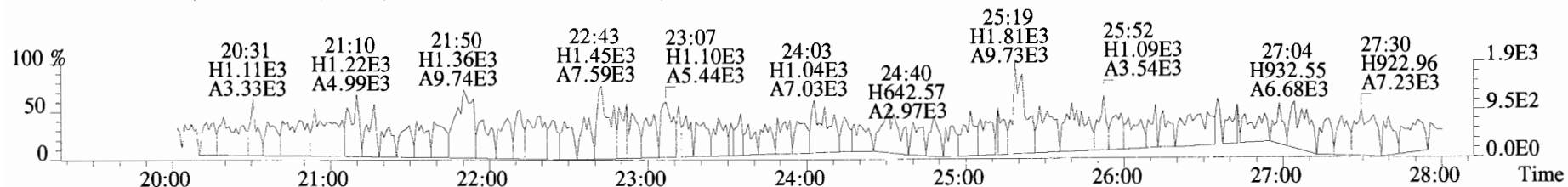
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



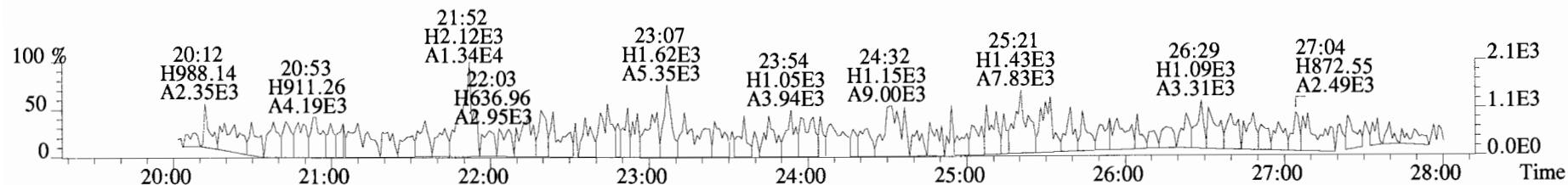
454.9728 S:6 F:5



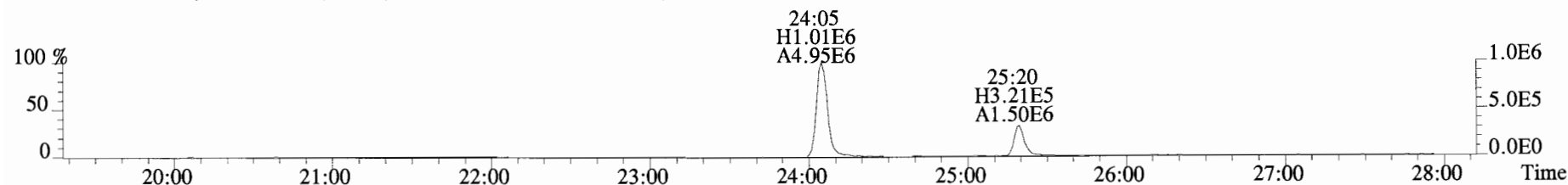
File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



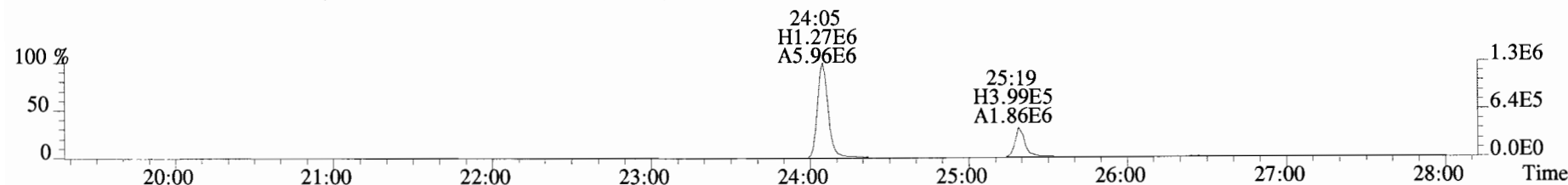
305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



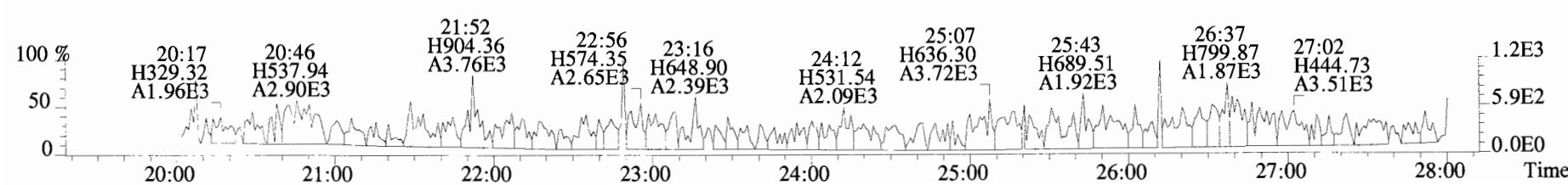
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



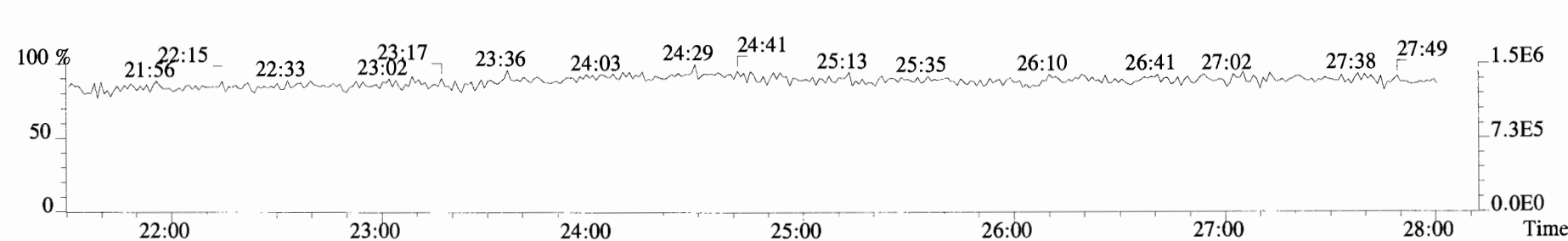
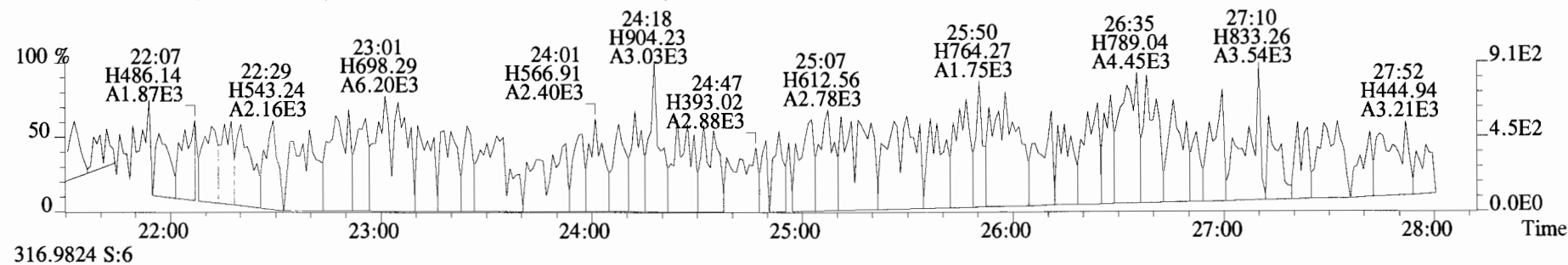
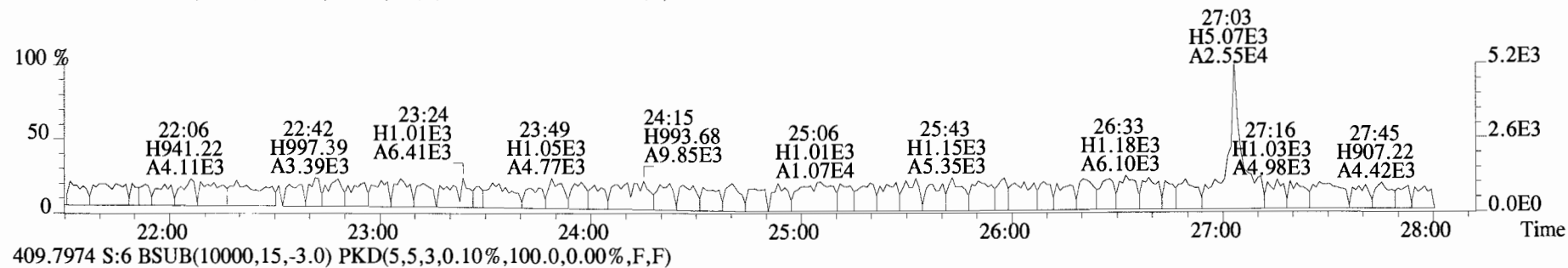
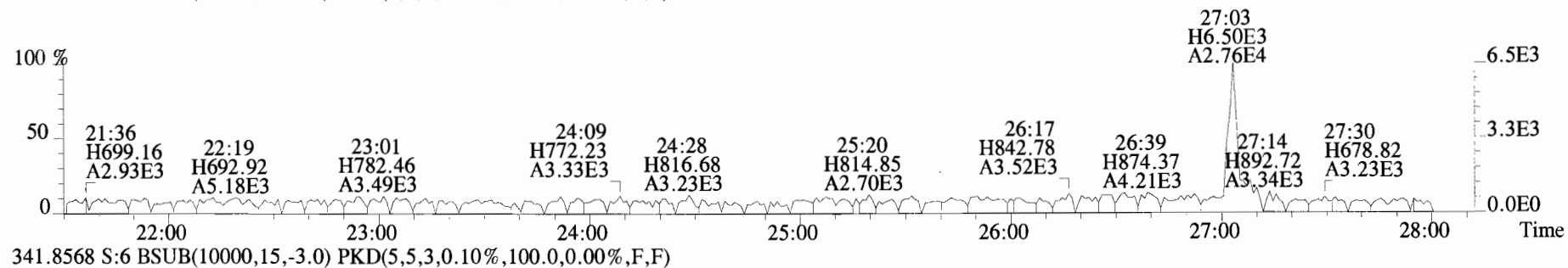
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



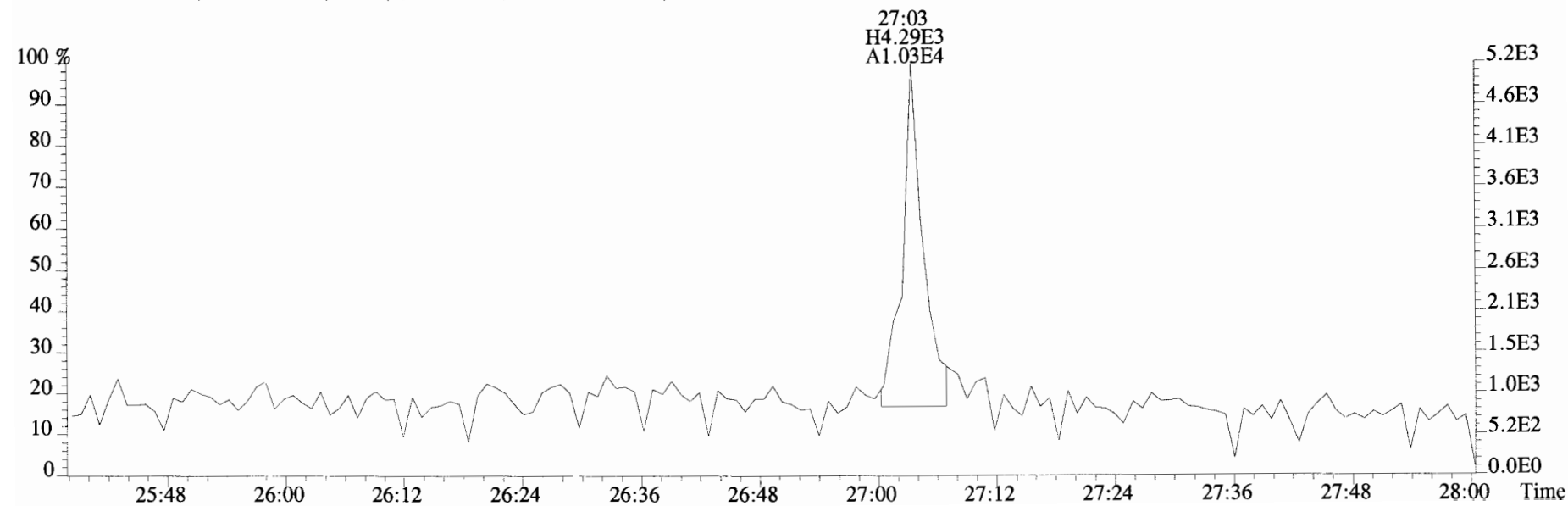
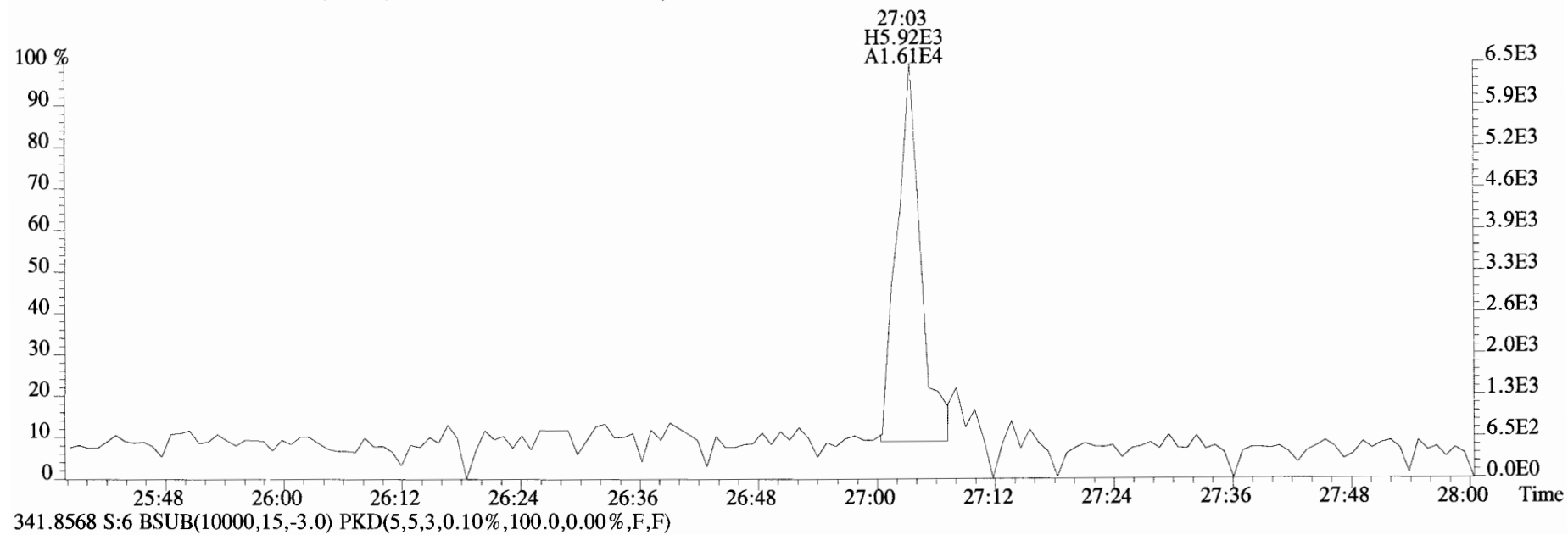
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



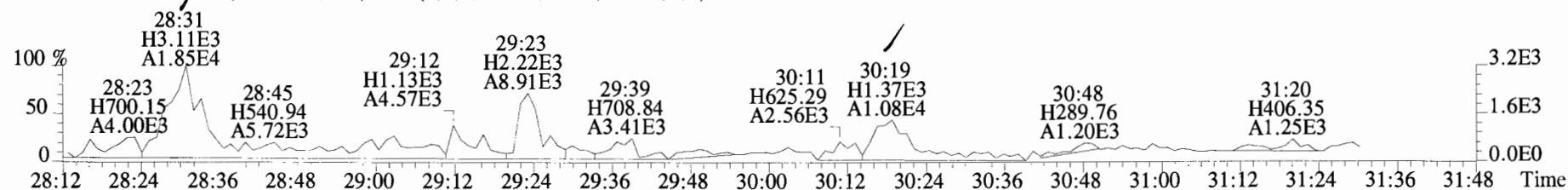
File:190625D1 #1-513 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



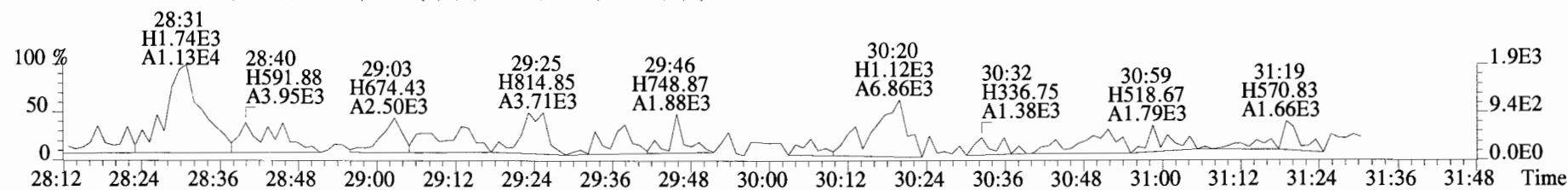
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE

Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5

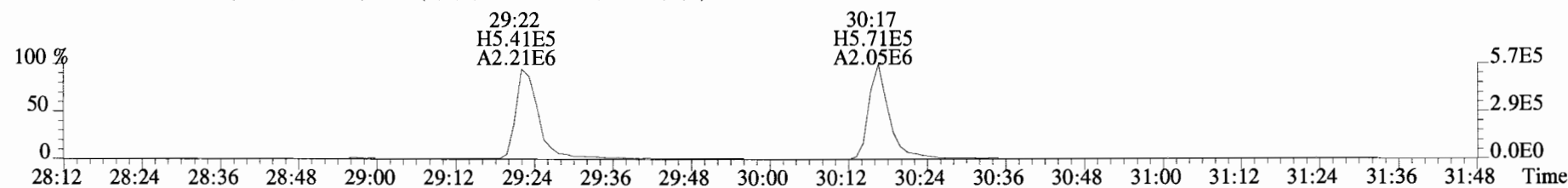
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



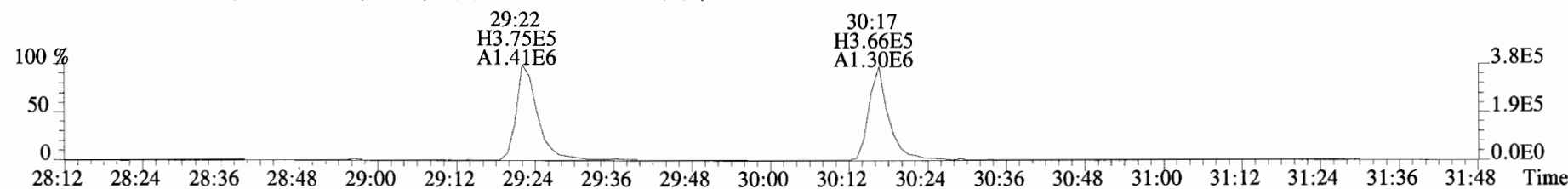
341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



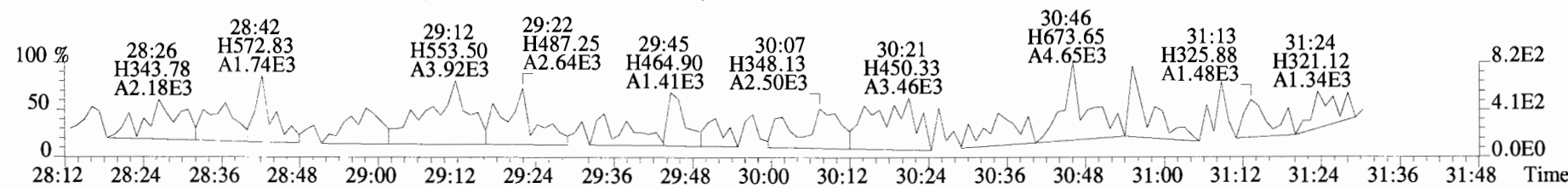
351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



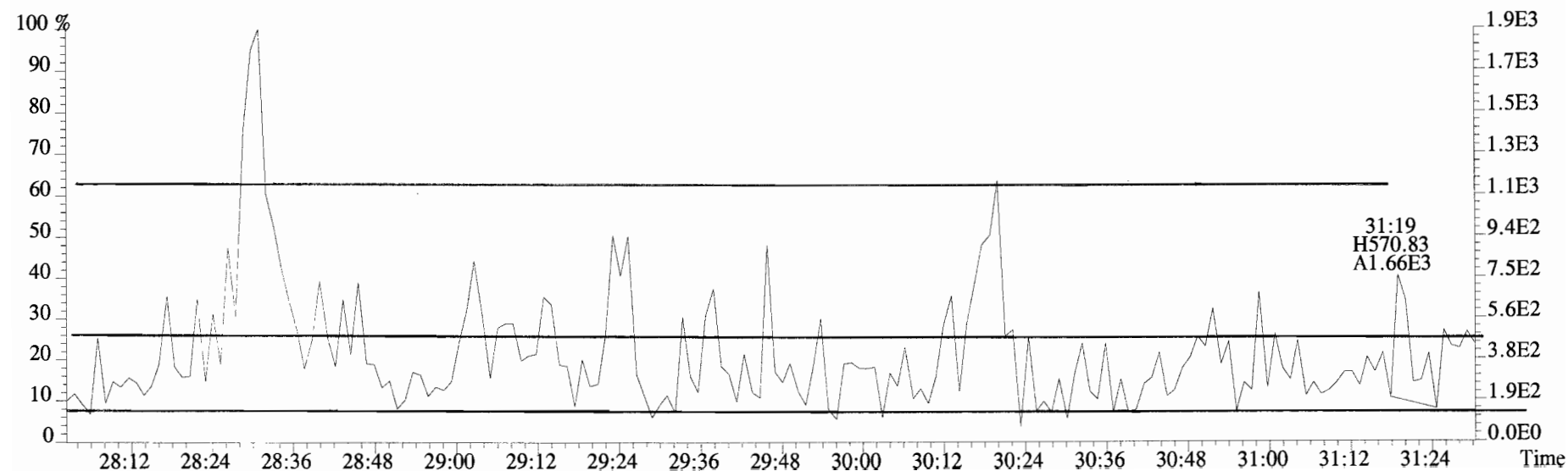
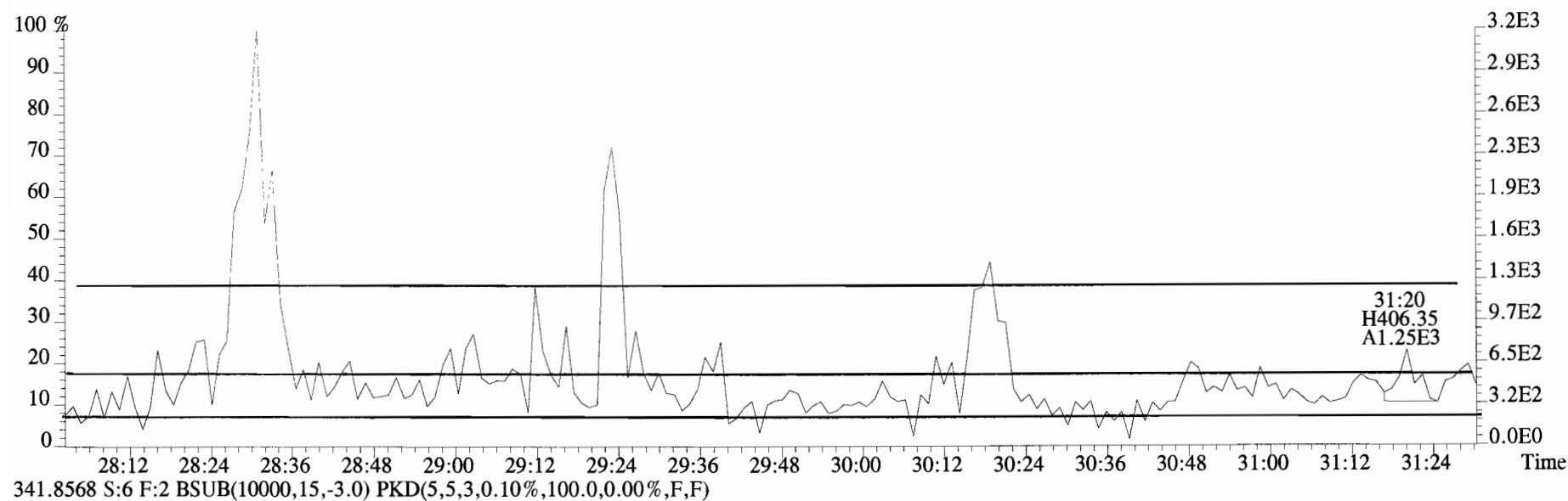
353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



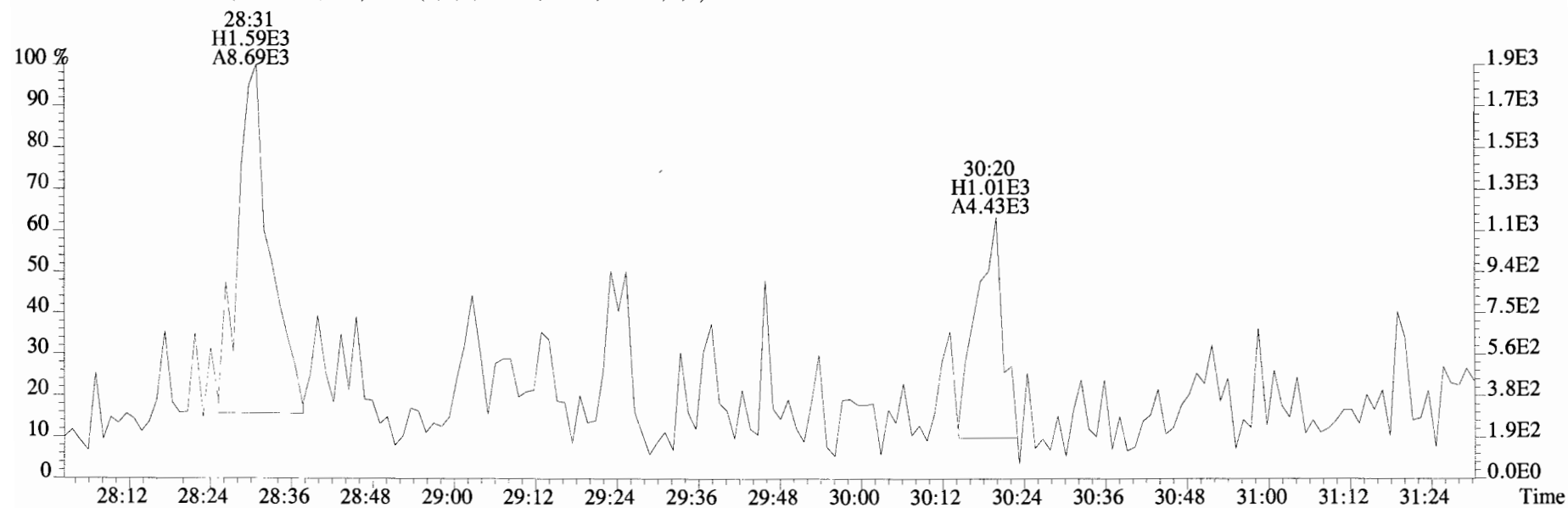
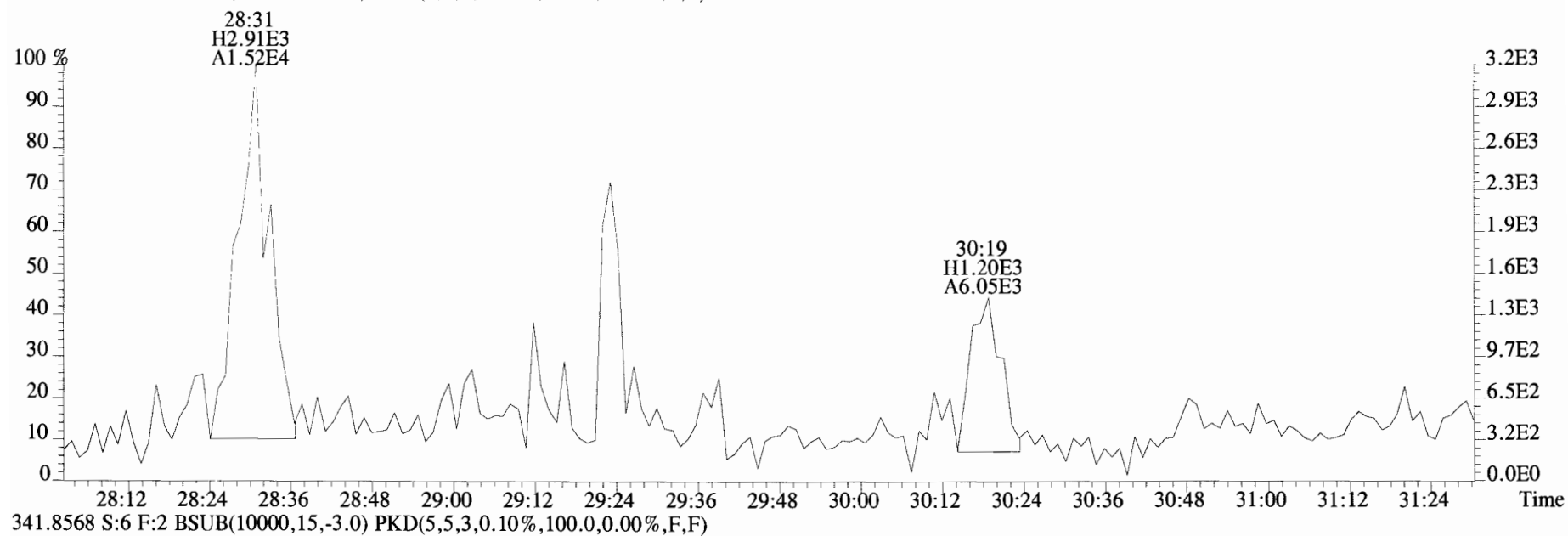
409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



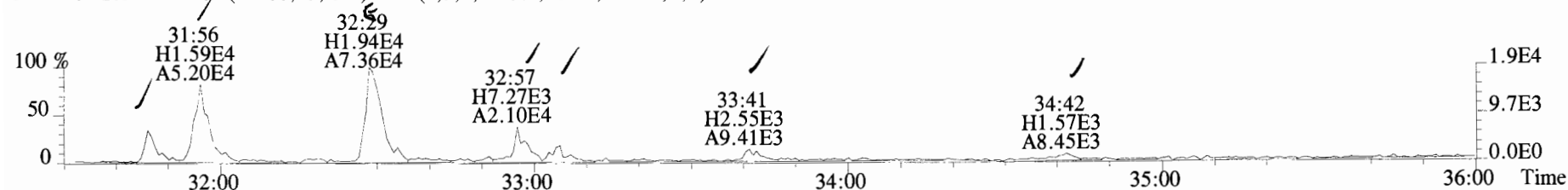
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



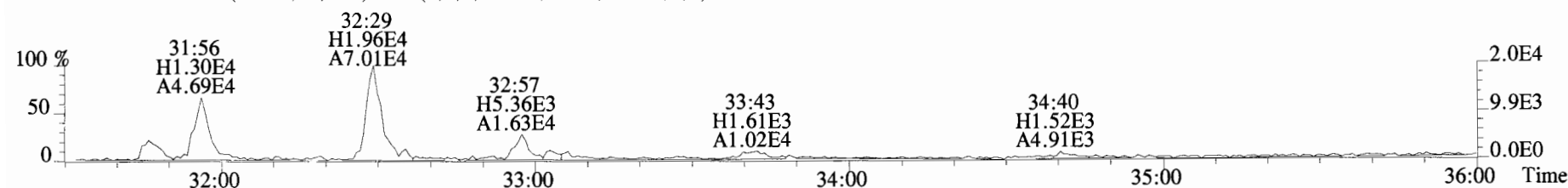
File:190625D1 #1-184 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



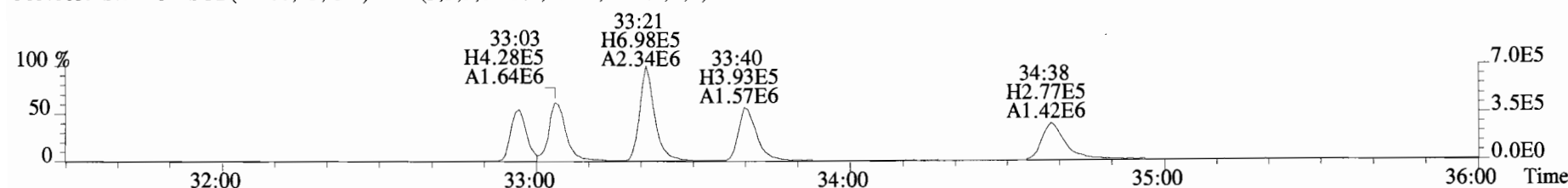
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



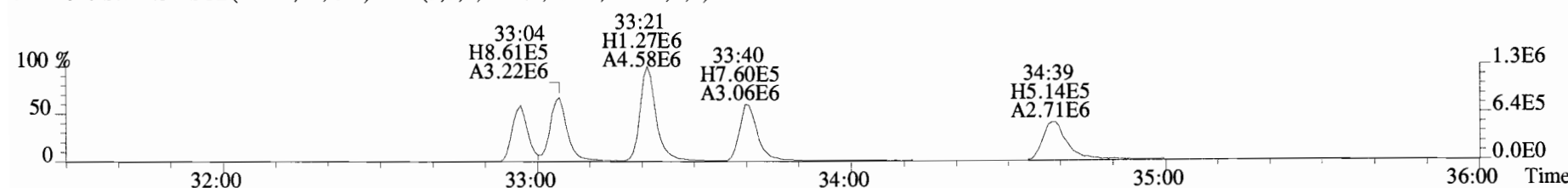
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



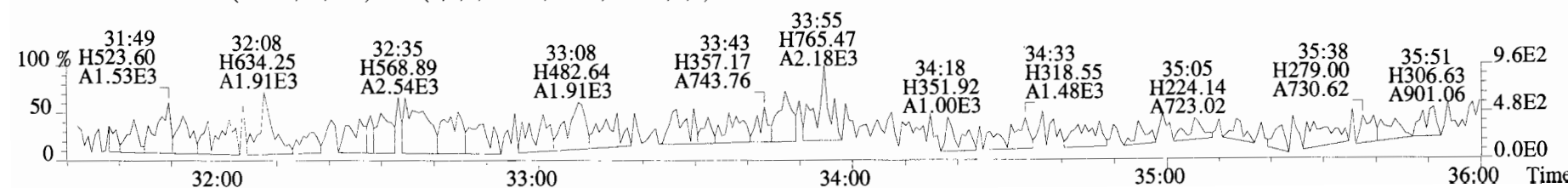
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



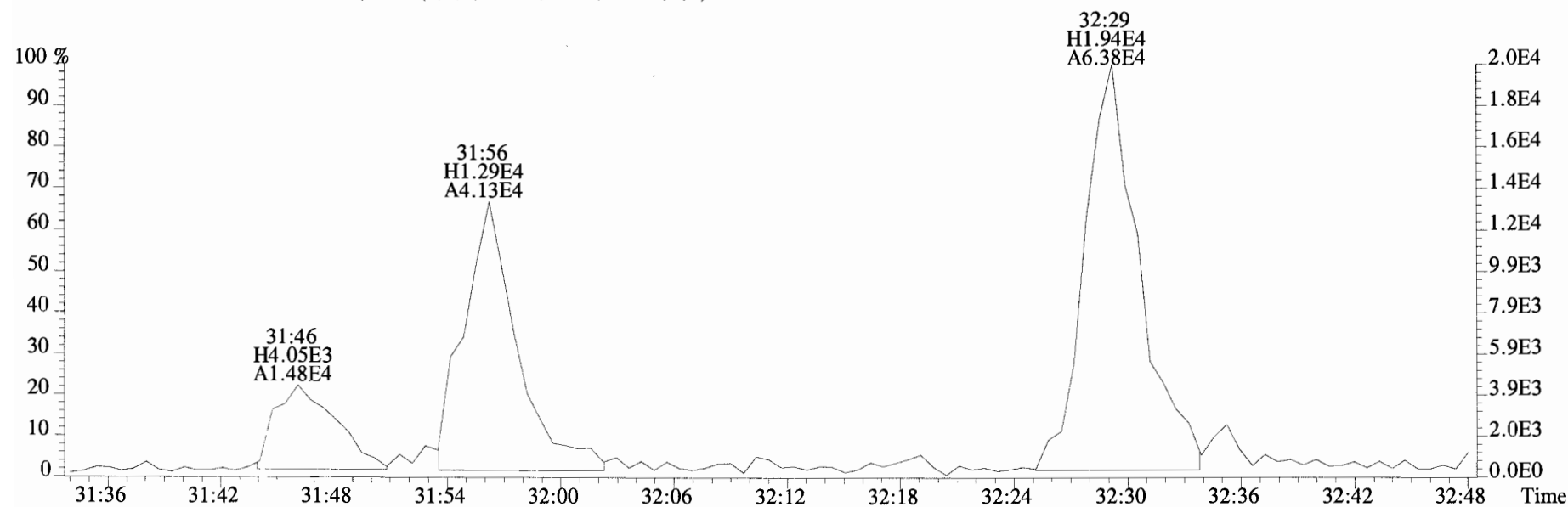
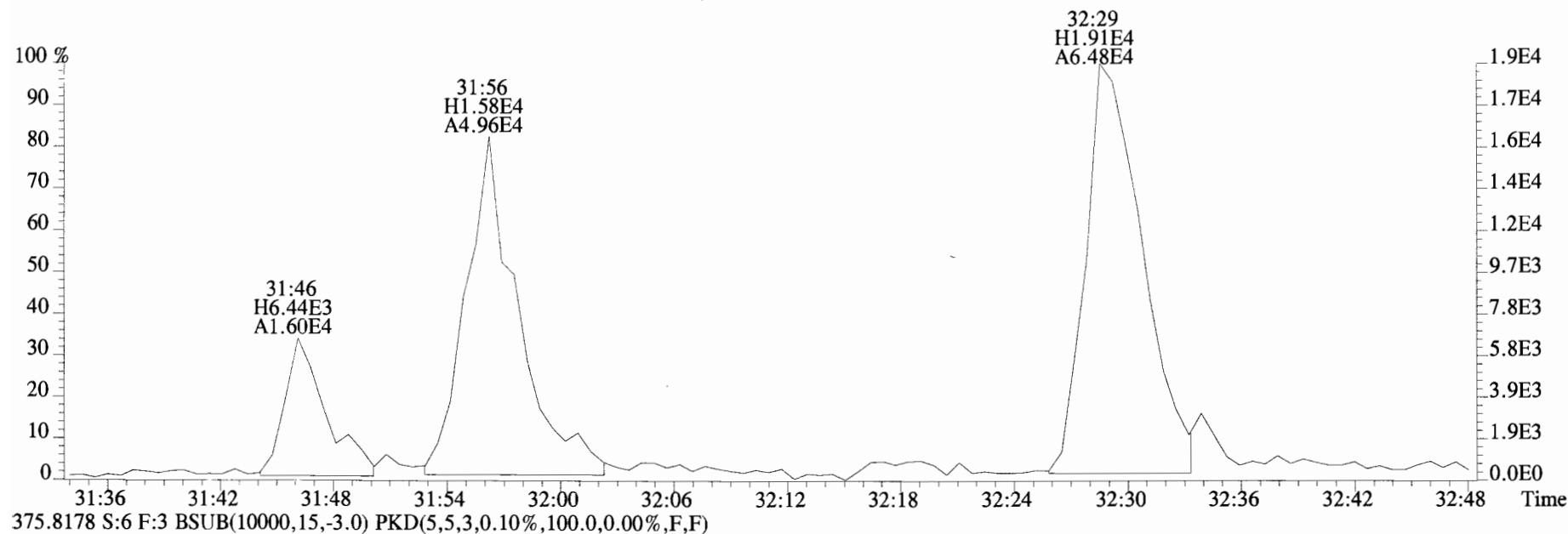
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



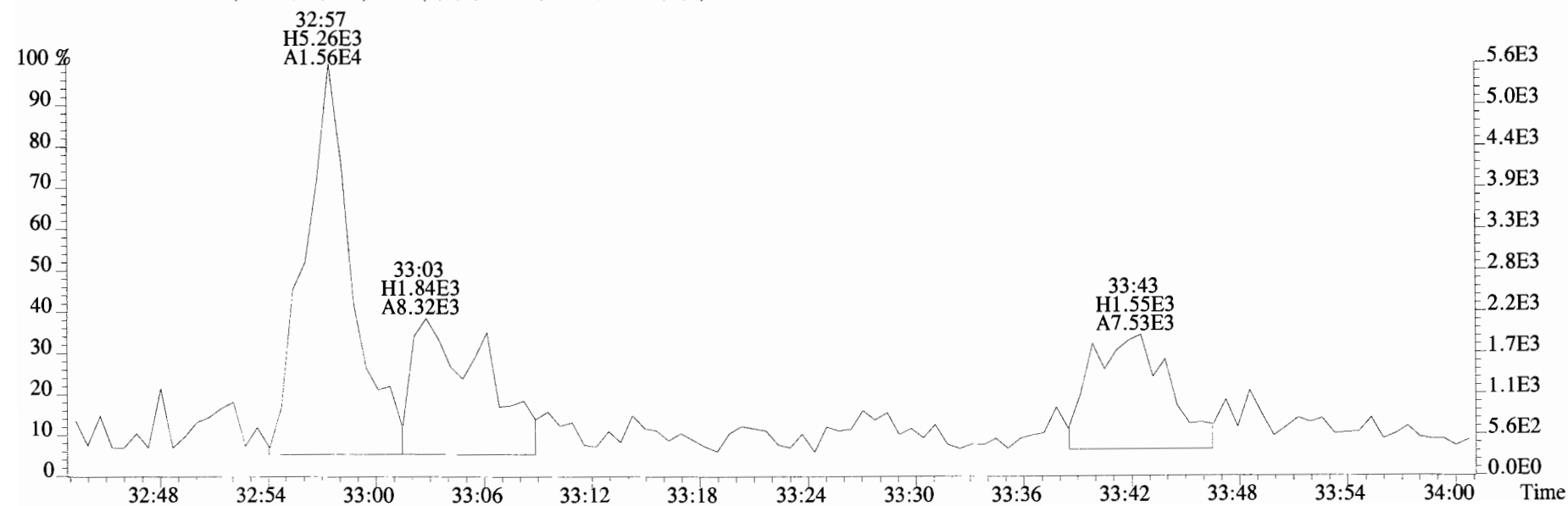
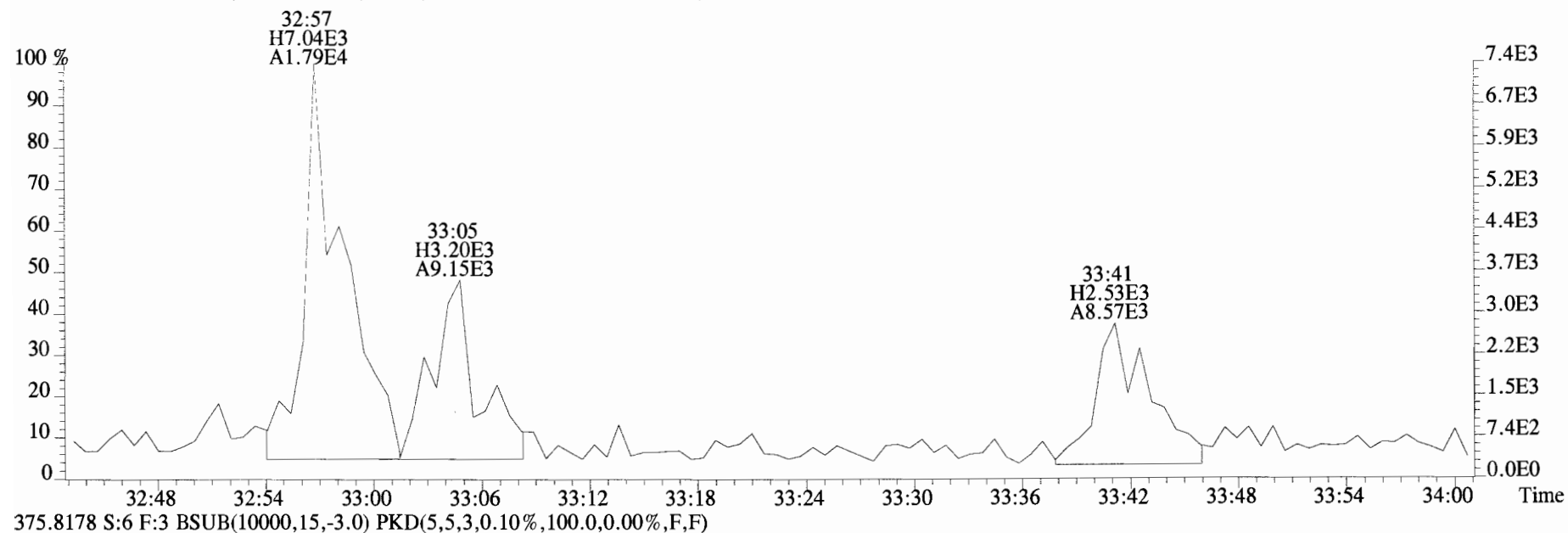
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



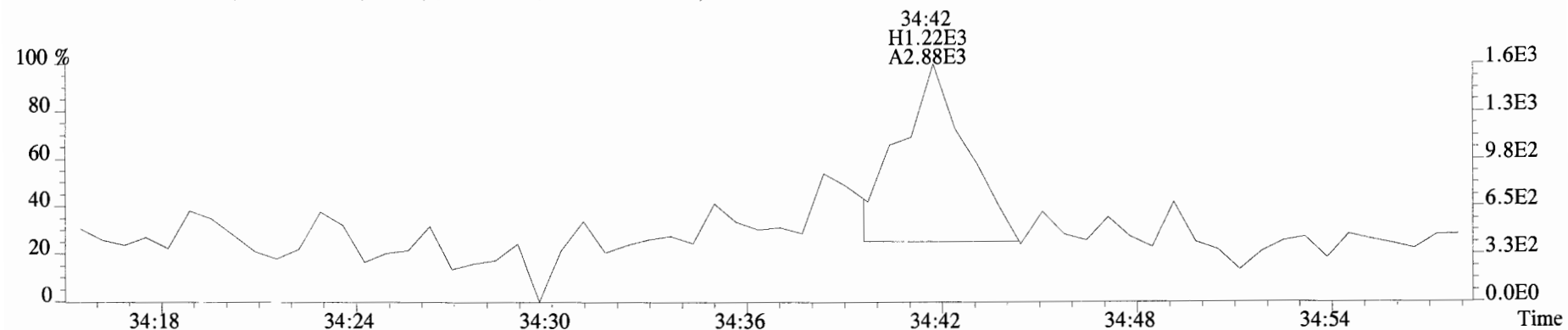
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



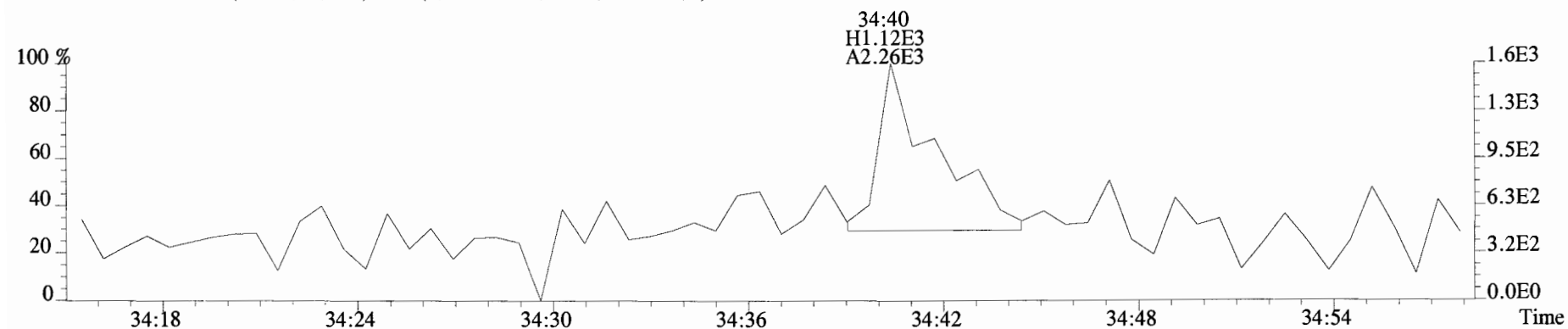
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



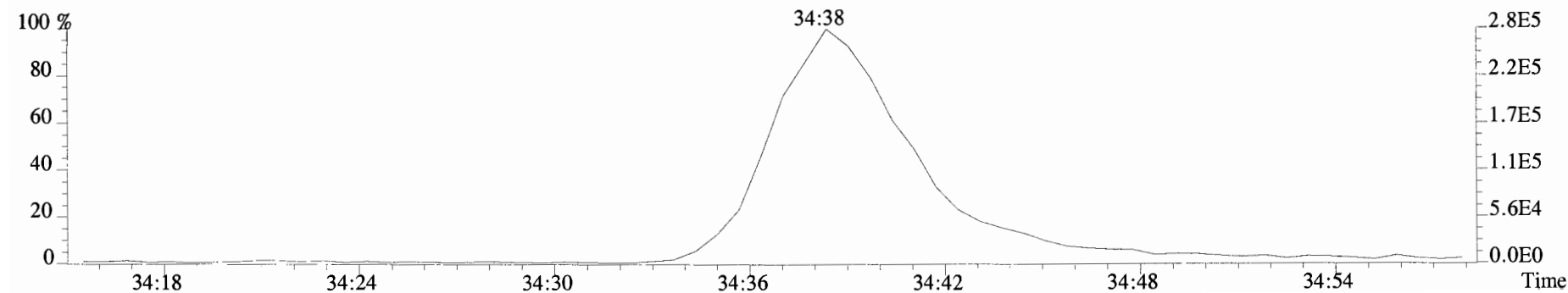
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



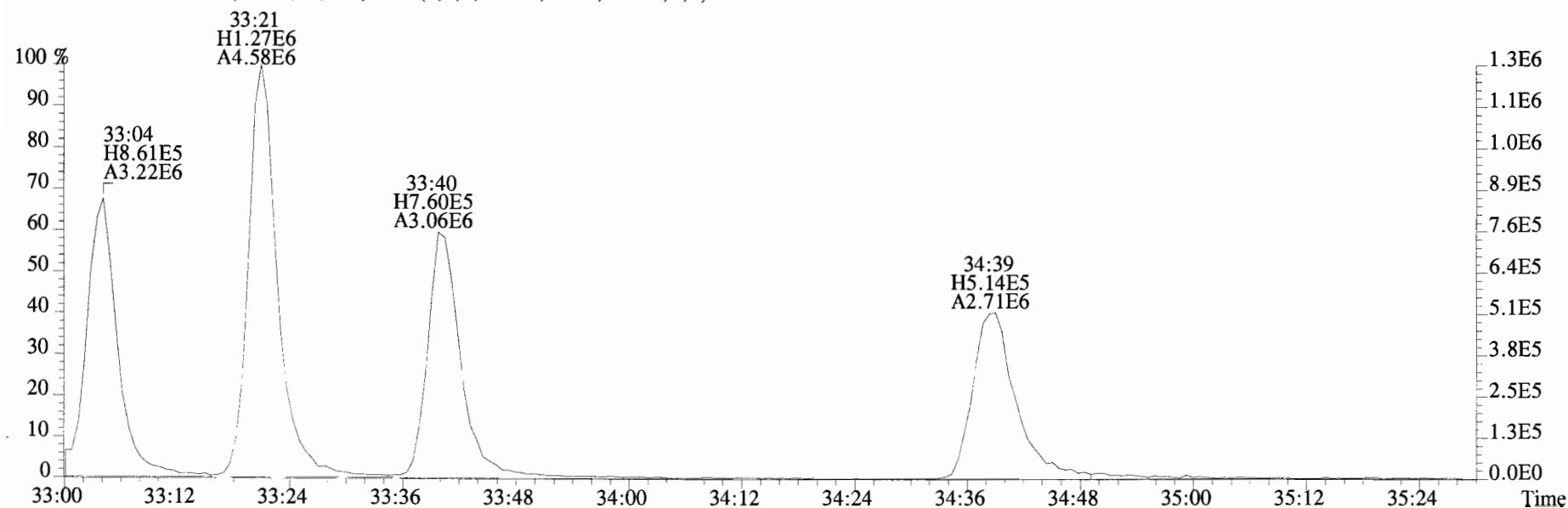
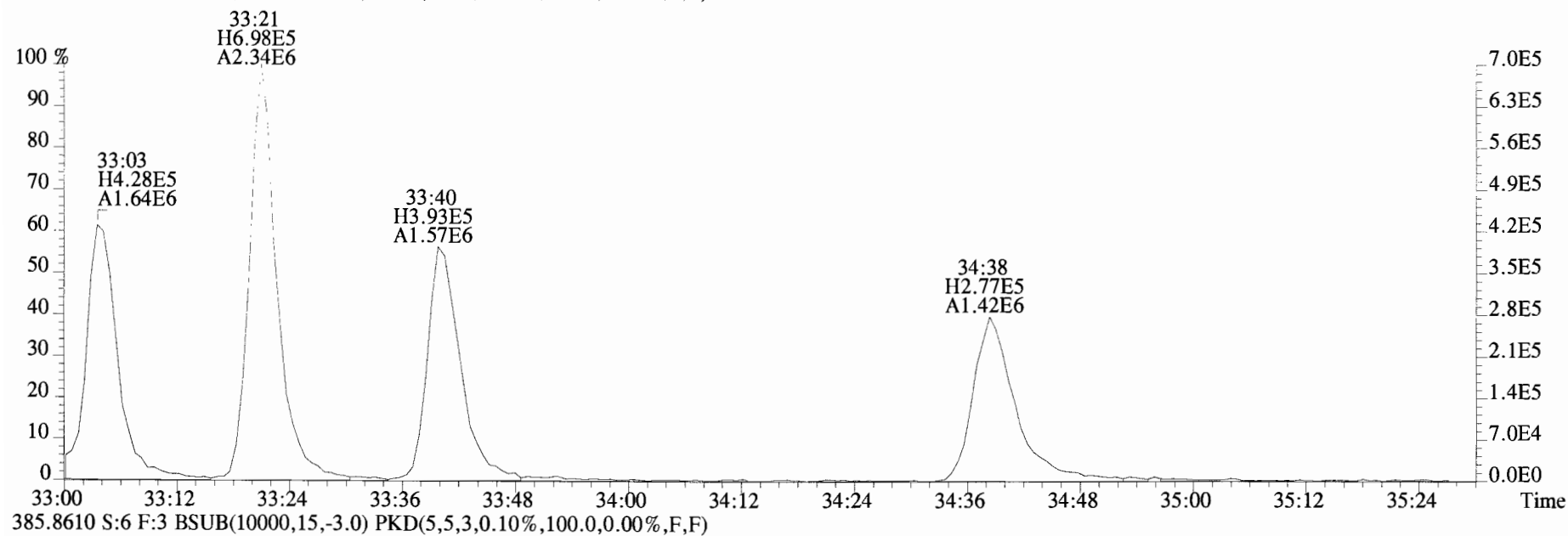
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



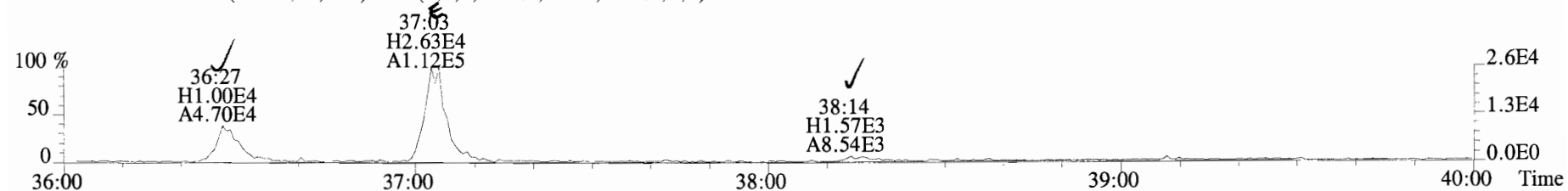
383.8639 S:6 F:3



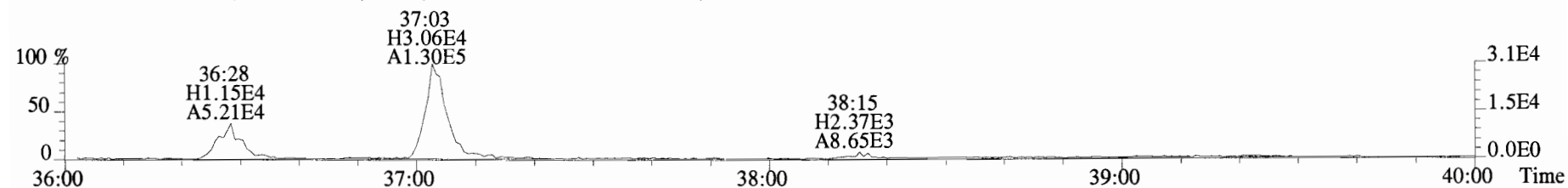
File:190625D1 #1-400 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



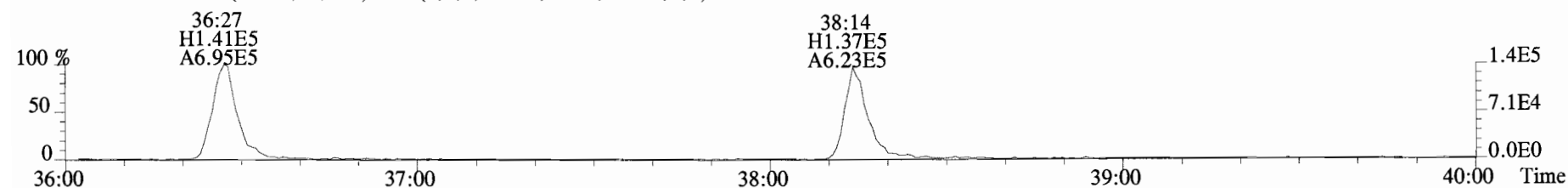
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



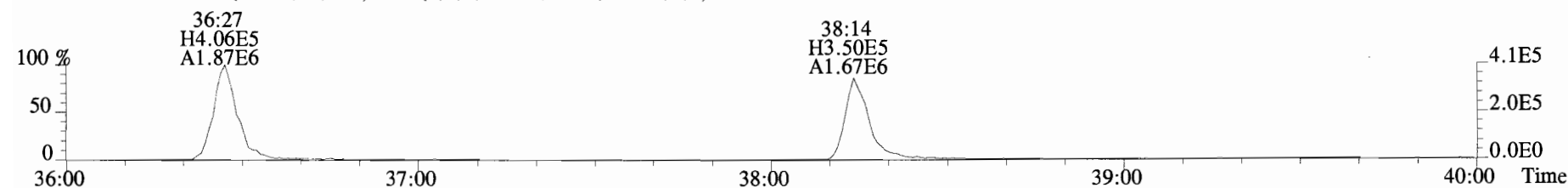
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



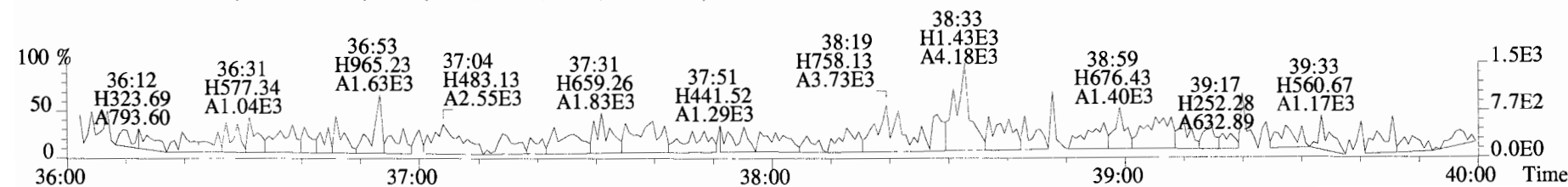
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



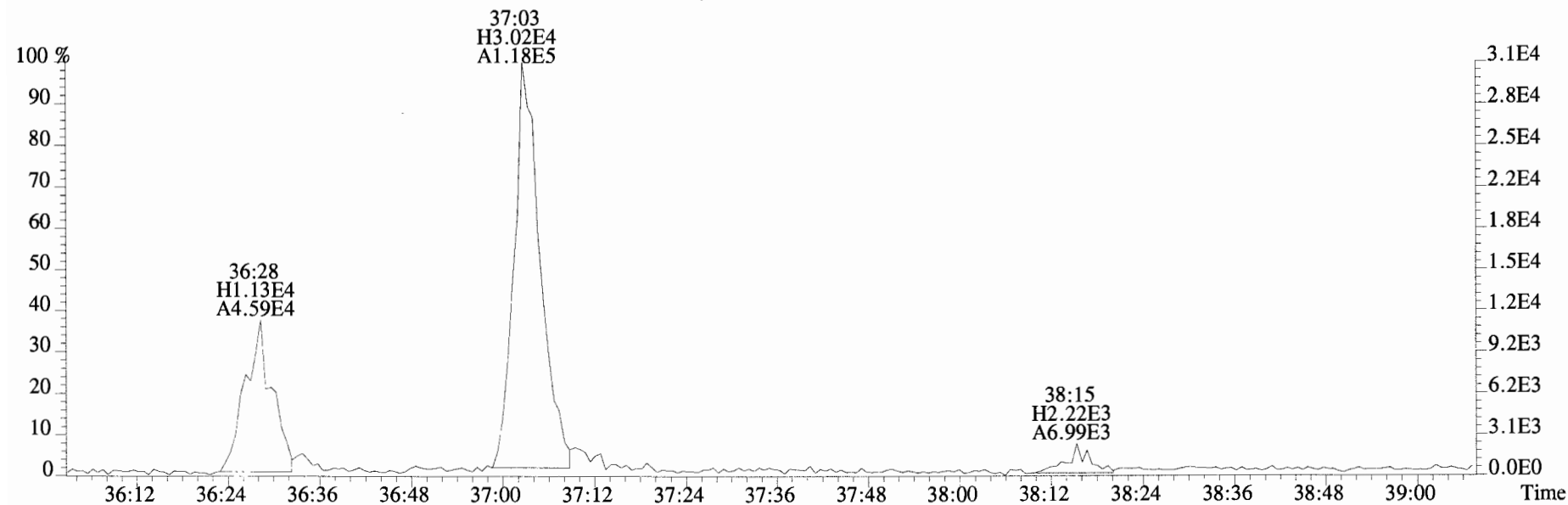
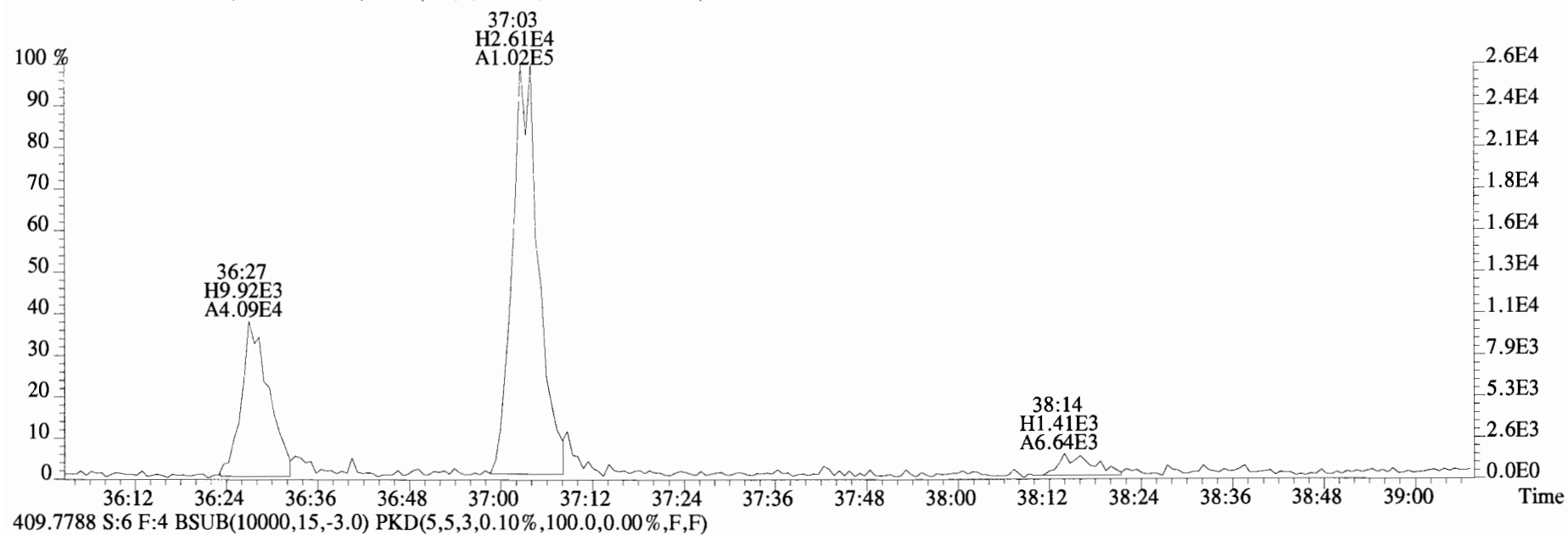
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



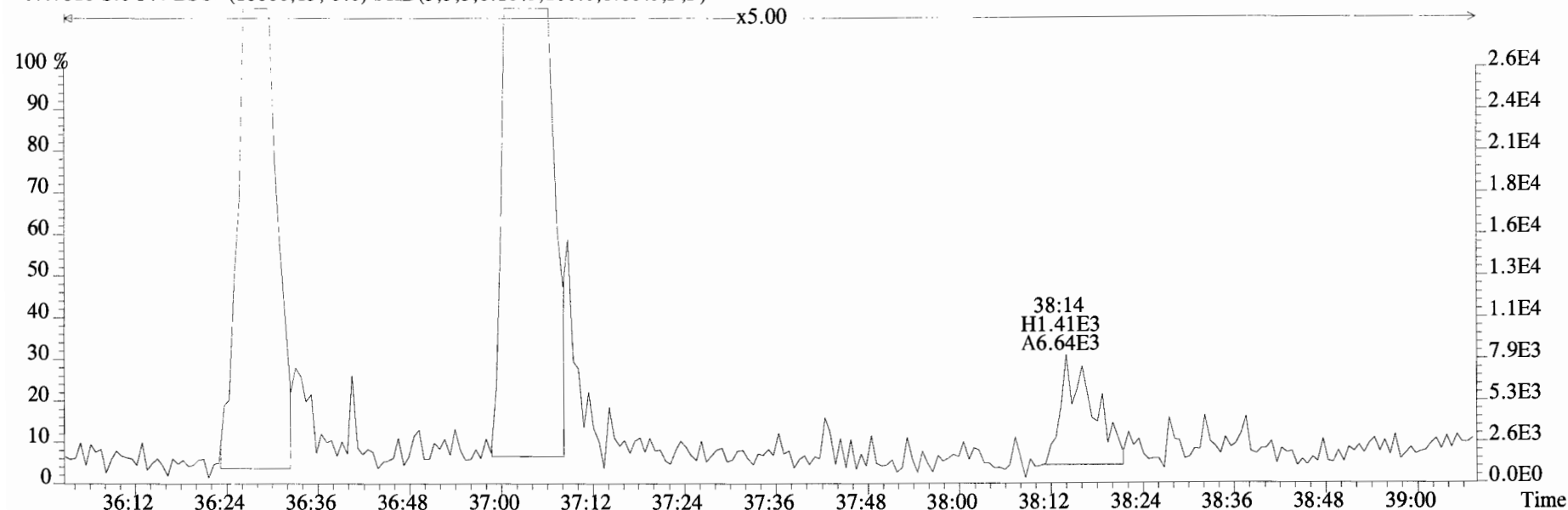
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



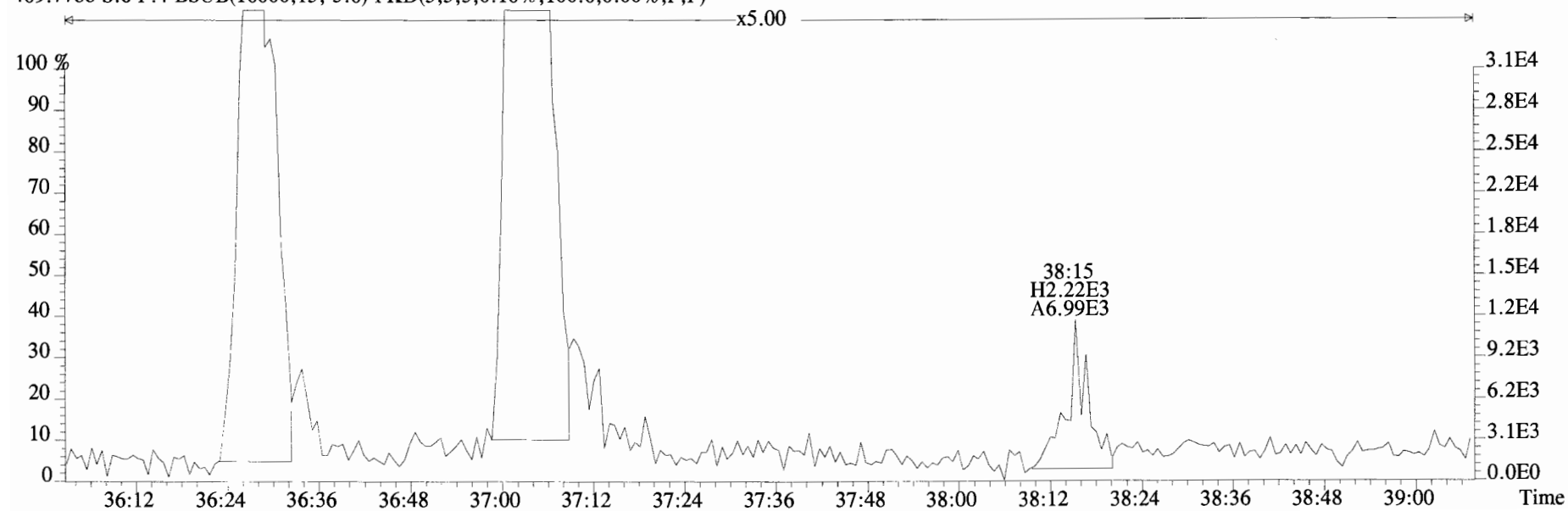
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



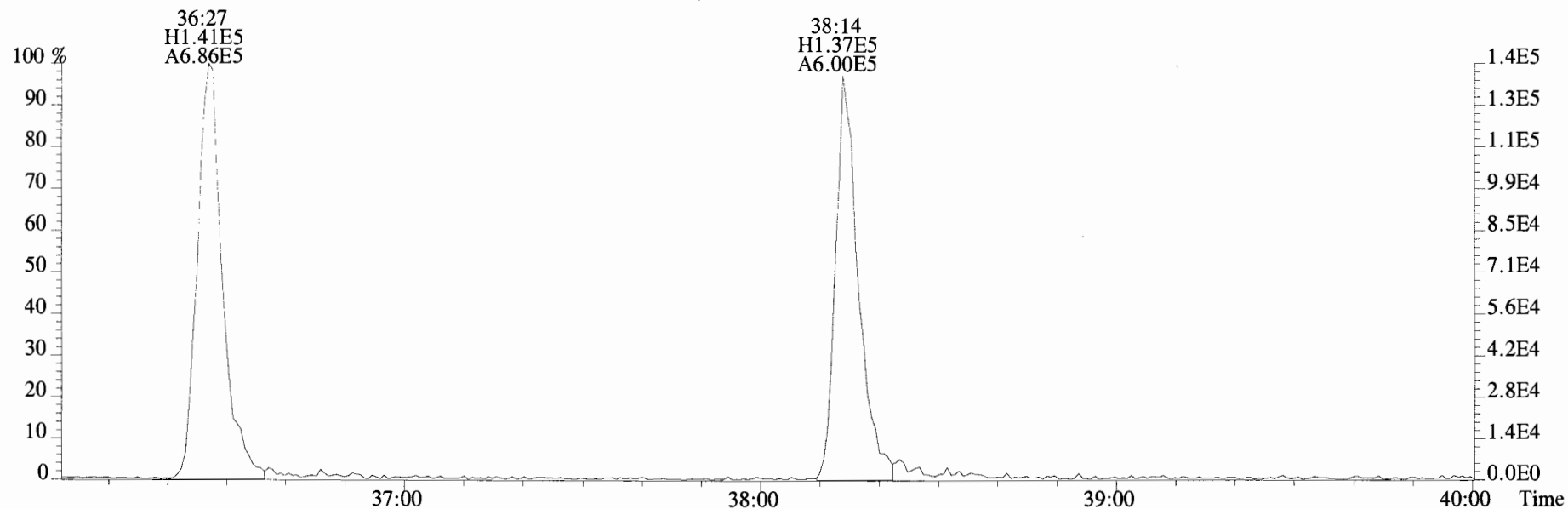
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



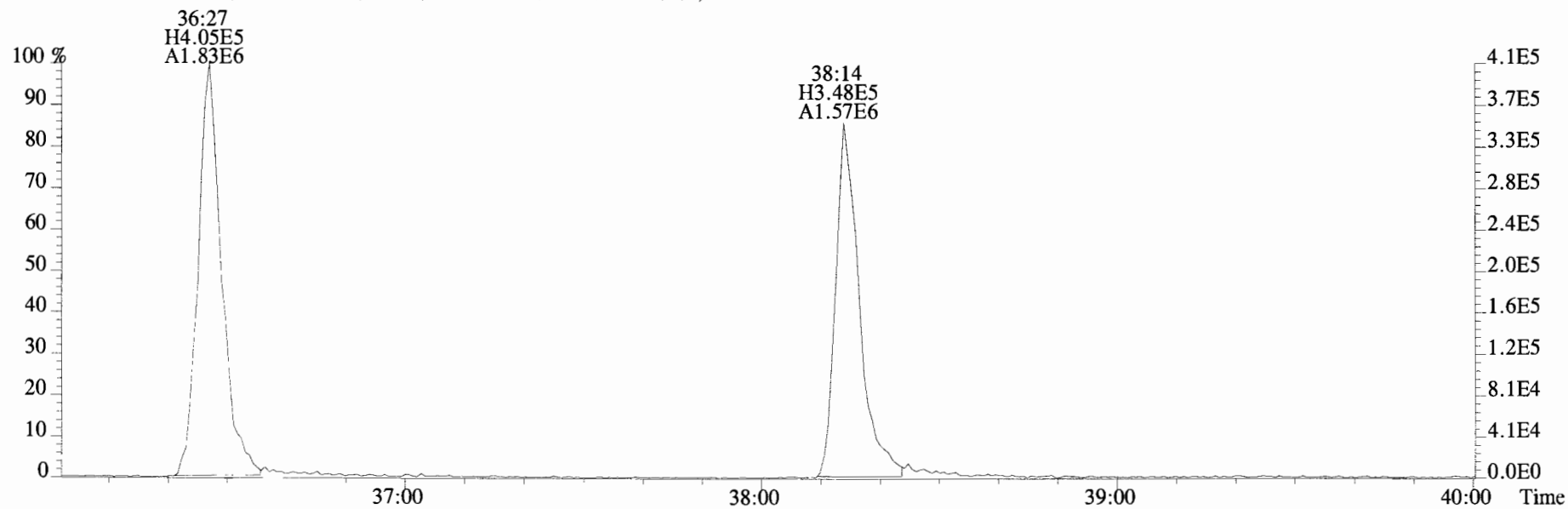
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



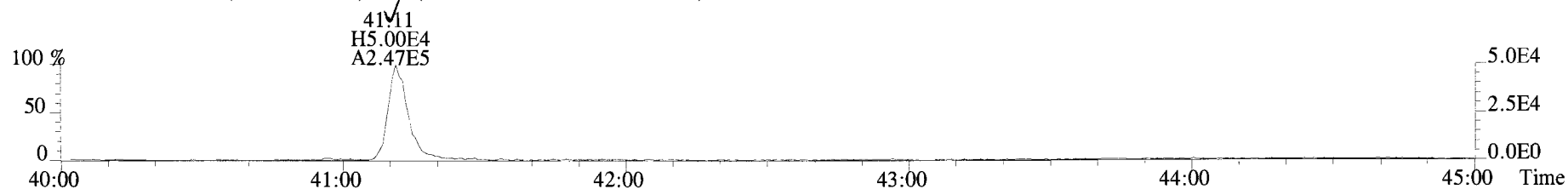
File:190625D1 #1-355 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



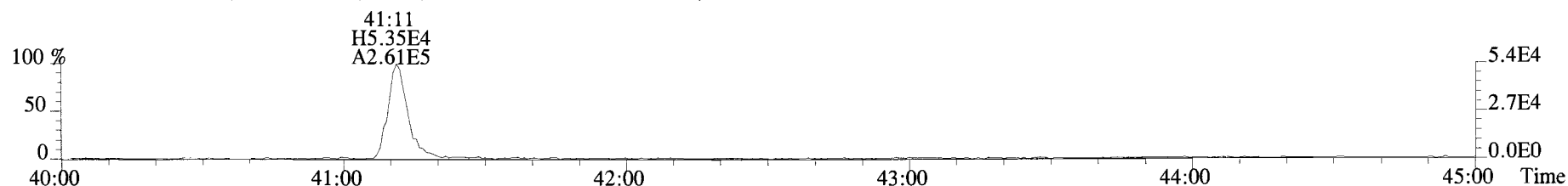
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



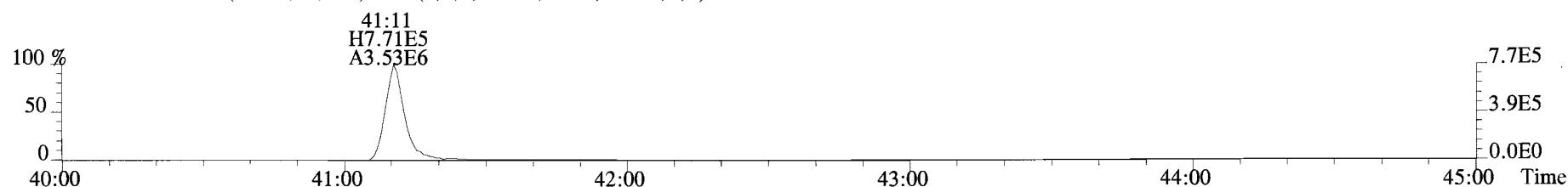
File:190625D1 #1-432 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 Exp:OCDD_DB5
 441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



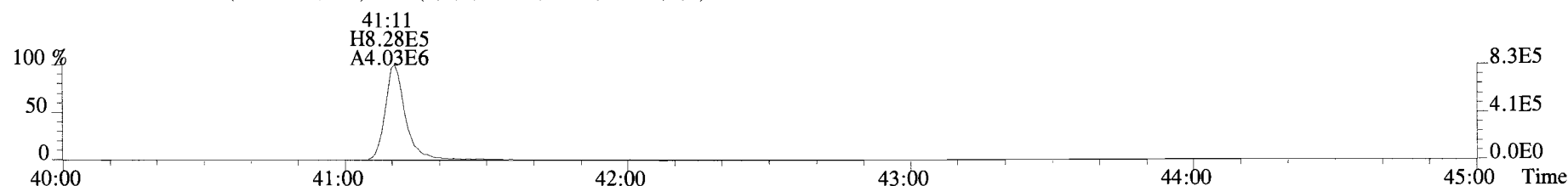
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



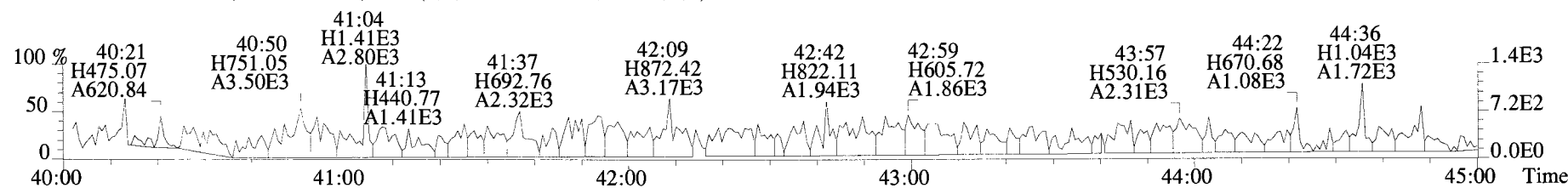
453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



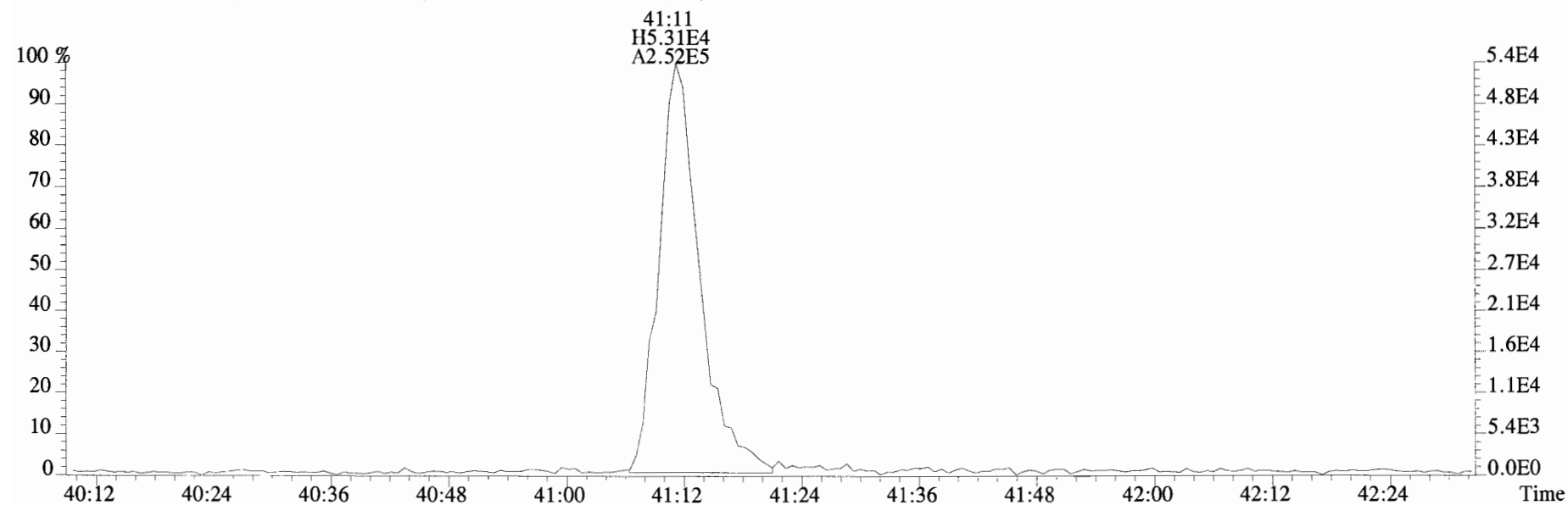
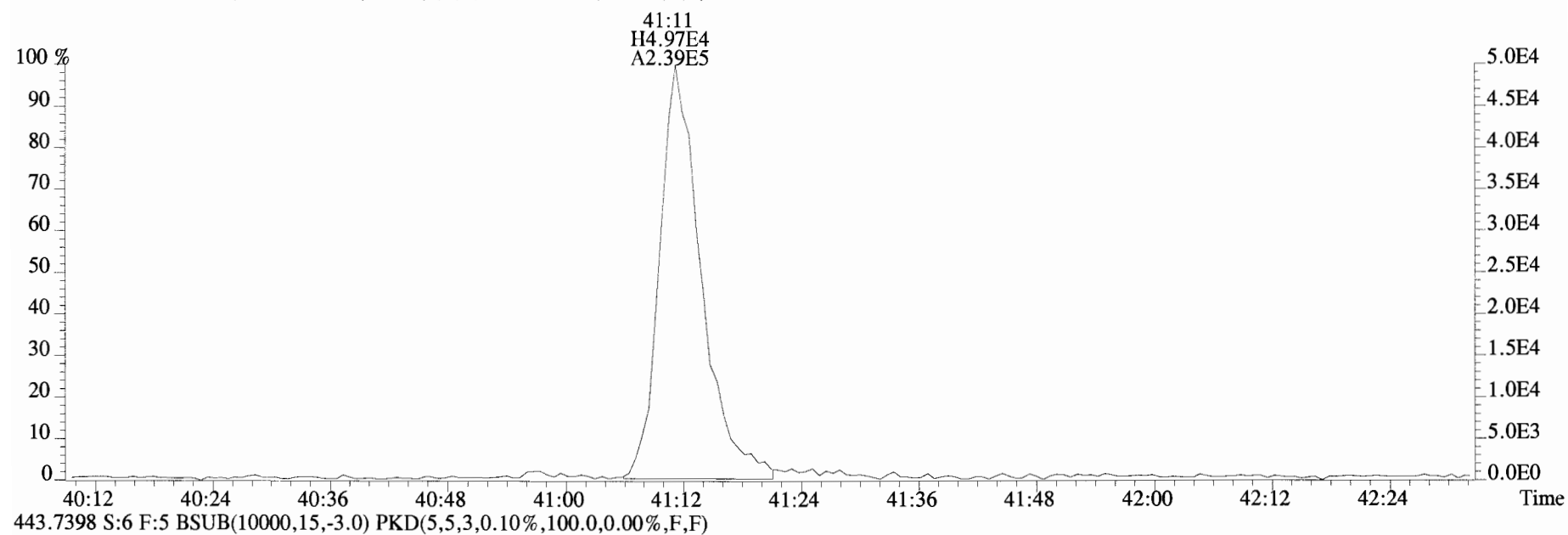
455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190625D1 #1-432 Acq:25-JUN-2019 19:04:24 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:1901248-02 T4-PDI2019-SC29-190524-01-03 9.61 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)



Client ID: T4-PDI2019-SC29-190524 Filename: 190627D1 S:11 Acq:28-JUN-19 00:54:49

Lab ID: 1901248-03

GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19

wt/vol: 5.308 ✓

ConCal: ST190627D1-1

Page 10 of 10

EndCAL: NA

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	* n	0.90	Not F ₇	*		185	2.5	0.150	Total Tetra-Dioxins	*	*		185	0.150
1,2,3,7,8-PeCDD	*	* n	0.87	Not F ₇	*		298	2.5	0.218	Total Penta-Dioxins	0.499	0.884		*	*
1,2,3,4,7,8-HxCDD	*	* n	1.05	Not F ₇	*		218	2.5	0.205	Total Hexa-Dioxins	11.6	11.6		*	*
1,2,3,6,7,8-HxCDD	4.14e+04	1.30 y	0.93	33:56	1.8535		*	2.5	*	Total Hepta-Dioxins	83.7	83.7		*	*
1,2,3,7,8,9-HxCDD	1.75e+04	1.24 y	0.96	34:15	0.75857		*	2.5	*	Total Tetra-Furans	1.06	1.06		*	*
1,2,3,4,6,7,8-HpCDD	8.96e+05	1.02 y	0.99	37:41	37.405		*	2.5	*	Total Penta-Furans	2.3605	2.7695		*	*
OCDD	1.13e+07	0.90 y	0.99	40:57	573.02		*	2.5	*	Total Hexa-Furans	8.45	9.26		*	*
										Total Hepta-Furans	13.7	13.7		*	*
2,3,7,8-TCDF	1.19e+04	0.77 y	0.94	25:18	0.37580		*	2.5	*						
1,2,3,7,8-PeCDF	*	* n	0.92	Not F ₇	*		328	2.5	0.239						
2,3,4,7,8-PeCDF	1.19e+04	2.04 n	0.96	30:16	0.40899		*	2.5	*						
1,2,3,4,7,8-HxCDF	3.89e+04	1.06 y	1.15	32:56	1.2582		*	2.5	*						
1,2,3,6,7,8-HxCDF	1.41e+04	1.12 y	1.04	33:04	0.42458		*	2.5	*						
2,3,4,6,7,8-HxCDF	1.09e+04	1.34 y	1.10	33:41	0.32245		*	2.5	*						
1,2,3,7,8,9-HxCDF	1.03e+04	1.23 y	1.03	34:39	0.35472		*	2.5	*						
1,2,3,4,6,7,8-HpCDF	1.18e+05	1.01 y	1.06	36:27	4.0744		*	2.5	*						
1,2,3,4,7,8,9-HpCDF	9.86e+03	0.90 y	1.23	38:14	0.34081		*	2.5	*						
OCDF	2.02e+05	0.80 y	0.94	41:11	8.5386		*	2.5	*						
IS	13C-2,3,7,8-TCDD	9.38e+06	0.77 y	1.11	26:03	290.68				Rec			Qual		
IS	13C-1,2,3,7,8-PeCDD	7.98e+06	0.63 y	0.98	30:32	280.49				77.1					
IS	13C-1,2,3,4,7,8-HxCDD	7.66e+06	1.29 y	0.68	33:49	317.39				74.4					
IS	13C-1,2,3,6,7,8-HxCDD	9.05e+06	1.27 y	0.84	33:56	301.02				84.2					
IS	13C-1,2,3,7,8,9-HxCDD	9.02e+06	1.25 y	0.81	34:14	310.96				79.9					
IS	13C-1,2,3,4,6,7,8-HpCDD	9.13e+06	1.07 y	0.69	37:41	372.75				82.5					
IS	13C-OCDD	1.51e+07	0.92 y	0.62	40:57	675.58				98.9					
IS	13C-2,3,7,8-TCDF	1.26e+07	0.81 y	1.05	25:18	256.11				89.6					
IS	13C-1,2,3,7,8-PeCDF	1.22e+07	1.63 y	0.95	29:23	271.91				68.0					
IS	13C-2,3,4,7,8-PeCDF	1.14e+07	1.60 y	0.94	30:16	260.51				72.2					
IS	13C-1,2,3,4,7,8-HxCDF	1.01e+07	0.53 y	0.86	32:56	330.30				69.1					
IS	13C-1,2,3,6,7,8-HxCDF	1.21e+07	0.52 y	1.02	33:04	330.63				87.7					
IS	13C-2,3,4,6,7,8-HxCDF	1.17e+07	0.52 y	0.95	33:40	342.48				87.7					
IS	13C-1,2,3,7,8,9-HxCDF	1.07e+07	0.52 y	0.87	34:39	343.72				90.9					
IS	13C-1,2,3,4,6,7,8-HpCDF	1.02e+07	0.45 y	0.81	36:27	353.66				91.2					
IS	13C-1,2,3,4,7,8,9-HpCDF	8.89e+06	0.44 y	0.63	38:15	393.83				93.9					
IS	13C-OCDF	1.89e+07	0.91 y	0.78	41:11	677.10				105					
C/Up	37C1-2,3,7,8-TCDD	3.92e+06		1.22	26:05	110.43				89.8					
RS/RT	13C-1,2,3,4-TCDD	1.10e+07	0.79 y	1.00	25:29	376.82				73.3					
RS	13C-1,2,3,4-TCDF	1.77e+07	0.80 y	1.00	24:04	376.82									
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.35e+07	0.53 y	1.00	33:21	376.82									

Integrations
by DB
Analyst: DB
Date: 6/28/19
Reviewed
by C7
Analyst: C7
Date: 06/28/19

Totals class: PeCDD EMPC

Entry #: 21

Run: 16

File: 190627D1

S: 11 I: 1 F: 2

Acquired: 28-JUN-19 00:54:49

Processed: 28-JUN-19 08:58:12

Total Concentration: 0.88353

Unnamed Concentration: 0.884

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:30	3.254e+03	5.960e+03	0.55 y	9.213e+03	0.49860
29:22	4.116e+03	4.364e+03	0.94 n	7.113e+03	0.38493

Totals class: HxCDD EMPC

Entry #: 23

Run: 16

File: 190627D1

S: 11 I: 1 F: 3

Acquired: 28-JUN-19 00:54:49

Processed: 28-JUN-19 08:58:12

Total Concentration: 11.570

Unnamed Concentration: 8.957

RT	ml Resp	m2 Resp	RA	Resp Concentration	Name
32:17	4.427e+04	3.548e+04	1.25 y	7.974e+04	3.5903
32:51	6.340e+03	4.568e+03	1.39 y	1.091e+04	0.49112
33:07	6.114e+04	4.716e+04	1.30 y	1.083e+05	4.8760
33:56	2.338e+04	1.801e+04	1.30 y	4.139e+04	1.8535 1,2,3,6,7,8-HxCDD
34:15	9.658e+03	7.814e+03	1.24 y	1.747e+04	0.75857 1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 16

File: 190627D1

S: 11 I: 1 F: 4

Acquired: 28-JUN-19 00:54:49

Processed: 28-JUN-19 08:58:12

Total Concentration: 83.673

Unnamed Concentration: 46.268

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	5.662e+05	5.426e+05	1.04 y	1.109e+06	46.268
37:41	4.526e+05	4.438e+05	1.02 y	8.964e+05	37.405

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

Totals class: TCDF EMPC

Entry #: 27

Run: 16 File: 190627D1 S: 11 I: 1 F: 1
Acquired: 28-JUN-19 00:54:49 Processed: 28-JUN-19 08:58:12

Total Concentration: 1.0611

Unnamed Concentration: 0.685

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
21:48	5.458e+03	7.737e+03	0.71 y	1.320e+04	0.41768	
24:31	3.391e+03	5.063e+03	0.67 y	8.454e+03	0.26759	
25:18	5.148e+03	6.724e+03	0.77 y	1.187e+04	0.37580	2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 16 File: 190627D1 S: 11 I: 1 F: 1
Acquired: 28-JUN-19 00:54:49 Processed: 28-JUN-19 08:58:12

Total Concentration: 1.3659 Unnamed Concentration: 1.366

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:02	2.459e+04	1.558e+04	1.58 y	4.017e+04	1.3659

Totals class: PeCDF EMPC

Entry #: 31

Run: 16

File: 190627D1

S: 11 I: 1 F: 2

Acquired: 28-JUN-19 00:54:49

Processed: 28-JUN-19 08:58:12

Total Concentration: 1.4036

Unnamed Concentration: 0.995

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:28	1.758e+04	1.167e+04	1.51 y	2.925e+04	0.99461
30:16	9.498e+03	4.655e+03	2.04 n	1.187e+04	0.40899

2,3,4,7,8-PeCDF

Totals class: HxCDF EMPC

Entry #: 33

Run: 16 File: 190627D1 S: 11 I: 1 F: 3

Acquired: 28-JUN-19 00:54:49 Processed: 28-JUN-19 08:58:12

Total Concentration: 9.2570

Unnamed Concentration: 6.897

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
31:46	1.892e+04	1.141e+04	1.66	n	2.555e+04	0.80350
31:55	4.471e+04	3.370e+04	1.33	y	7.841e+04	2.4655
32:28	6.591e+04	4.948e+04	1.33	y	1.154e+05	3.6280
32:56	2.003e+04	1.891e+04	1.06	y	3.894e+04	1.2582
33:04	7.448e+03	6.671e+03	1.12	y	1.412e+04	0.42458
33:41	6.256e+03	4.675e+03	1.34	y	1.093e+04	0.32245
34:39	5.688e+03	4.641e+03	1.23	y	1.033e+04	0.35472

Totals class: HpCDF EMPC

Entry #: 35

Run: 16

File: 190627D1

S: 11 I: 1 F: 4

Acquired: 28-JUN-19 00:54:49

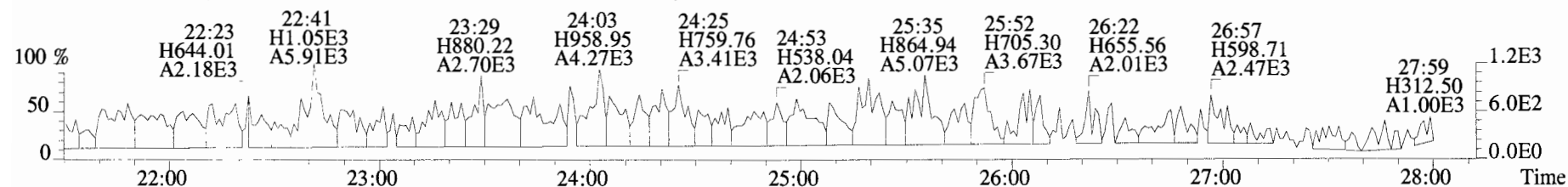
Processed: 28-JUN-19 08:58:12

Total Concentration: 13.728

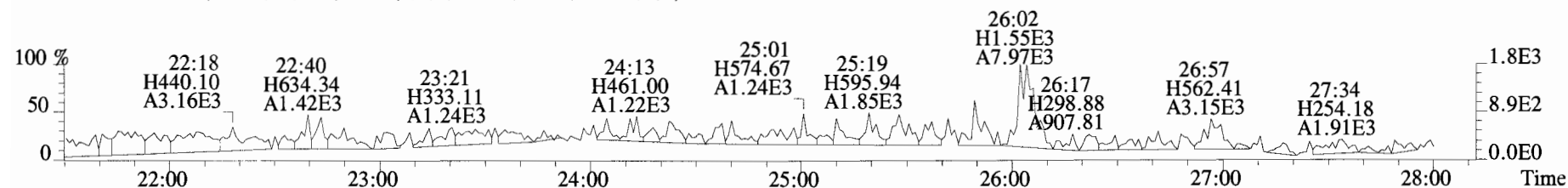
Unnamed Concentration: 9.313

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
36:27	5.912e+04	5.843e+04	1.01 y	1.176e+05	4.0744	1,2,3,4,6,7,8-HpCDF
37:04	1.388e+05	1.291e+05	1.07 y	2.679e+05	9.3132	
38:14	4.667e+03	5.190e+03	0.90 y	9.856e+03	0.34081	1,2,3,4,7,8,9-HpCDF

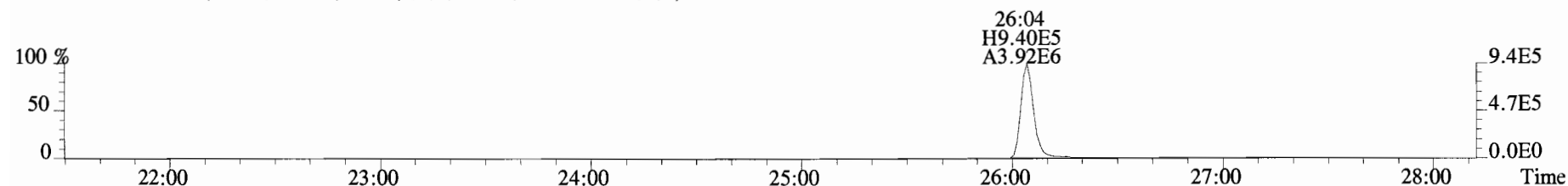
File:190627D1 #1-513 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



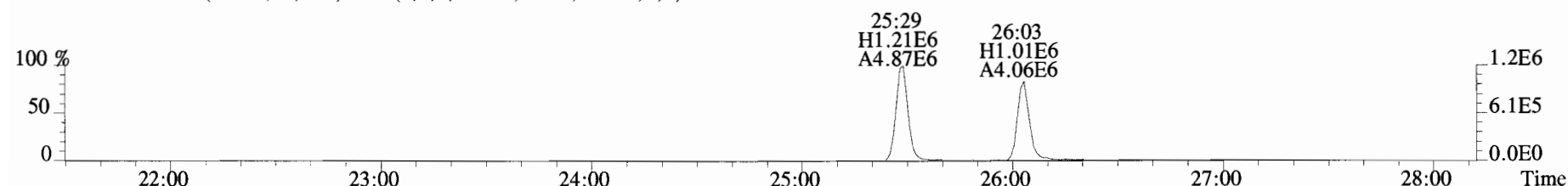
321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



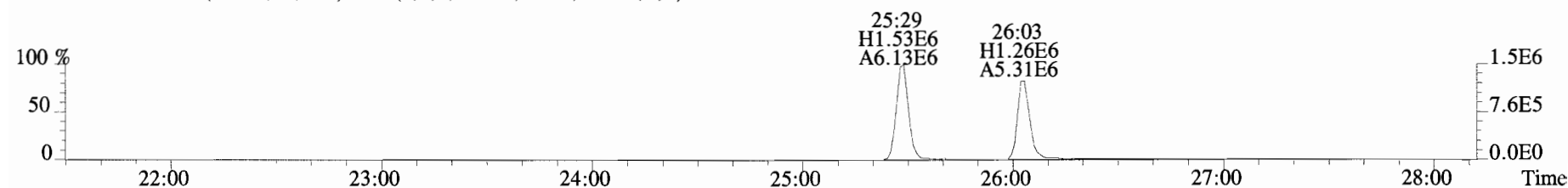
327.8847 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



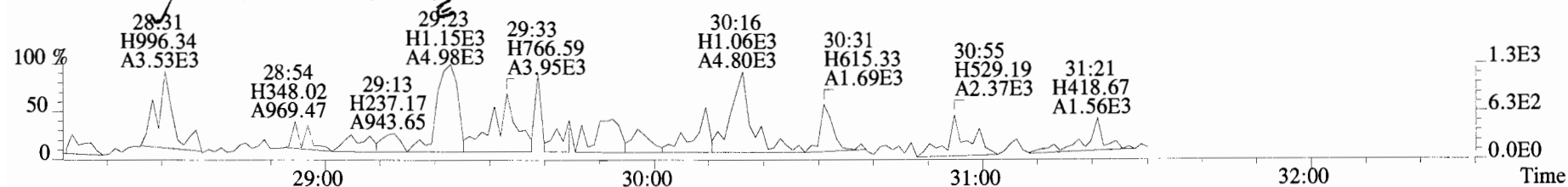
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



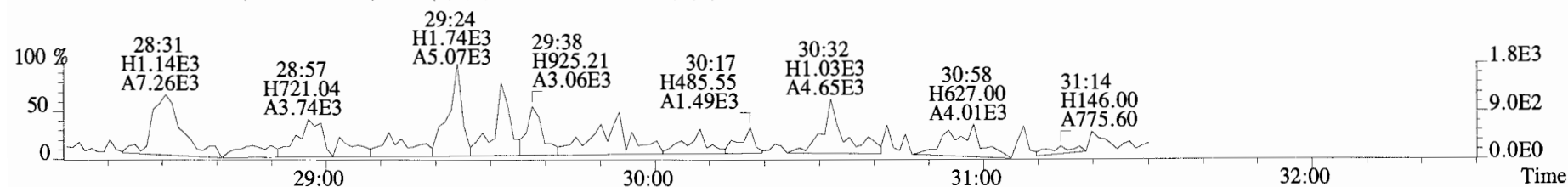
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



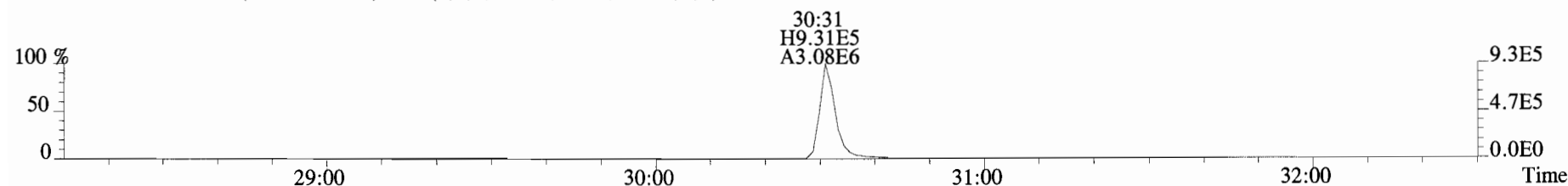
File:190627D1 #1-184 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



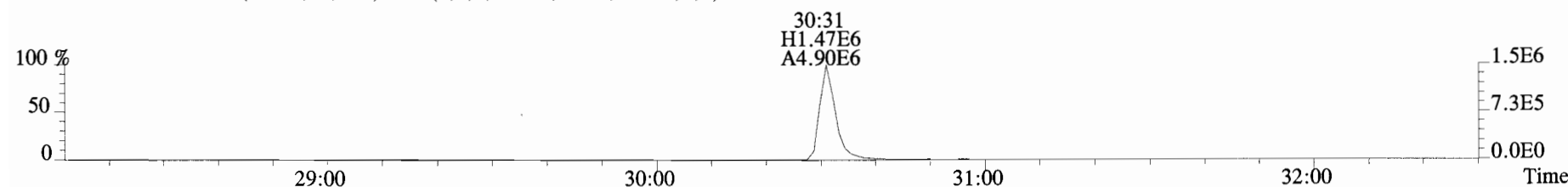
355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



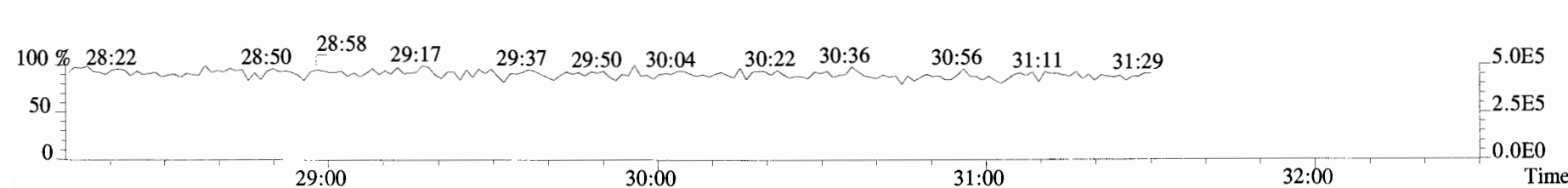
365.8978 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



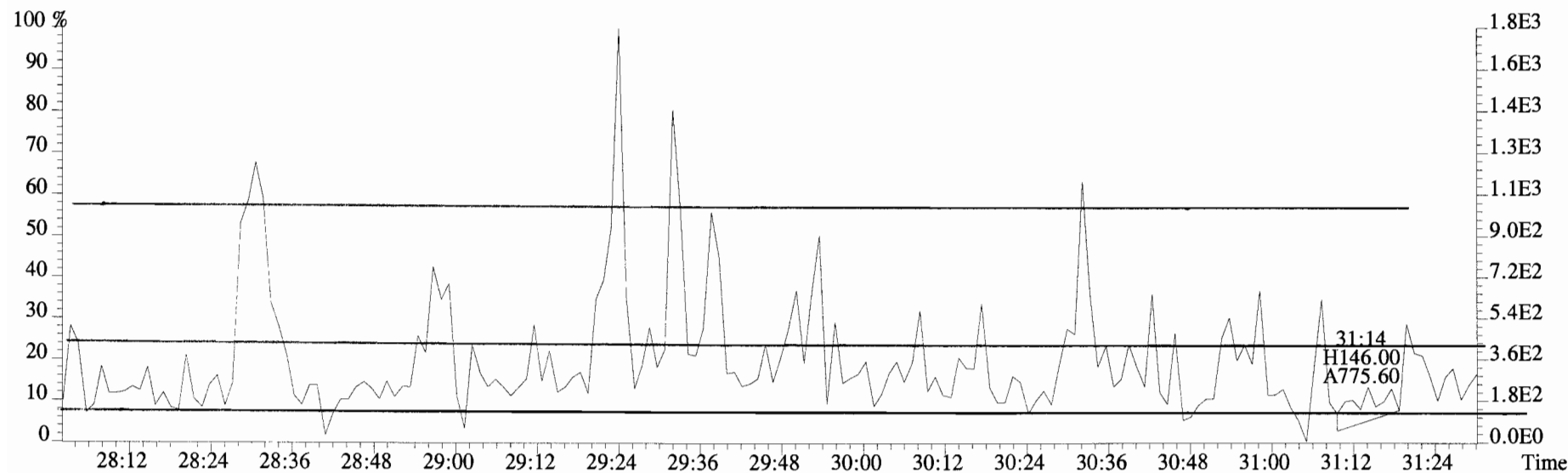
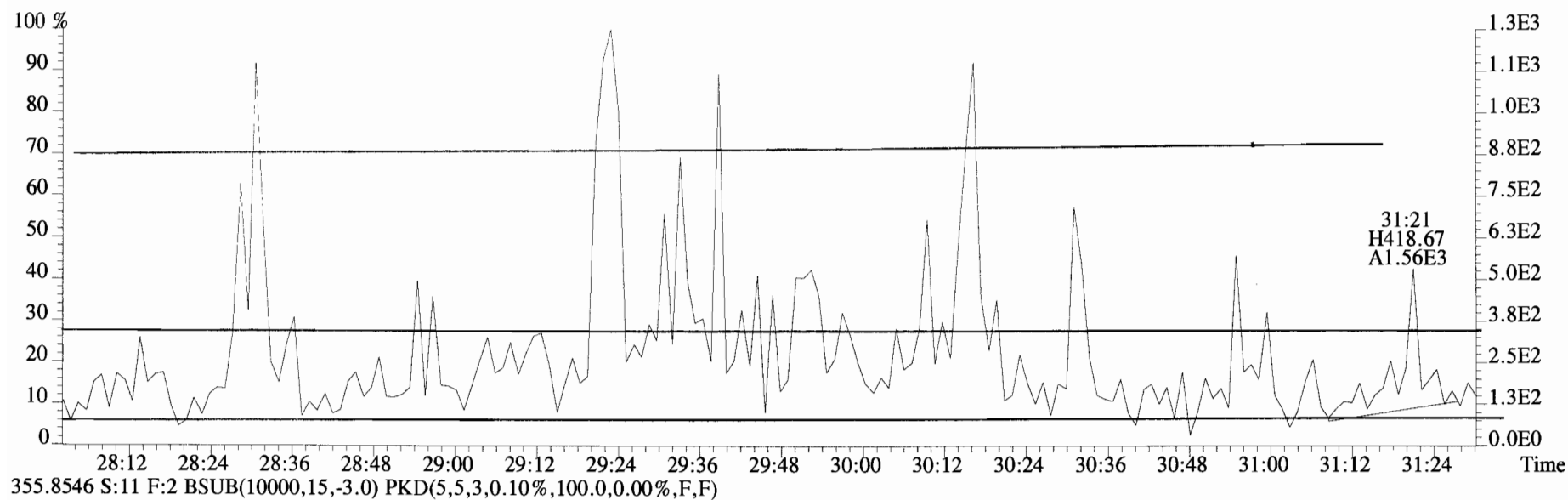
367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



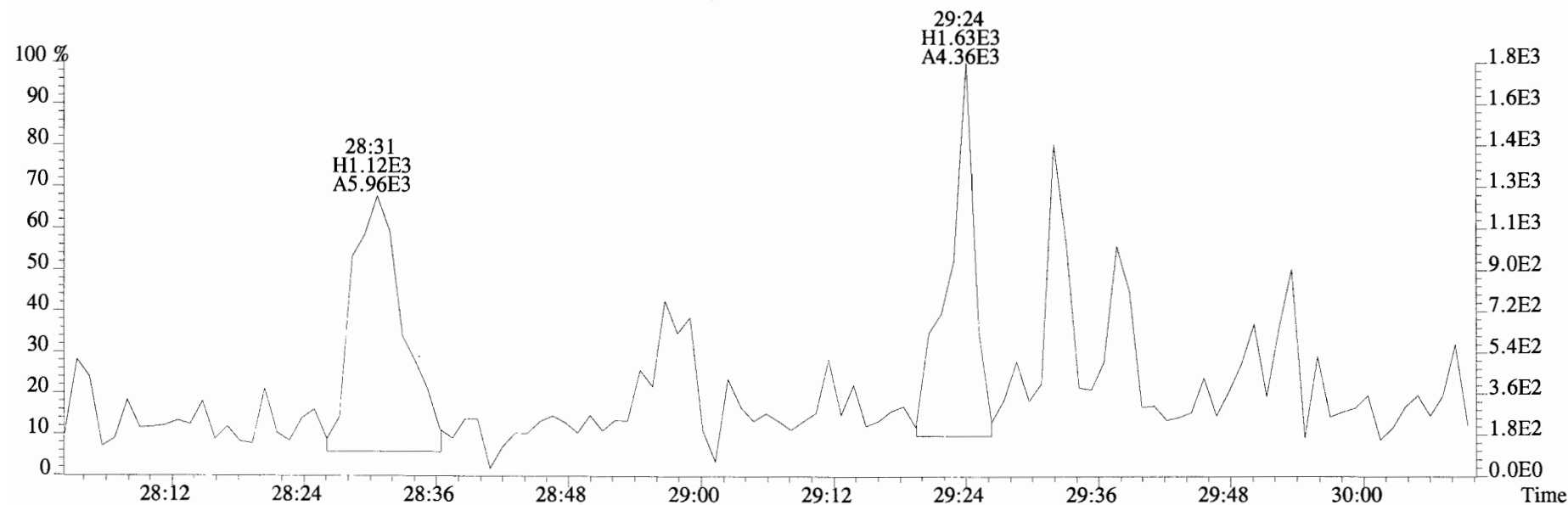
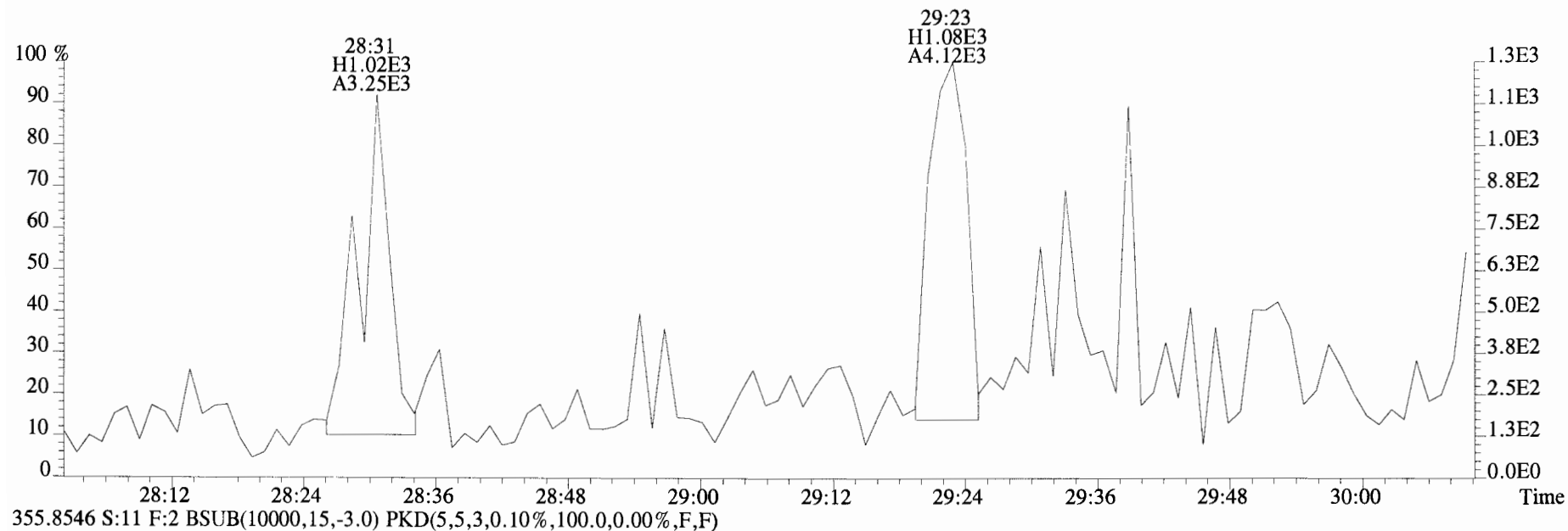
366.9792 S:11 F:2



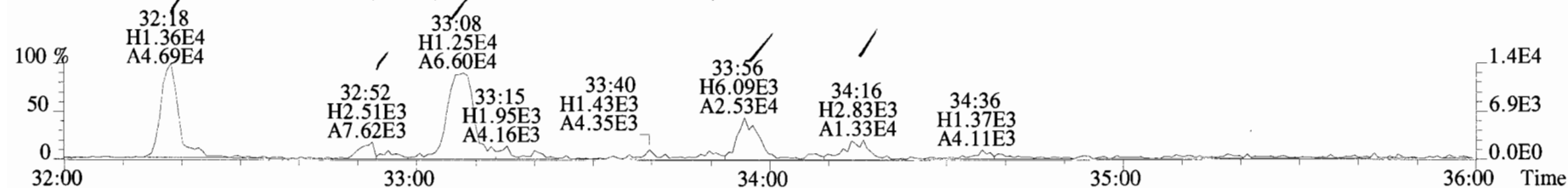
File:190627D1 #1-184 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



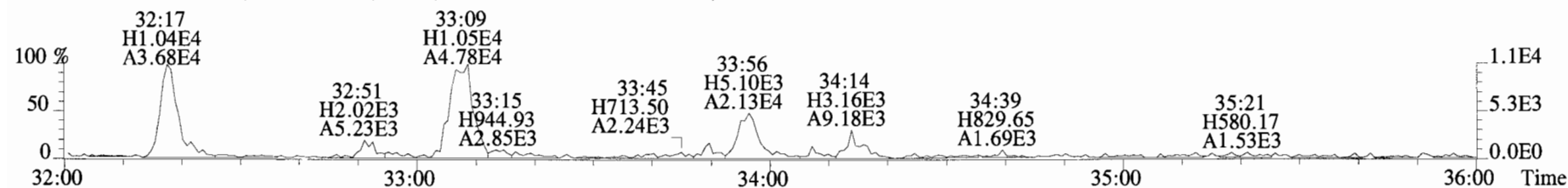
File:190627D1 #1-184 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



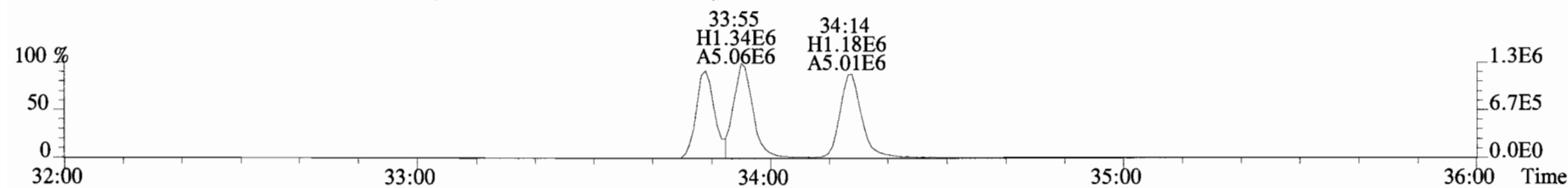
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



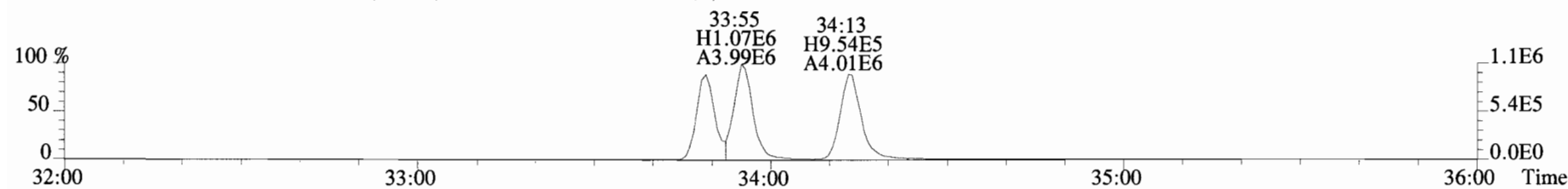
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



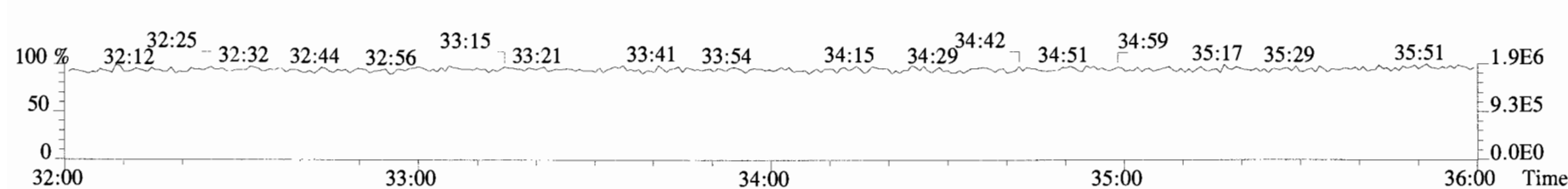
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



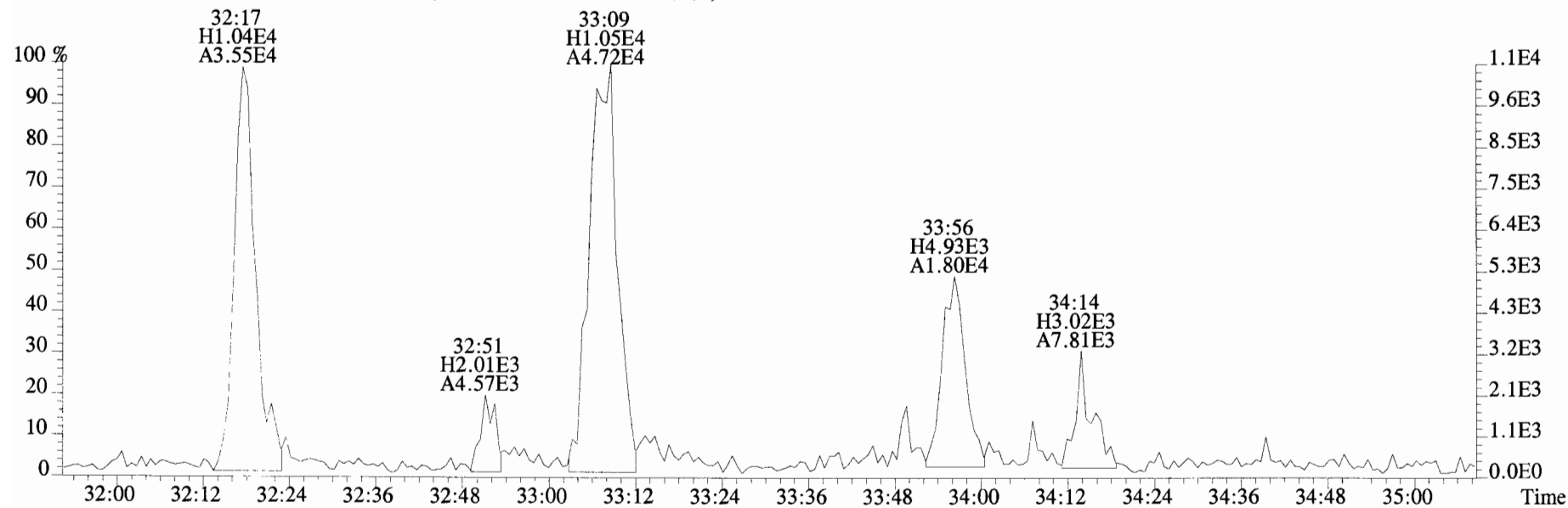
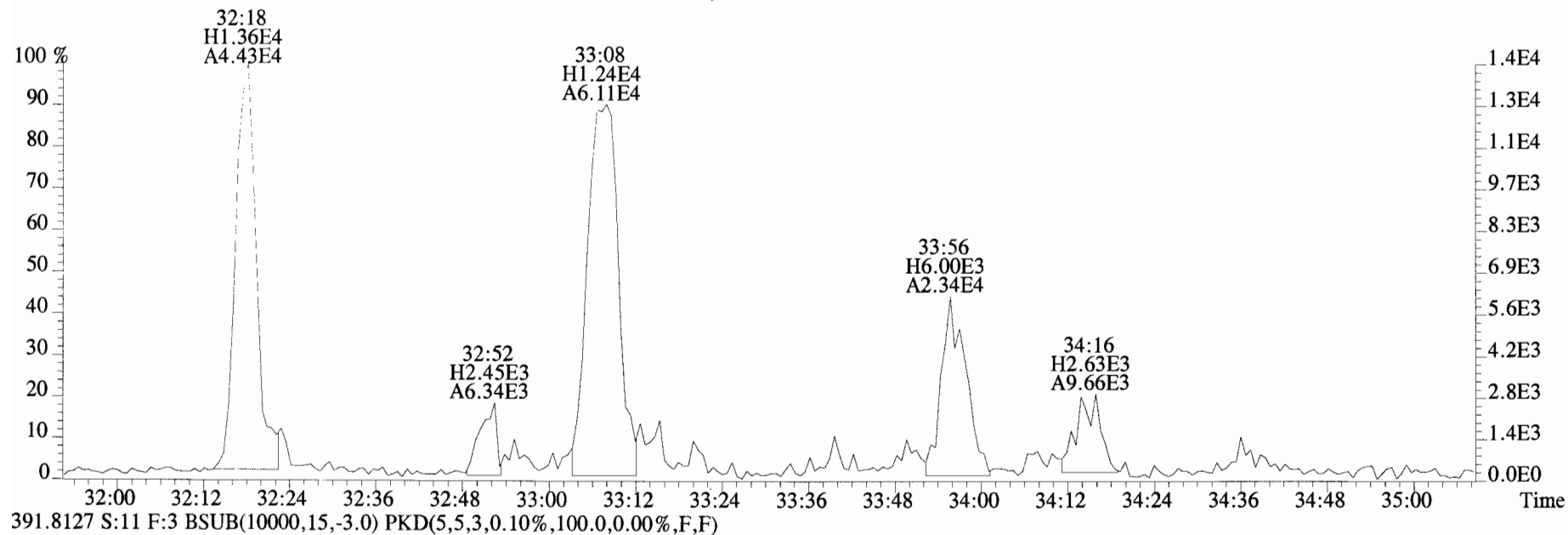
403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



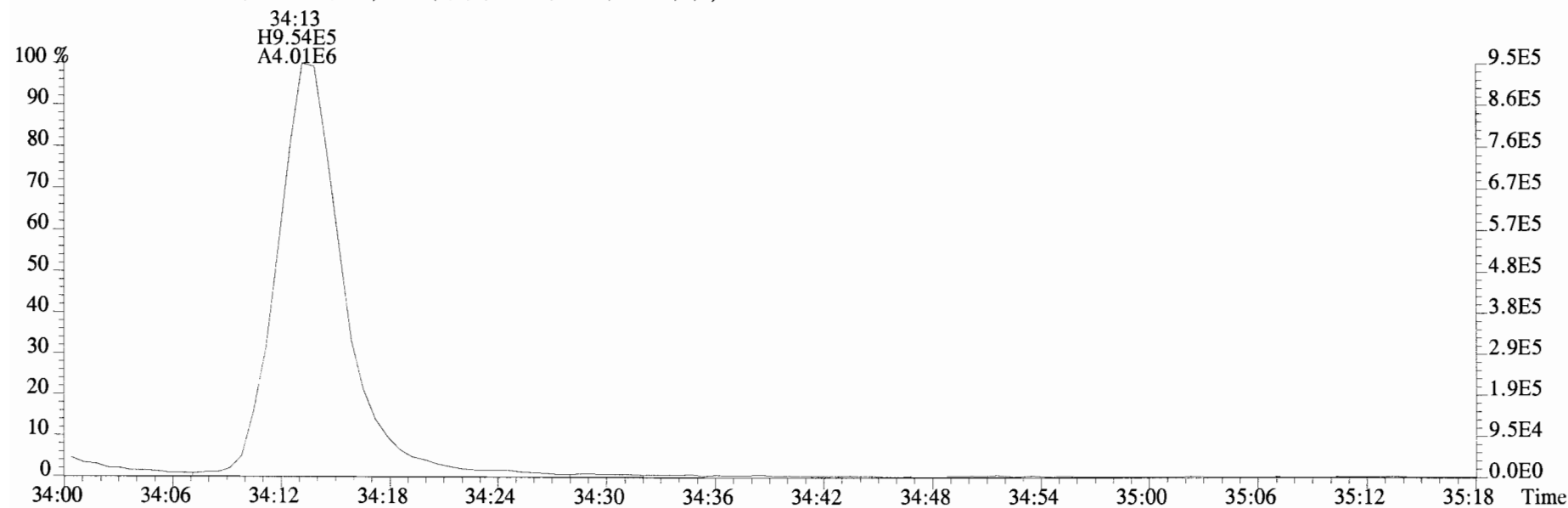
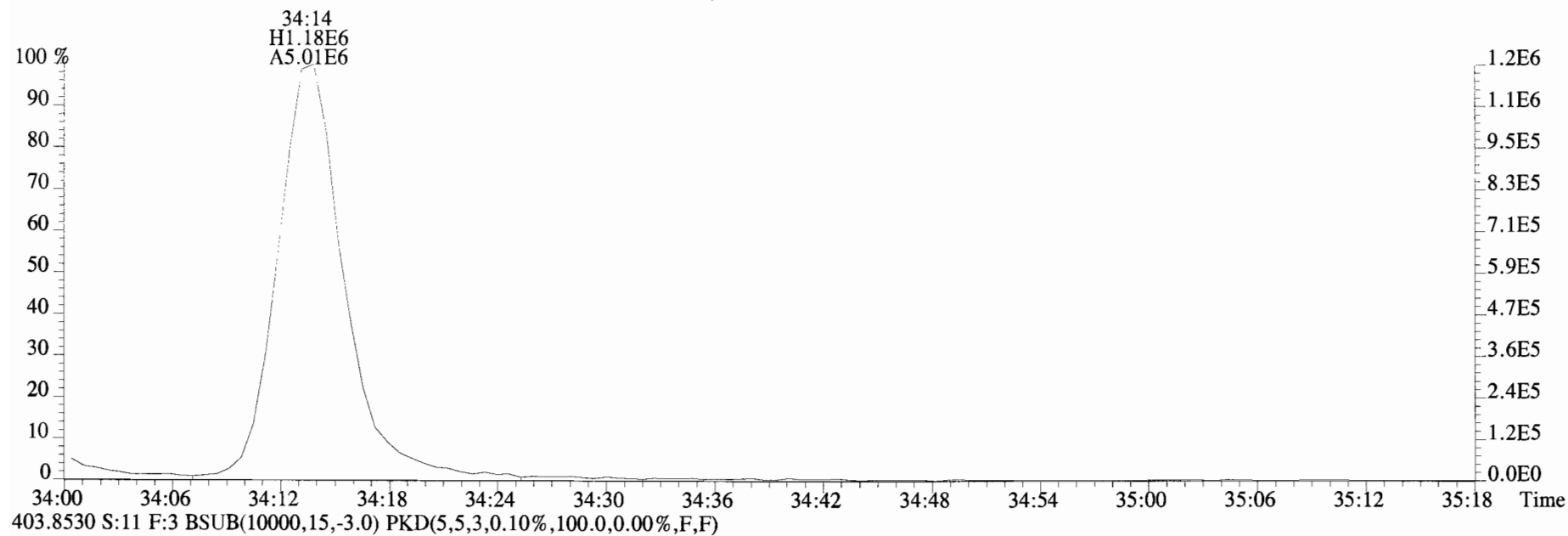
392.9760 S:11 F:3



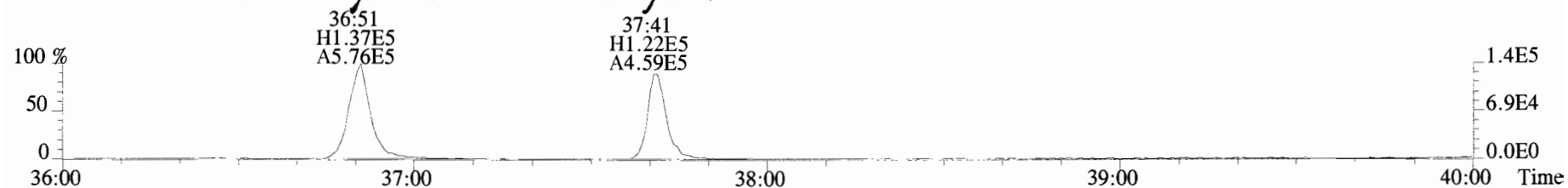
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text: Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



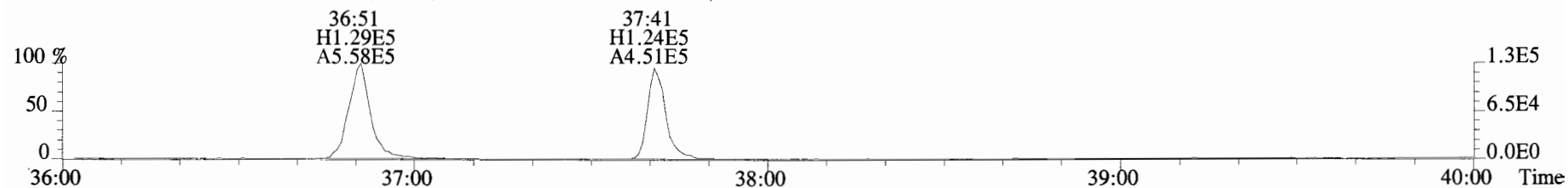
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



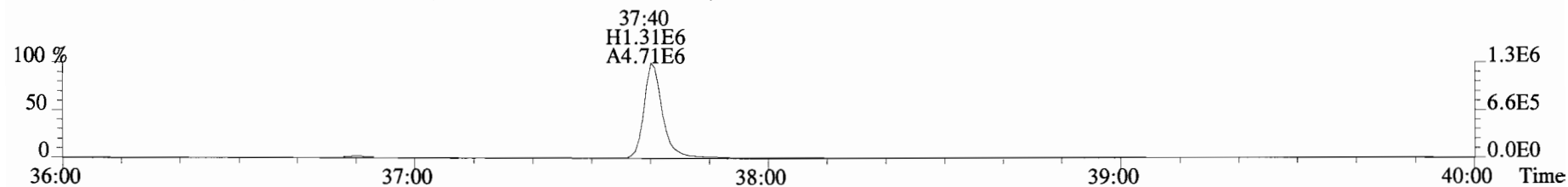
File:190627D1 #1-356 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



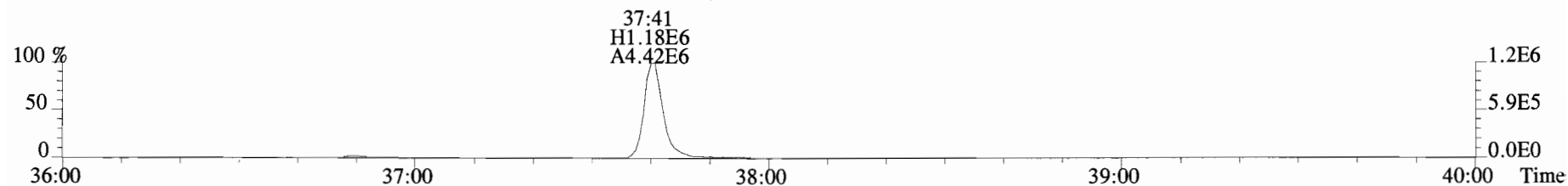
425.7737 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



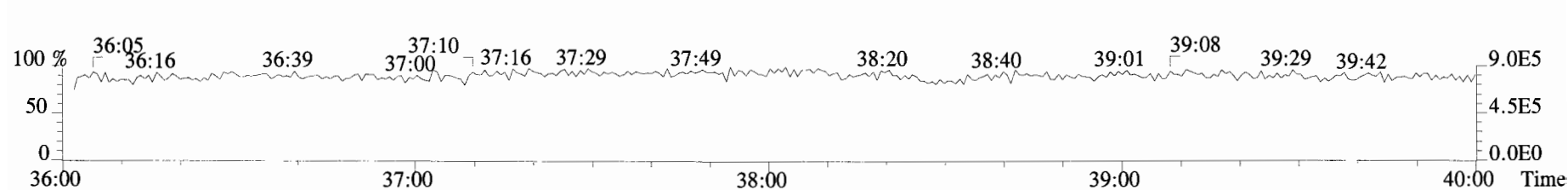
435.8169 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



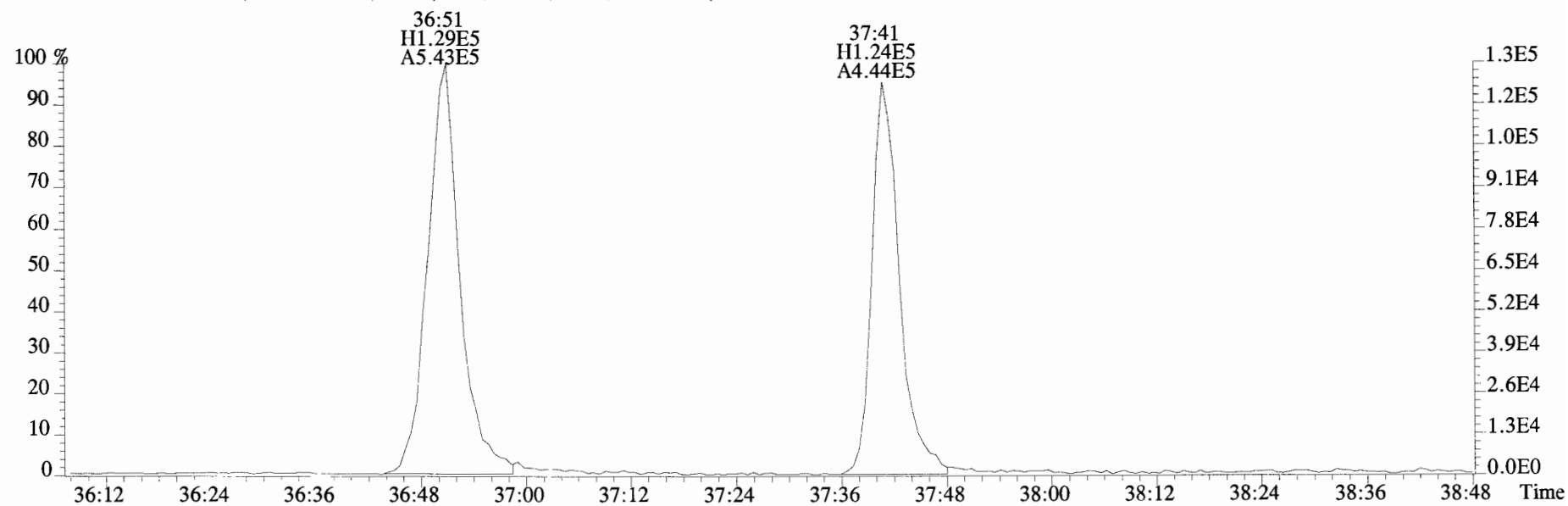
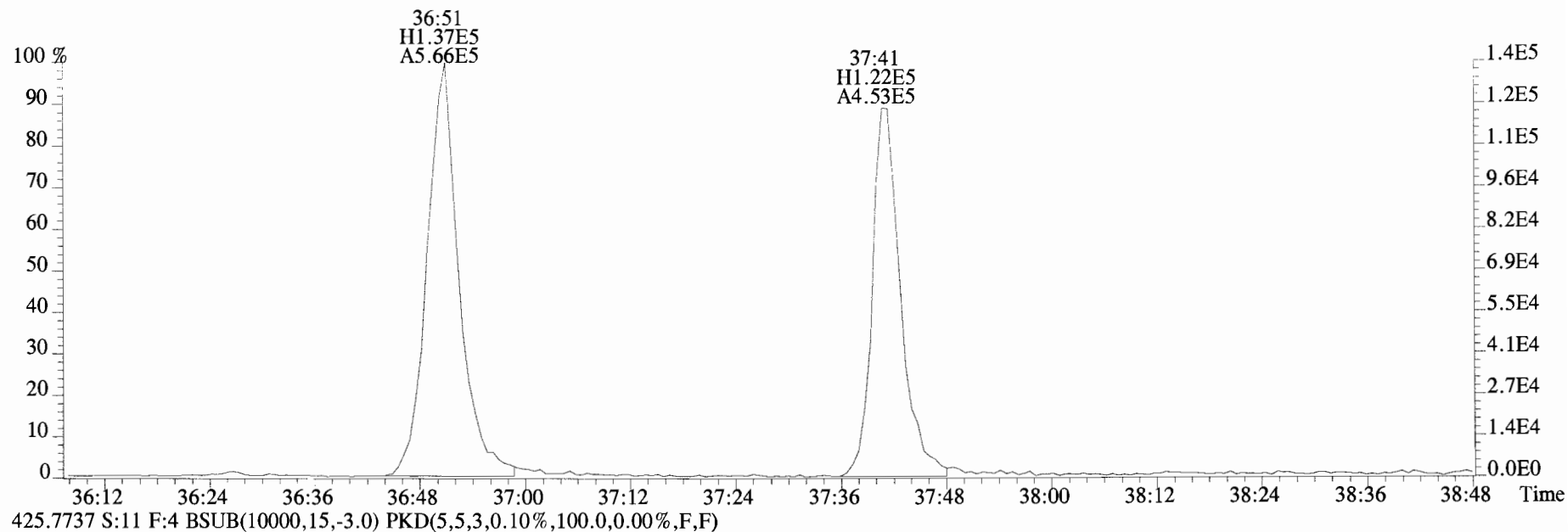
437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



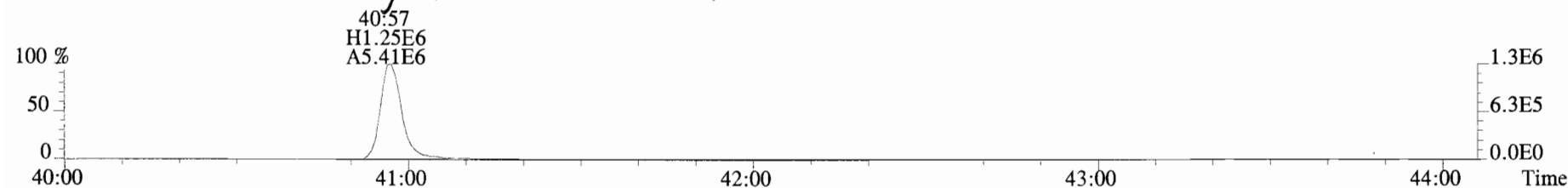
454.9728 S:11 F:4



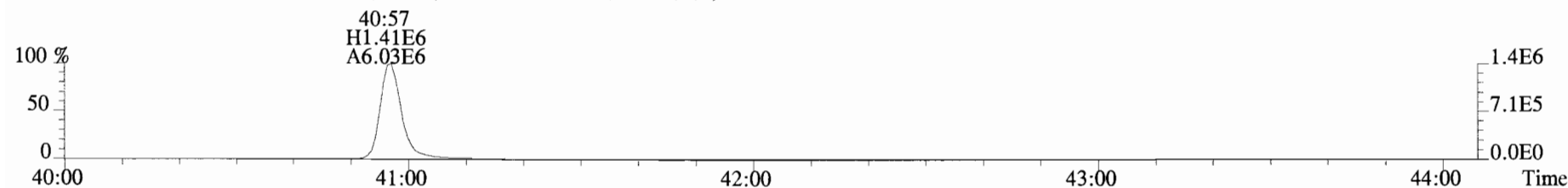
File:190627D1 #1-356 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



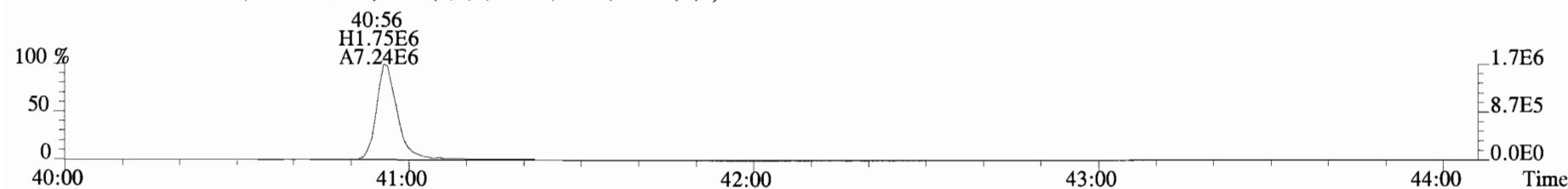
File:190627D1 #1-431 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



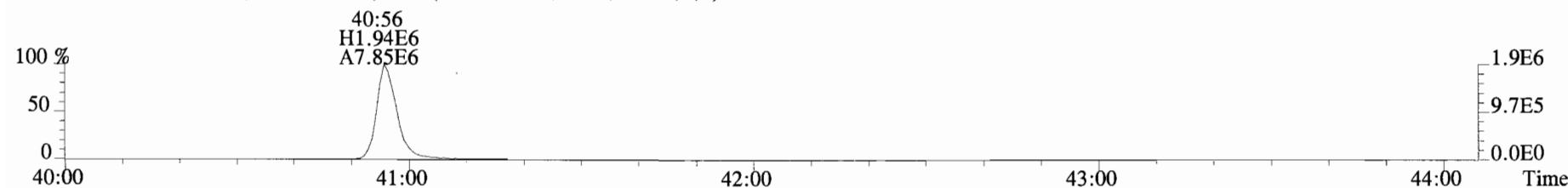
459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



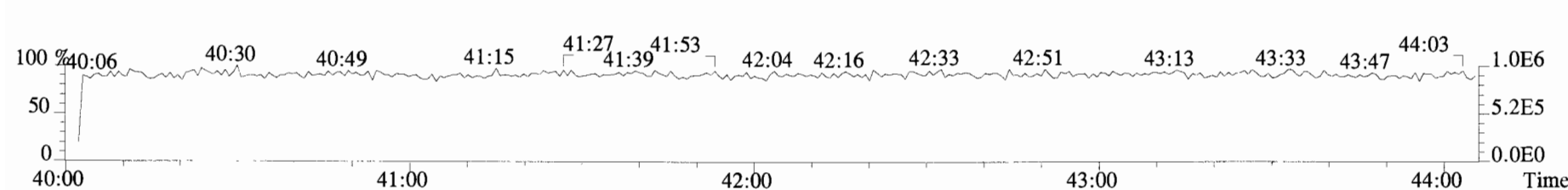
469.7780 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



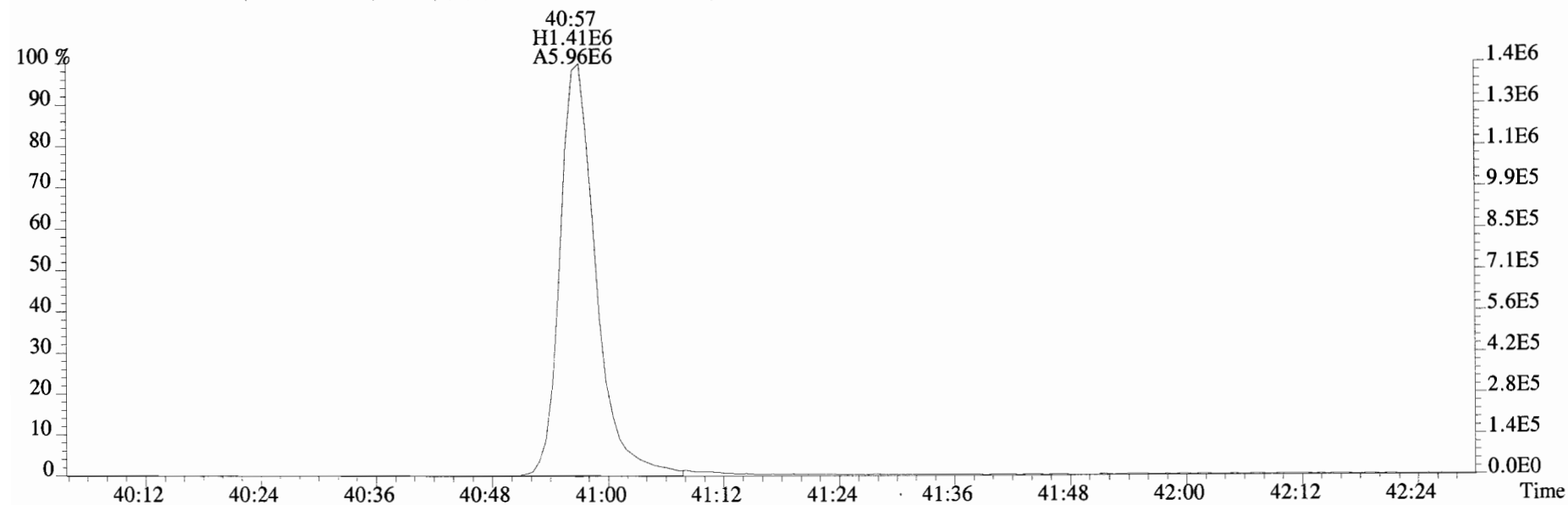
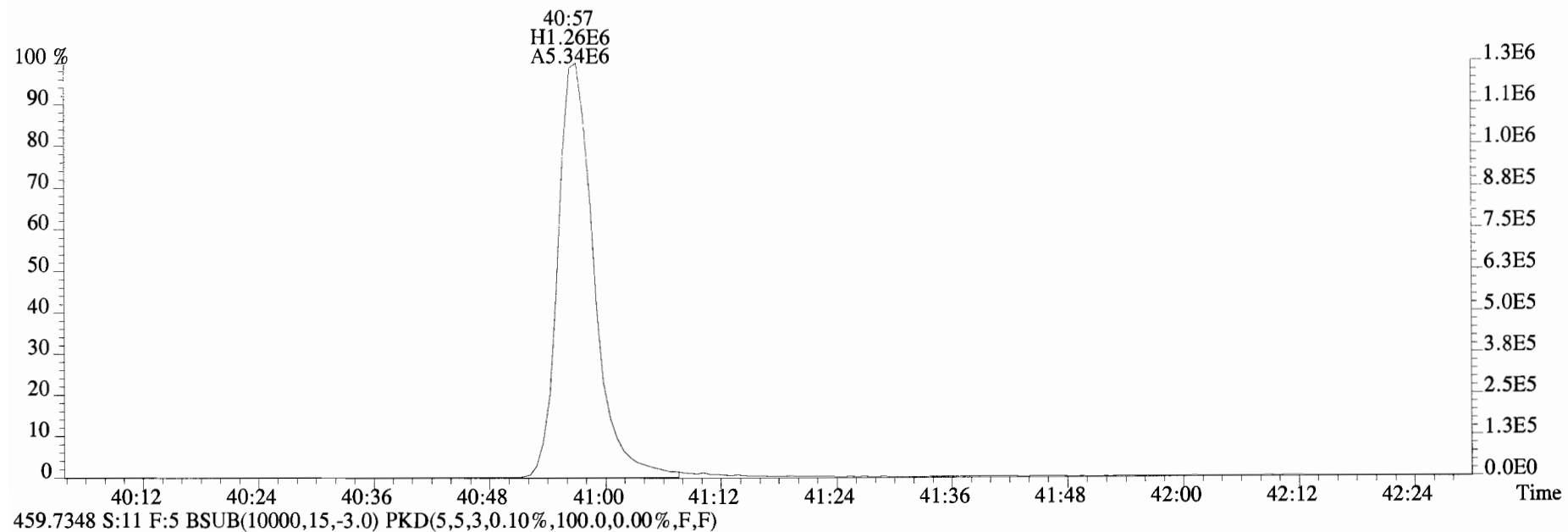
471.7750 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



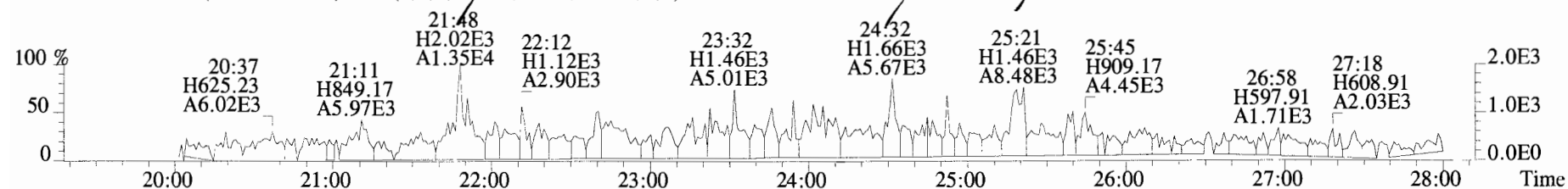
454.9728 S:11 F:5



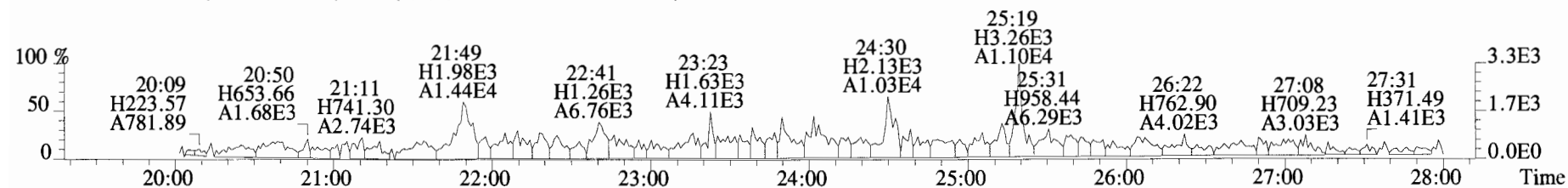
File:190627D1 #1-431 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



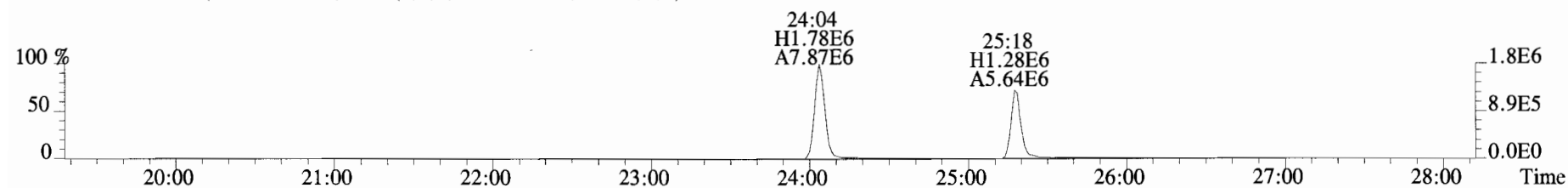
File:190627D1 #1-513 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



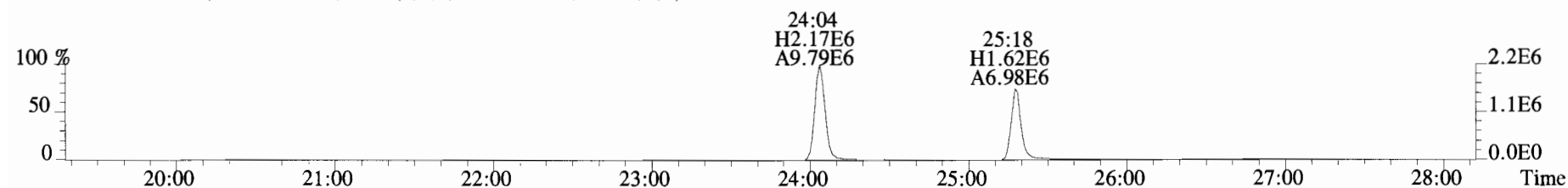
305.8987 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



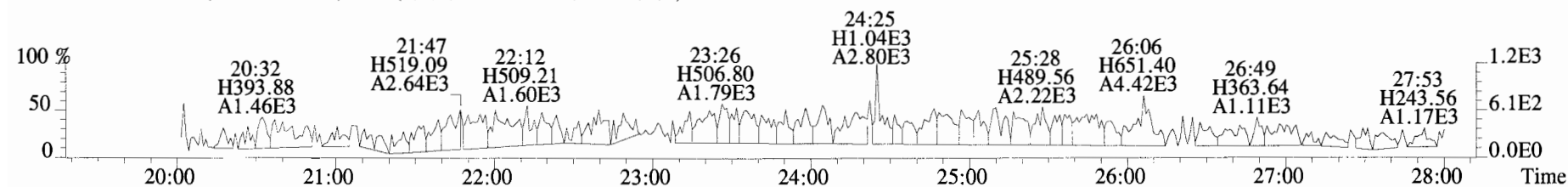
315.9419 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



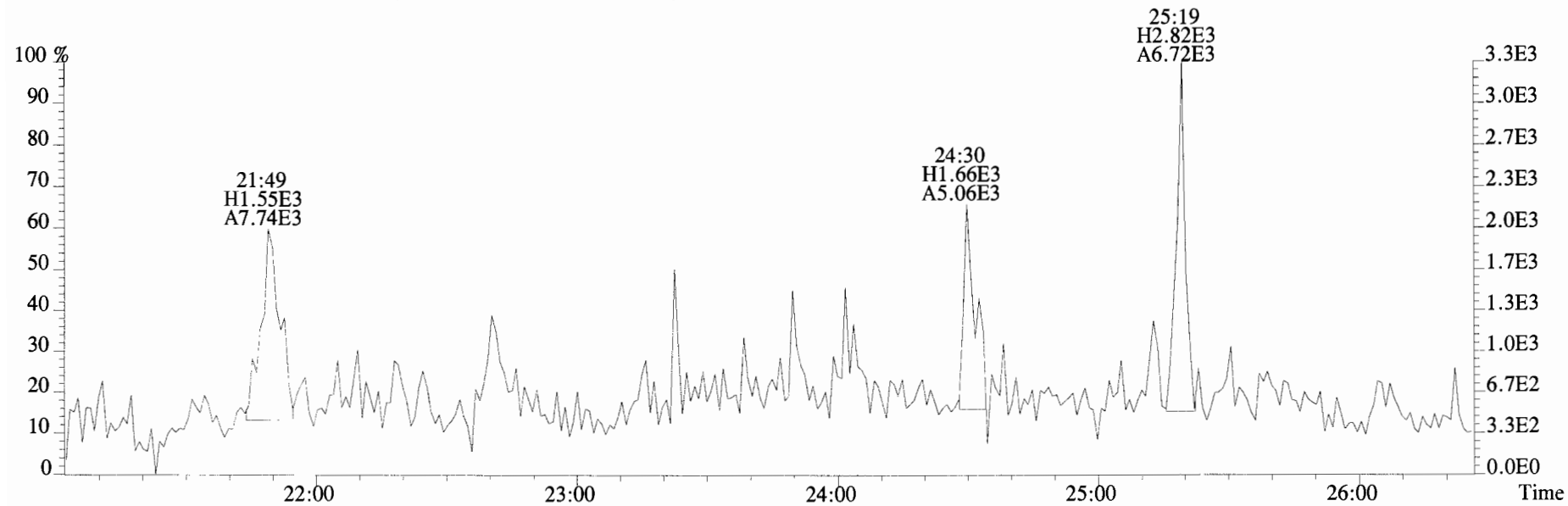
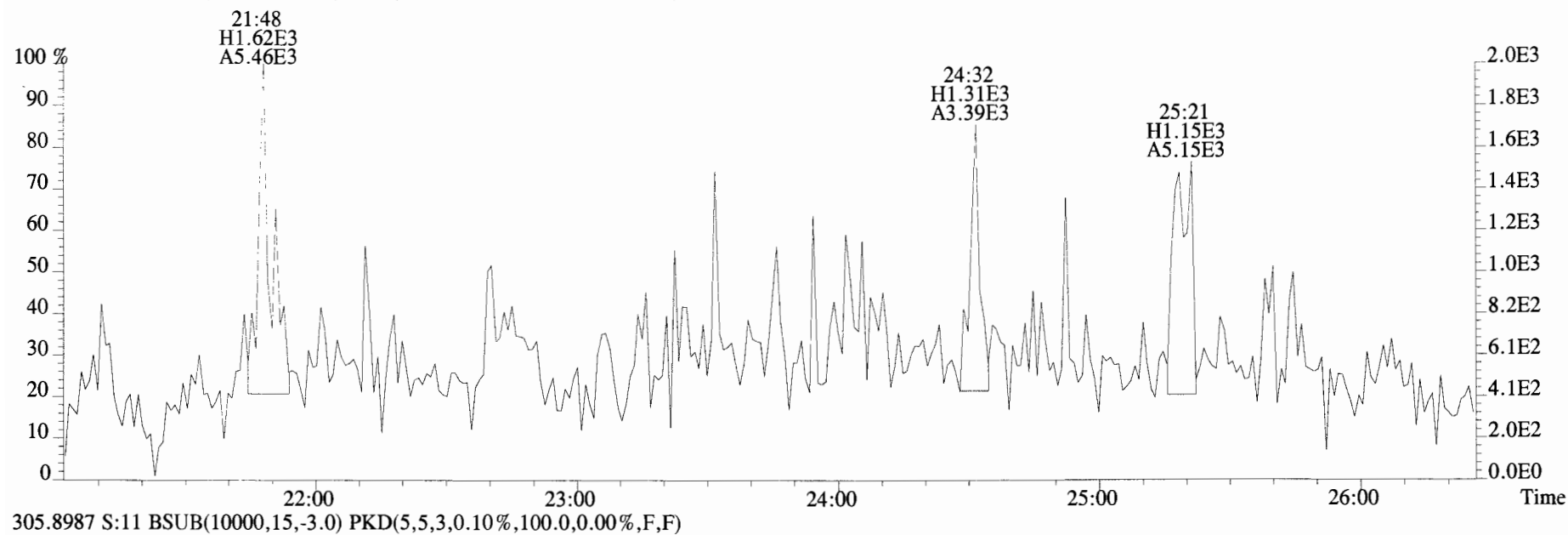
317.9389 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



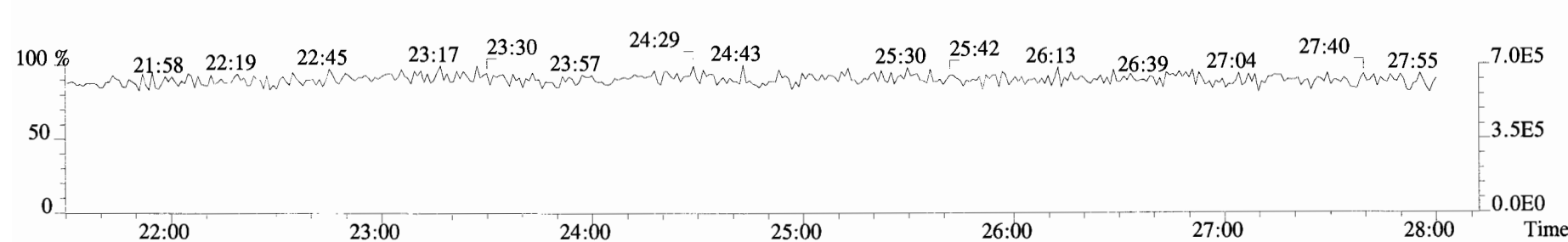
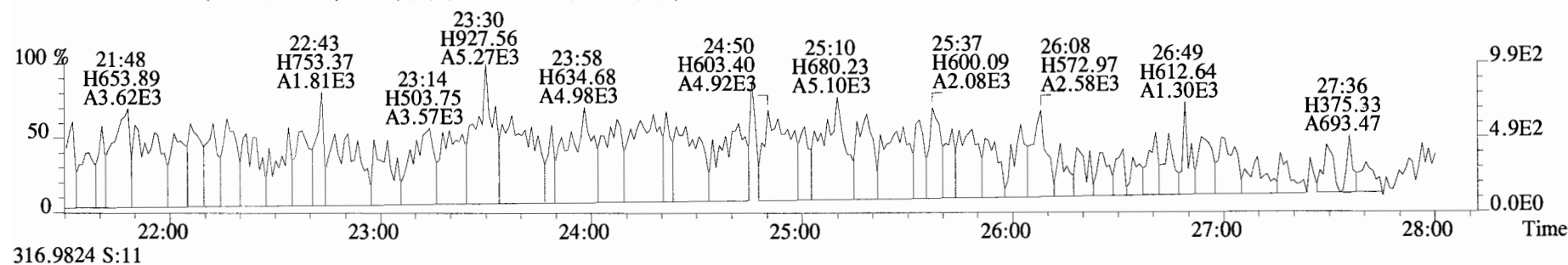
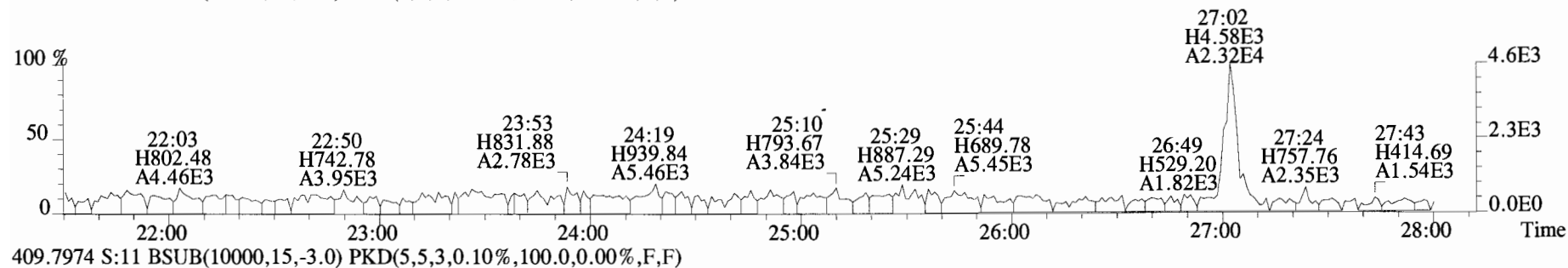
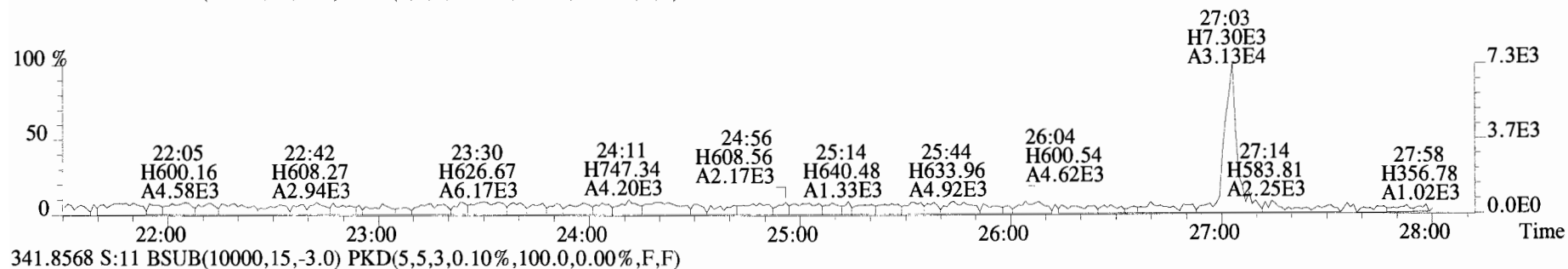
375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



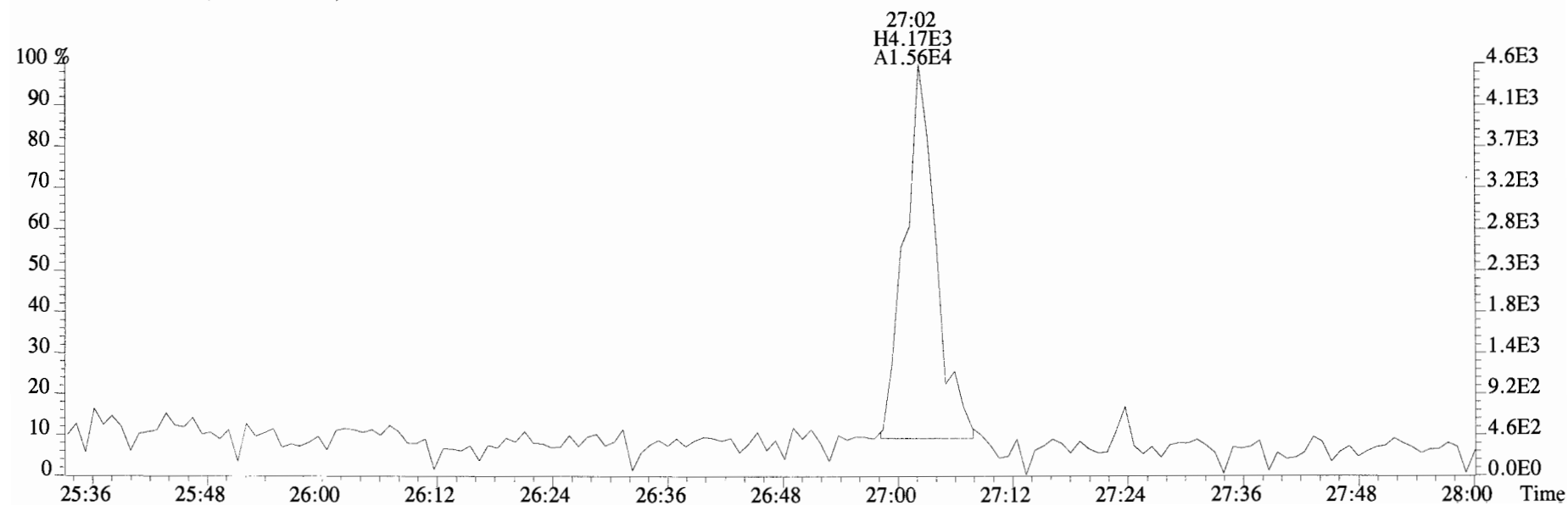
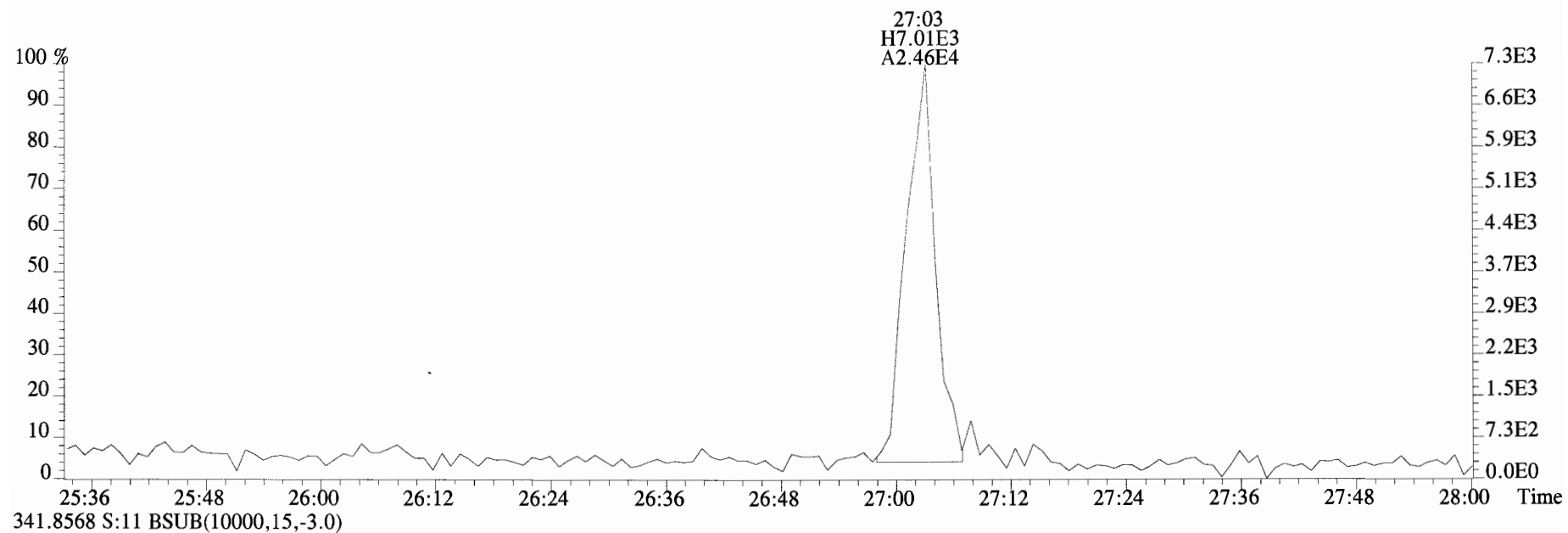
File:190627D1 #1-513 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



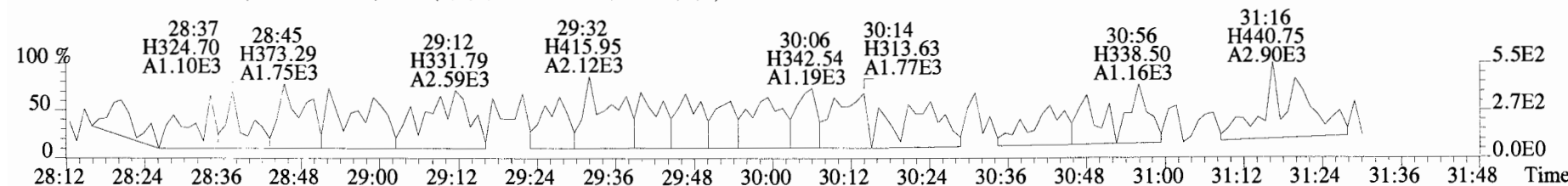
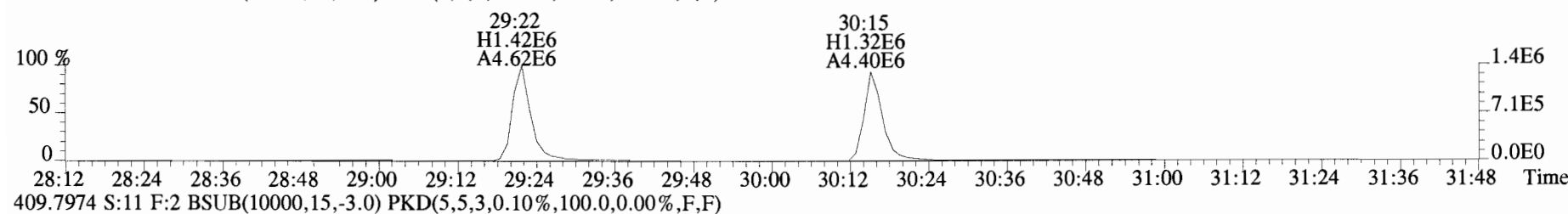
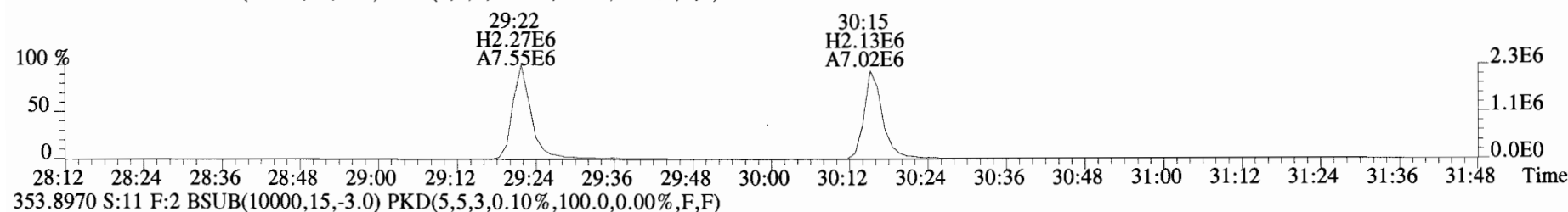
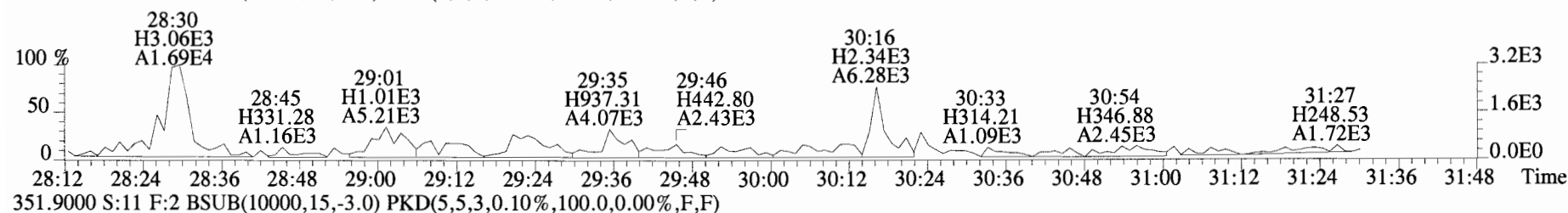
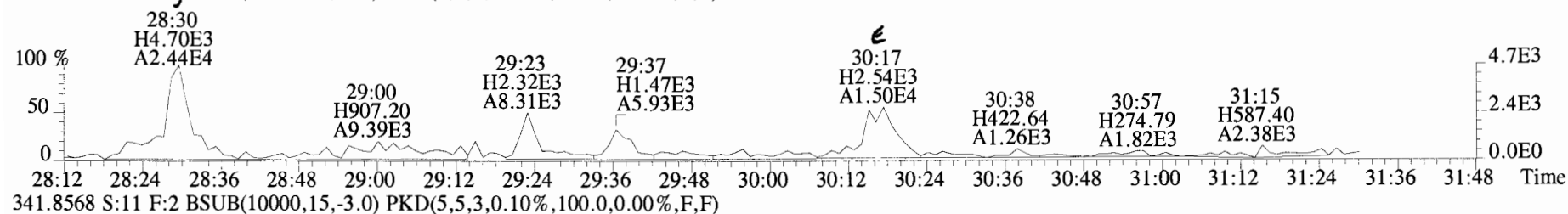
File:190627D1 #1-513 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



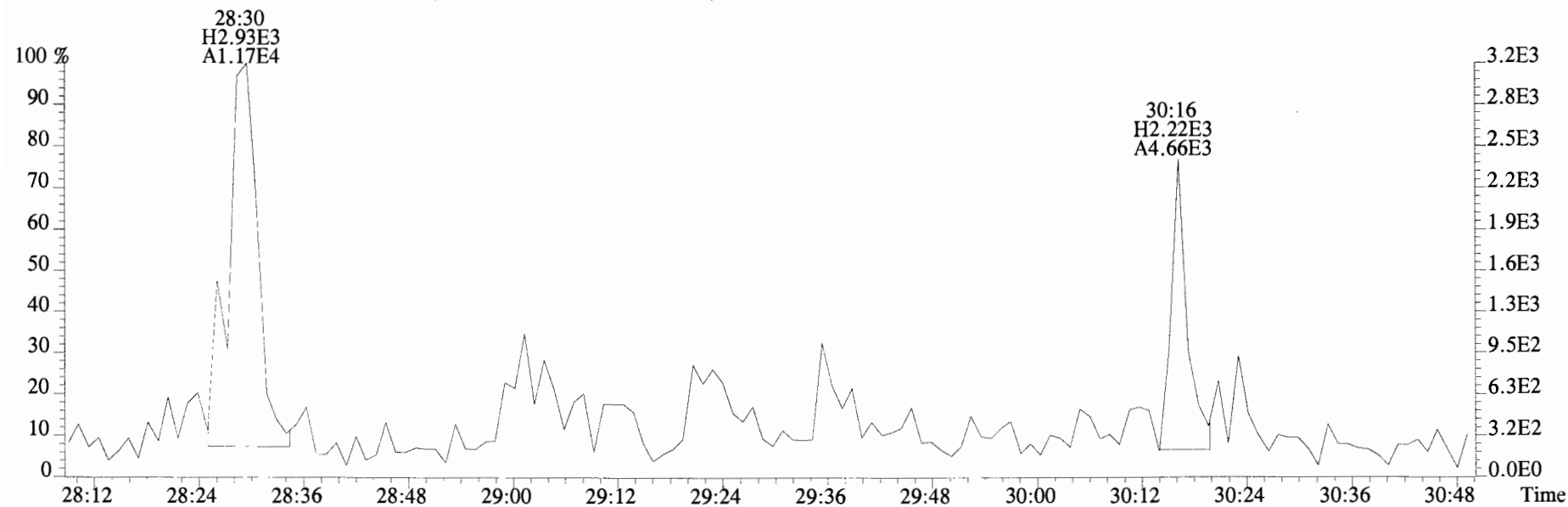
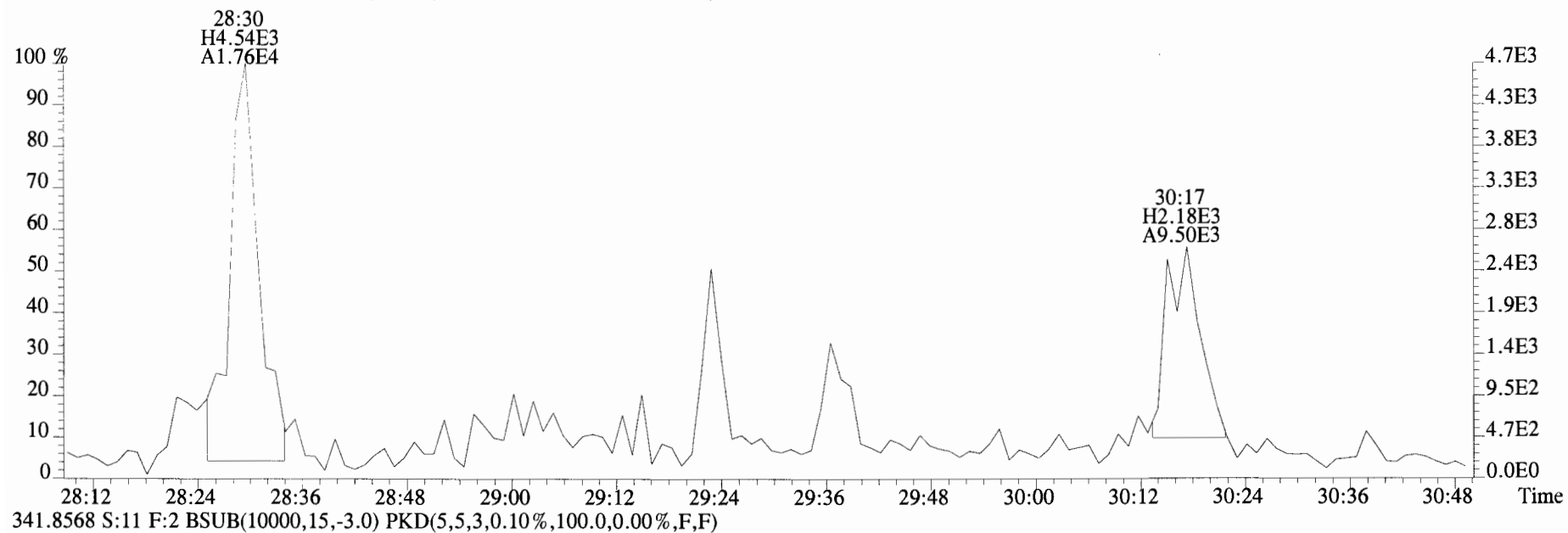
File:190627D1 #1-513 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0)



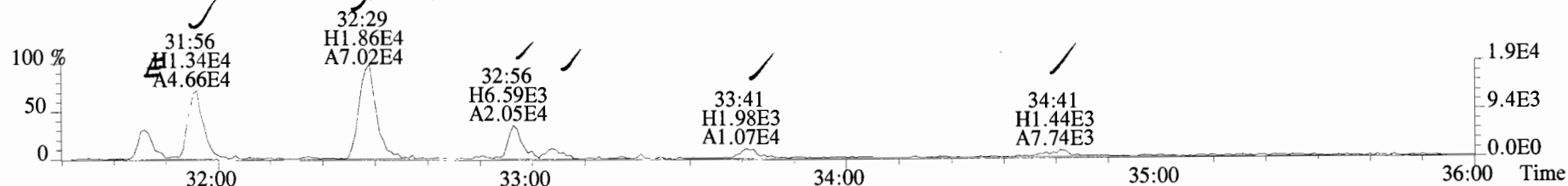
File:190627D1 #1-184 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



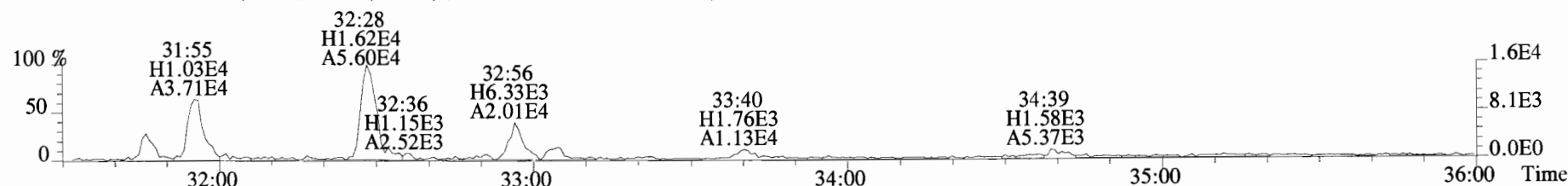
File:190627D1 #1-184 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
339.8597 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



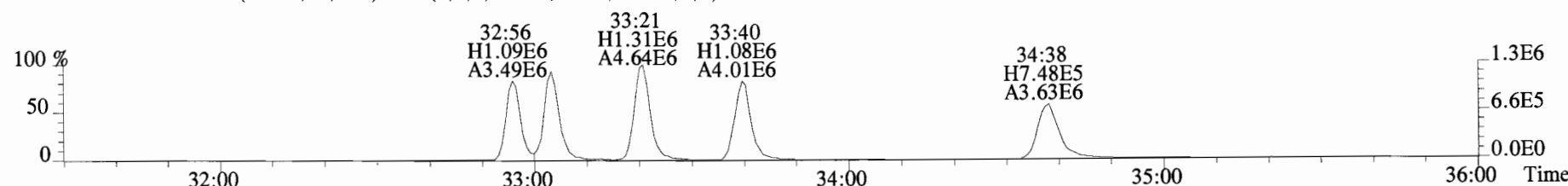
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



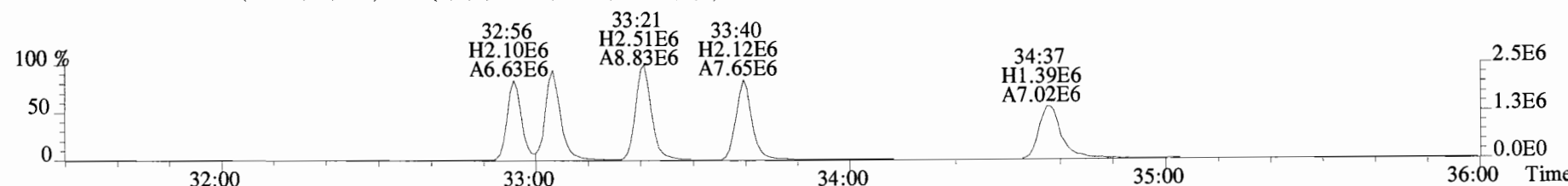
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



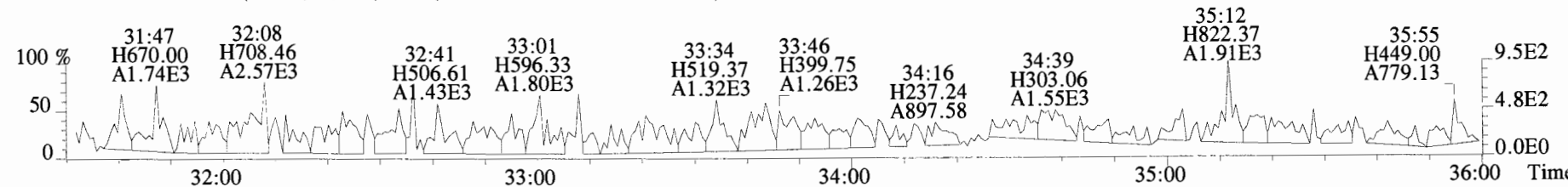
383.8639 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



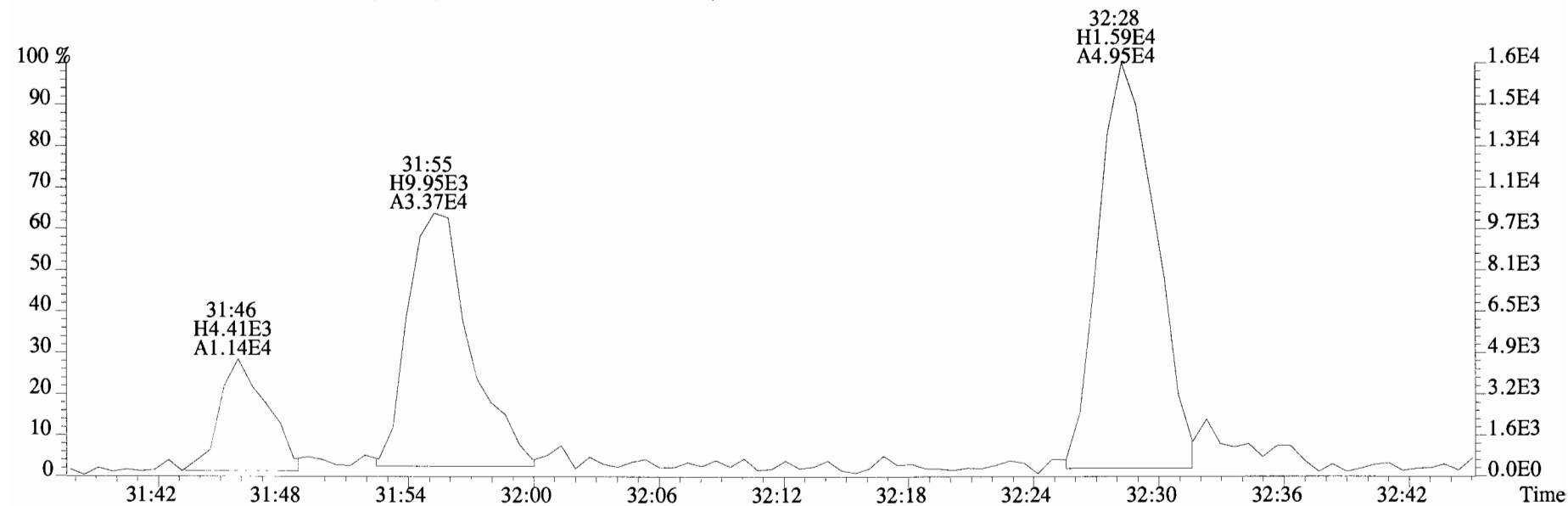
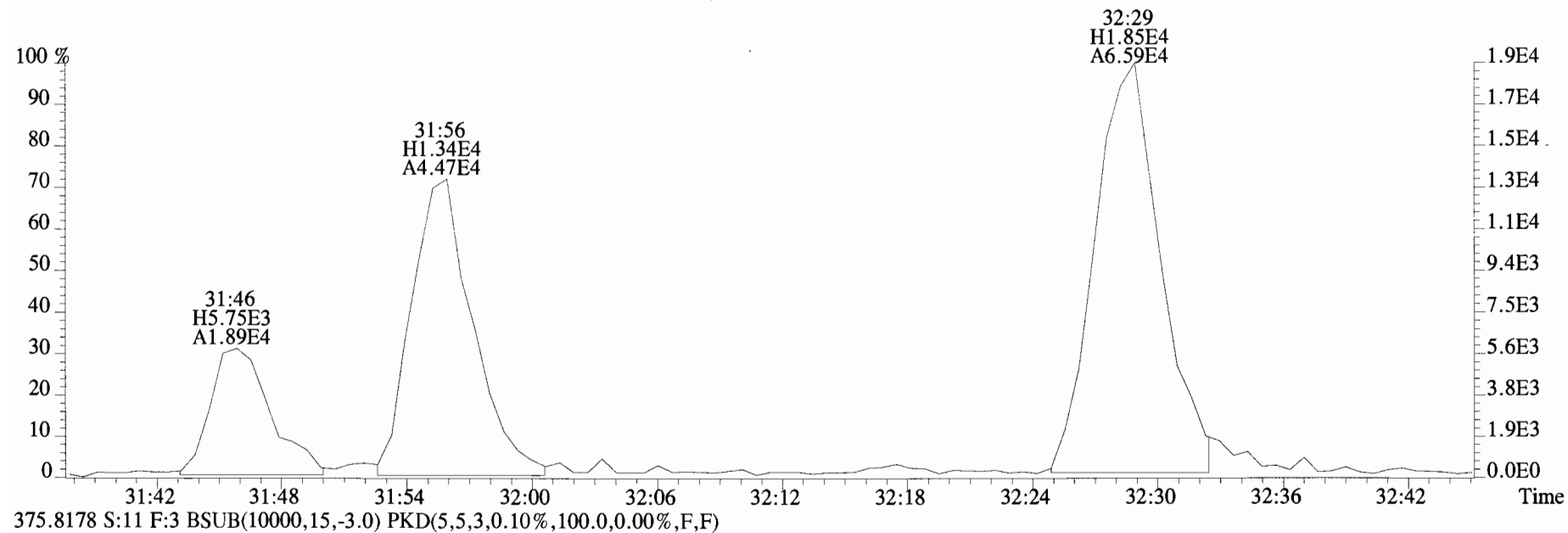
385.8610 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



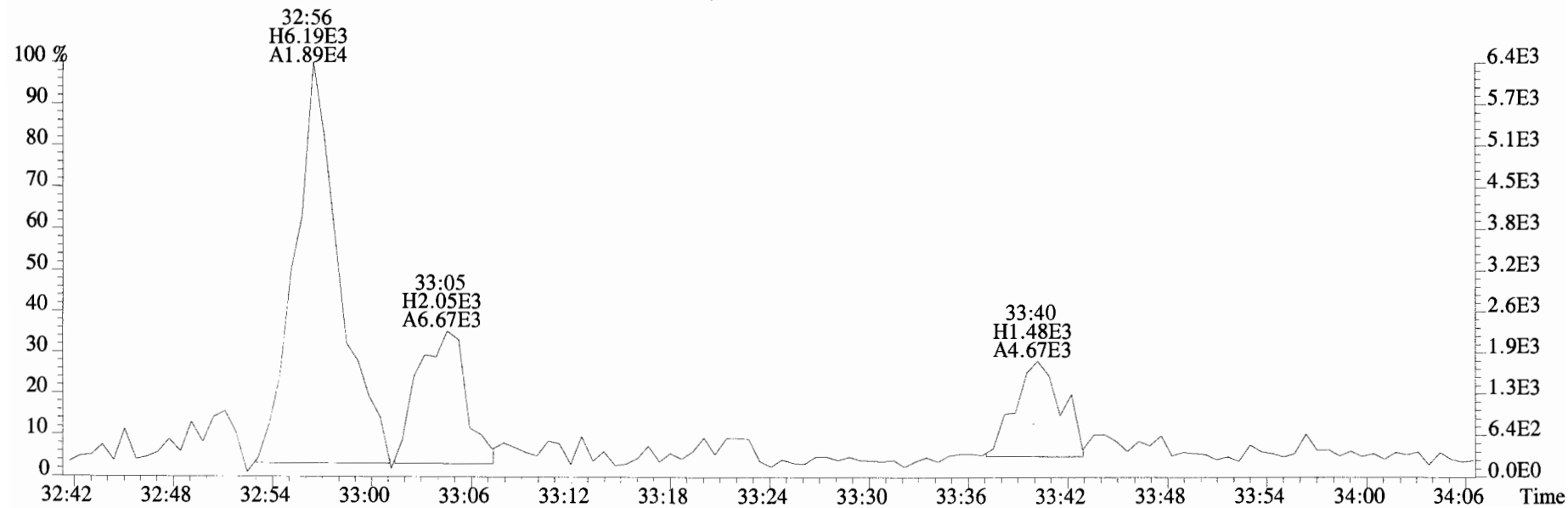
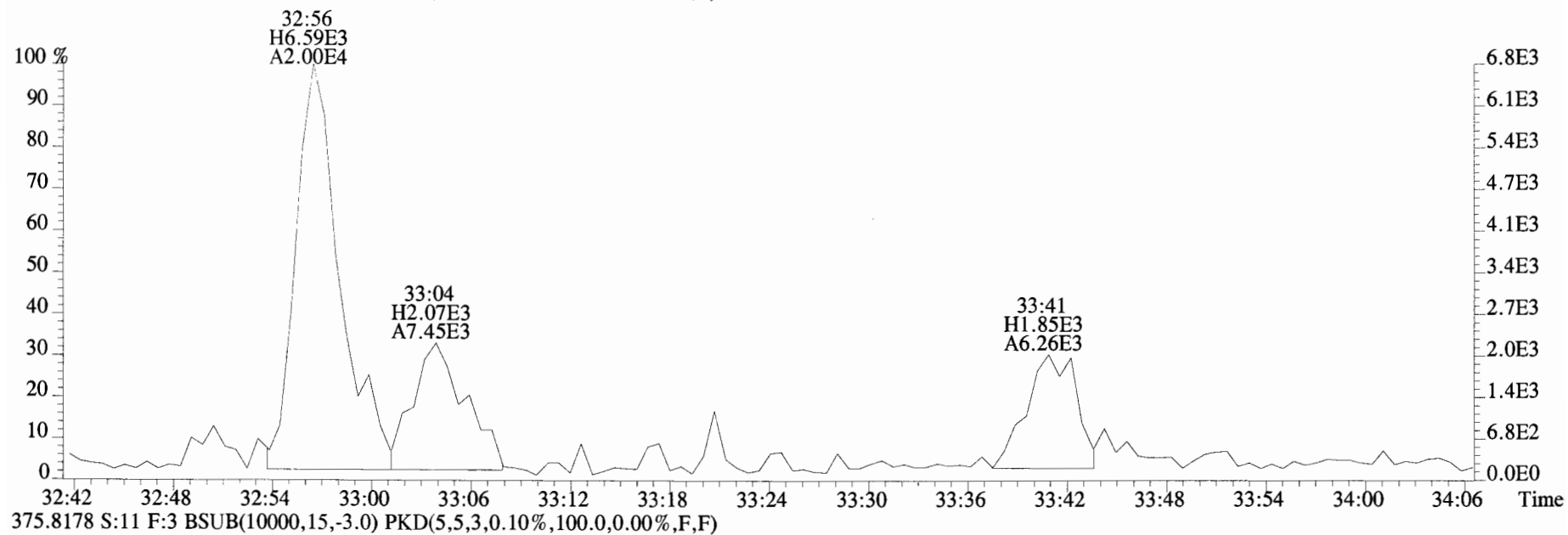
445.7555 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



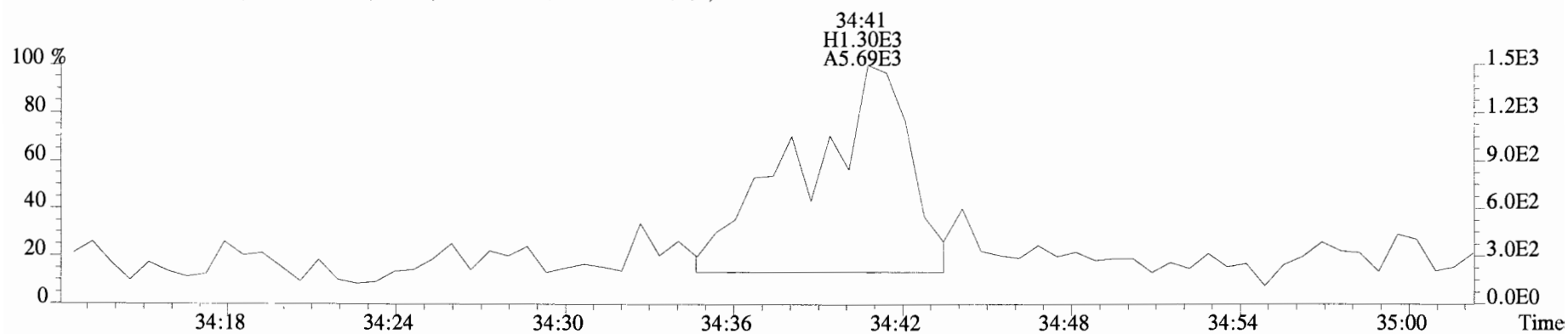
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



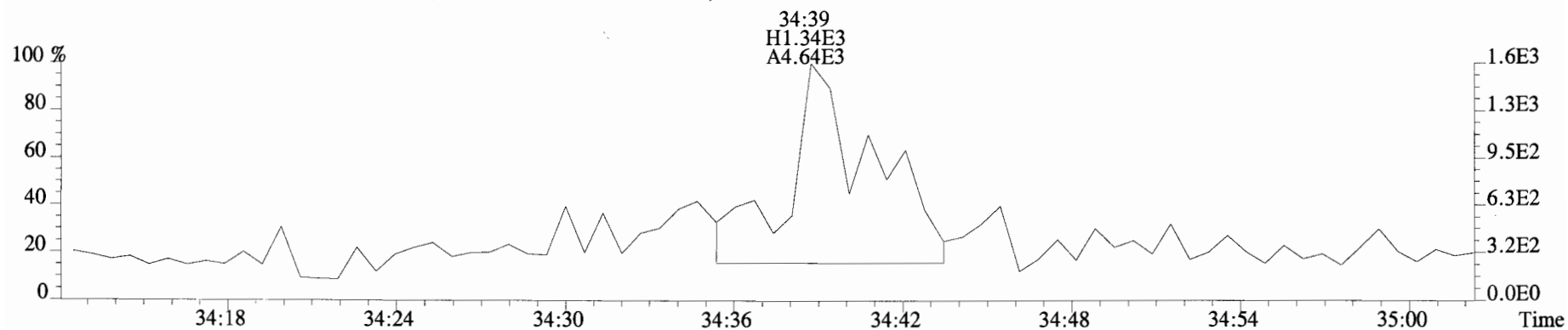
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



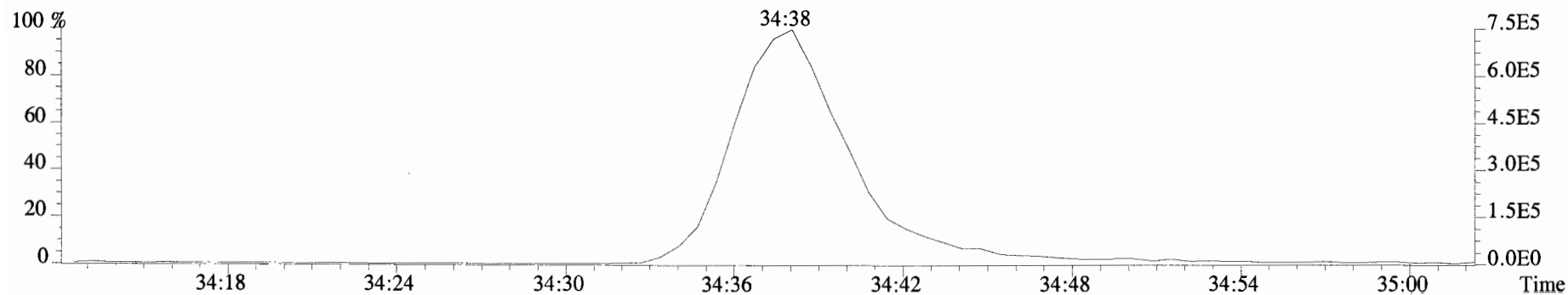
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
373.8207 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



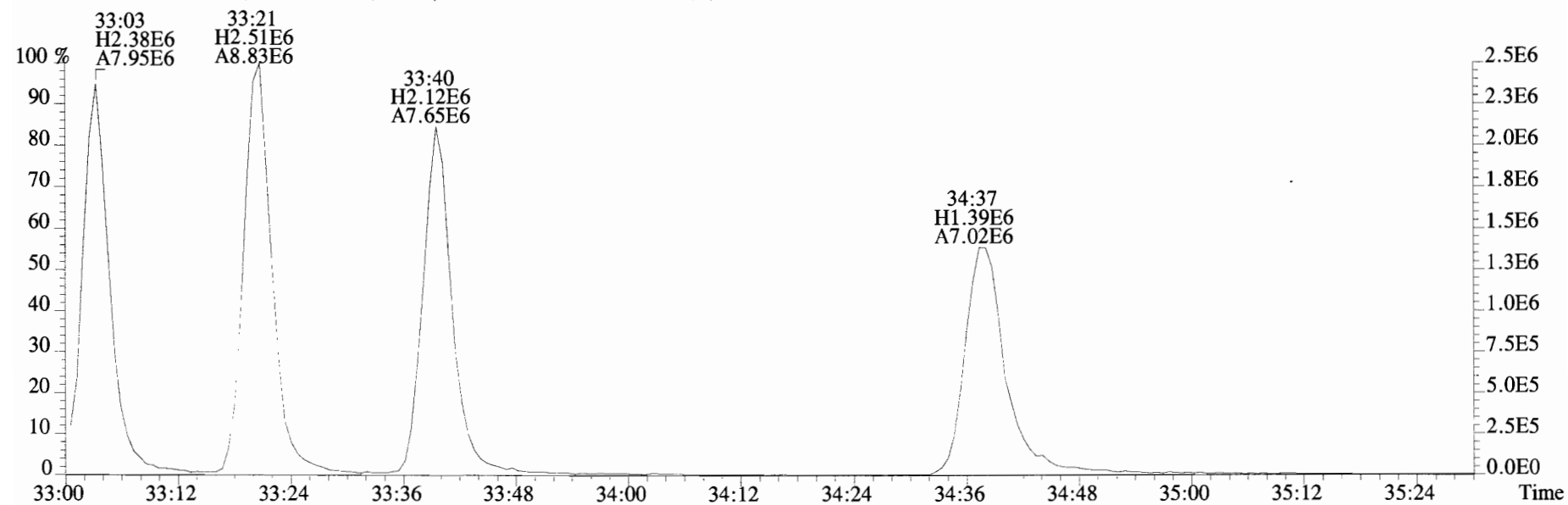
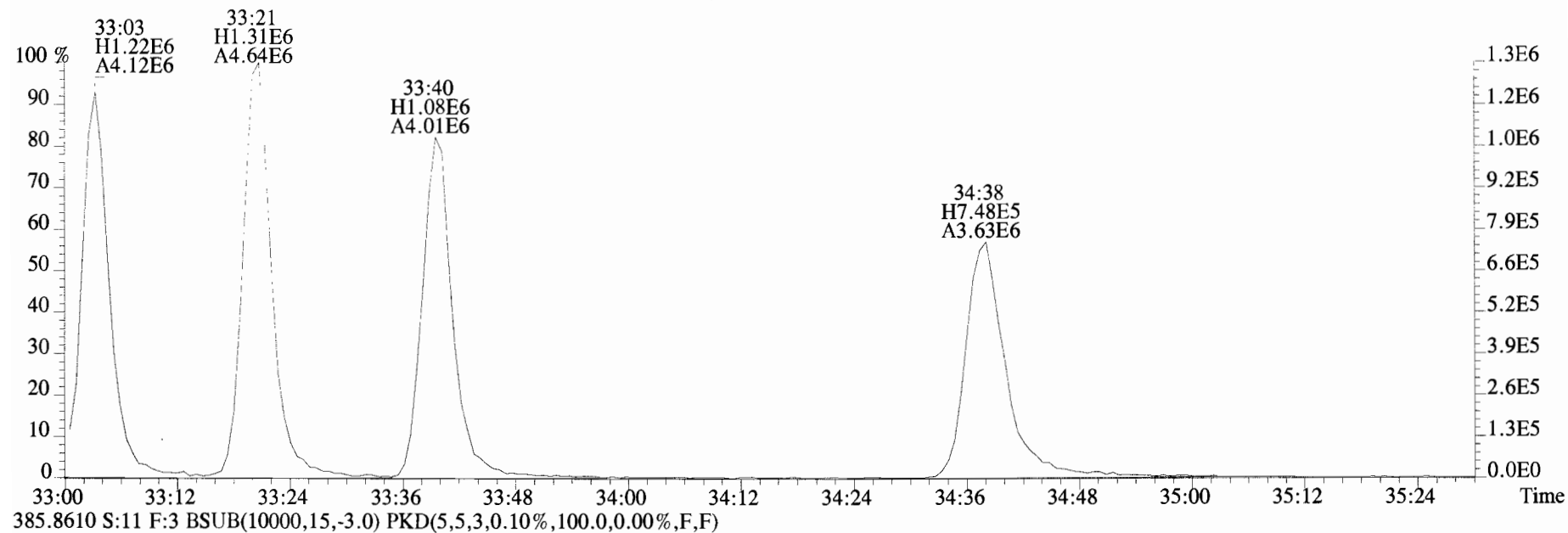
375.8178 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



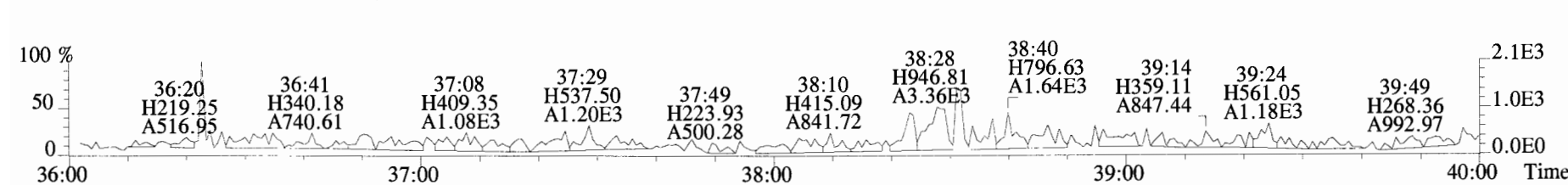
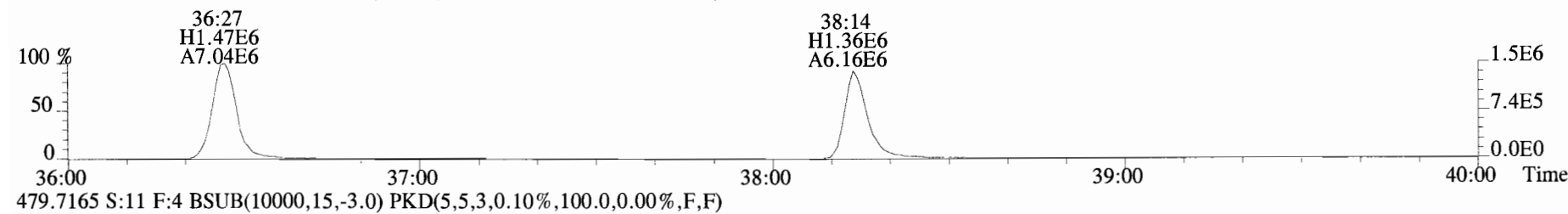
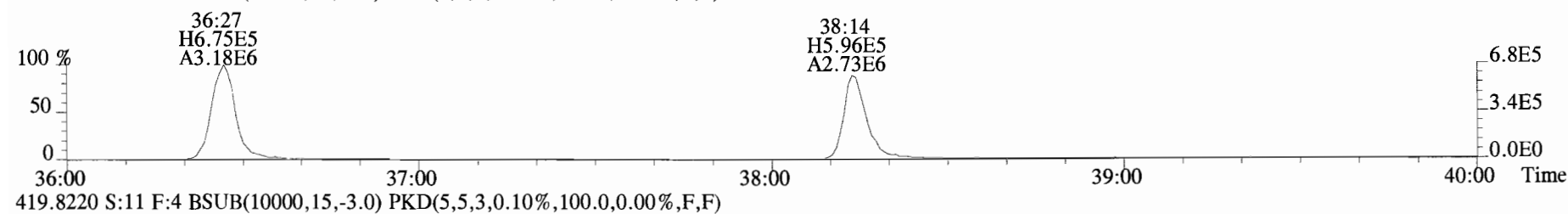
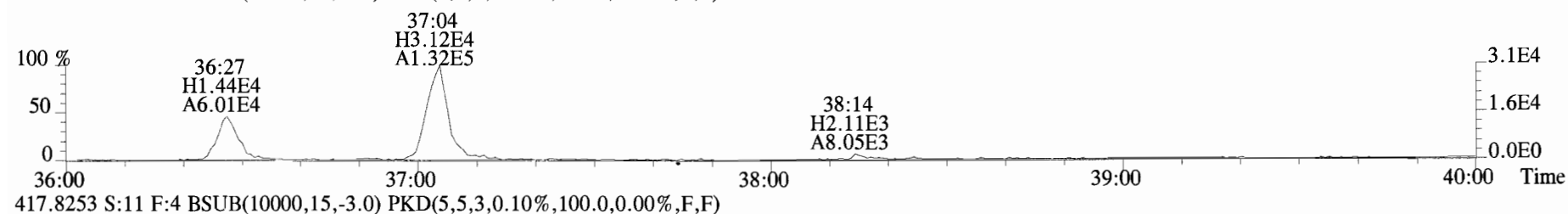
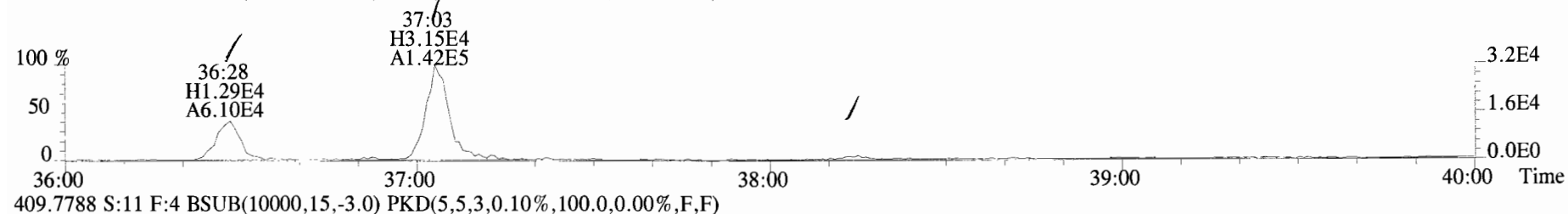
383.8639 S:11 F:3



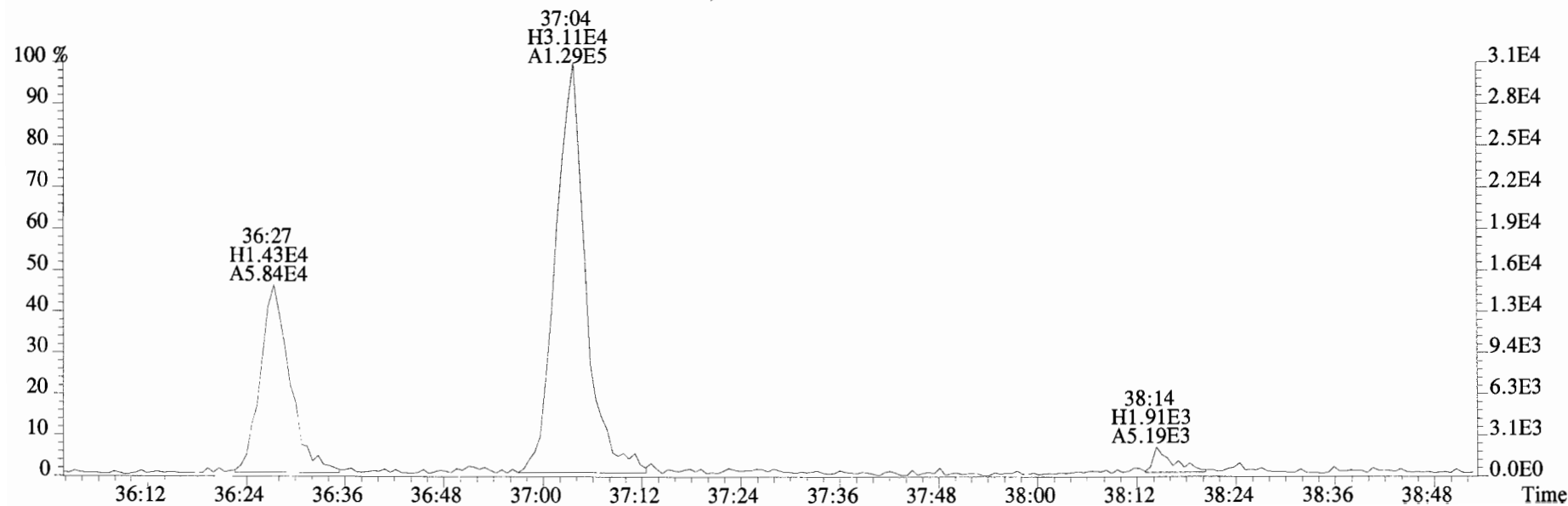
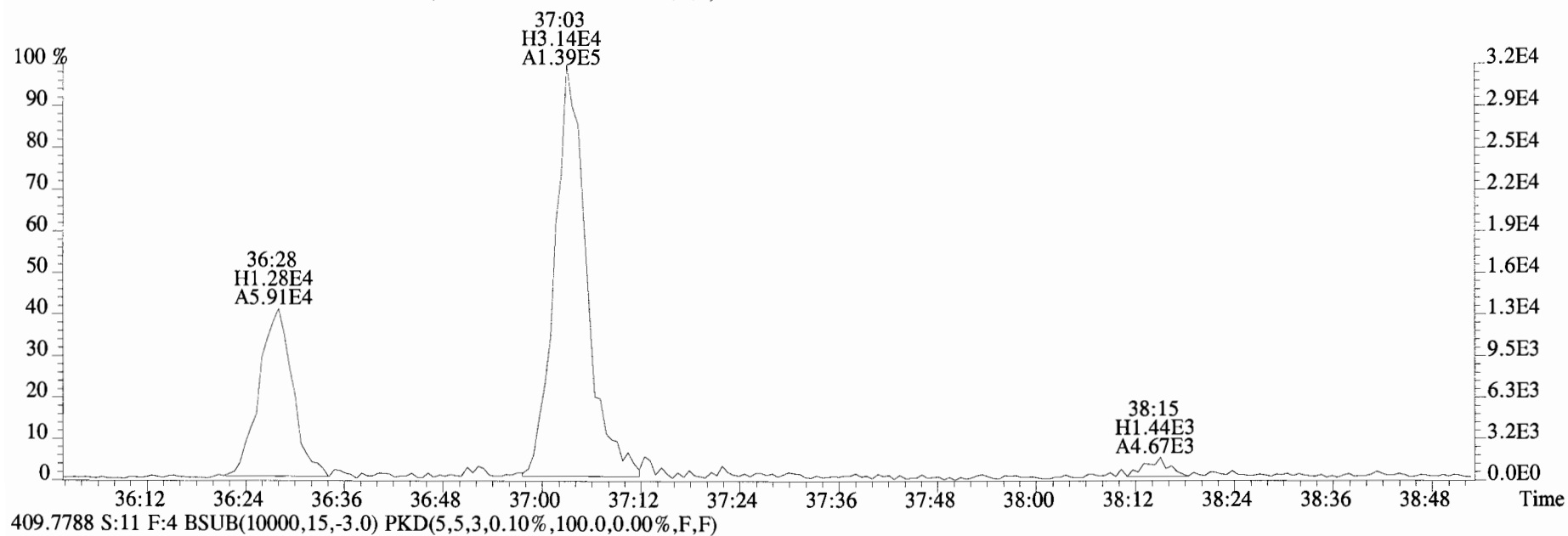
File:190627D1 #1-400 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 383.8639 S:11 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



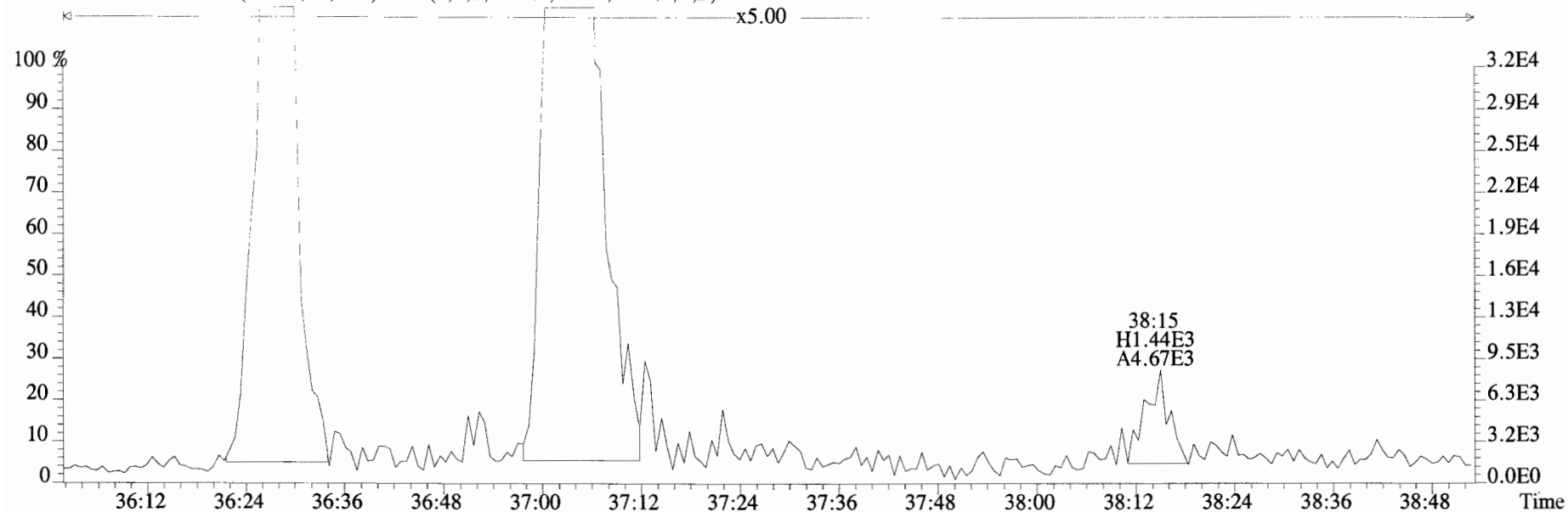
File:190627D1 #1-356 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



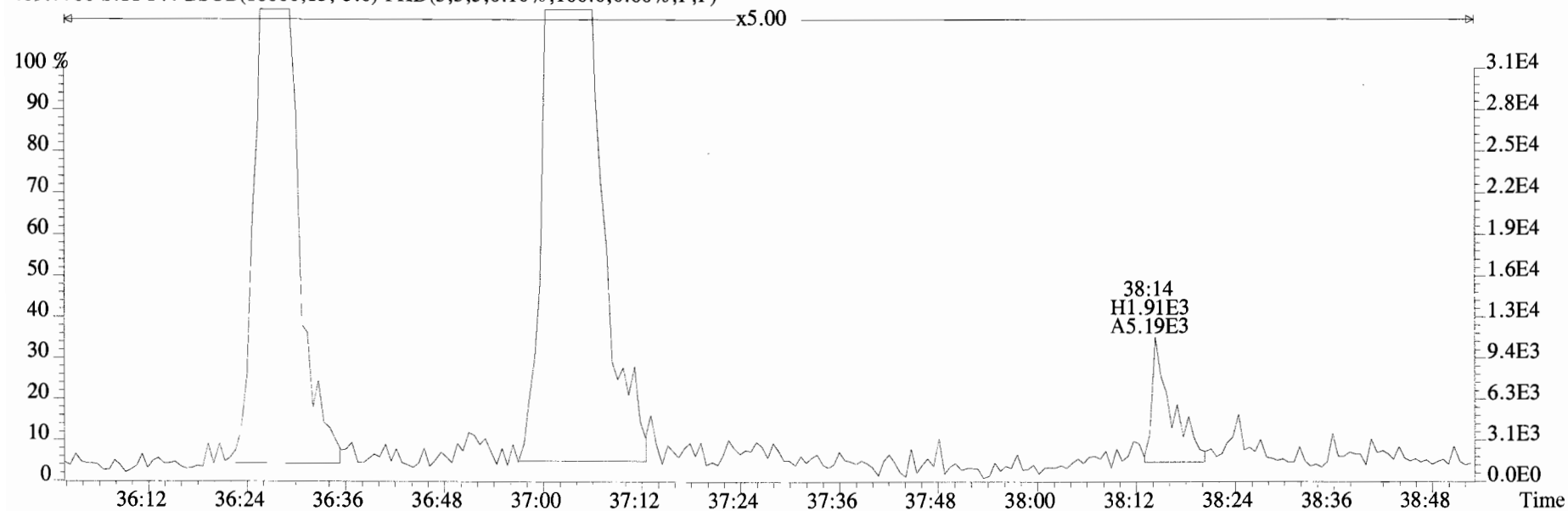
File:190627D1 #1-356 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



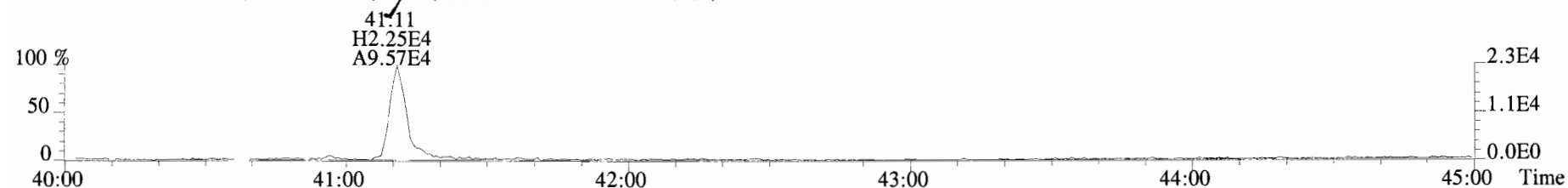
File:190627D1 #1-356 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



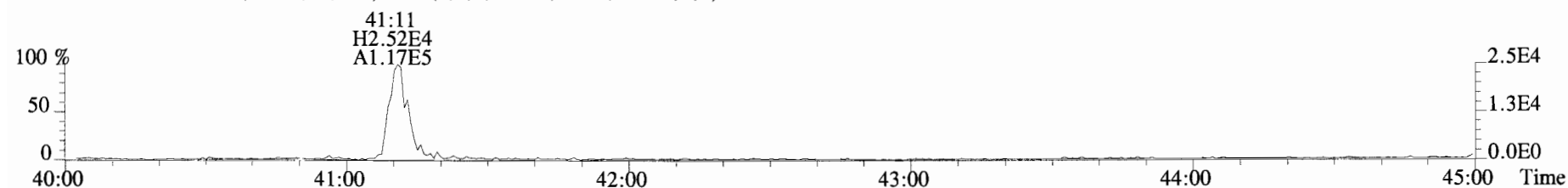
409.7788 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



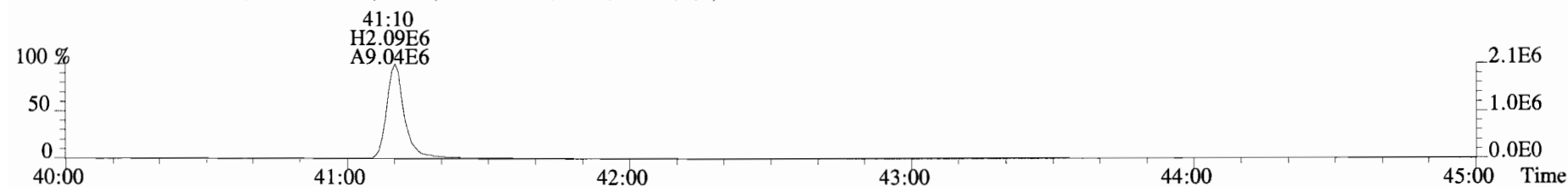
File:190627D1 #1-431 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
 441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



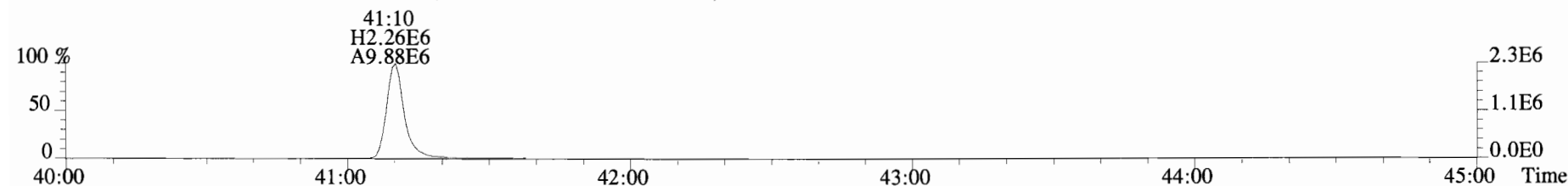
443.7398 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



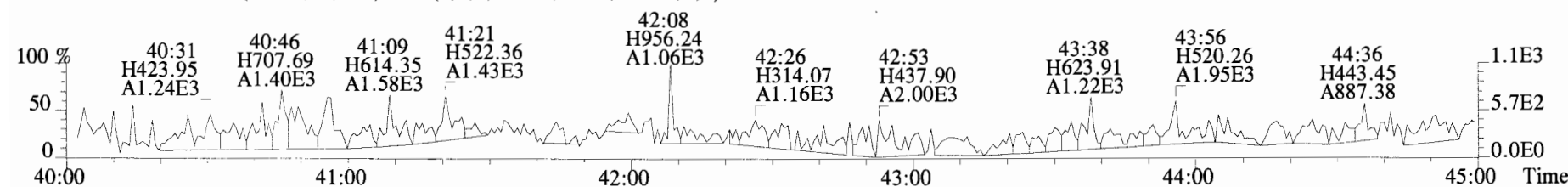
453.7831 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



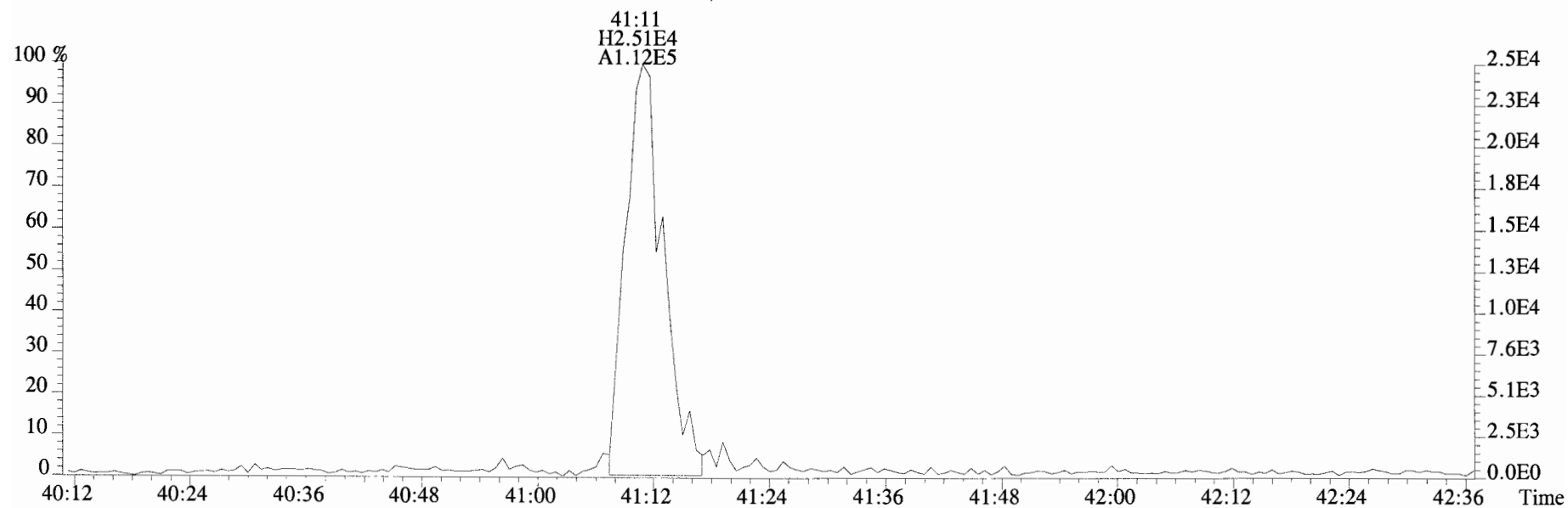
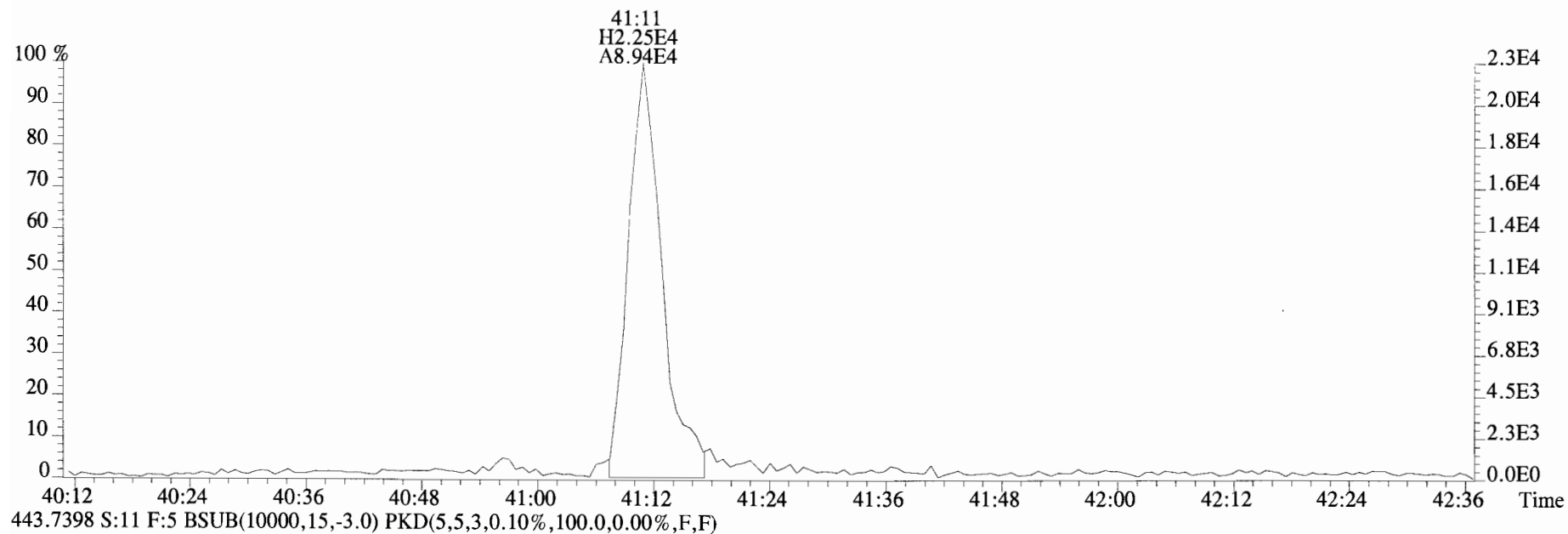
455.7801 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190627D1 #1-431 Acq:28-JUN-2019 00:54:49 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:1901248-03 T4-PDI2019-SC29-190524-03-05 9.87 Exp:OCDD_DB5
441.7428 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Client ID: T4-PDI2019-SC29-1905249 Filename: 190625D1 S:8 Acq:25-JUN-19 20:39:50

Lab ID: 1901248-04

GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19

wt/vol: 5.124

ConCal: ST190625D1-1

EndCAL: NA

Page 7 of 7

Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
2,3,7,8-TCDD	*	* n	0.90	NotF ₇	*		160	2.5	0.544
1,2,3,7,8-PeCDD	*	* n	0.87	NotF ₇	*		248	2.5	0.547
1,2,3,4,7,8-HxCDD	*	* n	1.05	NotF ₇	*		336	2.5	0.923
1,2,3,6,7,8-HxCDD	1.50e+04	1.11 y	0.93	33:57	1.6474		*	2.5	*
1,2,3,7,8,9-HxCDD	*	* n	0.96	NotF ₇	*		336	2.5	0.978
1,2,3,4,6,7,8-HpCDD	3.06e+05	0.94 y	0.99	37:42	36.763		*	2.5	*
OCDD	2.84e+06	0.90 y	0.99	40:57	361.51		*	2.5	*
2,3,7,8-TCDF	*	* n	0.94	NotF ₇	*		183	2.5	0.372
1,2,3,7,8-PeCDF	4.46e+03	1.14 n	0.92	29:24	0.44877		*	2.5	*
2,3,4,7,8-PeCDF	*	* n	0.96	NotF ₇	*		204	2.5	0.526
1,2,3,4,7,8-HxCDF	1.12e+04	0.94 n	1.15	32:58	0.89167		*	2.5	*
1,2,3,6,7,8-HxCDF	*	* n	1.04	NotF ₇	*		310	2.5	0.299
2,3,4,6,7,8-HxCDF	*	* n	1.10	NotF ₇	*		310	2.5	0.316
1,2,3,7,8,9-HxCDF	*	* n	1.03	NotF ₇	*		310	2.5	0.531
1,2,3,4,6,7,8-HpCDF	2.13e+04	0.82 n	1.06	36:28	2.9975		*	2.5	*
1,2,3,4,7,8,9-HpCDF	*	* n	1.23	NotF ₇	*		212	2.5	0.437
OCDF	1.01e+05	0.88 y	0.94	41:11	10.380		*	2.5	*

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		160	0.544
Total Penta-Dioxins	*	*		248	0.547
Total Hexa-Dioxins	15.5	15.5		*	*
Total Hepta-Dioxins	78.7	78.7		*	*
Total Tetra-Furans	*	*		183	0.372
Total Penta-Furans	1.2499	1.6986		*	*
Total Hexa-Furans	5.55	6.98		*	*
Total Hepta-Furans	*	9.84		*	*

										Rec	Qual
IS	13C-2,3,7,8-TCDD	2.57e+06	0.88 y	1.11	26:05	165.14				42.3	
IS	13C-1,2,3,7,8-PeCDD	3.00e+06	0.62 y	0.98	30:33	217.80				55.8	
IS	13C-1,2,3,4,7,8-HxCDD	2.80e+06	1.38 y	0.68	33:49	218.10				55.9	
IS	13C-1,2,3,6,7,8-HxCDD	3.82e+06	1.35 y	0.84	33:56	238.33				61.1	
IS	13C-1,2,3,7,8,9-HxCDD	3.76e+06	1.35 y	0.81	34:15	243.31				62.3	
IS	13C-1,2,3,4,6,7,8-HpCDD	3.29e+06	0.99 y	0.69	37:41	251.65				64.5	
IS	13C-OCDD	6.23e+06	0.90 y	0.62	40:57	523.64				67.1	
IS	13C-2,3,7,8-TCDF	4.22e+06	0.83 y	1.05	25:21	144.64				37.1	
IS	13C-1,2,3,7,8-PeCDF	4.21e+06	1.60 y	0.95	29:24	159.12				40.8	
IS	13C-2,3,4,7,8-PeCDF	3.70e+06	1.59 y	0.94	30:17	142.90				36.6	
IS	13C-1,2,3,4,7,8-HxCDF	4.24e+06	0.50 y	0.86	32:57	259.96				66.6	
IS	13C-1,2,3,6,7,8-HxCDF	5.28e+06	0.50 y	1.02	33:05	271.63				69.6	
IS	13C-2,3,4,6,7,8-HxCDF	5.09e+06	0.50 y	0.95	33:41	280.50				71.9	
IS	13C-1,2,3,7,8,9-HxCDF	4.28e+06	0.51 y	0.87	34:40	259.27				66.4	
IS	13C-1,2,3,4,6,7,8-HpCDF	2.60e+06	0.37 y	0.81	36:28	169.06				43.3	
IS	13C-1,2,3,4,7,8,9-HpCDF	2.37e+06	0.37 y	0.63	38:15	197.28				50.5	
IS	13C-OCDF	8.08e+06	0.86 y	0.78	41:11	542.58				69.5	

C/Up	37C1-2,3,7,8-TCDD	1.51e+06		1.22	26:06	88.065			
RS/RT	13C-1,2,3,4-TCDD	5.51e+06	0.84 y	1.00	25:30	390.28			
RS	13C-1,2,3,4-TCDF	1.08e+07	0.79 y	1.00	24:06	390.28			
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.43e+06	0.52 y	1.00	33:22	390.28			

Integrations
by DB
Analyst: DB

Reviewed
by OT
Analyst: OT

Date: 6/27/19

Date: 6/28/19

Totals class: HxCDD EMPC

Entry #: 23

Run: 13

File: 190625D1

S: 8 I: 1 F: 3

Acquired: 25-JUN-19 20:39:50

Processed: 26-JUN-19 09:27:40

Total Concentration: 15.513

Unnamed Concentration: 13.865

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
32:18	3.473e+04	2.682e+04	1.29 y	6.155e+04	7.1129
32:52	3.245e+03	2.904e+03	1.12 y	6.149e+03	0.71055
33:08	2.912e+04	2.316e+04	1.26 y	5.228e+04	6.0416
33:57	7.888e+03	7.097e+03	1.11 y	1.499e+04	1.6474 1,2,3,6,7,8-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 13 File: 190625D1 S: 8 I: 1 F: 4

Acquired: 25-JUN-19 20:39:50 Processed: 26-JUN-19 09:27:40

Total Concentration: 78.655

Unnamed Concentration: 41.892

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:51	1.675e+05	1.811e+05	0.93 y	3.487e+05	41.892
37:42	1.482e+05	1.577e+05	0.94 y	3.060e+05	36.763

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

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 13 File: 190625D1 S: 8 I: 1 F: 1
Acquired: 25-JUN-19 20:39:50 Processed: 26-JUN-19 09:27:40

Total Concentration: 1.2499 Unnamed Concentration: 1.250

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:03	7.564e+03	4.342e+03	1.74 y	1.191e+04	1.2499

Totals class: PeCDF EMPC

Entry #: 31

Run: 13 File: 190625D1 S: 8 I: 1 F: 2
Acquired: 25-JUN-19 20:39:50 Processed: 26-JUN-19 09:27:40

Total Concentration: 0.44877

Unnamed Concentration: *

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
29:24	2.712e+03	2.386e+03	1.14 n	4.462e+03	0.44877	1,2,3,7,8-PeCDF

Totals class: HxCDF EMPC

Entry #: 33

Run: 13

File: 190625D1

S: 8 I: 1 F: 3

Acquired: 25-JUN-19 20:39:50

Processed: 26-JUN-19 09:27:40

Total Concentration: 6.9766

Unnamed Concentration: 6.085

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:47	6.088e+03	3.119e+03	1.95 n	6.986e+03	0.53575
31:56	1.496e+04	1.257e+04	1.19 y	2.753e+04	2.1114
32:29	2.461e+04	2.022e+04	1.22 y	4.483e+04	3.4378
32:58	6.185e+03	6.558e+03	0.94 n	1.117e+04	0.89167

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

Totals class: HpCDF EMPC

Entry #: 35

Run: 13

File: 190625D1

S: 8 I: 1 F: 4

Acquired: 25-JUN-19 20:39:50

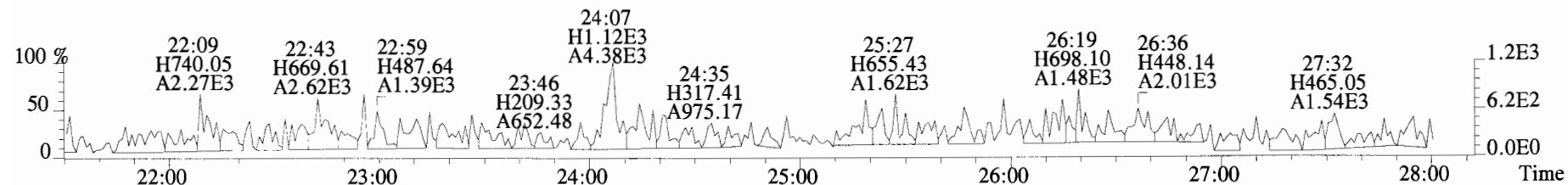
Processed: 26-JUN-19 09:27:40

Total Concentration: 9.8404

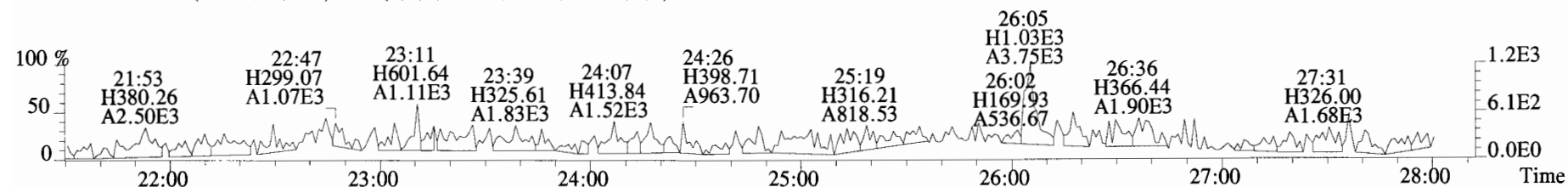
Unnamed Concentration: 6.843

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name	
36:28	1.084e+04	1.316e+04	0.82	n	2.127e+04	2.9975	1,2,3,4,6,7,8-HpCDF
37:03	2.523e+04	2.995e+04	0.84	n	4.949e+04	6.8429	

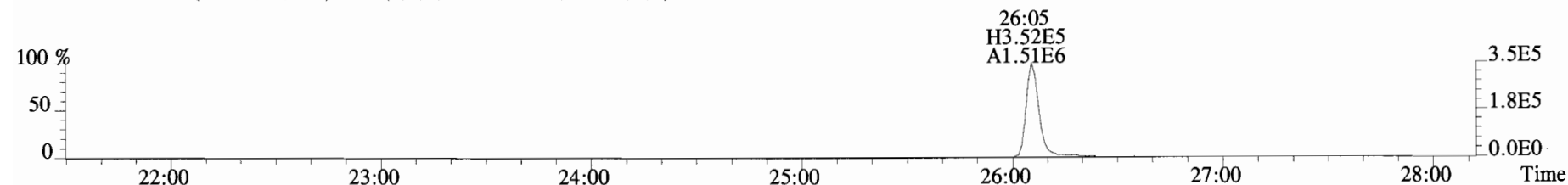
File:190625D1 #1-514 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 319.8965 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



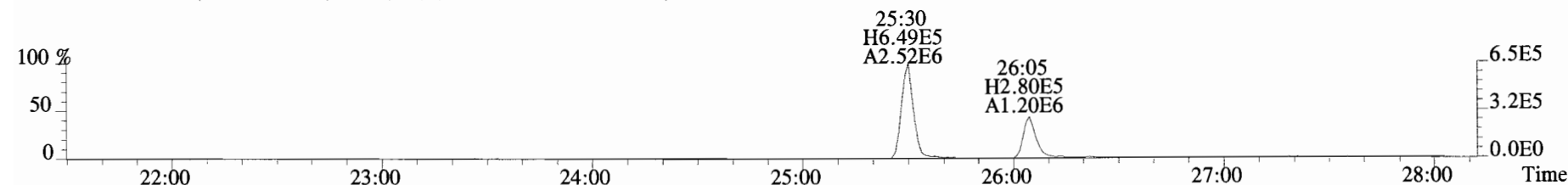
321.8936 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



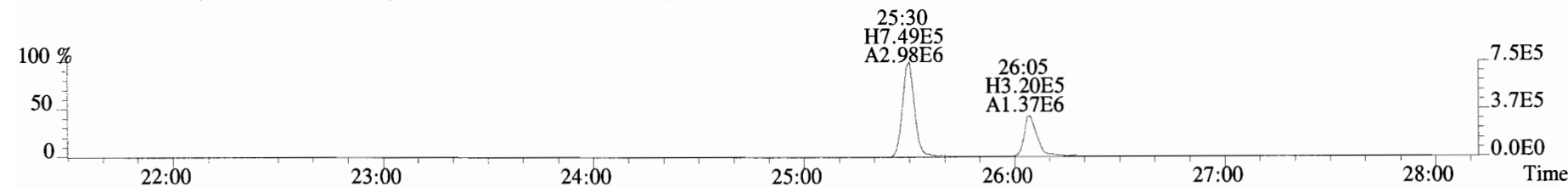
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



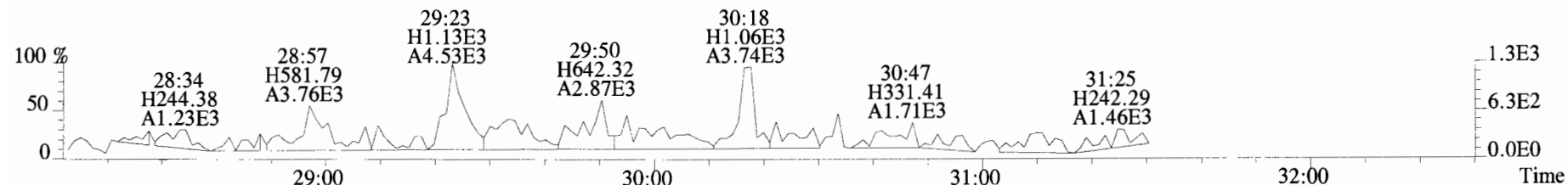
331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



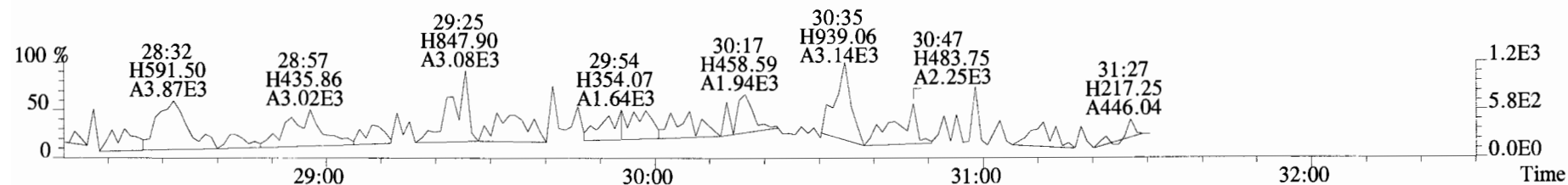
333.9339 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



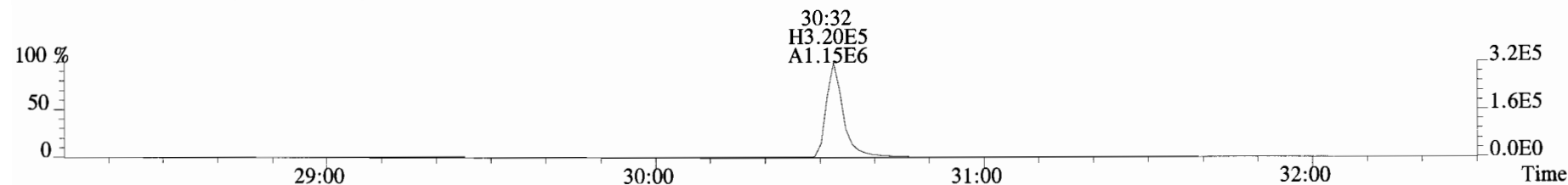
File:190625D1 #1-184 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 353.8576 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



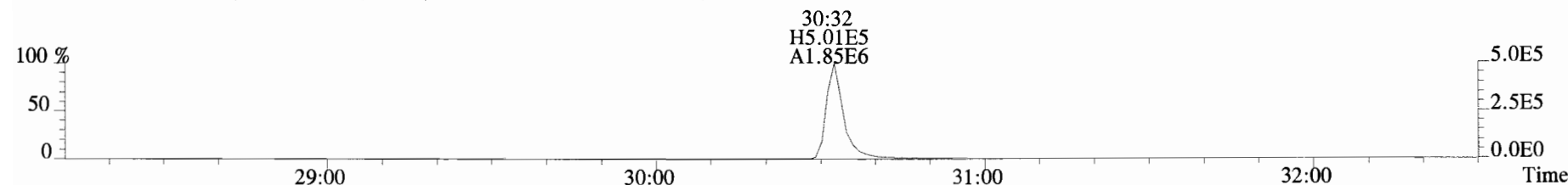
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



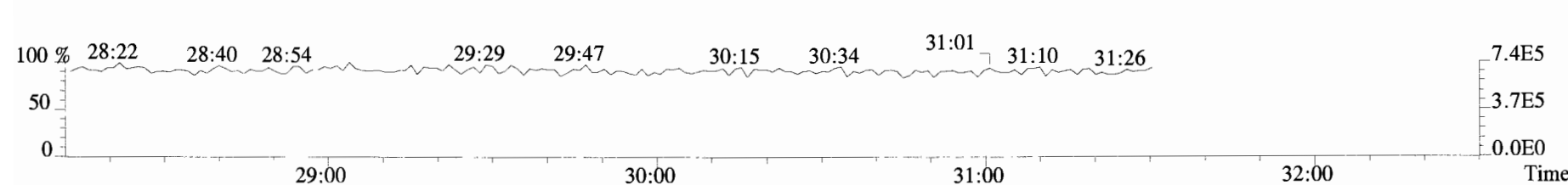
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



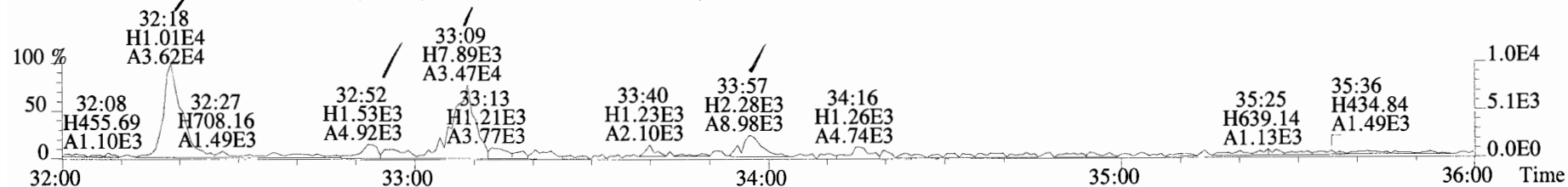
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



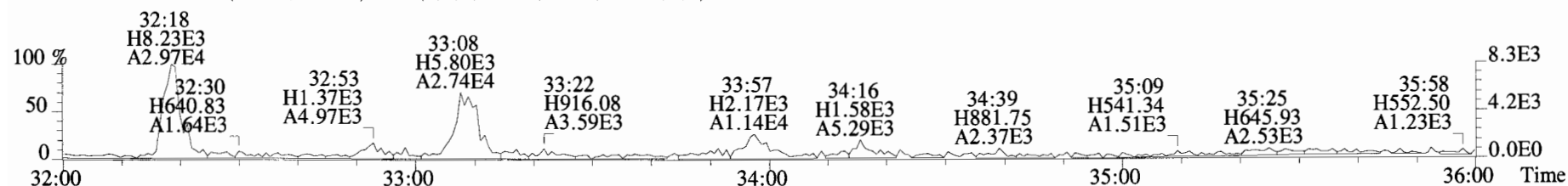
366.9792 S:8 F:2



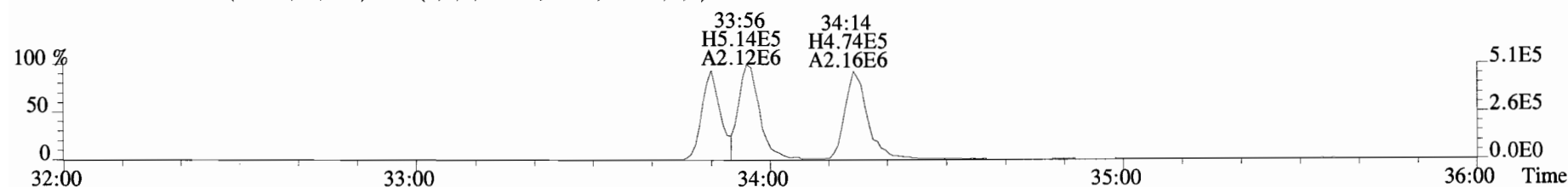
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



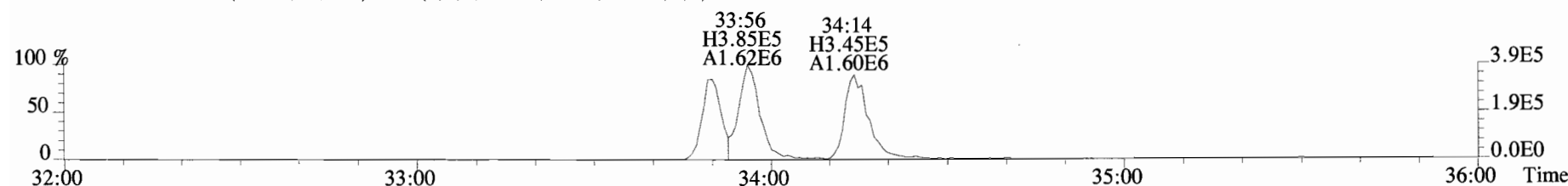
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



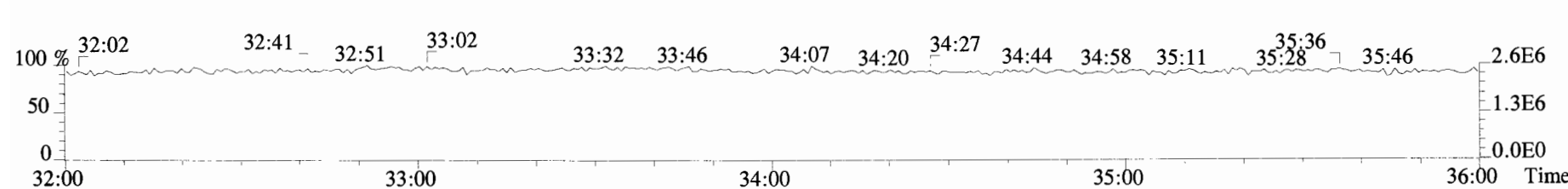
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



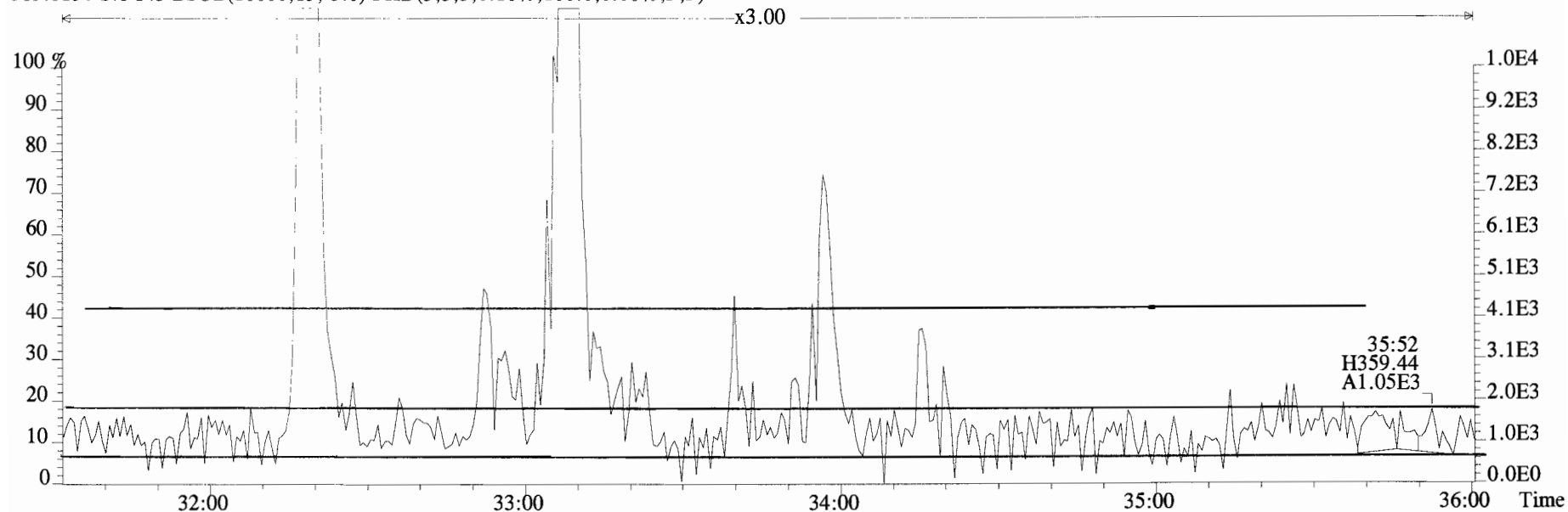
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



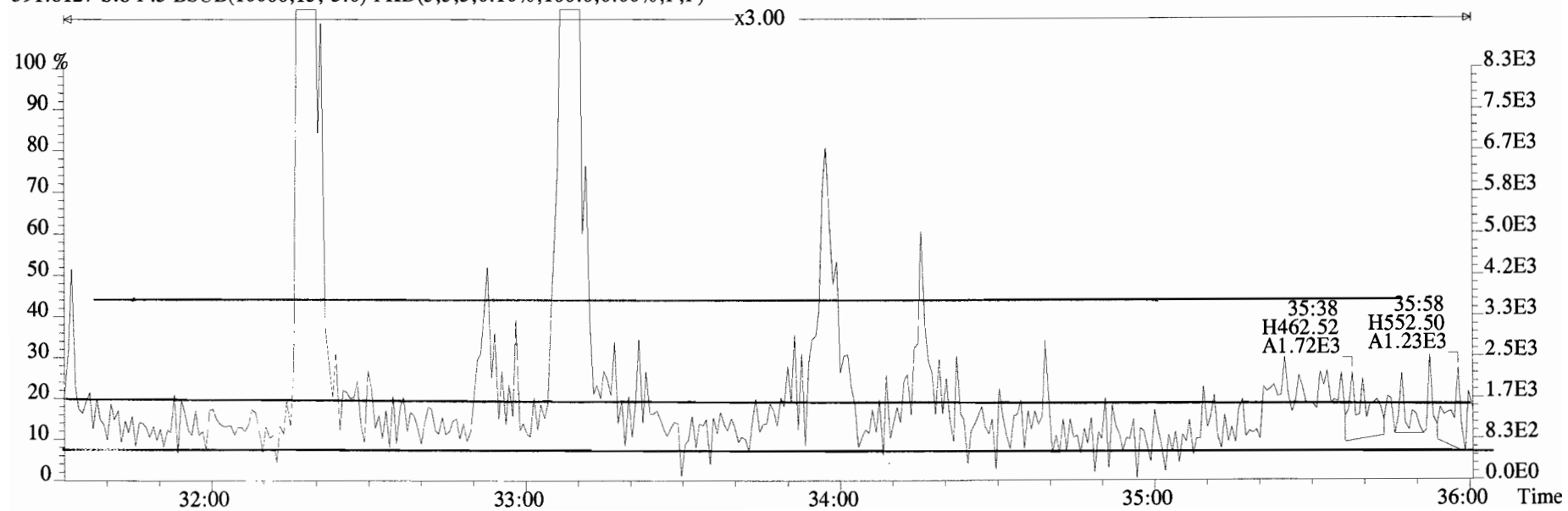
392.9760 S:8 F:3



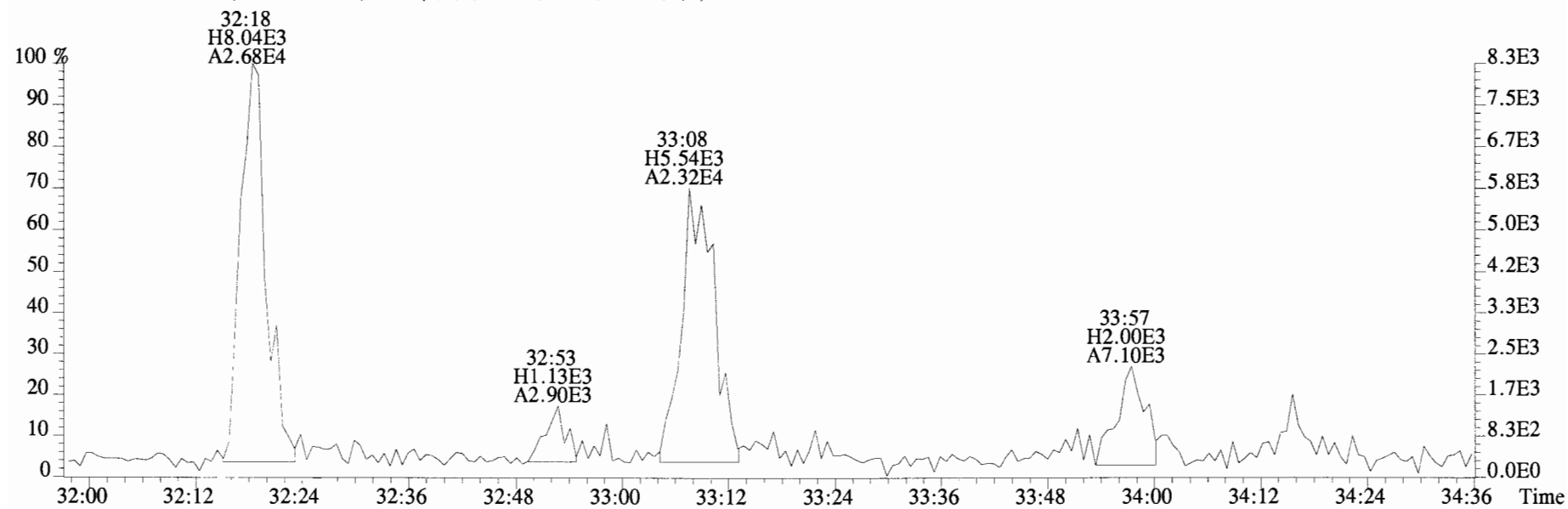
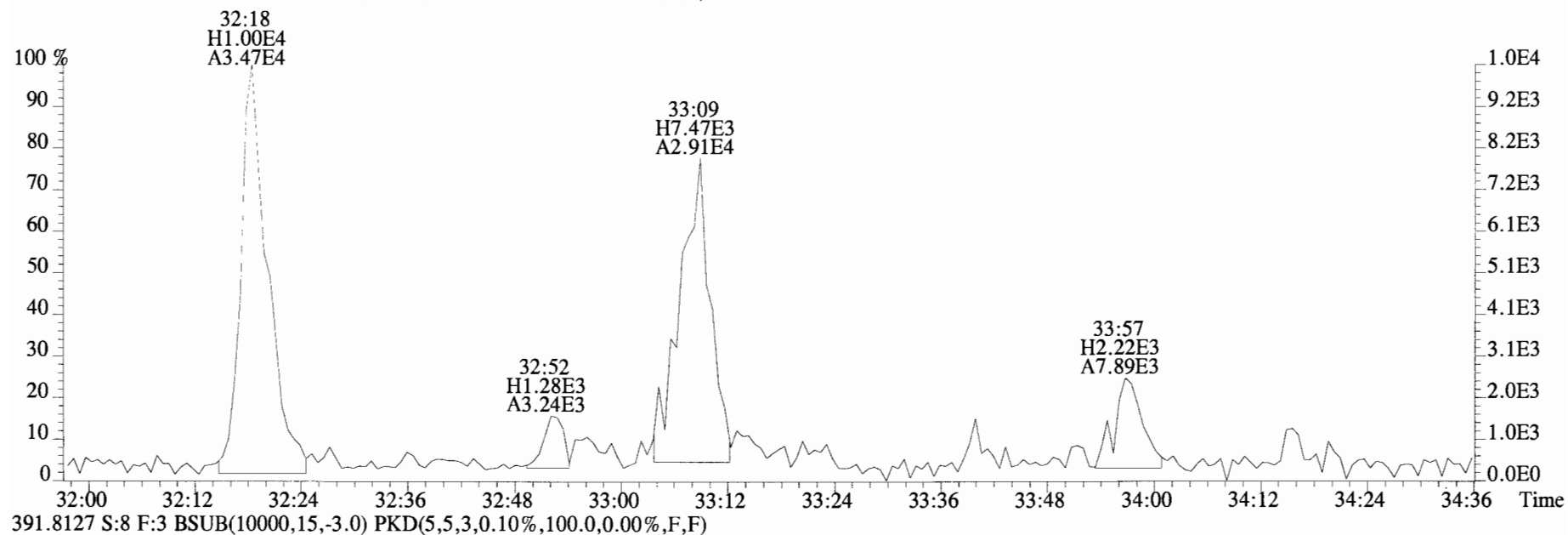
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



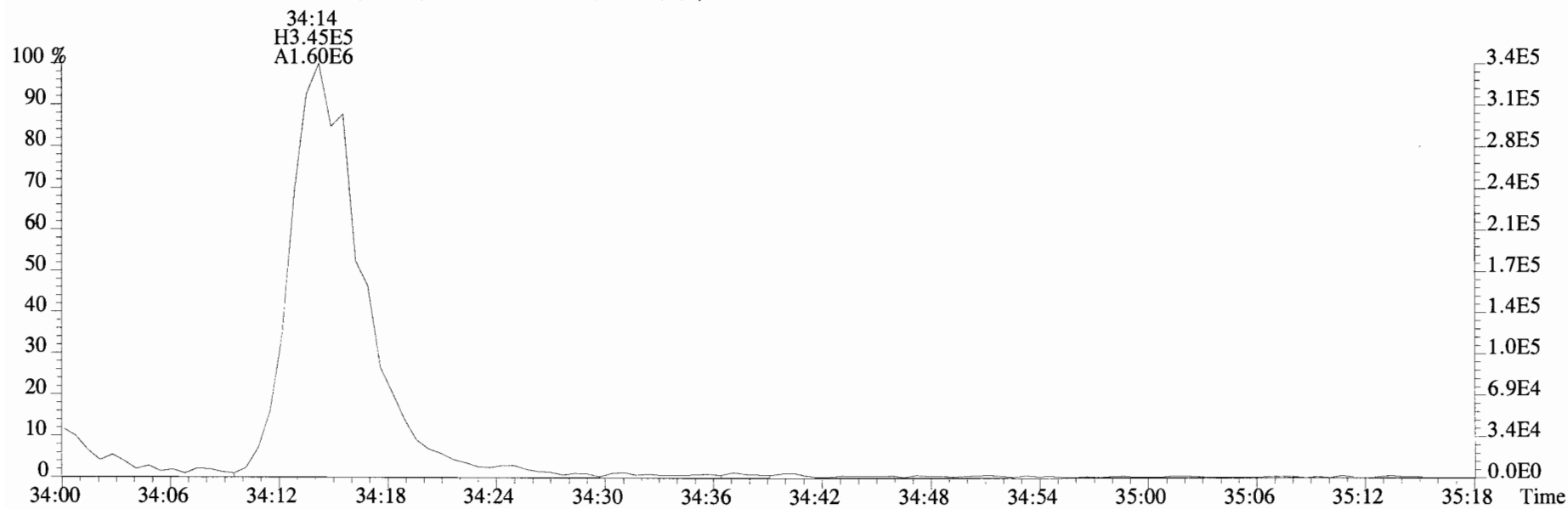
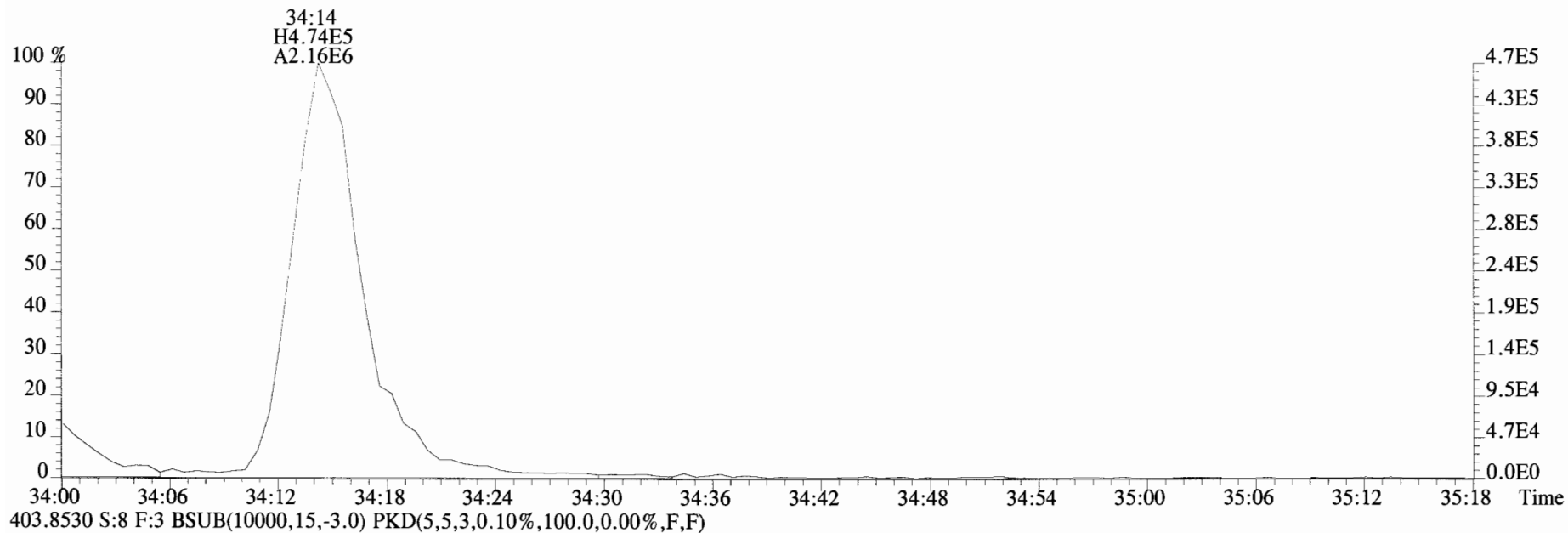
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



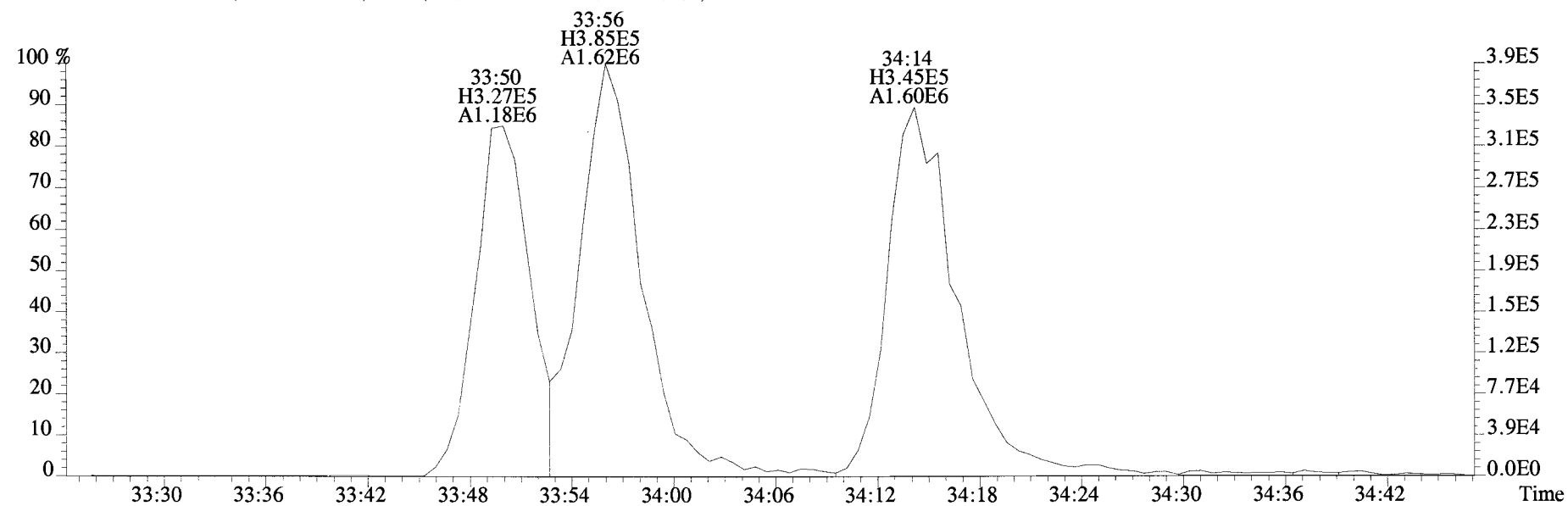
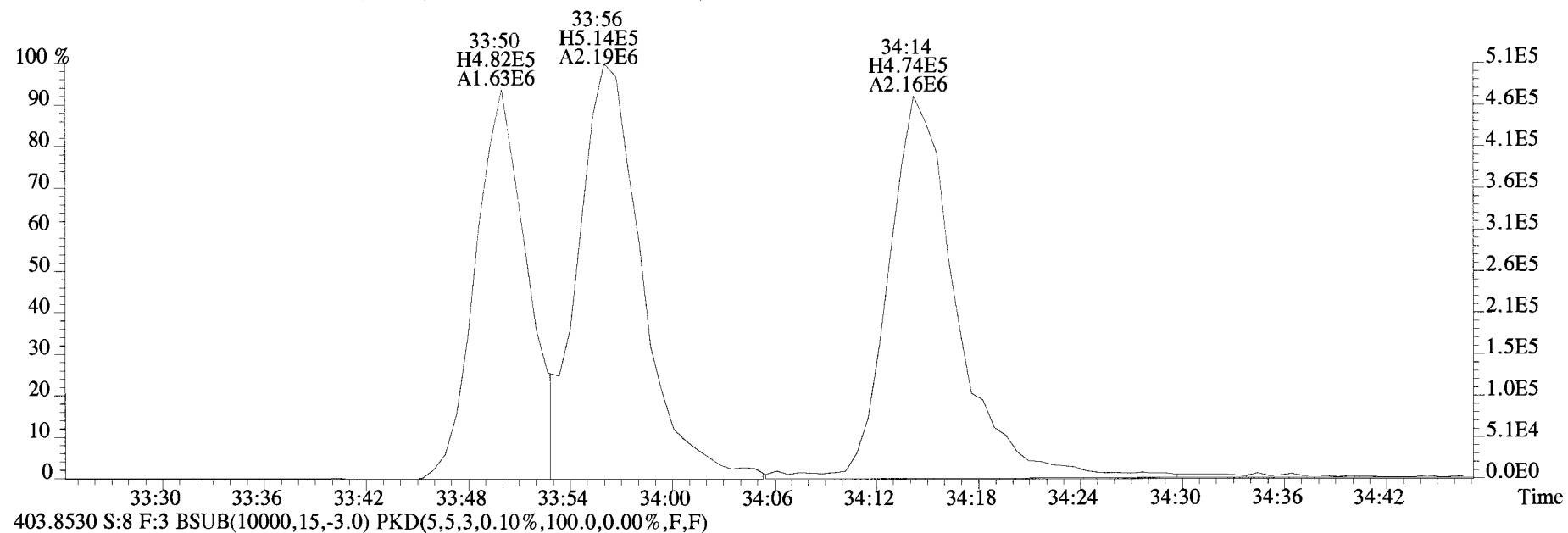
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



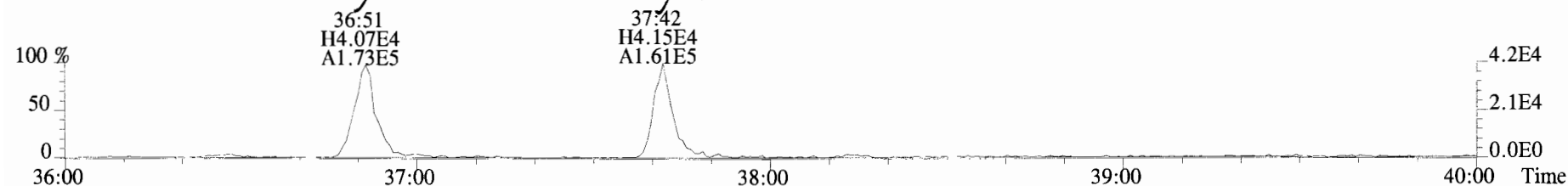
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Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



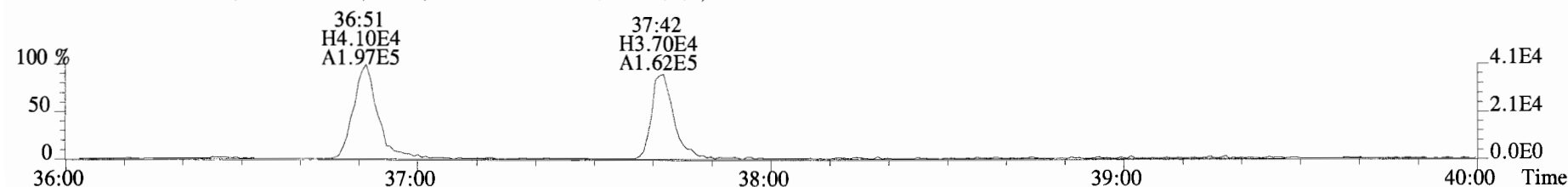
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Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



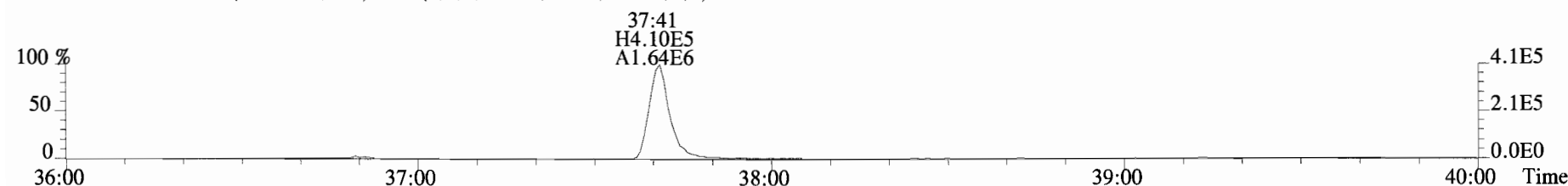
File:190625D1 #1-355 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



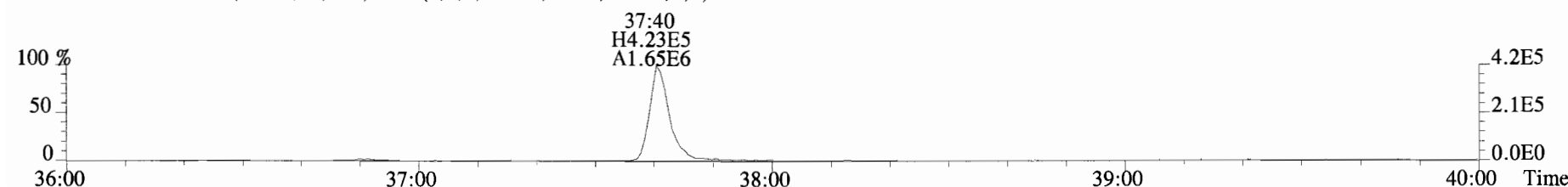
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



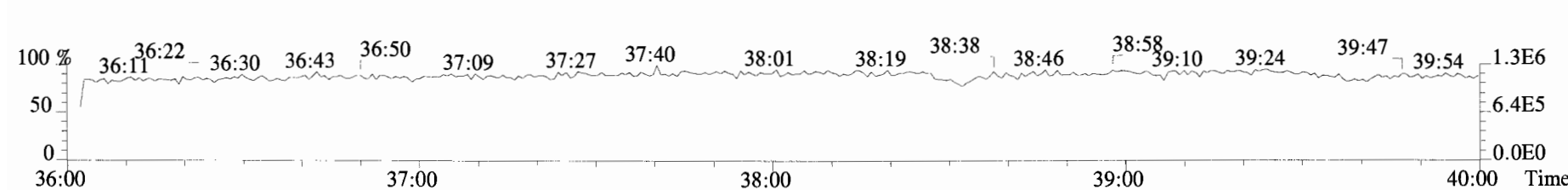
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



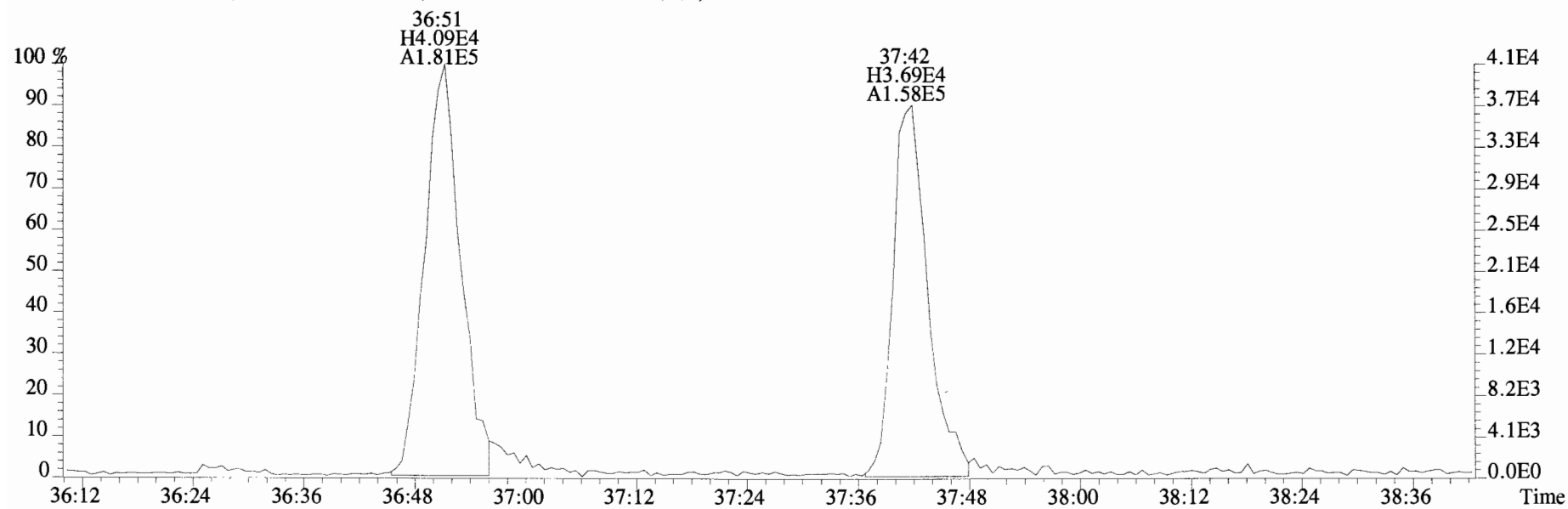
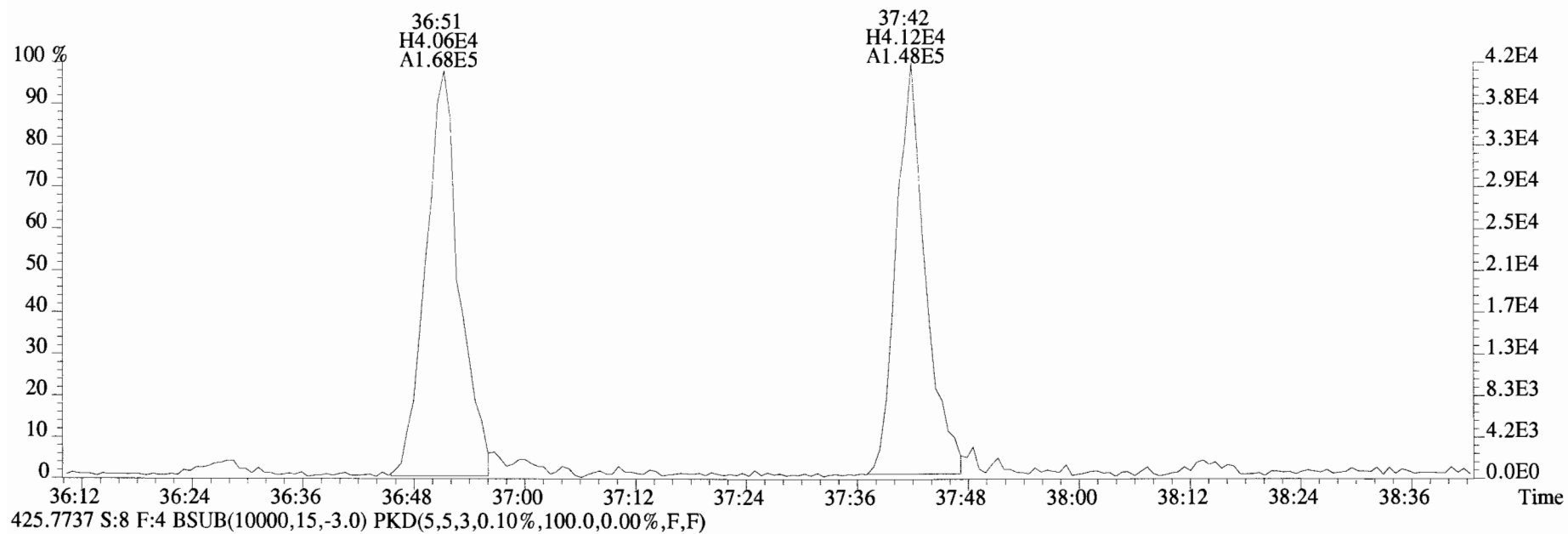
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



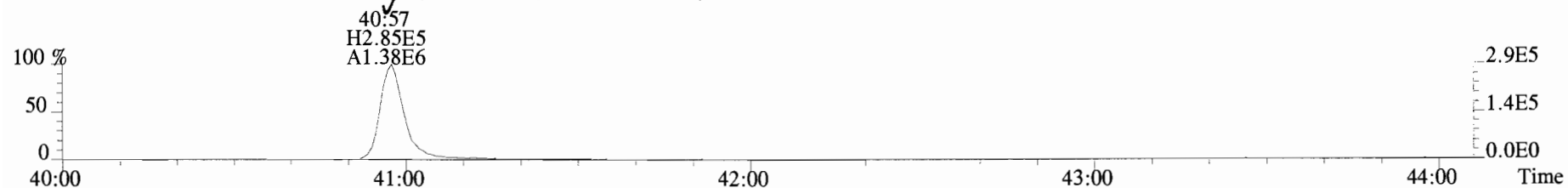
454.9728 S:8 F:4



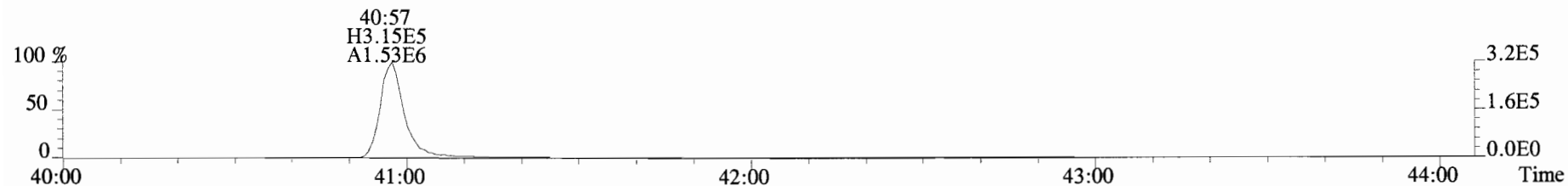
File:190625D1 #1-355 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



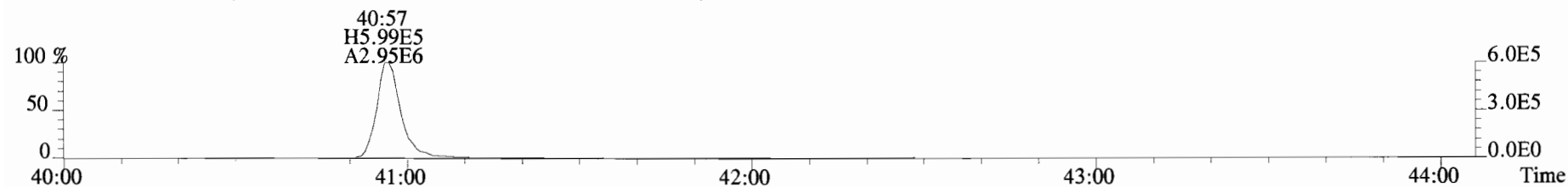
File:190625D1 #1-432 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



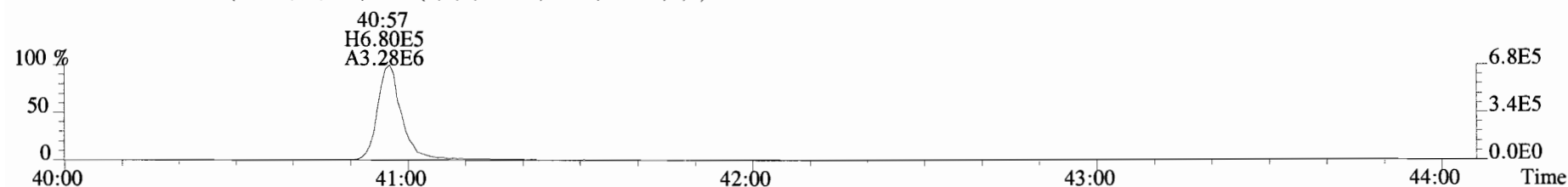
459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



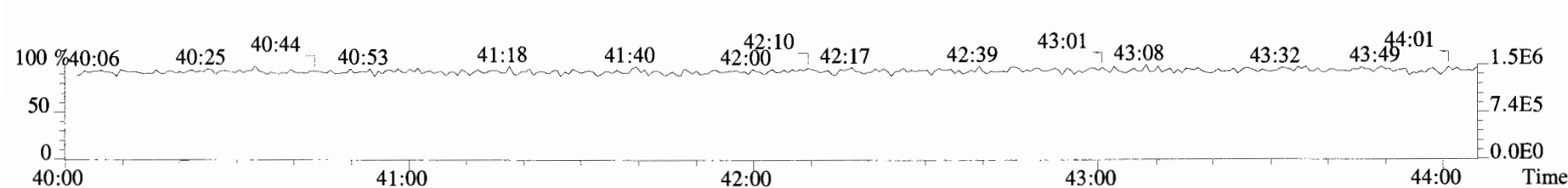
469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



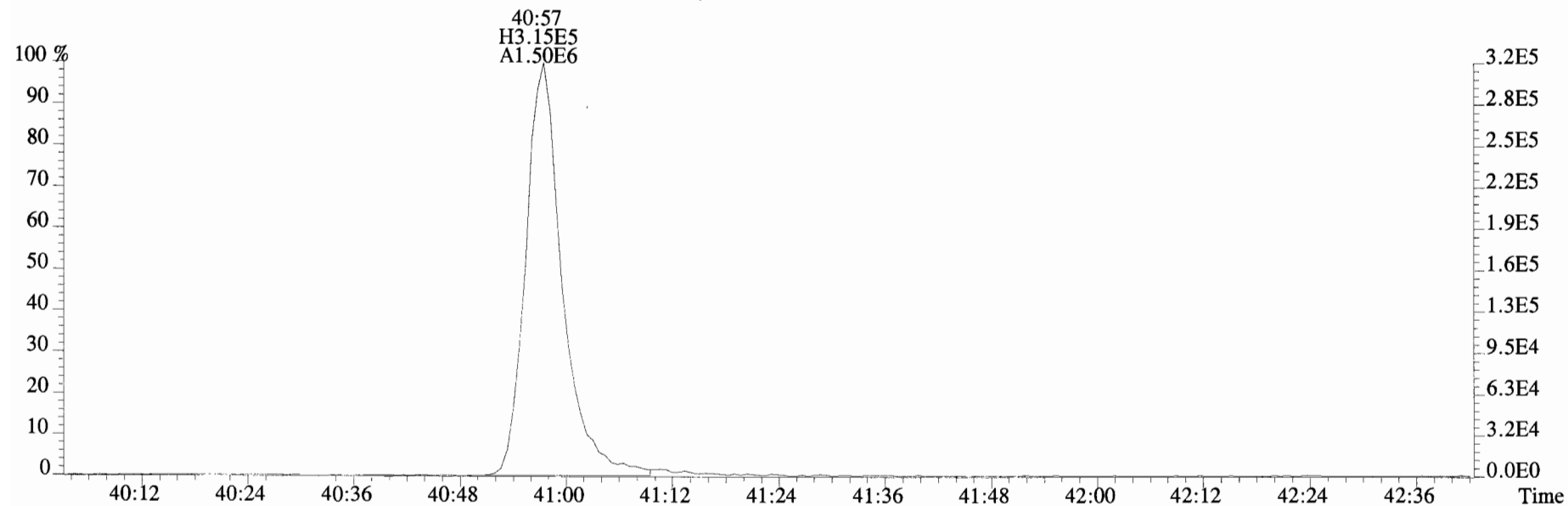
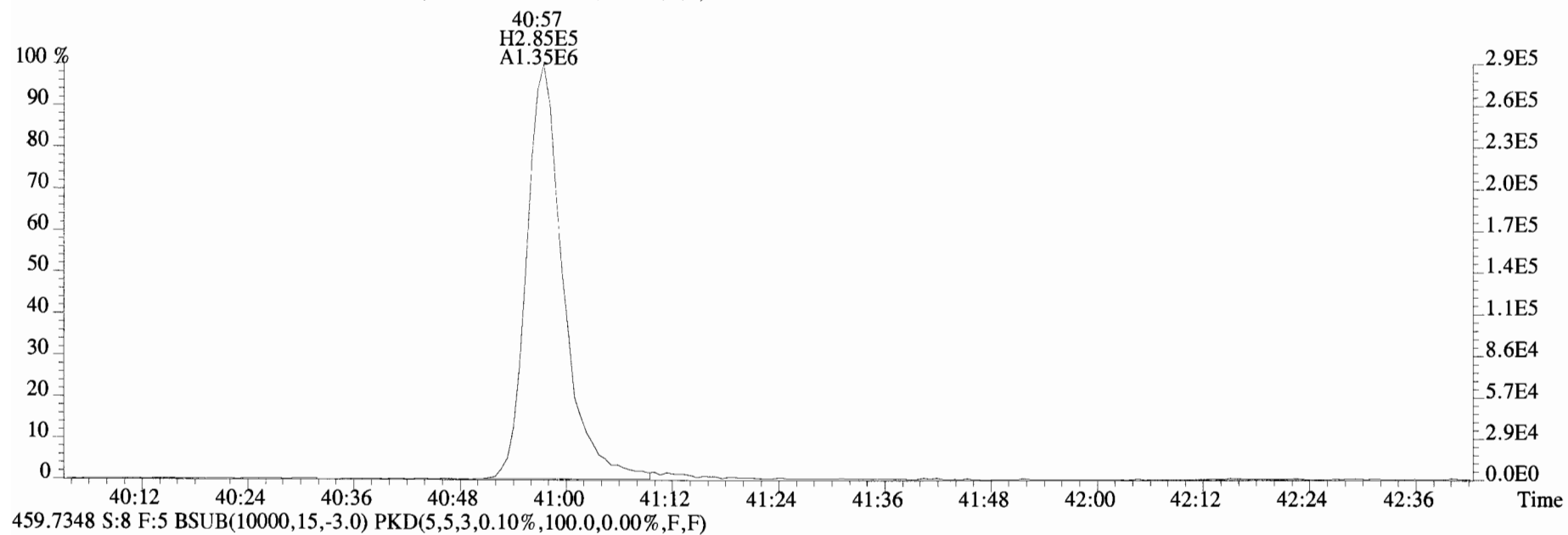
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



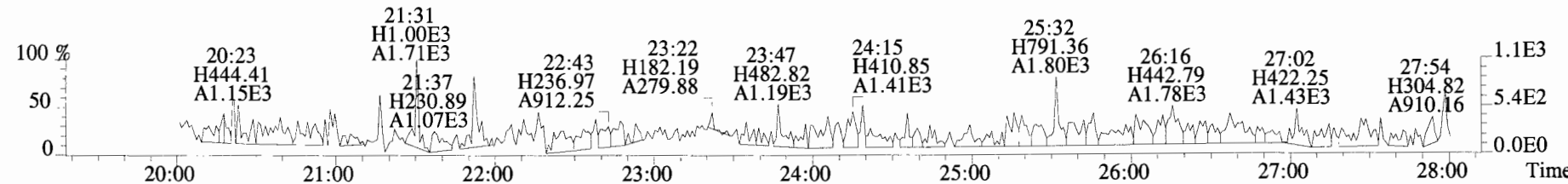
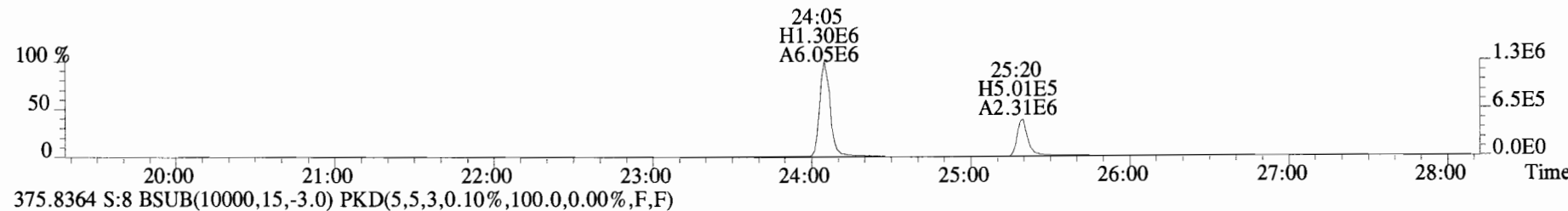
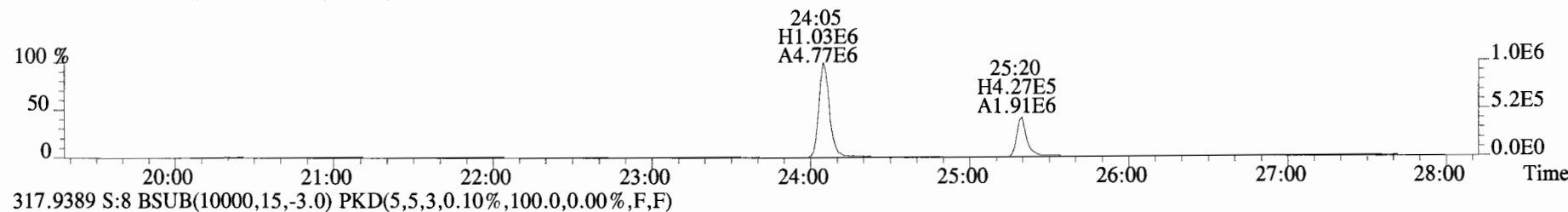
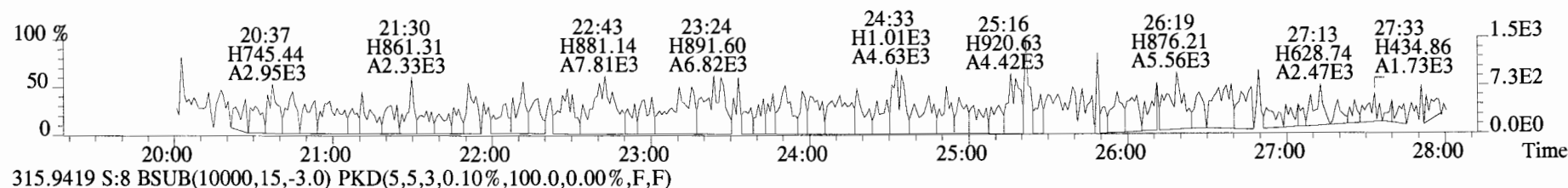
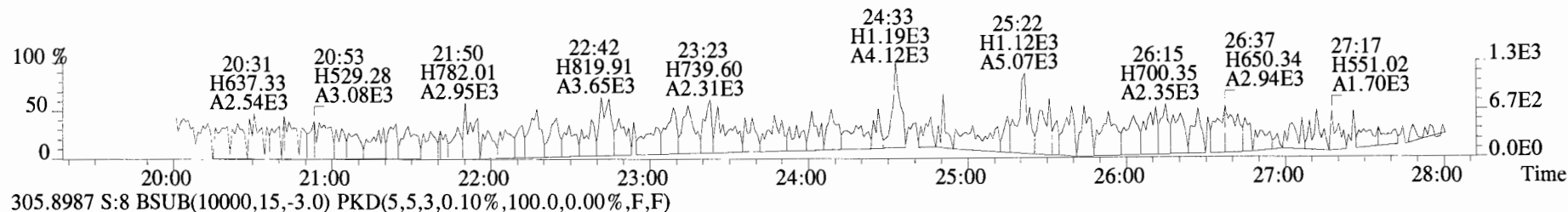
454.9728 S:8 F:5



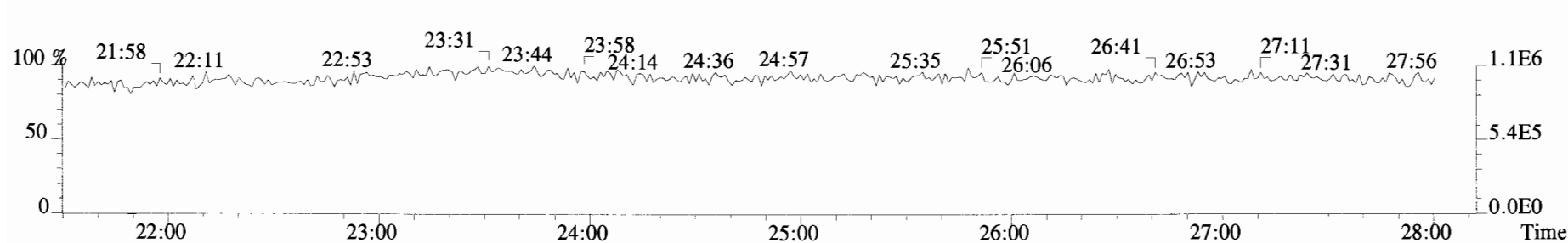
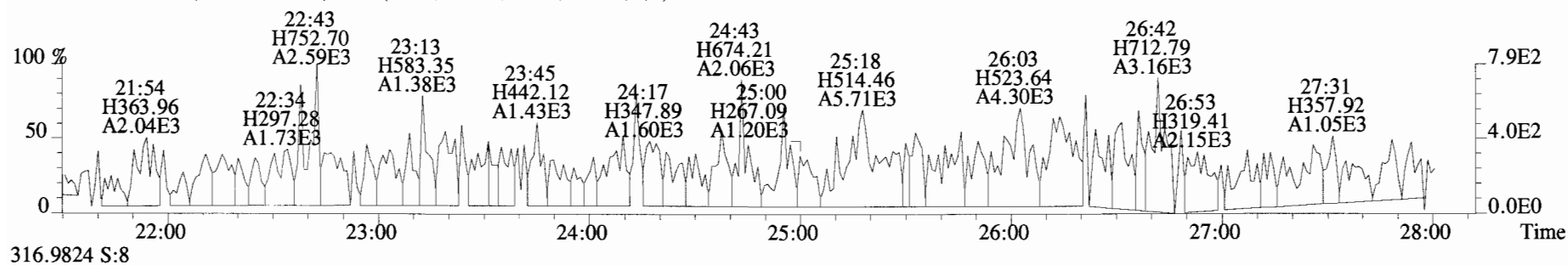
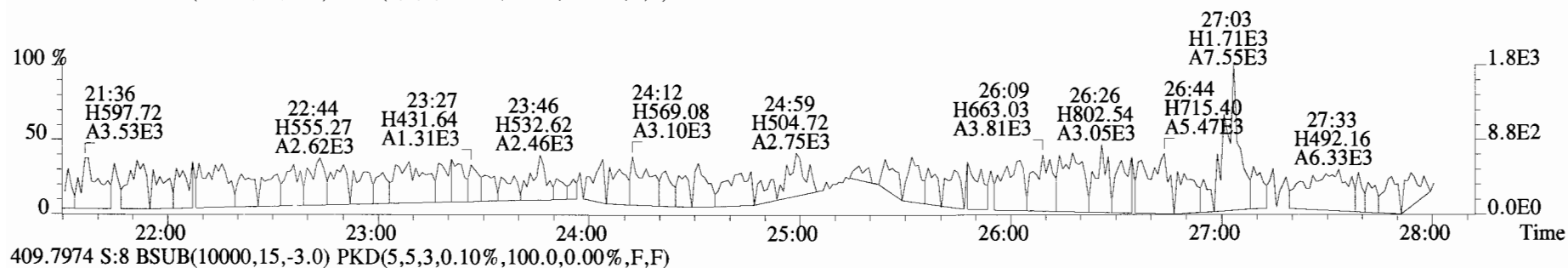
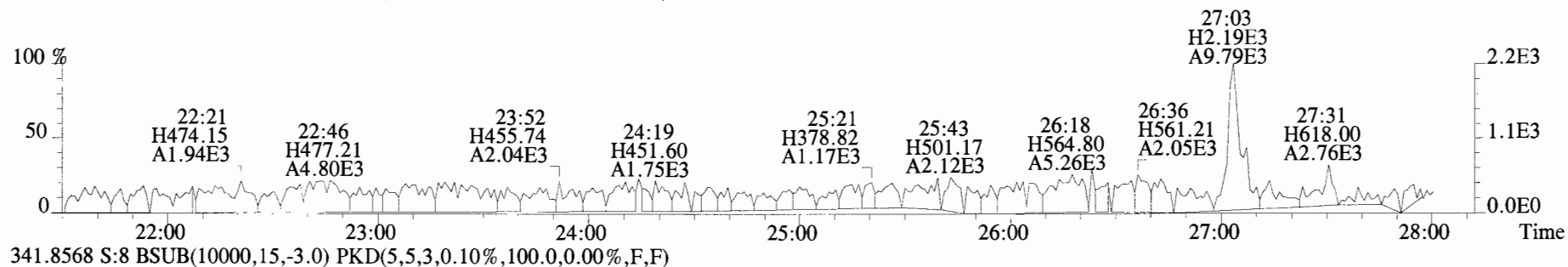
File:190625D1 #1-432 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



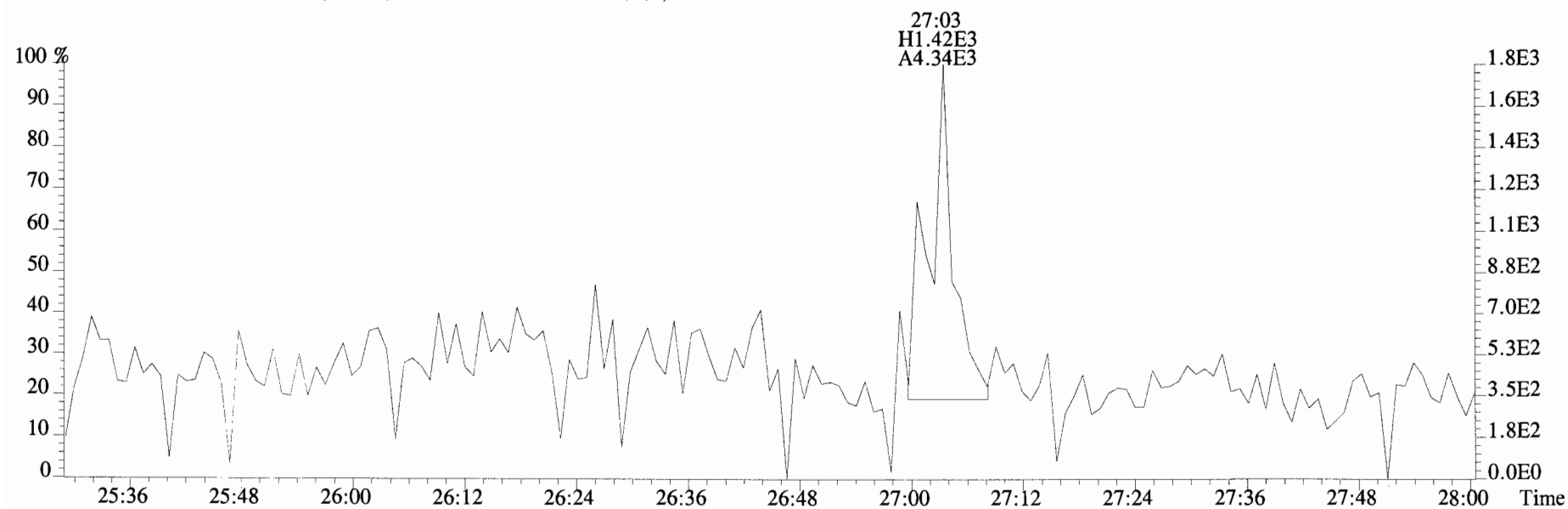
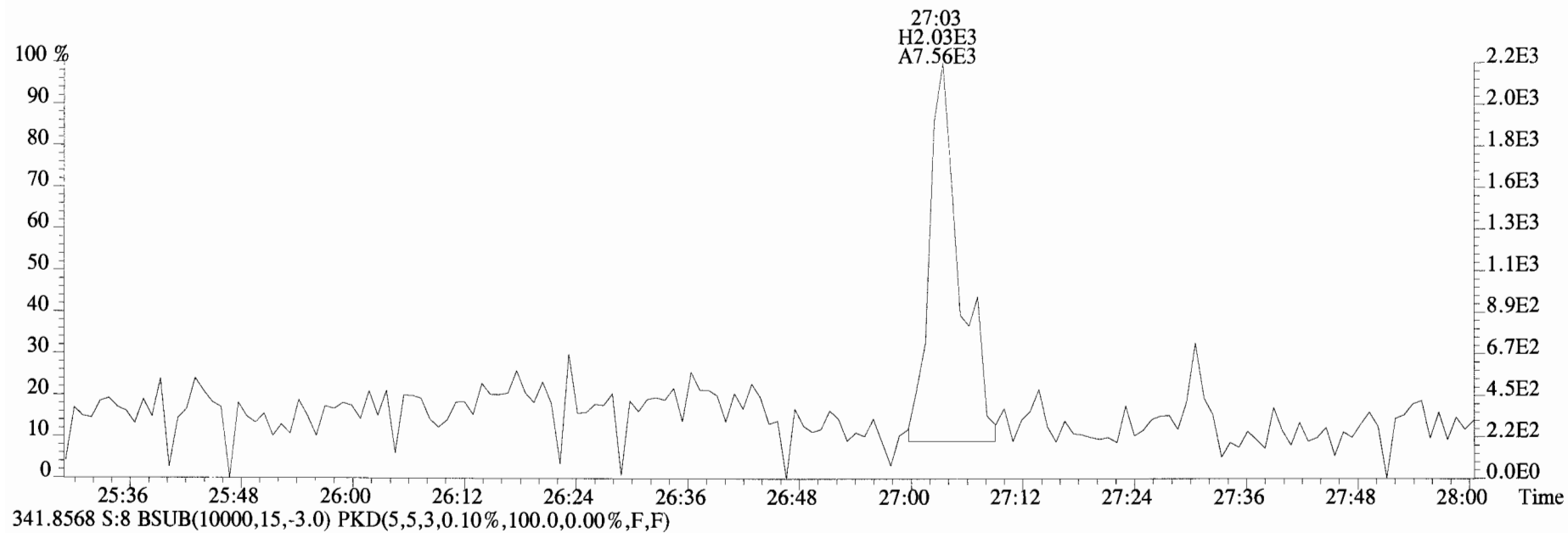
File:190625D1 #1-514 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



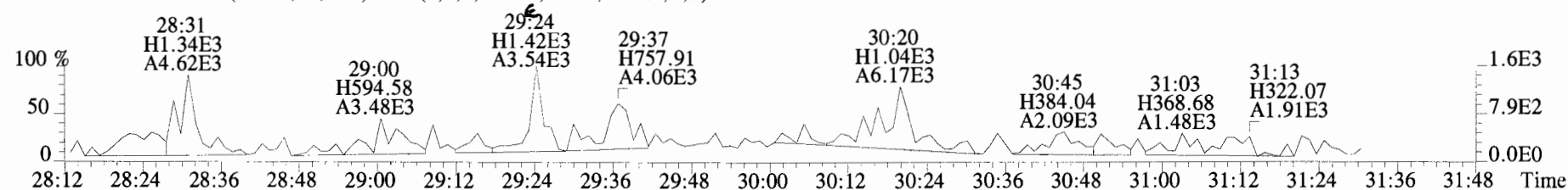
File:190625D1 #1-514 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



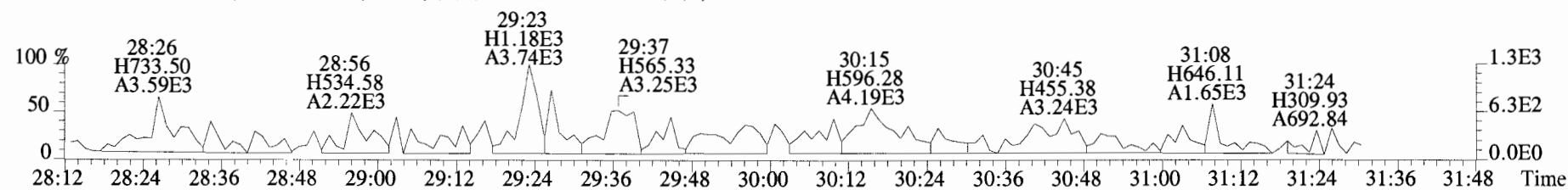
File:190625D1 #1-514 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



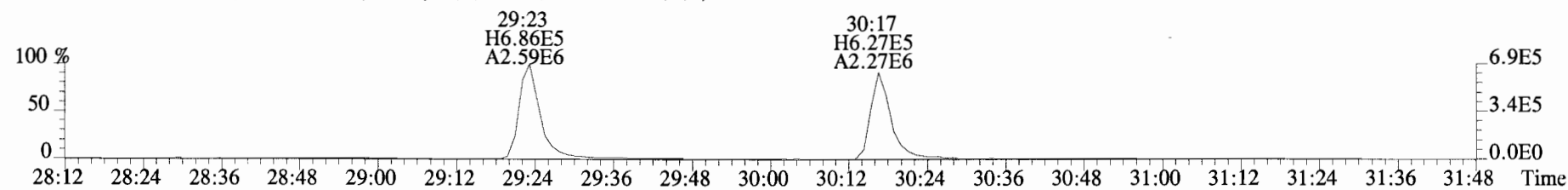
File:190625D1 #1-184 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



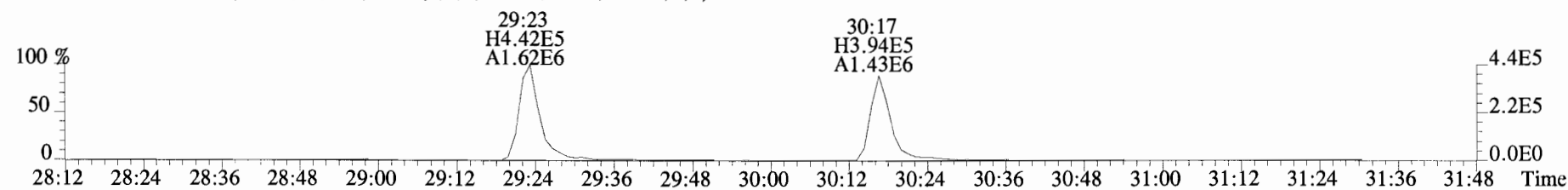
341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



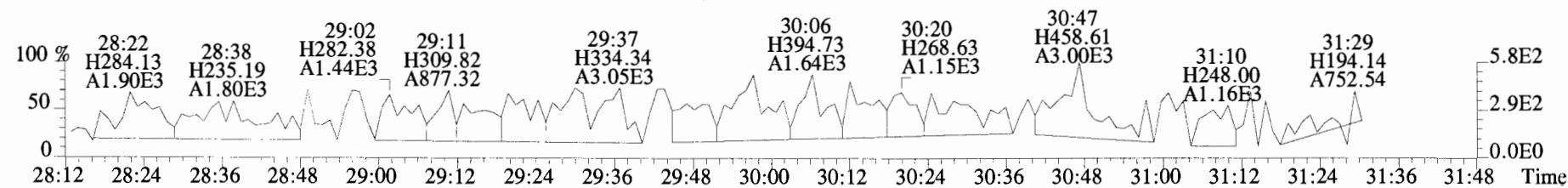
351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



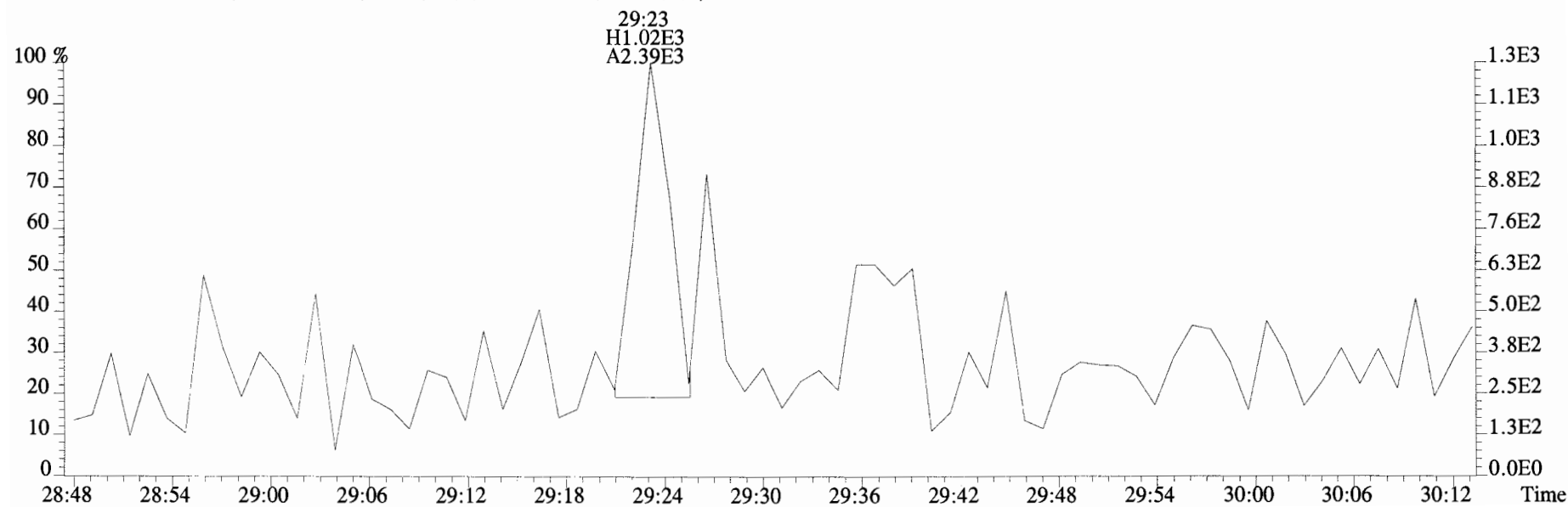
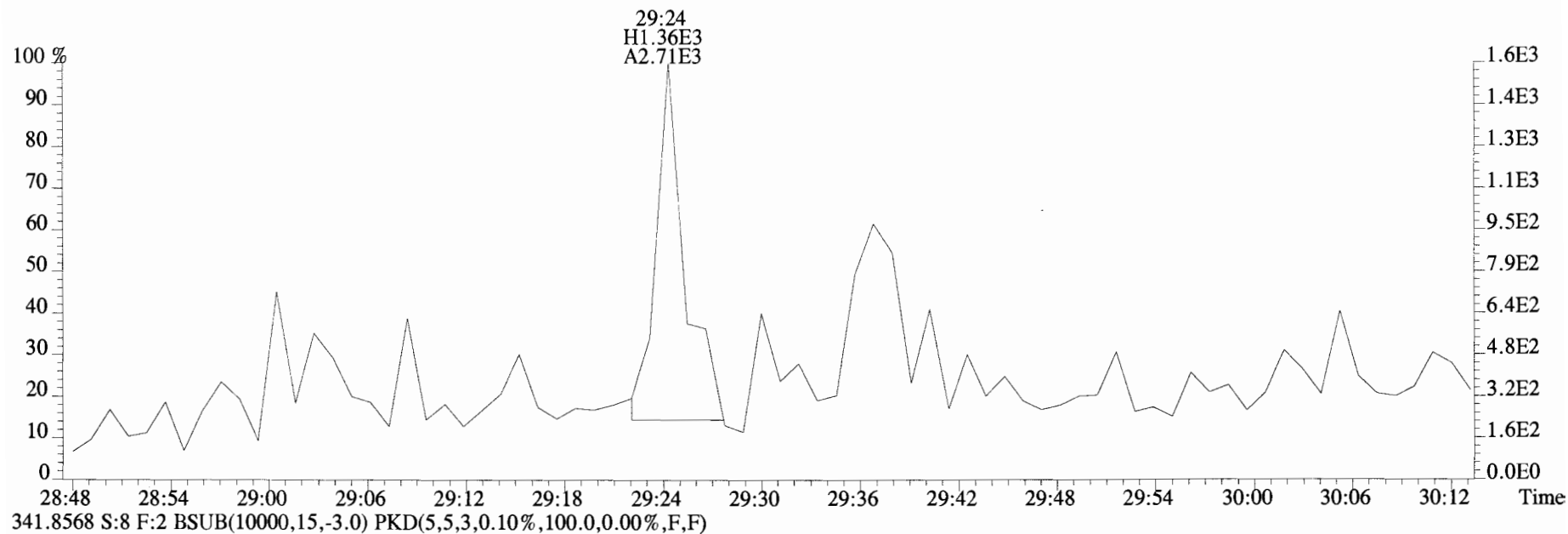
353.8970 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



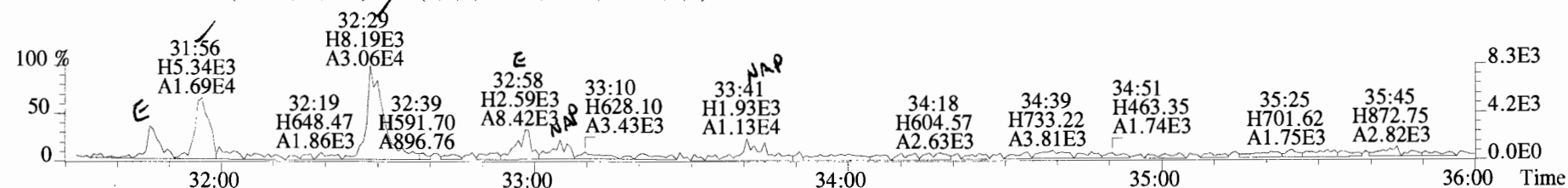
409.7974 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



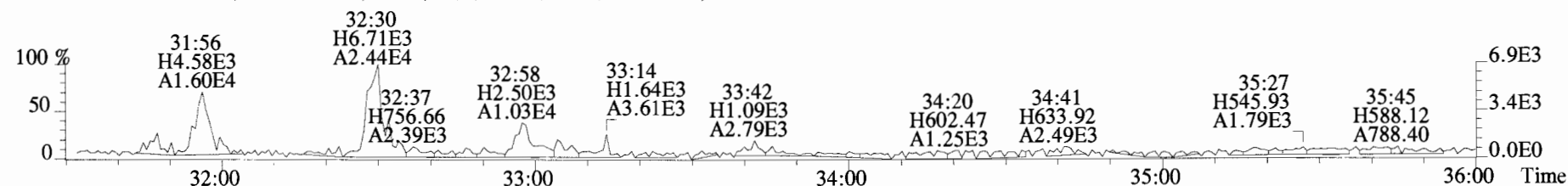
File:190625D1 #1-184 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



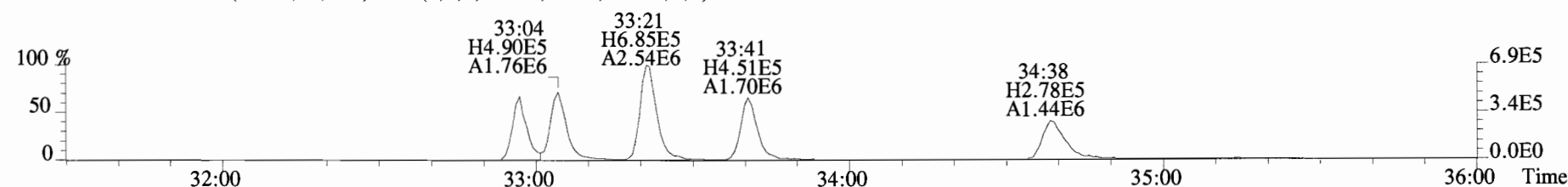
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



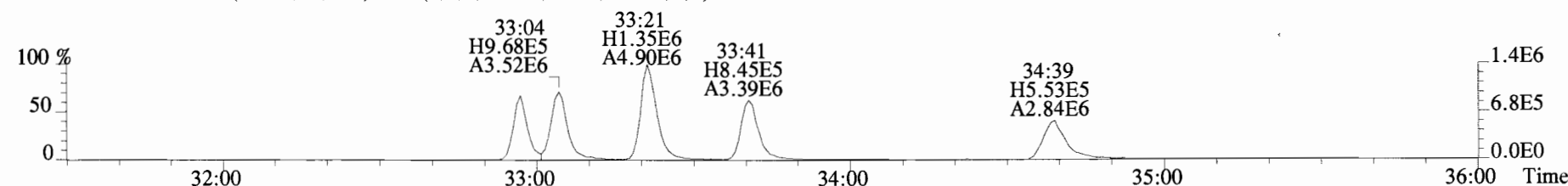
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



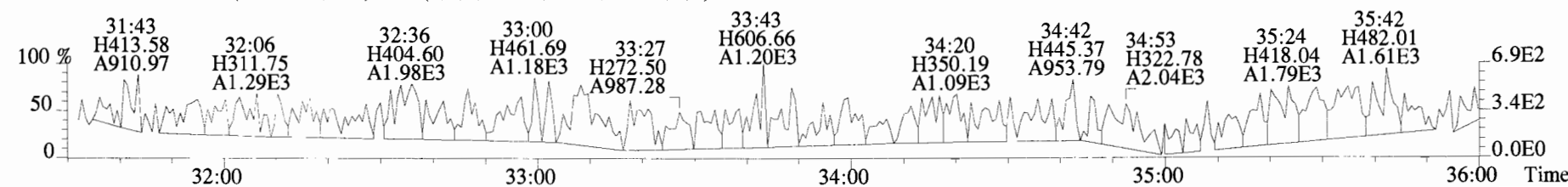
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



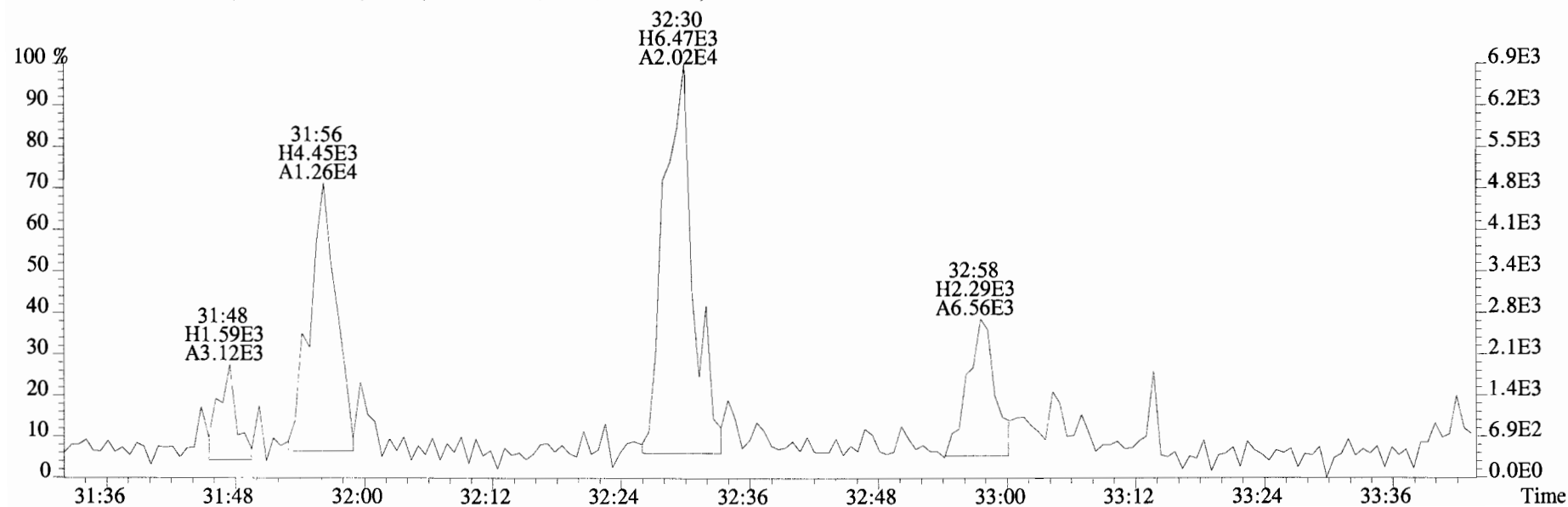
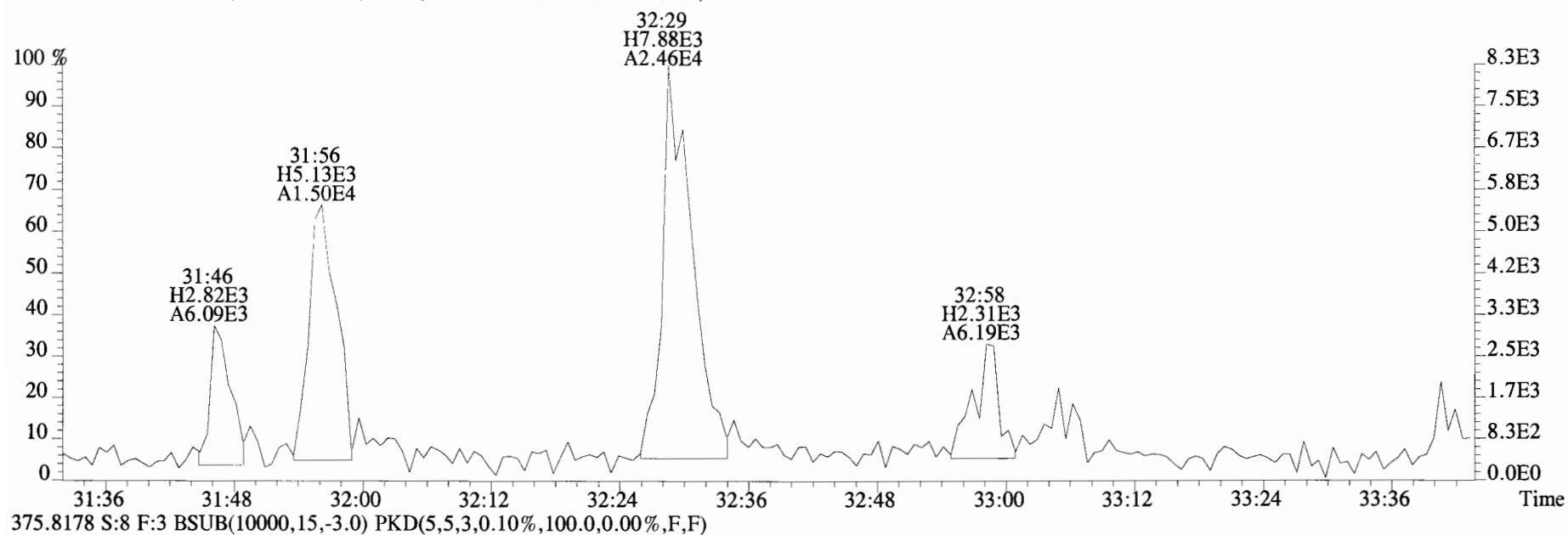
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



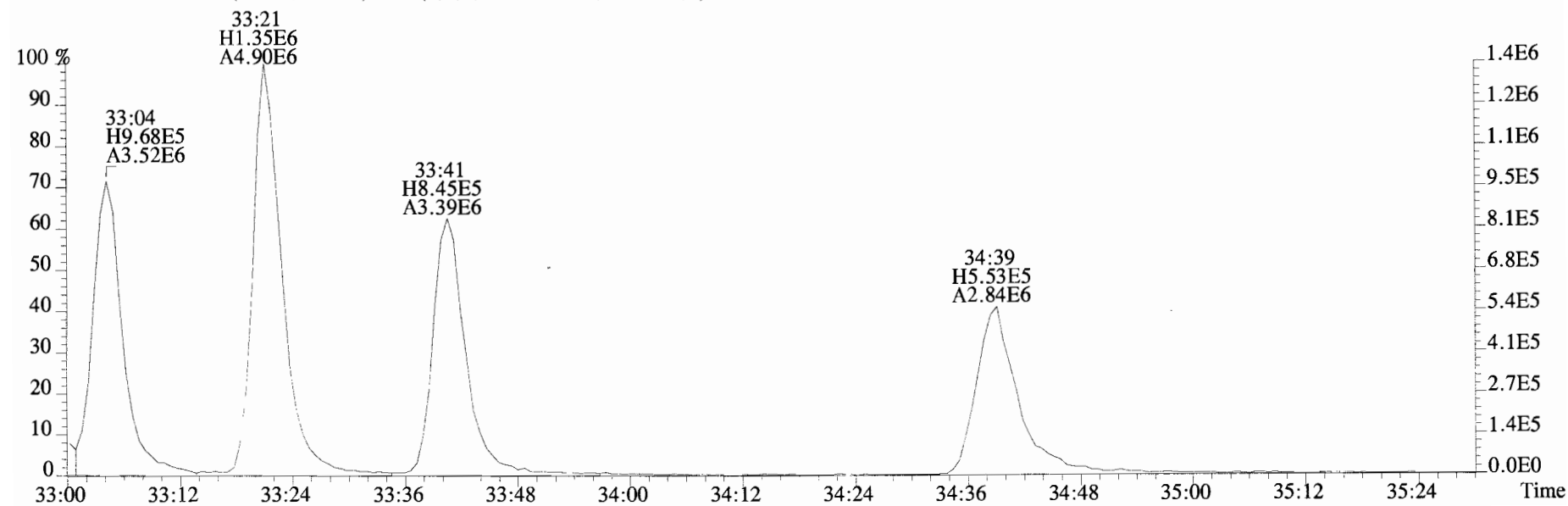
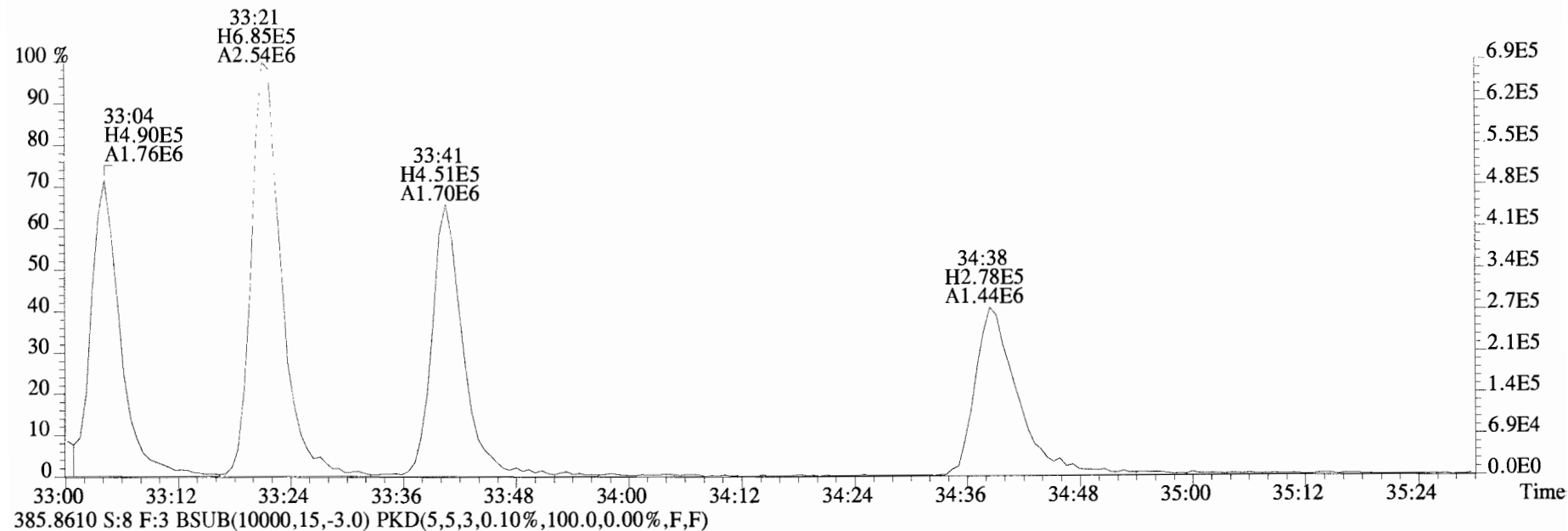
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



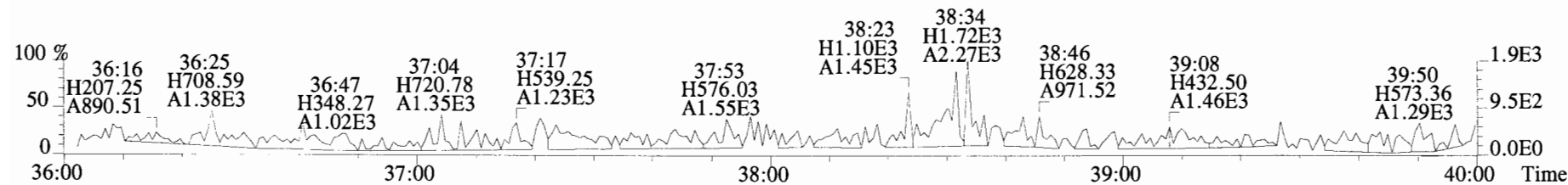
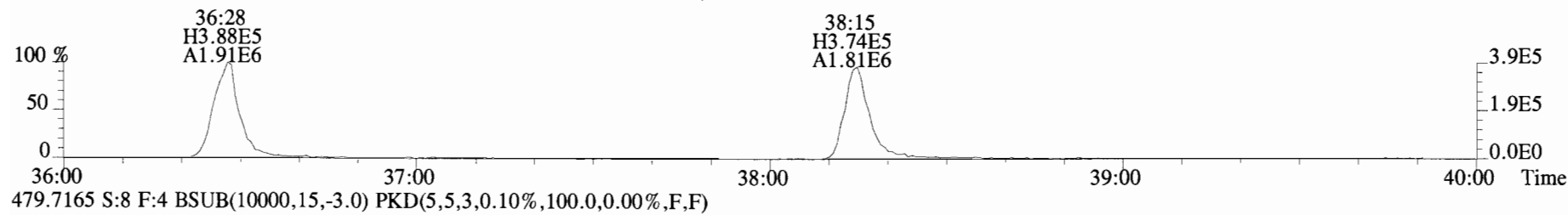
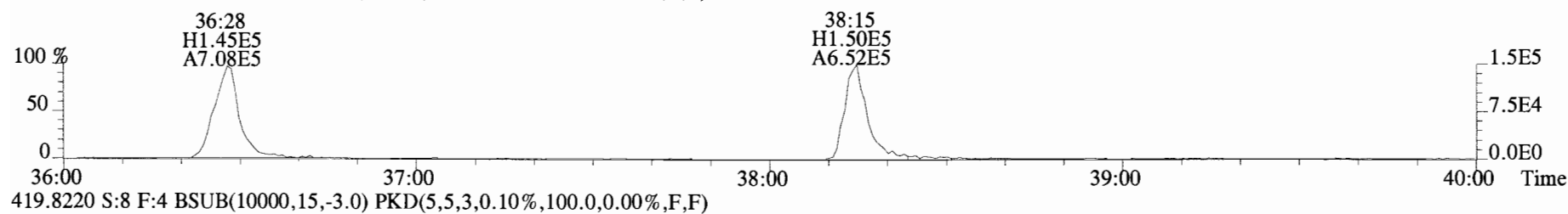
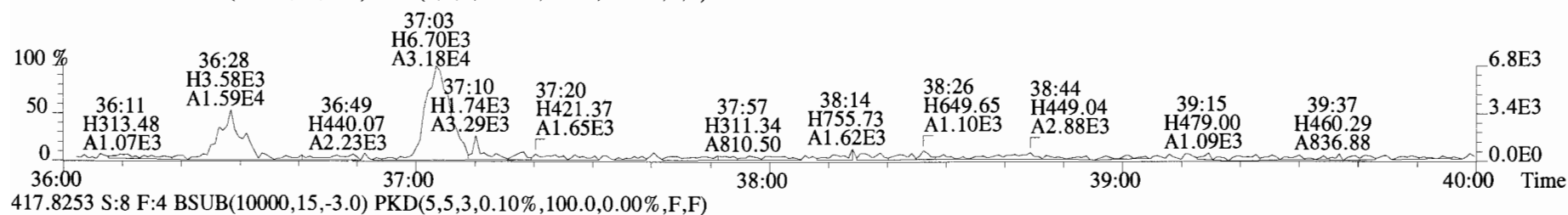
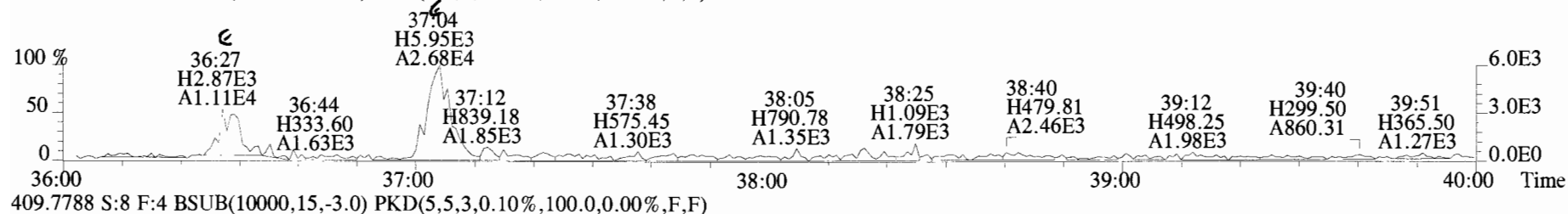
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



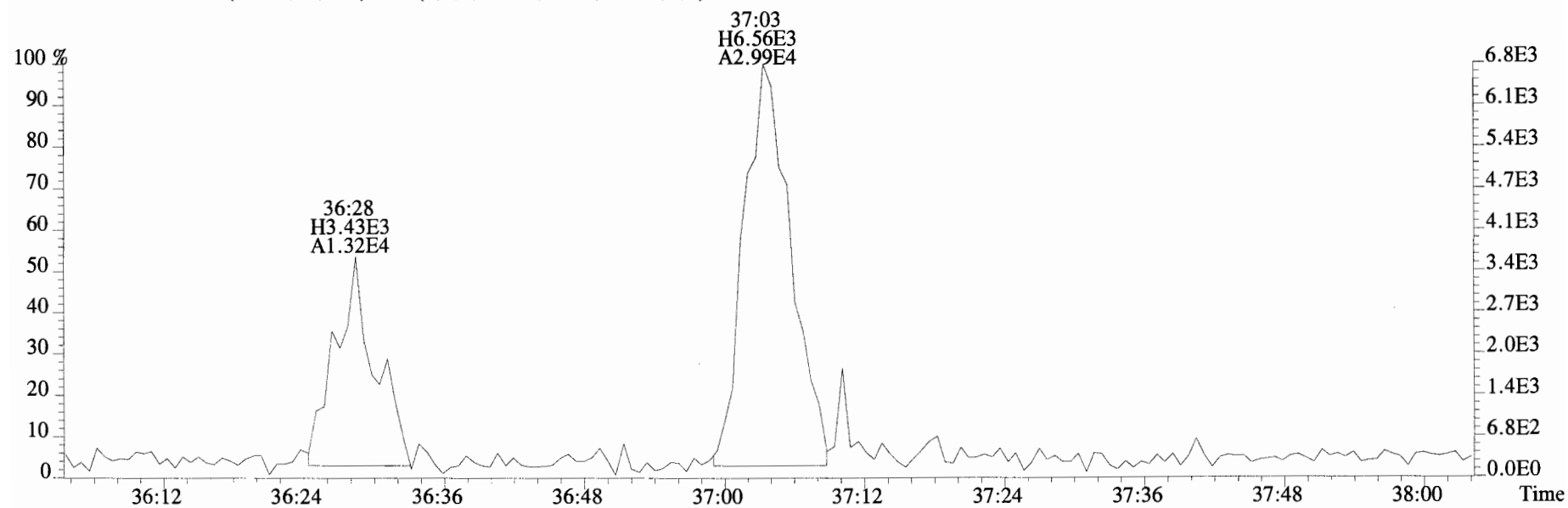
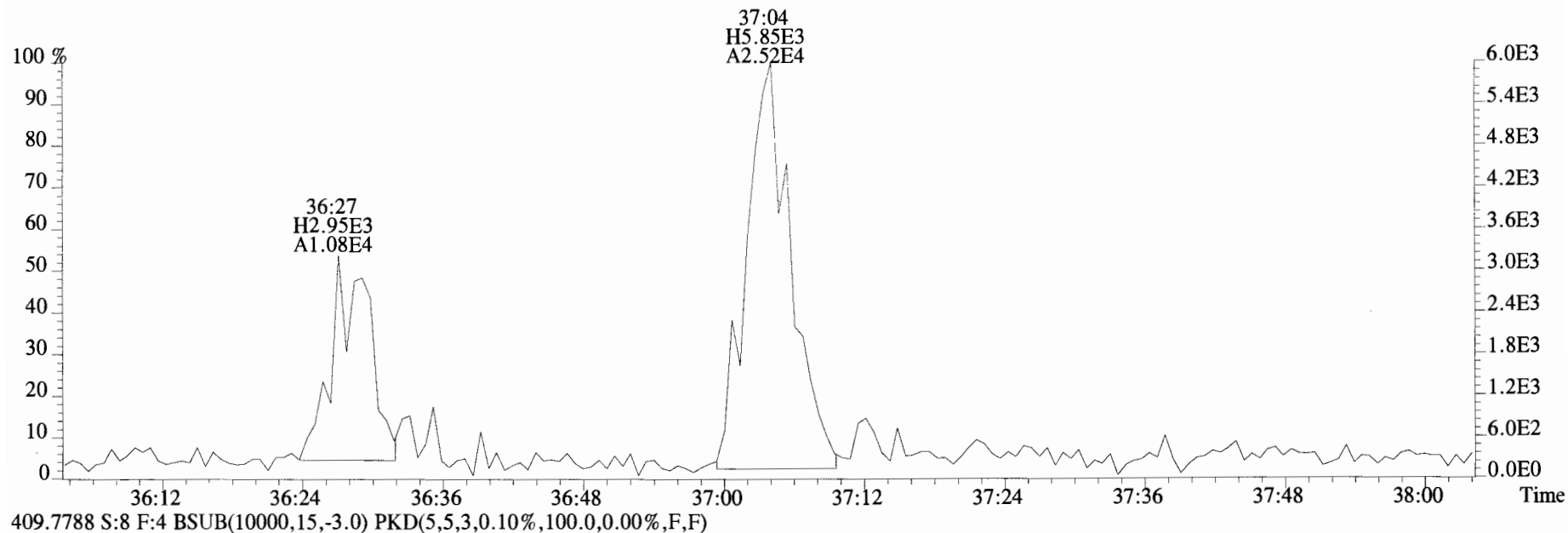
File:190625D1 #1-400 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 383.8639 S:8 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



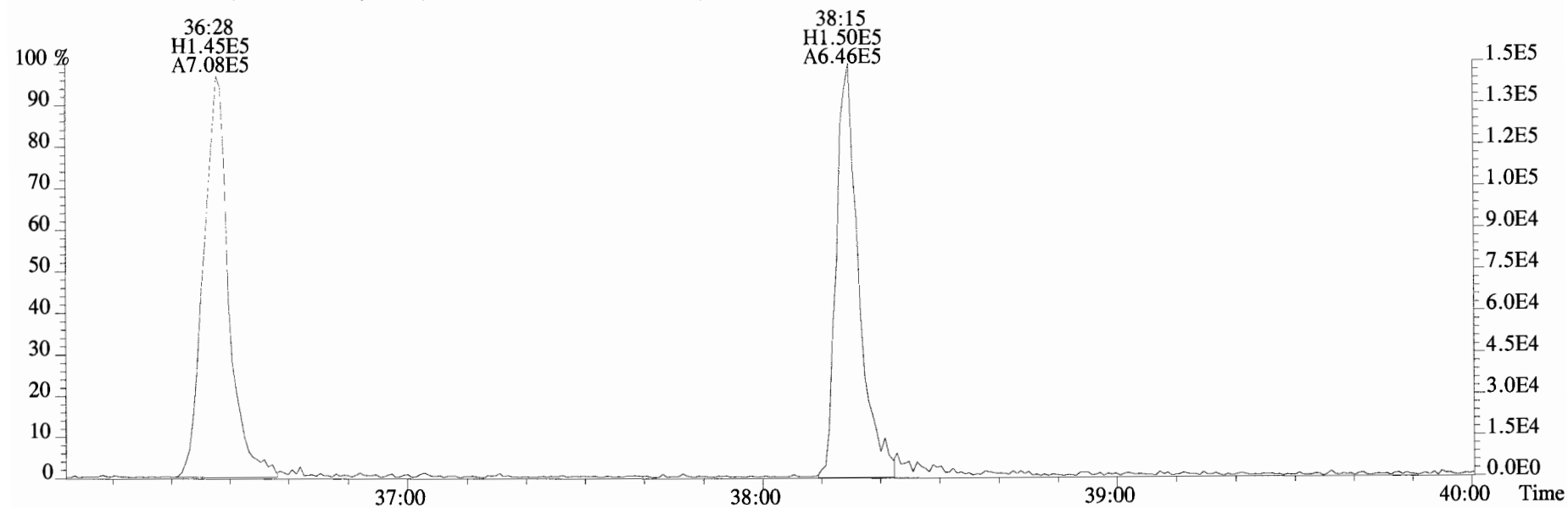
File:190625D1 #1-355 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



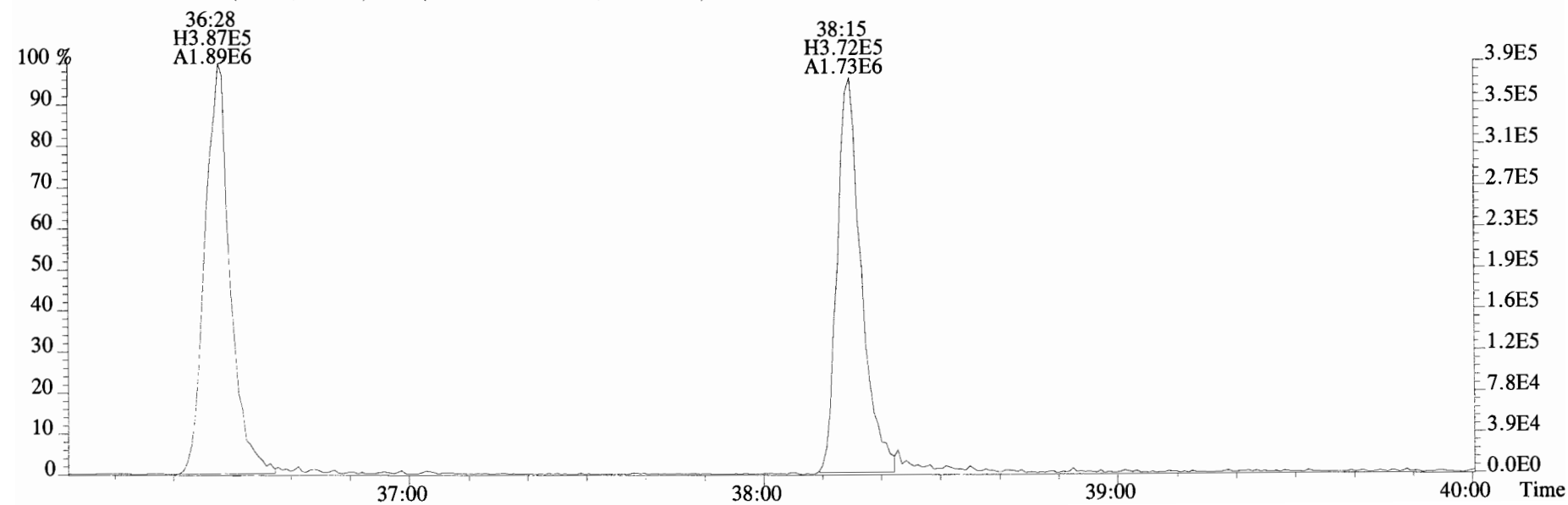
File:190625D1 #1-355 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
 407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



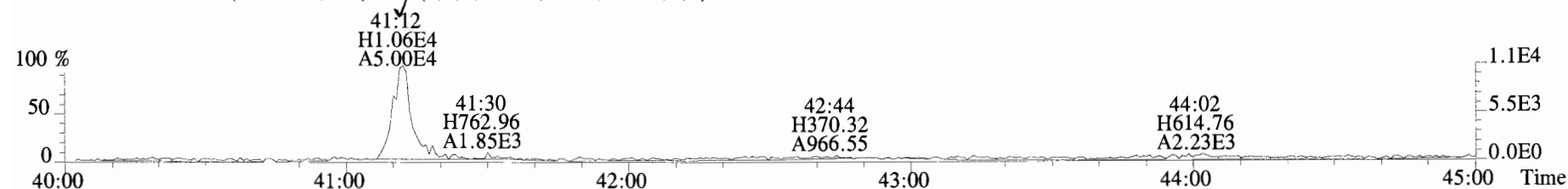
File:190625D1 #1-355 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



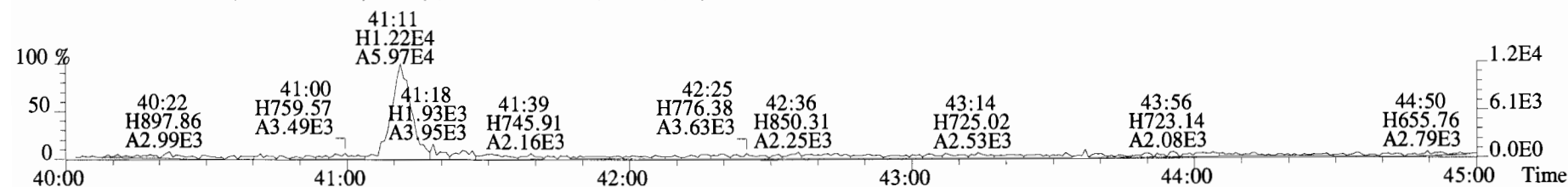
419.8220 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



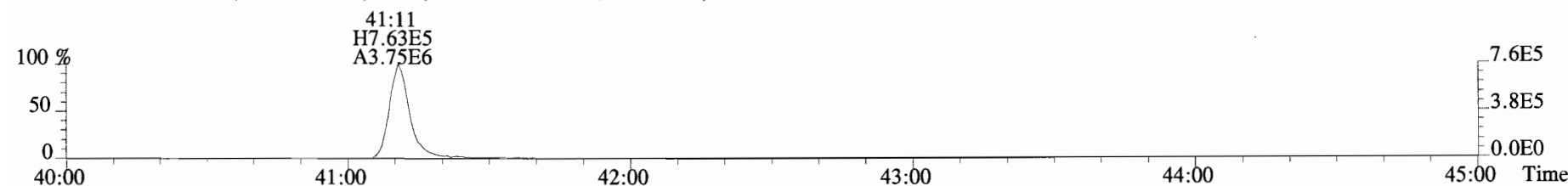
File:190625D1 #1-432 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 Exp:OCDD_DB5
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



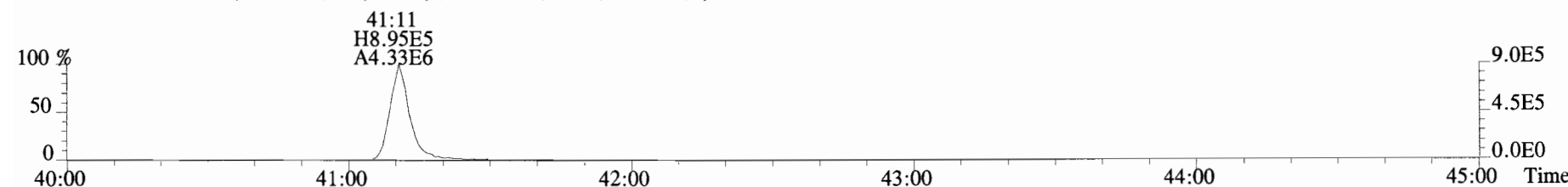
443.7398 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



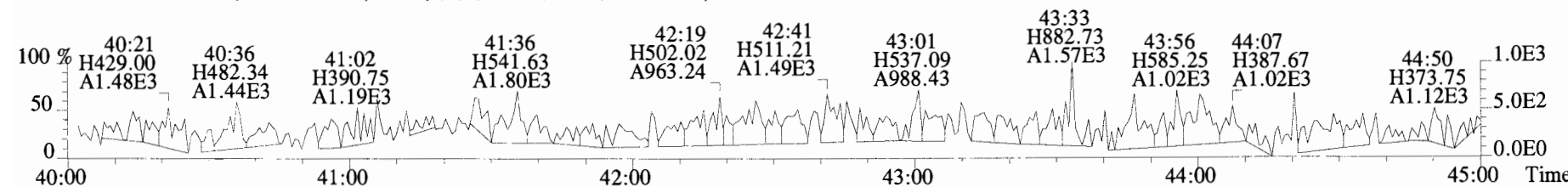
453.7831 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



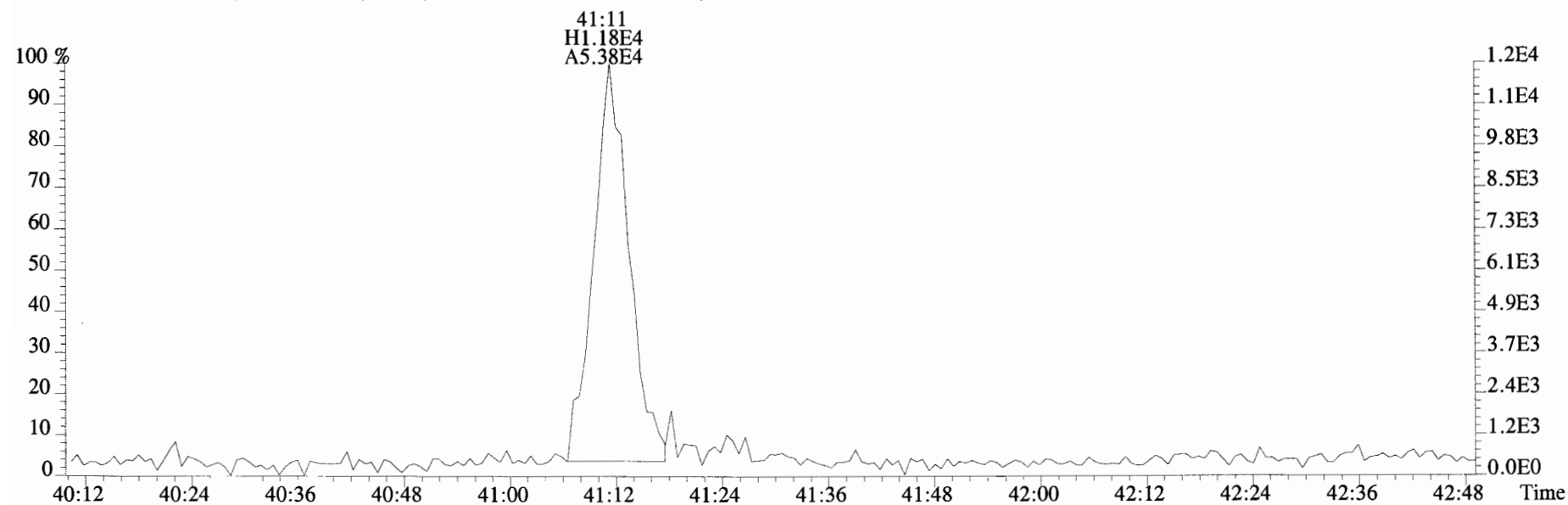
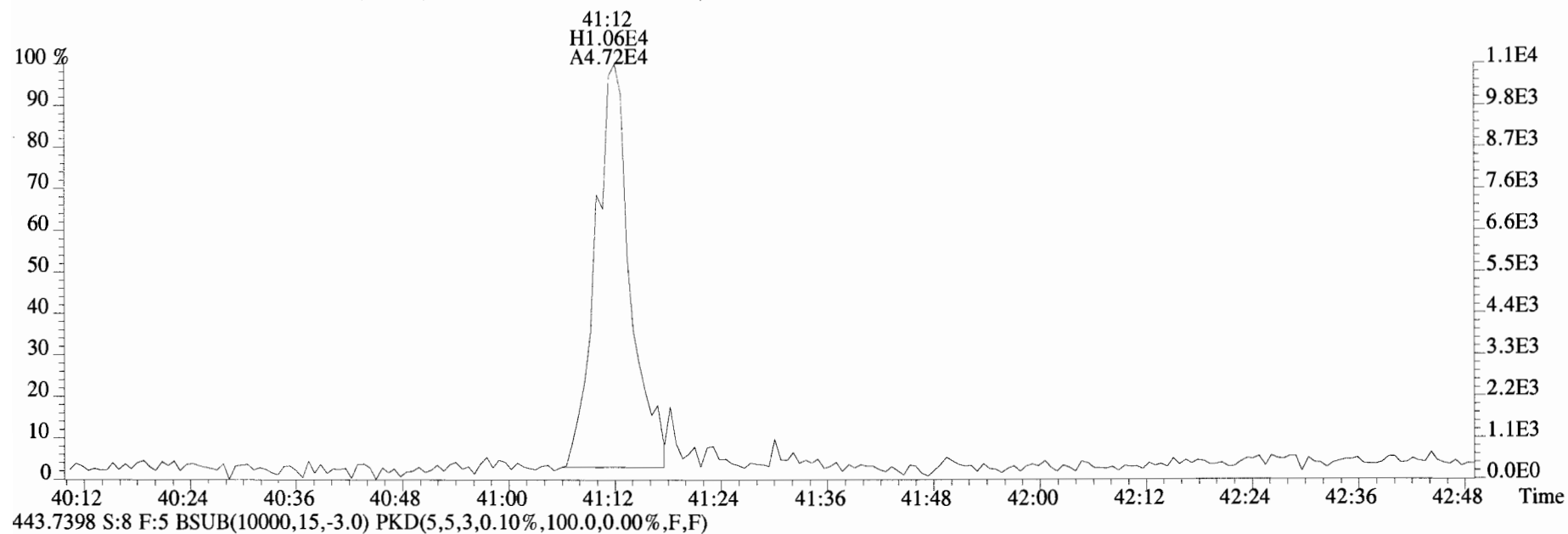
455.7801 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190625D1 #1-432 Acq:25-JUN-2019 20:39:50 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:1901248-04 T4-PDI2019-SC29-190524-05-07 9.09 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)



Client ID: Duplicate

Lab ID: B9F0172-DUP3

Filename: 190625D1 S:9

Acq:25-JUN-19 21:27:29

GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19

wt/vol: 5.000

ConCal: ST190625D1-1

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	1.25e+04	0.71 y	0.90	26:05	1.3622		* 2.5		*	Total Tetra-Dioxins	9.64	12.7		*	*
	1,2,3,7,8-PeCDD	2.81e+04	0.87 n	0.87	30:32	2.9969		* 2.5		*	Total Penta-Dioxins	22.6	32.7		*	*
	1,2,3,4,7,8-HxCDD	6.42e+04	1.09 y	1.05	33:50	6.6339		* 2.5		*	Total Hexa-Dioxins	297	297		*	*
	1,2,3,6,7,8-HxCDD	5.38e+05	1.26 y	0.93	33:57	47.330		* 2.5		*	Total Hepta-Dioxins	1390	1390		*	*
	1,2,3,7,8,9-HxCDD	1.87e+05	1.24 y	0.96	34:14	16.681		* 2.5		*	Total Tetra-Furans	46.1	54.3		*	*
	1,2,3,4,6,7,8-HpCDD	7.11e+06	0.95 y	0.99	37:40	662.52		* 2.5		*	Total Penta-Furans	94.970	134.01		*	*
	OCDD	9.60e+07	0.89 y	0.99	40:57	8987.5		* 2.5		*	Total Hexa-Furans	266	266		*	*
											Total Hepta-Furans	266	266		*	*
	2,3,7,8-TCDF	1.90e+05	0.76 y	0.94	25:20	12.438	(11.94)	* 2.5		*						
	1,2,3,7,8-PeCDF	4.39e+05	1.57 y	0.92	29:23	31.676		* 2.5		*						
	2,3,4,7,8-PeCDF	1.67e+05	1.68 y	0.96	30:17	13.284		* 2.5		*						
	1,2,3,4,7,8-HxCDF	8.22e+05	1.20 y	1.15	32:57	50.181		* 2.5		*						
	1,2,3,6,7,8-HxCDF	3.25e+05	1.18 y	1.04	33:04	17.842		* 2.5		*						
	2,3,4,6,7,8-HxCDF	1.67e+05	1.13 y	1.10	33:41	9.4194		* 2.5		*						
	1,2,3,7,8,9-HxCDF	1.17e+05	1.23 y	1.03	34:40	8.1428		* 2.5		*						
	1,2,3,4,6,7,8-HpCDF	8.33e+05	0.89 y	1.06	36:27	84.716		* 2.5		*						
	1,2,3,4,7,8,9-HpCDF	8.42e+04	1.01 y	1.23	38:15	8.4838		* 2.5		*						
	OCDF	2.96e+06	0.89 y	0.94	41:11	228.64		* 2.5		*						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	4.06e+06	0.87 y	1.11	26:04	261.38					65.4					
IS	13C-1,2,3,7,8-PeCDD	4.30e+06	0.60 y	0.98	30:32	313.40					78.4					
IS	13C-1,2,3,4,7,8-HxCDD	3.69e+06	1.37 y	0.68	33:49	283.15					70.8					
IS	13C-1,2,3,6,7,8-HxCDD	4.89e+06	1.39 y	0.84	33:56	301.41					75.4					
IS	13C-1,2,3,7,8,9-HxCDD	4.66e+06	1.37 y	0.81	34:14	297.75					74.4					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.34e+06	1.01 y	0.69	37:40	328.14					82.0					
IS	13C-OCDD	8.66e+06	0.91 y	0.62	40:56	718.82					89.9					
IS	13C-2,3,7,8-TCDF	6.48e+06	0.78 y	1.05	25:19	216.70					54.2					
IS	13C-1,2,3,7,8-PeCDF	6.01e+06	1.53 y	0.95	29:23	221.42					55.4					
IS	13C-2,3,4,7,8-PeCDF	5.24e+06	1.62 y	0.94	30:16	197.00					49.3					
IS	13C-1,2,3,4,7,8-HxCDF	5.68e+06	0.50 y	0.86	32:56	343.88					86.0					
IS	13C-1,2,3,6,7,8-HxCDF	7.02e+06	0.51 y	1.02	33:04	356.22					89.1					
IS	13C-2,3,4,6,7,8-HxCDF	6.48e+06	0.51 y	0.95	33:40	352.67					88.2					
IS	13C-1,2,3,7,8,9-HxCDF	5.57e+06	0.48 y	0.87	34:38	332.71					83.2					
IS	13C-1,2,3,4,6,7,8-HpCDF	3.69e+06	0.38 y	0.81	36:26	237.02					59.3					
IS	13C-1,2,3,4,7,8,9-HpCDF	3.24e+06	0.39 y	0.63	38:14	265.58					66.4					
IS	13C-OCDF	1.10e+07	0.88 y	0.78	41:10	729.38					91.2					
C/Up	37C1-2,3,7,8-TCDD	1.89e+06		1.22	26:05	110.76					69.2					
RS/RT	13C-1,2,3,4-TCDD	5.62e+06	0.88 y	1.00	25:29	399.96										
RS	13C-1,2,3,4-TCDF	1.14e+07	0.82 y	1.00	24:05	399.96										
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.72e+06	0.49 y	1.00	33:21	399.96										

Integrations

by
Analyst: DB

Reviewed

by
Analyst: C7Date: 6/27/19Date: 06/28/19

Totals class: TCDD EMPC

Entry #: 19

Run: 14

File: 190625D1

S: 9 I: 1 F: 1

Acquired: 25-JUN-19 21:27:29

Processed: 26-JUN-19 09:27:41

Total Concentration: 12.653

Unnamed Concentration: 11.291

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
22:43	2.085e+04	2.532e+04	0.82 y	4.617e+04	5.0468
23:05	1.003e+04	6.819e+03	1.47 n	1.207e+04	1.3192
23:29	5.568e+03	6.840e+03	0.81 y	1.241e+04	1.3562
24:38	7.782e+03	9.347e+03	0.83 y	1.713e+04	1.8722
25:50	9.546e+03	8.769e+03	1.09 n	1.552e+04	1.6965
26:05	5.187e+03	7.276e+03	0.71 y	1.246e+04	1.3622 2,3,7,8-TCDD

Totals class: PeCDD EMPC

Entry #: 21

Run: 14

File: 190625D1

S: 9 I: 1 F: 2

Acquired: 25-JUN-19 21:27:29

Processed: 26-JUN-19 09:27:41

Total Concentration: 32.651

Unnamed Concentration: 29.655

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:30	3.869e+04	6.365e+04	0.61 y	1.023e+05	10.920
28:57	6.494e+03	1.315e+04	0.49 n	1.680e+04	1.7929
29:23	2.408e+04	2.513e+04	0.96 n	4.097e+04	4.3715
29:33	1.494e+04	2.080e+04	0.72 y	3.574e+04	3.8138
29:38	8.294e+03	1.177e+04	0.70 y	2.006e+04	2.1410
29:50	1.502e+04	2.747e+04	0.55 y	4.249e+04	4.5337
30:32	1.495e+04	1.723e+04	0.87 n	2.809e+04	2.9969
30:37	4.221e+03	6.987e+03	0.60 y	1.121e+04	1.1959
30:54	3.210e+03	6.361e+03	0.50 n	8.305e+03	0.88620

1,2,3,7,8-PeCDD

Totals class: HxCDD EMPC

Entry #: 23

Run: 14

File: 190625D1

S: 9 I: 1 F: 3

Acquired: 25-JUN-19 21:27:29

Processed: 26-JUN-19 09:27:41

Total Concentration: 297.27

Unnamed Concentration: 226.622

RT	m1 Resp	m2 Resp	RA		Resp Concentration	Name
32:18	5.357e+05	4.487e+05	1.19 y	9.844e+05	91.391	
32:51	5.979e+04	4.707e+04	1.27 y	1.069e+05	9.9209	
33:08	7.041e+05	5.527e+05	1.27 y	1.257e+06	116.69	
33:14	3.178e+04	2.375e+04	1.34 y	5.553e+04	5.1554	
33:50	3.353e+04	3.069e+04	1.09 y	6.423e+04	6.6339	1,2,3,4,7,8-HxCDD
33:57	2.999e+05	2.384e+05	1.26 y	5.383e+05	47.330	1,2,3,6,7,8-HxCDD
34:08	2.165e+04	1.569e+04	1.38 y	3.734e+04	3.4664	
34:14	1.034e+05	8.367e+04	1.24 y	1.871e+05	16.681	1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC

Entry #: 25

Run: 14

File: 190625D1

S: 9 I: 1 F: 4

Acquired: 25-JUN-19 21:27:29

Processed: 26-JUN-19 09:27:41

Total Concentration: 1392.1

Unnamed Concentration: 729.605

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
36:50	3.843e+06	3.985e+06	0.96 y	7.829e+06	729.60
37:40	3.464e+06	3.644e+06	0.95 y	7.109e+06	662.52 1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC

Entry #: 27

Run: 14 File: 190625D1 S: 9 I: 1 F: 1

Acquired: 25-JUN-19 21:27:29 Processed: 26-JUN-19 09:27:41

Total Concentration: 54.289

Unnamed Concentration: 41.851

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
21:10	1.277e+04	1.481e+04	0.86 y	2.758e+04	1.8049
21:50	3.935e+04	4.263e+04	0.92 n	7.546e+04	4.9384
22:20	2.609e+04	3.527e+04	0.74 y	6.137e+04	4.0160
22:43	4.972e+04	5.852e+04	0.85 y	1.082e+05	7.0840
23:07	2.644e+04	3.278e+04	0.81 y	5.922e+04	3.8754
23:14	1.553e+04	1.932e+04	0.80 y	3.484e+04	2.2802
23:25	1.910e+04	1.832e+04	1.04 n	3.243e+04	2.1225
24:04	2.347e+04	3.489e+04	0.67 y	5.836e+04	3.8189
24:32	5.674e+04	7.530e+04	0.75 y	1.320e+05	8.6412
25:20	8.193e+04	1.081e+05	0.76 y	1.901e+05	12.438
25:40	1.351e+04	1.931e+04	0.70 y	3.281e+04	2.1473
27:04	9.255e+03	9.691e+03	0.95 n	1.715e+04	1.1226

2,3,7,8-TCDF

Totals class: 1st Func. PeCDF EMPC Entry #: 29

Run: 14 File: 190625D1 S: 9 I: 1 F: 1
Acquired: 25-JUN-19 21:27:29 Processed: 26-JUN-19 09:27:41

Total Concentration: 33.985 Unnamed Concentration: 33.985

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
27:02	3.182e+05	1.761e+05	1.81 n	4.492e+05	33.985

Totals class: PeCDF EMPC

Entry #: 31

Run: 14 File: 190625D1 S: 9 I: 1 F: 2

Acquired: 25-JUN-19 21:27:29 Processed: 26-JUN-19 09:27:41

Total Concentration: 100.02

Unnamed Concentration: 55.062

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
28:21	2.211e+04	1.809e+04	1.22 n	3.638e+04	2.7526
28:29	2.375e+05	1.476e+05	1.61 y	3.851e+05	29.139
29:02	3.664e+04	2.220e+04	1.65 y	5.884e+04	4.4520
29:13	1.847e+04	1.692e+04	1.09 n	3.039e+04	2.2992
29:23	2.682e+05	1.707e+05	1.57 y	4.389e+05	31.676 1,2,3,7,8-PeCDF
29:37	9.114e+04	5.187e+04	1.76 y	1.430e+05	10.820
30:17	1.045e+05	6.215e+04	1.68 y	1.667e+05	13.284 2,3,4,7,8-PeCDF
30:20	4.629e+04	2.771e+04	1.67 y	7.400e+04	5.5991

Totals class: HxCDF EMPC

Entry #: 33

Run: 14

File: 190625D1

S: 9 I: 1 F: 3

Acquired: 25-JUN-19 21:27:29

Processed: 26-JUN-19 09:27:41

Total Concentration: 265.92

Unnamed Concentration: 180.330

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name
31:45	2.040e+05	1.830e+05	1.11 y	3.870e+05	23.217
31:56	6.020e+05	4.956e+05	1.21 y	1.098e+06	65.841
32:16	1.469e+04	1.305e+04	1.13 y	2.773e+04	1.6638
32:29	7.993e+05	6.621e+05	1.21 y	1.461e+06	87.673
32:50	1.664e+04	1.562e+04	1.07 y	3.227e+04	1.9357
32:57	4.480e+05	3.744e+05	1.20 y	8.224e+05	50.181
33:04	1.760e+05	1.492e+05	1.18 y	3.251e+05	17.842
33:41	8.884e+04	7.840e+04	1.13 y	1.672e+05	9.4194
34:40	6.446e+04	5.226e+04	1.23 y	1.167e+05	8.1428

Totals class: HpCDF EMPC

Entry #: 35

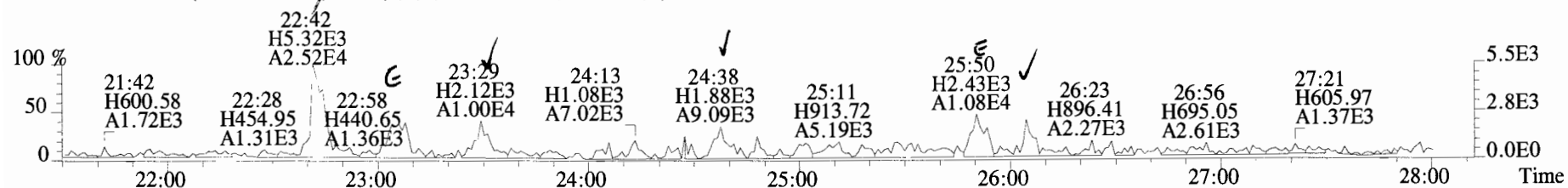
Run: 14 File: 190625D1 S: 9 I: 1 F: 4
Acquired: 25-JUN-19 21:27:29 Processed: 26-JUN-19 09:27:41

Total Concentration: 265.72

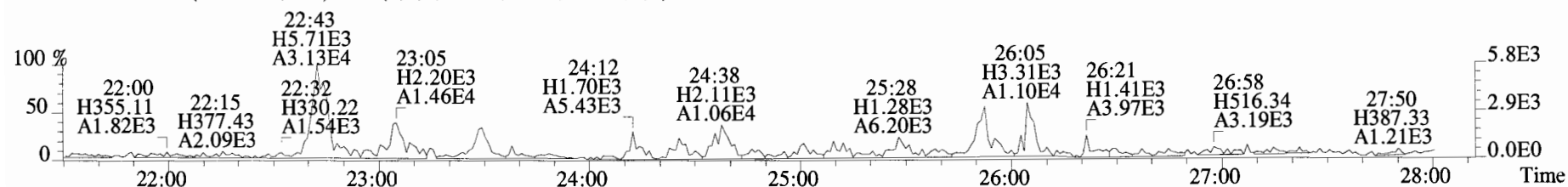
Unnamed Concentration: 172.524

RT	m1 Resp	m2 Resp	RA	Resp Concentration	Name	
36:27	3.913e+05	4.419e+05	0.89 y	8.332e+05	84.716	1,2,3,4,6,7,8-HpCDF
37:02	8.002e+05	8.965e+05	0.89 y	1.697e+06	172.52	
38:15	4.237e+04	4.179e+04	1.01 y	8.415e+04	8.4838	1,2,3,4,7,8,9-HpCDF

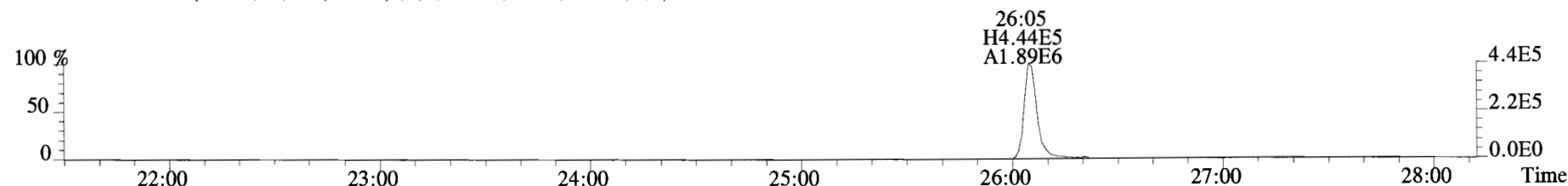
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



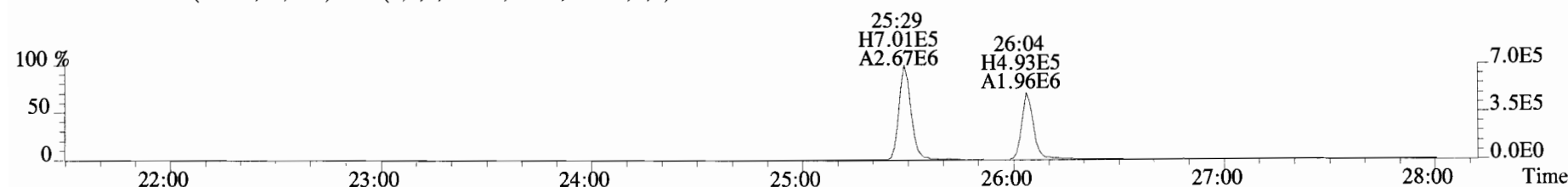
321.8936 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



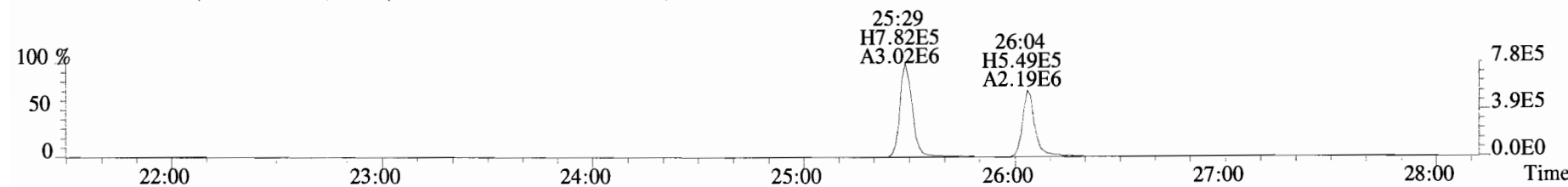
327.8847 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



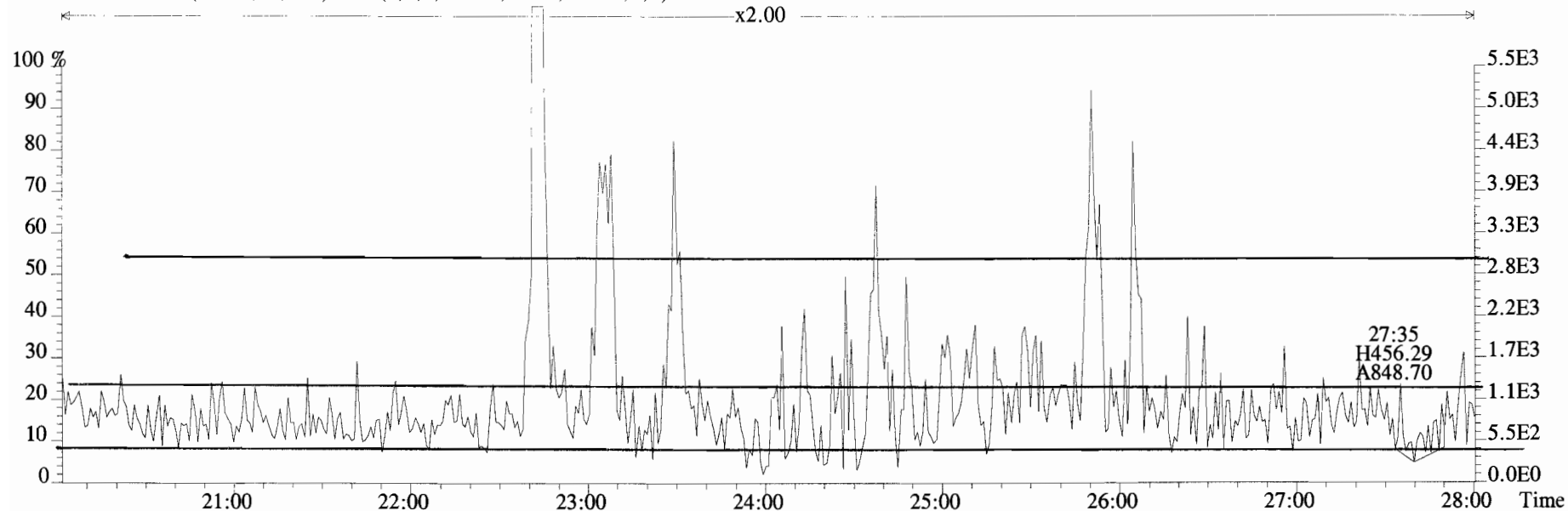
331.9368 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



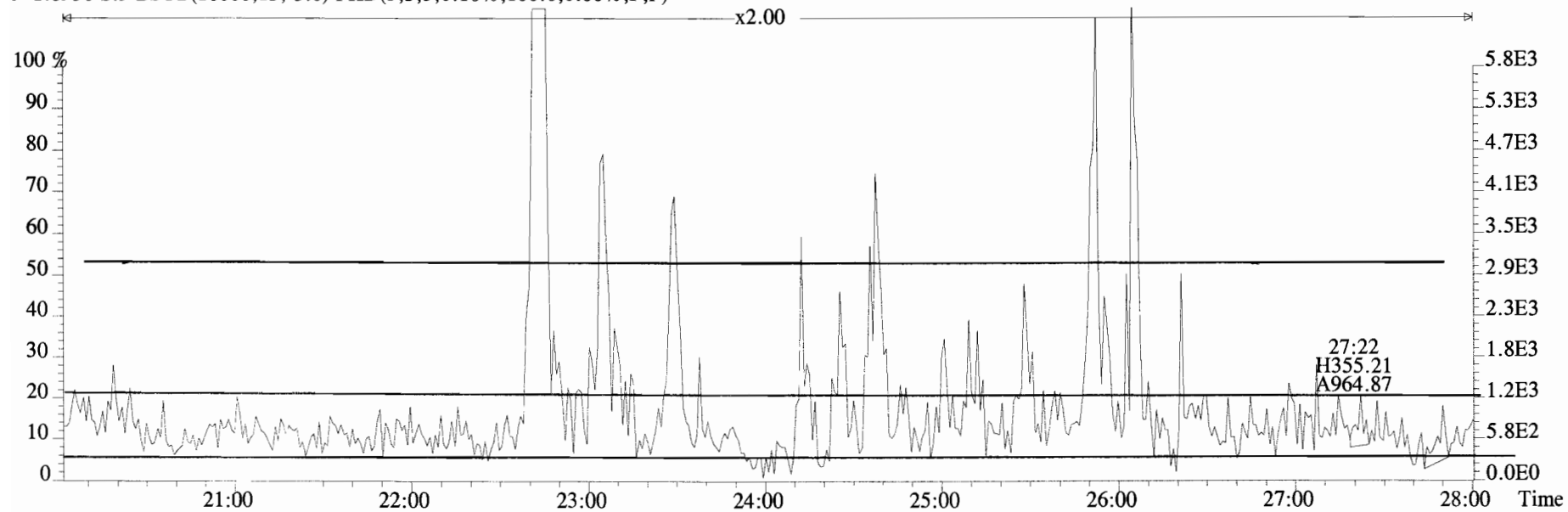
333.9339 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



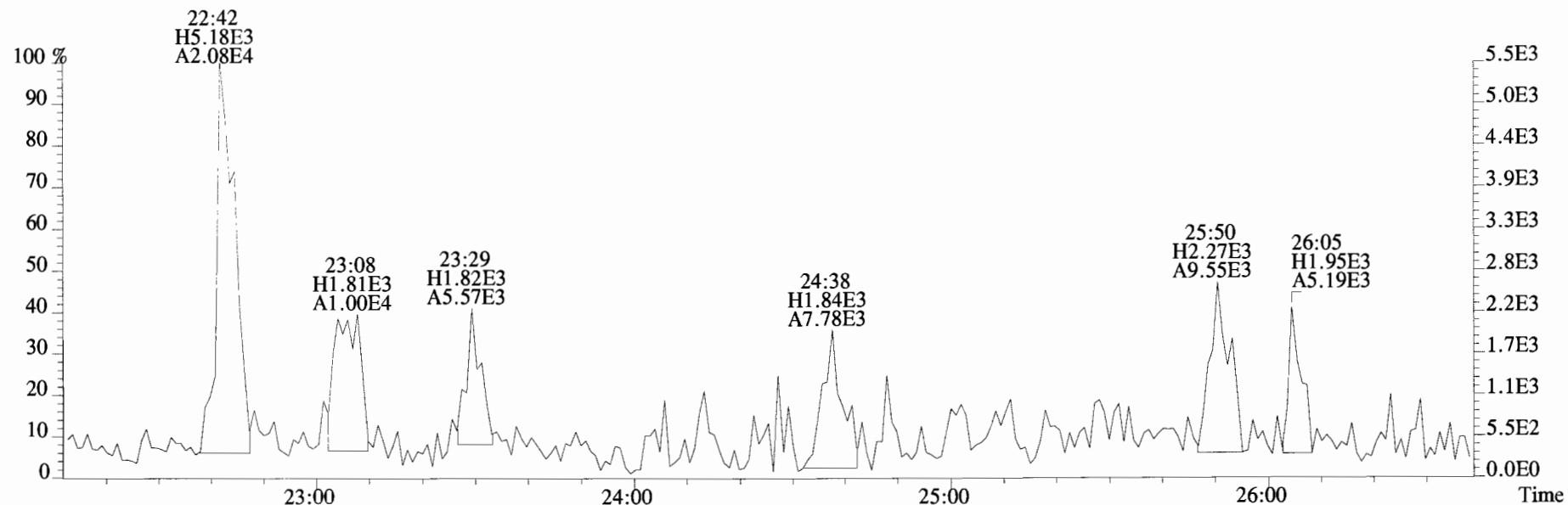
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Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



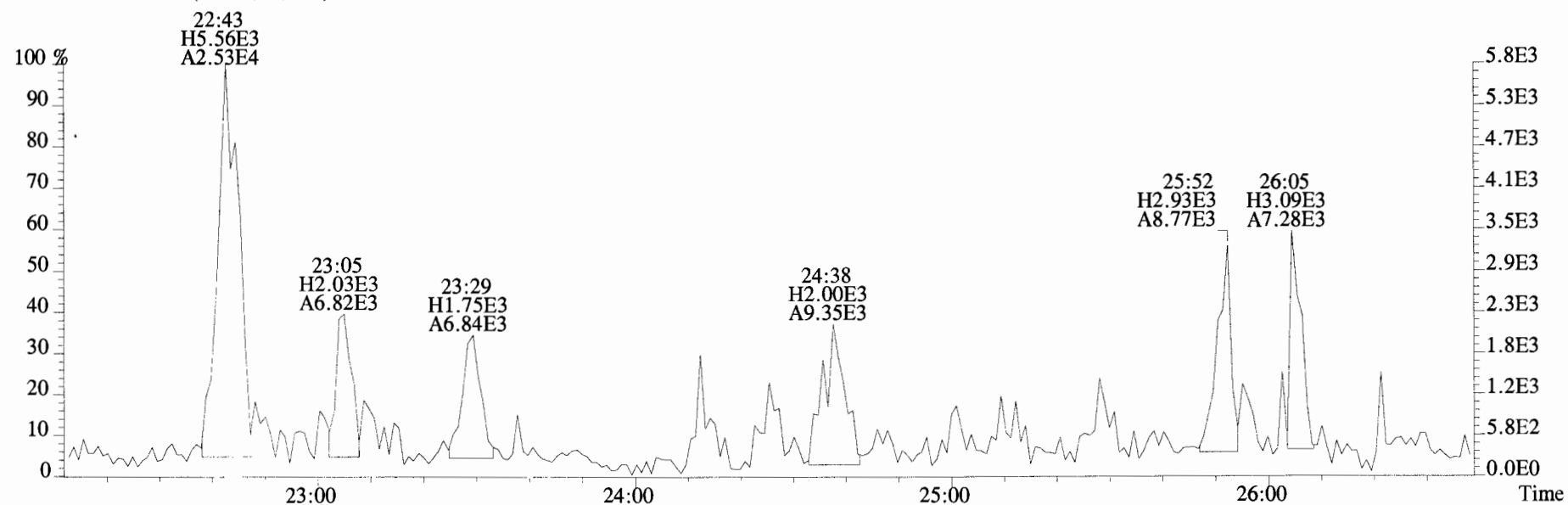
321.8936 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



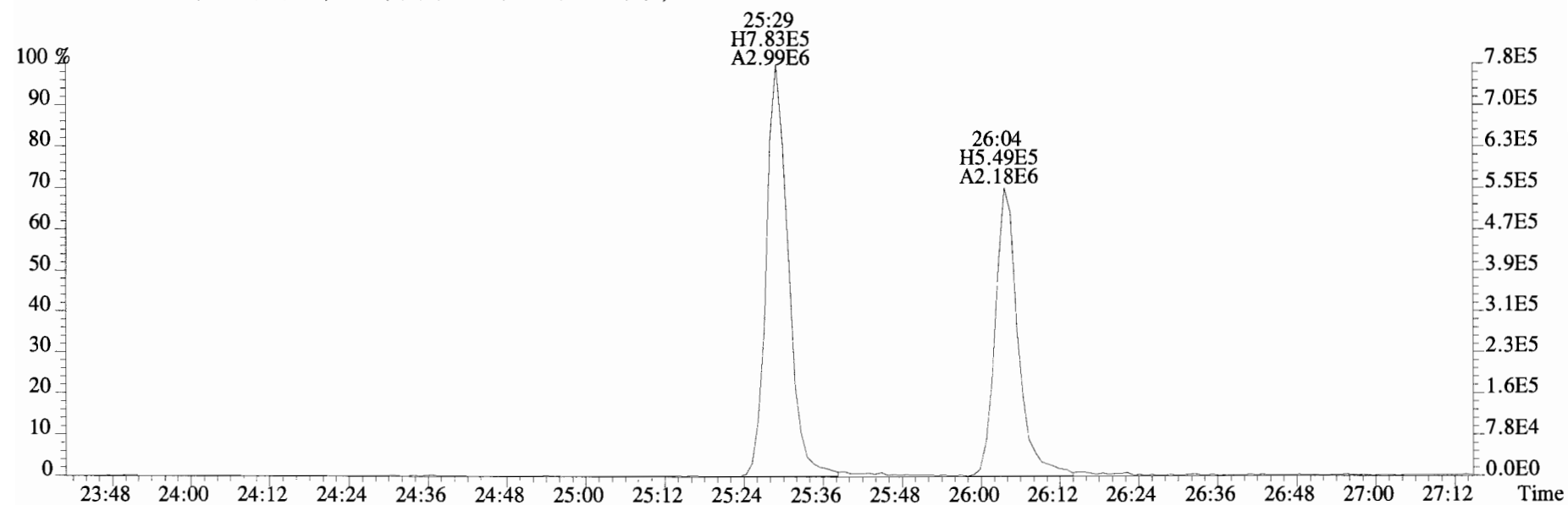
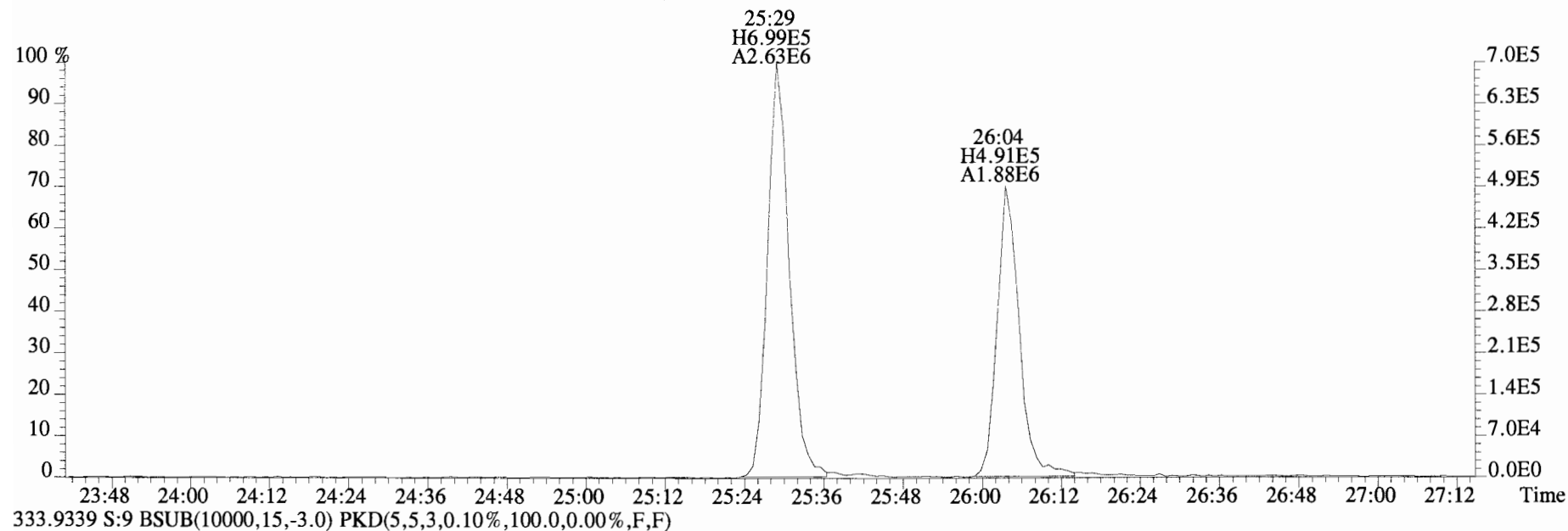
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
319.8965 S:9 BSUB(10000,15,-3.0)



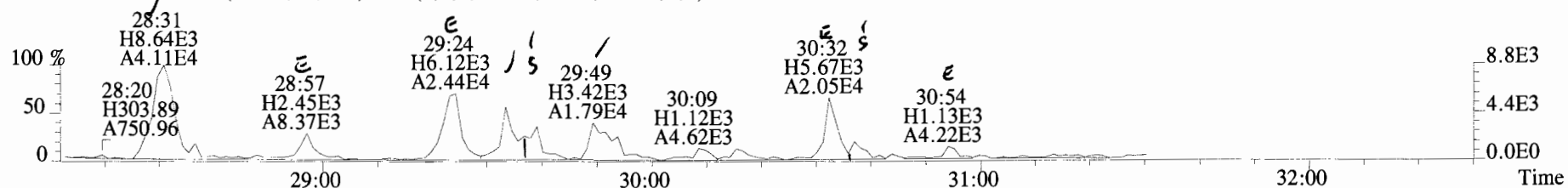
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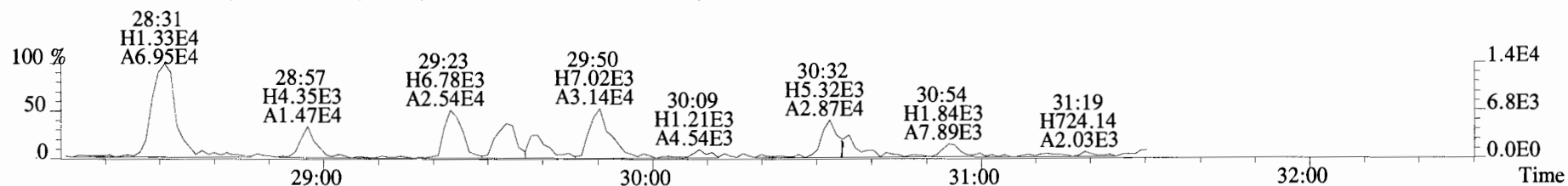
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Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
331.9368 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



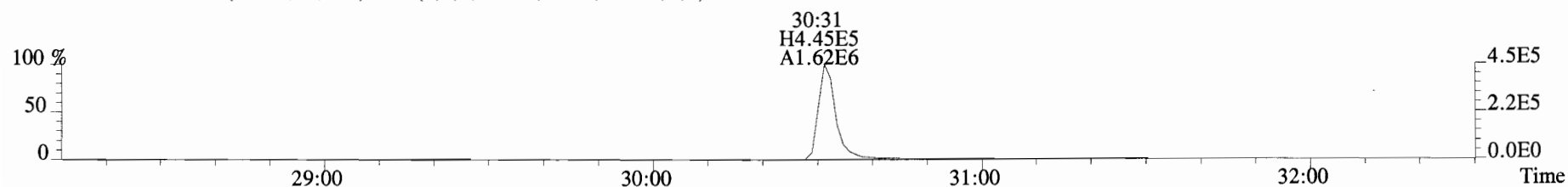
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 353.8576 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



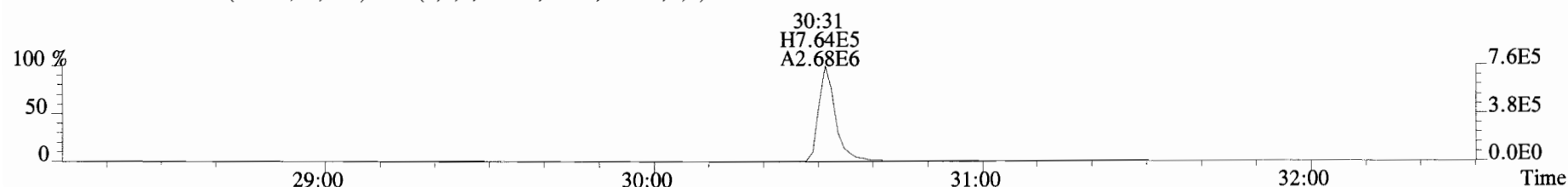
355.8546 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



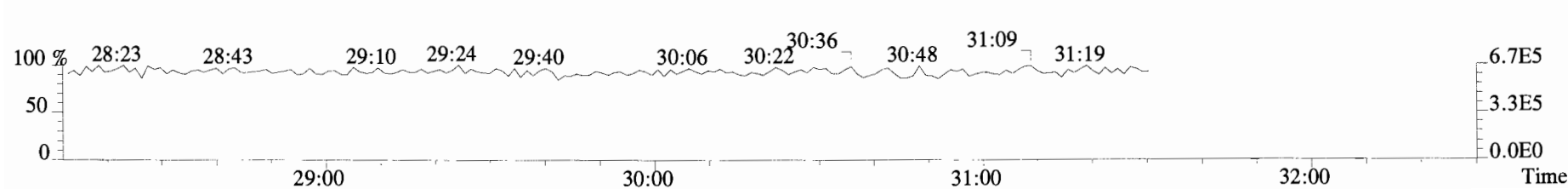
365.8978 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



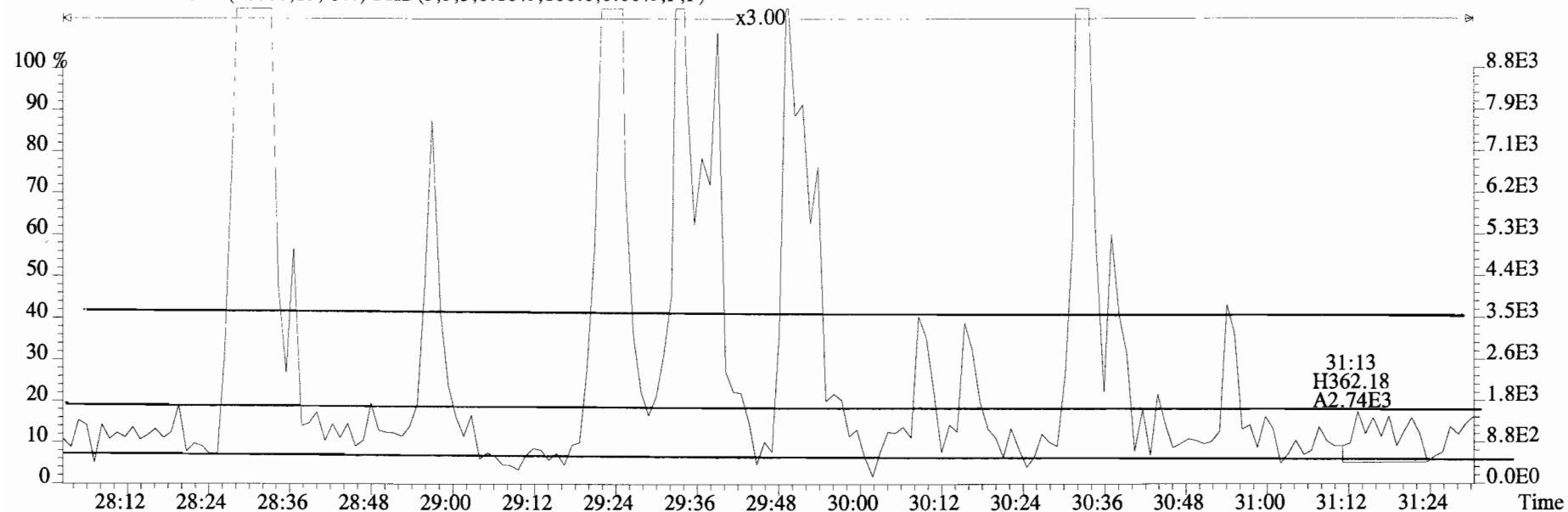
367.8949 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



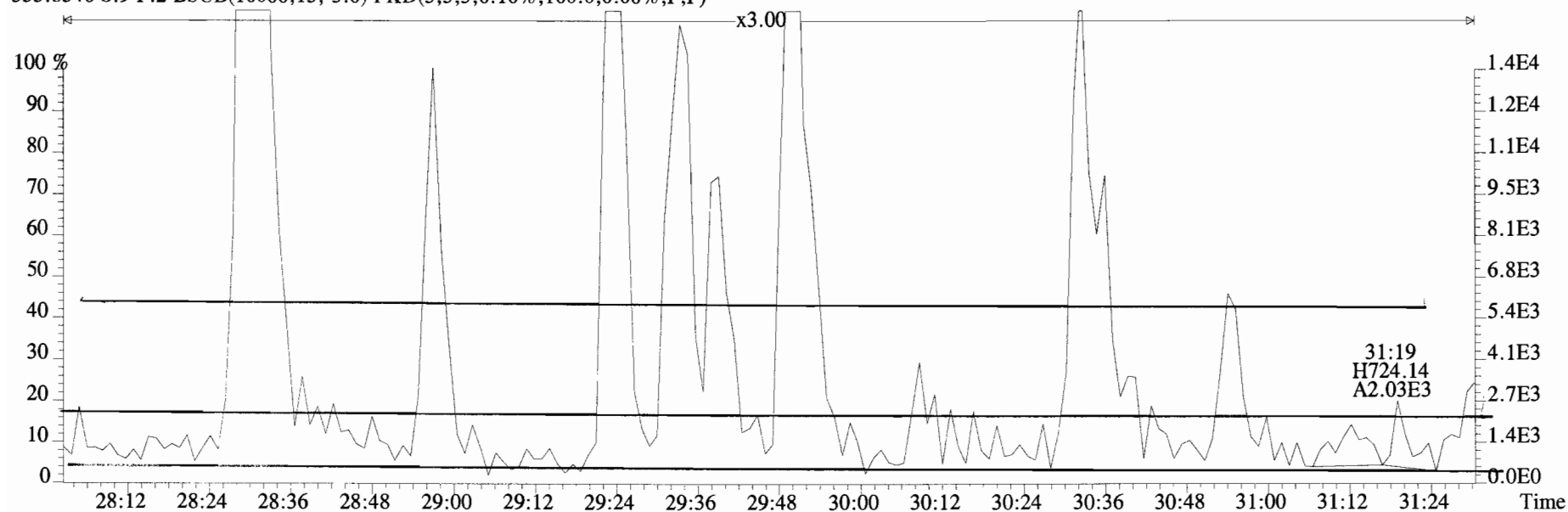
366.9792 S:9 F:2



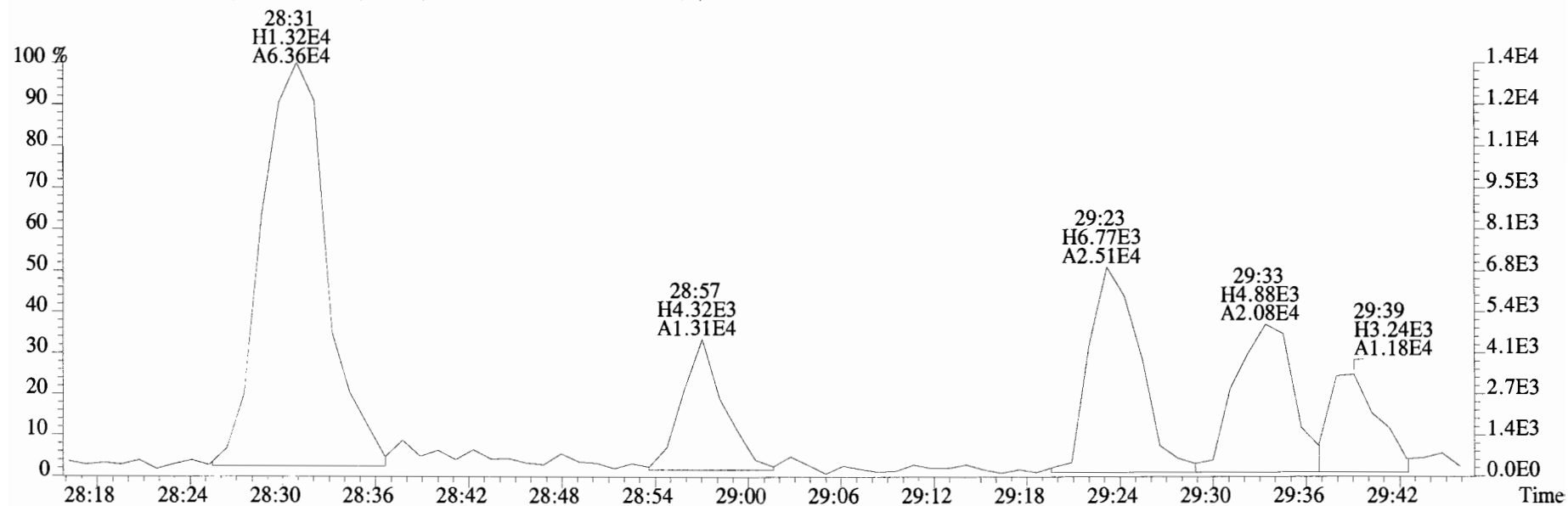
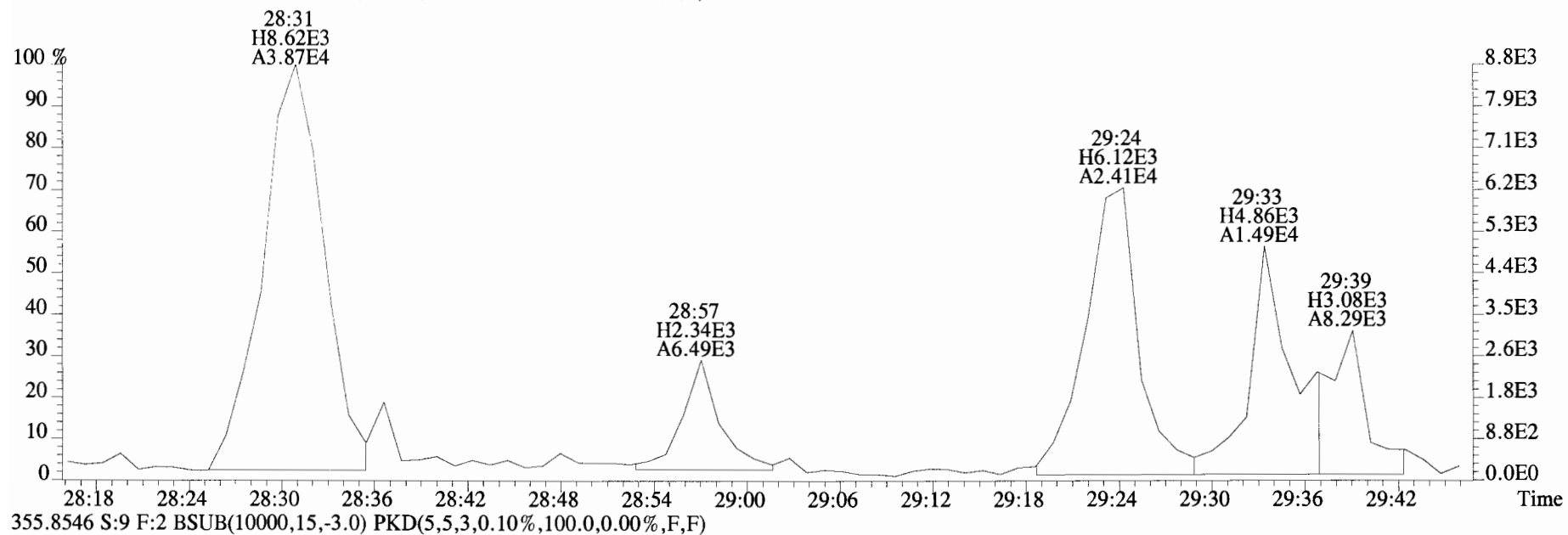
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Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
353.8576 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



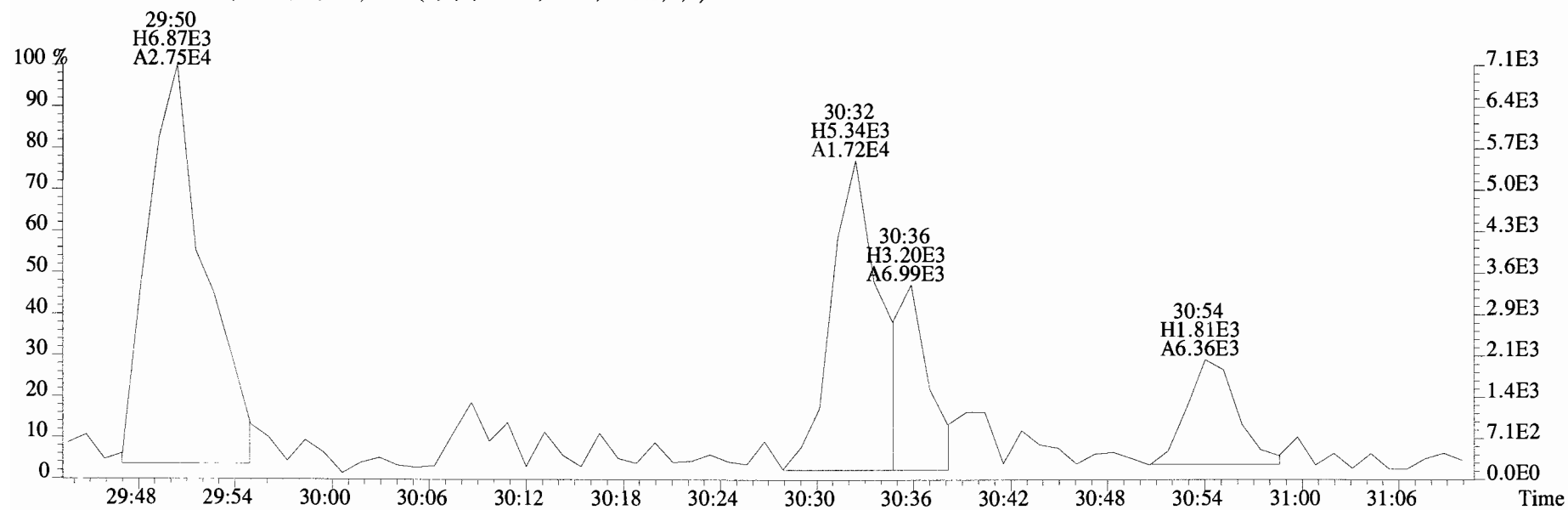
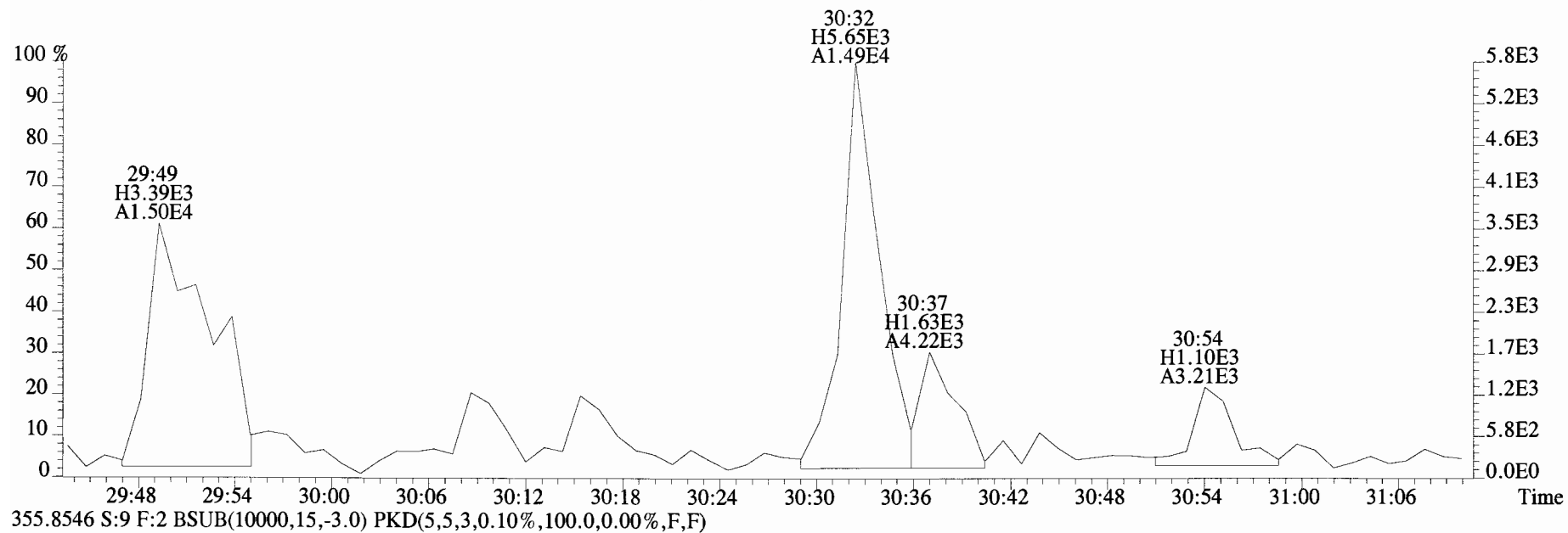
355.8546 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



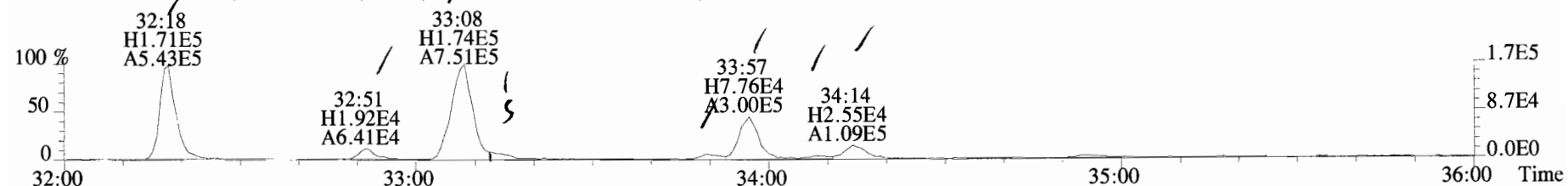
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 353.8576 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



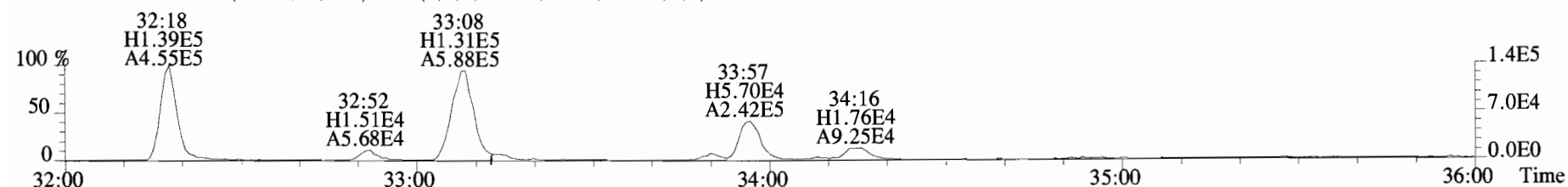
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 353.8576 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



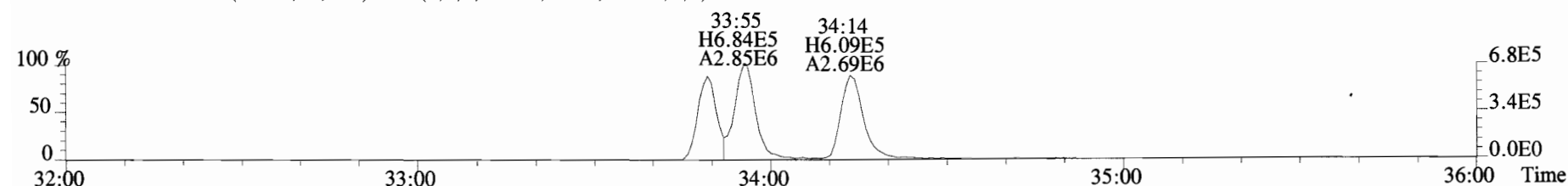
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



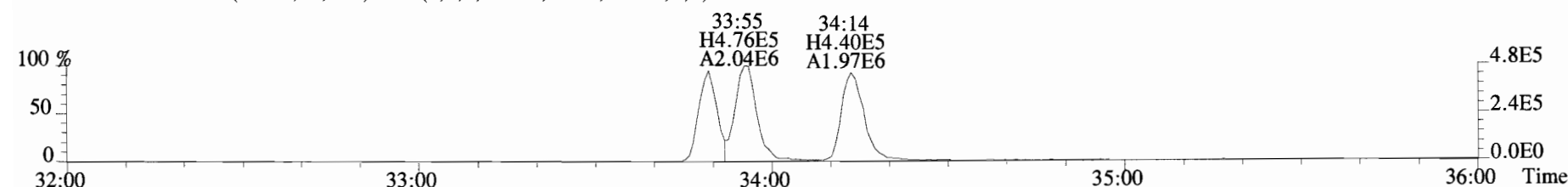
391.8127 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



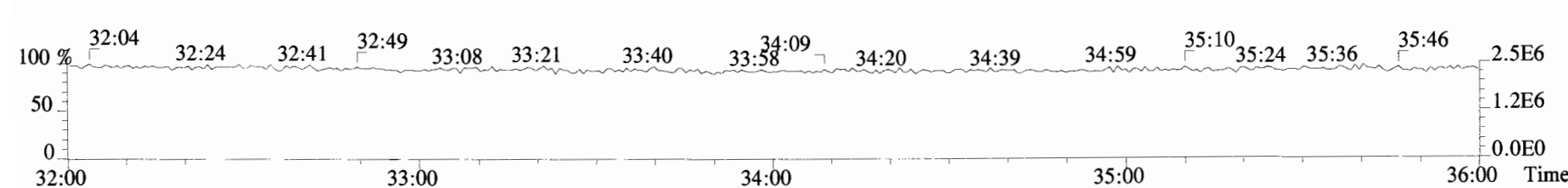
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



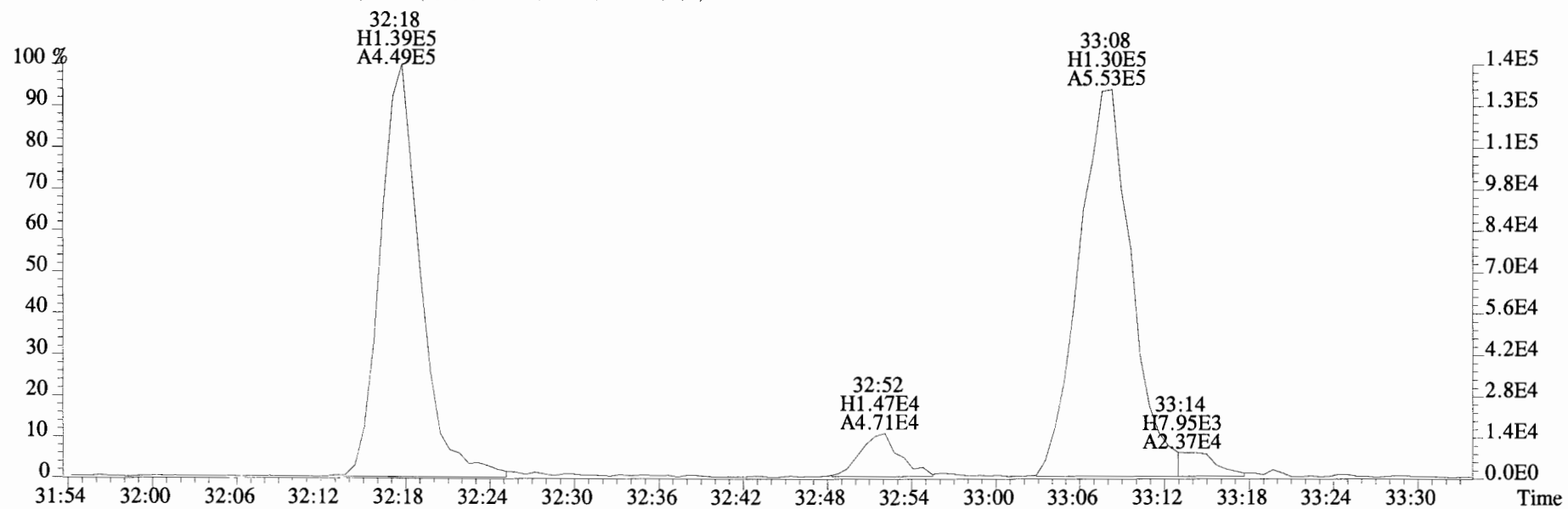
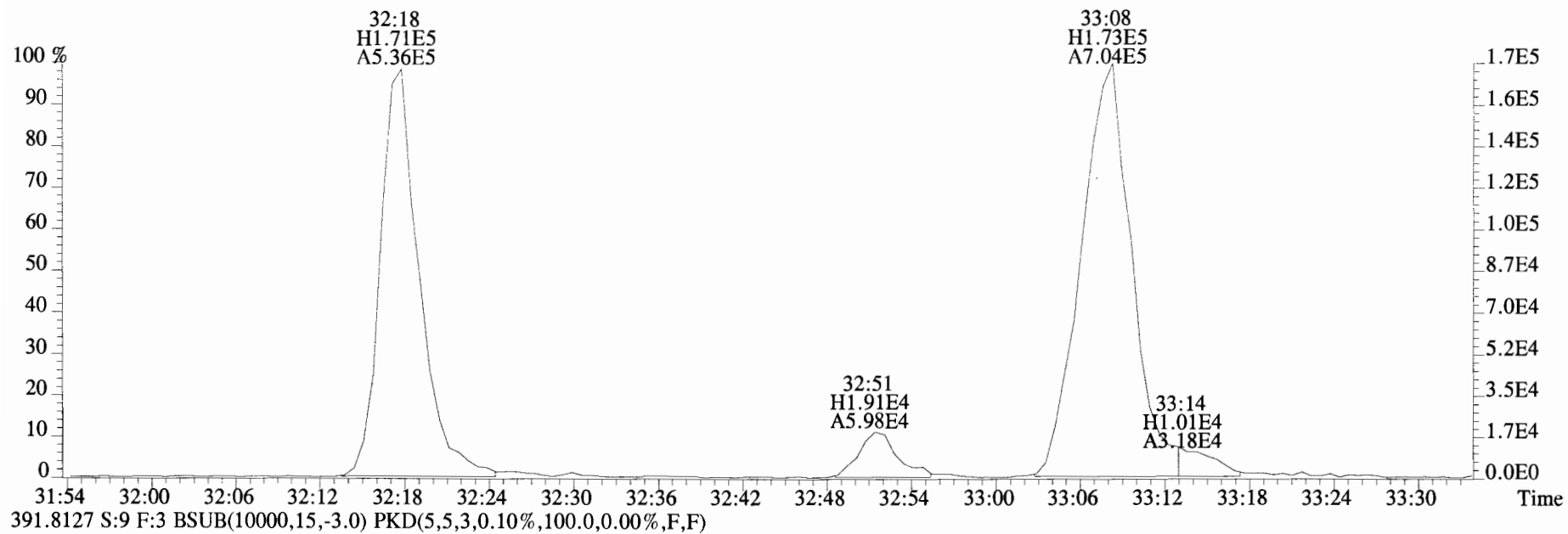
403.8530 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



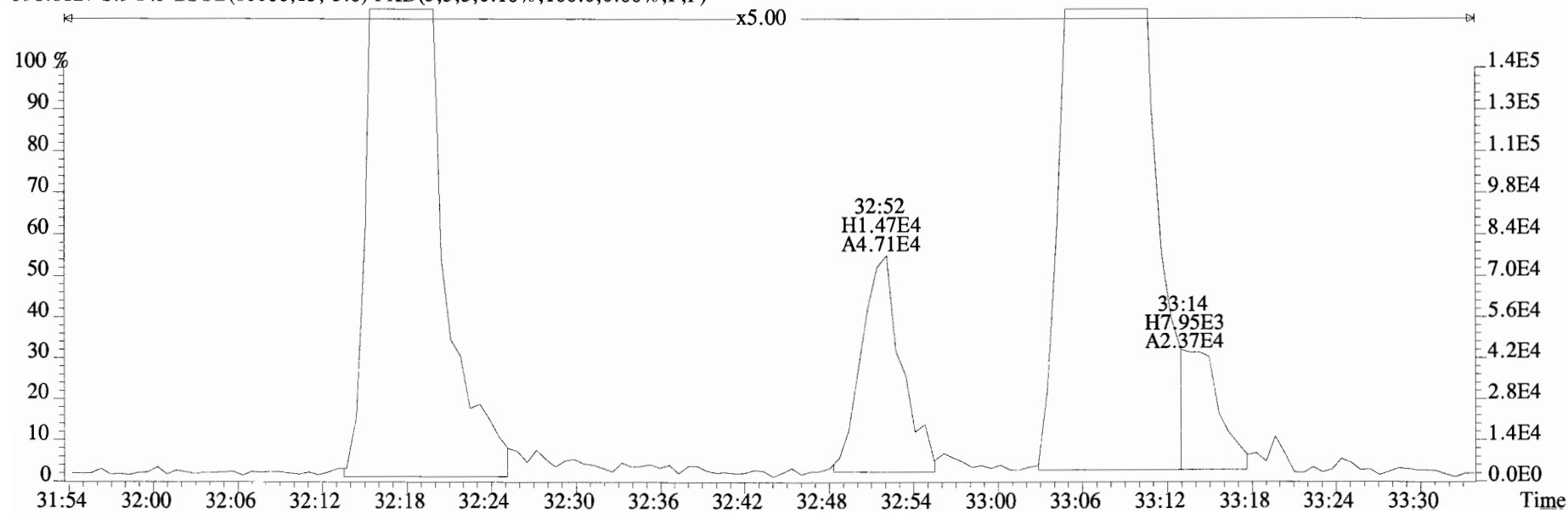
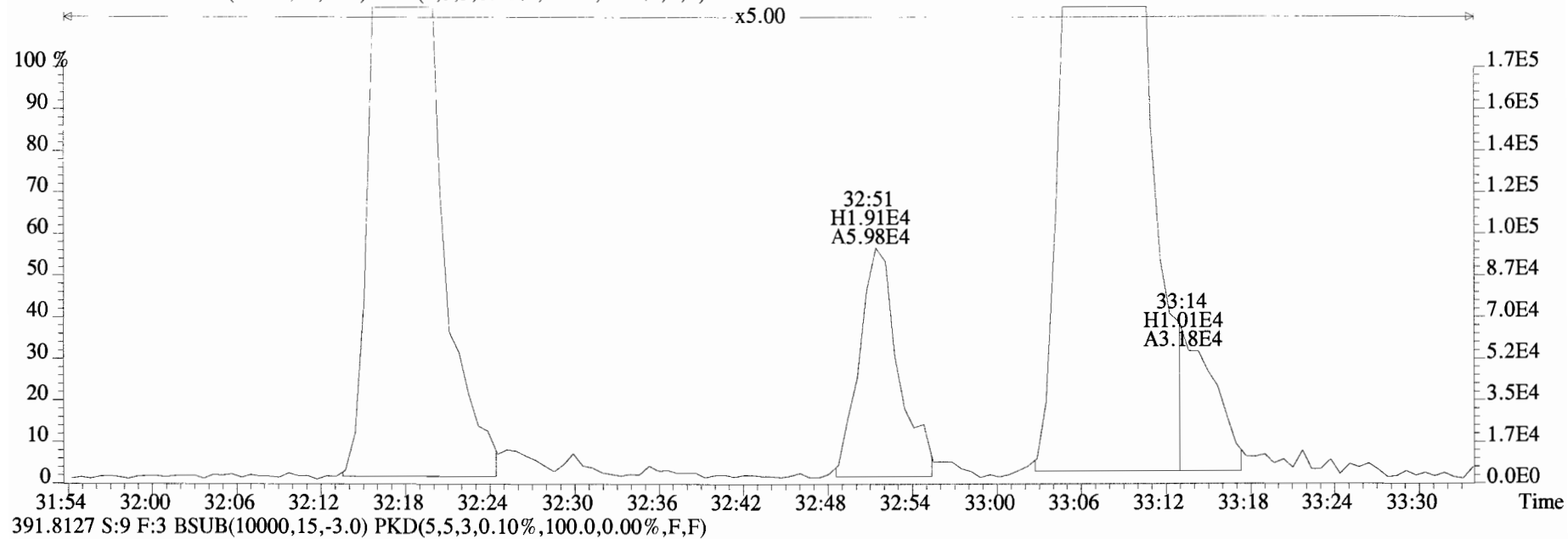
392.9760 S:9 F:3



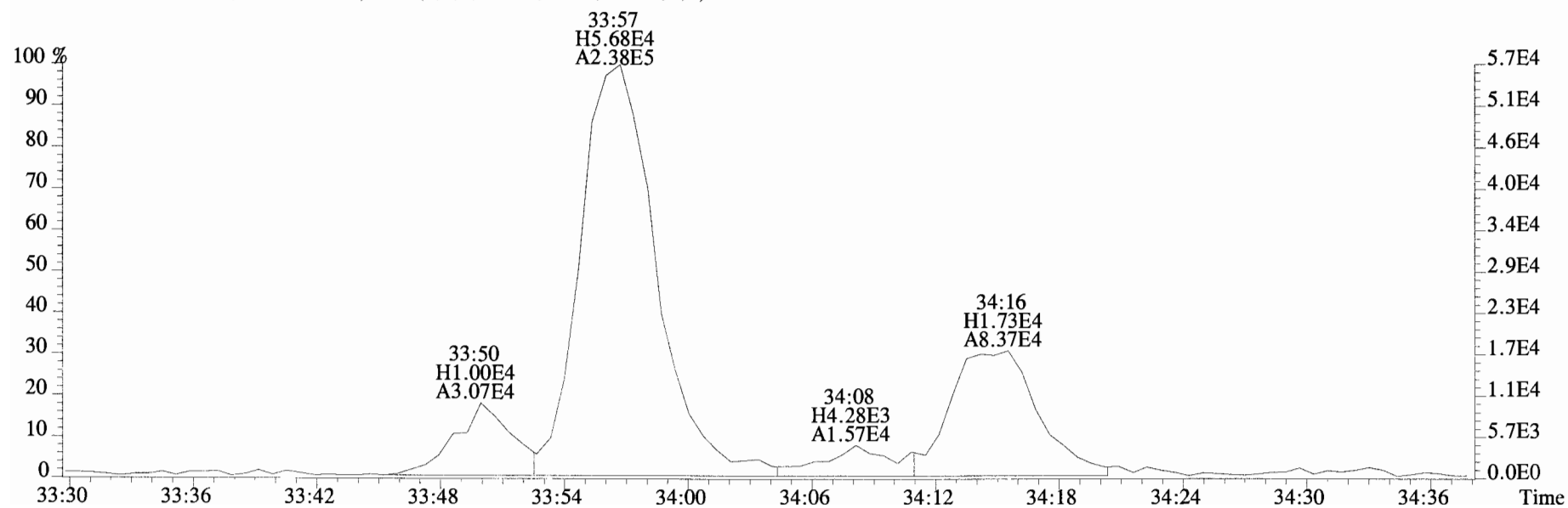
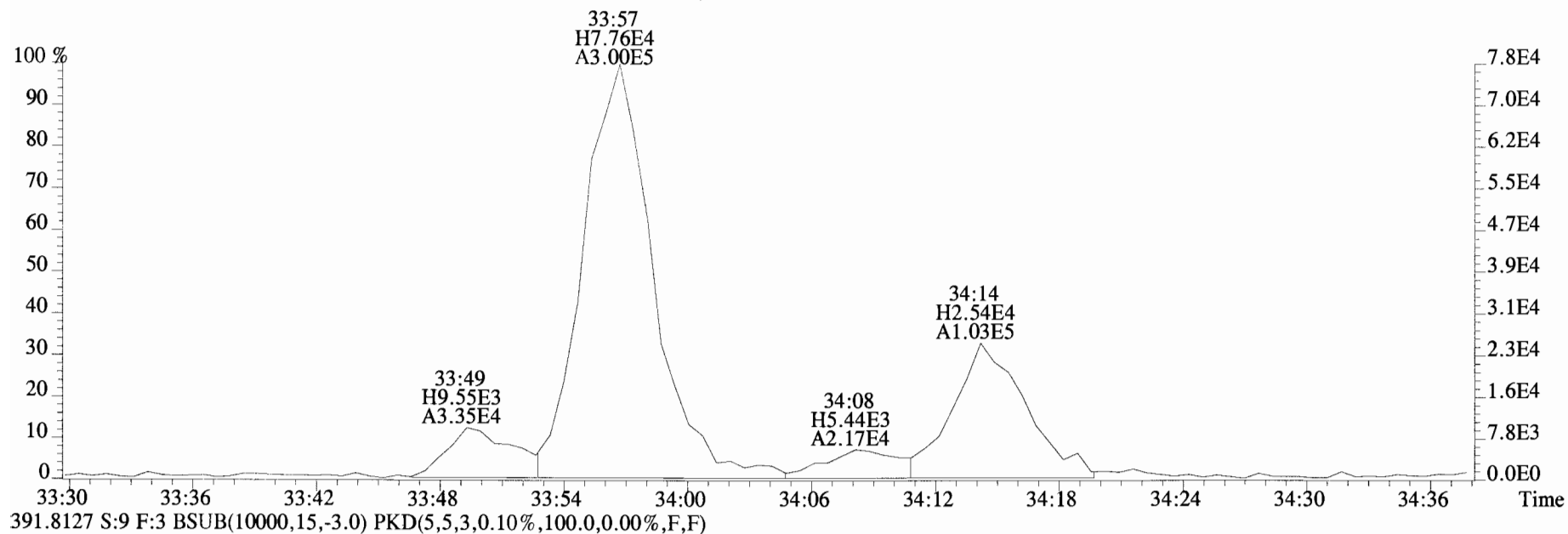
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



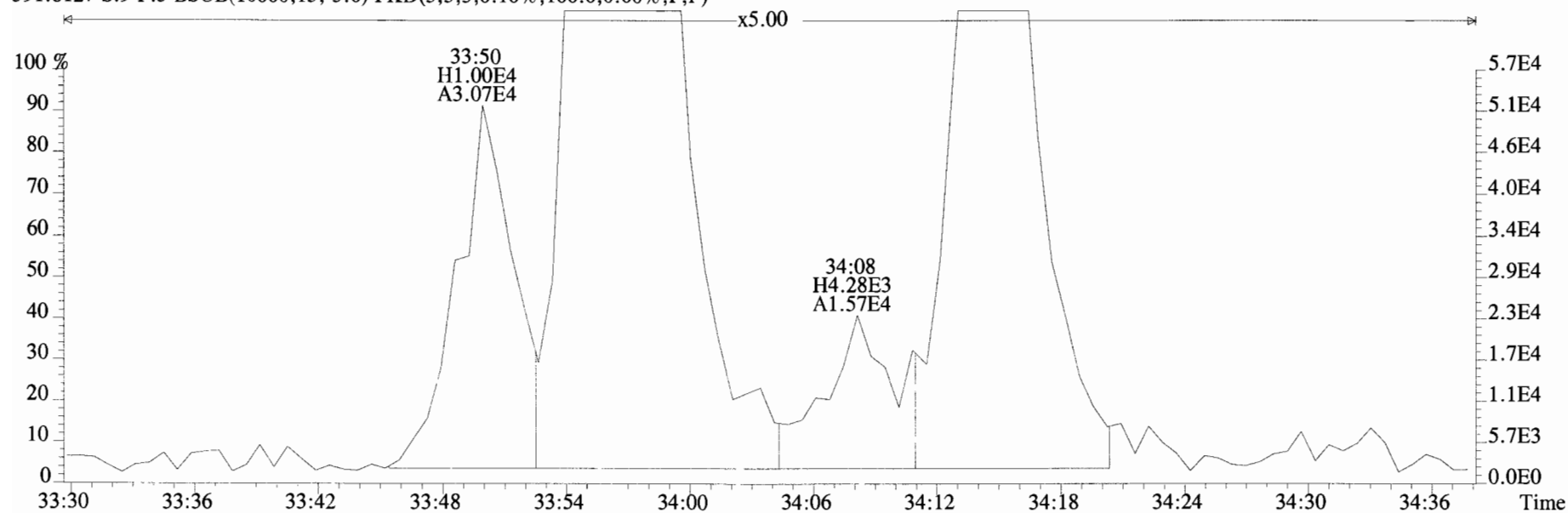
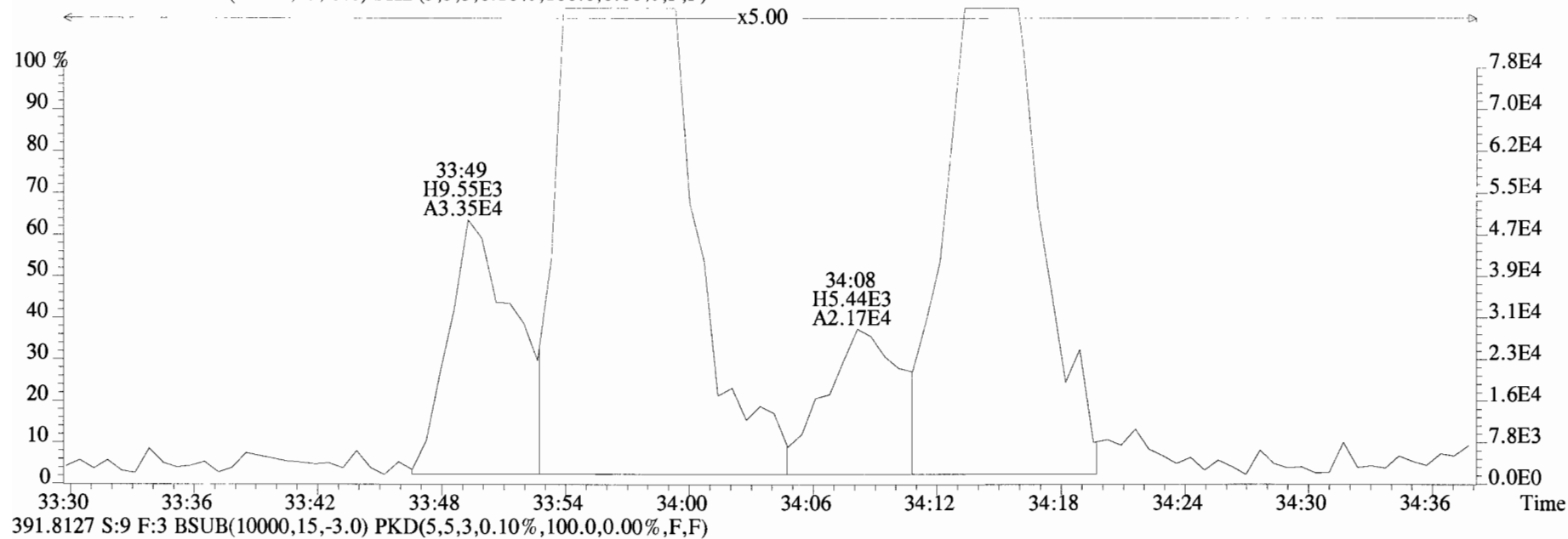
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



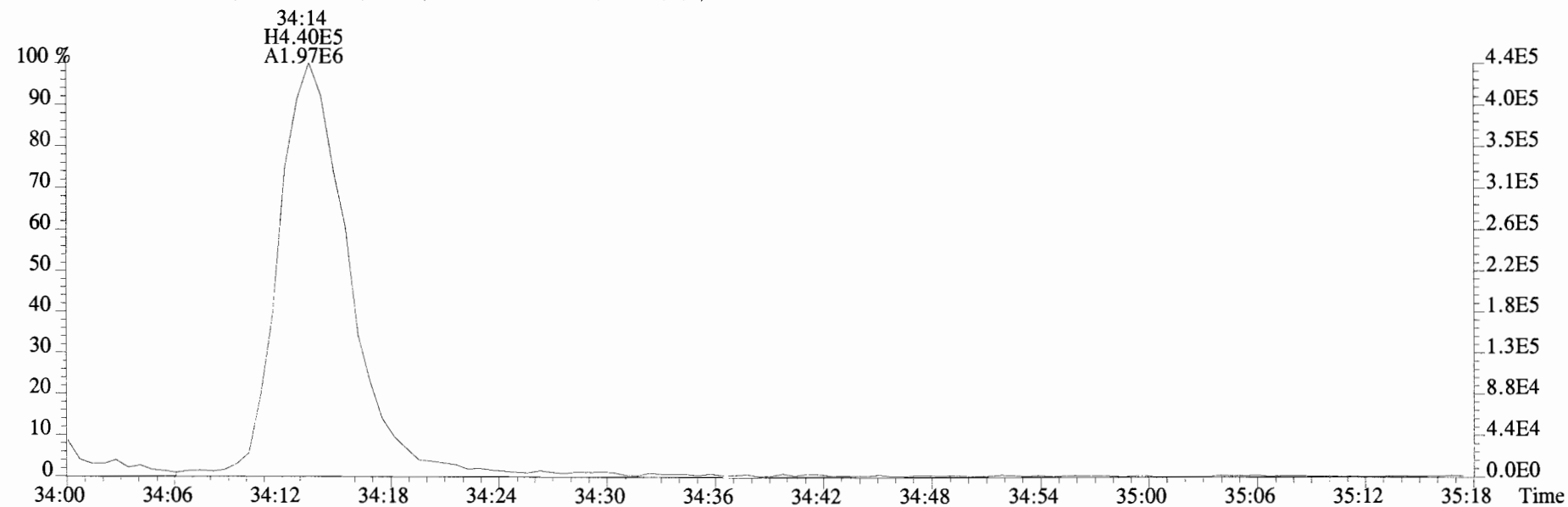
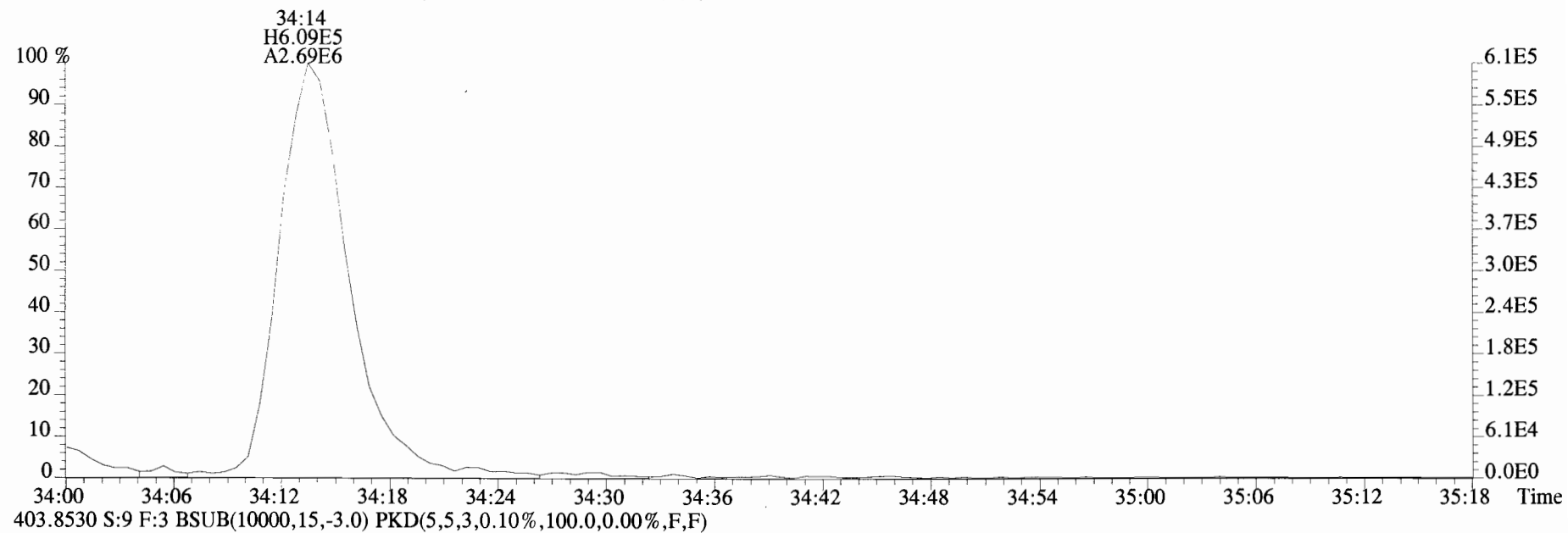
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



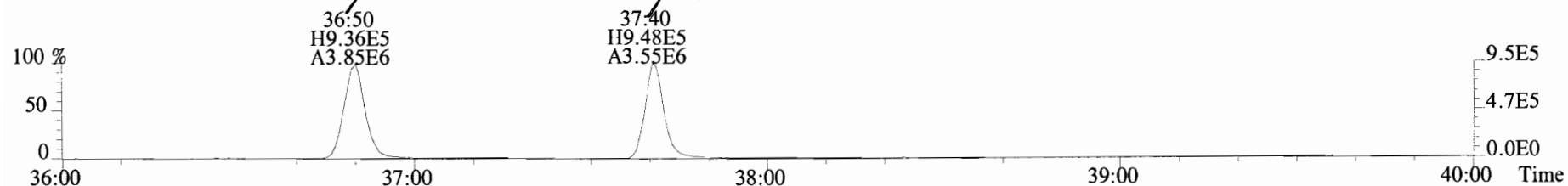
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



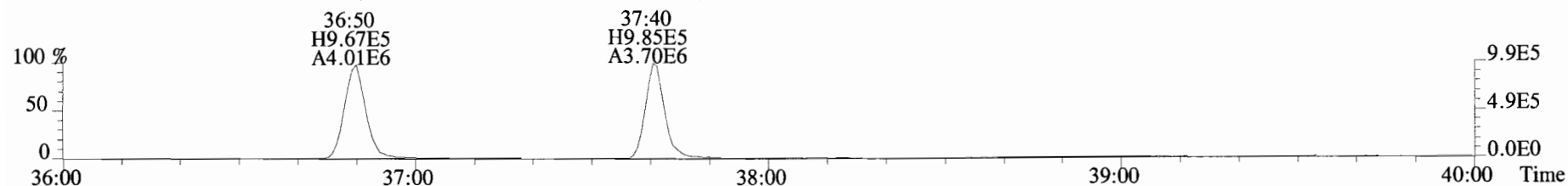
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



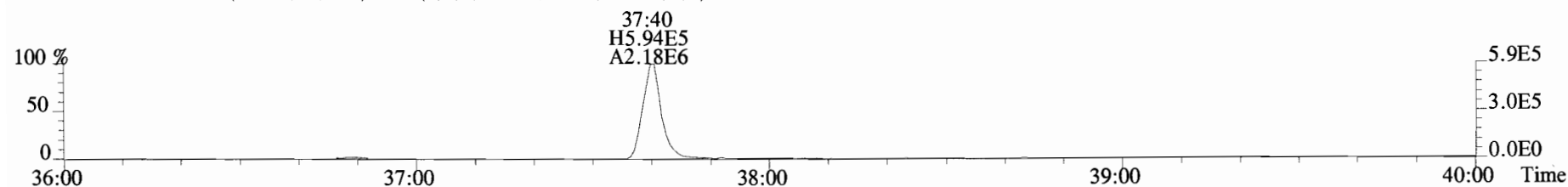
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



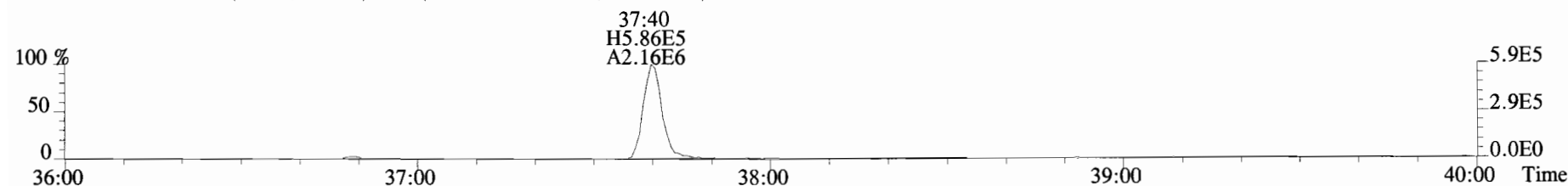
425.7737 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



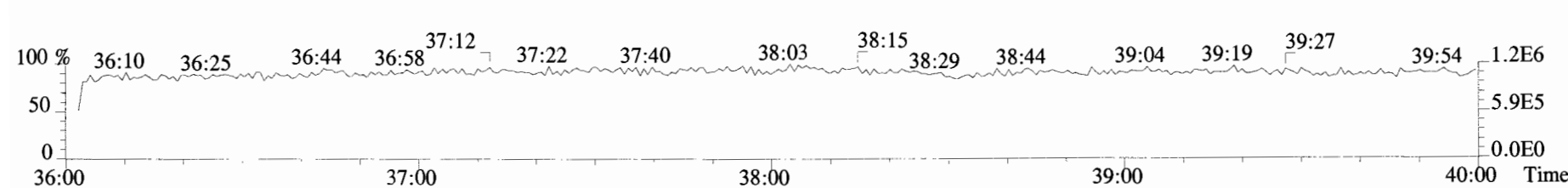
435.8169 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



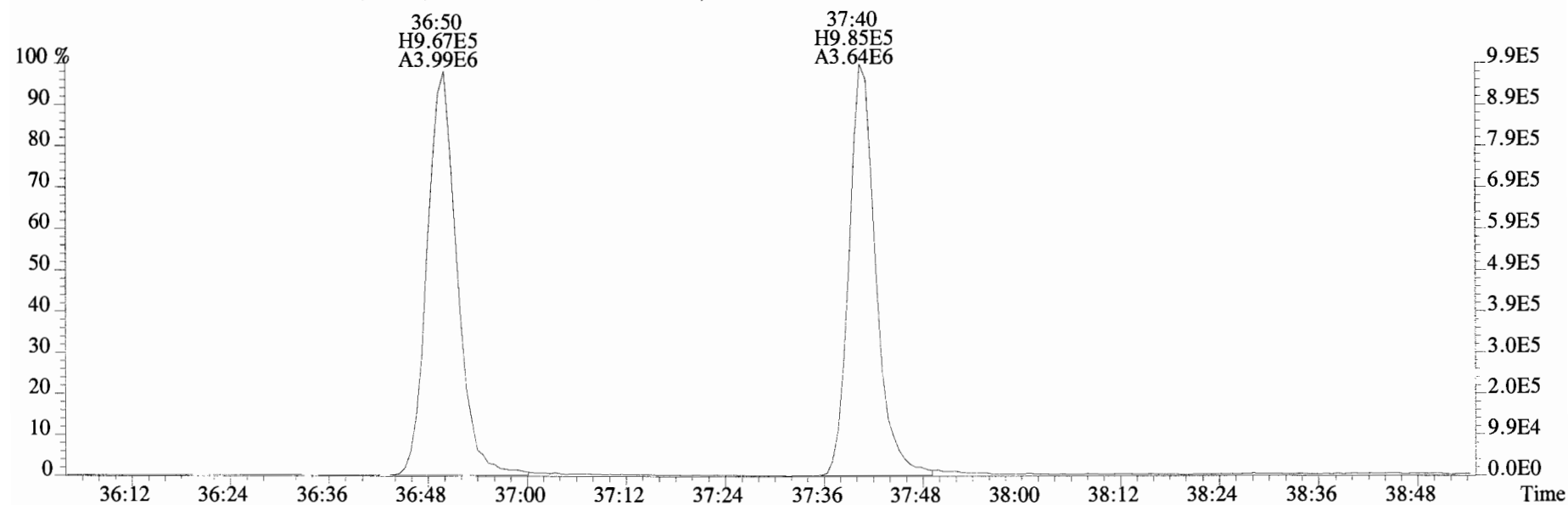
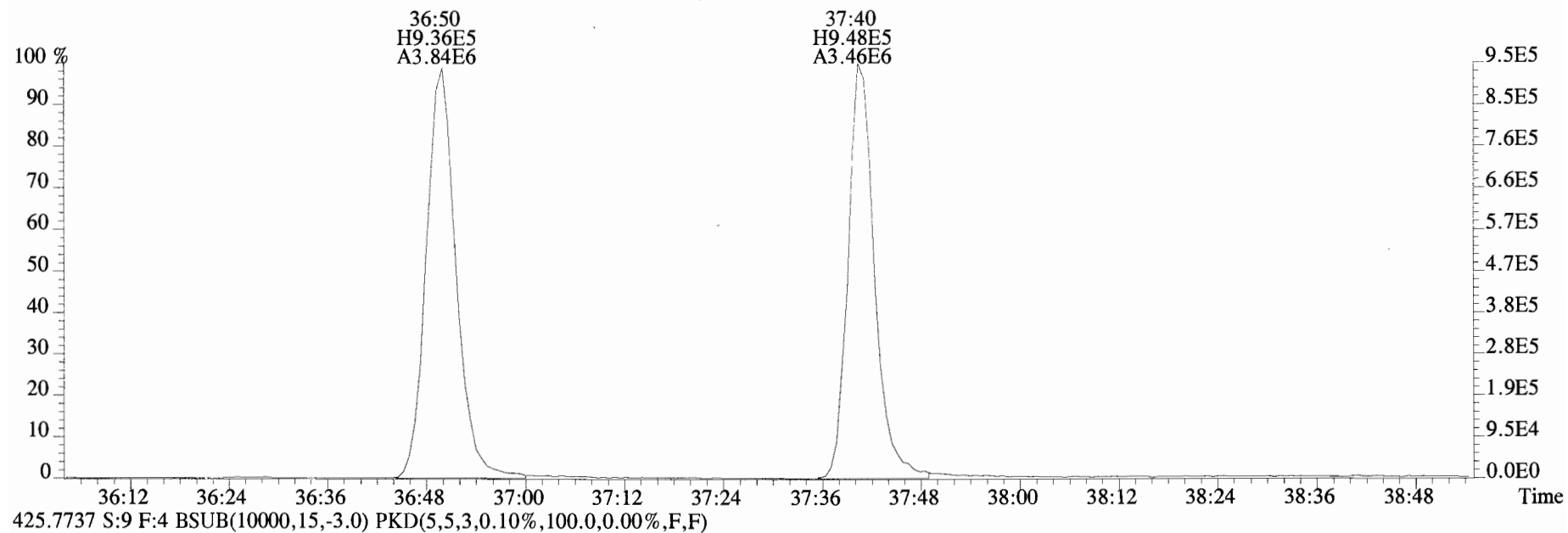
437.8140 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



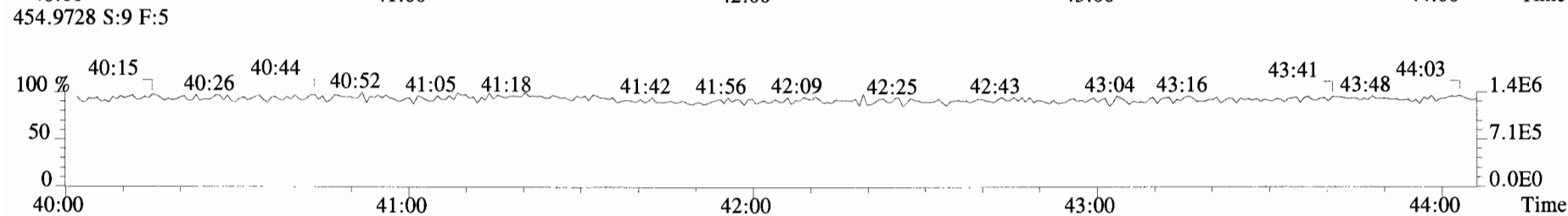
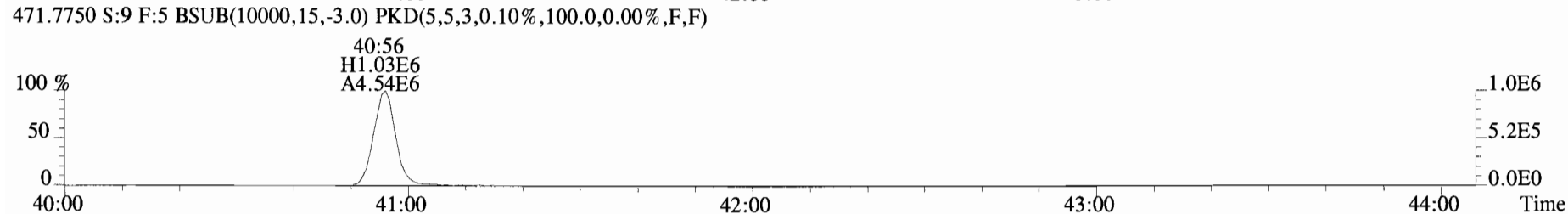
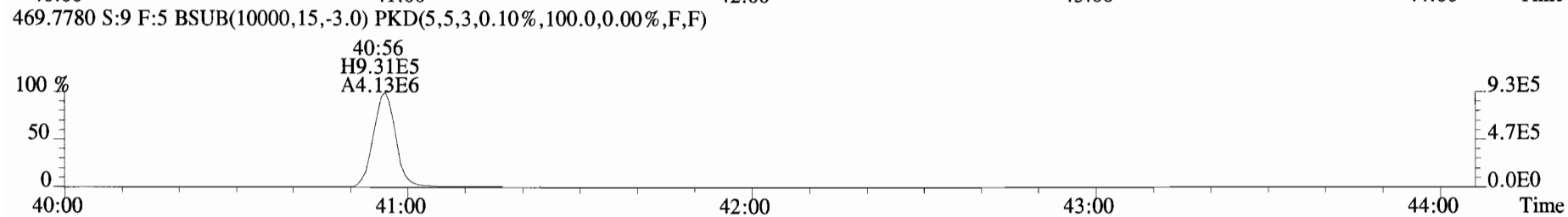
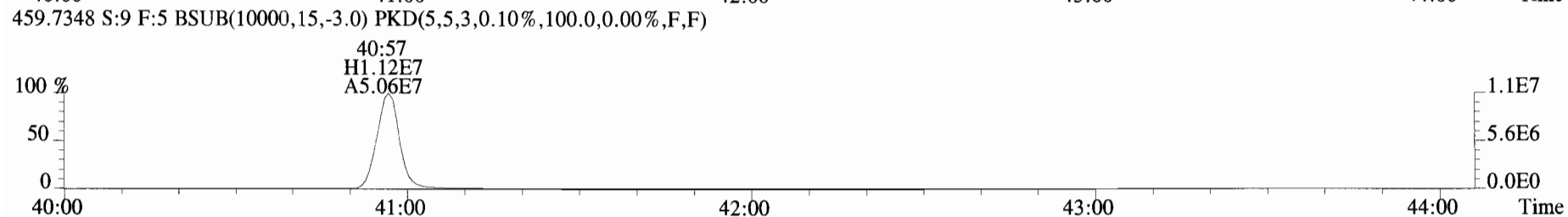
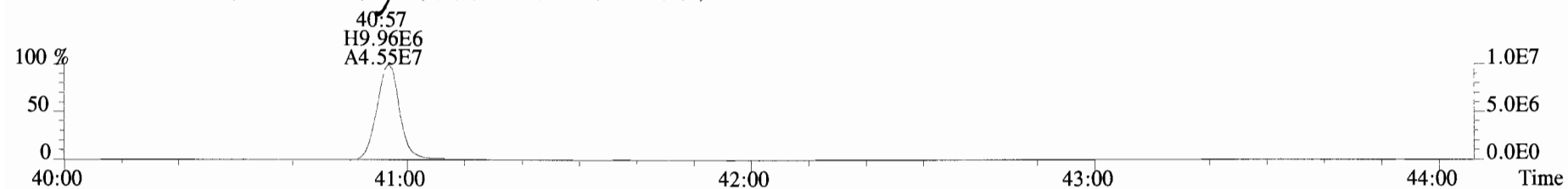
454.9728 S:9 F:4



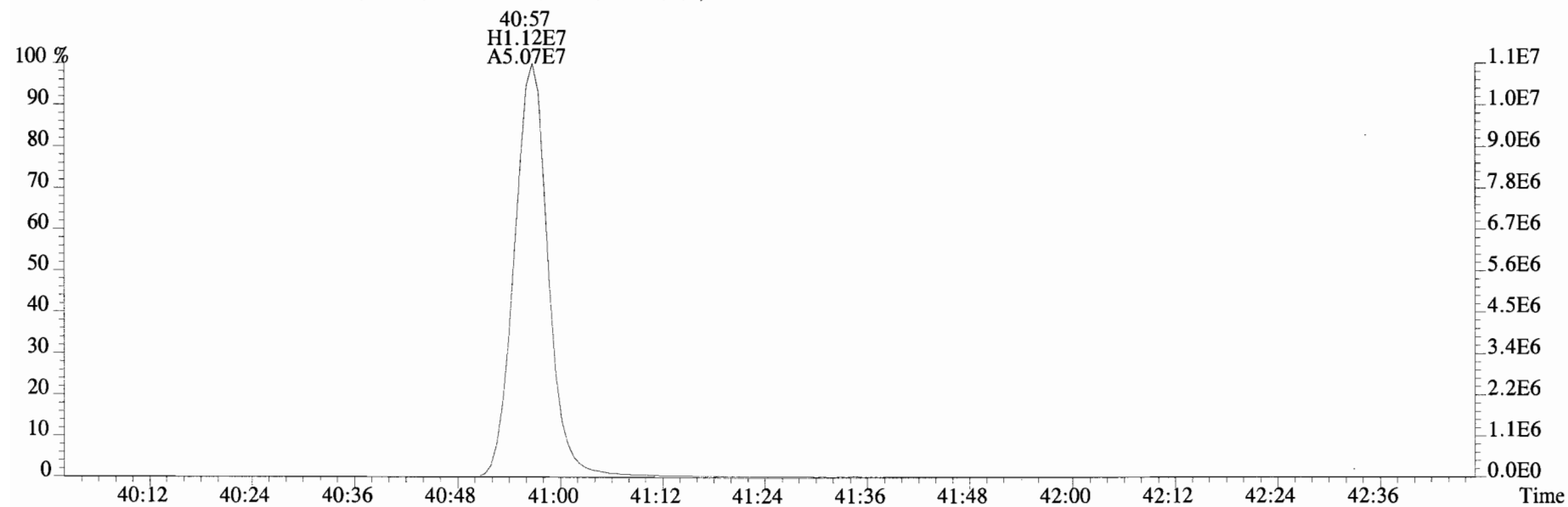
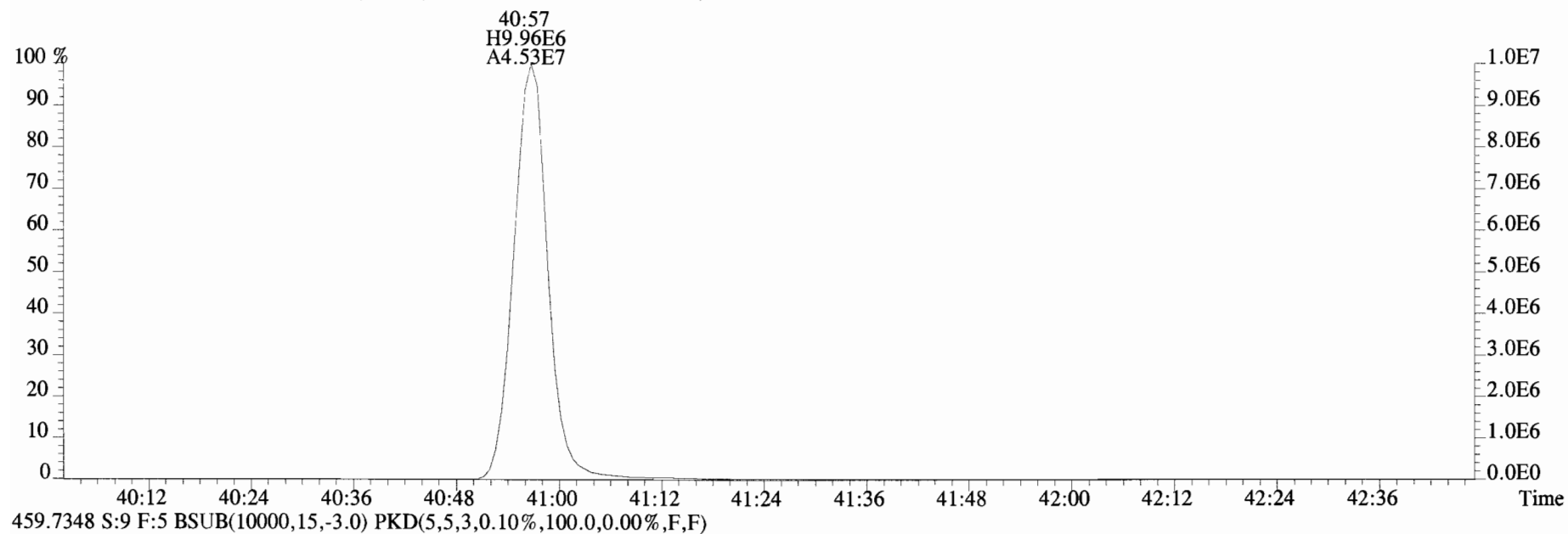
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



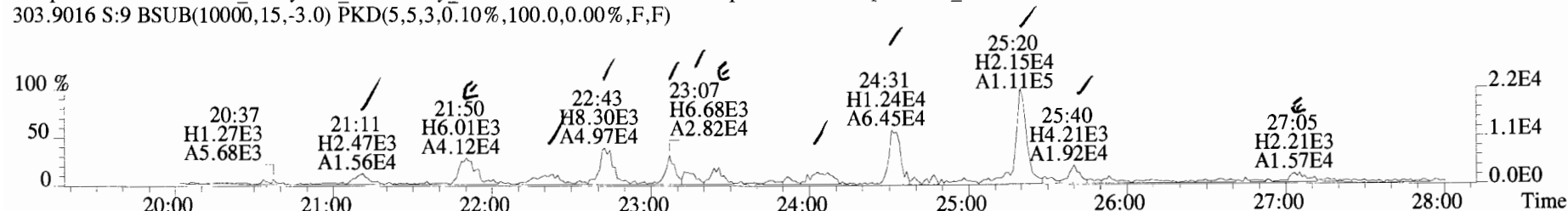
File:190625D1 #1-432 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



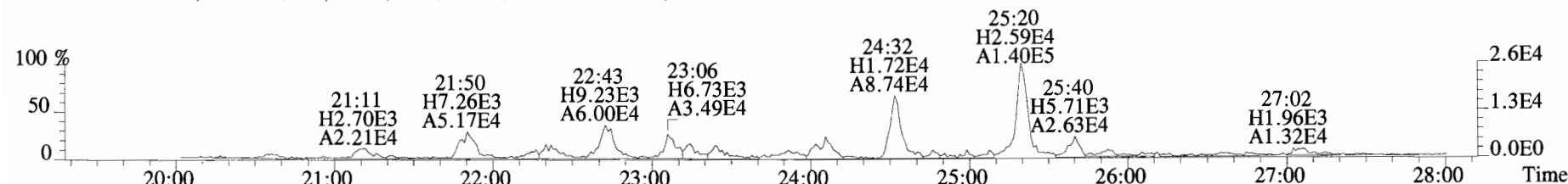
File:190625D1 #1-432 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



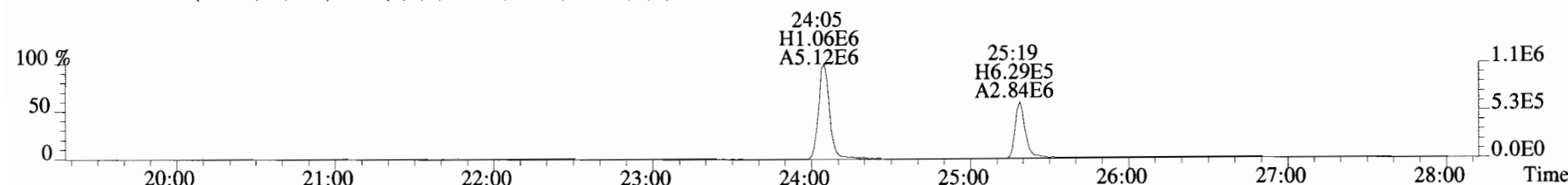
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



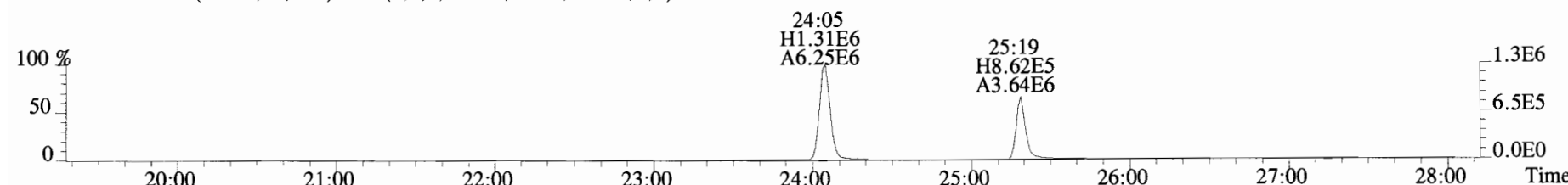
305.8987 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



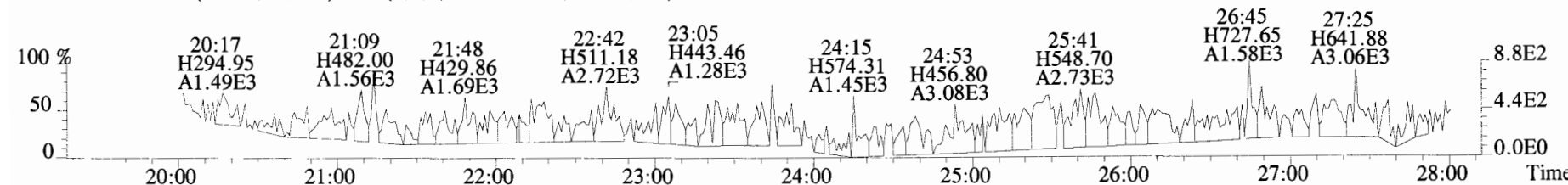
315.9419 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



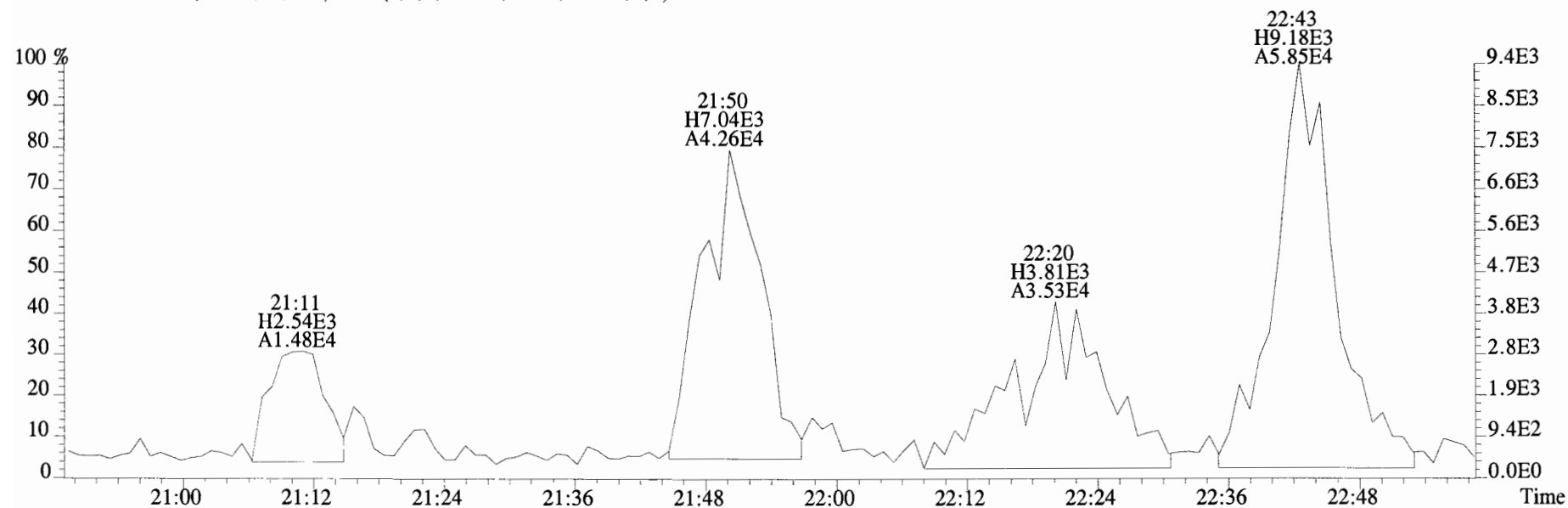
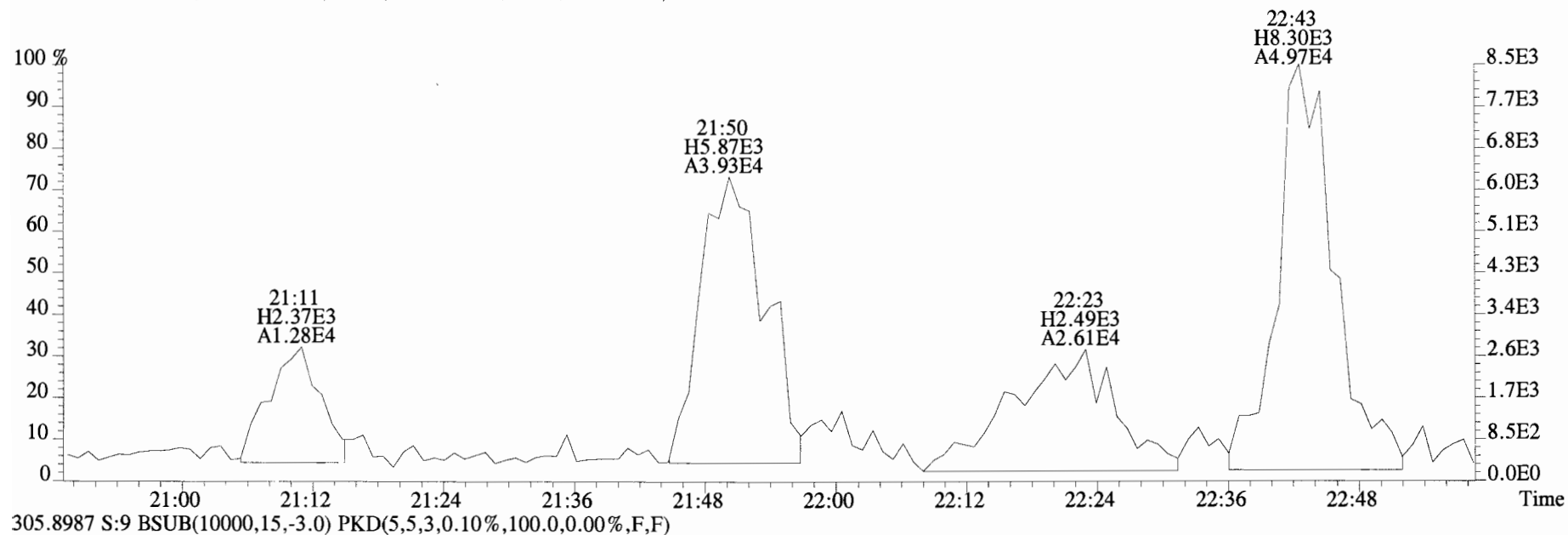
317.9389 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



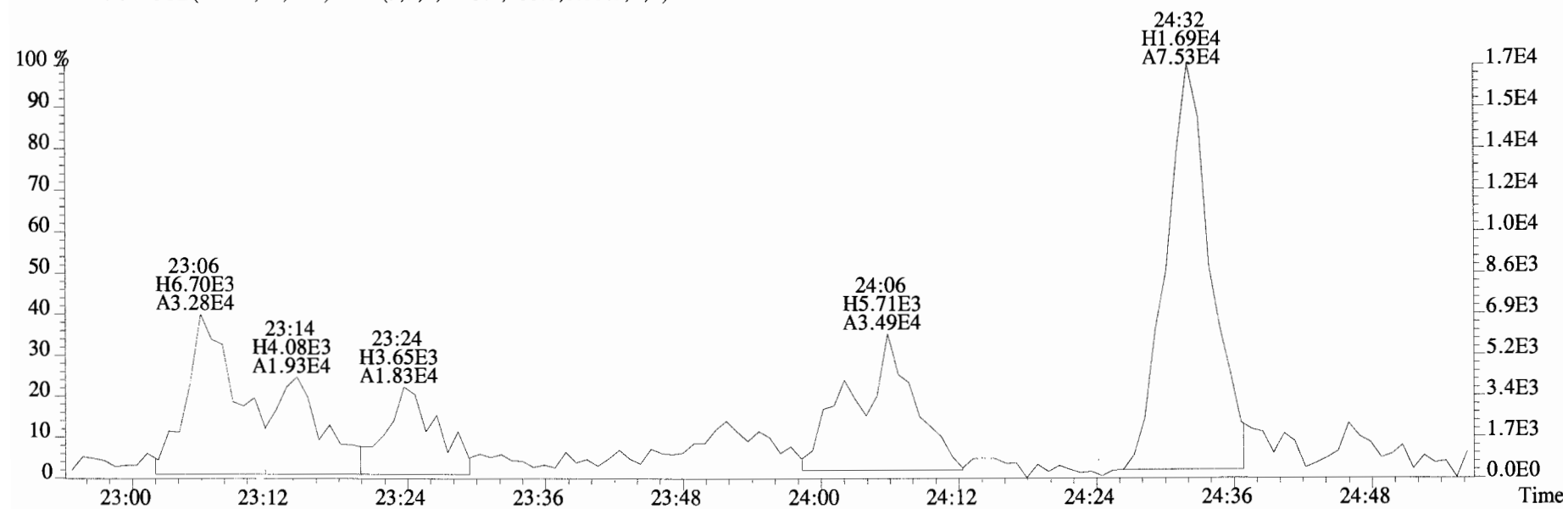
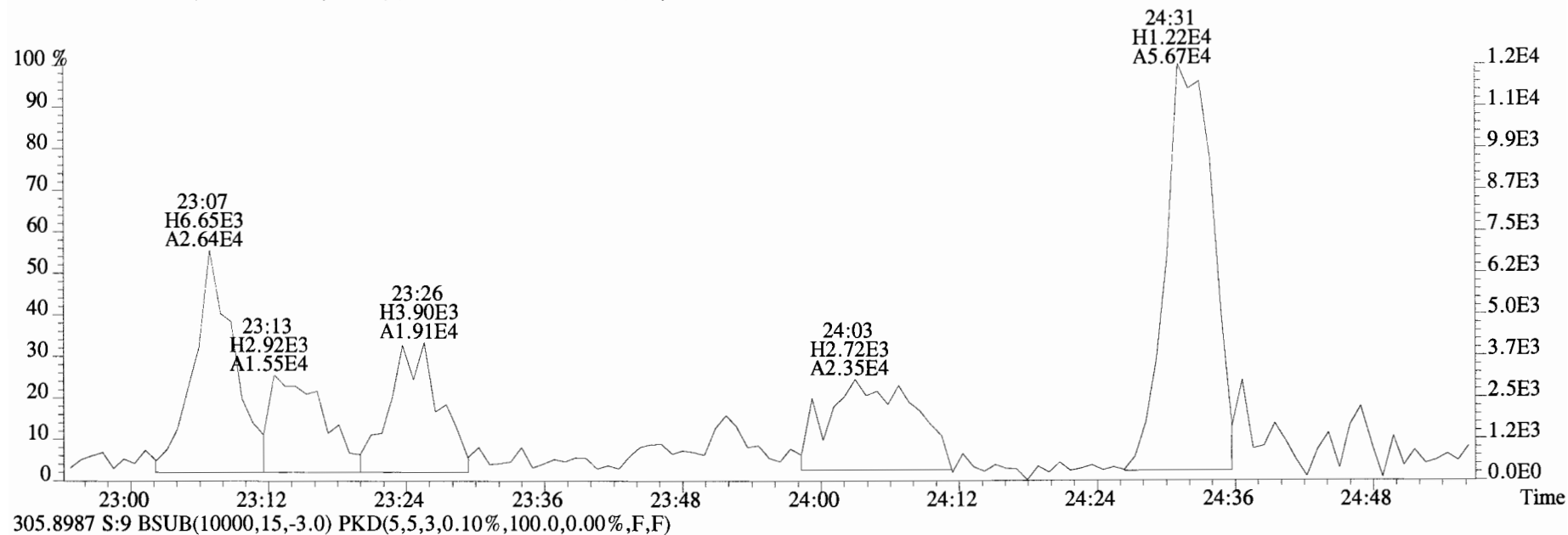
375.8364 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



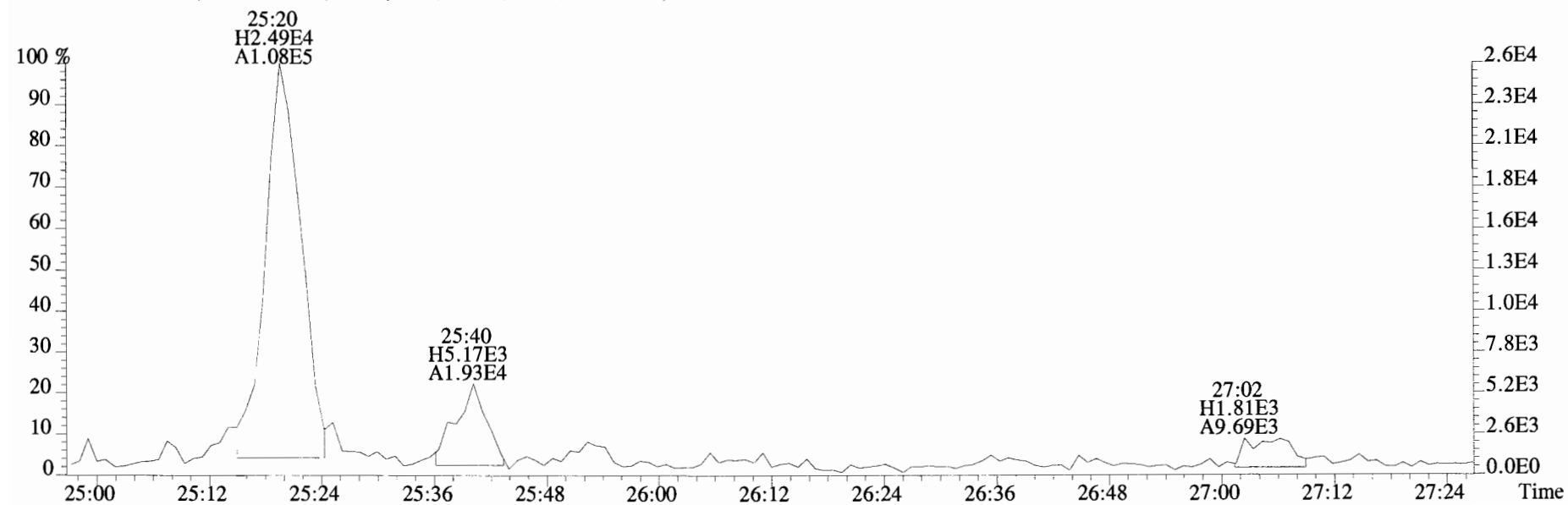
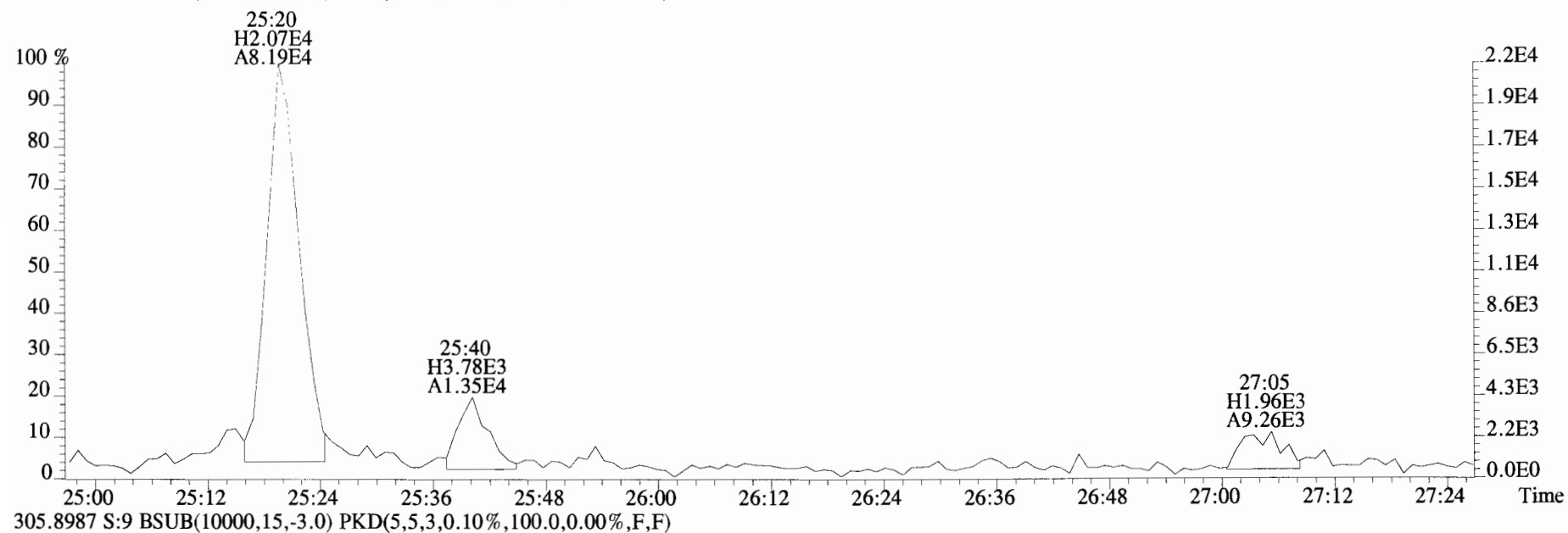
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



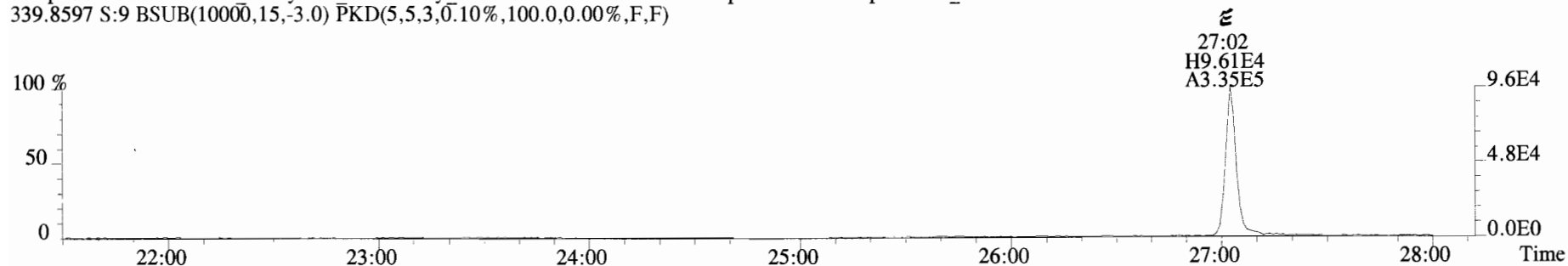
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



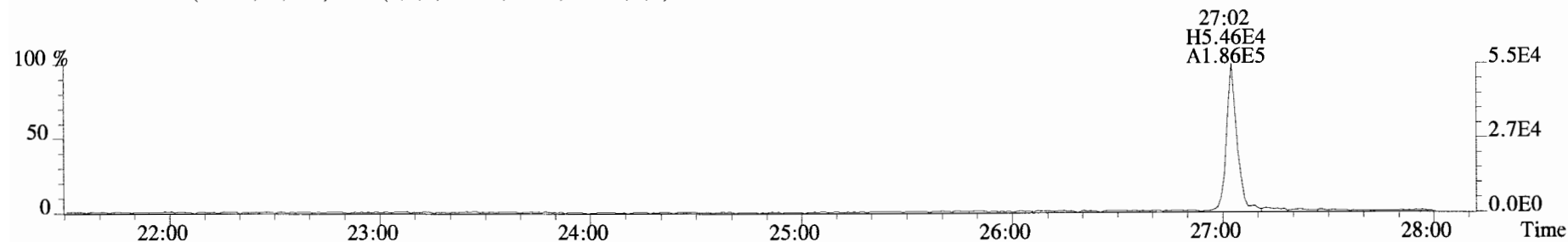
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 303.9016 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



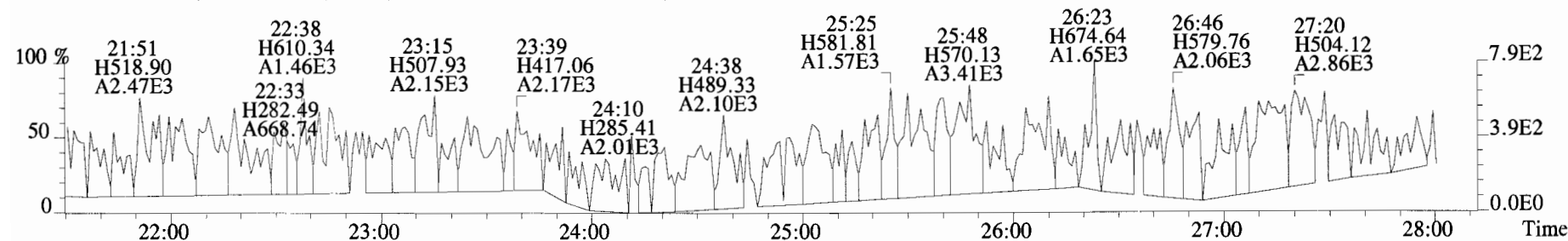
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 339.8597 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



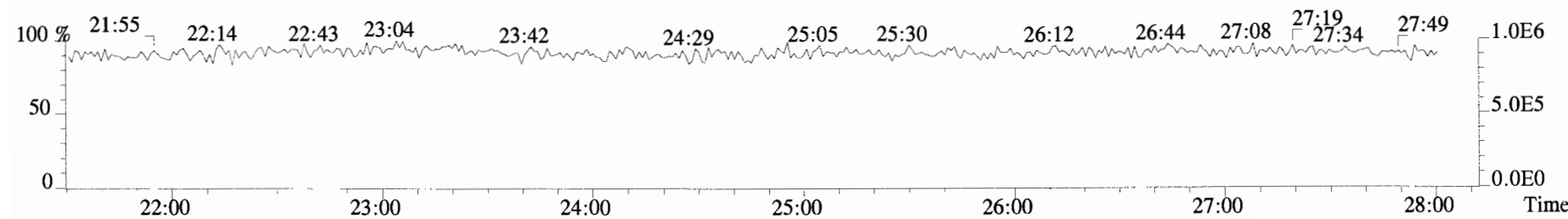
341.8568 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



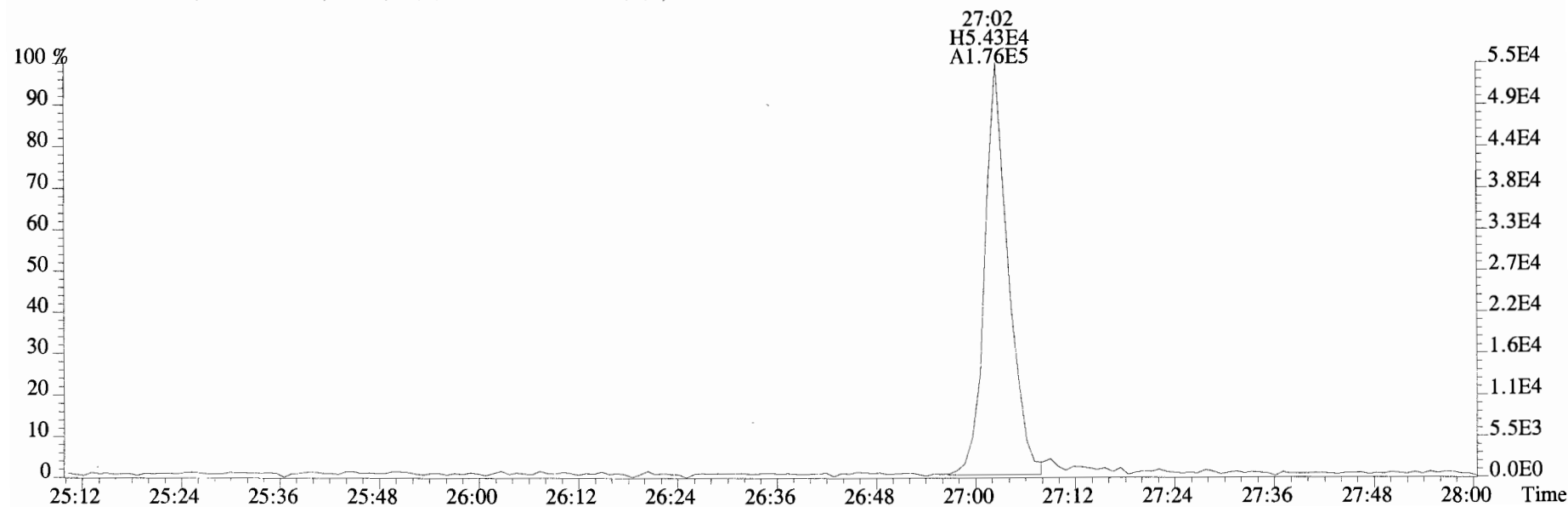
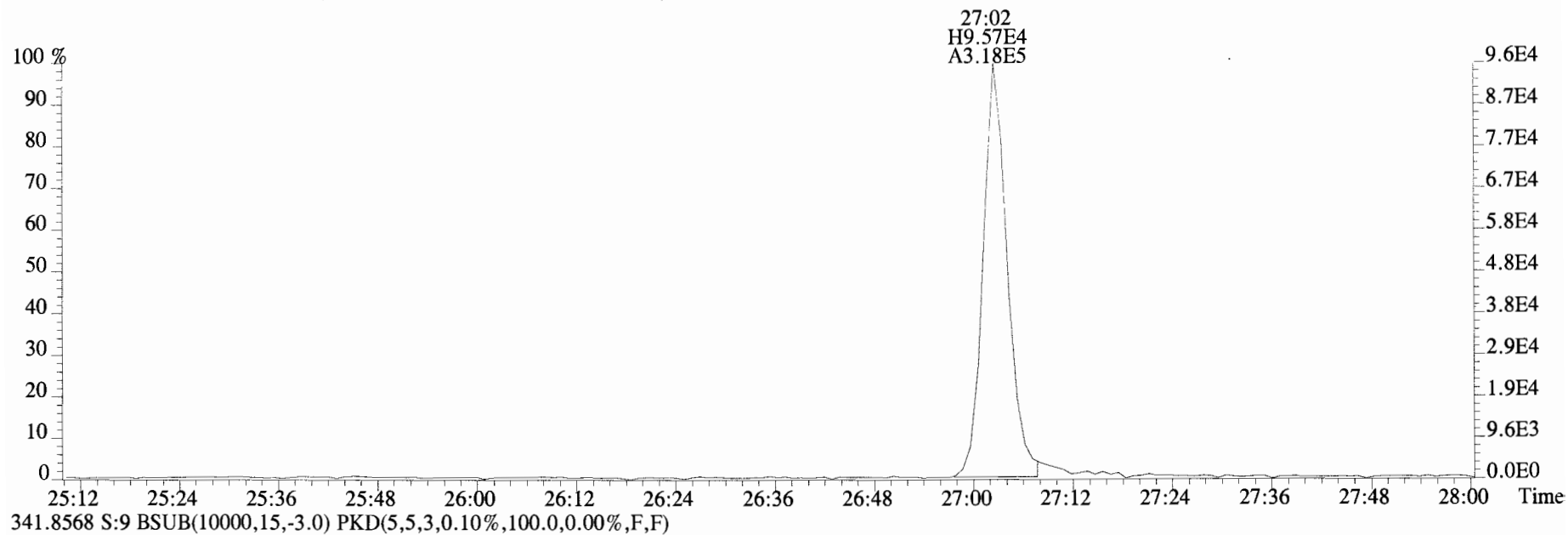
409.7974 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



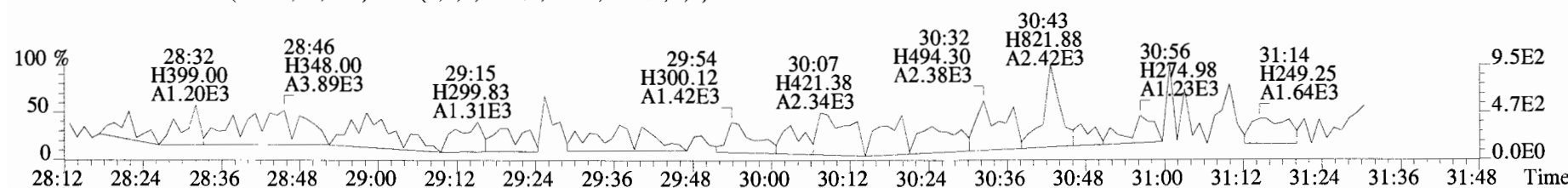
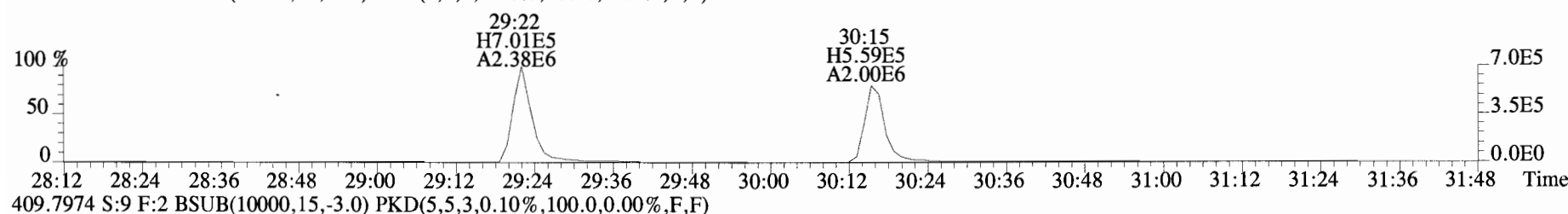
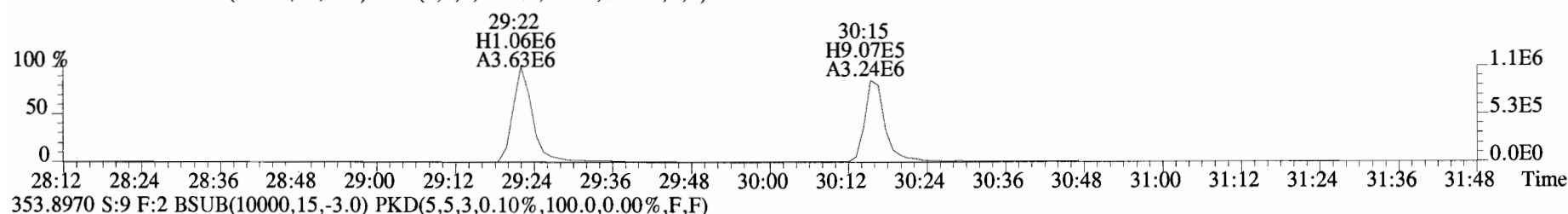
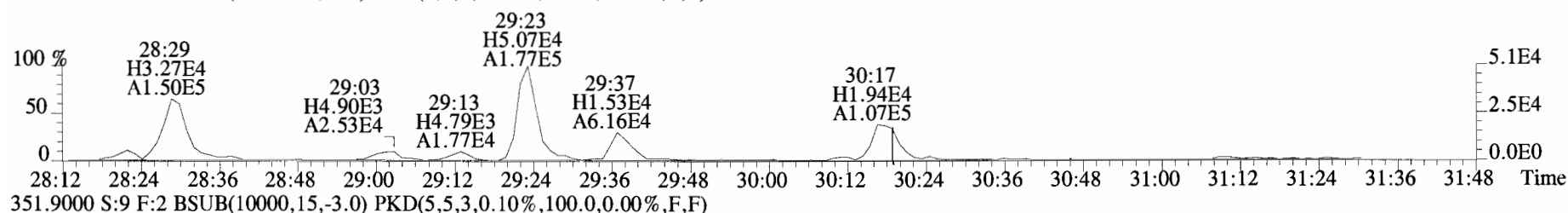
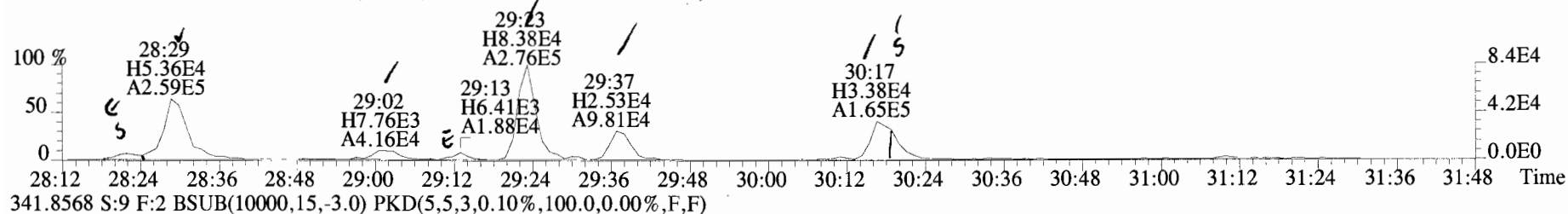
316.9824 S:9



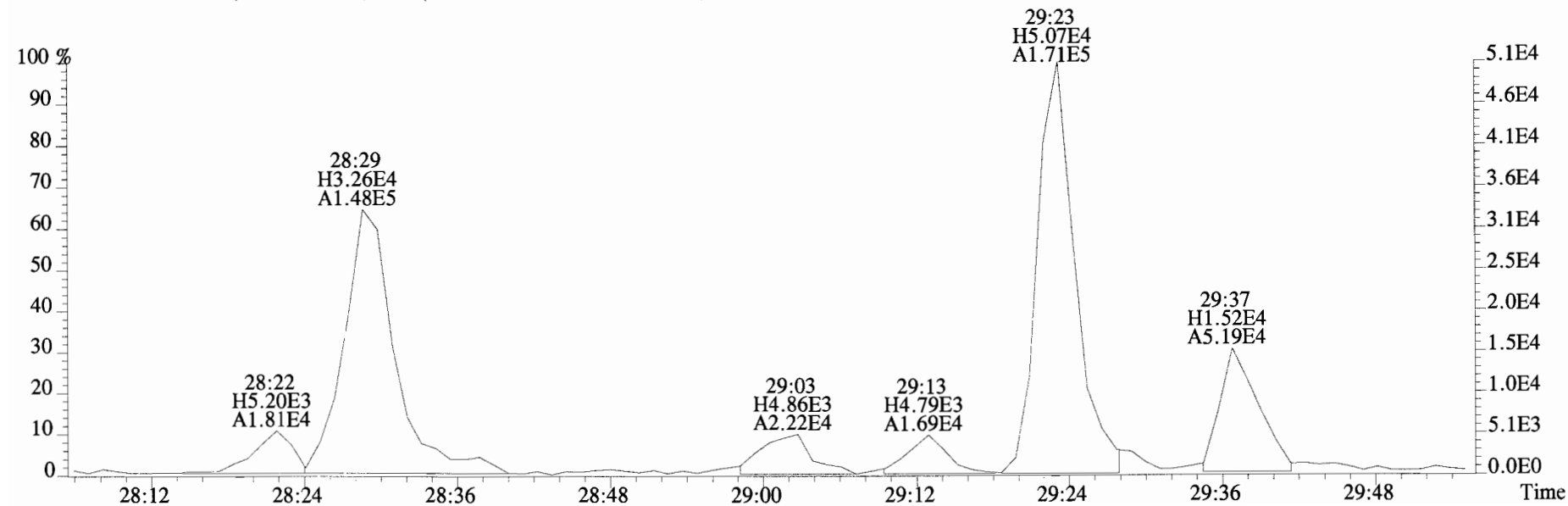
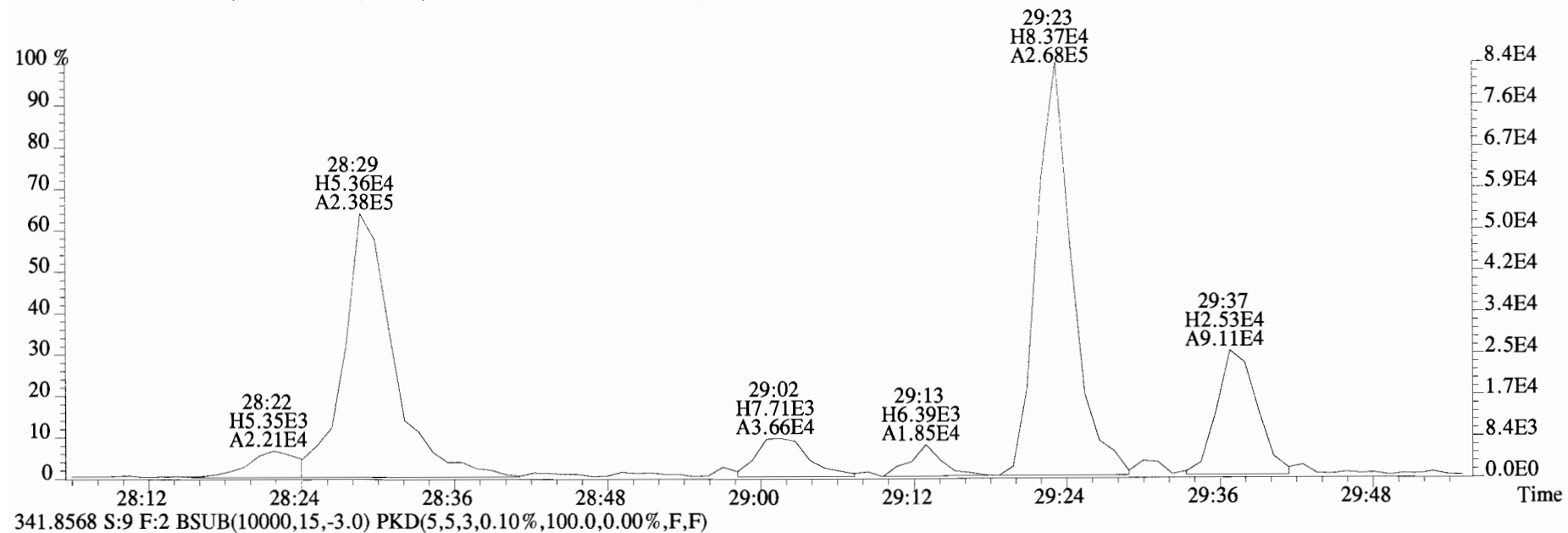
File:190625D1 #1-513 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
339.8597 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



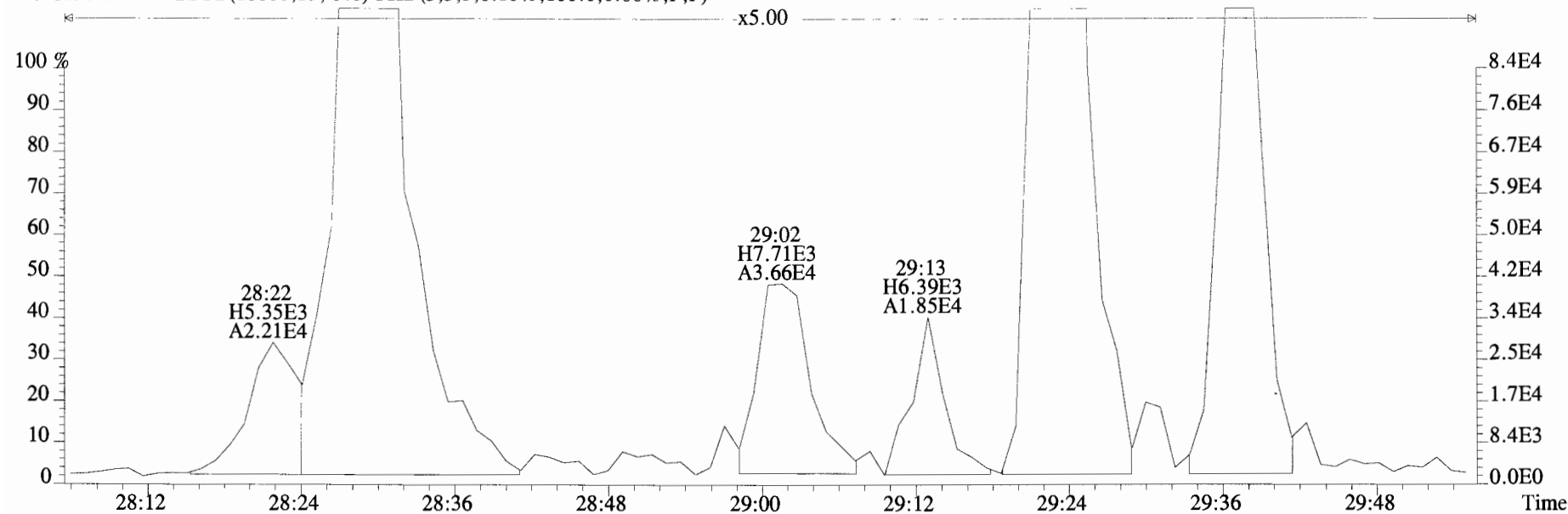
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



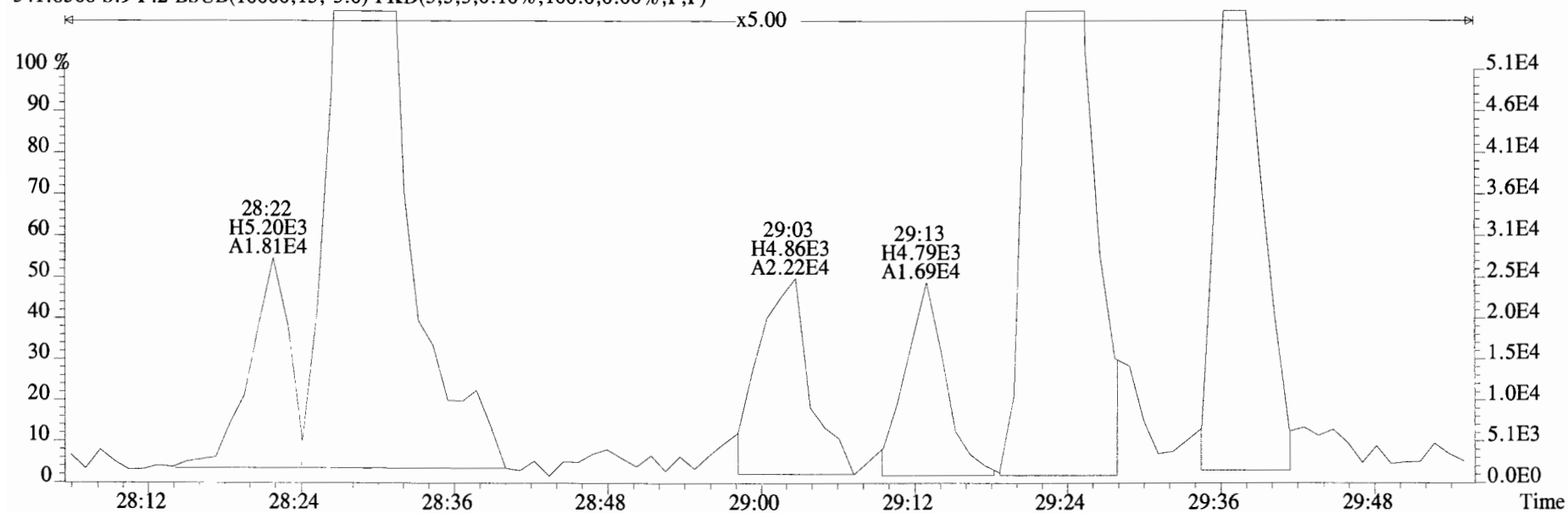
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



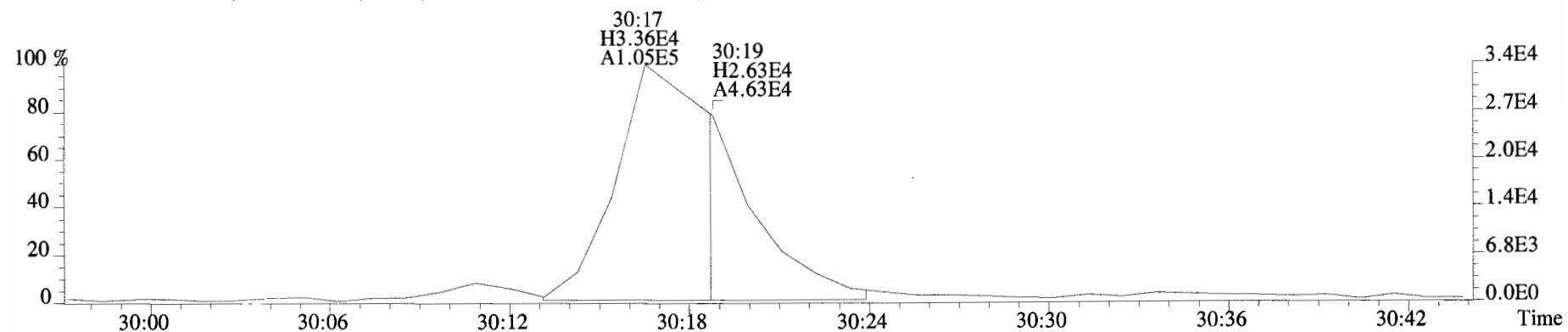
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



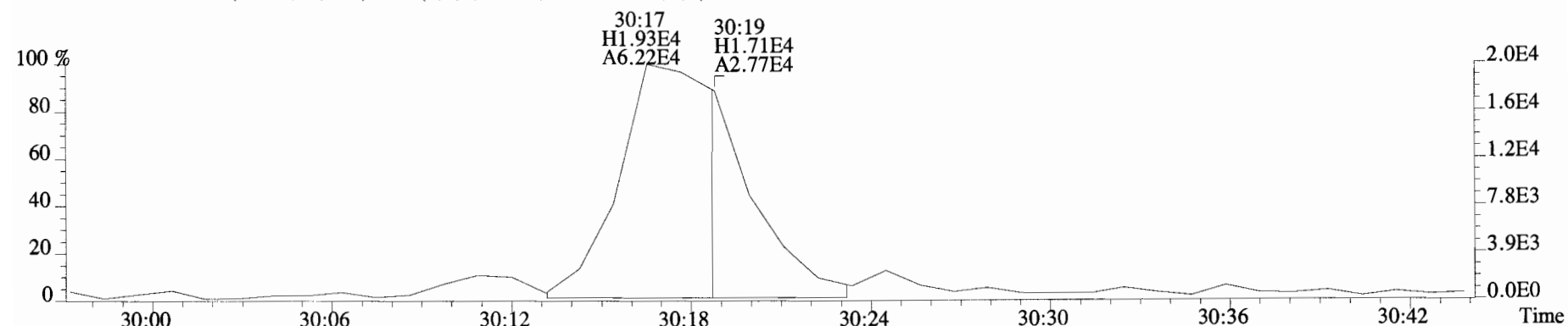
341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



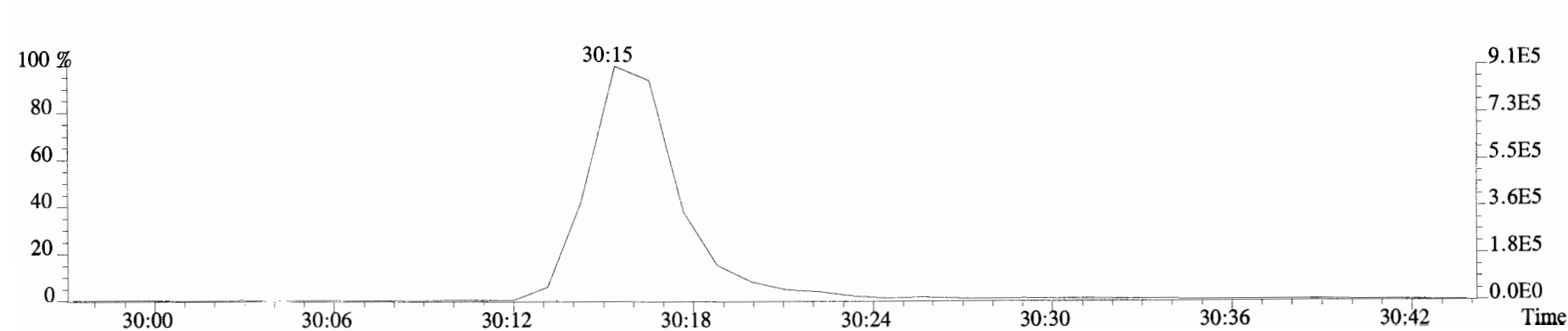
File:190625D1 #1-184 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 339.8597 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



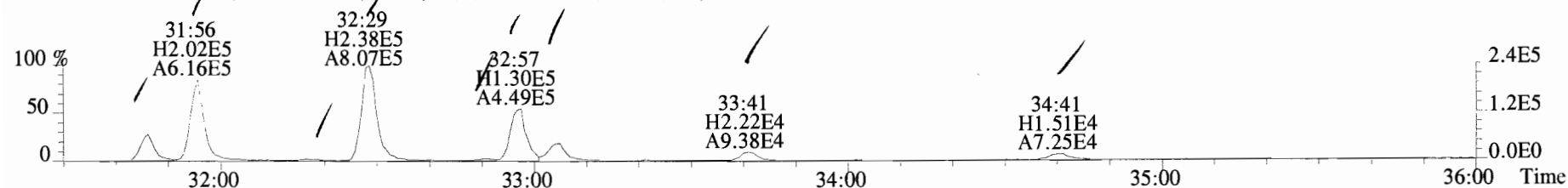
341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



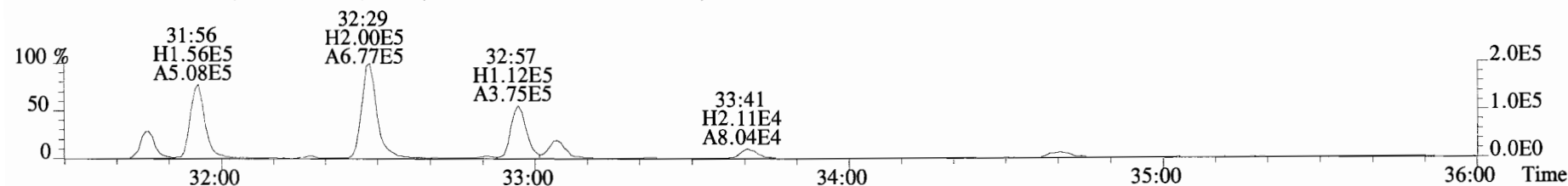
351.9000 S:9 F:2



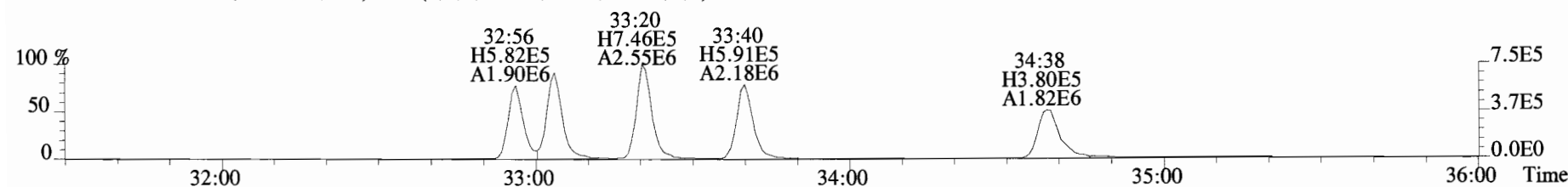
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



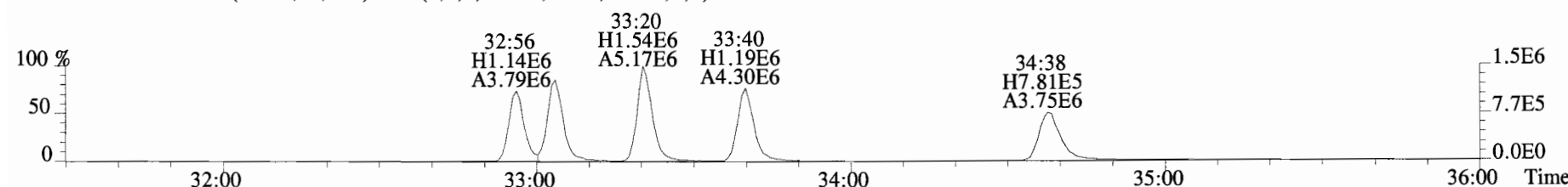
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



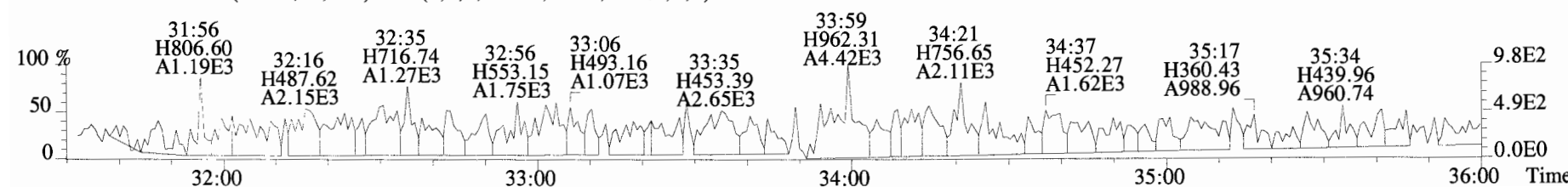
383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



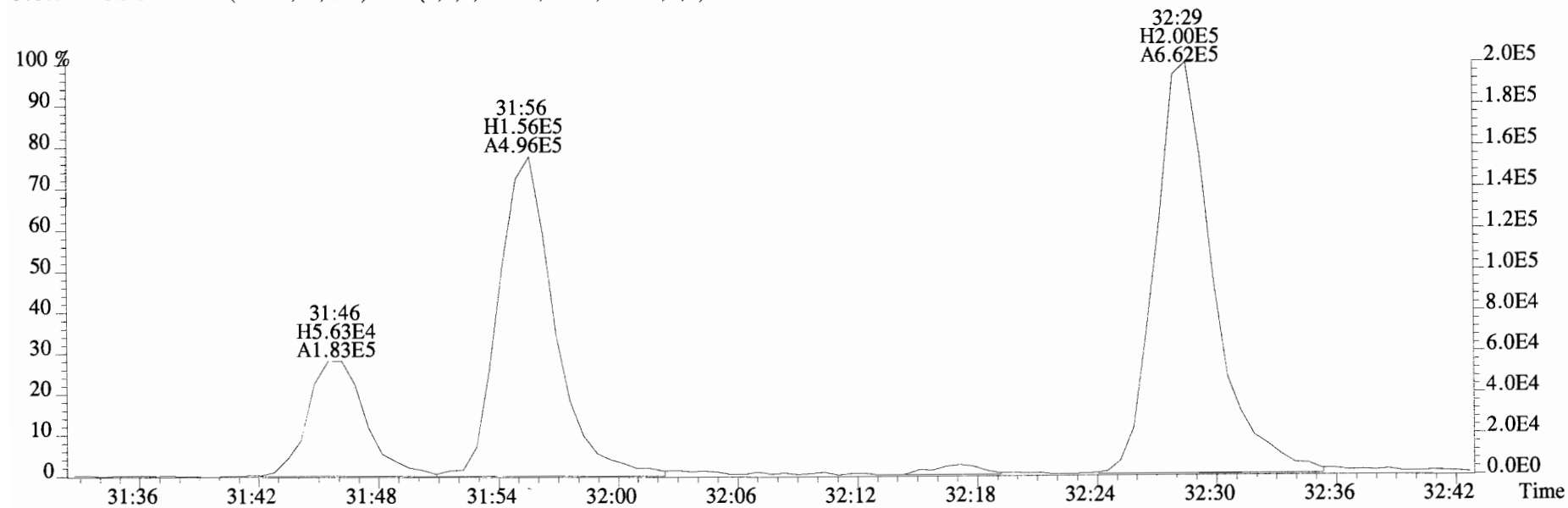
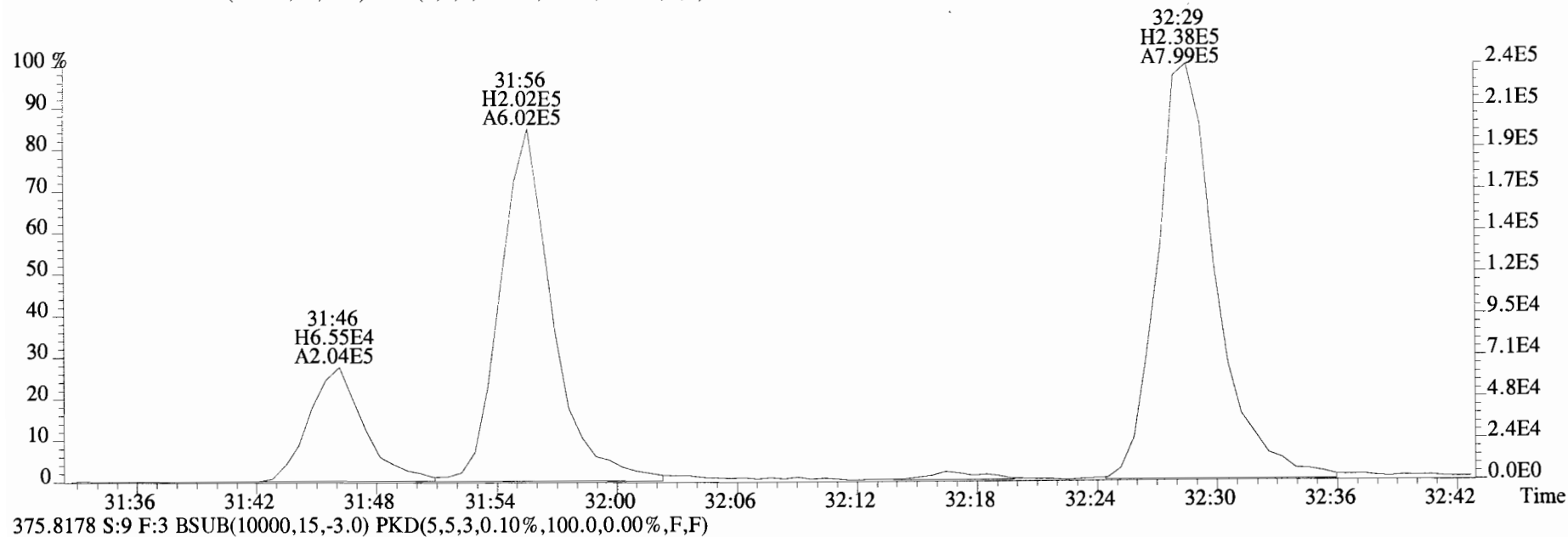
385.8610 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



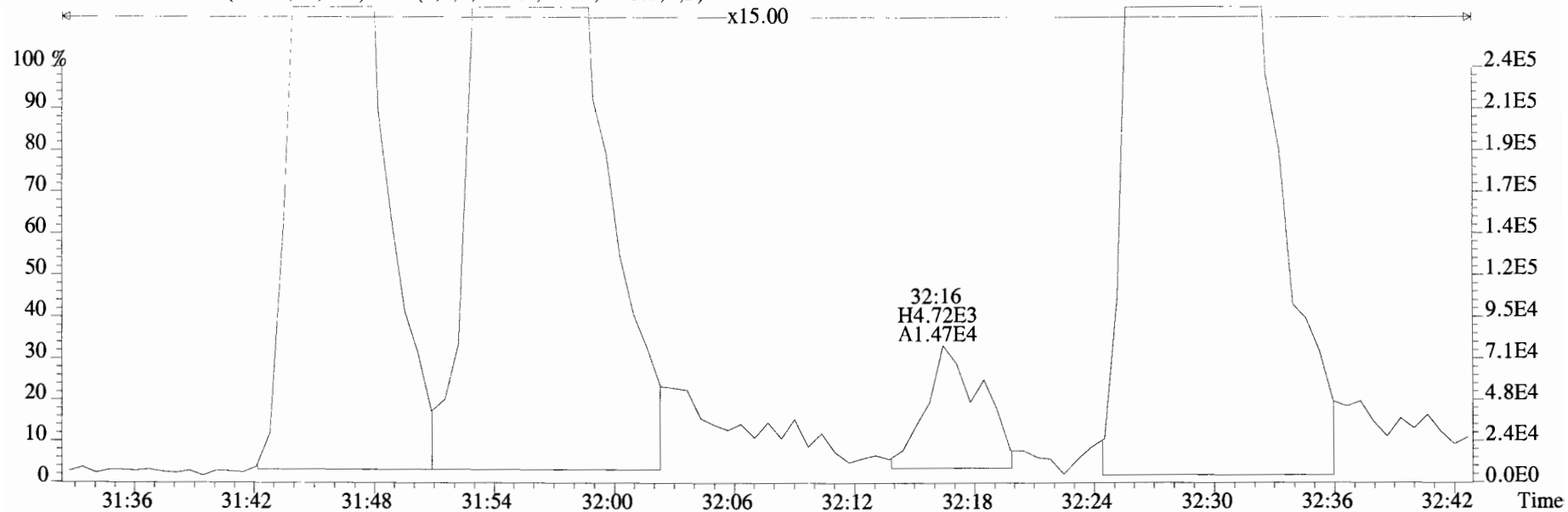
445.7555 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



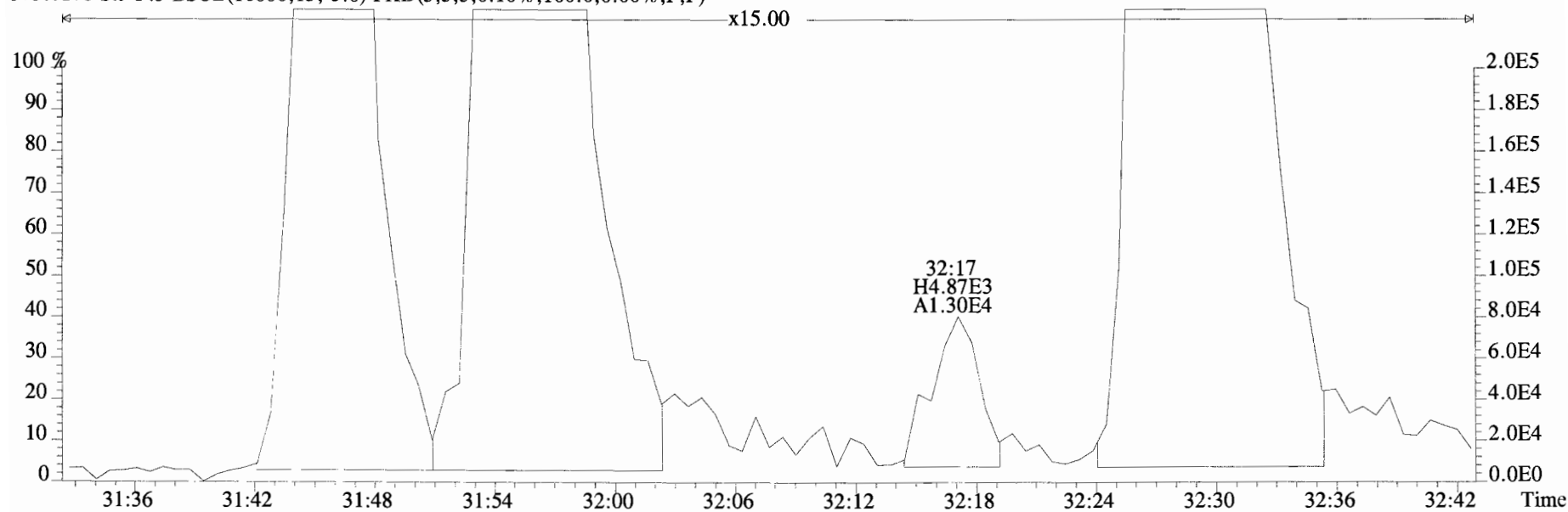
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



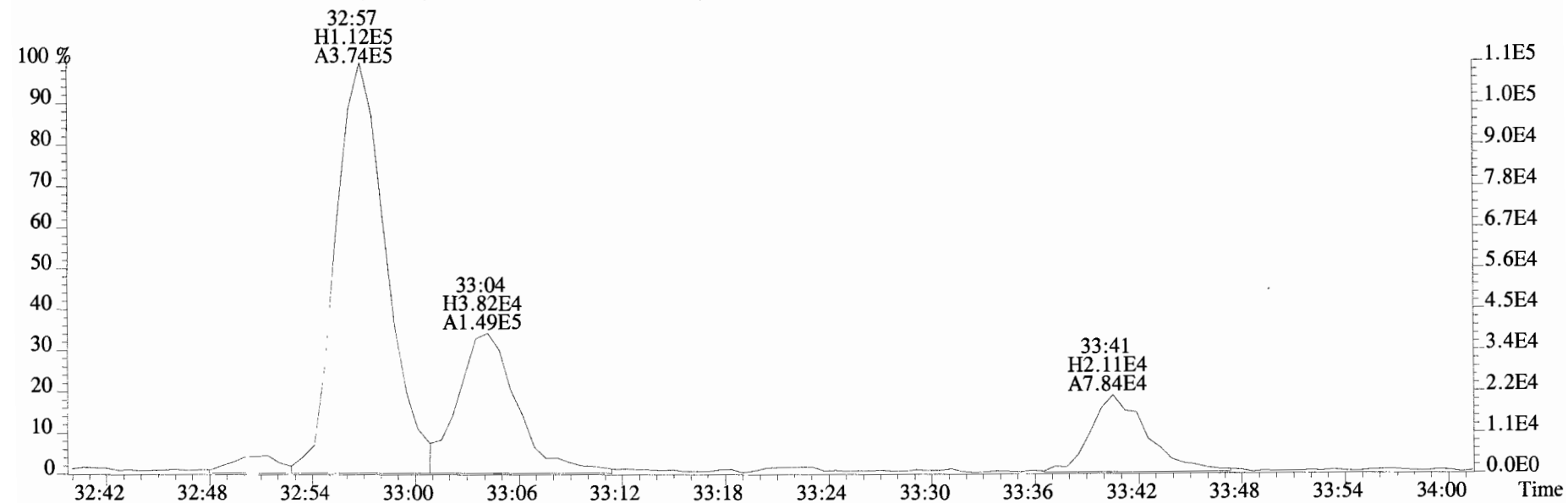
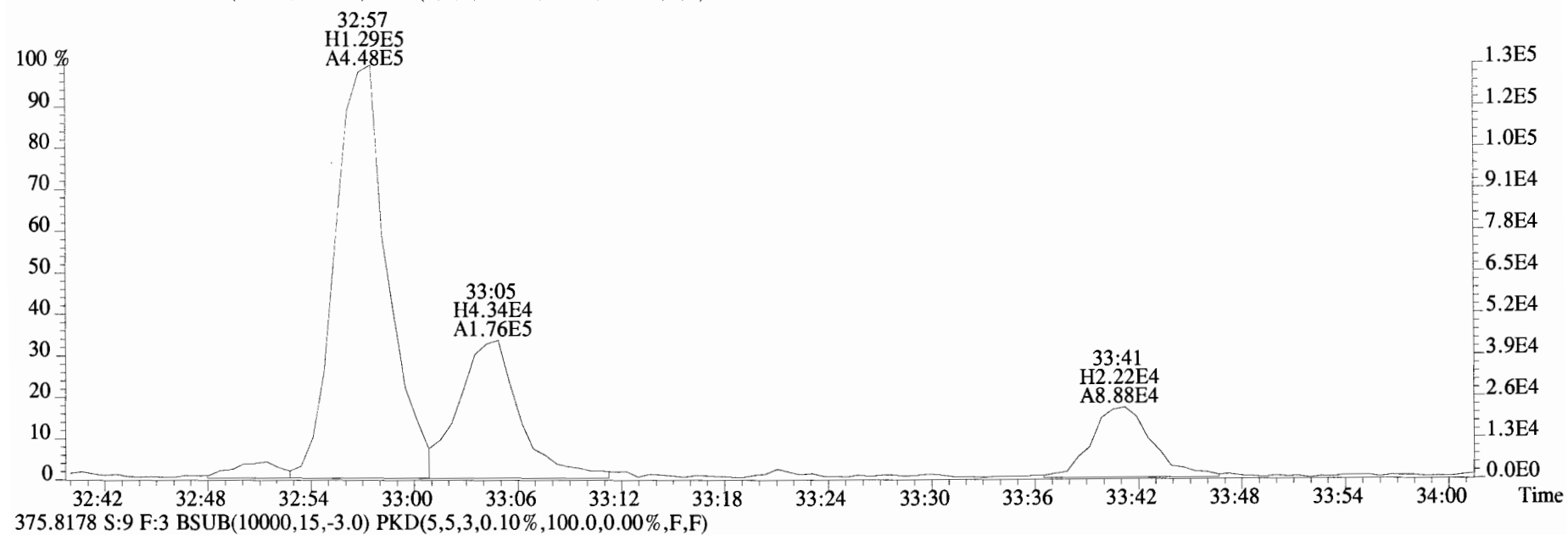
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



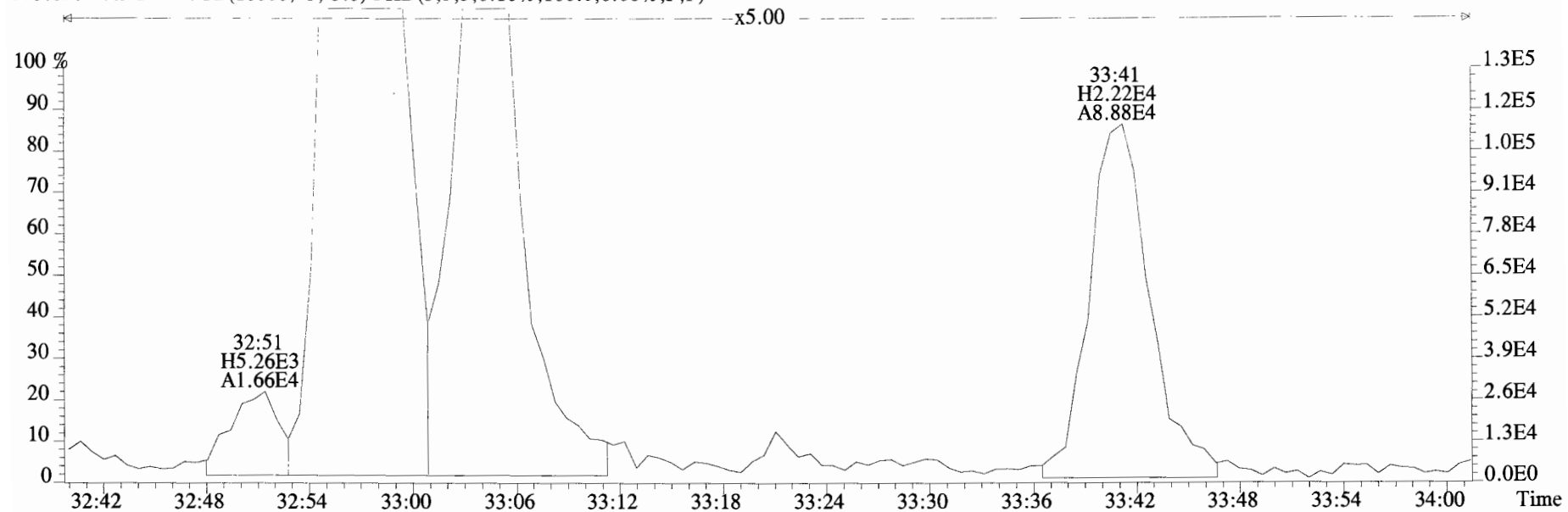
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



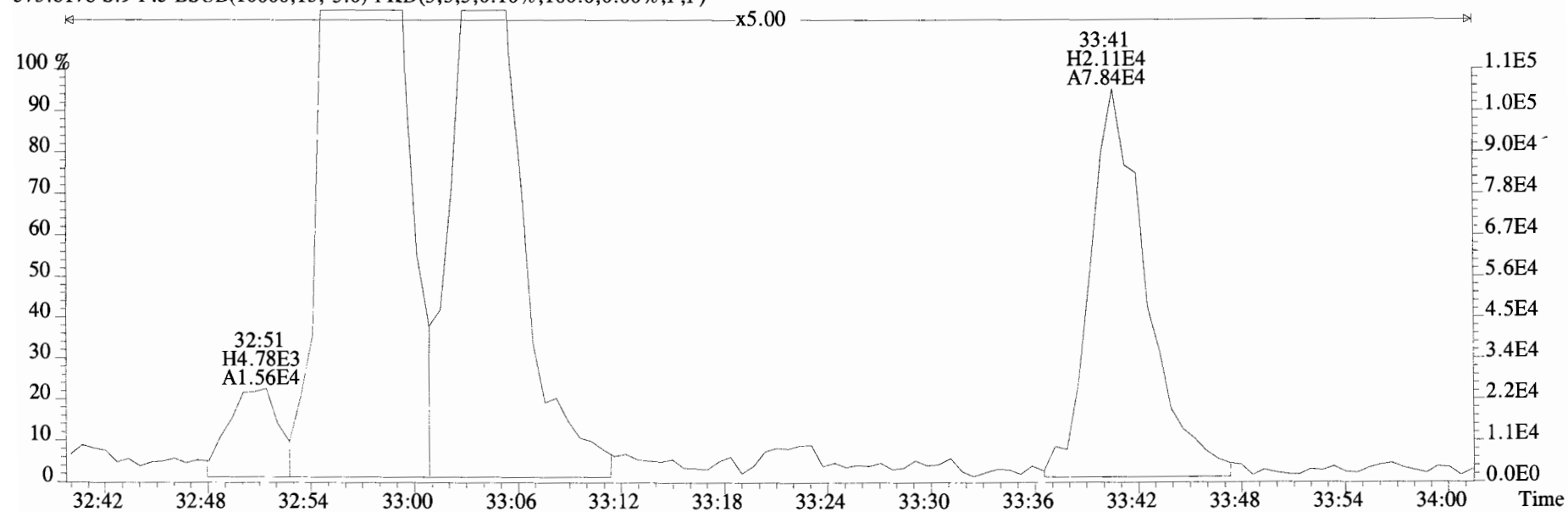
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



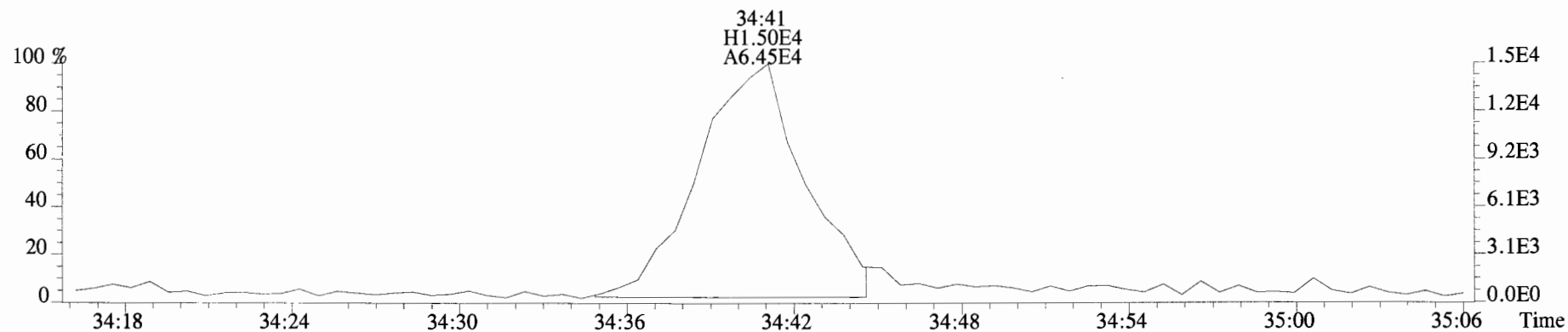
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



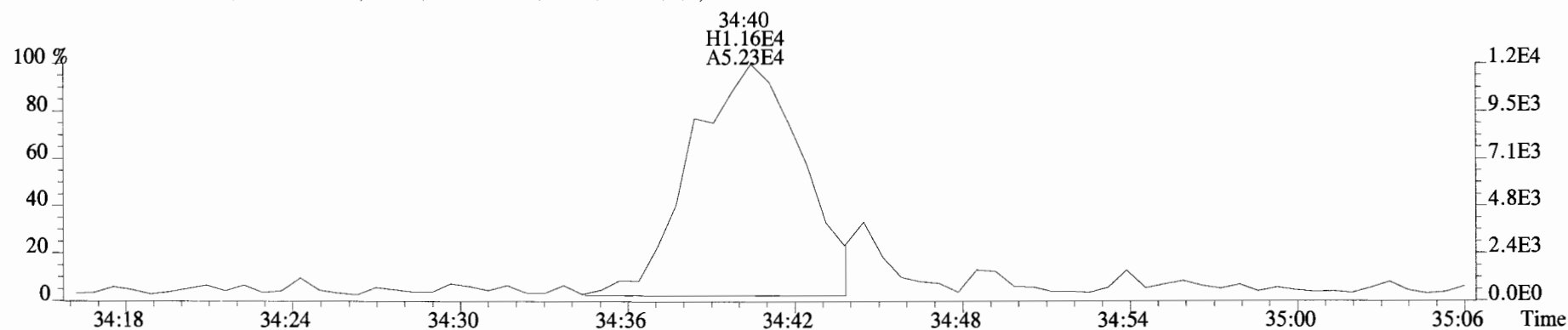
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



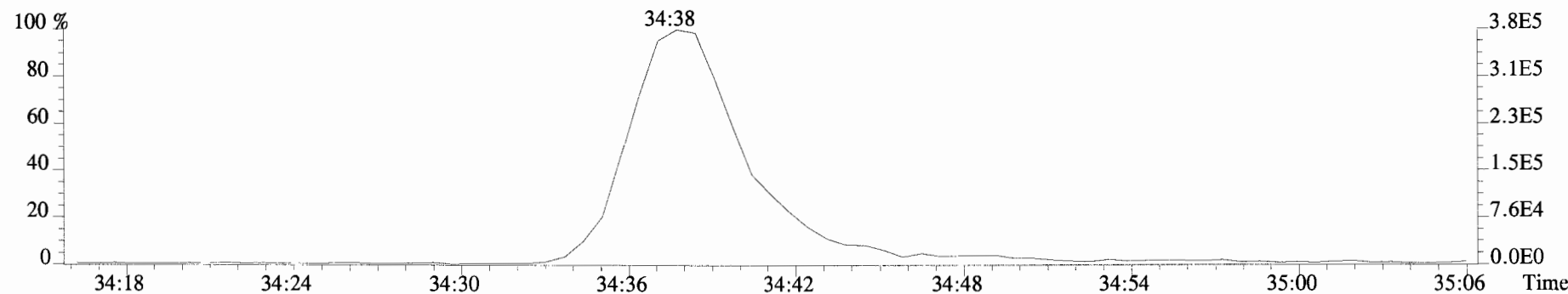
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



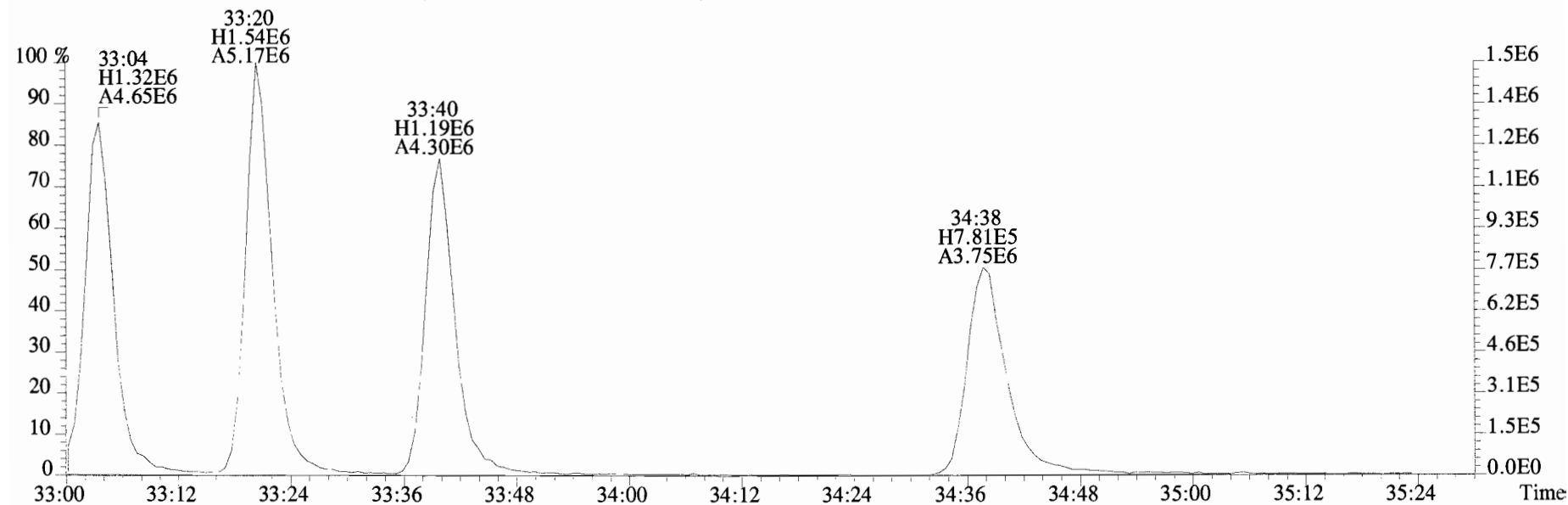
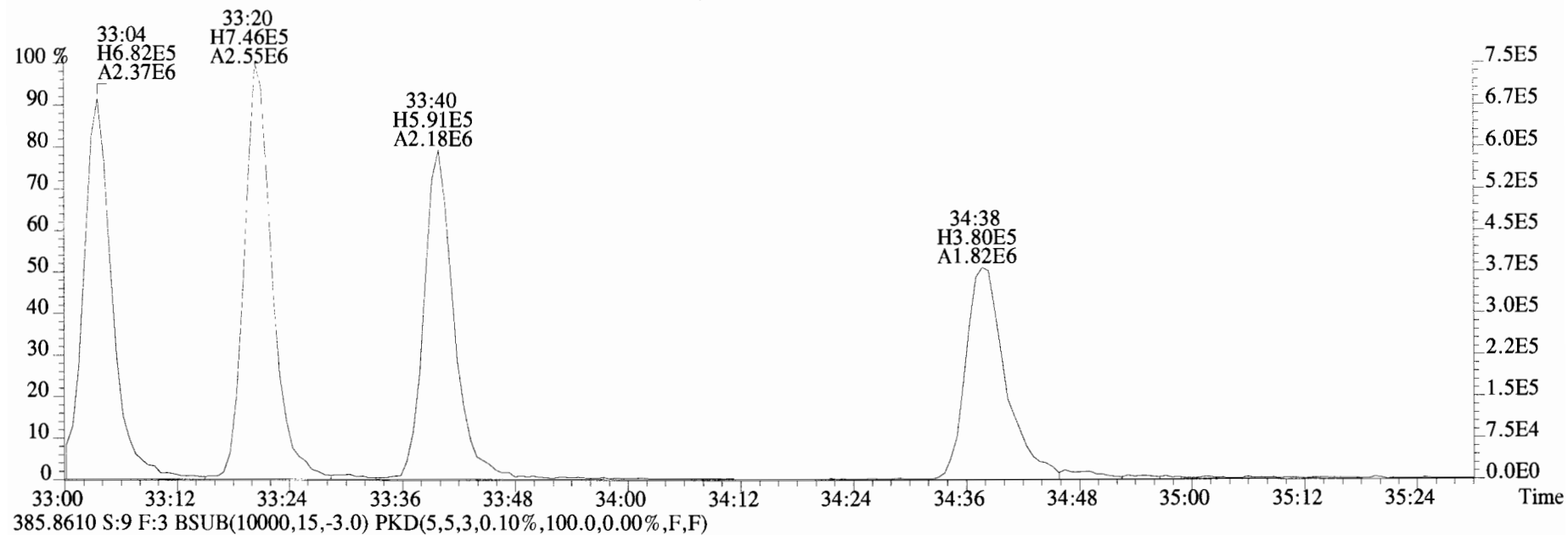
375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



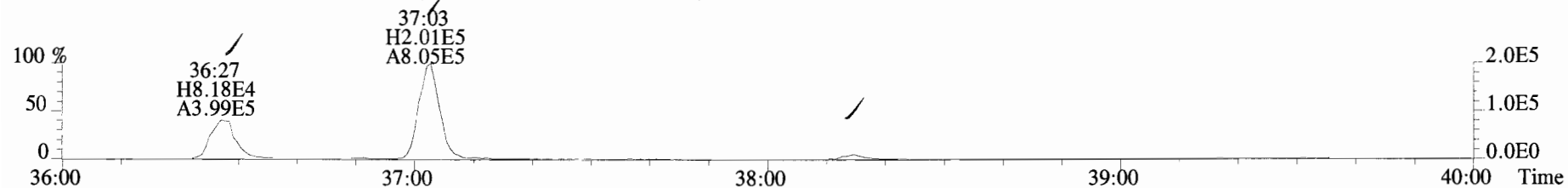
383.8639 S:9 F:3



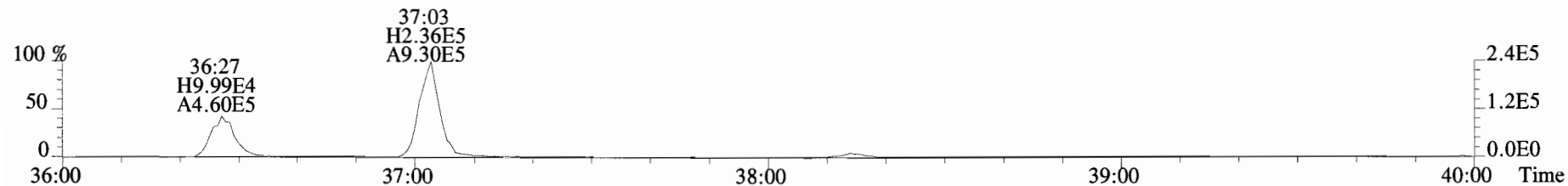
File:190625D1 #1-400 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 383.8639 S:9 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



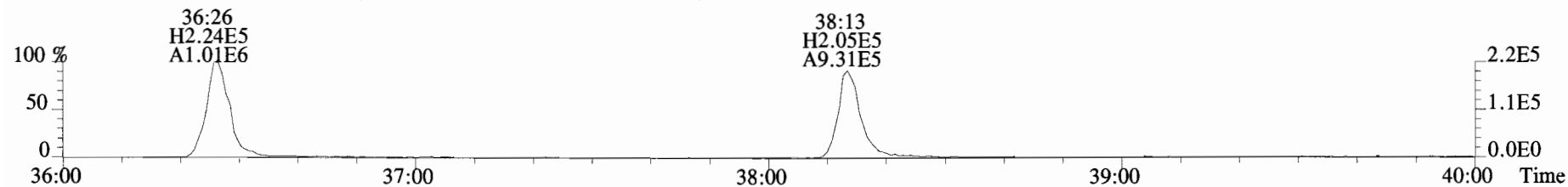
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista Analytical Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



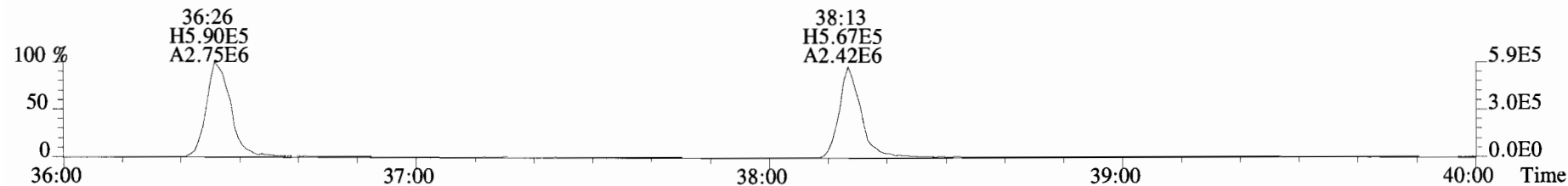
409.7788 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



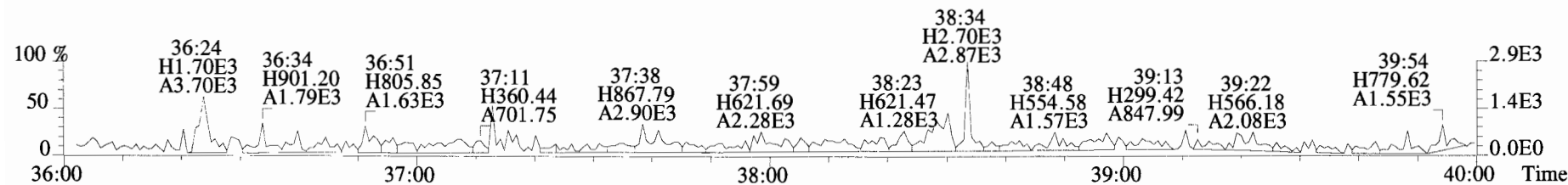
417.8253 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



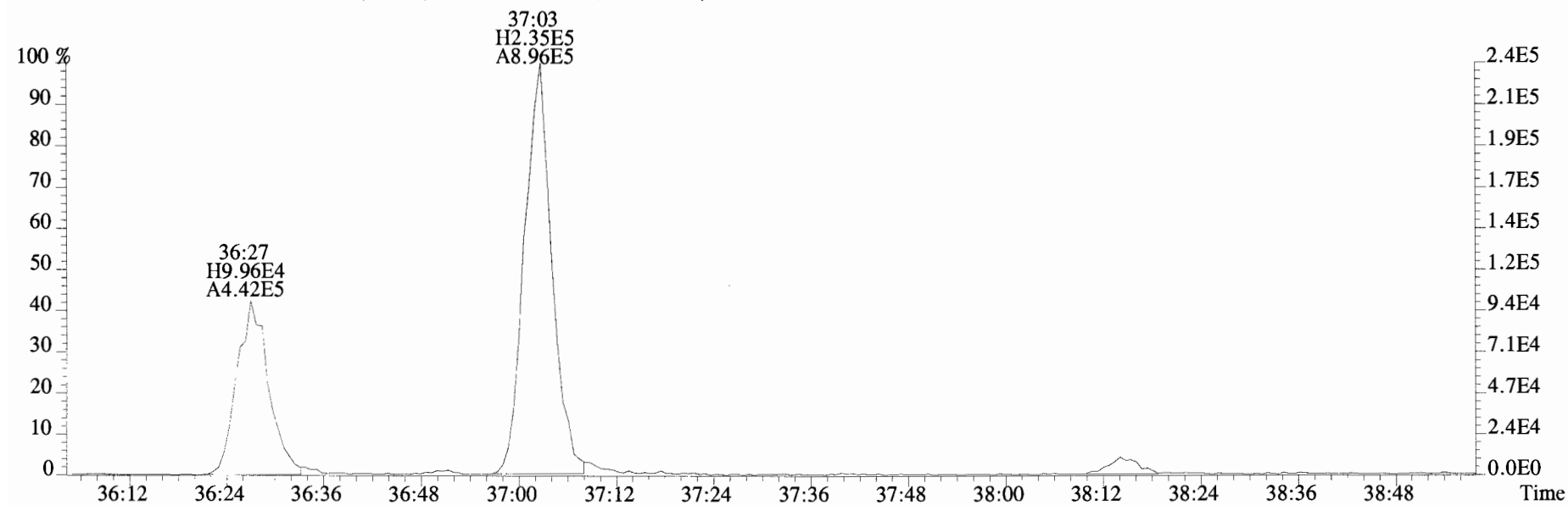
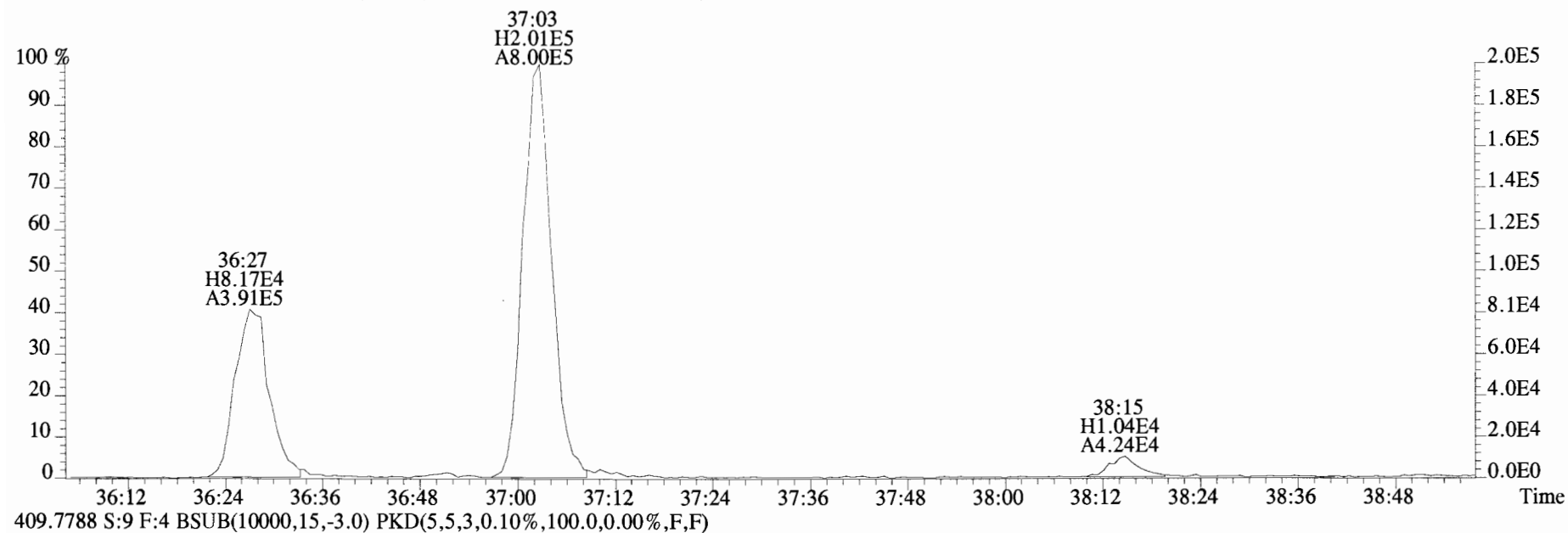
419.8220 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



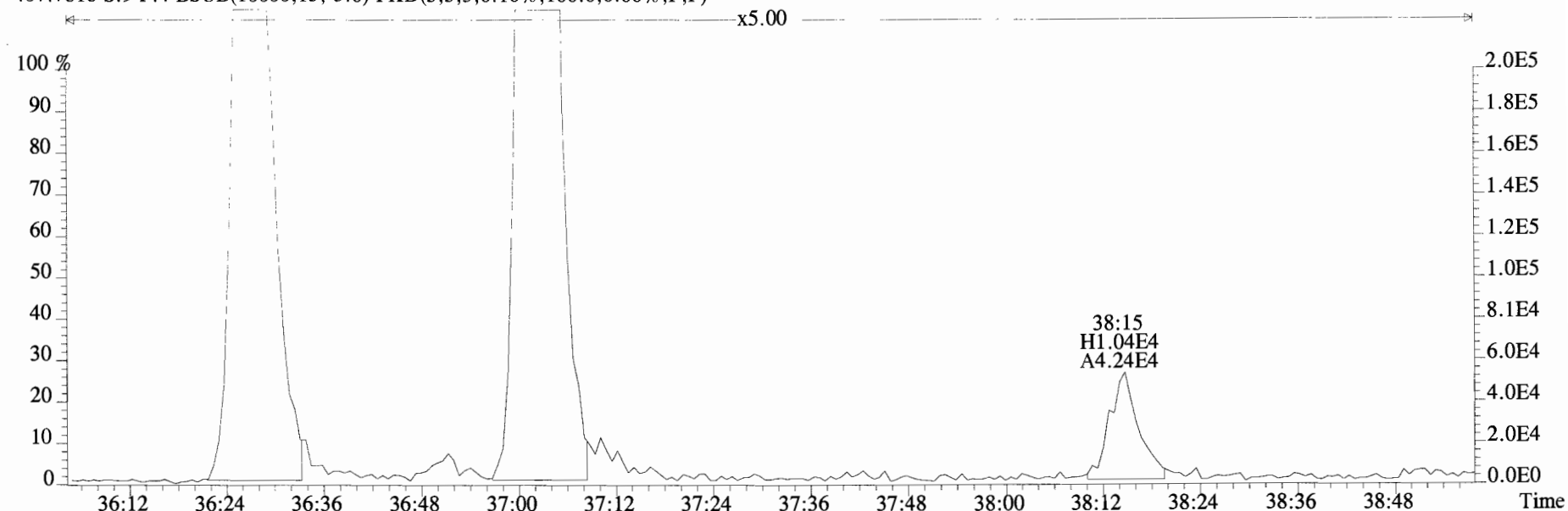
479.7165 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



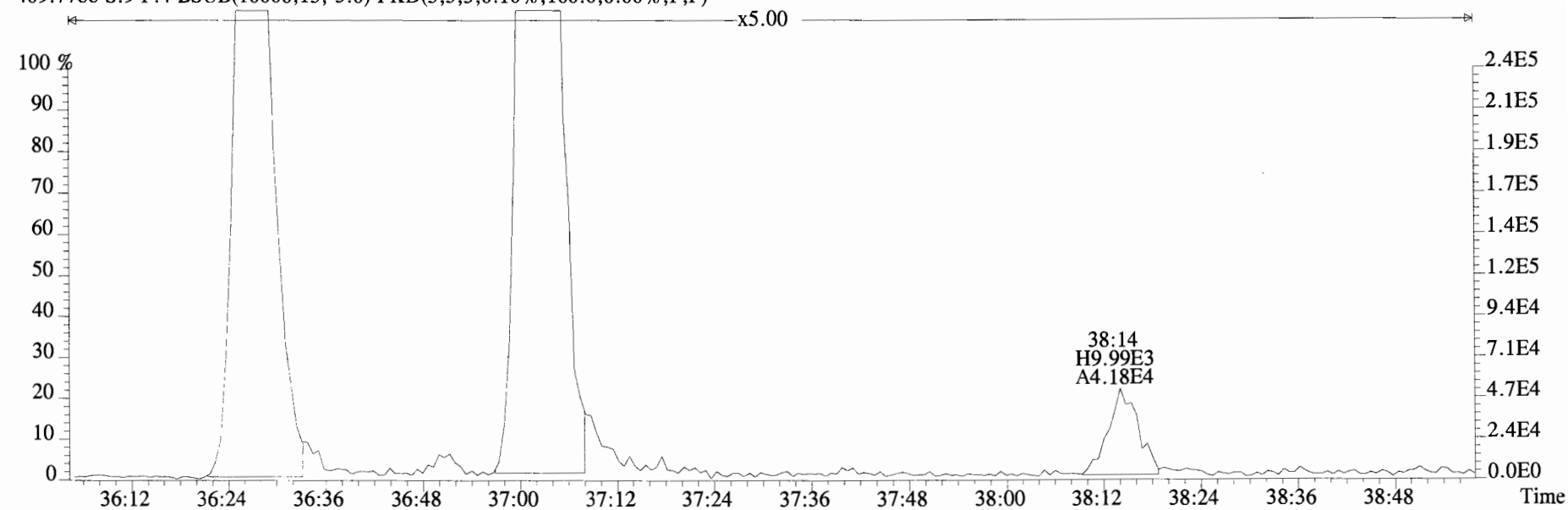
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



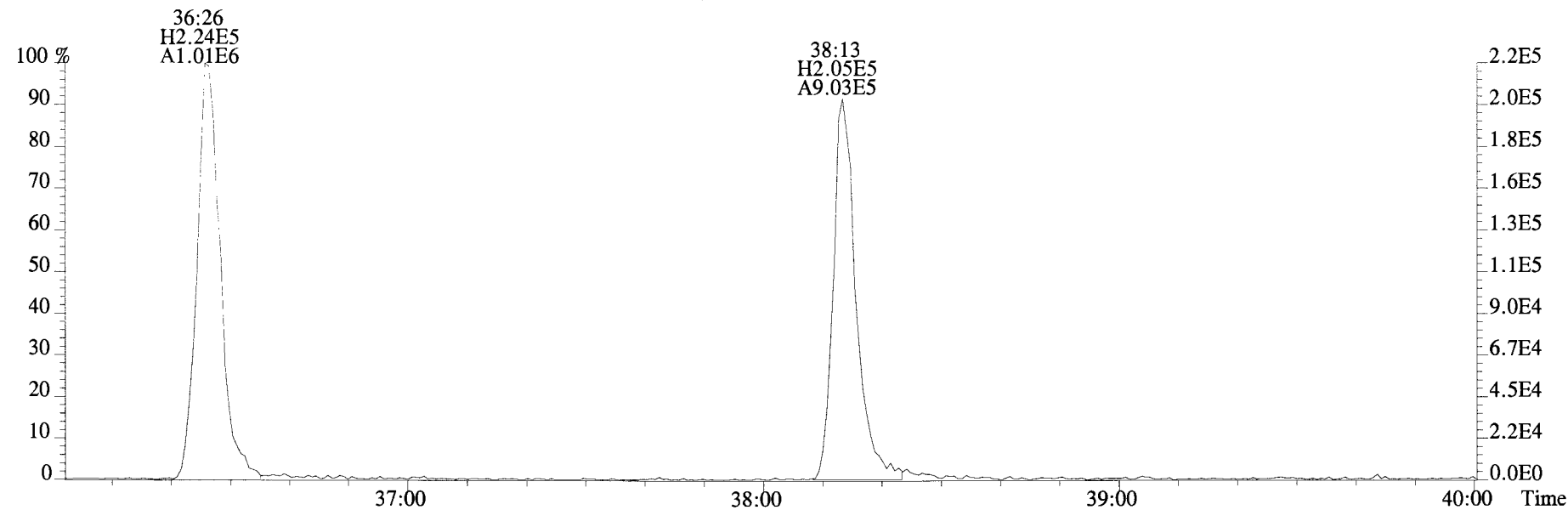
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
407.7818 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



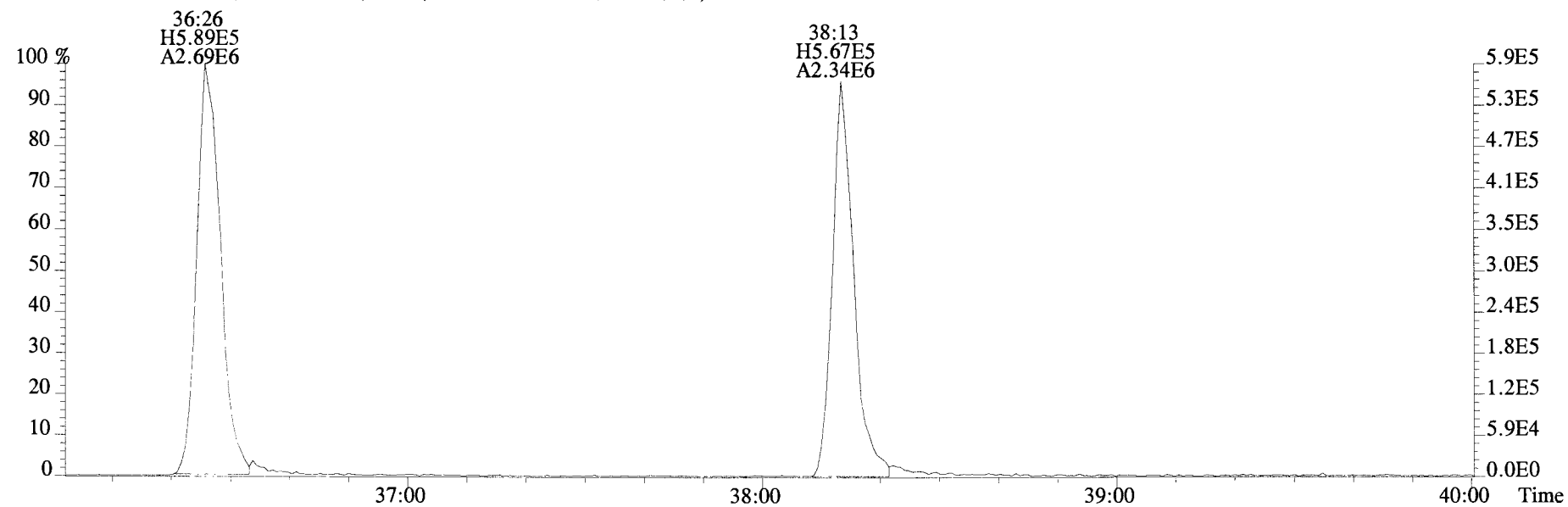
409.7788 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



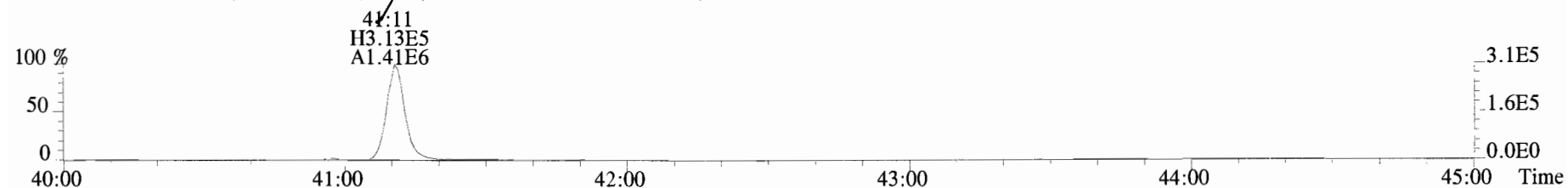
File:190625D1 #1-355 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
417.8253 S:9 F:4 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



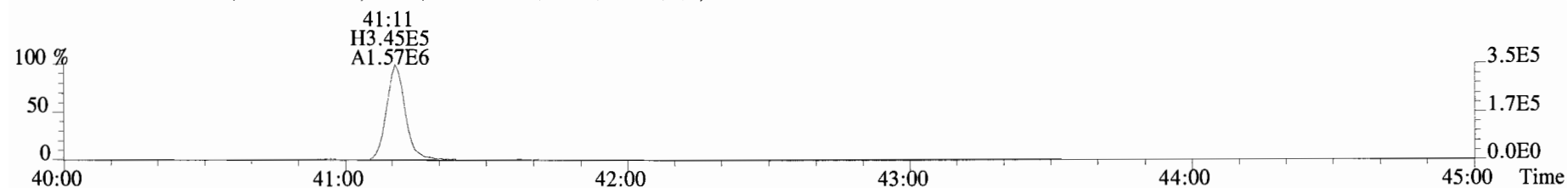
419.8220 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



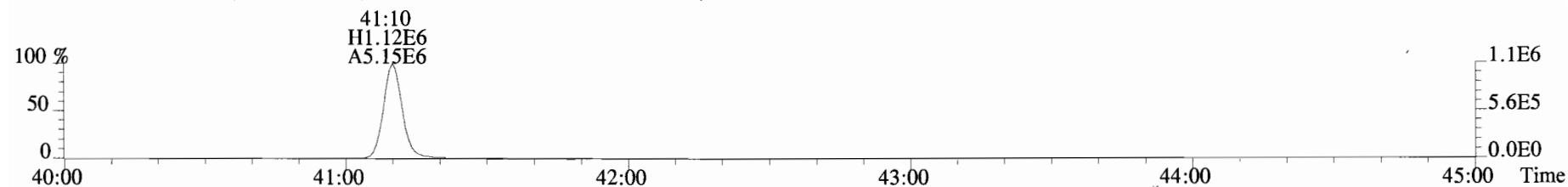
File:190625D1 #1-432 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#9 File Text:Vista_Analytical_Laboratory_VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
 441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



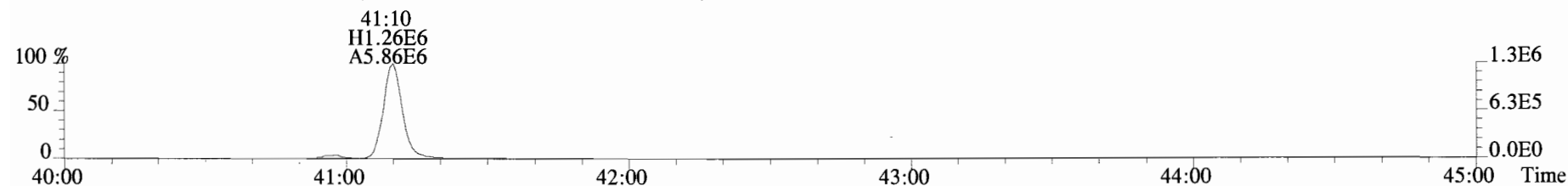
443.7398 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



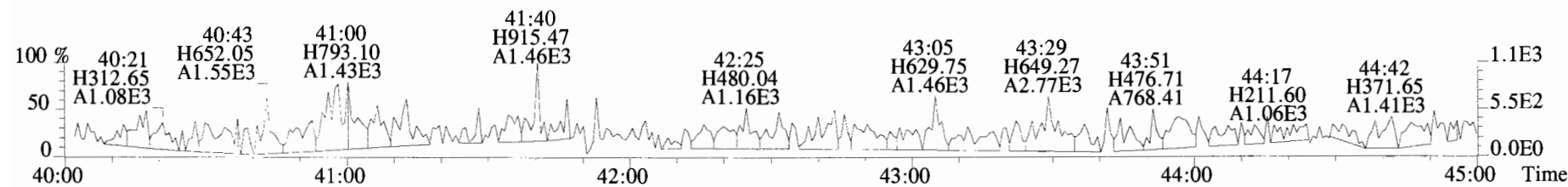
453.7831 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



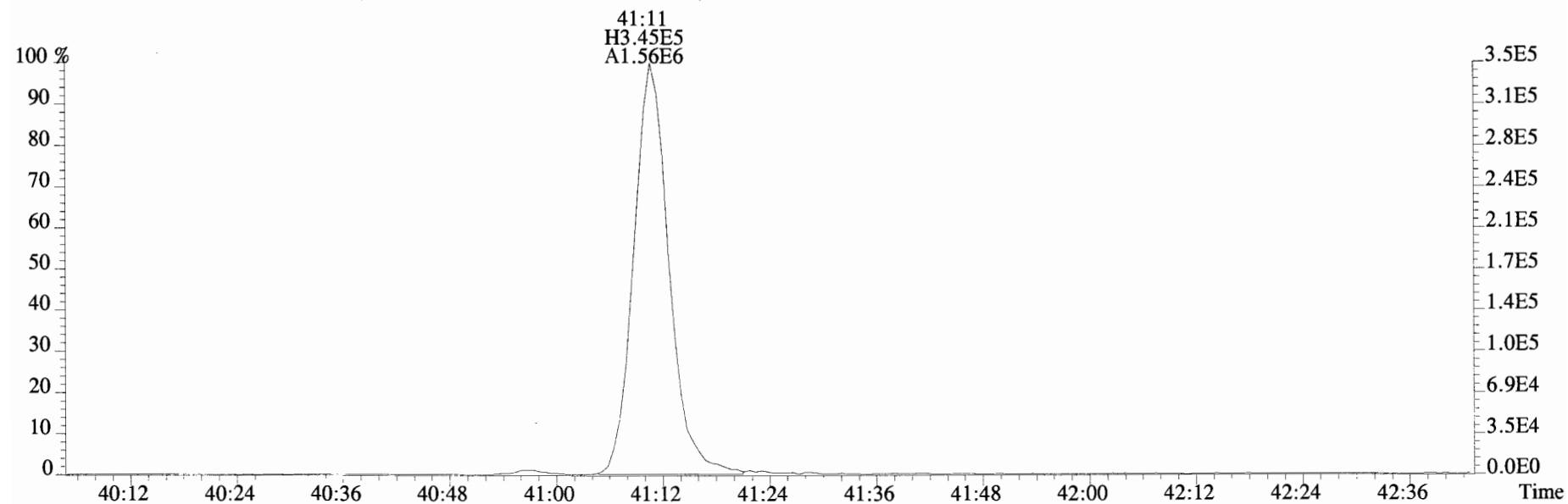
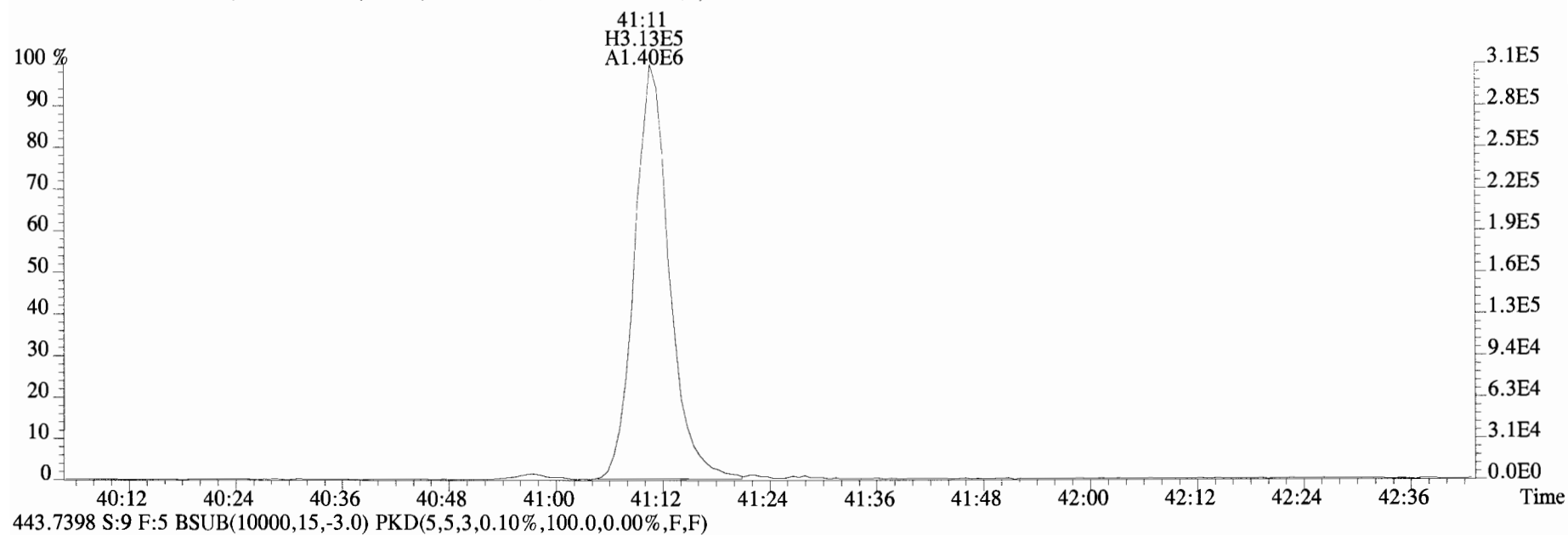
455.7801 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



File:190625D1 #1-432 Acq:25-JUN-2019 21:27:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3 Duplicate 8.87 Exp:OCDD_DB5
441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



CONFIRMATION

Client ID: Duplicate
Lab ID: B9F0172-DUP3RE1

Filename: 190701D1 S:11 Acq: 1-JUL-19 14:42:40
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 5.000 ✓ ConCal: ST190701D1-1
EndCAL: NA

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Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.48e+07	0.79 y	15:14	1.00	400.0	-
13C-2,3,7,8-TCDF	9.07e+06	0.80 y	17:21	1.02	239.4	59.9
2,3,7,8-TCDF	2.57e+05	0.84 y	17:22	0.95	11.94	

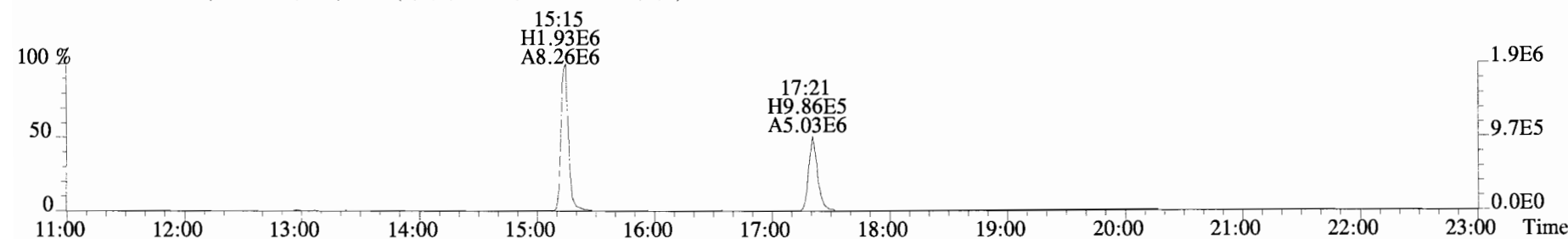
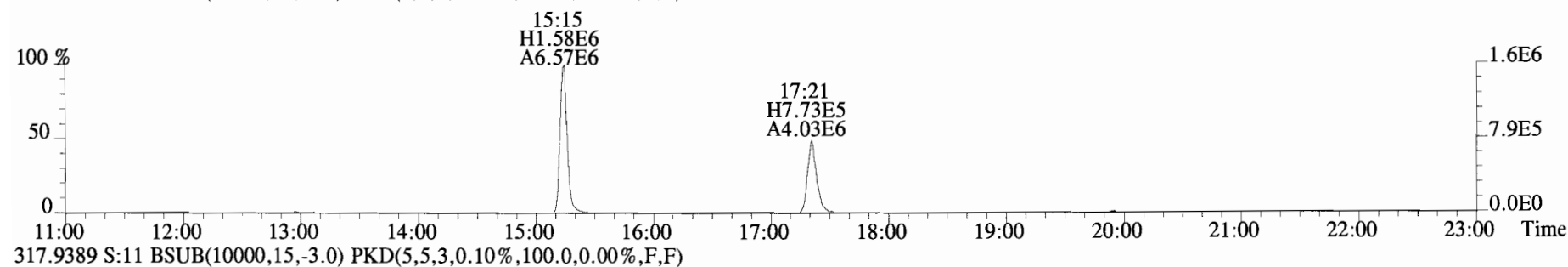
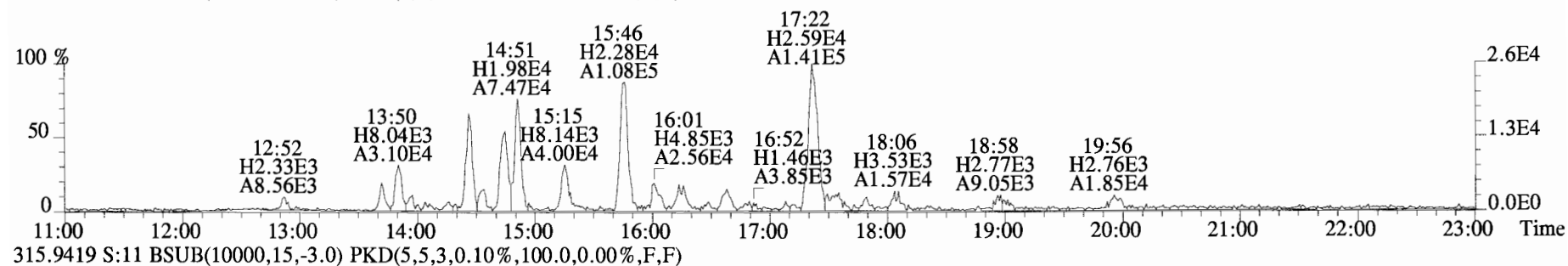
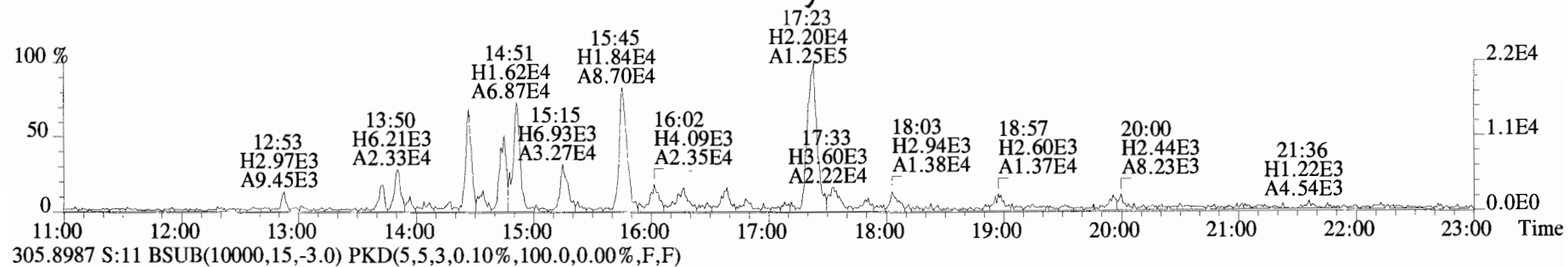
Integrations
by
Analyst: DB

Date: 7/1/19

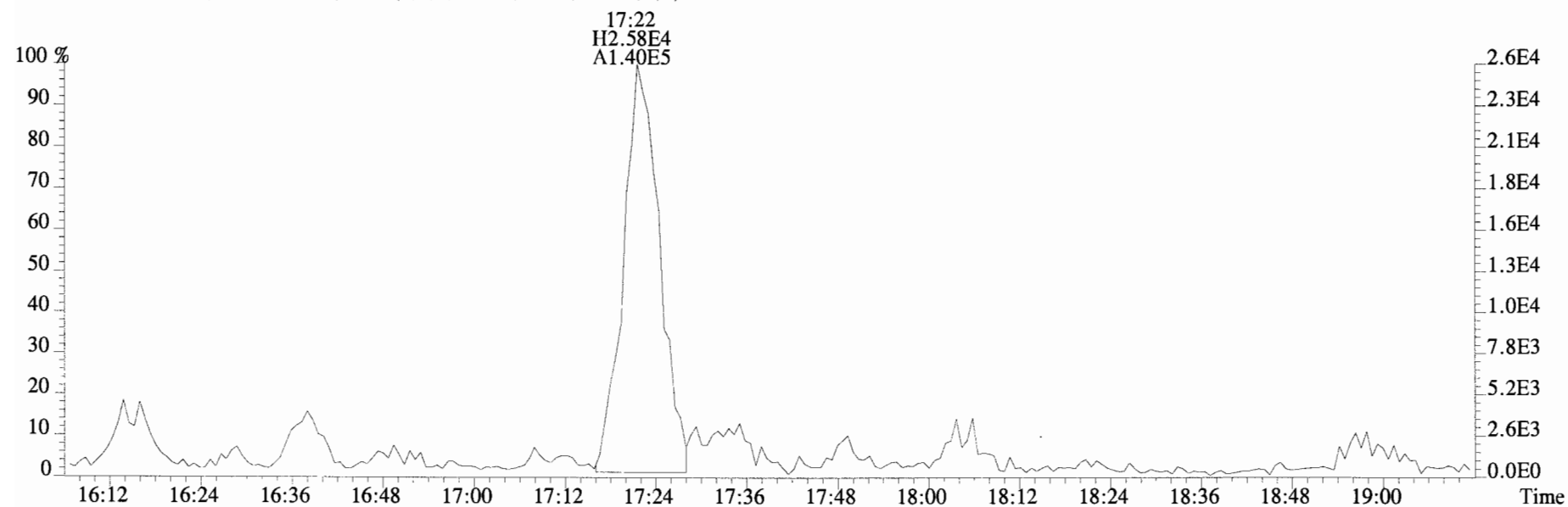
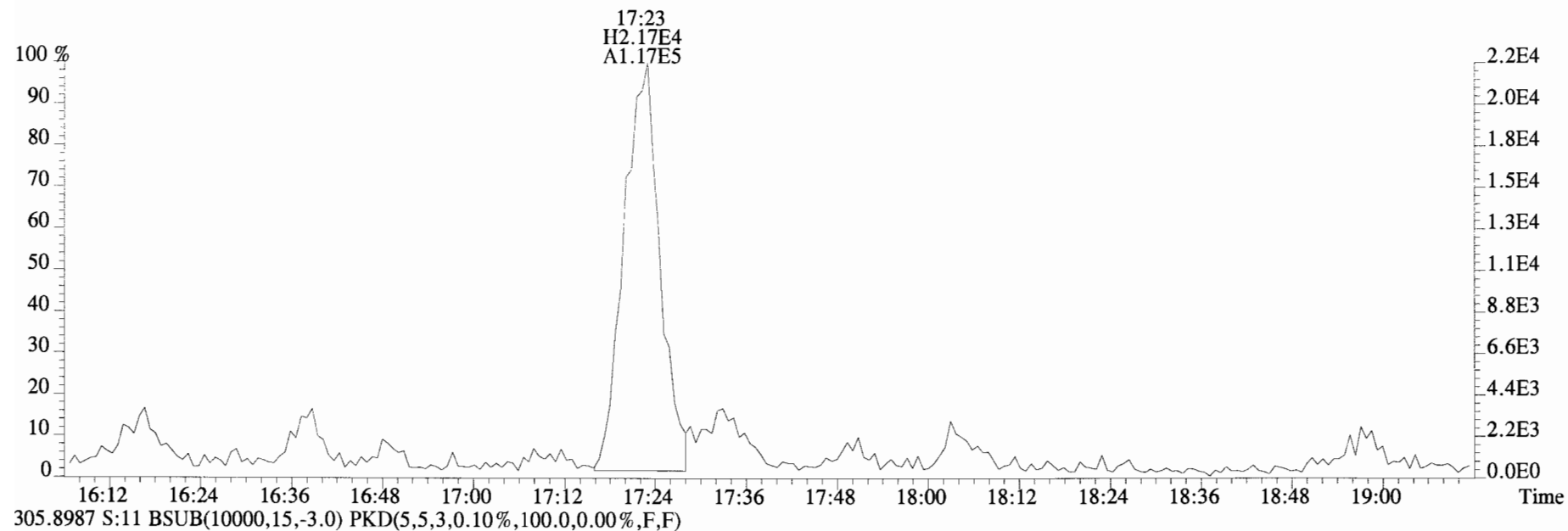
Reviewed
by
Analyst: C7

Date: 07/02/19

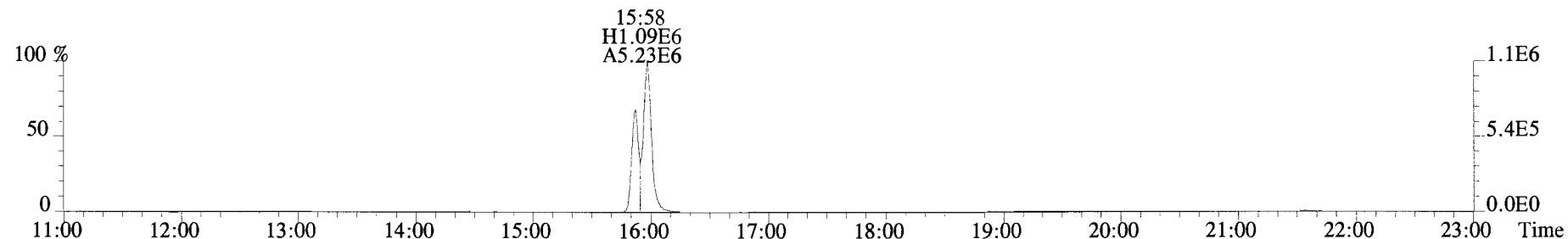
File:190701D1 #1-1683 Acq: 1-JUL-2019 14:42:40 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#11 File Text: Vista Analytical Laboratory VG7 Text: B9F0172-DUP3RE1 Duplicate 5 Exp: TCDF_DB225
 303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



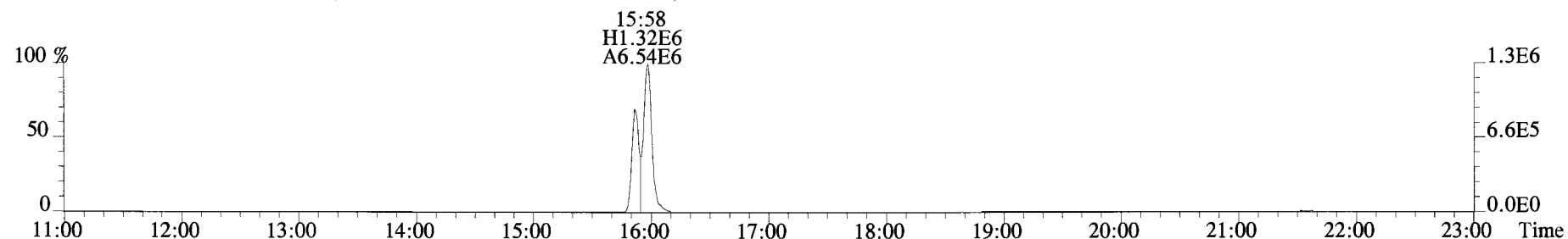
File:190701D1 #1-1683 Acq: 1-JUL-2019 14:42:40 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3RE1 Duplicate 5 Exp:TCDF_DB225
303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



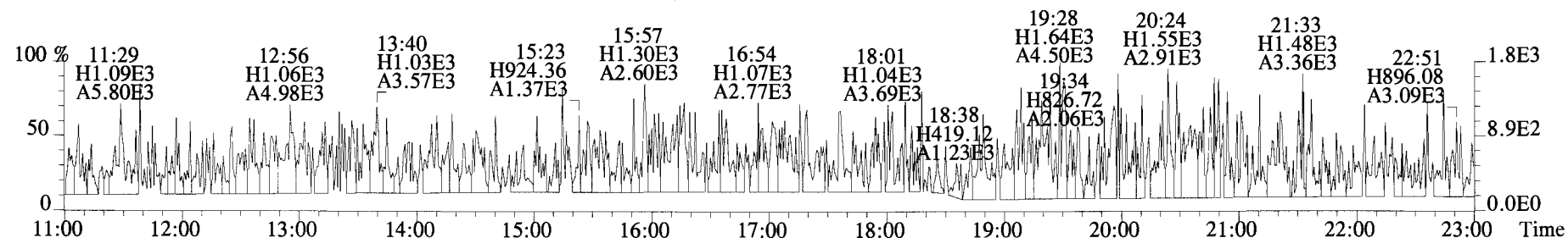
File:190701D1 #1-1683 Acq: 1-JUL-2019 14:42:40 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Vista Analytical Laboratory VG7 Text:B9F0172-DUP3RE1 Duplicate 5 Exp:TCDF_DB225
331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



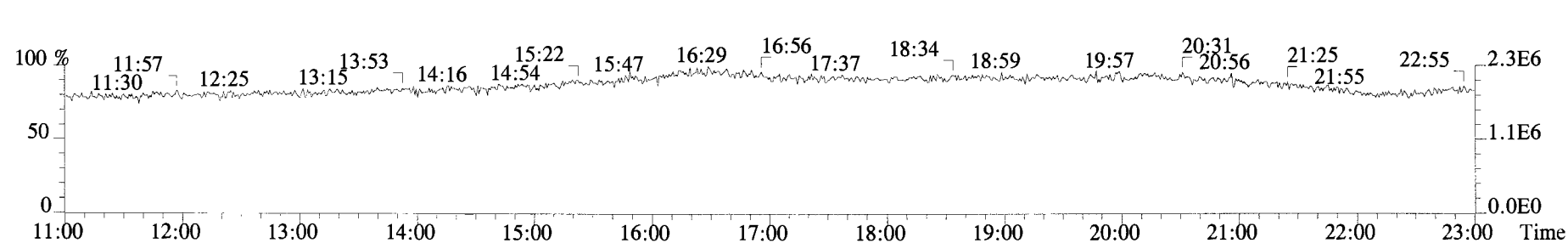
333.9339 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



330.9792 S:11



CONTINUING CALIBRATION

HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: 57190625D1-1

Reviewed By: CT 06/26/19
Initials & Date

End Calibration ID: NA

	Beg.	End
Ion abundance within QC limits?	<input checked="" type="checkbox"/>	<input type="checkbox"/> NA
Concentrations within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
TCDD/TCDF Valleys <25%	<input checked="" type="checkbox"/>	<input type="checkbox"/>
First and last eluters present?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Retention Times within criteria?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Verification Std. named correctly? (ST-Year-Month-Day-VG ID)	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Forms signed and dated?	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Correct ICAL referenced?	<u>DB</u>	<u></u>
<u>Run Log:</u>		
- Correct instrument listed?	<input checked="" type="checkbox"/>	<input type="checkbox"/> <u>DB</u>
- Samples within 12 hour clock?	<u>(Y)</u>	N
- Bottle position verified?	<u>DB</u>	

Mass resolution ≥

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

Vista Analytical Laboratory - Injection Log Run file: 190625D1 Instrument ID: VG-7 GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190625D1	1	ST190625D1-1	DB	25-JUN-19	15:05:35	ST190625D1-1	NA
190625D1	2	B9F0172-BS1	DB	25-JUN-19	15:53:21	ST190625D1-1	NA
190625D1	3	SOLVENT BLANK	DB	25-JUN-19	16:41:08	ST190625D1-1	NA
190625D1	4	B9F0172-BLK1	DB	25-JUN-19	17:28:52	ST190625D1-1	NA
190625D1	5	1901248-01	DB	25-JUN-19	18:16:35	ST190625D1-1	NA
190625D1	6	1901248-02	DB	25-JUN-19	19:04:24	ST190625D1-1	NA
190625D1	7	1901248-03	DB	25-JUN-19	19:52:12	ST190625D1-1	NA
190625D1	8	1901248-04	DB	25-JUN-19	20:39:50	ST190625D1-1	NA
190625D1	9	B9F0172-DUP3	DB	25-JUN-19	21:27:29	ST190625D1-1	NA
190625D1	10	1901249-02	DB	25-JUN-19	22:15:12	ST190625D1-1	NA
190625D1	11	1901305-02	DB	25-JUN-19	23:02:49	ST190625D1-1	NA
190625D1	12	1901305-06	DB	25-JUN-19	23:50:22	ST190625D1-1	NA
190625D1	13	1901305-07	DB	26-JUN-19	00:38:00	ST190625D1-1	NA
190625D1	14	1901384-04	DB	26-JUN-19	01:25:31	ST190625D1-1	NA
190625D1	15	B9F0172-DUP4	DB	26-JUN-19	02:13:08	ST190625D1-1	NA

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190625D1-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.80	0.65-0.89	y	12.7	7.8 - 12.9 8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.65	0.54-0.72	y	54.5	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	56.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	54.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.21	1.05-1.43	y	52.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	0.98	0.88-1.20	y	47.3	43.0 - 58.0
OCDD	M+2/M+4	0.90	0.76-1.02	y	94.3	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.83	0.65-0.89	y	9.43	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.65	1.32-1.78	y	49.8	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.64	1.32-1.78	y	51.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	51.3	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.21	1.05-1.43	y	52.5	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	53.2	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	y	53.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.97	0.88-1.20	y	49.8	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.96	0.88-1.20	y	49.1	43.0 - 58.0
OCDF	M+2/M+4	0.93	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: 6/25/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

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	0.82	0.65-0.89	y	99.7	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	84.0	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.44	1.05-1.43	n	91.5	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	93.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.30	1.05-1.43	y	95.9	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	y	95.9	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	213	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	y	110	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	84.5	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	83.7	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	100	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	99.1	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	97.8	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	99.3	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	91.2	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.41	0.37-0.51	y	91.4	77.0 - 129.0
13C-OCDF	M+2/M+4	0.90	0.76-1.02	y	190	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.51	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: 6/25/19

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: 5-10-19

RT Window Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

ZB-5MS IS Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

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)	22:43	1,3,6,8-TCDF (F)	20:36
1,2,8,9-TCDD (L)	26:57	1,2,8,9-TCDF (L)	27:06
1,2,4,7,9-PeCDD (F)	28:31	1,3,4,6,8-PeCDF (F)	27:01
1,2,3,8,9-PeCDD (L)	30:55	1,2,3,8,9-PeCDF (L)	31:10
1,2,4,6,7,9-HxCDD (F)	32:18	1,2,3,4,6,8-HxCDF (F)	31:47
1,2,3,7,8,9-HxCDD (L)	34:15	1,2,3,7,8,9-HxCDF (L)	34:40
1,2,3,4,6,7,9-HpCDD (F)	36:51	1,2,3,4,6,7,8-HpCDF (F)	36:28
1,2,3,4,6,7,8-HpCDD (L)	37:42	1,2,3,4,7,8,9-HpCDF (L)	38:16

(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: 6/25/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
2,3,7,8-TCDD	13C-2,3,7,8-TCDD	1.001	0.999-1.002
1,2,3,7,8-PeCDD	13C-1,2,3,7,8-PeCDD	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.001	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.023	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.198	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.153	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.188	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.024	0.989-1.052

Analyst: DB

Date: 6/25/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-SMS

VER Data Filename: 190625D1 S#1 Analysis Date: 25-JUN-19 Time: 15:05:35

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	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	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	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

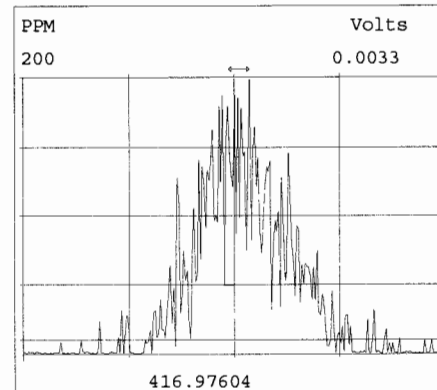
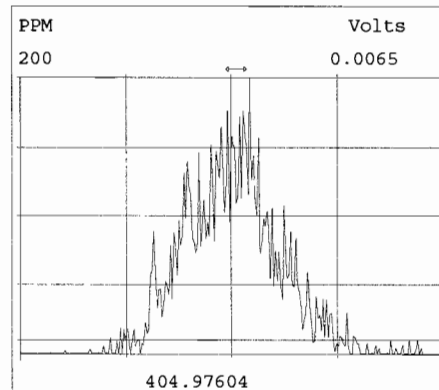
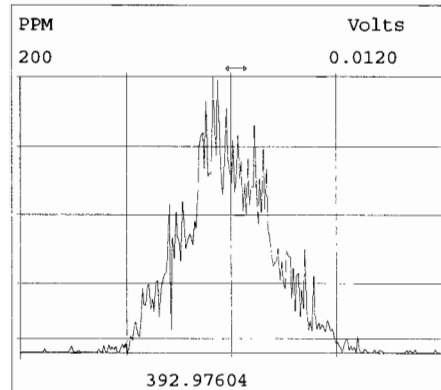
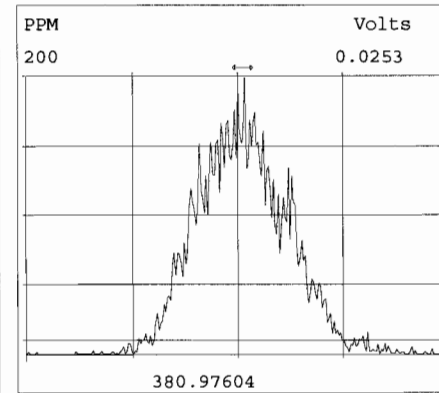
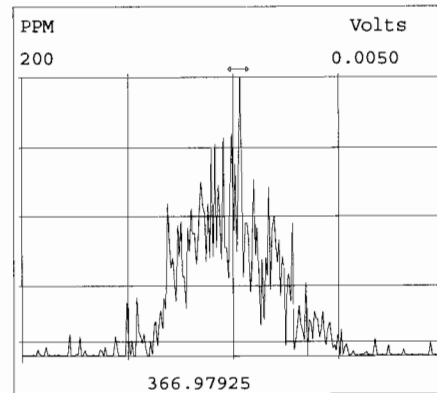
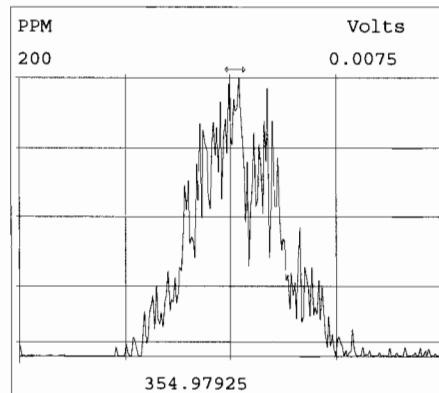
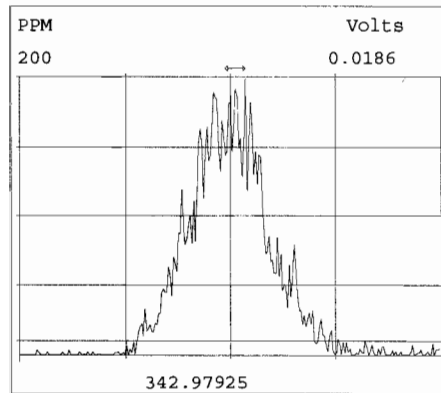
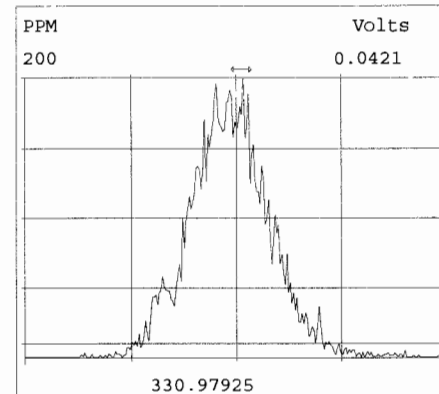
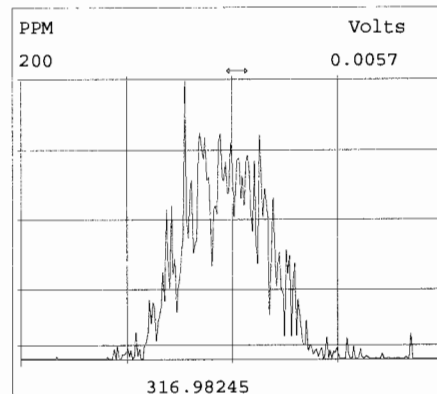
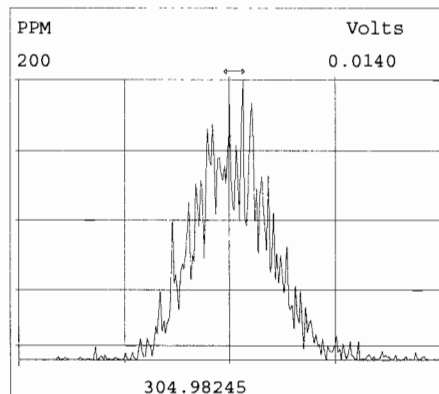
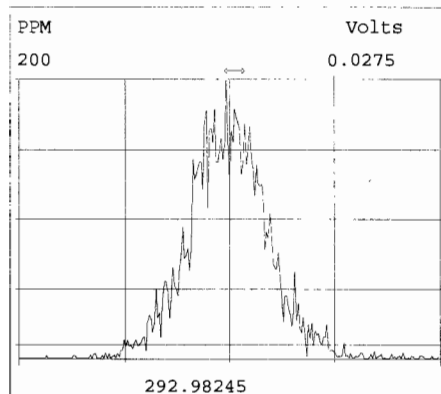
Analyst: DB

Date: 6/25/19

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190625D1	2	B9F0172-BS1	DB	25-JUN-19	15:53:21	ST190625D1-1	NA
190625D1	3	SOLVENT BLANK	DB	25-JUN-19	16:41:08	ST190625D1-1	NA
190625D1	4	B9F0172-BLK1	DB	25-JUN-19	17:28:52	ST190625D1-1	NA
190625D1	5	1901248-01	DB	25-JUN-19	18:16:35	ST190625D1-1	NA
190625D1	6	1901248-02	DB	25-JUN-19	19:04:24	ST190625D1-1	NA
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190625D1	10	1901249-02	DB	25-JUN-19	22:15:12	ST190625D1-1	NA
190625D1	11	1901305-02	DB	25-JUN-19	23:02:49	ST190625D1-1	NA
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190625D1	13	1901305-07	DB	26-JUN-19	00:38:00	ST190625D1-1	NA
190625D1	14	1901384-04	DB	26-JUN-19	01:25:31	ST190625D1-1	NA
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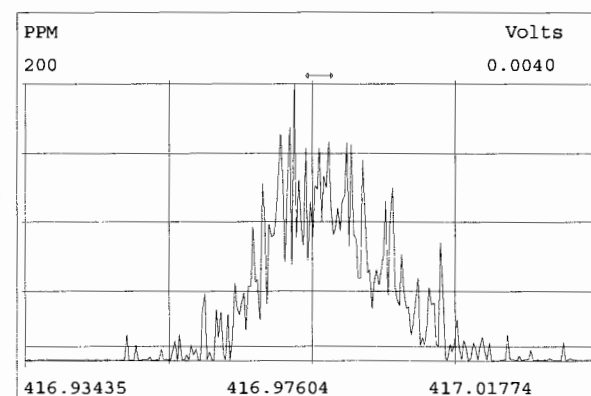
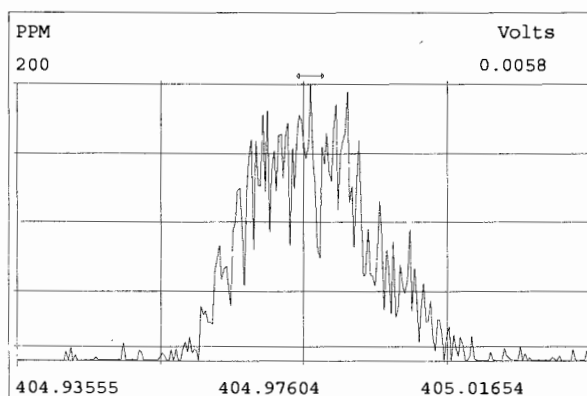
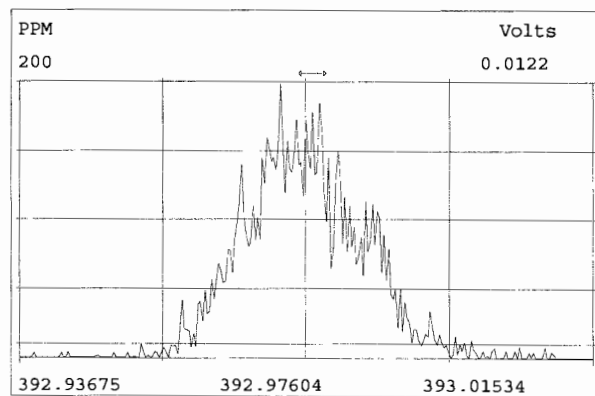
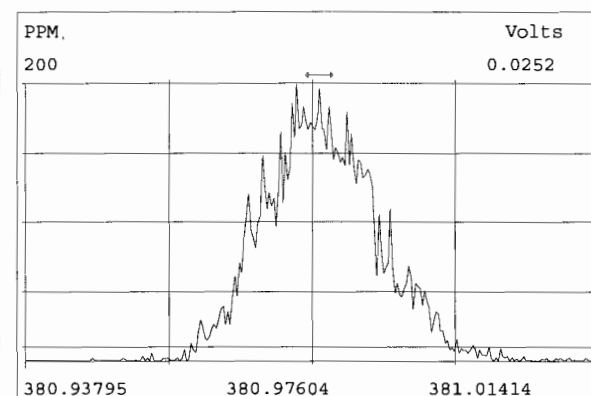
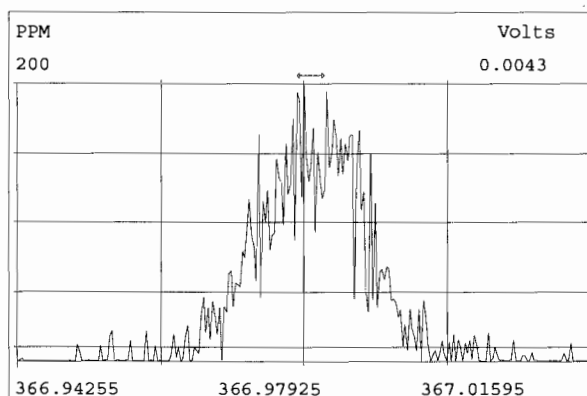
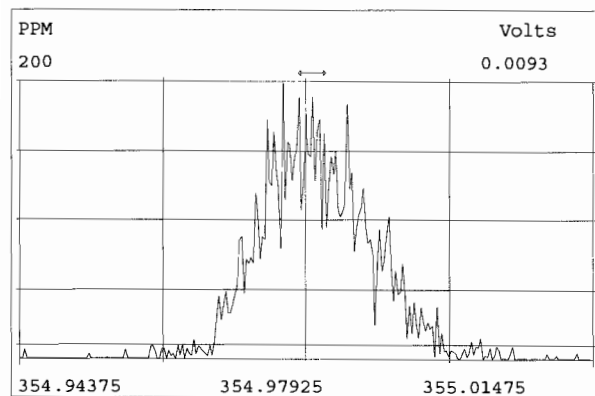
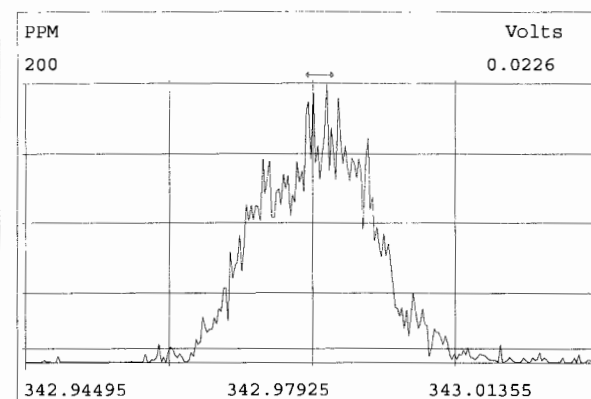
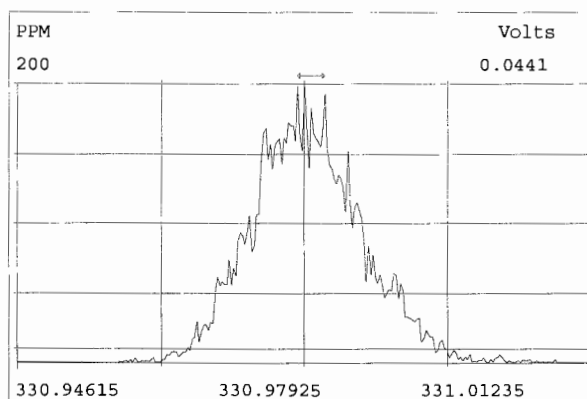
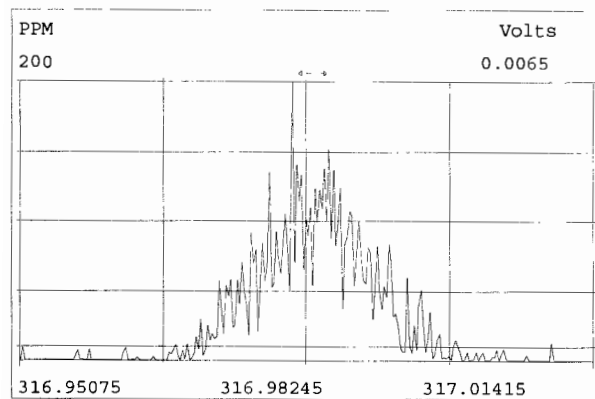
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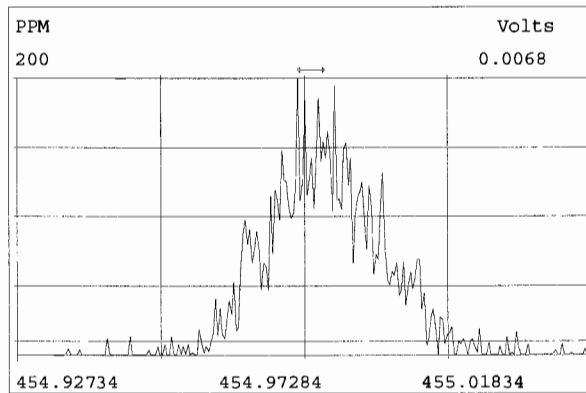
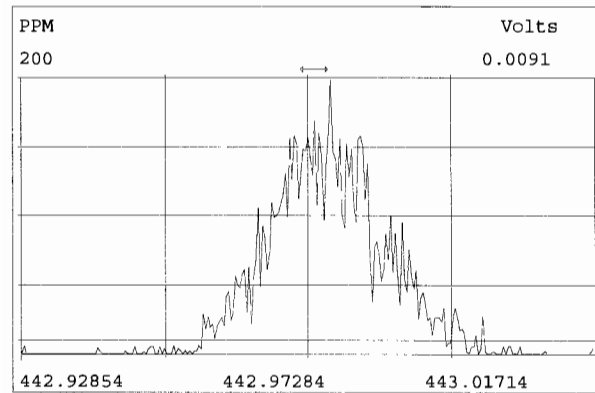
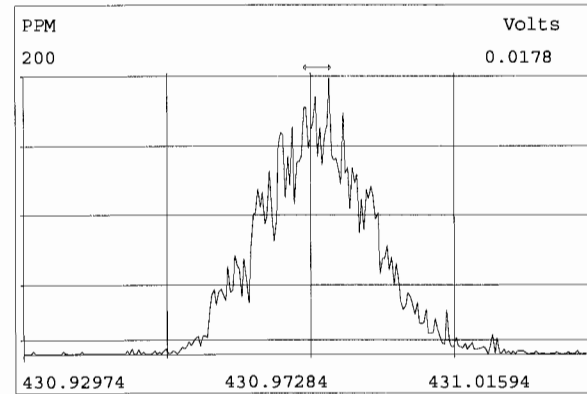
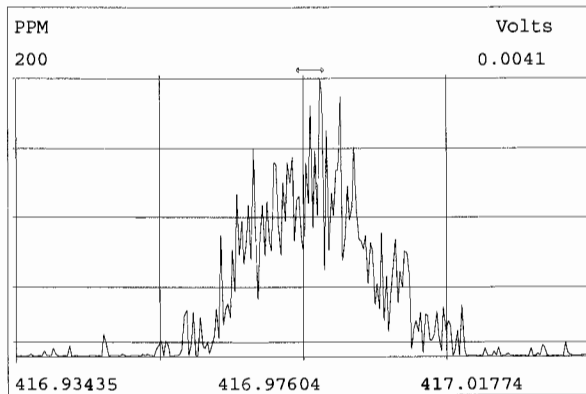
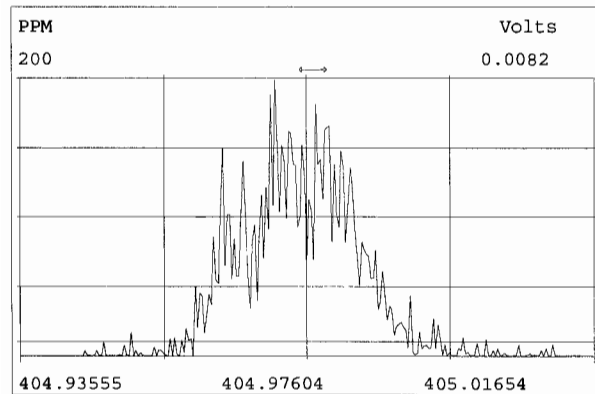
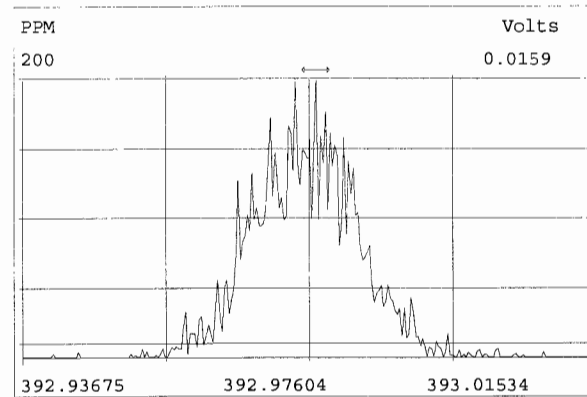
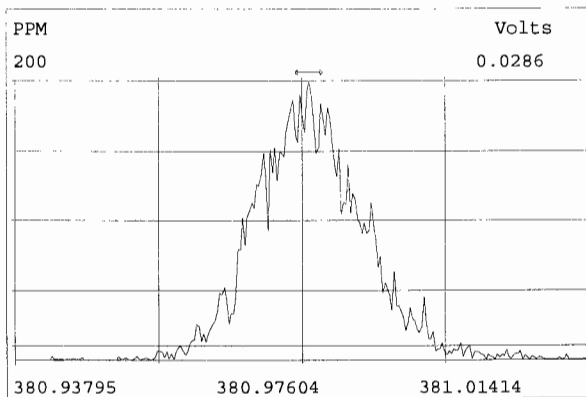
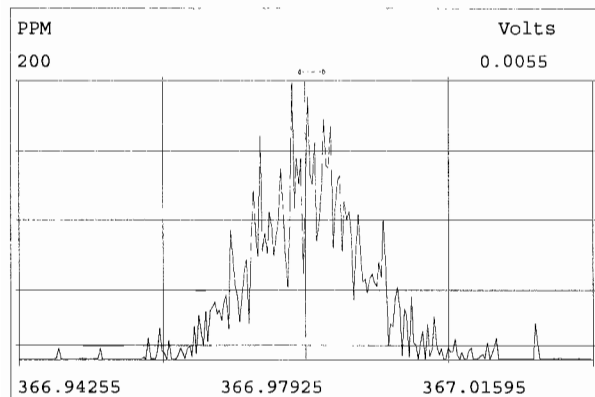
Experiment:OCDD_DB5 Function:1 Reference:PFK



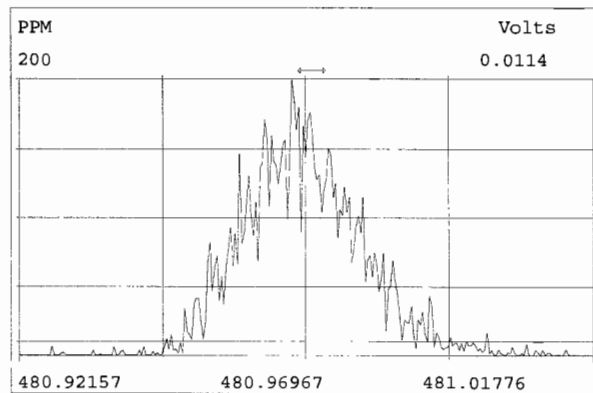
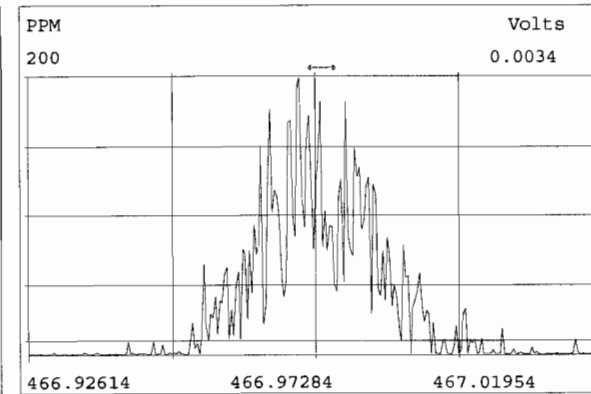
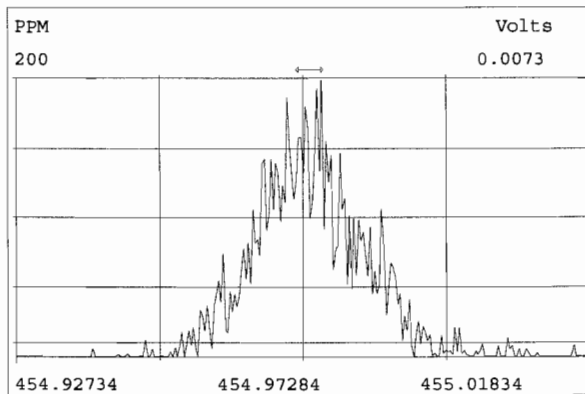
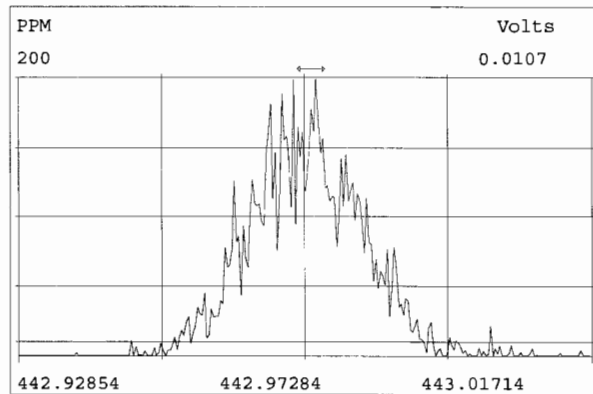
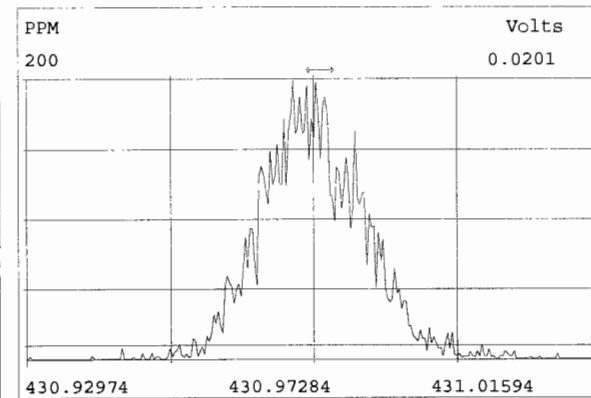
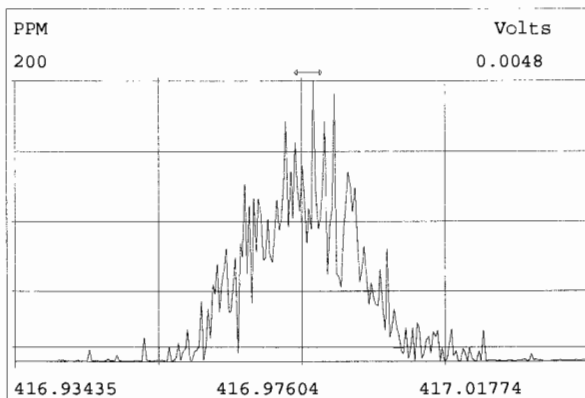
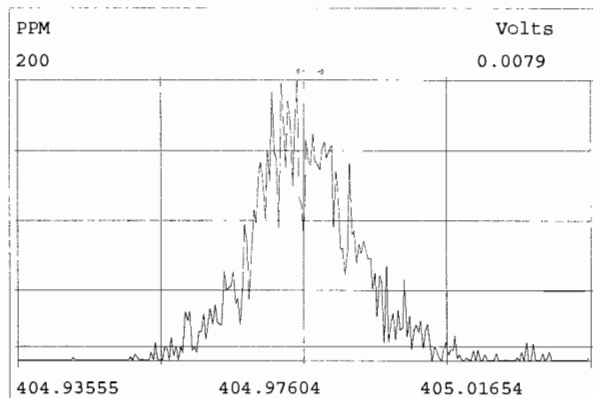
Peak Locate Examination:25-JUN-2019:15:02 File:190625D1

Experiment:OCDD_DB5 Function:2 Reference:PFK



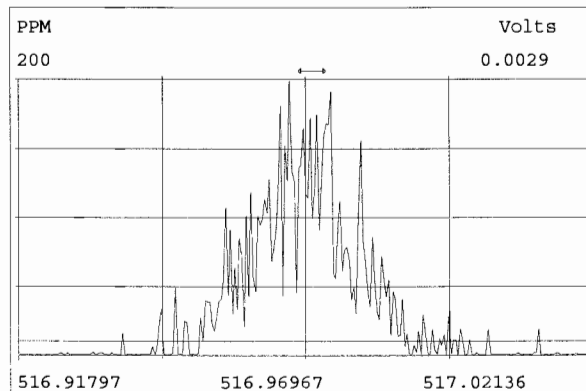
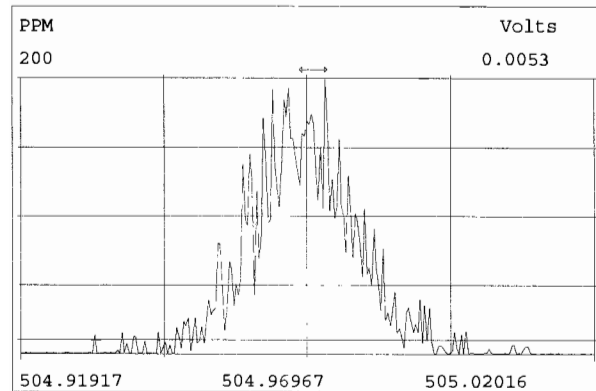
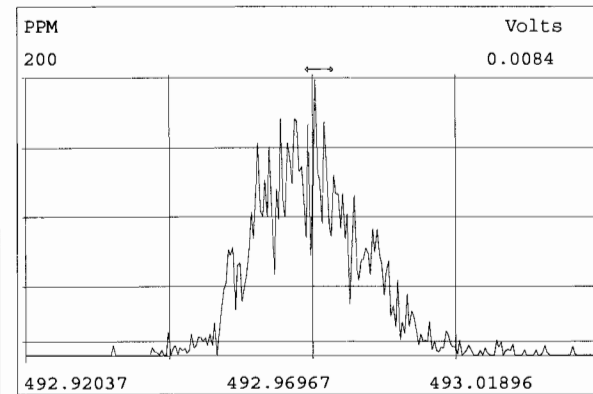
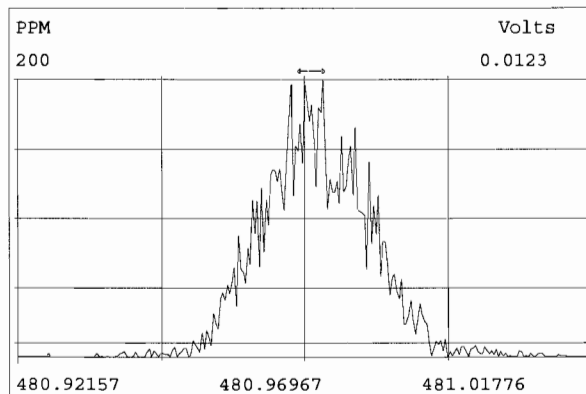
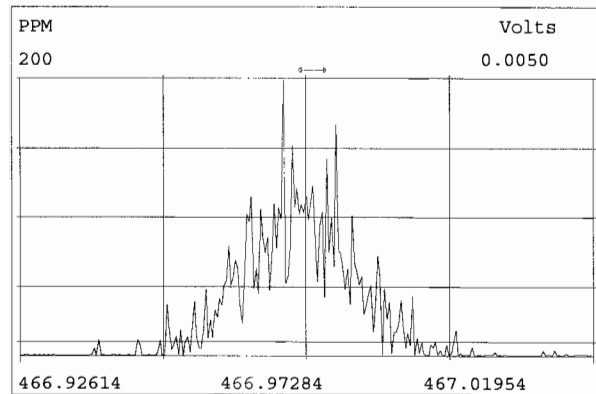
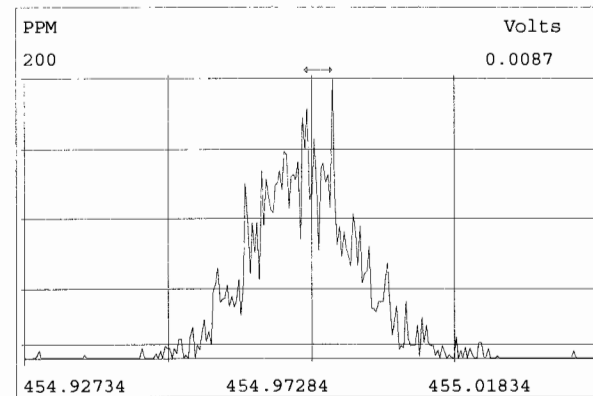
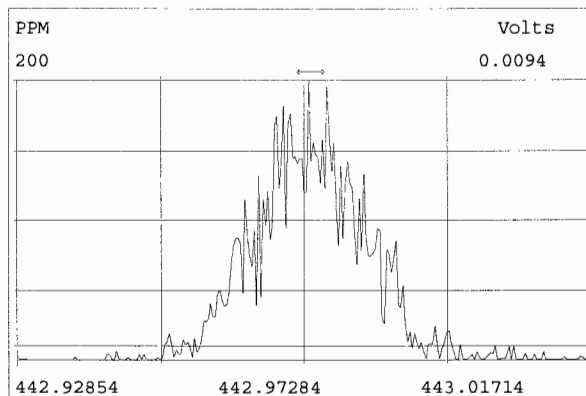
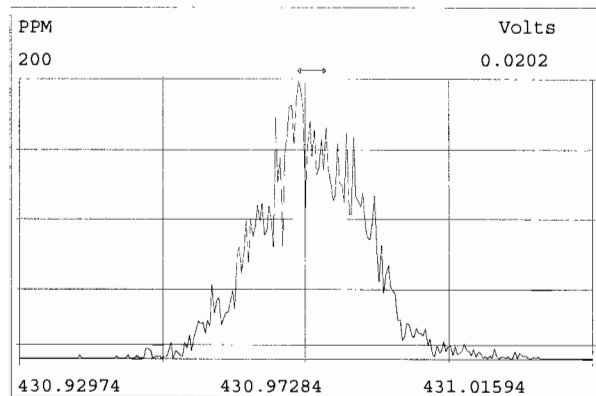


Experiment:OCDD_DB5 Function:4 Reference:PFK

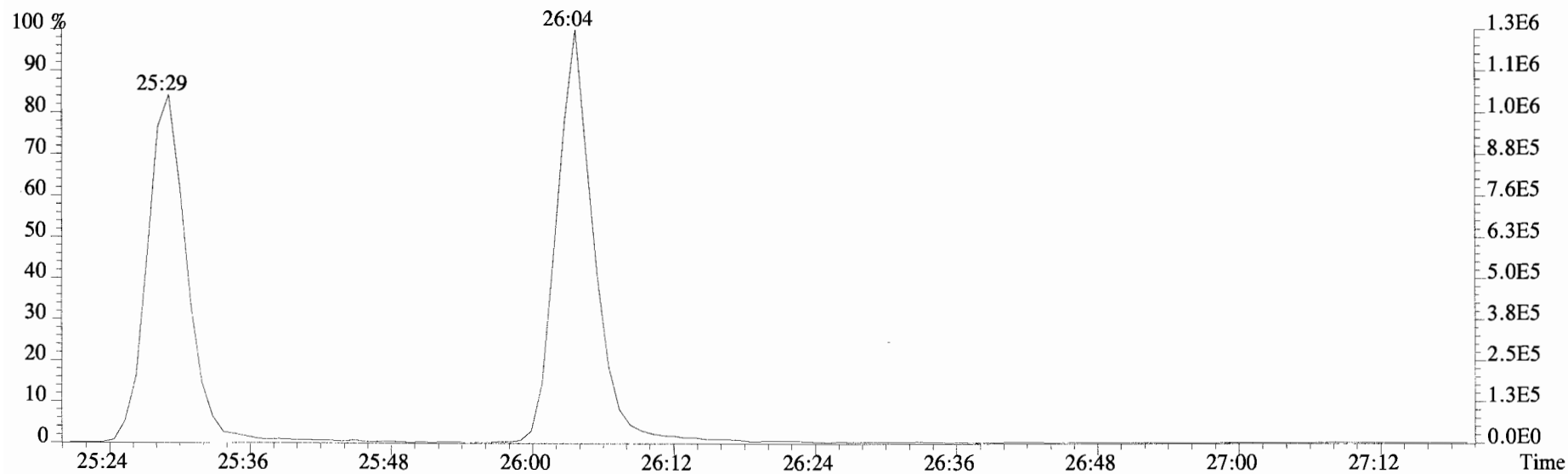
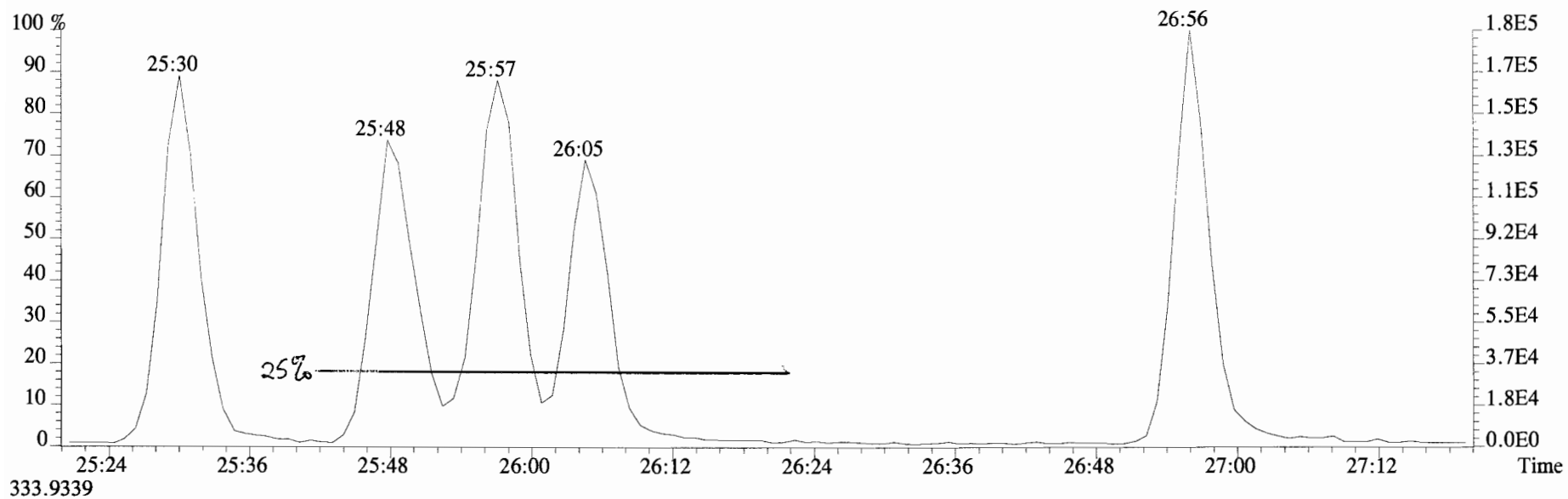


Peak Locate Examination:25-JUN-2019:15:04 File:190625D1

Experiment:OCDD_DB5 Function:5 Reference:PFK



File:190625D1 #1-514 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936



Client ID: 1613 CS3 19C2204 Filename: 190625D1 S:1 Acq:25-JUN-19 15:05:35
 Lab ID: ST190625D1-1 GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

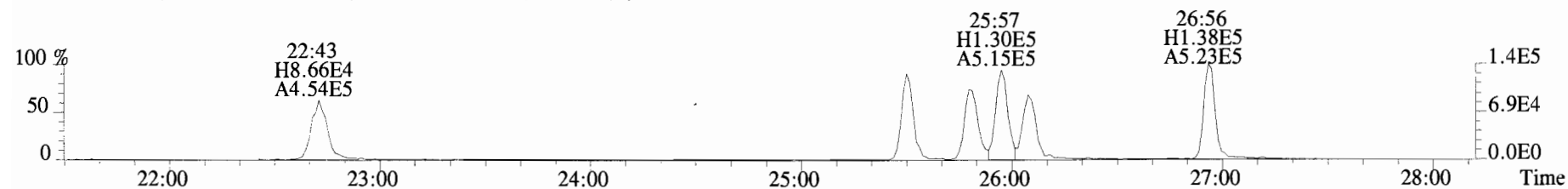
ConCal: ST190625D1-1
 EndCAL: NA

Page 1 of 1

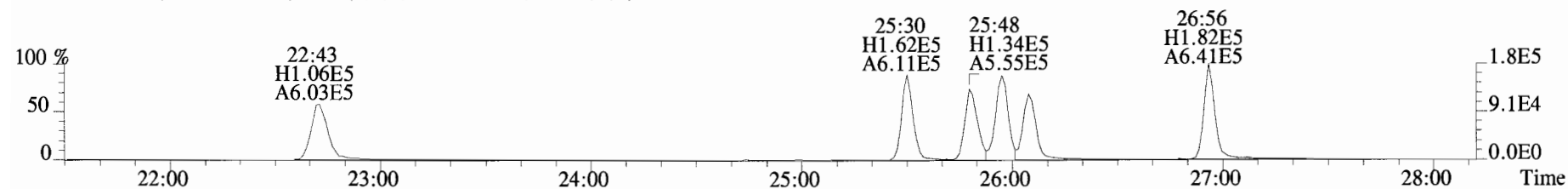
							Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
		Name	Resp	RA	RRF	RT	Conc									
		2,3,7,8-TCDD	9.59e+05	0.80 y	0.90	26:05	12.745		* 2.5	*	Total Tetra-Dioxins	86.4	88.1		*	*
		1,2,3,7,8-PeCDD	2.95e+06	0.65 y	0.87	30:33	54.484		* 2.5	*	Total Penta-Dioxins	208	209		*	*
		1,2,3,4,7,8-HxCDD	3.03e+06	1.24 y	1.05	33:51	56.318		* 2.5	*	Total Hexa-Dioxins	243	245		*	*
		1,2,3,6,7,8-HxCDD	3.28e+06	1.26 y	0.93	33:57	54.185		* 2.5	*	Total Hepta-Dioxins	110	111		*	*
		1,2,3,7,8,9-HxCDD	3.28e+06	1.21 y	0.96	34:15	52.911		* 2.5	*	Total Tetra-Furans	32.8	34.9		*	*
		1,2,3,4,6,7,8-HpCDD	2.55e+06	0.98 y	0.99	37:42	47.325		* 2.5	*	Total Penta-Furans	223.52	224.26		*	*
		OCDD	5.13e+06	0.90 y	0.99	40:58	94.304		* 2.5	*	Total Hexa-Furans	282	282		*	*
											Total Hepta-Furans	99.4	101		*	*
		2,3,7,8-TCDF	1.22e+06	0.83 y	0.94	25:20	9.4264		* 2.5	*						
		1,2,3,7,8-PeCDF	4.42e+06	1.65 y	0.92	29:23	49.841		* 2.5	*						
		2,3,4,7,8-PeCDF	4.62e+06	1.64 y	0.96	30:17	51.707		* 2.5	*						
		1,2,3,4,7,8-HxCDF	4.21e+06	1.25 y	1.15	32:57	51.322		* 2.5	*						
		1,2,3,6,7,8-HxCDF	4.58e+06	1.21 y	1.04	33:05	52.538		* 2.5	*						
		2,3,4,6,7,8-HxCDF	4.50e+06	1.25 y	1.10	33:42	53.192		* 2.5	*						
		1,2,3,7,8,9-HxCDF	3.92e+06	1.26 y	1.03	34:40	53.282		* 2.5	*						
		1,2,3,4,6,7,8-HpCDF	3.24e+06	0.97 y	1.06	36:28	49.791		* 2.5	*						
		1,2,3,4,7,8,9-HpCDF	2.88e+06	0.96 y	1.23	38:16	49.101		* 2.5	*						
		OCDF	5.86e+06	0.93 y	0.94	41:13	101.48		* 2.5	*						
											Rec	Qual				
IS		13C-2,3,7,8-TCDD	8.35e+06	0.82 y	1.11	26:04	99.651				99.7					
IS		13C-1,2,3,7,8-PeCDD	6.21e+06	0.63 y	0.98	30:32	83.980				84.0					
IS		13C-1,2,3,4,7,8-HxCDD	5.12e+06	1.44 n	0.68	33:50	91.507				91.5					
IS		13C-1,2,3,6,7,8-HxCDD	6.51e+06	1.29 y	0.84	33:57	93.337				93.3					
IS		13C-1,2,3,7,8,9-HxCDD	6.45e+06	1.30 y	0.81	34:15	95.858				95.9					
IS		13C-1,2,3,4,6,7,8-HpCDD	5.45e+06	1.03 y	0.69	37:41	95.920				95.9					
IS		13C-OCDD	1.10e+07	0.90 y	0.62	40:57	213.00				107					
IS		13C-2,3,7,8-TCDF	1.38e+07	0.77 y	1.05	25:19	109.84				110					
IS		13C-1,2,3,7,8-PeCDF	9.61e+06	1.61 y	0.95	29:23	84.466				84.5					
IS		13C-2,3,4,7,8-PeCDF	9.33e+06	1.58 y	0.94	30:17	83.669				83.7					
IS		13C-1,2,3,4,7,8-HxCDF	7.11e+06	0.50 y	0.86	32:57	100.07				100					
IS		13C-1,2,3,6,7,8-HxCDF	8.39e+06	0.52 y	1.02	33:04	99.099				99.1					
IS		13C-2,3,4,6,7,8-HxCDF	7.71e+06	0.51 y	0.95	33:40	97.762				97.8					
IS		13C-1,2,3,7,8,9-HxCDF	7.14e+06	0.51 y	0.87	34:39	99.316				99.3					
IS		13C-1,2,3,4,6,7,8-HpCDF	6.11e+06	0.43 y	0.81	36:27	91.247				91.2					
IS		13C-1,2,3,4,7,8,9-HpCDF	4.79e+06	0.41 y	0.63	38:15	91.393				91.4					
IS		13C-OCDF	1.23e+07	0.90 y	0.78	41:12	189.70				94.8					
C/Up		37Cl-2,3,7,8-TCDD	8.77e+05		1.22	26:05	9.5064				95.1					
											Integrations					
											by					
RS/RT		13C-1,2,3,4-TCDD	7.58e+06	0.84 y	1.00	25:29	100.00				Analyst: DB					
RS		13C-1,2,3,4-TCDF	1.19e+07	0.79 y	1.00	24:05	100.00									
RS/RT		13C-1,2,3,4,6,9-HxCDF	8.29e+06	0.51 y	1.00	33:22	100.00									
											closure					

Analyst: DB Date: 6/25/19
 Analyst: CT Date: 06/26/19

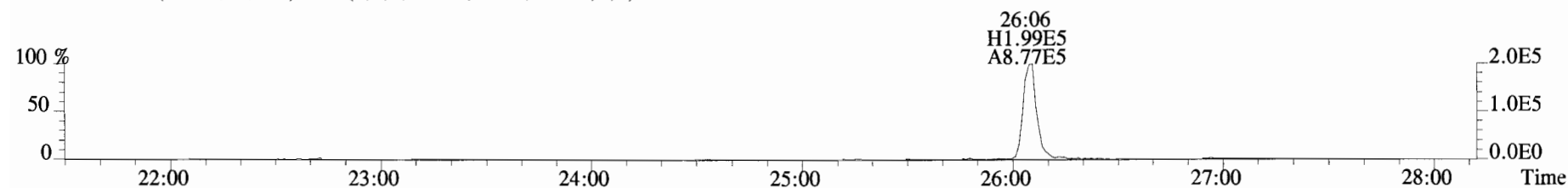
File:190625D1 #1-514 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



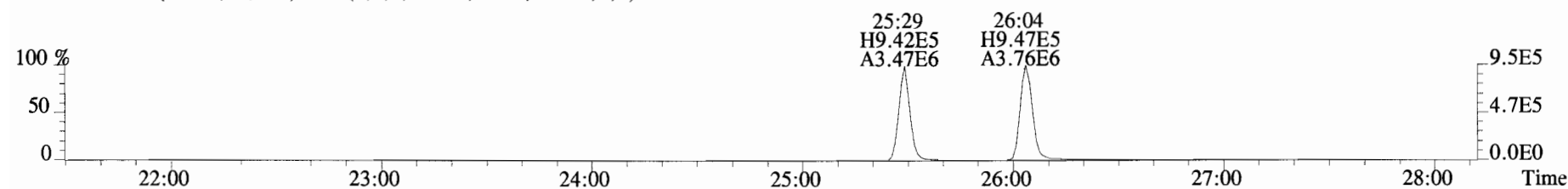
321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



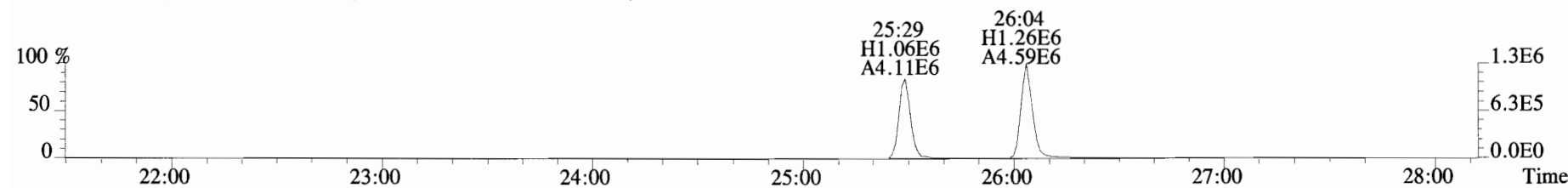
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



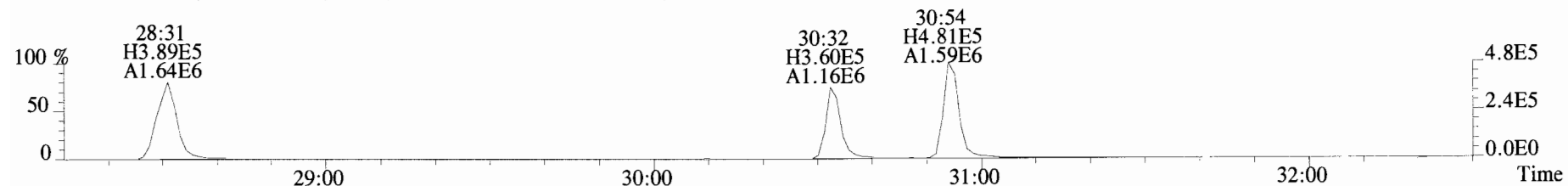
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



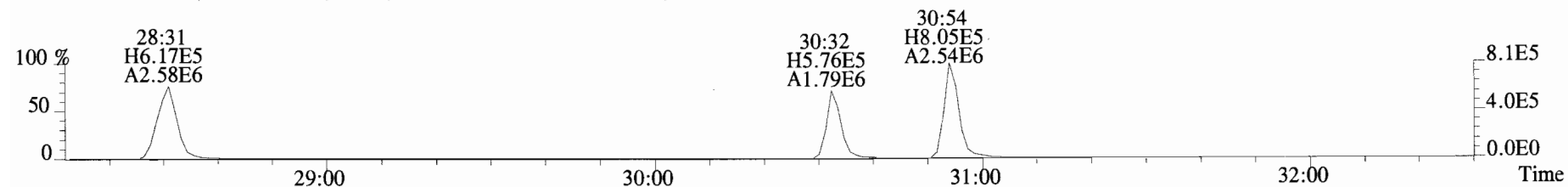
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



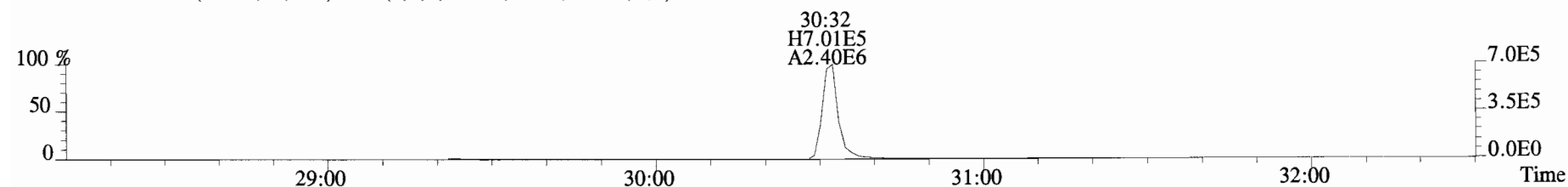
File:190625D1 #1-184 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



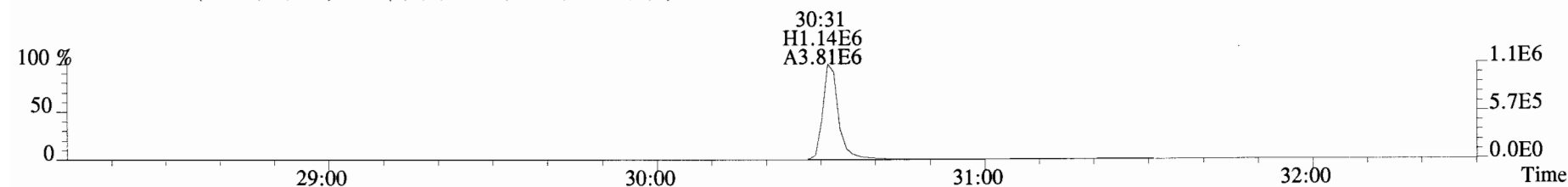
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



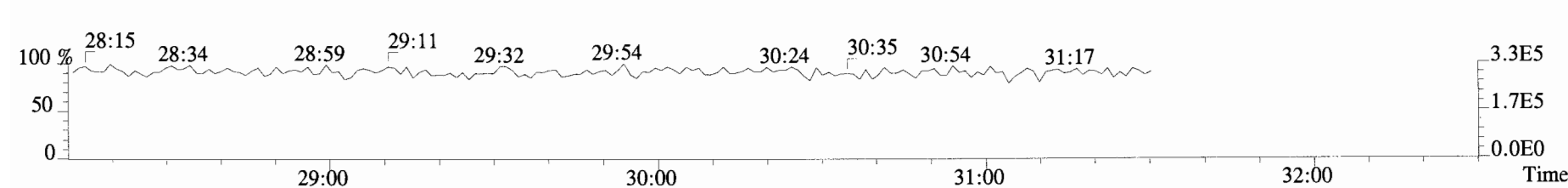
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



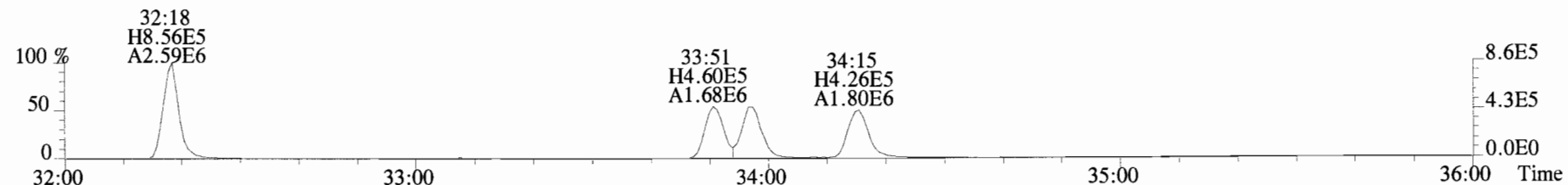
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



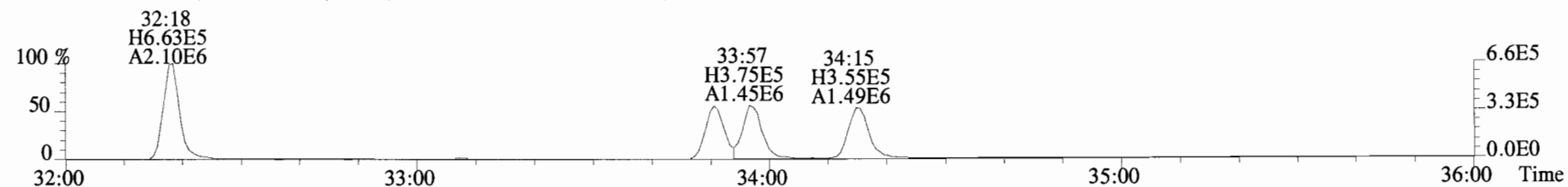
366.9792 F:2



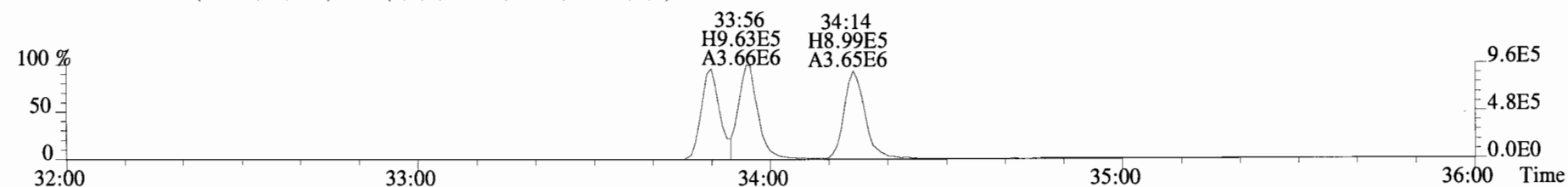
File:190625D1 #1-400 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



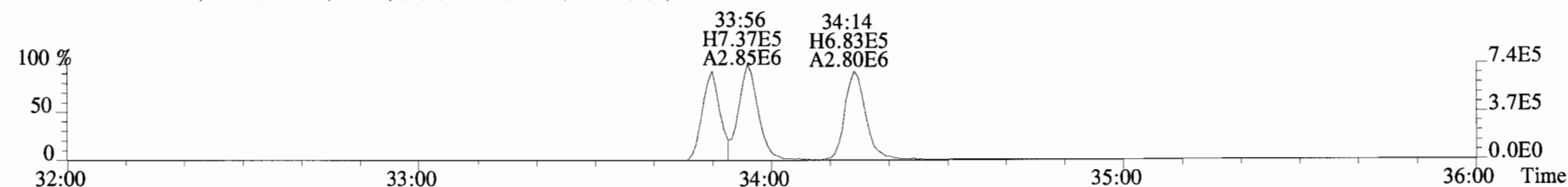
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



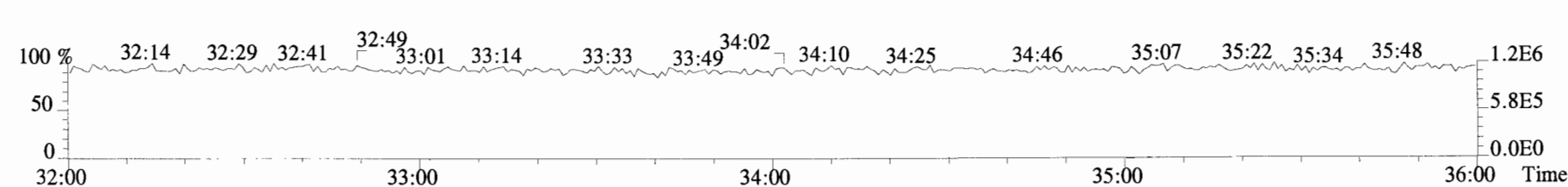
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



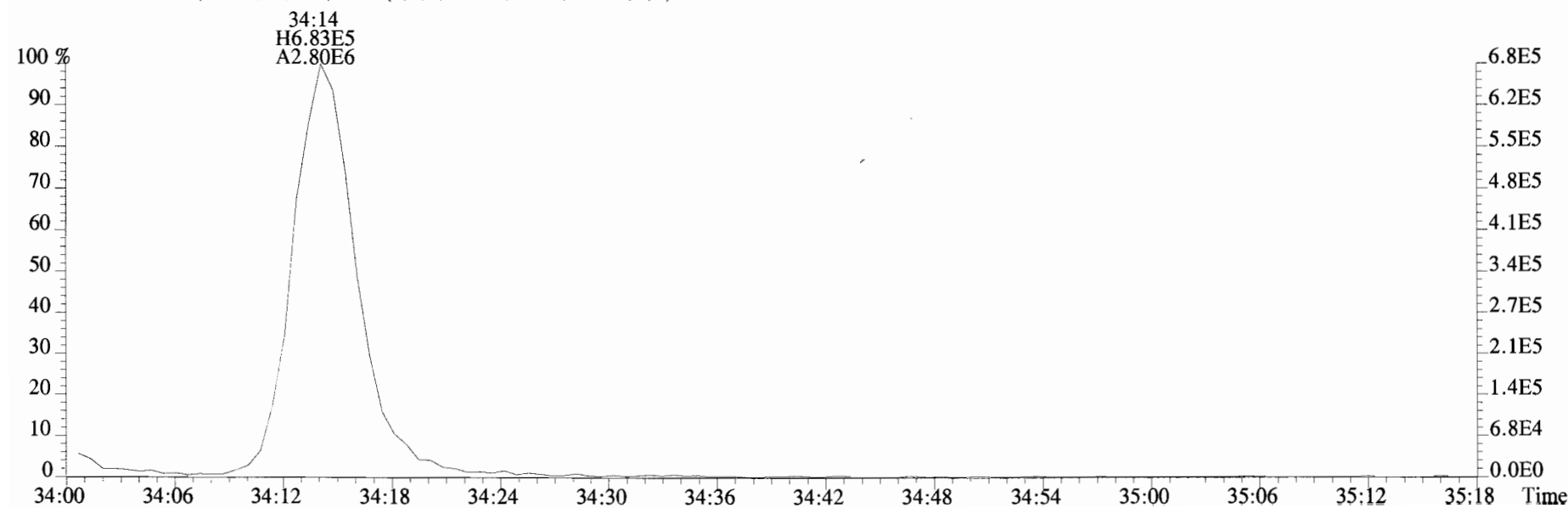
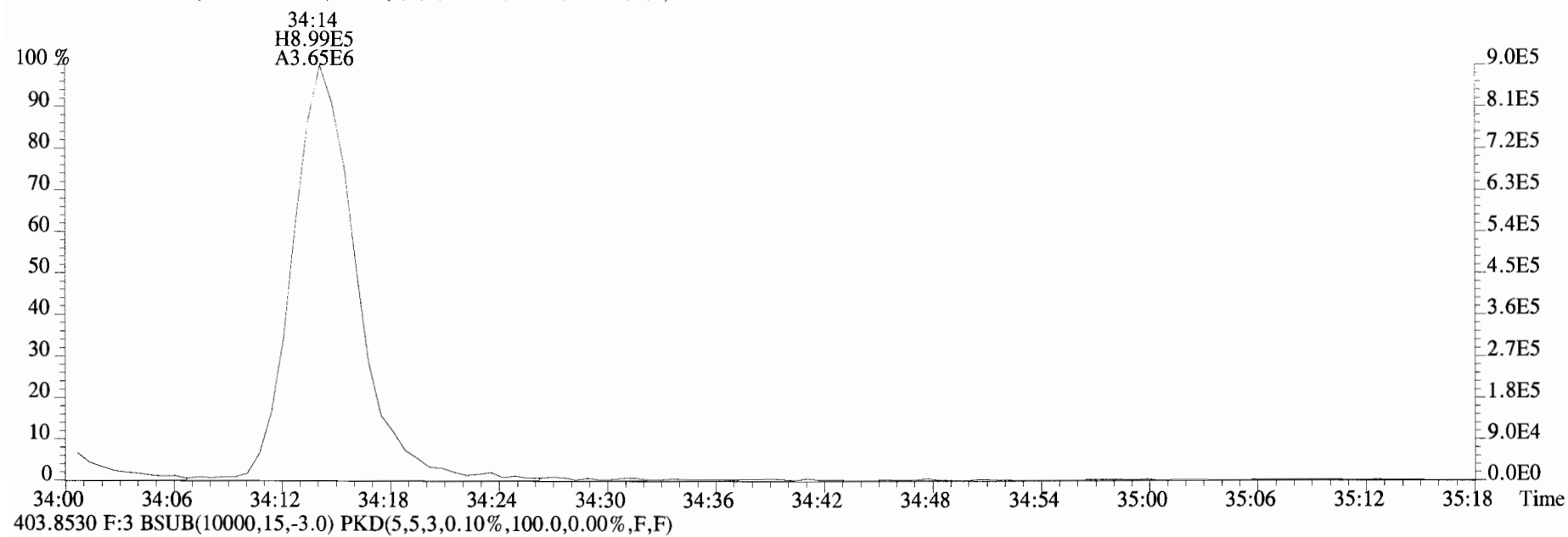
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



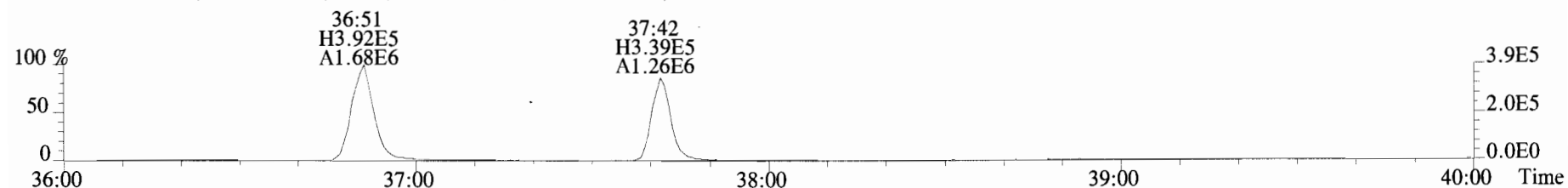
392.9760 F:3



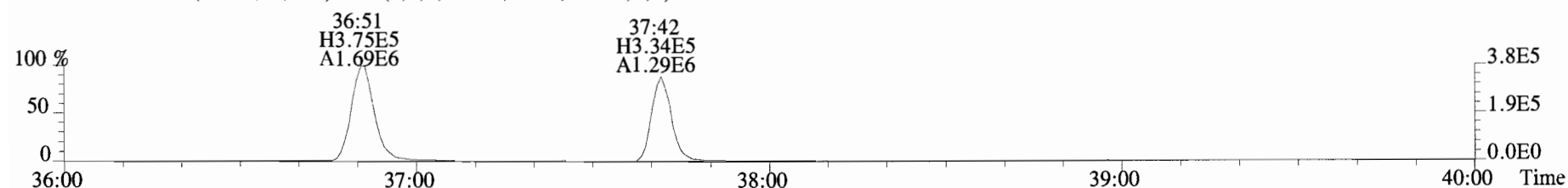
File:190625D1 #1-400 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



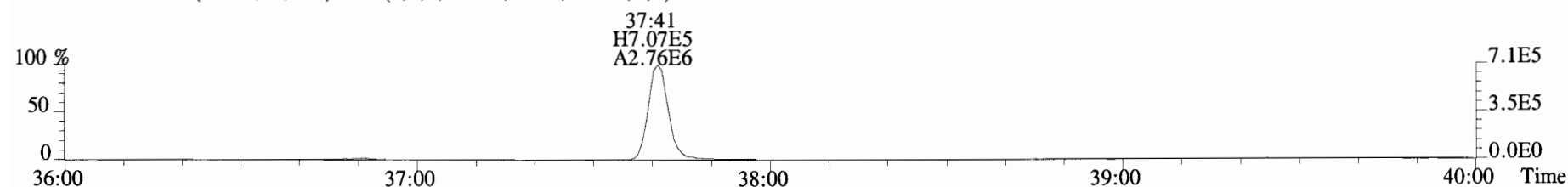
File:190625D1 #1-355 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



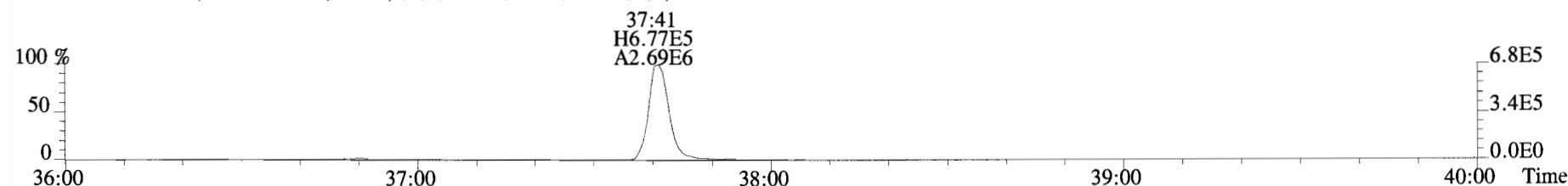
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



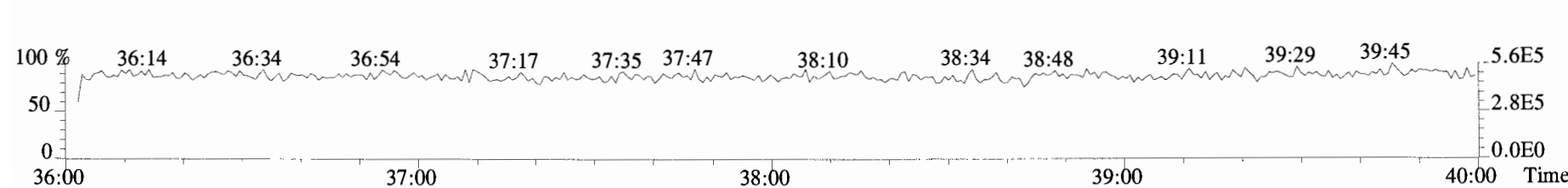
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



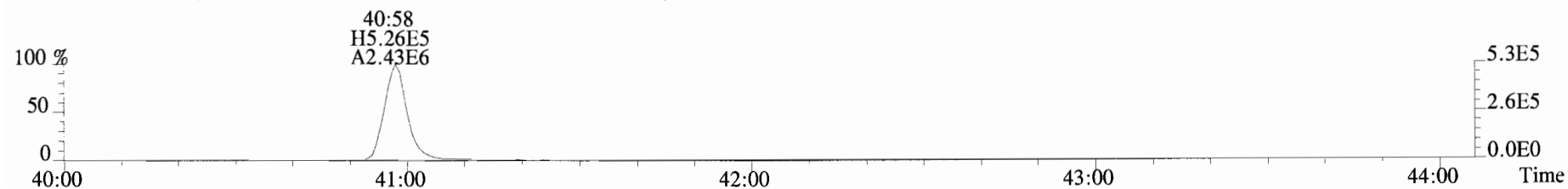
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



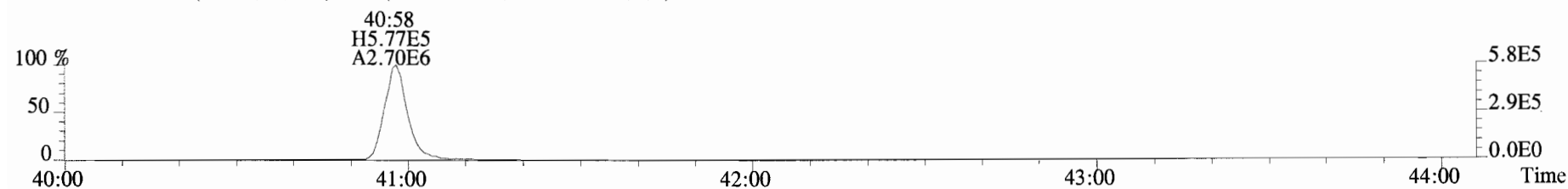
454.9728 F:4



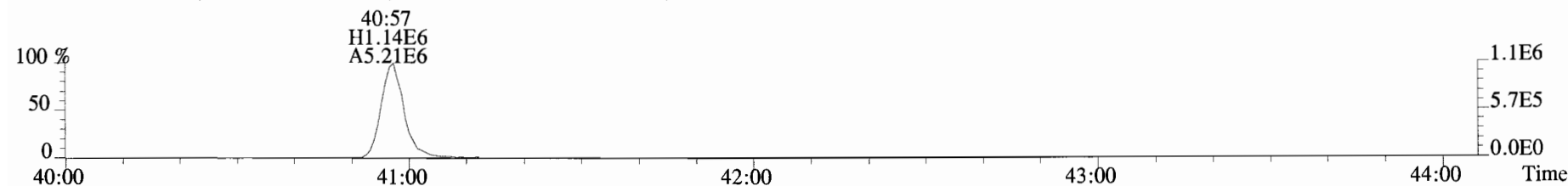
File:190625D1 #1-432 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



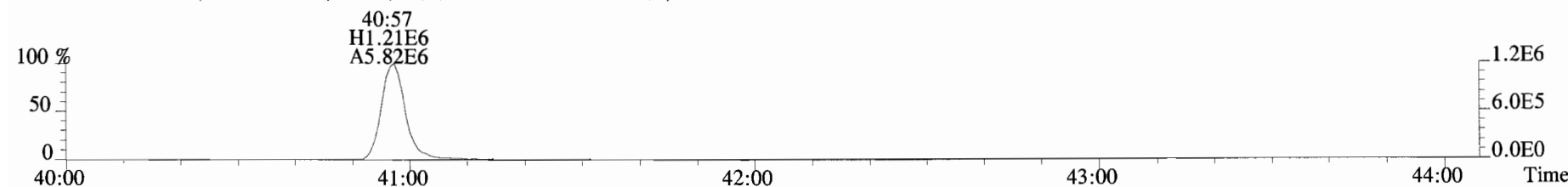
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



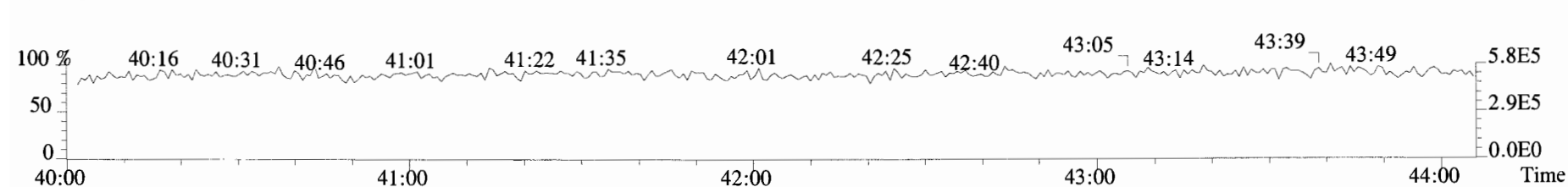
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



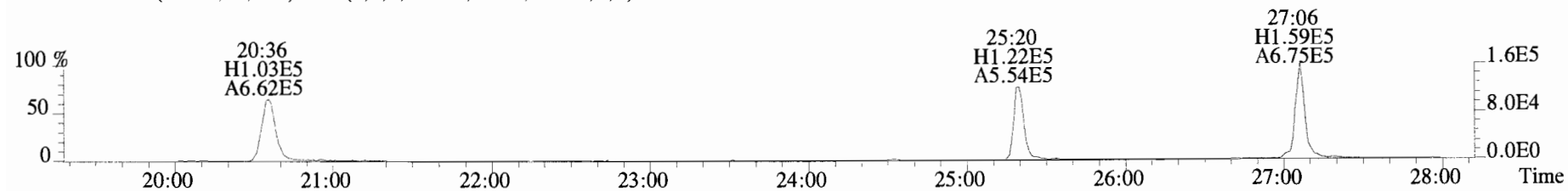
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



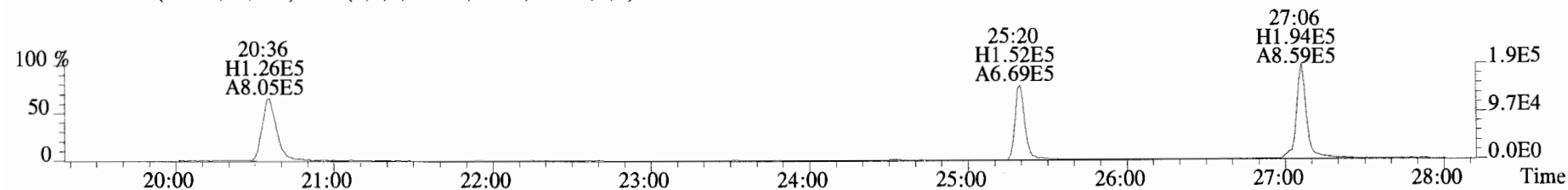
454.9728 F:5



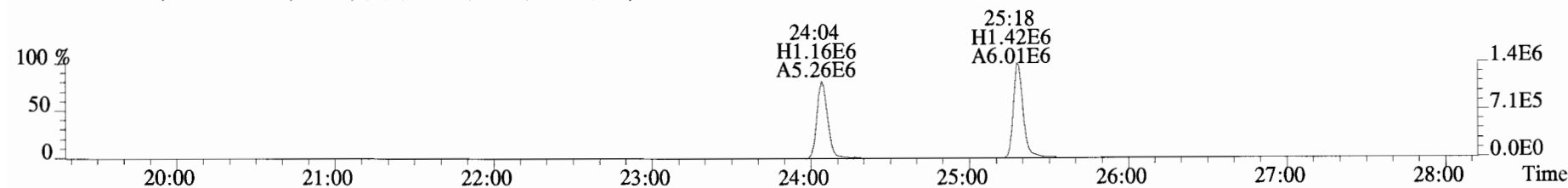
File:190625D1 #1-514 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



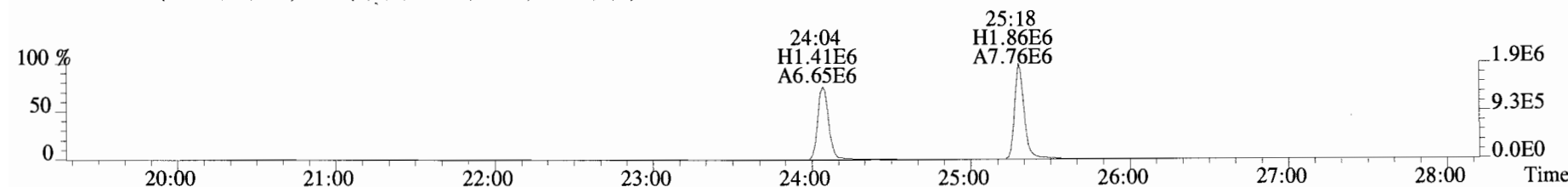
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



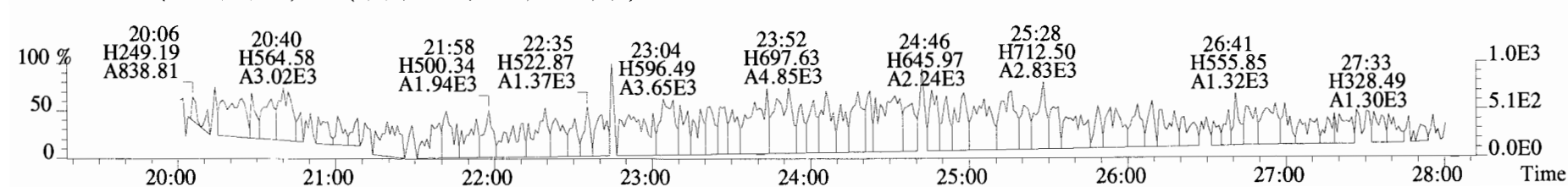
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



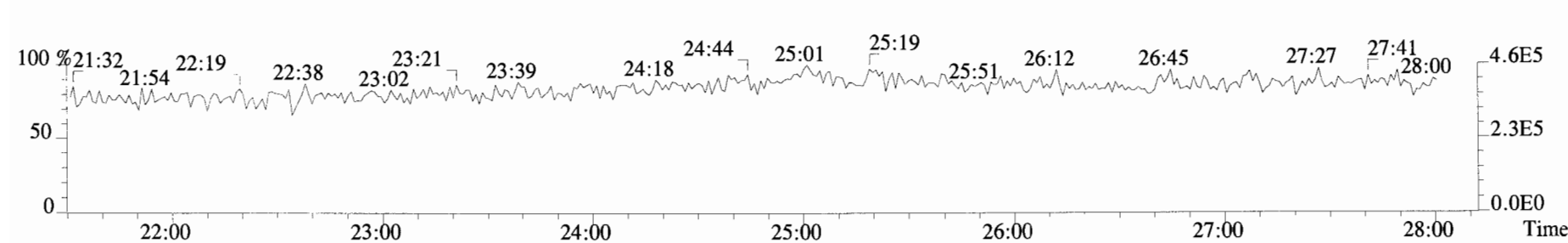
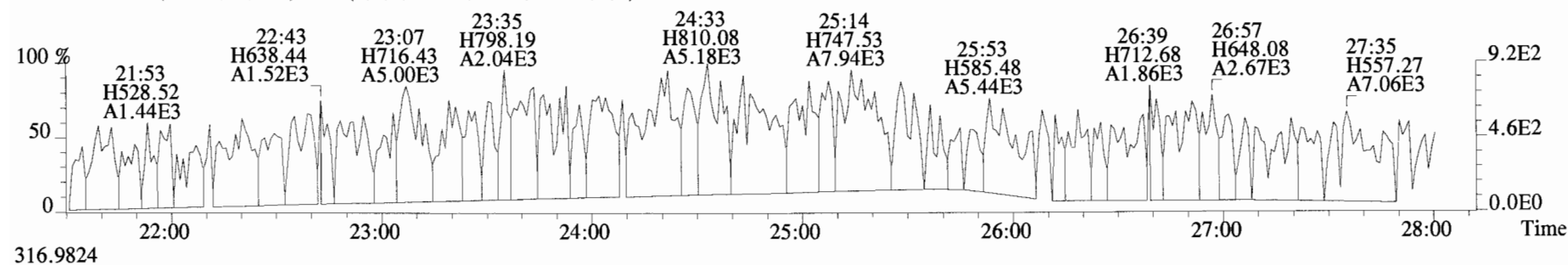
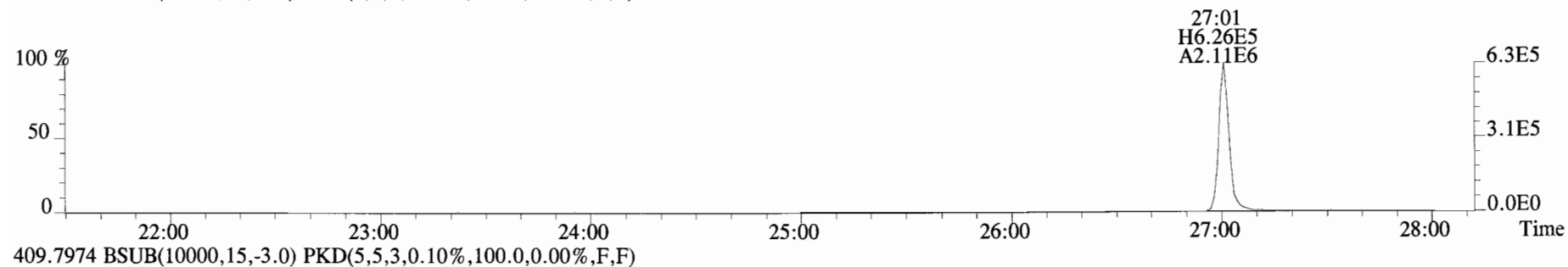
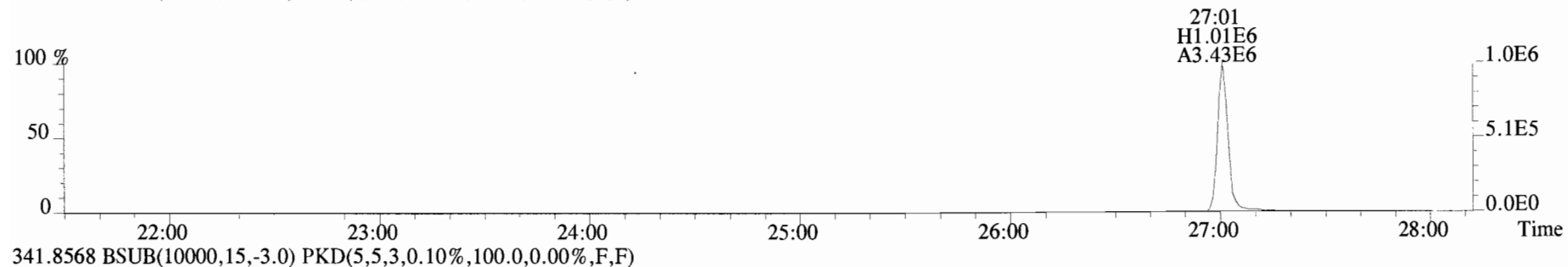
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



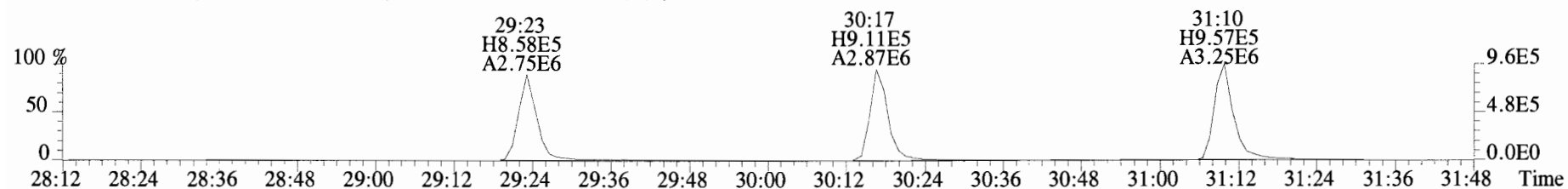
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



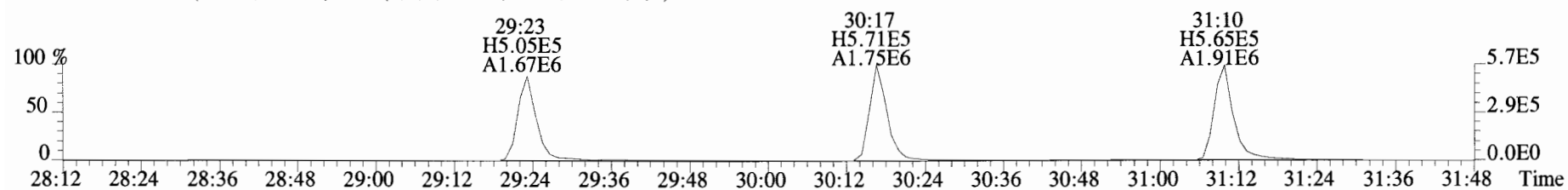
File:190625D1 #1-514 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



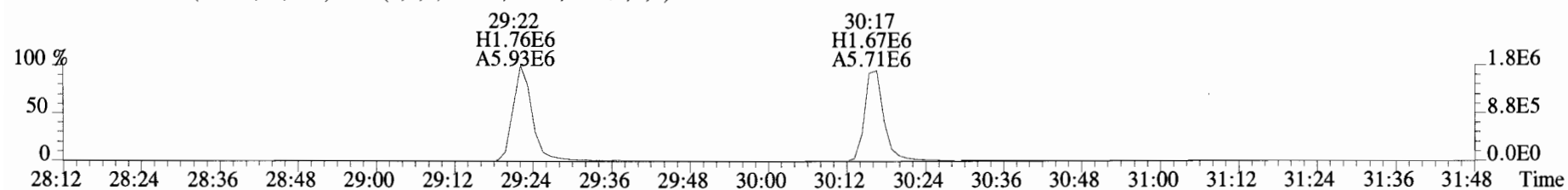
File:190625D1 #1-184 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text: Vista Analytical Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



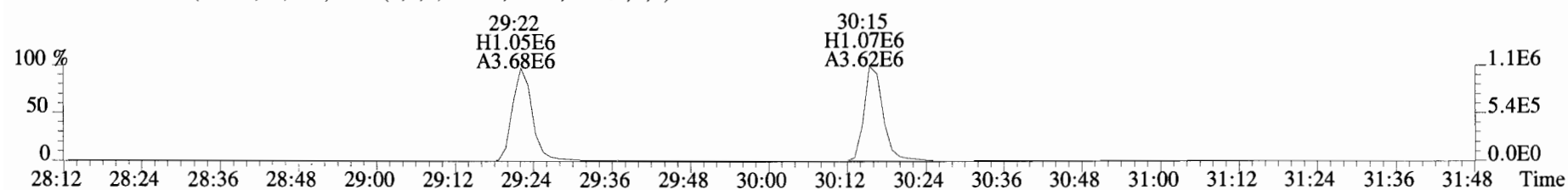
341.8568 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



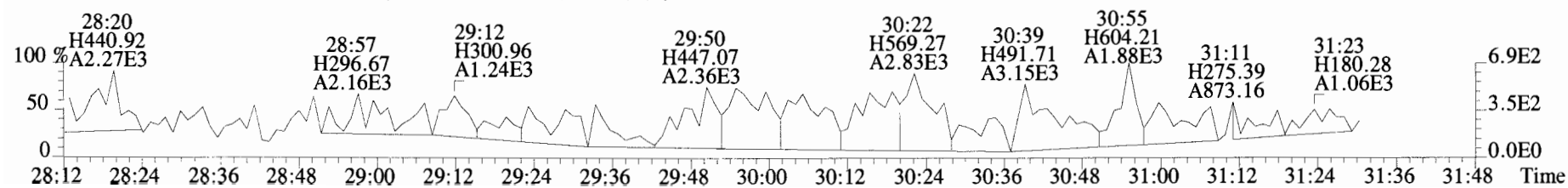
351.9000 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



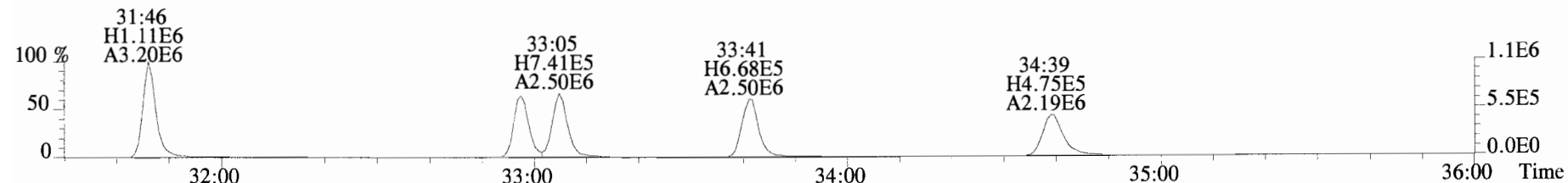
353.8970 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



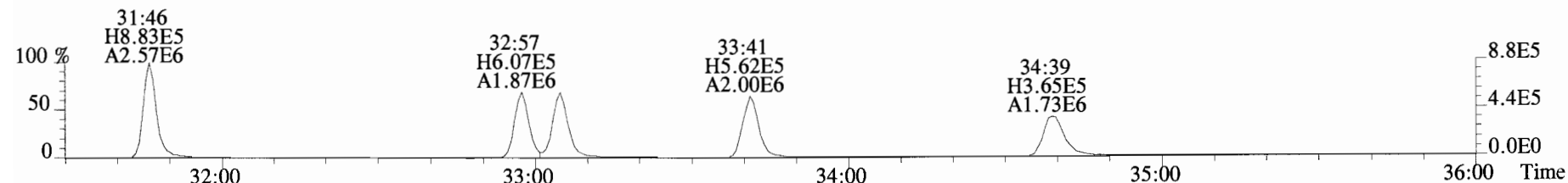
409.7974 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



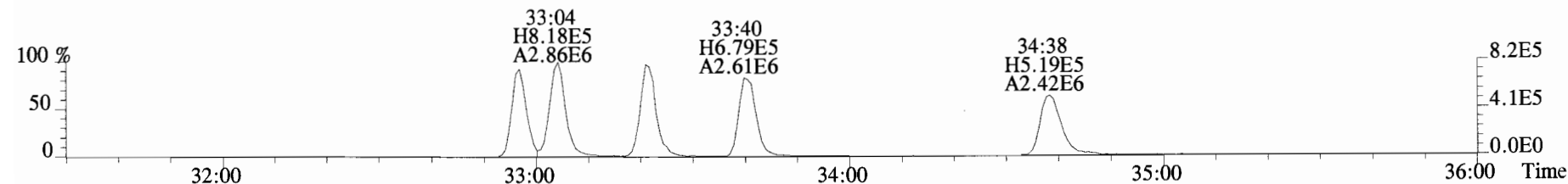
File:190625D1 #1-400 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



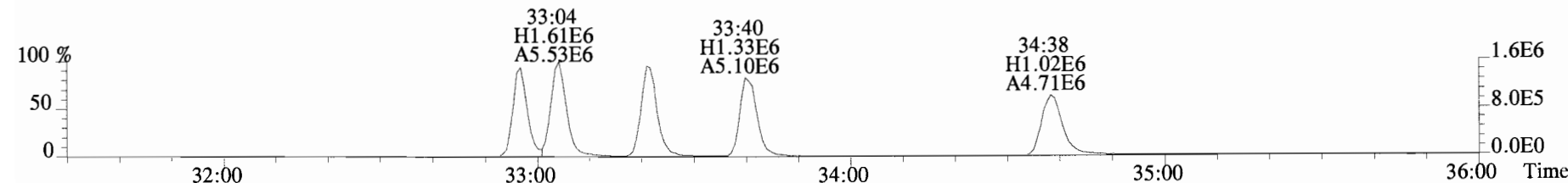
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



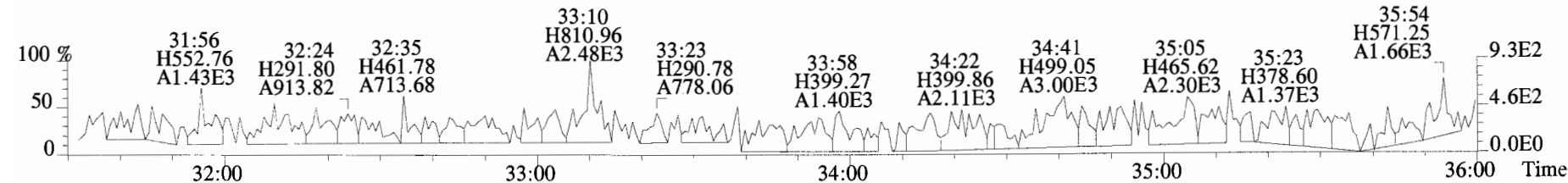
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



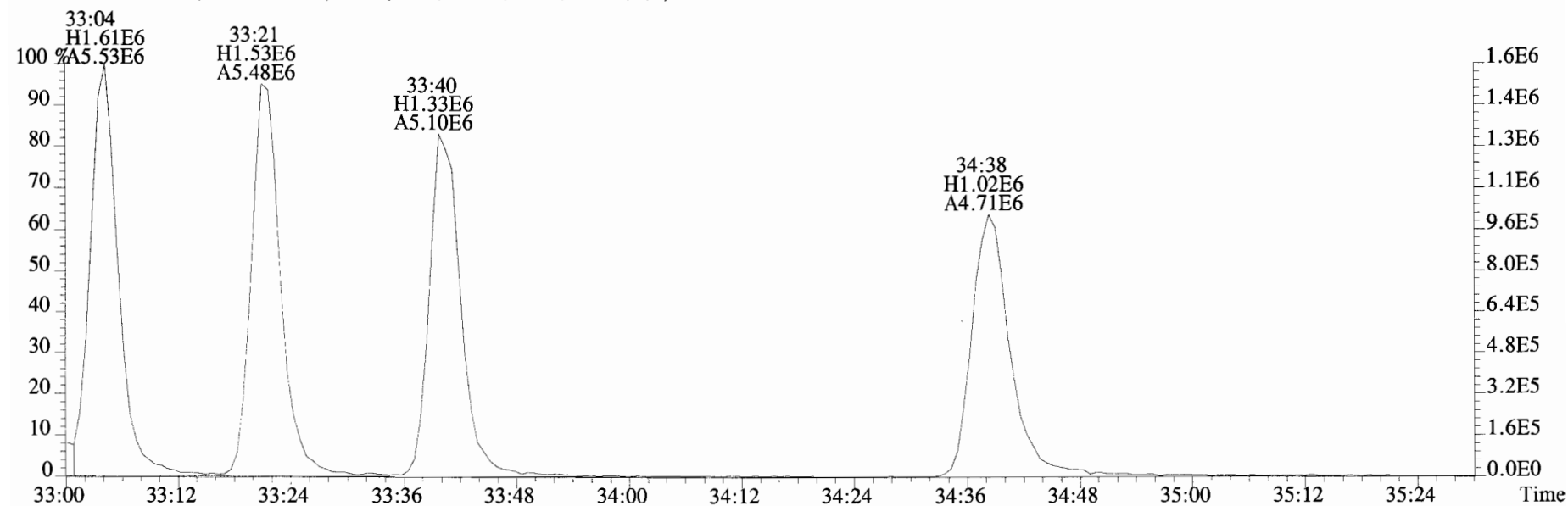
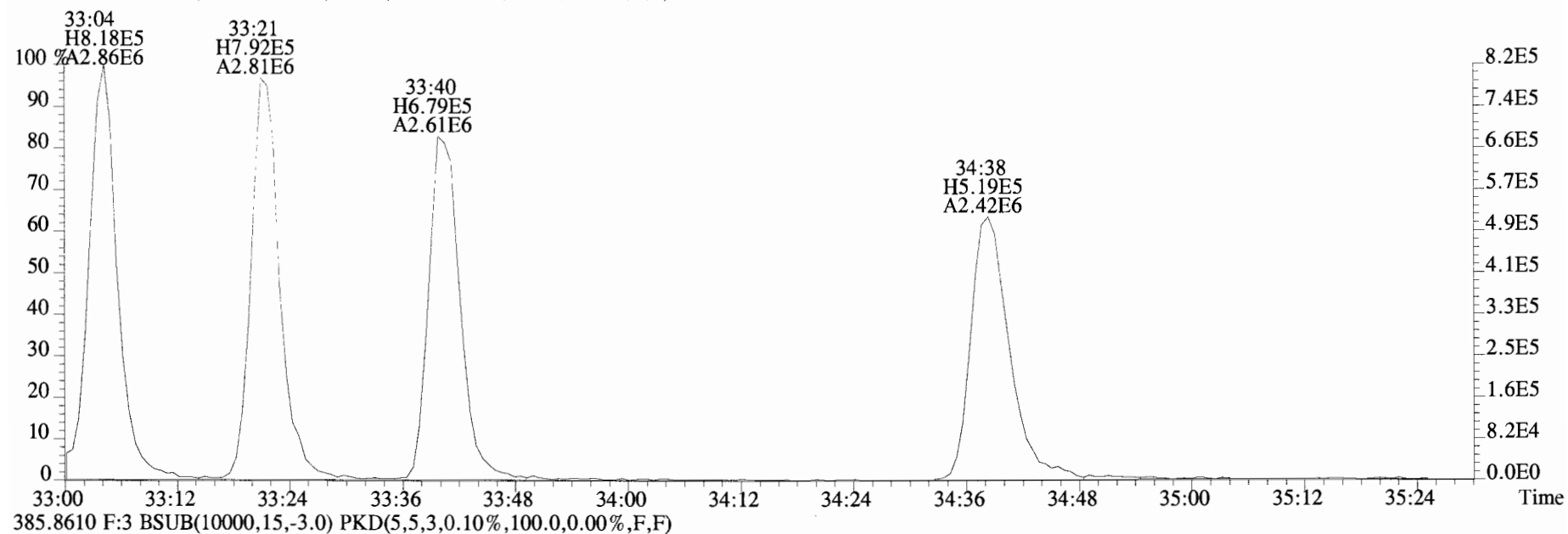
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



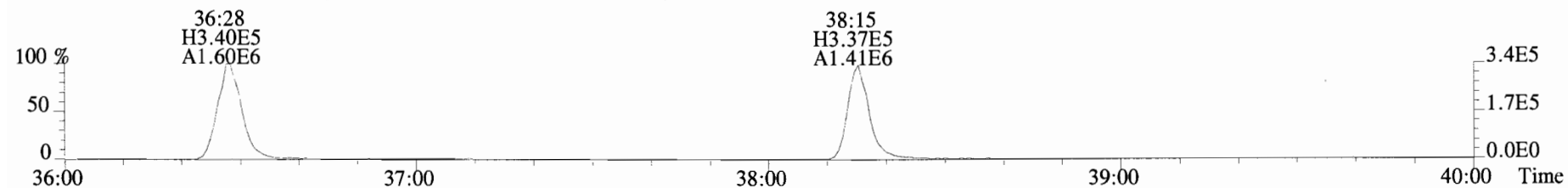
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



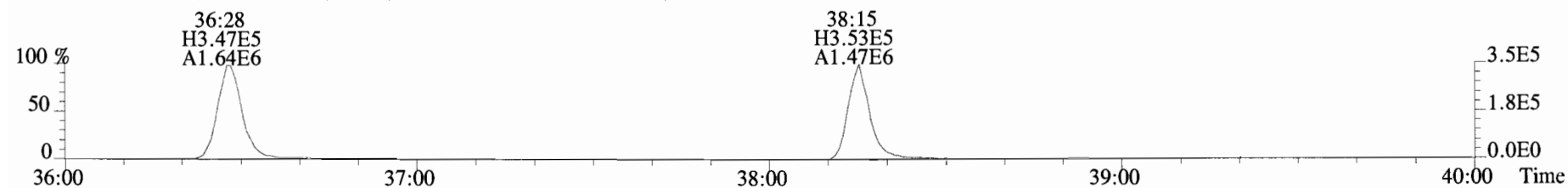
File:190625D1 #1-400 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



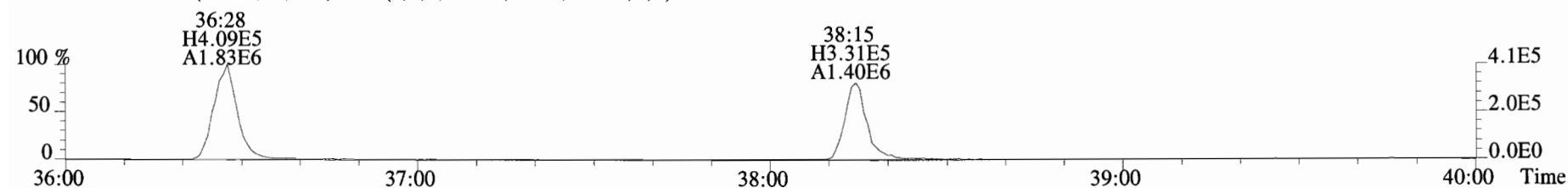
File:190625D1 #1-355 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



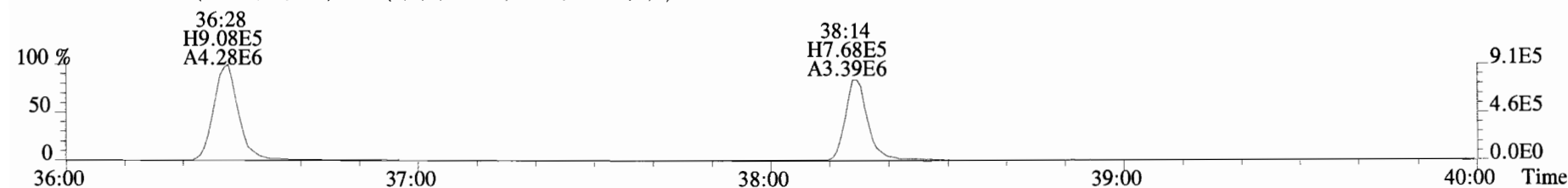
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



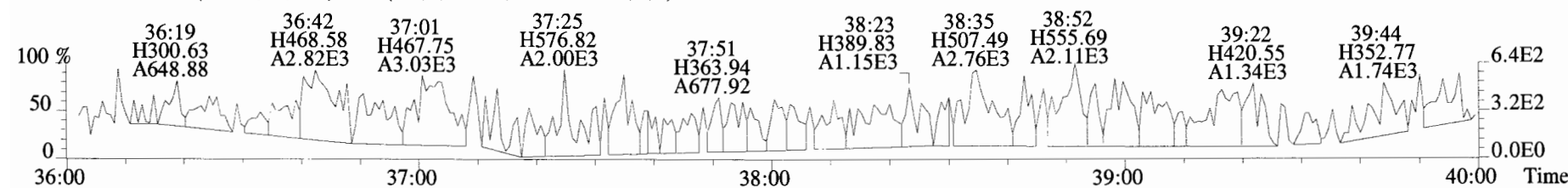
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



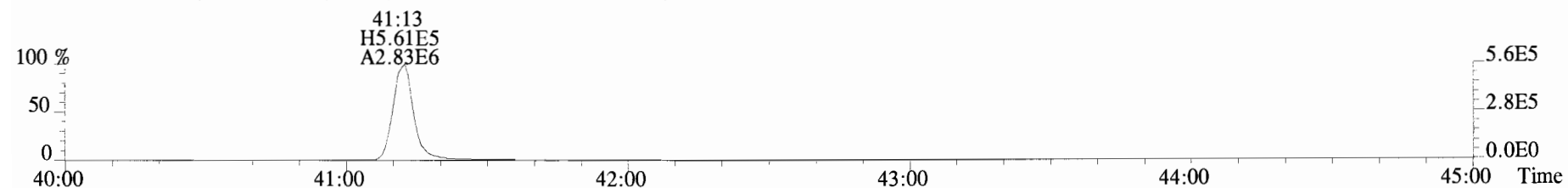
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



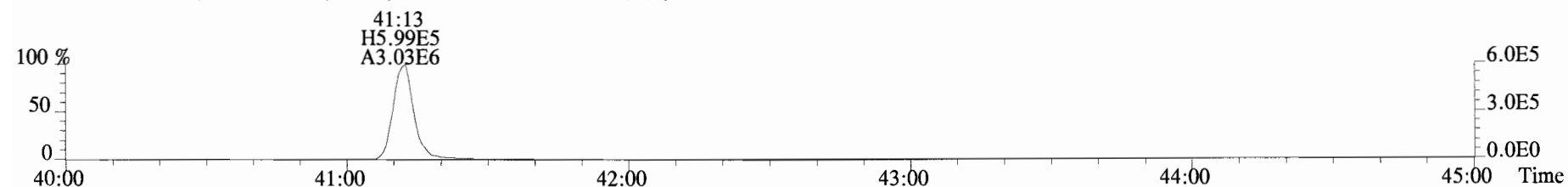
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



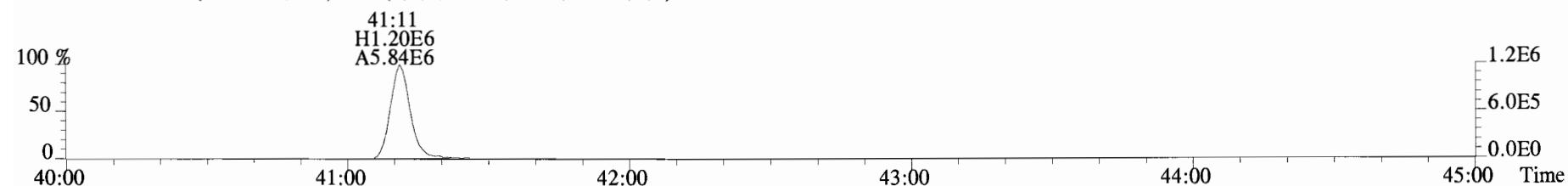
File:190625D1 #1-432 Acq:25-JUN-2019 15:05:35 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190625D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



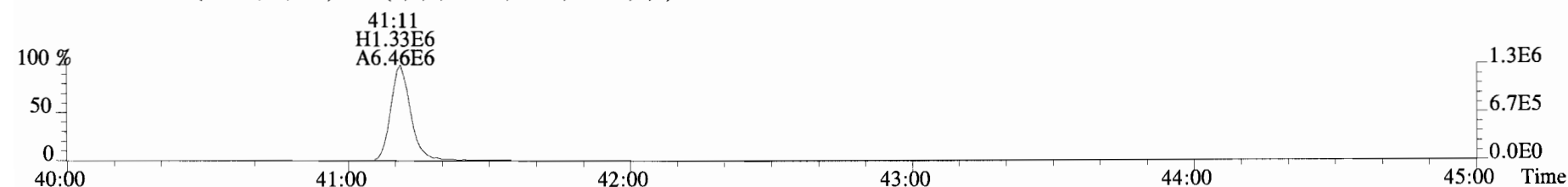
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



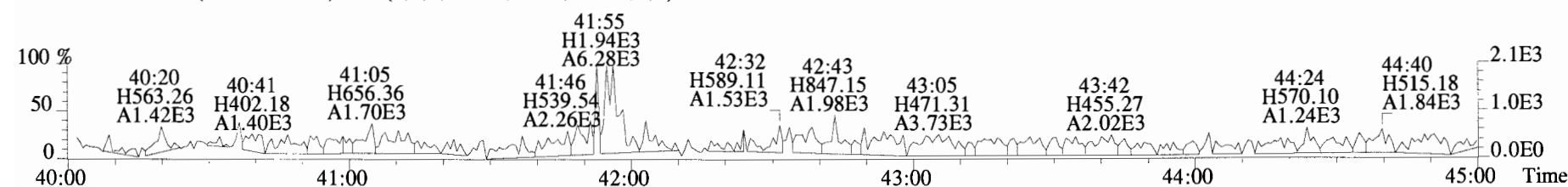
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

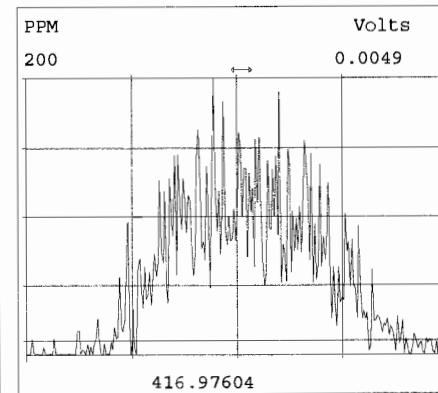
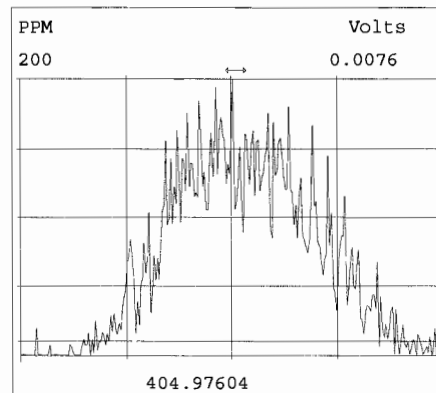
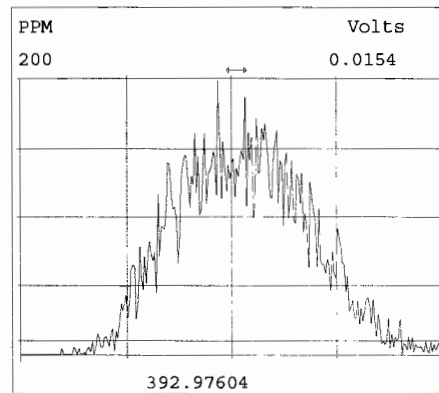
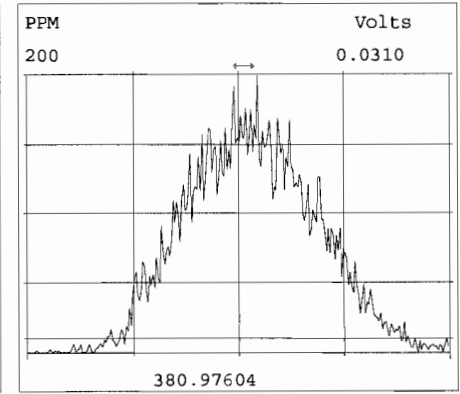
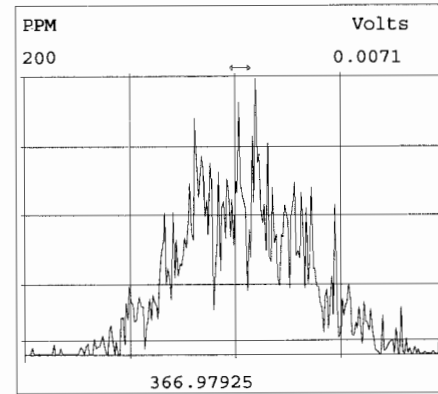
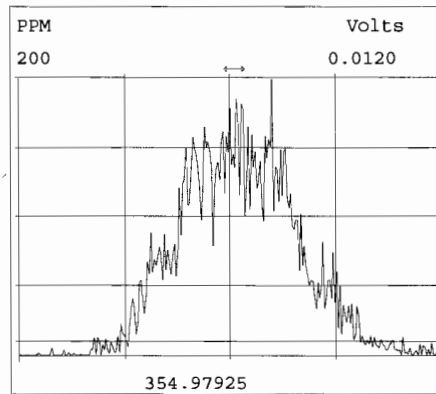
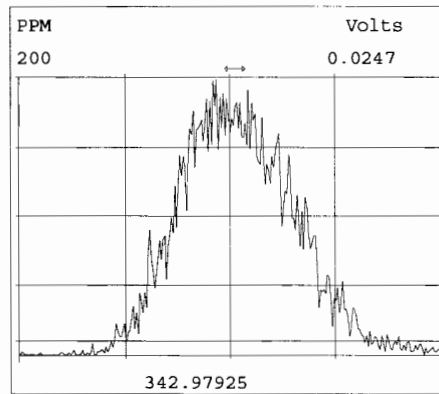
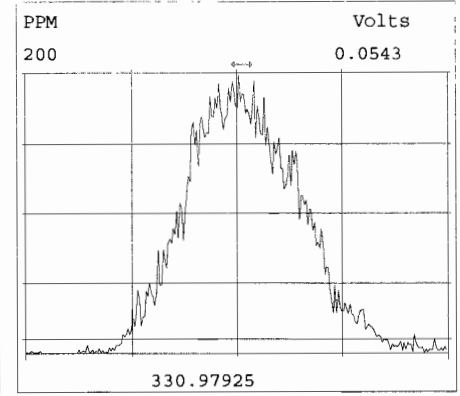
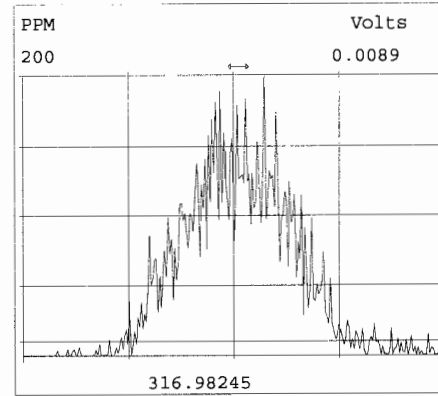
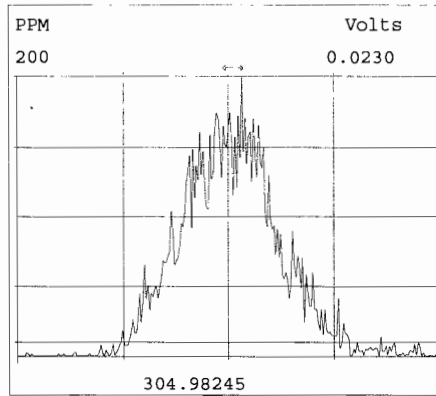
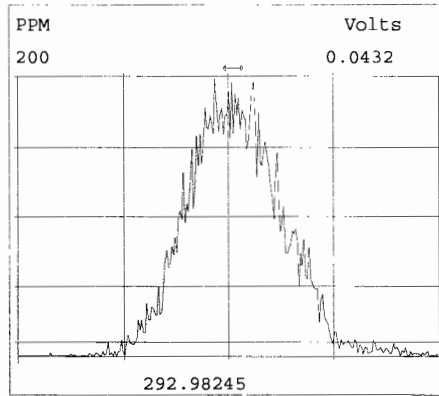


455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



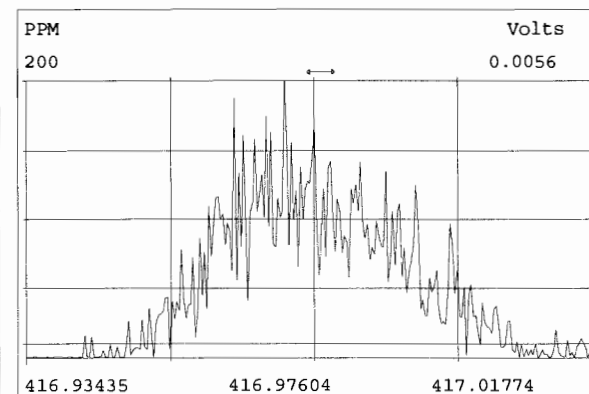
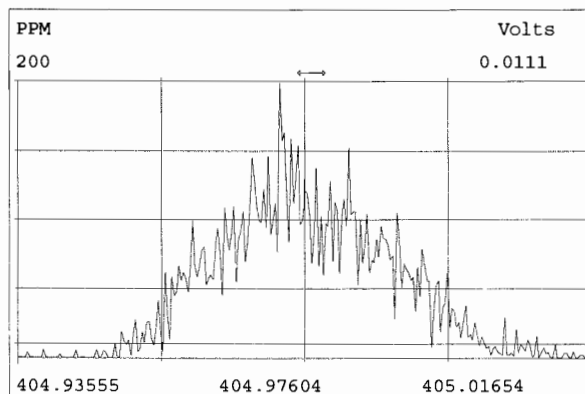
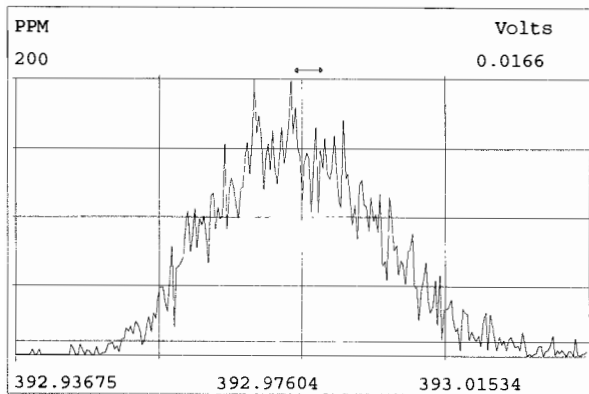
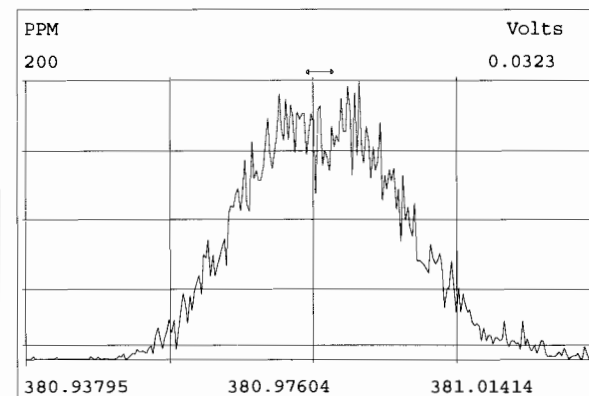
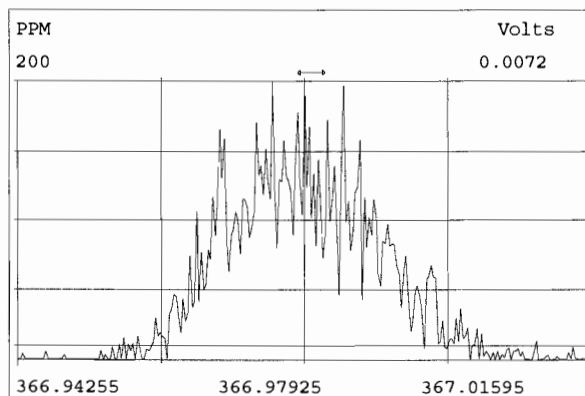
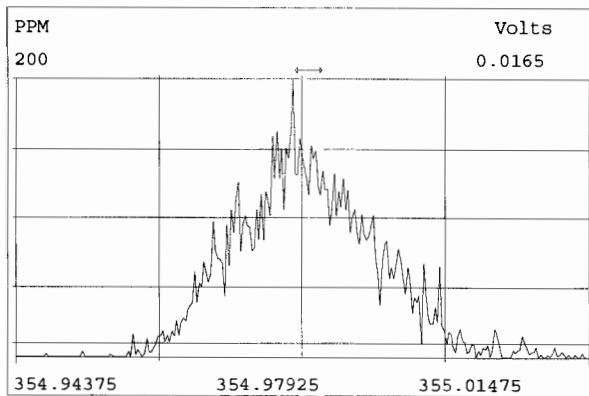
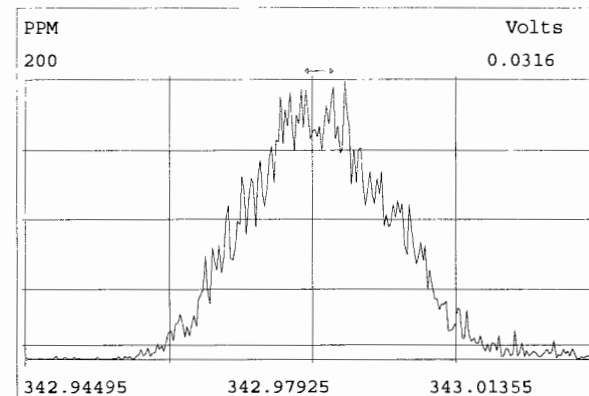
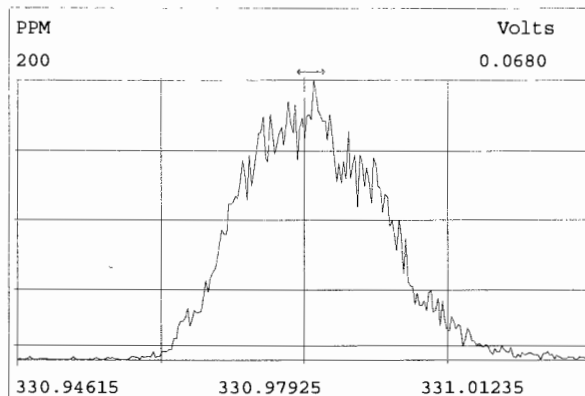
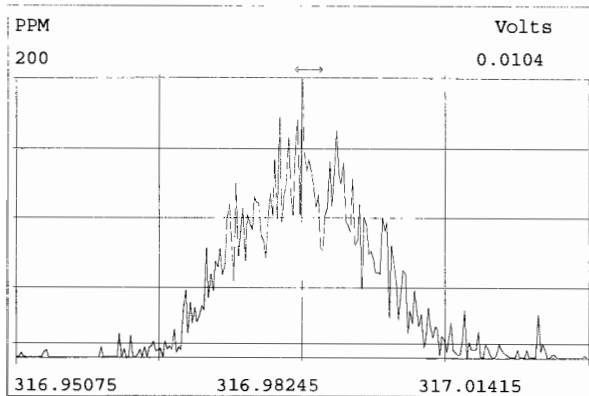
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)





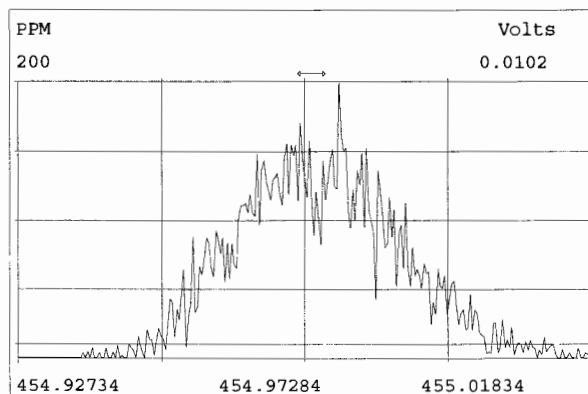
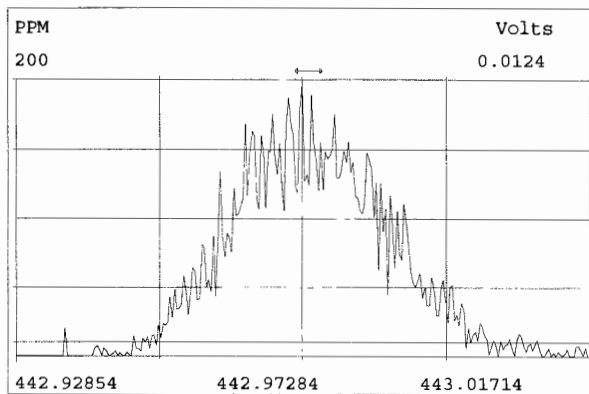
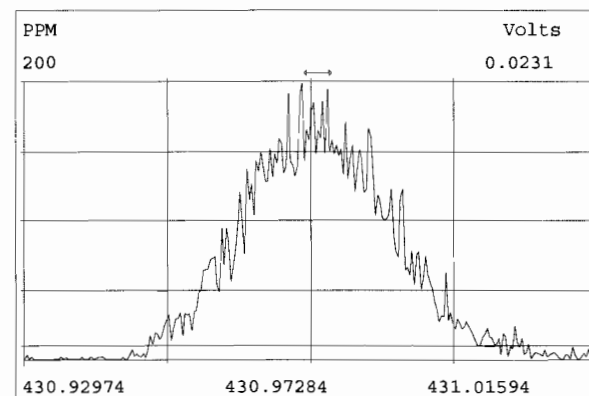
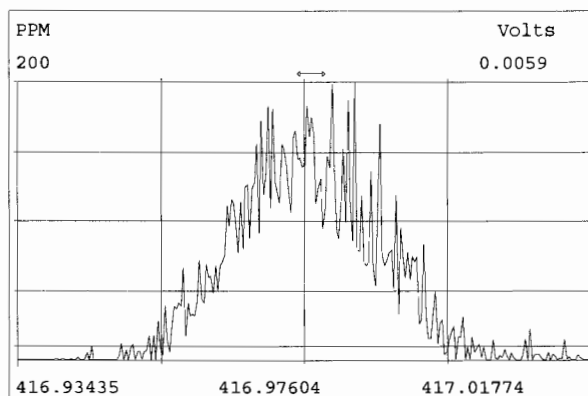
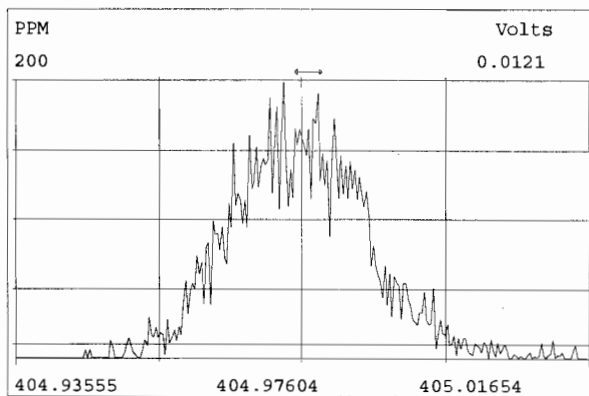
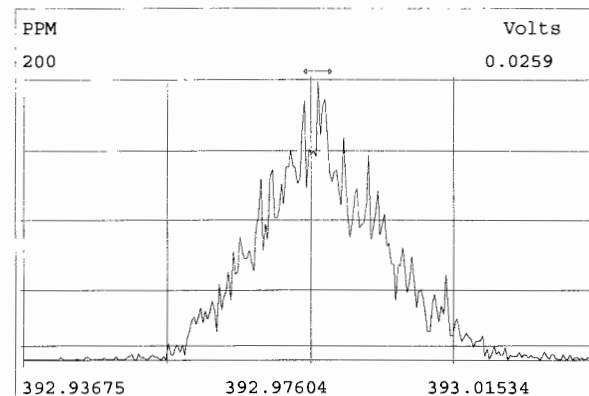
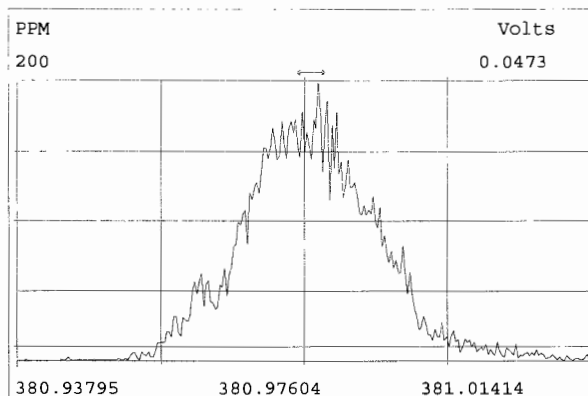
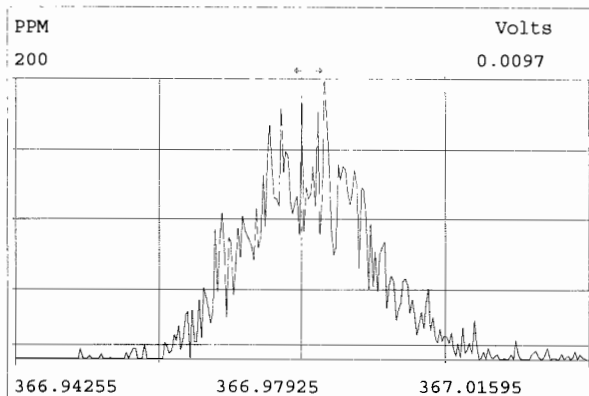
Peak Locate Examination:26-JUN-2019:03:11 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK



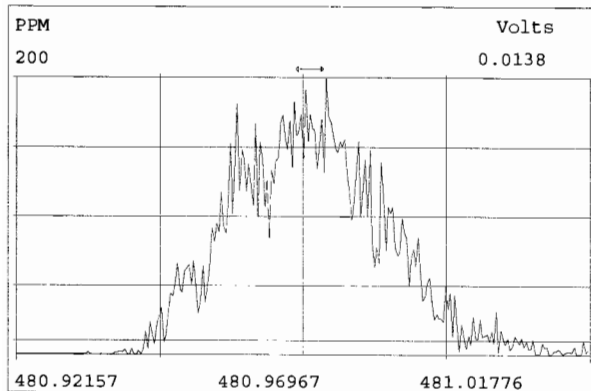
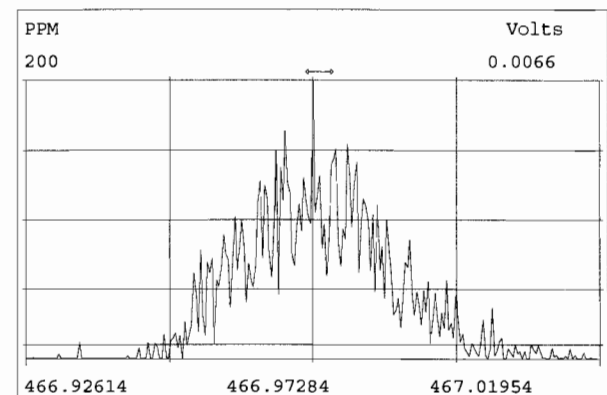
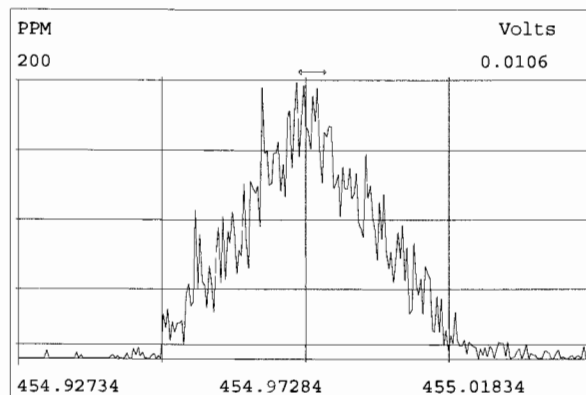
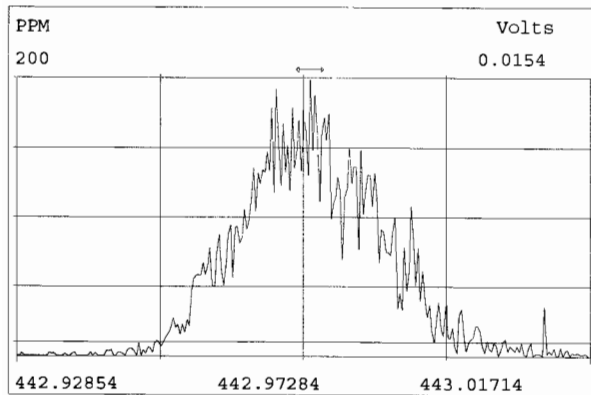
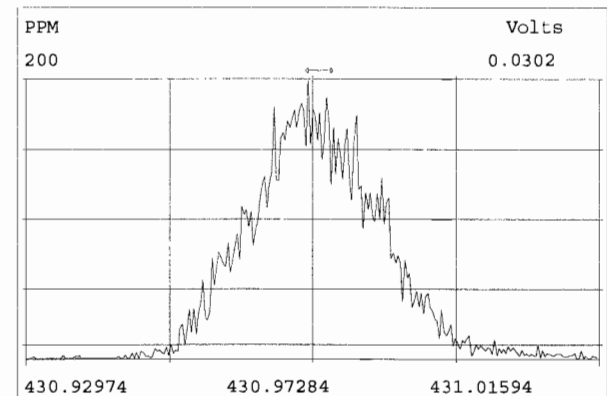
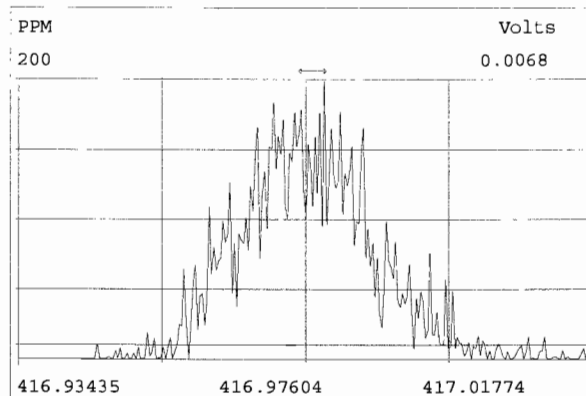
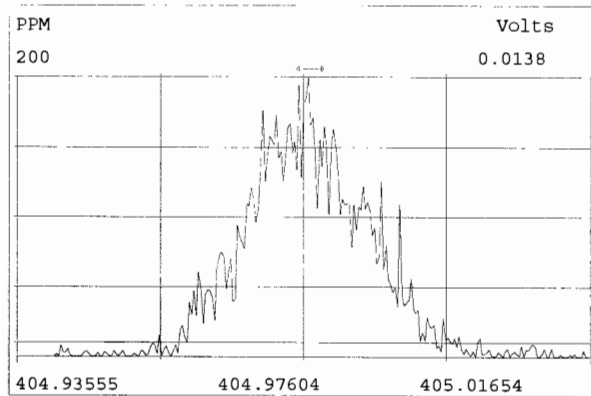
Peak Locate Examination:26-JUN-2019:03:12 File:RES_CHECK

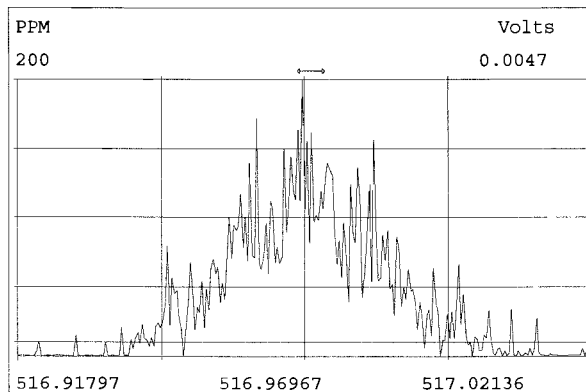
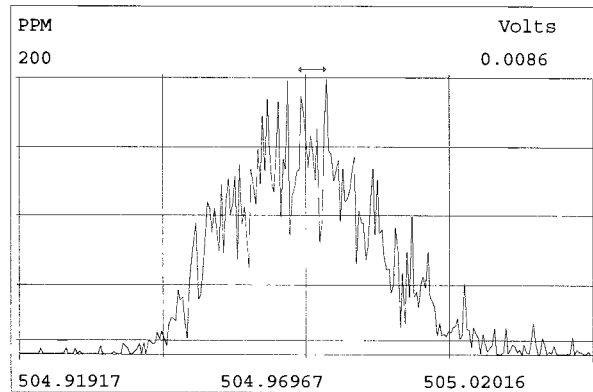
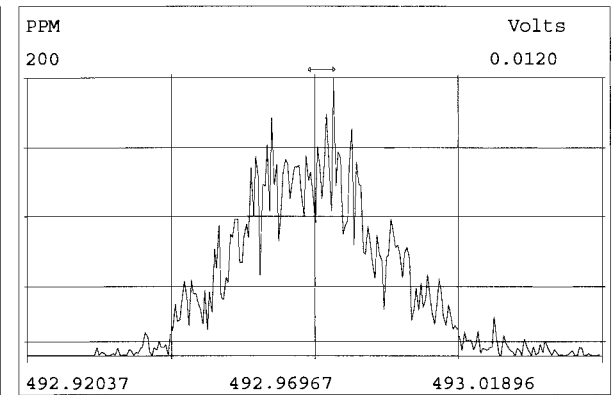
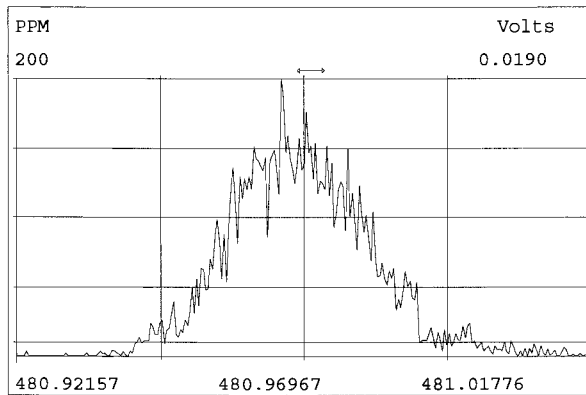
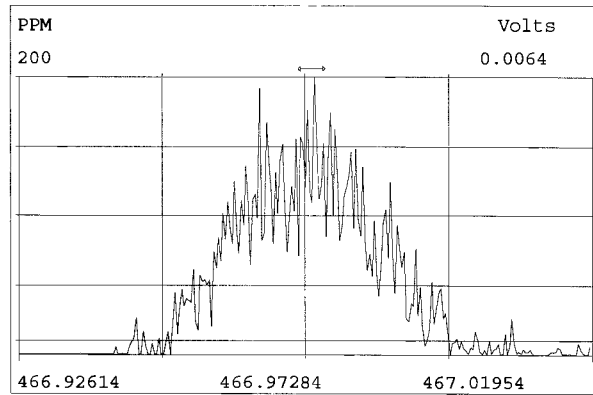
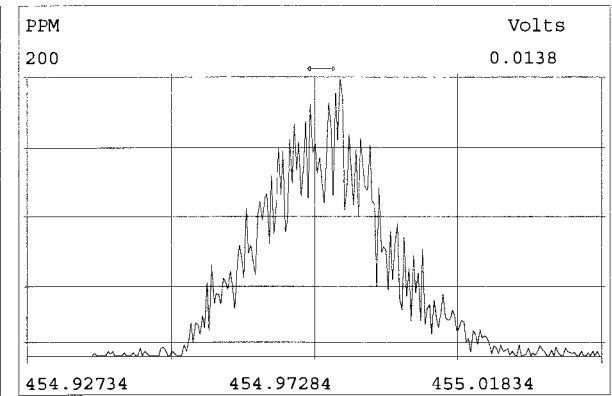
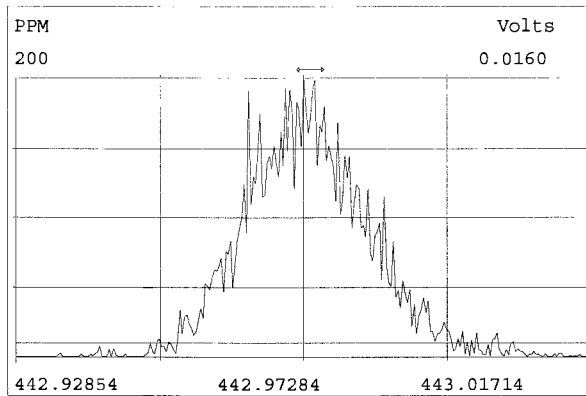
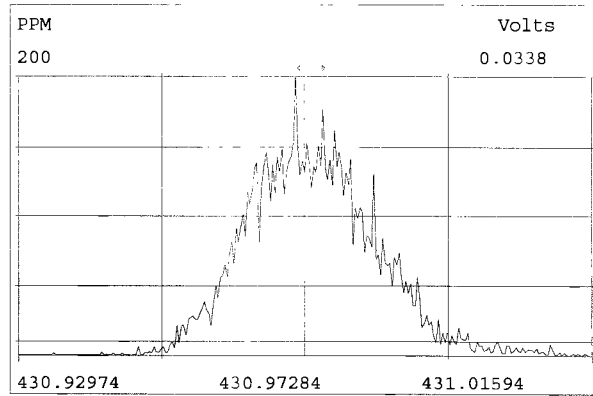
Experiment:OCDD_DB5 Function:3 Reference:PFK



Peak Locate Examination:26-JUN-2019:03:13 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK





HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190701D1-1

Reviewed By: CT 07/02/19
Initials & Date

End Calibration ID: NA

	Beg.	End
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"/> P
- Samples within 12 hour clock?	<u>(Y)</u>	N
- Bottle position verified?	<u>DB</u>	

Mass resolution ≥

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

☐ NA

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

☐ NA

Comments:

Beg.	End
<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/> NA

FORM 4A/4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory

CCAL ID: ST190701D1-1

Initial Calibration Date: 5-30-19

Instrument ID: VG-7

GC Column ID: DB-225

VER Data Filename: 190701D1 S#2 Analysis Date: 1-JUL-19 Time: 09:56:21

ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	CONC. FOUND	CONC. RANGE 1613 (ng/mL)	CONC. RANGE 8290 (ng/mL)
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	10.0	8.4 - 12.0 (3) 8.6 - 11.6 (4)	8.0 - 12.0
13C-2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	112.8	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: 7/1/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190701D1-1

Filename: 190701D1 S:2 Acq: 1-JUL-19 09:56:21
GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

ConCal: ST190701D1-1
EndCAL: NA

Page 1 of 1

Name	Resp	RA	RT	RRF	Conc	Rec
13C-1,2,3,4-TCDF	1.37e+07	0.82 y	15:13	1.00	100.0	-
13C-2,3,7,8-TCDF	1.57e+07	0.78 y	17:20	1.02	112.8	112.8
2,3,7,8-TCDF	1.50e+06	0.79 y	17:21	0.95	10.04	

Integrations
by
Analyst: DB

Date: 7/1/19

Reviewed
by
Analyst: C7

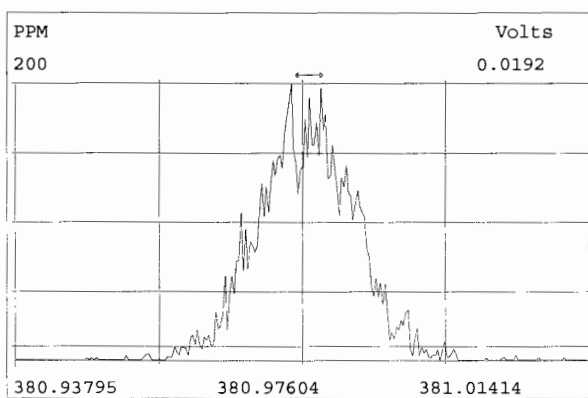
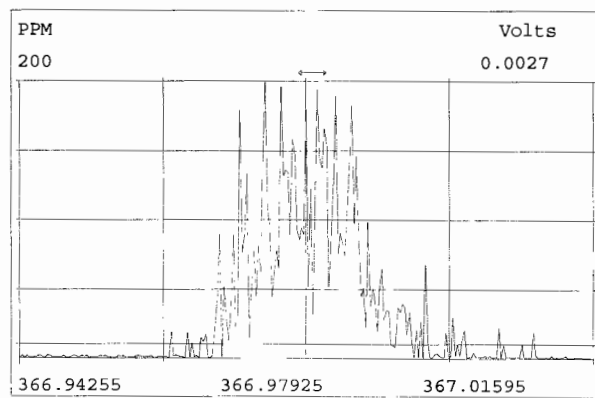
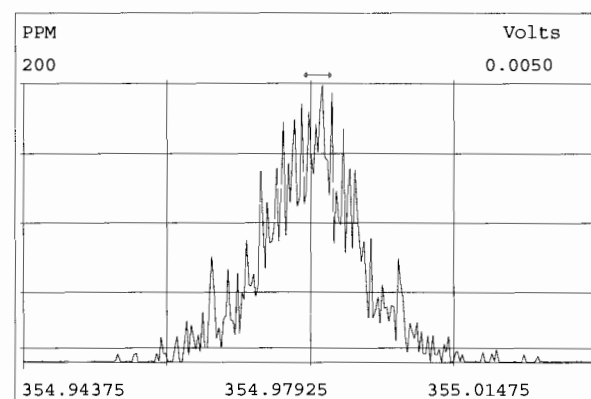
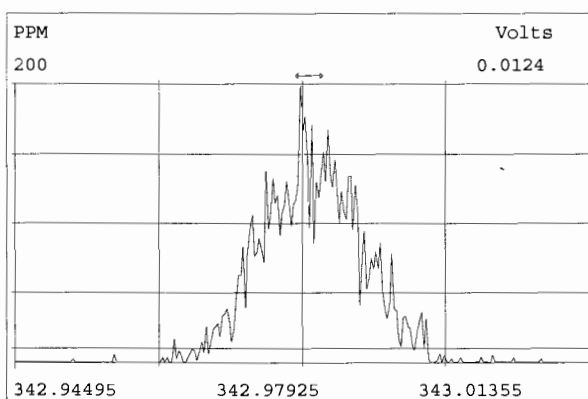
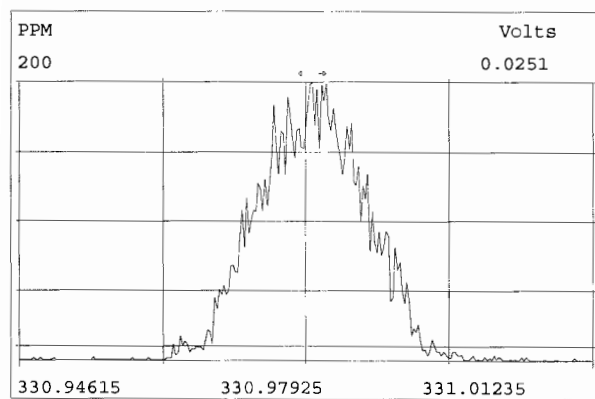
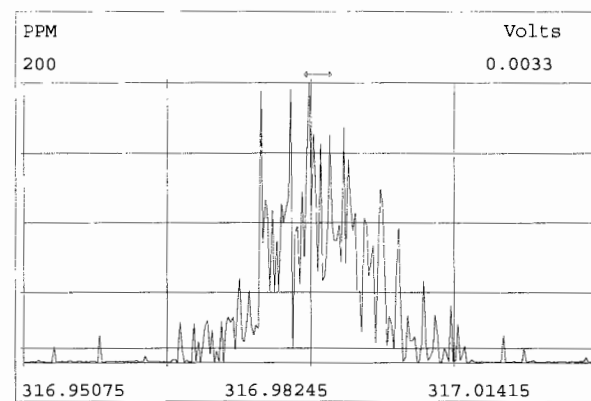
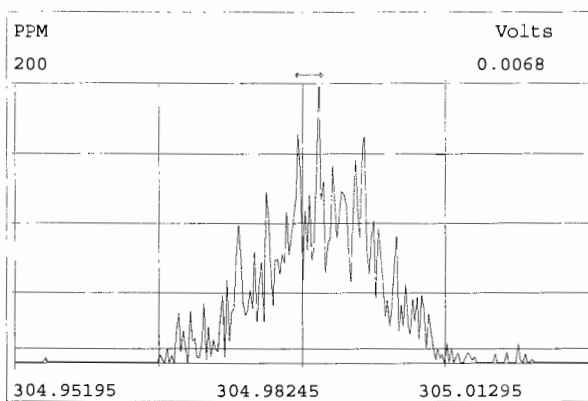
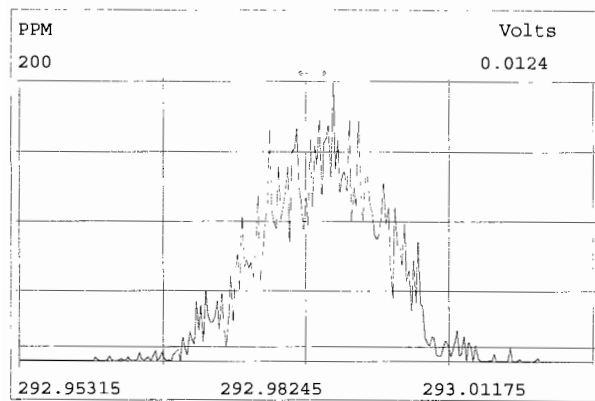
Date: 07/02/19

Vista Analytical Laboratory - Injection Log Run file: 190701D1 Instrument ID: VG-7 GC Column ID: DB-225

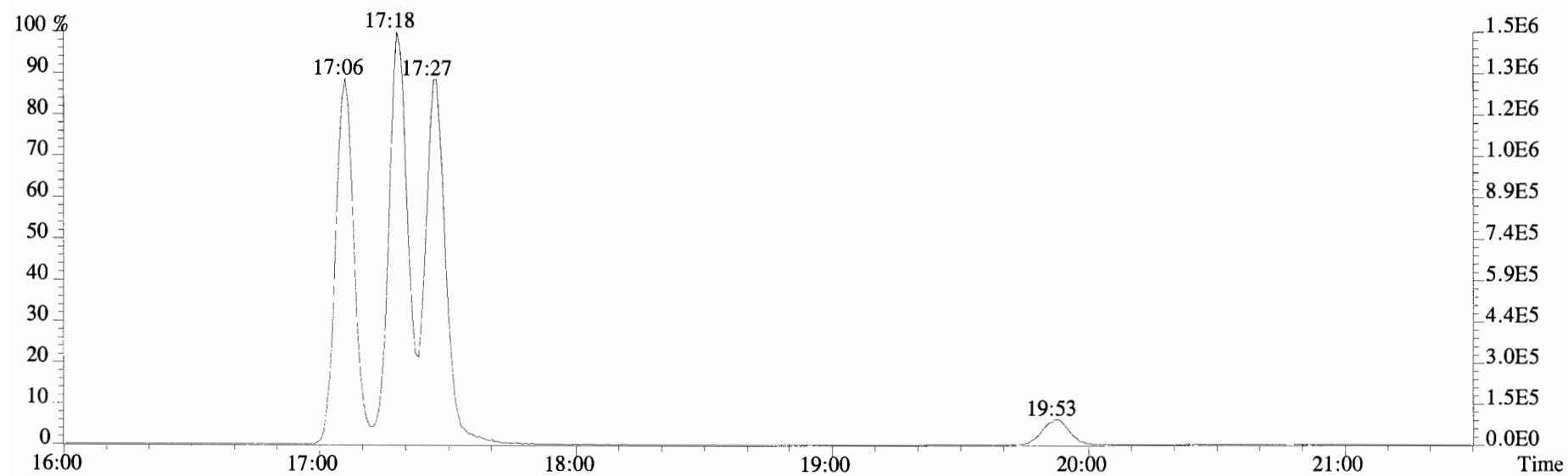
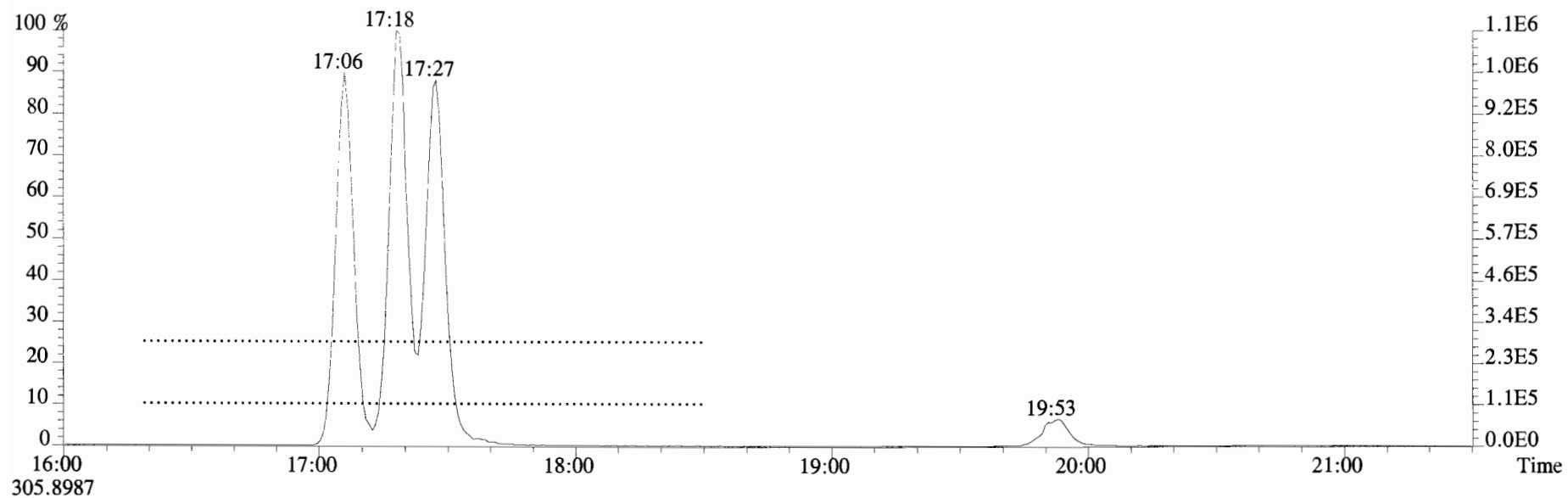
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190701D1	1	CP190701D1-1	DB	1-JUL-19	09:24:36	ST190701D1-1	NA
190701D1	2	ST190701D1-1	DB	1-JUL-19	09:56:21	ST190701D1-1	NA
190701D1	3	SOLVENT BLANK	DB	1-JUL-19	10:28:11	ST190701D1-1	NA
190701D1	4	1900951-08RE1	DB	1-JUL-19	11:00:03	ST190701D1-1	NA
190701D1	5	B9E0217-DUP1RE1	DB	1-JUL-19	11:31:54	ST190701D1-1	NA
190701D1	6	1901211-01RE1	DB	1-JUL-19	12:03:39	ST190701D1-1	NA
190701D1	7	1901211-02RE1	DB	1-JUL-19	12:35:30	ST190701D1-1	NA
190701D1	8	1901211-03RE1	DB	1-JUL-19	13:07:16	ST190701D1-1	NA
190701D1	9	1900951-09RE2	DB	1-JUL-19	13:39:07	ST190701D1-1	NA
190701D1	10	B9F0125-DUP1RE1	DB	1-JUL-19	14:10:51	ST190701D1-1	NA
190701D1	11	B9F0172-DUP3RE1	DB	1-JUL-19	14:42:40	ST190701D1-1	NA

Peak Locate Examination: 1-JUL-2019:09:23 File:190701D1

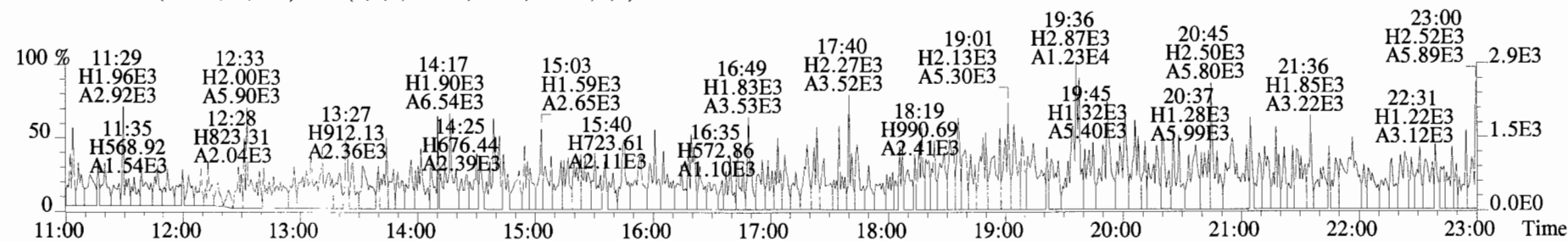
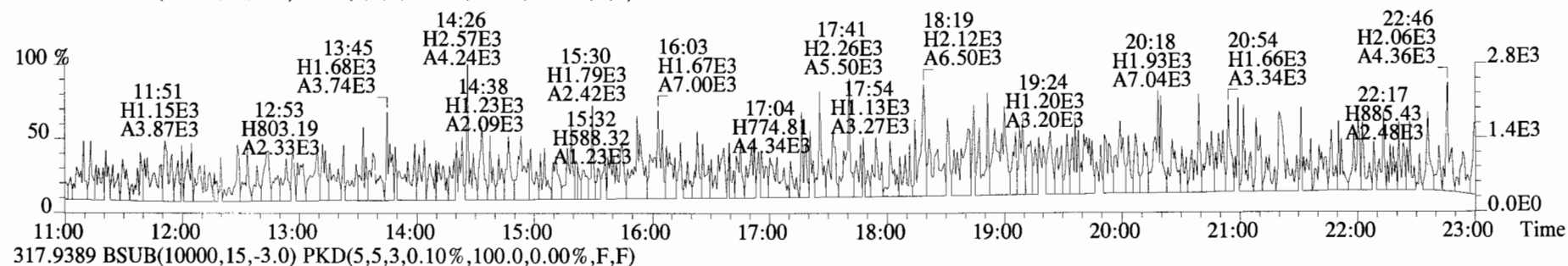
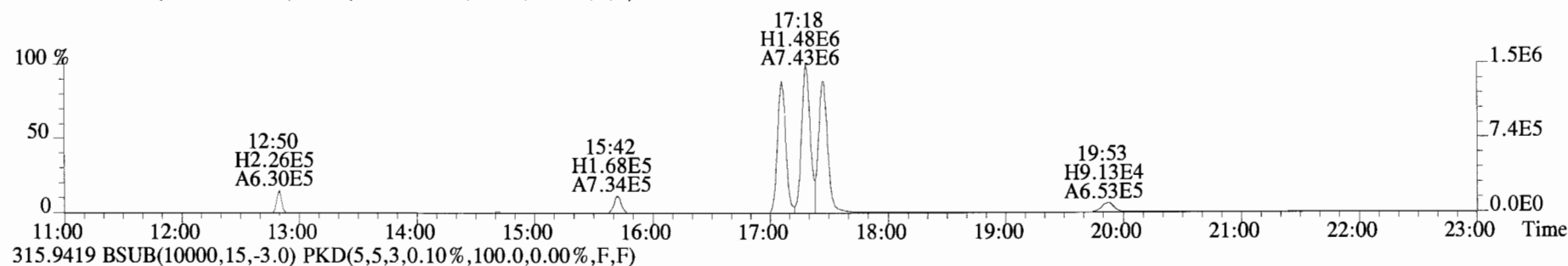
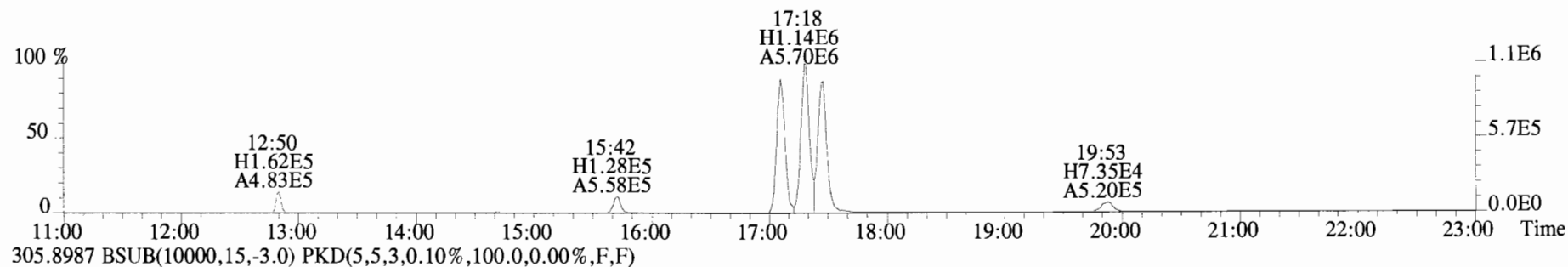
Experiment:TCDF_DB225 Function:1 Reference:PFK



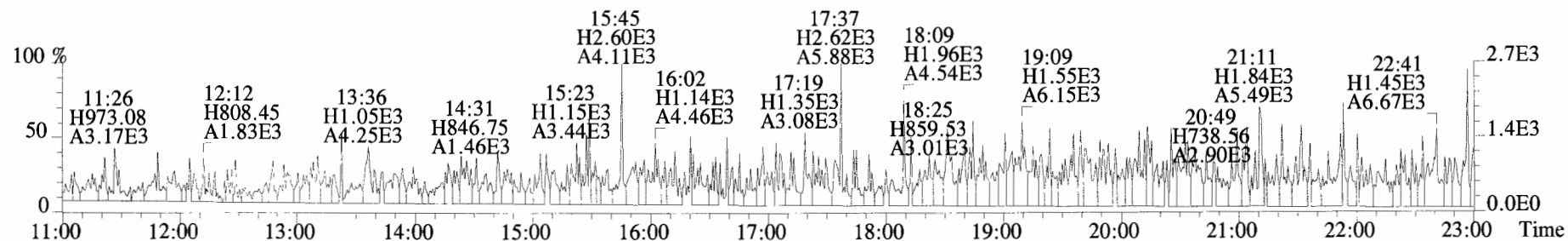
File:190701D1 #1-1683 Acq: 1-JUL-2019 09:24:36 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:CP190701D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



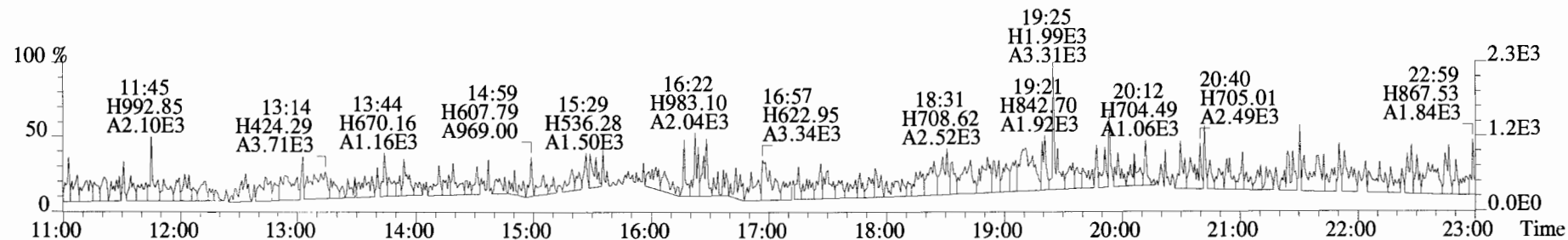
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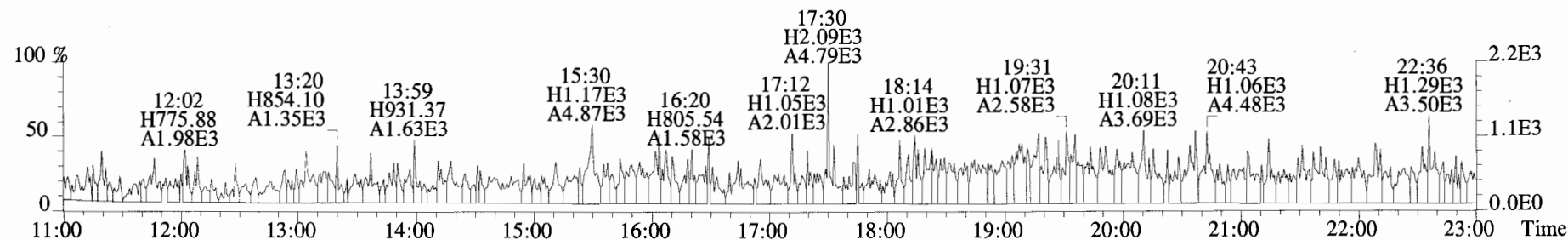
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Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190701D1-1 DB225 CPSM Exp:TCDF_DB225
331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



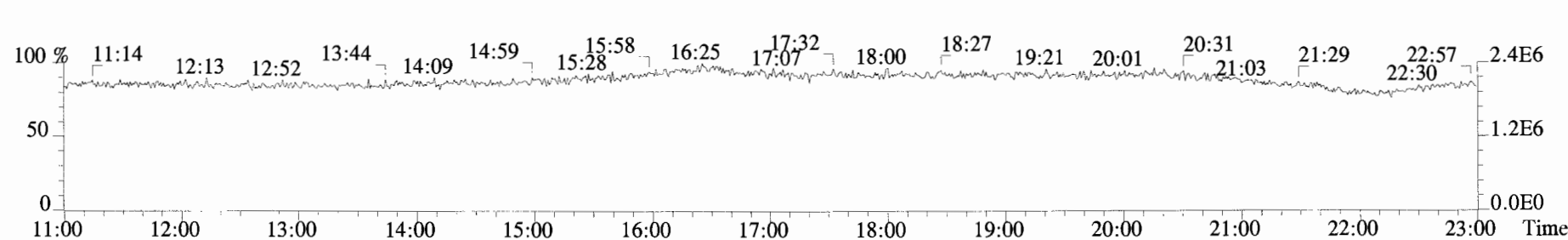
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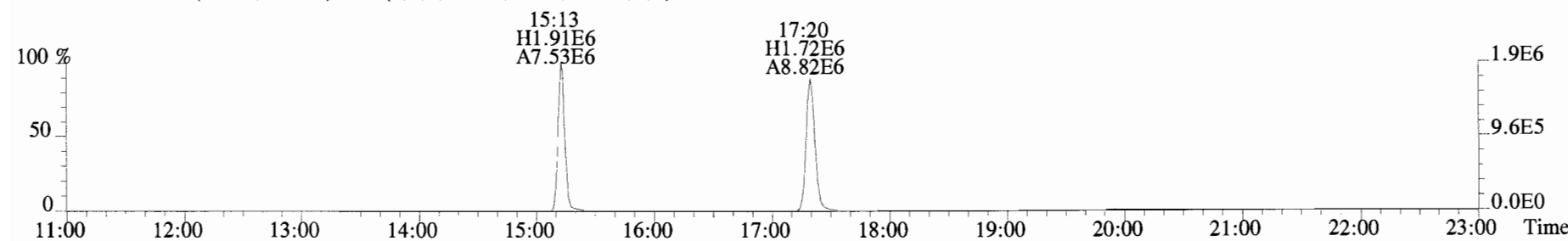
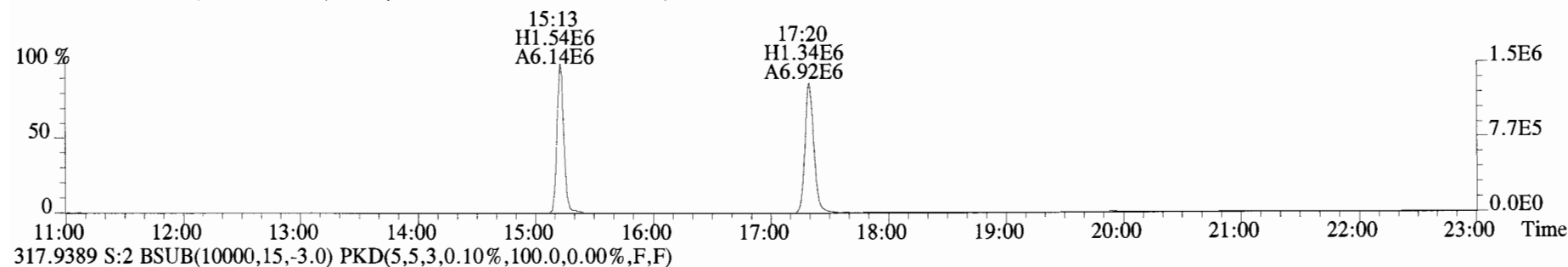
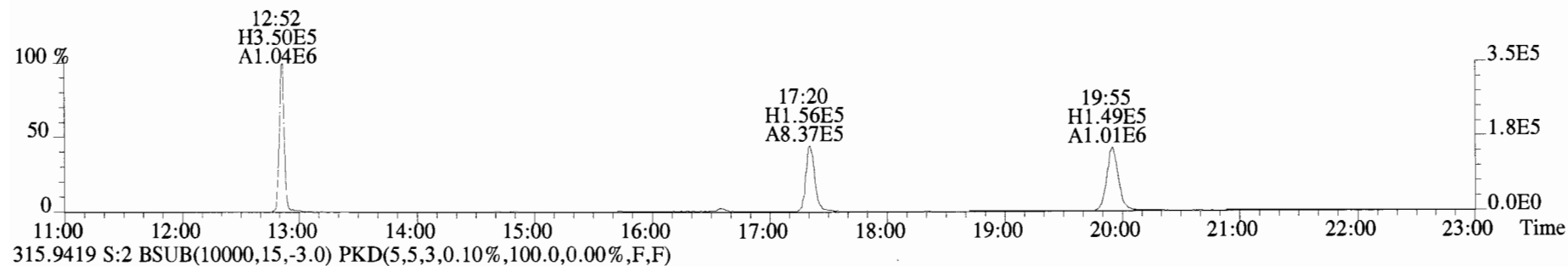
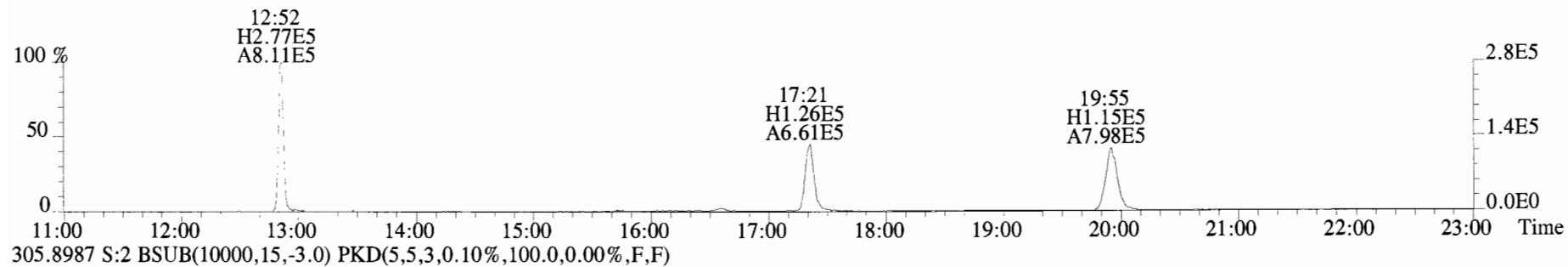
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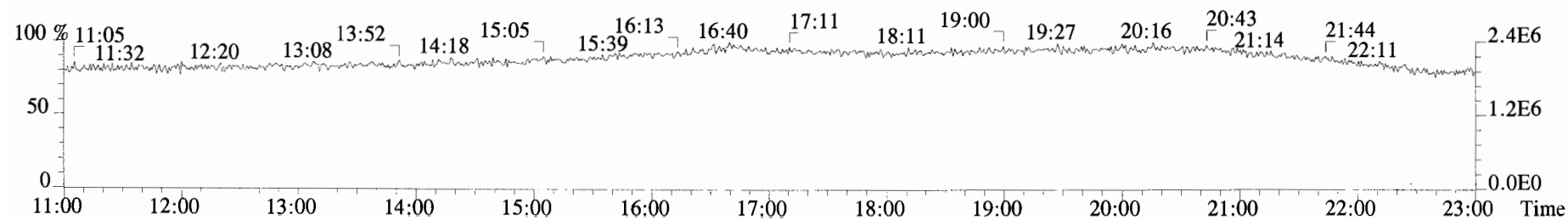
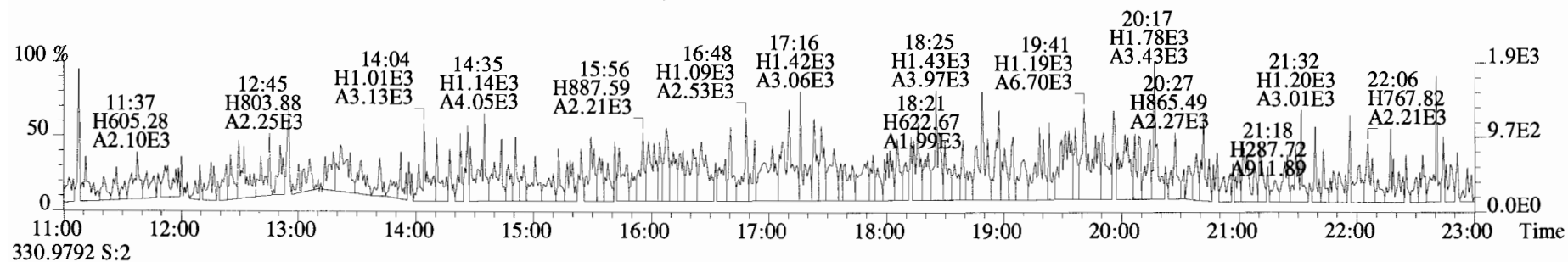
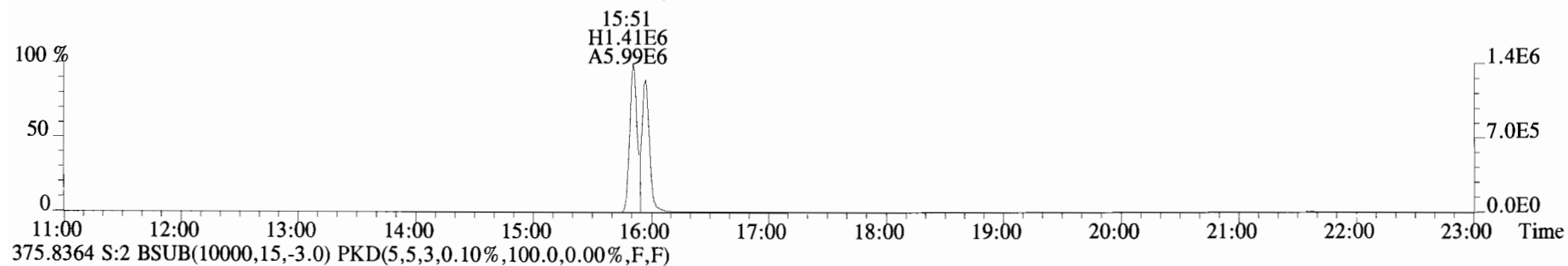
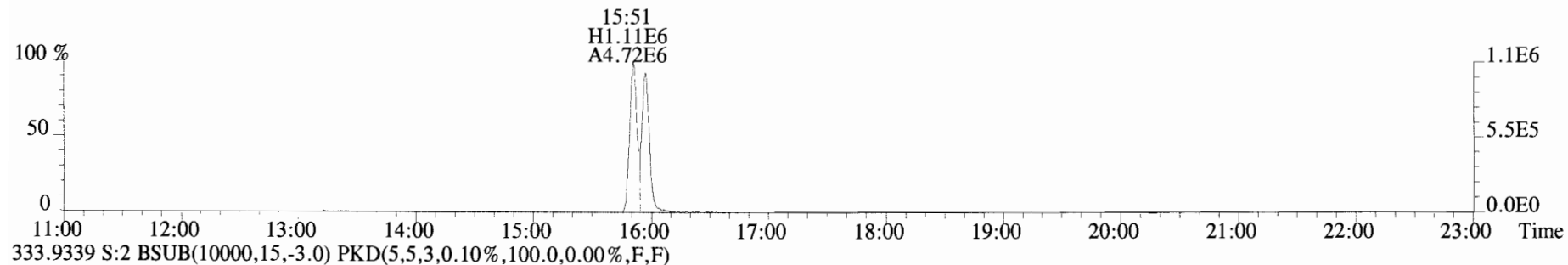
330.9792



File:190701D1 #1-1682 Acq: 1-JUL-2019 09:56:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190701D1-1 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)

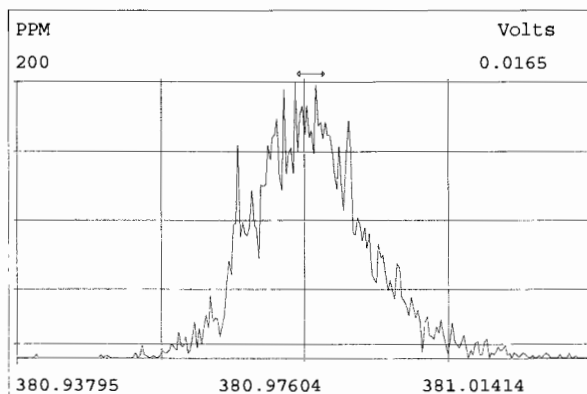
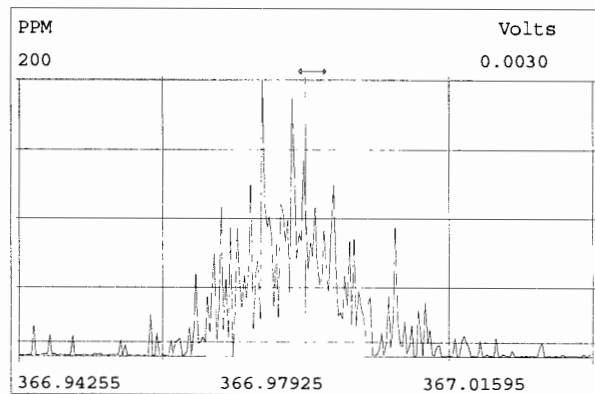
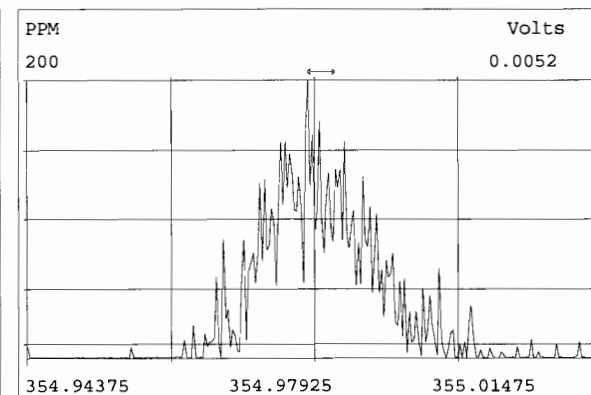
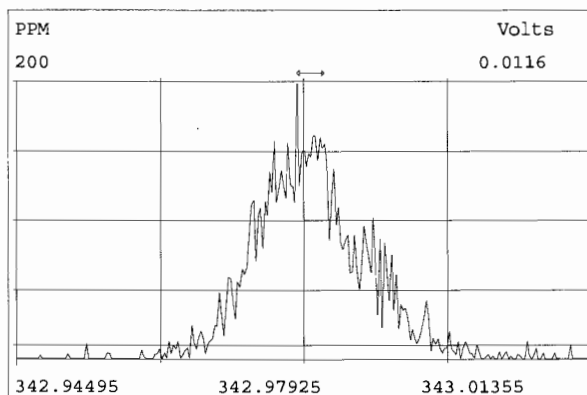
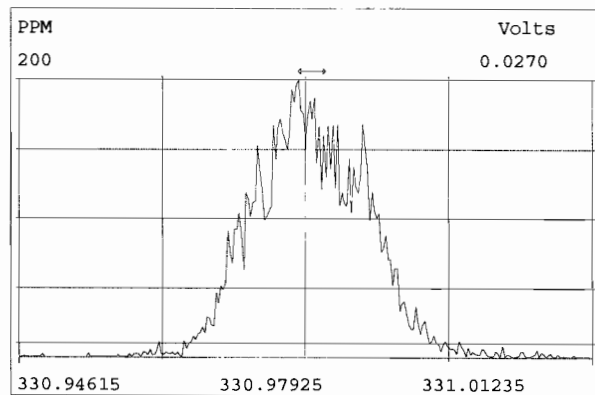
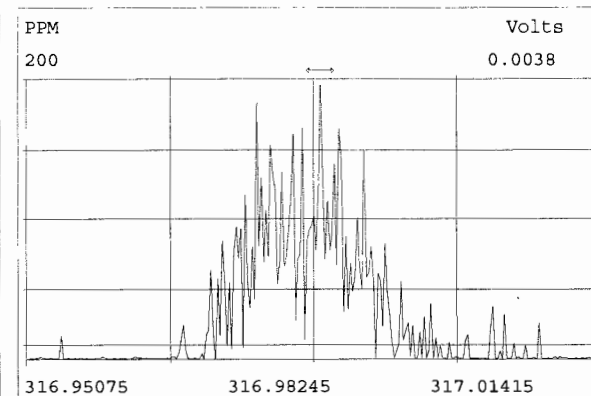
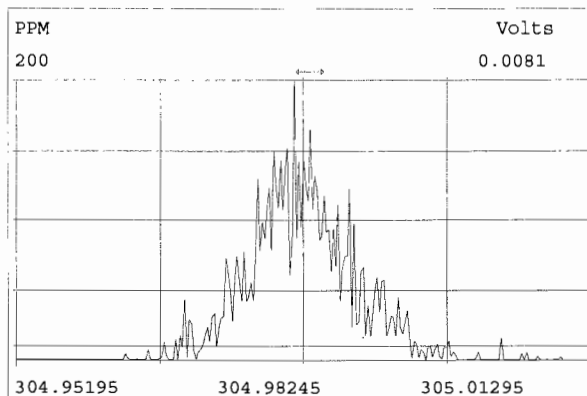
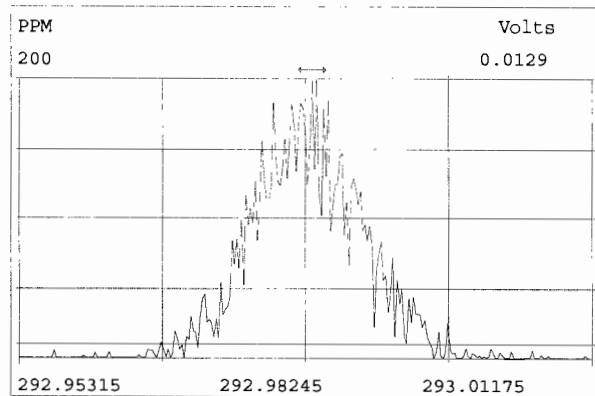


File:190701D1 #1-1682 Acq: 1-JUL-2019 09:56:21 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190701D1-1 1613 CS3 19C2204 Exp:TCDF_DB225
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination: 1-JUL-2019:15:24 File:RES_CHECK

Experiment:TCDF_DB225 Function:1 Reference:PFK



HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calibration ID: ST190701D2-1

Reviewed By: CT 07/02/19
Initials & Date

End Calibration ID: NA

	Beg.	End
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?	<u>(Y) DB</u>	<u>N</u>
- Bottle position verified?	<u>DB</u>	

Mass resolution \geq

☐ 5k ☐ 6-8K ☐ 8K ☒ 10K
1614 1699 429 1613/1668/8280

Intergrated peaks display correctly?

GC Break <20%

8280 CS1 End Standard:

- Ratios within limits, S/N <2.5:1, CS1
within 12 hours

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190701D2-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	10.9	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	52.7	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	51.3	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	49.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	50.0	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	y	46.8	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	96.1	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.79	0.65-0.89	y	9.49	8.4 - 12.0 8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	54.6	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.63	1.32-1.78	y	53.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.27	1.05-1.43	y	51.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	51.1	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.25	1.05-1.43	y	52.2	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.26	1.05-1.43	y	51.6	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	52.7	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	50.5	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	98.2	63.0 - 159.0

(1) See Table 8, Method 1613, for m/z specifications.

(2) Ion Abundance Ratio Control Limits as specified in Table 9, Method 1613.

(3) Contract-required concentration range as specified in Table 6, Method 1613.

(4) Contract-required concentration range as specified in Table 6a, Method 1613, for tetras only.

Analyst: DB

Date: 7/2/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

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	0.78	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	92.9	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	111	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.29	1.05-1.43	y	101	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	107	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.01	0.88-1.20	y	114	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	y	226	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	1.60	1.32-1.78	y	94.6	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	93.0	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	107	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	102	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	104	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	104	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	105	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	210	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.43	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: 7/2/19

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: 5-10-19

RT Window Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

ZB-5MS IS Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

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)	23:40	1,3,6,8-TCDF (F)	21:45
1,2,8,9-TCDD (L)	27:35	1,2,8,9-TCDF (L)	27:43
1,2,4,7,9-PeCDD (F)	29:05	1,3,4,6,8-PeCDF (F)	27:39
1,2,3,8,9-PeCDD (L)	31:24	1,2,3,8,9-PeCDF (L)	31:39
1,2,4,6,7,9-HxCDD (F)	32:49	1,2,3,4,6,8-HxCDF (F)	32:16
1,2,3,7,8,9-HxCDD (L)	34:50	1,2,3,7,8,9-HxCDF (L)	35:15
1,2,3,4,6,7,9-HpCDD (F)	37:23	1,2,3,4,6,7,8-HpCDF (F)	37:04
1,2,3,4,6,7,8-HpCDD (L)	38:12	1,2,3,4,7,8,9-HpCDF (L)	38:46

(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: 7/2/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	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	1.001	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	1.021	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.184	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.141	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.174	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.021	0.989-1.052

Analyst: DBDate: 7/2/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190701D2 S#1 Analysis Date: 1-JUL-19 Time: 18:04:52

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	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.001	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	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	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	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	1.143	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.126	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.226	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

Analyst: DB

Date: 7/2/19

Page 1 of 1

Integrations
by DB
Analyst: DB

Reviewed
by
Analyst: 07

Date: 7/2/19

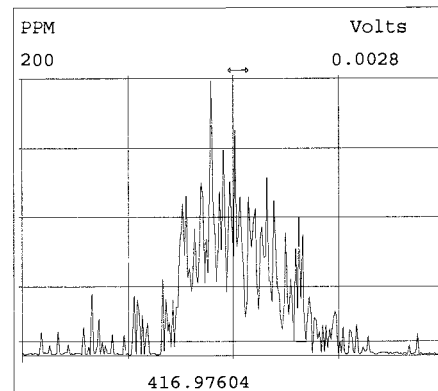
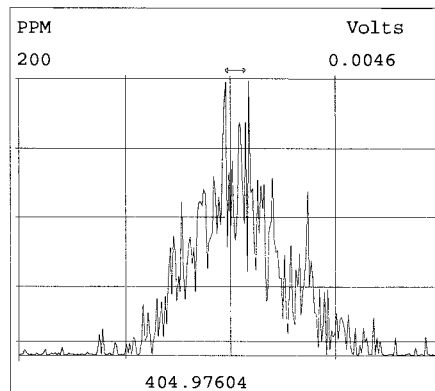
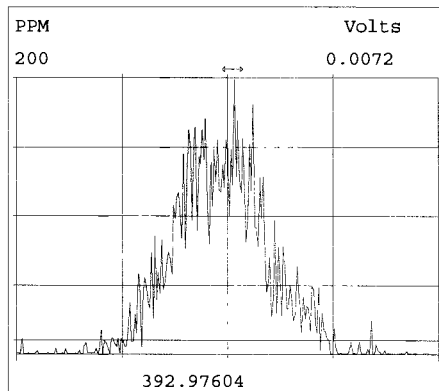
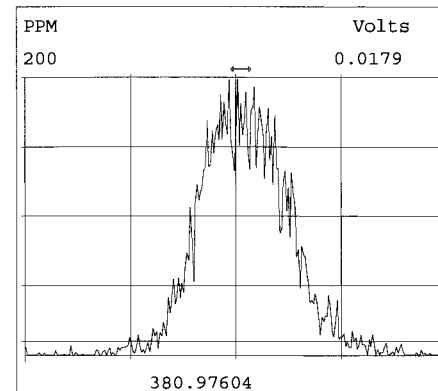
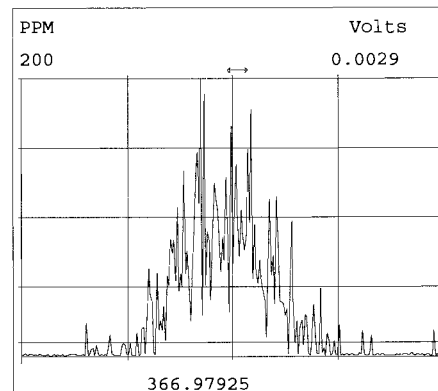
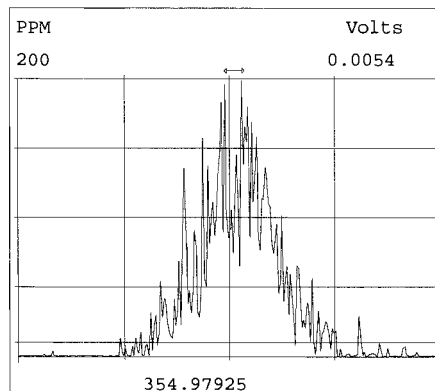
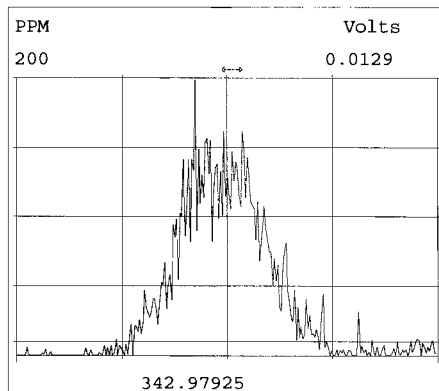
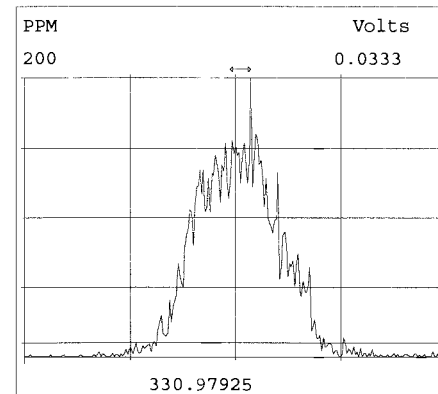
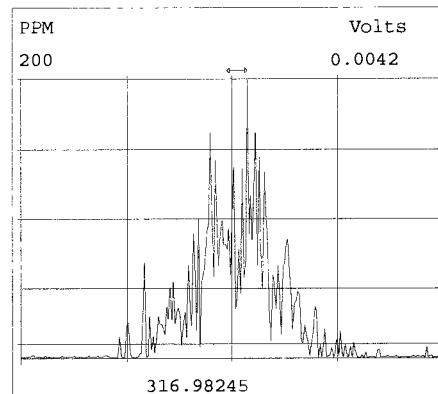
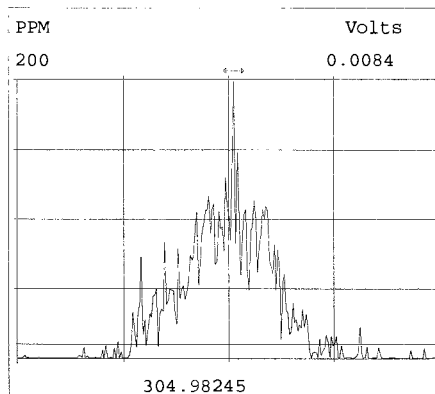
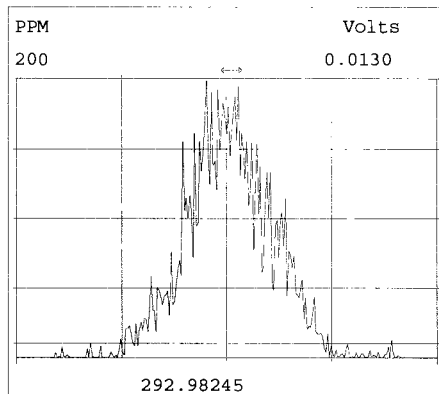
Date: 07/02/19

Vista Analytical Laboratory - Injection Log Run file: 190701D2 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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190701D2	2	ST190701D2-2	DB	1-JUL-19	18:52:37	ST190701D2-2	NA
190701D2	3	B9F0198-BS1	DB	1-JUL-19	19:40:19	ST190701D2-2	NA
190701D2	4	SOLVENT BLANK	DB	1-JUL-19	20:28:04	NA	NA
190701D2	5	B9F0198-BLK1	DB	1-JUL-19	21:15:50	ST190701D2-2	NA
190701D2	6	1901248-01	DB	1-JUL-19	22:03:37	ST190701D2-1	NA
190701D2	7	1901556-04	DB	1-JUL-19	22:51:12	ST190701D2-2	NA
190701D2	8	1901556-01	DB	1-JUL-19	23:38:48	ST190701D2-2	NA
190701D2	9	1901556-02	DB	2-JUL-19	00:26:25	ST190701D2-2	NA
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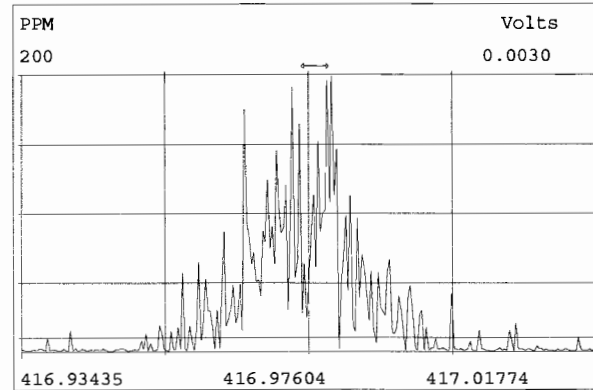
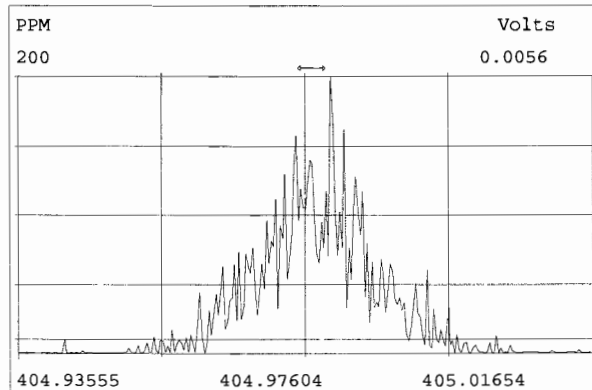
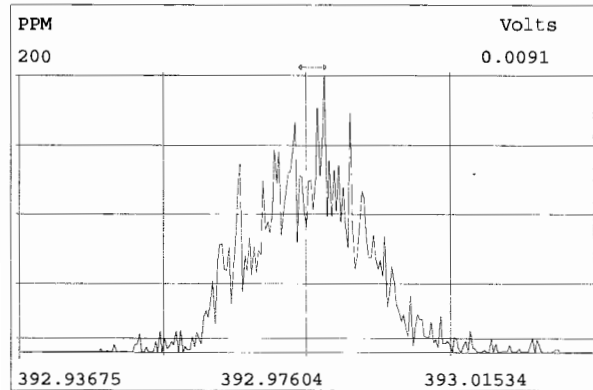
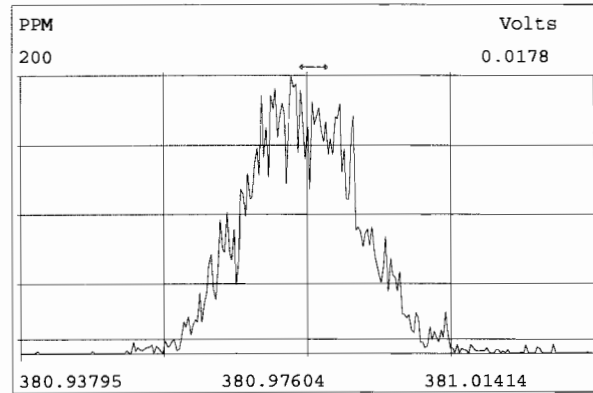
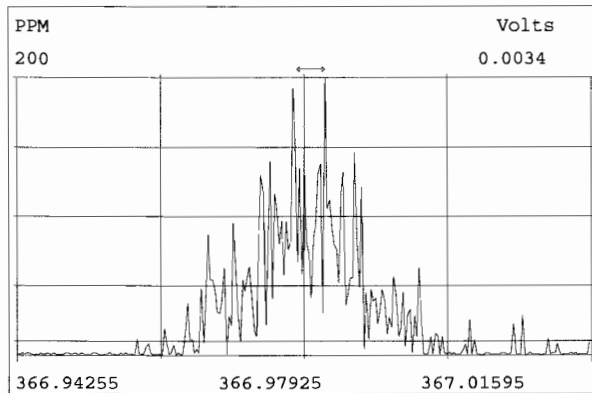
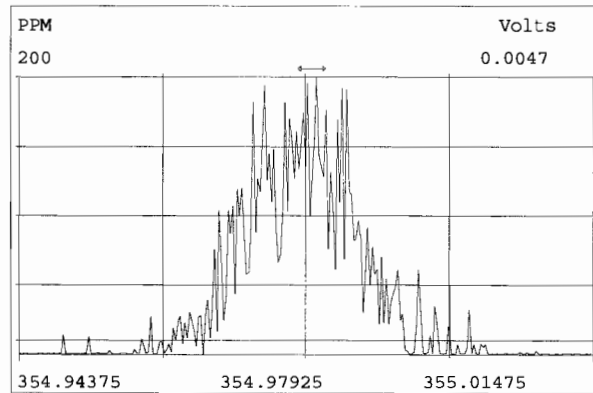
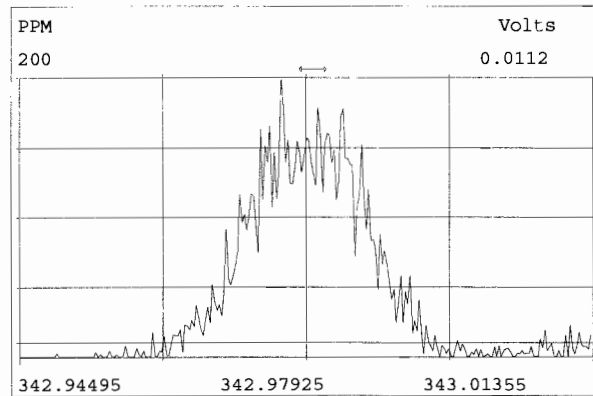
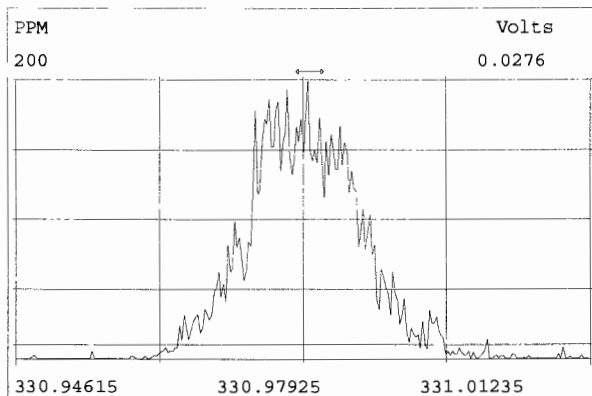
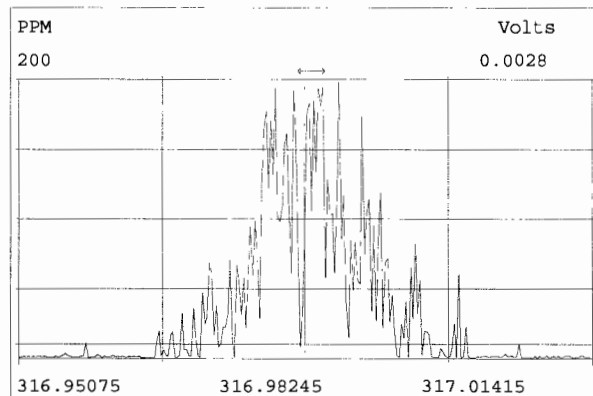
Peak Locate Examination: 1-JUL-2019:18:01 File:190701D2

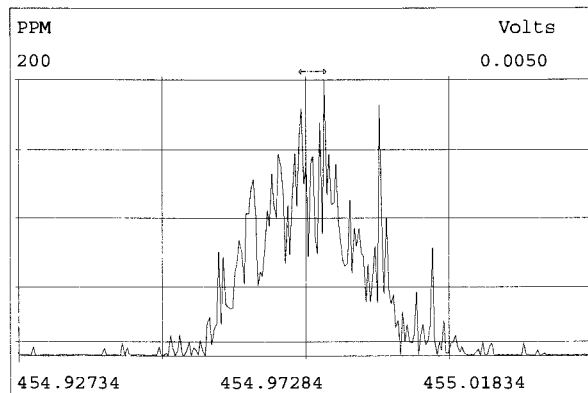
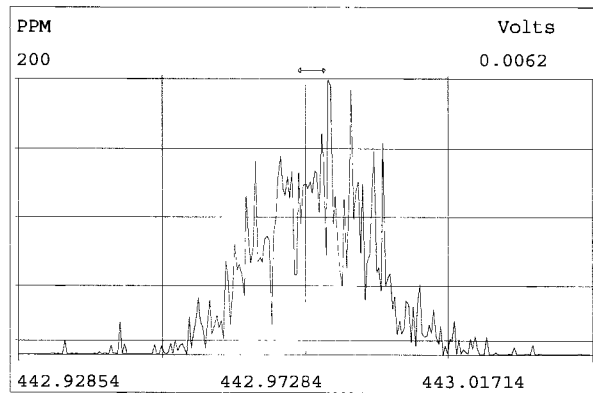
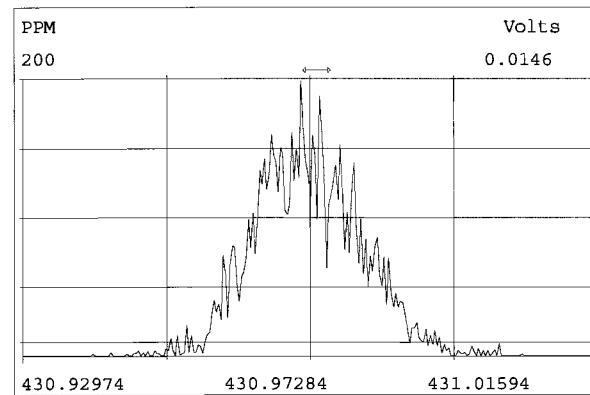
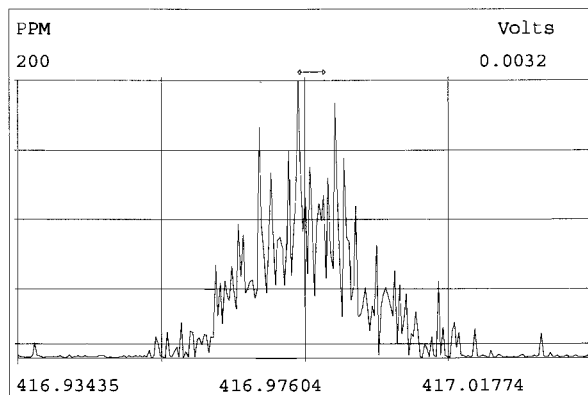
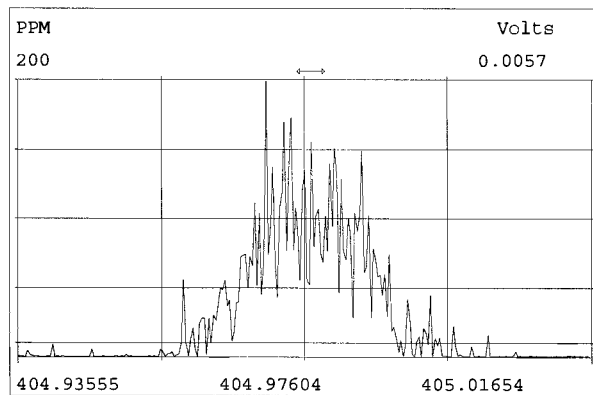
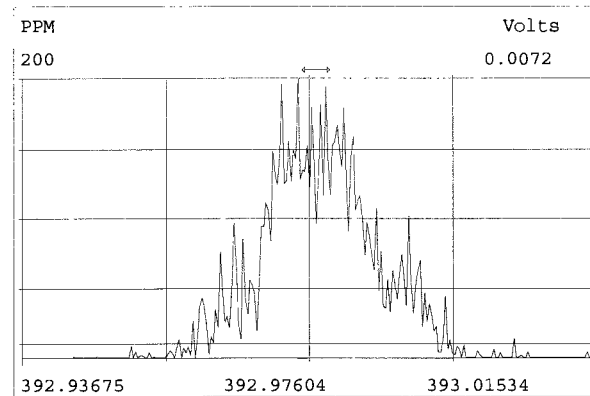
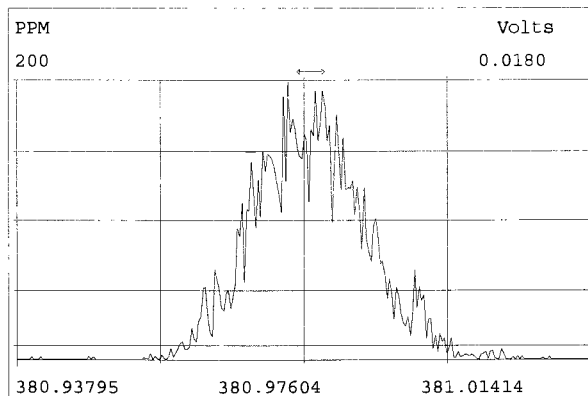
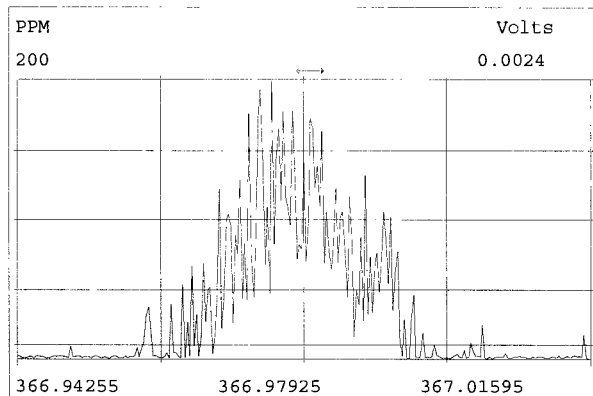
Experiment:OCDD_DB5 Function:1 Reference:PFK

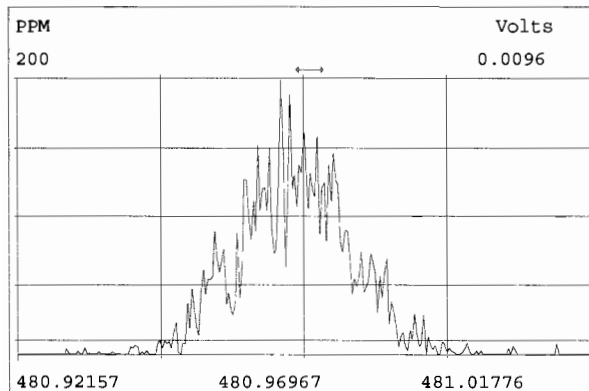
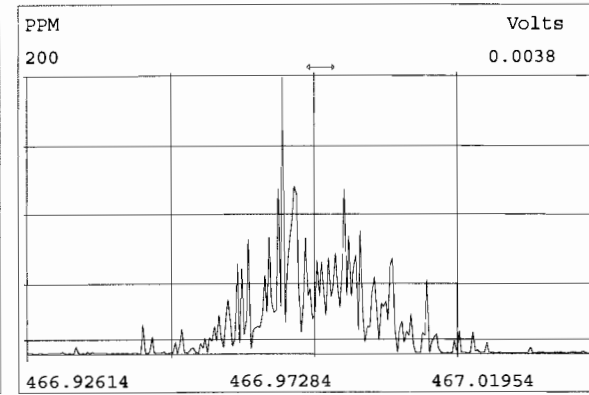
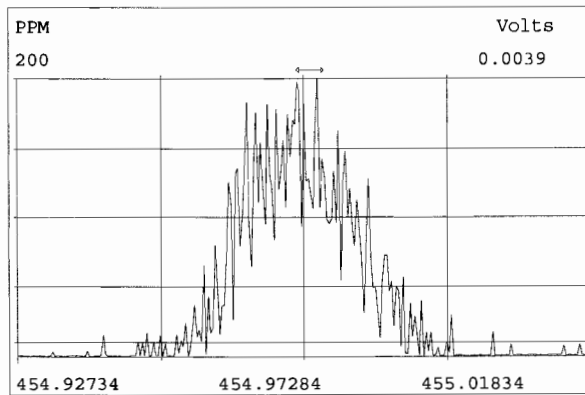
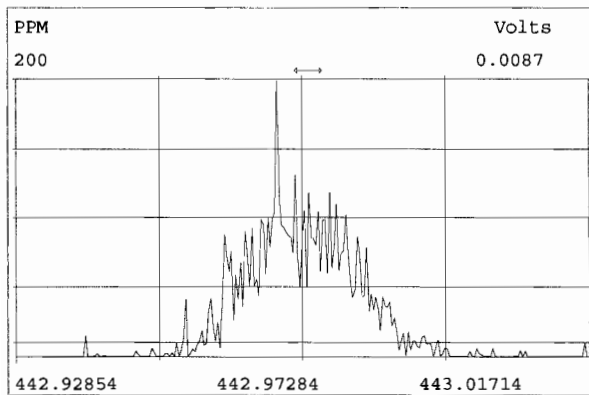
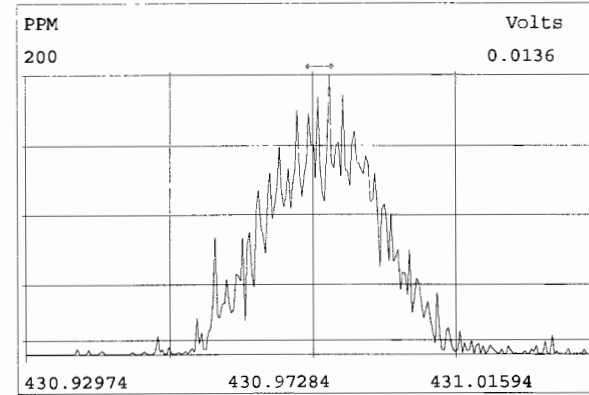
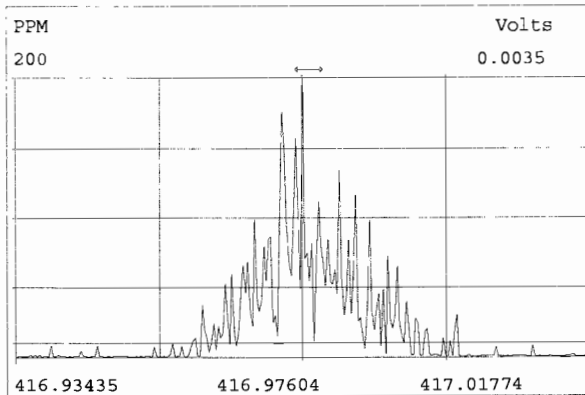
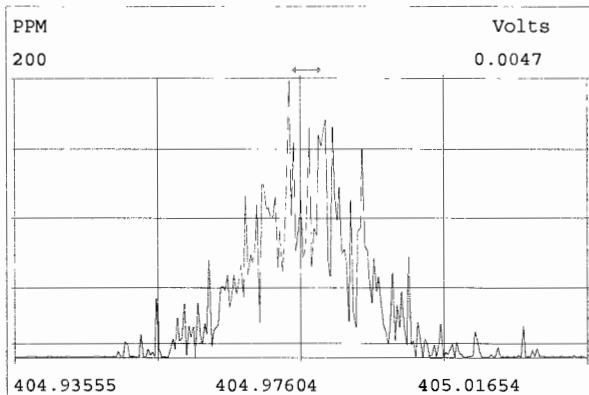


Peak Locate Examination: 1-JUL-2019:18:02 File:190701D2

Experiment:OCDD_DB5 Function:2 Reference:PFK

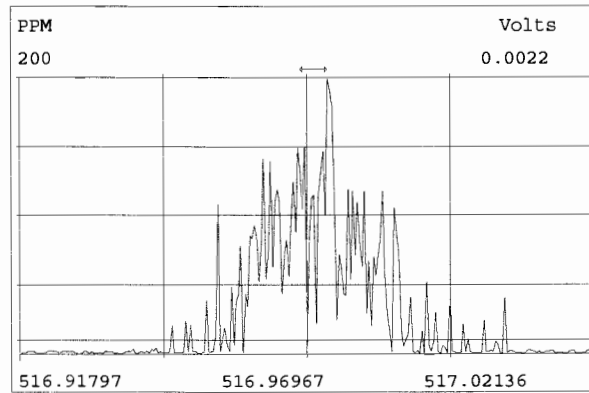
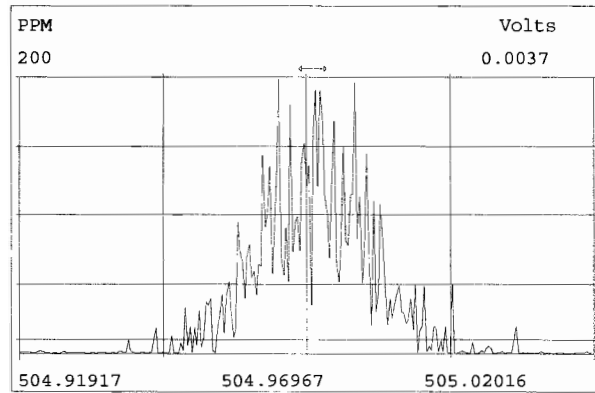
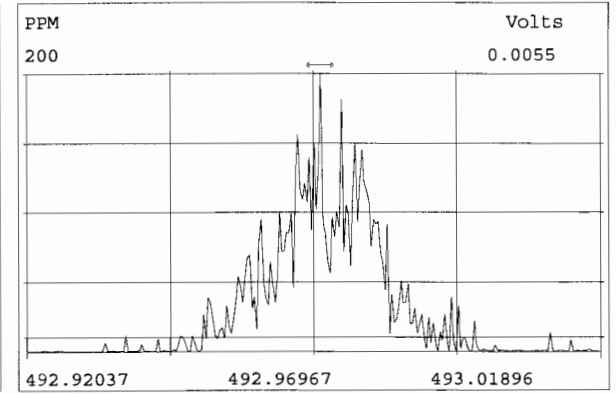
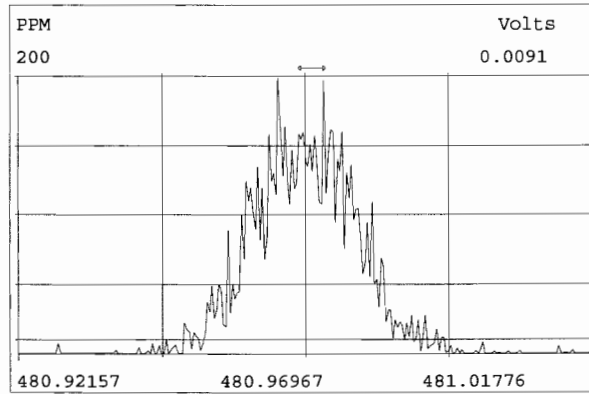
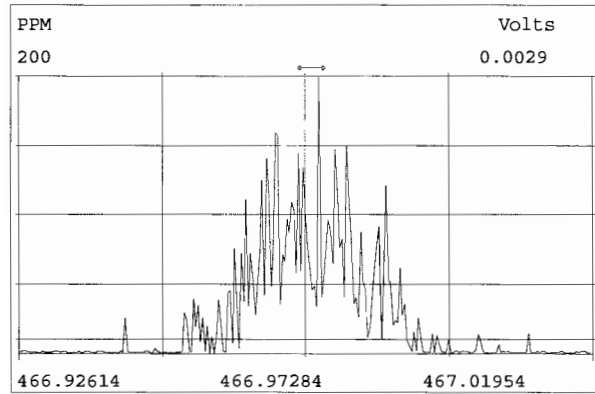
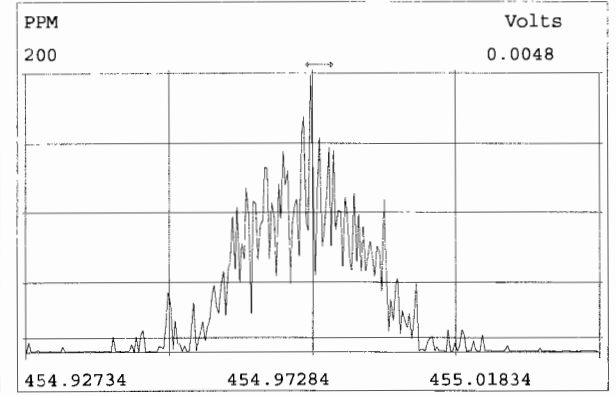
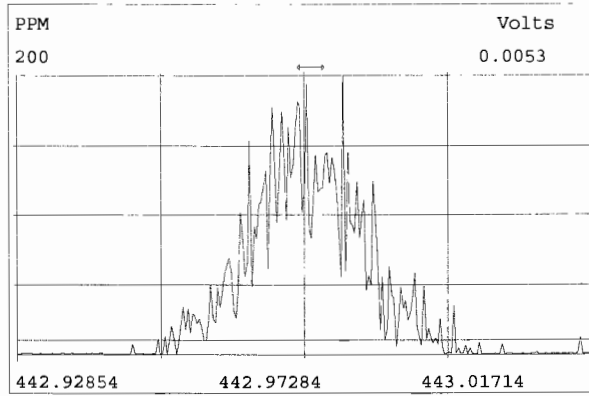
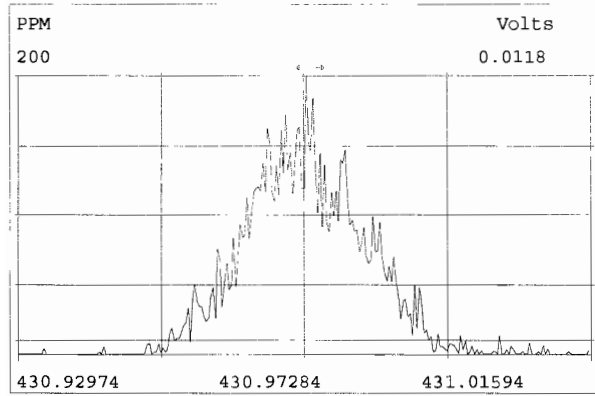




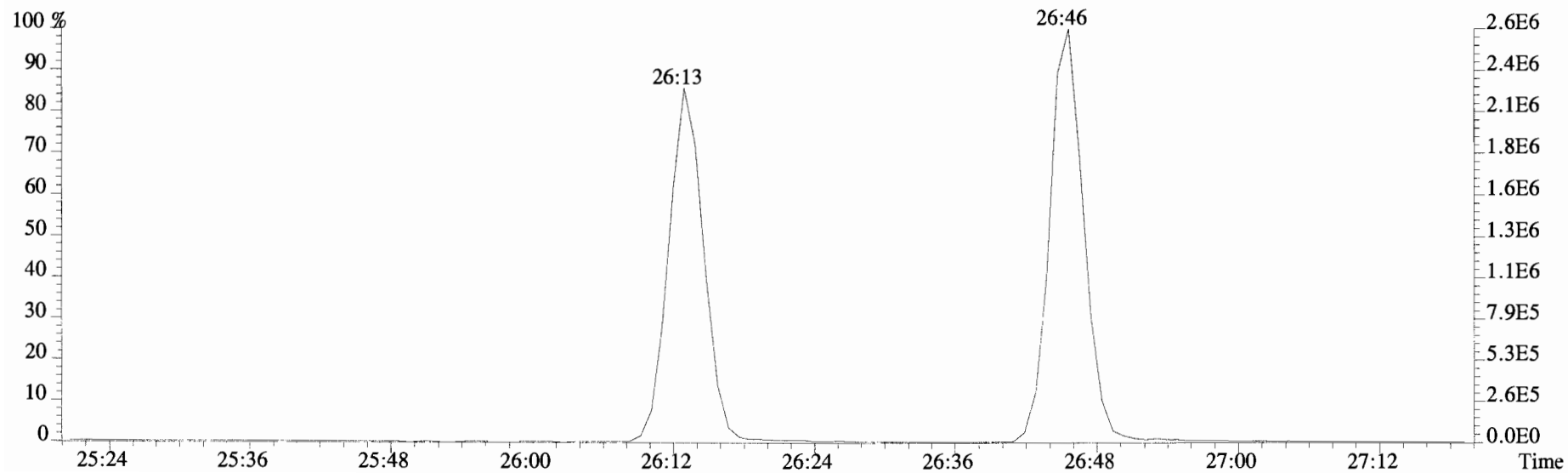
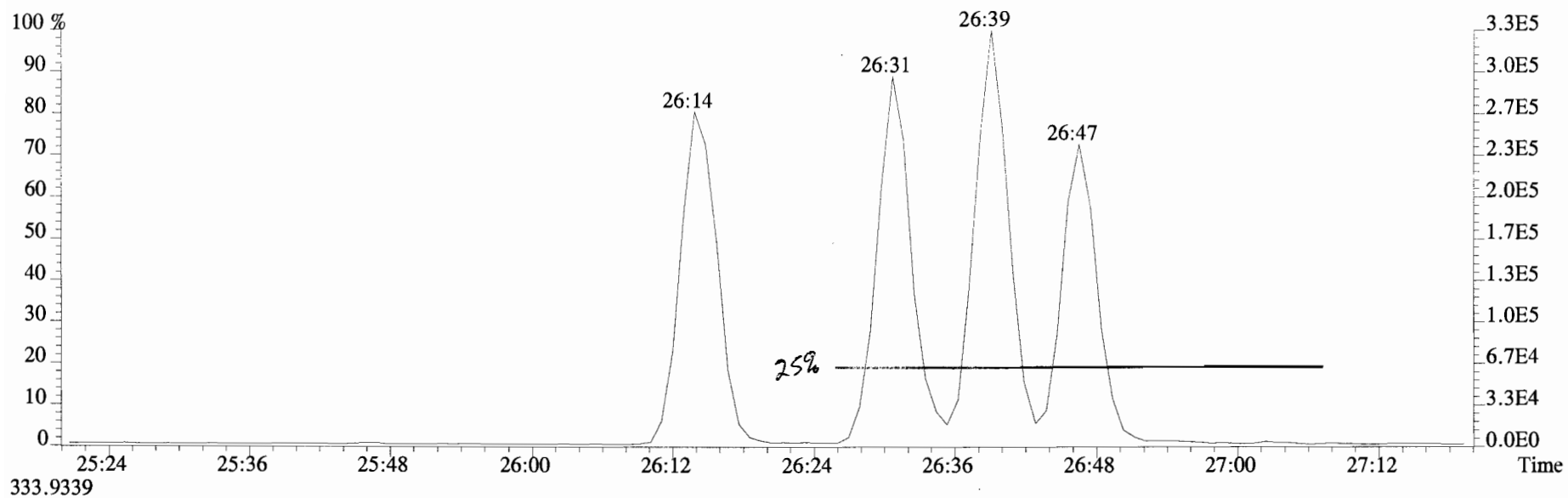


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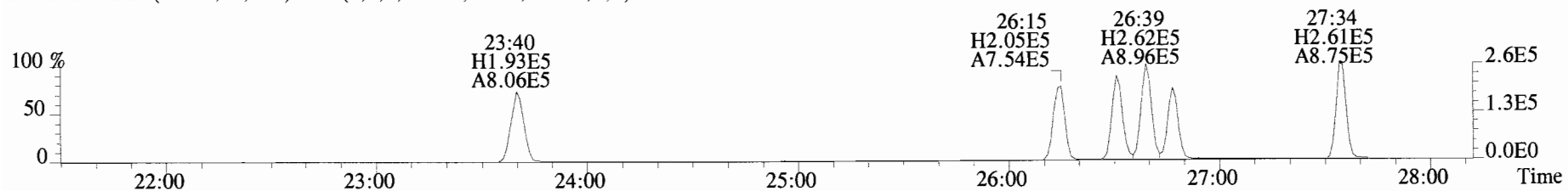
Experiment:OCDD_DB5 Function:5 Reference:PFK



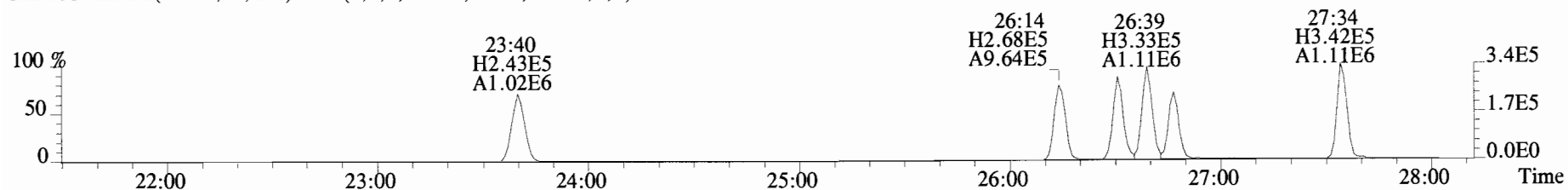
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321.8936



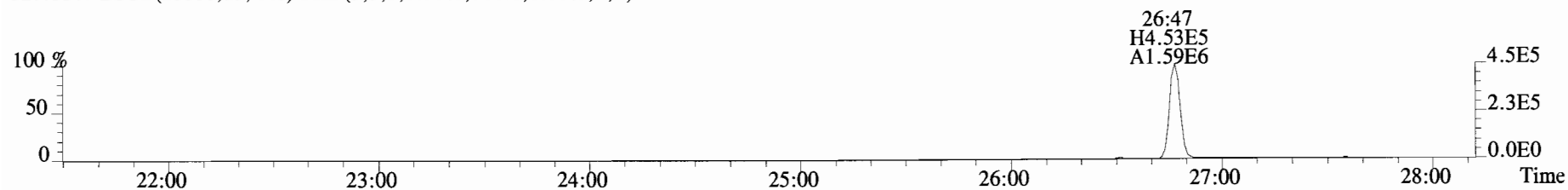
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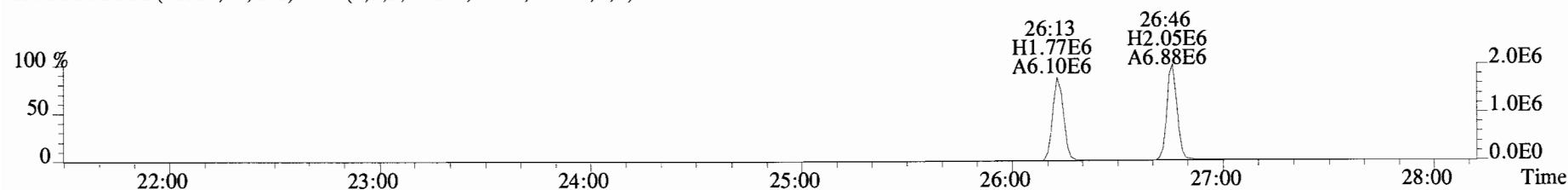
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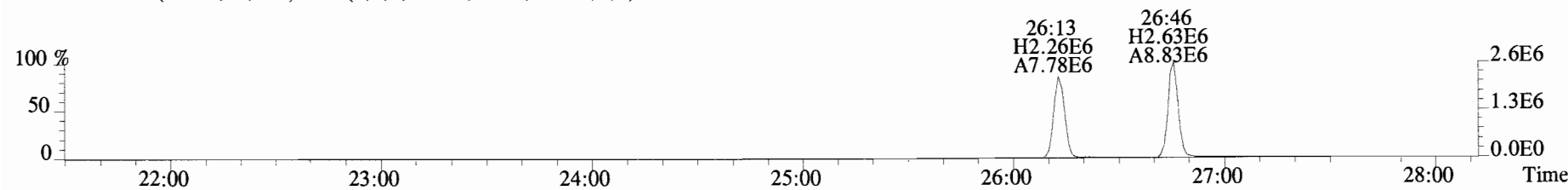
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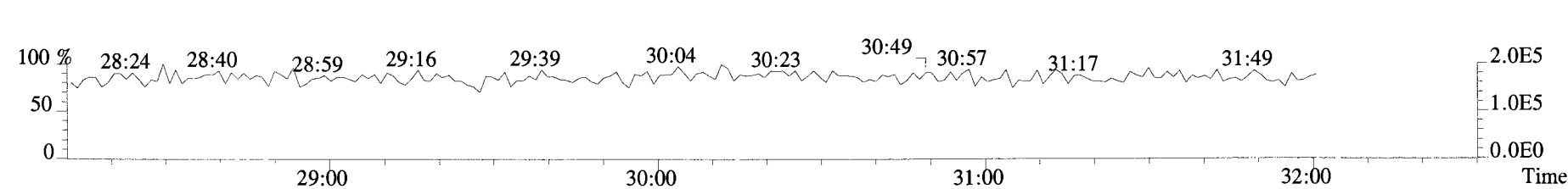
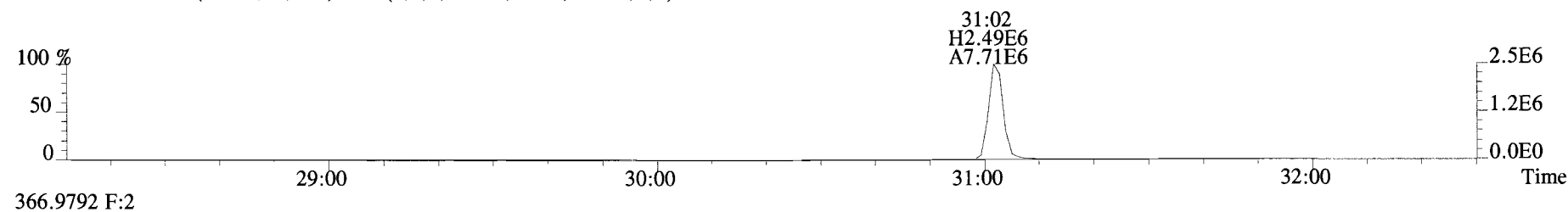
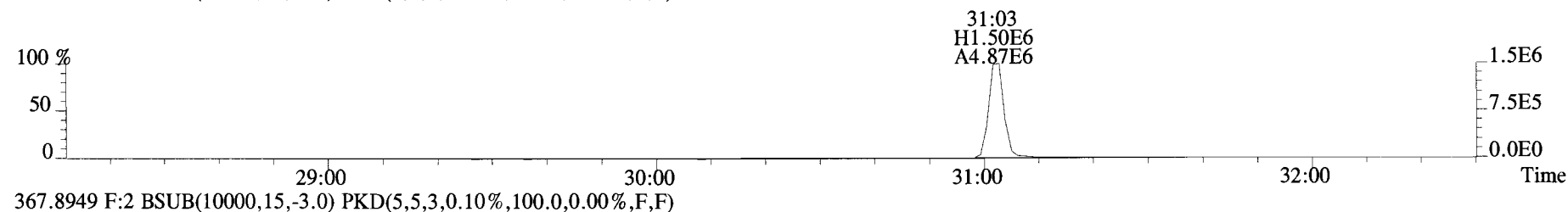
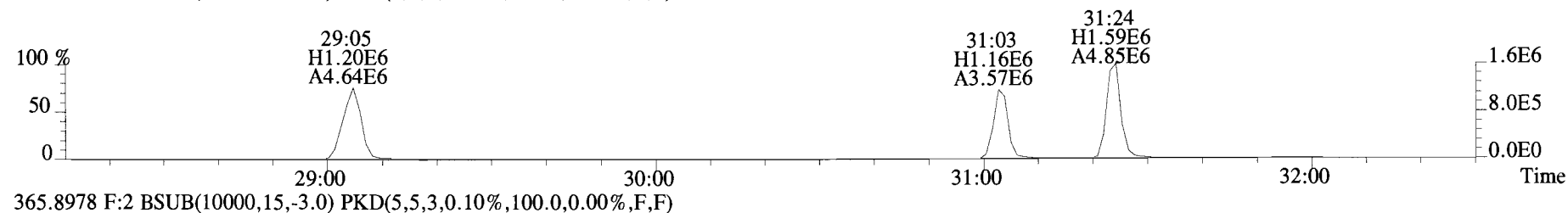
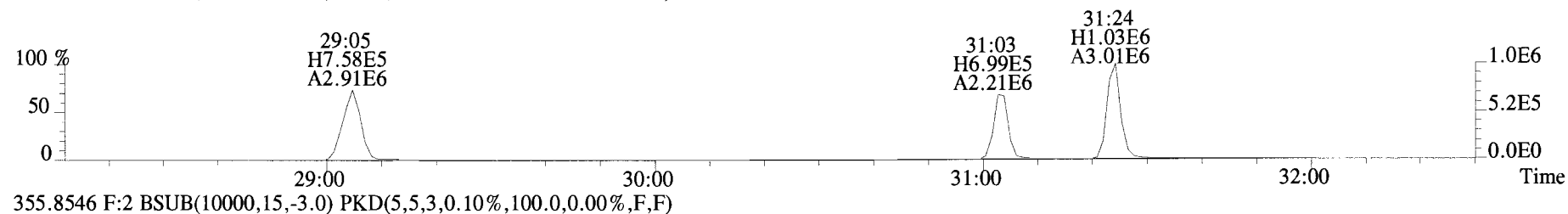
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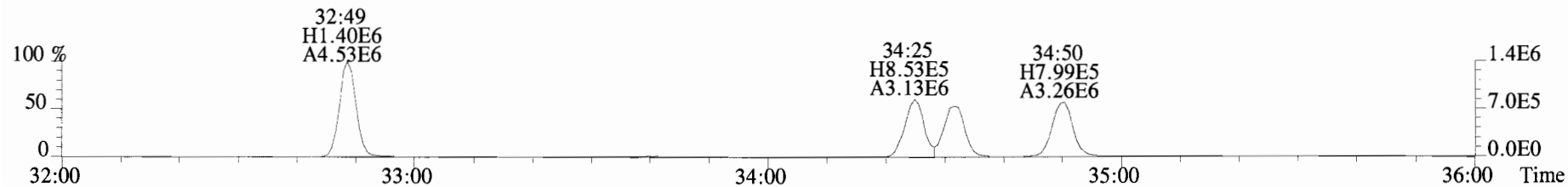
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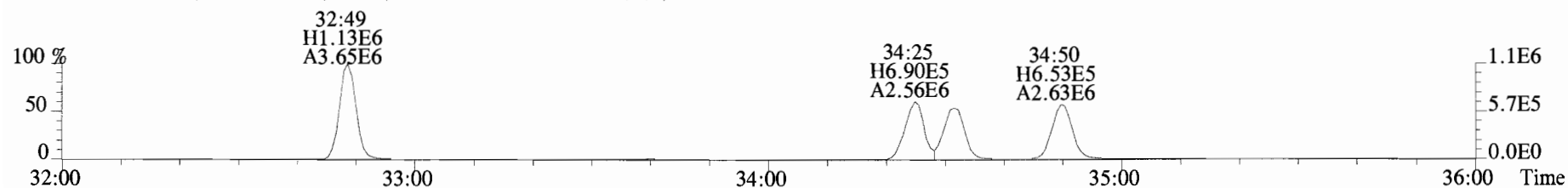
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 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



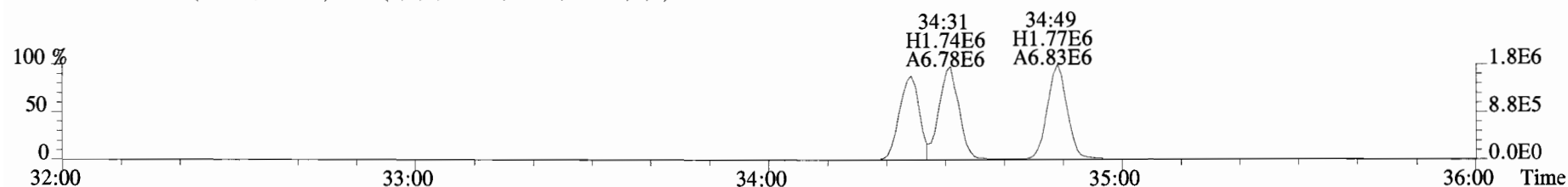
File:190701D2 #1-355 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



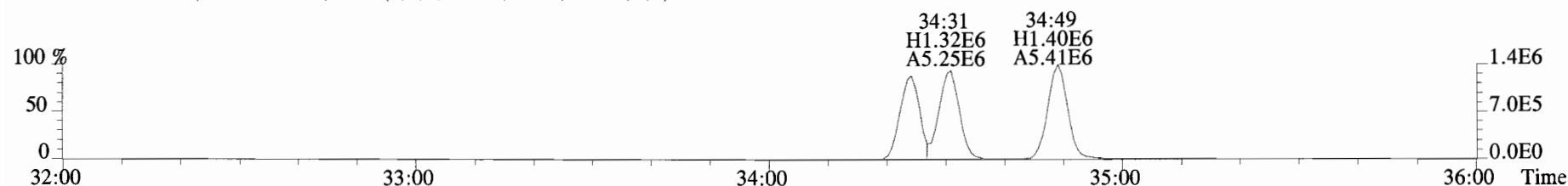
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



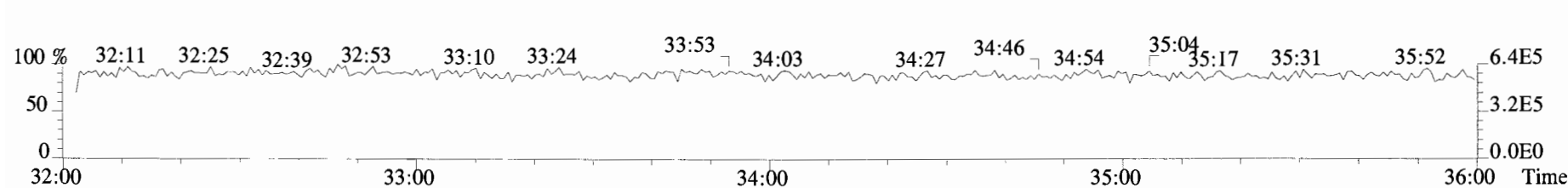
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



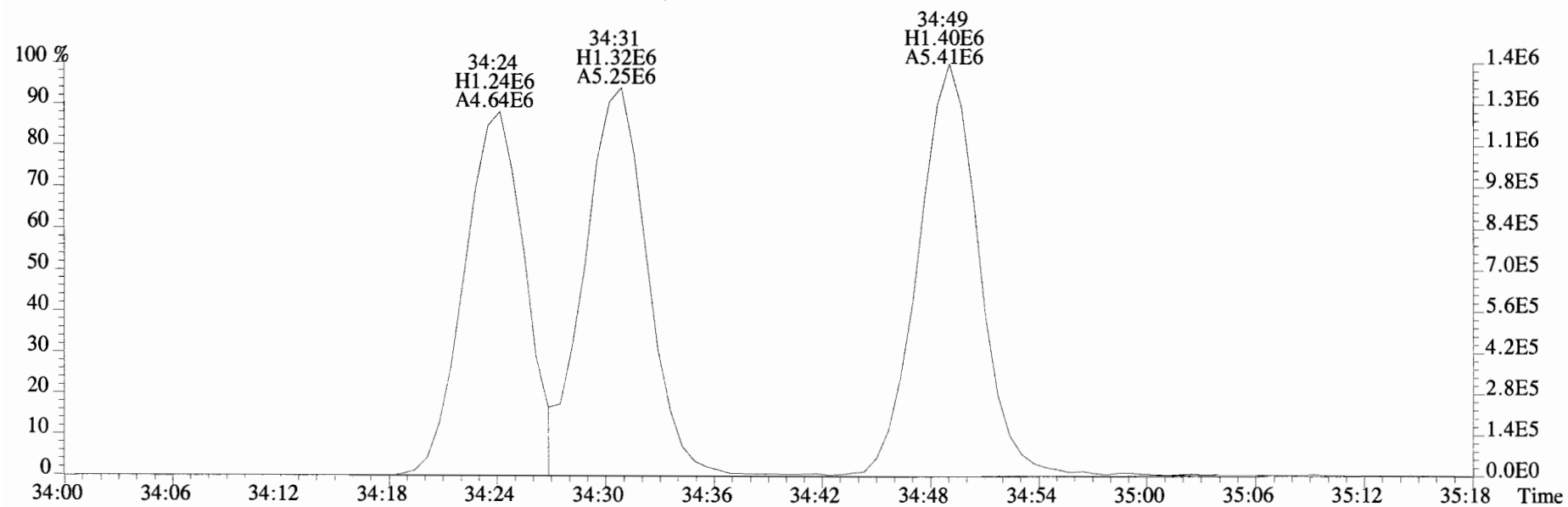
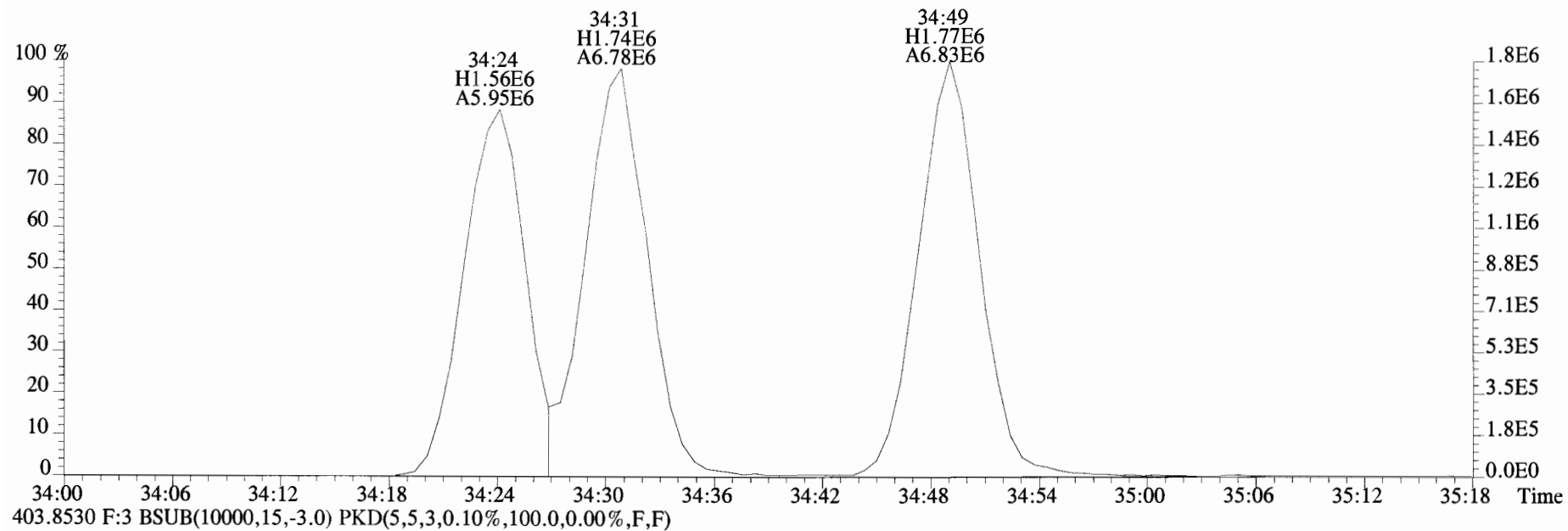
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



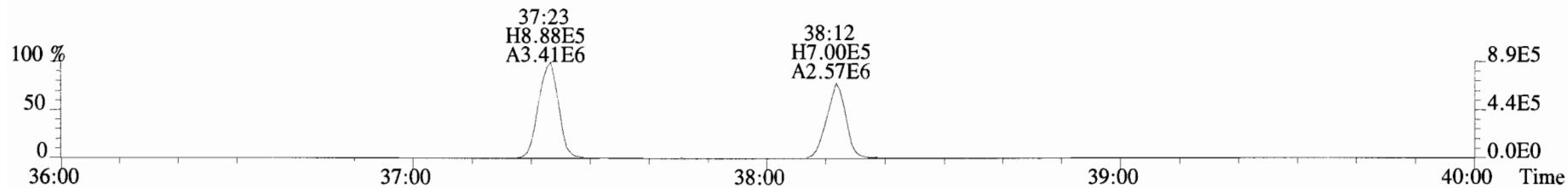
392.9760 F:3



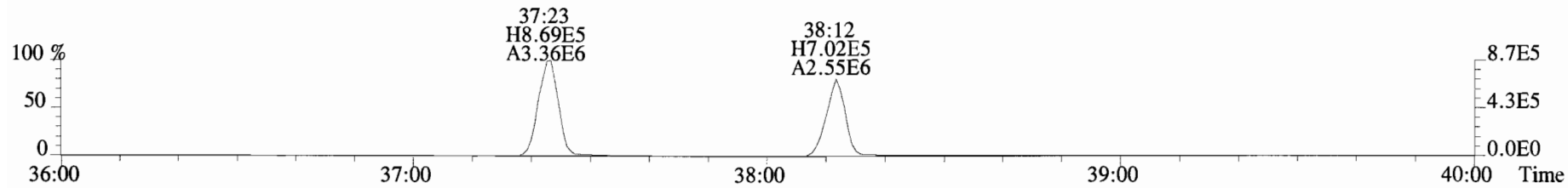
File:190701D2 #1-355 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



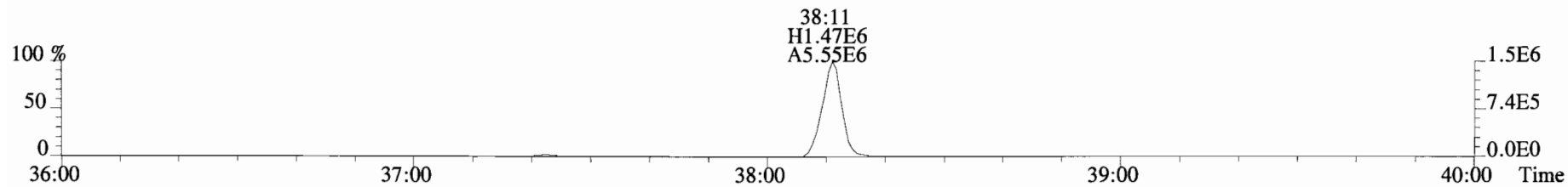
File:190701D2 #1-356 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



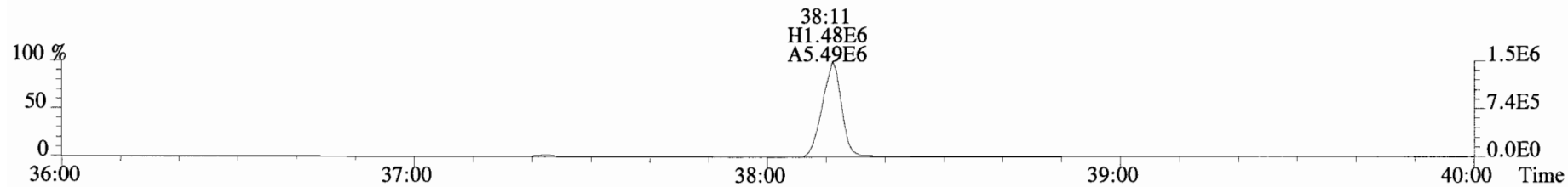
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



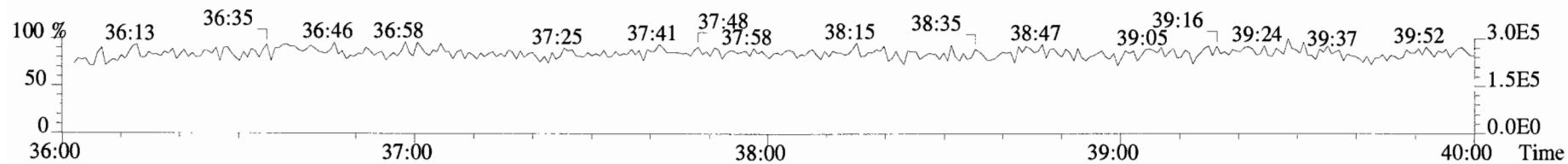
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



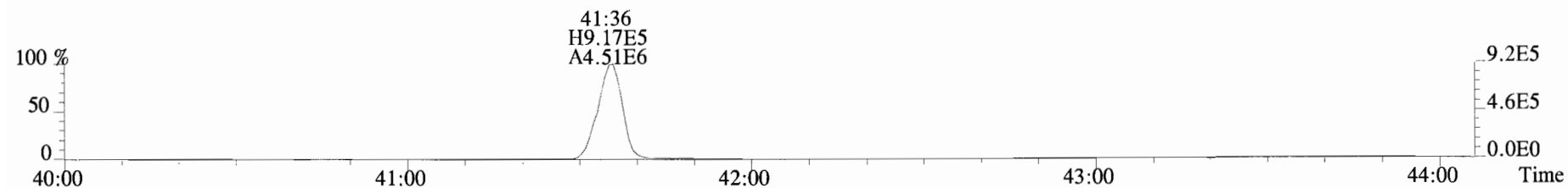
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



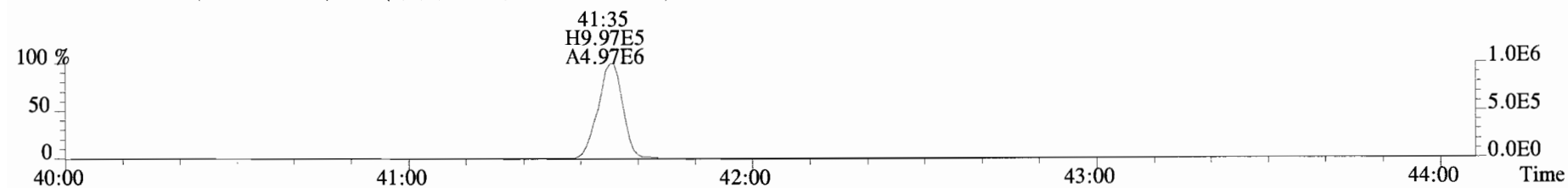
454.9728 F:4



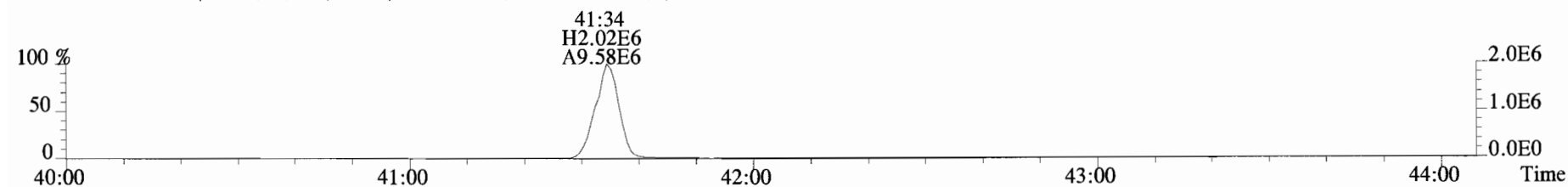
File:190701D2 #1-431 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



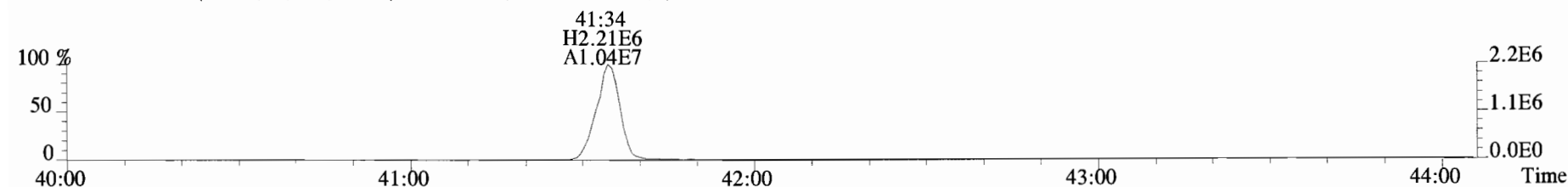
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



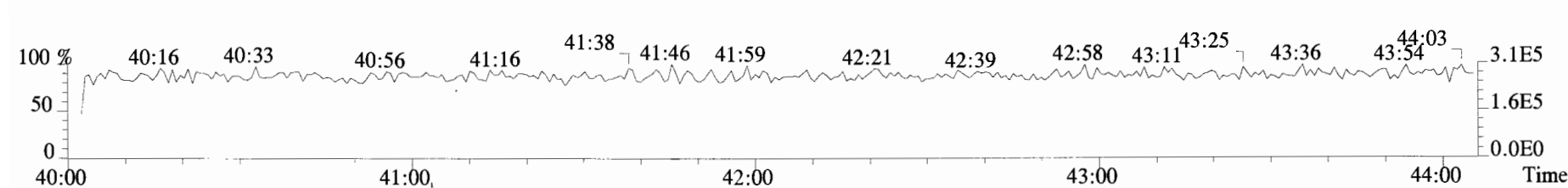
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



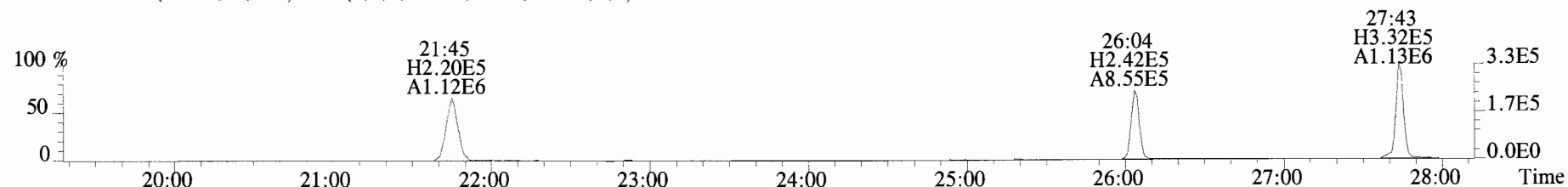
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



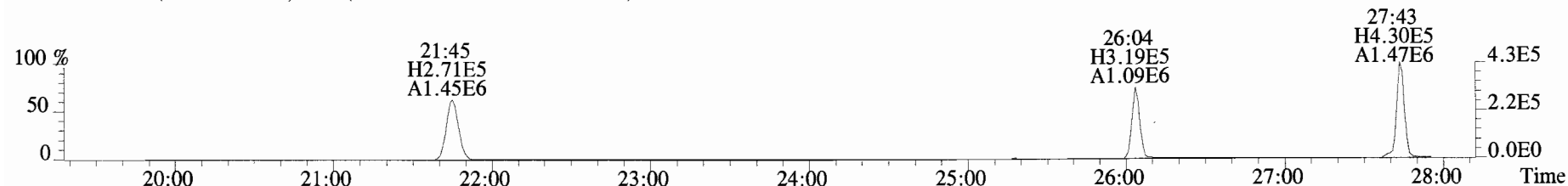
454.9728 F:5



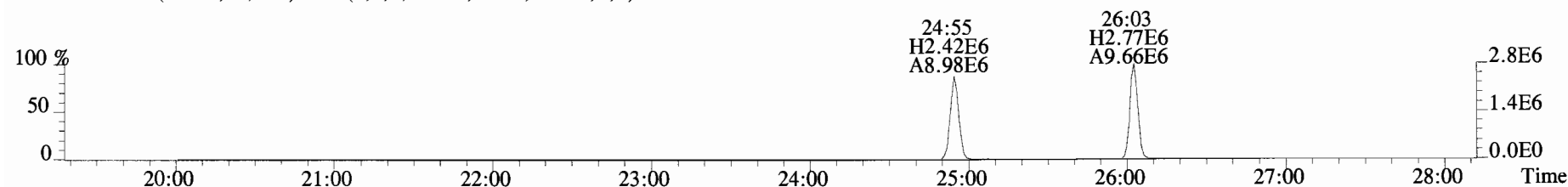
File:190701D2 #1-514 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



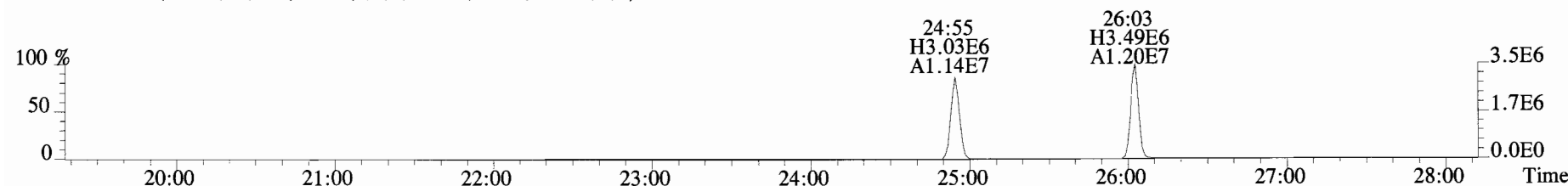
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



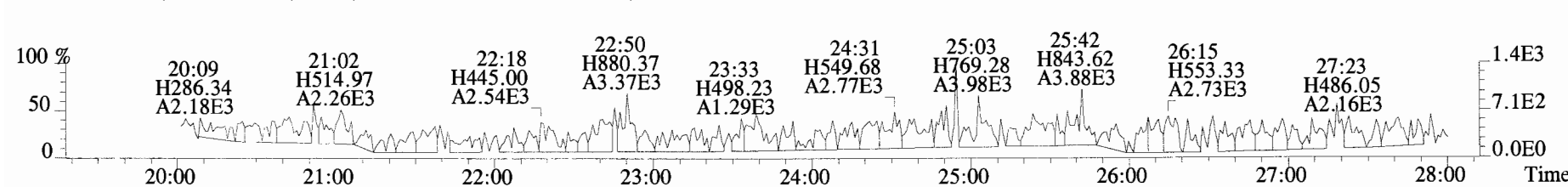
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



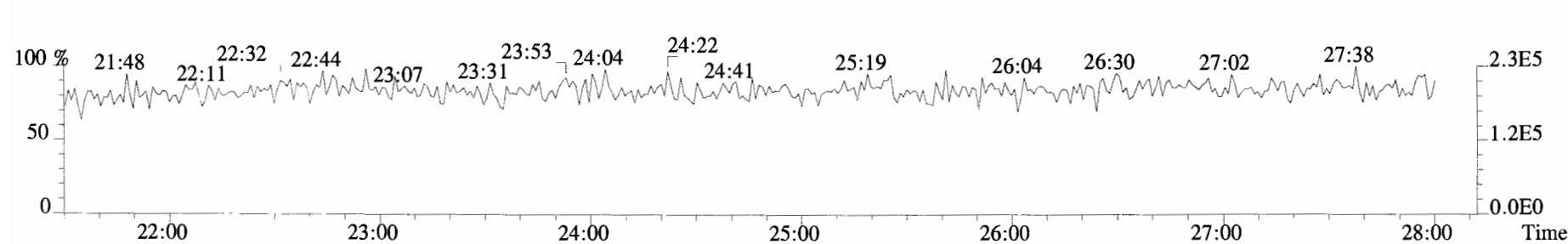
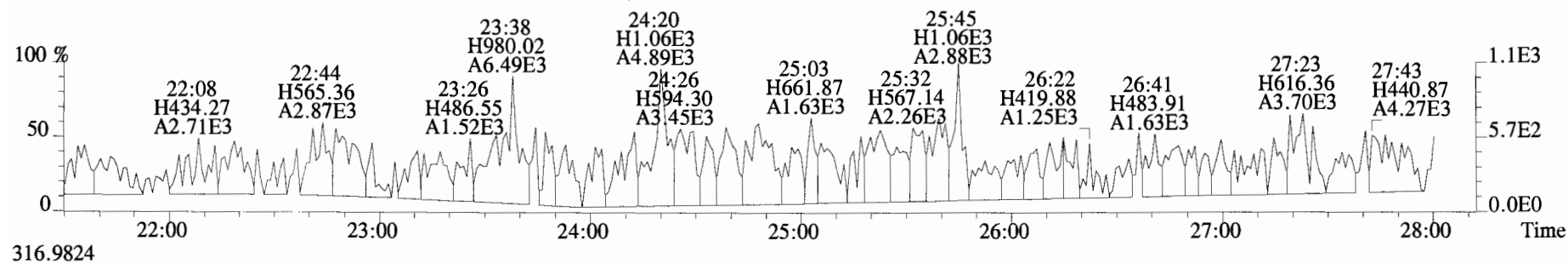
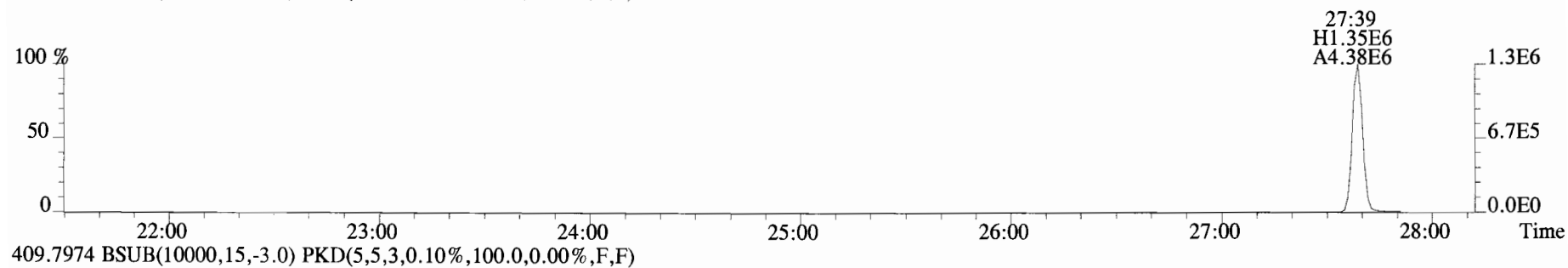
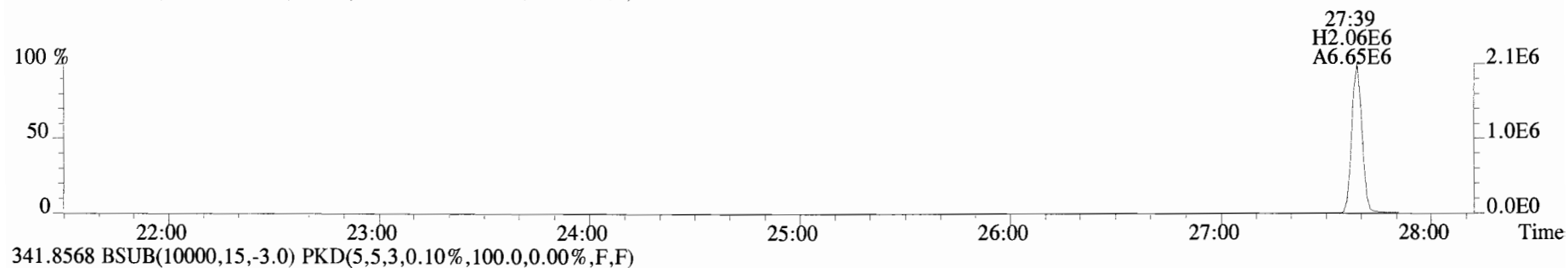
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



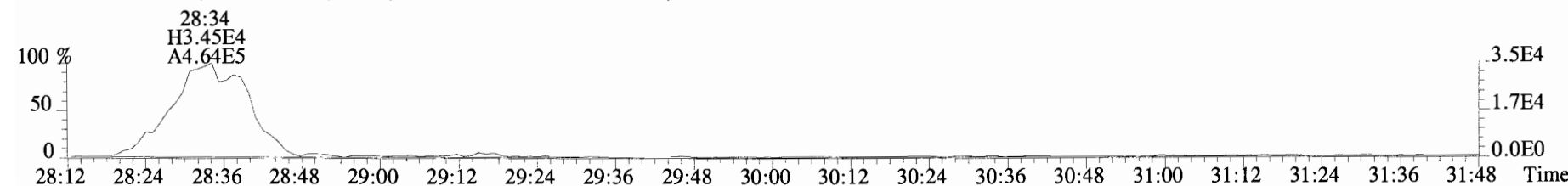
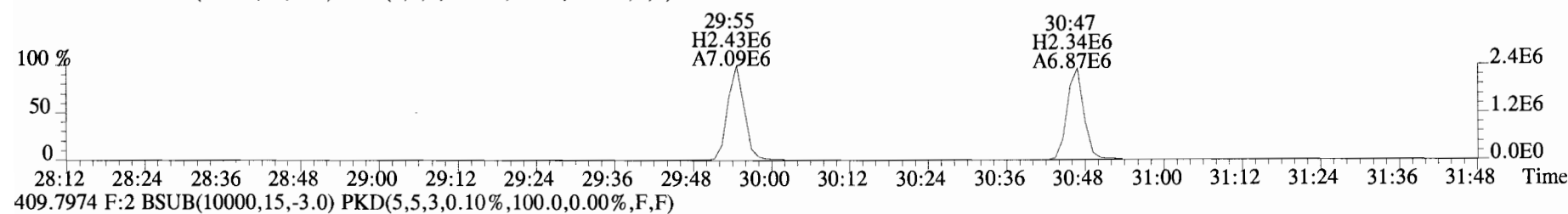
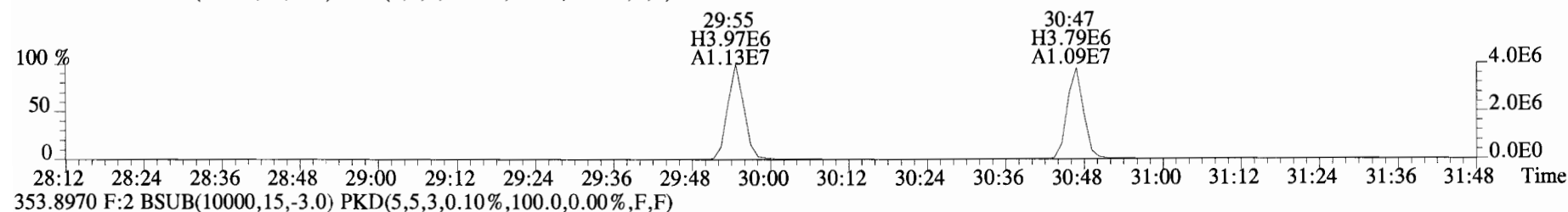
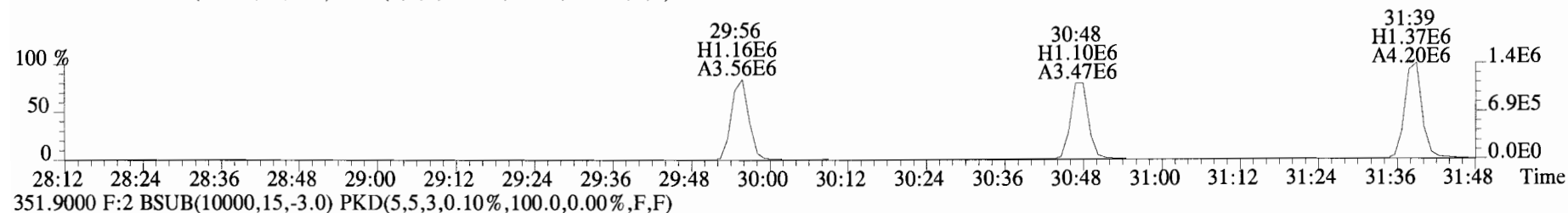
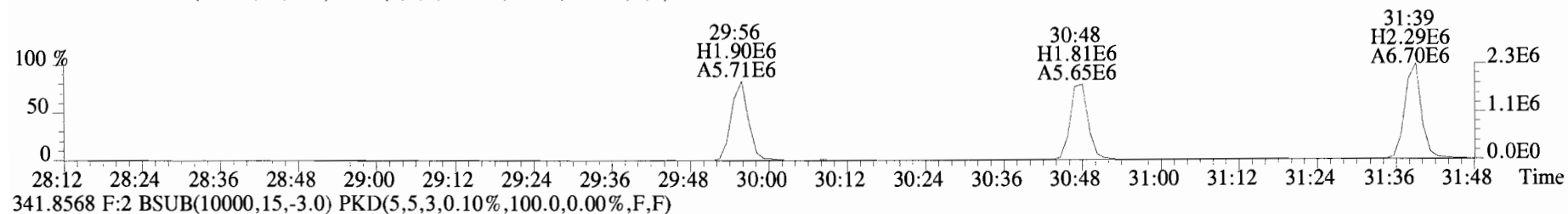
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



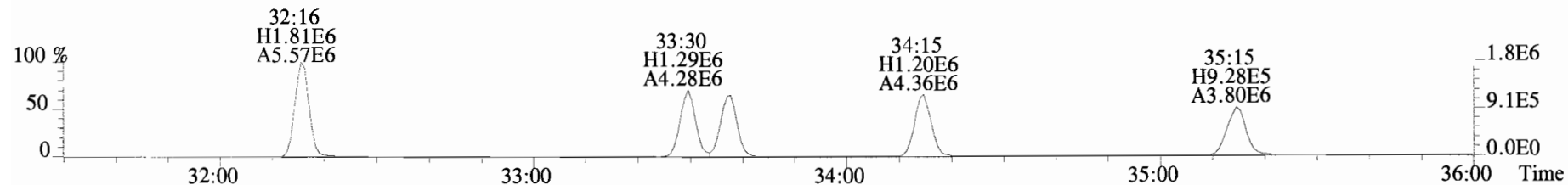
File:190701D2 #1-514 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



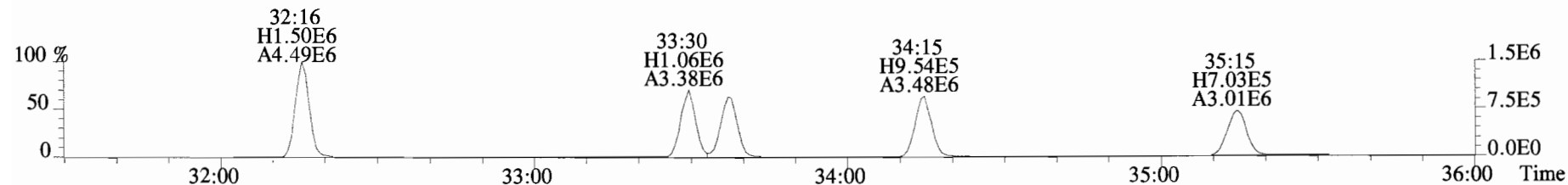
File:190701D2 #1-211 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



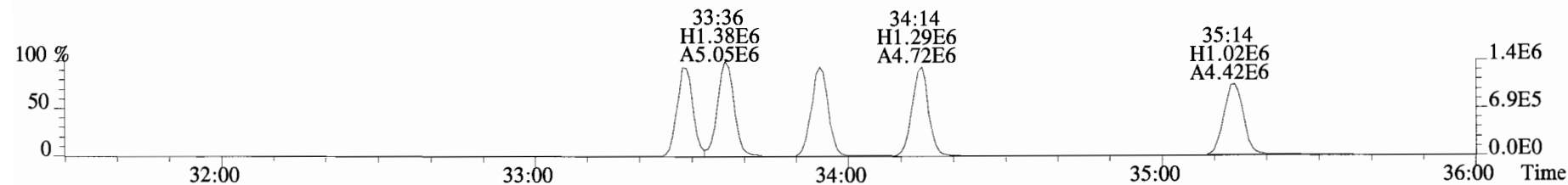
File:190701D2 #1-355 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



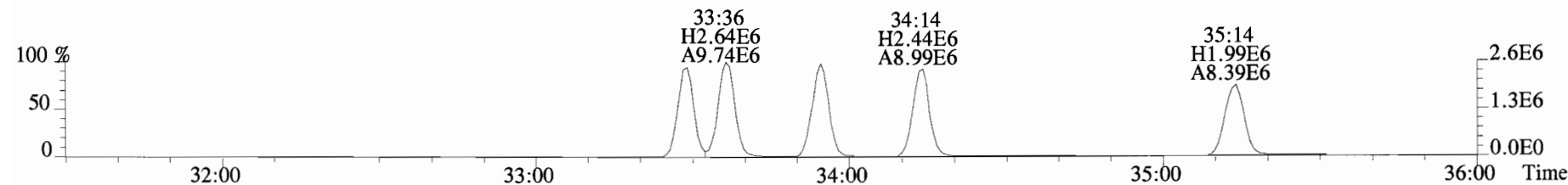
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



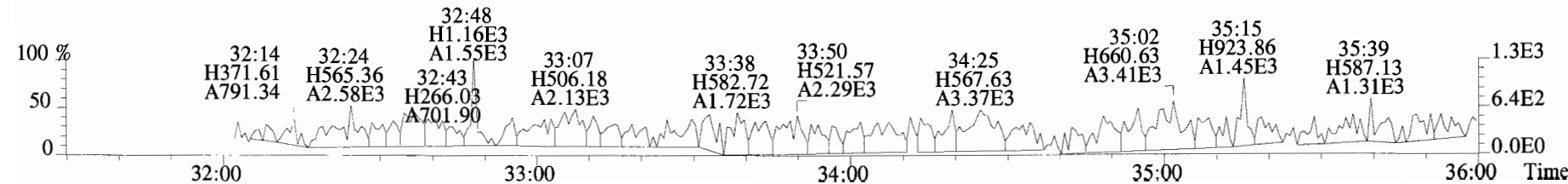
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



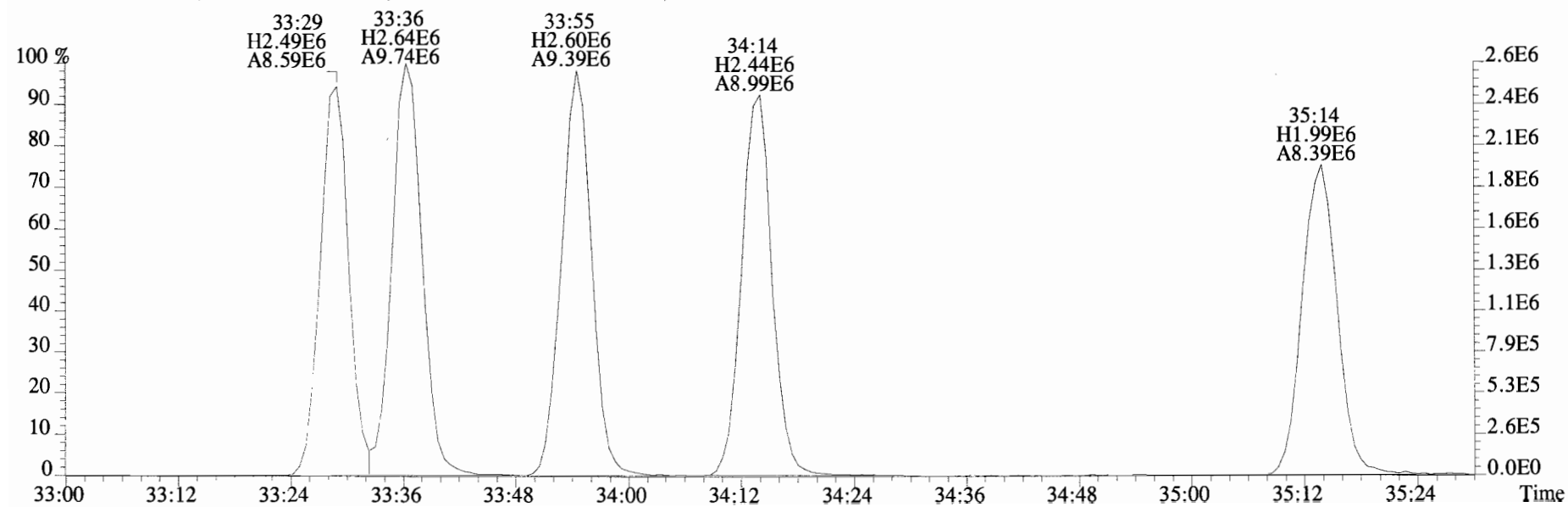
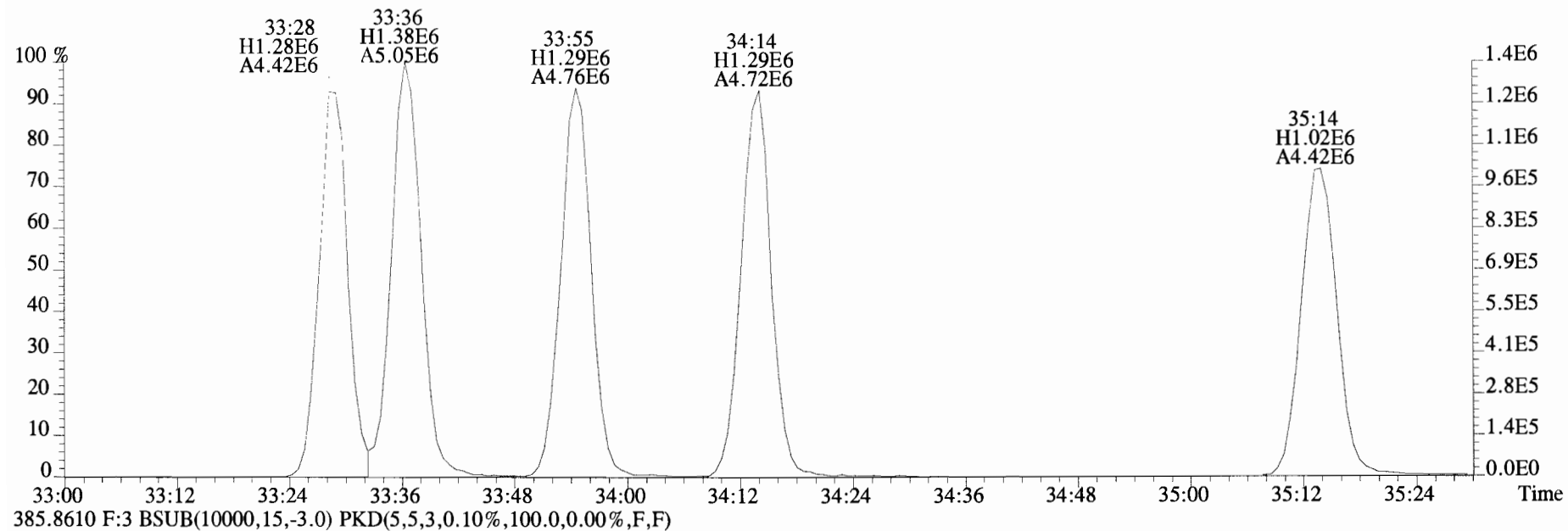
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



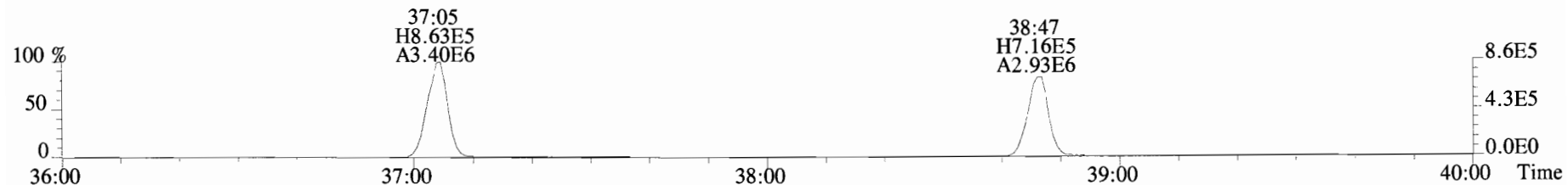
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



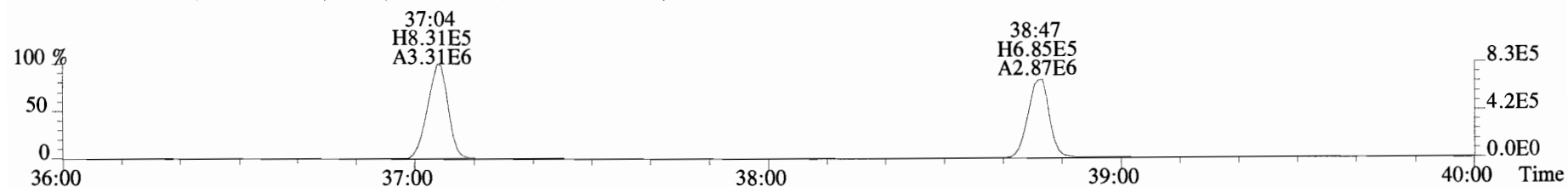
File:190701D2 #1-355 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



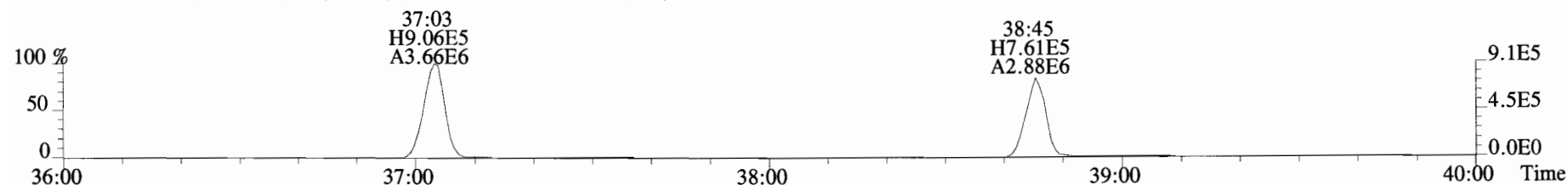
File:190701D2 #1-356 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



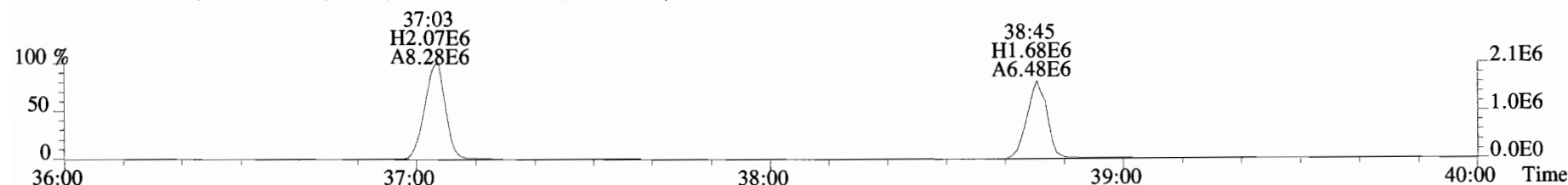
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



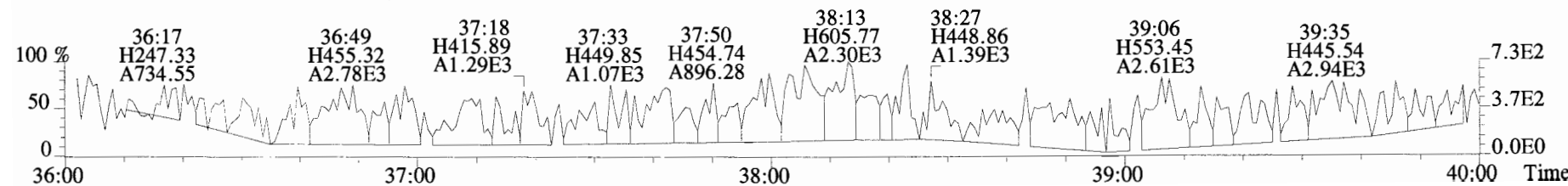
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



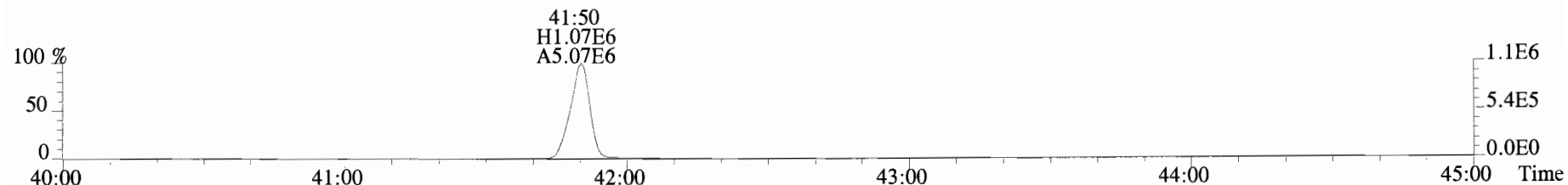
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



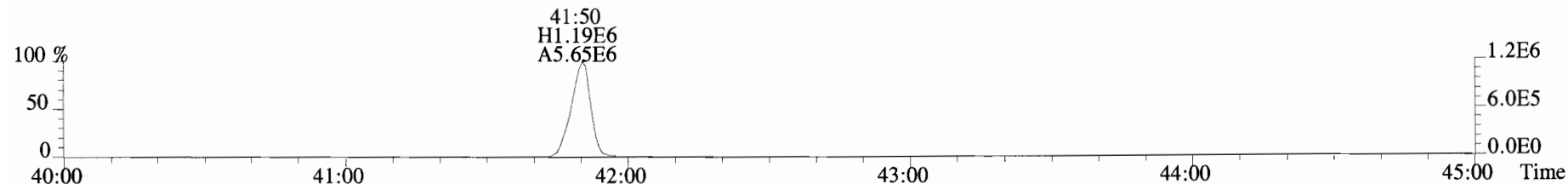
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



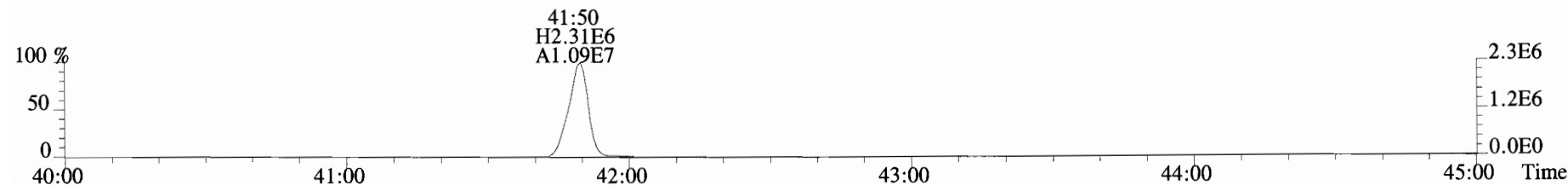
File:190701D2 #1-431 Acq: 1-JUL-2019 18:04:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190701D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



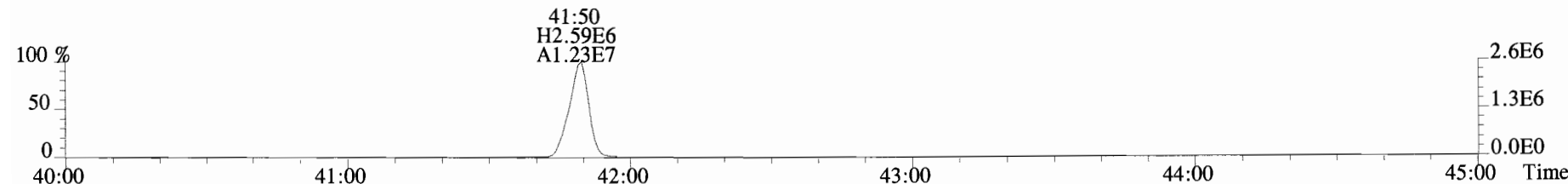
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



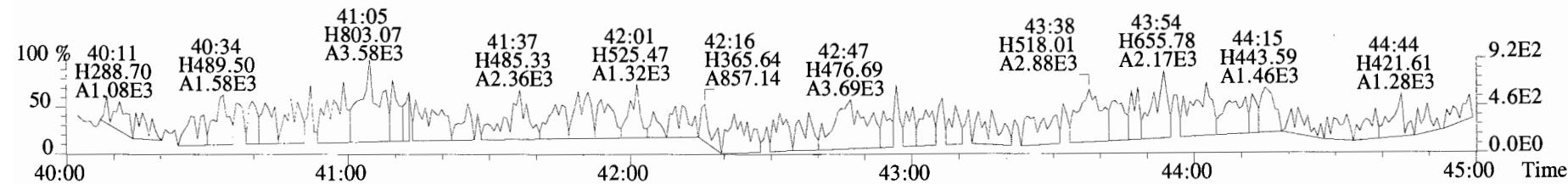
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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

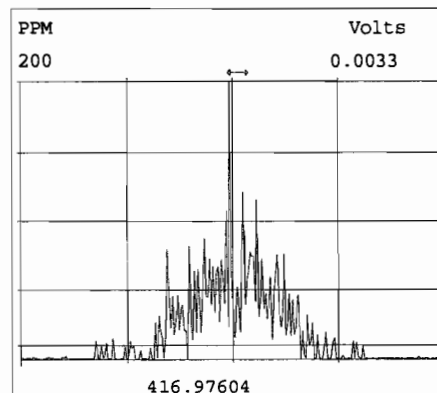
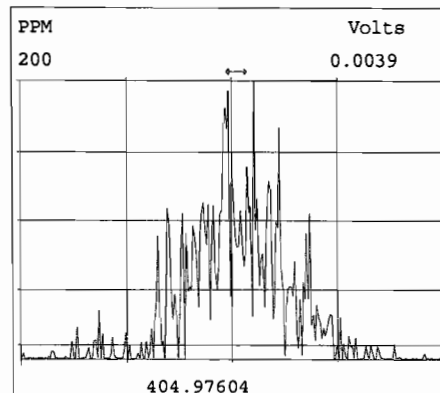
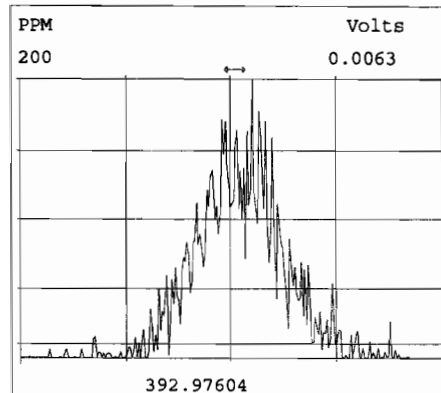
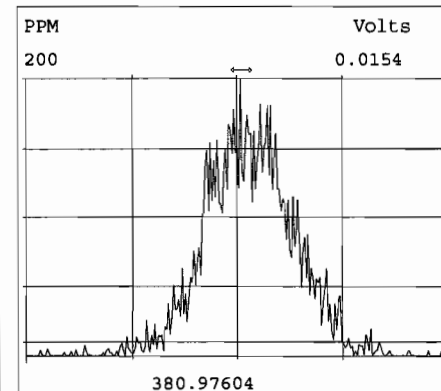
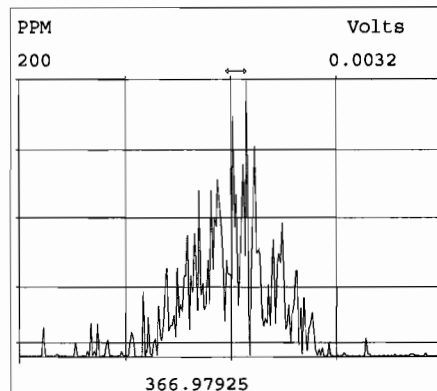
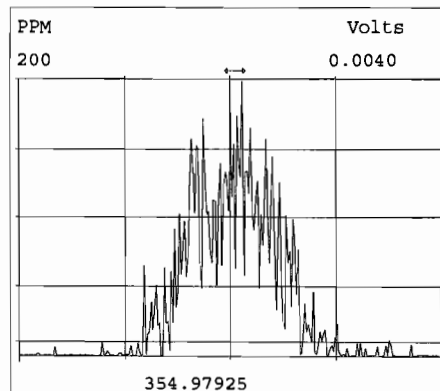
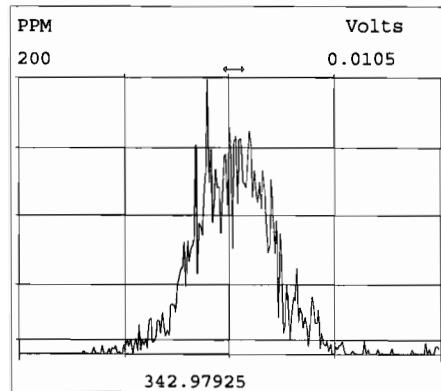
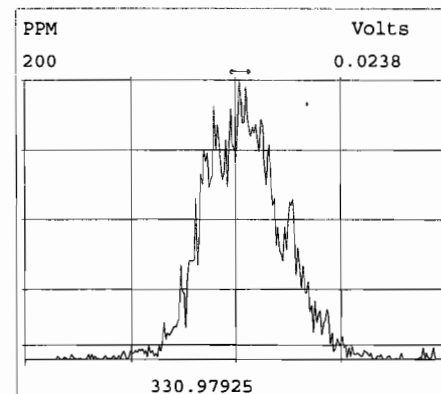
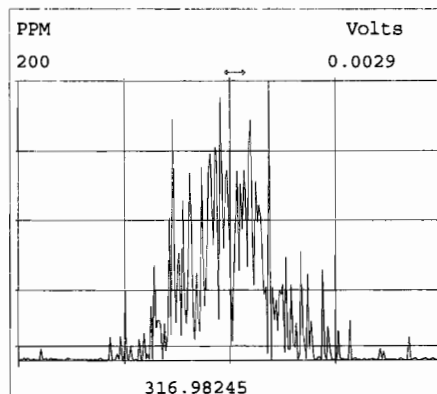
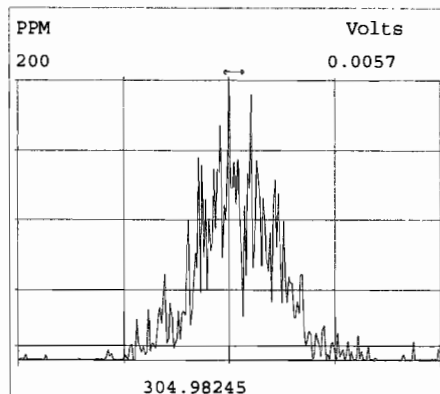
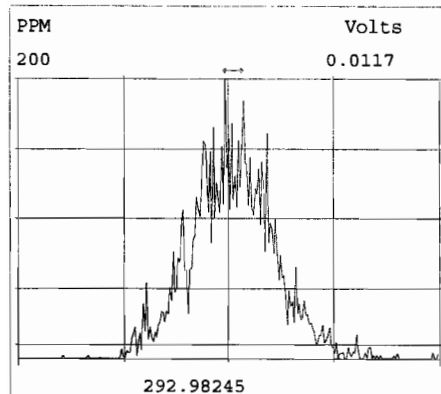


513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



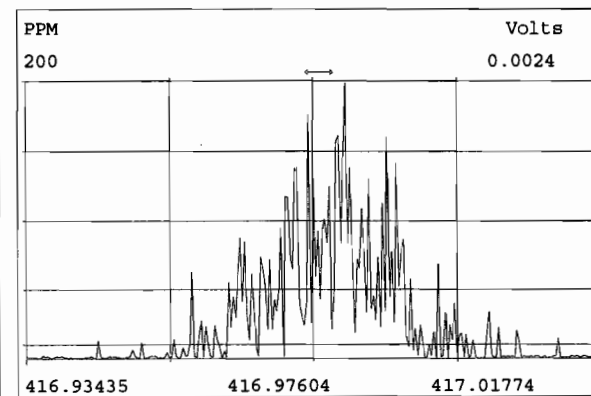
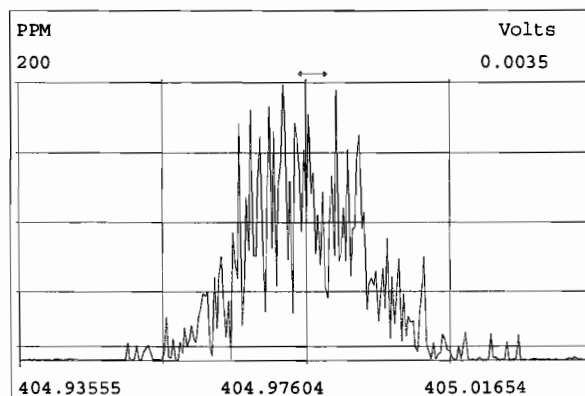
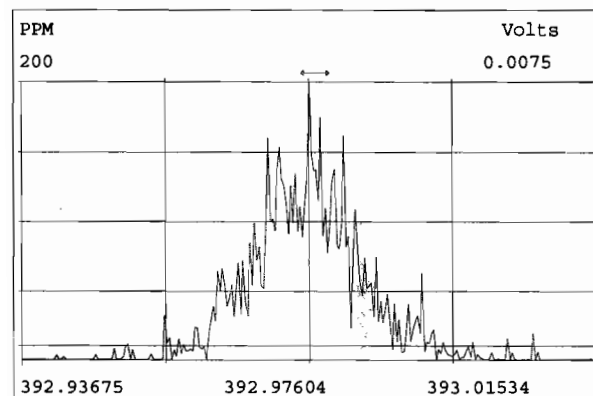
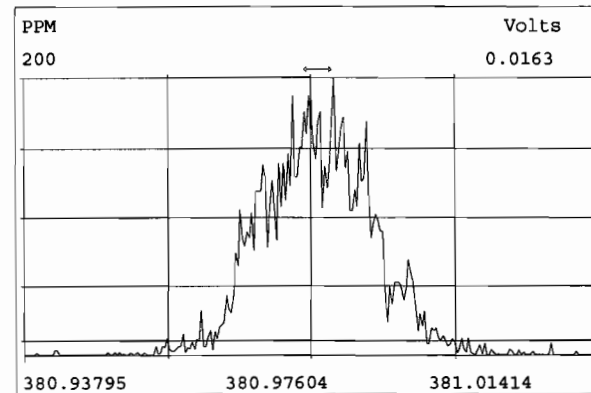
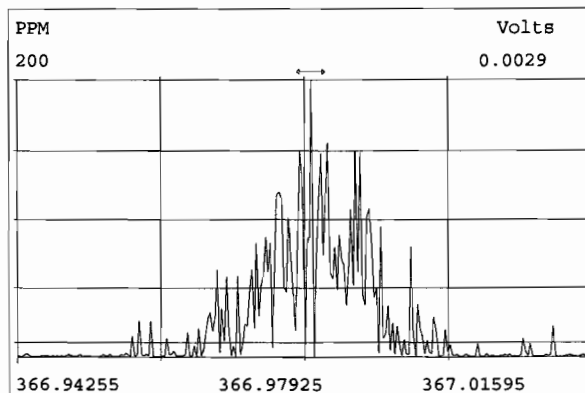
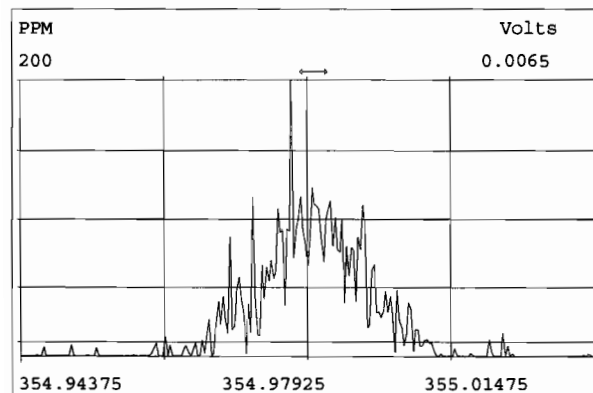
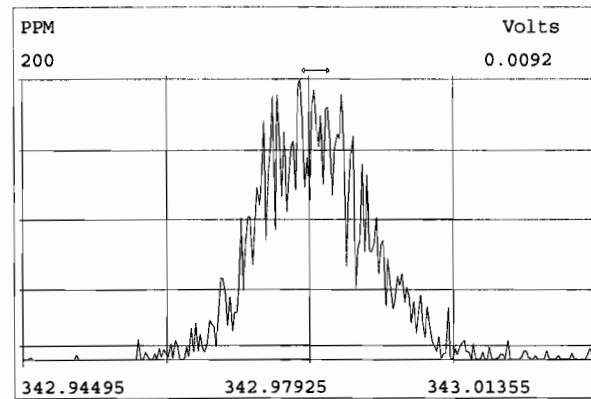
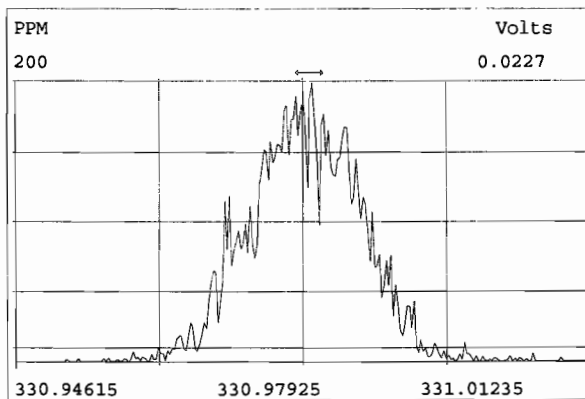
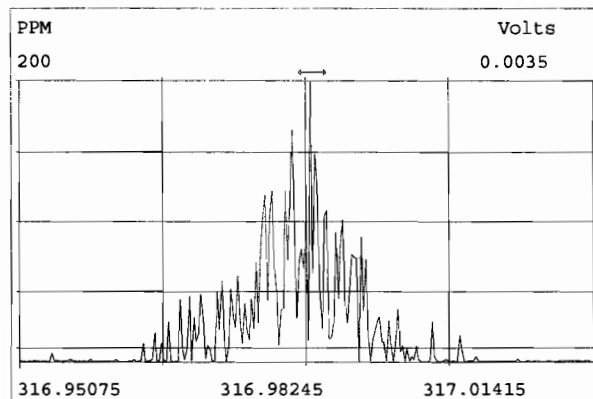
Peak Locate Examination: 2-JUL-2019:02:11 File:RES_CHECK

Experiment:OCDD_DB5 Function:1 Reference:PFK



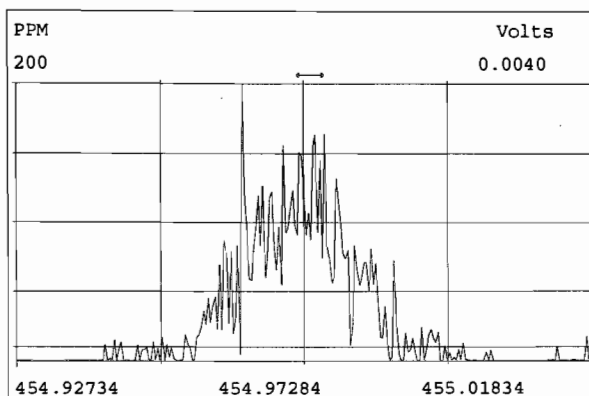
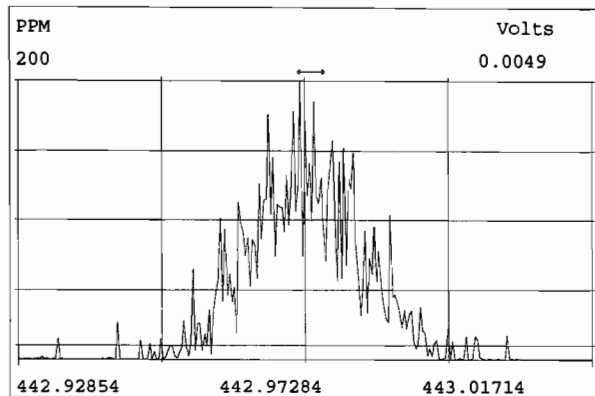
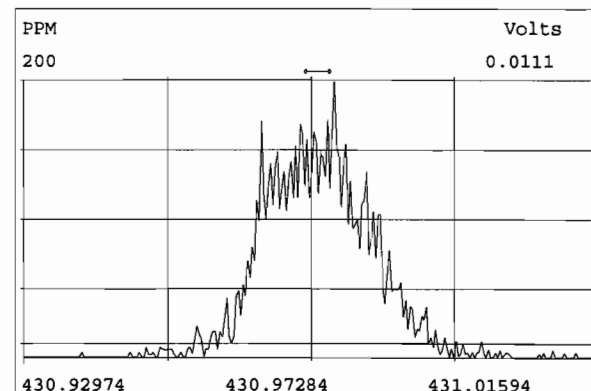
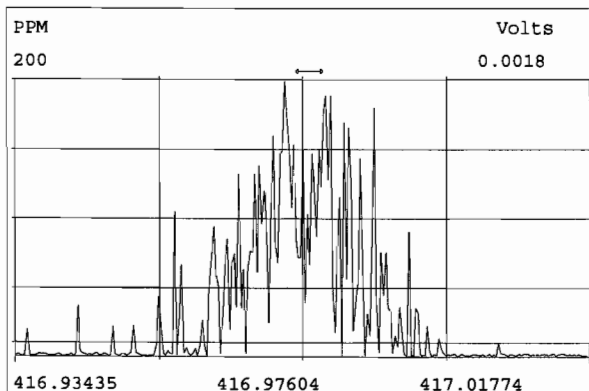
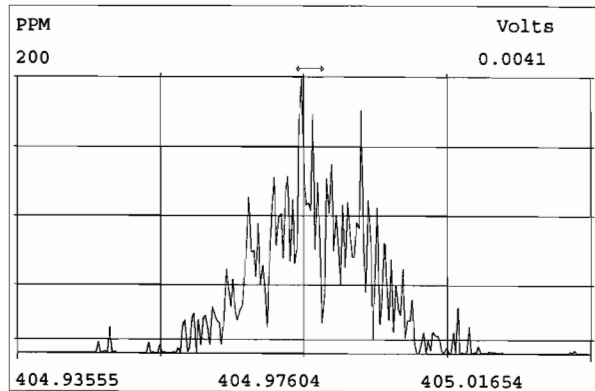
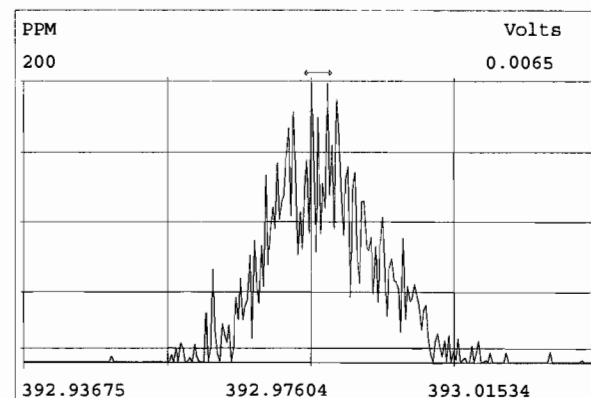
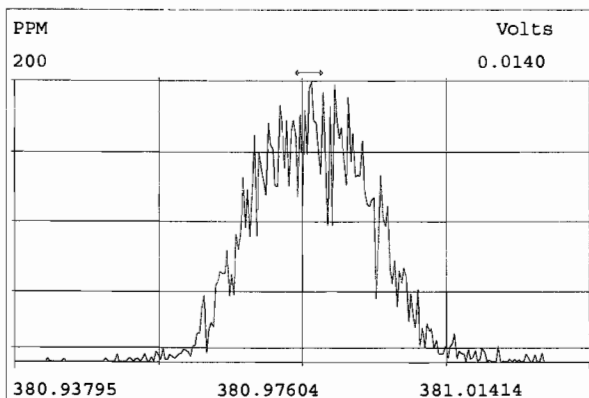
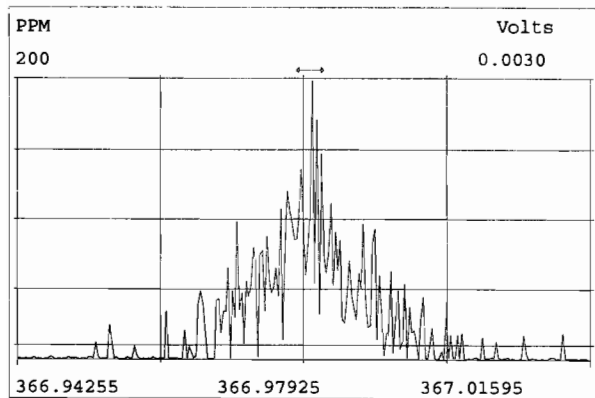
Peak Locate Examination: 2-JUL-2019:02:12 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK



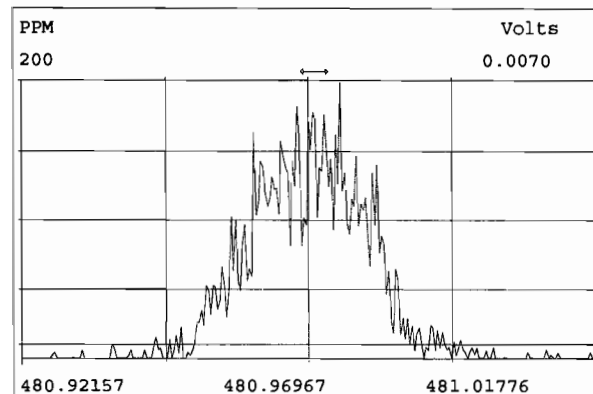
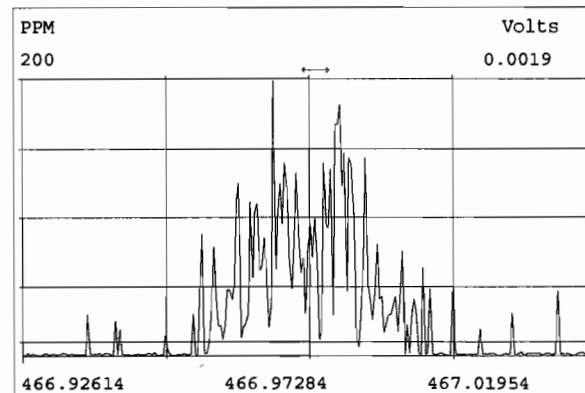
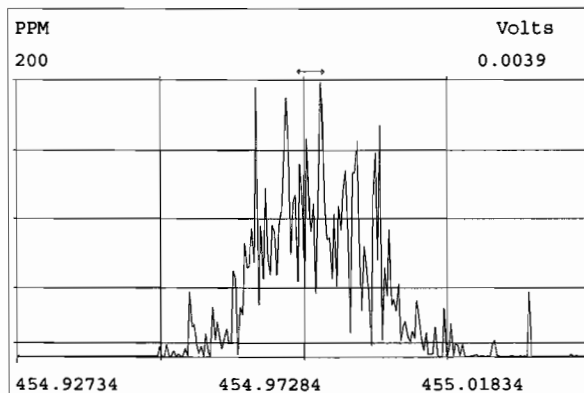
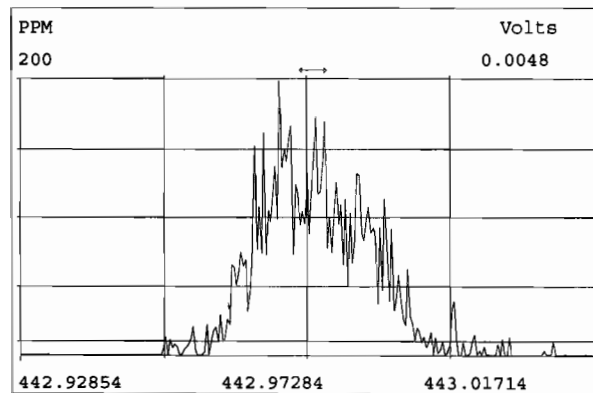
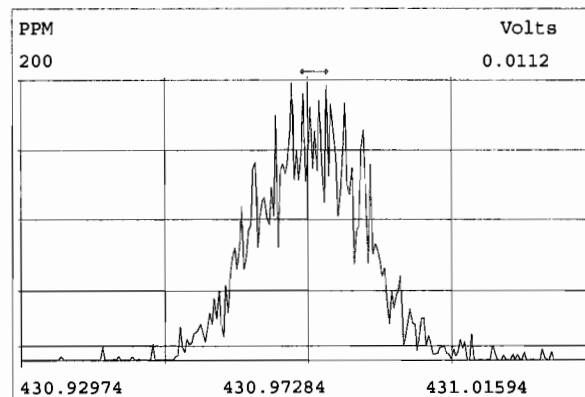
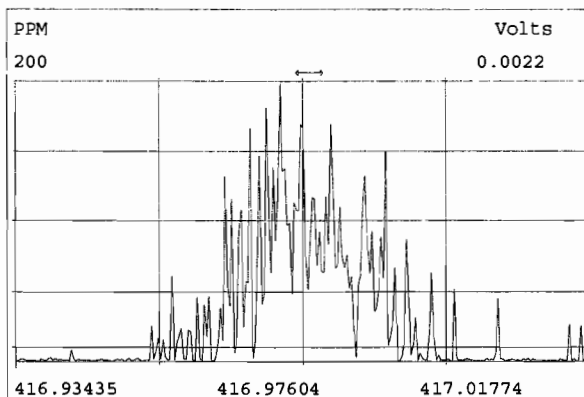
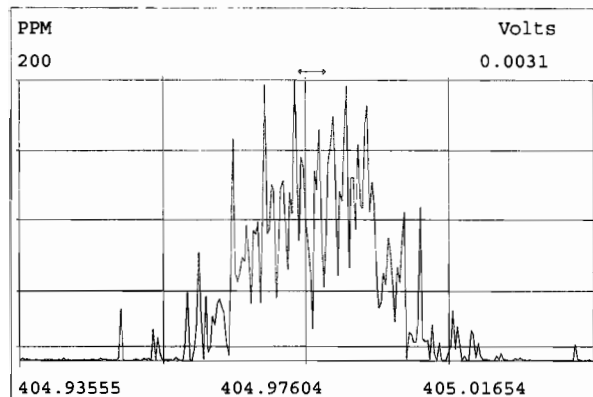
Peak Locate Examination: 2-JUL-2019:02:13 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK



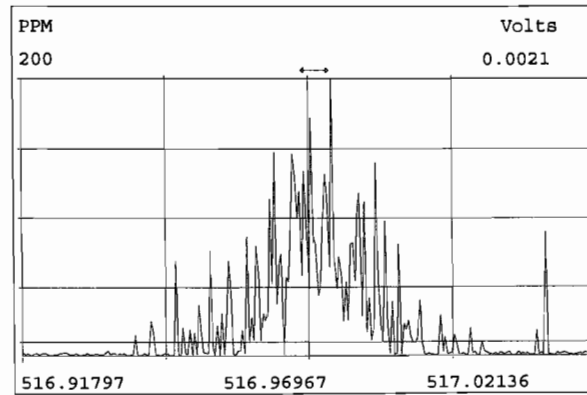
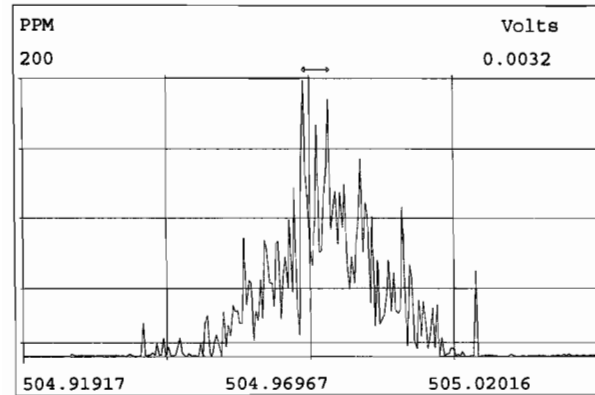
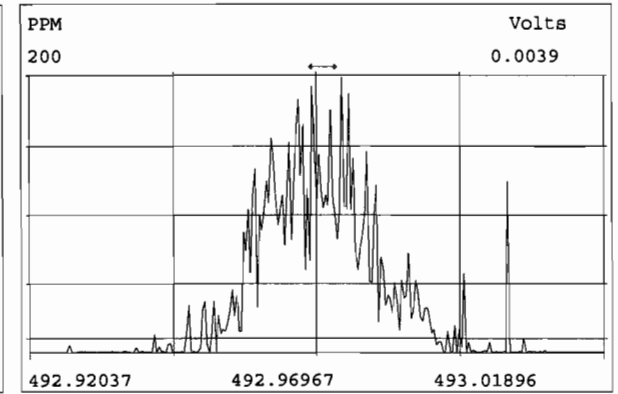
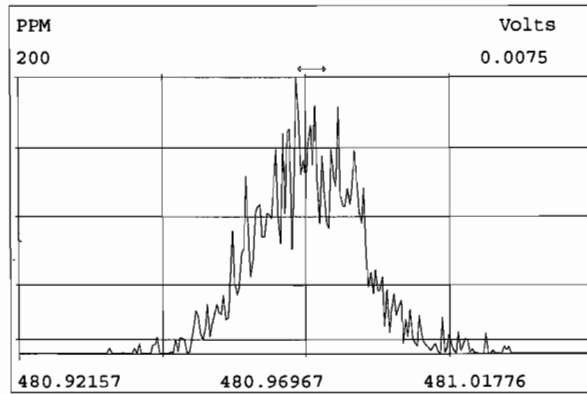
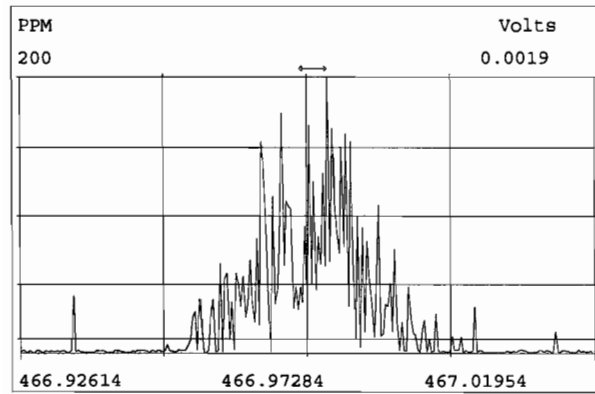
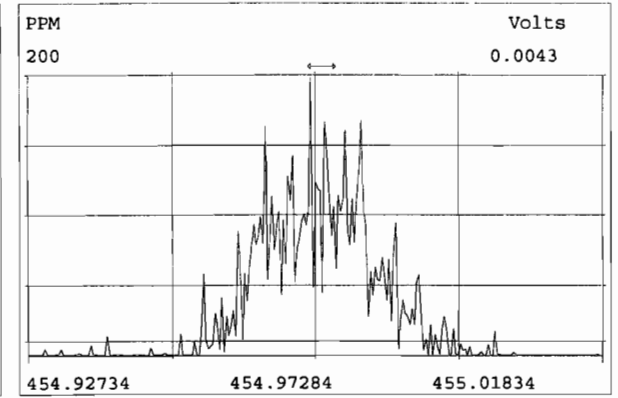
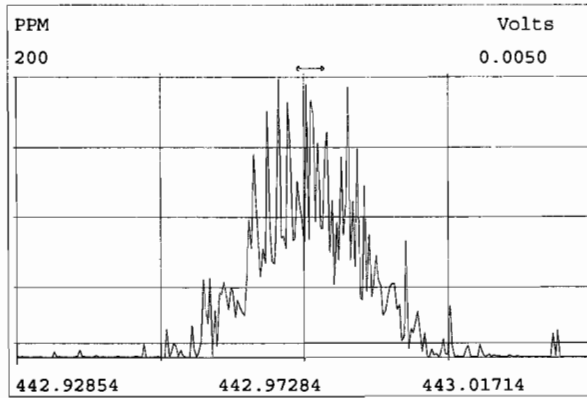
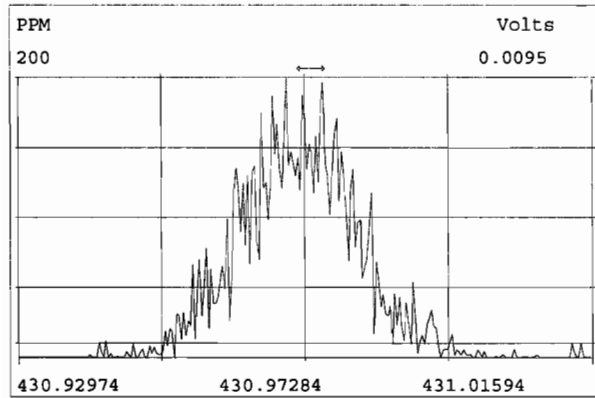
Peak Locate Examination: 2-JUL-2019:02:14 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination: 2-JUL-2019:02:15 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



INITIAL CALIBRATION

Initial Calibration RRF Summary (ICAL)

Vista Analytical Laboratory

Run: 190510D2

Analyte:

Cal: 1613VG7-5-10-19

Inst. ID. VG-7

Data filename: 190510D2

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
2,3,7,8-TCDD	0.90	6.57 %	0.90	0.80	0.95	0.86	0.94	0.95
1,2,3,7,8-PeCDD	0.87	6.42 %	0.89	0.94	0.90	0.78	0.85	0.87
1,2,3,4,7,8-HxCDD	1.05	9.29 %	0.96	0.97	0.98	1.04	1.17	1.17
1,2,3,6,7,8-HxCDD	0.93	8.35 %	0.88	0.88	0.91	0.86	0.99	1.05
1,2,3,7,8,9-HxCDD	0.96	8.79 %	0.98	0.89	0.89	0.89	1.05	1.07
1,2,3,4,6,7,8-HpCDD	0.99	10.09 %	0.94	0.89	0.90	0.99	1.10	1.12
OCDD	0.99	7.57 %	0.93	0.91	0.94	0.98	1.08	1.08
2,3,7,8-TCDF	0.94	5.57 %	0.97	0.91	0.92	0.87	1.00	0.99
1,2,3,7,8-PeCDF	0.92	4.71 %	0.86	0.94	0.94	0.88	0.96	0.96
2,3,4,7,8-PeCDF	0.96	4.77 %	0.95	0.93	0.97	0.88	0.99	1.01
1,2,3,4,7,8-HxCDF	1.15	9.95 %	1.10	1.08	1.02	1.13	1.28	1.31
1,2,3,6,7,8-HxCDF	1.04	13.16 %	0.94	0.91	0.92	1.06	1.18	1.21
2,3,4,6,7,8-HxCDF	1.10	11.28 %	1.03	0.97	0.97	1.14	1.23	1.24
1,2,3,7,8,9-HxCDF	1.03	10.60 %	0.93	0.95	0.92	1.10	1.13	1.16
1,2,3,4,6,7,8-HpCDF	1.06	8.75 %	0.98	0.94	1.03	1.12	1.15	1.16
1,2,3,4,7,8,9-HpCDF	1.23	10.34 %	1.16	1.12	1.07	1.26	1.38	1.35
OCDF	0.94	12.29 %	0.85	0.83	0.85	0.97	1.05	1.10
13C-2,3,7,8-TCDD	1.11	2.01 %	1.12	1.09	1.10	1.14	1.08	1.11
13C-1,2,3,7,8-PeCDD	0.98	9.80 %	0.91	0.90	0.87	1.11	1.05	1.01
13C-1,2,3,4,7,8-HxCDD	0.68	4.26 %	0.67	0.65	0.72	0.70	0.64	0.67
13C-1,2,3,6,7,8-HxCDD	0.84	5.78 %	0.86	0.82	0.86	0.92	0.80	0.78
13C-1,2,3,7,8,9-HxCDD	0.81	4.72 %	0.82	0.78	0.85	0.85	0.77	0.79
13C-1,2,3,4,6,7,8-HpCDD	0.69	8.78 %	0.68	0.63	0.71	0.79	0.67	0.63
13C-OCDD	0.62	9.24 %	0.62	0.58	0.65	0.73	0.59	0.57
13C-2,3,7,8-TCDF	1.05	2.81 %	1.03	1.04	1.06	1.06	1.02	1.10
13C-1,2,3,7,8-PeCDF	0.95	4.06 %	0.92	0.95	0.95	1.03	0.95	0.93
13C-2,3,4,7,8-PeCDF	0.94	6.37 %	0.93	0.94	0.93	1.05	0.90	0.87
13C-1,2,3,4,7,8-HxCDF	0.86	4.27 %	0.87	0.83	0.90	0.89	0.83	0.82
13C-1,2,3,6,7,8-HxCDF	1.02	5.53 %	1.07	0.99	1.09	1.04	0.98	0.95
13C-2,3,4,6,7,8-HxCDF	0.95	2.98 %	0.94	0.90	0.96	0.96	0.98	0.97
13C-1,2,3,7,8,9-HxCDF	0.87	5.08 %	0.83	0.81	0.85	0.88	0.91	0.92
13C-1,2,3,4,6,7,8-HpCDF	0.81	12.94 %	0.70	0.71	0.74	0.90	0.94	0.86
13C-1,2,3,4,7,8,9-HpCDF	0.63	11.56 %	0.57	0.56	0.59	0.75	0.66	0.65
13C-OCDF	0.78	9.30 %	0.76	0.71	0.75	0.92	0.80	0.76
37Cl-2,3,7,8-TCDD	1.22	8.68 %	1.36	1.32	1.16	1.08	1.17	1.22
13C-1,2,3,4-TCDD	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.00	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

DB
5/14/19
m 5/14/19

Filename: 190510D2 S: 1 Acquired: 10-MAY-19 14:24:45

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-1 1613 CS0 19C2201

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.25	1.72e+04	0.74 y	26:10	-	0.90
2	Unk	1,2,3,7,8-PeCDD	1.25	6.93e+04	0.69 y	30:37	-	0.89
3	Unk	1,2,3,4,7,8-HxCDD	1.25	6.06e+04	1.22 y	33:54	-	0.96
4	Unk	1,2,3,6,7,8-HxCDD	1.25	7.11e+04	1.08 y	34:01	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	1.25	7.57e+04	1.08 y	34:19	-	0.98
6	Unk	1,2,3,4,6,7,8-HpCDD	1.25	5.98e+04	0.98 y	37:46	-	0.94
7	Unk	OCDD	2.50	1.09e+05	0.79 y	41:03	-	0.93
8	Unk	2,3,7,8-TCDF	0.25	2.42e+04	0.84 y	25:25	-	0.97
9	Unk	1,2,3,7,8-PeCDF	1.25	9.56e+04	1.75 y	29:26	-	0.86
10	Unk	2,3,4,7,8-PeCDF	1.25	1.07e+05	1.35 y	30:20	-	0.95
11	Unk	1,2,3,4,7,8-HxCDF	1.25	9.07e+04	1.11 y	33:01	-	1.10
12	Unk	1,2,3,6,7,8-HxCDF	1.25	9.46e+04	1.15 y	33:08	-	0.94
13	Unk	2,3,4,6,7,8-HxCDF	1.25	9.04e+04	1.26 y	33:44	-	1.03
14	Unk	1,2,3,7,8,9-HxCDF	1.25	7.29e+04	1.32 y	34:44	-	0.93
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	6.46e+04	0.93 y	36:33	-	0.98
16	Unk	1,2,3,4,7,8,9-HpCDF	1.25	6.19e+04	0.96 y	38:19	-	1.16
17	Unk	OCDF	2.50	1.21e+05	0.84 y	41:17	-	0.85
36	IS	13C-2,3,7,8-TCDD	100.00	7.65e+06	0.78 y	26:10	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.21e+06	0.61 y	30:36	-	0.91
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.03e+06	1.22 y	33:54	-	0.67
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.47e+06	1.23 y	34:01	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.21e+06	1.22 y	34:19	-	0.82
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.11e+06	1.07 y	37:45	-	0.68
42	IS	13C-OCDD	200.00	9.40e+06	0.90 y	41:02	-	0.62
43	IS	13C-2,3,7,8-TCDF	100.00	1.00e+07	0.80 y	25:25	-	1.03
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.93e+06	1.58 y	29:26	-	0.92
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.01e+06	1.65 y	30:20	-	0.93
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.58e+06	0.51 y	33:00	-	0.87
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.07e+06	0.52 y	33:08	-	1.07
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.05e+06	0.52 y	33:44	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.28e+06	0.52 y	34:44	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.25e+06	0.42 y	36:32	-	0.70
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.27e+06	0.39 y	38:19	-	0.57
52	IS	13C-OCDF	200.00	1.14e+07	0.89 y	41:17	-	0.76
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.32e+04		26:10	-	1.36
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.82e+06	0.78 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.73e+06	0.81 y	24:11	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.52e+06	0.52 y	33:26	-	1.00

DB
5/14/19

Filename: 190510D2 S: 2 Acquired: 10-MAY-19 15:12:30

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-2 1613 CS1 19C2202

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	2.78e+04	0.80 y	26:10	-	0.80
2	Unk	1,2,3,7,8-PeCDD	2.50	1.35e+05	0.63 y	30:36	-	0.94
3	Unk	1,2,3,4,7,8-HxCDD	2.50	1.13e+05	1.21 y	33:54	-	0.97
4	Unk	1,2,3,6,7,8-HxCDD	2.50	1.29e+05	1.12 y	34:00	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	2.50	1.24e+05	1.23 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	9.95e+04	1.02 y	37:45	-	0.89
7	Unk	OCDD	5.00	1.90e+05	0.90 y	41:02	-	0.91
8	Unk	2,3,7,8-TCDF	0.50	4.28e+04	0.81 y	25:25	-	0.91
9	Unk	1,2,3,7,8-PeCDF	2.50	2.02e+05	1.60 y	29:27	-	0.94
10	Unk	2,3,4,7,8-PeCDF	2.50	1.98e+05	1.64 y	30:20	-	0.93
11	Unk	1,2,3,4,7,8-HxCDF	2.50	1.59e+05	1.26 y	33:01	-	1.08
12	Unk	1,2,3,6,7,8-HxCDF	2.50	1.61e+05	1.10 y	33:08	-	0.91
13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.56e+05	1.24 y	33:44	-	0.97
14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.36e+05	1.18 y	34:44	-	0.95
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.19e+05	0.99 y	36:32	-	0.94
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.13e+05	1.00 y	38:19	-	1.12
17	Unk	OCDF	5.00	2.10e+05	0.93 y	41:16	-	0.83
36	IS	13C-2,3,7,8-TCDD	100.00	6.94e+06	0.78 y	26:09	-	1.09
37	IS	13C-1,2,3,7,8-PeCDD	100.00	5.74e+06	0.63 y	30:36	-	0.90
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.64e+06	1.23 y	33:53	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.87e+06	1.26 y	34:00	-	0.82
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.55e+06	1.23 y	34:19	-	0.78
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.49e+06	1.03 y	37:45	-	0.63
42	IS	13C-OCDD	200.00	8.35e+06	0.91 y	41:02	-	0.58
43	IS	13C-2,3,7,8-TCDF	100.00	9.42e+06	0.82 y	25:25	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.60e+06	1.60 y	29:27	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.49e+06	1.58 y	30:20	-	0.94
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.90e+06	0.52 y	32:60	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.06e+06	0.50 y	33:08	-	0.99
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.44e+06	0.51 y	33:44	-	0.90
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.76e+06	0.51 y	34:43	-	0.81
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.08e+06	0.43 y	36:32	-	0.71
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.01e+06	0.41 y	38:18	-	0.56
52	IS	13C-OCDF	200.00	1.01e+07	0.89 y	41:16	-	0.71
53	C/Up	37Cl-2,3,7,8-TCDD	0.50	4.20e+04		26:10	-	1.32
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.37e+06	0.81 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.03e+06	0.81 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.15e+06	0.50 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 3 Acquired: 10-MAY-19 16:00:06

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-3 1613 CS2 19C2203

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	1.38e+05	0.86 y	26:11	-	0.95
2	Unk	1,2,3,7,8-PeCDD	10.00	5.22e+05	0.63 y	30:36	-	0.90
3	Unk	1,2,3,4,7,8-HxCDD	10.00	4.65e+05	1.19 y	33:54	-	0.98
4	Unk	1,2,3,6,7,8-HxCDD	10.00	5.21e+05	1.27 y	34:01	-	0.91
5	Unk	1,2,3,7,8,9-HxCDD	10.00	4.98e+05	1.14 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	4.24e+05	0.99 y	37:45	-	0.90
7	Unk	OCDD	20.00	8.06e+05	0.93 y	41:02	-	0.94
8	Unk	2,3,7,8-TCDF	2.00	1.80e+05	0.77 y	25:26	-	0.92
9	Unk	1,2,3,7,8-PeCDF	10.00	8.13e+05	1.63 y	29:27	-	0.94
10	Unk	2,3,4,7,8-PeCDF	10.00	8.19e+05	1.61 y	30:21	-	0.97
11	Unk	1,2,3,4,7,8-HxCDF	10.00	6.06e+05	1.12 y	33:01	-	1.02
12	Unk	1,2,3,6,7,8-HxCDF	10.00	6.63e+05	1.20 y	33:08	-	0.92
13	Unk	2,3,4,6,7,8-HxCDF	10.00	6.18e+05	1.17 y	33:45	-	0.97
14	Unk	1,2,3,7,8,9-HxCDF	10.00	5.17e+05	1.14 y	34:44	-	0.92
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	0.99 y	36:32	-	1.03
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.21e+05	0.92 y	38:18	-	1.07
17	Unk	OCDF	20.00	8.37e+05	0.91 y	41:16	-	0.85
36	IS	13C-2,3,7,8-TCDD	100.00	7.28e+06	0.80 y	26:10	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	5.80e+06	0.63 y	30:36	-	0.87
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.74e+06	1.22 y	33:53	-	0.72
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.70e+06	1.25 y	33:60	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.63e+06	1.20 y	34:18	-	0.85
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.70e+06	1.04 y	37:44	-	0.71
42	IS	13C-OCDD	200.00	8.55e+06	0.90 y	41:01	-	0.65
43	IS	13C-2,3,7,8-TCDF	100.00	9.73e+06	0.80 y	25:25	-	1.06
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.68e+06	1.58 y	29:27	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.48e+06	1.56 y	30:20	-	0.93
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.93e+06	0.51 y	32:60	-	0.90
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.20e+06	0.50 y	33:07	-	1.09
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.35e+06	0.50 y	33:44	-	0.96
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.60e+06	0.50 y	34:42	-	0.85
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.87e+06	0.42 y	36:32	-	0.74
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.92e+06	0.42 y	38:18	-	0.59
52	IS	13C-OCDF	200.00	9.89e+06	0.89 y	41:16	-	0.75
53	C/Up	37Cl-2,3,7,8-TCDD	2.00	1.54e+05		26:11	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	6.64e+06	0.79 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	9.16e+06	0.80 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	6.60e+06	0.51 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 4 Acquired: 10-MAY-19 16:47:52

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-4 1613 CS3 19C2204

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	3.27e+05	0.78 y	26:10	-	0.86
2	Unk	1,2,3,7,8-PeCDD	50.00	1.43e+06	0.62 y	30:36	-	0.78
3	Unk	1,2,3,4,7,8-HxCDD	50.00	1.14e+06	1.20 y	33:54	-	1.04
4	Unk	1,2,3,6,7,8-HxCDD	50.00	1.23e+06	1.23 y	34:01	-	0.86
5	Unk	1,2,3,7,8,9-HxCDD	50.00	1.20e+06	1.18 y	34:19	-	0.89
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	1.22e+06	1.03 y	37:45	-	0.99
7	Unk	OCDD	100.00	2.22e+06	0.92 y	41:02	-	0.98
8	Unk	2,3,7,8-TCDF	10.00	3.81e+05	0.78 y	25:26	-	0.87
9	Unk	1,2,3,7,8-PeCDF	50.00	1.89e+06	1.51 y	29:27	-	0.88
10	Unk	2,3,4,7,8-PeCDF	50.00	1.93e+06	1.57 y	30:20	-	0.88
11	Unk	1,2,3,4,7,8-HxCDF	50.00	1.58e+06	1.20 y	33:01	-	1.13
12	Unk	1,2,3,6,7,8-HxCDF	50.00	1.74e+06	1.24 y	33:08	-	1.06
13	Unk	2,3,4,6,7,8-HxCDF	50.00	1.71e+06	1.19 y	33:44	-	1.14
14	Unk	1,2,3,7,8,9-HxCDF	50.00	1.51e+06	1.26 y	34:44	-	1.10
15	Unk	1,2,3,4,6,7,8-HpCDF	50.00	1.58e+06	1.01 y	36:32	-	1.12
16	Unk	1,2,3,4,7,8,9-HpCDF	50.00	1.49e+06	1.05 y	38:19	-	1.26
17	Unk	OCDF	100.00	2.79e+06	0.91 y	41:16	-	0.97
36	IS	13C-2,3,7,8-TCDD	100.00	3.78e+06	0.75 y	26:09	-	1.14
37	IS	13C-1,2,3,7,8-PeCDD	100.00	3.68e+06	0.61 y	30:35	-	1.11
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	2.19e+06	1.25 y	33:53	-	0.70
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	2.87e+06	1.18 y	33:60	-	0.92
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	2.67e+06	1.23 y	34:18	-	0.85
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	2.48e+06	1.05 y	37:44	-	0.79
42	IS	13C-OCDD	200.00	4.55e+06	0.90 y	41:01	-	0.73
43	IS	13C-2,3,7,8-TCDF	100.00	4.40e+06	0.81 y	25:25	-	1.06
44	IS	13C-1,2,3,7,8-PeCDF	100.00	4.28e+06	1.54 y	29:26	-	1.03
45	IS	13C-2,3,4,7,8-PeCDF	100.00	4.36e+06	1.61 y	30:19	-	1.05
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	2.80e+06	0.51 y	32:60	-	0.89
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	3.27e+06	0.51 y	33:07	-	1.04
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	3.01e+06	0.51 y	33:44	-	0.96
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	2.76e+06	0.53 y	34:42	-	0.88
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	2.81e+06	0.43 y	36:31	-	0.90
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	2.36e+06	0.44 y	38:18	-	0.75
52	IS	13C-OCDF	200.00	5.75e+06	0.93 y	41:15	-	0.92
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	3.57e+05		26:10	-	1.08
54	RS/RT	13C-1,2,3,4-TCDD	100.00	3.32e+06	0.80 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	4.16e+06	0.82 y	24:11	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	3.13e+06	0.53 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 5 Acquired: 10-MAY-19 17:35:29

Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19

Results: 190510D2

Sample text: ST190510D2-5 1613 CS4 19C2205

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	40.00	1.65e+06	0.80 y	26:10	-	0.94
2	Unk	1,2,3,7,8-PeCDD	200.00	7.26e+06	0.62 y	30:36	-	0.85
3	Unk	1,2,3,4,7,8-HxCDD	200.00	6.64e+06	1.22 y	33:54	-	1.17
4	Unk	1,2,3,6,7,8-HxCDD	200.00	7.06e+06	1.22 y	34:01	-	0.99
5	Unk	1,2,3,7,8,9-HxCDD	200.00	7.15e+06	1.23 y	34:19	-	1.05
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	6.52e+06	1.06 y	37:44	-	1.10
7	Unk	OCDD	400.00	1.12e+07	0.93 y	41:01	-	1.08
8	Unk	2,3,7,8-TCDF	40.00	2.32e+06	0.78 y	25:26	-	1.00
9	Unk	1,2,3,7,8-PeCDF	200.00	1.03e+07	1.57 y	29:27	-	0.96
10	Unk	2,3,4,7,8-PeCDF	200.00	1.02e+07	1.59 y	30:20	-	0.99
11	Unk	1,2,3,4,7,8-HxCDF	200.00	9.33e+06	1.19 y	33:00	-	1.28
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.02e+07	1.22 y	33:08	-	1.18
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.07e+07	1.21 y	33:44	-	1.23
14	Unk	1,2,3,7,8,9-HxCDF	200.00	9.08e+06	1.21 y	34:43	-	1.13
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	9.58e+06	0.99 y	36:32	-	1.15
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	8.06e+06	1.03 y	38:18	-	1.38
17	Unk	OCDF	400.00	1.48e+07	0.91 y	41:16	-	1.05
36	IS	13C-2,3,7,8-TCDD	100.00	4.37e+06	0.77 y	26:09	-	1.08
37	IS	13C-1,2,3,7,8-PeCDD	100.00	4.27e+06	0.62 y	30:35	-	1.05
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	2.85e+06	1.22 y	33:53	-	0.64
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	3.55e+06	1.25 y	33:59	-	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	3.39e+06	1.25 y	34:17	-	0.77
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	2.96e+06	1.01 y	37:44	-	0.67
42	IS	13C-OCDD	200.00	5.20e+06	0.92 y	41:01	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	5.78e+06	0.80 y	25:25	-	1.02
44	IS	13C-1,2,3,7,8-PeCDF	100.00	5.38e+06	1.59 y	29:26	-	0.95
45	IS	13C-2,3,4,7,8-PeCDF	100.00	5.12e+06	1.55 y	30:19	-	0.90
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	3.66e+06	0.49 y	32:59	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	4.32e+06	0.51 y	33:07	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	4.33e+06	0.51 y	33:44	-	0.98
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	4.02e+06	0.52 y	34:42	-	0.91
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.15e+06	0.43 y	36:31	-	0.94
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	2.91e+06	0.46 y	38:17	-	0.66
52	IS	13C-OCDF	200.00	7.04e+06	0.91 y	41:15	-	0.80
53	C/Up	37Cl-2,3,7,8-TCDD	40.00	1.89e+06		26:10	-	1.17
54	RS/RT	13C-1,2,3,4-TCDD	100.00	4.05e+06	0.77 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	5.68e+06	0.82 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	4.42e+06	0.52 y	33:25	-	1.00

DB
5/14/19

Filename: 190510D2 S: 6 Acquired: 10-MAY-19 18:23:05
 Run: 190510D2 Analyte: Cal: 1613VG7-5-10-19
 Sample text: ST190510D2-6 1613 CS5 19C2206

Results: 190510D2

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	300.00	1.49e+07	0.80 y	26:10	-	0.95
2	Unk	1,2,3,7,8-PeCDD	1500.00	6.20e+07	0.63 y	30:36	-	0.87
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	6.57e+07	1.25 y	33:54	-	1.17
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	6.86e+07	1.23 y	33:60	-	1.05
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	7.06e+07	1.23 y	34:18	-	1.07
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	5.88e+07	1.05 y	37:44	-	1.12
7	Unk	OCDD	3000.00	1.03e+08	0.92 y	41:01	-	1.08
8	Unk	2,3,7,8-TCDF	300.00	2.15e+07	0.81 y	25:26	-	0.99
9	Unk	1,2,3,7,8-PeCDF	1500.00	8.84e+07	1.57 y	29:27	-	0.96
10	Unk	2,3,4,7,8-PeCDF	1500.00	8.73e+07	1.58 y	30:20	-	1.01
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	8.94e+07	1.21 y	33:00	-	1.31
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	9.62e+07	1.21 y	33:08	-	1.21
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	9.98e+07	1.20 y	33:44	-	1.24
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	8.85e+07	1.20 y	34:42	-	1.16
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	8.29e+07	1.00 y	36:32	-	1.16
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	7.36e+07	1.03 y	38:18	-	1.35
17	Unk	OCDF	3000.00	1.39e+08	0.91 y	41:15	-	1.10
36	IS	13C-2,3,7,8-TCDD	100.00	5.24e+06	0.77 y	26:09	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	4.77e+06	0.60 y	30:35	-	1.01
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.73e+06	1.27 y	33:53	-	0.67
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	4.34e+06	1.27 y	33:59	-	0.78
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	4.39e+06	1.28 y	34:17	-	0.79
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.51e+06	1.06 y	37:43	-	0.63
42	IS	13C-OCDD	200.00	6.38e+06	0.94 y	41:01	-	0.57
43	IS	13C-2,3,7,8-TCDF	100.00	7.23e+06	0.83 y	25:25	-	1.10
44	IS	13C-1,2,3,7,8-PeCDF	100.00	6.13e+06	1.59 y	29:26	-	0.93
45	IS	13C-2,3,4,7,8-PeCDF	100.00	5.74e+06	1.61 y	30:19	-	0.87
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	4.54e+06	0.53 y	32:59	-	0.82
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	5.28e+06	0.53 y	33:07	-	0.95
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	5.37e+06	0.52 y	33:43	-	0.97
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.09e+06	0.52 y	34:41	-	0.92
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.78e+06	0.44 y	36:30	-	0.86
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.63e+06	0.43 y	38:17	-	0.65
52	IS	13C-OCDF	200.00	8.43e+06	0.90 y	41:15	-	0.76
53	C/Up	37Cl-2,3,7,8-TCDD	199.80	1.16e+07		26:10	-	1.22
54	RS/RT	13C-1,2,3,4-TCDD	100.00	4.74e+06	0.82 y	25:35	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	6.56e+06	0.84 y	24:12	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	5.55e+06	0.52 y	33:25	-	1.00

DB
5/14/19

Run: 190510D2

Analyte:

Cal: 1613VG7-5-10-19

Inst. ID. VG-7

Data filename: 190510D2

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	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999	-1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,4,7,8-HxCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.001	1.001
1,2,3,6,7,8-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.000	1.001	1.000
1,2,3,7,8,9-HxCDD	0.998	-1.004	1.000	1.000	1.001	1.000	1.001	1.000
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	1.001	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.001	1.000	1.000
2,3,4,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.001	1.000	1.001
1,2,3,4,7,8-HxCDF	0.999	-1.001	1.000	1.001	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDF	0.997	-1.005	1.000	1.000	1.000	1.000	1.000	1.001
2,3,4,6,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.001
1,2,3,7,8,9-HxCDF	0.999	-1.001	1.000	1.001	1.001	1.001	1.000	1.001
1,2,3,4,6,7,8-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.001	1.001
1,2,3,4,7,8,9-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.001	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	1.023	1.023	1.022	1.022	1.022	1.022
13C-1,2,3,7,8-PeCDD	1.000	-1.567	1.196	1.196	1.196	1.196	1.196	1.196
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	1.017	1.017	1.017	1.017	1.017
13C-1,2,3,7,8,9-HxCDD	1.014	-1.038	1.027	1.027	1.027	1.027	1.026	1.026
13C-1,2,3,4,6,7,8-HpCDD	1.117	-1.141	1.130	1.129	1.129	1.129	1.129	1.129
13C-OCDD	1.085	-1.365	1.228	1.228	1.228	1.228	1.228	1.227
13C-2,3,7,8-TCDF	0.923	-1.103	0.993	0.993	0.993	0.993	0.993	0.993
13C-1,2,3,7,8-PeCDF	1.000	-1.425	1.151	1.151	1.151	1.151	1.151	1.150
13C-2,3,4,7,8-PeCDF	1.011	-1.526	1.186	1.186	1.186	1.185	1.185	1.185
13C-1,2,3,4,7,8-HxCDF	0.975	-1.001	0.987	0.987	0.988	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	1.009	1.009	1.010	1.009	1.010	1.009
13C-1,2,3,7,8,9-HxCDF	1.002	-1.072	1.039	1.039	1.039	1.039	1.039	1.038
13C-1,2,3,4,6,7,8-HpCDF	1.069	-1.111	1.093	1.093	1.093	1.093	1.093	1.093
13C-1,2,3,4,7,8,9-HpCDF	1.098	-1.192	1.146	1.146	1.146	1.146	1.146	1.146
13C-OCDF	1.091	-1.371	1.235	1.235	1.235	1.235	1.235	1.234
37Cl-2,3,7,8-TCDD	0.989	-1.052	1.023	1.023	1.023	1.023	1.023	1.023
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	*	*	*	*	*	*

DB

5/14/19

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: 5-10-19

RT Window Data Filename: 190510D2 S#4 Analysis Date: 10-MAY-19 Time: 16:47:52

ZB-5MS IS Data Filename: 190510D2 S#4 Analysis Date: 10-MAY-19 Time: 16:47:52

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)	20:45
1,2,8,9-TCDD (L)	27:01	1,2,8,9-TCDF (L)	27:11
1,2,4,7,9-PeCDD (F)	28:35	1,3,4,6,8-PeCDF (F)	27:05
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:13
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:44
1,2,3,4,6,7,9-HpCDD (F)	36:54	1,2,3,4,6,7,8-HpCDF (F)	36:32
1,2,3,4,6,7,8-HpCDD (L)	37:45	1,2,3,4,7,8,9-HpCDF (L)	38:19

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

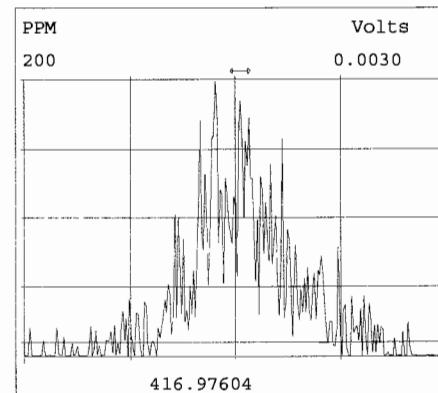
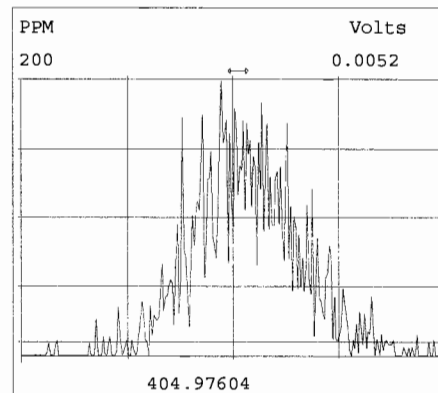
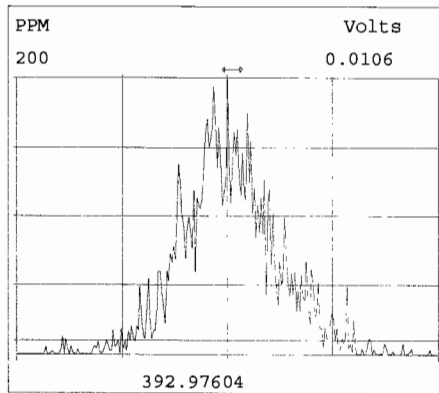
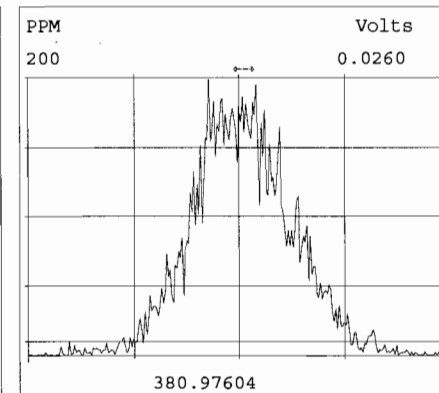
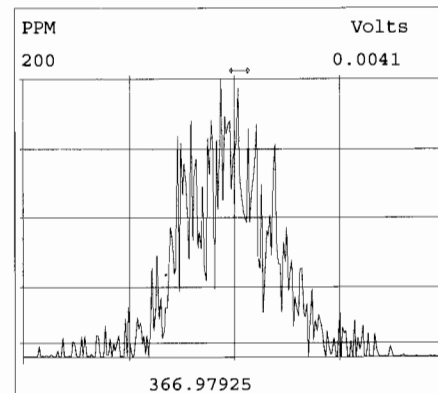
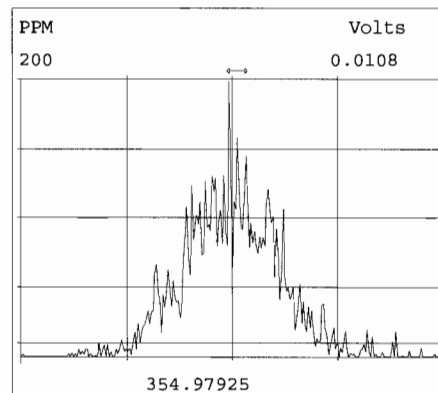
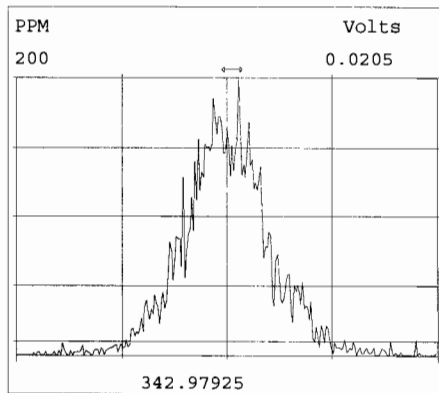
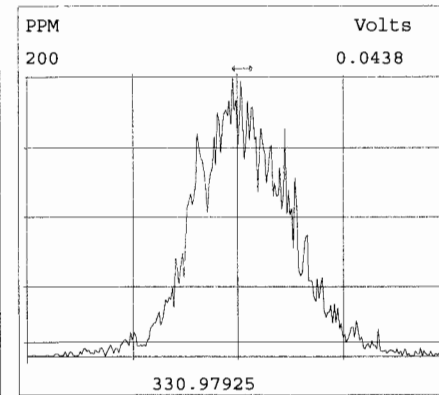
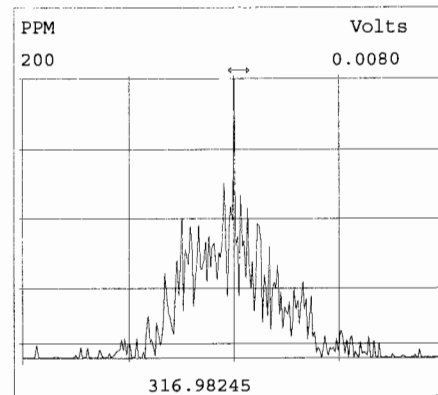
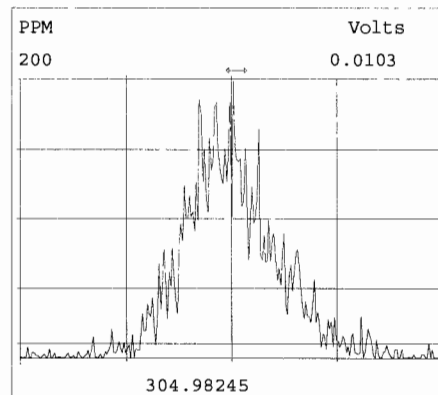
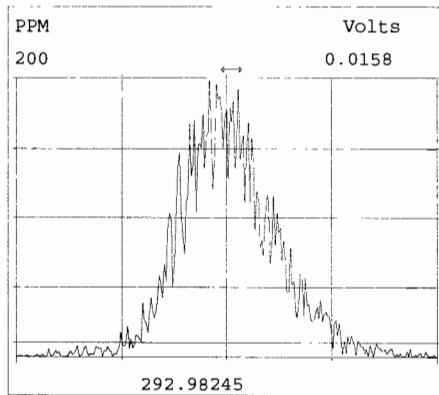
<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 5/13/19

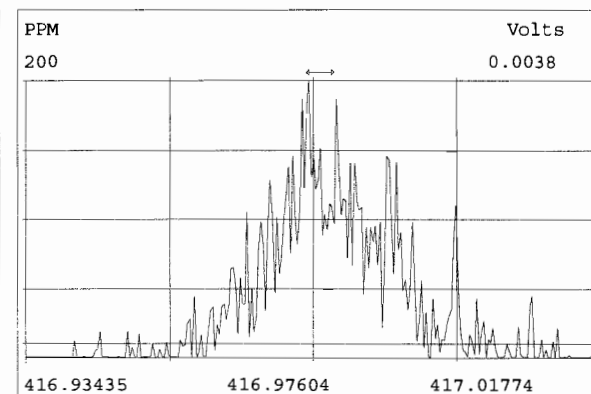
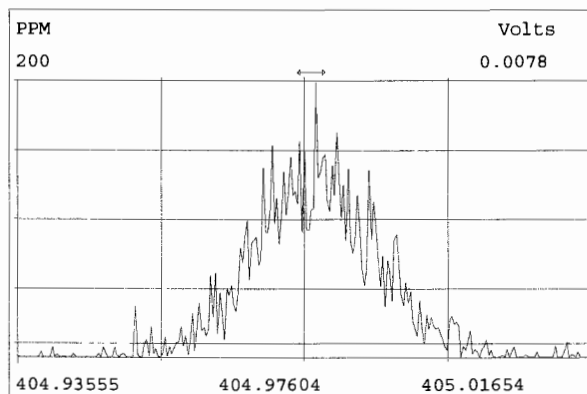
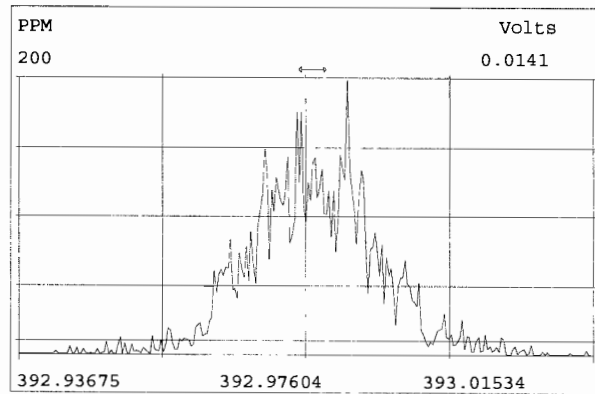
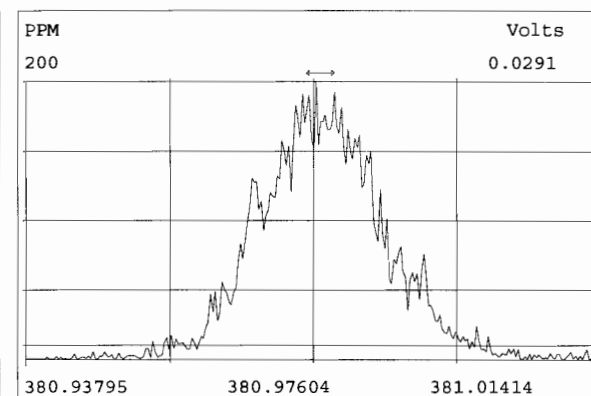
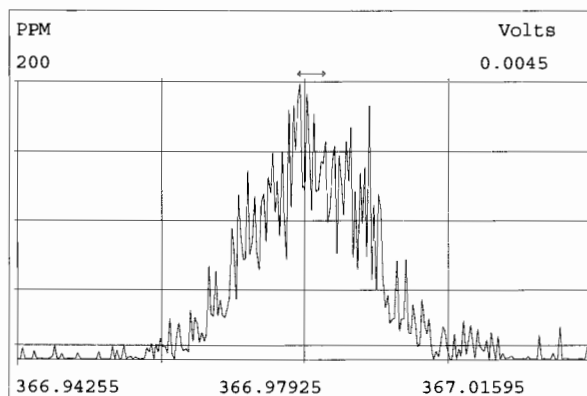
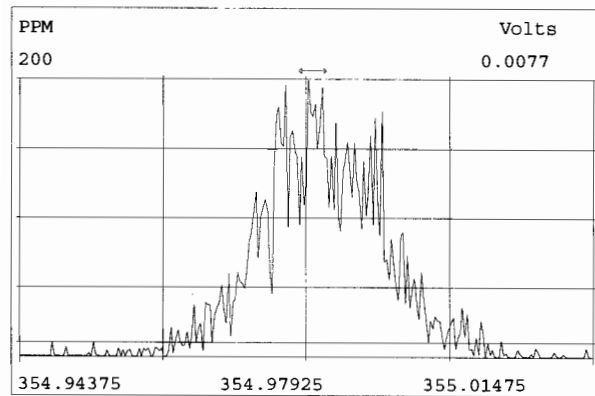
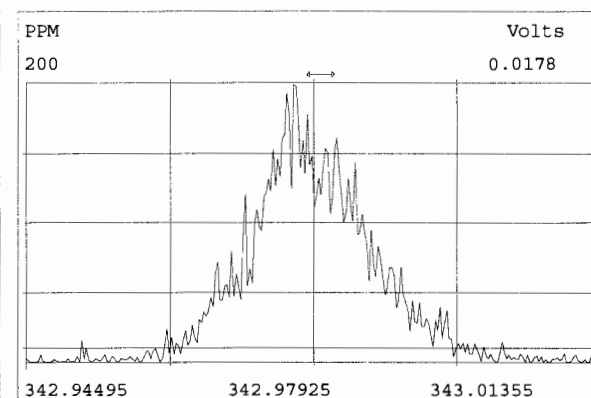
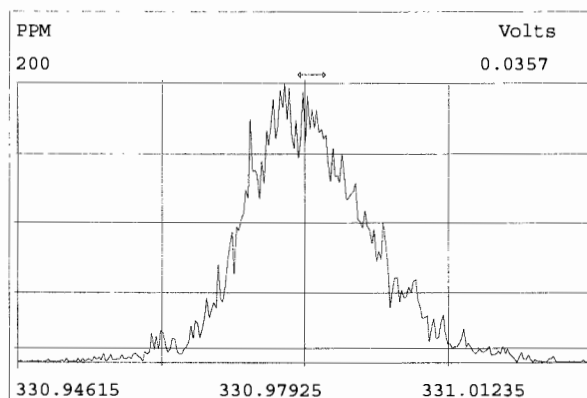
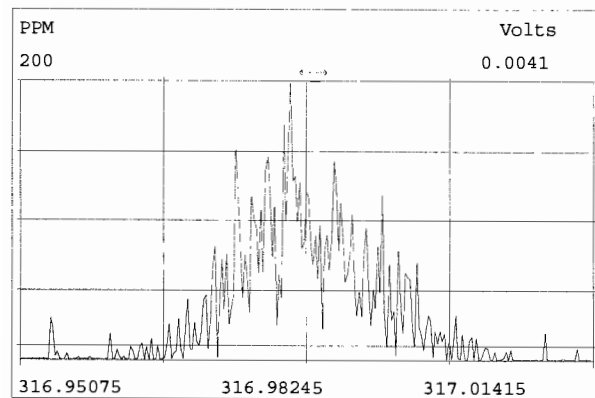
Vista Analytical Laboratory - Injection Log Run file: 190510D2 Instrument ID: VG-7 GC Column ID: ZB-SMS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190510D2	1	ST190510D2-1	DB	10-MAY-19	14:24:45	ST190510D2-4	NA
190510D2	2	ST190510D2-2	DB	10-MAY-19	15:12:30	ST190510D2-4	NA
190510D2	3	ST190510D2-3	DB	10-MAY-19	16:00:06	ST190510D2-4	NA
190510D2	4	ST190510D2-4	DB	10-MAY-19	16:47:52	ST190510D2-4	ST190510D2-7
190510D2	5	ST190510D2-5	DB	10-MAY-19	17:35:29	ST190510D2-4	NA
190510D2	6	ST190510D2-6	DB	10-MAY-19	18:23:05	ST190510D2-4	NA
190510D2	7	SOLVENT BLANK	DB	10-MAY-19	19:10:42	NA	NA
190510D2	8	SS190510D2-1	DB	10-MAY-19	19:58:17	ST190510D2-4	NA
190510D2	9	B9E0067-BS1	DB	10-MAY-19	20:45:54	ST190510D2-4	ST190510D2-7
190510D2	10	SOLVENT BLANK	DB	10-MAY-19	21:33:30	NA	NA
190510D2	11	B9E0067-BLK1	DB	10-MAY-19	22:21:10	ST190510D2-4	ST190510D2-7
190510D2	12	1900874-01	DB	10-MAY-19	23:08:45	ST190510D2-4	ST190510D2-7
190510D2	13	1900832-01	DB	10-MAY-19	23:56:25	ST190510D2-4	NA
190510D2	14	1901011-01	DB	11-MAY-19	00:44:00	ST190510D2-4	NA
190510D2	15	1901009-01	DB	11-MAY-19	01:31:38	ST190510D2-4	NA
190510D2	16	1901010-01	DB	11-MAY-19	02:19:20	ST190510D2-4	NA
190510D2	17	SOLVENT BLANK	DB	11-MAY-19	03:06:55	NA	NA
190510D2	18	ST190510D2-7	DB	11-MAY-19	03:54:32	ST190510D2-4	ST190510D2-7



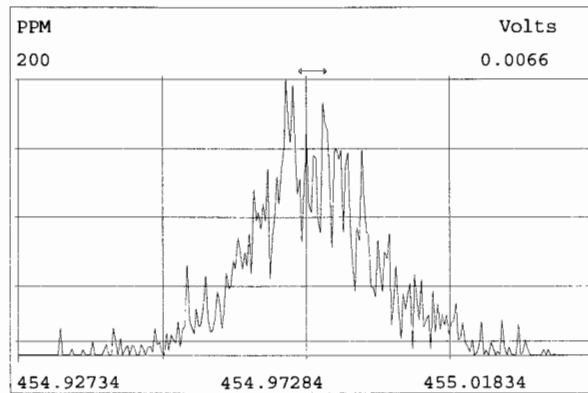
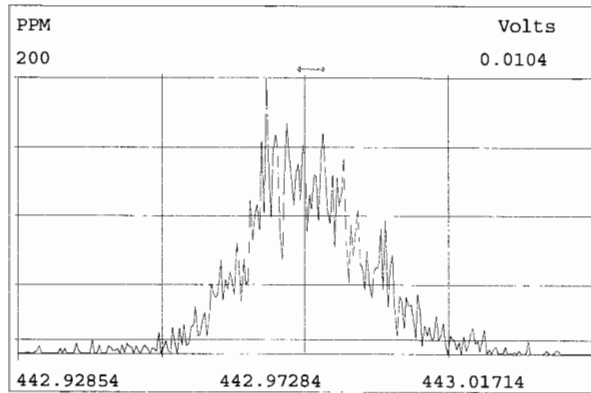
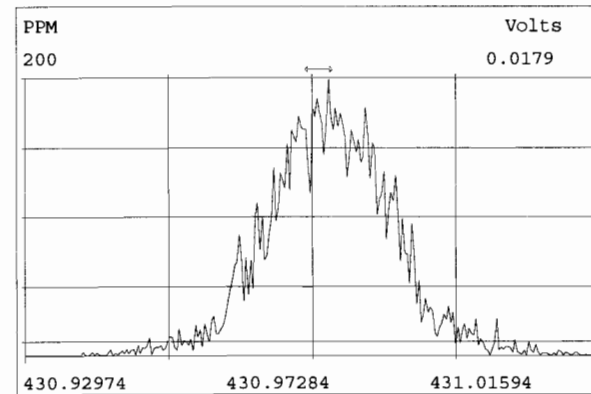
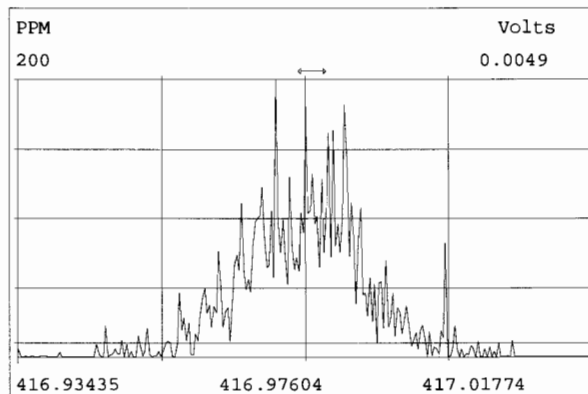
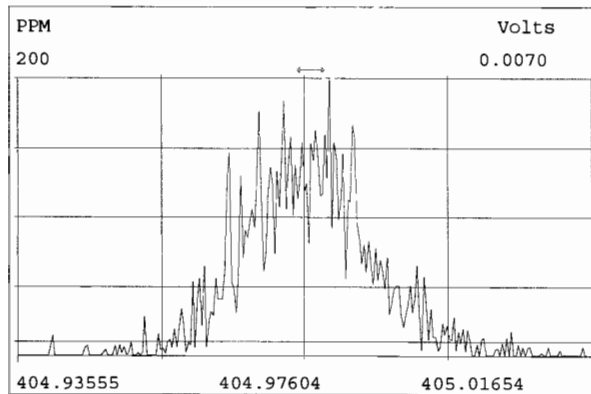
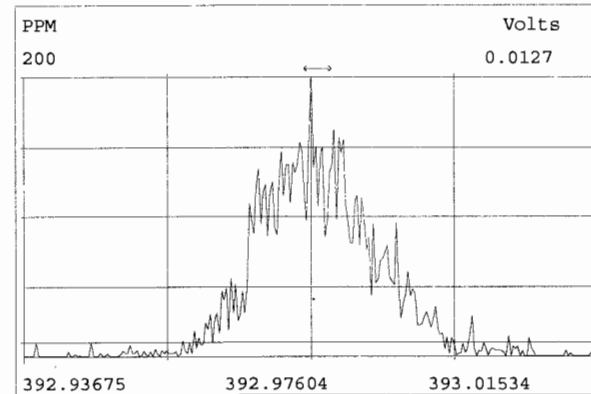
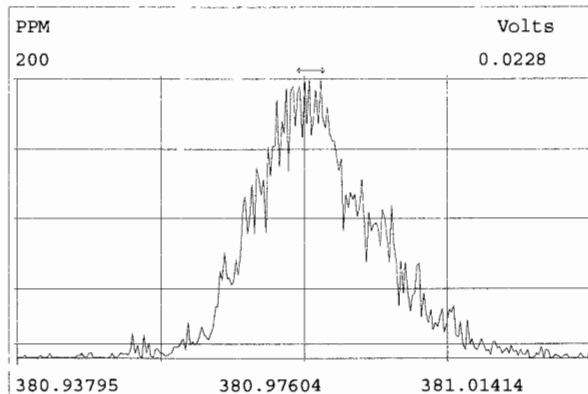
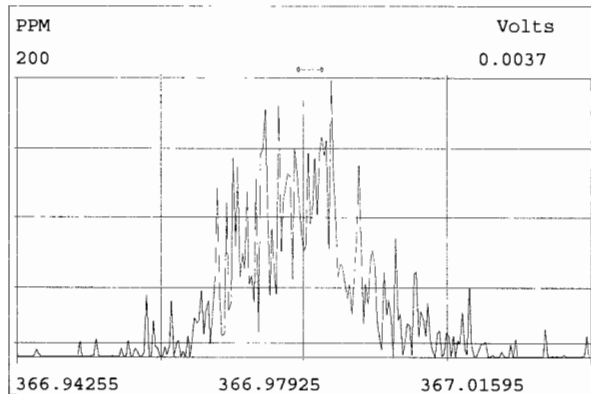
Peak Locate Examination:10-MAY-2019:14:18 File:190510D2

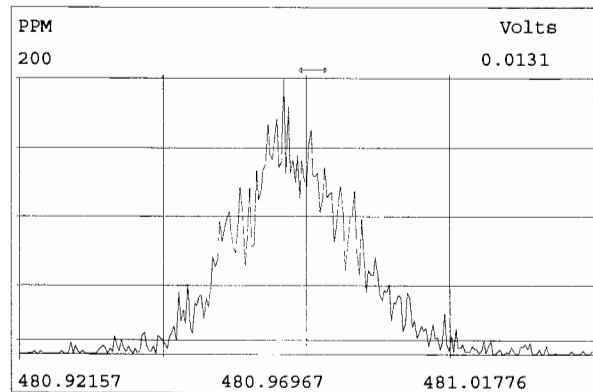
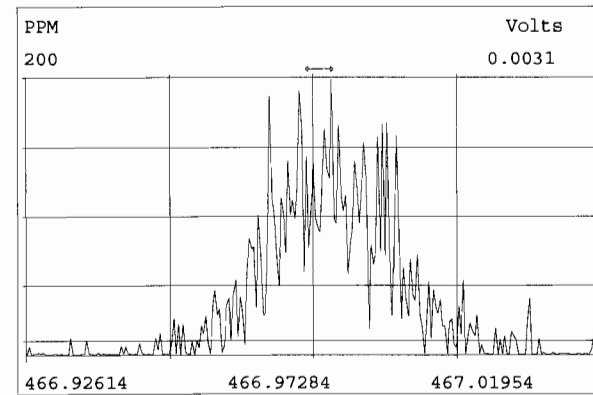
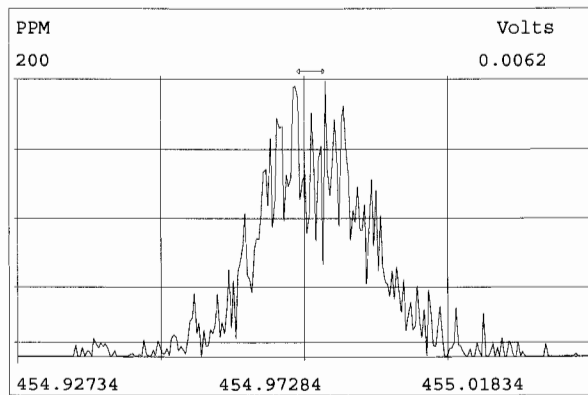
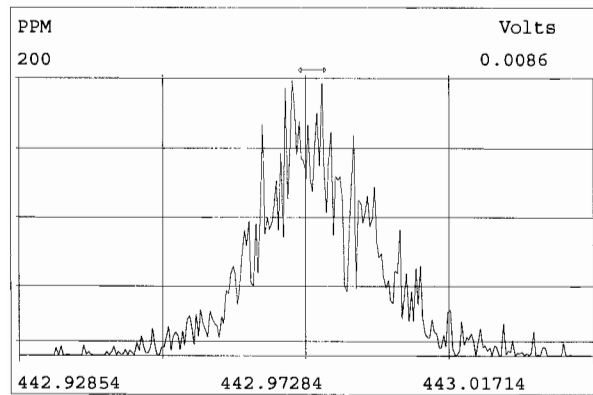
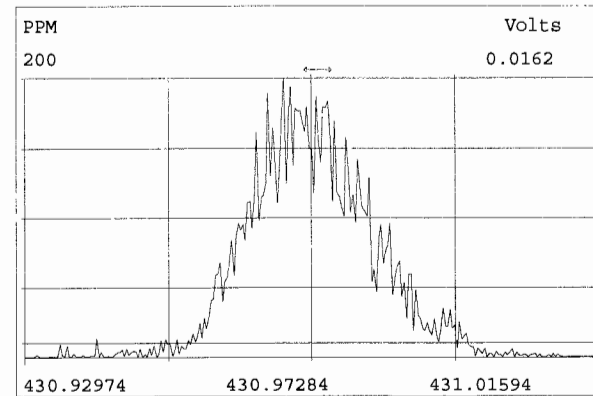
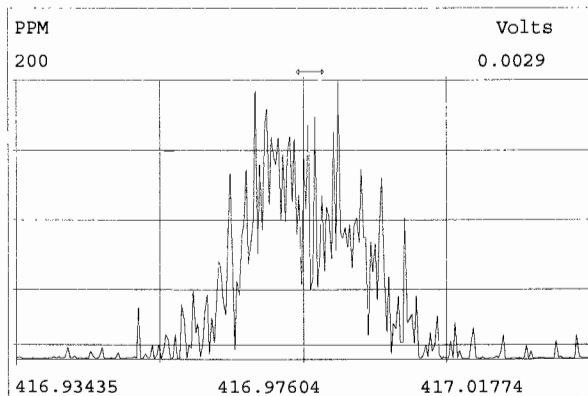
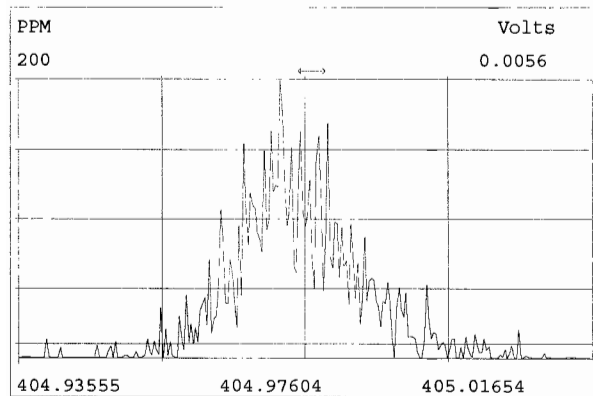
Experiment:OCDD_DB5 Function:2 Reference:PFK

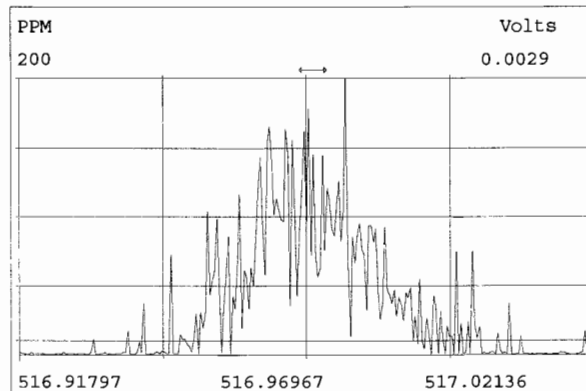
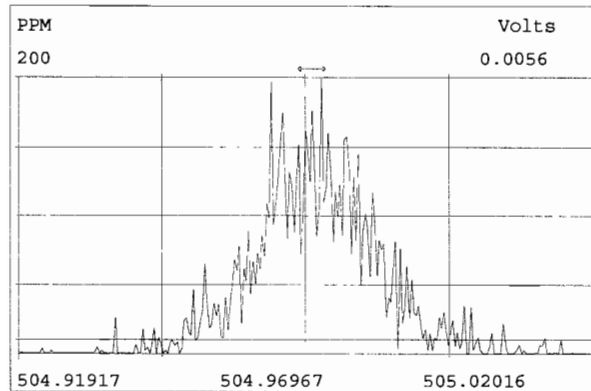
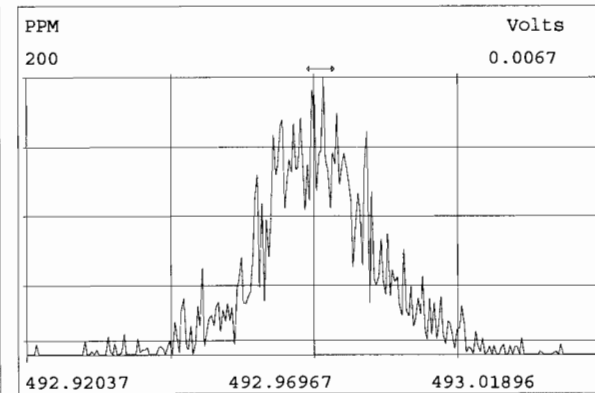
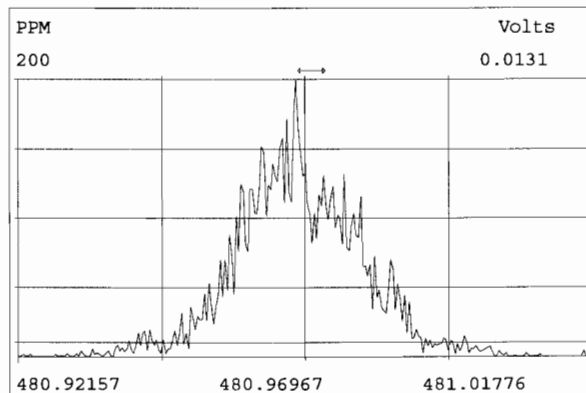
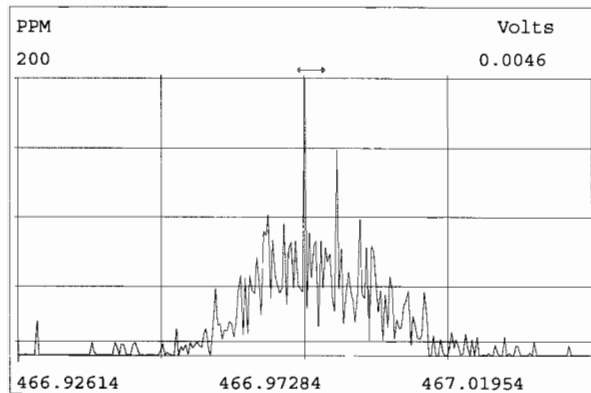
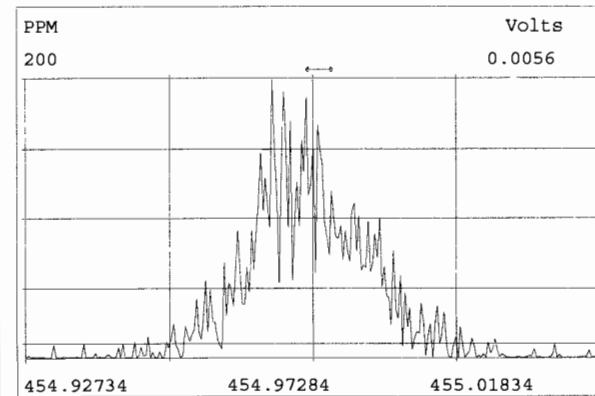
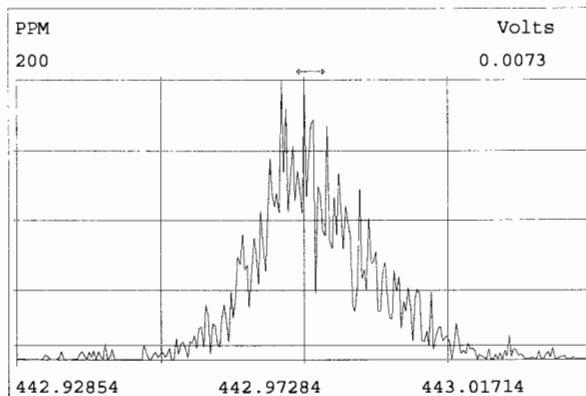
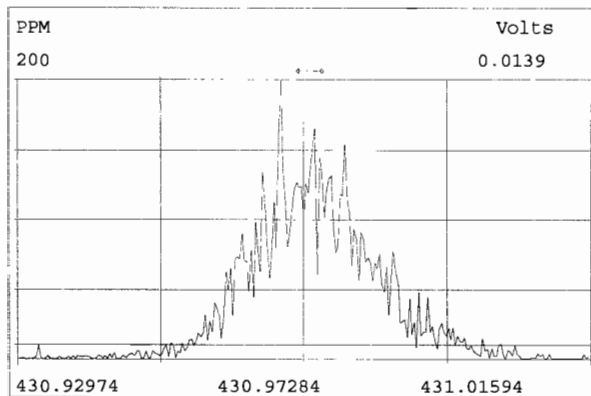


Peak Locate Examination:10-MAY-2019:14:19 File:190510D2

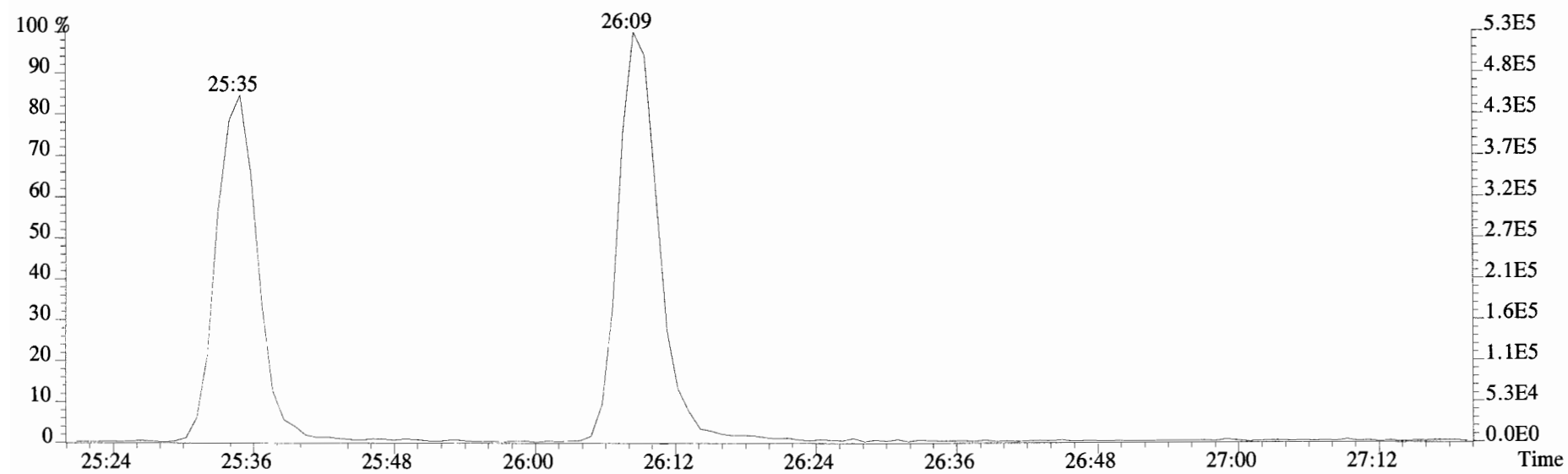
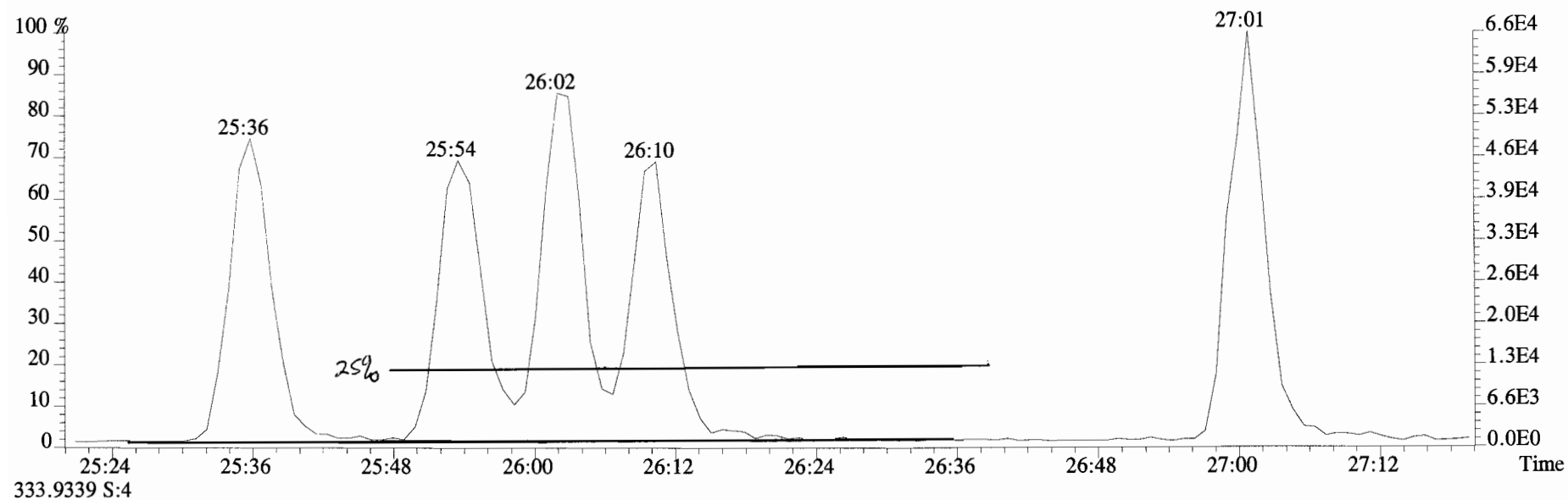
Experiment:OCDD_DB5 Function:3 Reference:PFK



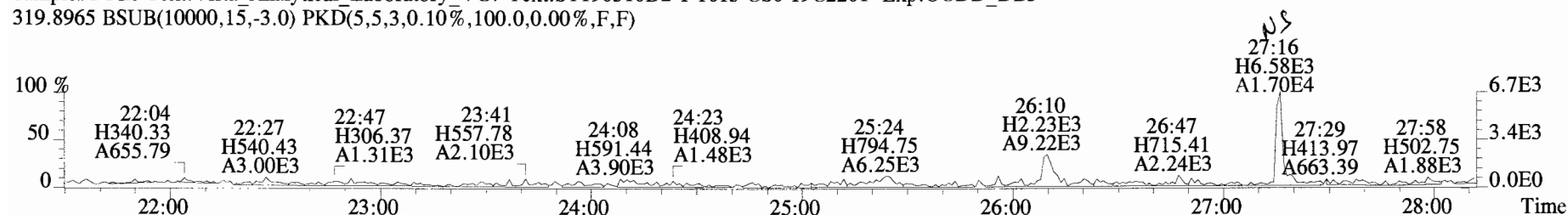




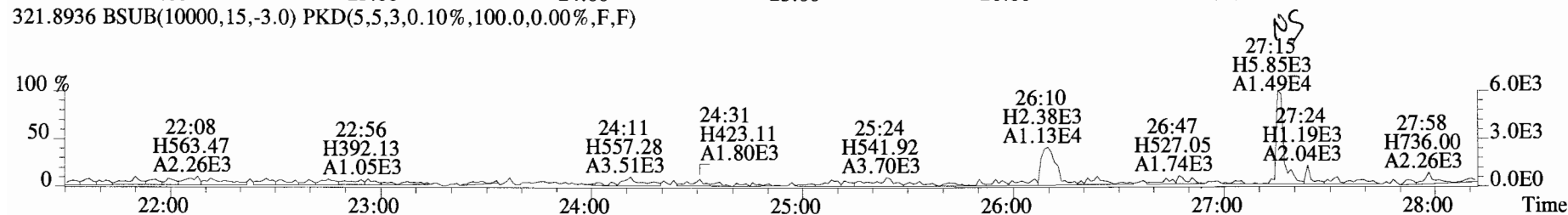
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936 S:4



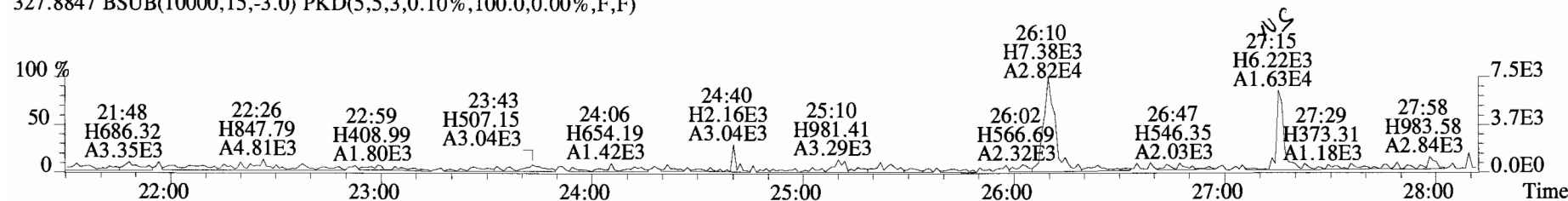
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



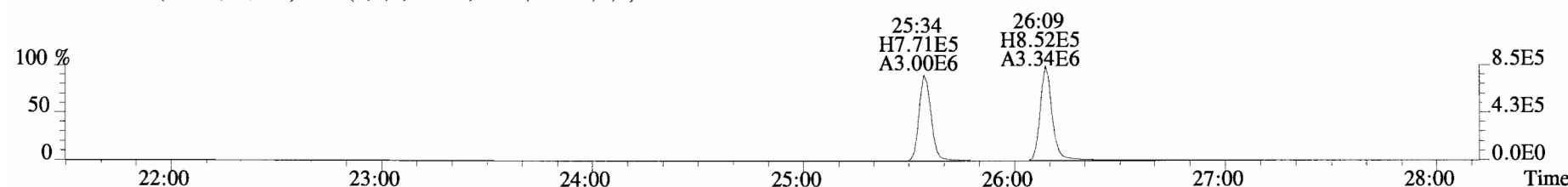
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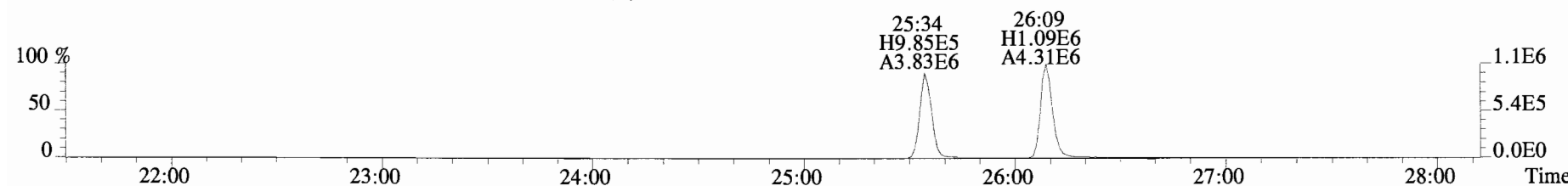
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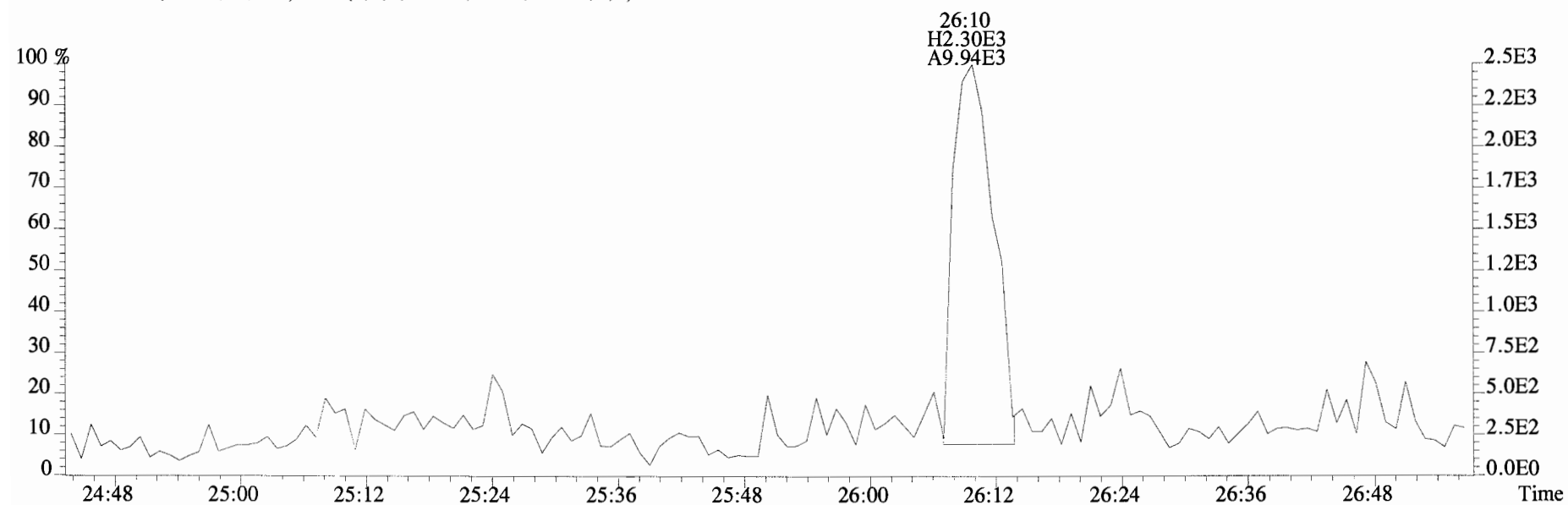
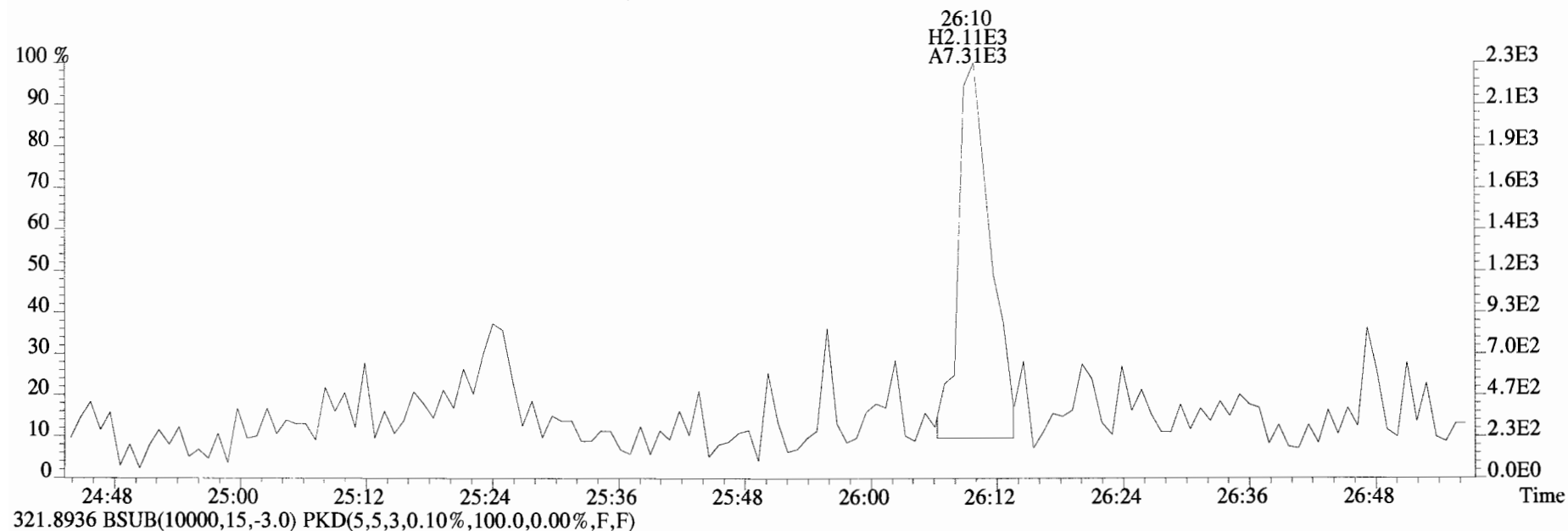
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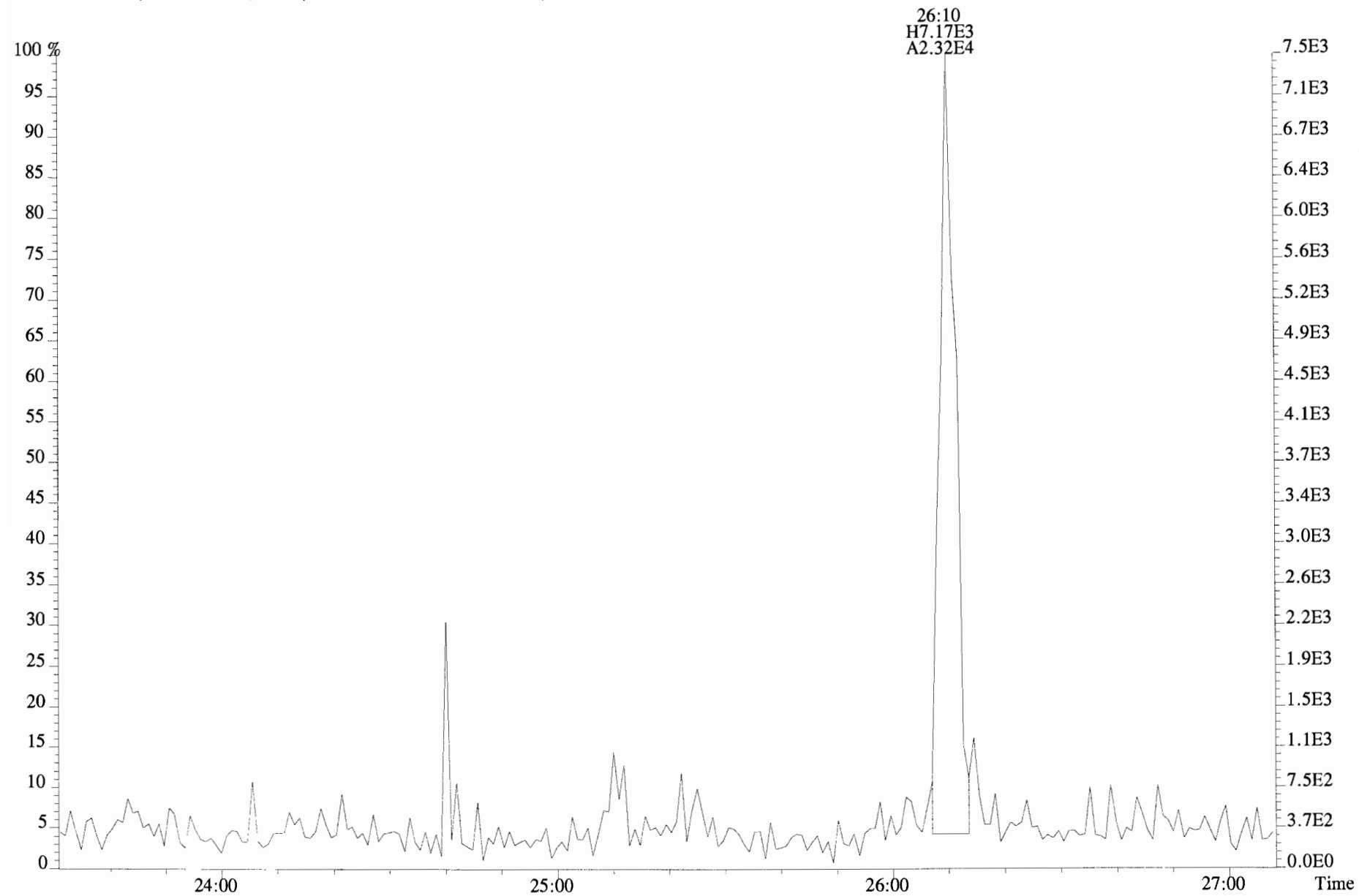
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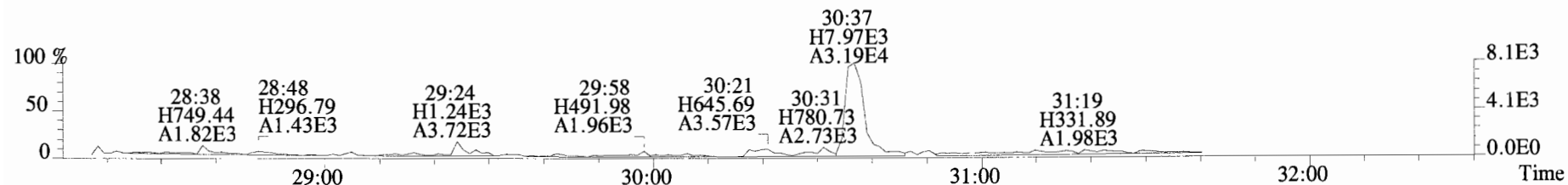
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
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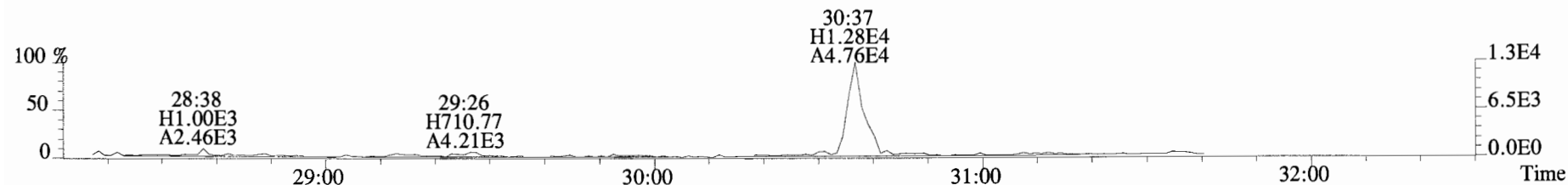
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



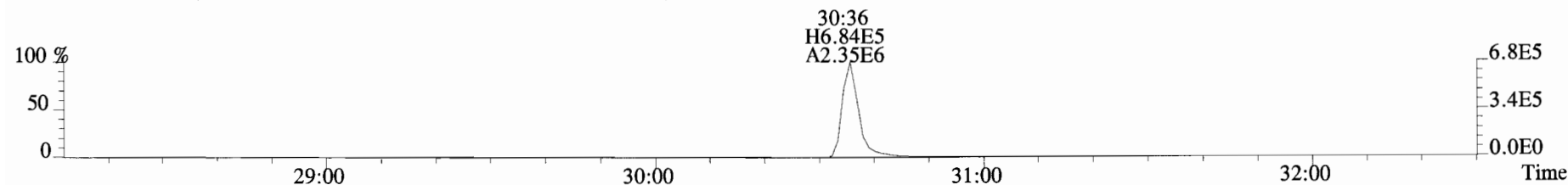
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



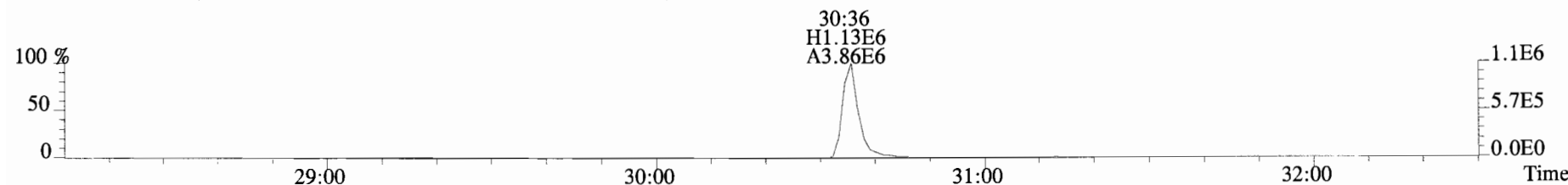
355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



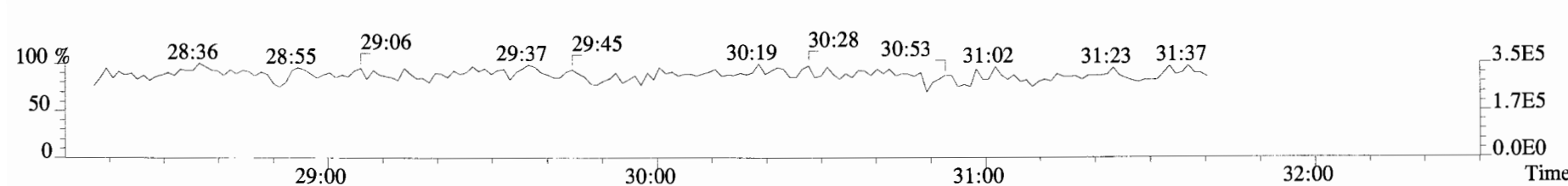
365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



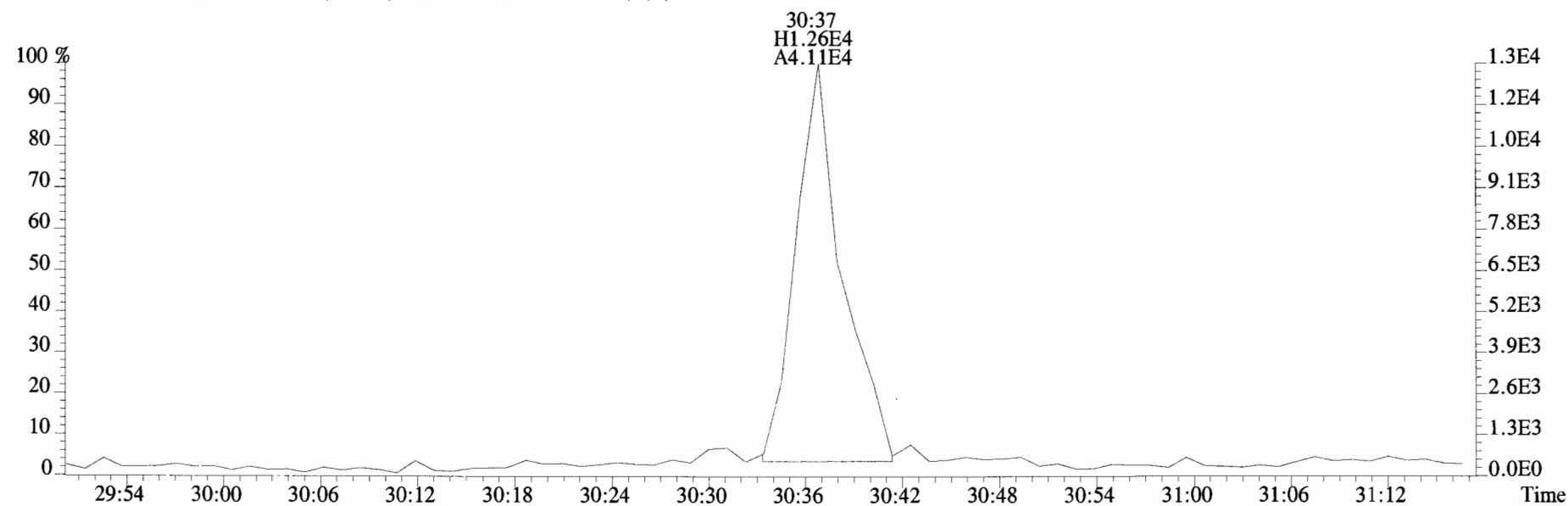
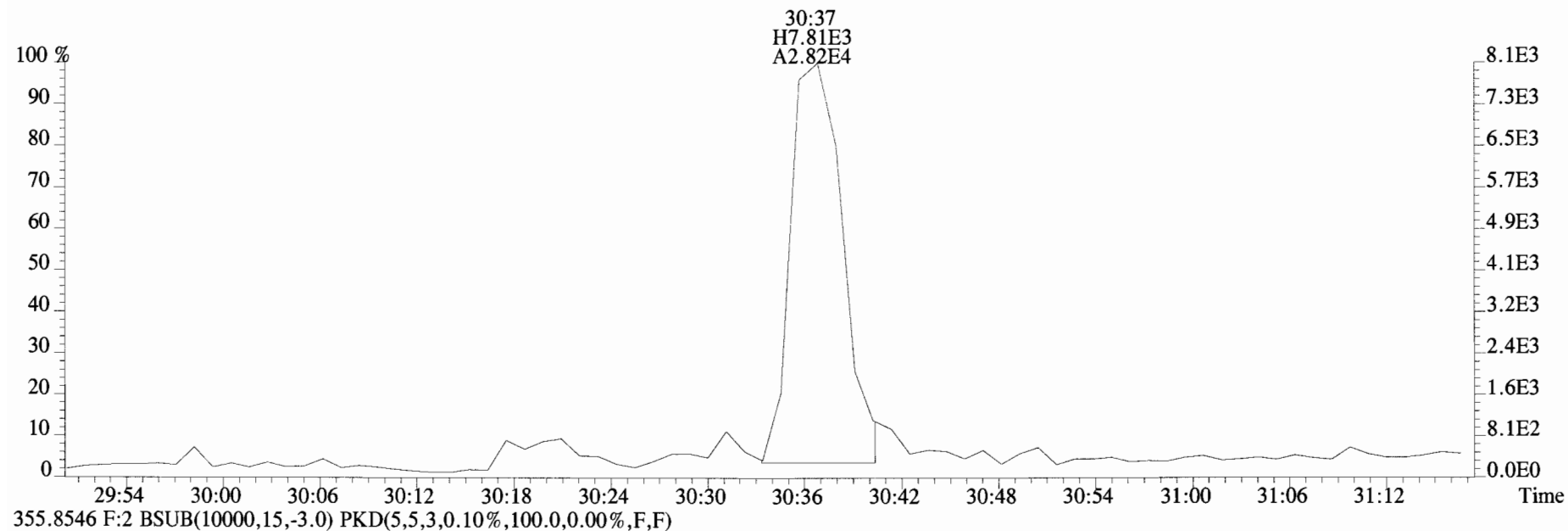
367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



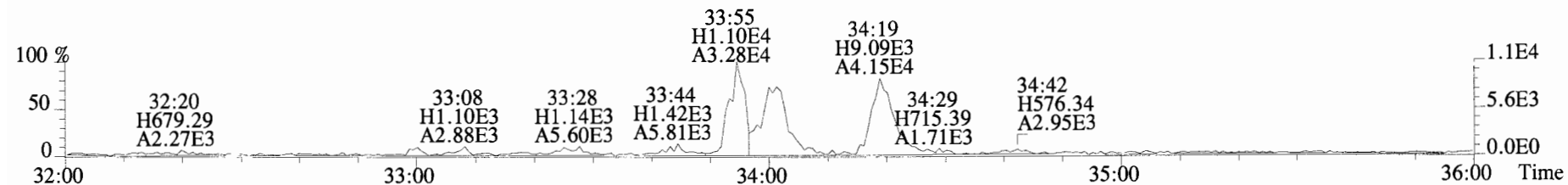
366.9792 F:2



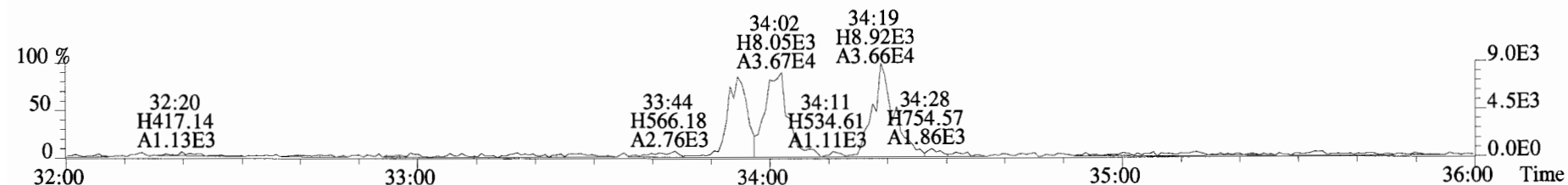
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



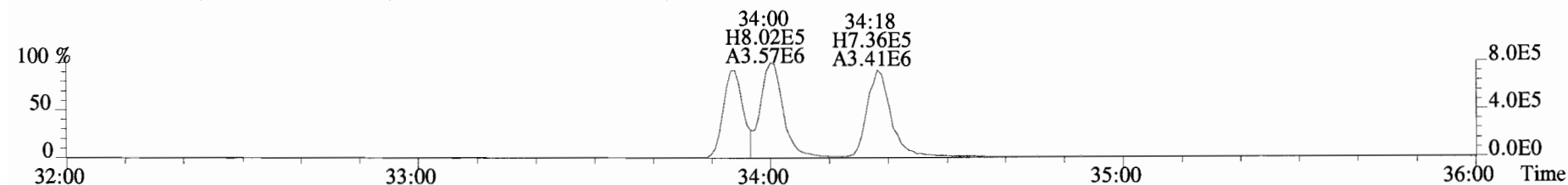
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



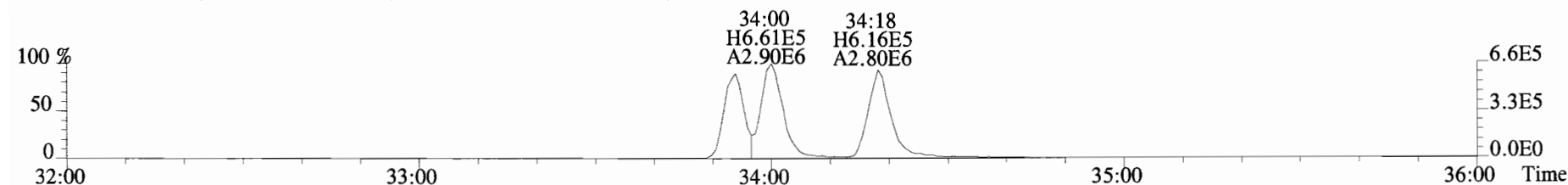
391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



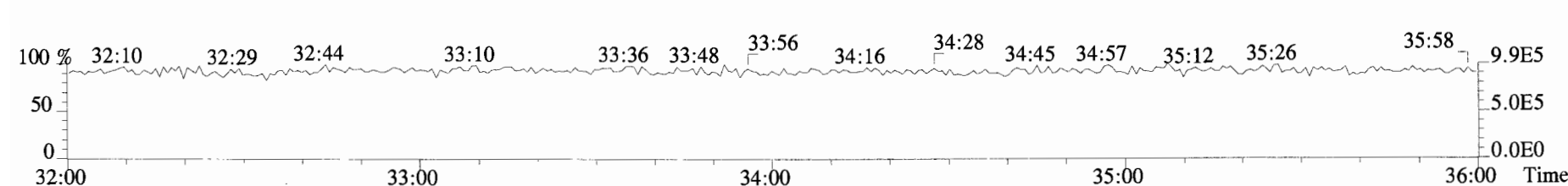
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



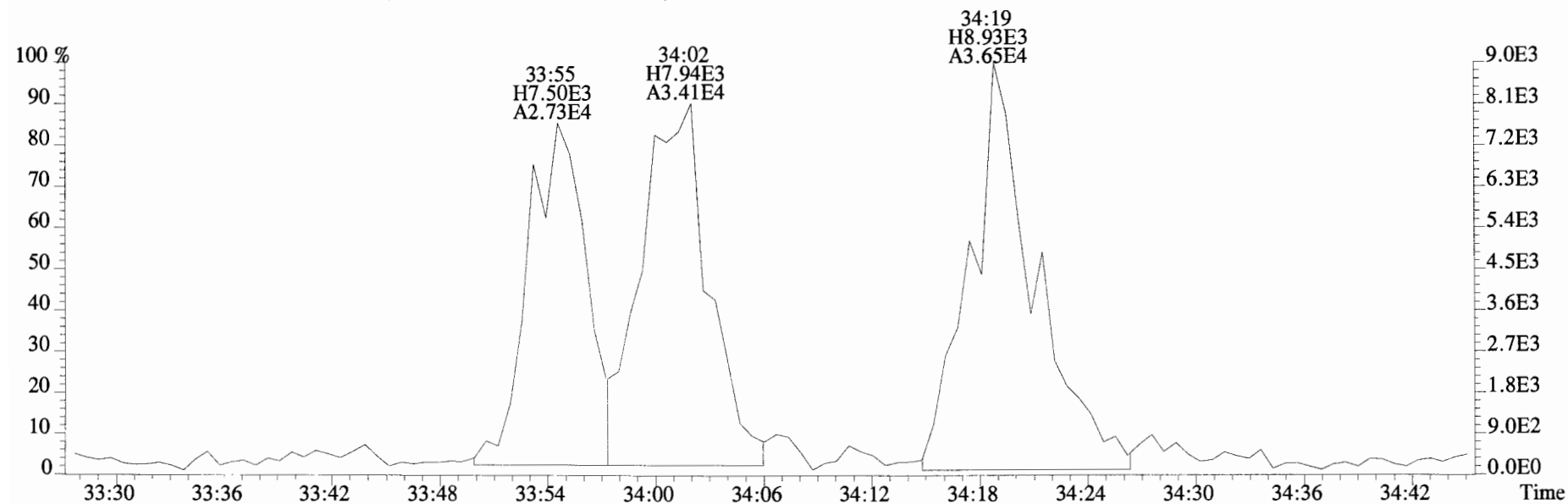
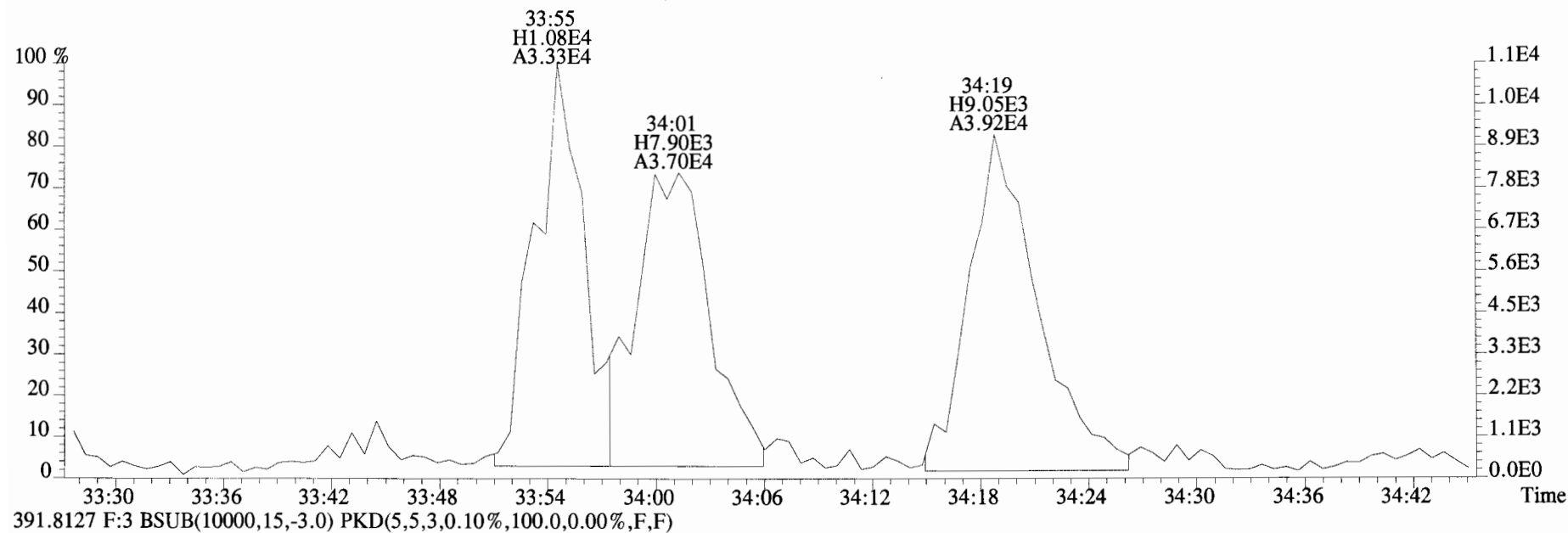
403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



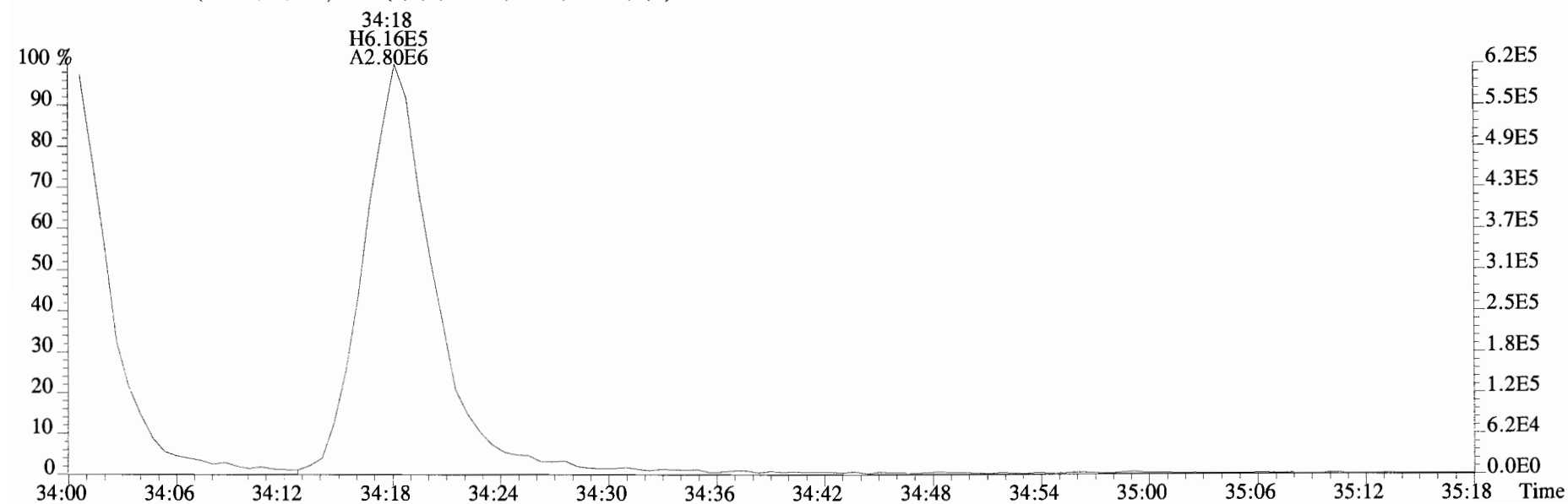
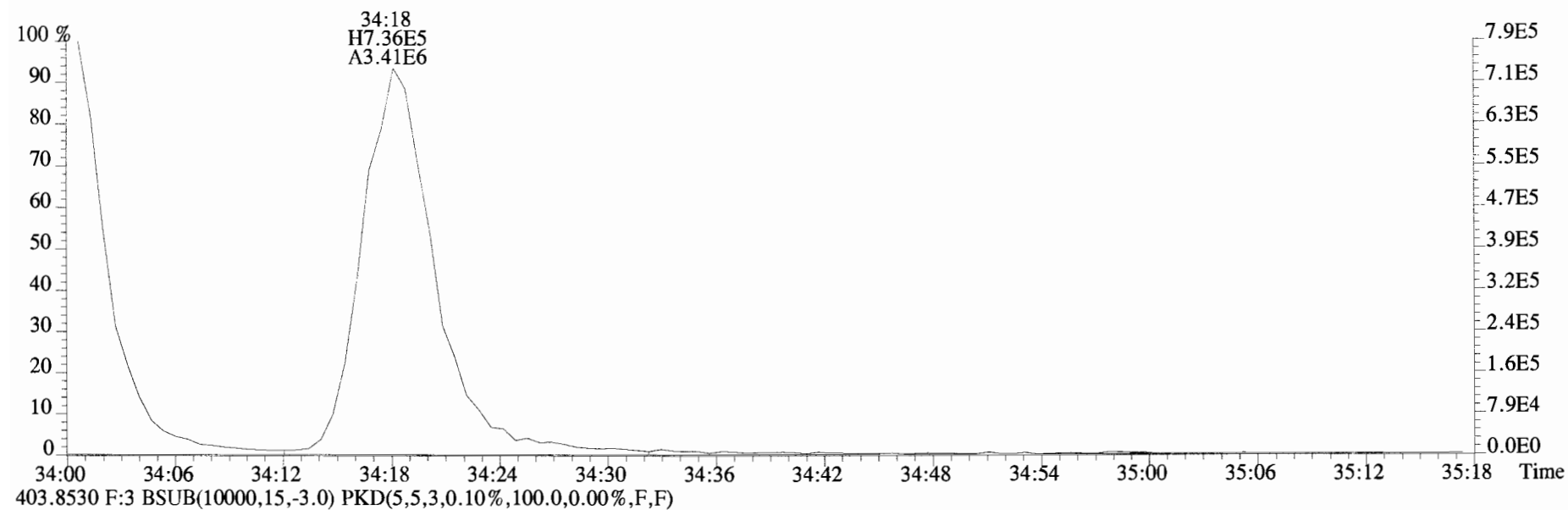
392.9760 F:3



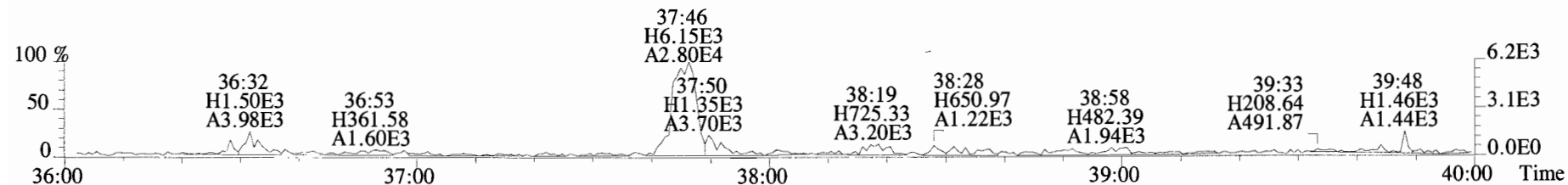
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



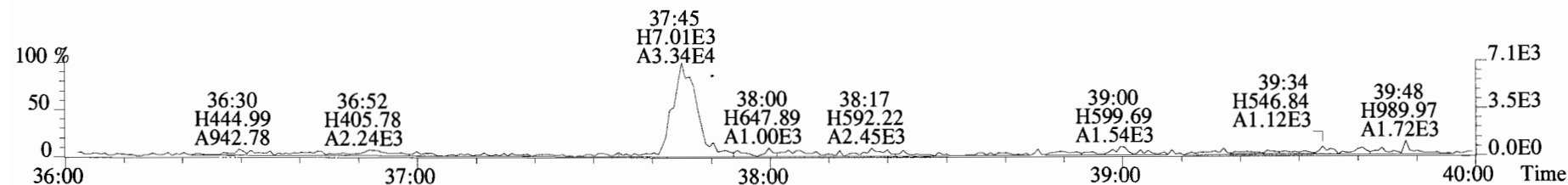
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



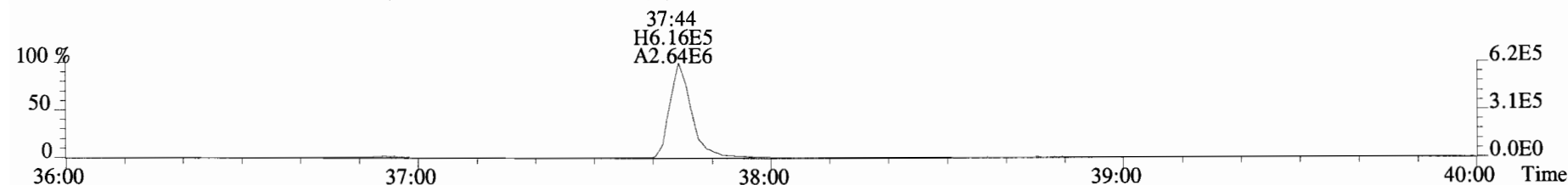
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



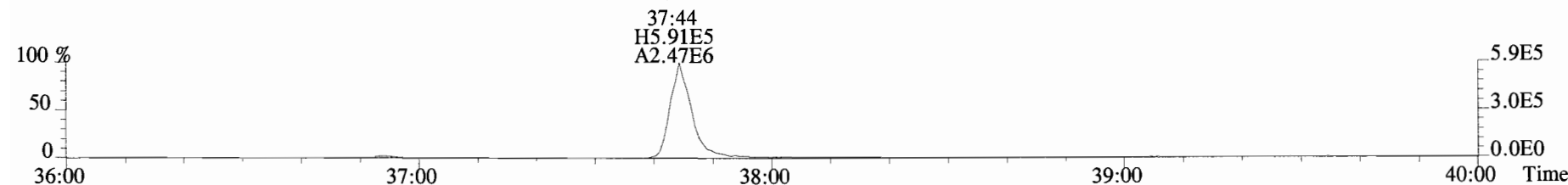
425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



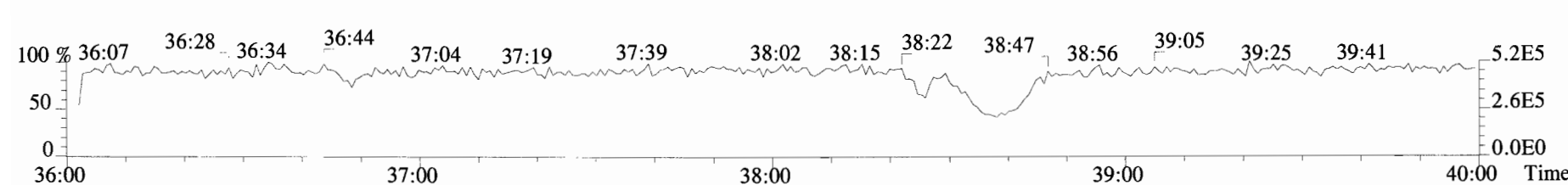
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



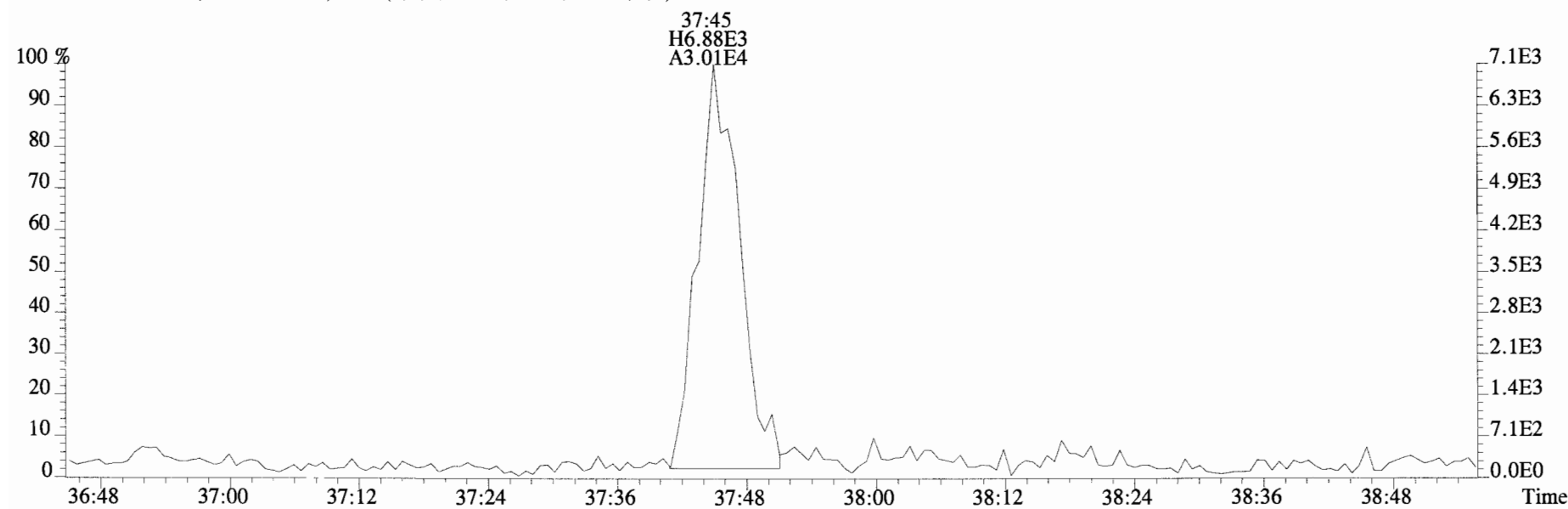
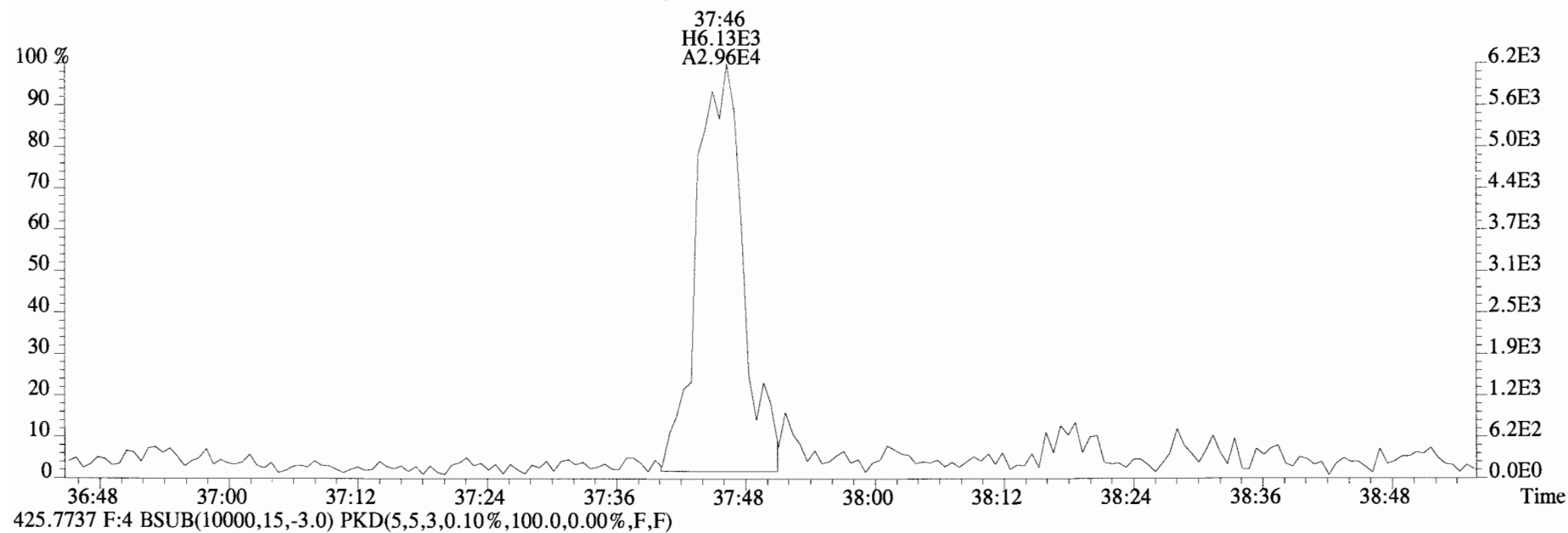
437.8140 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



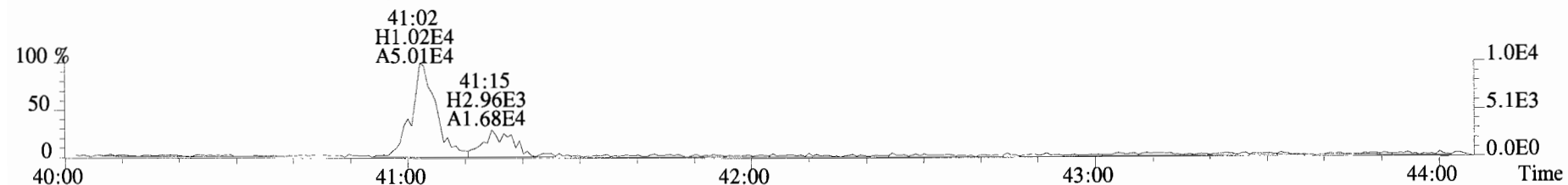
454.9728 F:4



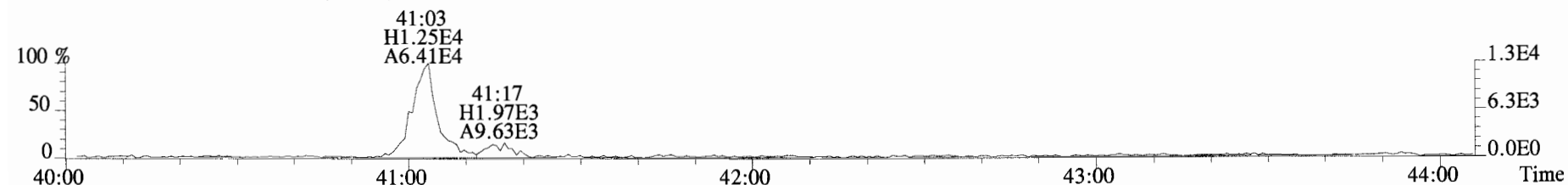
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



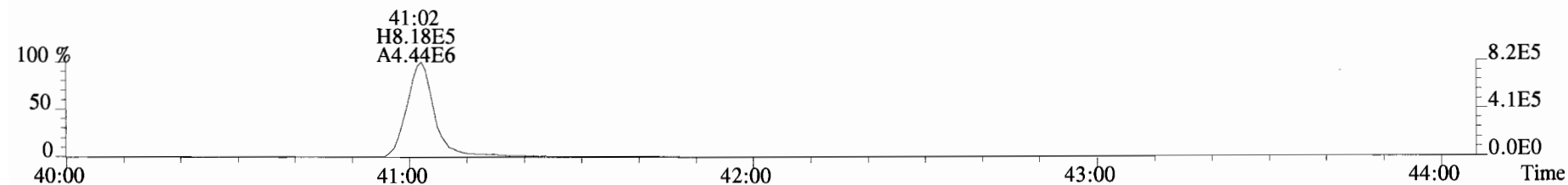
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



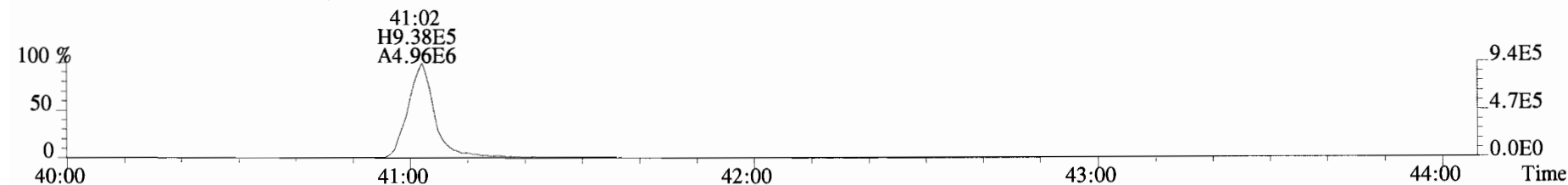
459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



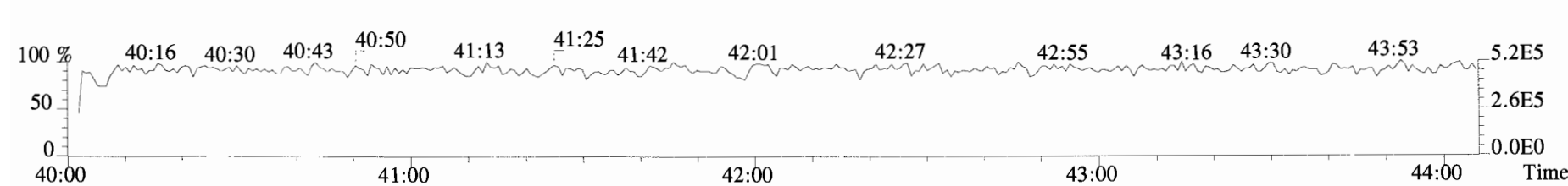
469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



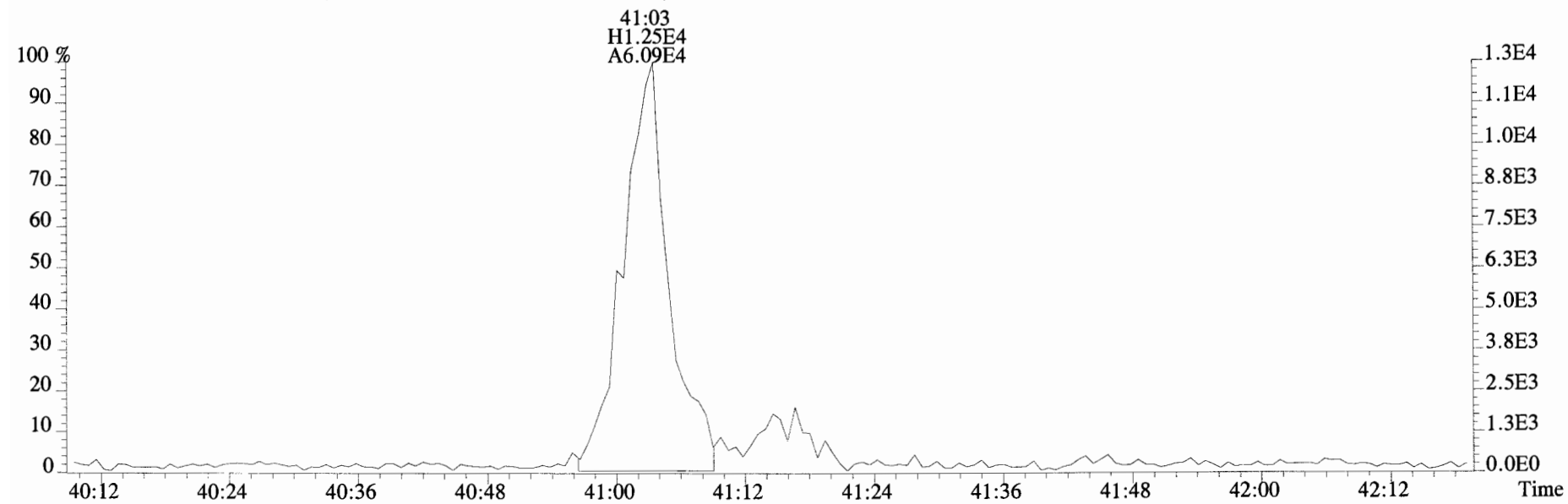
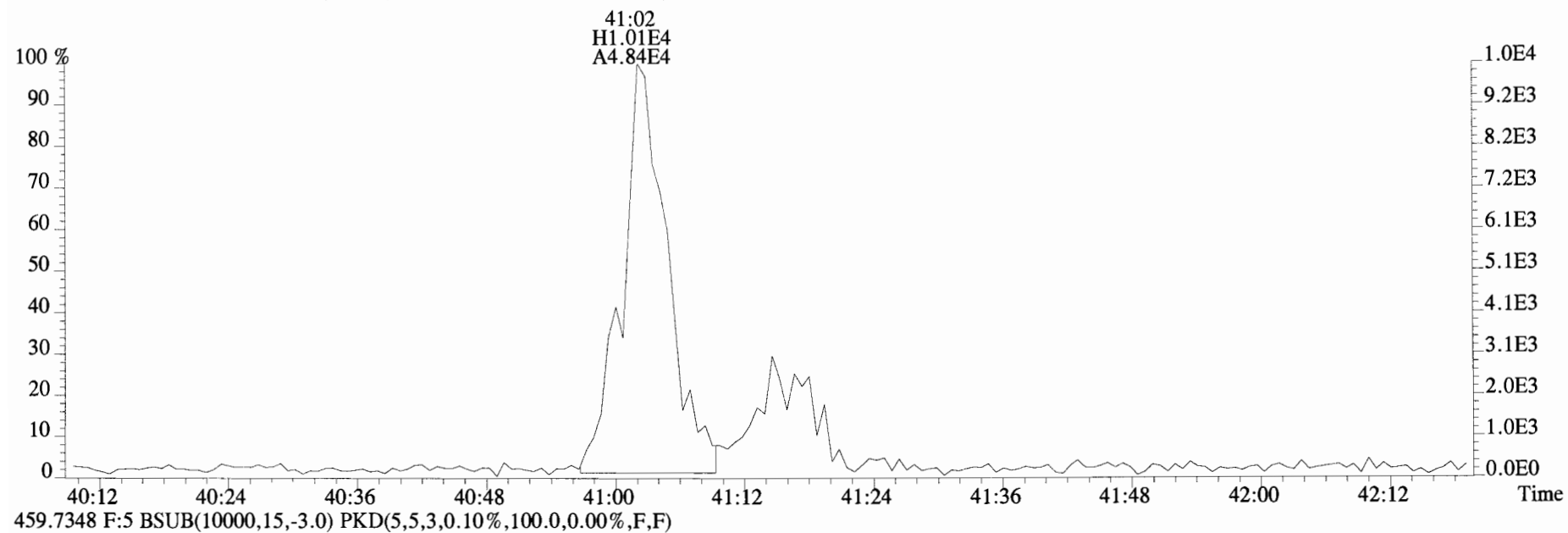
471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



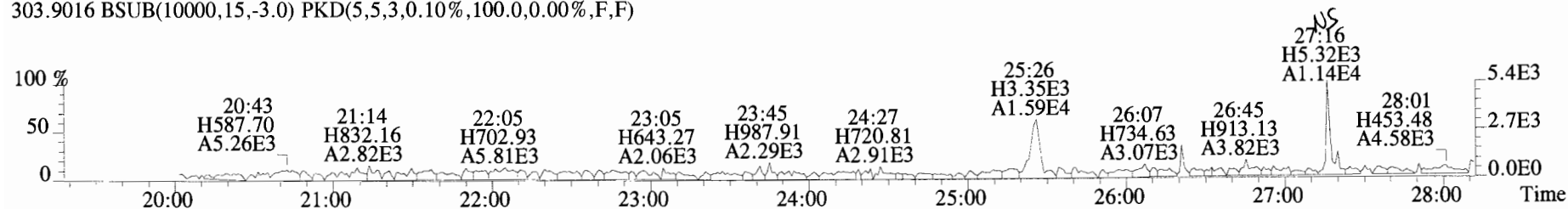
454.9728 F:5



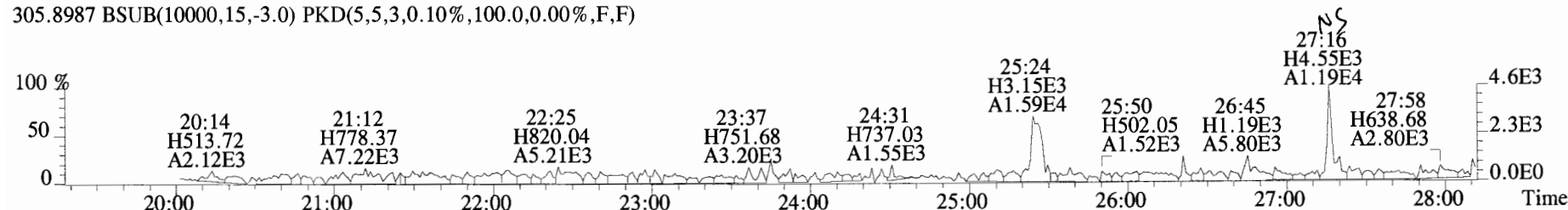
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



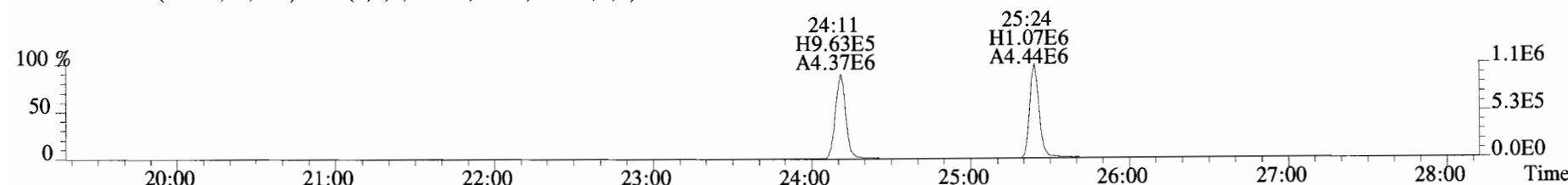
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



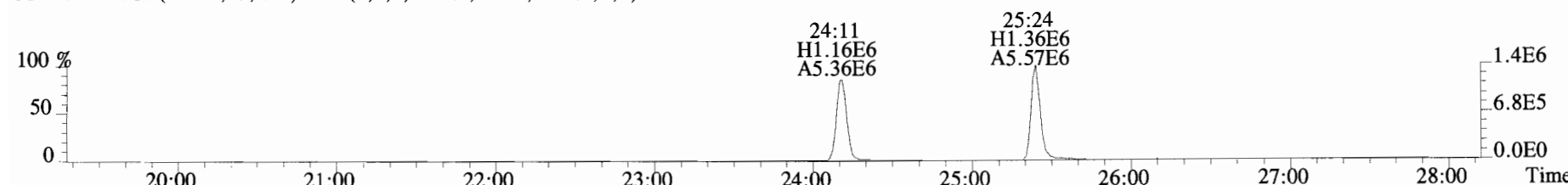
305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



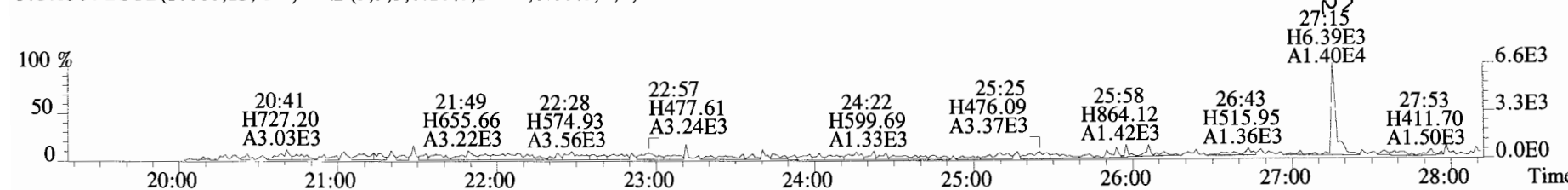
315.9419 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



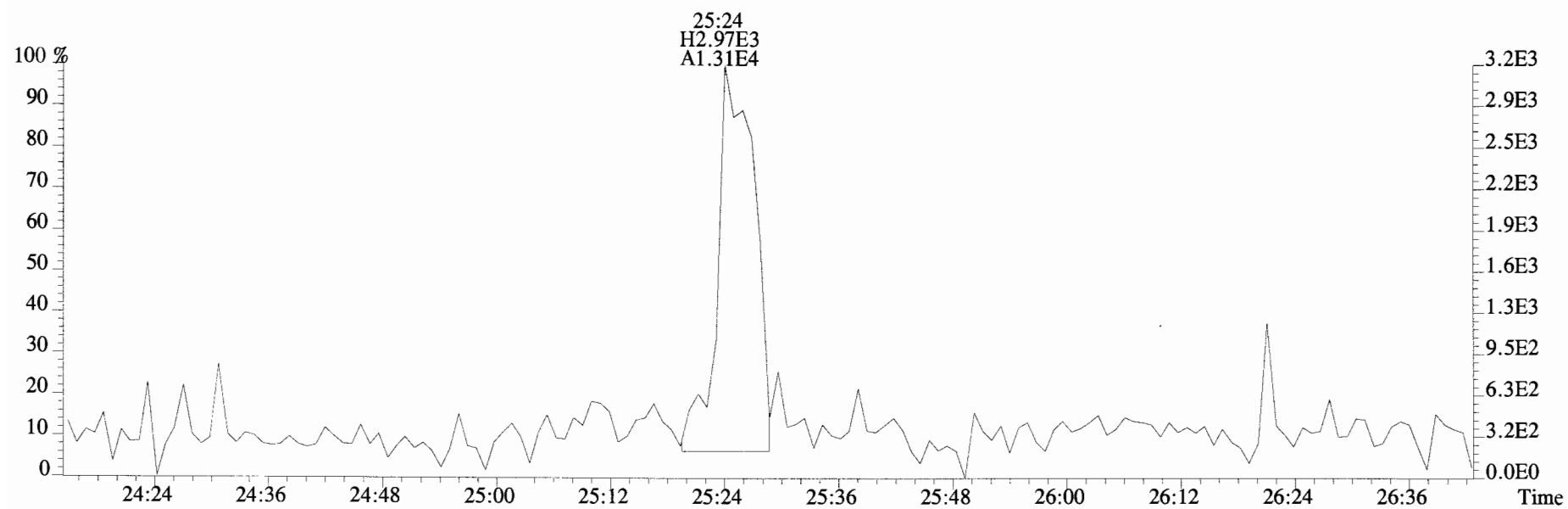
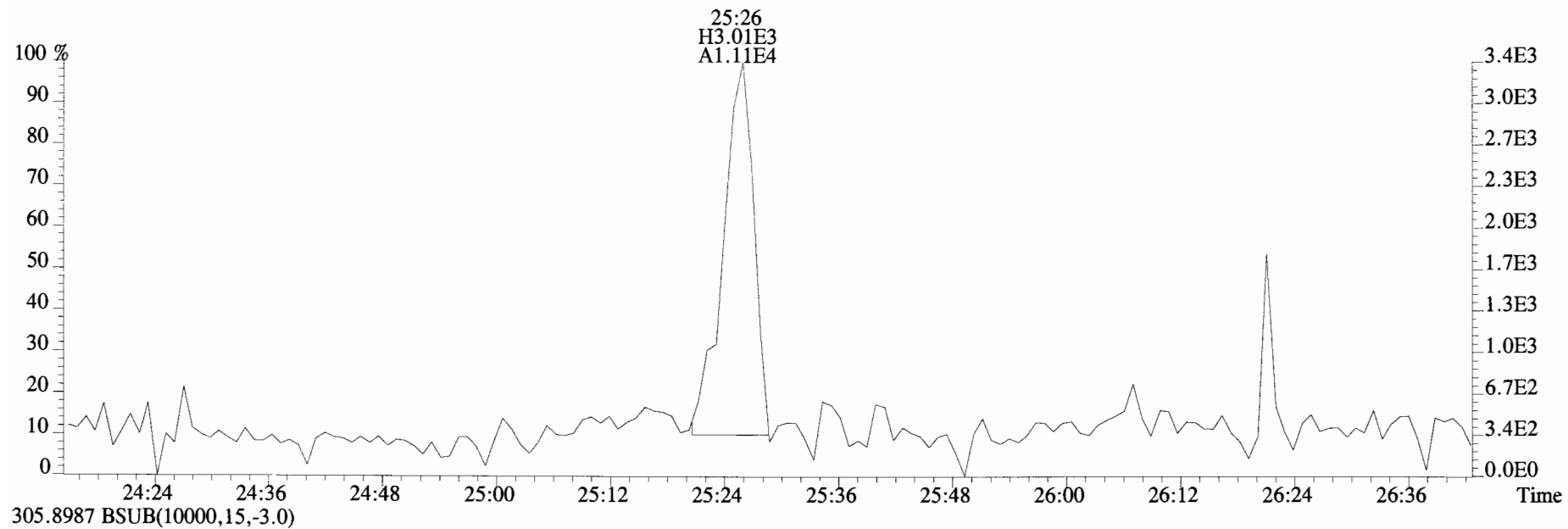
317.9389 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



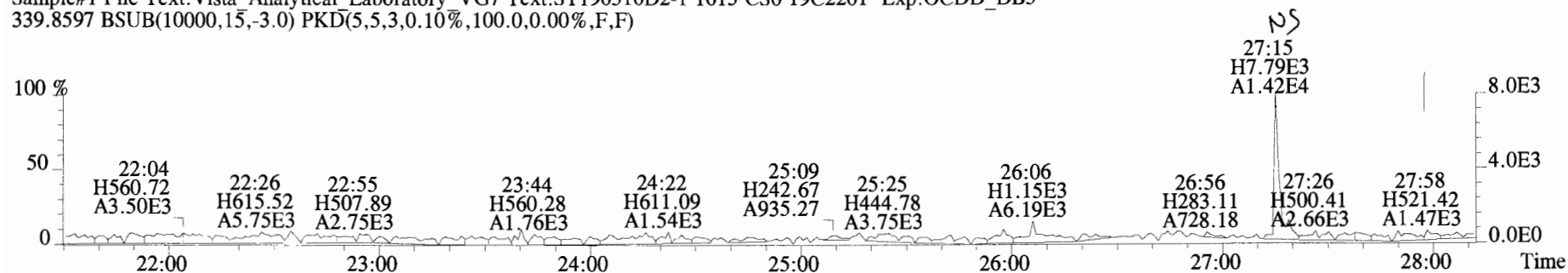
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



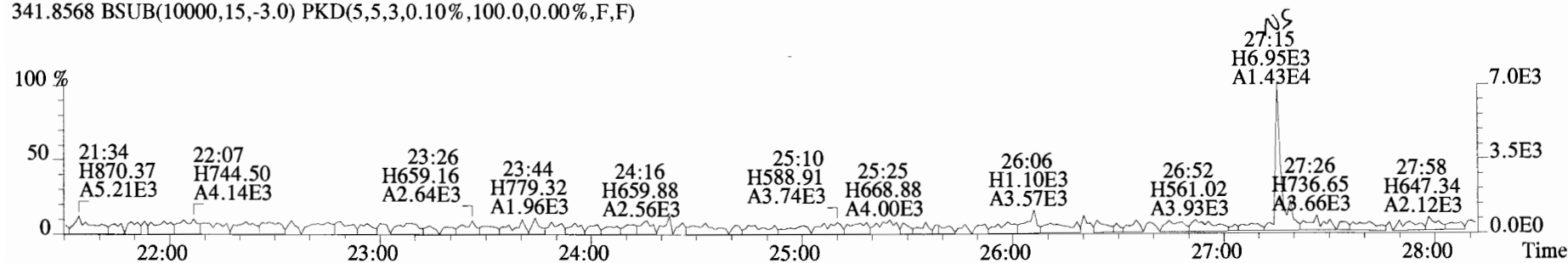
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0)



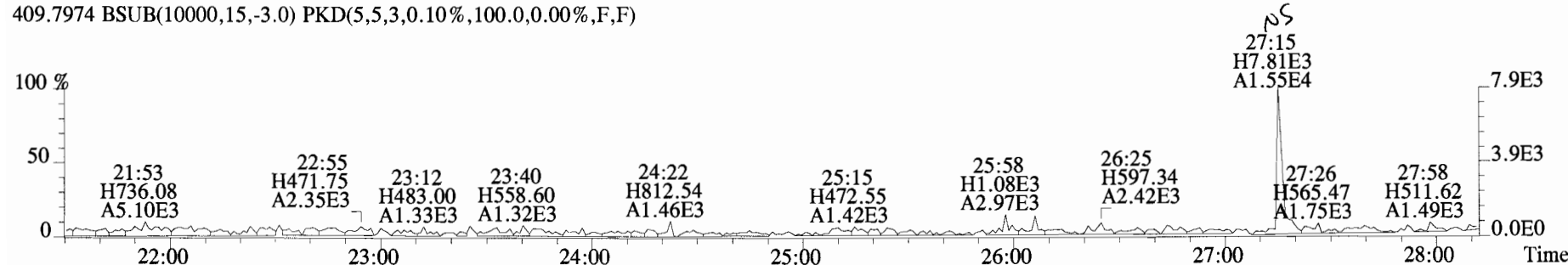
File:190510D2 #1-529 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



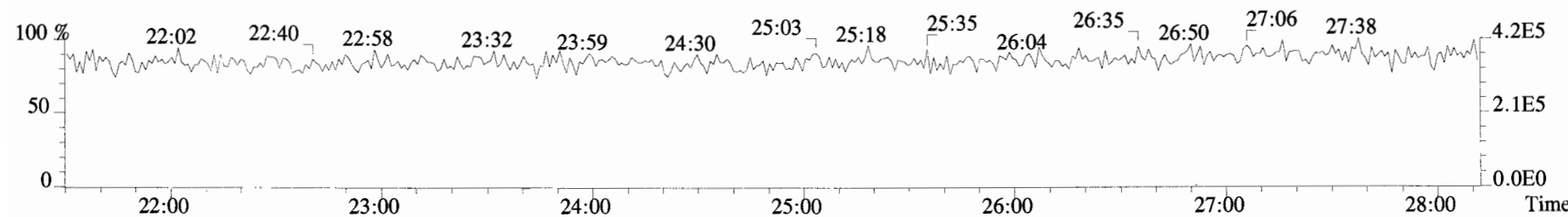
341.8568 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



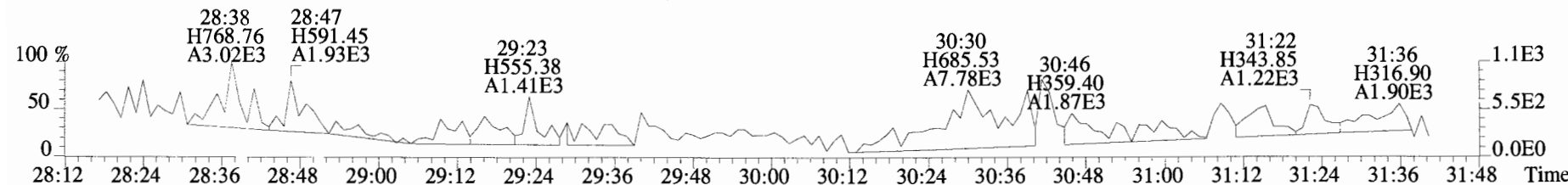
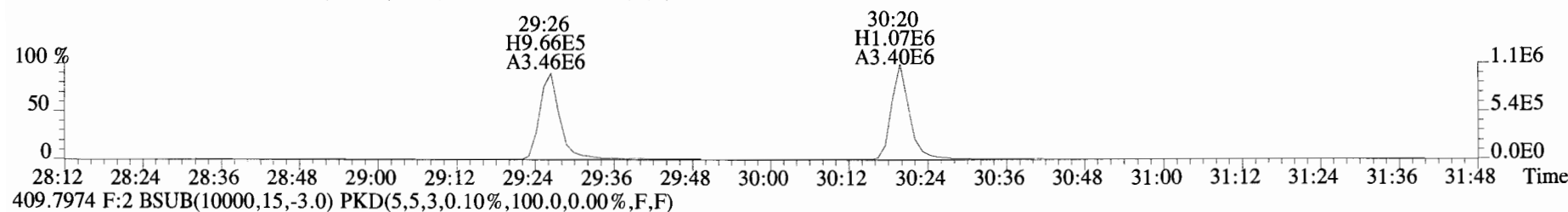
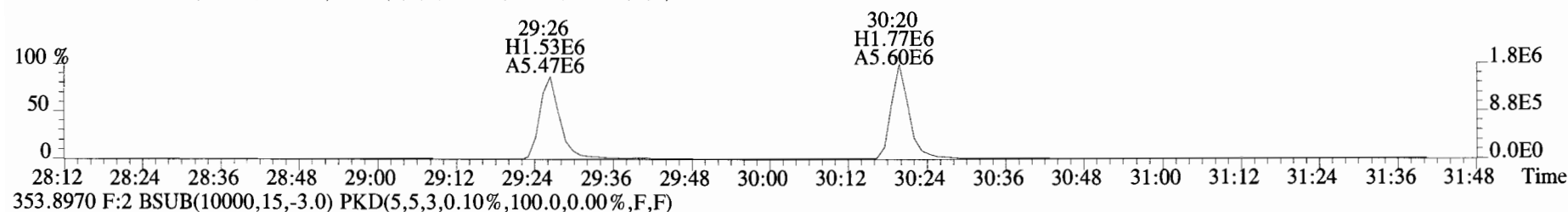
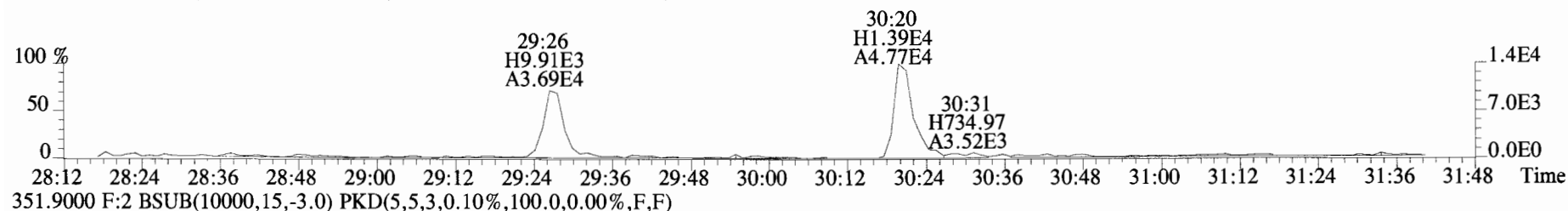
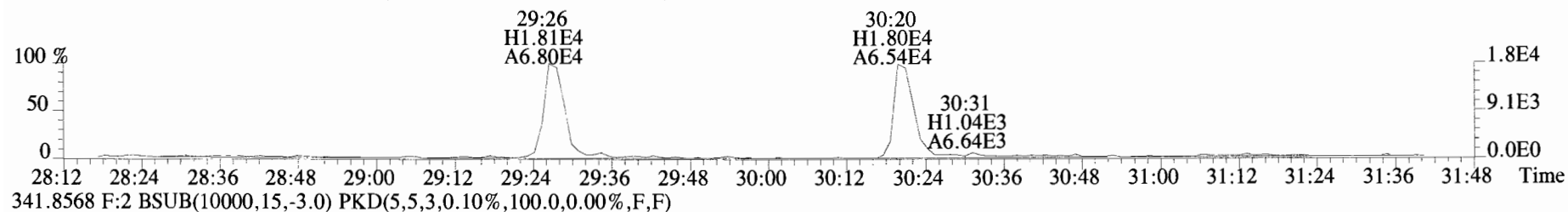
409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



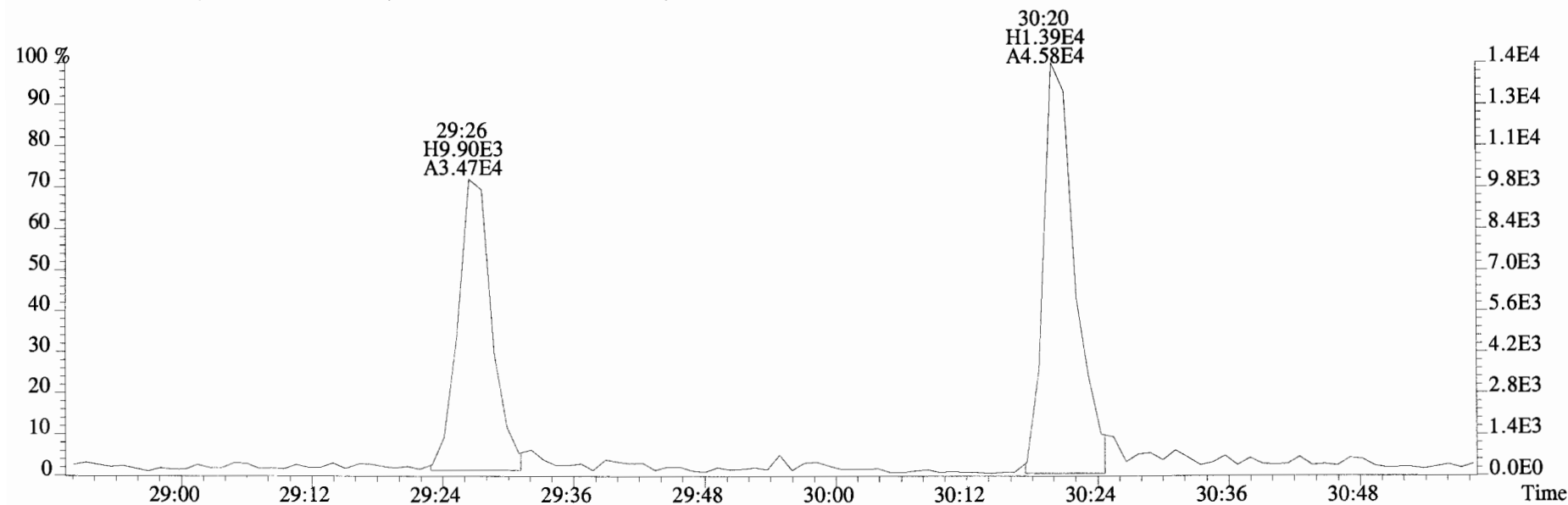
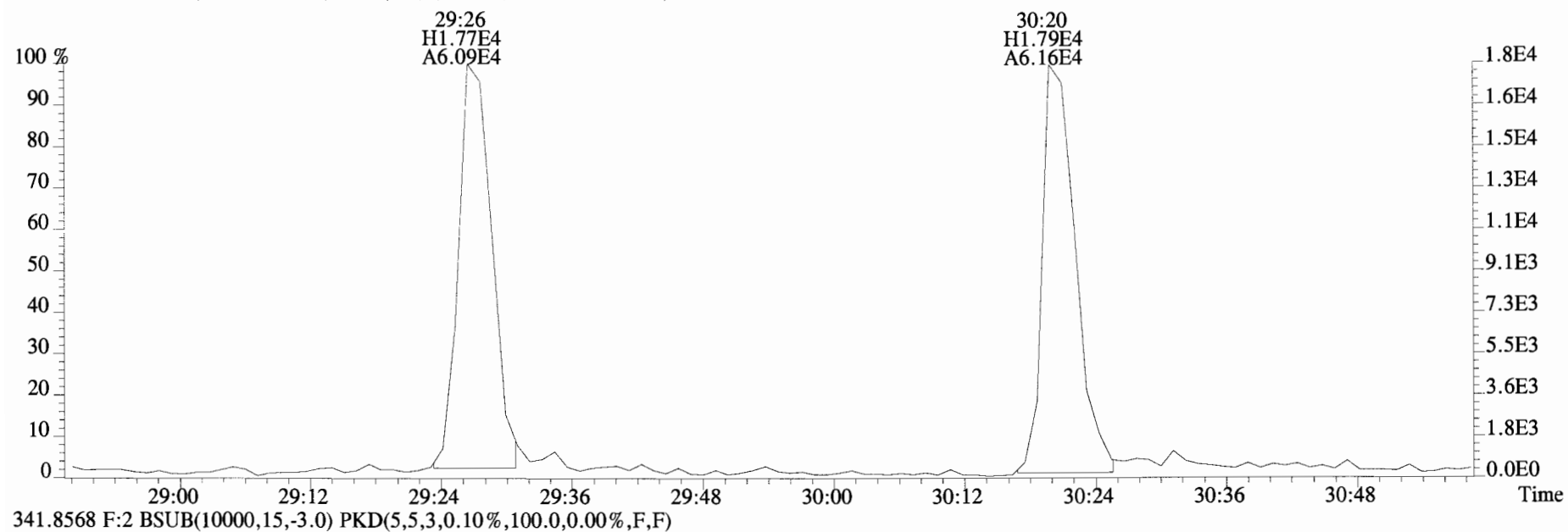
316.9824



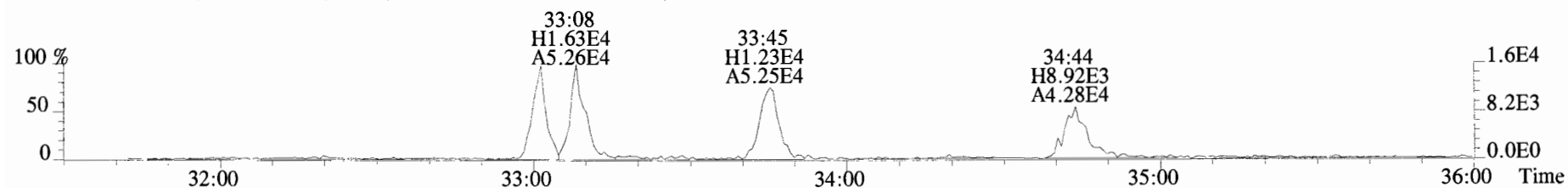
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



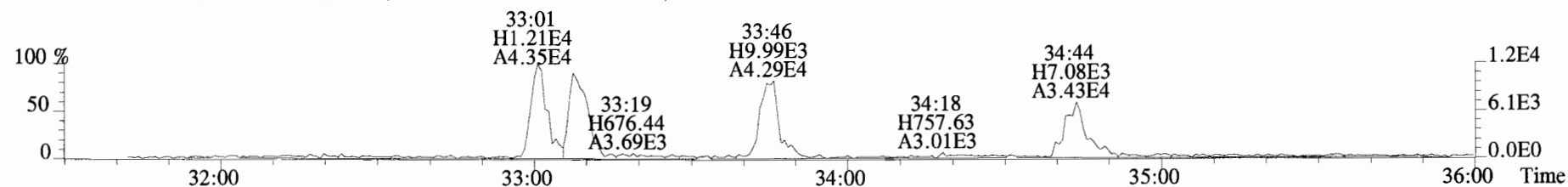
File:190510D2 #1-180 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



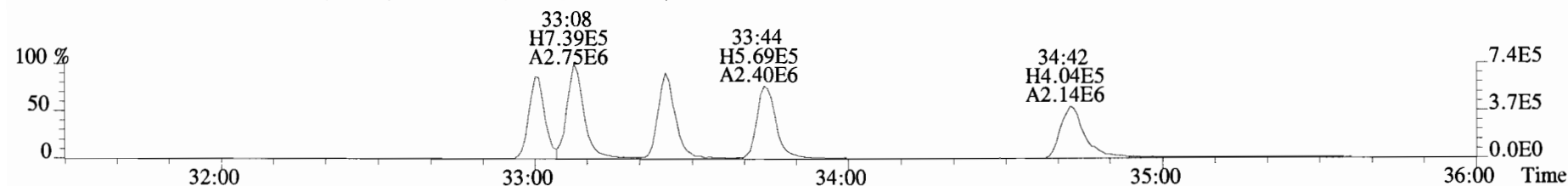
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



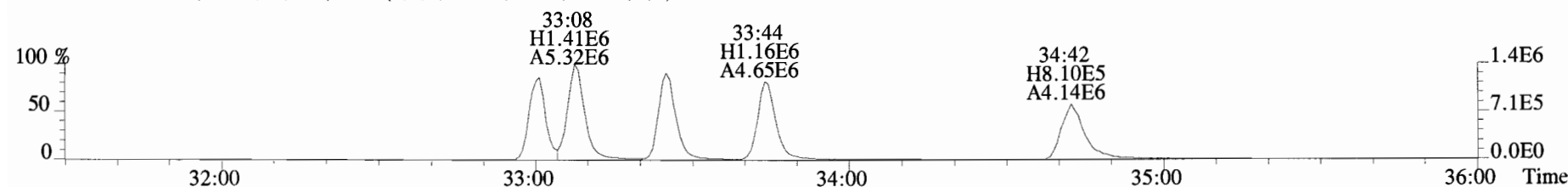
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



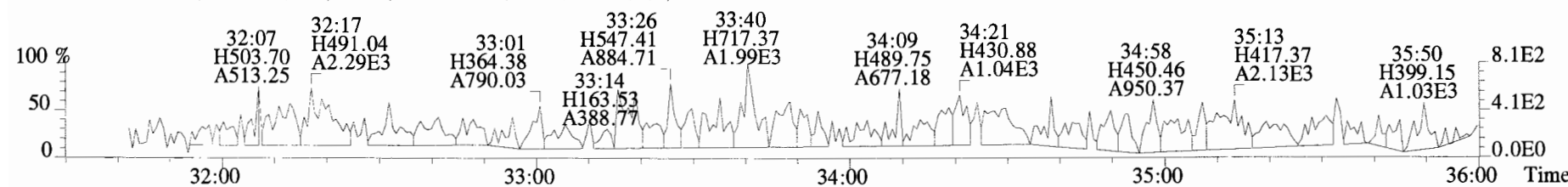
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



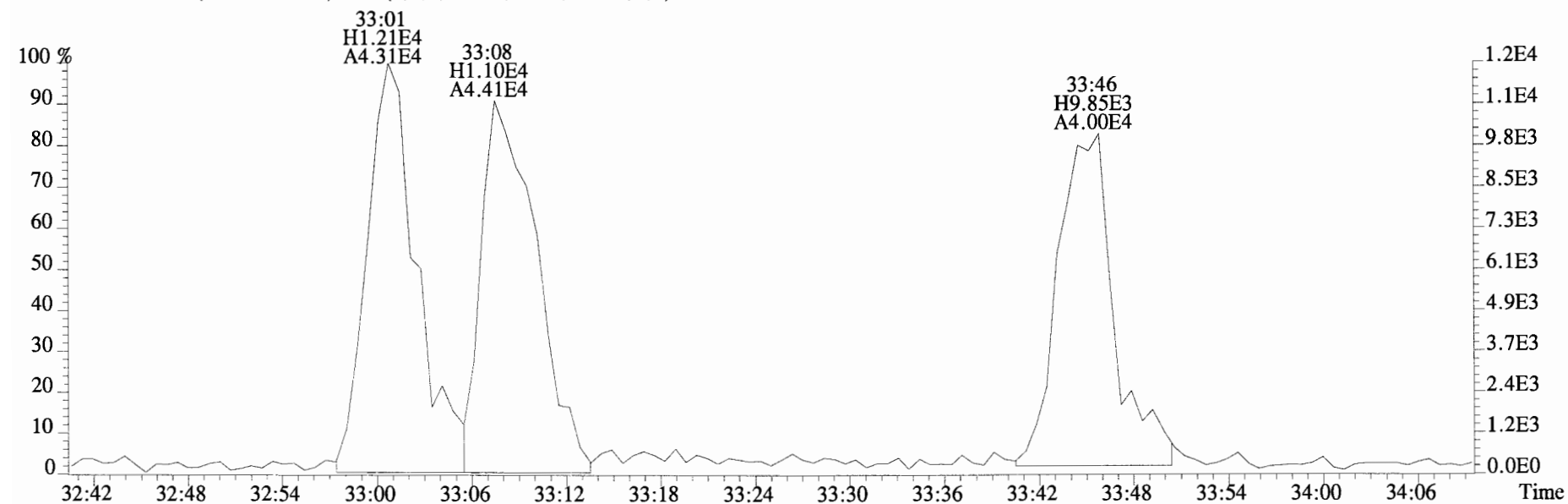
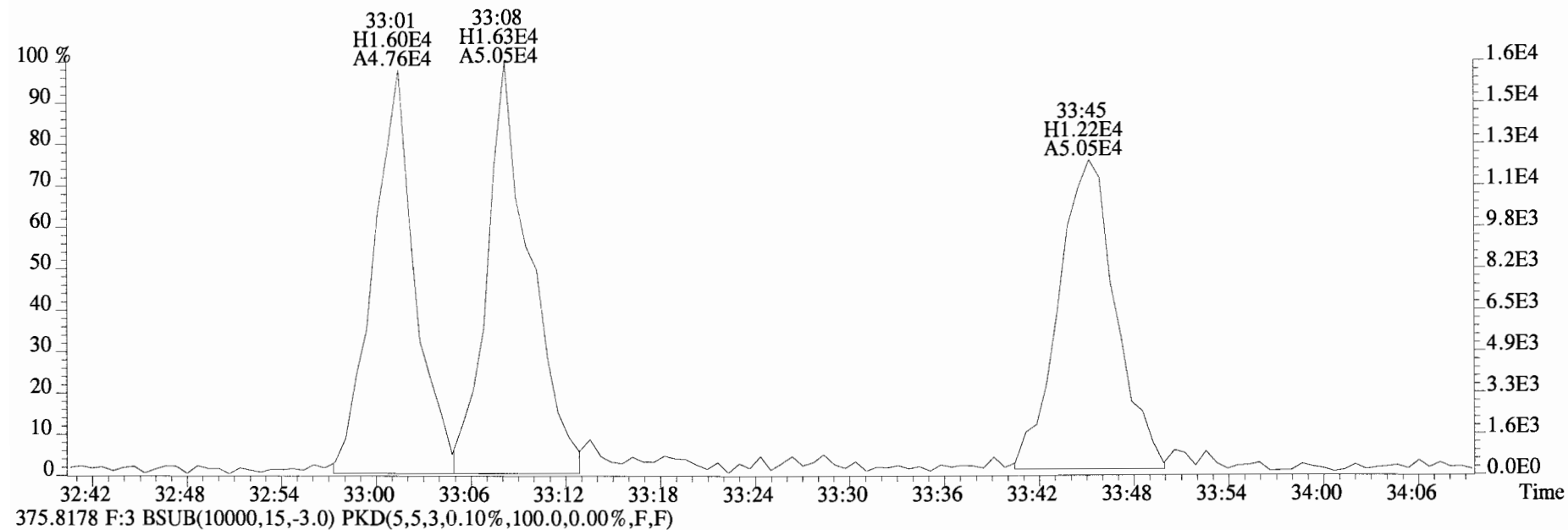
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



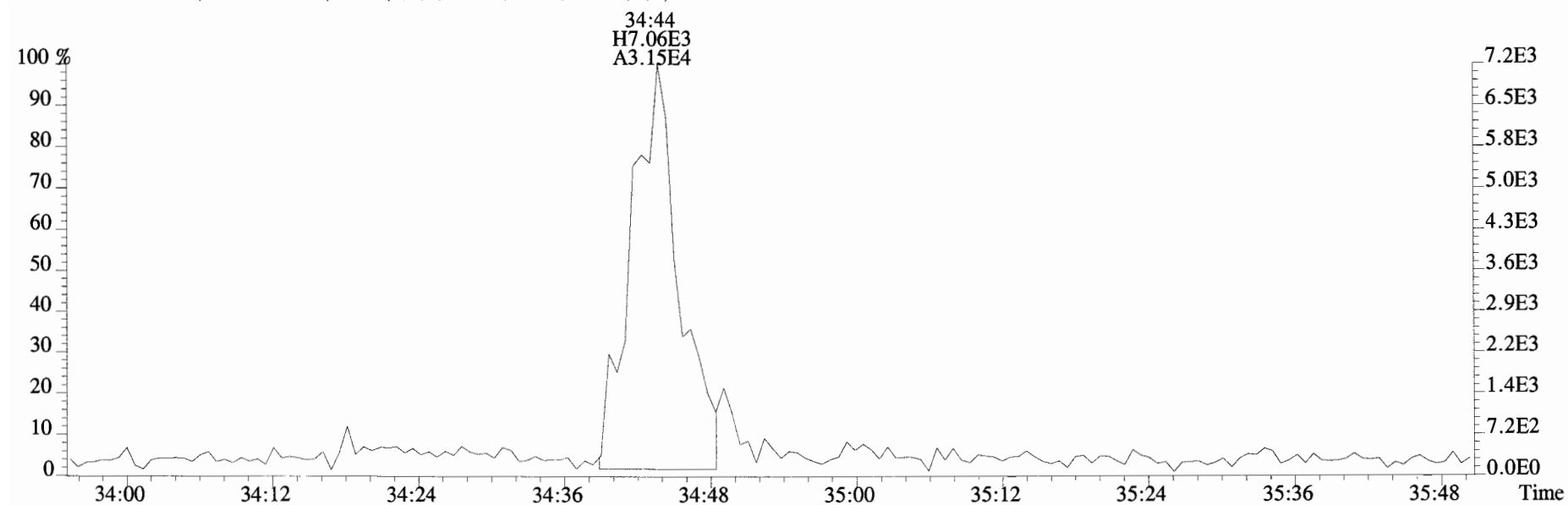
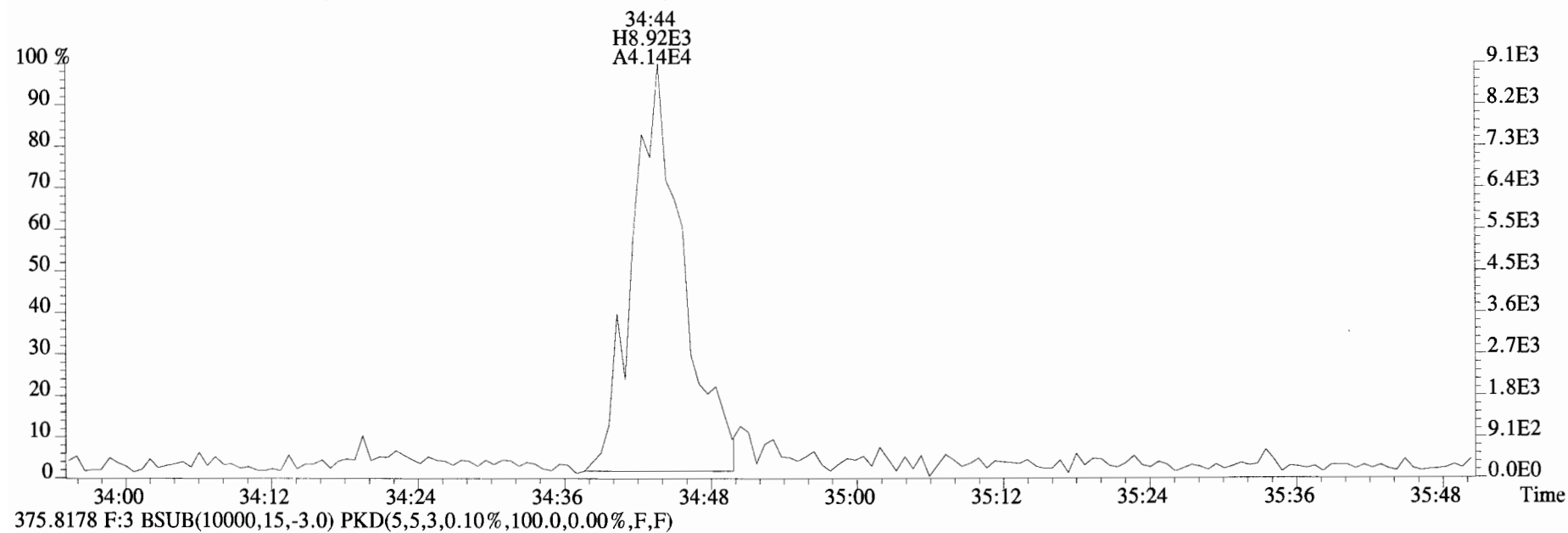
445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



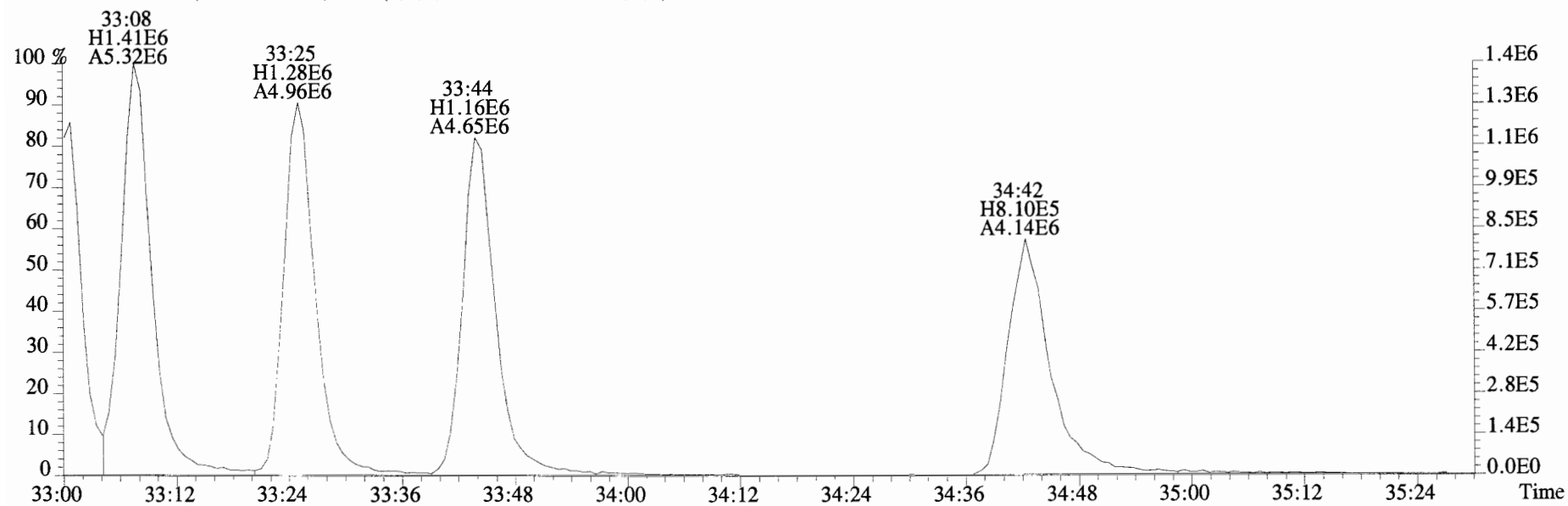
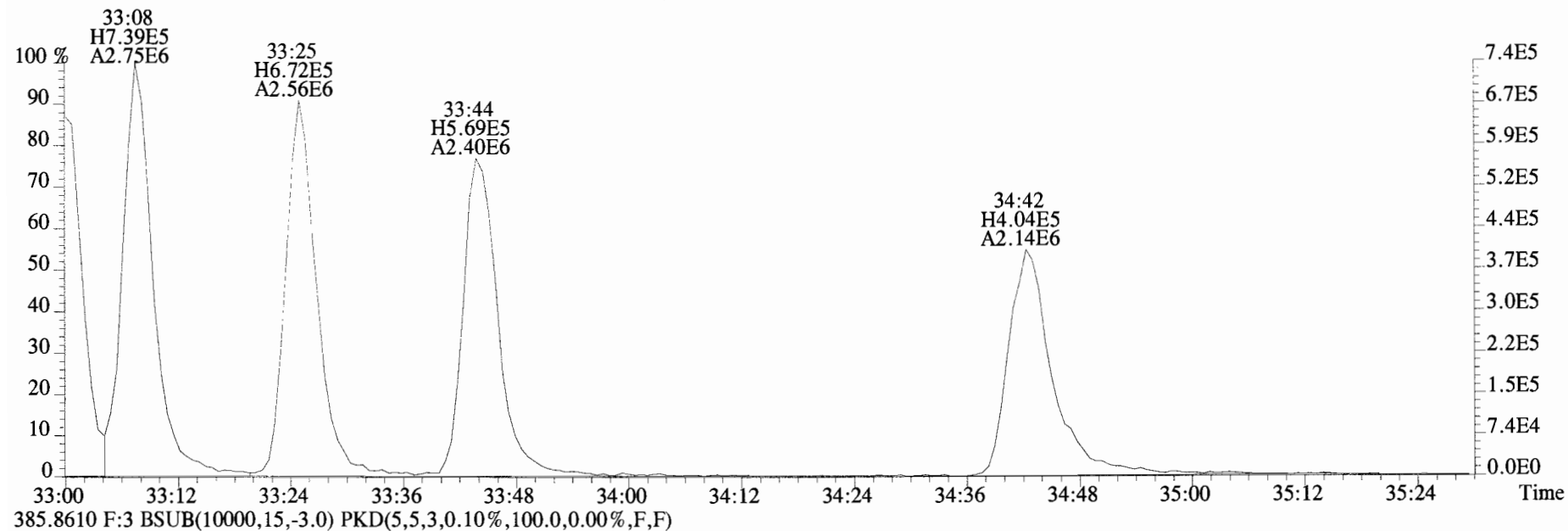
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



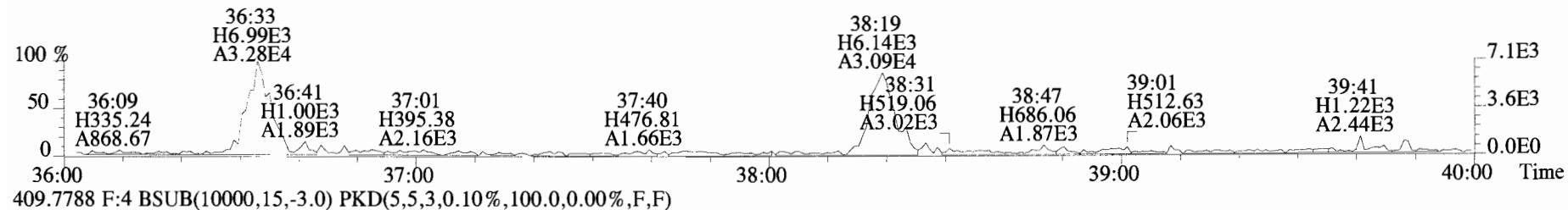
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



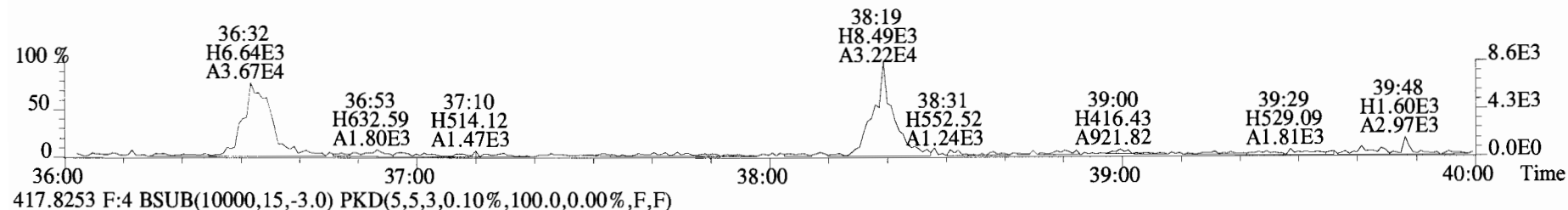
File:190510D2 #1-385 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



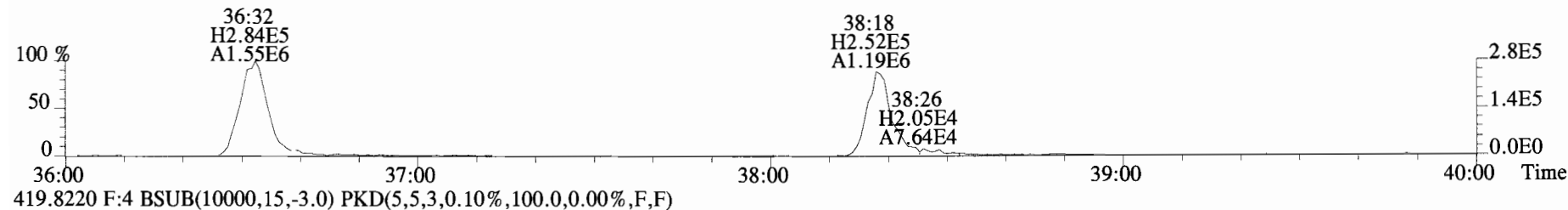
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



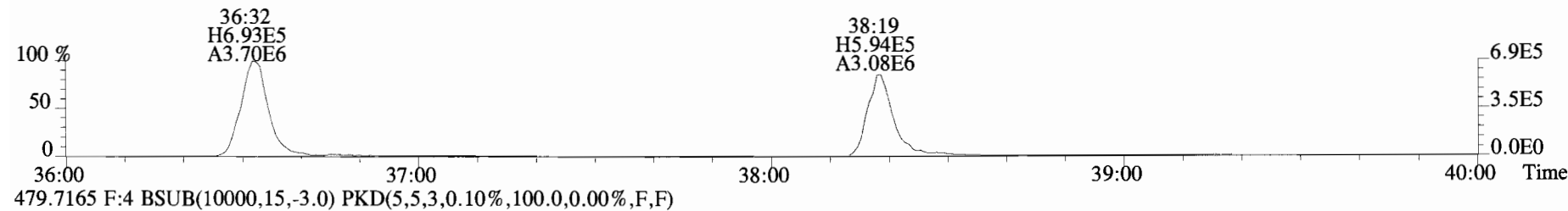
409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



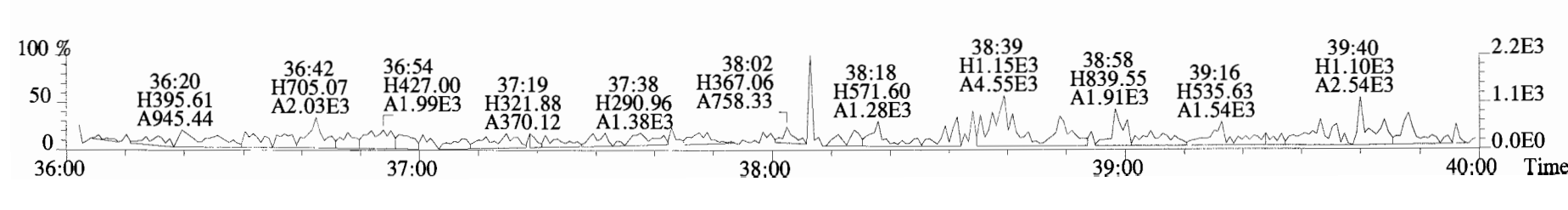
417.8253 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



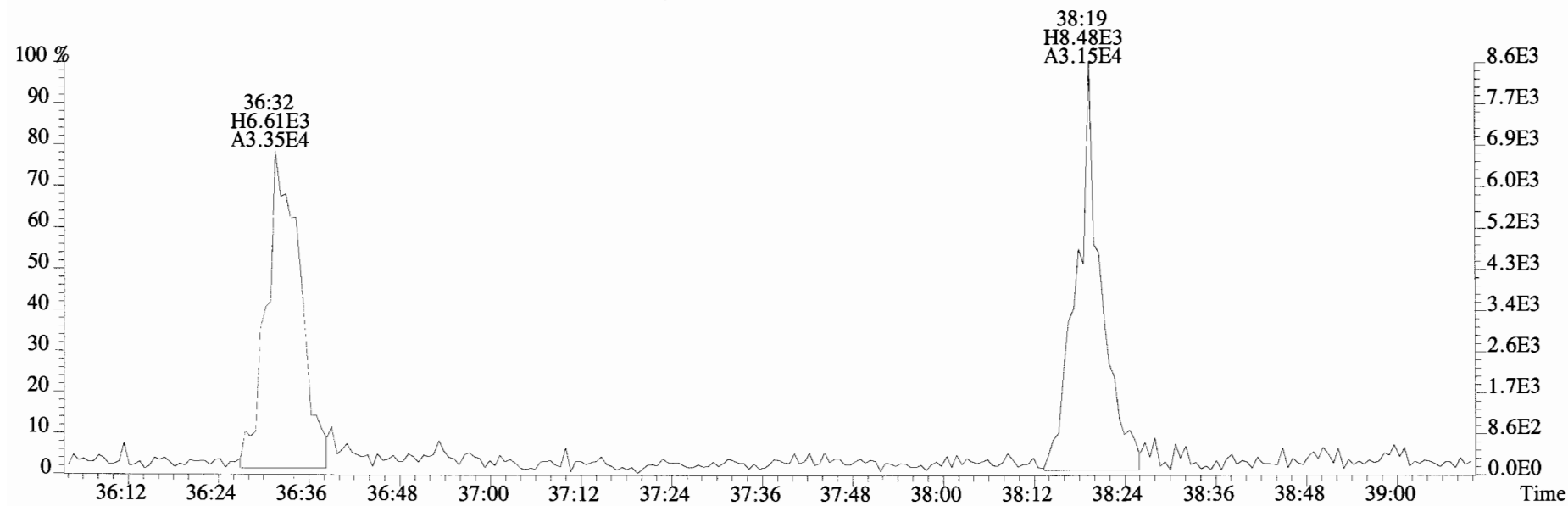
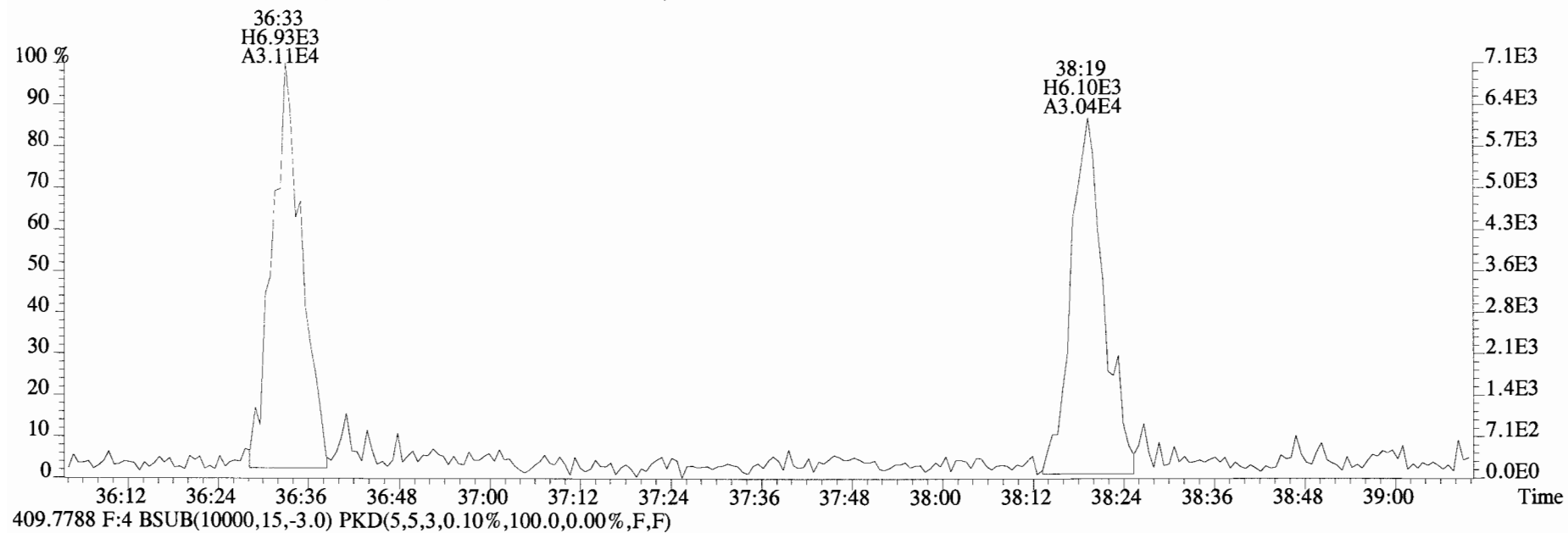
419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



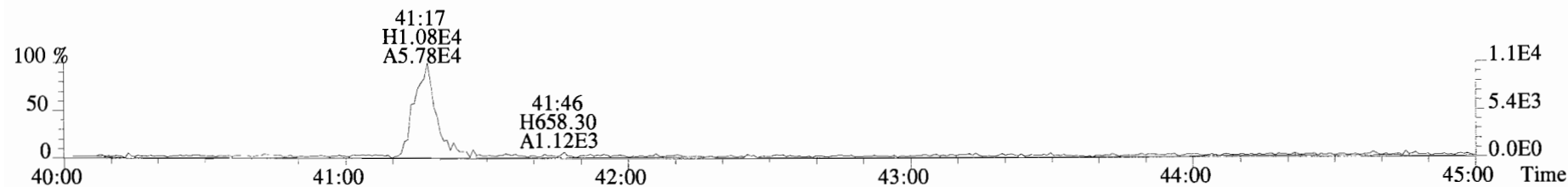
479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



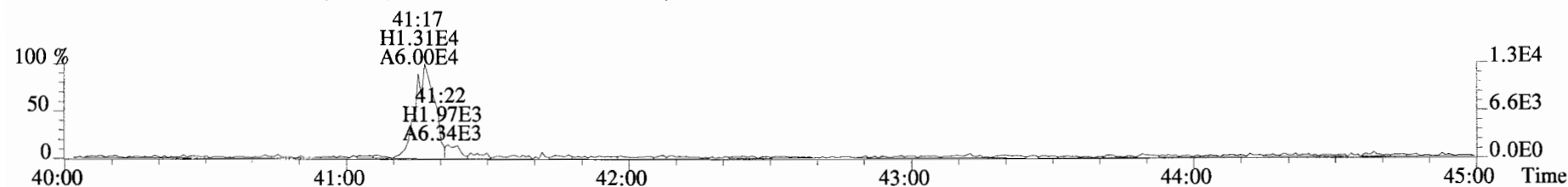
File:190510D2 #1-355 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



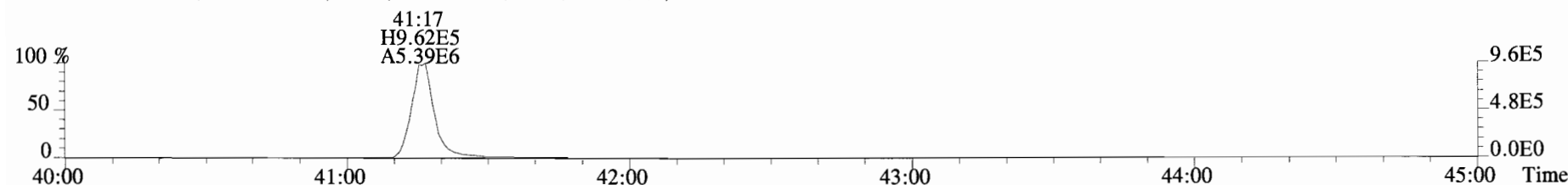
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
 441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



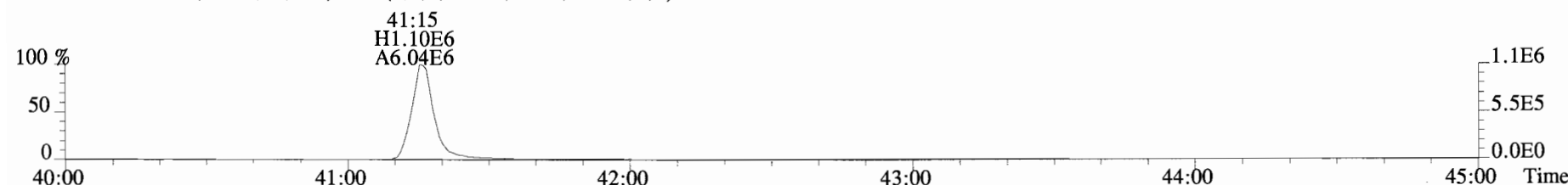
443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



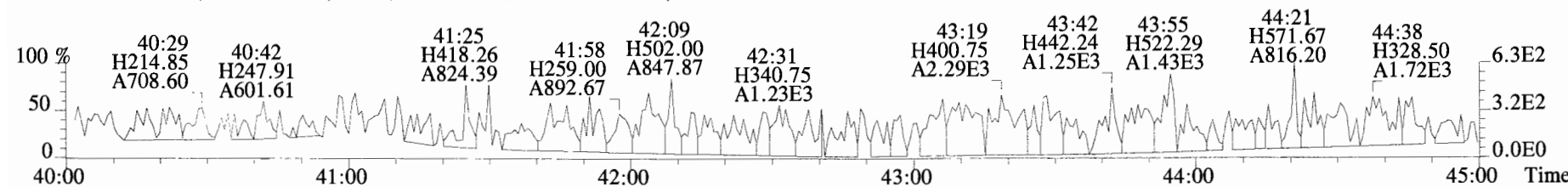
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



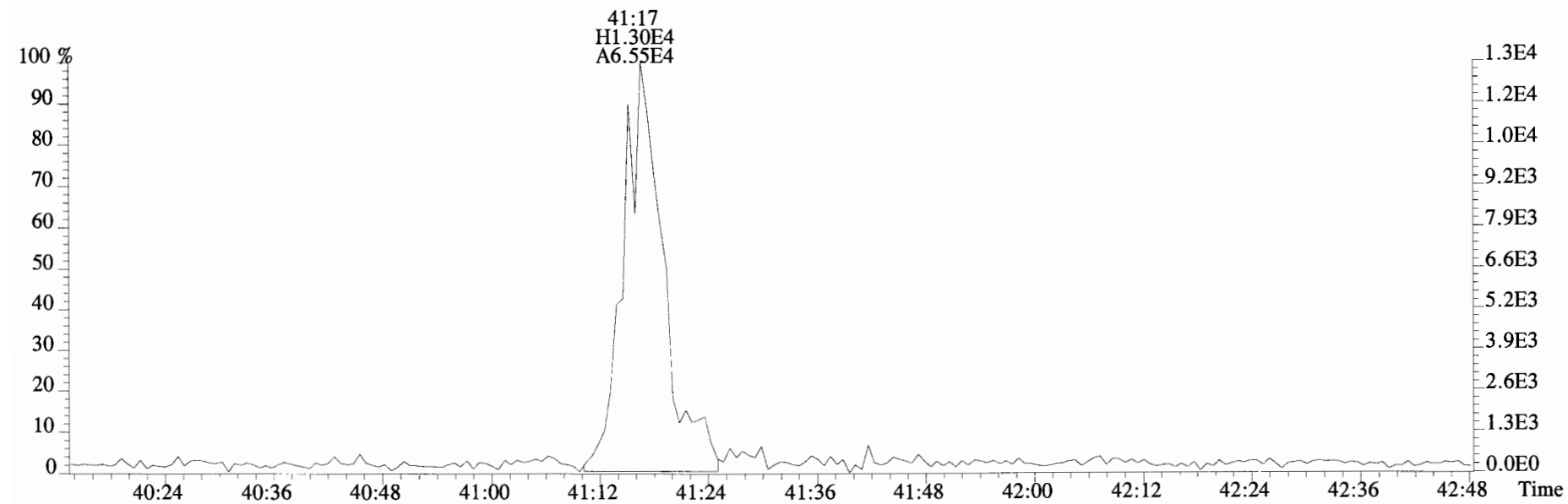
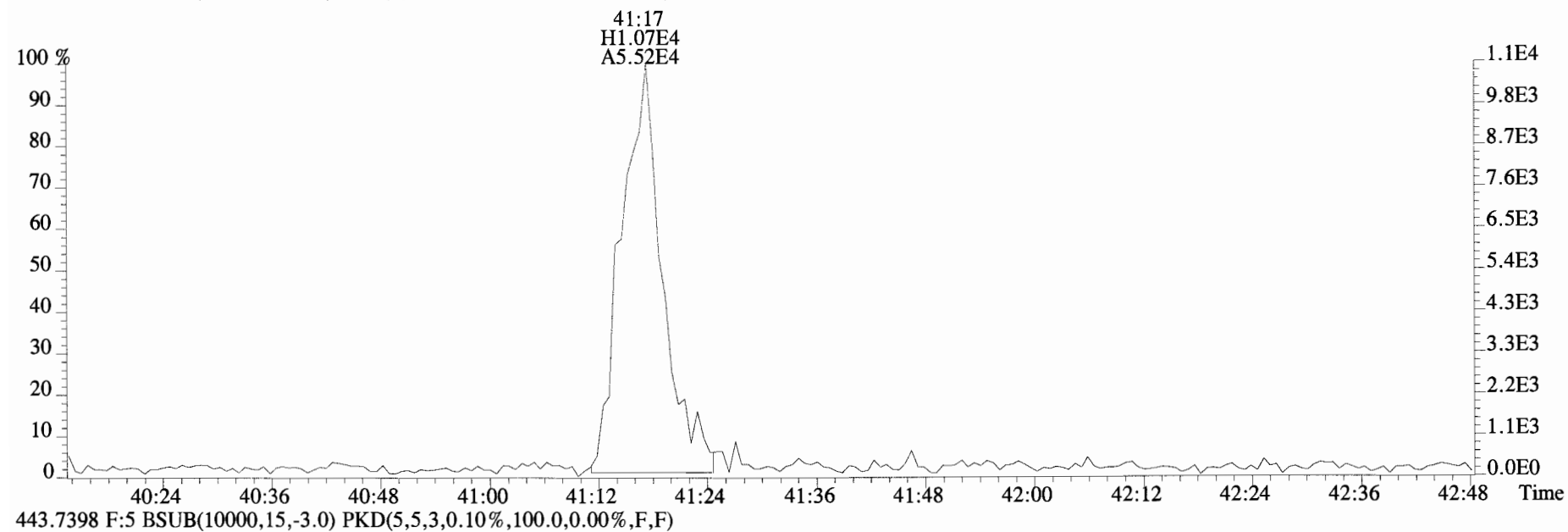
455.7801 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



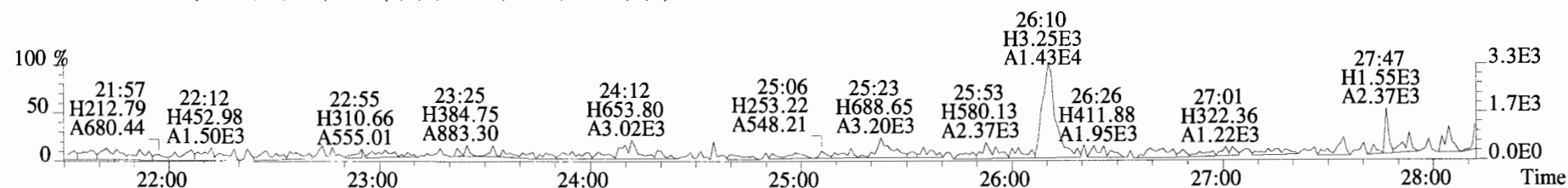
513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



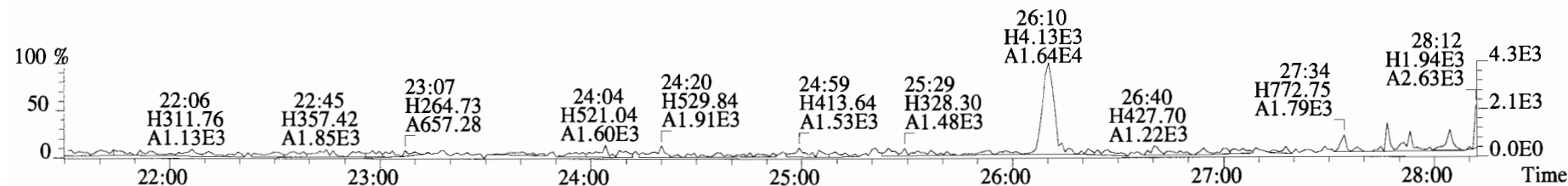
File:190510D2 #1-432 Acq:10-MAY-2019 14:24:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-1 1613 CS0 19C2201 Exp:OCDD_DB5
441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



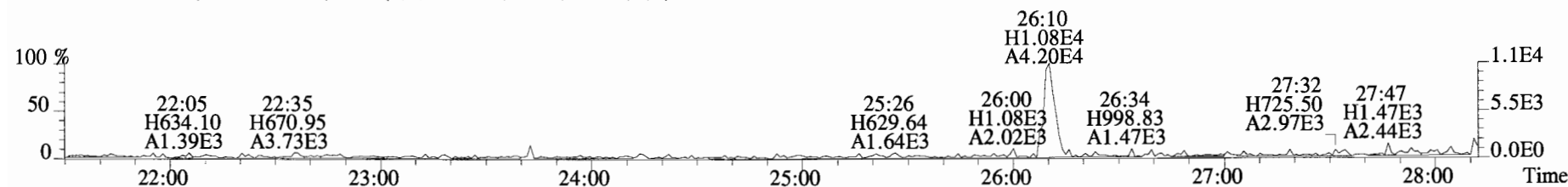
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



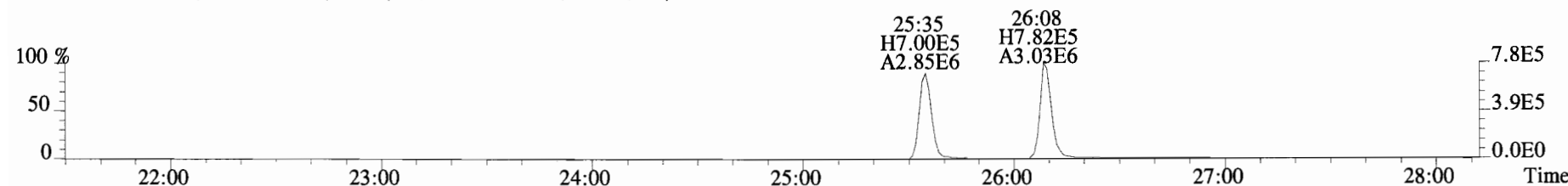
321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



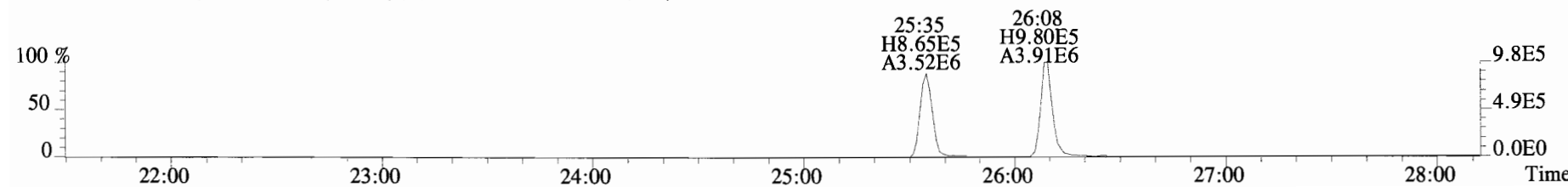
327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



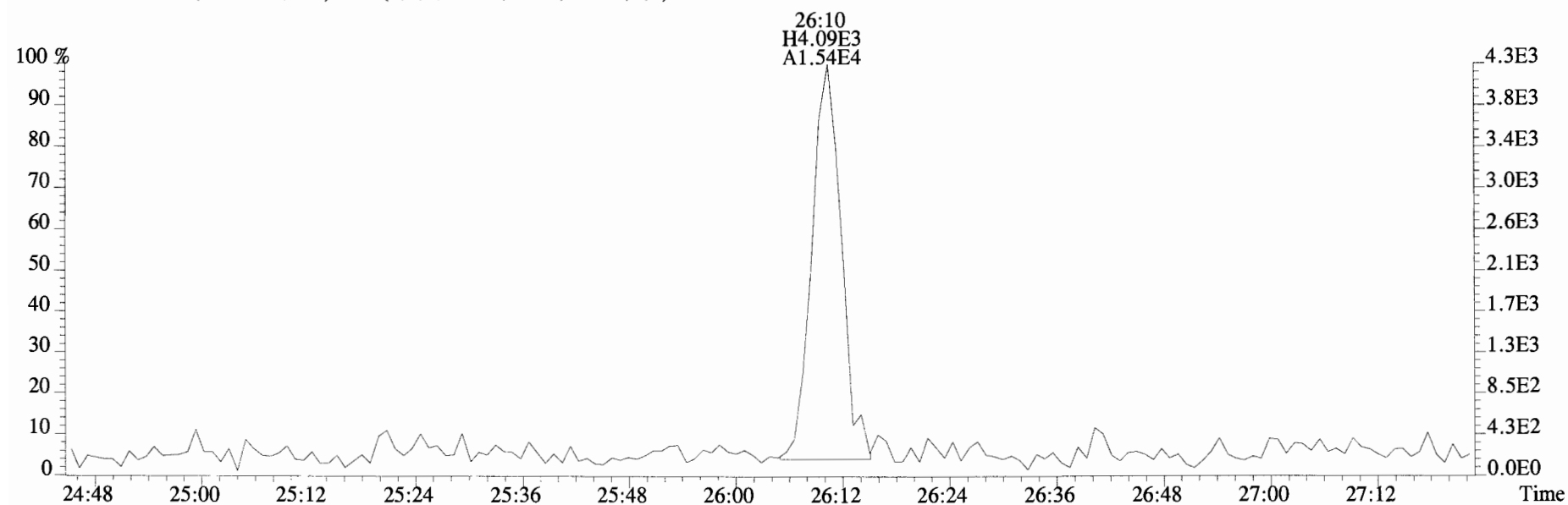
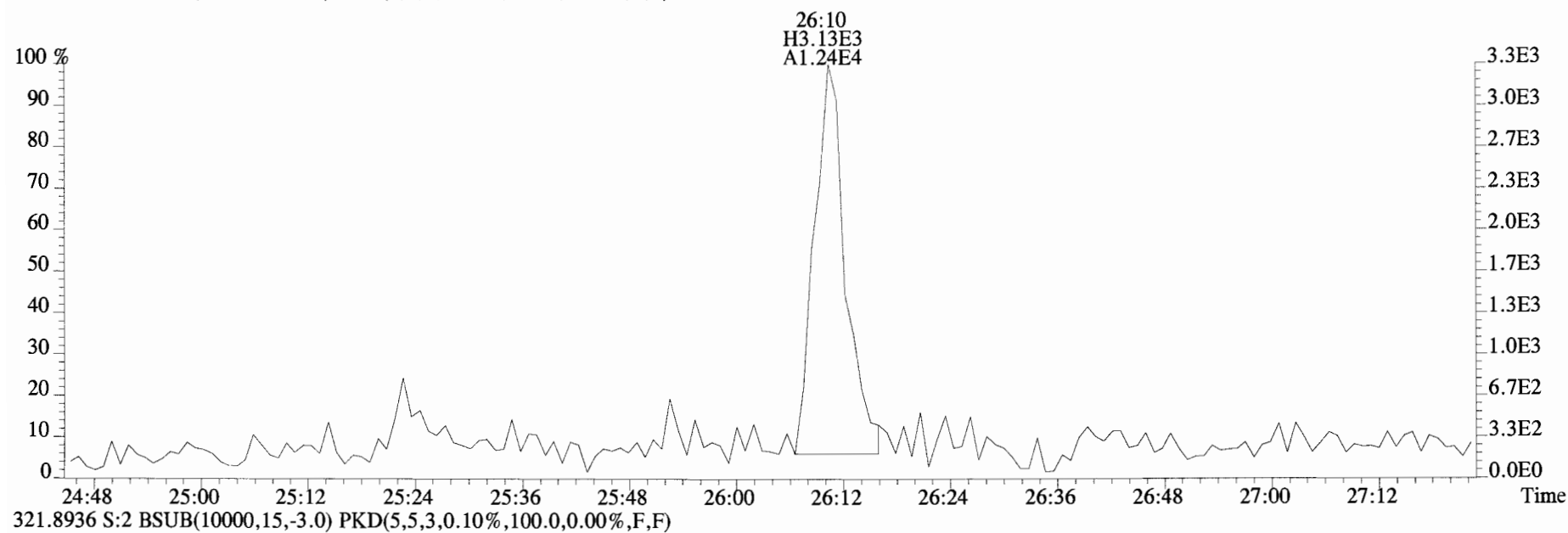
331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



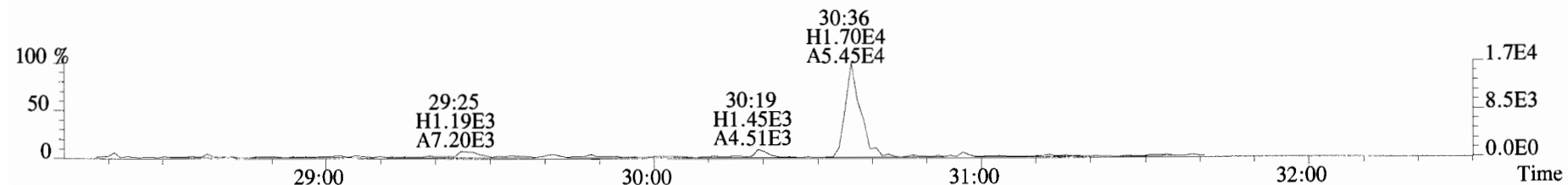
333.9339 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



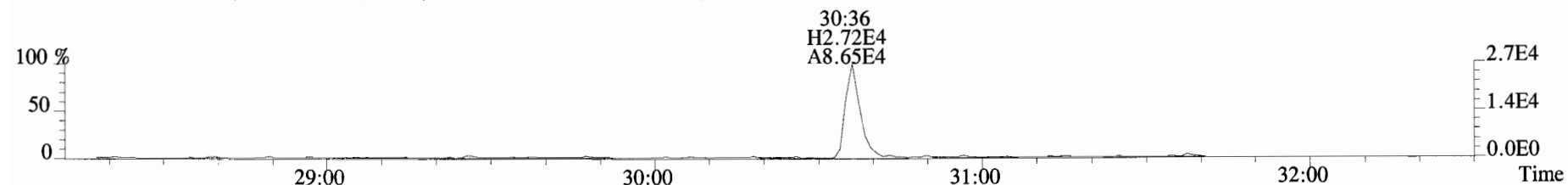
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



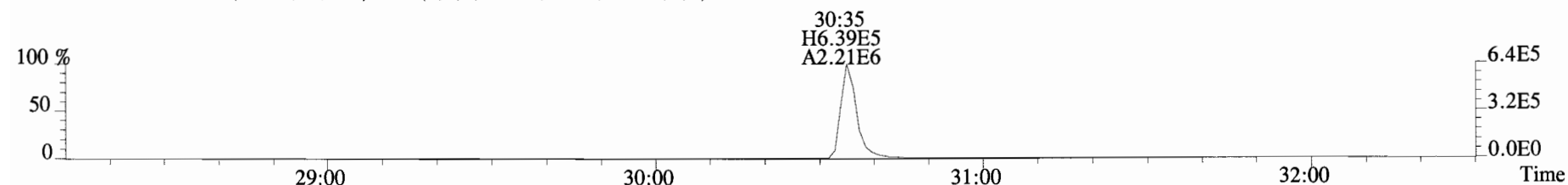
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



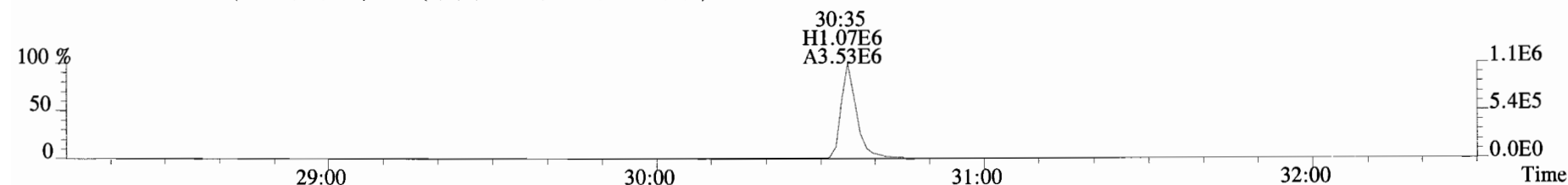
355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



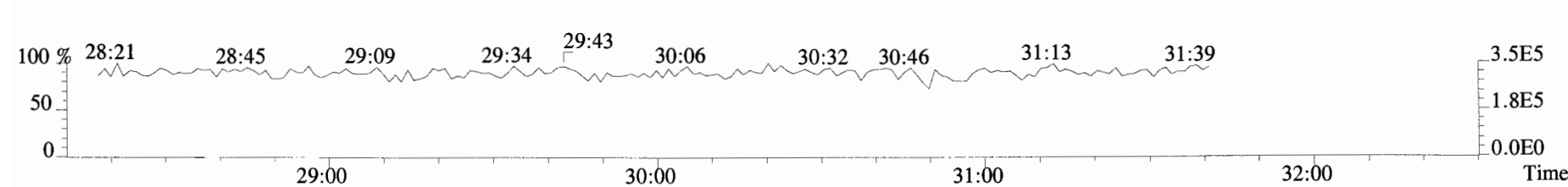
365.8978 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



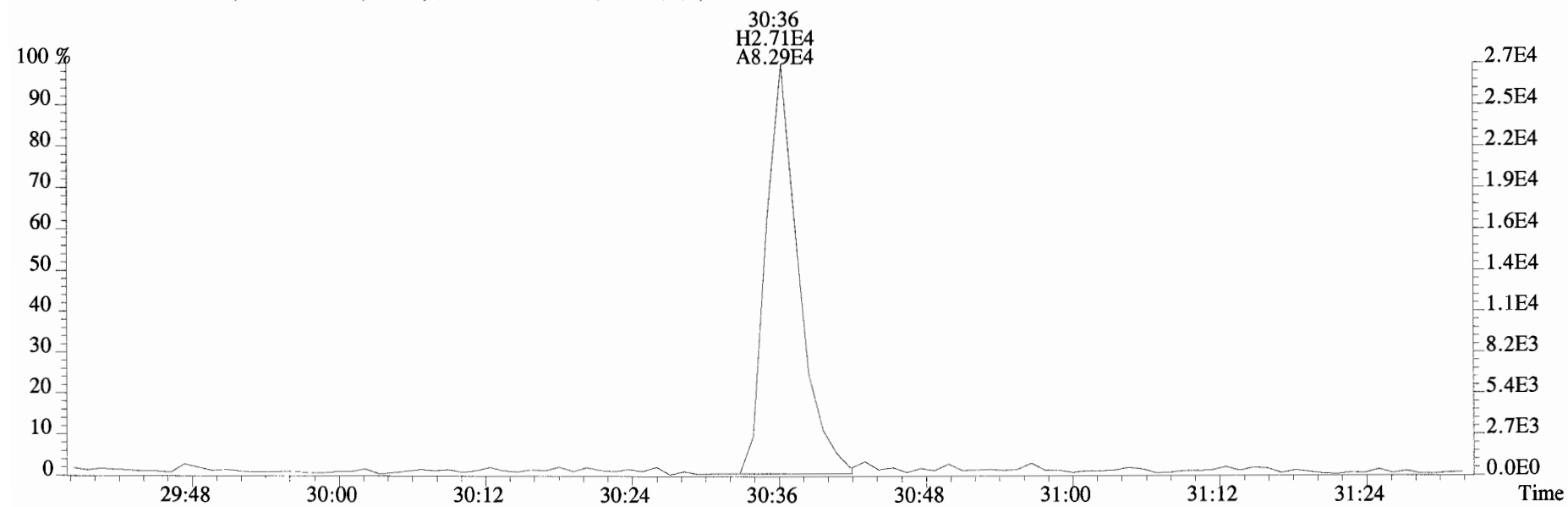
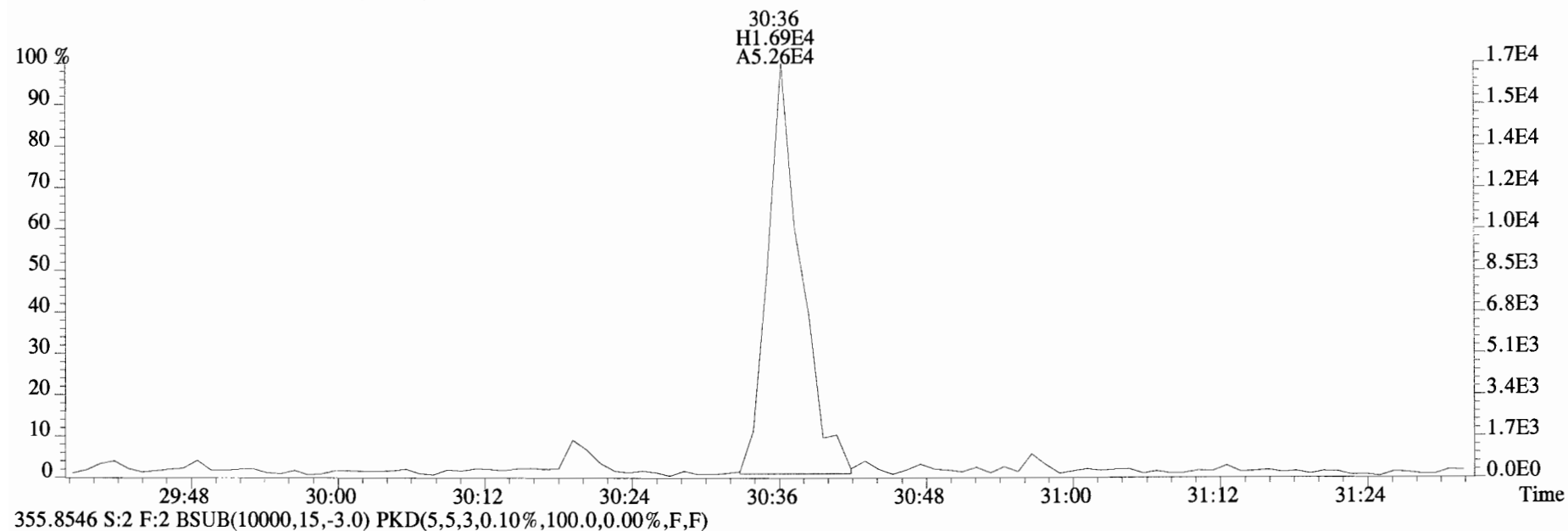
367.8949 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



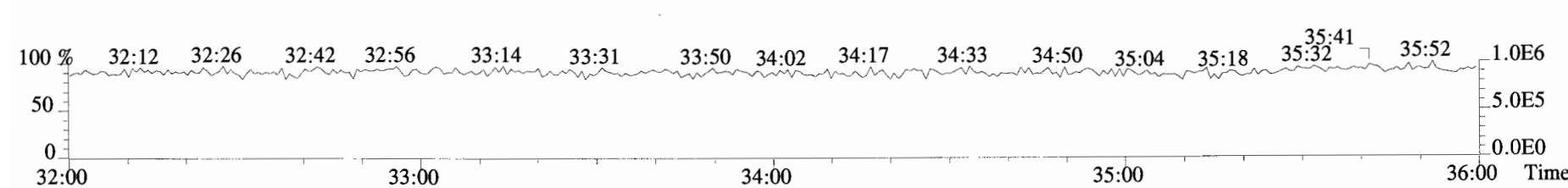
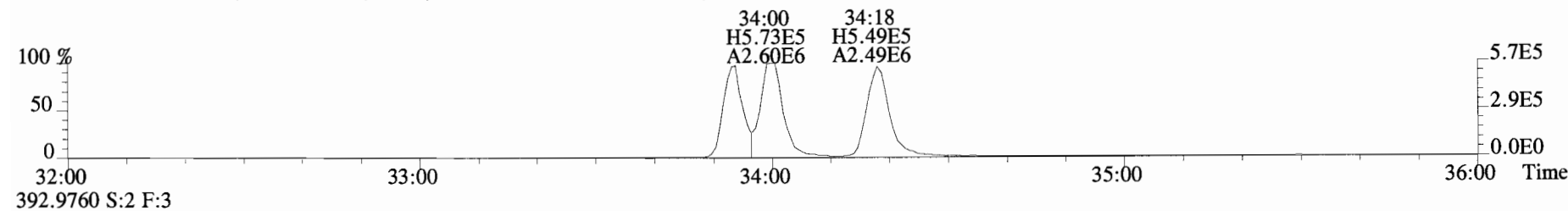
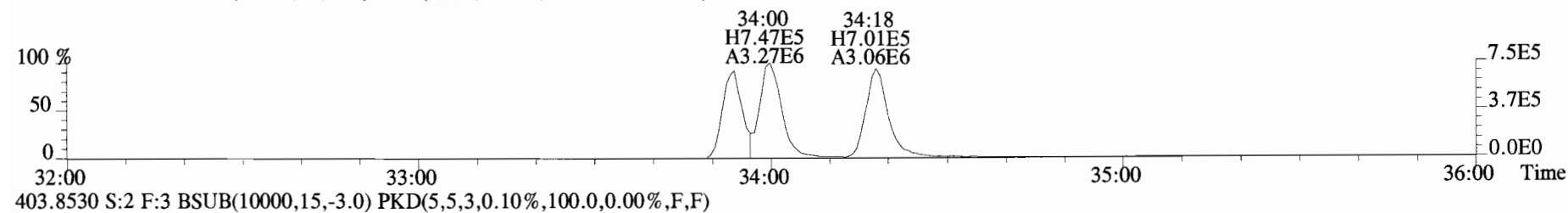
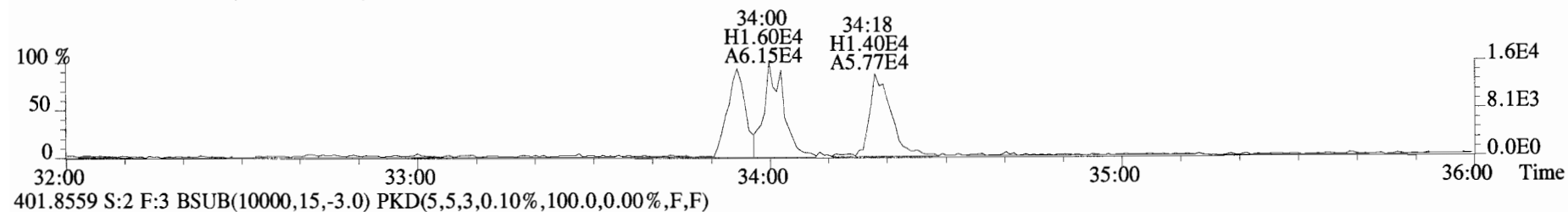
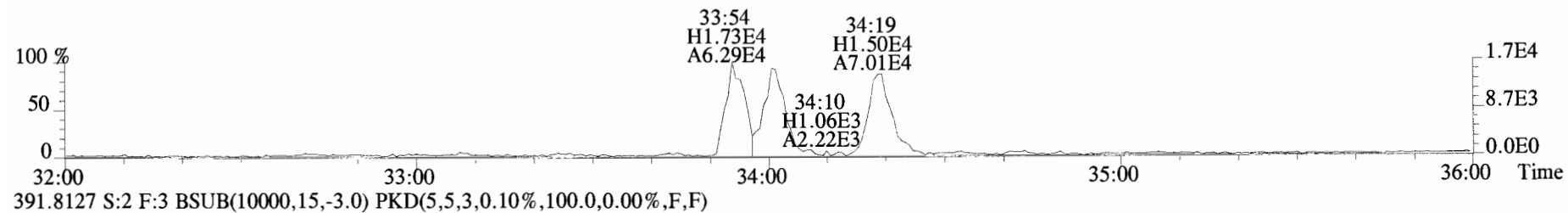
366.9792 S:2 F:2



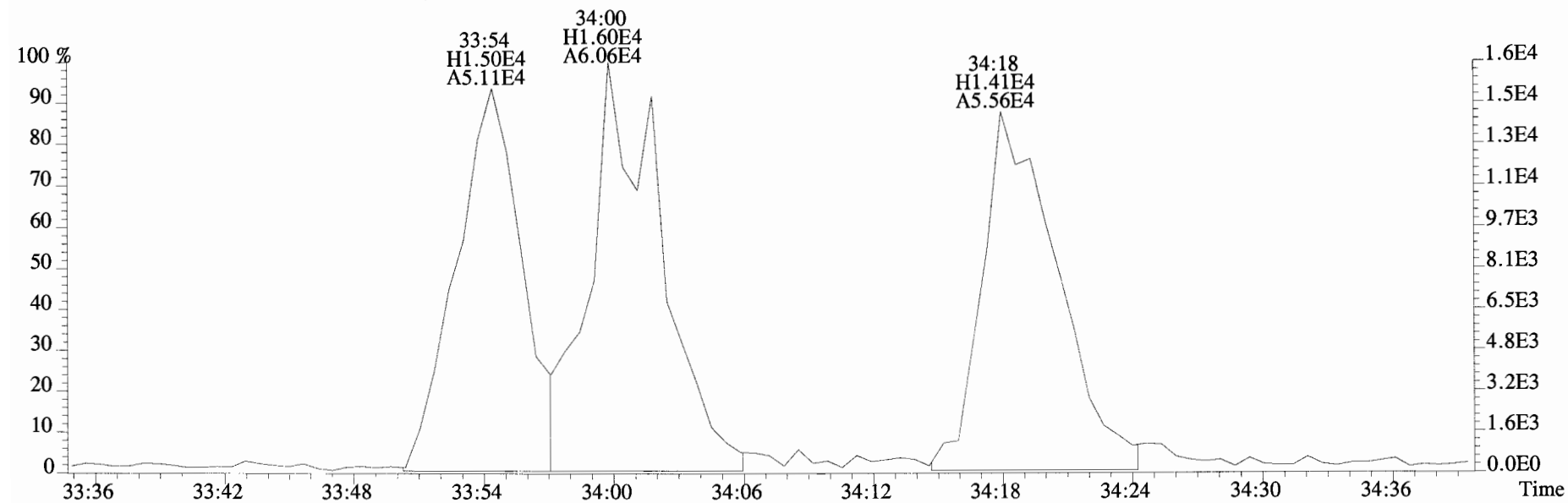
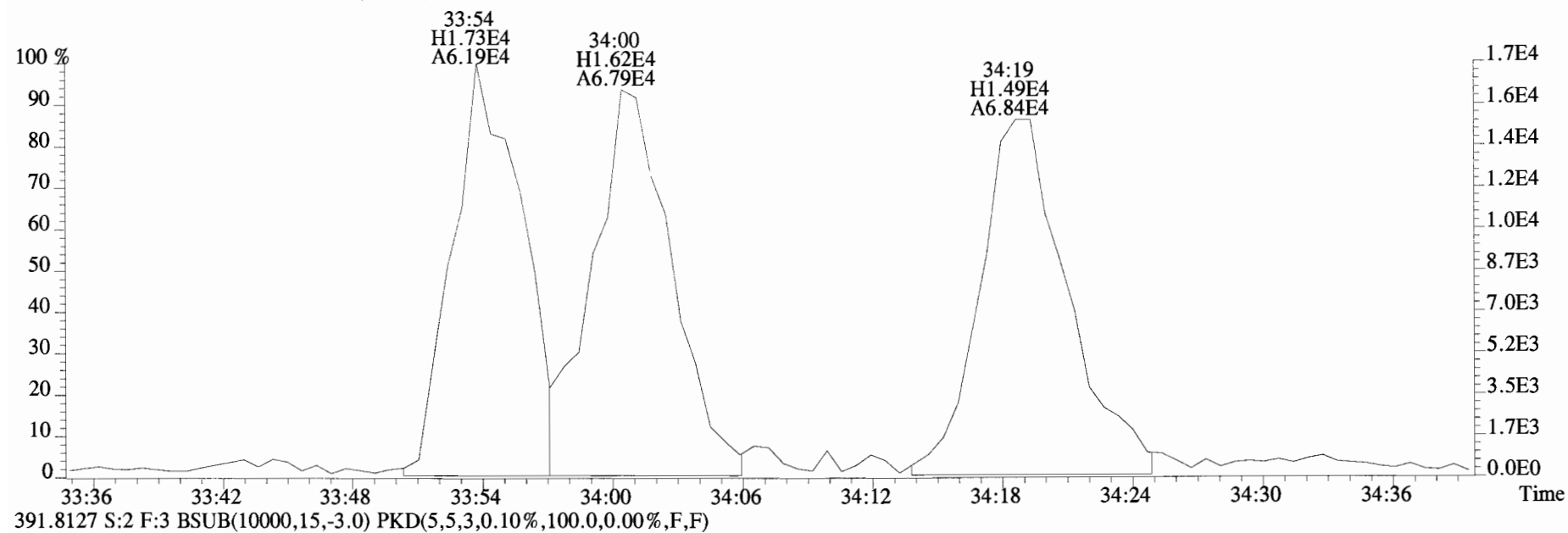
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



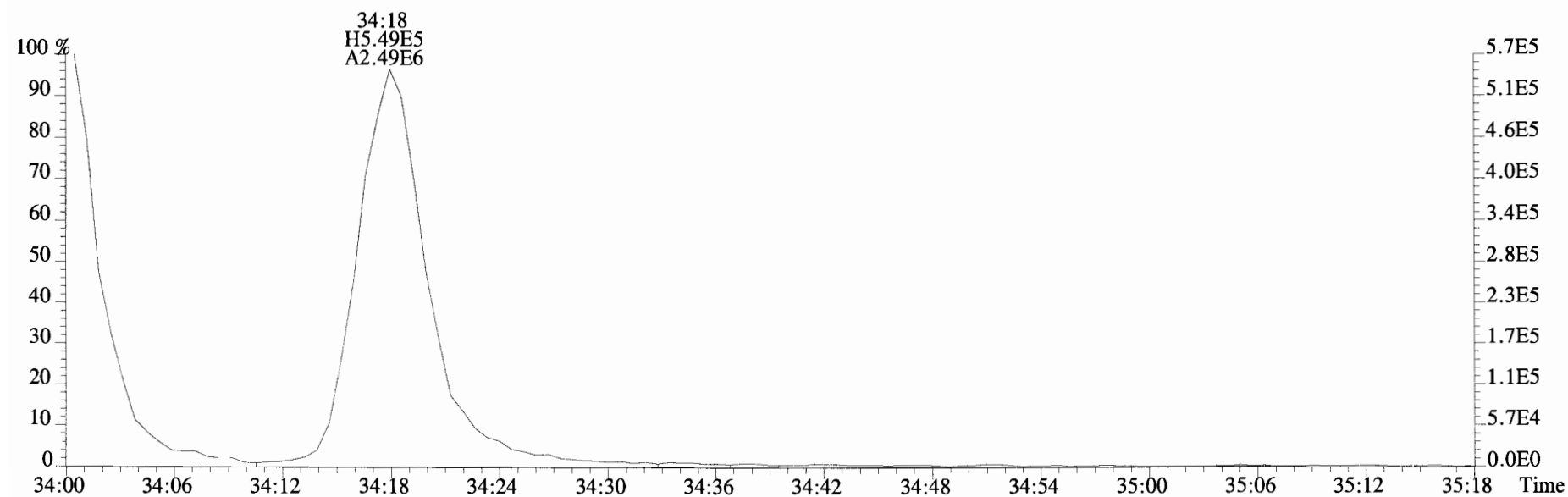
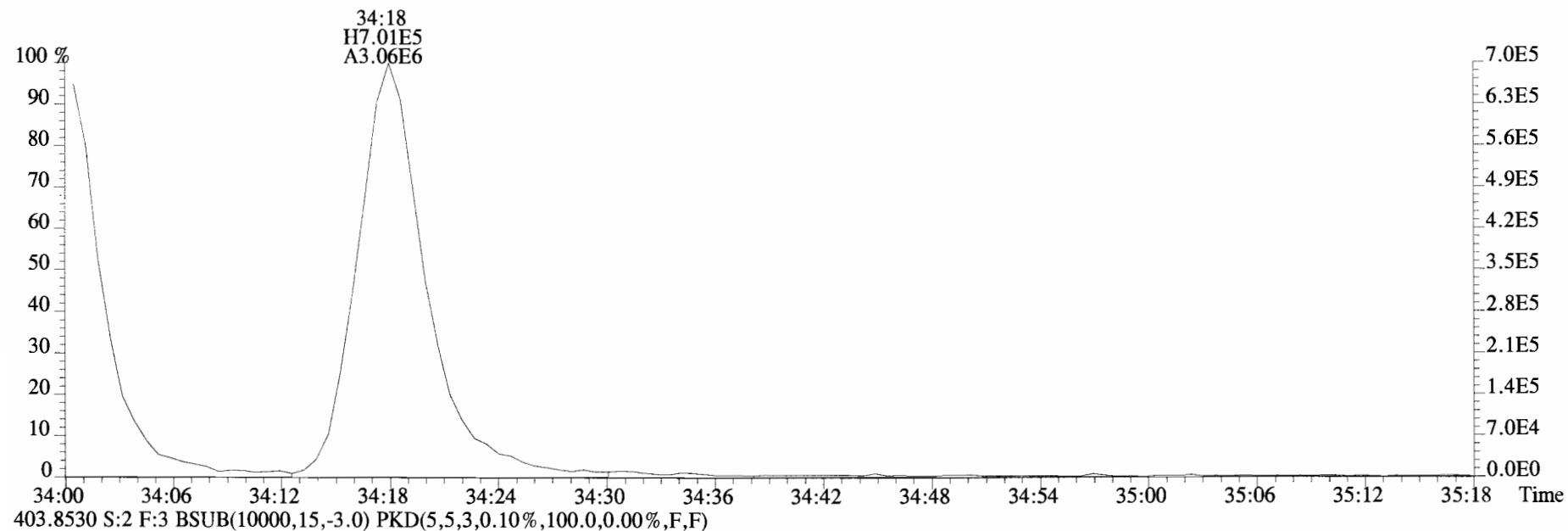
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



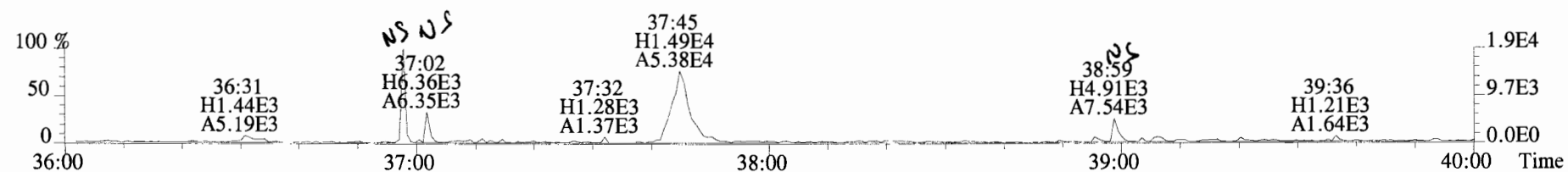
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



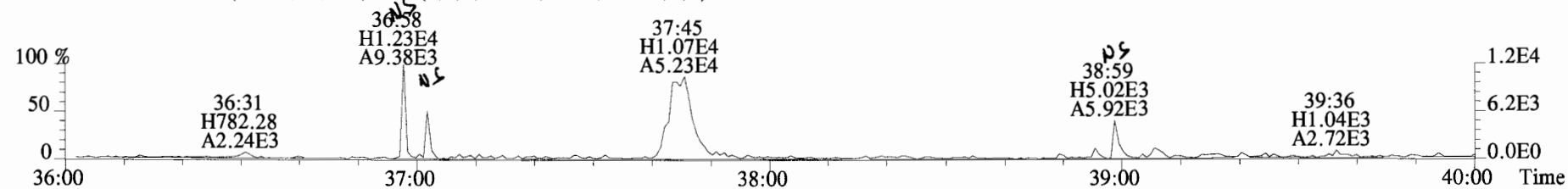
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



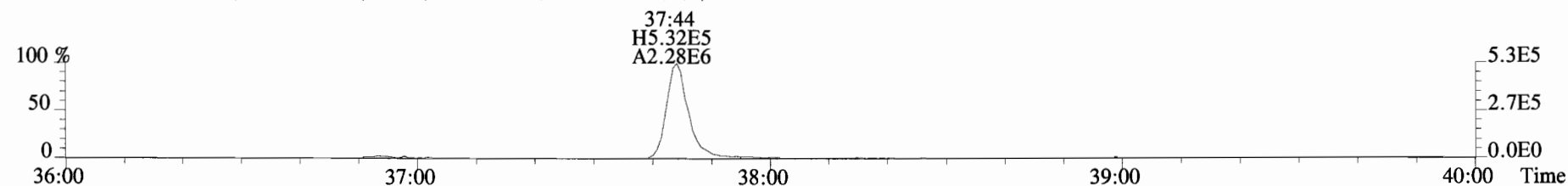
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



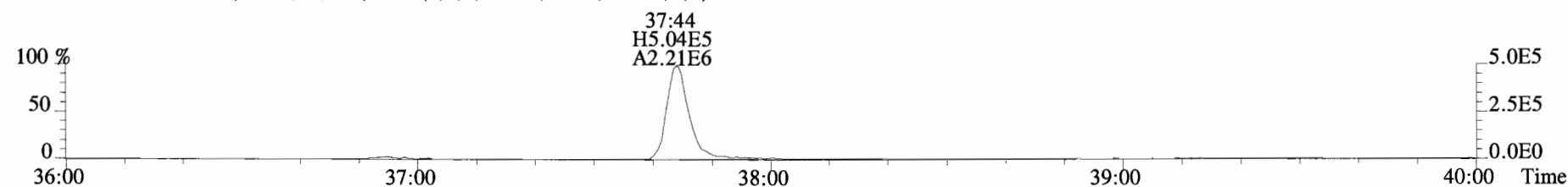
425.7737 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



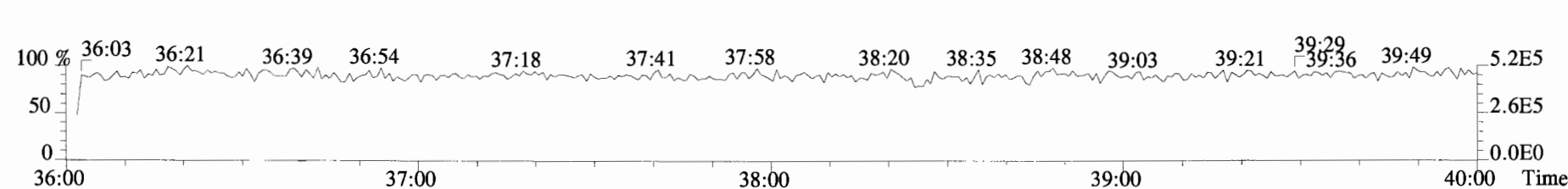
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



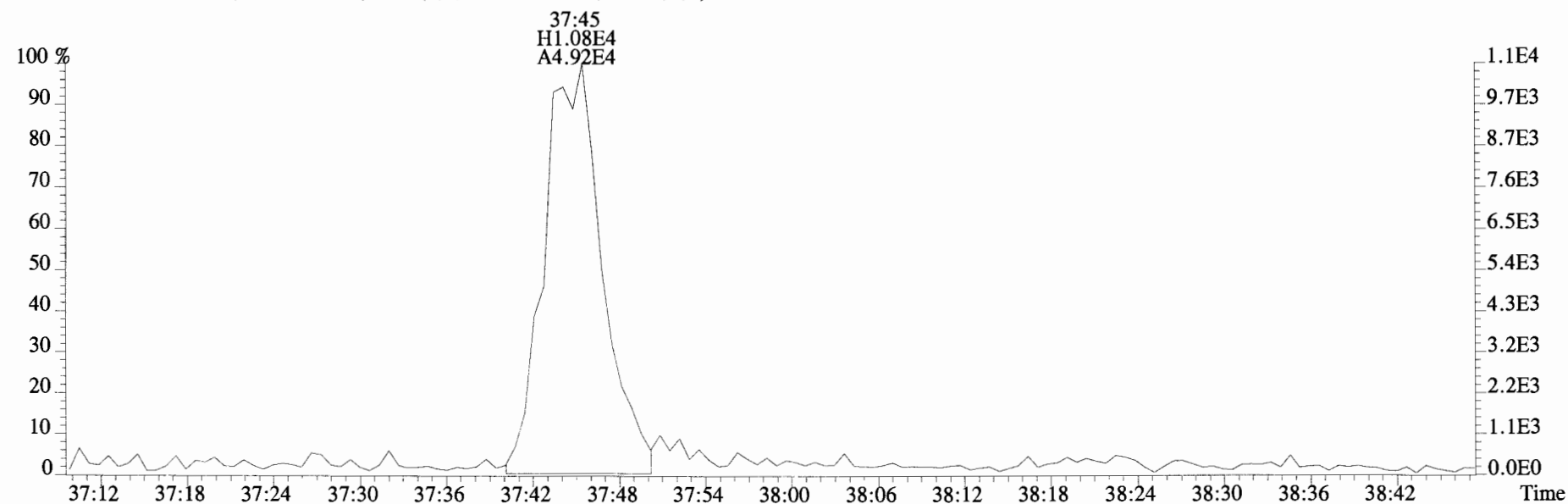
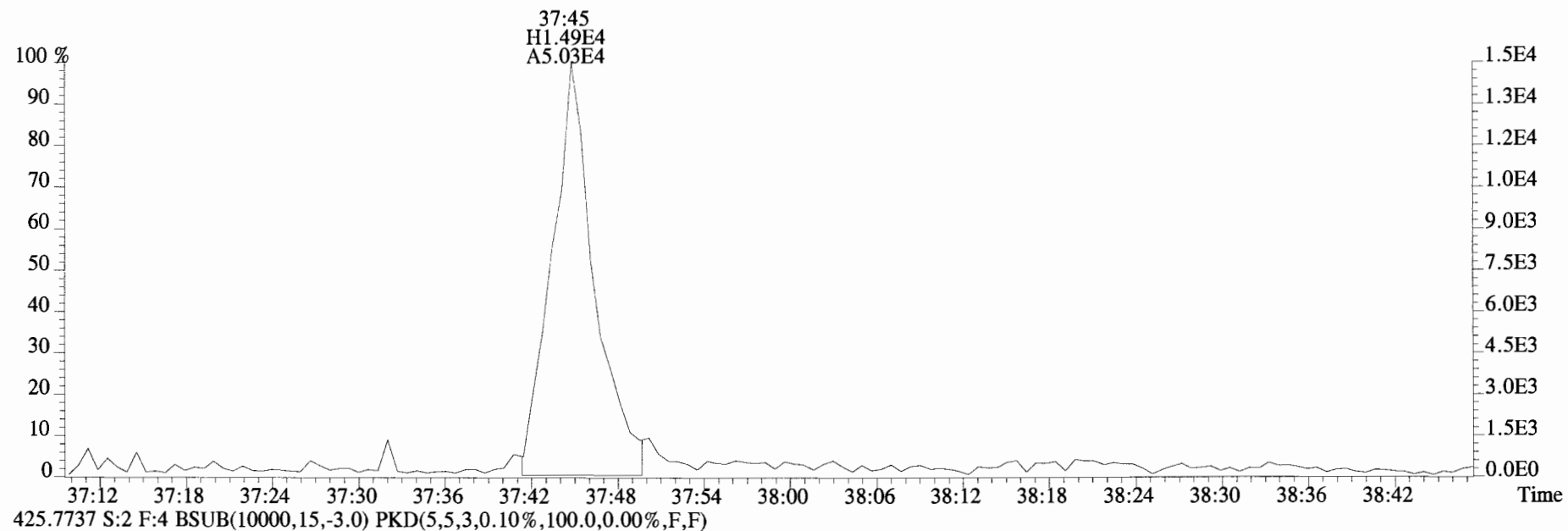
437.8140 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



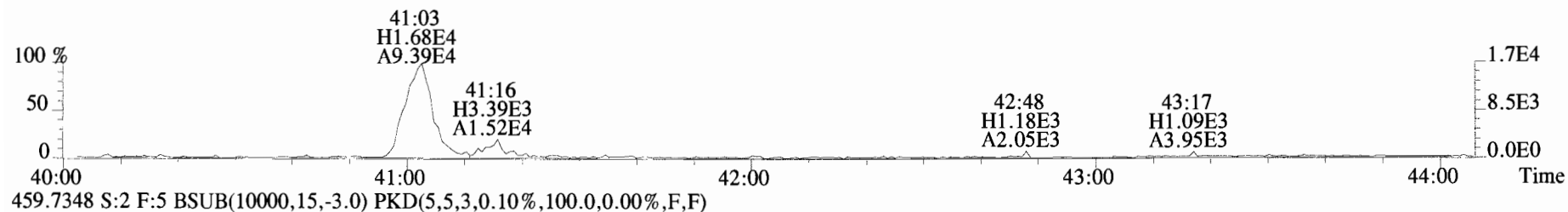
454.9728 S:2 F:4



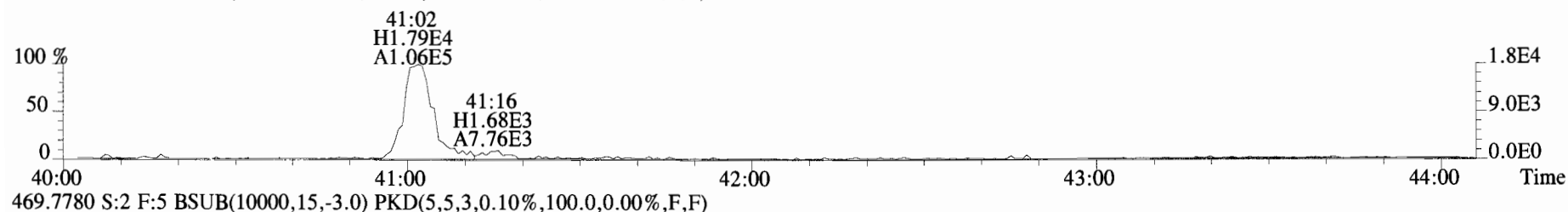
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



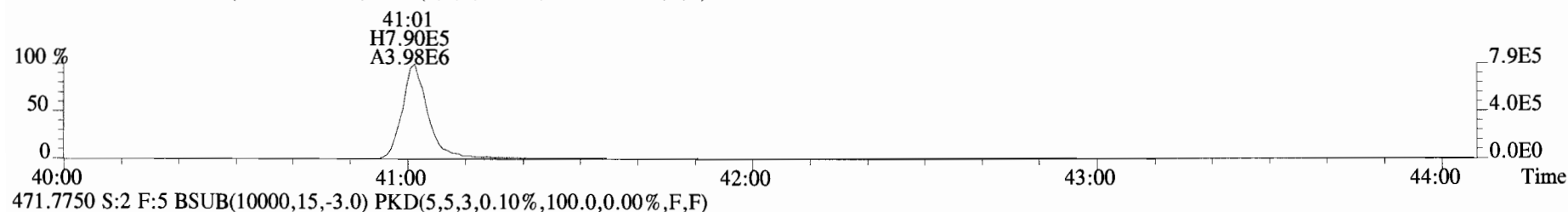
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



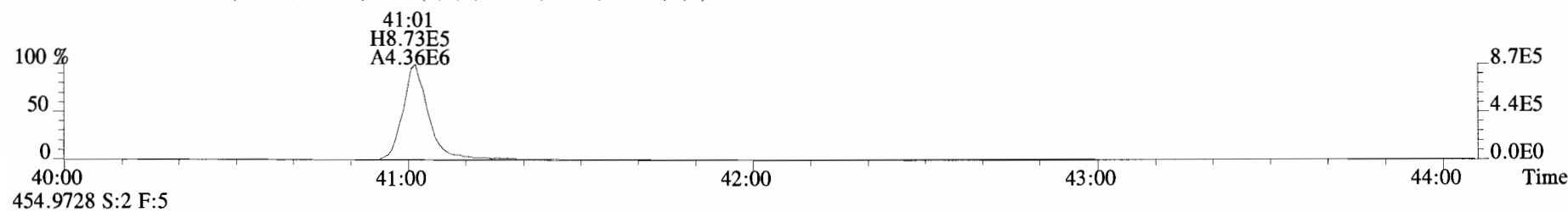
459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



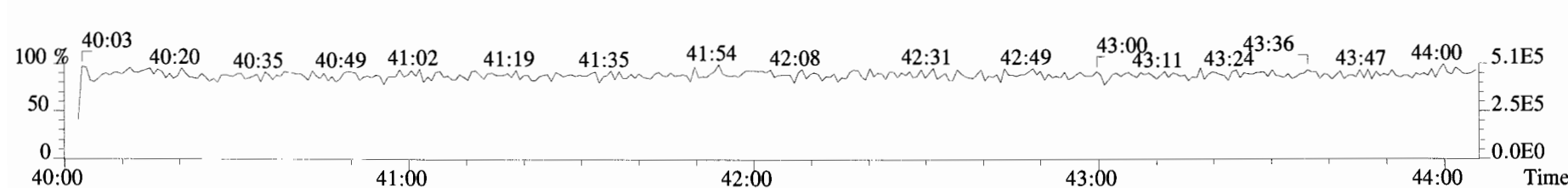
469.7780 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



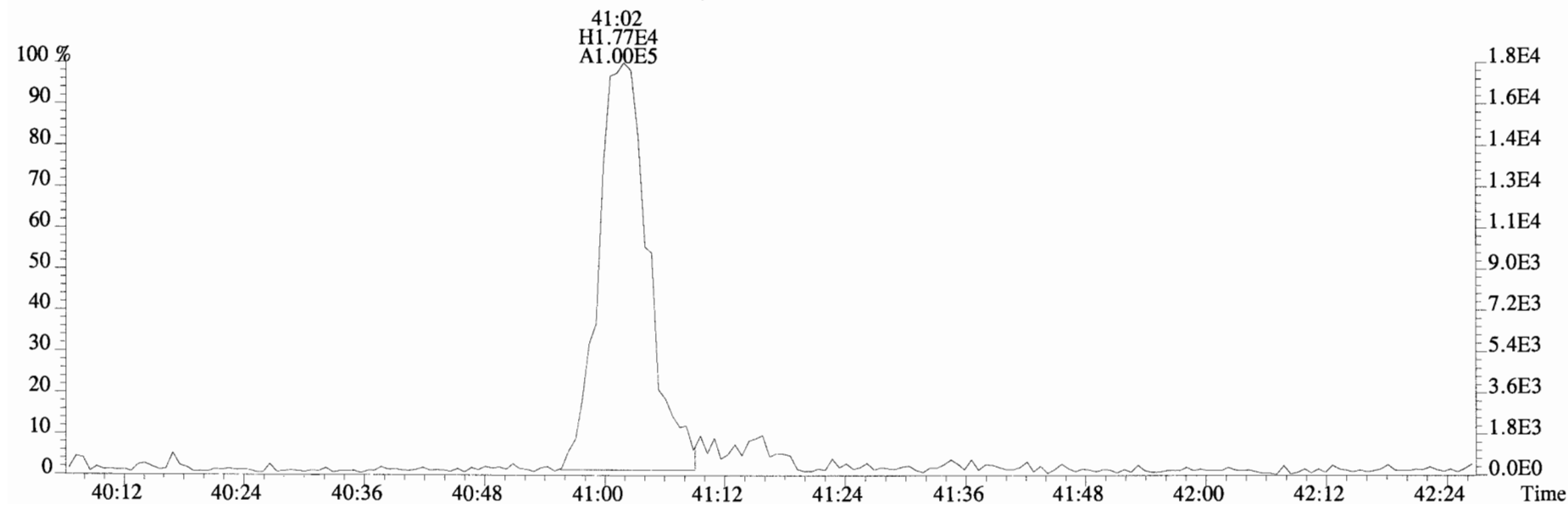
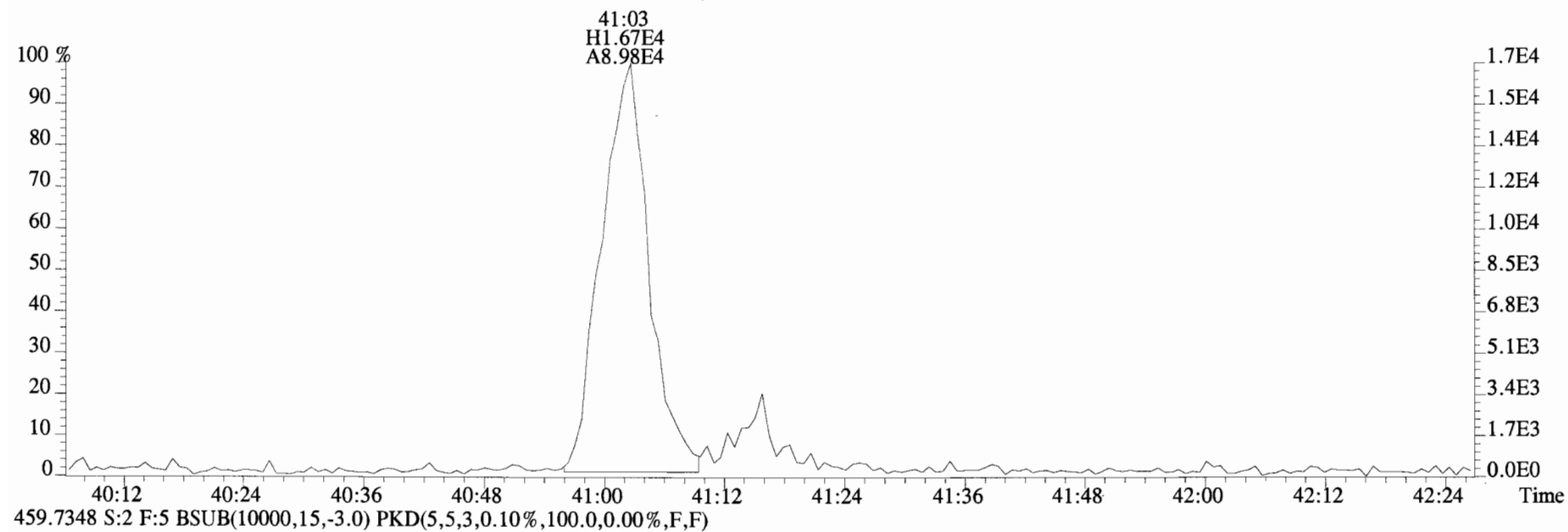
471.7750 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



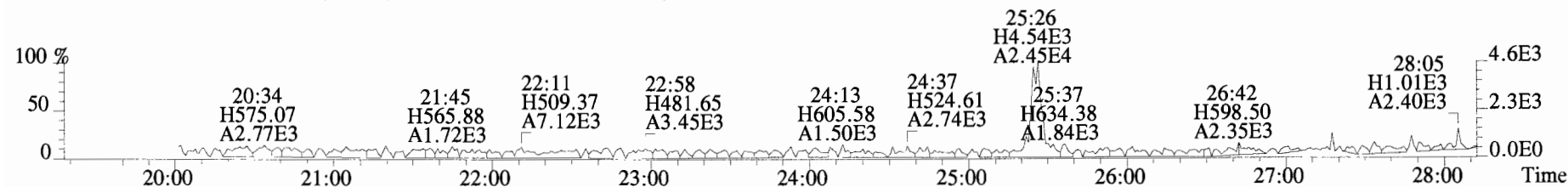
454.9728 S:2 F:5



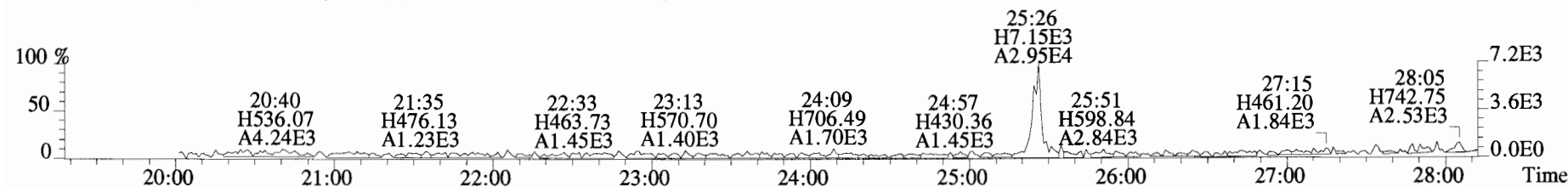
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



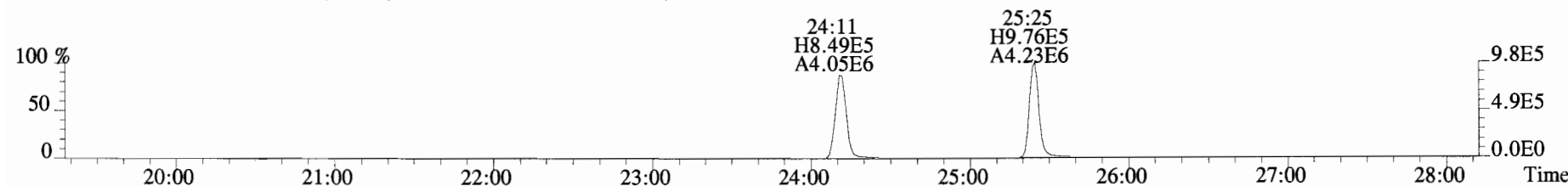
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



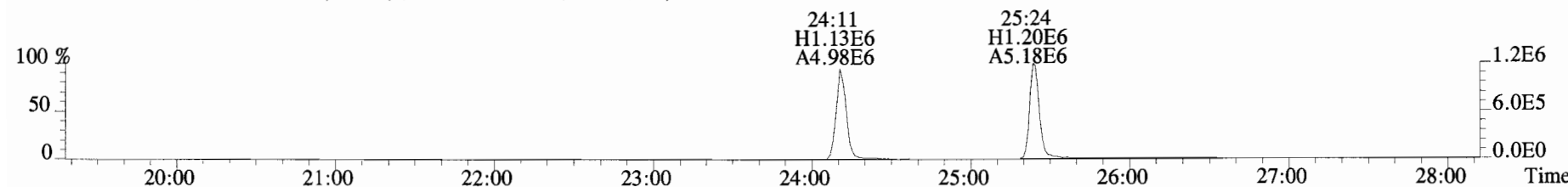
305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



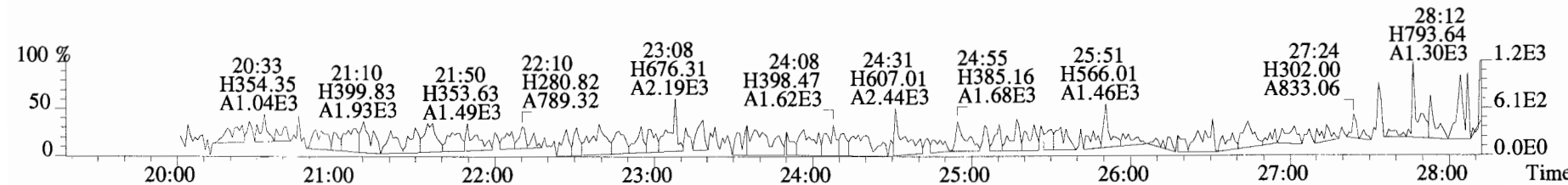
315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



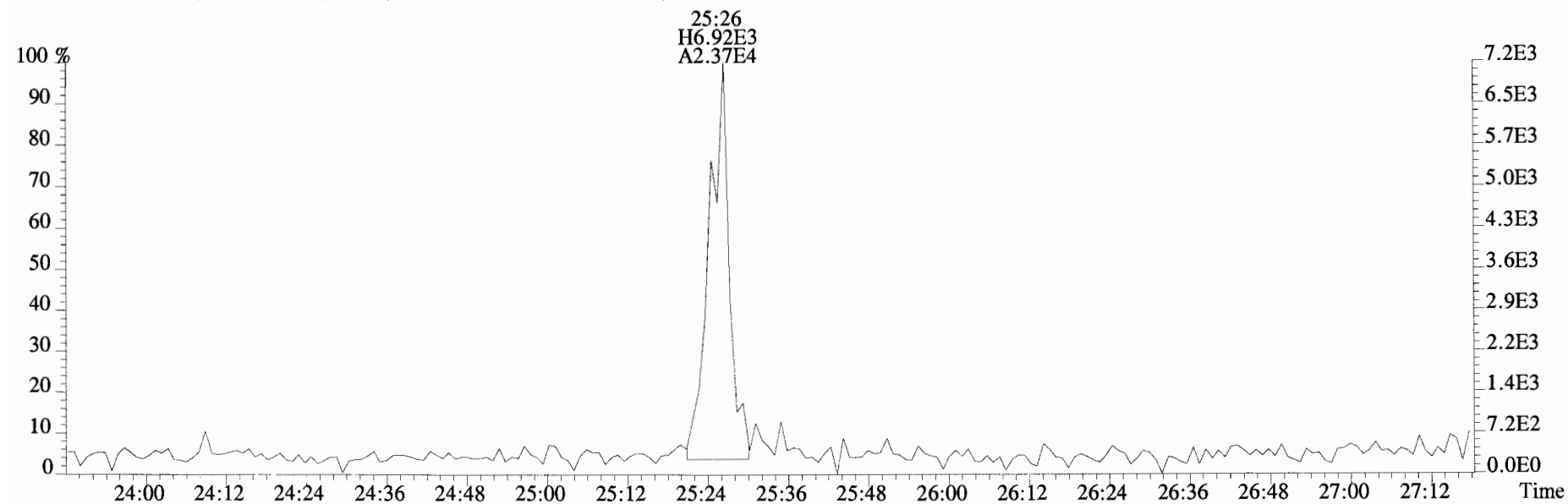
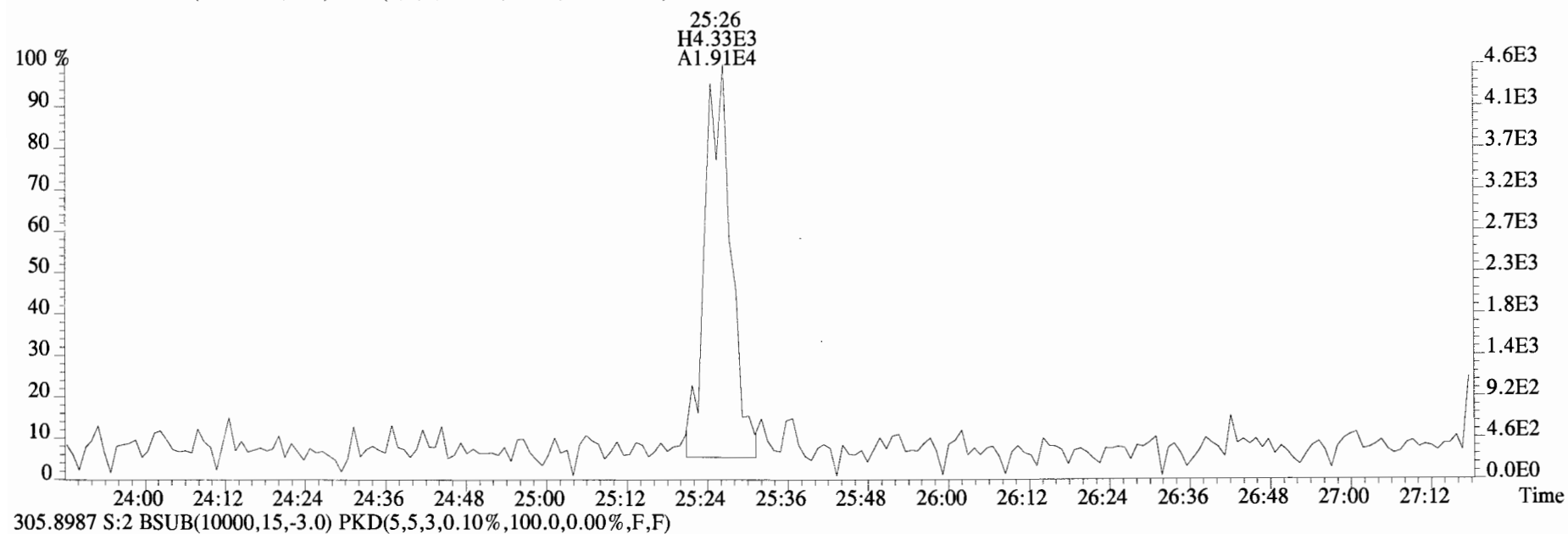
317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



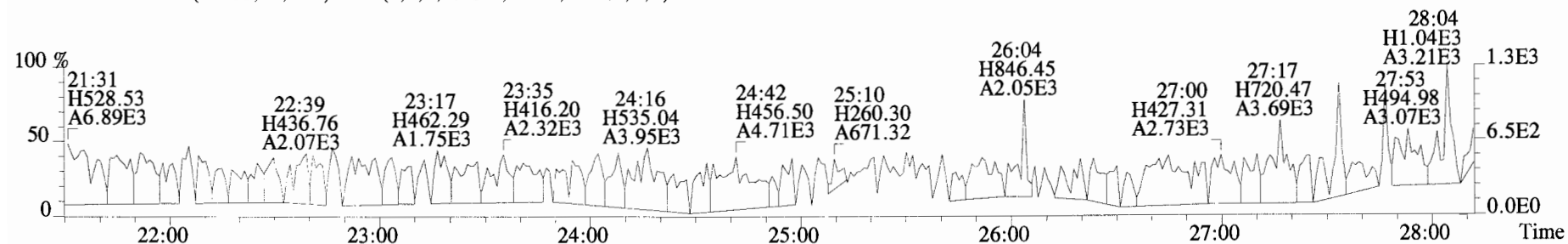
375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



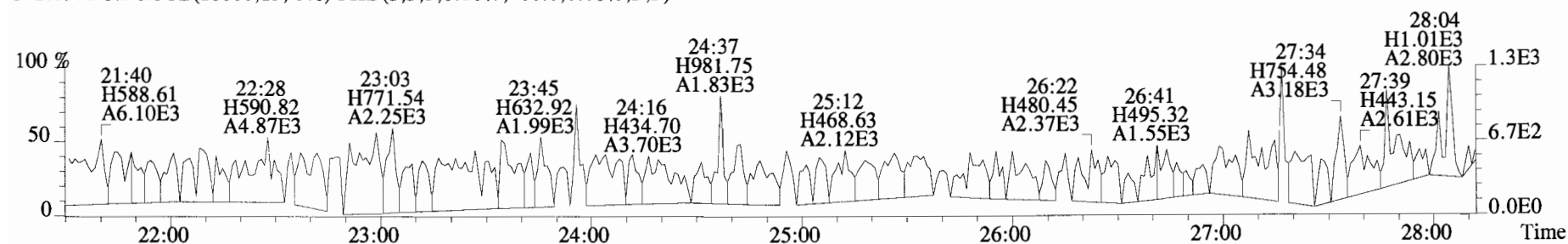
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



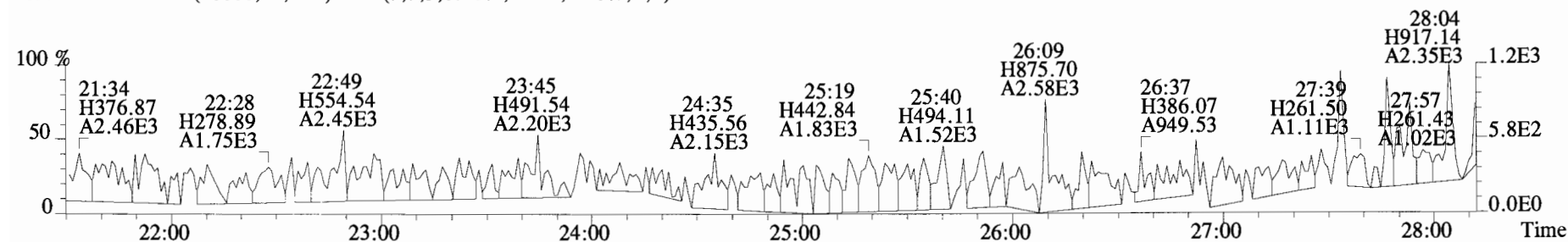
File:190510D2 #1-530 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



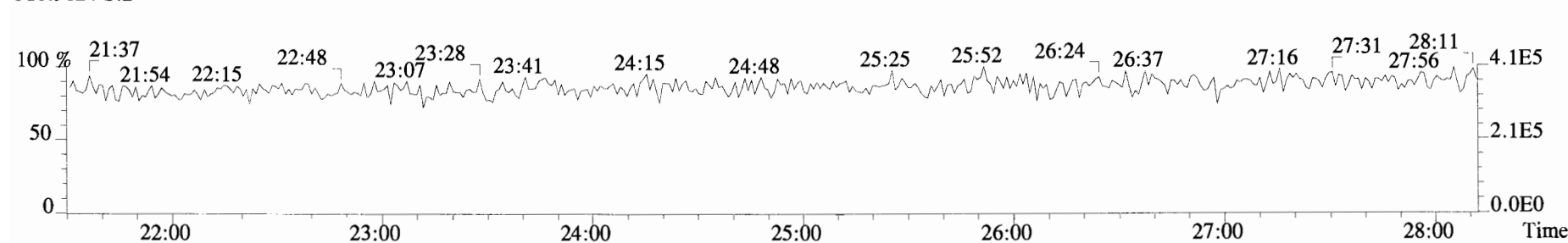
341.8568 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



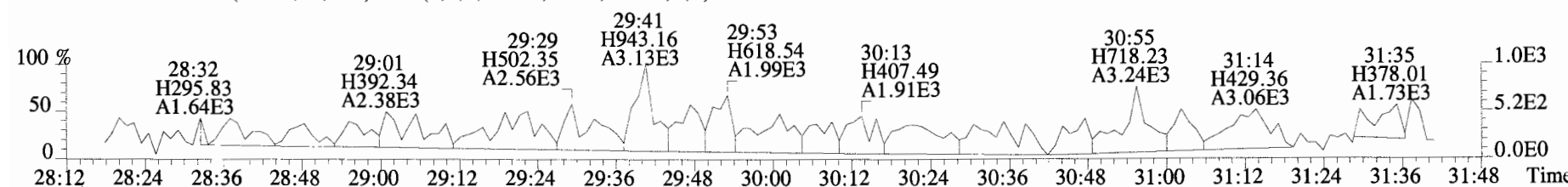
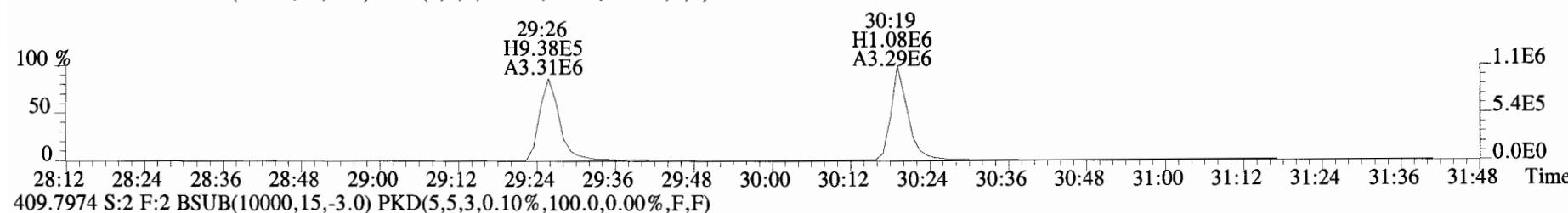
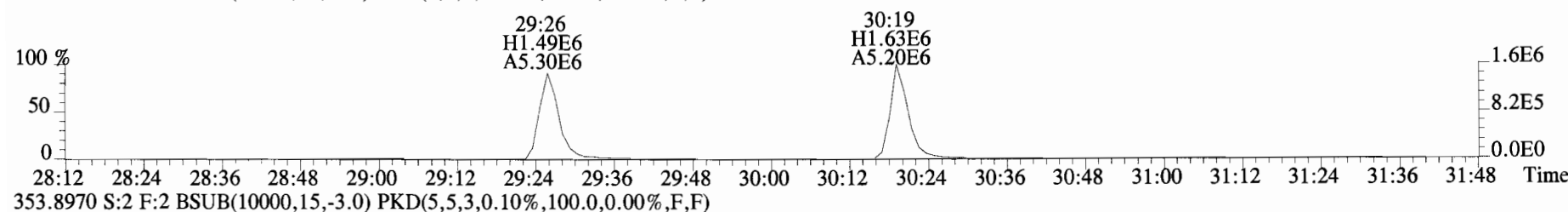
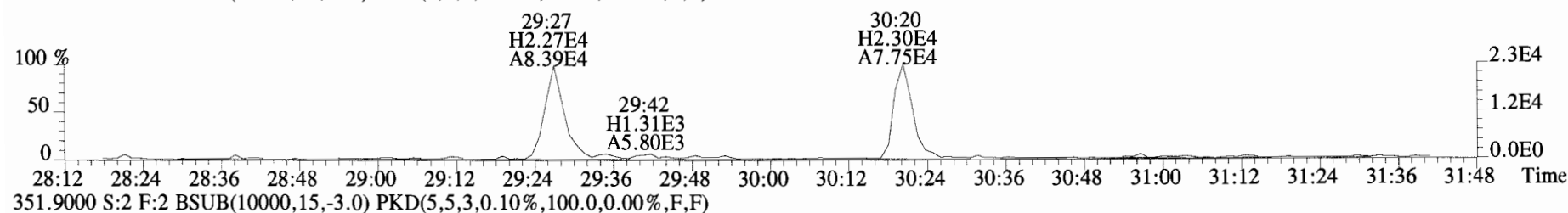
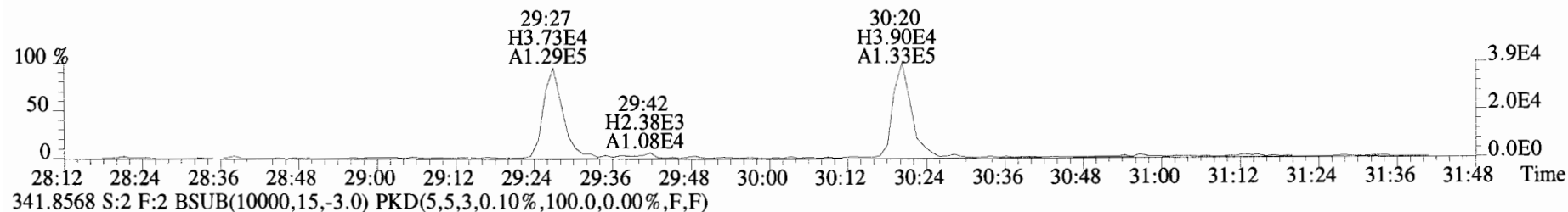
409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



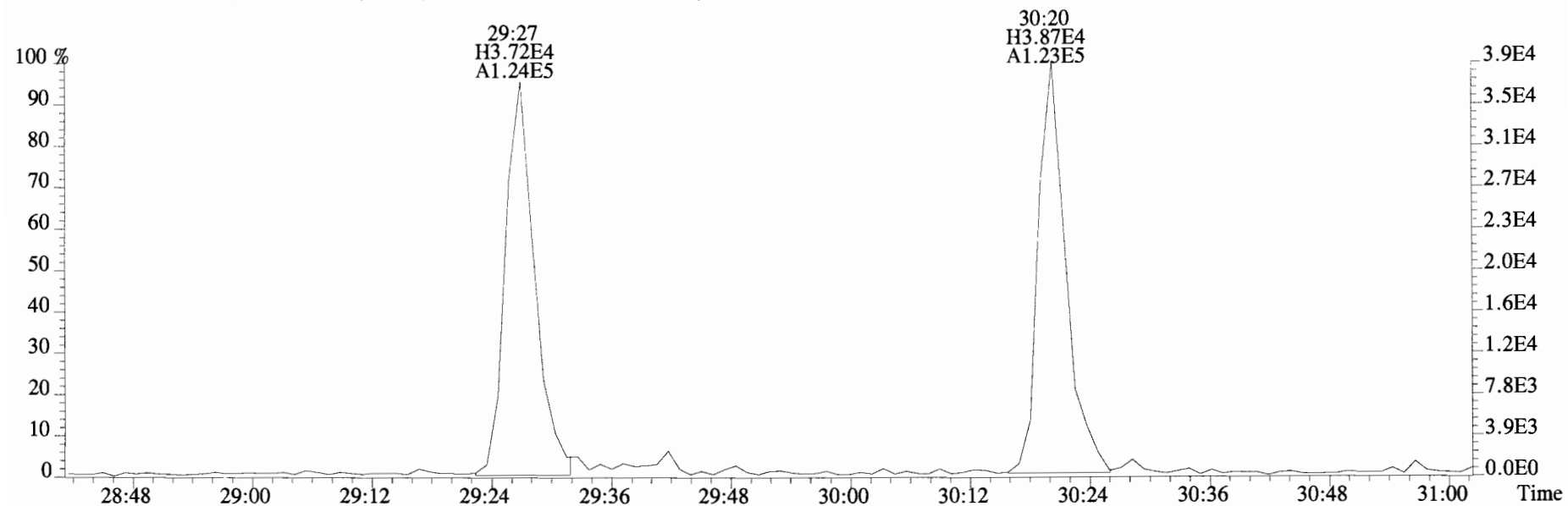
316.9824 S:2



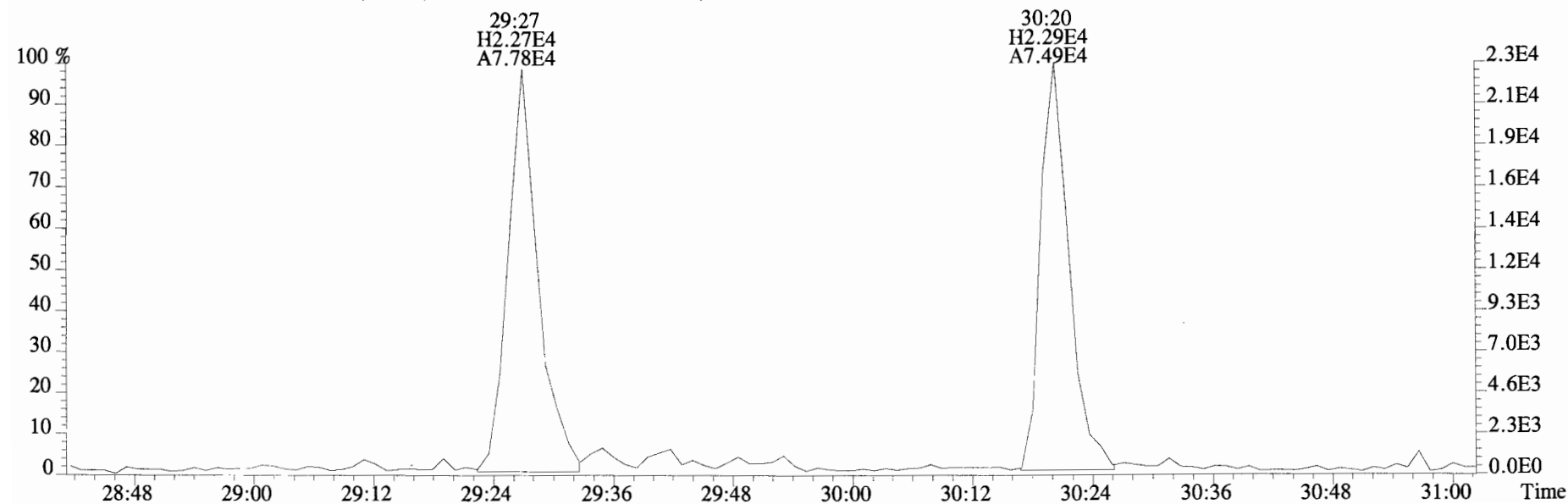
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



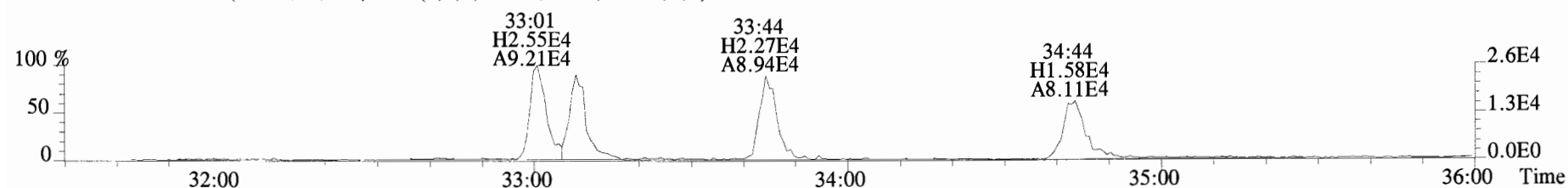
File:190510D2 #1-180 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



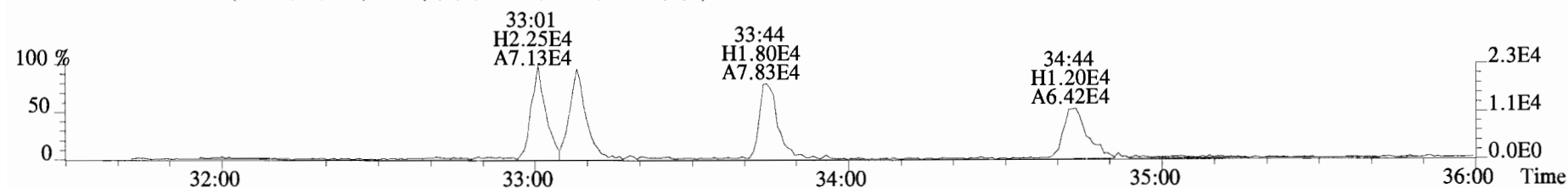
341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



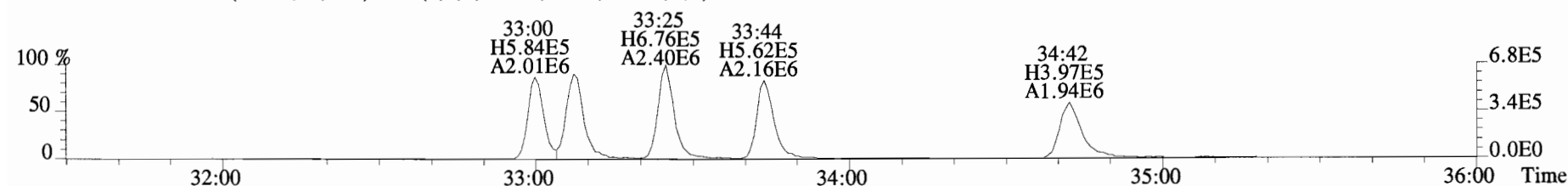
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



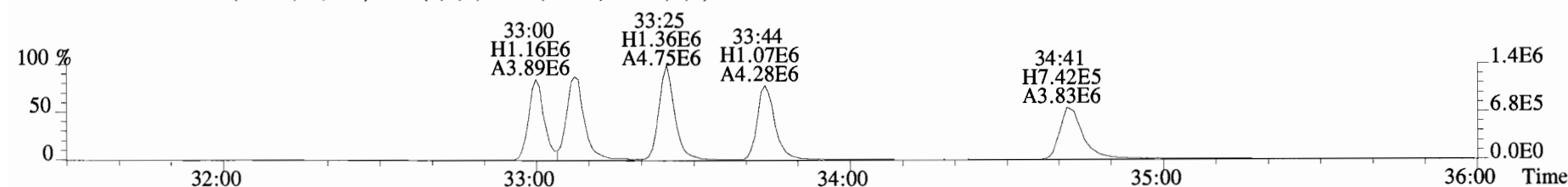
375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



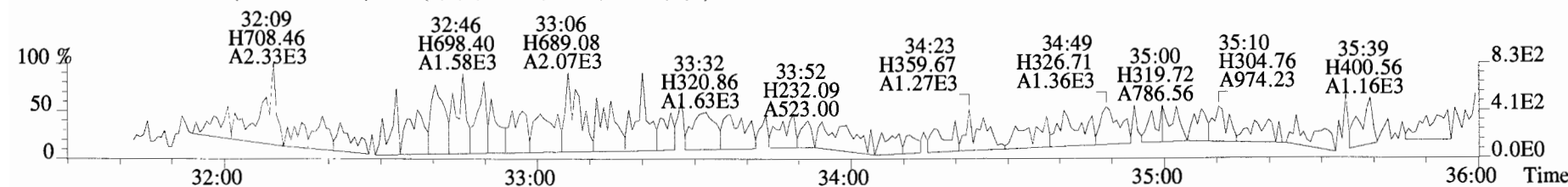
383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



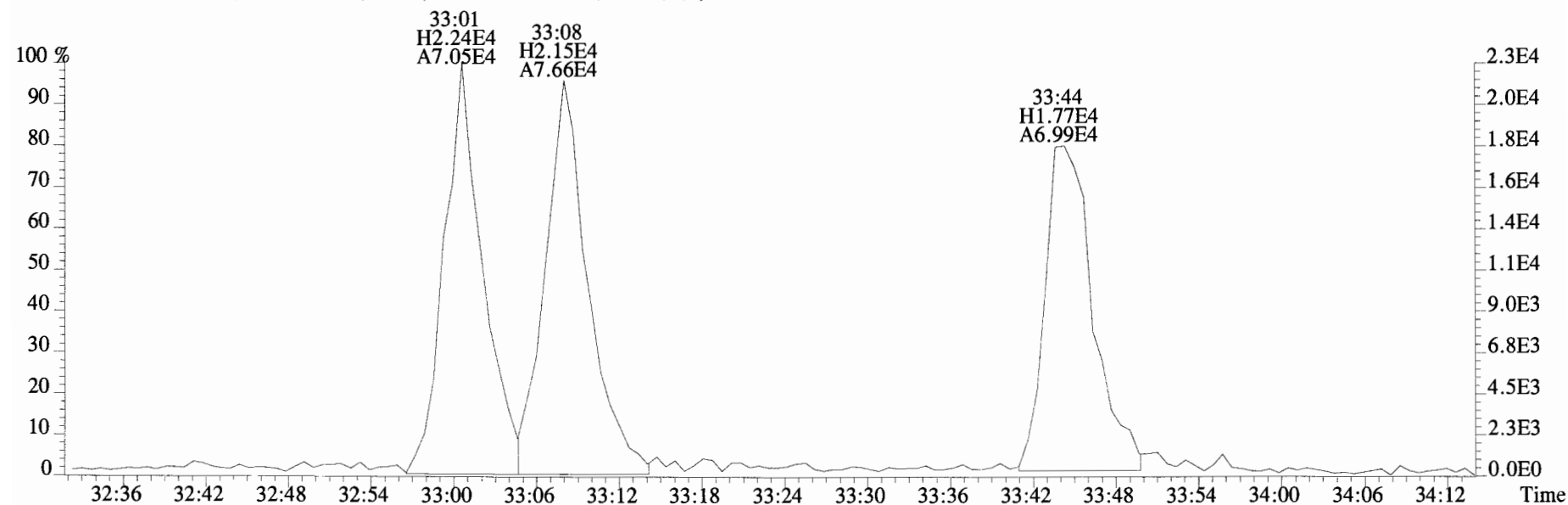
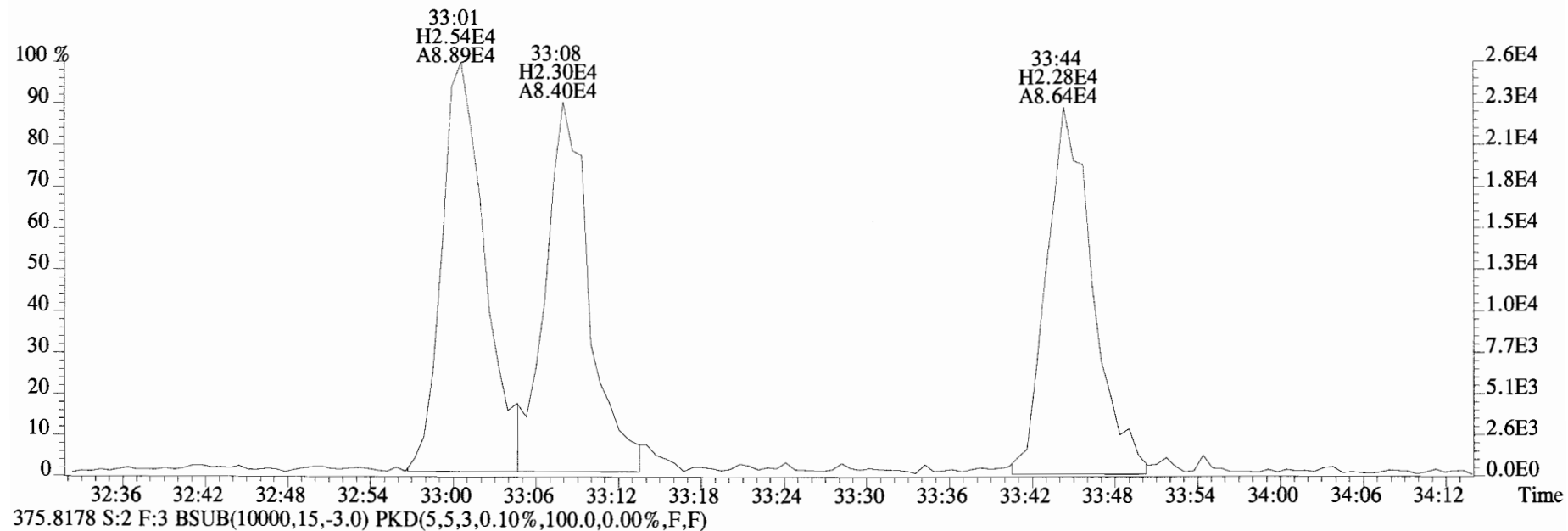
385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



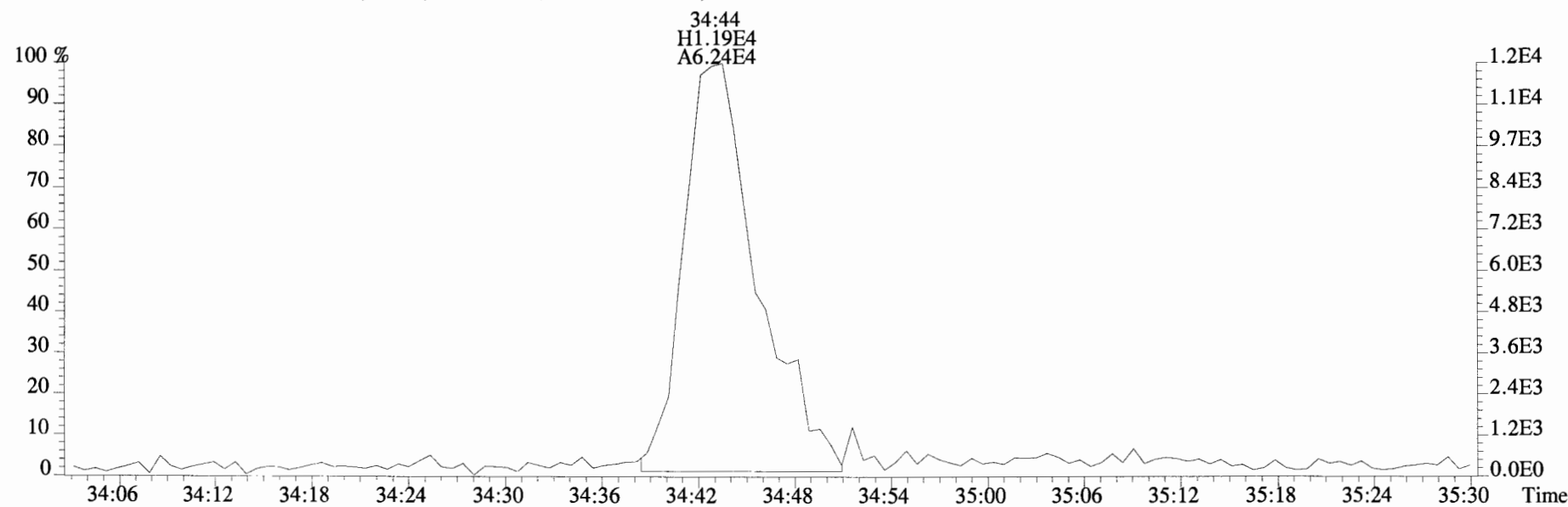
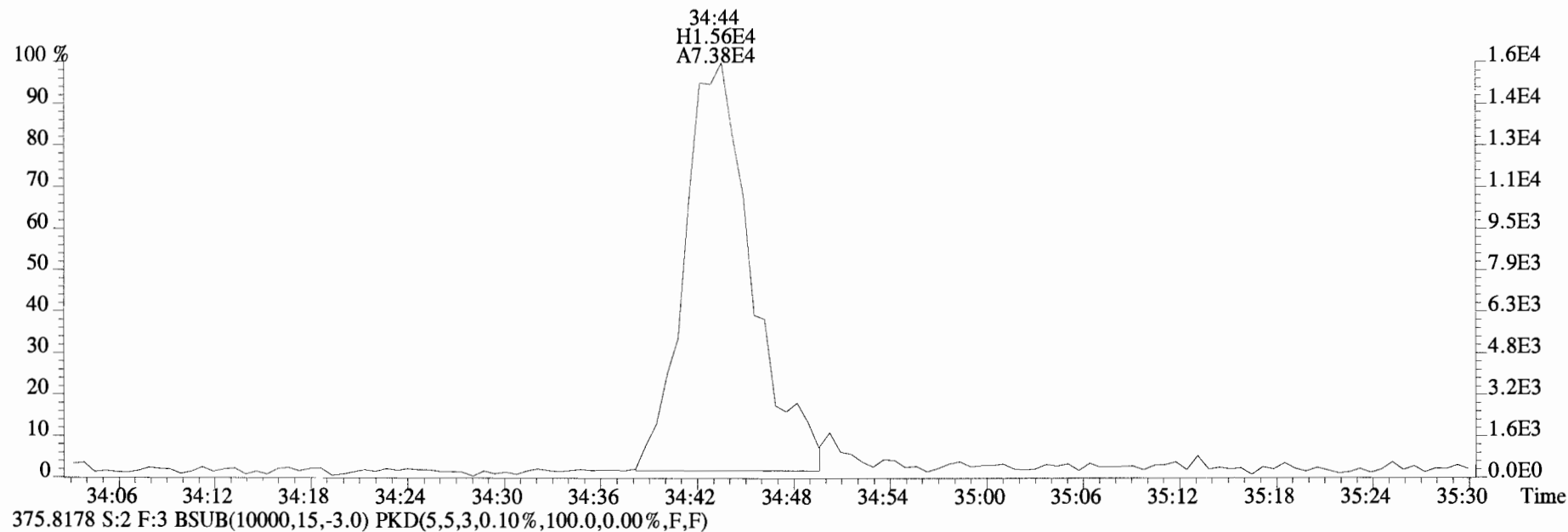
445.7555 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



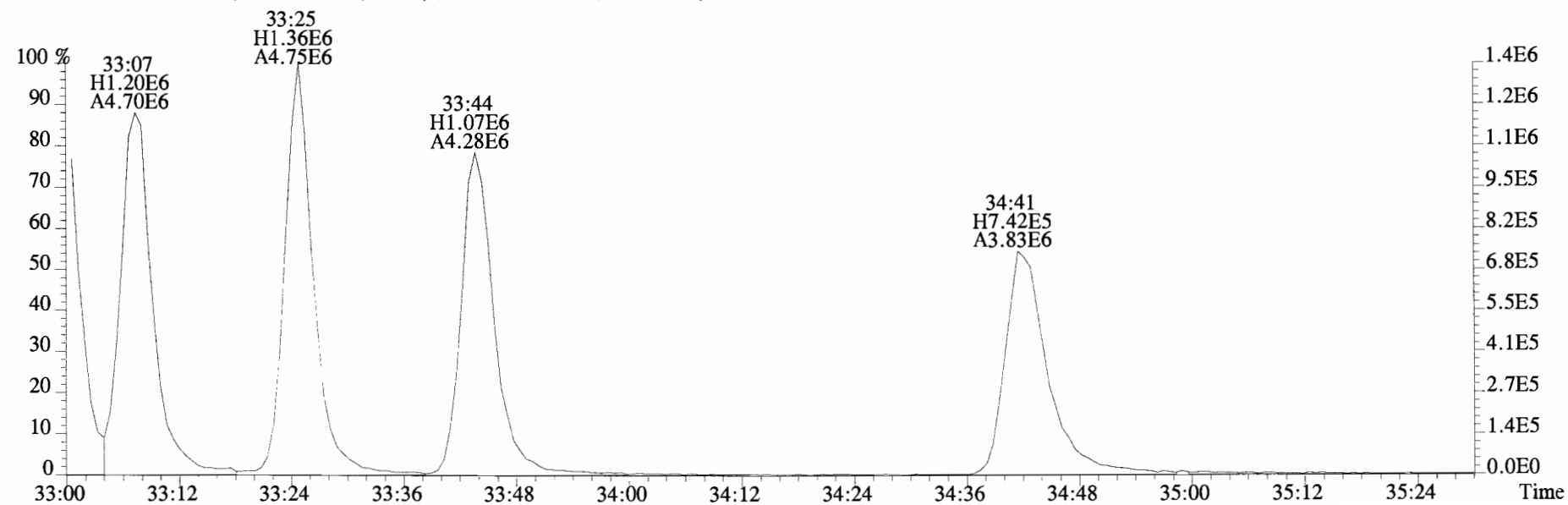
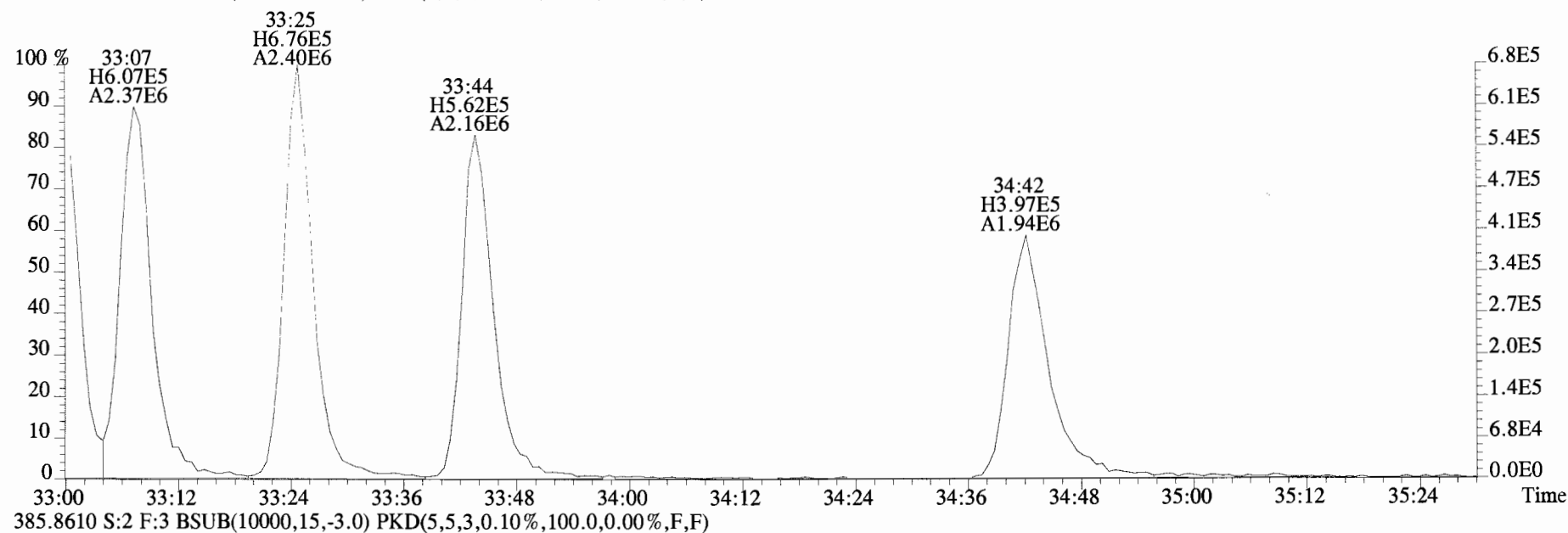
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



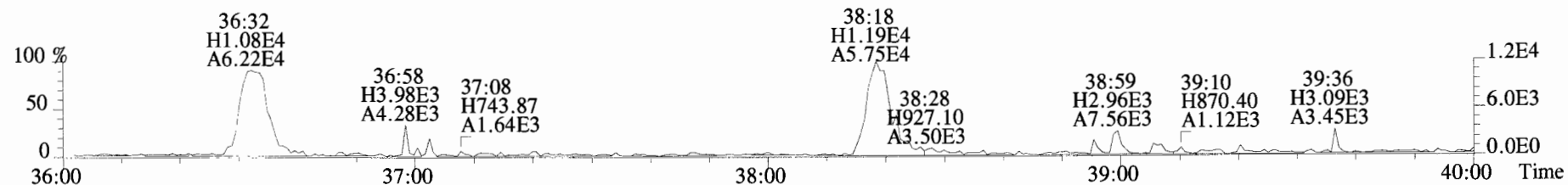
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



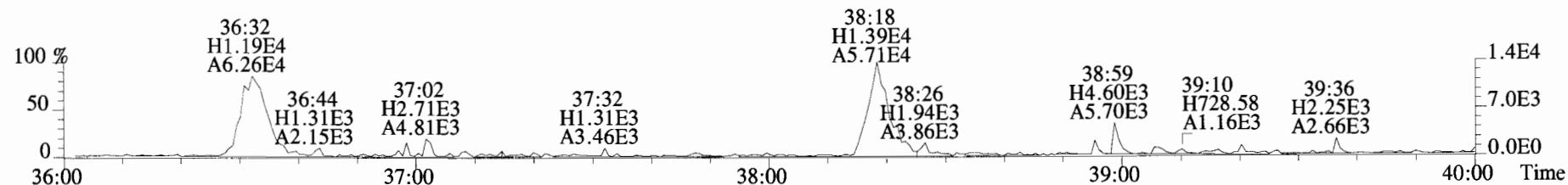
File:190510D2 #1-384 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



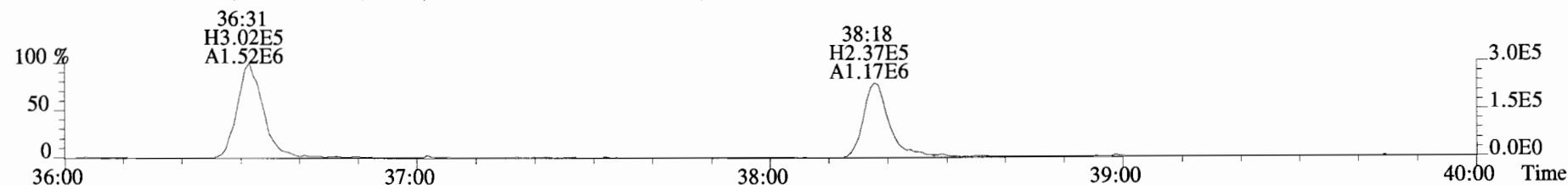
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical_Laboratory_VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



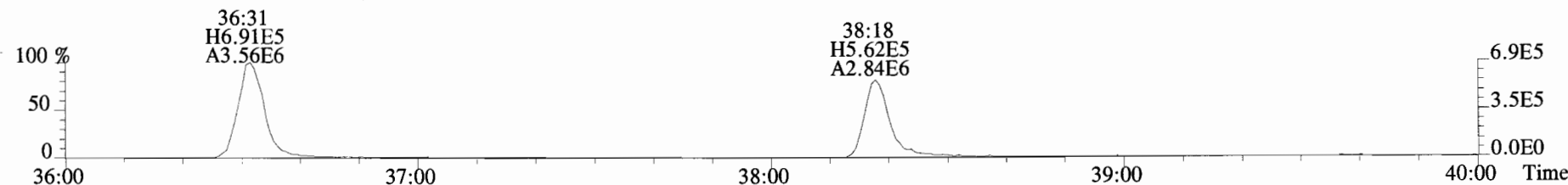
409.7788 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



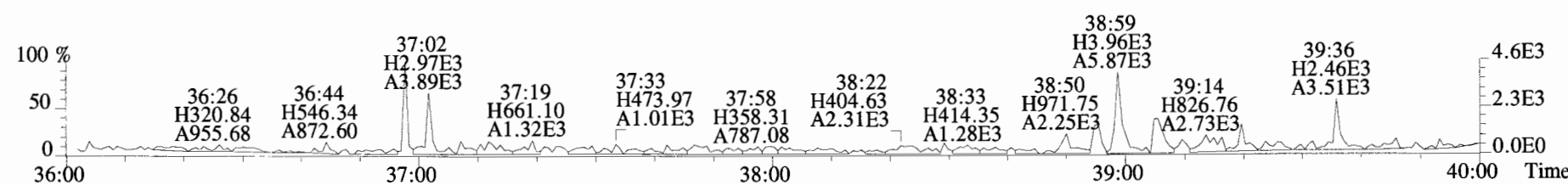
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



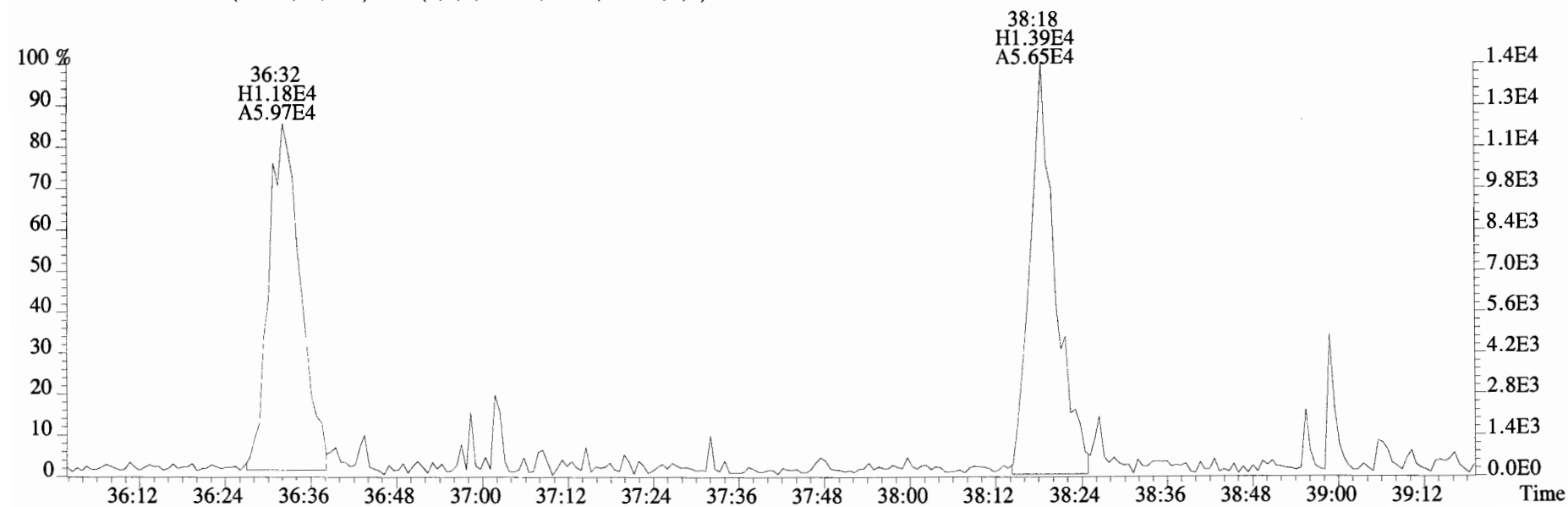
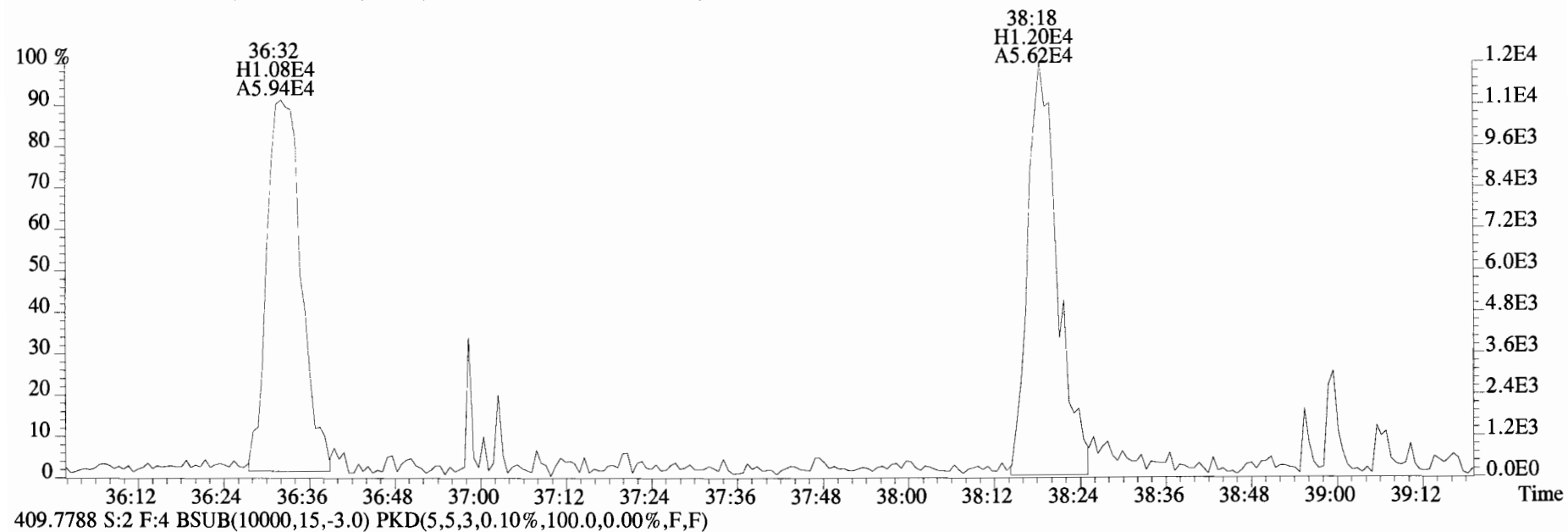
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



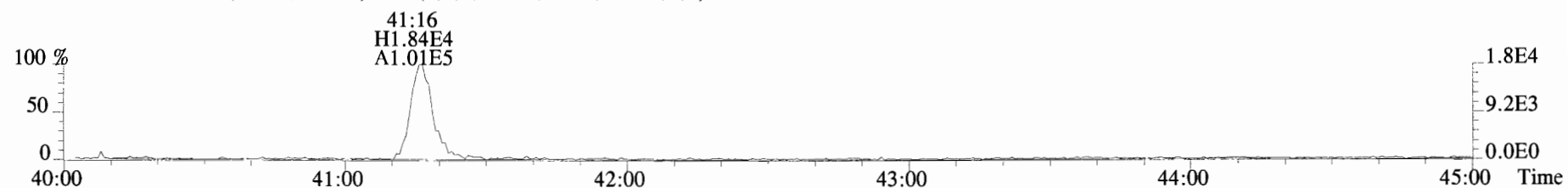
479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



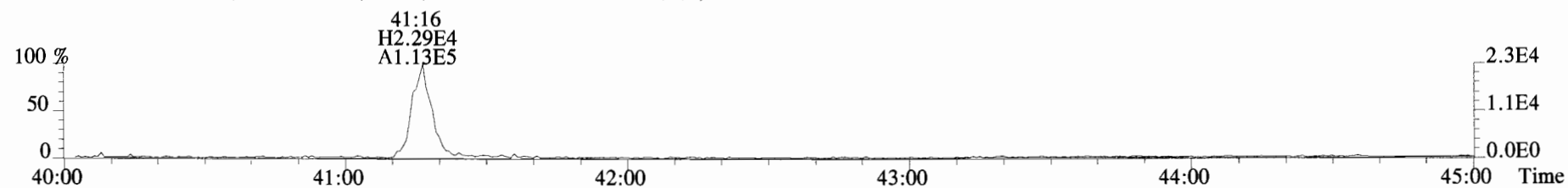
File:190510D2 #1-356 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



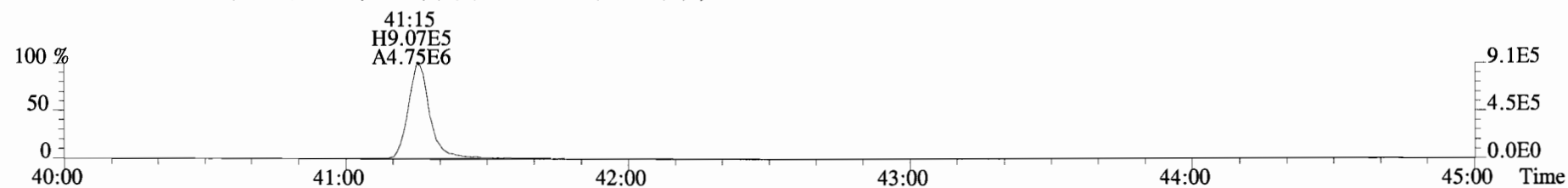
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
 441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



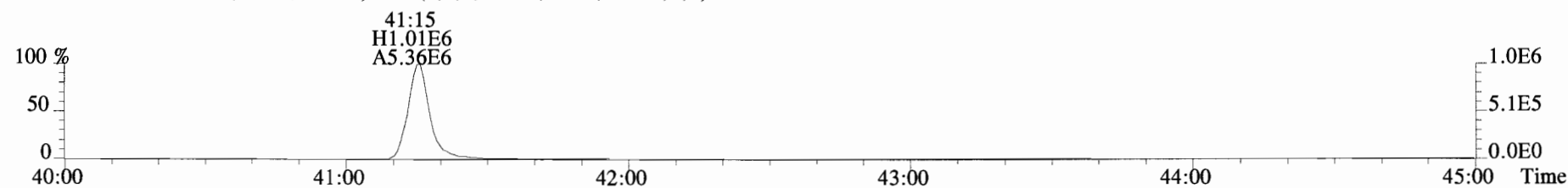
443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



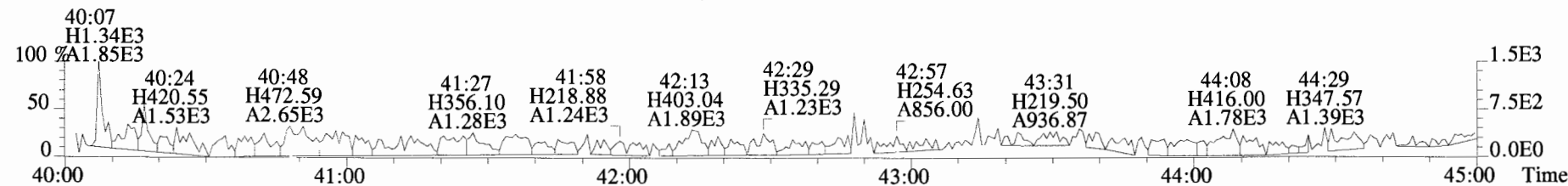
453.7831 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



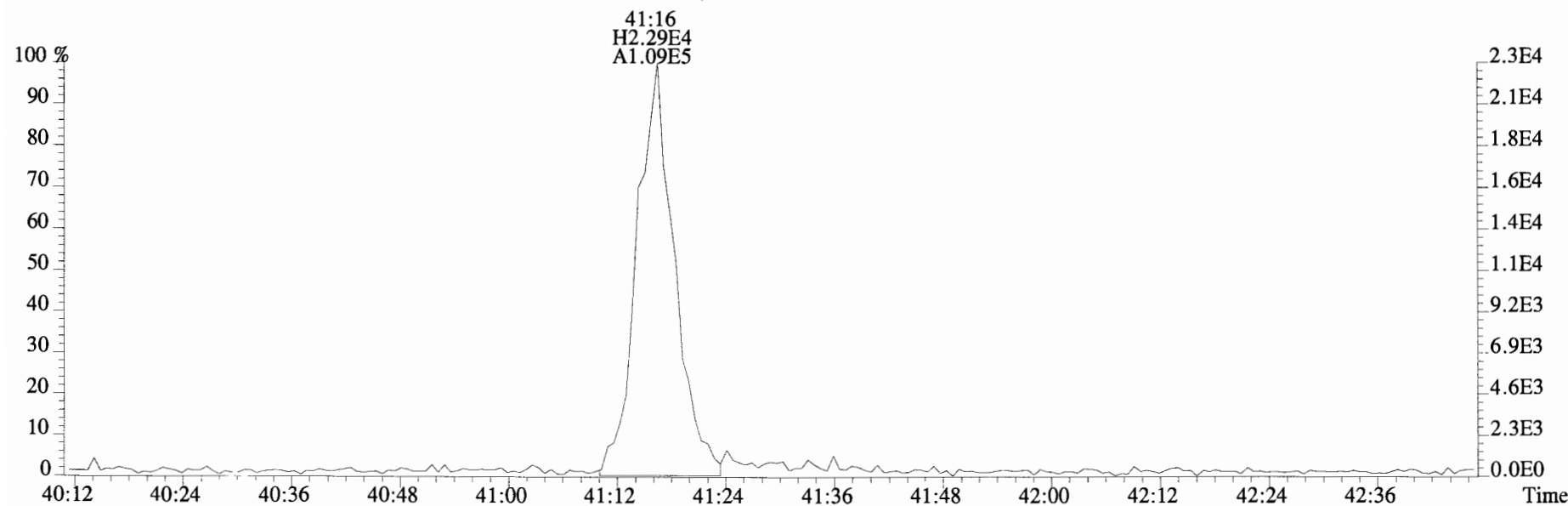
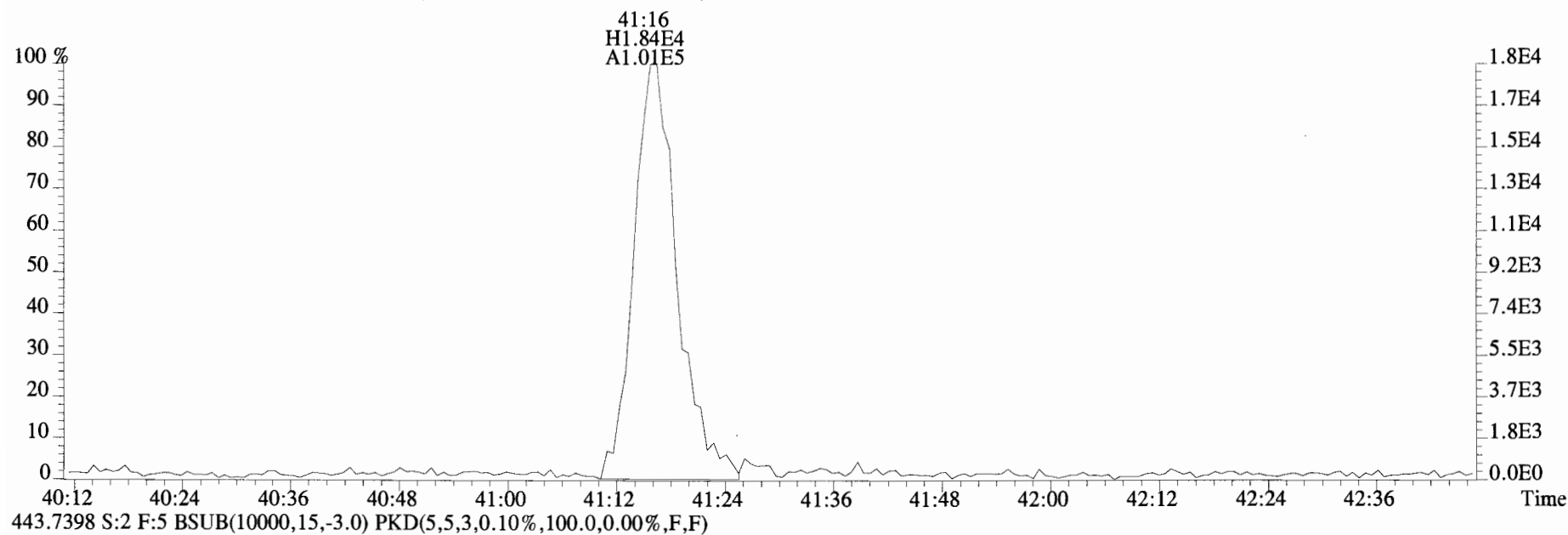
455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



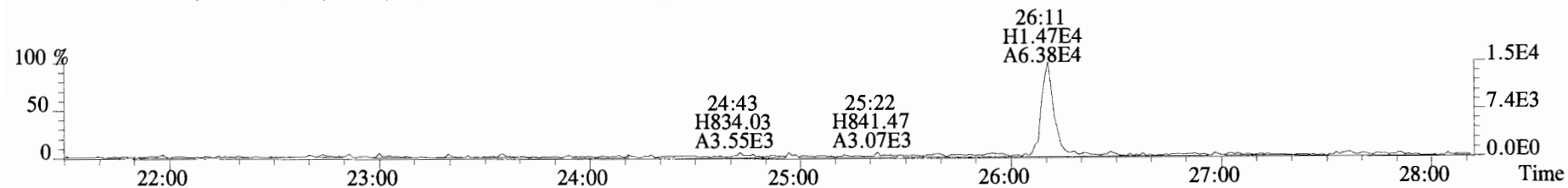
513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



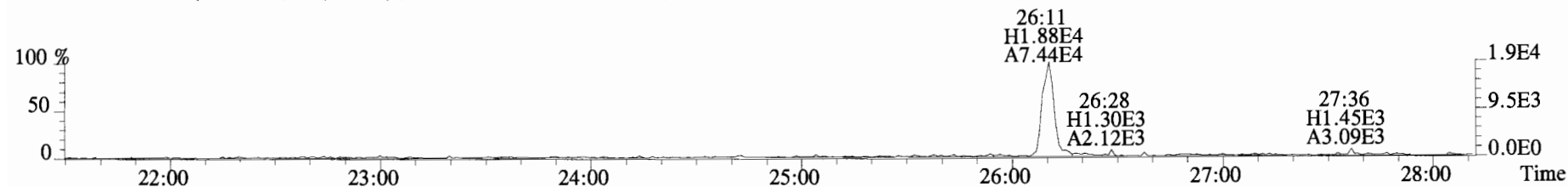
File:190510D2 #1-431 Acq:10-MAY-2019 15:12:30 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-2 1613 CS1 19C2202 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



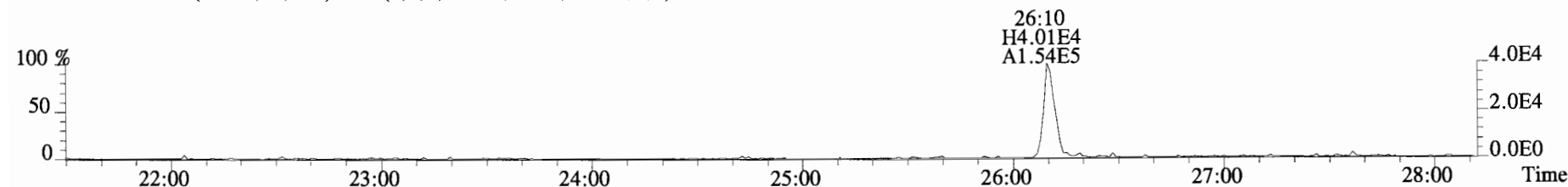
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



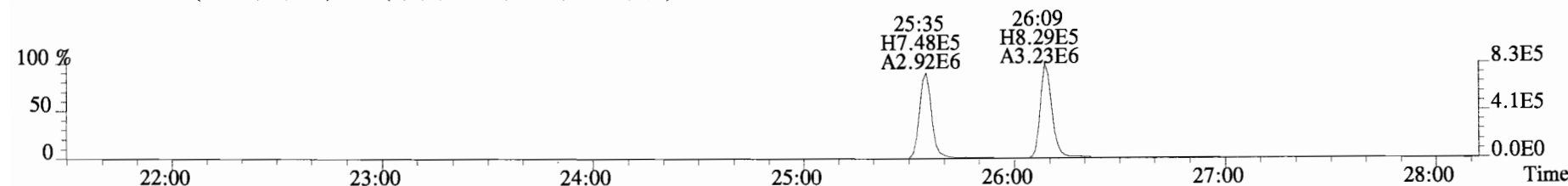
321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



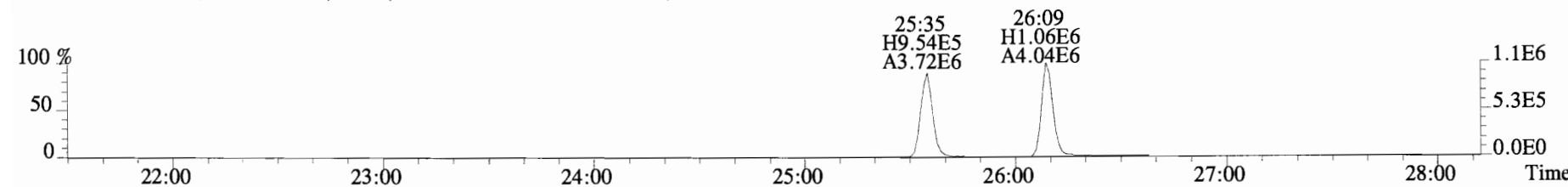
327.8847 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



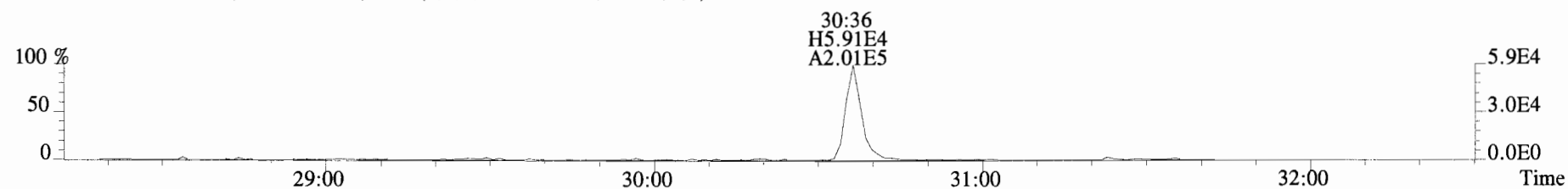
331.9368 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



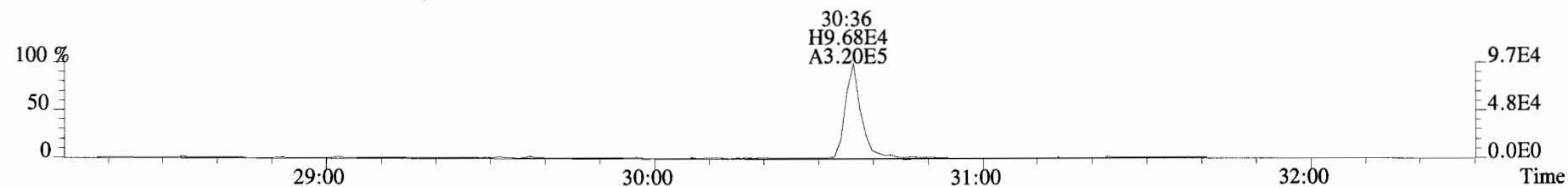
333.9339 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



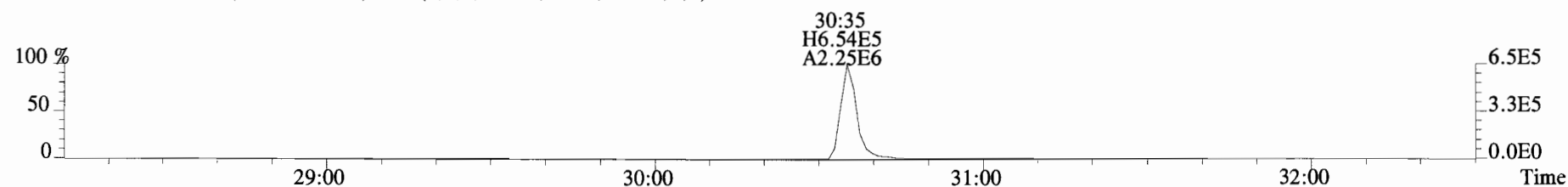
File:190510D2 #1-180 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
353.8576 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



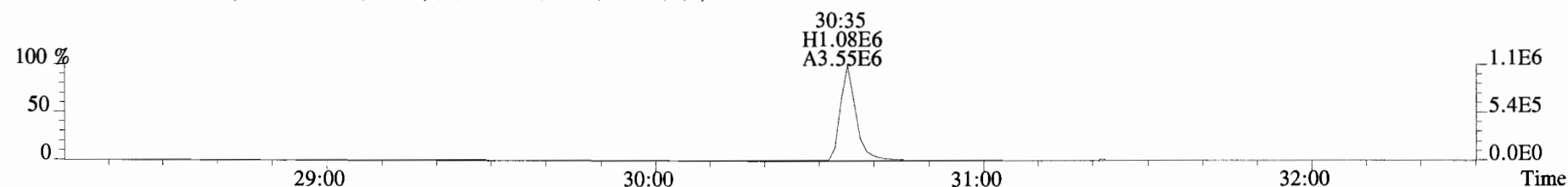
355.8546 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



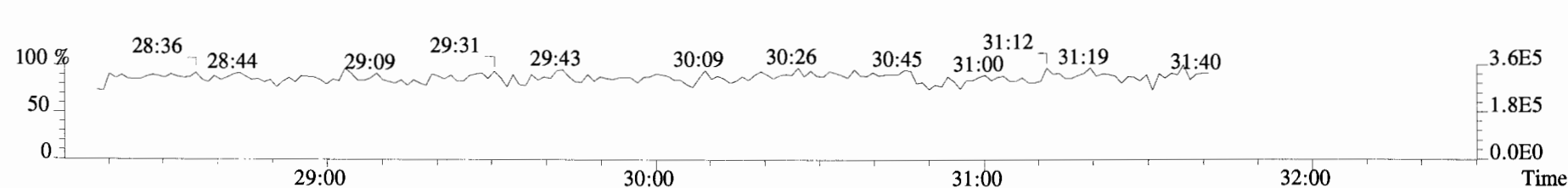
365.8978 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



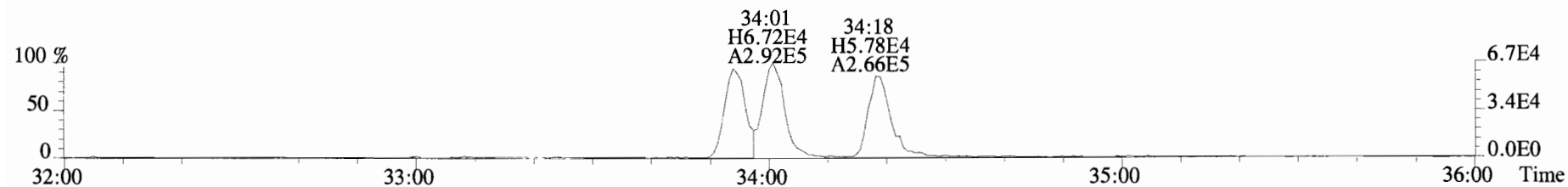
367.8949 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



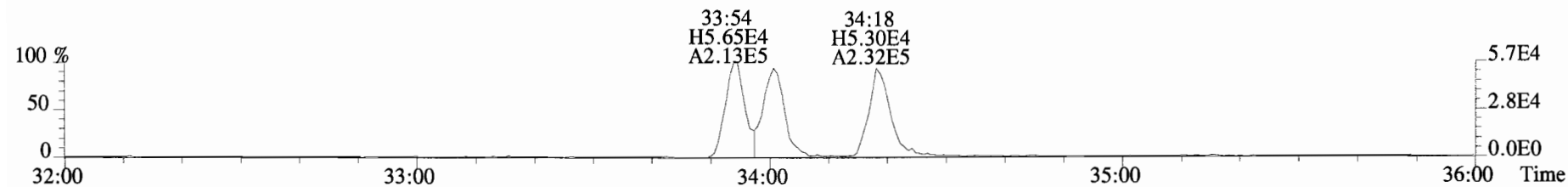
366.9792 S:3 F:2



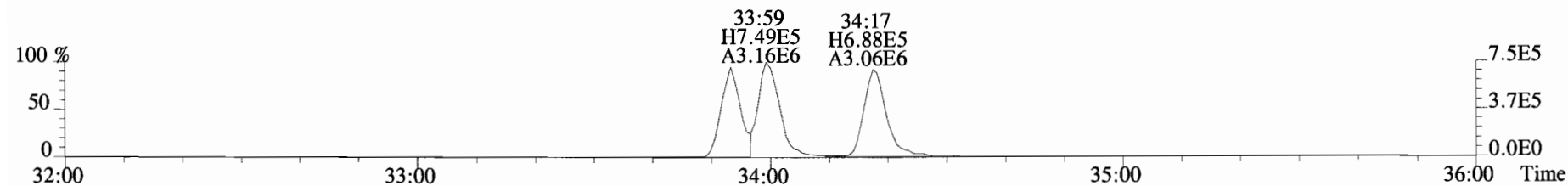
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



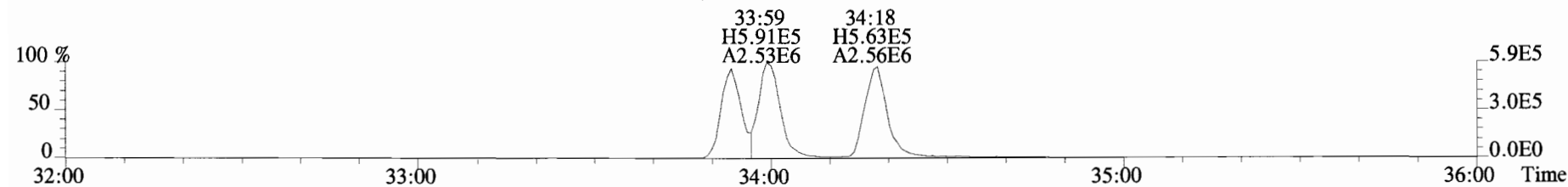
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



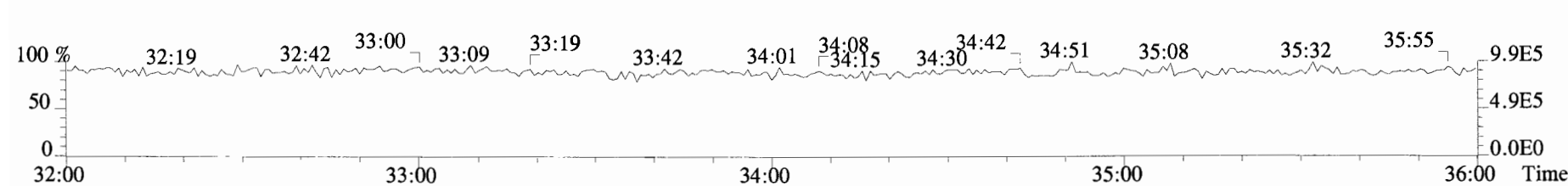
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



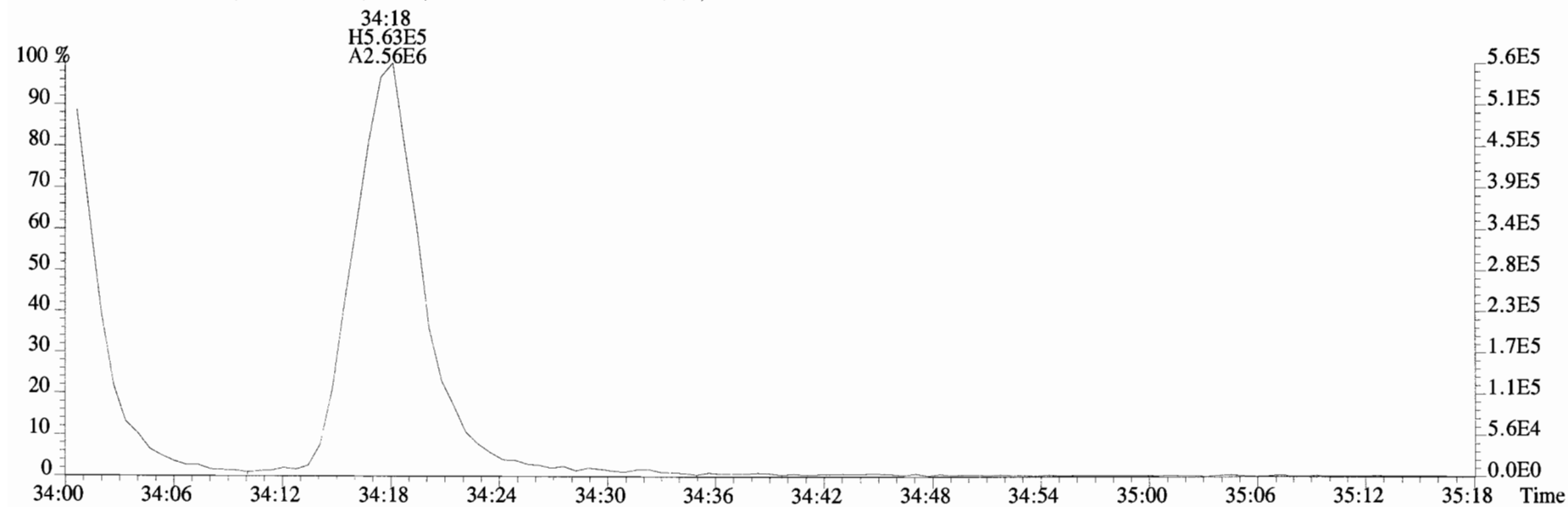
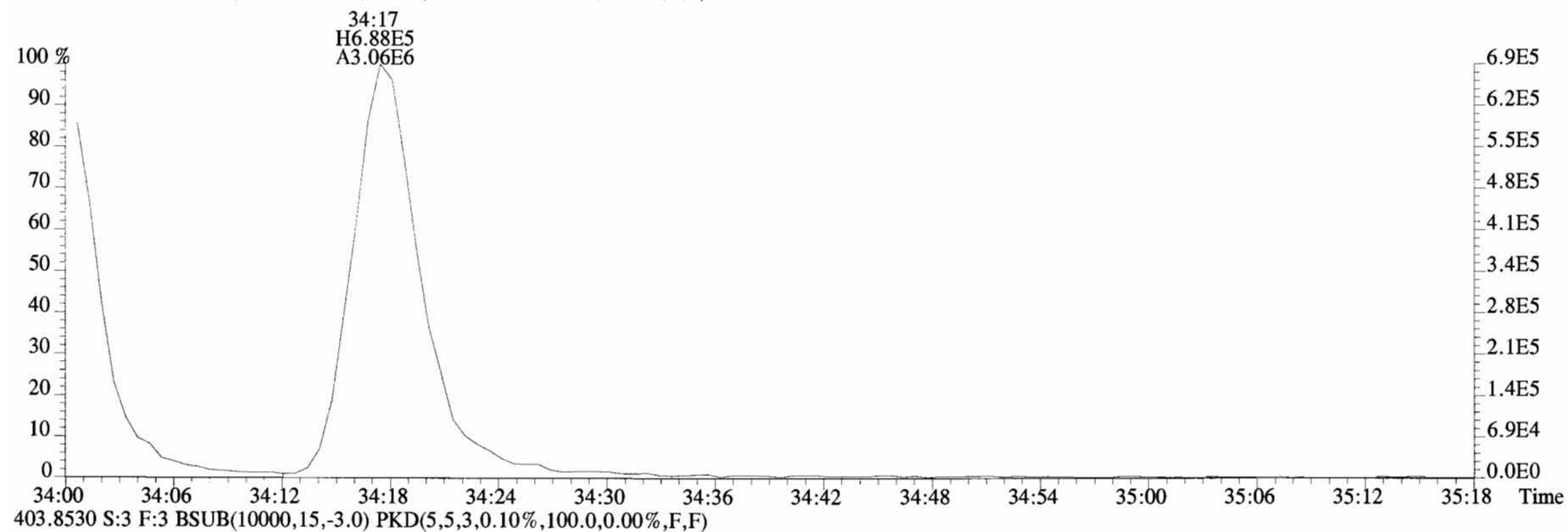
403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



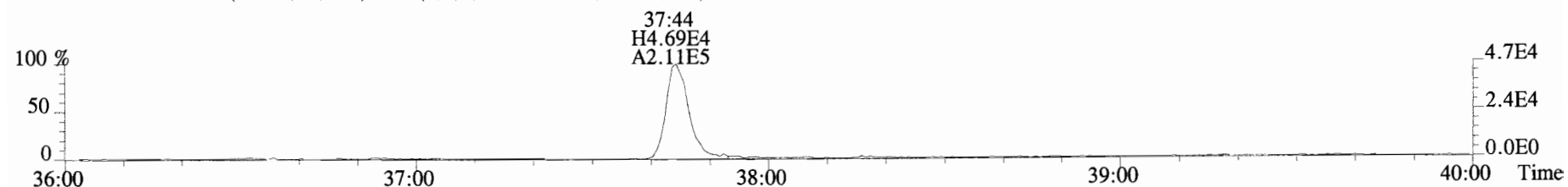
392.9760 S:3 F:3



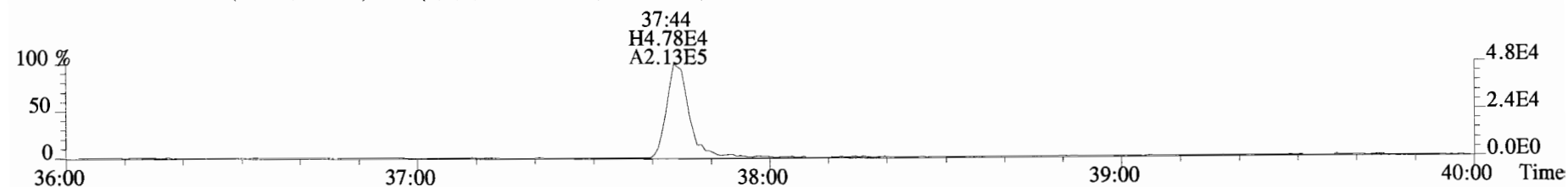
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



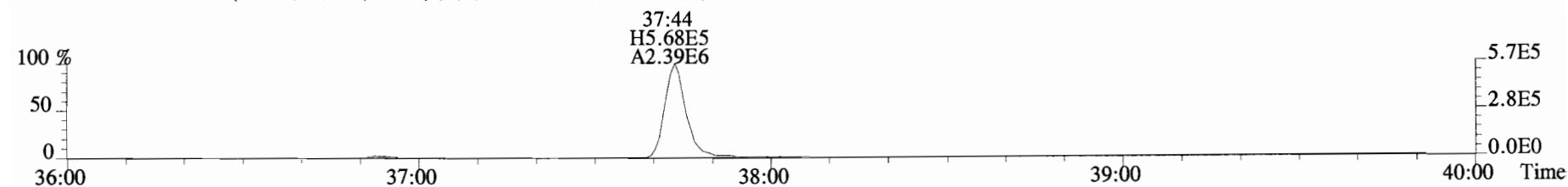
File:190510D2 #1-355 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



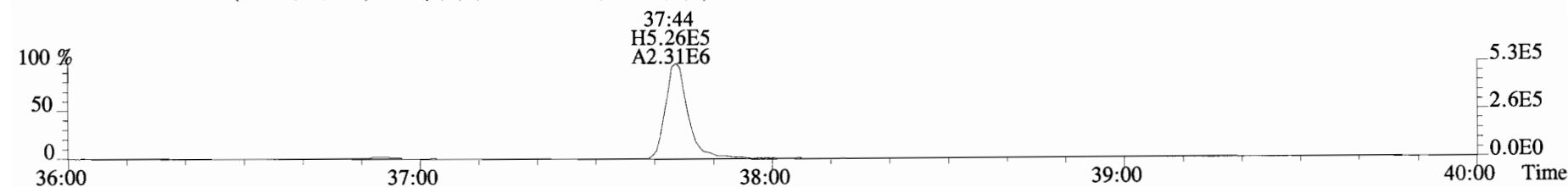
425.7737 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



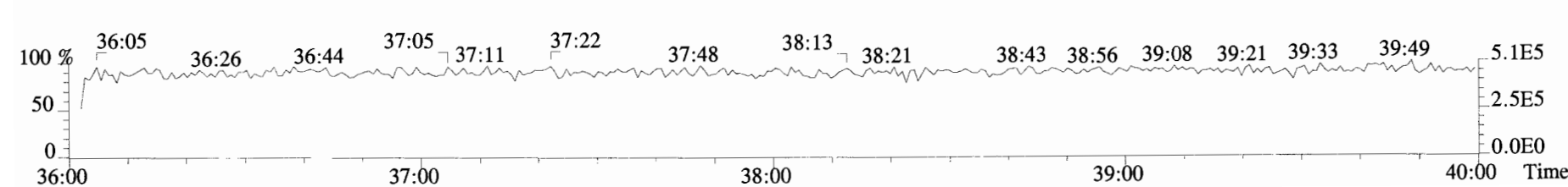
435.8169 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



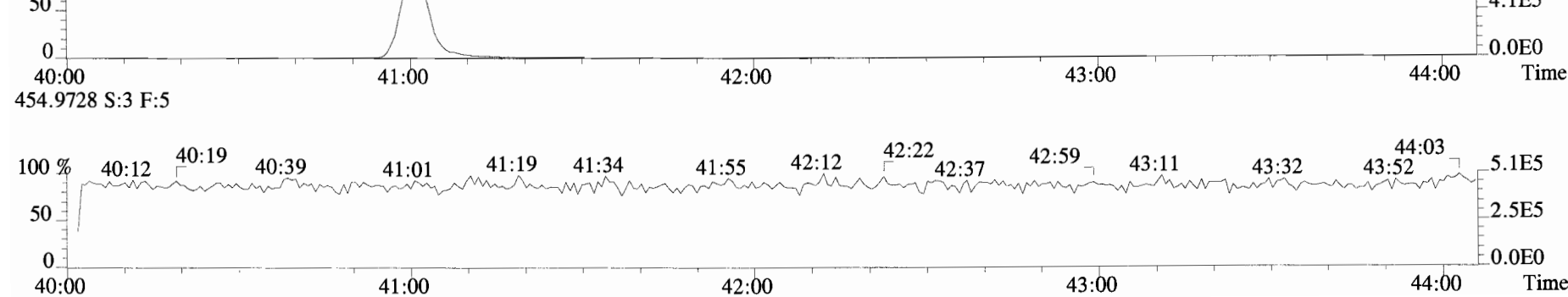
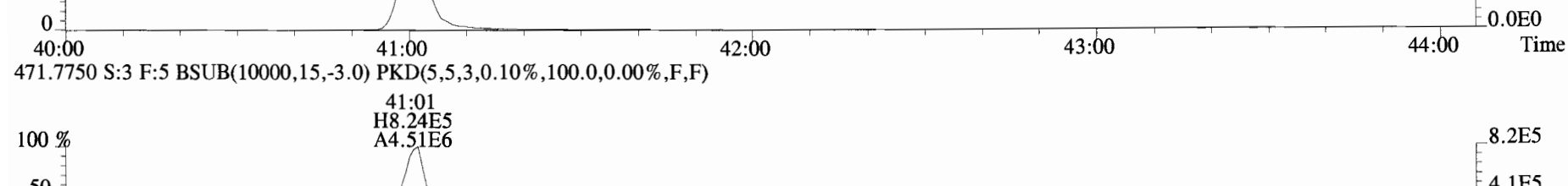
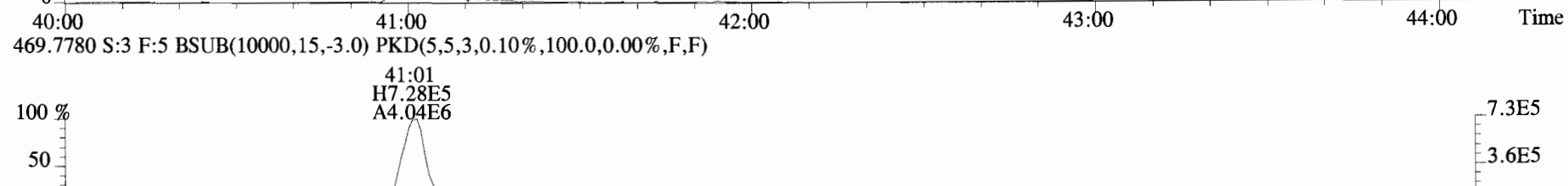
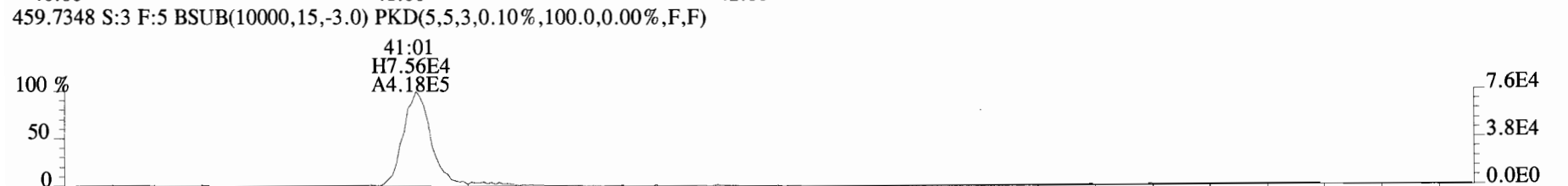
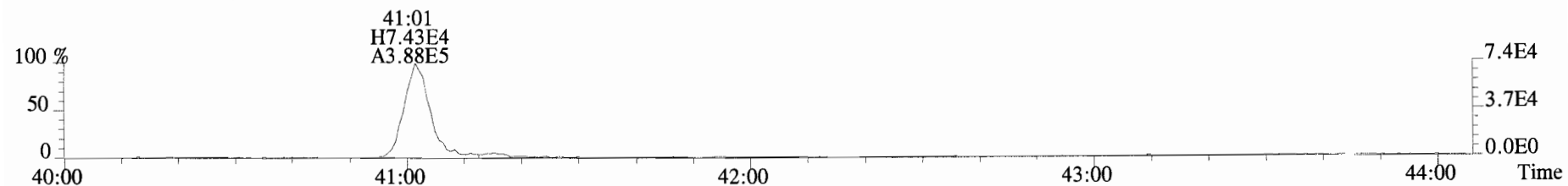
437.8140 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



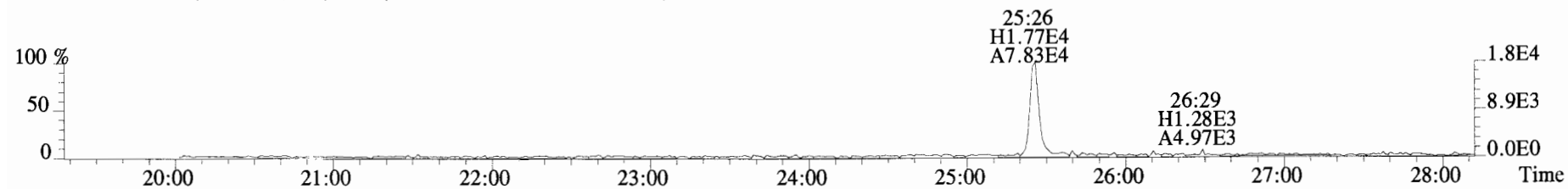
454.9728 S:3 F:4



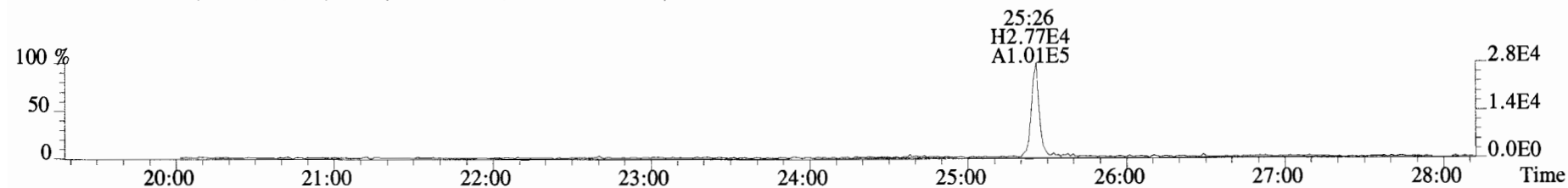
File:190510D2 #1-432 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



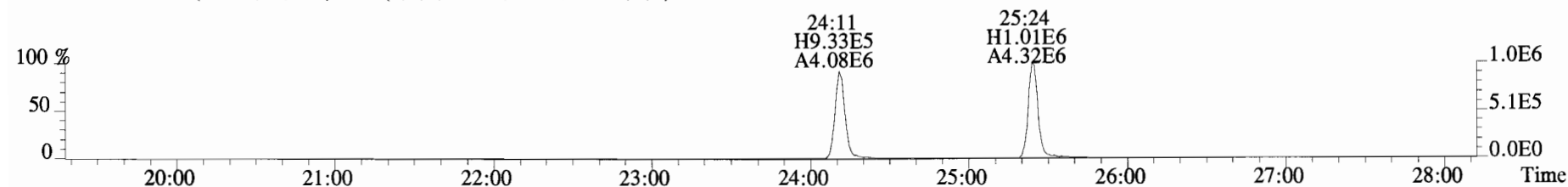
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



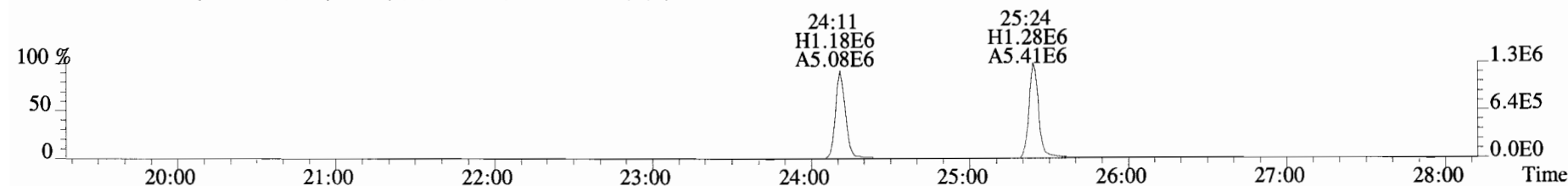
305.8987 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



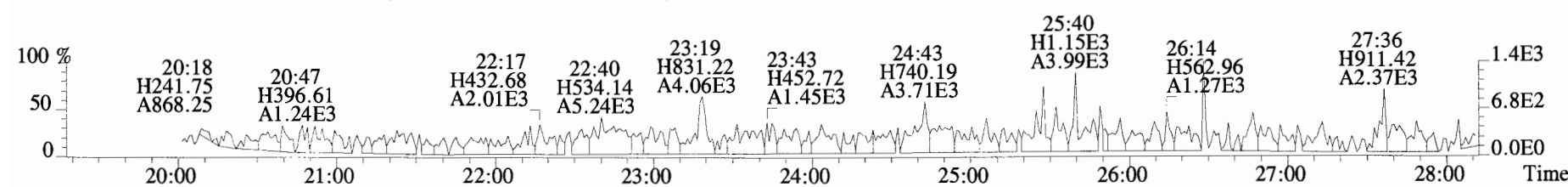
315.9419 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



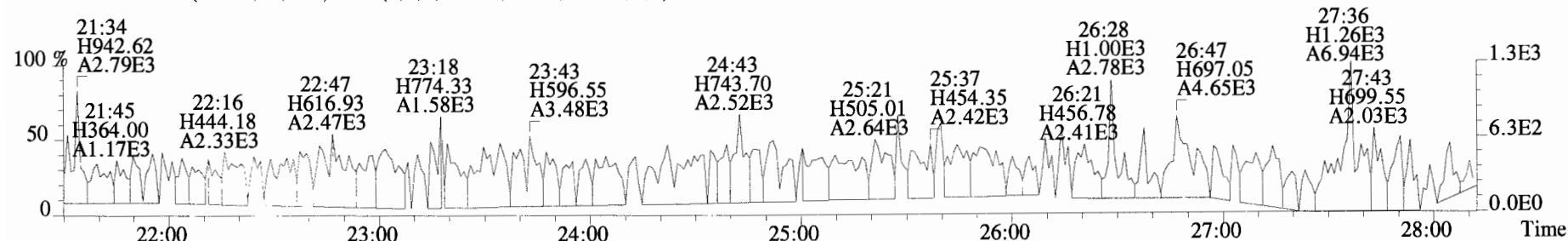
317.9389 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



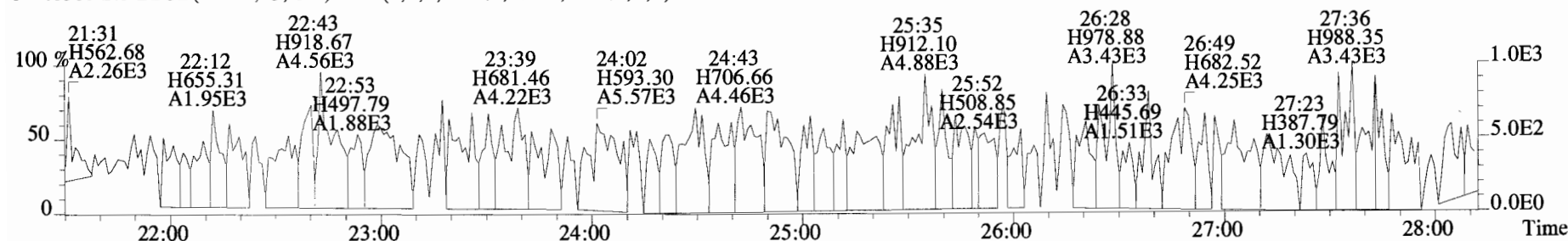
375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



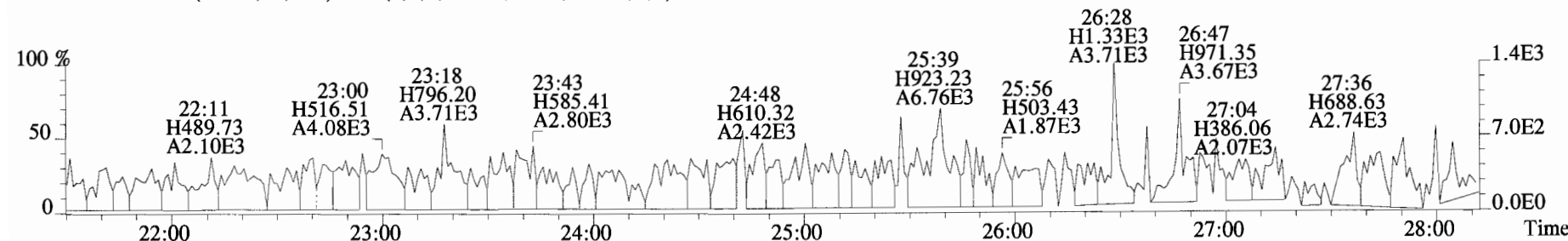
File:190510D2 #1-530 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



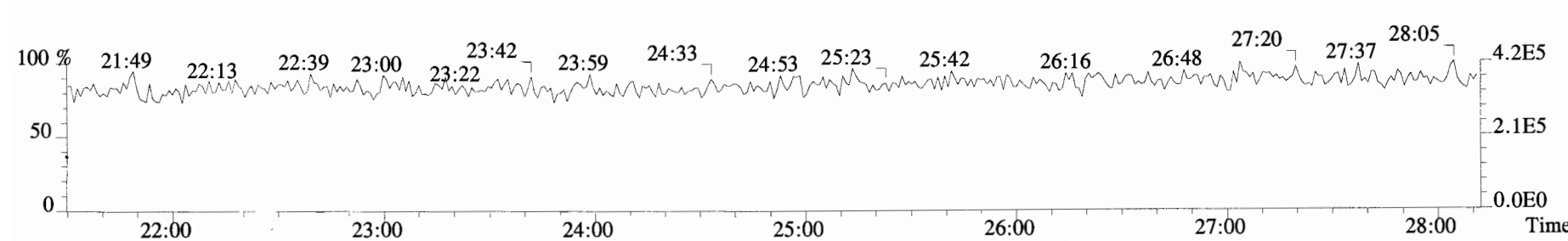
341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



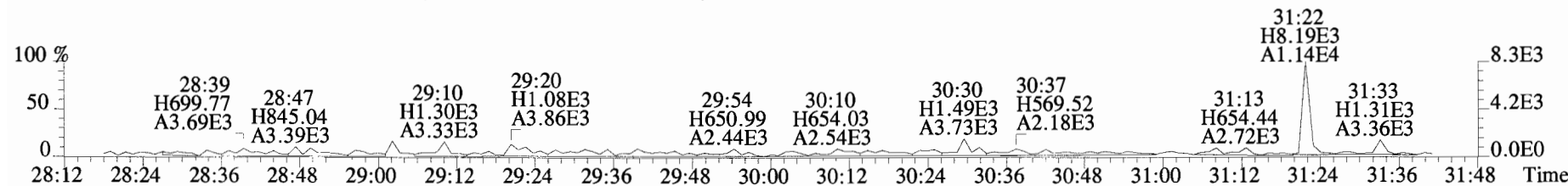
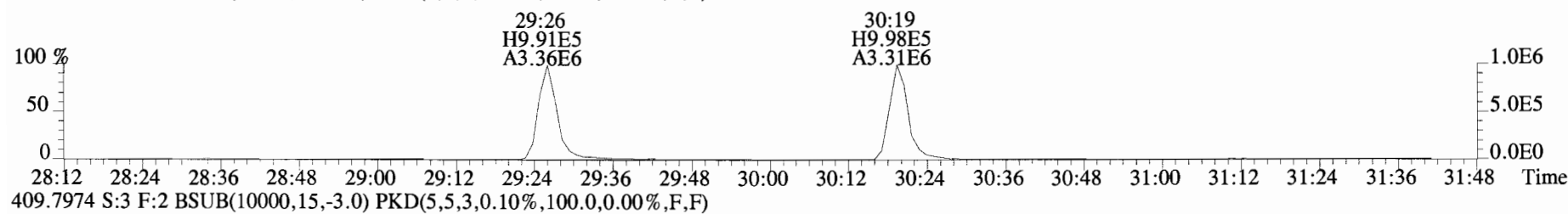
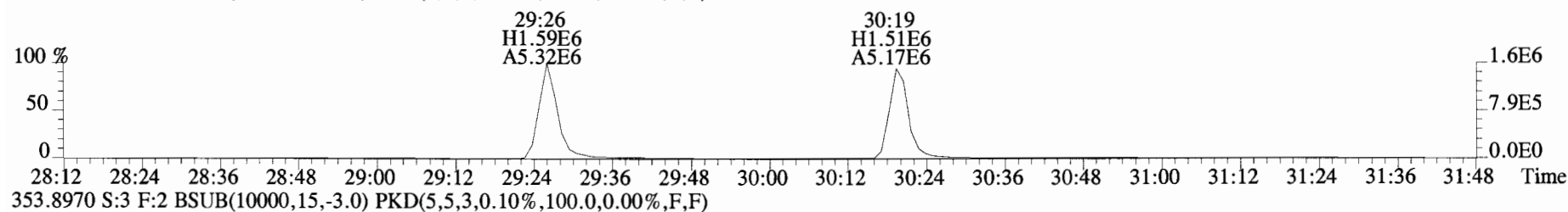
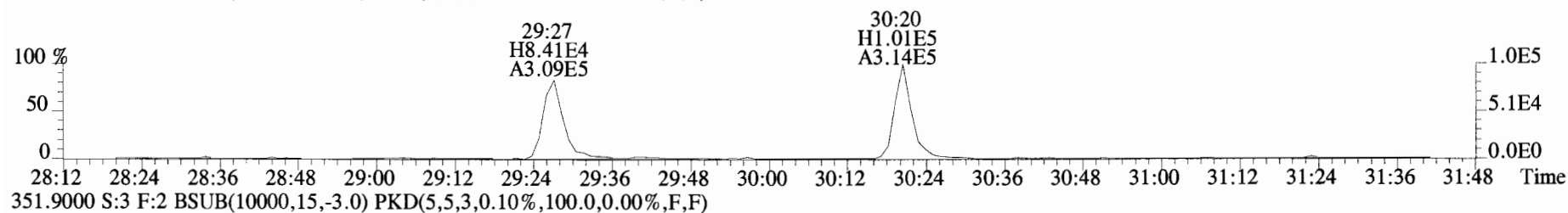
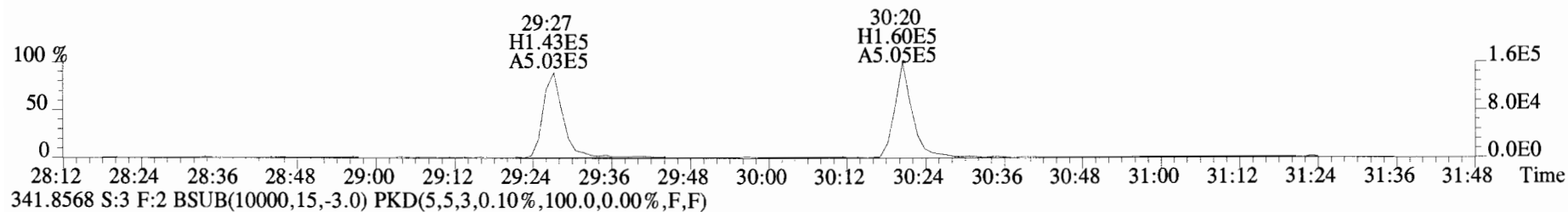
409.7974 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



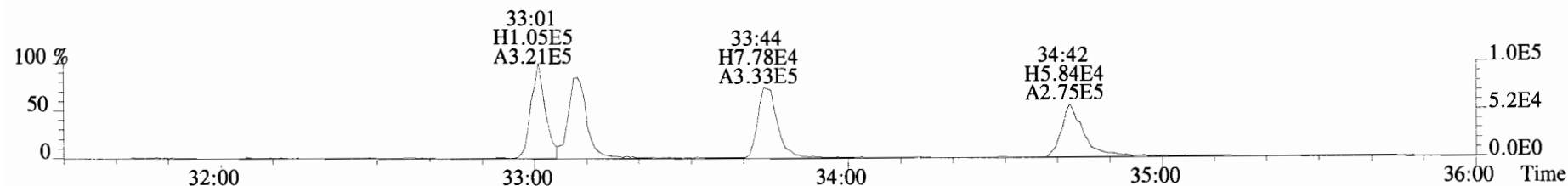
316.9824 S:3



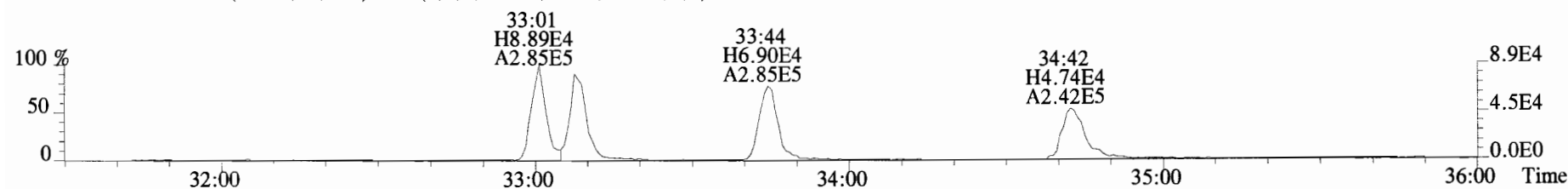
File:190510D2 #1-180 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 339.8597 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



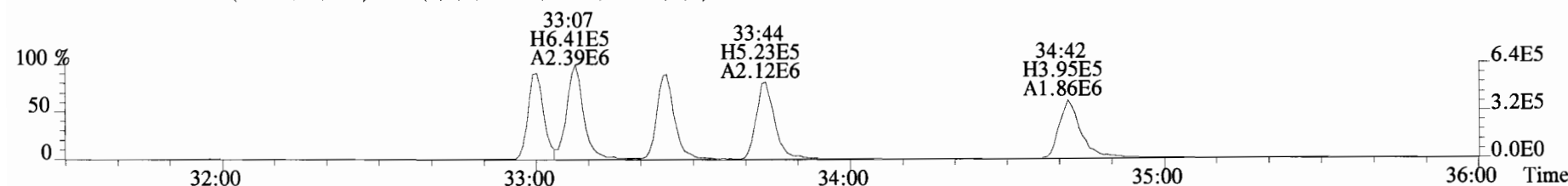
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



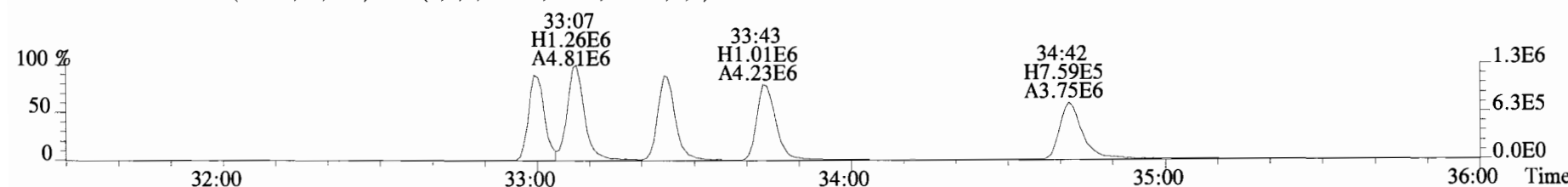
375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



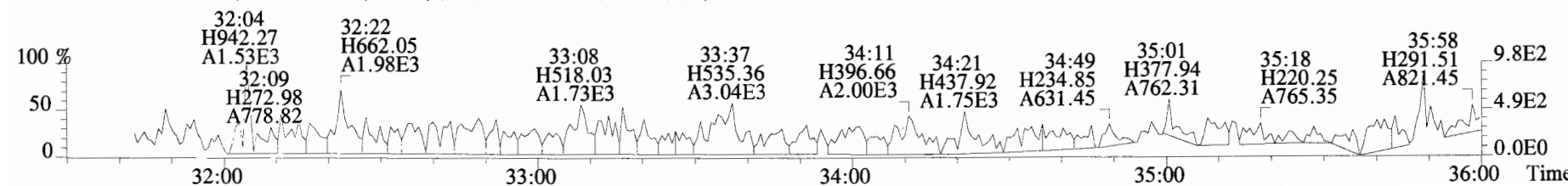
383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



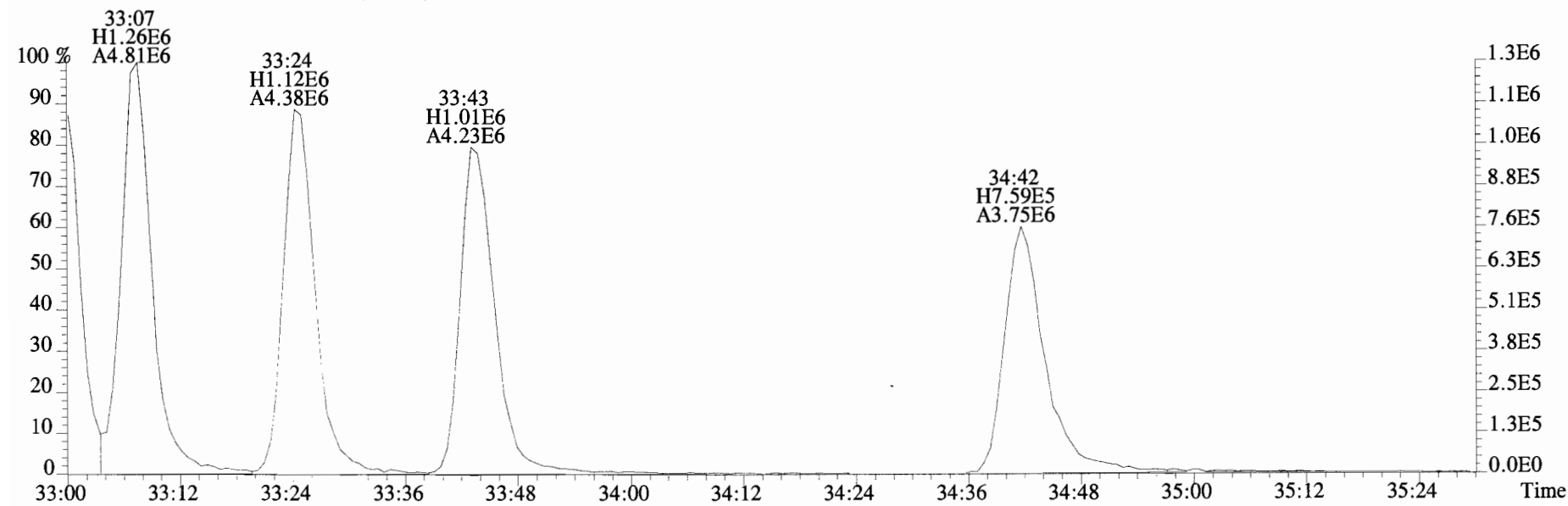
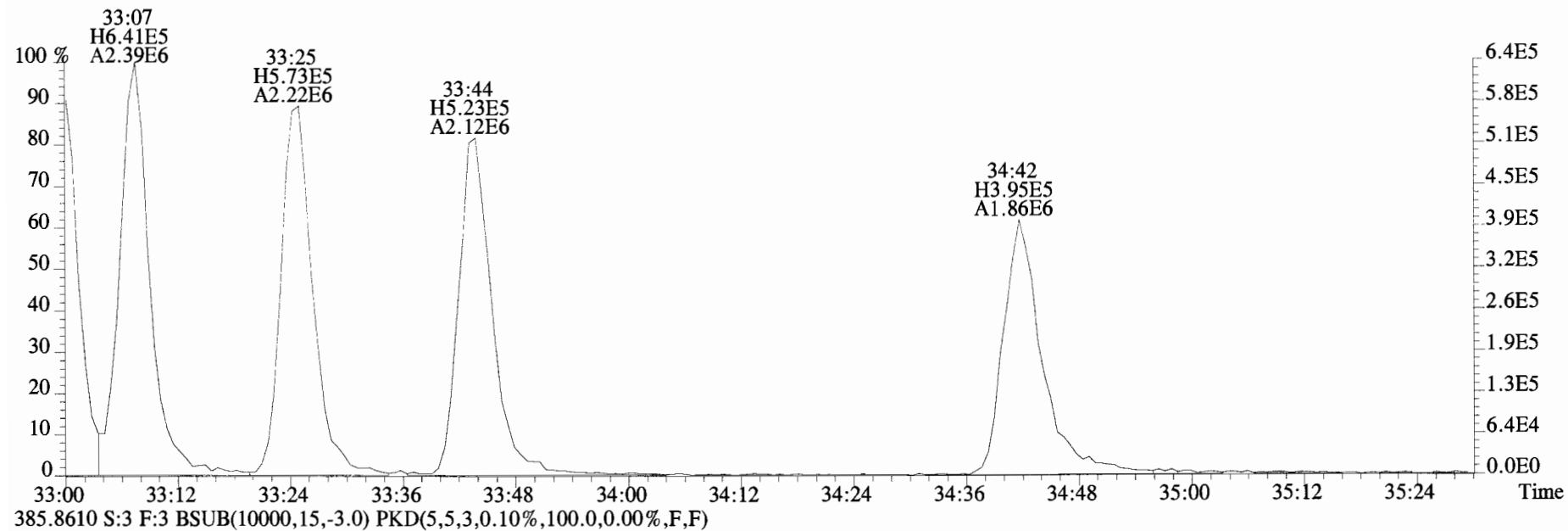
385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



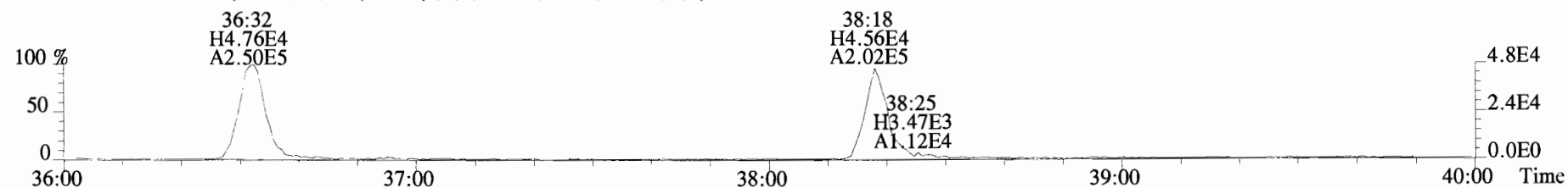
445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



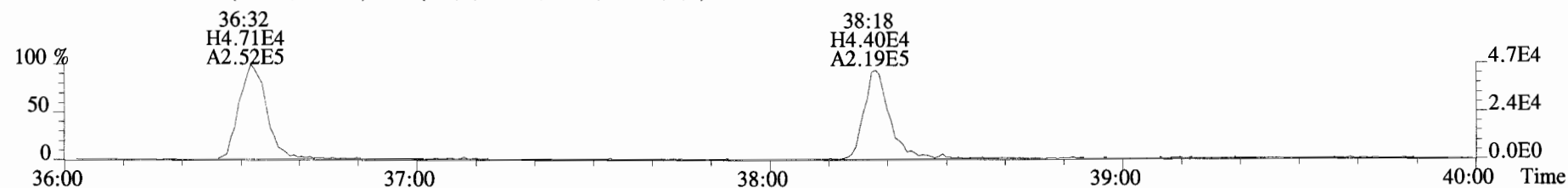
File:190510D2 #1-384 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



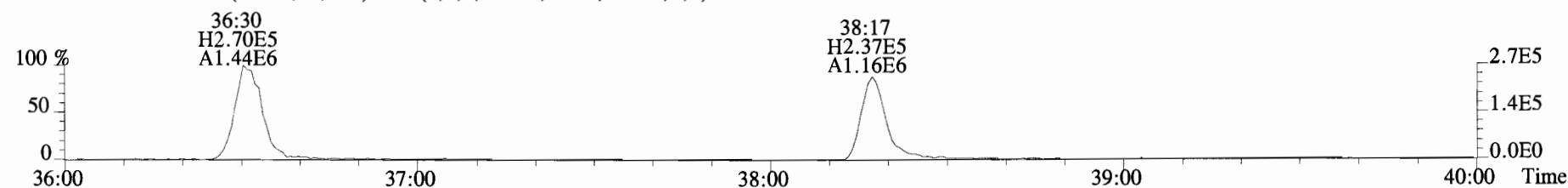
File:190510D2 #1-355 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
 407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



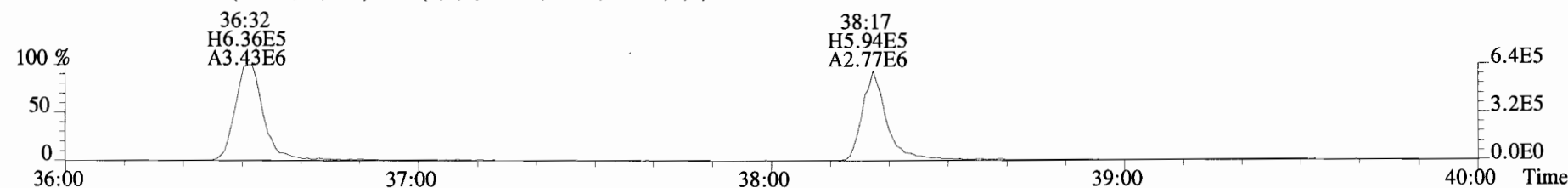
409.7788 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



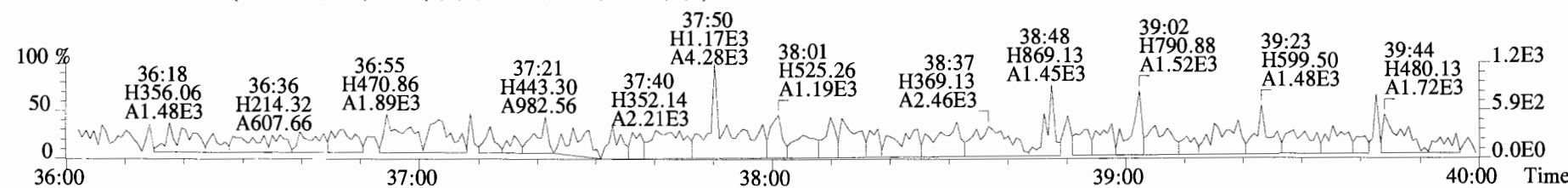
417.8253 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



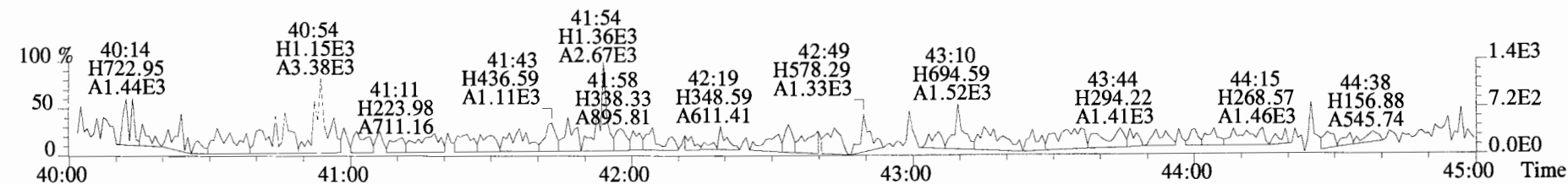
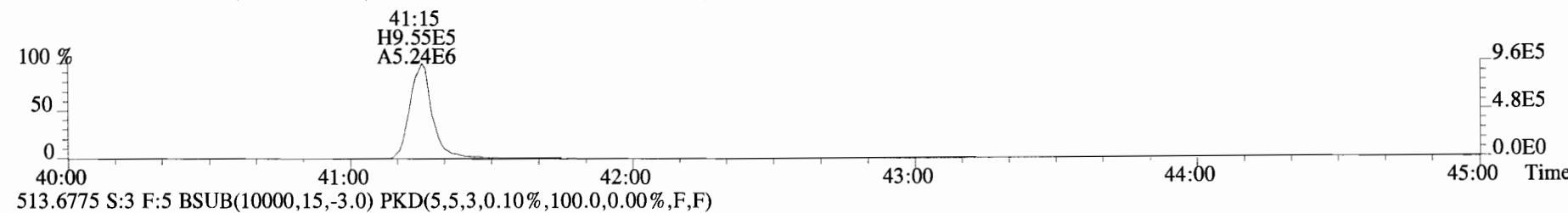
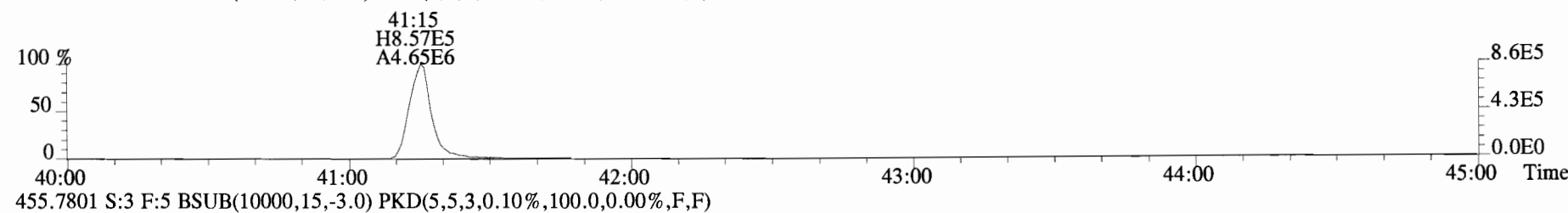
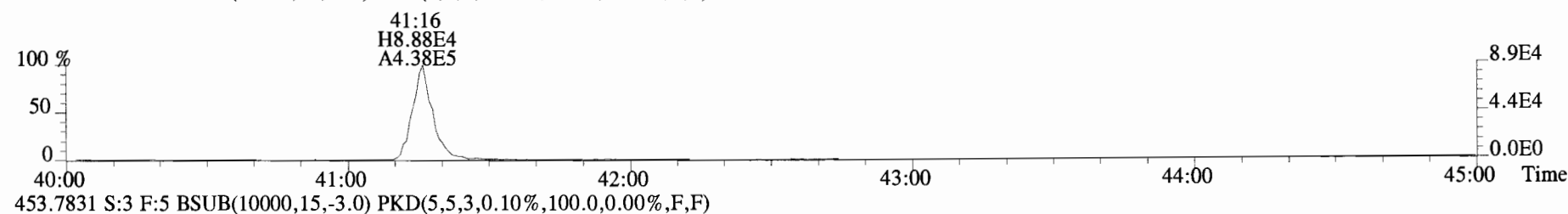
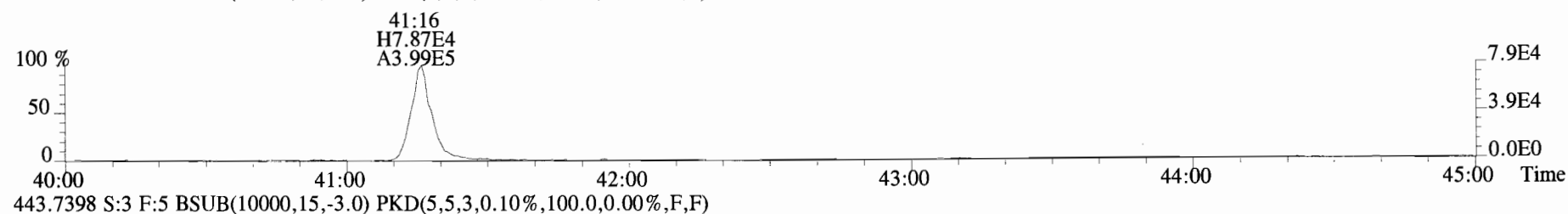
419.8220 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



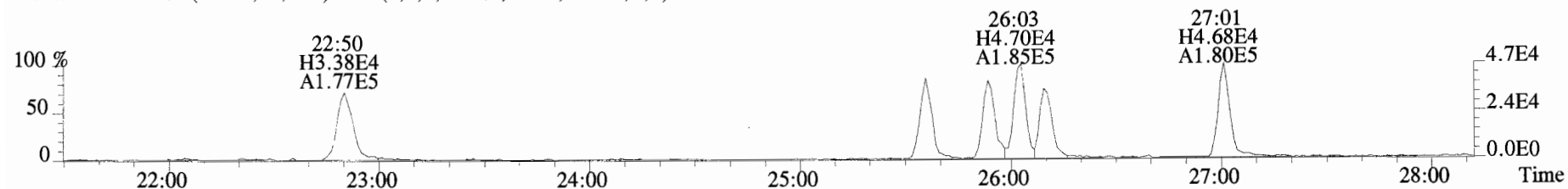
479.7165 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



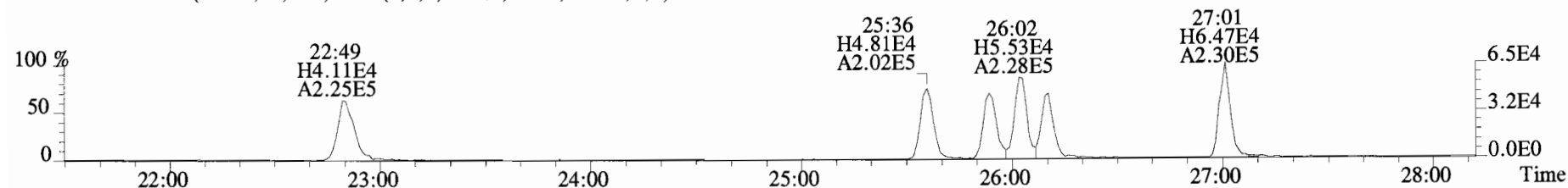
File:190510D2 #1-432 Acq:10-MAY-2019 16:00:06 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-3 1613 CS2 19C2203 Exp:OCDD_DB5
441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



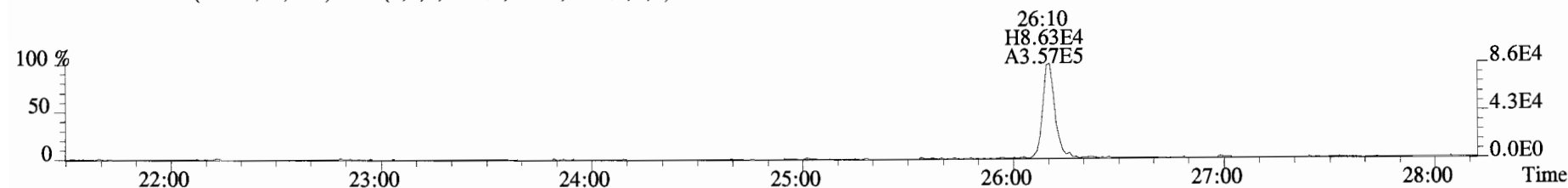
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



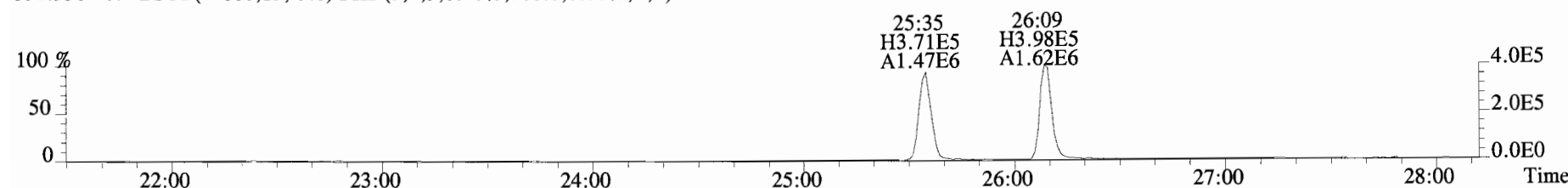
321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



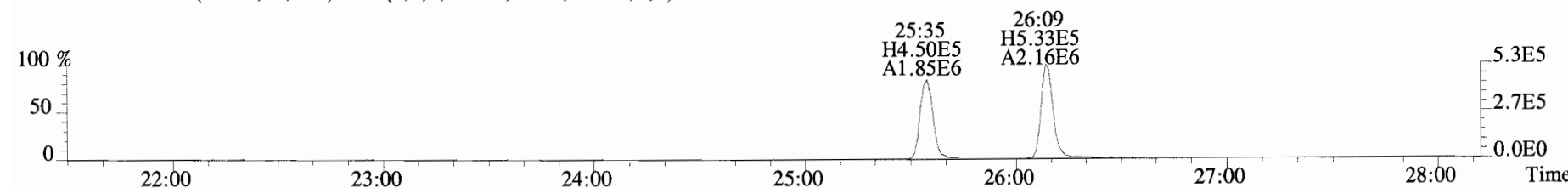
327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



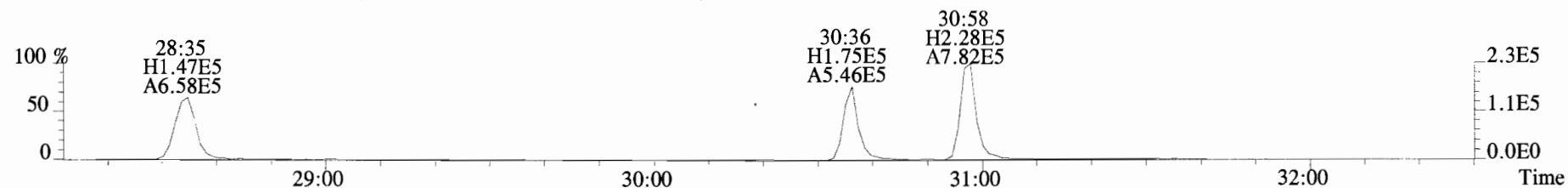
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



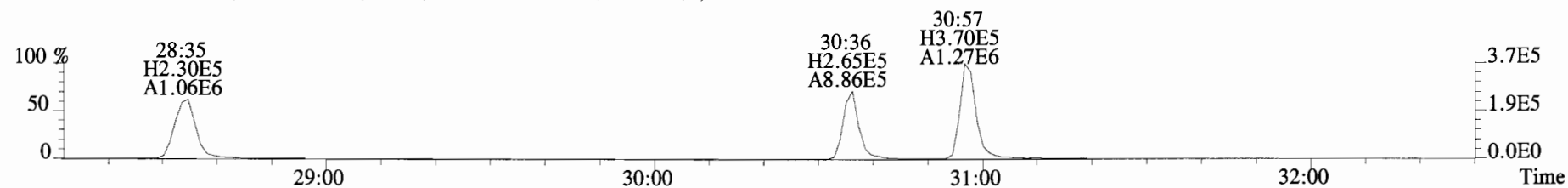
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



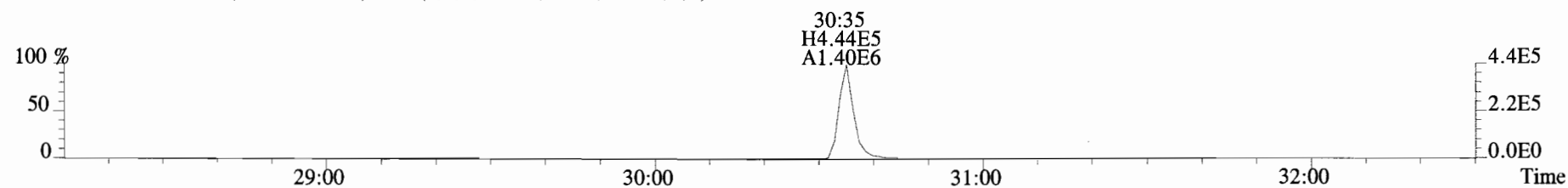
File:190510D2 #1-180 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



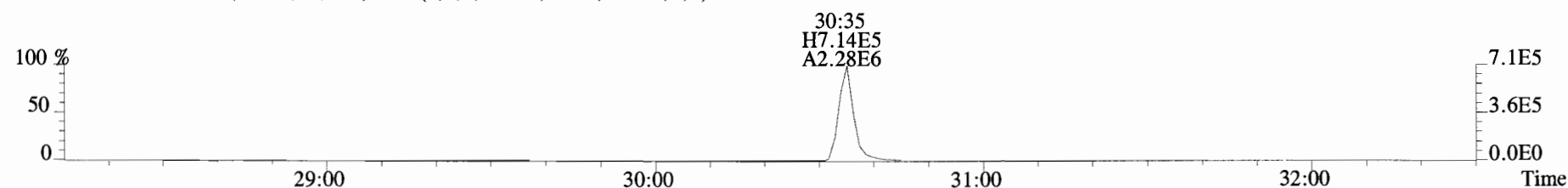
355.8546 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



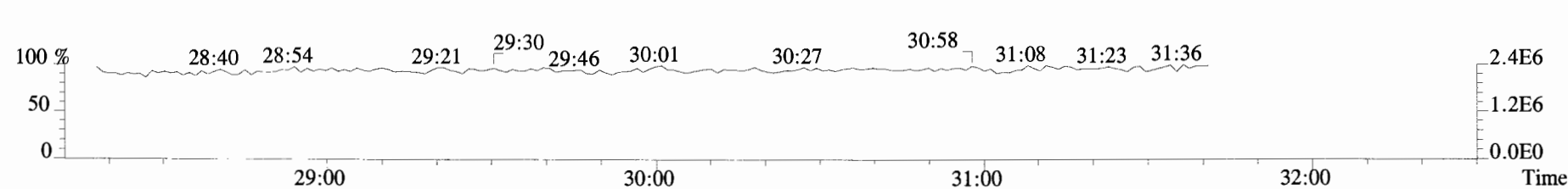
365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



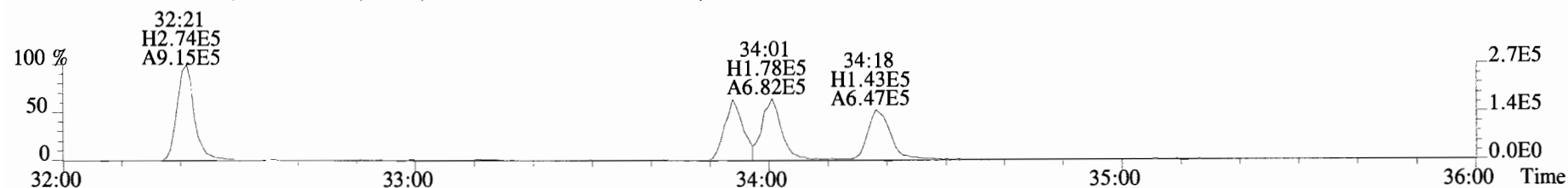
367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



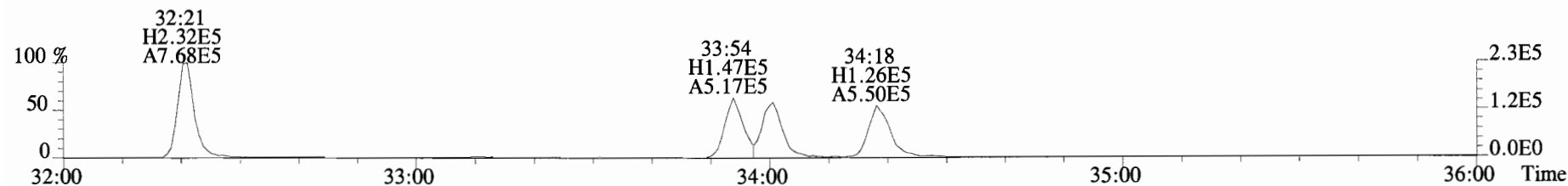
366.9792 S:4 F:2



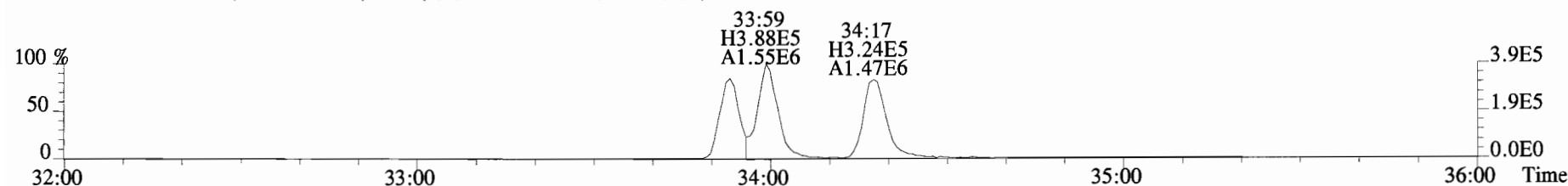
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



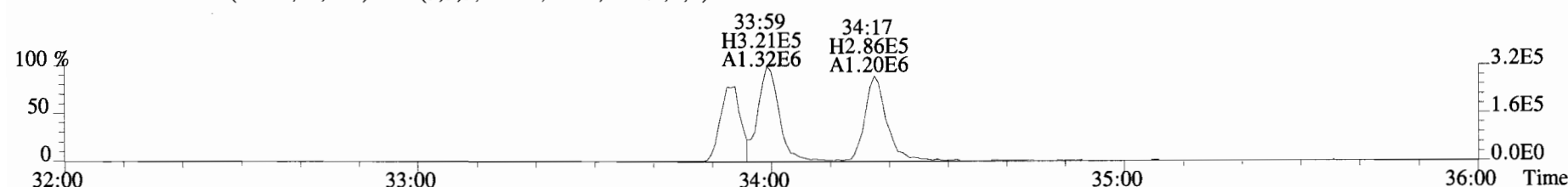
391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



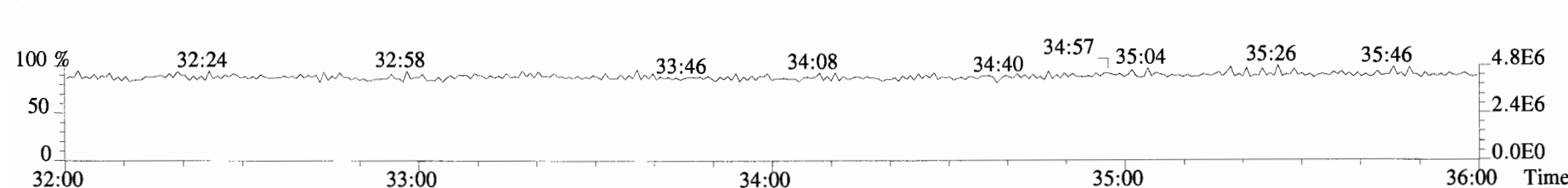
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



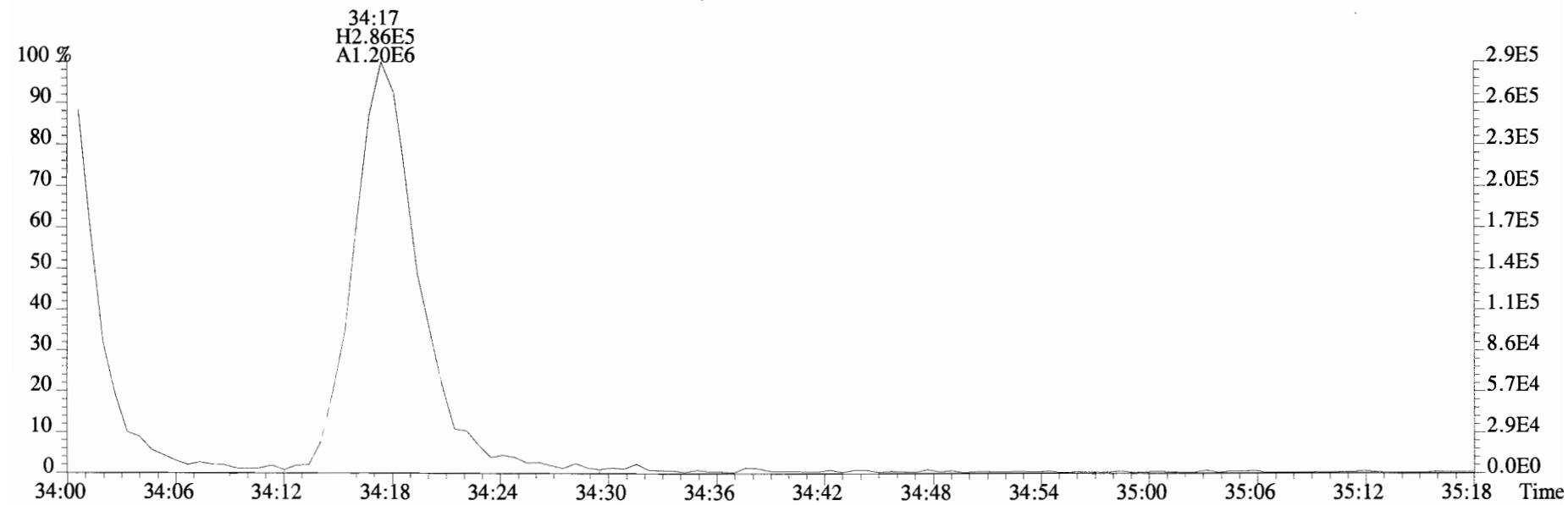
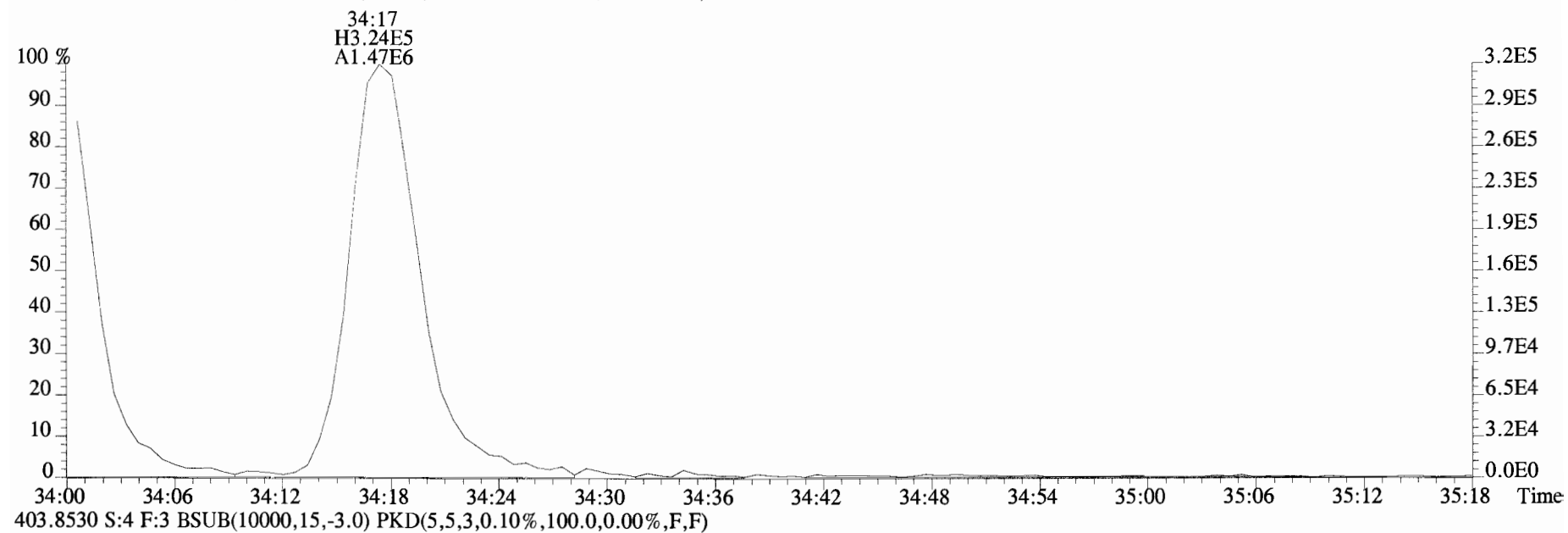
403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



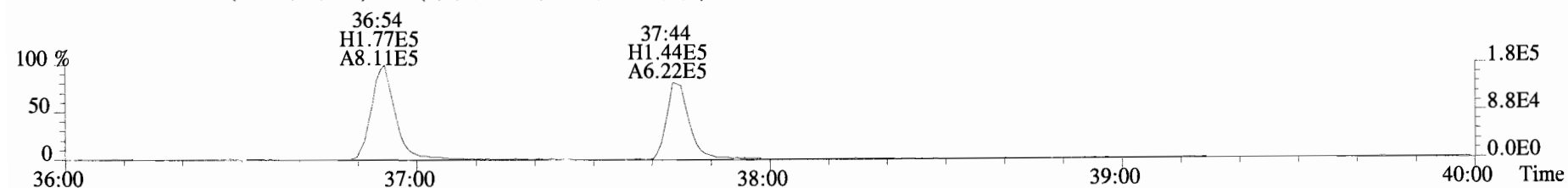
392.9760 S:4 F:3



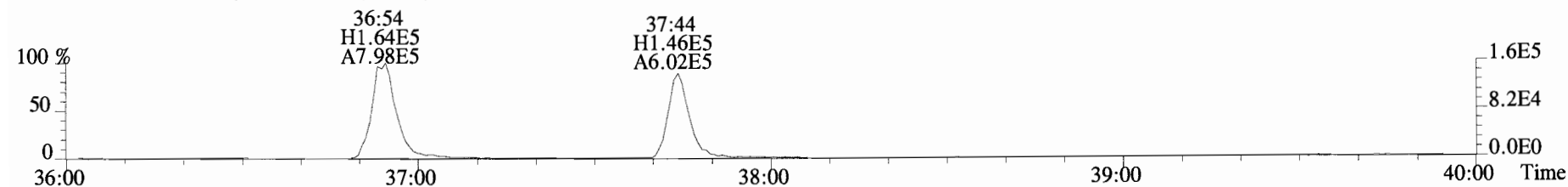
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



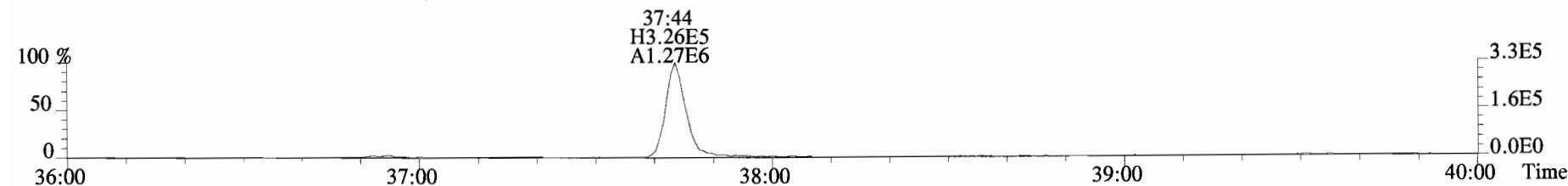
File:190510D2 #1-355 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



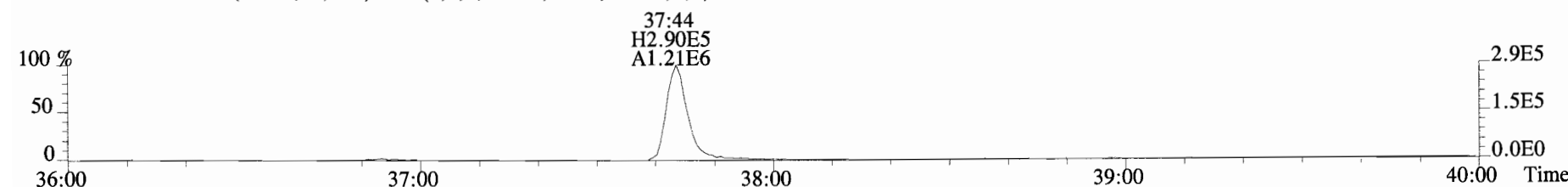
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



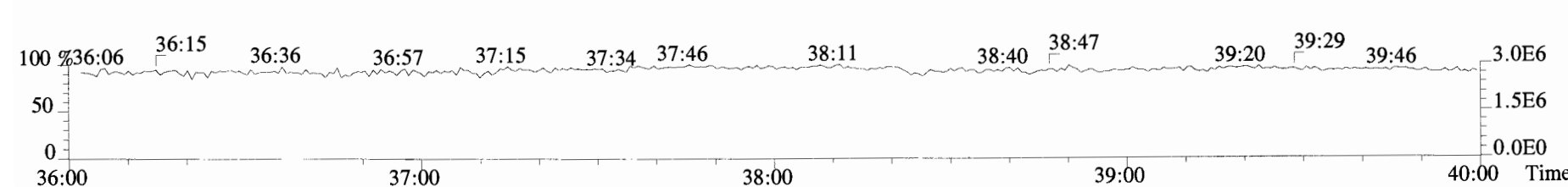
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



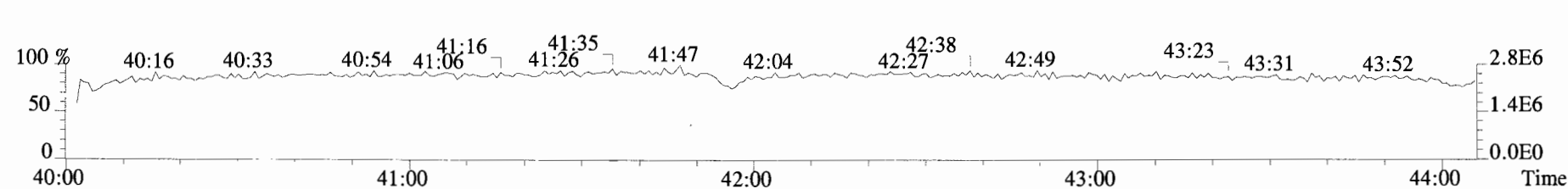
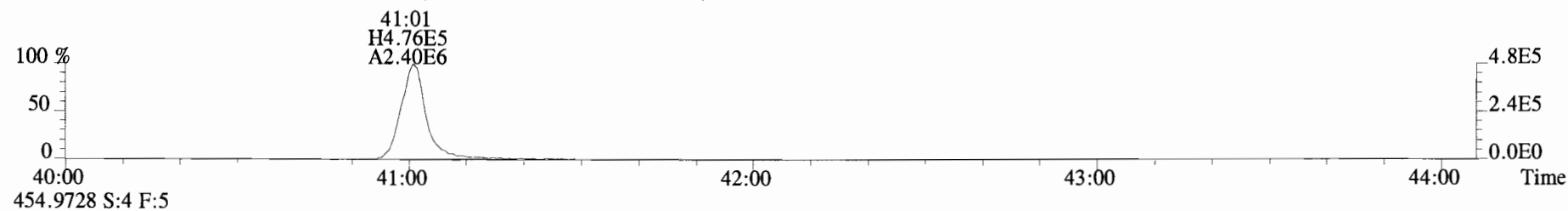
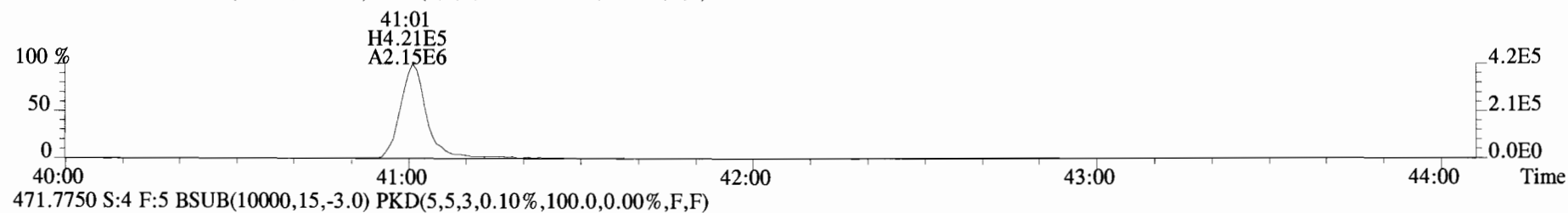
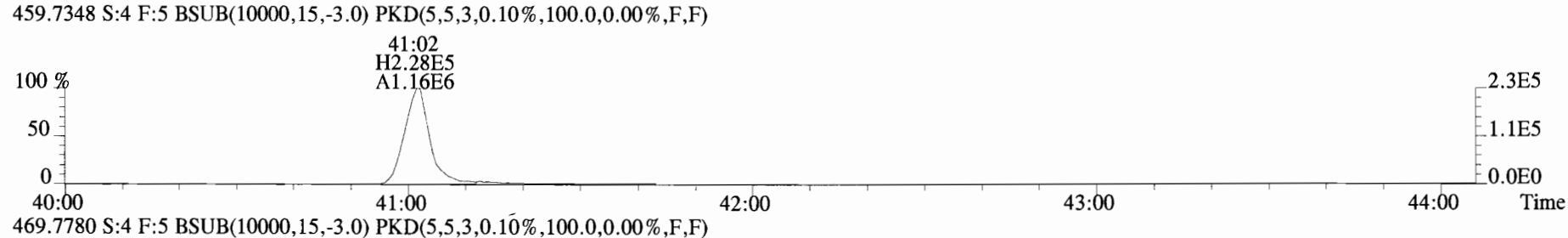
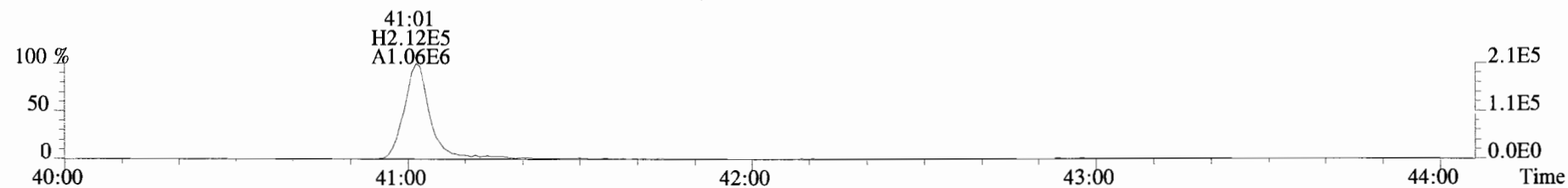
437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



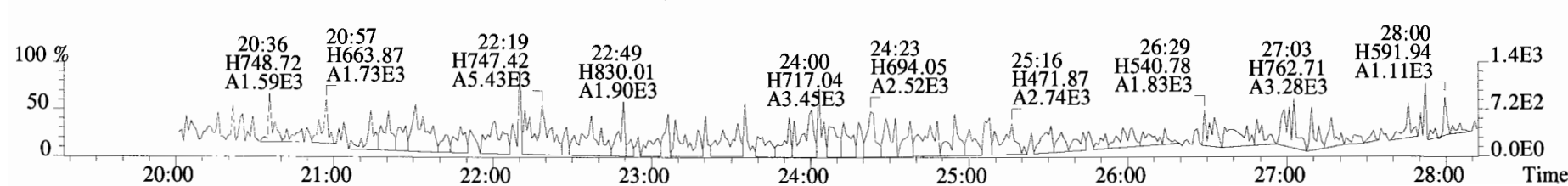
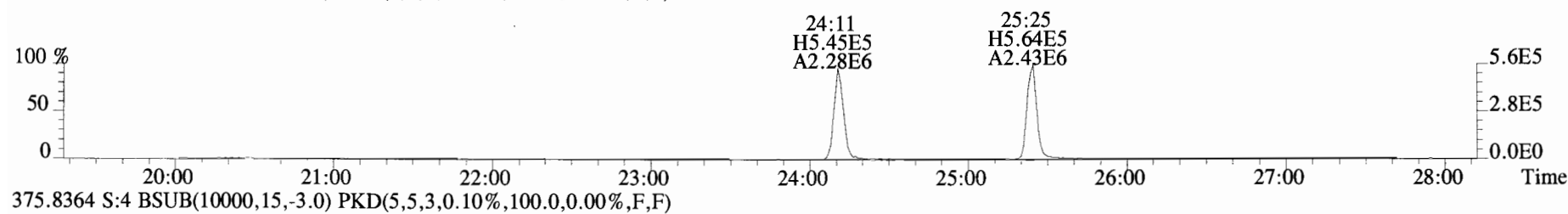
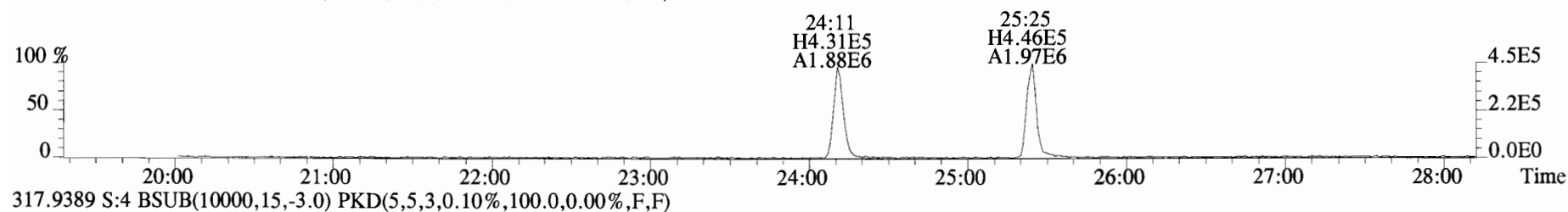
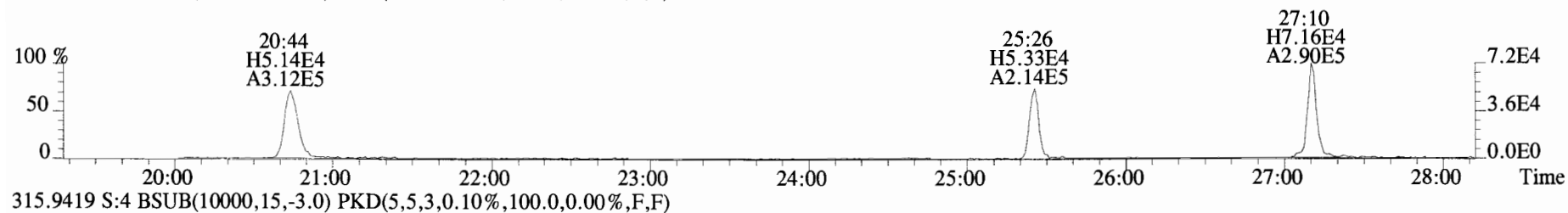
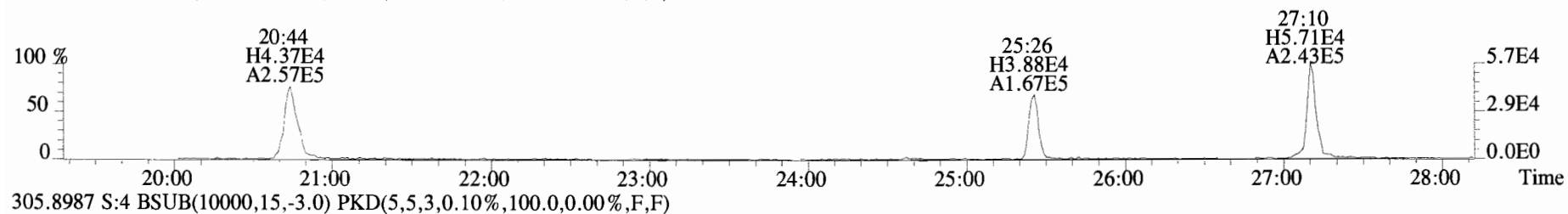
454.9728 S:4 F:4



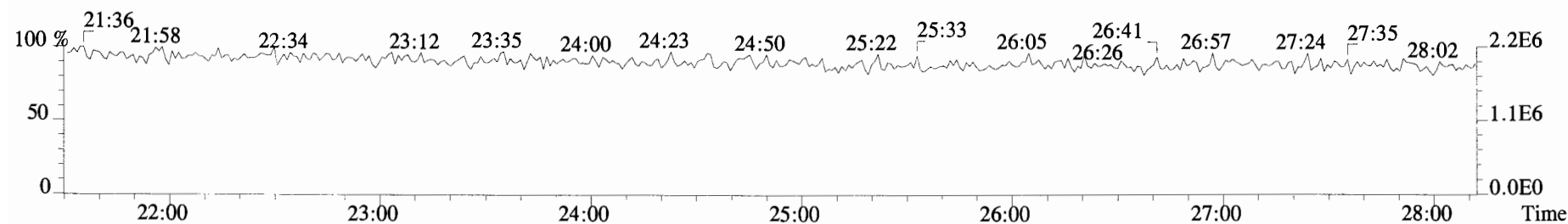
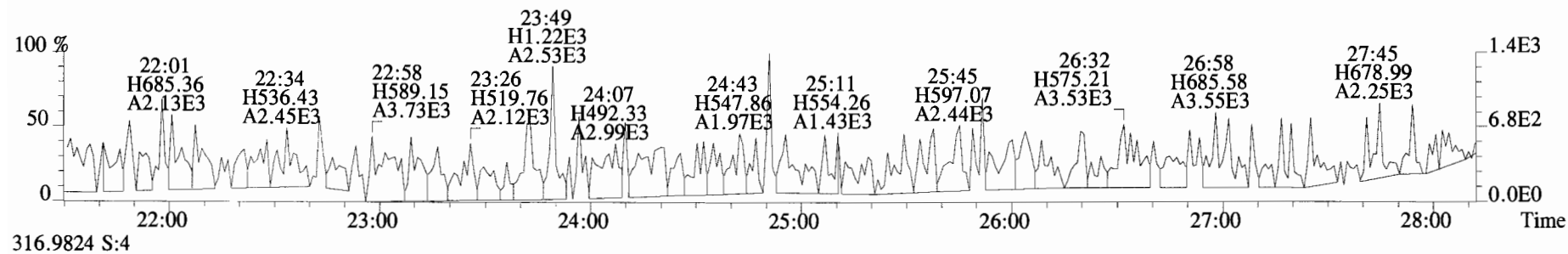
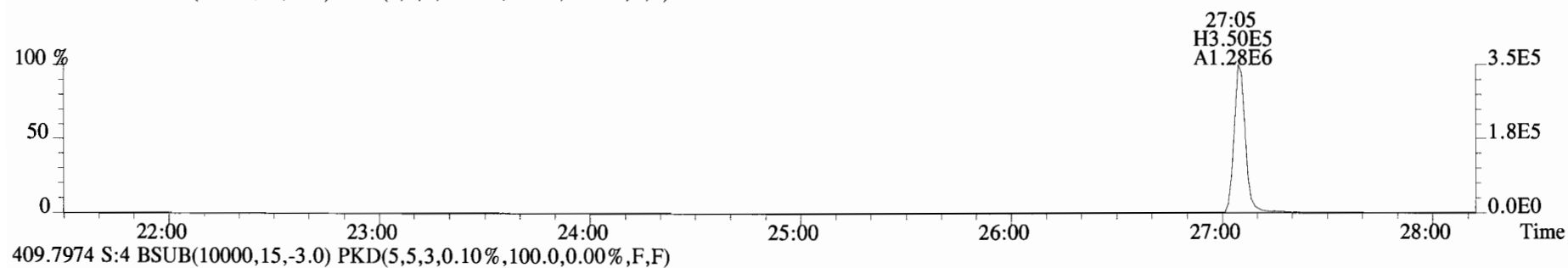
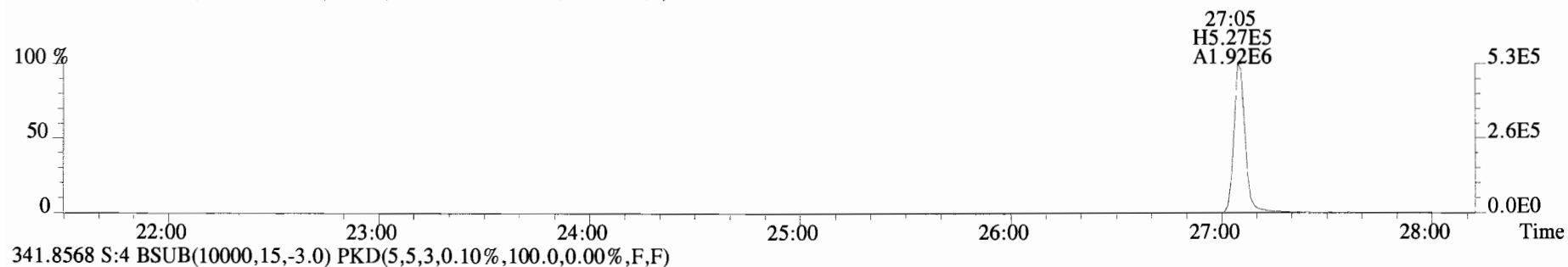
File:190510D2 #1-432 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



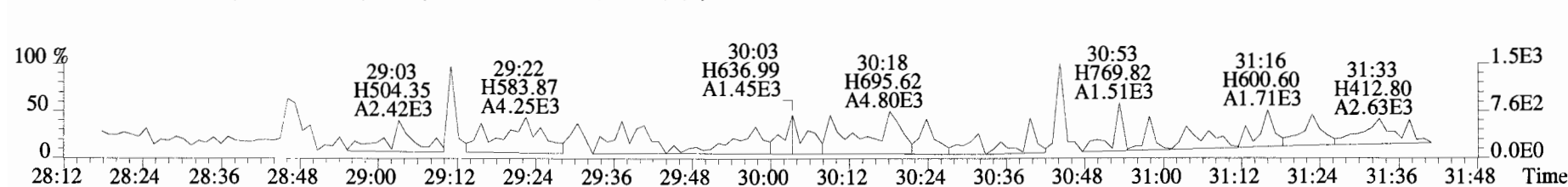
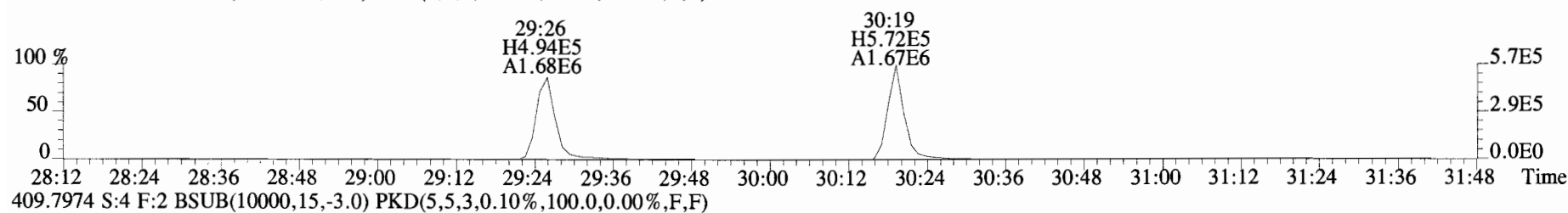
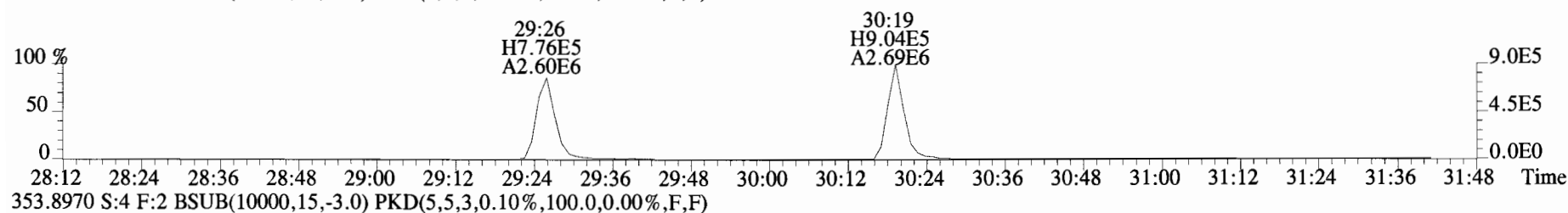
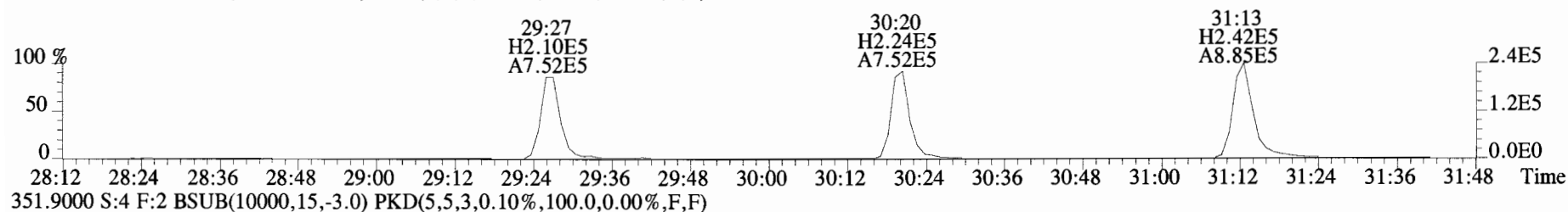
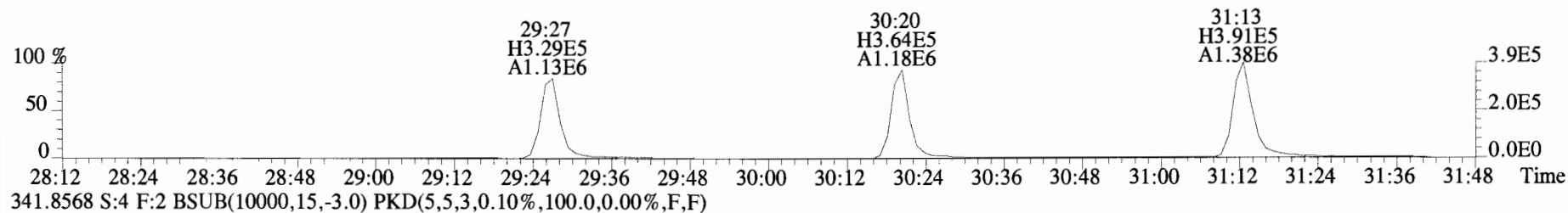
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



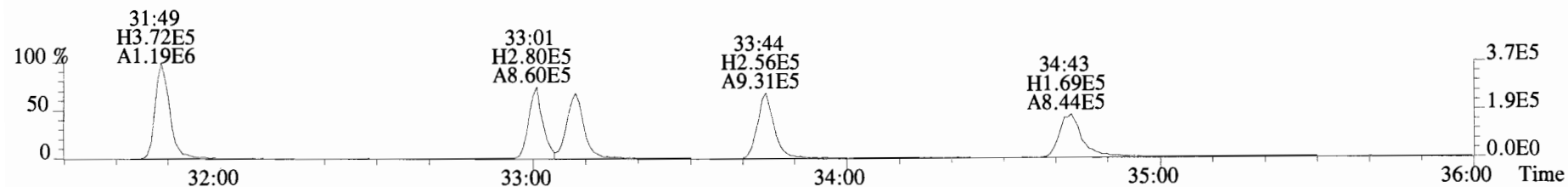
File:190510D2 #1-530 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



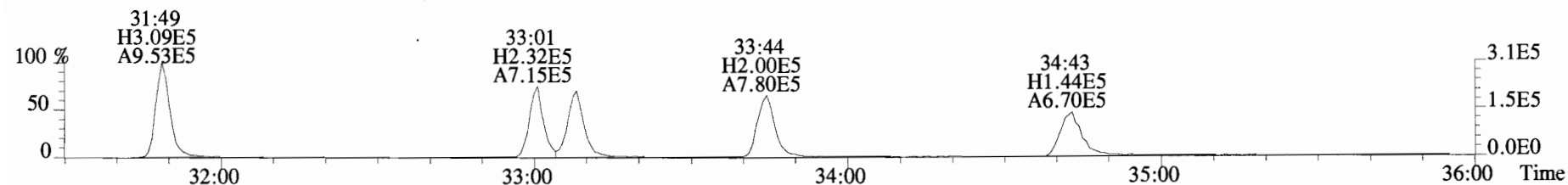
File:190510D2 #1-180 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



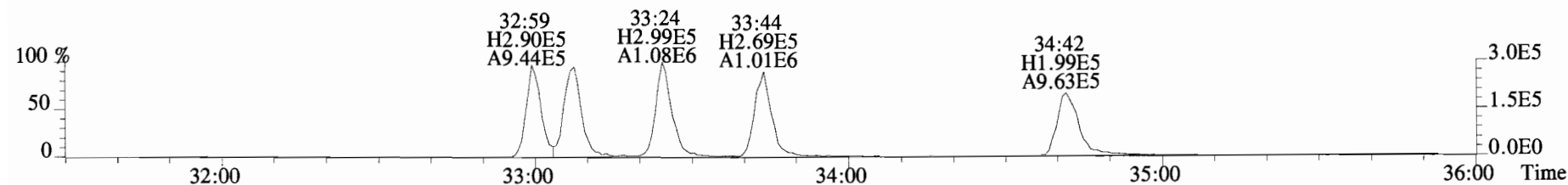
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



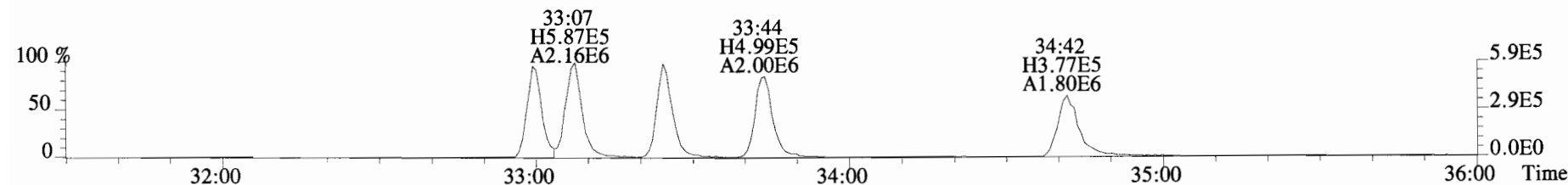
375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



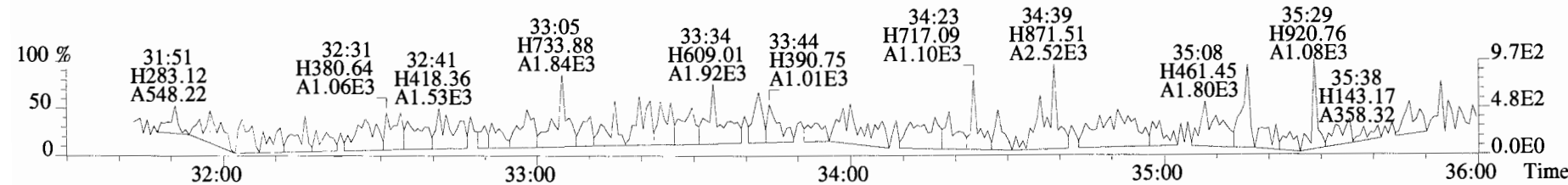
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



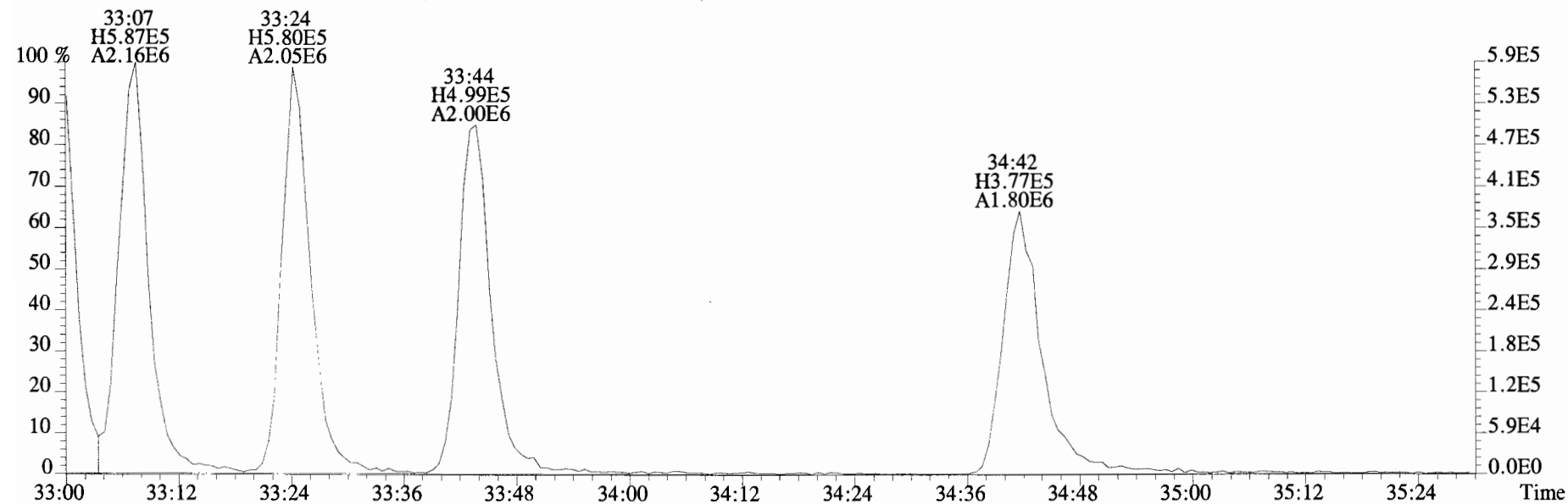
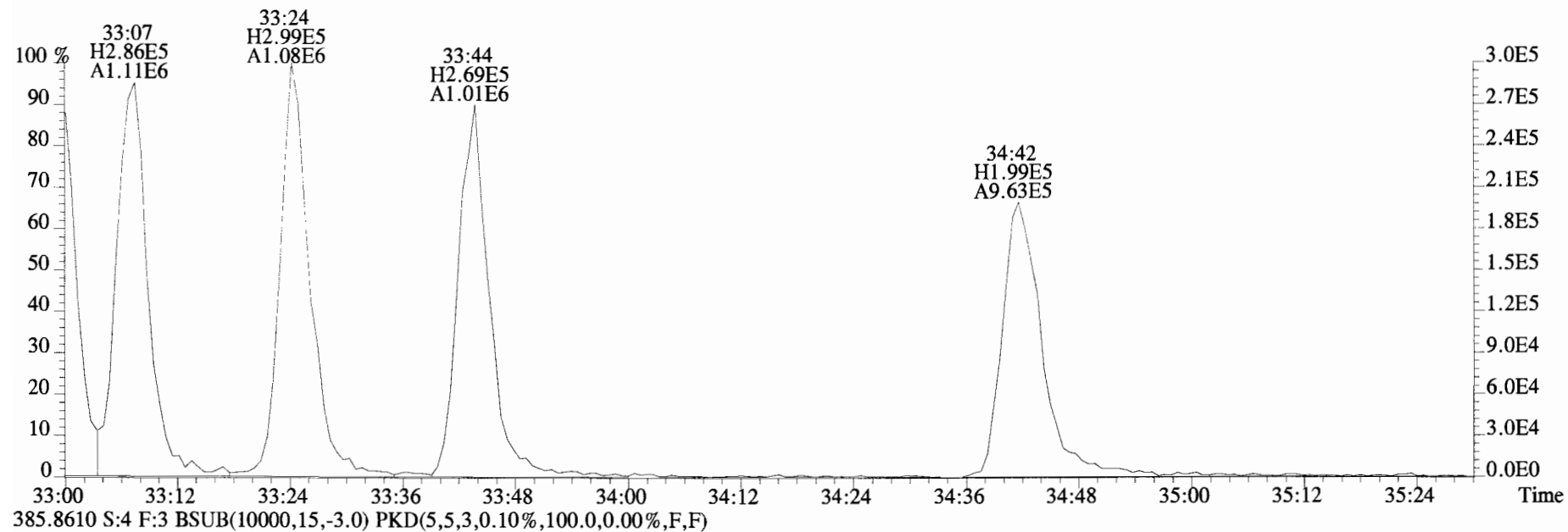
385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



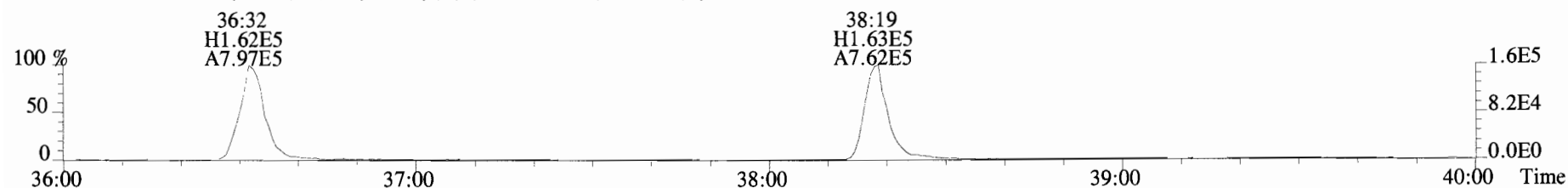
445.7555 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



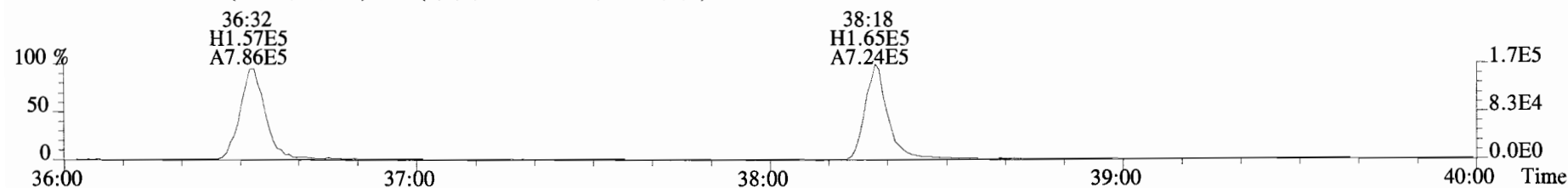
File:190510D2 #1-384 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



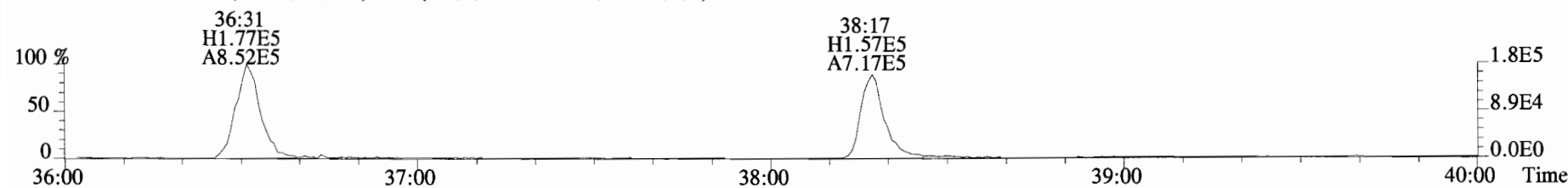
File:190510D2 #1-355 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



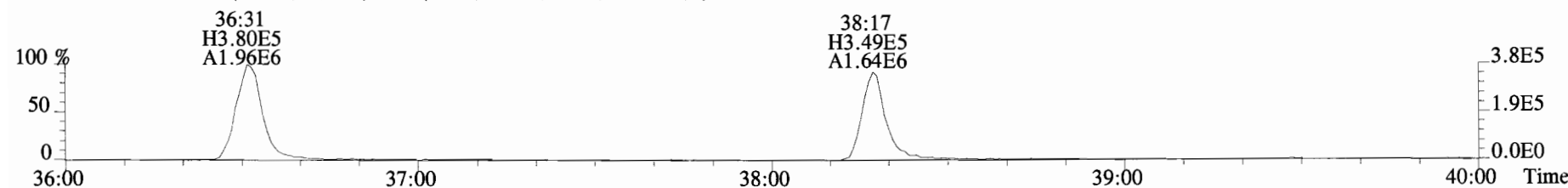
409.7788 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



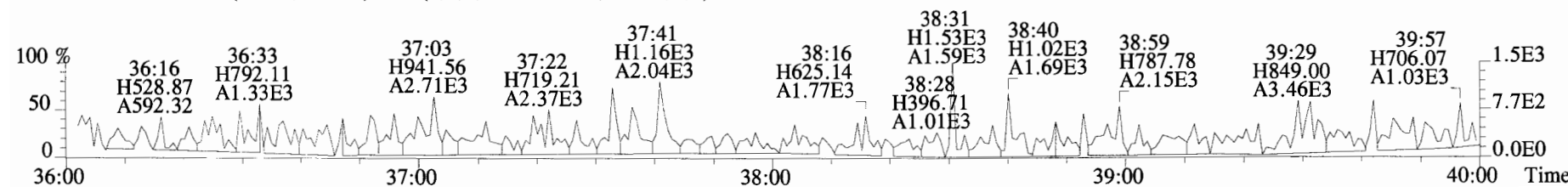
417.8253 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



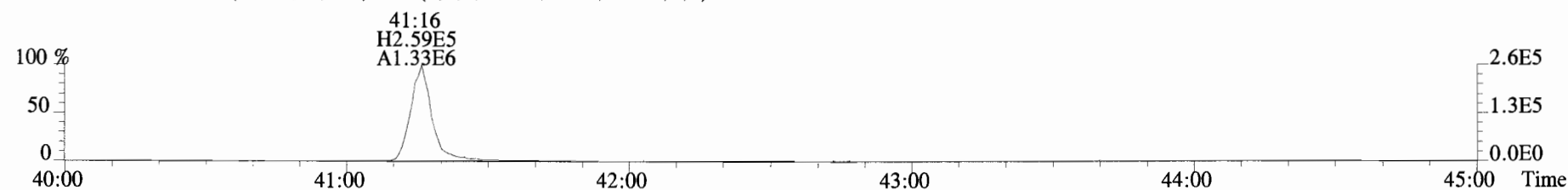
419.8220 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



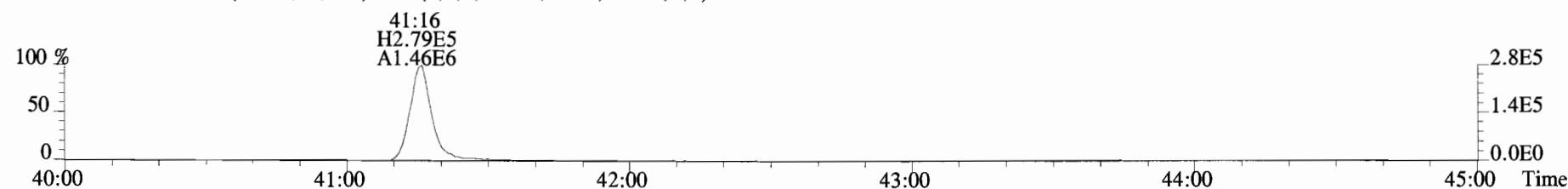
479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



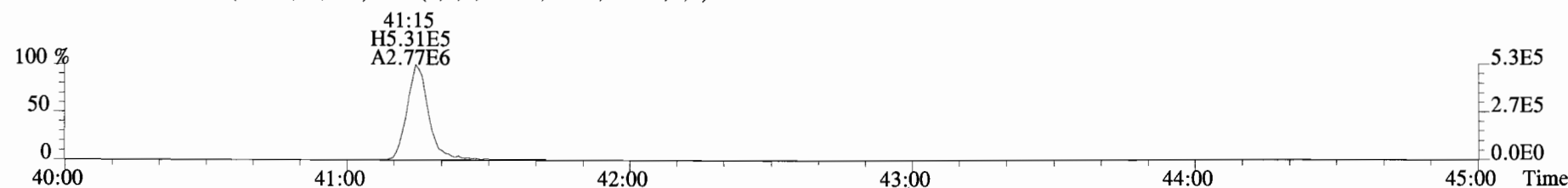
File:190510D2 #1-432 Acq:10-MAY-2019 16:47:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-4 1613 CS3 19C2204 Exp:OCDD_DB5
441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



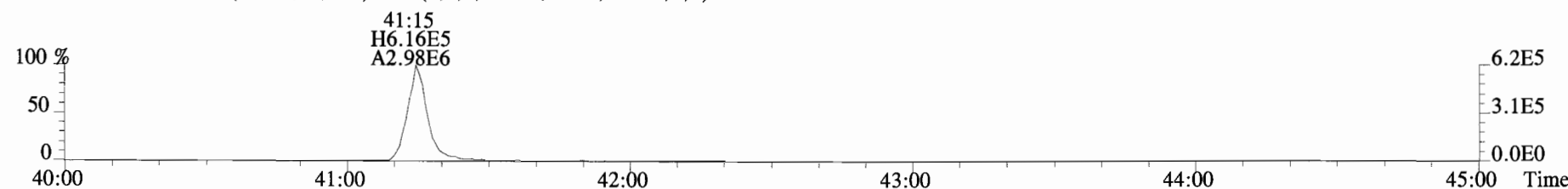
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



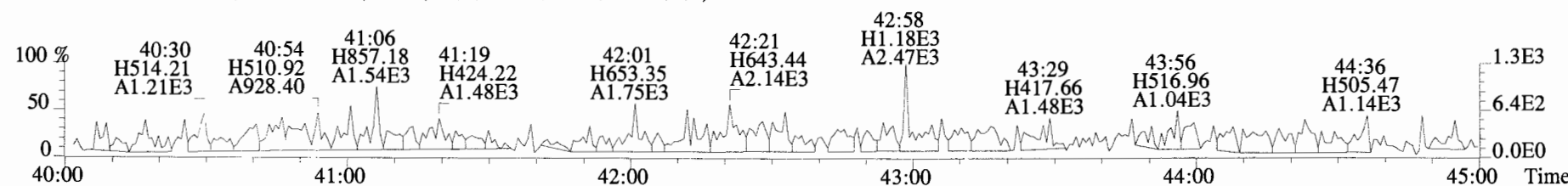
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



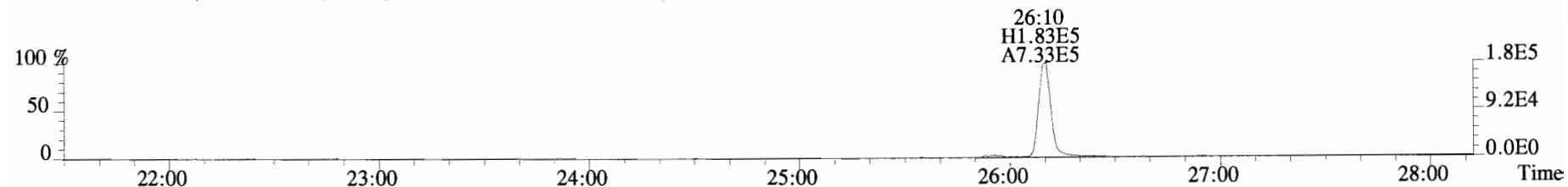
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



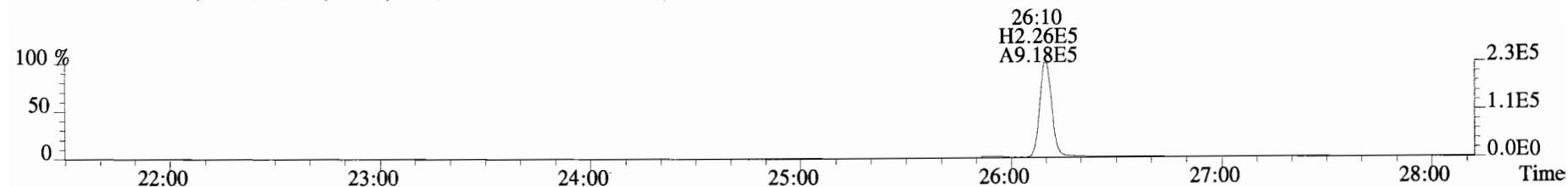
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



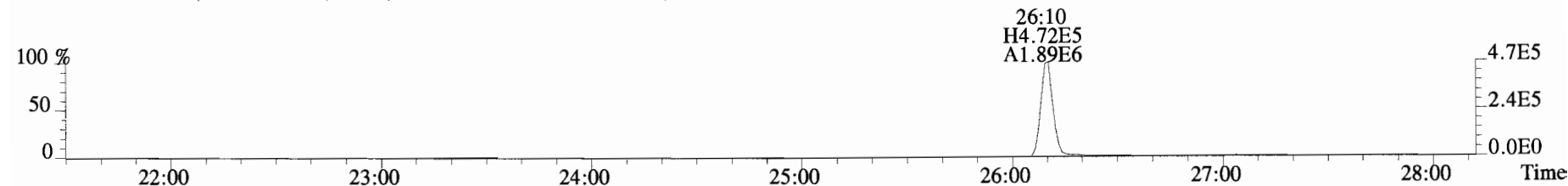
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



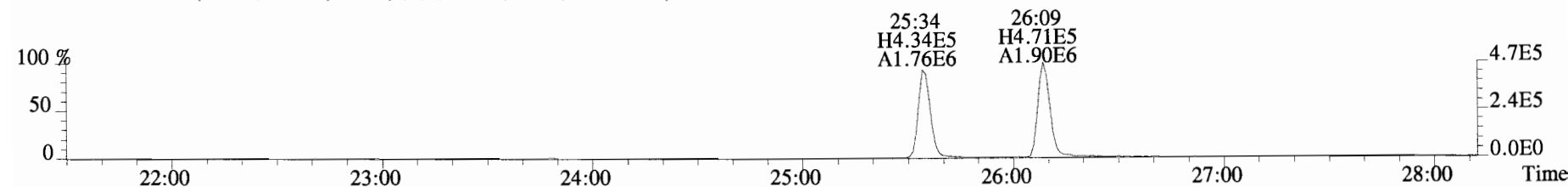
321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



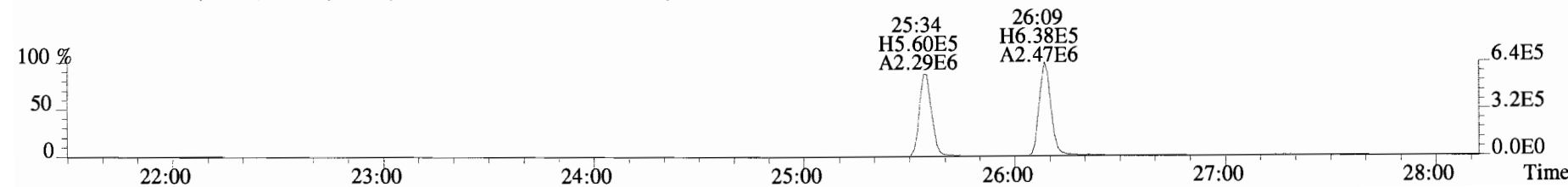
327.8847 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



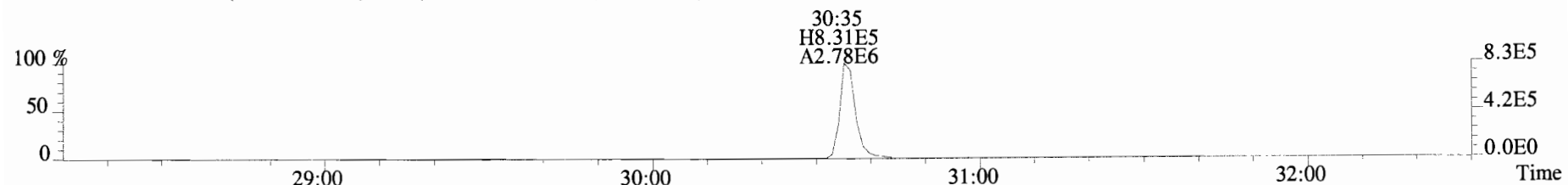
331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



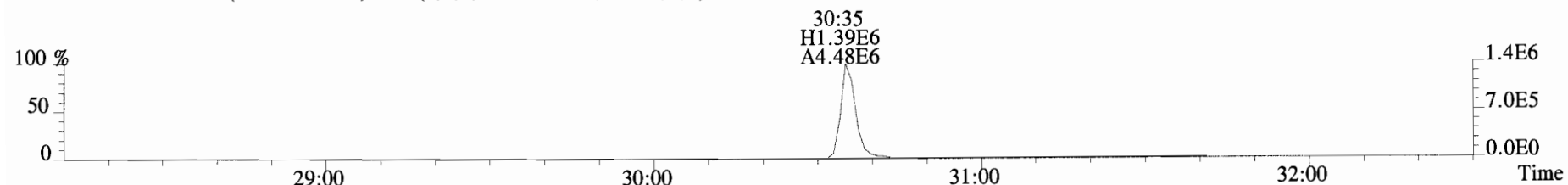
333.9339 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



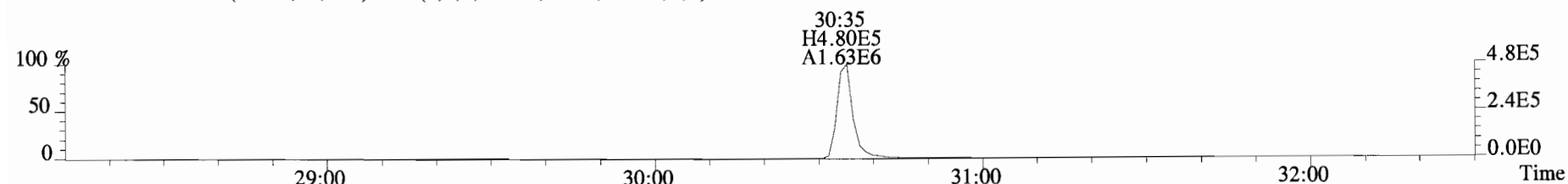
File:190510D2 #1-180 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



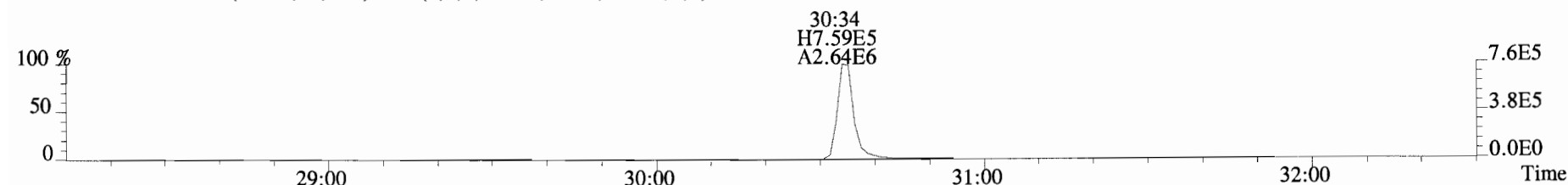
355.8546 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



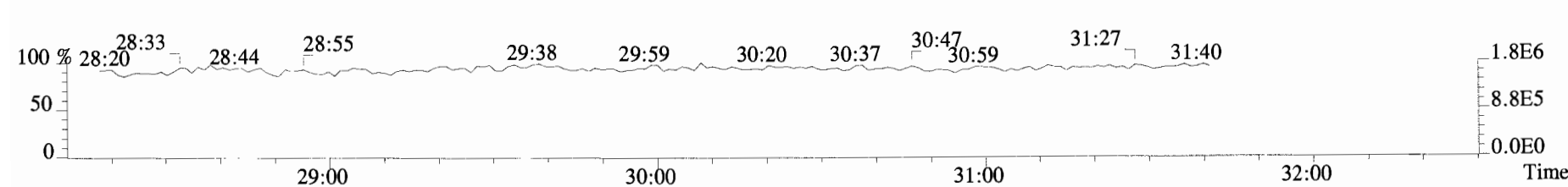
365.8978 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



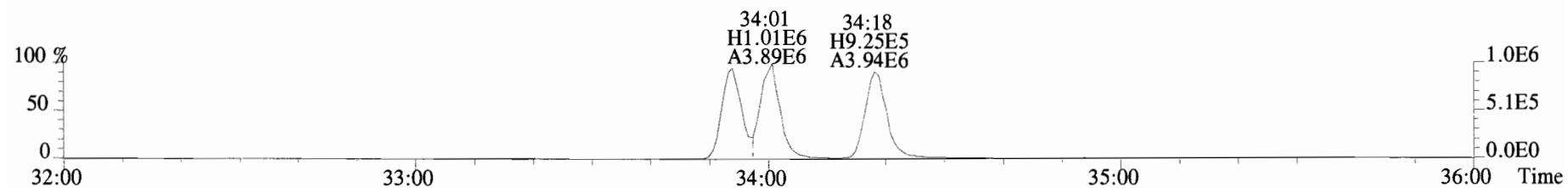
367.8949 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



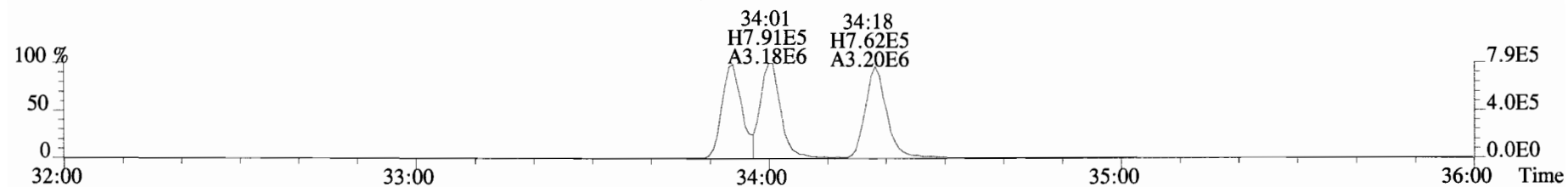
366.9792 S:5 F:2



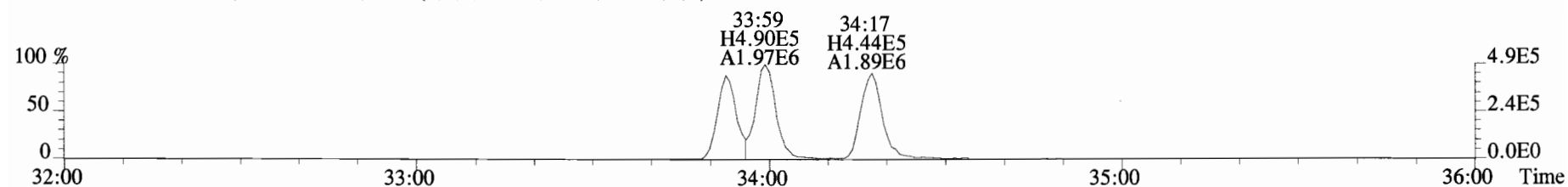
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
 389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



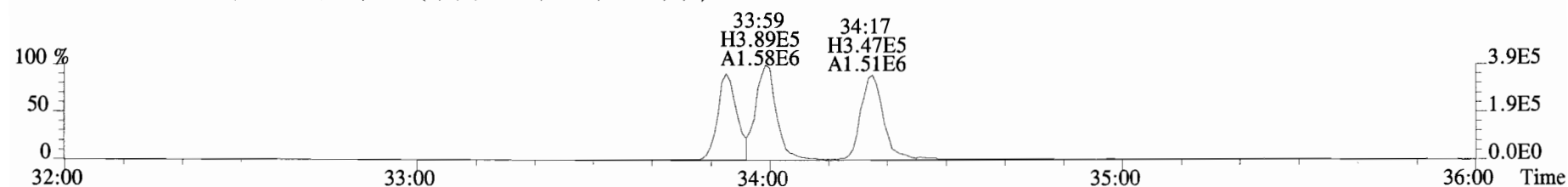
391.8127 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



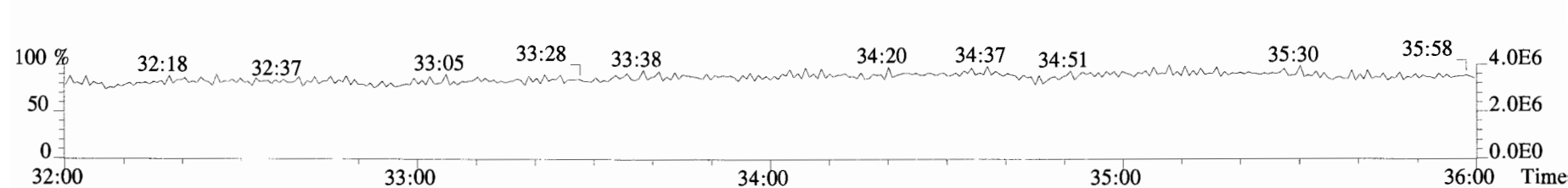
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



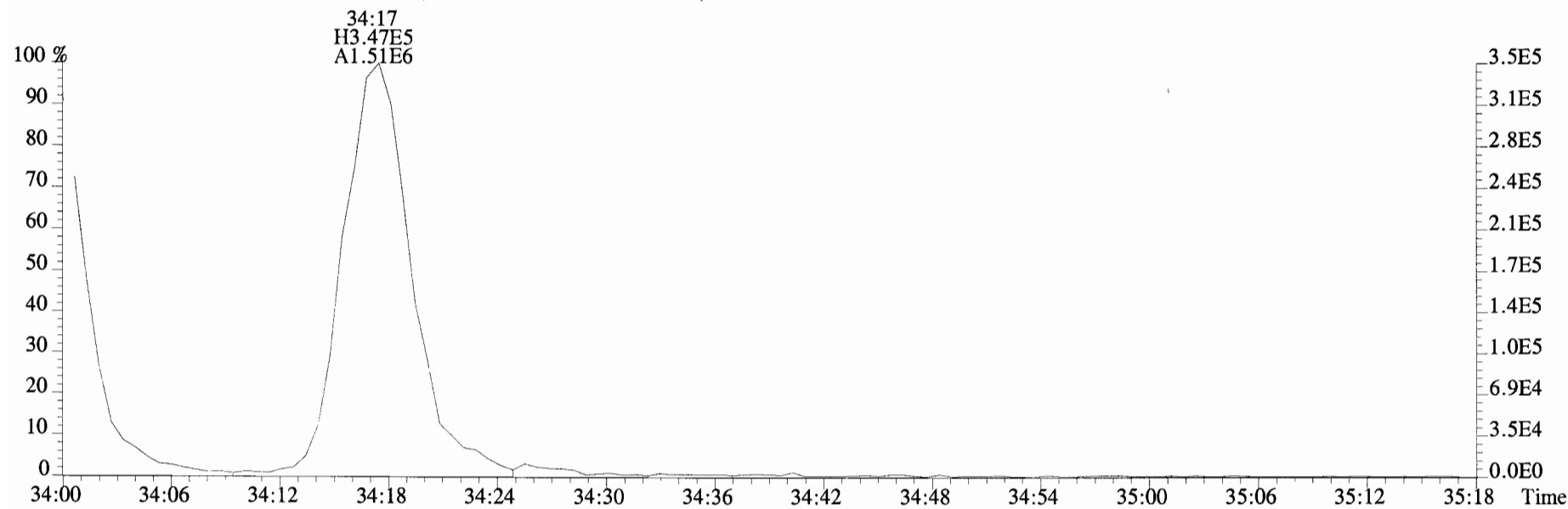
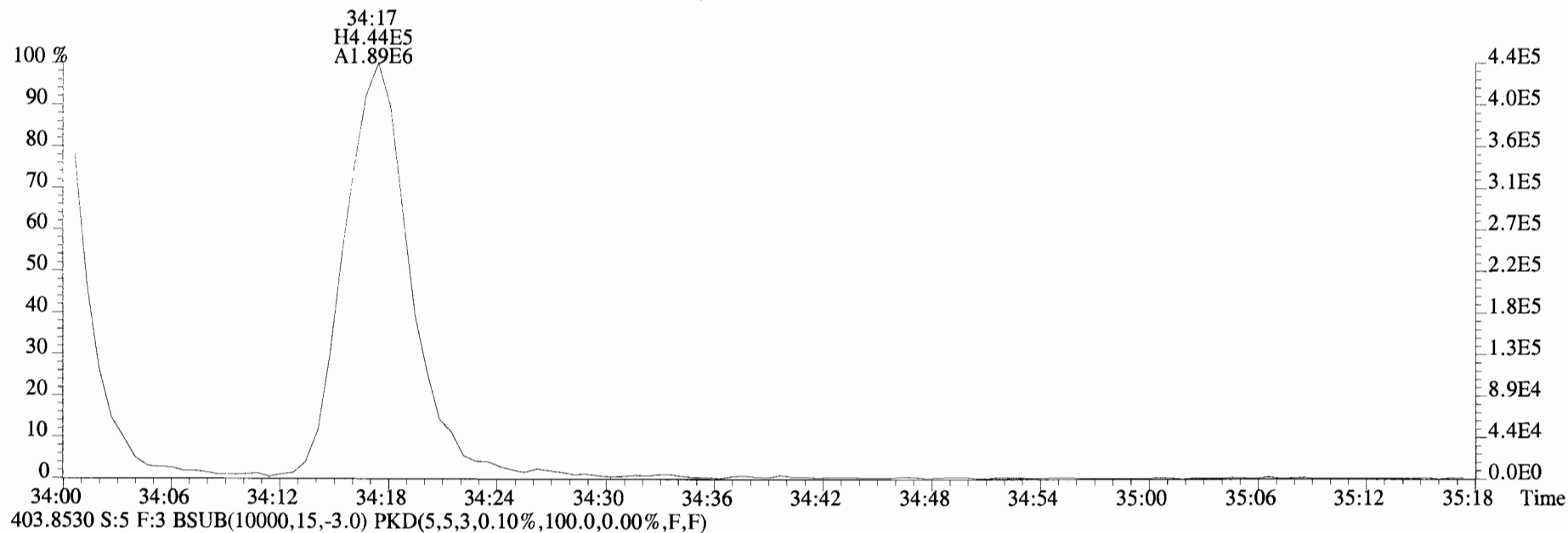
403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



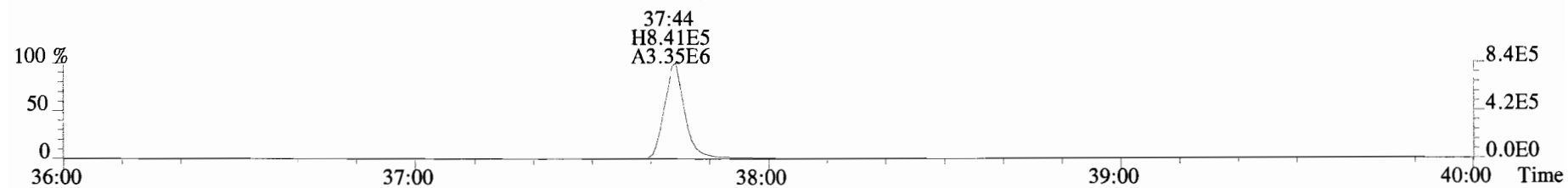
392.9760 S:5 F:3



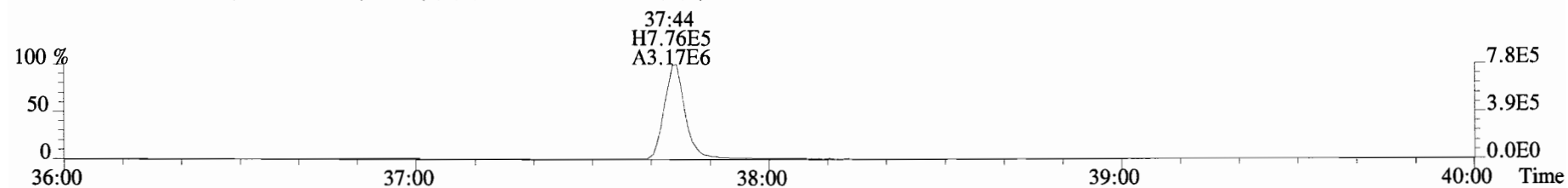
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



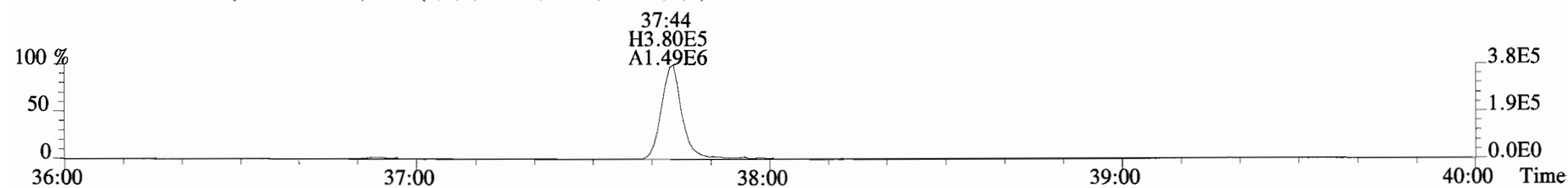
File:190510D2 #1-355 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



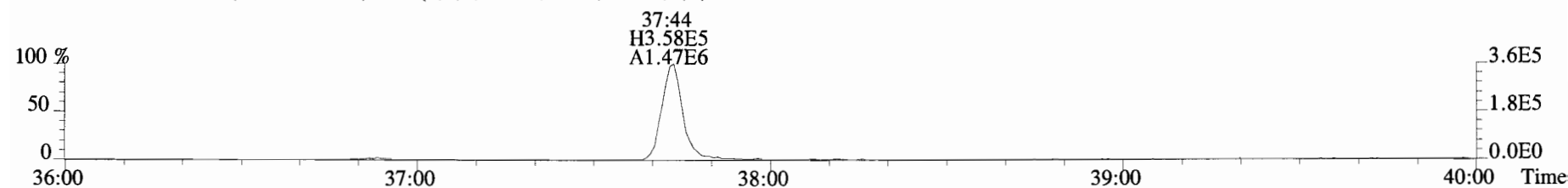
425.7737 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



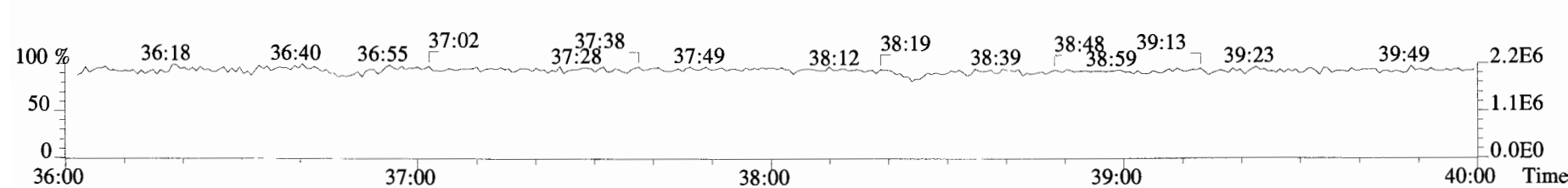
435.8169 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



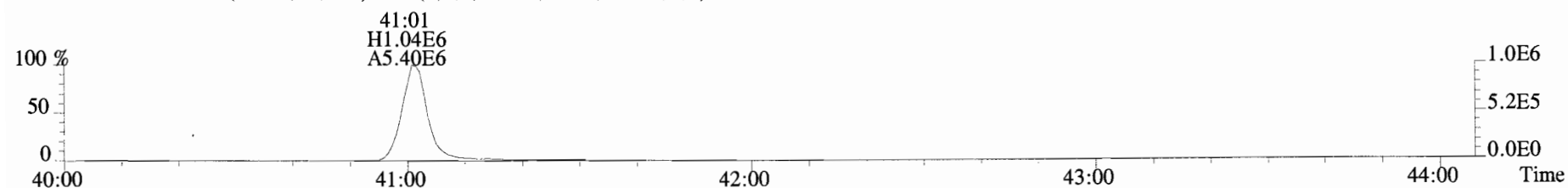
437.8140 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



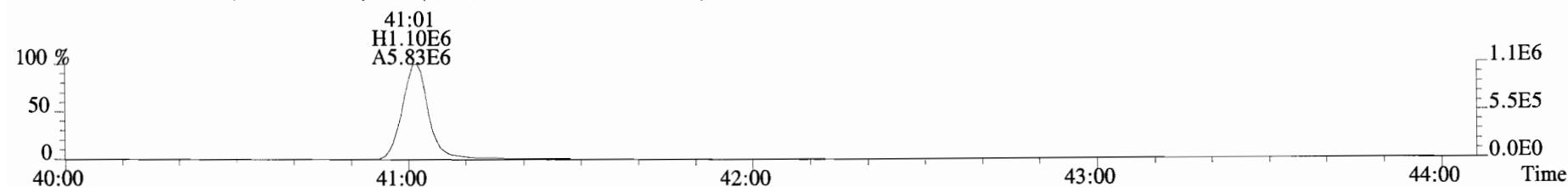
454.9728 S:5 F:4



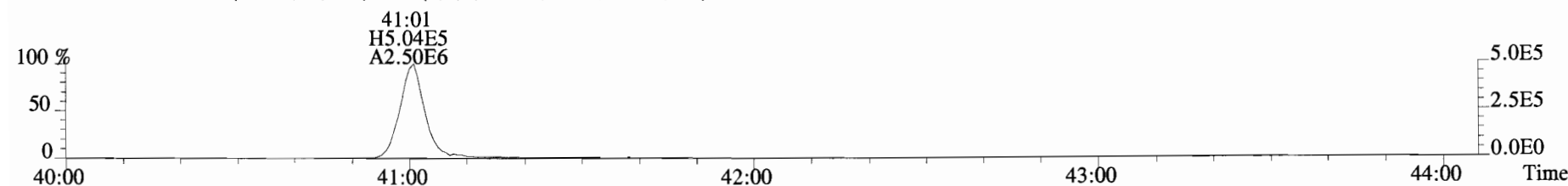
File:190510D2 #1-432 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



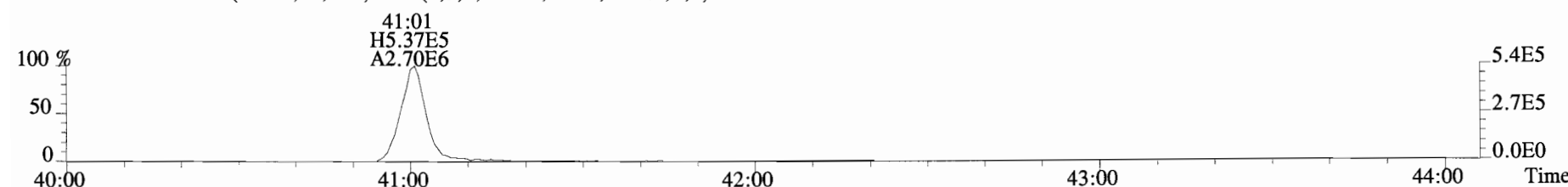
459.7348 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



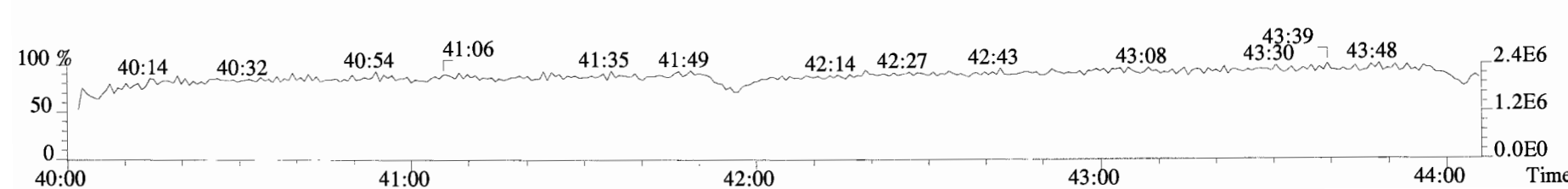
469.7780 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



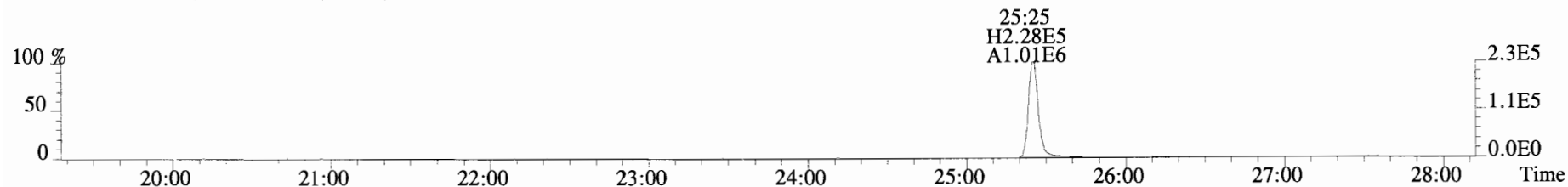
471.7750 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



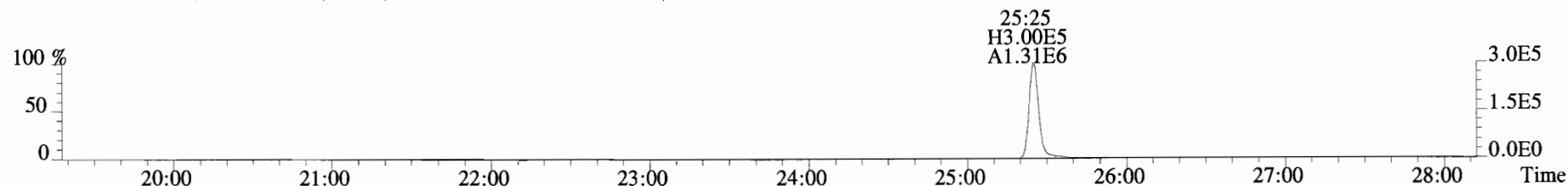
454.9728 S:5 F:5



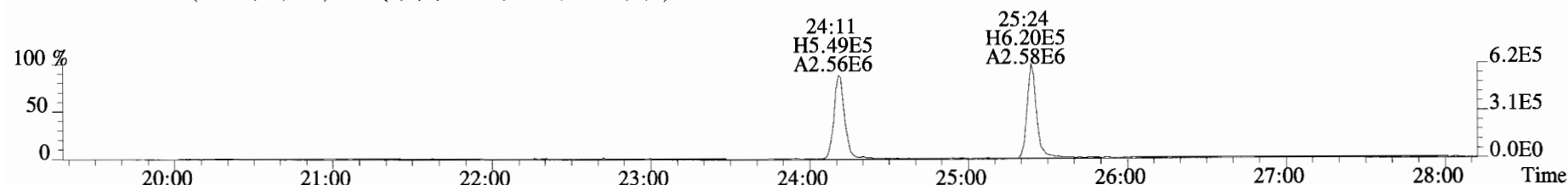
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
 303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



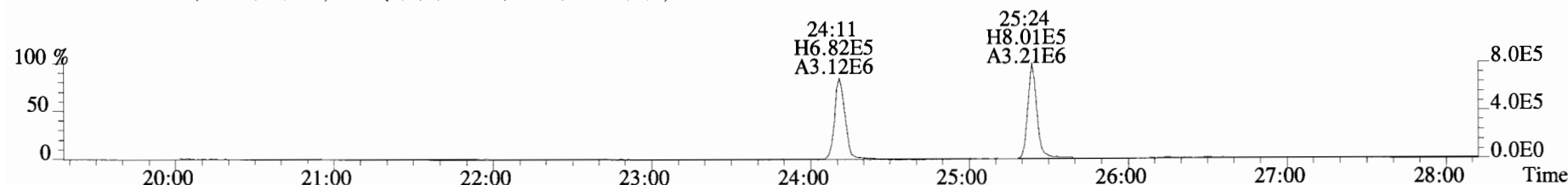
305.8987 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



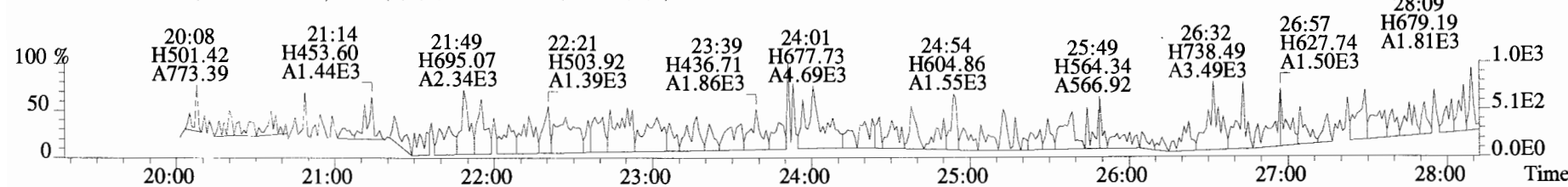
315.9419 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



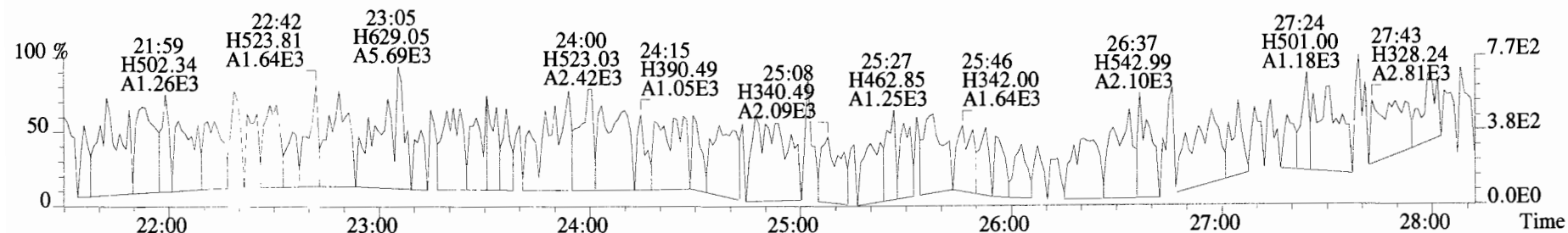
317.9389 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



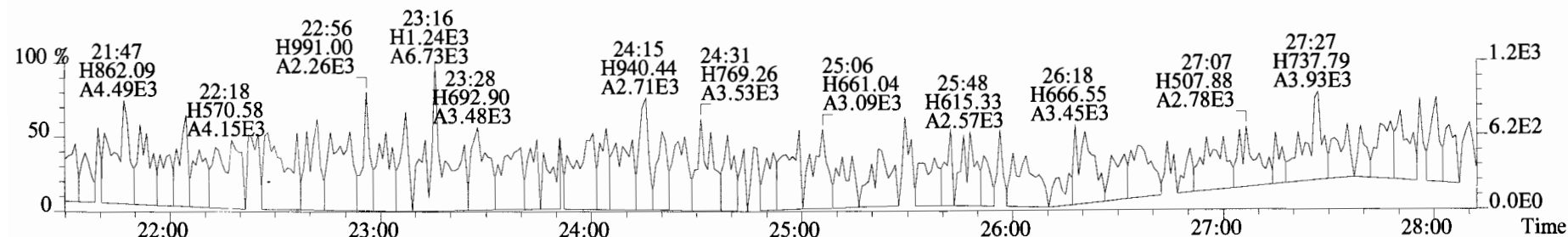
375.8364 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



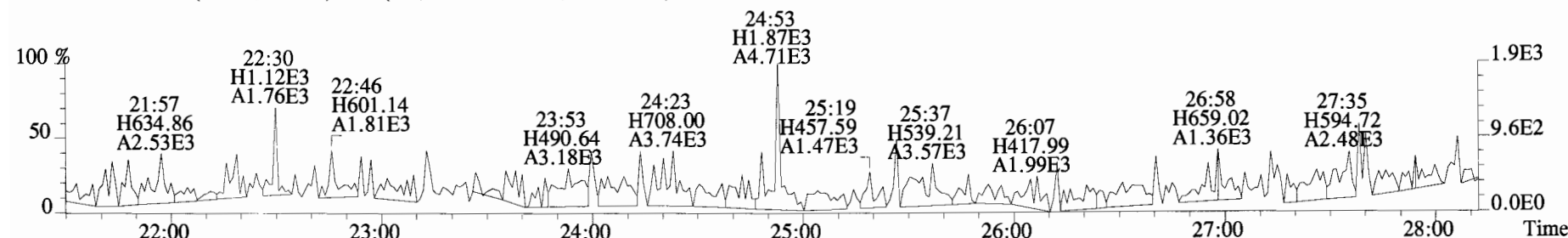
File:190510D2 #1-530 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



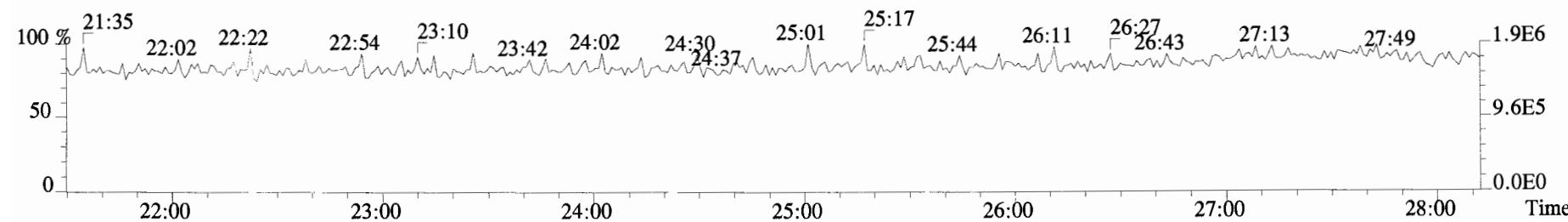
341.8568 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



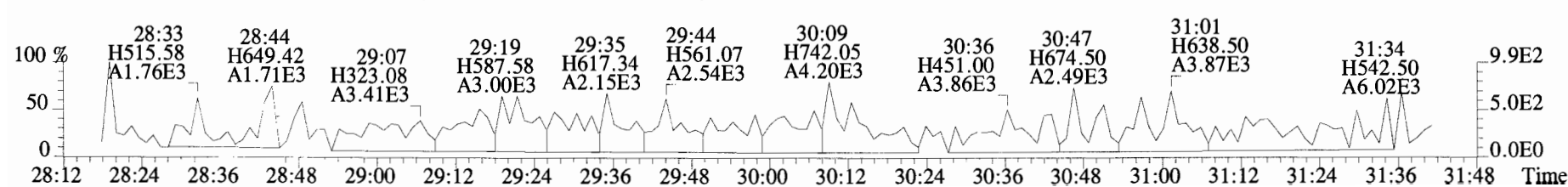
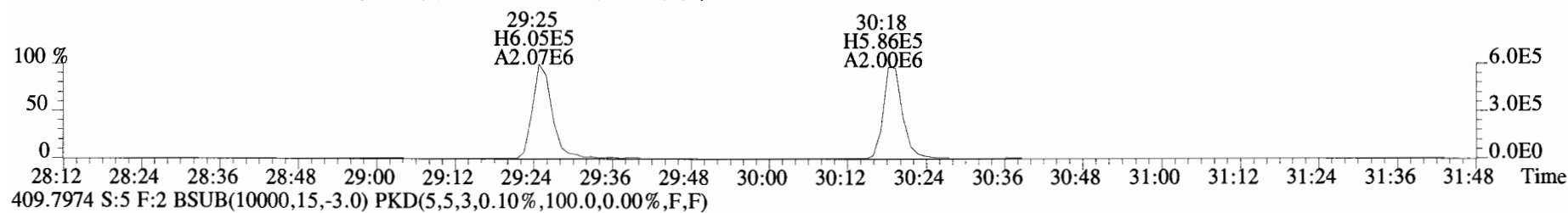
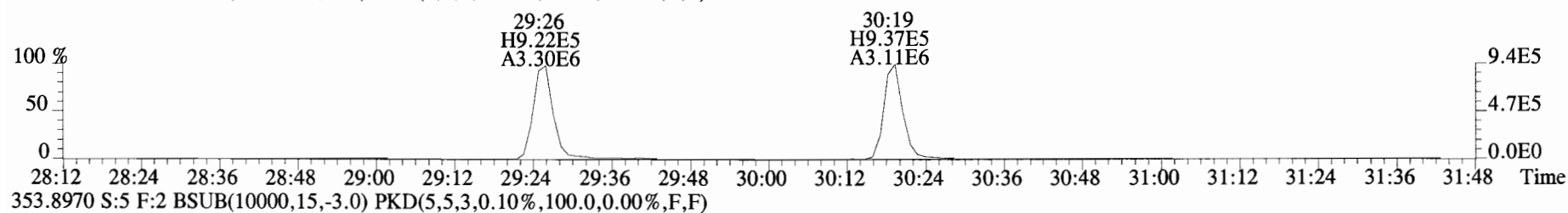
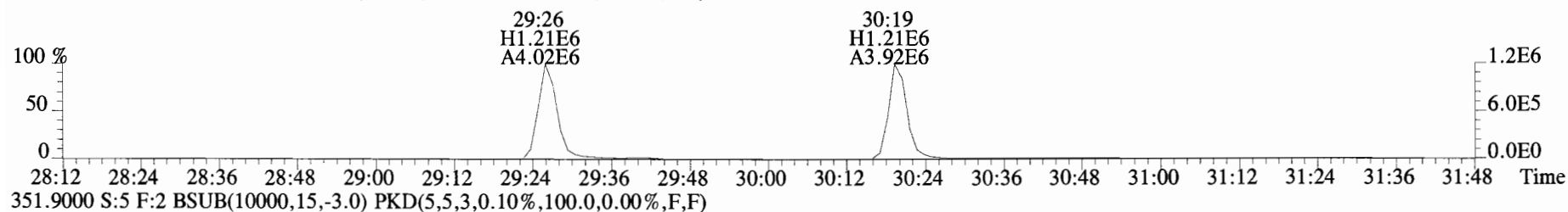
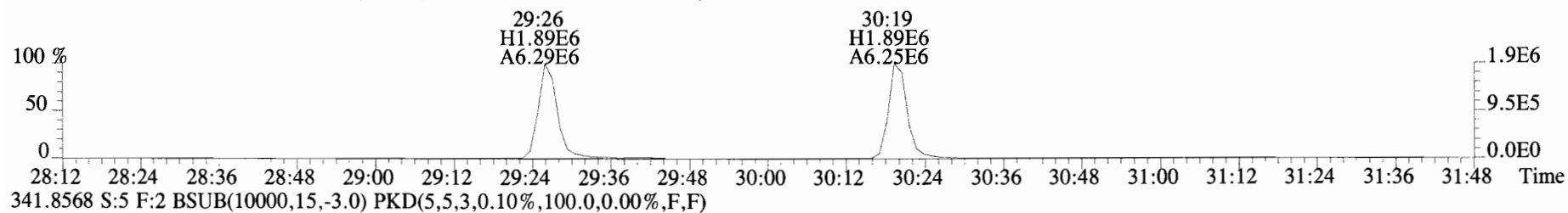
409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



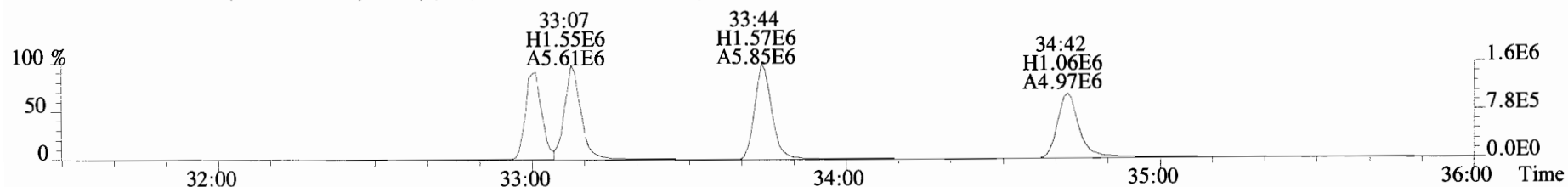
316.9824 S:5



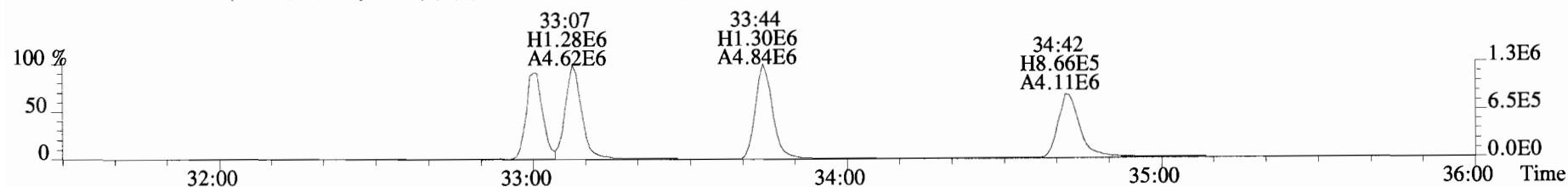
File:190510D2 #1-180 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
 339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



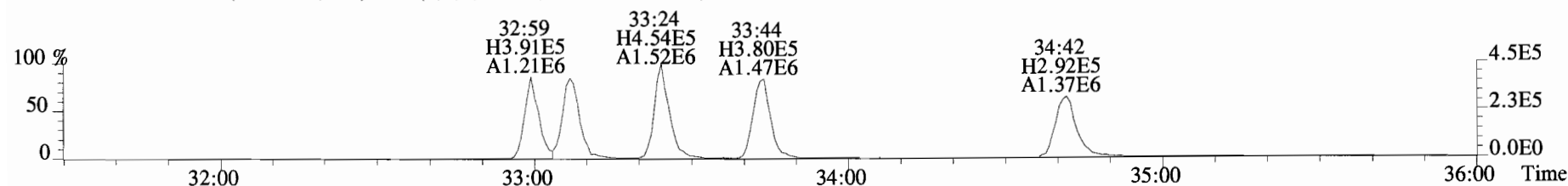
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
 373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



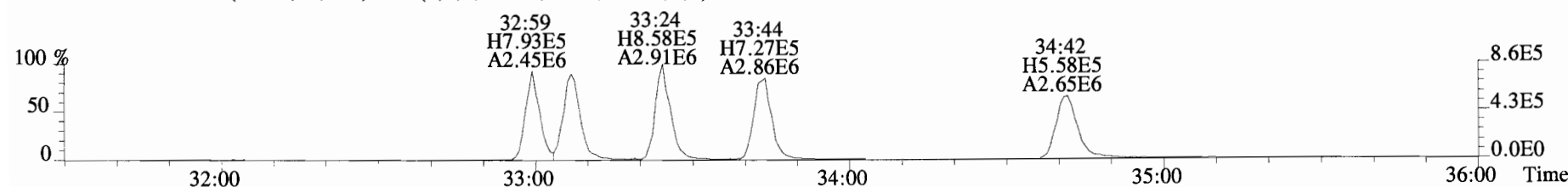
375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



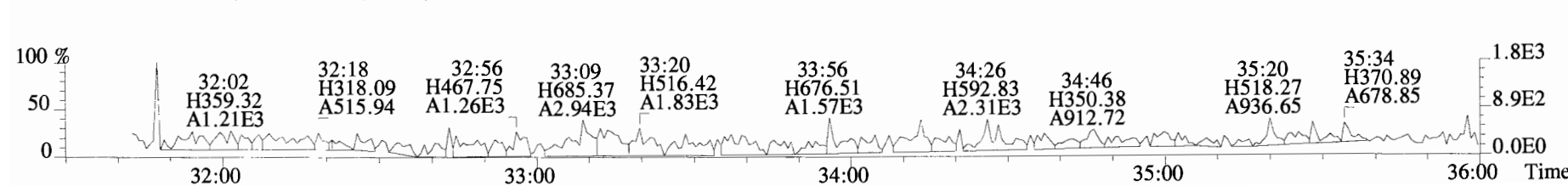
383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



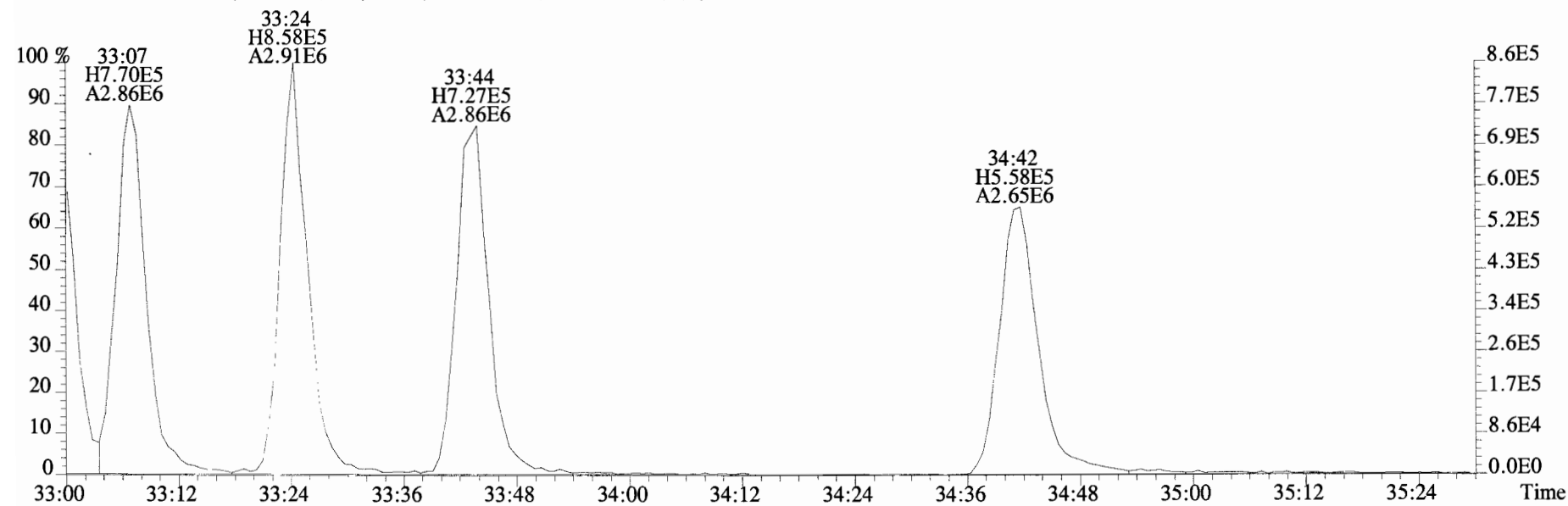
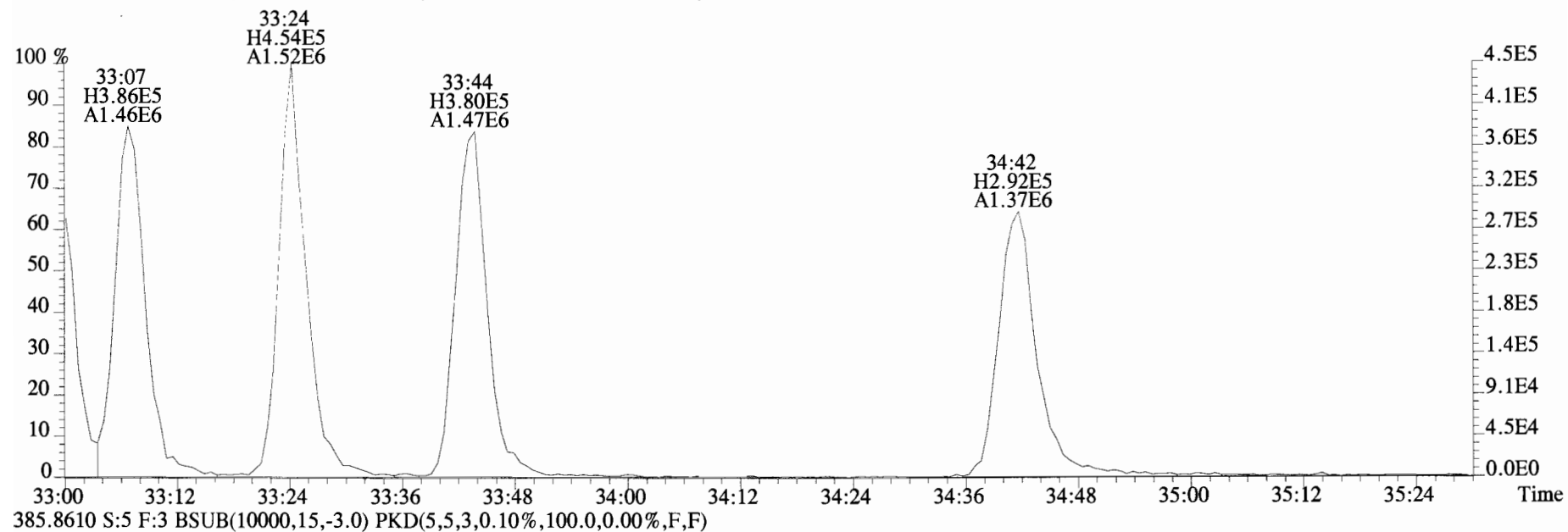
385.8610 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



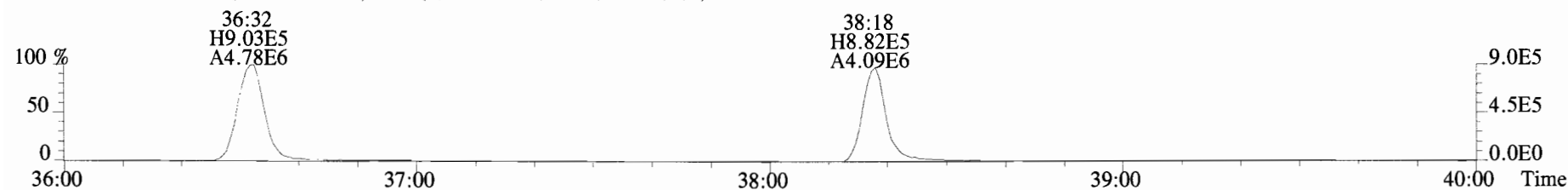
445.7555 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



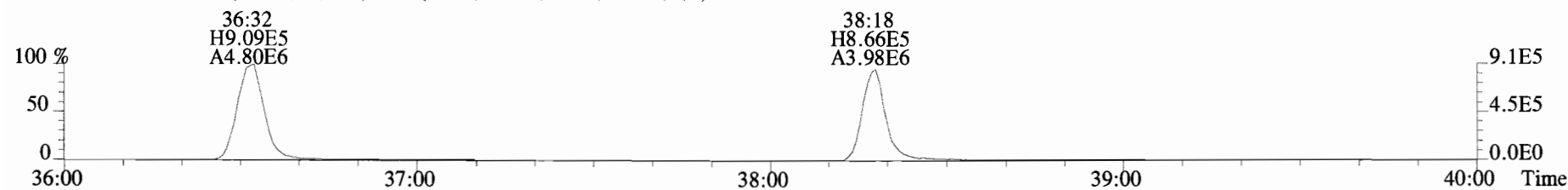
File:190510D2 #1-384 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
 383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



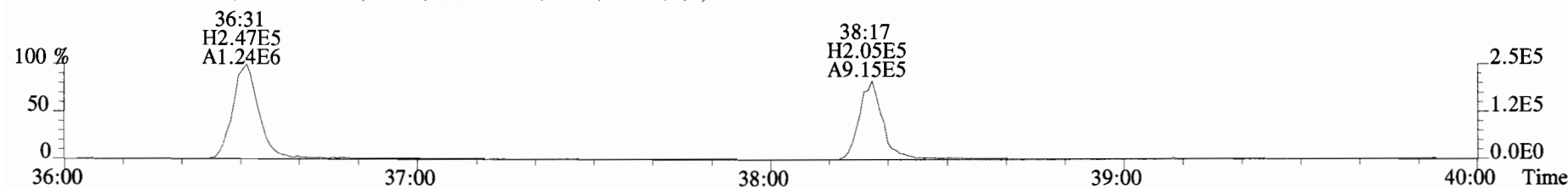
File:190510D2 #1-355 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



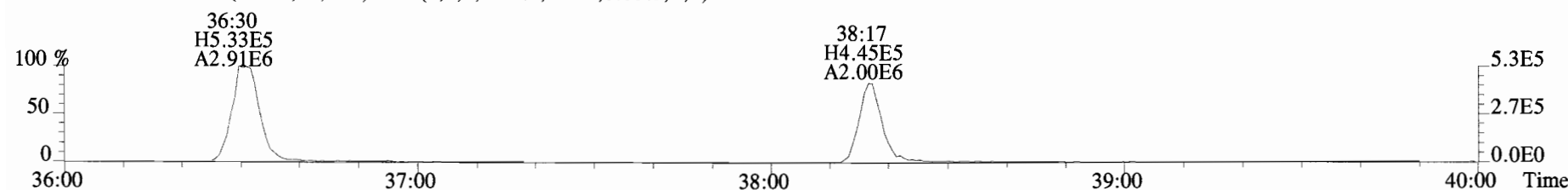
409.7788 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



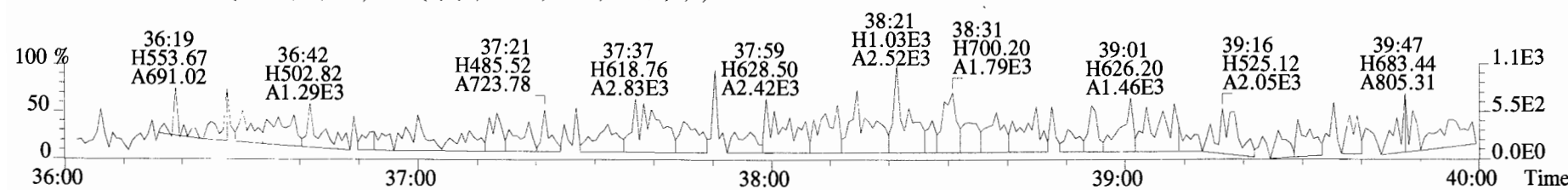
417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



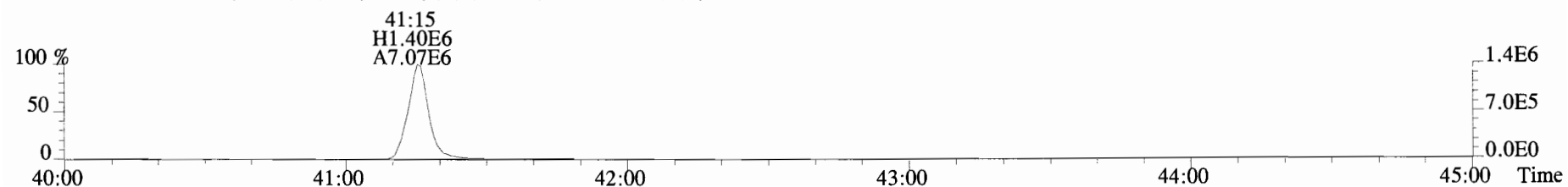
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



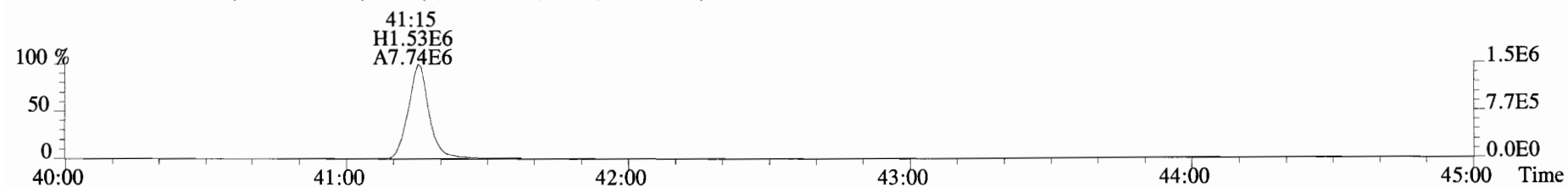
479.7165 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



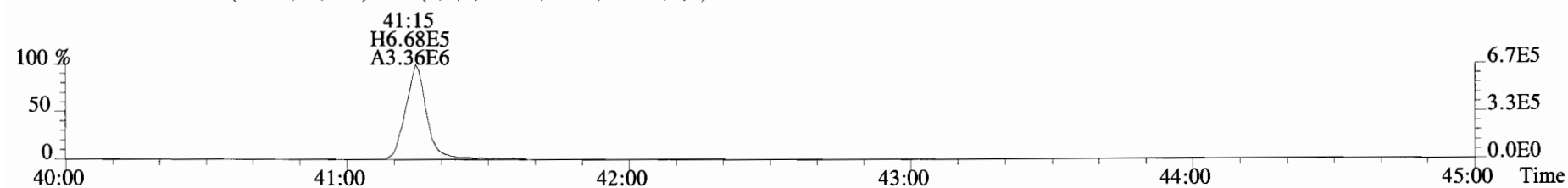
File:190510D2 #1-432 Acq:10-MAY-2019 17:35:29 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-5 1613 CS4 19C2205 Exp:OCDD_DB5
441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



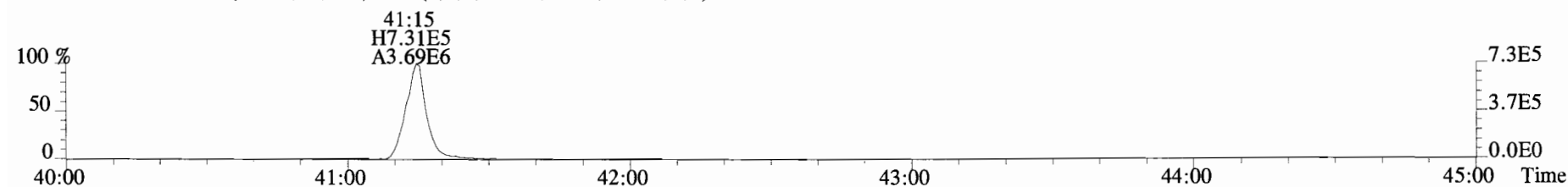
443.7398 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



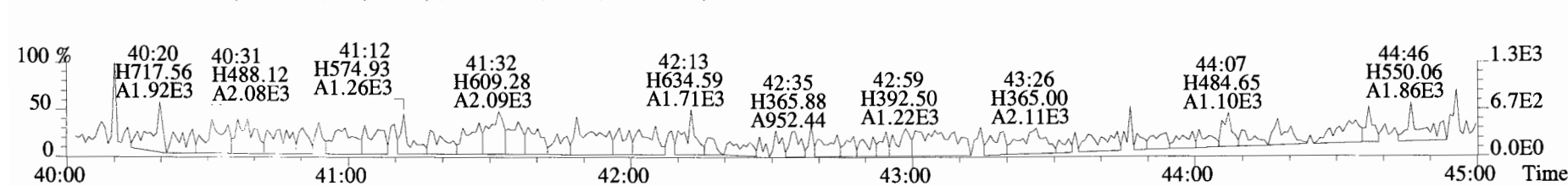
453.7831 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



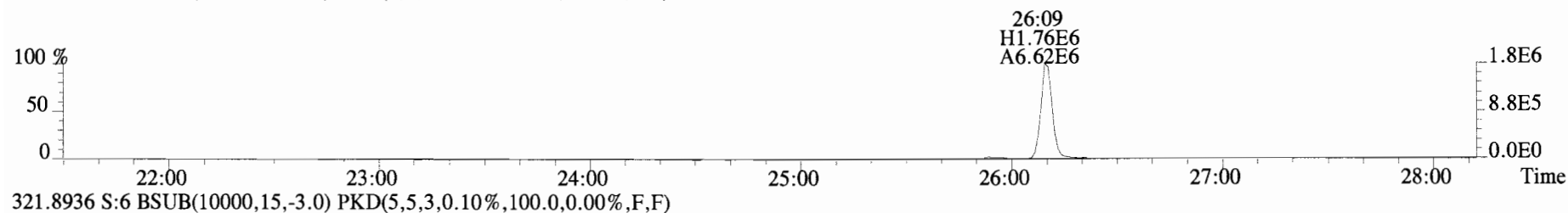
455.7801 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



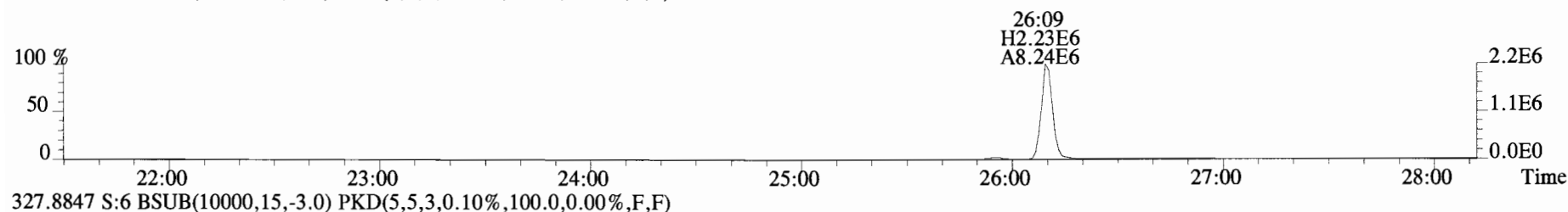
513.6775 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



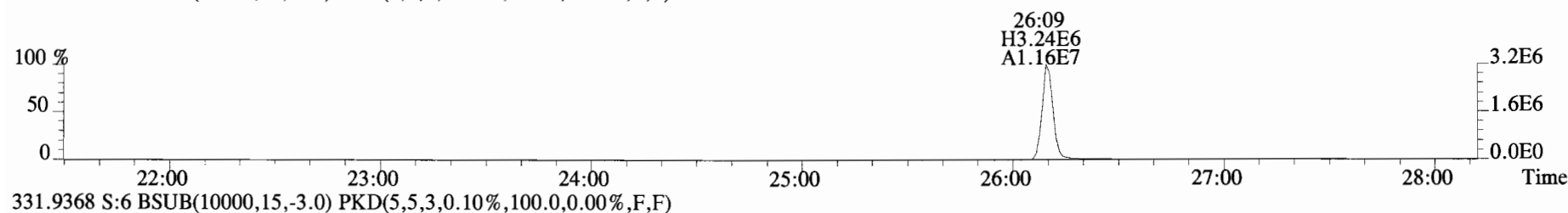
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



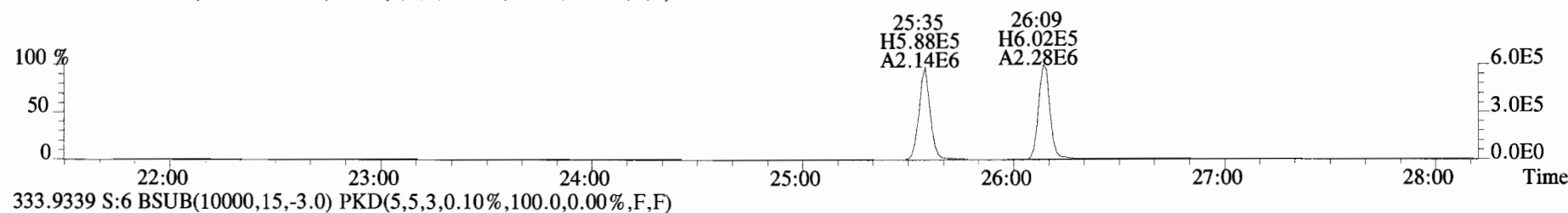
321.8936 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



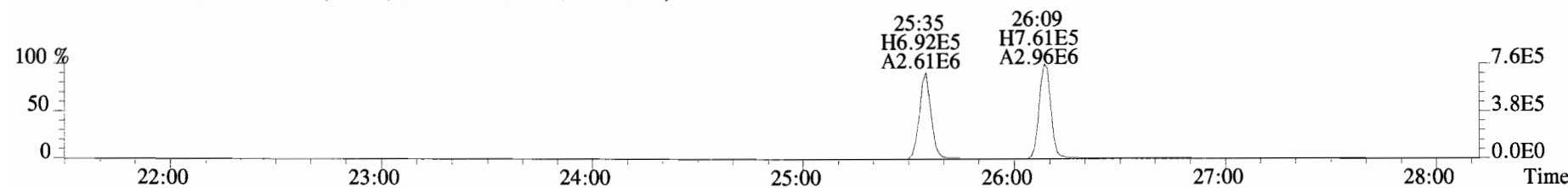
327.8847 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



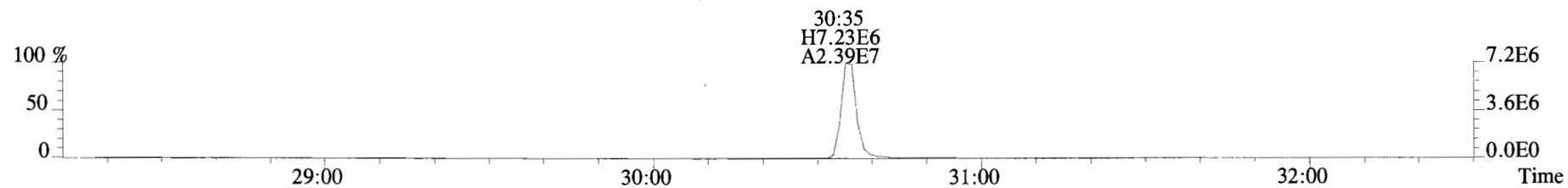
331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



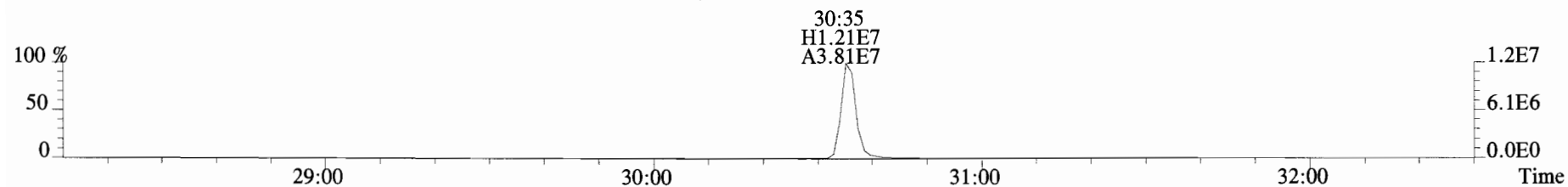
333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



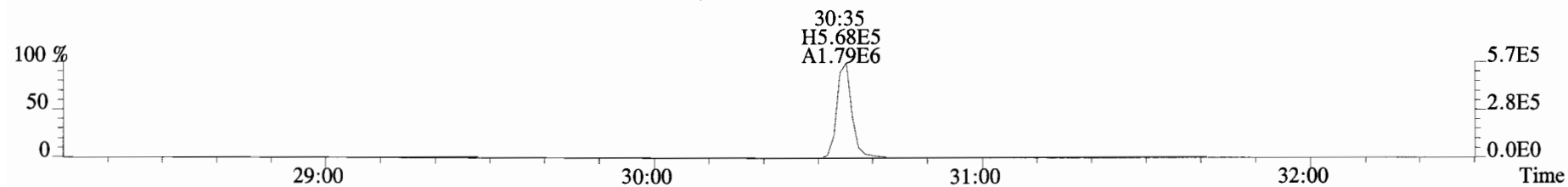
File:190510D2 #1-180 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



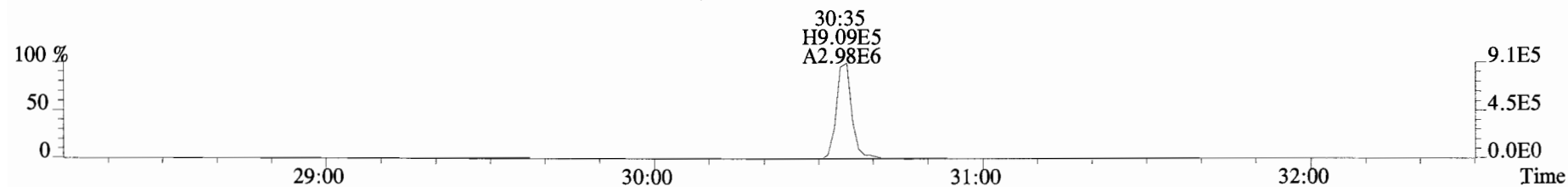
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



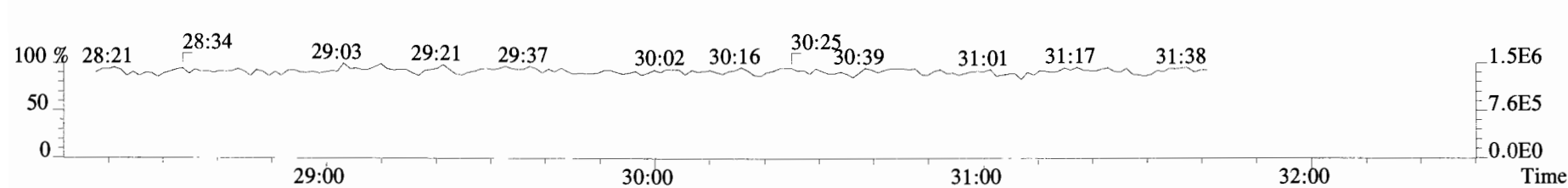
365.8978 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



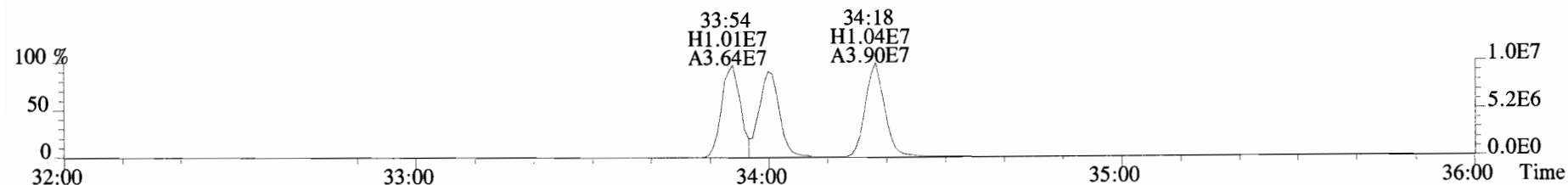
367.8949 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



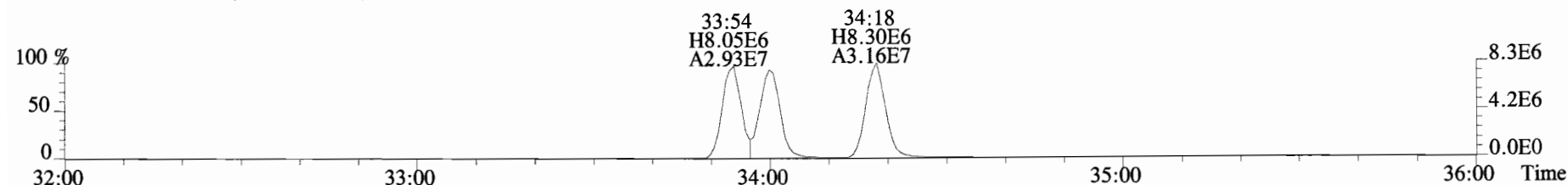
366.9792 S:6 F:2



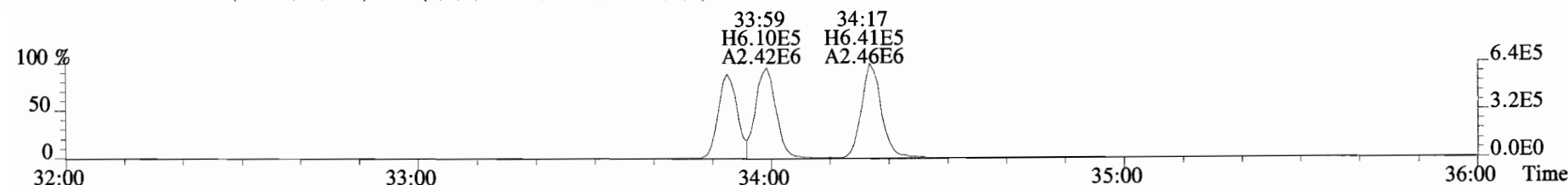
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



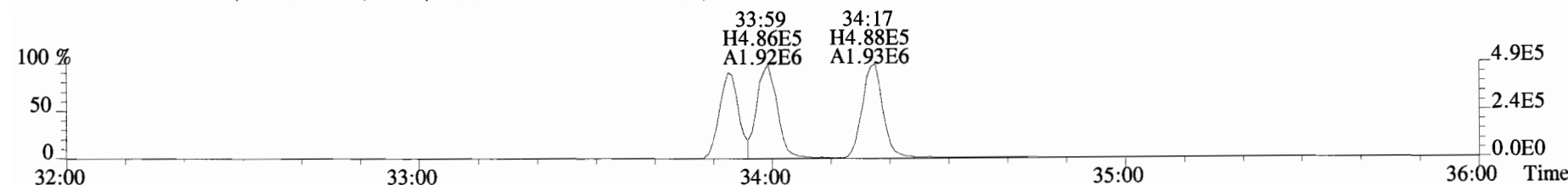
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



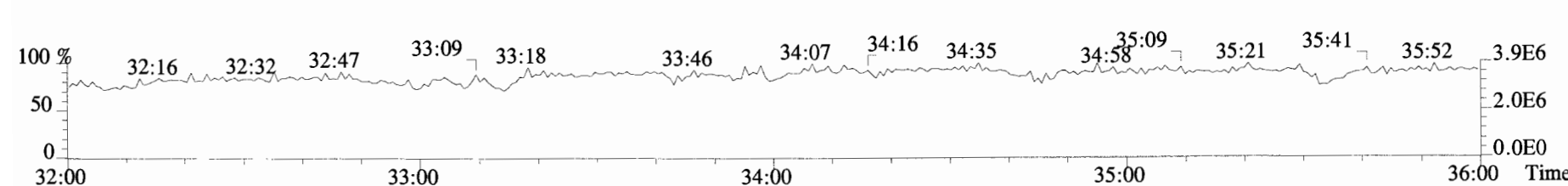
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



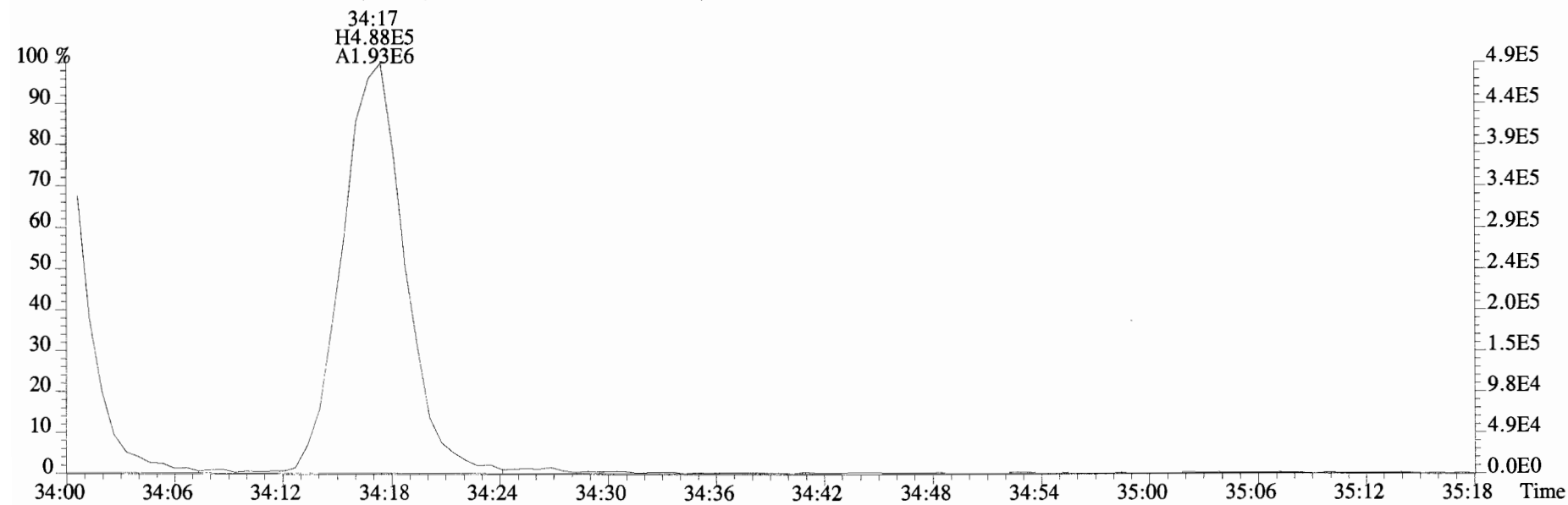
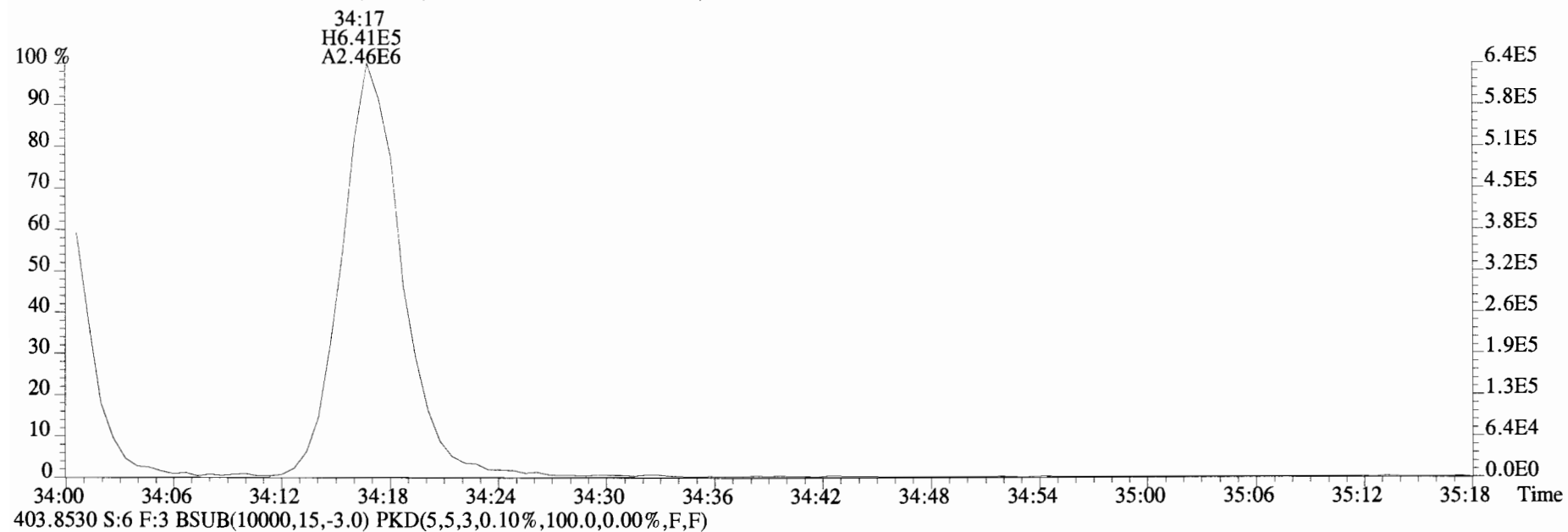
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



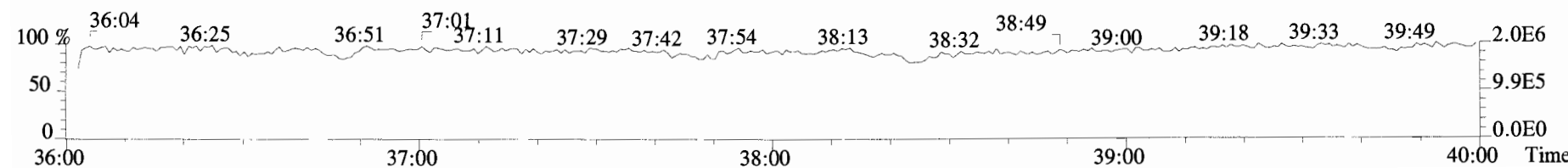
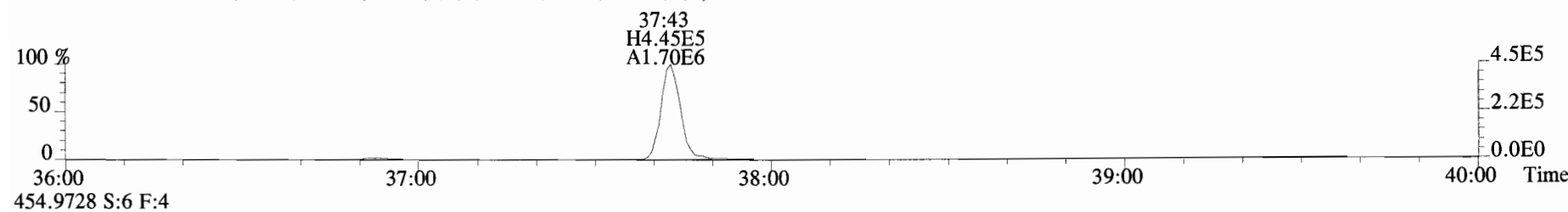
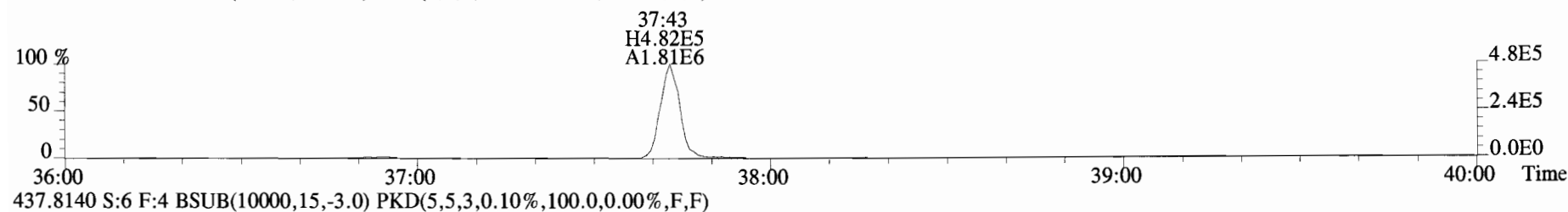
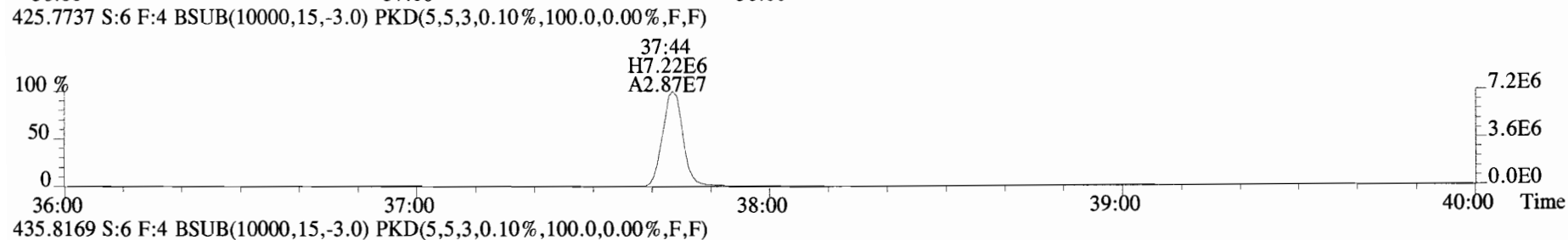
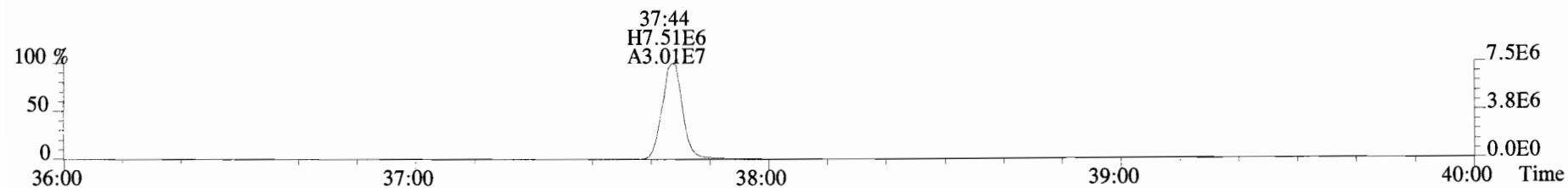
392.9760 S:6 F:3



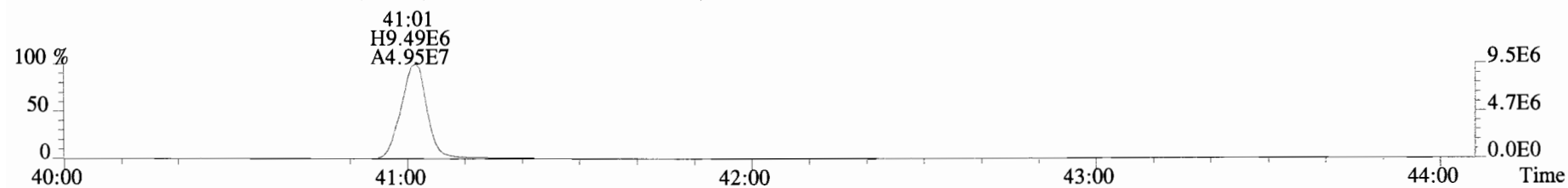
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



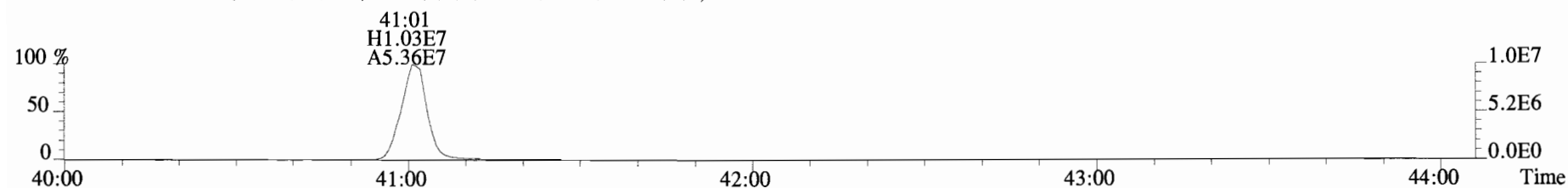
File:190510D2 #1-355 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



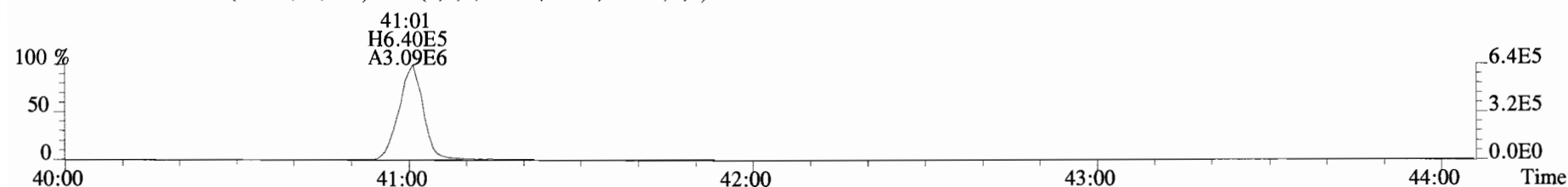
File:190510D2 #1-432 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text: Vista_Analytical_Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



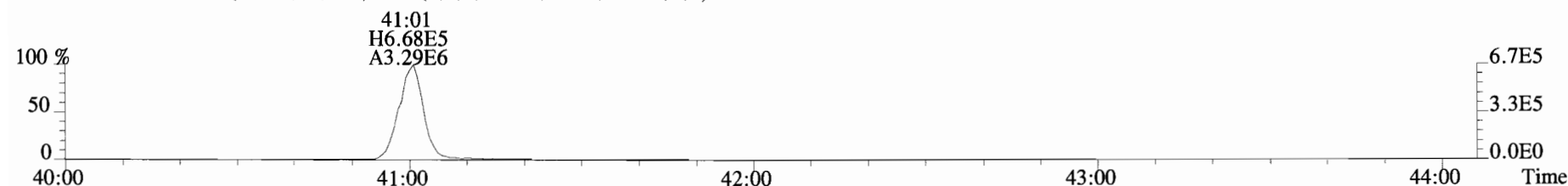
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



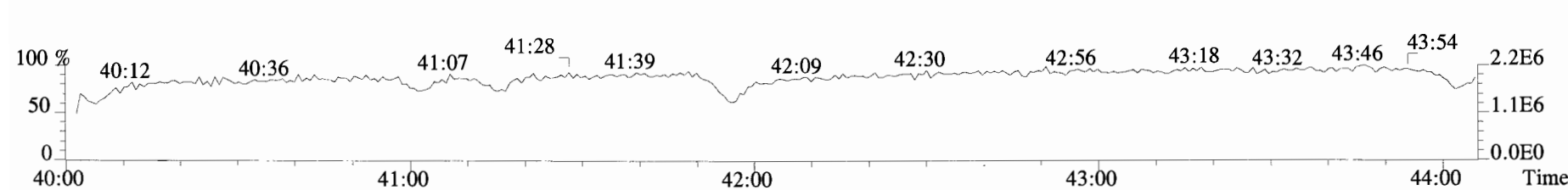
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



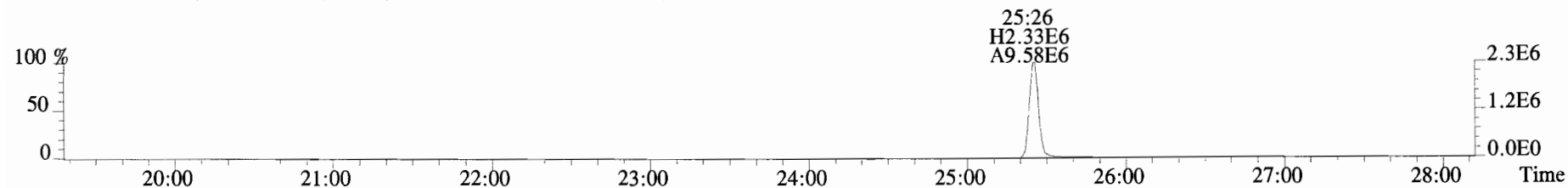
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



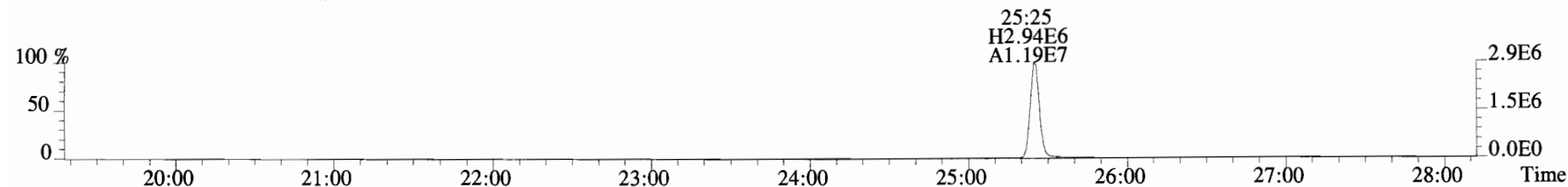
454.9728 S:6 F:5



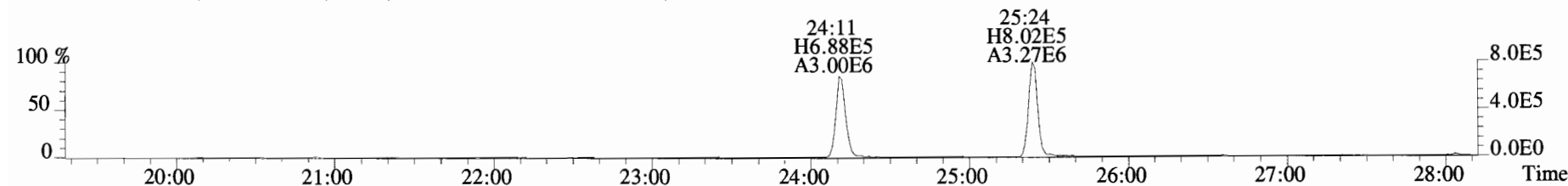
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



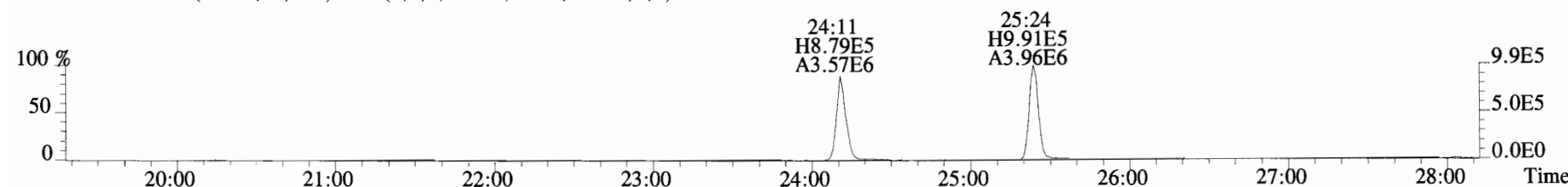
305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



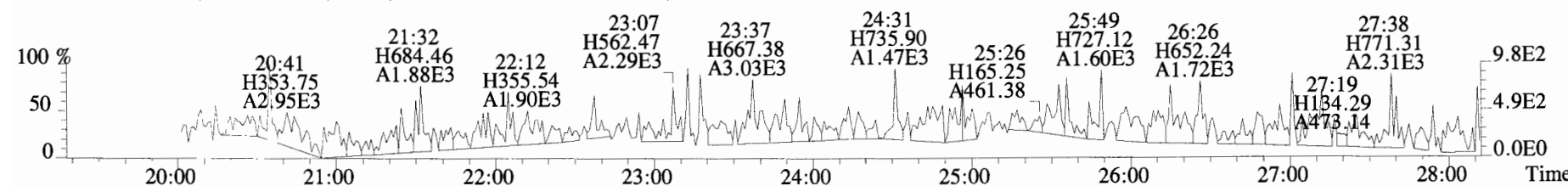
315.9419 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



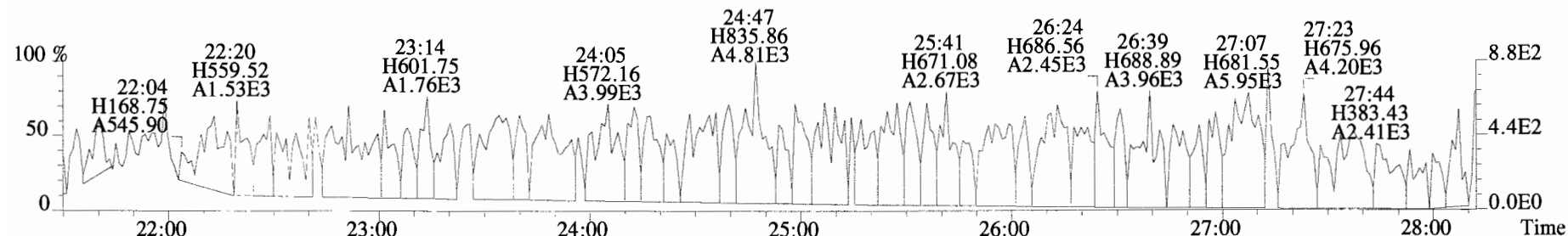
317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



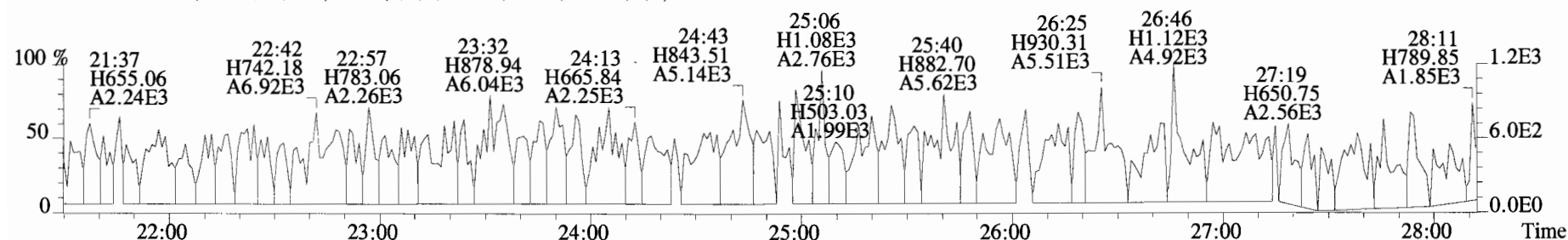
375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



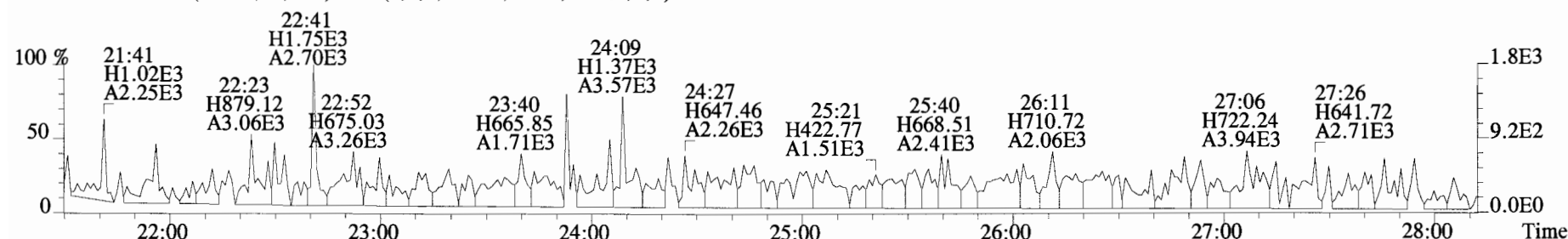
File:190510D2 #1-530 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



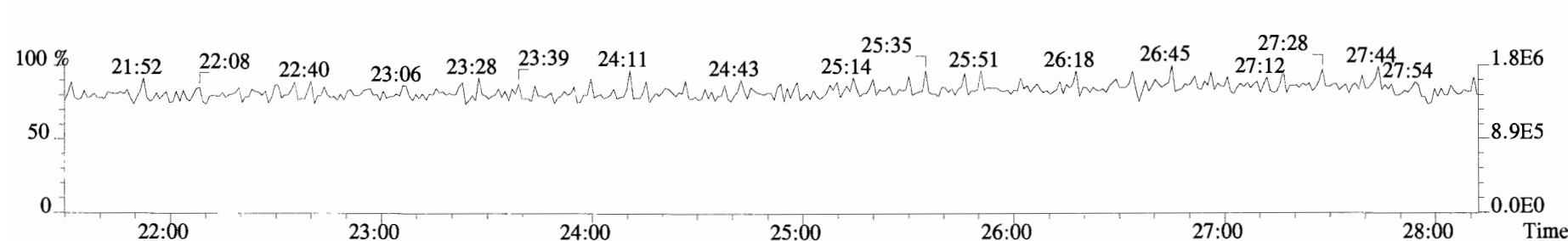
341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



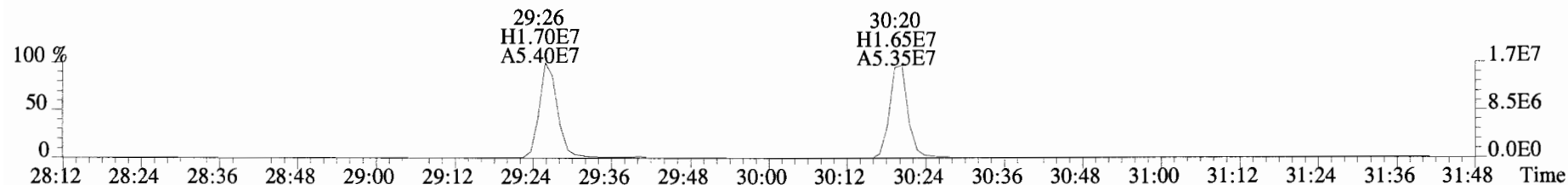
409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



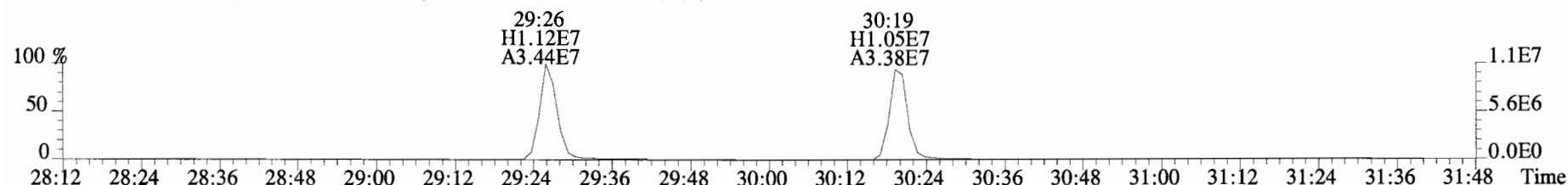
316.9824 S:6



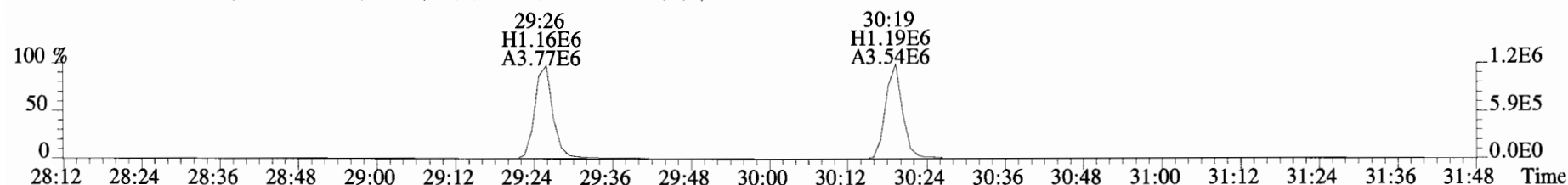
File:190510D2 #1-180 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text: Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 339.8597 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



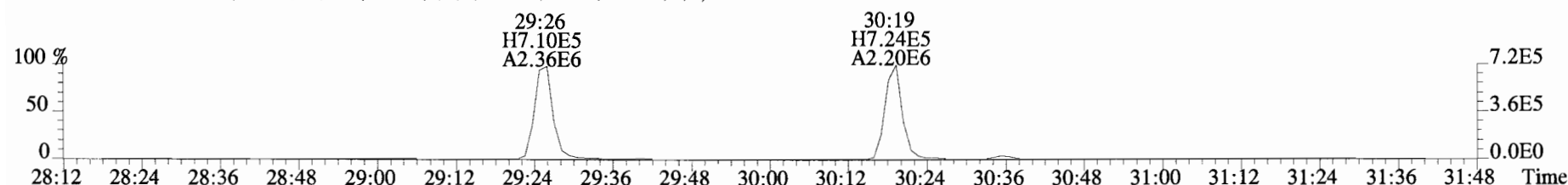
341.8568 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



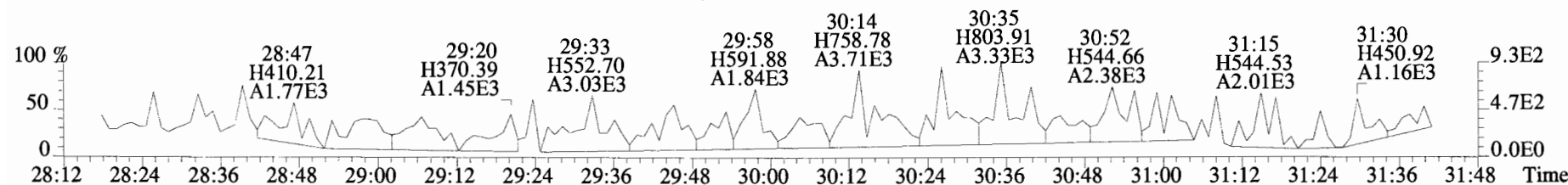
351.9000 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



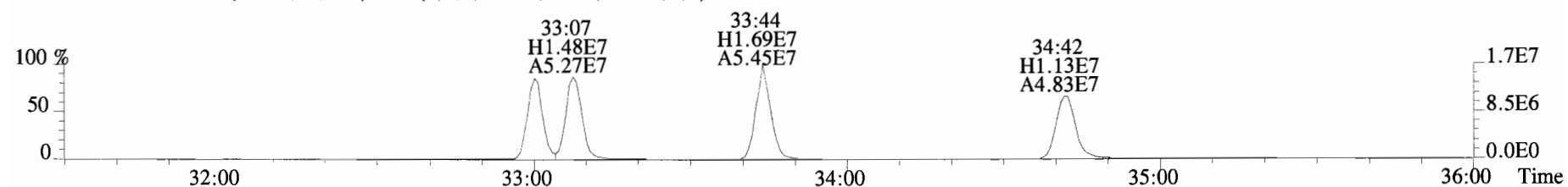
353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



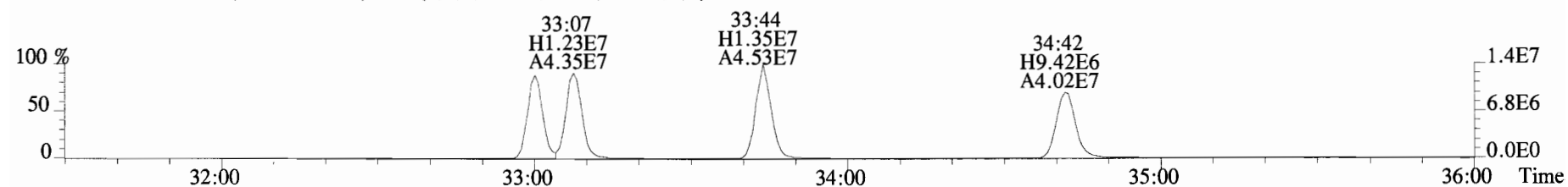
409.7974 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



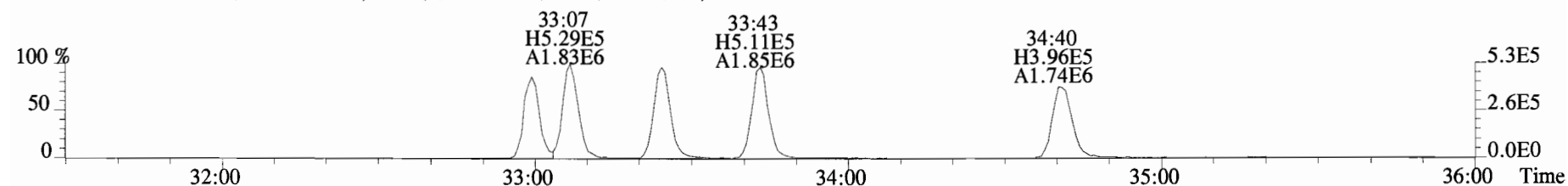
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



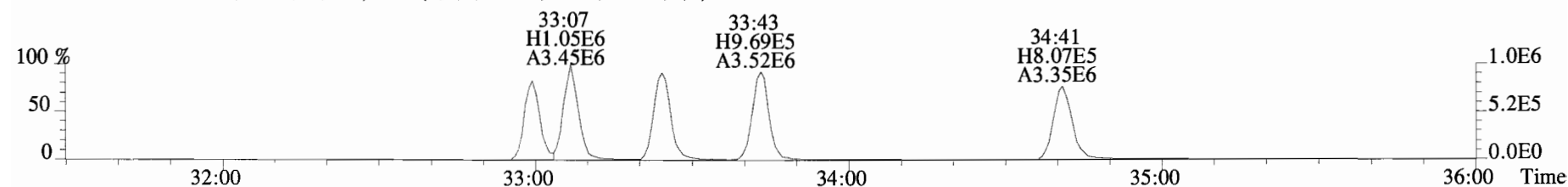
375.8178 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



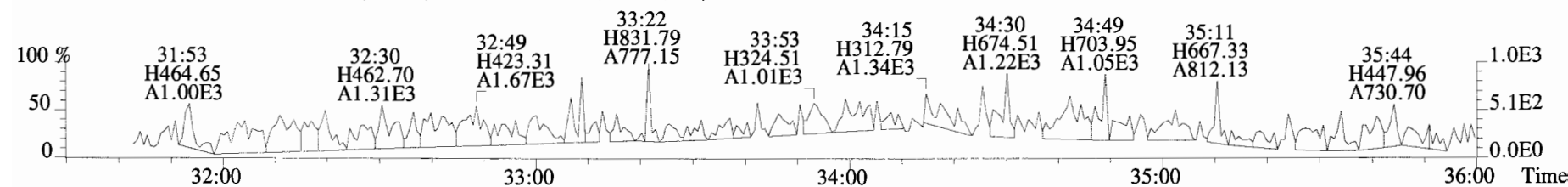
383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



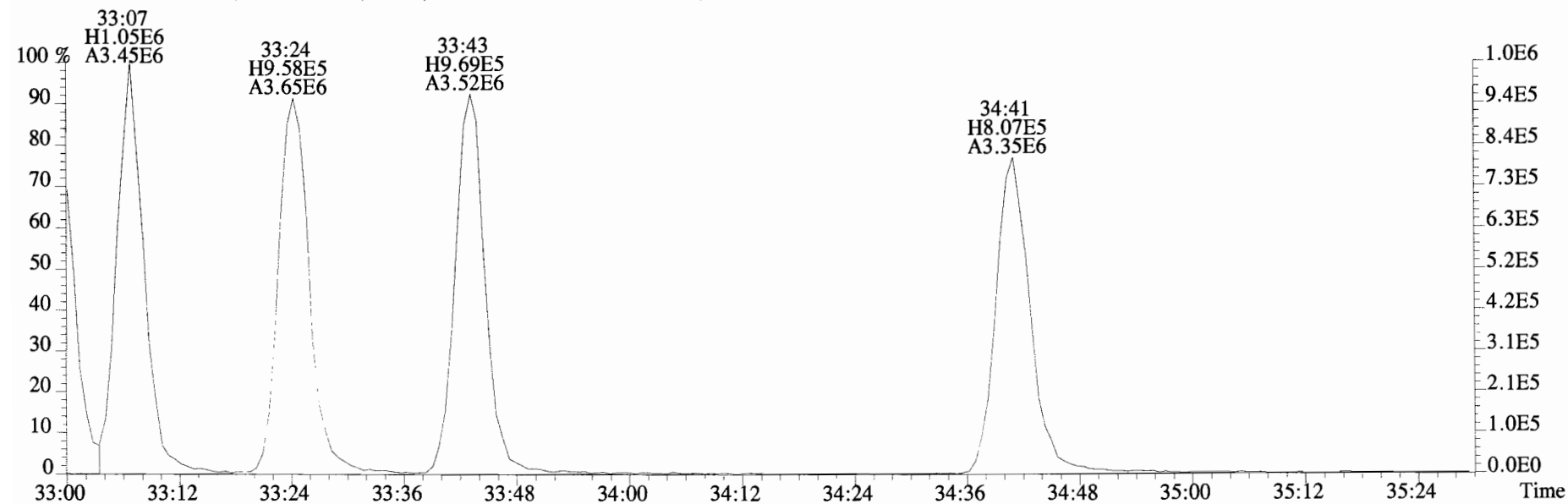
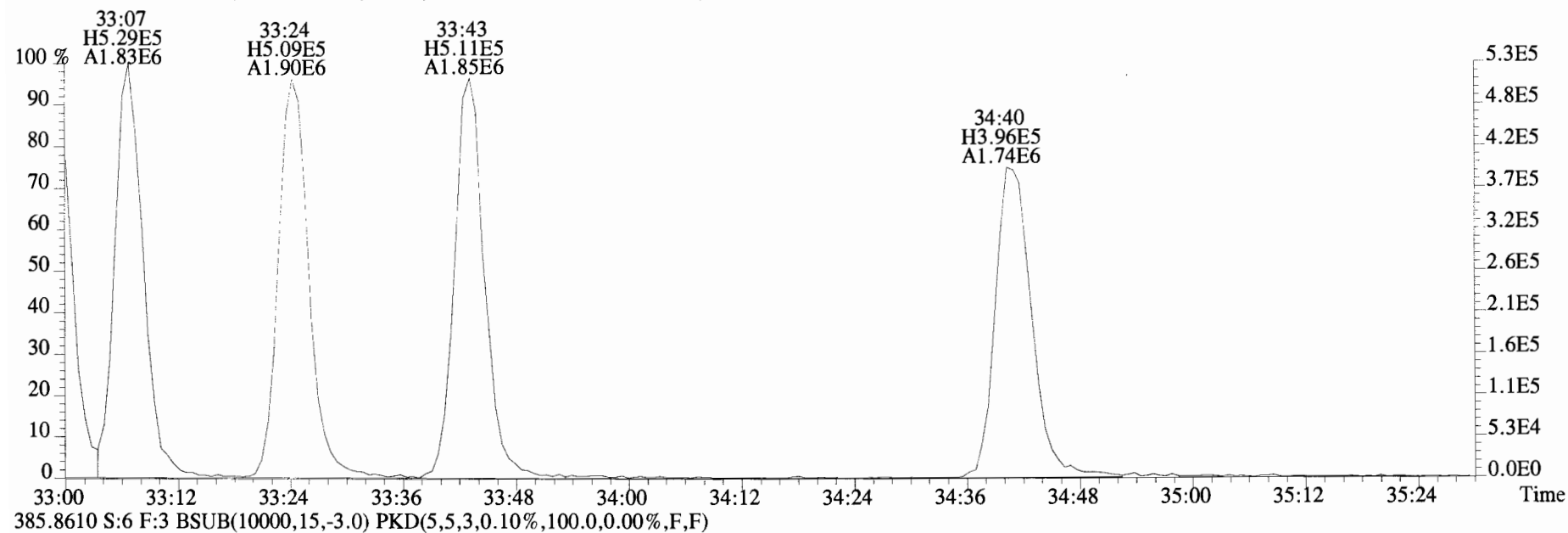
385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



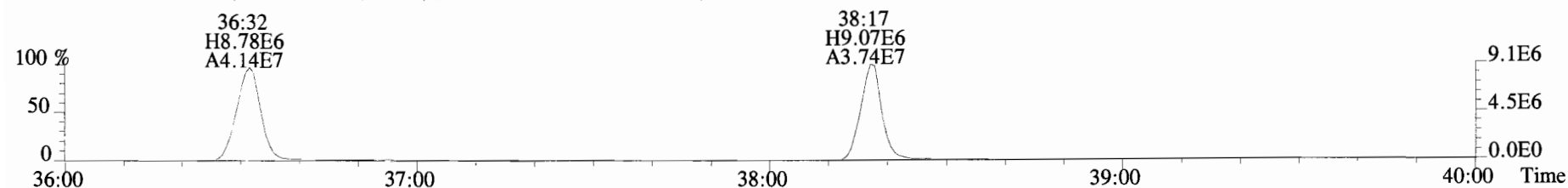
445.7555 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



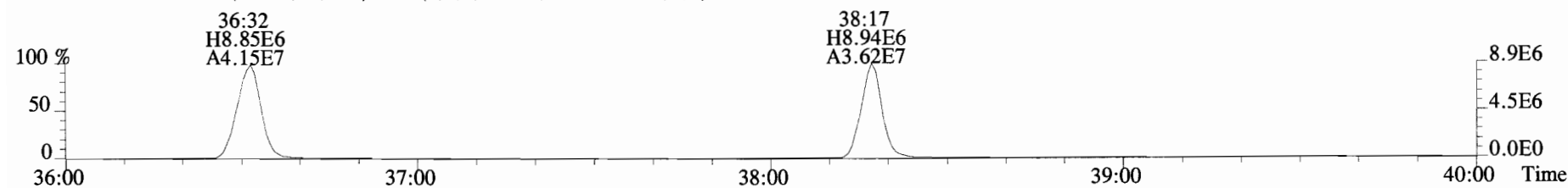
File:190510D2 #1-384 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



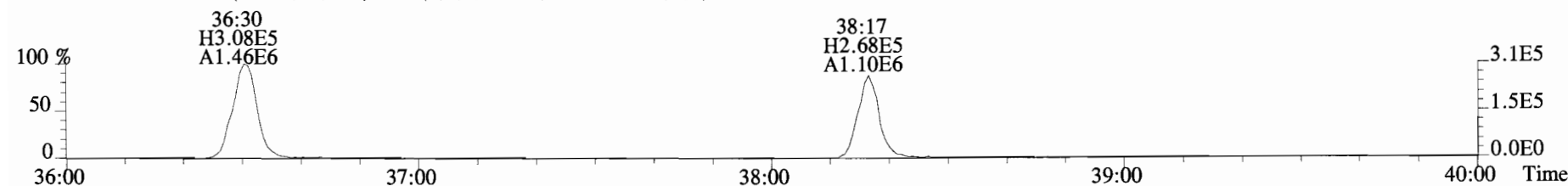
File:190510D2 #1-355 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
 407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



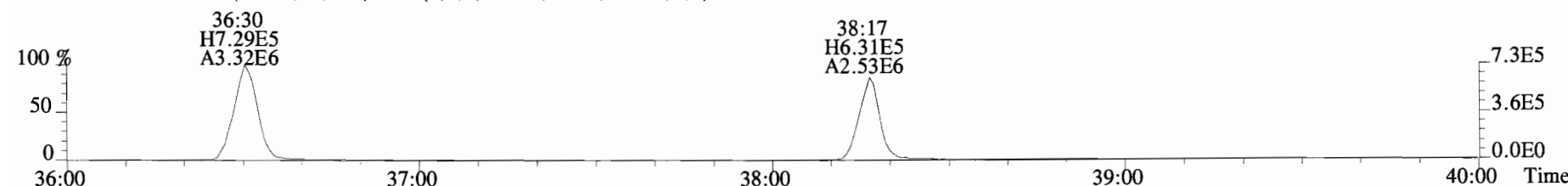
409.7788 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



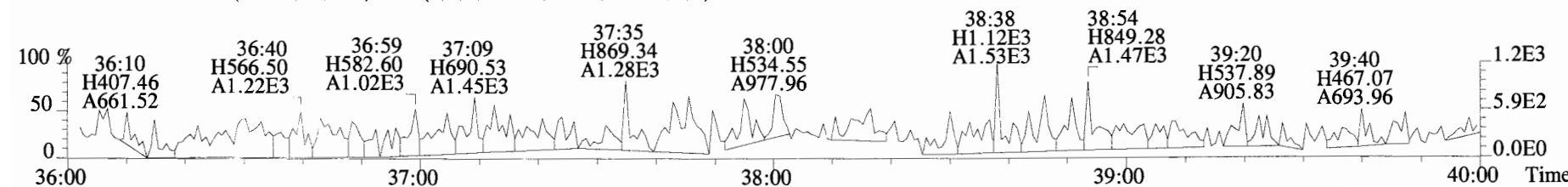
417.8253 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



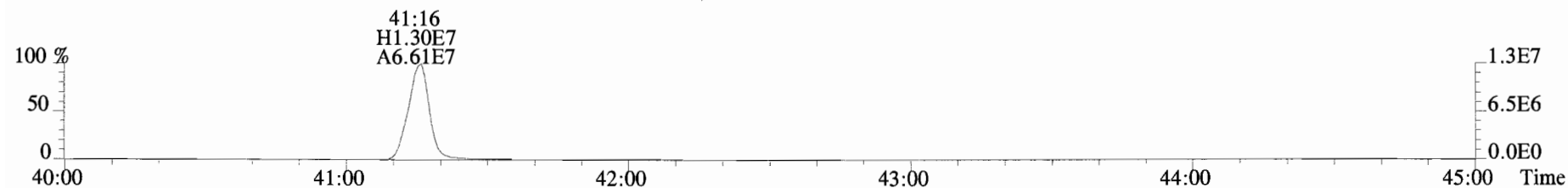
419.8220 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



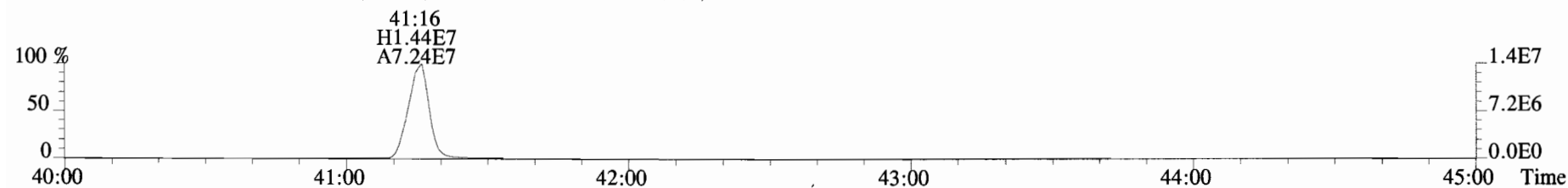
479.7165 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



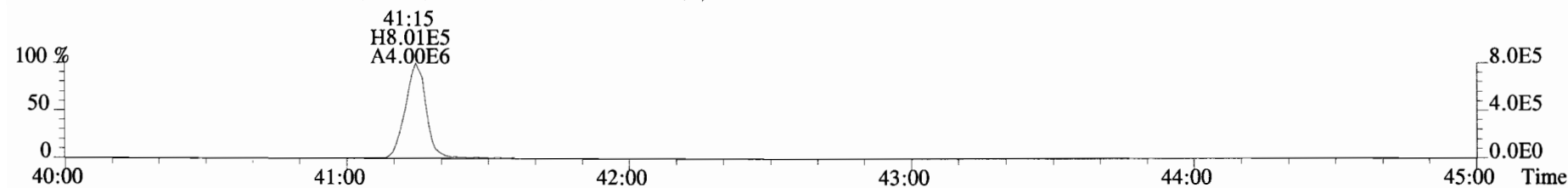
File:190510D2 #1-432 Acq:10-MAY-2019 18:23:05 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST190510D2-6 1613 CS5 19C2206 Exp:OCDD_DB5
441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



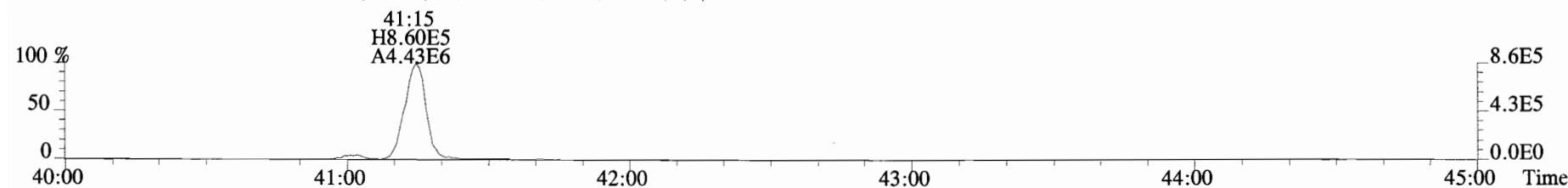
443.7398 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



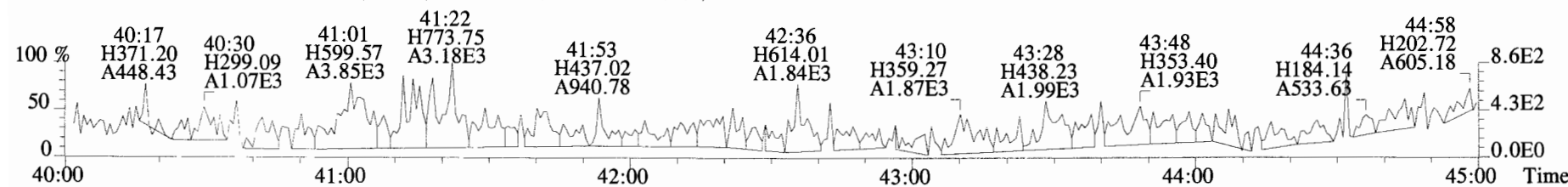
453.7831 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

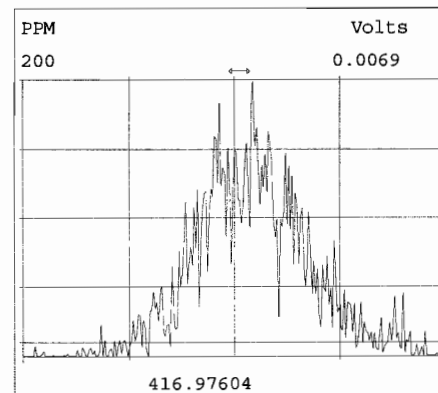
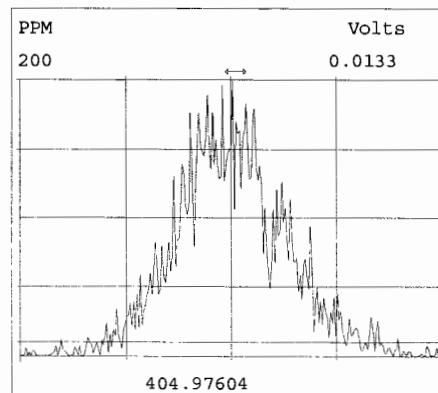
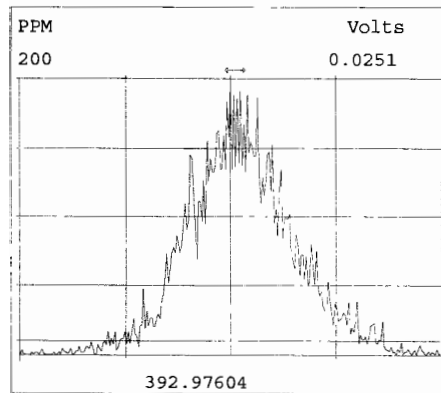
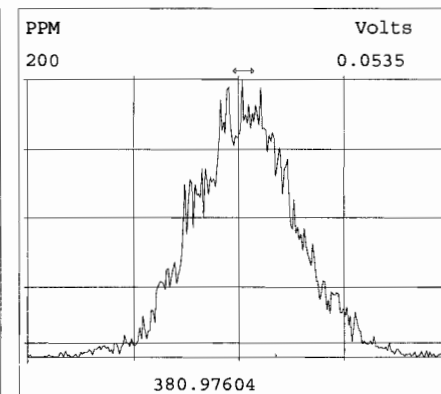
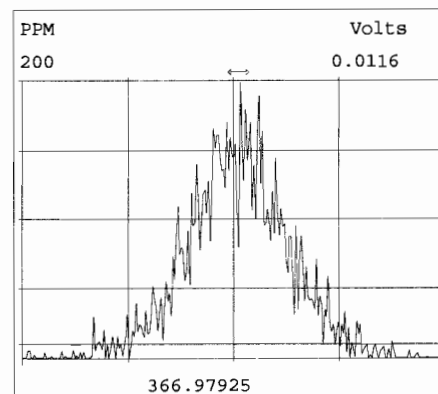
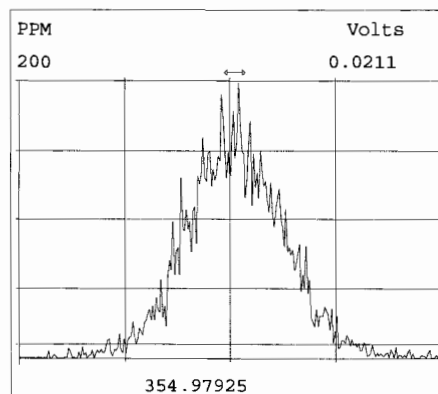
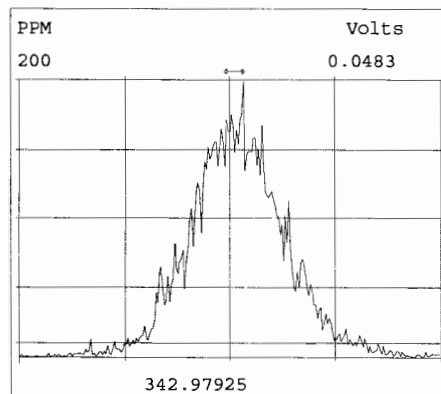
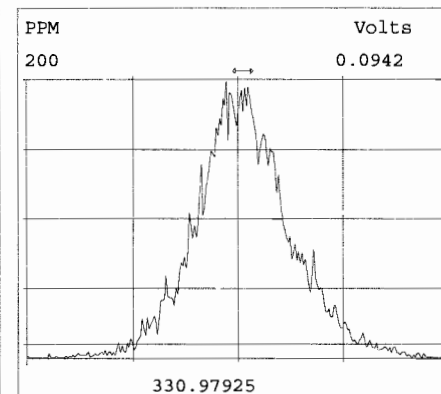
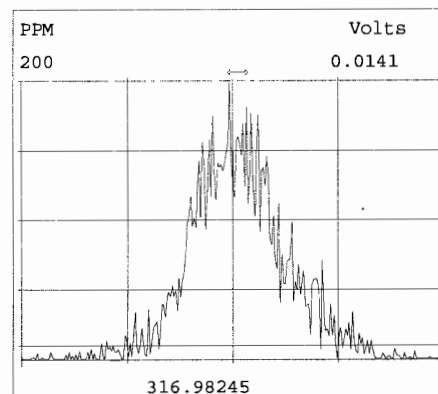
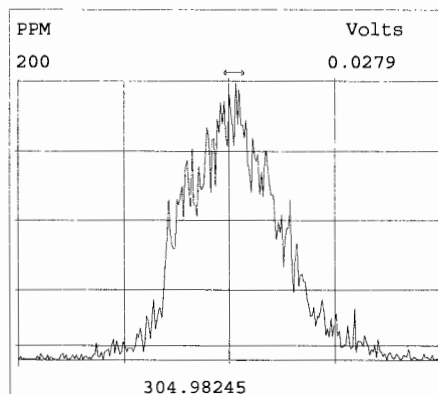
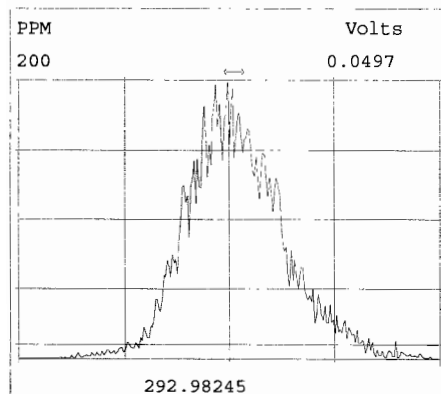


513.6775 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



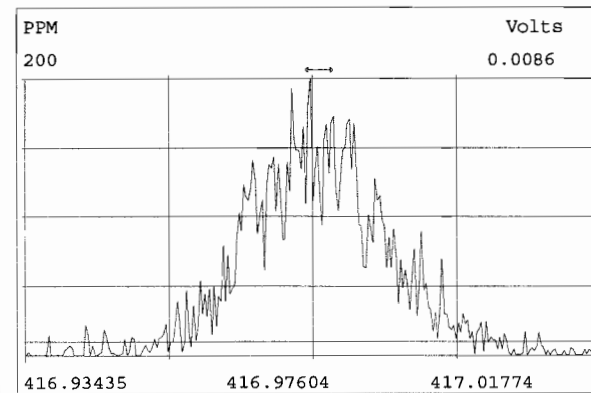
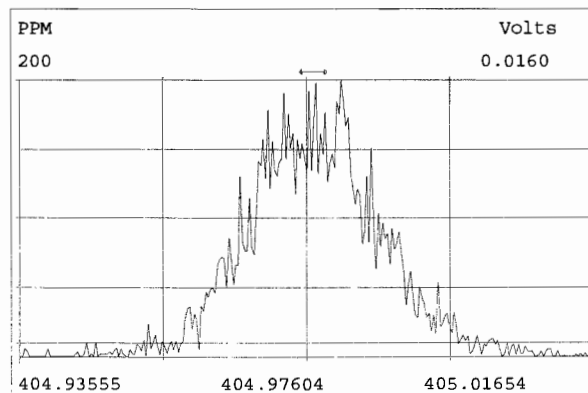
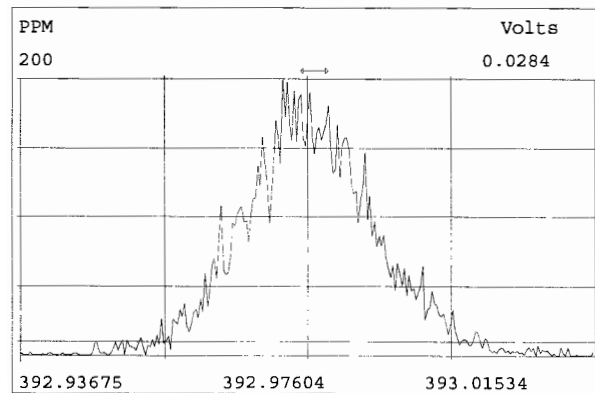
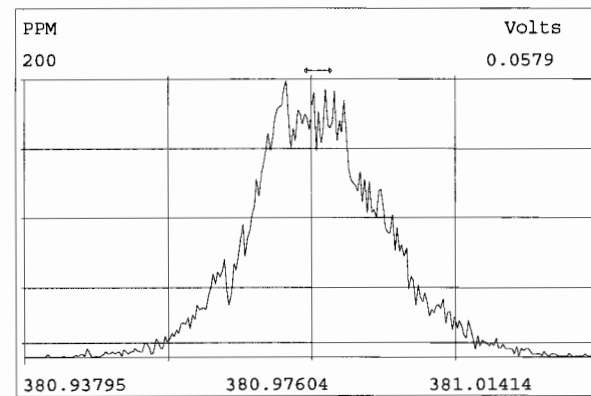
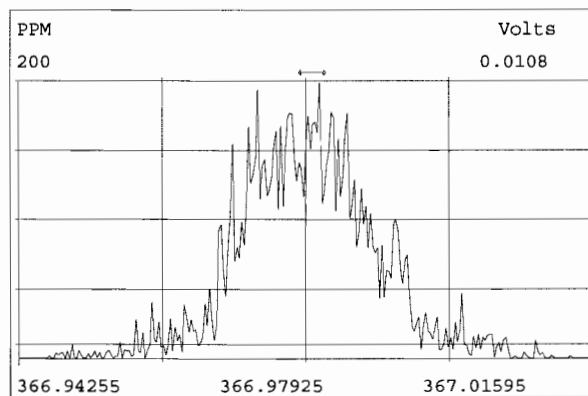
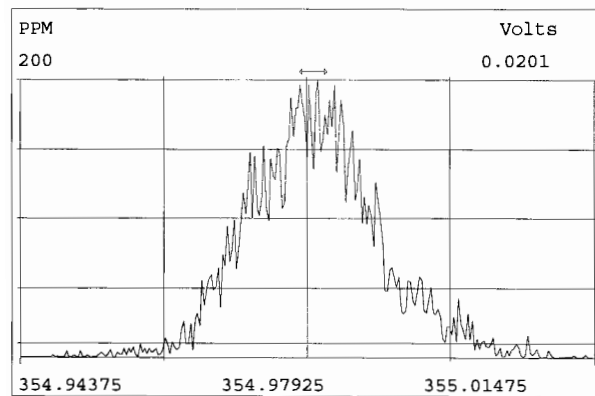
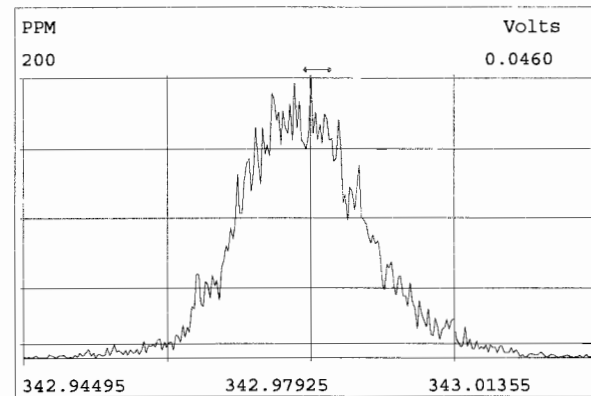
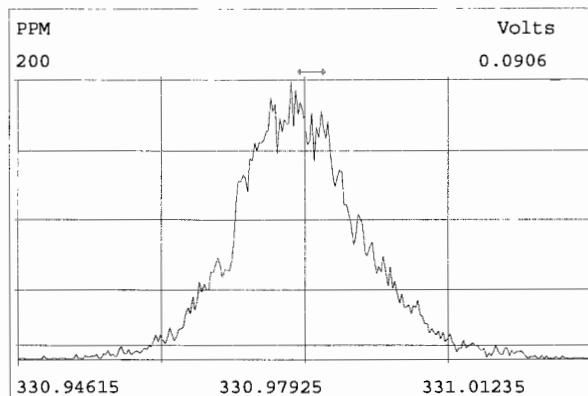
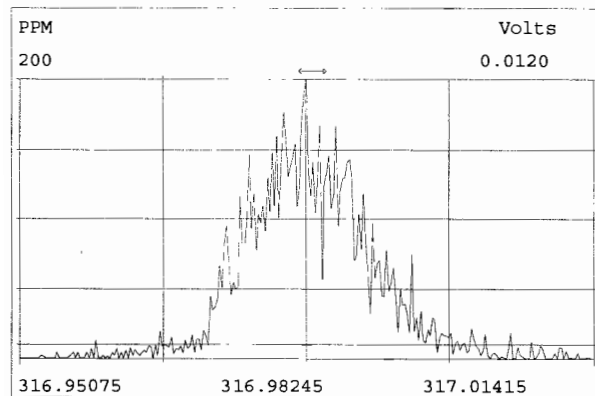
Peak Locate Examination:11-MAY-2019:04:52 File:RES_CHECK

Experiment:OCDD_DB5 Function:1 Reference:PPK



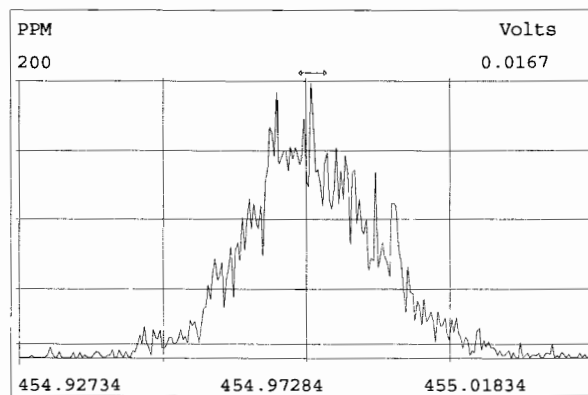
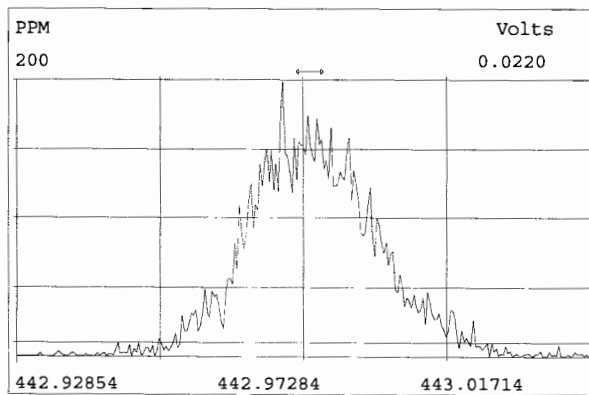
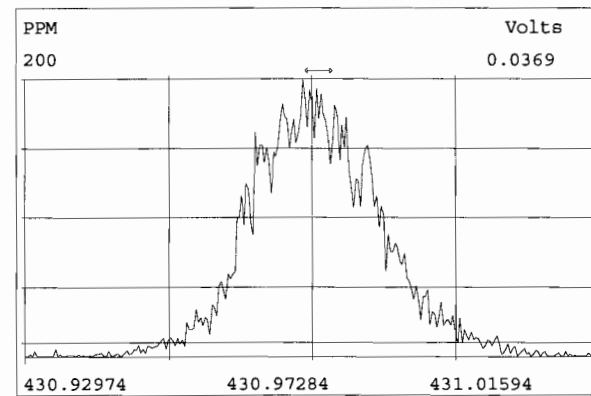
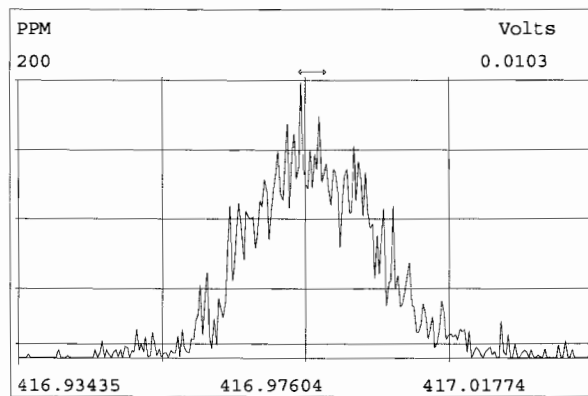
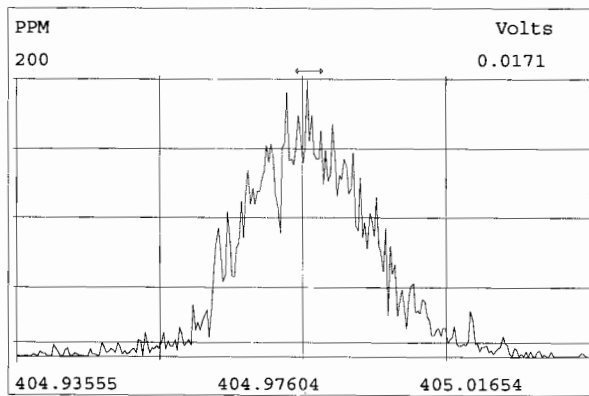
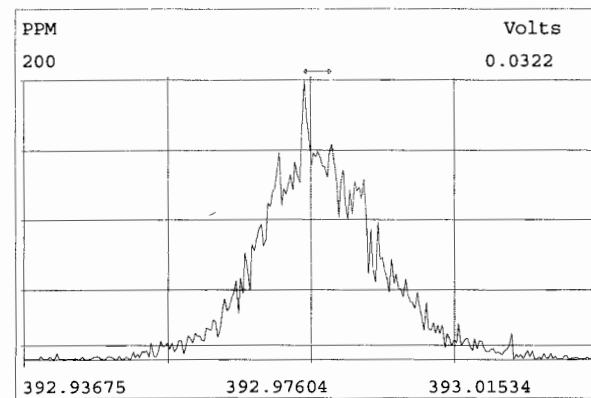
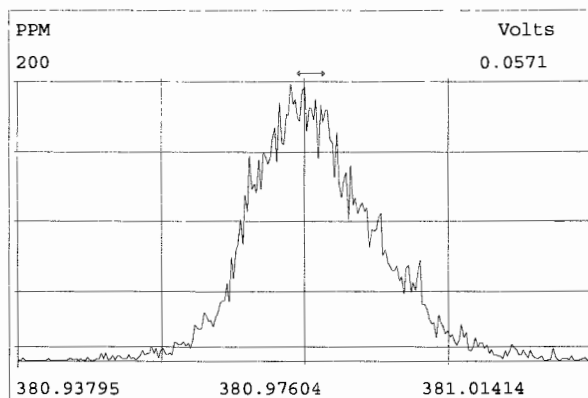
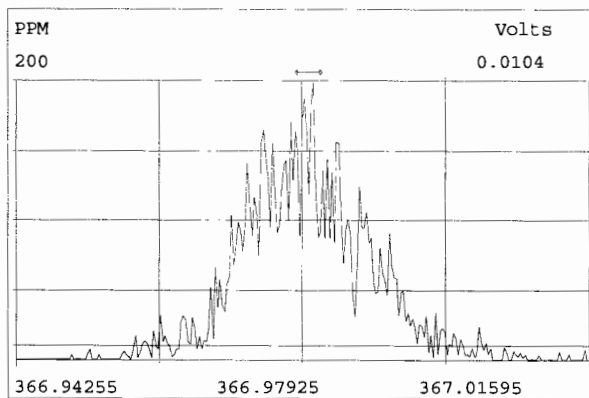
Peak Locate Examination:11-MAY-2019:04:53 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK



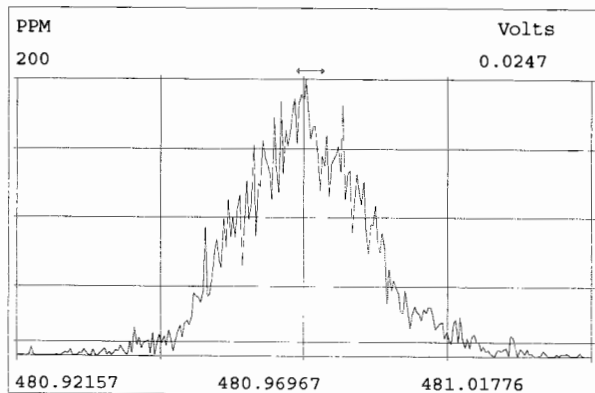
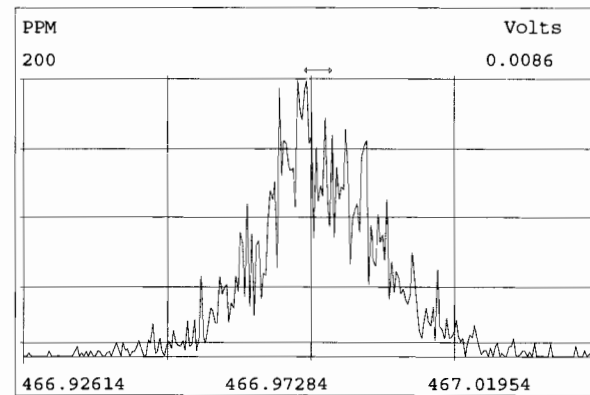
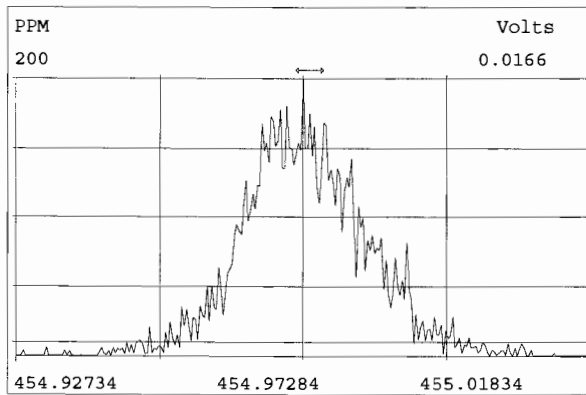
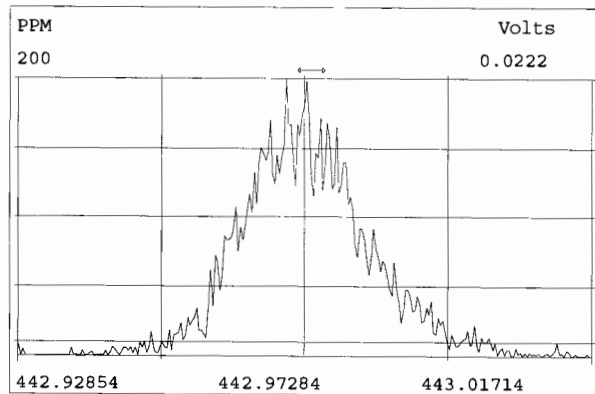
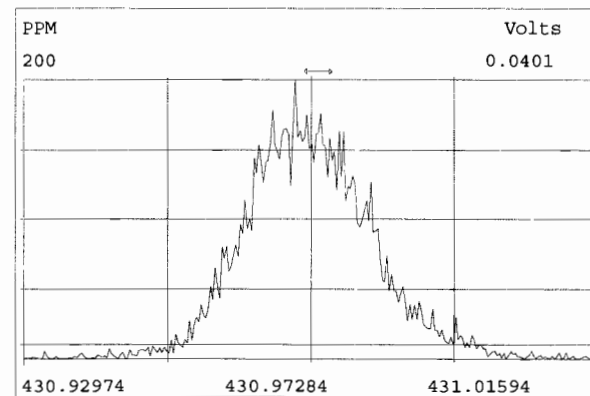
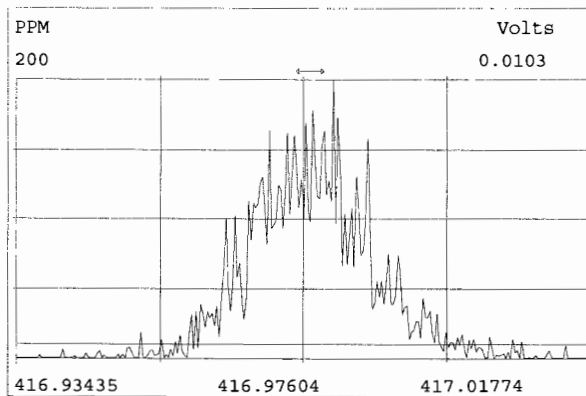
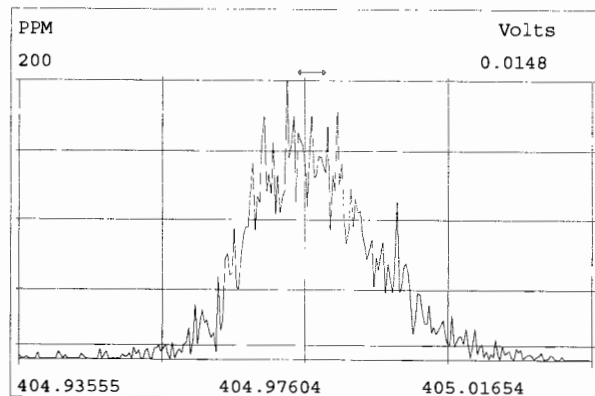
Peak Locate Examination:11-MAY-2019:04:54 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK



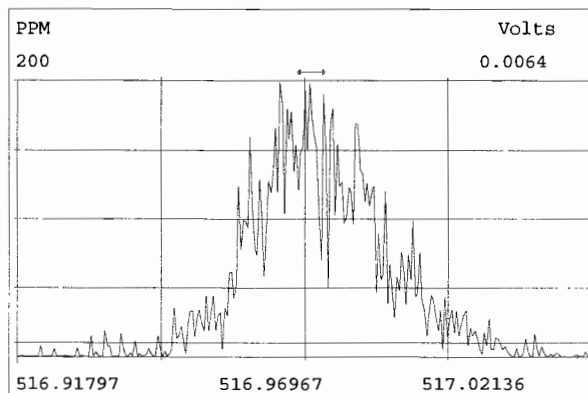
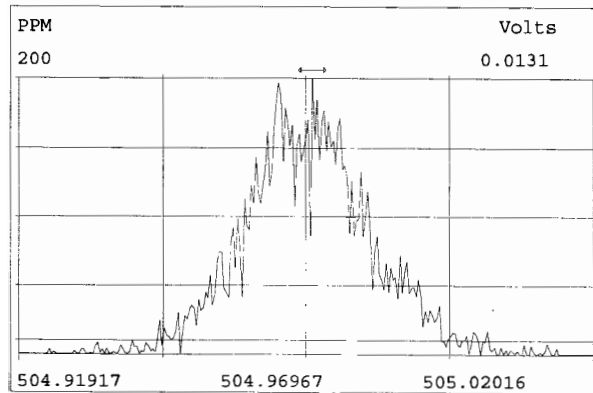
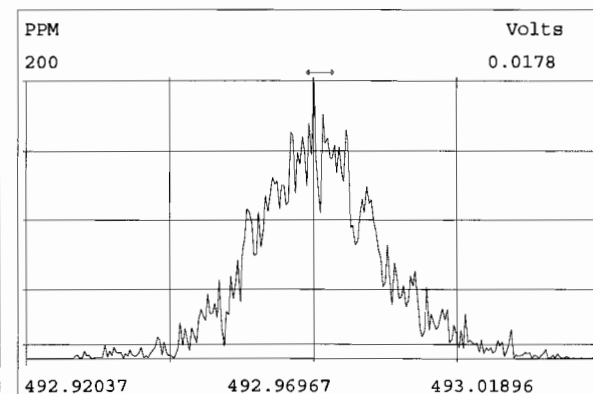
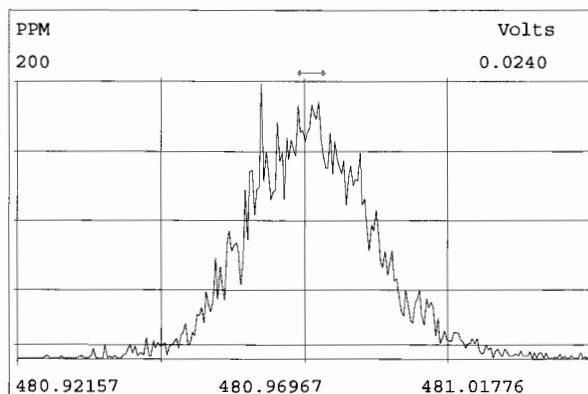
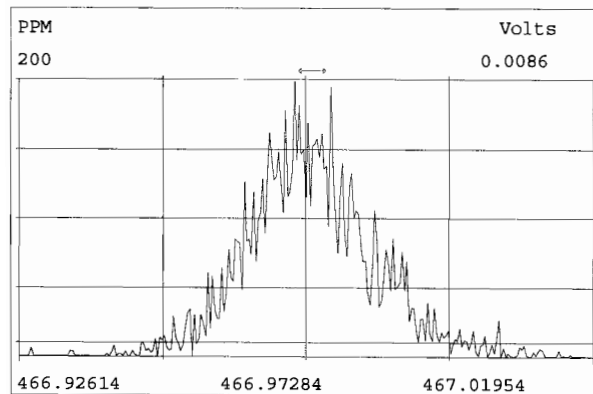
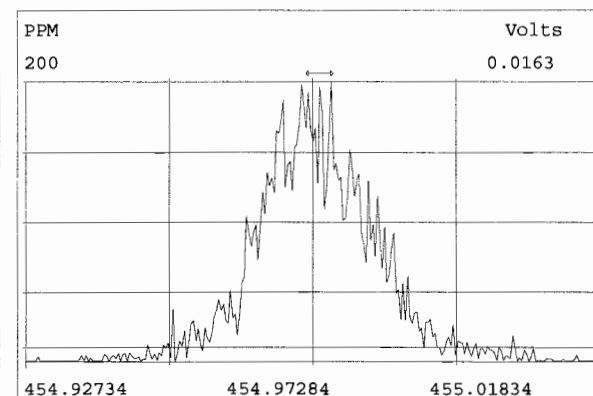
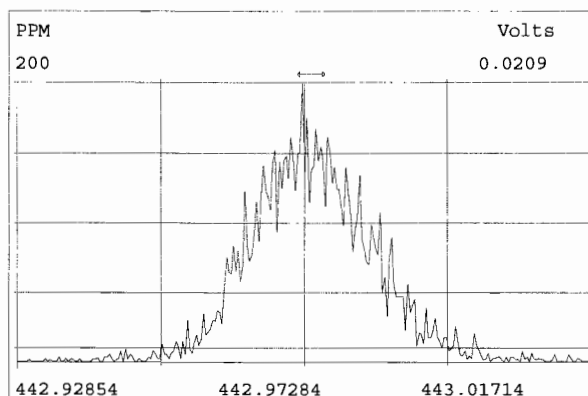
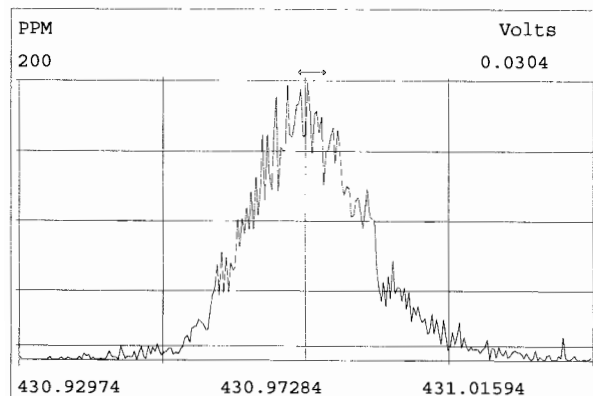
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Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:11-MAY-2019:04:55 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: SS190510D2-1

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

NATIVE ANALYTES	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
2,3,7,8-TCDD	M/M+2	0.82	0.65-0.89	y	9.99	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.59	0.54-0.72	y	50.9	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	52.6	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	55.2	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	1.01	0.88-1.20	y	52.0	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	104	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	10.7	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	52.3	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	58.4	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	54.5	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	y	56.2	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	52.3	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	55.6	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.00	0.88-1.20	y	52.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	50.0	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	109	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: 5/13/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

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	0.76	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	98.7	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.34	1.05-1.43	y	95.3	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	y	93.1	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	97.2	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	115	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	199	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.77	0.65-0.89	y	103	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.53	1.32-1.78	y	98.2	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	99.0	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.50	0.43-0.59	y	96.4	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.53	0.43-0.59	y	96.5	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	98.2	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.53	0.43-0.59	y	102	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	116	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.41	0.37-0.51	y	119	77.0 - 129.0
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	202	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.30	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: 5/13/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

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	1.000	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	1.196	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	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	1.023	0.989-1.052

Analyst: DBDate: 5/13/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#8 Analysis Date: 10-MAY-19 Time: 19:58:17

NATIVE ANALYTES	RETENTION TIME	RRT	RRT
	REFERENCE		QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	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	0.987	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	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.039	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	1.027	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	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 5/13/19

Client ID: 1613 SSS 19C2207

Filename: 190510D2

S:8

Acq:10-MAY-19 19:58:17

ConCal: ST190510D2-4

Page 1 of 9

Lab ID: SS190510D2-1

GC Column ID: ZB-5MS

ICal: 1613VG7-5-10-19

wt/vol: 1.000

EndCAL: NA

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	4.81e+05	0.82 y	0.90	26:12	9.9887		* 2.5	*	*	Total Tetra-Dioxins	10.1	12.4		*	*
	1,2,3,7,8-PeCDD	2.04e+06	0.59 y	0.87	30:37	50.933		* 2.5	*	*	Total Penta-Dioxins	51.0	51.6		*	*
	1,2,3,4,7,8-HxCDD	1.83e+06	1.21 y	1.05	33:55	52.576		* 2.5	*	*	Total Hexa-Dioxins	161	163		*	*
	1,2,3,6,7,8-HxCDD	2.08e+06	1.22 y	0.93	34:01	55.219		* 2.5	*	*	Total Hepta-Dioxins	52.4	54.4		*	*
	1,2,3,7,8,9-HxCDD	2.05e+06	1.26 y	0.96	34:20	52.379		* 2.5	*	*	Total Tetra-Furans	12.0	14.7		*	*
	1,2,3,4,6,7,8-HpCDD	2.09e+06	1.01 y	0.99	37:46	52.015		* 2.5	*	*	Total Penta-Furans	111.82	118.05		*	*
	OCDD	3.30e+06	0.92 y	0.99	41:03	104.03		* 2.5	*	*	Total Hexa-Furans	219	219		*	*
											Total Hepta-Furans	103	105		*	*
	2,3,7,8-TCDF	7.27e+05	0.78 y	0.94	25:27	10.721		* 2.5	*	*						
	1,2,3,7,8-PeCDF	2.99e+06	1.61 y	0.92	29:28	52.327		* 2.5	*	*						
	2,3,4,7,8-PeCDF	3.42e+06	1.59 y	0.96	30:22	58.360		* 2.5	*	*						
	1,2,3,4,7,8-HxCDF	2.68e+06	1.22 y	1.15	33:01	54.544		* 2.5	*	*						
	1,2,3,6,7,8-HxCDF	2.97e+06	1.18 y	1.04	33:09	56.235		* 2.5	*	*						
	2,3,4,6,7,8-HxCDF	2.76e+06	1.20 y	1.10	33:45	52.297		* 2.5	*	*						
	1,2,3,7,8,9-HxCDF	2.60e+06	1.22 y	1.03	34:44	55.557		* 2.5	*	*						
	1,2,3,4,6,7,8-HpCDF	2.69e+06	1.00 y	1.06	36:33	52.088		* 2.5	*	*						
	1,2,3,4,7,8,9-HpCDF	2.39e+06	1.02 y	1.23	38:19	50.039		* 2.5	*	*						
	OCDF	4.19e+06	0.90 y	0.94	41:17	109.14		* 2.5	*	*						
											Rec	Qual				
IS	13C-2,3,7,8-TCDD	5.35e+06	0.76 y	1.11	26:10	101.43					101					
IS	13C-1,2,3,7,8-PeCDD	4.59e+06	0.63 y	0.98	30:37	98.658					98.7					
IS	13C-1,2,3,4,7,8-HxCDD	3.32e+06	1.34 y	0.68	33:54	95.294					95.3					
IS	13C-1,2,3,6,7,8-HxCDD	4.04e+06	1.19 y	0.84	34:01	93.135					93.1					
IS	13C-1,2,3,7,8,9-HxCDD	4.07e+06	1.24 y	0.81	34:19	97.155					97.2					
IS	13C-1,2,3,4,6,7,8-HpCDD	4.07e+06	1.06 y	0.69	37:45	114.95					115					
IS	13C-OCDD	6.43e+06	0.91 y	0.62	41:02	199.49					99.7					
IS	13C-2,3,7,8-TCDF	7.19e+06	0.77 y	1.05	25:26	103.44					103					
IS	13C-1,2,3,7,8-PeCDF	6.20e+06	1.53 y	0.95	29:27	98.238					98.2					
IS	13C-2,3,4,7,8-PeCDF	6.12e+06	1.58 y	0.94	30:21	98.956					99.0					
IS	13C-1,2,3,4,7,8-HxCDF	4.26e+06	0.50 y	0.86	33:01	96.378					96.4					
IS	13C-1,2,3,6,7,8-HxCDF	5.09e+06	0.53 y	1.02	33:08	96.528					96.5					
IS	13C-2,3,4,6,7,8-HxCDF	4.82e+06	0.52 y	0.95	33:45	98.157					98.2					
IS	13C-1,2,3,7,8,9-HxCDF	4.55e+06	0.53 y	0.87	34:43	101.63					102					
IS	13C-1,2,3,4,6,7,8-HpCDF	4.85e+06	0.43 y	0.81	36:32	116.37					116					
IS	13C-1,2,3,4,7,8,9-HpCDF	3.89e+06	0.41 y	0.63	38:19	119.40					119					
IS	13C-OCDF	8.17e+06	0.92 y	0.78	41:16	202.50					101					
C/Up	37C1-2,3,7,8-TCDD	5.40e+05		1.22	26:12	9.3041					93.0					
RS/RT	13C-1,2,3,4-TCDD	4.77e+06	0.78 y	1.00	25:36	100.00										
RS	13C-1,2,3,4-TCDF	6.61e+06	0.84 y	1.00	24:13	100.00										
RS/RT	13C-1,2,3,4,6,9-HxCDF	5.16e+06	0.52 y	1.00	33:26	100.00										

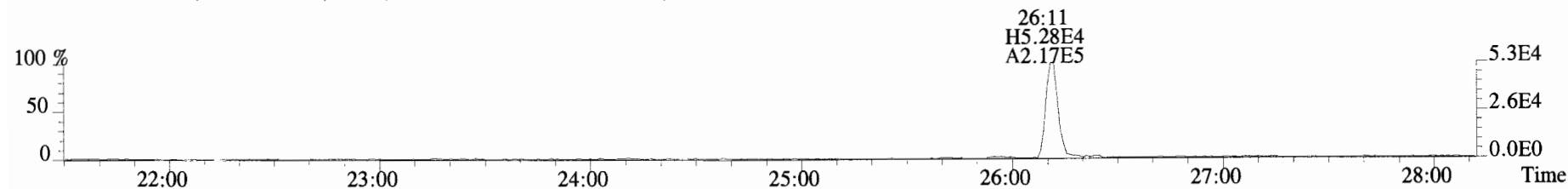
Integrations

by DB
Analyst:Date: 5/14/19

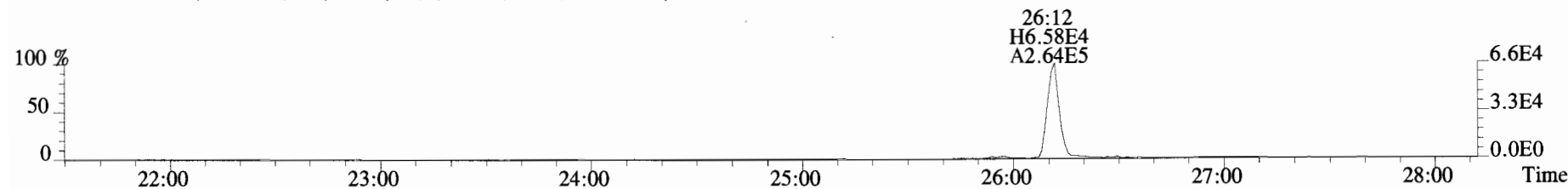
Reviewed

by ms
Analyst:Date: 5/14/19

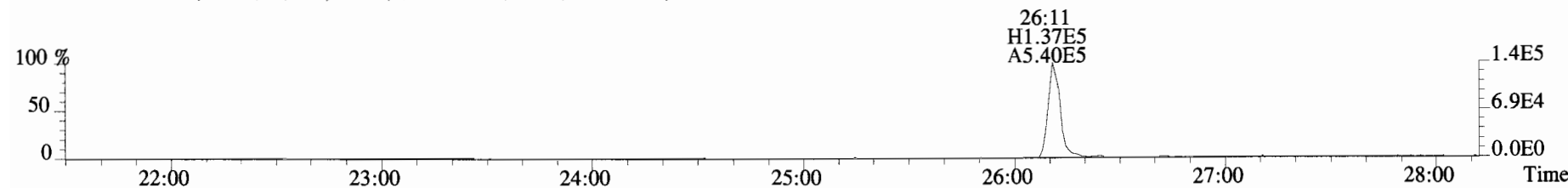
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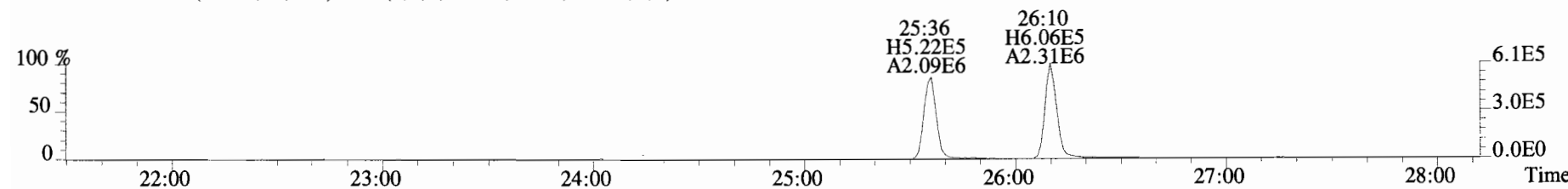
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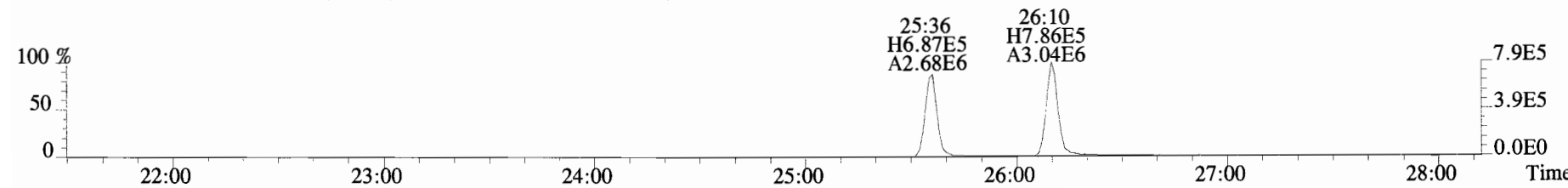
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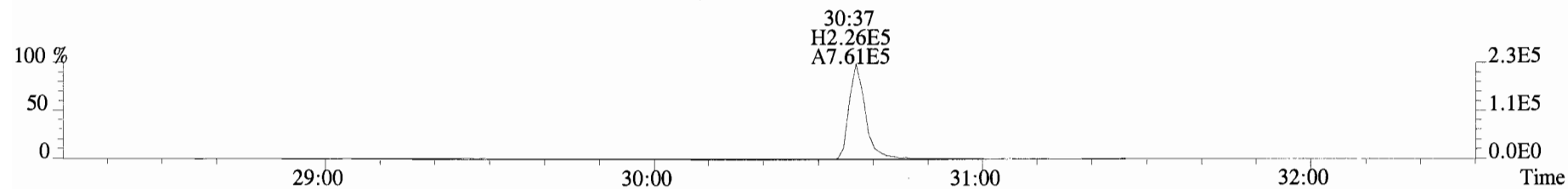
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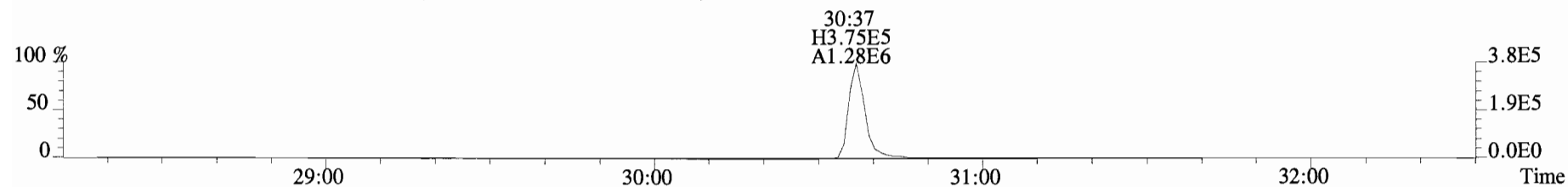
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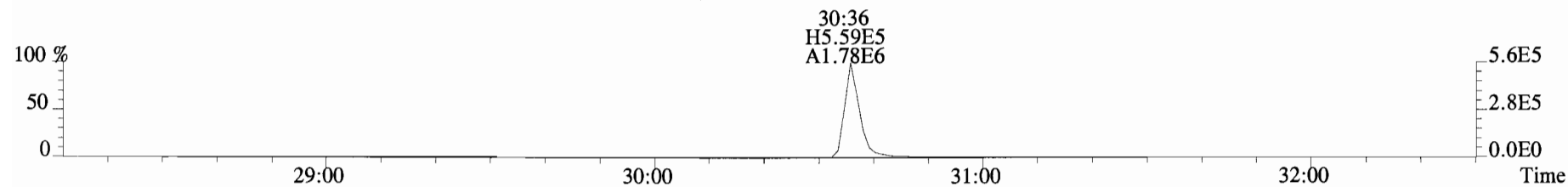
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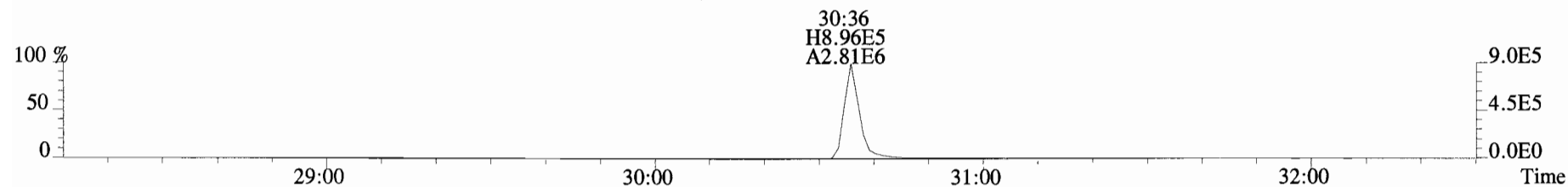
355.8546 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



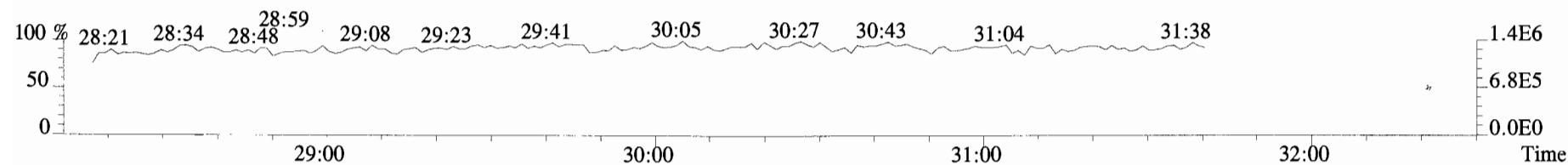
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



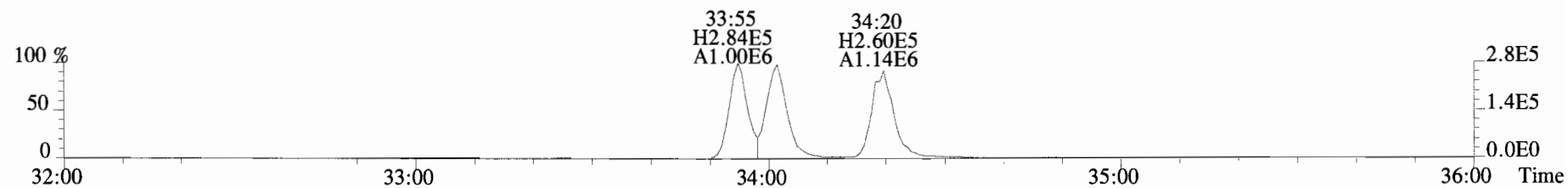
367.8949 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



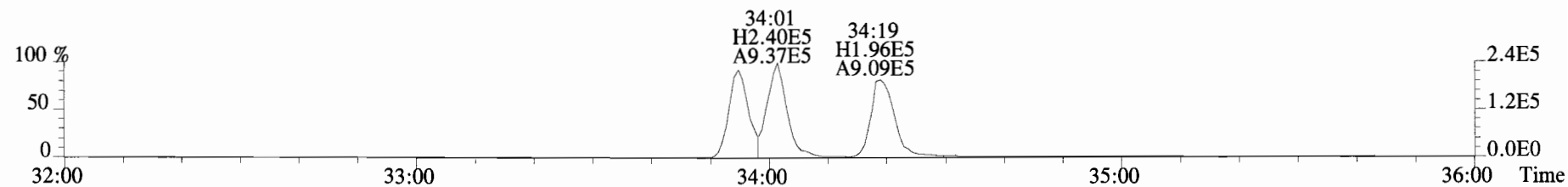
366.9792 S:8 F:2



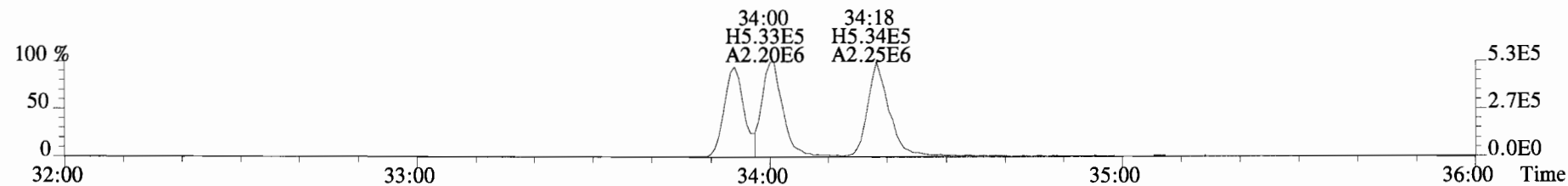
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 389.8156 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



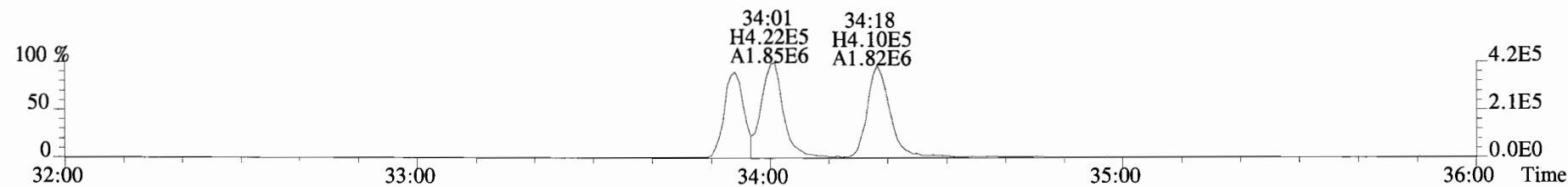
391.8127 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



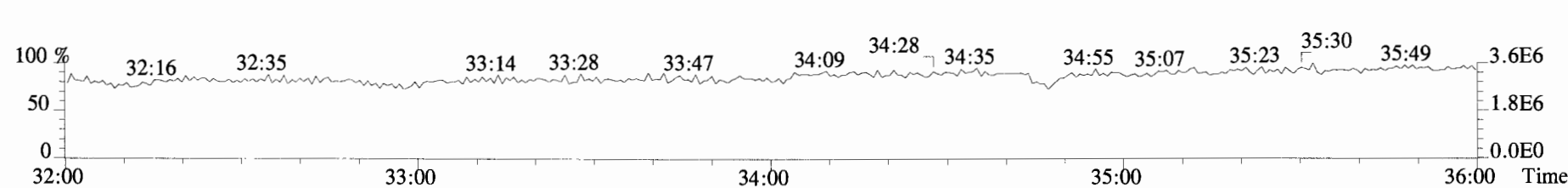
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



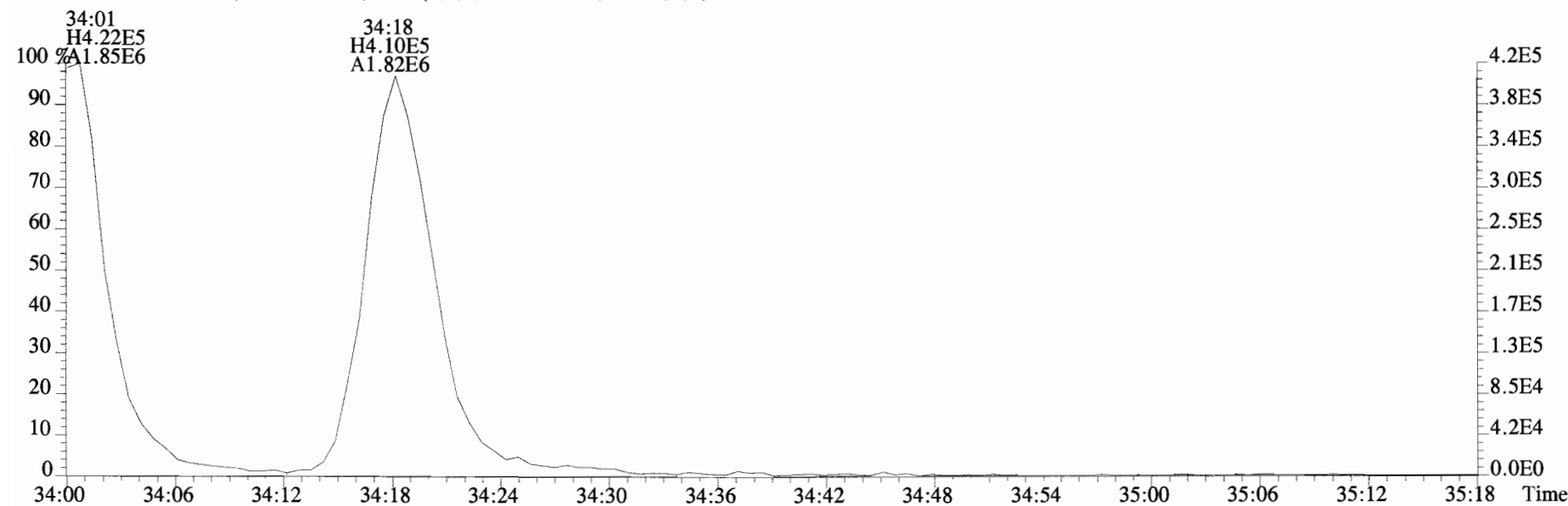
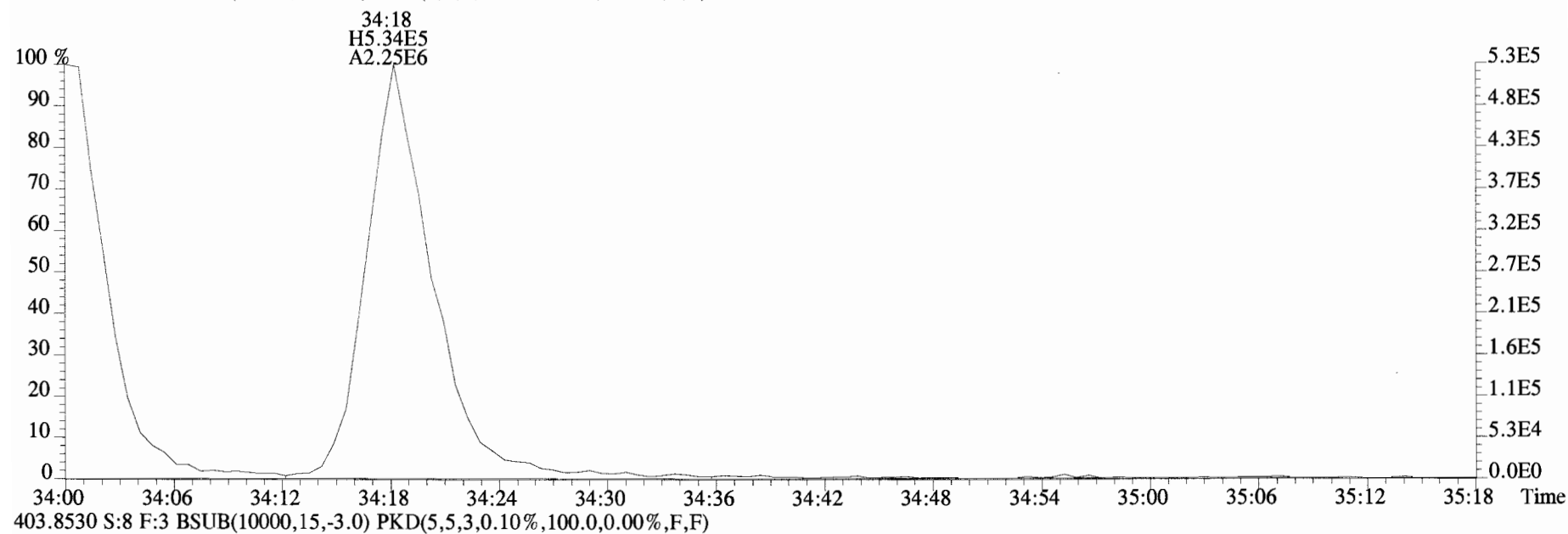
403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



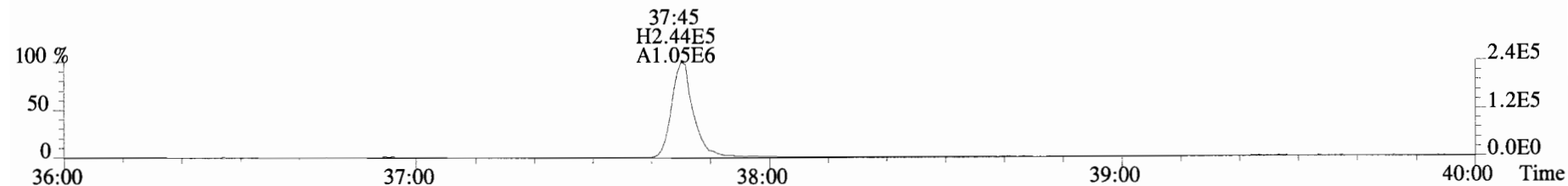
392.9760 S:8 F:3



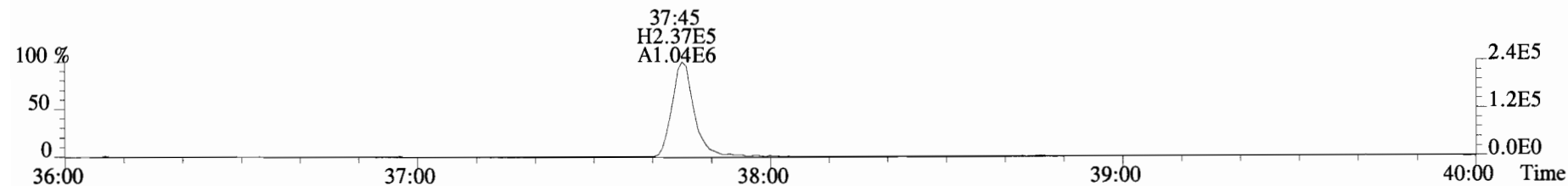
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



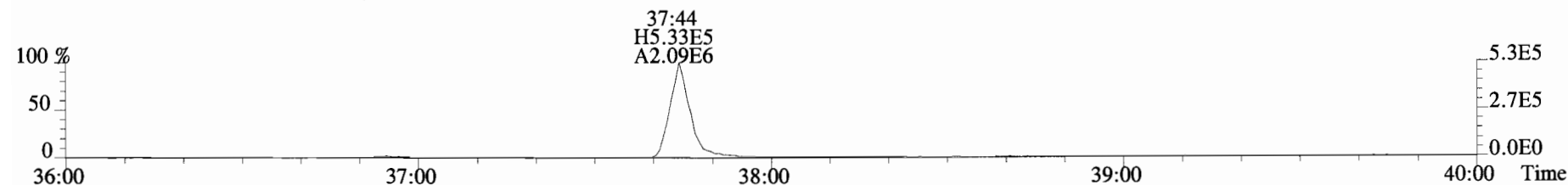
File:190510D2 #1-355 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



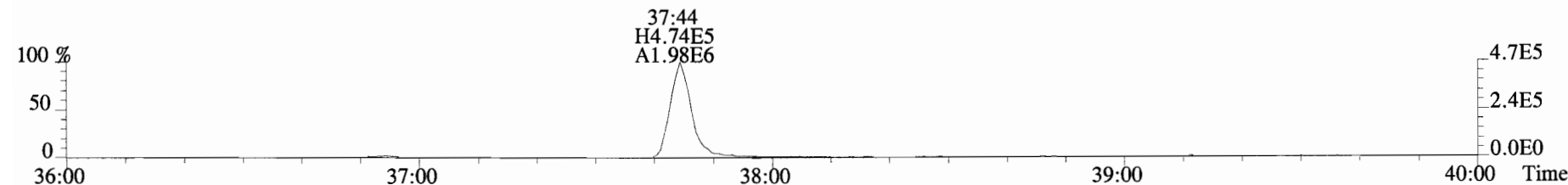
425.7737 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



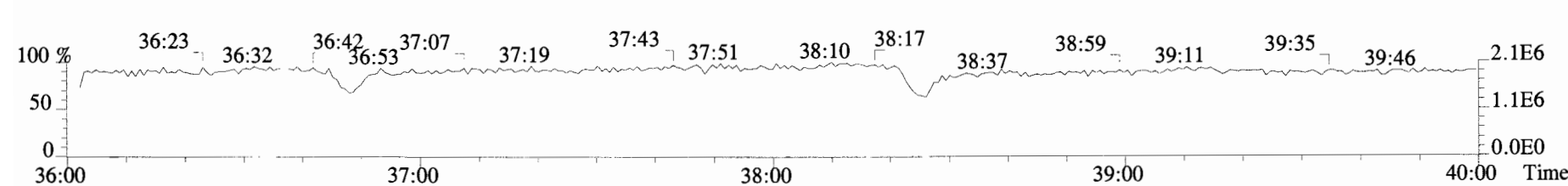
435.8169 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



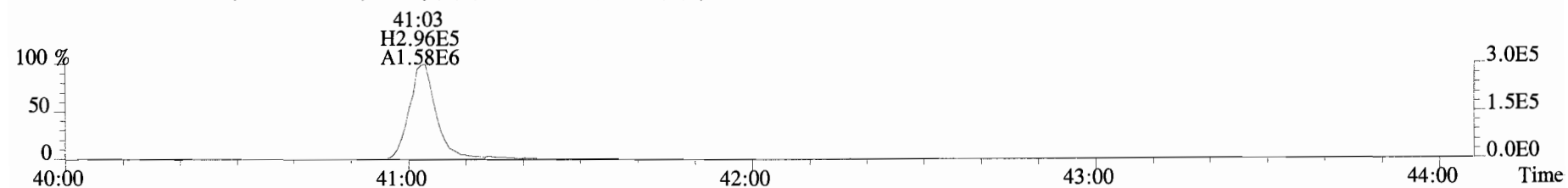
437.8140 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



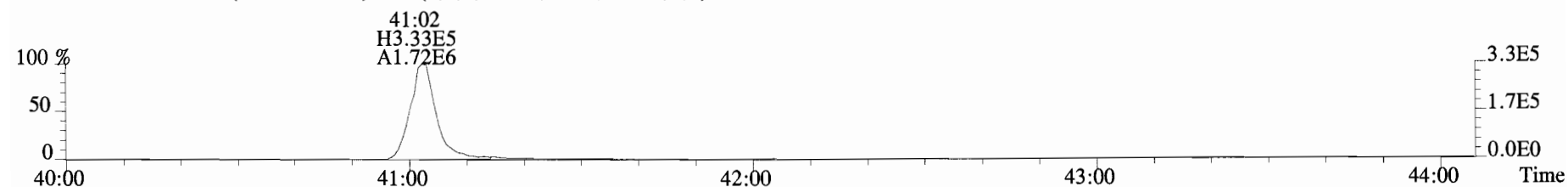
454.9728 S:8 F:4



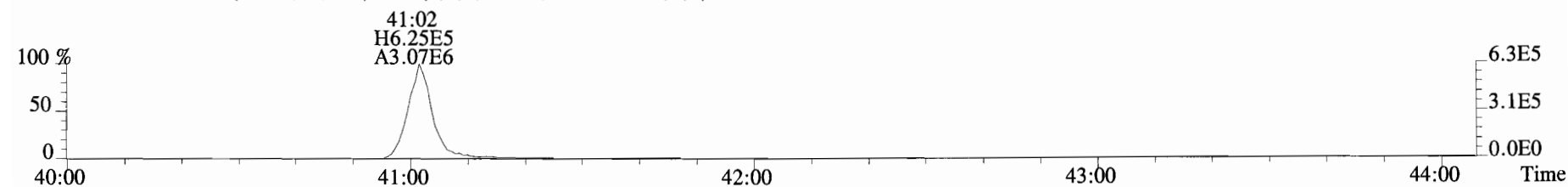
File:190510D2 #1-432 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



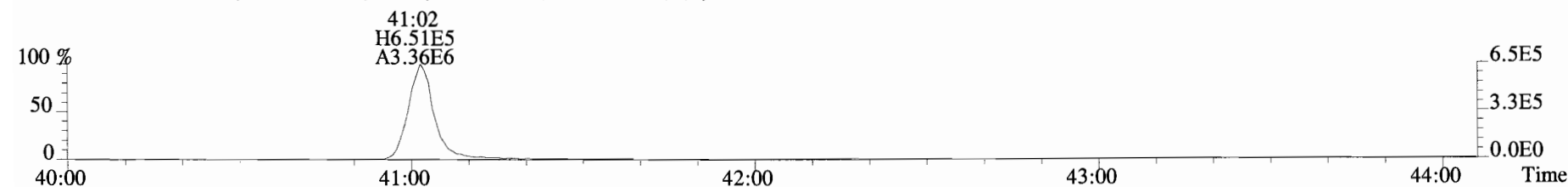
459.7348 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



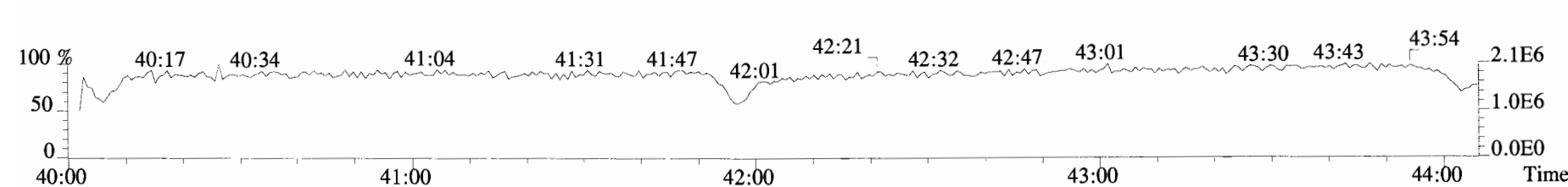
469.7780 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



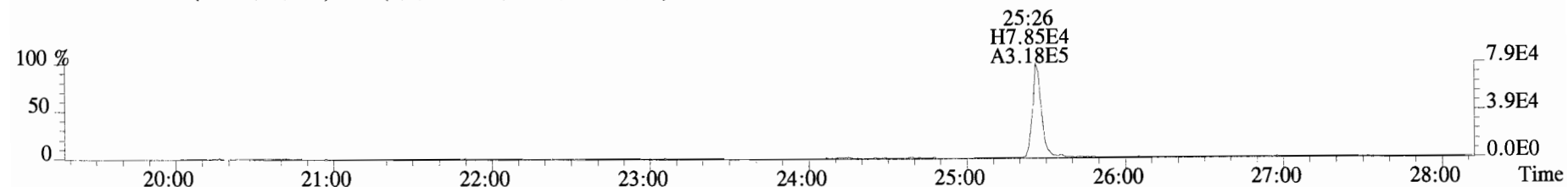
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



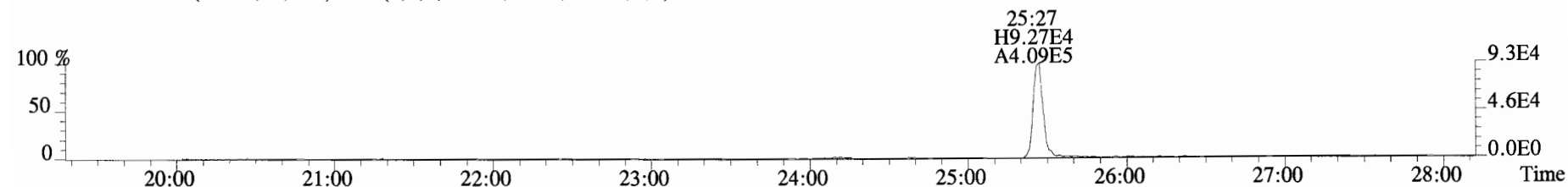
454.9728 S:8 F:5



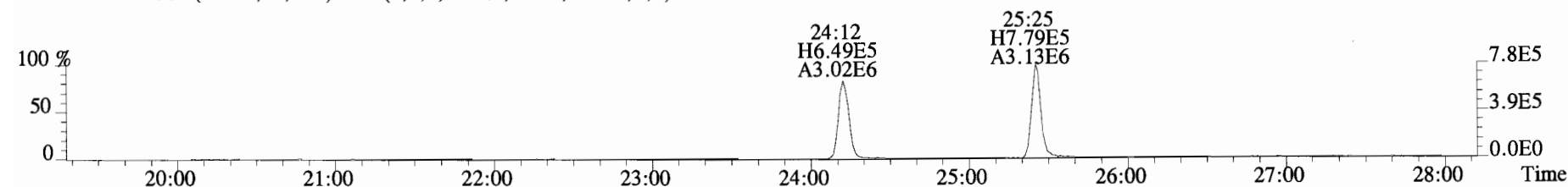
File:190510D2 #1-529 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



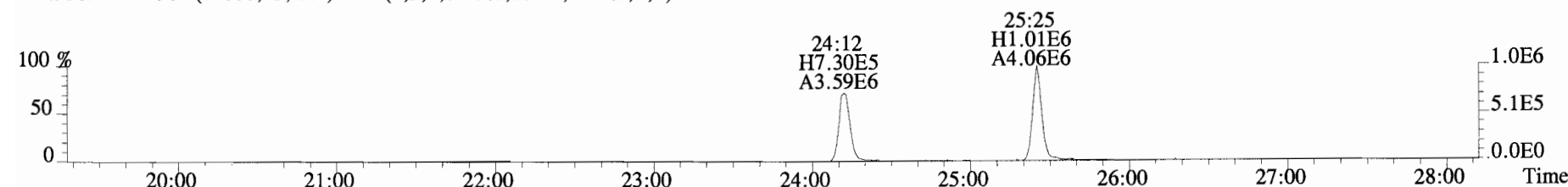
305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



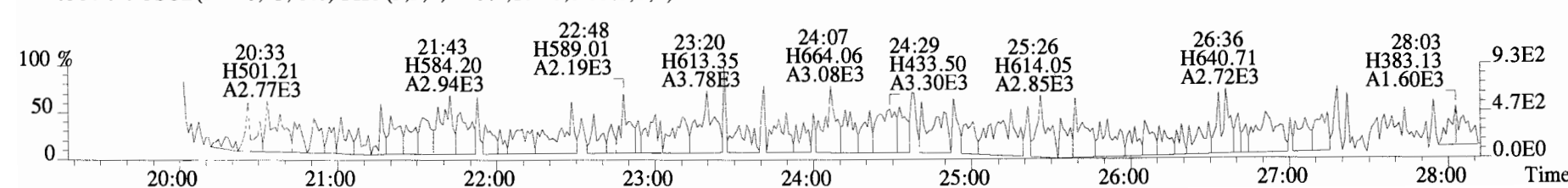
315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



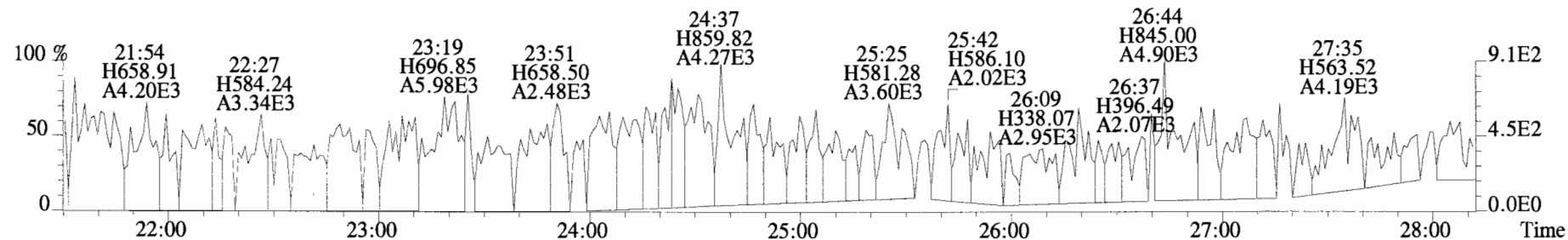
317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



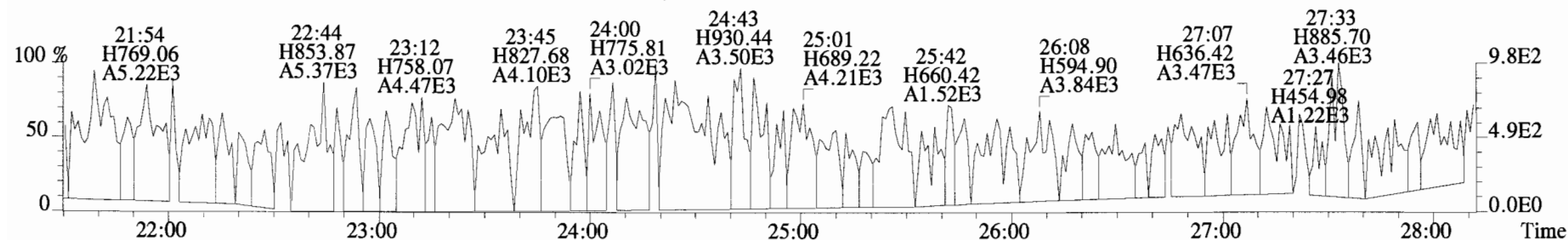
375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



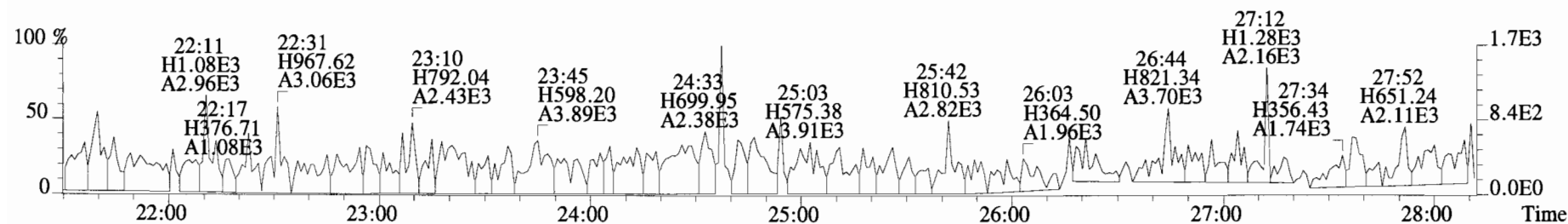
File:190510D2 #1-529 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



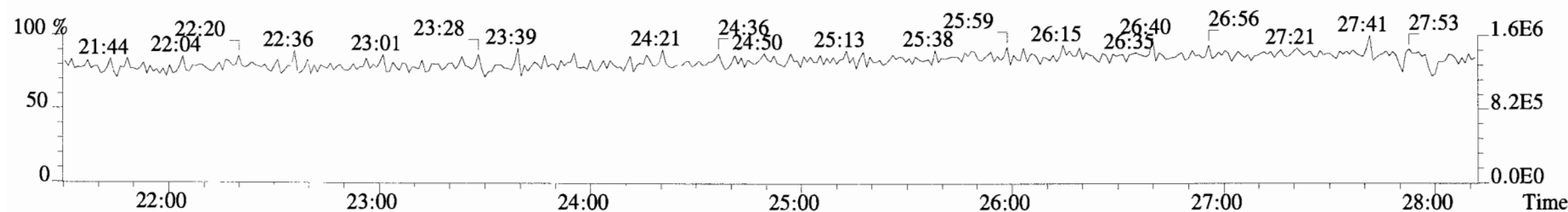
341.8568 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



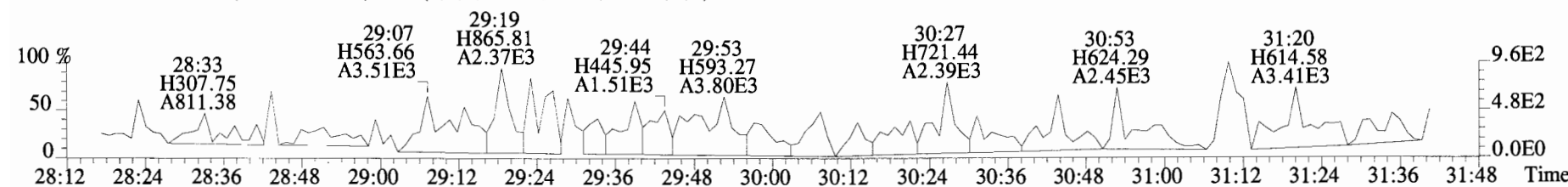
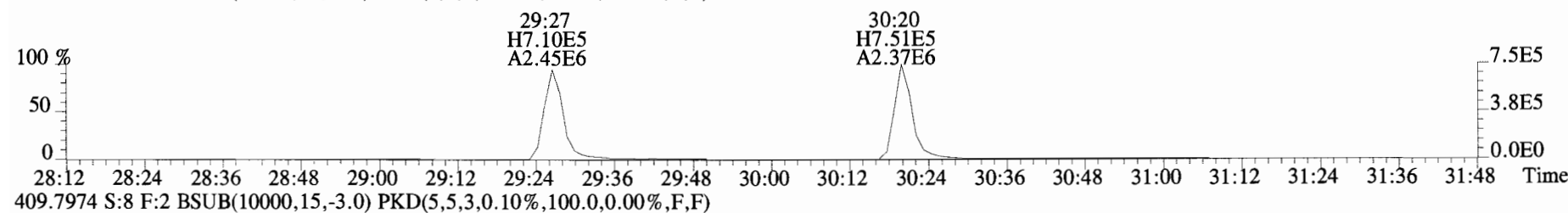
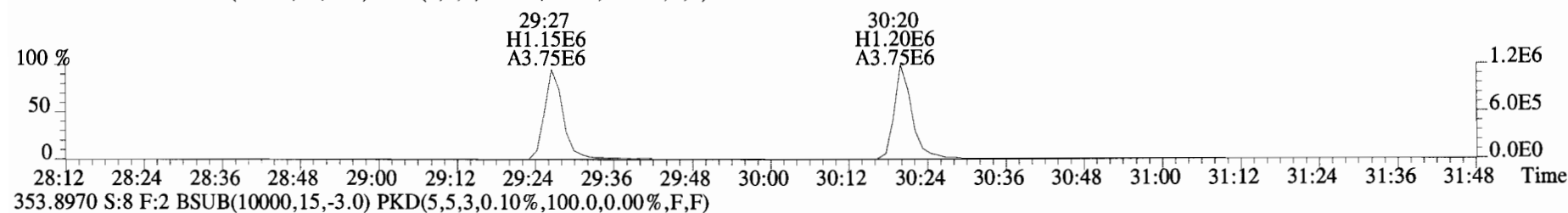
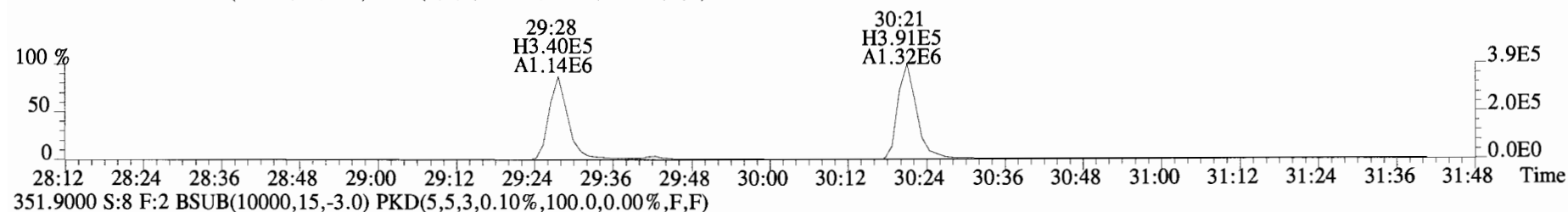
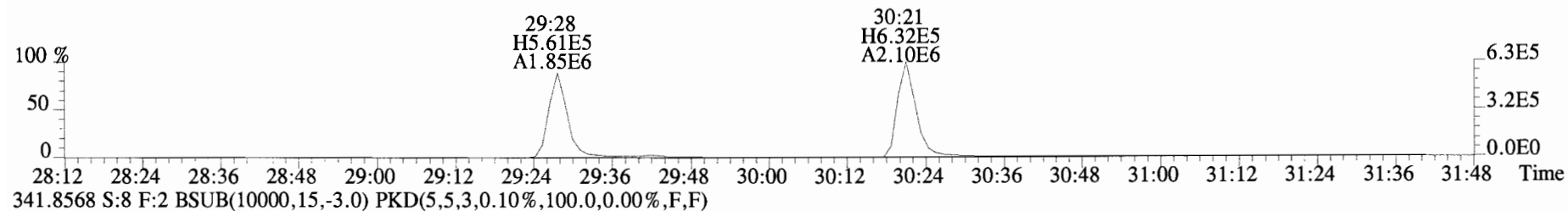
409.7974 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



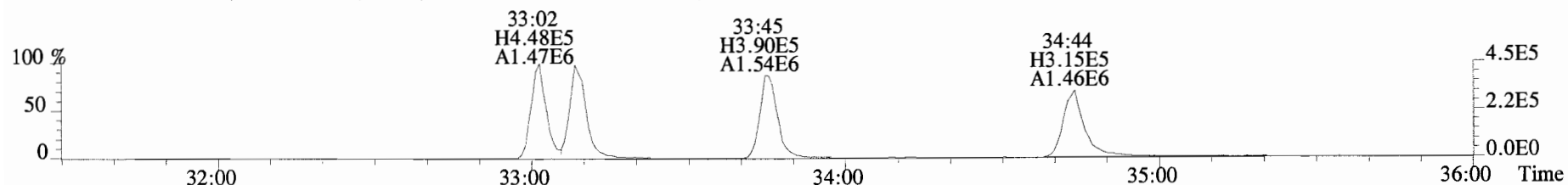
316.9824 S:8



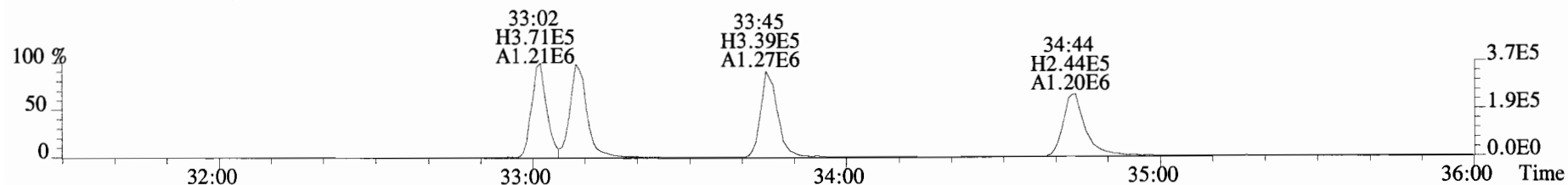
File:190510D2 #1-180 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



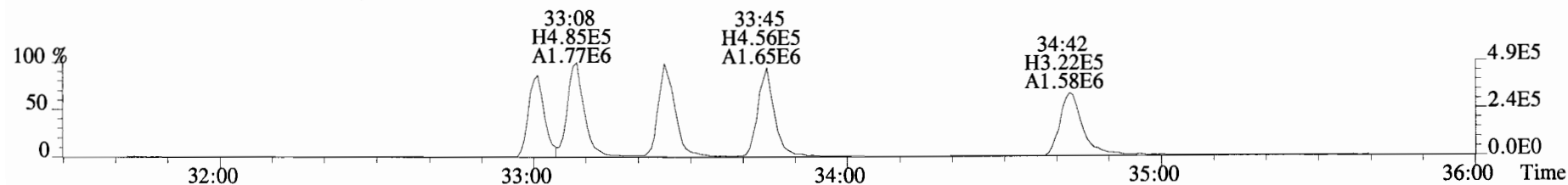
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



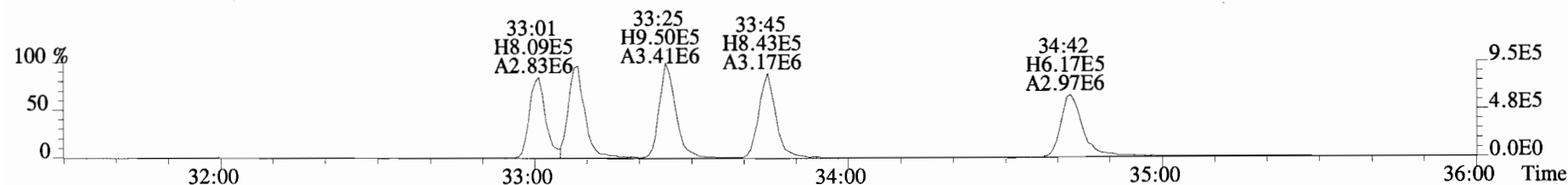
375.8178 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



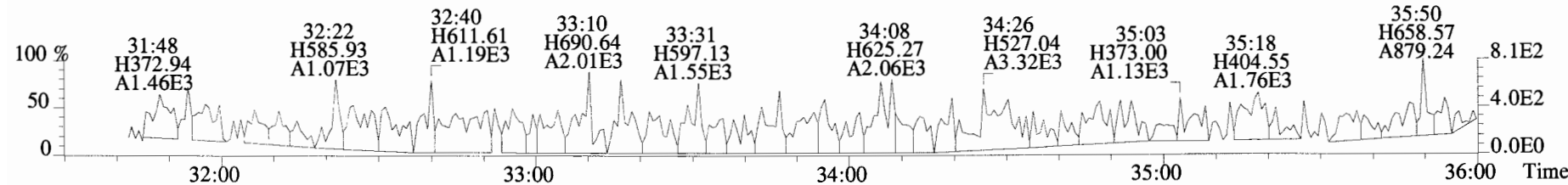
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



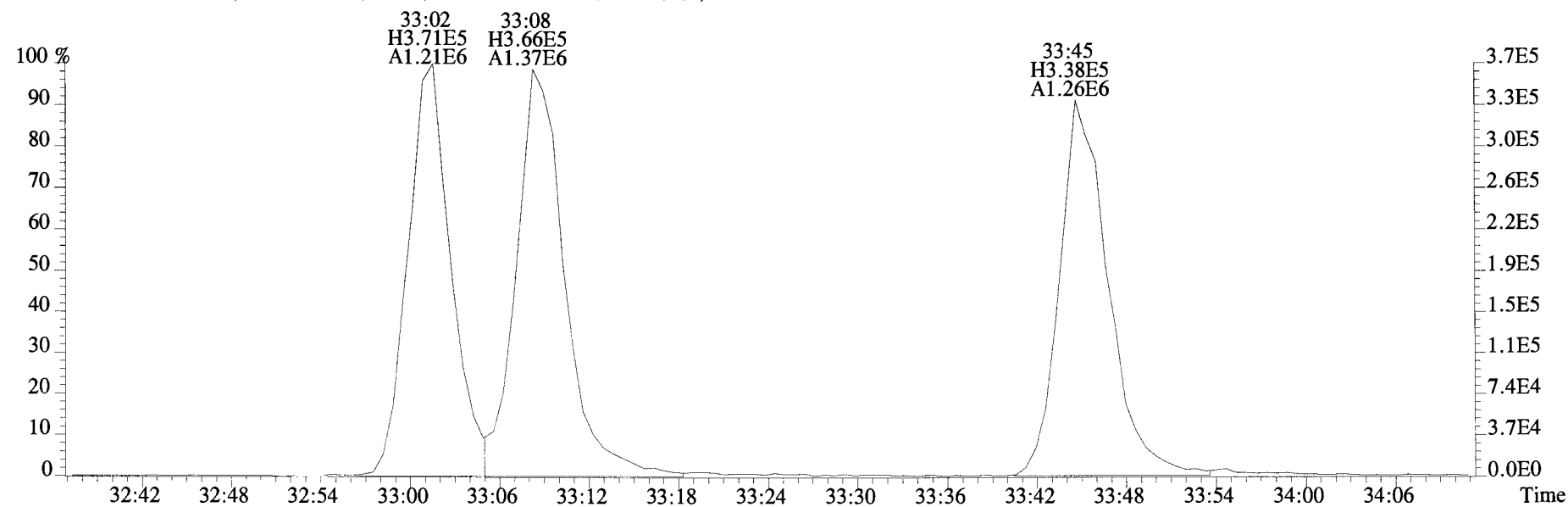
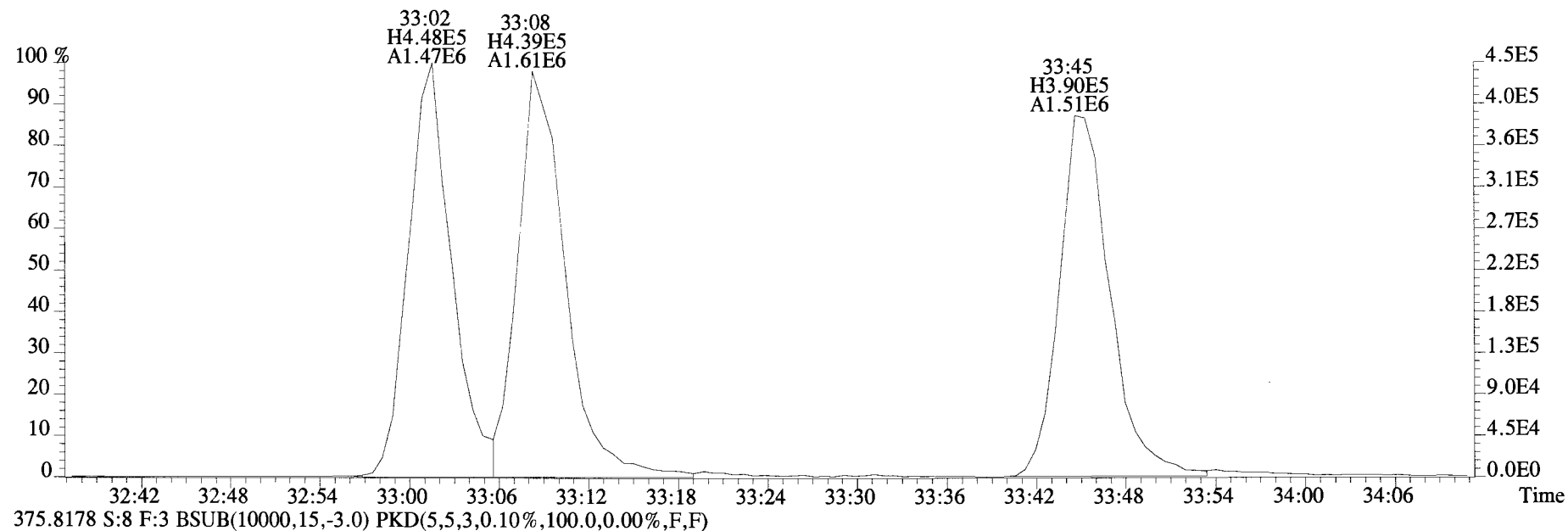
385.8610 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



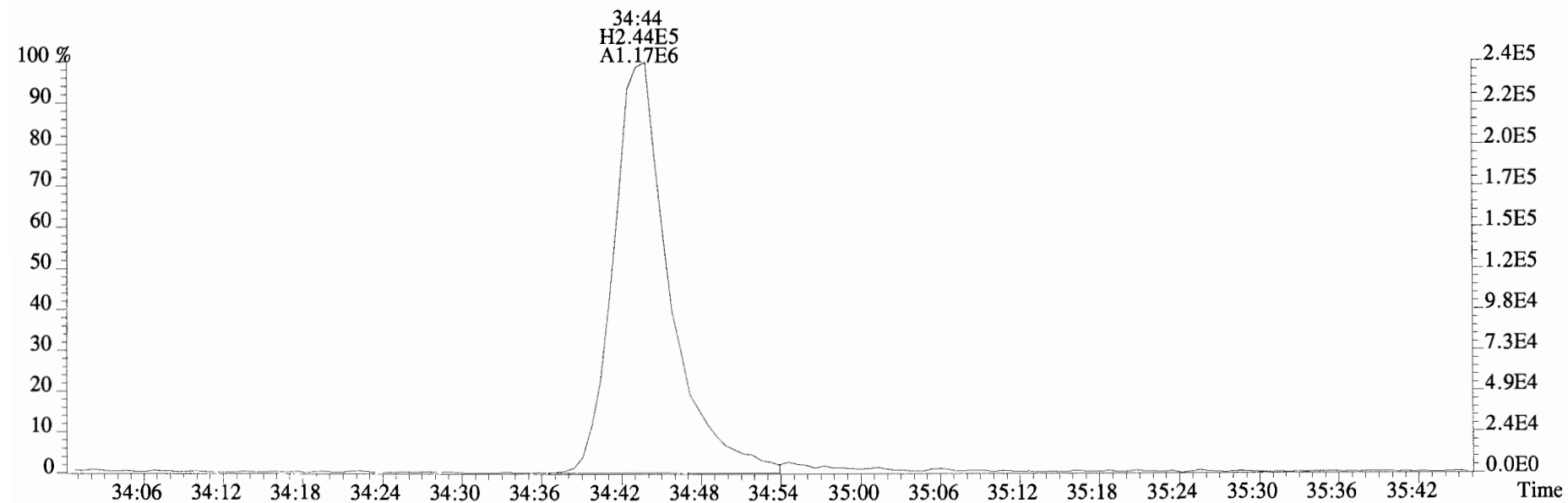
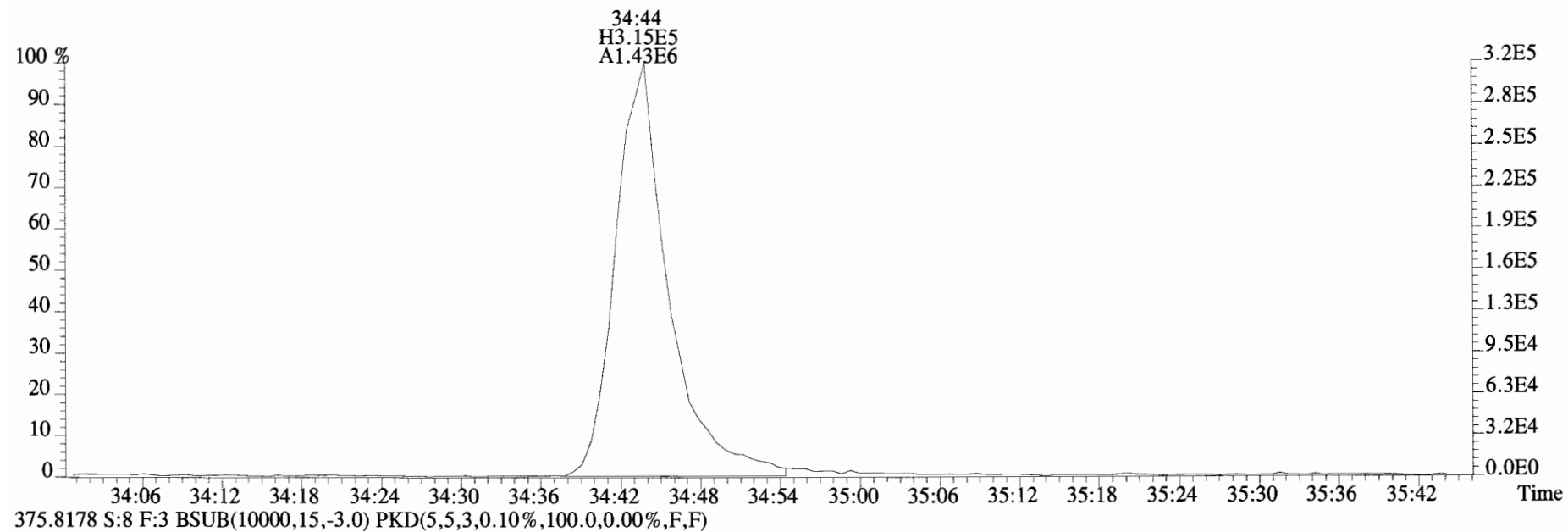
445.7555 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



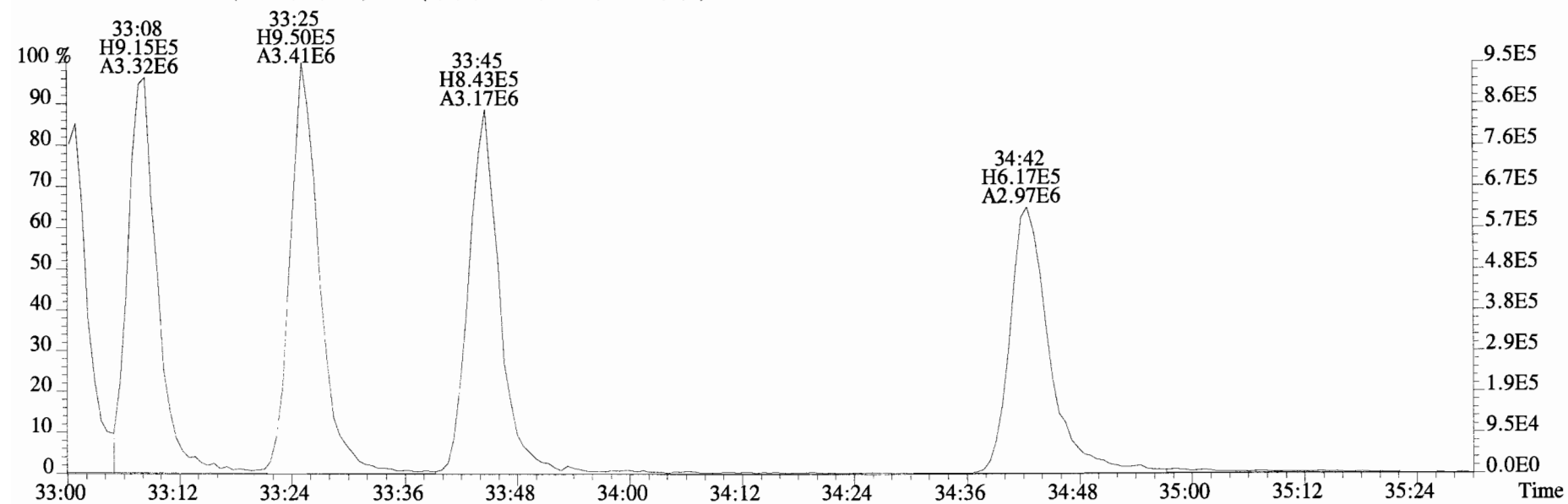
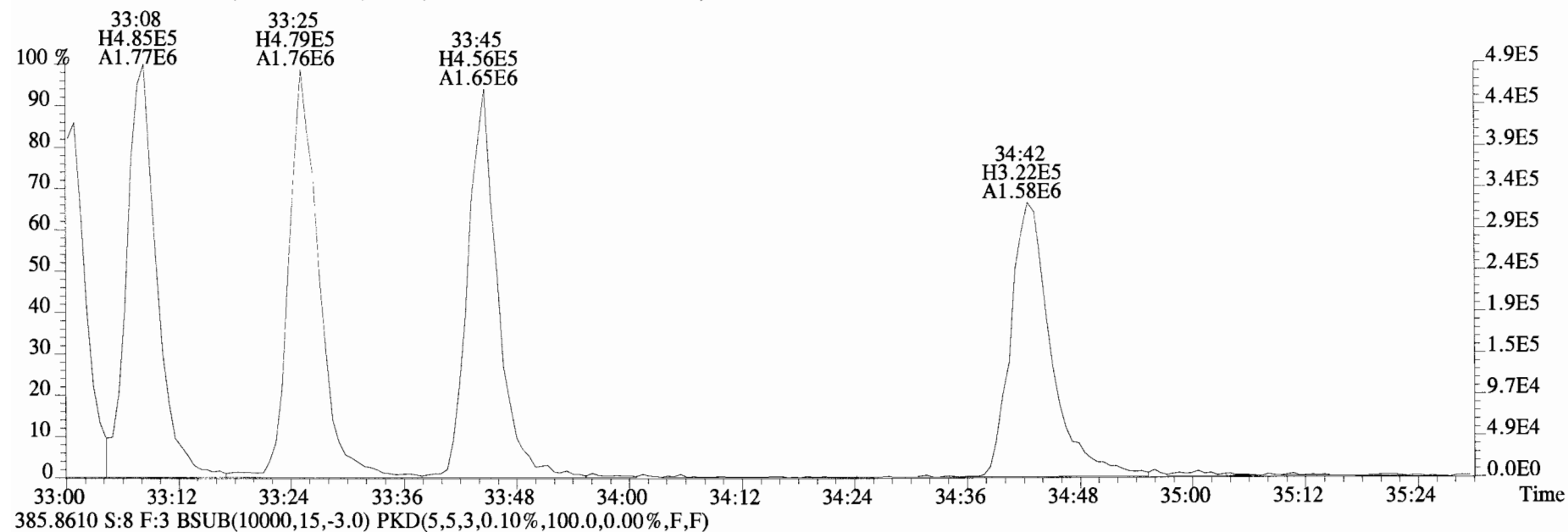
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



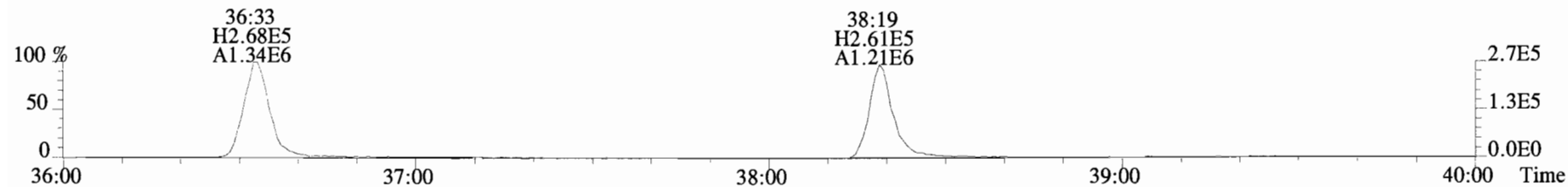
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



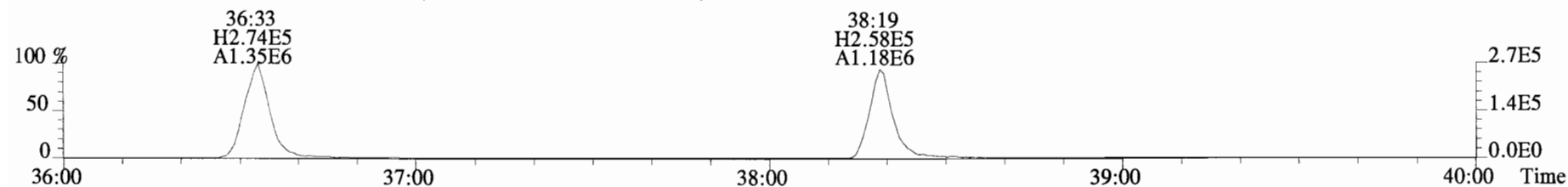
File:190510D2 #1-385 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



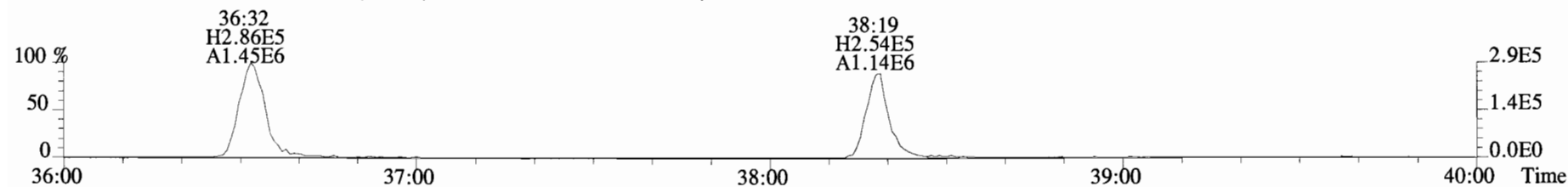
File:190510D2 #1-355 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
 407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



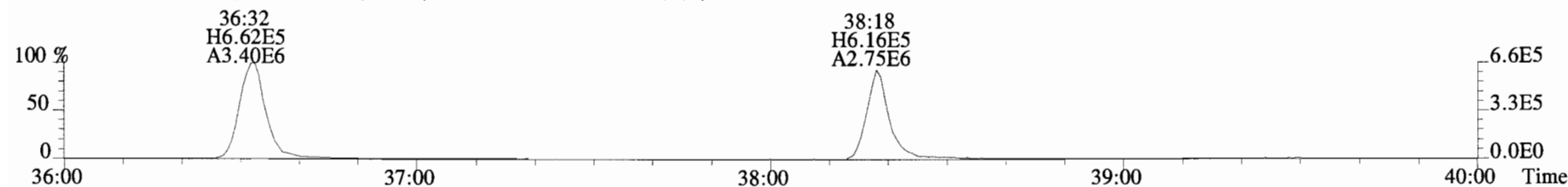
409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



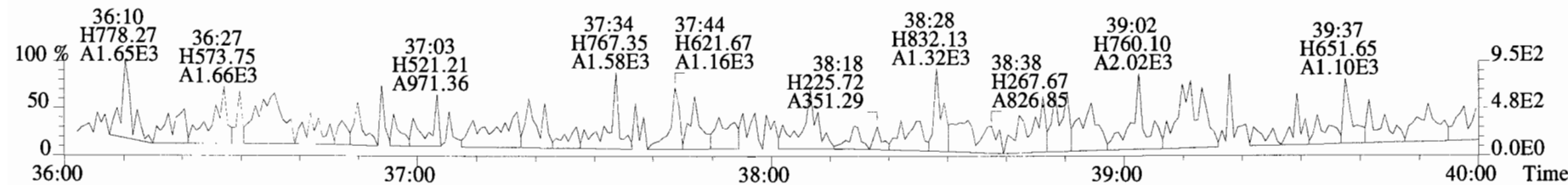
417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



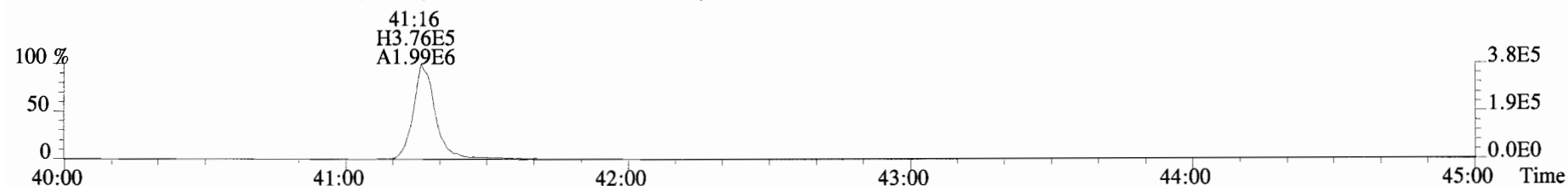
419.8220 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



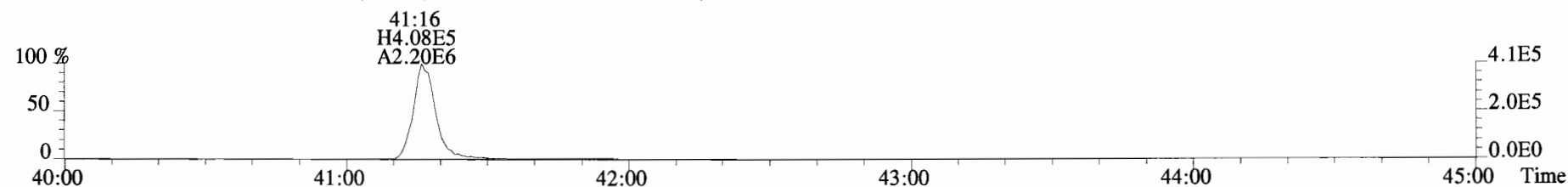
479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



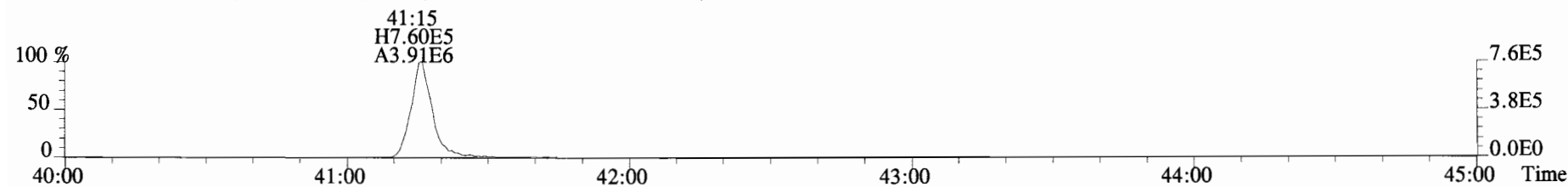
File:190510D2 #1-432 Acq:10-MAY-2019 19:58:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text: Vista Analytical Laboratory VG7 Text:SS190510D2-1 1613 SSS 19C2207 Exp:OCDD_DB5
441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



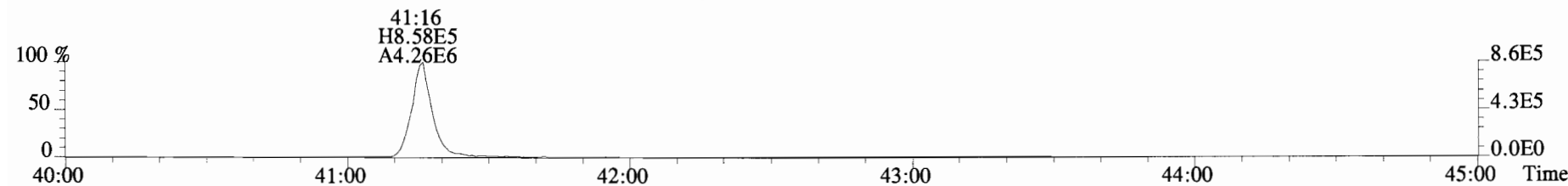
443.7398 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



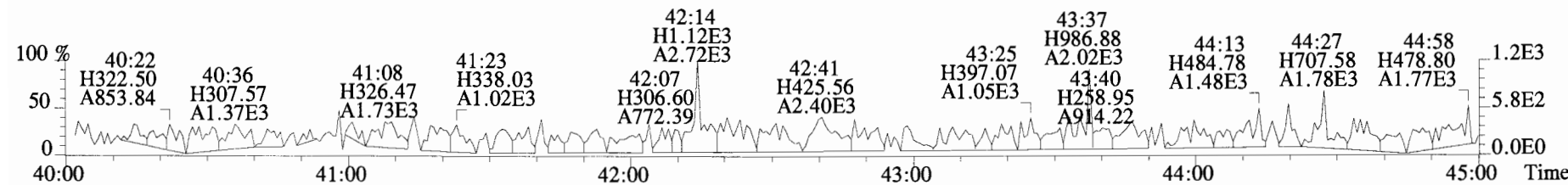
453.7831 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



513.6775 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

CCAL ID: ST190510D2-7

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (3) (ng/mL)
NATIVE ANALYTES						
2,3,7,8-TCDD	M/M+2	0.73	0.65-0.89	y	10.7	7.8 - 12.9
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	50.7	8.2 - 12.3 (4) 39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.19	1.05-1.43	y	48.1	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.21	1.05-1.43	y	48.8	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.18	1.05-1.43	y	47.9	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	50.7	43.0 - 58.0
OCDD	M+2/M+4	0.91	0.76-1.02	y	97.6	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	8.80	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	49.4	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	49.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.14	1.05-1.43	y	46.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.7	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.18	1.05-1.43	y	49.1	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.18	1.05-1.43	y	48.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.97	0.88-1.20	y	48.8	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.00	0.88-1.20	y	48.7	43.0 - 58.0
OCDF	M+2/M+4	0.91	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: 5/13/19

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

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	0.80	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.61	0.54-0.72	y	89.6	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	105	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.22	1.05-1.43	y	104	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.25	1.05-1.43	y	105	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	98.9	72.0 - 138.0
13C-OCDD	M/M+2	0.91	0.76-1.02	y	209	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	1.55	1.32-1.78	y	96.0	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	93.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	99.8	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	101	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.42	0.37-0.51	y	98.8	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	101	77.0 - 129.0
13C-OCDF	M+2/M+4	0.92	0.76-1.02	y	196	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.02	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: 5/13/19

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: 5-10-19

RT Window Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

ZB-5MS IS Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

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)	20:44
1,2,8,9-TCDD (L)	27:01	1,2,8,9-TCDF (L)	27:11
1,2,4,7,9-PeCDD (F)	28:34	1,3,4,6,8-PeCDF (F)	27:05
1,2,3,8,9-PeCDD (L)	30:58	1,2,3,8,9-PeCDF (L)	31:13
1,2,4,6,7,9-HxCDD (F)	32:21	1,2,3,4,6,8-HxCDF (F)	31:49
1,2,3,7,8,9-HxCDD (L)	34:19	1,2,3,7,8,9-HxCDF (L)	34:43
1,2,3,4,6,7,9-HpCDD (F)	36:54	1,2,3,4,6,7,8-HpCDF (F)	36:32
1,2,3,4,6,7,8-HpCDD (L)	37:45	1,2,3,4,7,8,9-HpCDF (L)	38:18

(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).

=====

ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS

% VALLEY HEIGHT
BETWEEN
COMPARED PEAKS (1)

<25%

(1) To meet contract requirements, %Valley Height Between Compared
Peaks shall not exceed 25% (section 15.4.2.2, Method 1613).

Analyst: DBDate: 5/13/19

FORM 6A
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7 GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

Compounds Using 13C-1234-TCDD as RT Internal Standard

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	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	1.001	0.999-1.002
2,3,7,8-TCDF	13C-2,3,7,8-TCDF	1.000	0.999-1.003
1,2,3,7,8-PeCDF	13C-1,2,3,7,8-PeCDF	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.001	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.196	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.993	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: 5/13/19

FORM 6B
PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory Episode No.:

Contract No.: SAS No.:

Initial Calibration Date: 5-10-19

Instrument ID: VG-7

GC Column ID: ZB-5MS

VER Data Filename: 190510D2 S#18 Analysis Date: 11-MAY-19 Time: 03:54:32

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	1.000	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.001	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	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	1.001	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	0.991	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	1.039	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	1.027	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	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.228	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: DB

Date: 5/13/19

Client ID: 1613 CS3 19C2204
Lab ID: ST190510D2-7

Filename: 190510D2 S:18 Acq:11-MAY-19 03:54:32
GC Column ID: ZB-5MS ICal: 1613VG7-5-10-19 wt/vol: 1.000

ConCal: ST190510D2-4
EndCAL: ST190510D2-7

Page 9 of 9

	Name	Resp	RA	RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	7.10e+05	0.73 y	0.90	26:10	10.716		* 2.5	*	
	1,2,3,7,8-PeCDD	2.54e+06	0.63 y	0.87	30:36	50.710		* 2.5	*	
	1,2,3,4,7,8-HxCDD	2.51e+06	1.19 y	1.05	33:54	48.059		* 2.5	*	
	1,2,3,6,7,8-HxCDD	2.79e+06	1.21 y	0.93	34:00	48.777		* 2.5	*	
	1,2,3,7,8,9-HxCDD	2.78e+06	1.18 y	0.96	34:19	47.912		* 2.5	*	
	1,2,3,4,6,7,8-HpCDD	2.39e+06	1.05 y	0.99	37:45	50.718		* 2.5	*	
	OCDD	4.42e+06	0.91 y	0.99	41:02	97.583		* 2.5	*	
	2,3,7,8-TCDF	8.30e+05	0.78 y	0.94	25:25	8.7982		* 2.5	*	
	1,2,3,7,8-PeCDF	3.75e+06	1.62 y	0.92	29:27	49.387		* 2.5	*	
	2,3,4,7,8-PeCDF	3.74e+06	1.61 y	0.96	30:20	49.704		* 2.5	*	
	1,2,3,4,7,8-HxCDF	3.24e+06	1.14 y	1.15	33:00	46.598		* 2.5	*	
	1,2,3,6,7,8-HxCDF	3.78e+06	1.22 y	1.04	33:08	49.707		* 2.5	*	
	2,3,4,6,7,8-HxCDF	3.66e+06	1.18 y	1.10	33:44	49.056		* 2.5	*	
	1,2,3,7,8,9-HxCDF	3.07e+06	1.18 y	1.03	34:43	48.289		* 2.5	*	
	1,2,3,4,6,7,8-HpCDF	2.92e+06	0.97 y	1.06	36:32	48.759		* 2.5	*	
	1,2,3,4,7,8,9-HpCDF	2.68e+06	1.00 y	1.23	38:18	48.717		* 2.5	*	
	OCDF	5.19e+06	0.91 y	0.94	41:16	102.58		* 2.5	*	
IS	13C-2,3,7,8-TCDD	7.36e+06	0.80 y	1.11	26:09	101.34				
IS	13C-1,2,3,7,8-PeCDD	5.74e+06	0.61 y	0.98	30:35	89.585				
IS	13C-1,2,3,4,7,8-HxCDD	4.97e+06	1.27 y	0.68	33:53	104.58				
IS	13C-1,2,3,6,7,8-HxCDD	6.16e+06	1.22 y	0.84	33:59	103.99				
IS	13C-1,2,3,7,8,9-HxCDD	6.02e+06	1.25 y	0.81	34:17	105.34				
IS	13C-1,2,3,4,6,7,8-HpCDD	4.77e+06	1.02 y	0.69	37:44	98.871				
IS	13C-OCDD	9.18e+06	0.91 y	0.62	41:01	208.71				
IS	13C-2,3,7,8-TCDF	1.00e+07	0.79 y	1.05	25:25	105.95				
IS	13C-1,2,3,7,8-PeCDF	8.23e+06	1.55 y	0.95	29:26	96.004				
IS	13C-2,3,4,7,8-PeCDF	7.87e+06	1.61 y	0.94	30:19	93.631				
IS	13C-1,2,3,4,7,8-HxCDF	6.02e+06	0.51 y	0.86	32:59	99.806				
IS	13C-1,2,3,6,7,8-HxCDF	7.33e+06	0.51 y	1.02	33:07	101.97				
IS	13C-2,3,4,6,7,8-HxCDF	6.81e+06	0.51 y	0.95	33:43	101.53				
IS	13C-1,2,3,7,8,9-HxCDF	6.16e+06	0.52 y	0.87	34:42	100.95				
IS	13C-1,2,3,4,6,7,8-HpCDF	5.62e+06	0.42 y	0.81	36:31	98.759				
IS	13C-1,2,3,4,7,8,9-HpCDF	4.48e+06	0.44 y	0.63	38:18	100.75				
IS	13C-OCDF	1.08e+07	0.92 y	0.78	41:15	195.62				
C/Up	37Cl-2,3,7,8-TCDD	7.21e+05		1.22	26:10	9.0209				
RS/RT	13C-1,2,3,4-TCDD	6.57e+06	0.79 y	1.00	25:35	100.00				
RS	13C-1,2,3,4-TCDF	8.98e+06	0.81 y	1.00	24:11	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.04e+06	0.51 y	1.00	33:24	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	73.0	74.4		*	*
Total Penta-Dioxins	189	189		*	*
Total Hexa-Dioxins	211	211		*	*
Total Hepta-Dioxins	115	117		*	*
Total Tetra-Furans	34.7	36.4		*	*
Total Penta-Furans	236.06	237.33		*	*
Total Hexa-Furans	258	259		*	*
Total Hepta-Furans	99.2	101		*	*

Rec Qual

101
89.6
105
104
105
98.9
104
106
96.0
93.6
99.8
102
102
101
98.8
101
97.8

Integrations
by
Analyst: DB

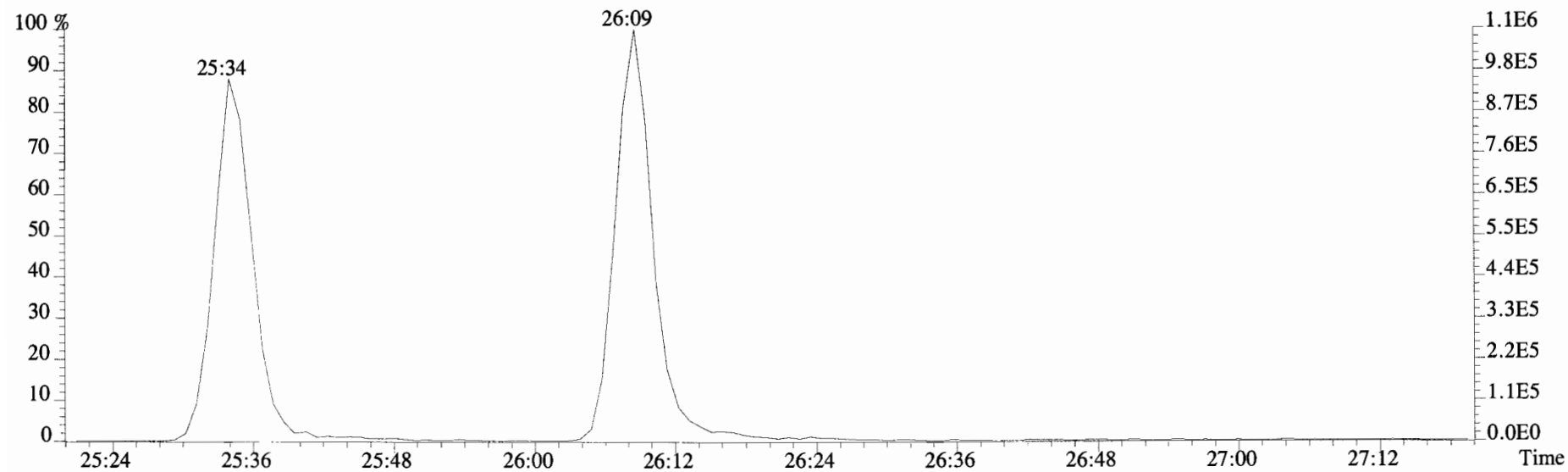
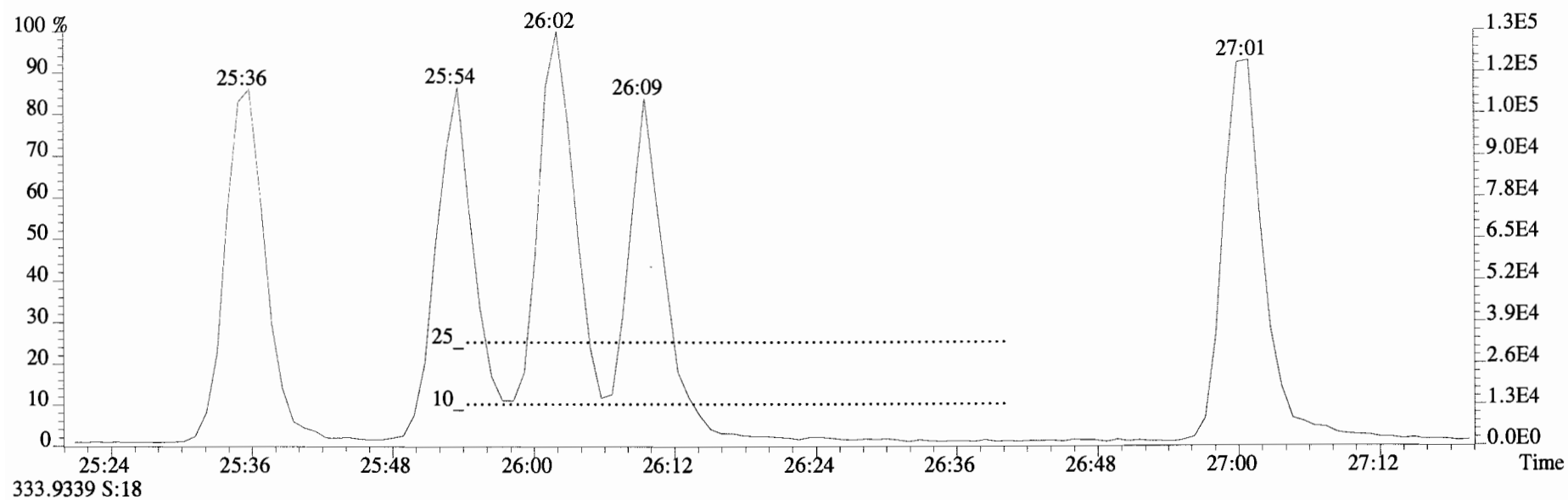
Date: 5/14/19

Reviewed
by
Analyst: ms

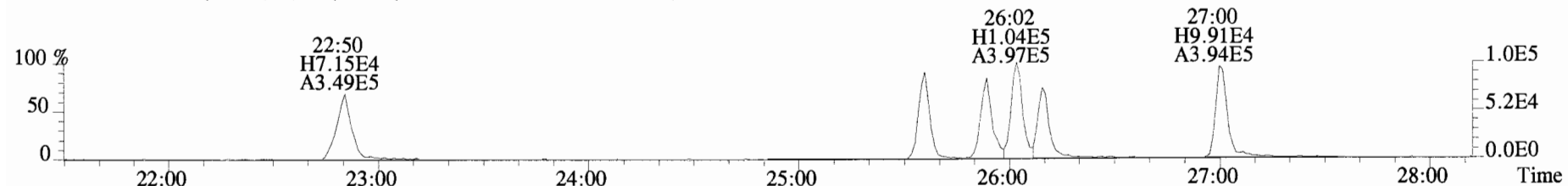
Date: 5/14/19

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190510D2	2	ST190510D2-2	DB	10-MAY-19	15:12:30	ST190510D2-4	NA
190510D2	3	ST190510D2-3	DB	10-MAY-19	16:00:06	ST190510D2-4	NA
190510D2	4	ST190510D2-4	DB	10-MAY-19	16:47:52	ST190510D2-4	ST190510D2-7
190510D2	5	ST190510D2-5	DB	10-MAY-19	17:35:29	ST190510D2-4	NA
190510D2	6	ST190510D2-6	DB	10-MAY-19	18:23:05	ST190510D2-4	NA
190510D2	7	SOLVENT BLANK	DB	10-MAY-19	19:10:42	NA	NA
190510D2	8	SS190510D2-1	DB	10-MAY-19	19:58:17	ST190510D2-4	NA
190510D2	9	B9E0067-BS1	DB	10-MAY-19	20:45:54	ST190510D2-4	ST190510D2-7
190510D2	10	SOLVENT BLANK	DB	10-MAY-19	21:33:30	NA	NA
190510D2	11	B9E0067-BLK1	DB	10-MAY-19	22:21:10	ST190510D2-4	ST190510D2-7
190510D2	12	1900874-01	DB	10-MAY-19	23:08:45	ST190510D2-4	ST190510D2-7
190510D2	13	1900832-01	DB	10-MAY-19	23:56:25	ST190510D2-4	NA
190510D2	14	1901011-01	DB	11-MAY-19	00:44:00	ST190510D2-4	NA
190510D2	15	1901009-01	DB	11-MAY-19	01:31:38	ST190510D2-4	NA
190510D2	16	1901010-01	DB	11-MAY-19	02:19:20	ST190510D2-4	NA
190510D2	17	SOLVENT BLANK	DB	11-MAY-19	03:06:55	NA	NA
190510D2	18	ST190510D2-7	DB	11-MAY-19	03:54:32	ST190510D2-4	ST190510D2-7

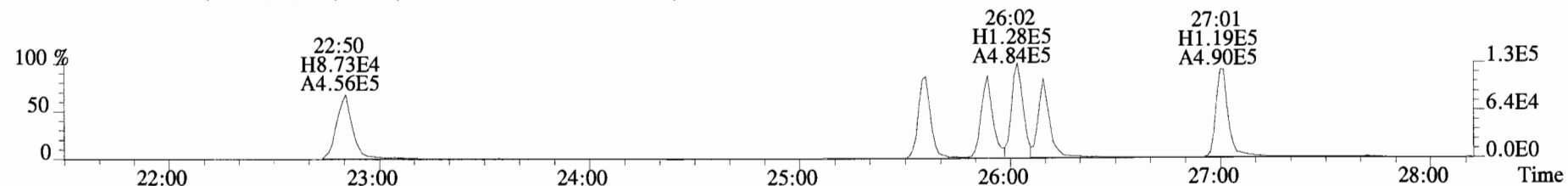
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321.8936 S:18



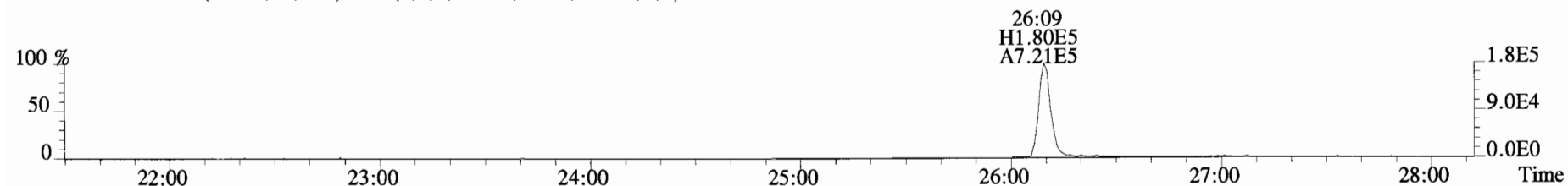
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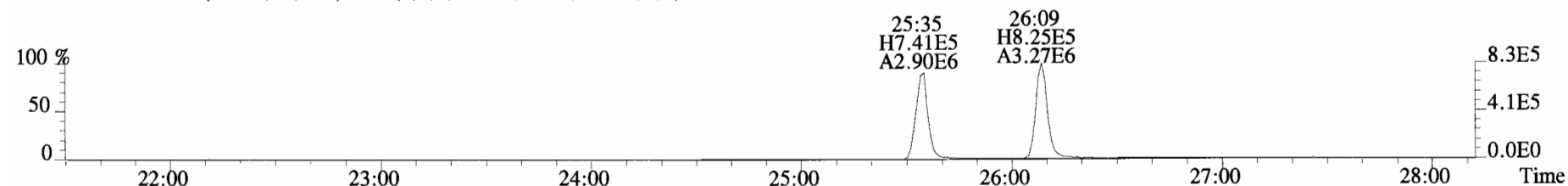
321.8936 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



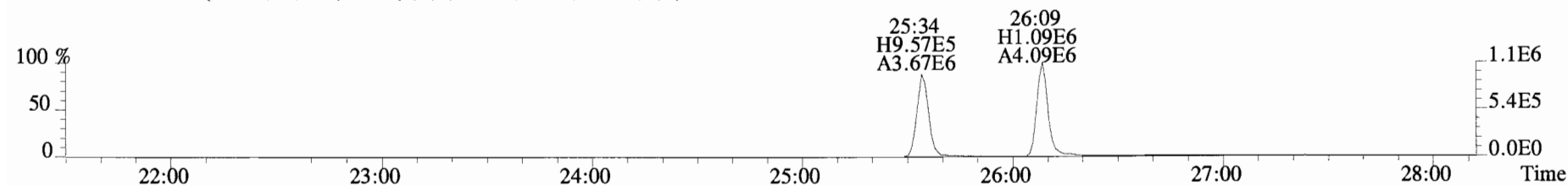
327.8847 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



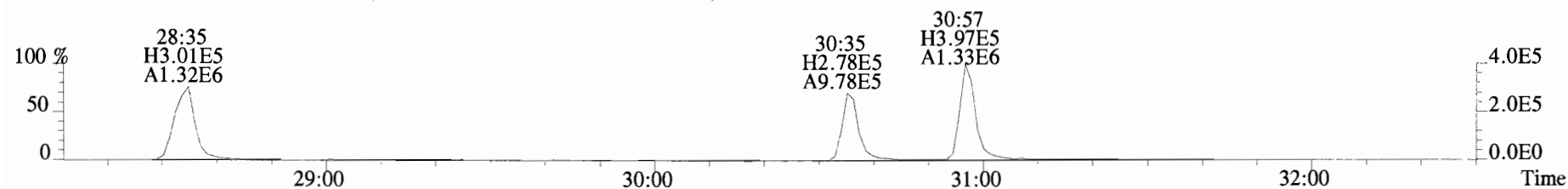
331.9368 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



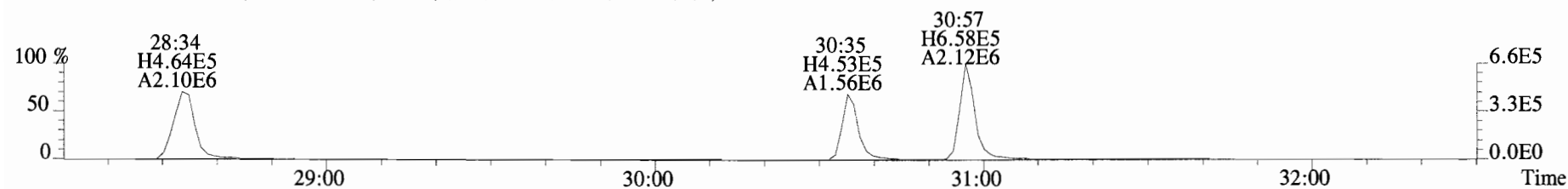
333.9339 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



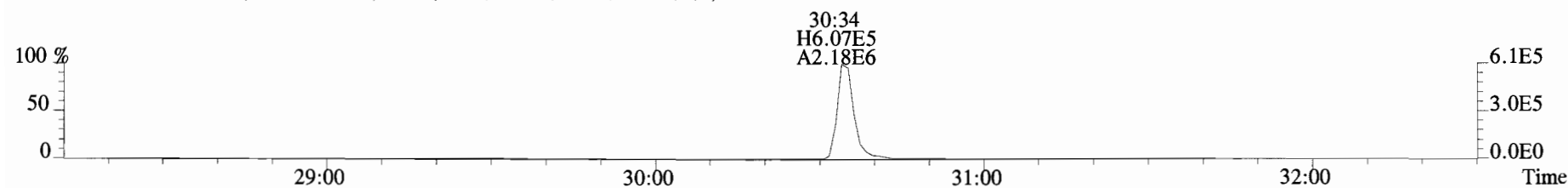
File:190510D2 #1-180 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



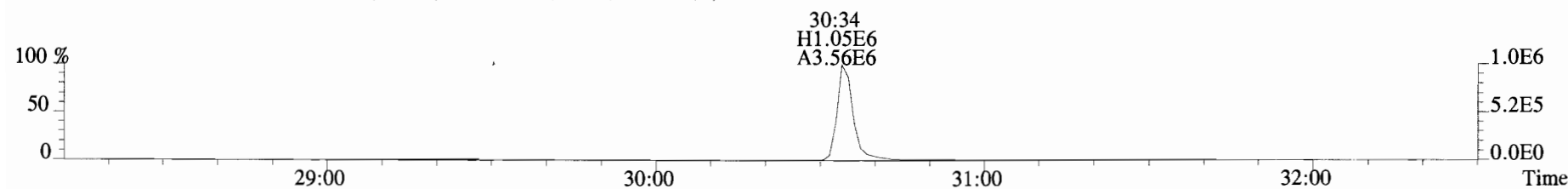
355.8546 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



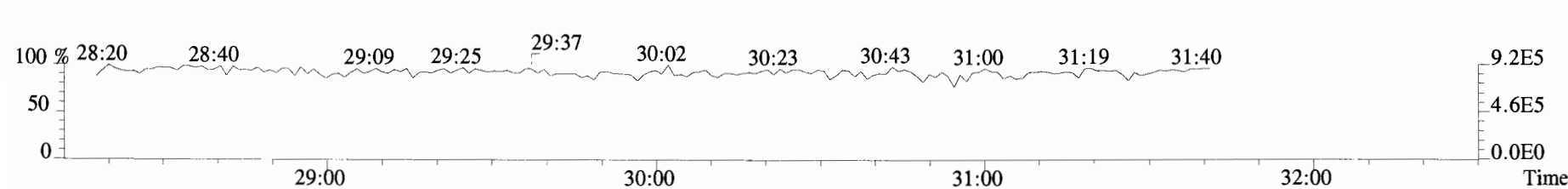
365.8978 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



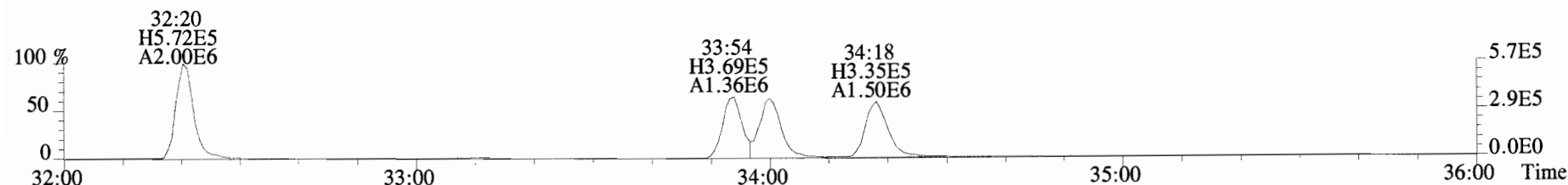
367.8949 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



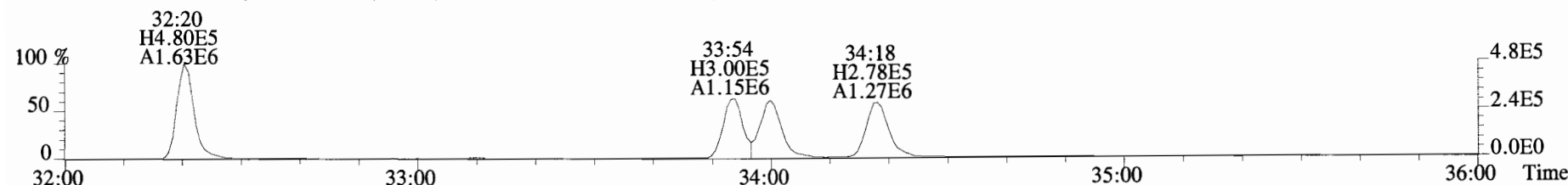
366.9792 S:18 F:2



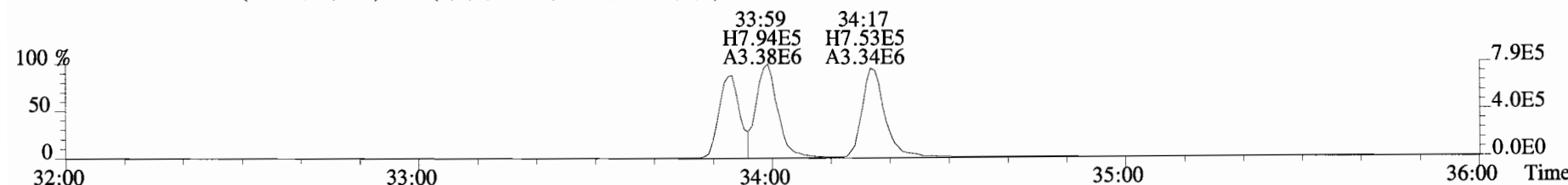
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 389.8156 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



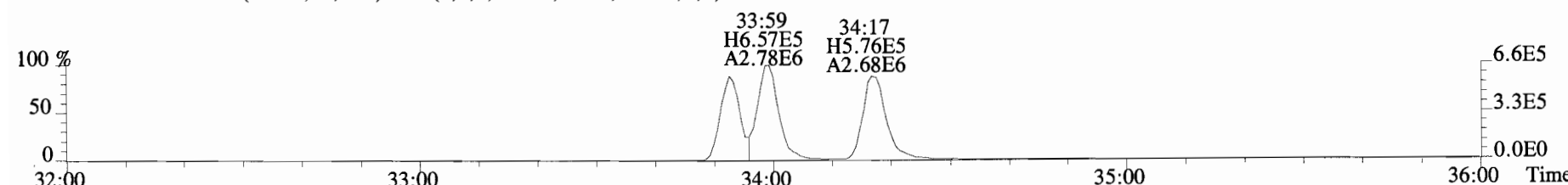
391.8127 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



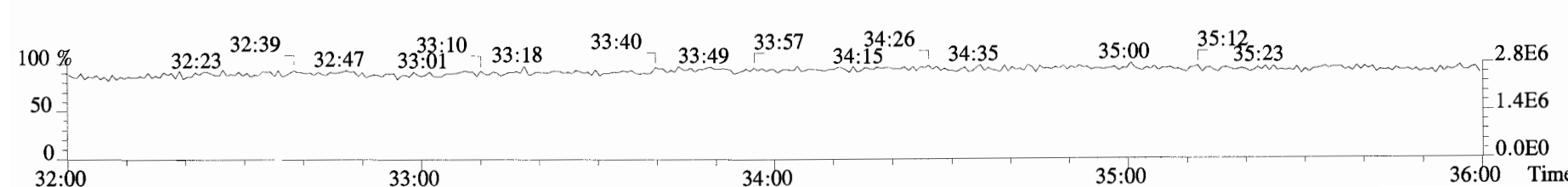
401.8559 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



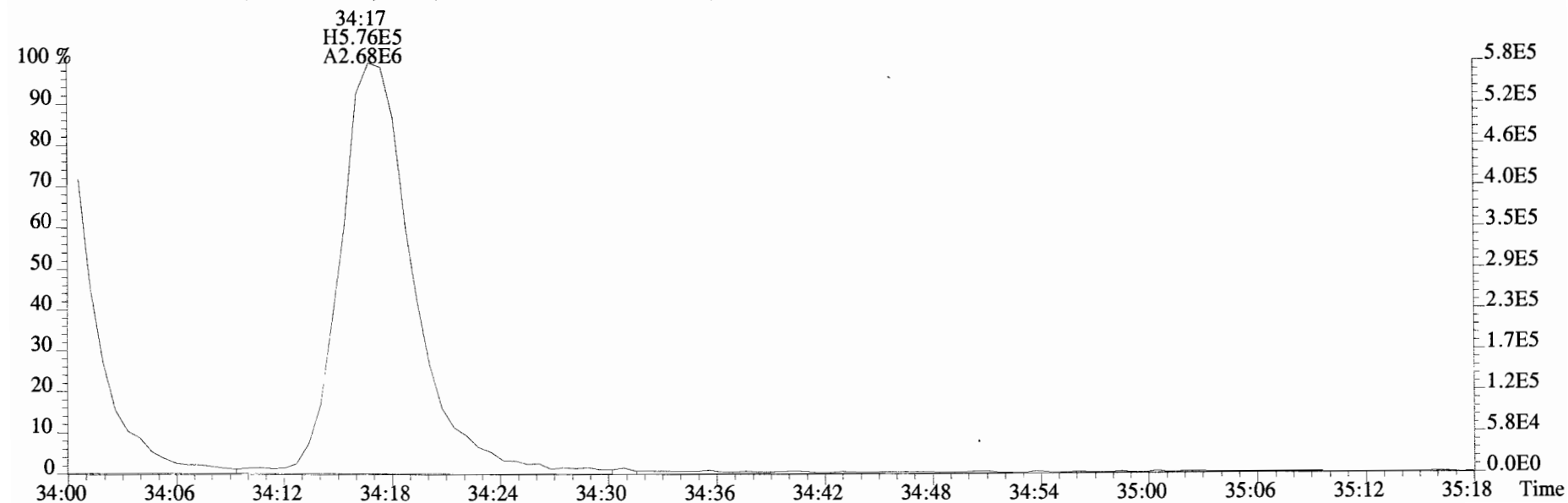
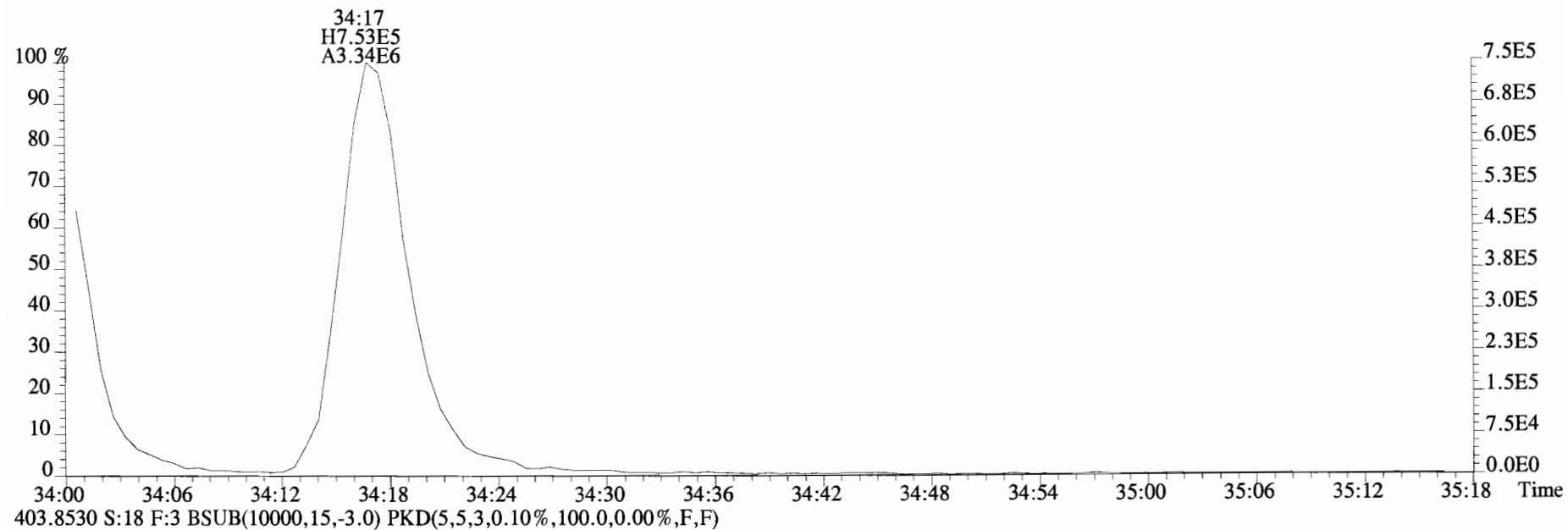
403.8530 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



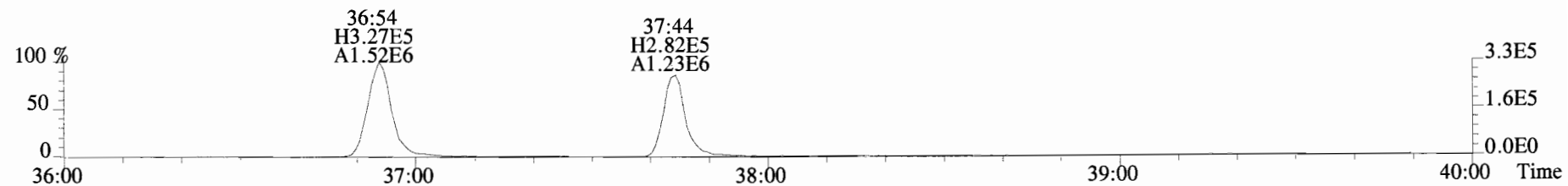
392.9760 S:18 F:3



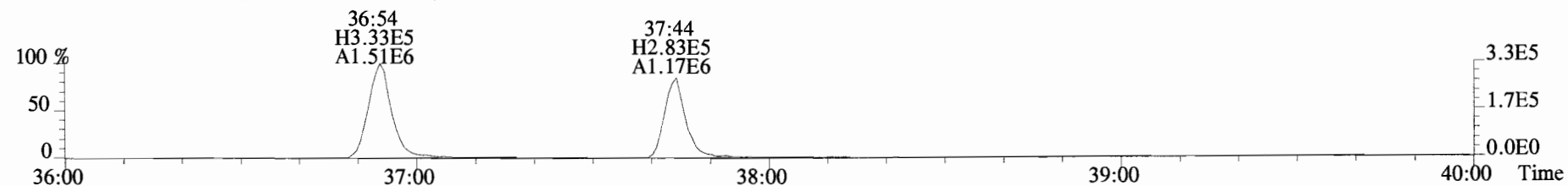
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
401.8559 S:18 F:3 BSUB(I0000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



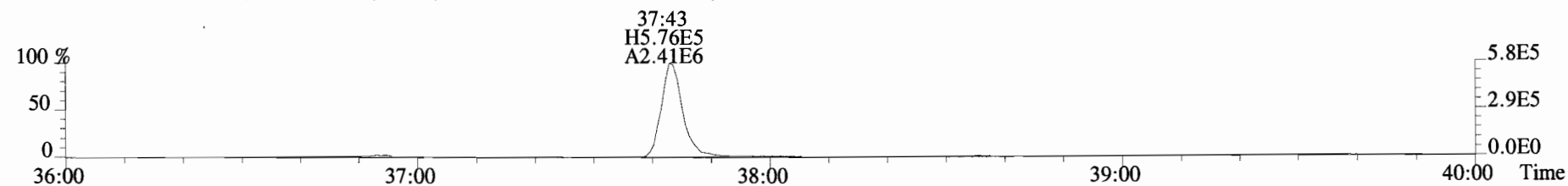
File:190510D2 #1-355 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 423.7767 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



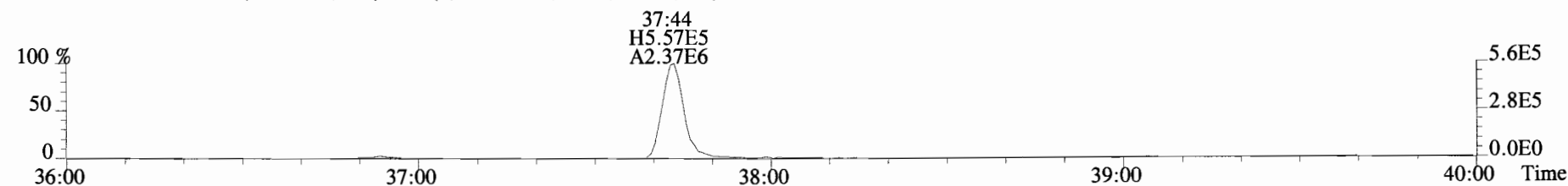
425.7737 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



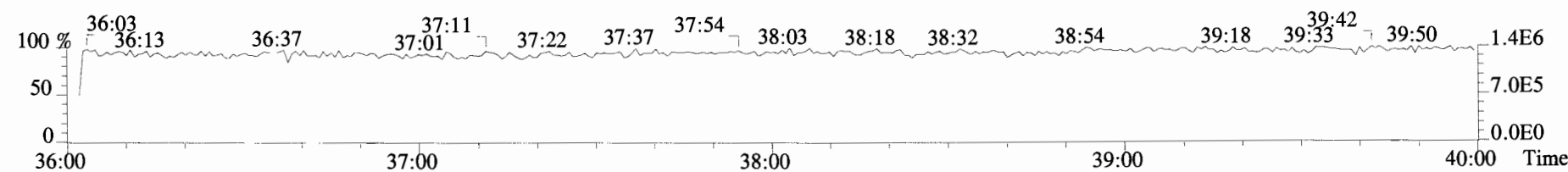
435.8169 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



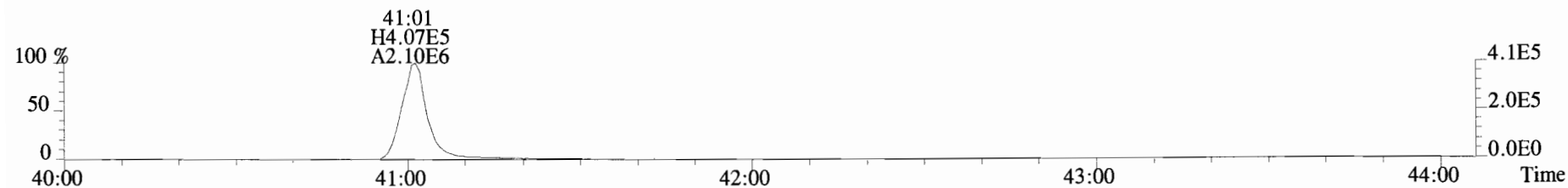
437.8140 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



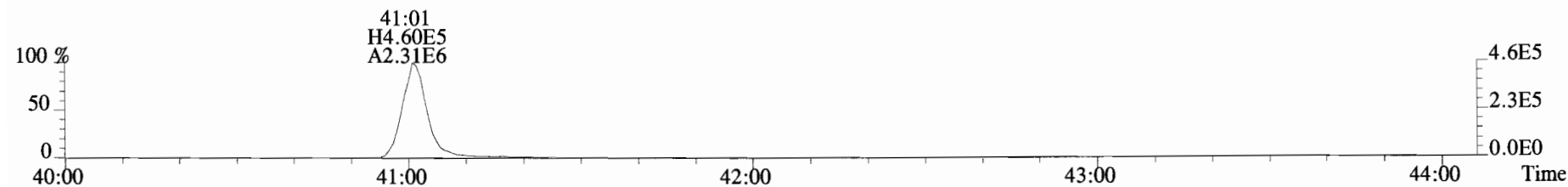
454.9728 S:18 F:4



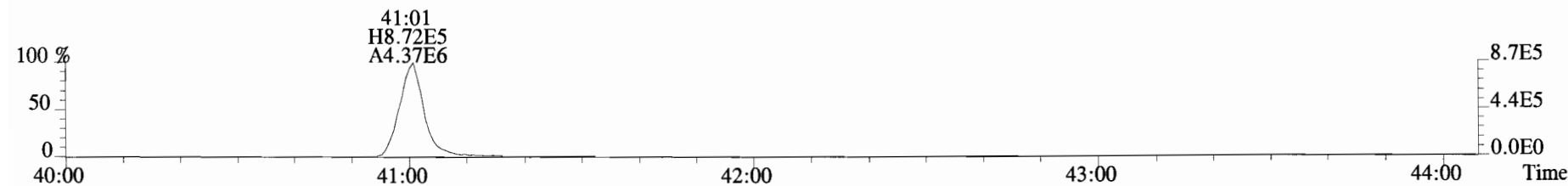
File:190510D2 #1-432 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
457.7377 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



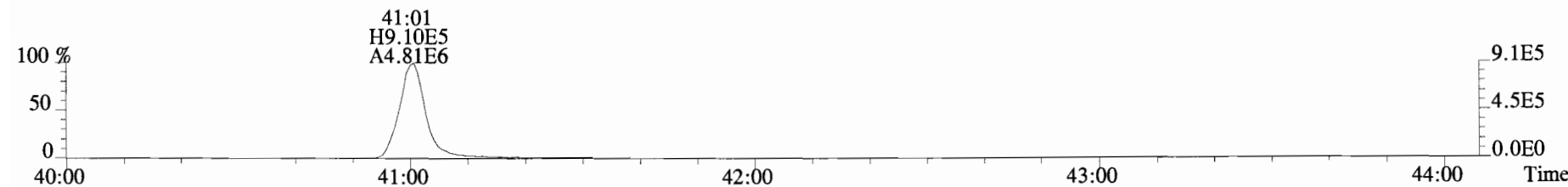
459.7348 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



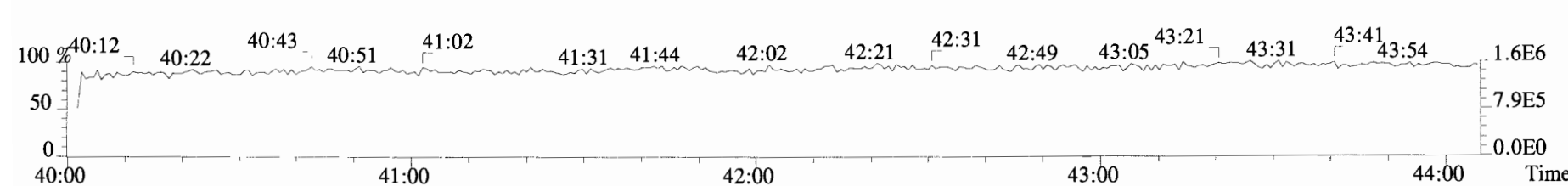
469.7780 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



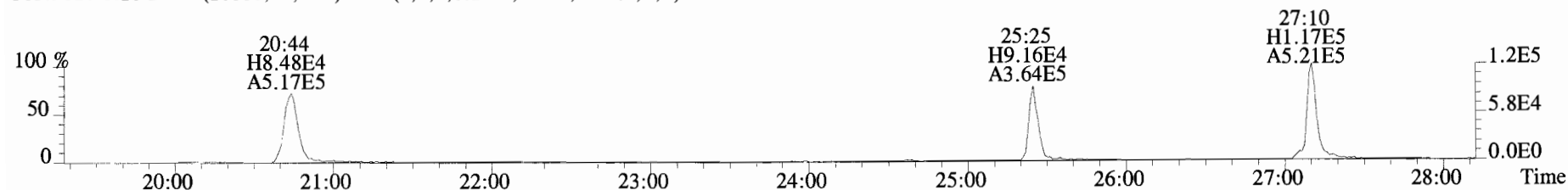
471.7750 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



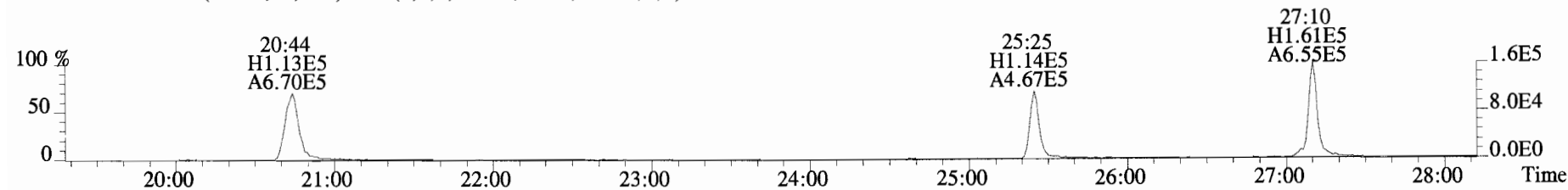
454.9728 S:18 F:5



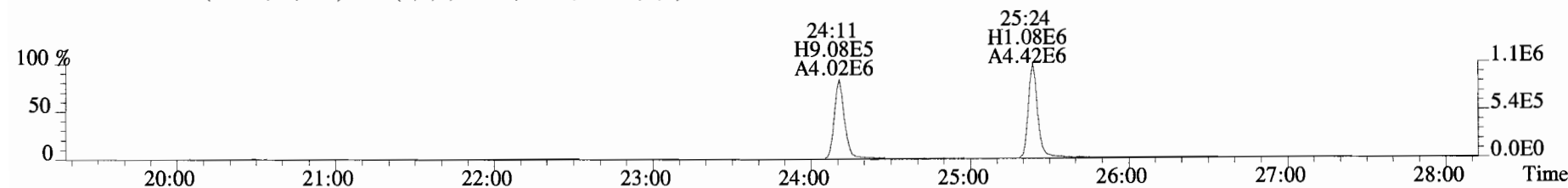
File:190510D2 #1-530 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text: Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 303.9016 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



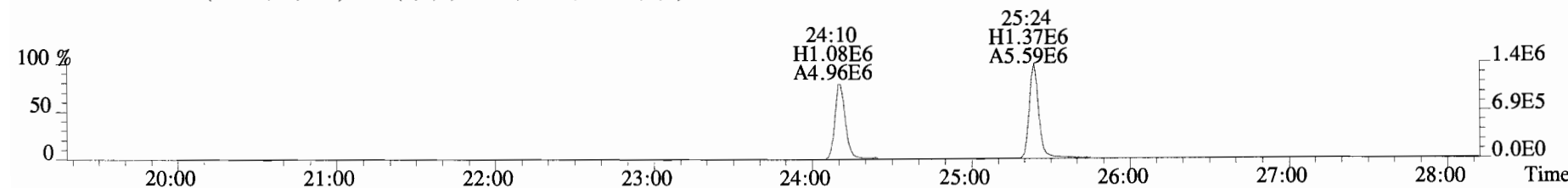
305.8987 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



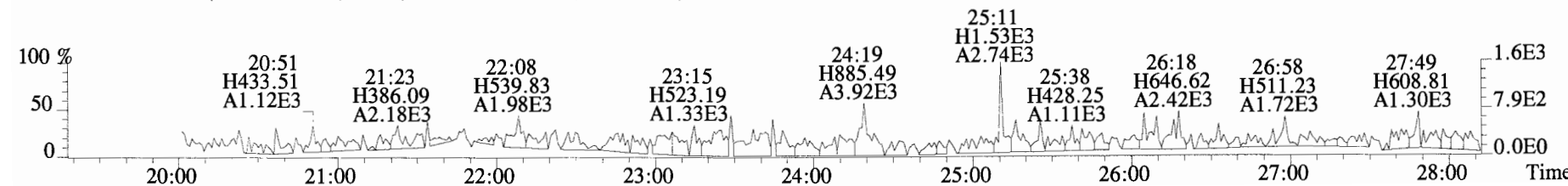
315.9419 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



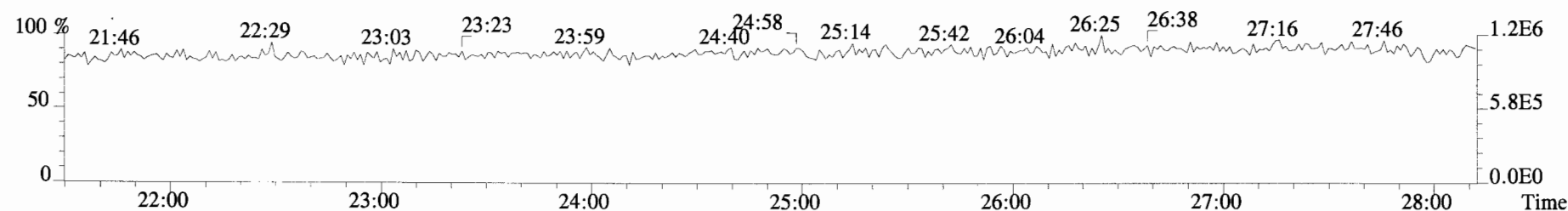
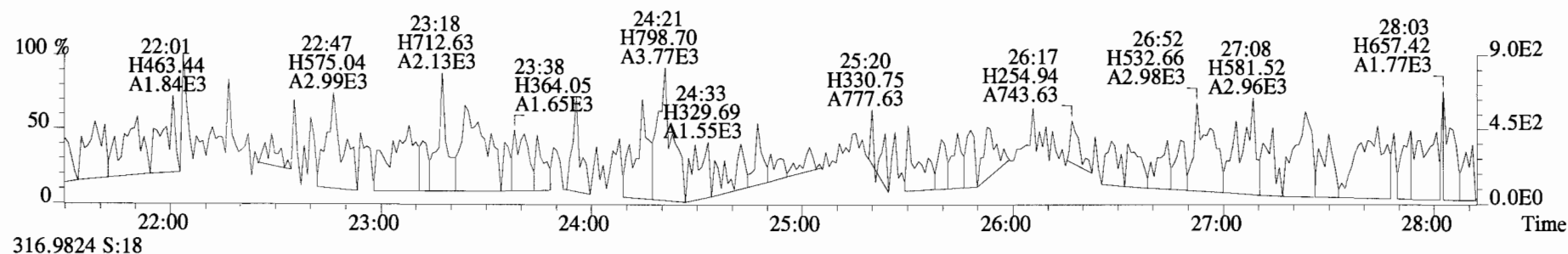
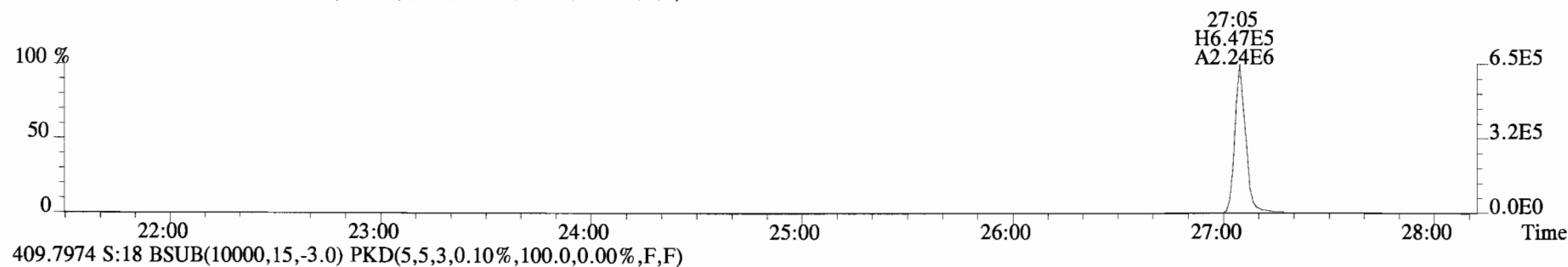
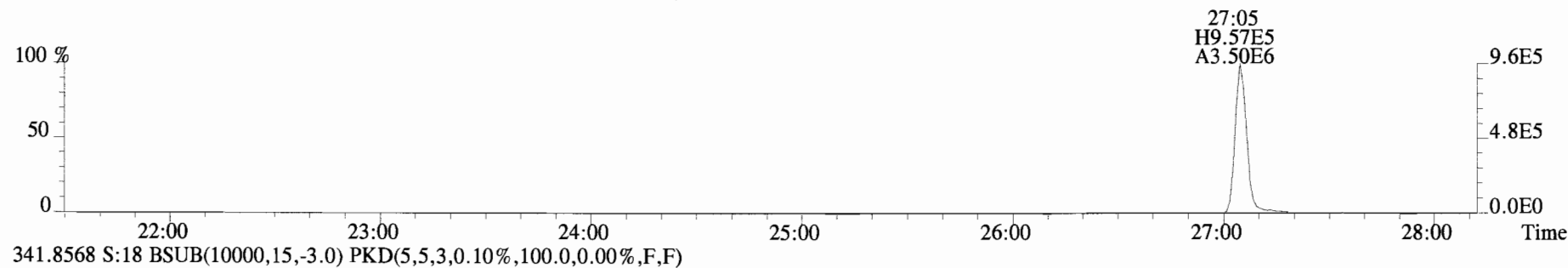
317.9389 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



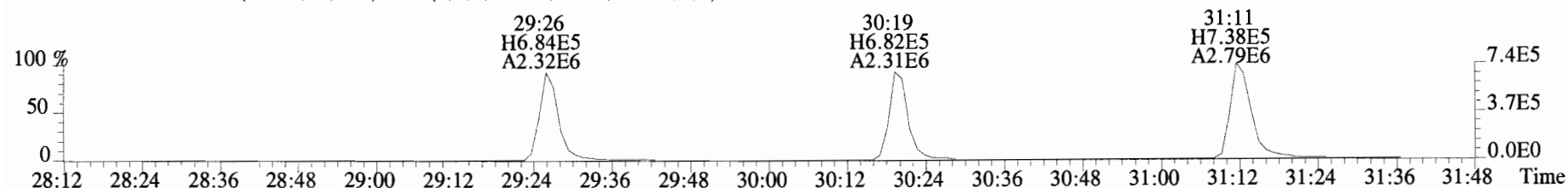
375.8364 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



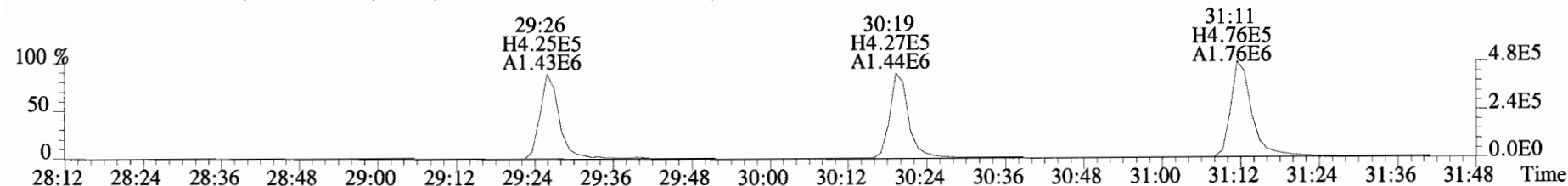
File:190510D2 #1-530 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 S:18 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



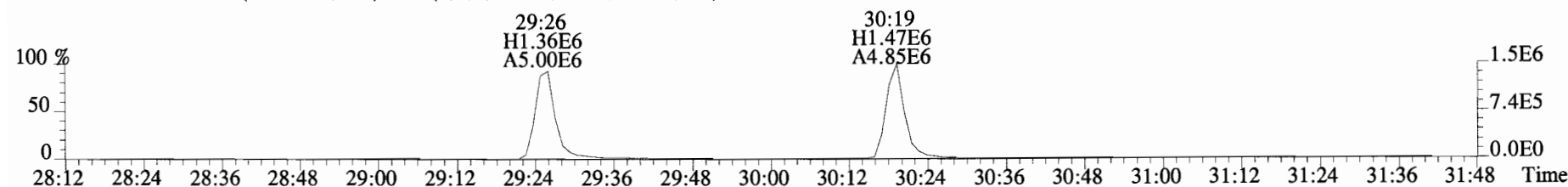
File:190510D2 #1-180 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 339.8597 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



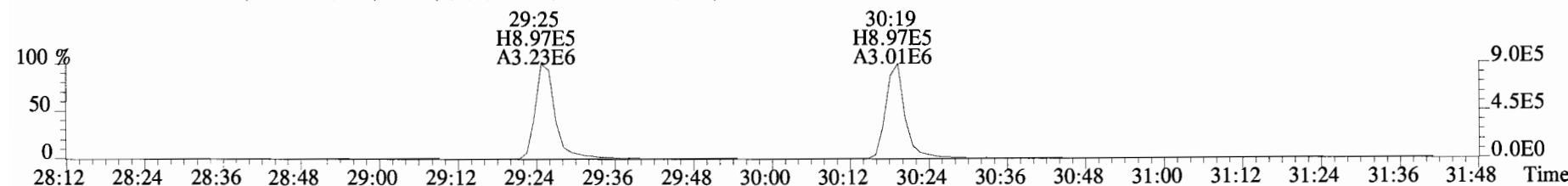
341.8568 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



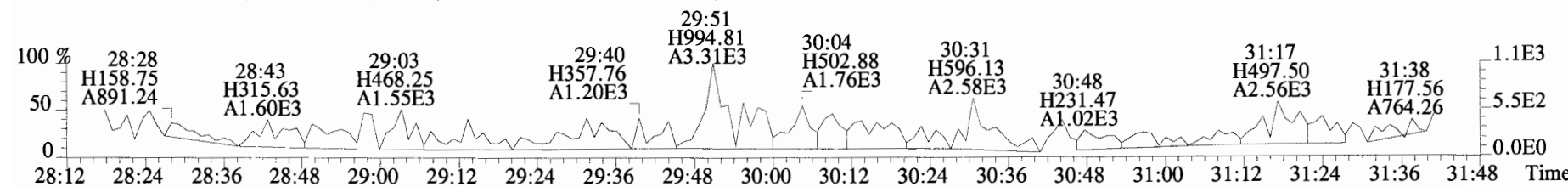
351.9000 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



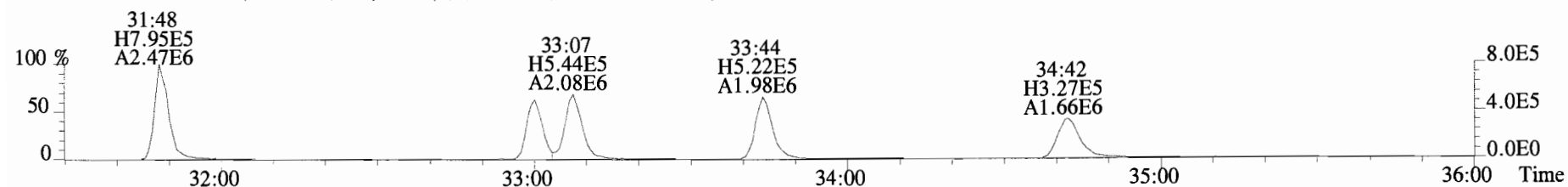
353.8970 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



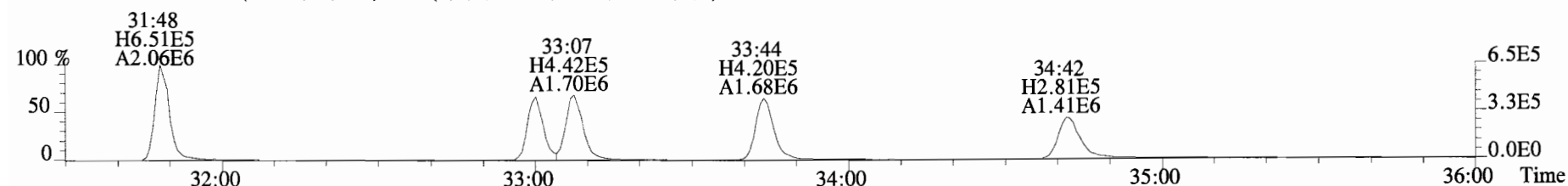
409.7974 S:18 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



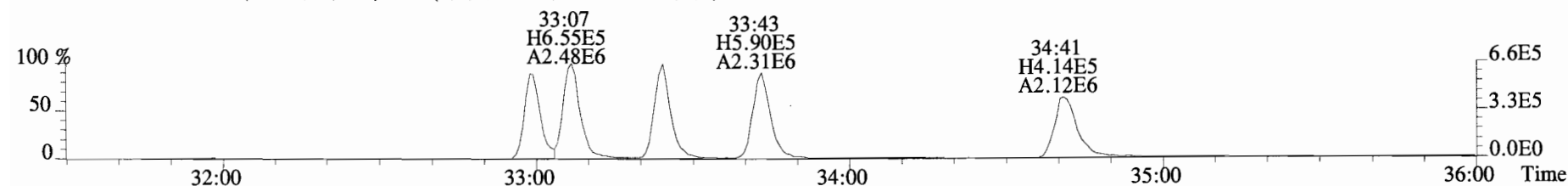
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 373.8207 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



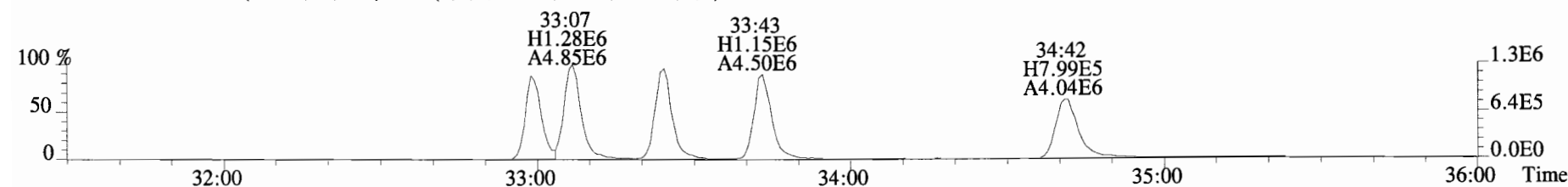
375.8178 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



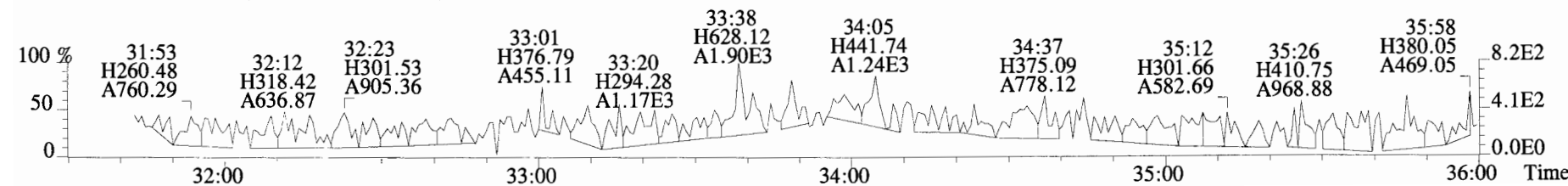
383.8639 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



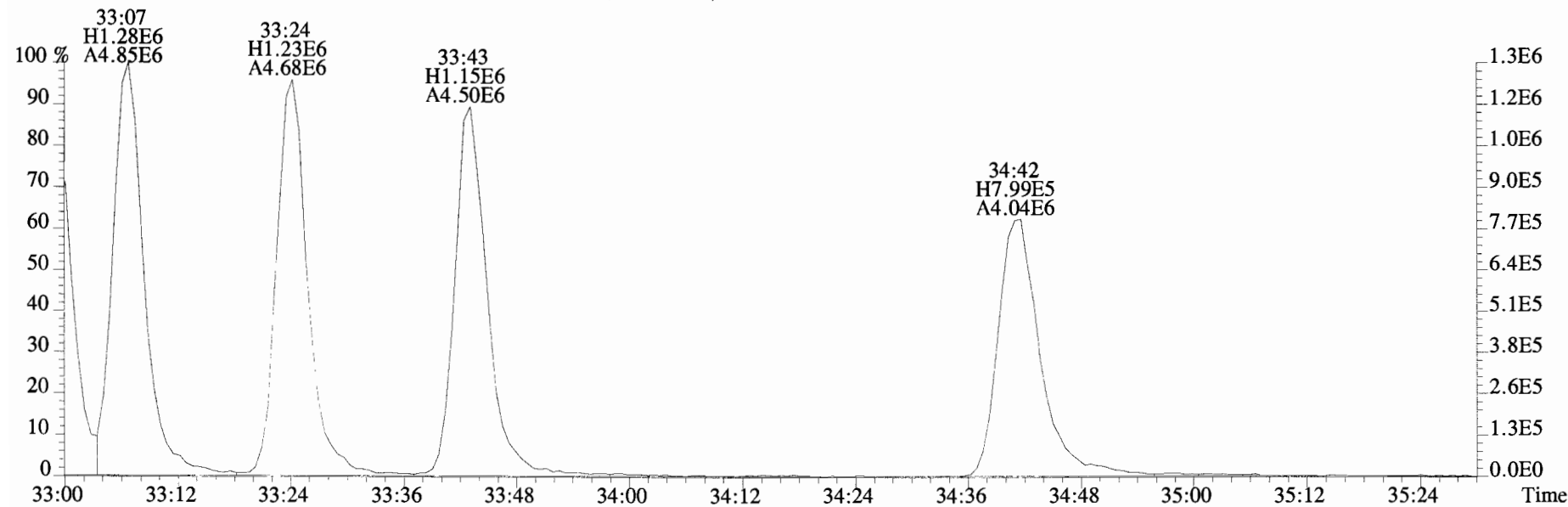
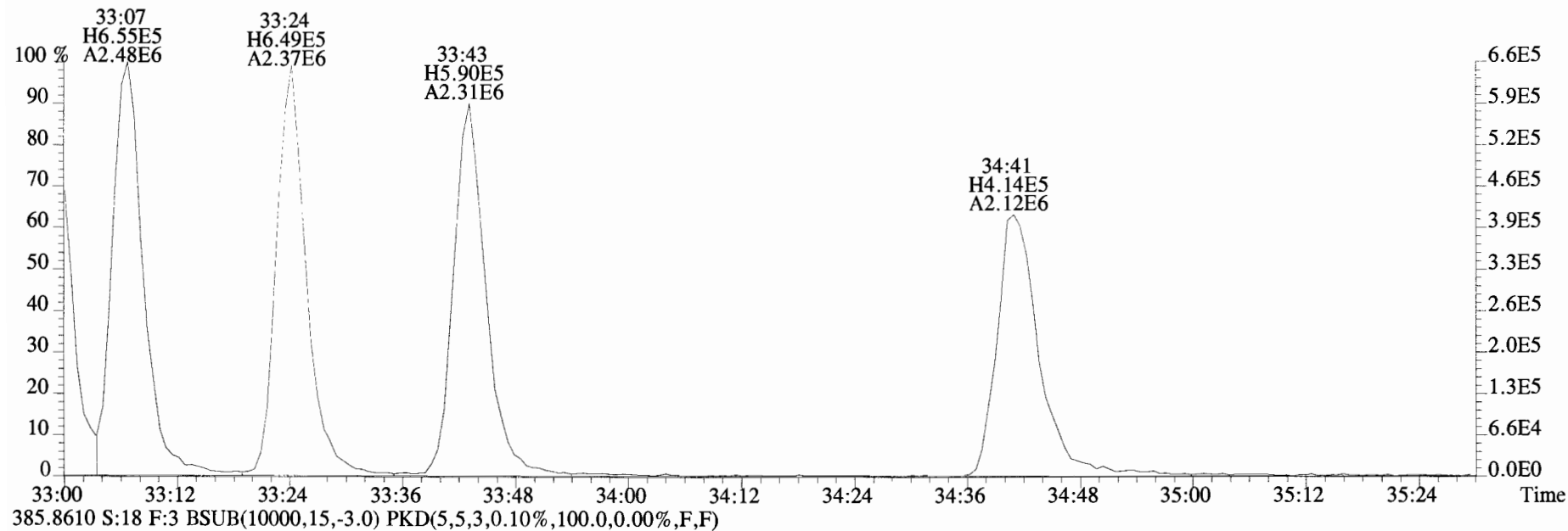
385.8610 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



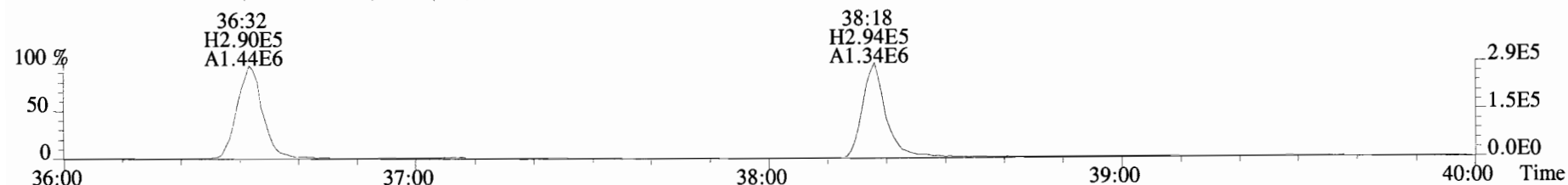
445.7555 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



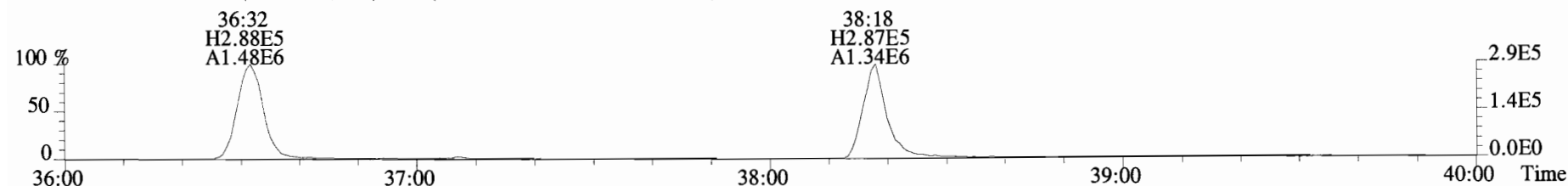
File:190510D2 #1-384 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#18 File Text:Vista Analytical Laboratory VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 S:18 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



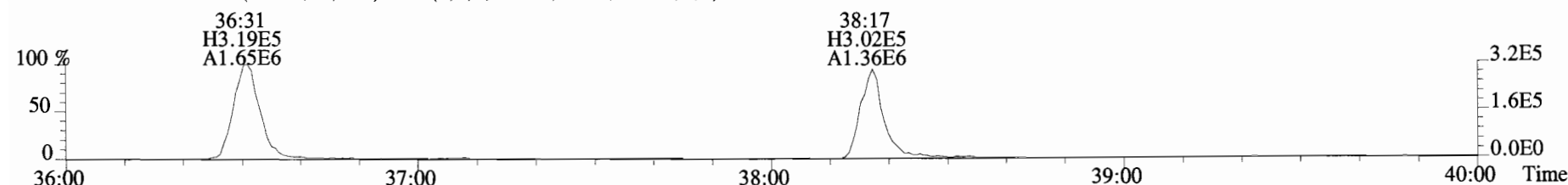
File:190510D2 #1-355 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 407.7818 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



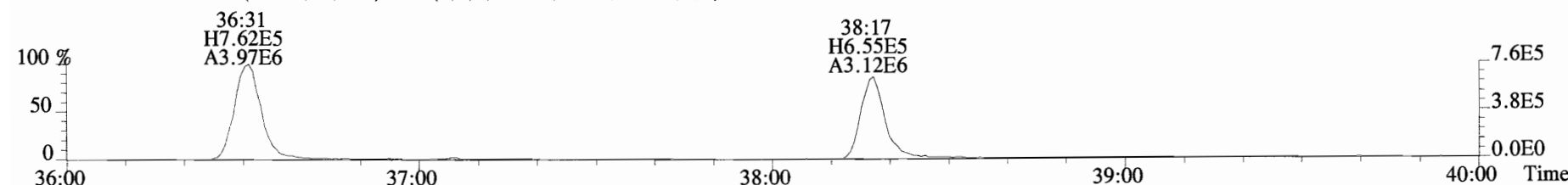
409.7788 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



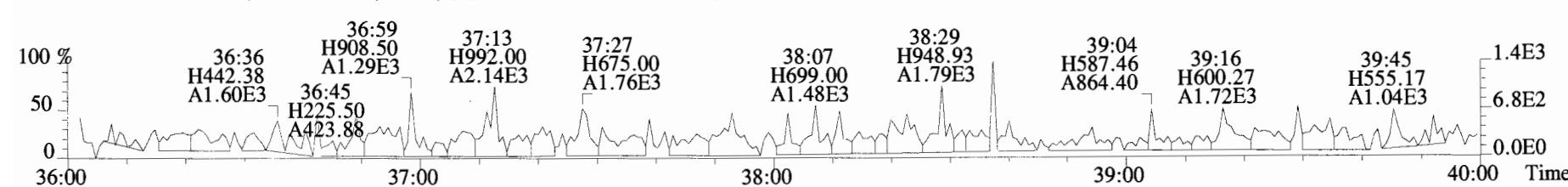
417.8253 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



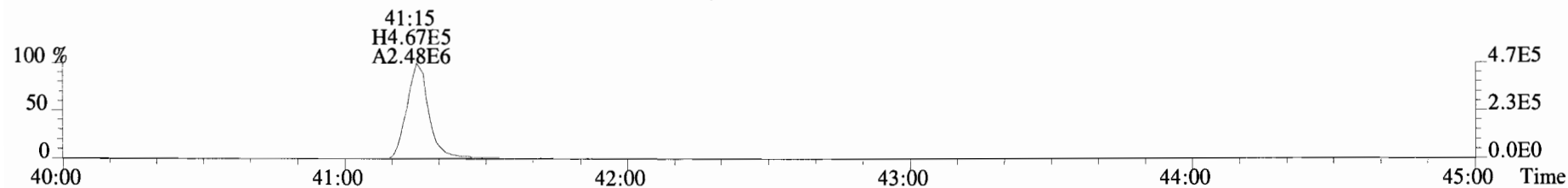
419.8220 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



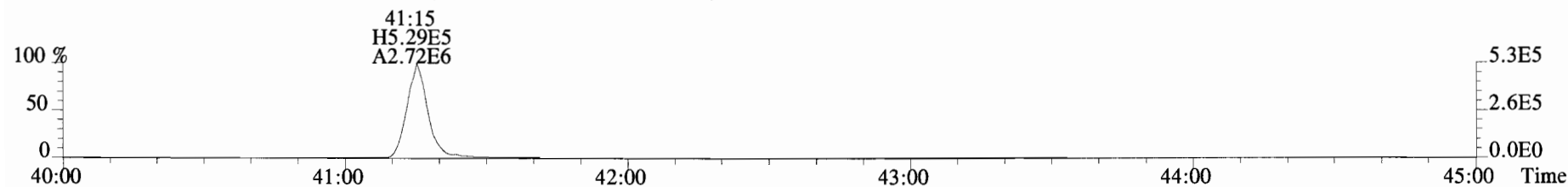
479.7165 S:18 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



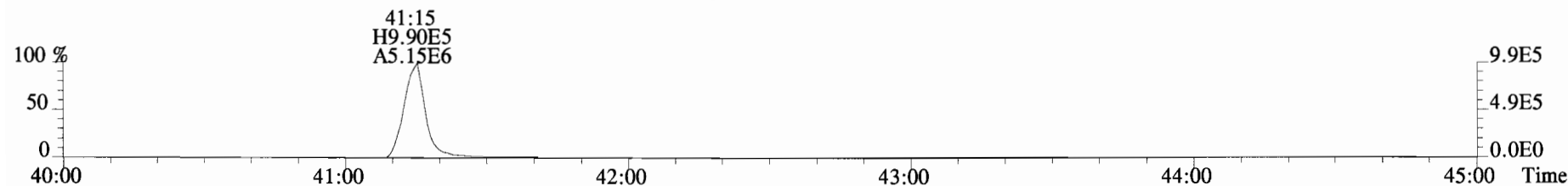
File:190510D2 #1-432 Acq:11-MAY-2019 03:54:32 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#18 File Text:Vista Analytical Laboratory_VG7 Text:ST190510D2-7 1613 CS3 19C2204 Exp:OCDD_DB5
 441.7428 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



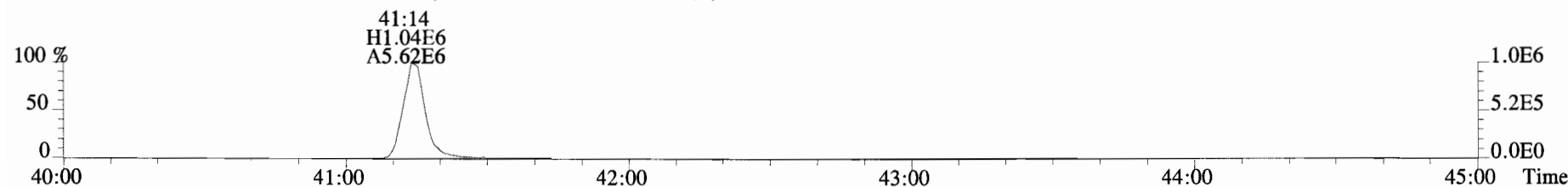
443.7398 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



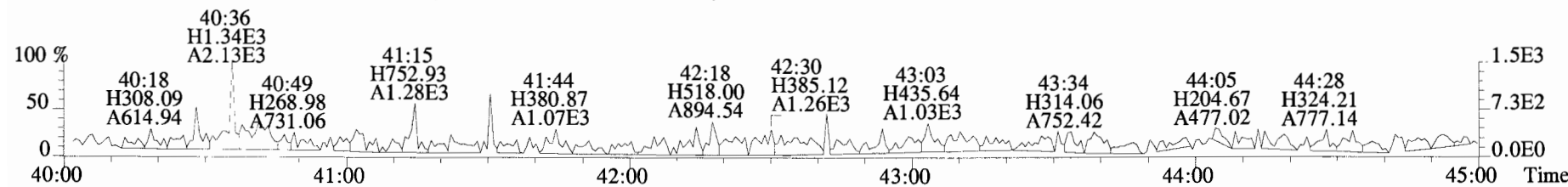
453.7831 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



455.7801 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

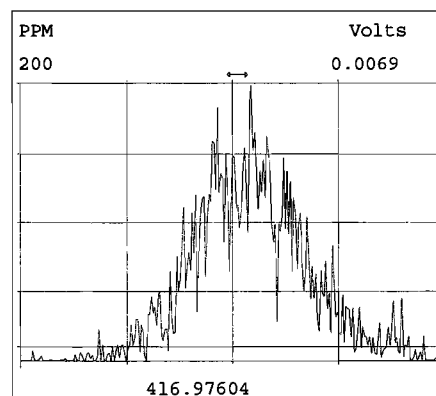
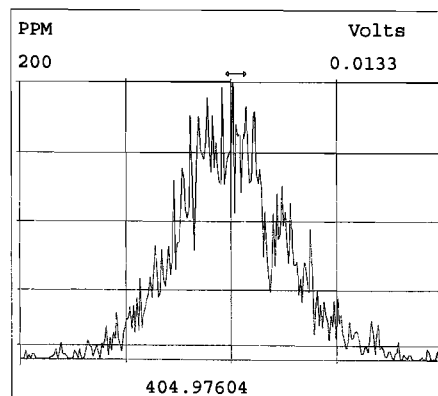
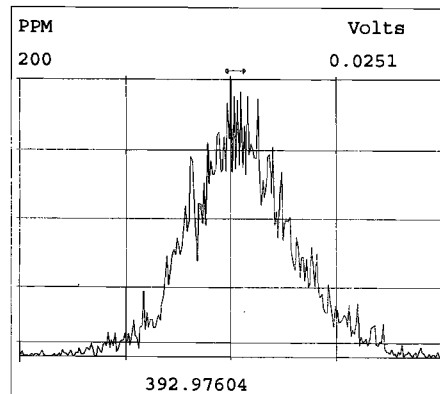
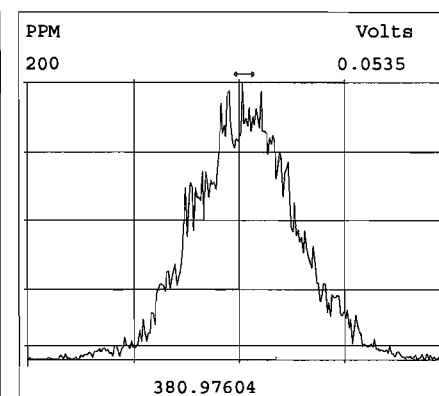
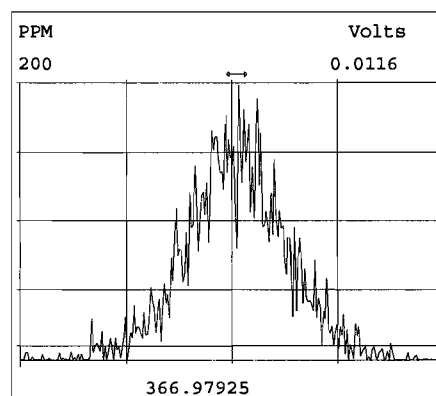
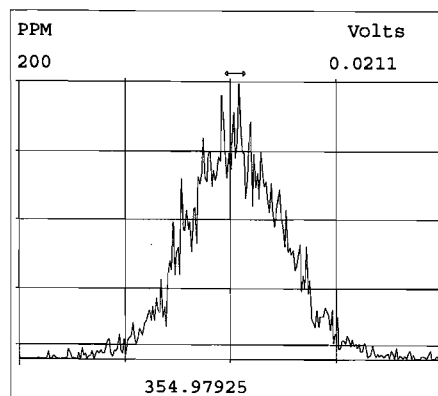
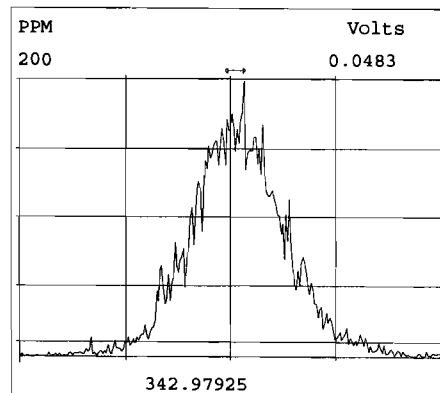
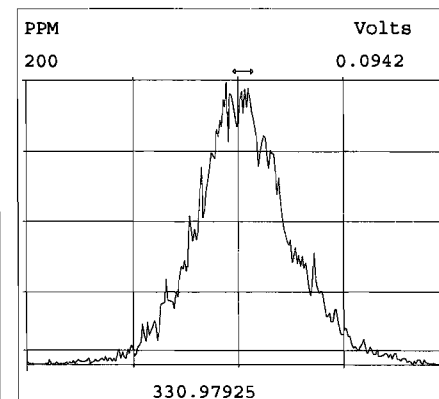
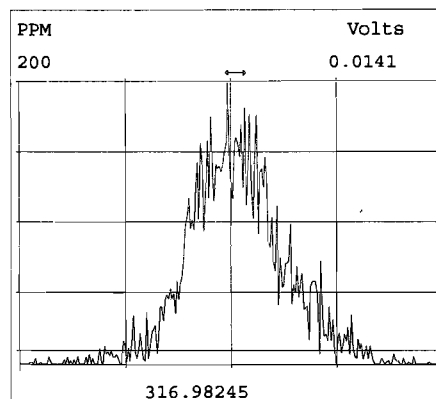
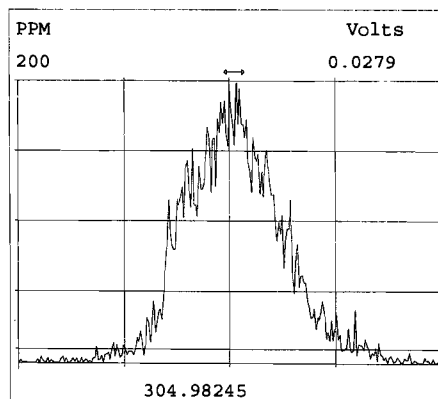
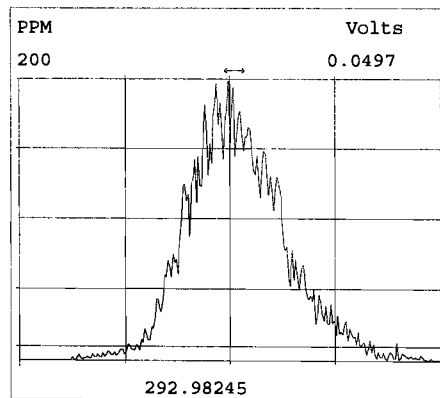


513.6775 S:18 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



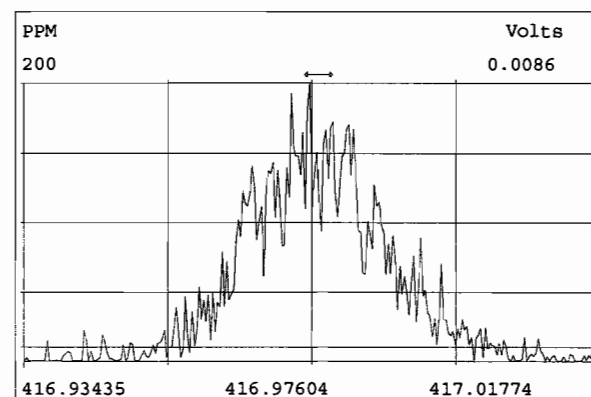
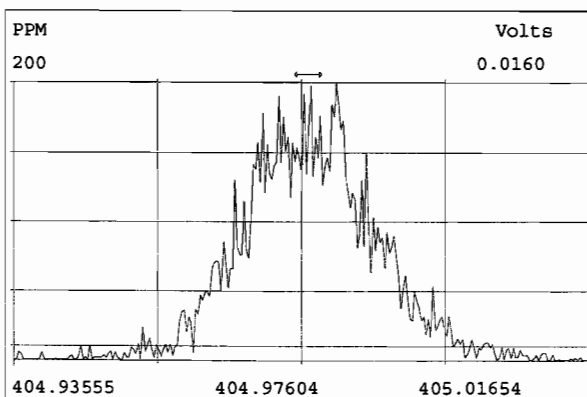
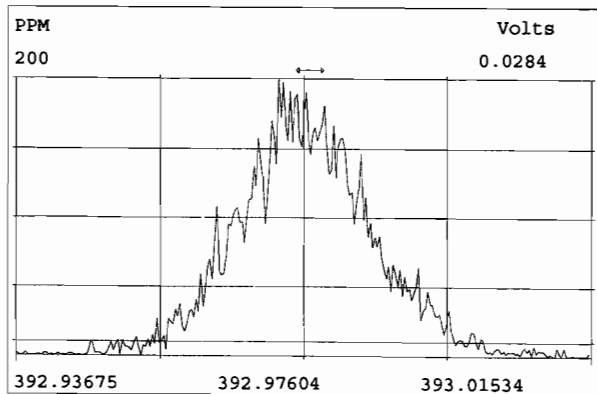
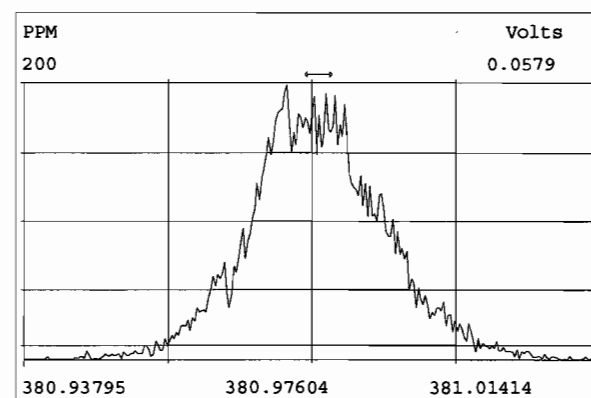
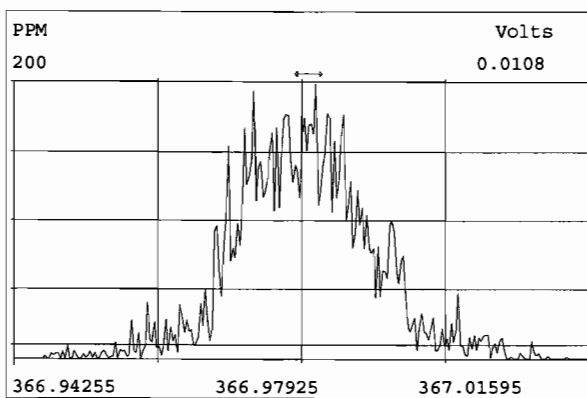
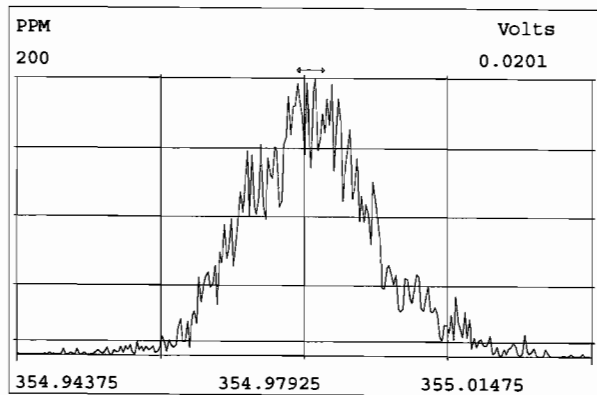
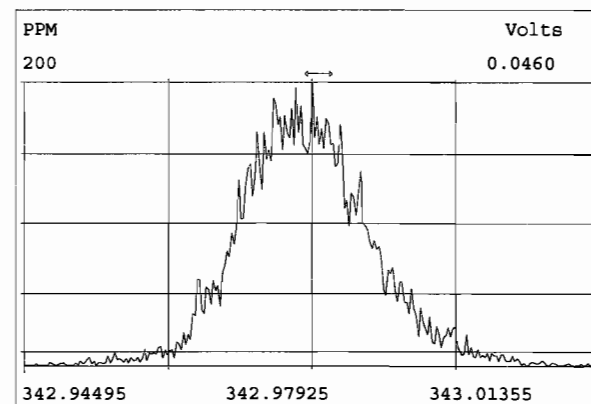
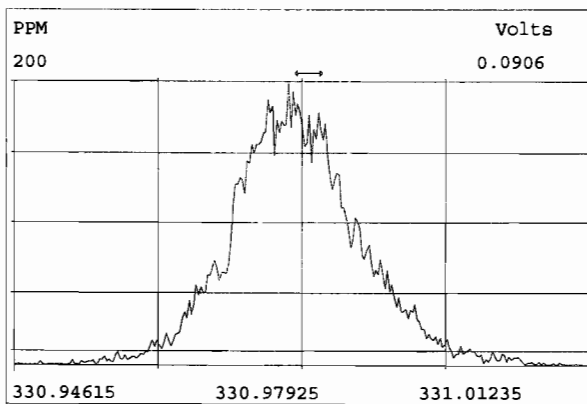
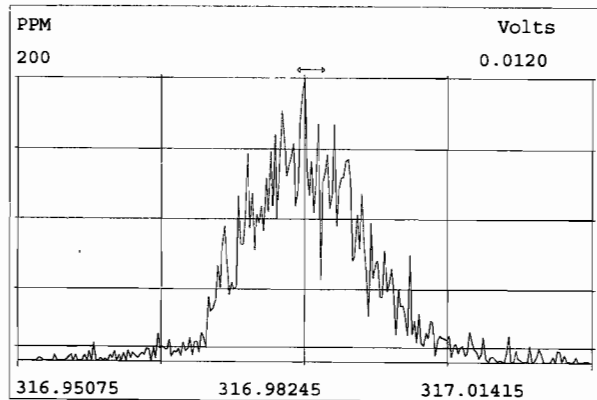
Peak Locate Examination:11-MAY-2019:04:52 File:RES_CHECK

Experiment:OCDD_DB5 Function:1 Reference:PFK



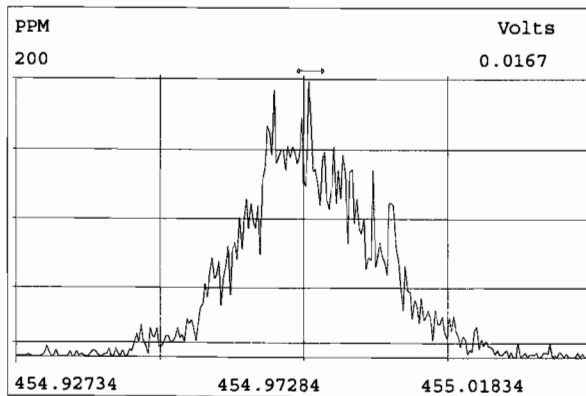
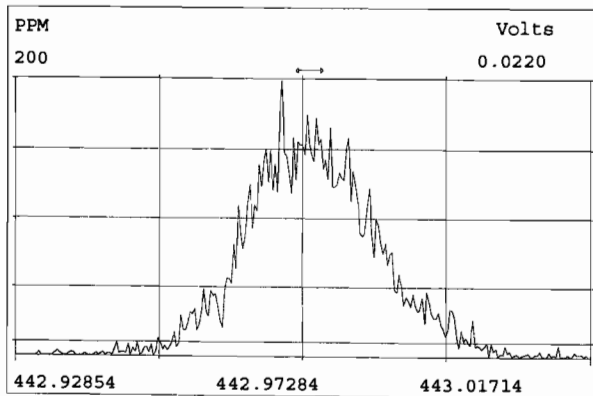
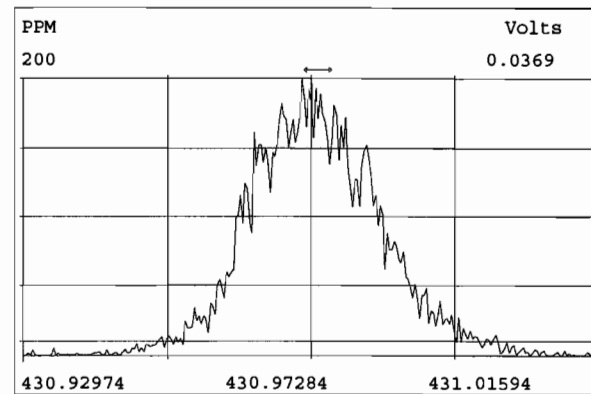
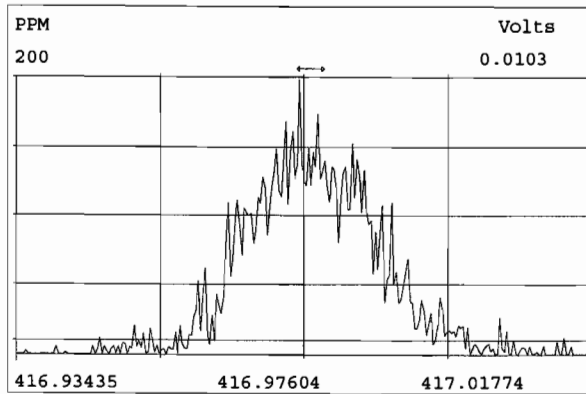
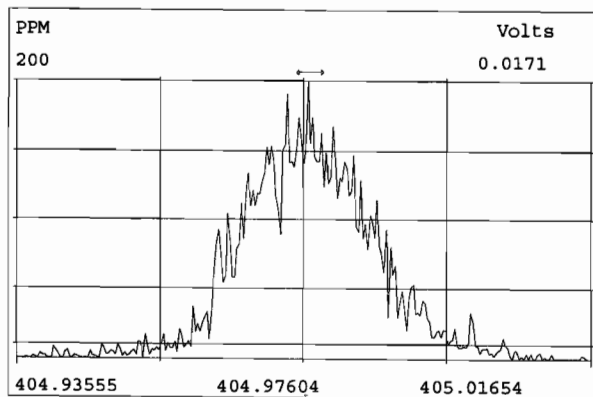
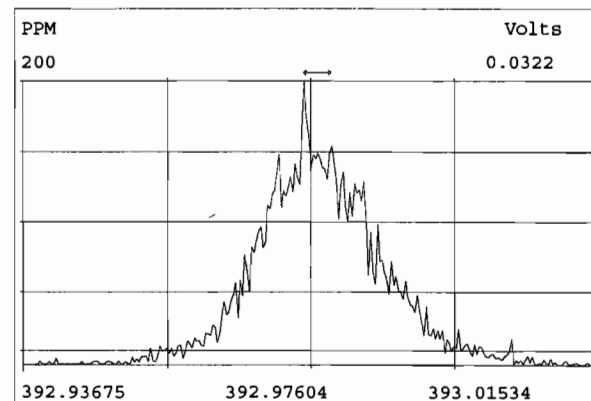
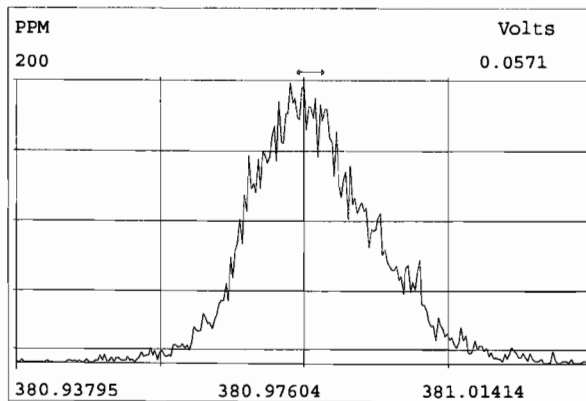
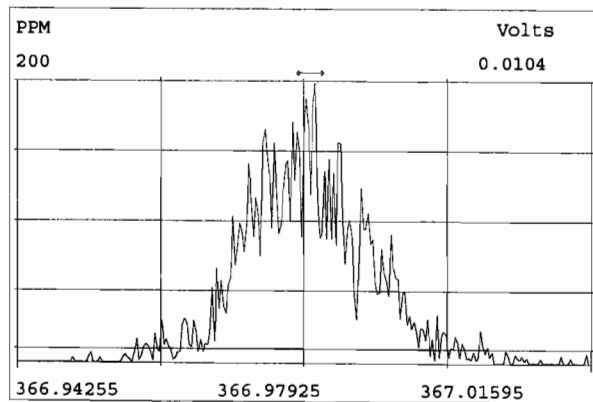
Peak Locate Examination:11-MAY-2019:04:53 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK

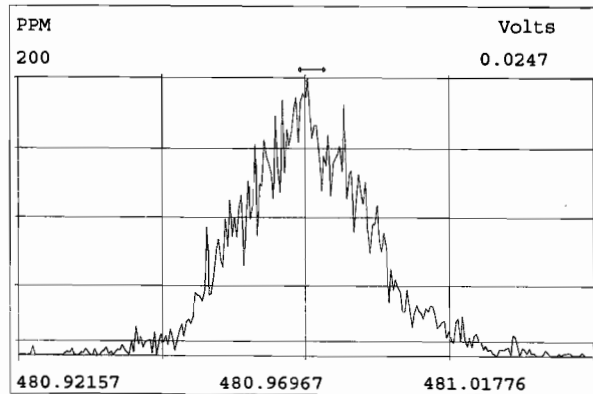
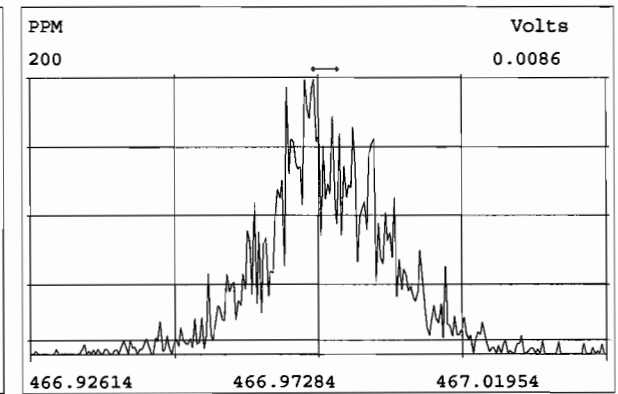
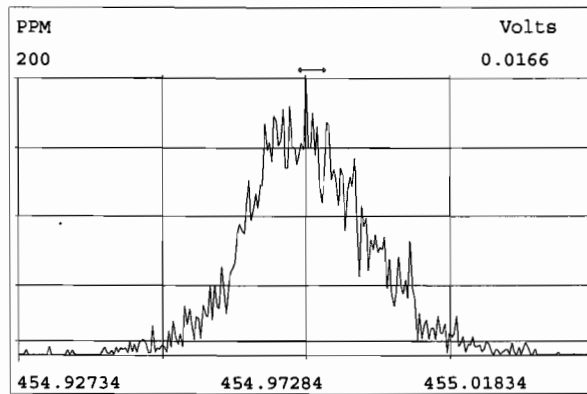
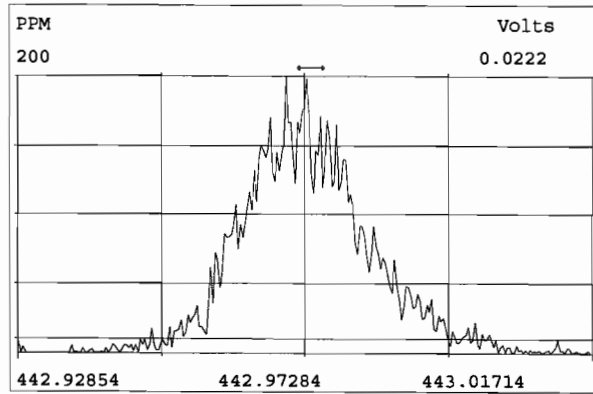
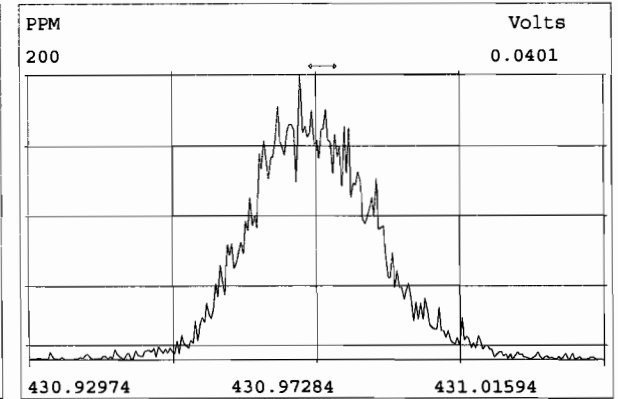
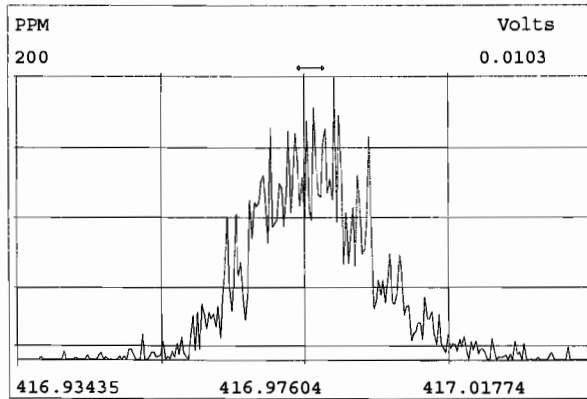
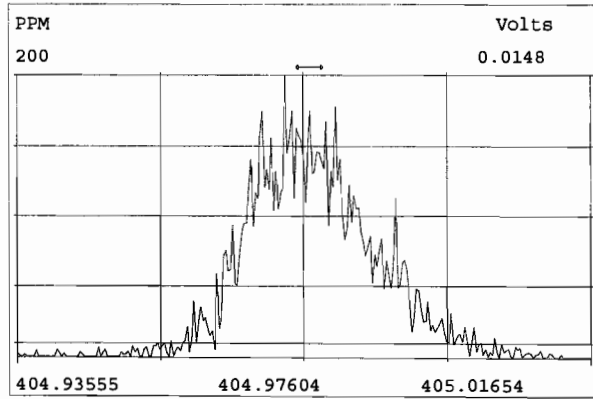


Peak Locate Examination:11-MAY-2019:04:54 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK

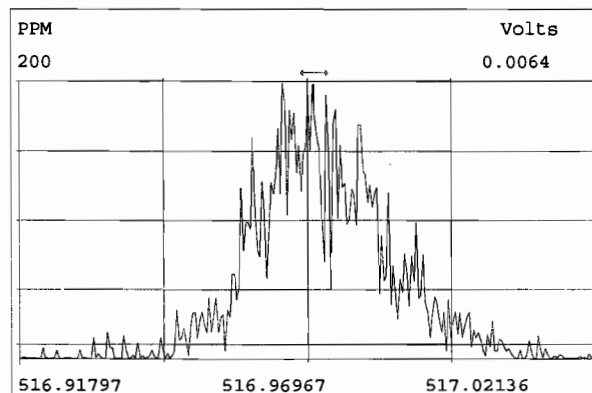
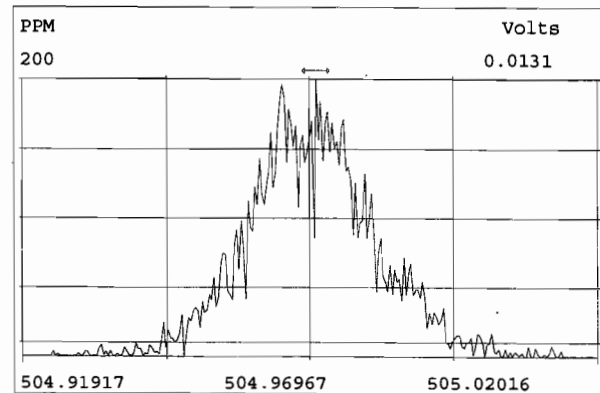
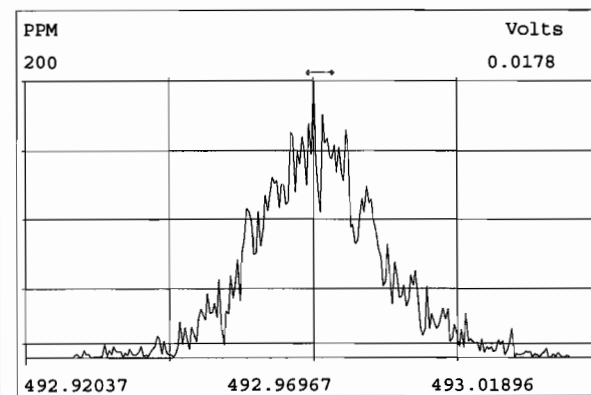
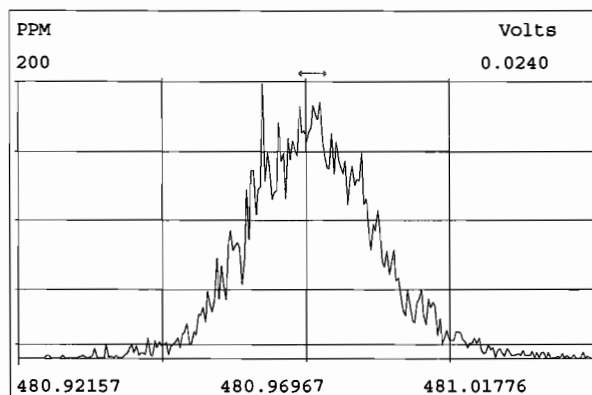
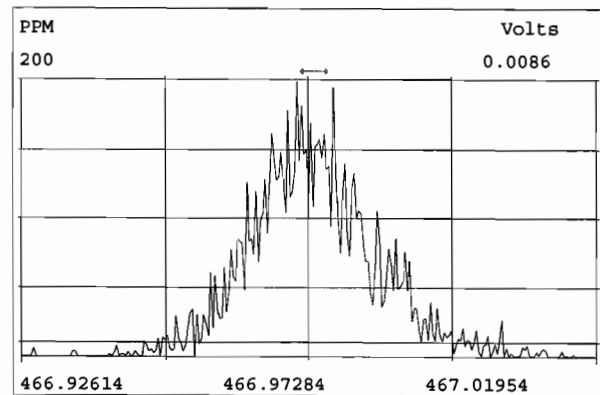
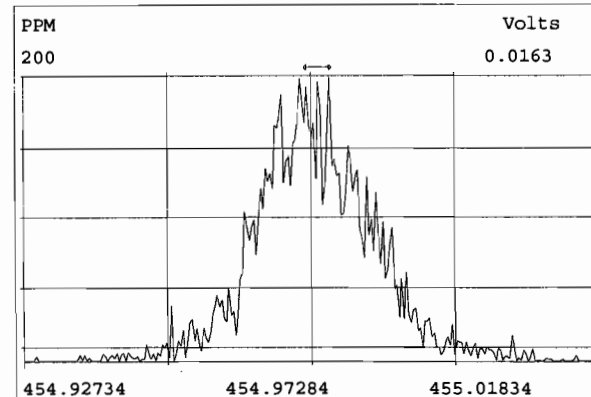
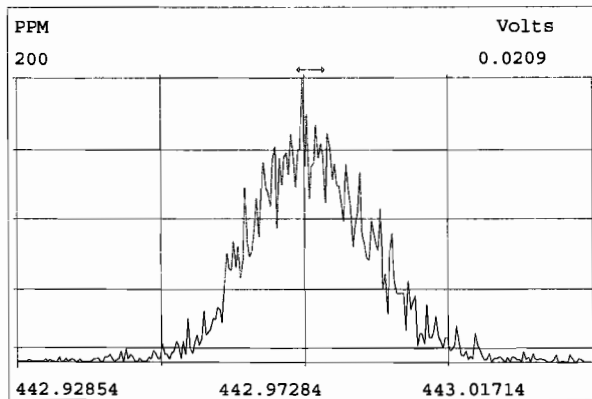
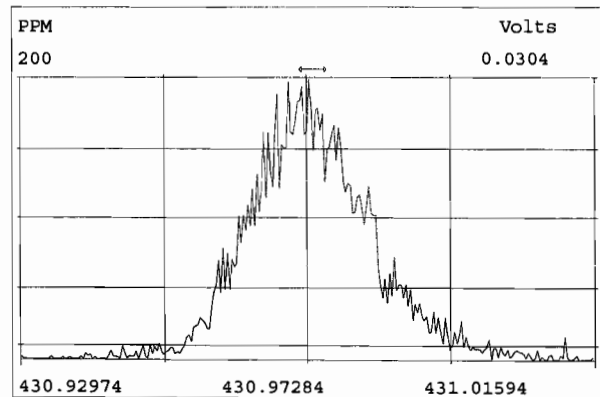


Experiment:OCDD_DB5 Function:4 Reference:PFK



Peak Locate Examination:11-MAY-2019:04:55 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PPK



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
5/30/19

AT
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

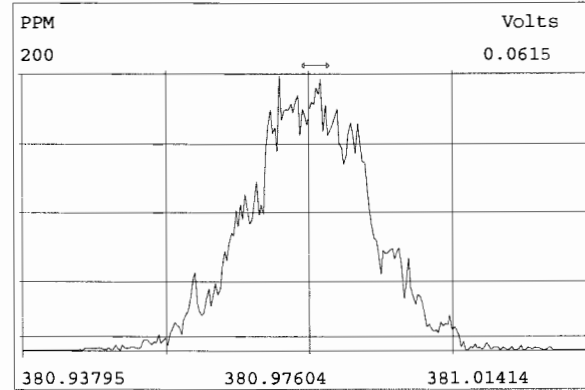
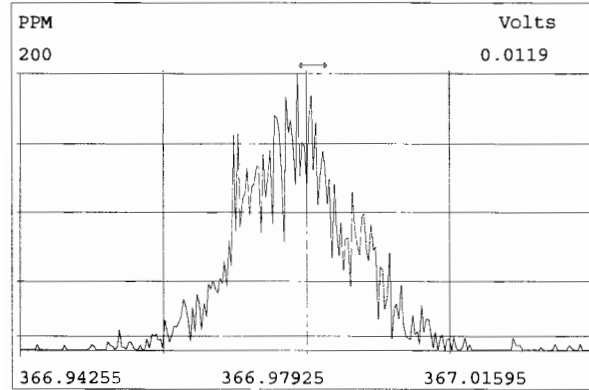
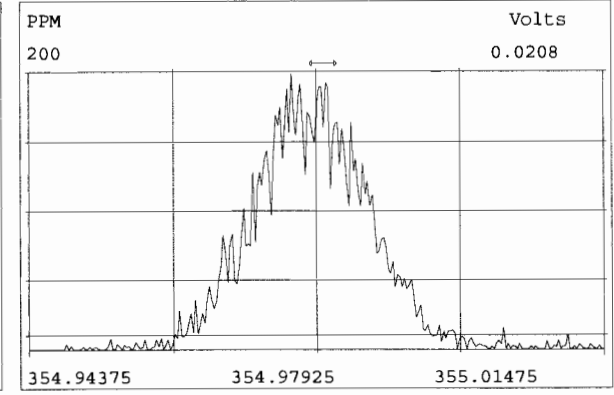
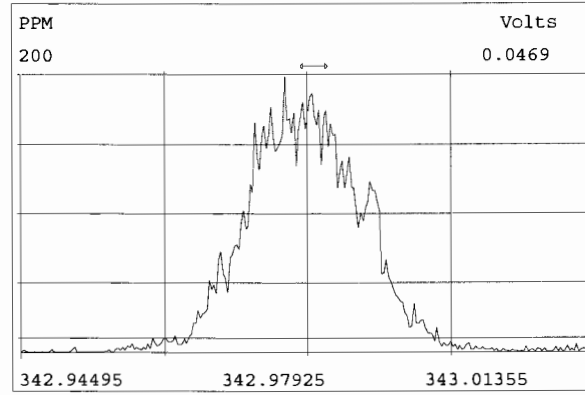
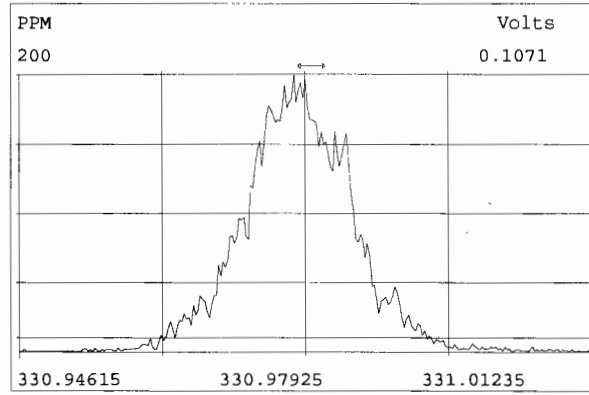
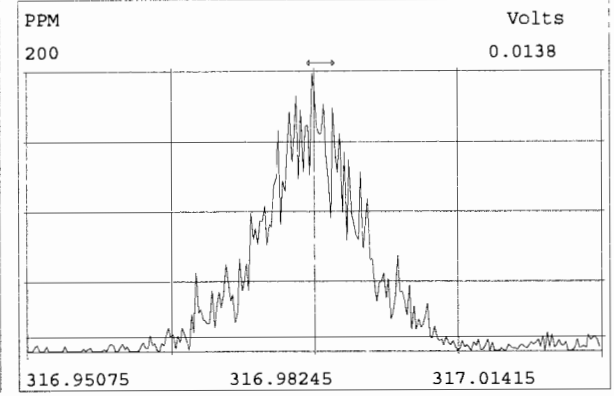
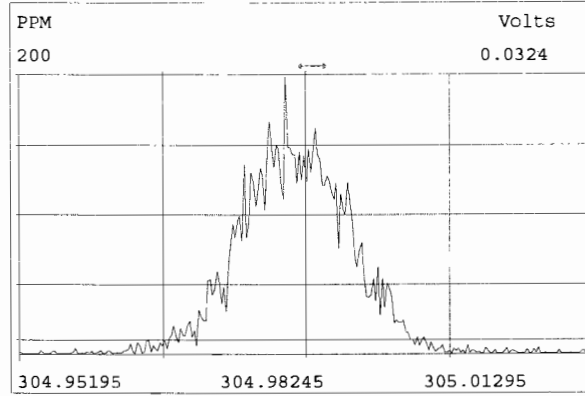
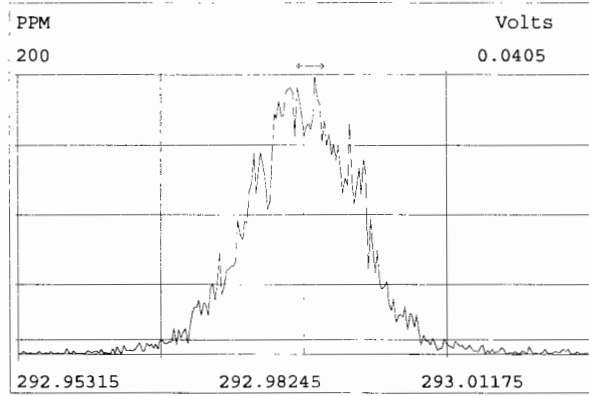
Filename: 190530D1 S: 8 Acquired: 30-MAY-19 14:44:52
Run: Analyte: TCDF Cal: 1613TCDFVG7-5-30-19Results:
Sample text: ST190530D1-6 1613 CS5 19C2206

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

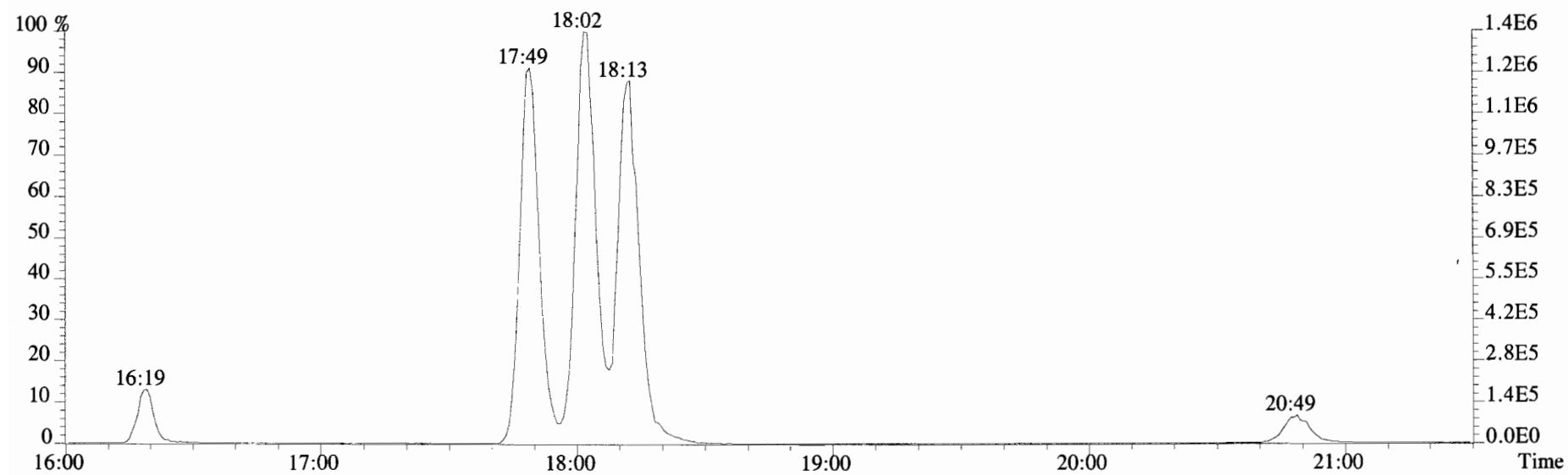
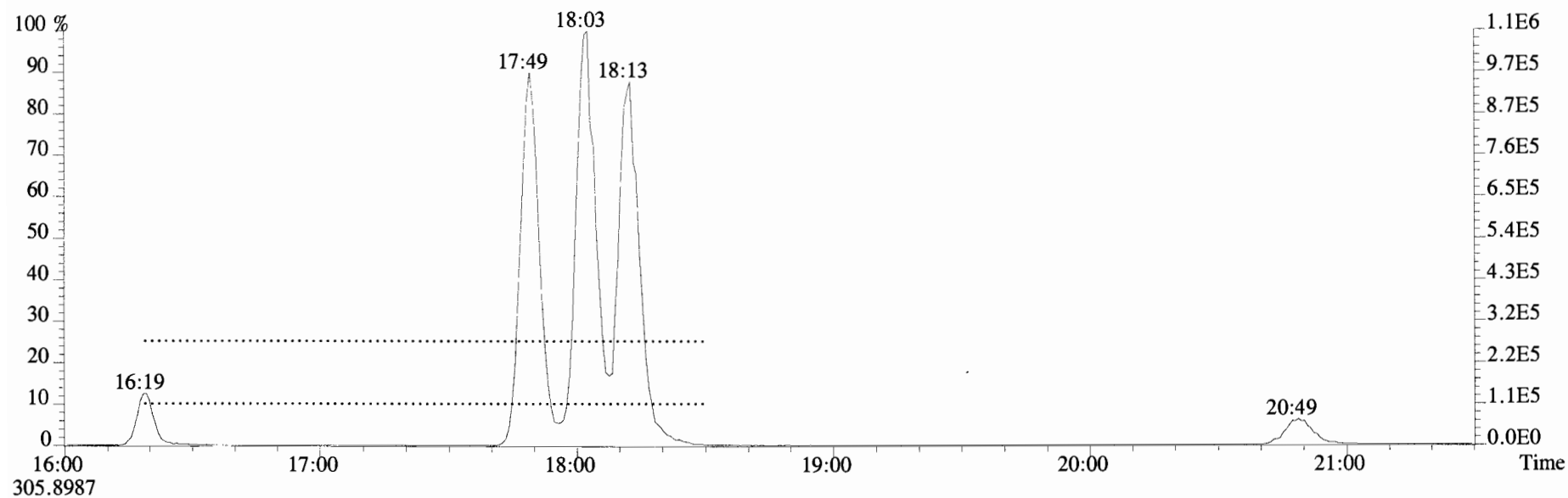
DB
5/30/19

Vista Analytical Laboratory - Injection Log Run file: 190530D1 Instrument ID: VG-7 GC Column ID: DB-225

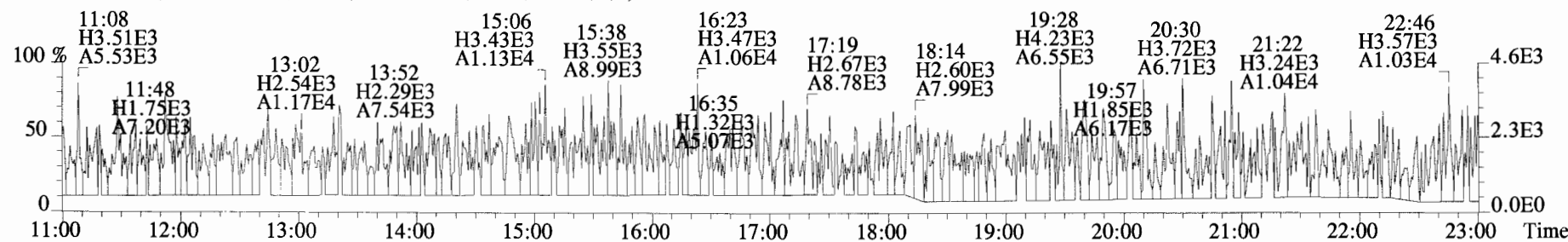
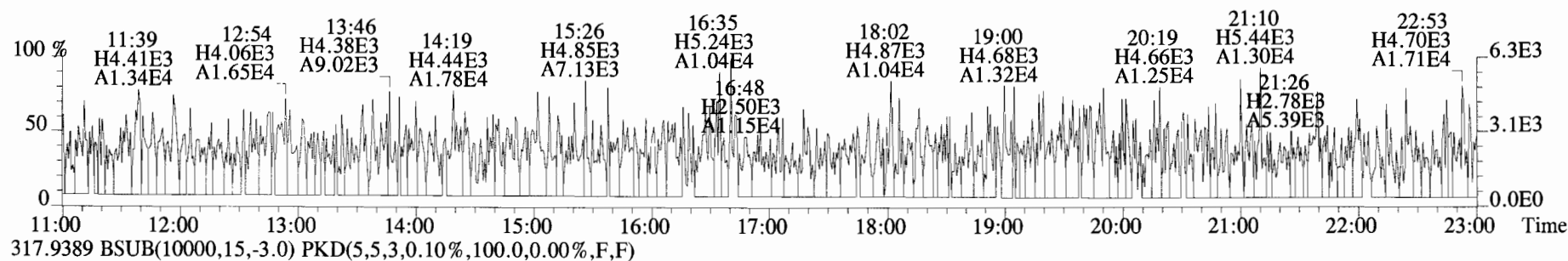
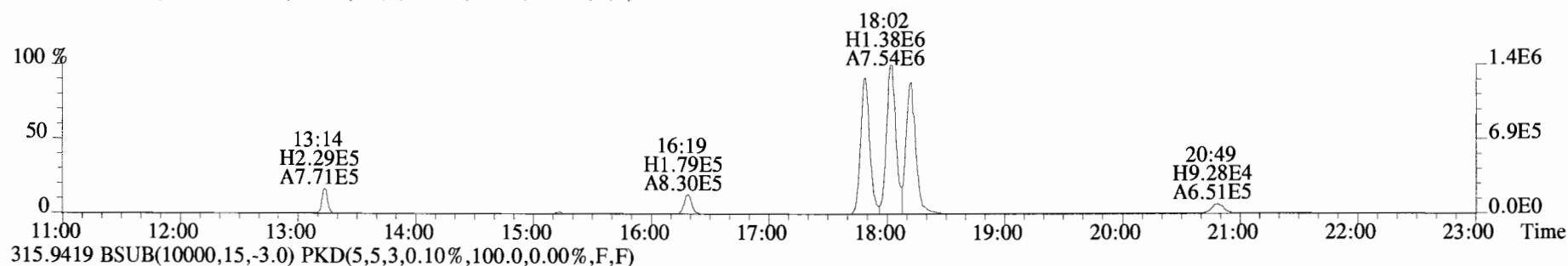
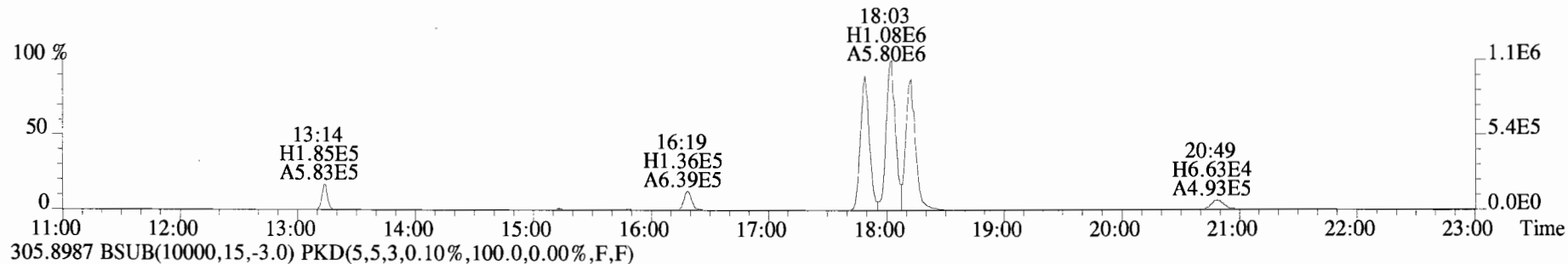
Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
190530D1	1	CP190530D1-1	DB	30-MAY-19	11:02:08	ST190530D1-4	NA
190530D1	2	SOLVENT BLANK	DB	30-MAY-19	11:33:52	ST190530D1-4	NA
190530D1	3	ST190530D1-1	DB	30-MAY-19	12:05:38	ST190530D1-4	NA
190530D1	4	ST190530D1-2	DB	30-MAY-19	12:37:29	ST190530D1-4	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



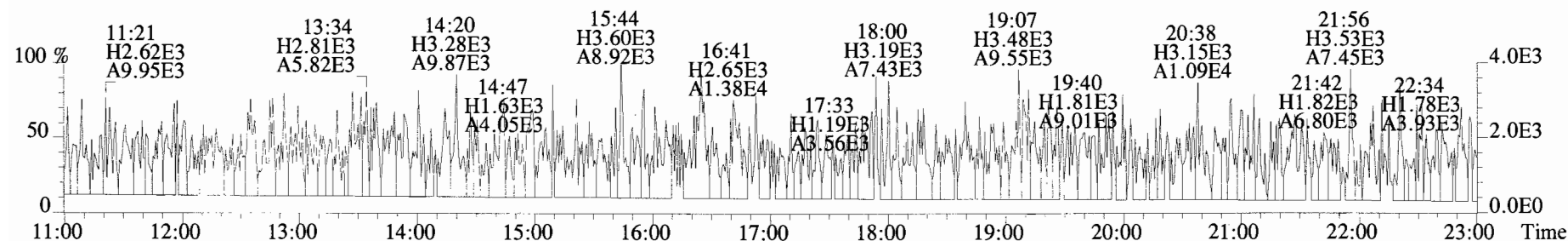
File:190530D1 #1-1559 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
303.9016



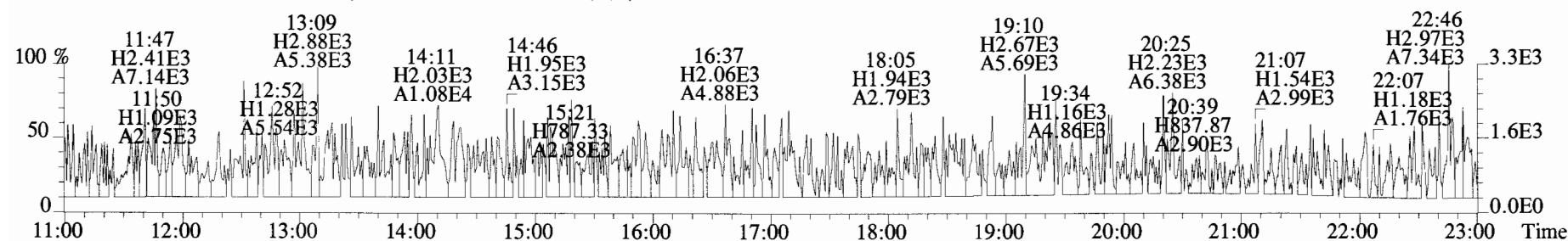
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
 303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



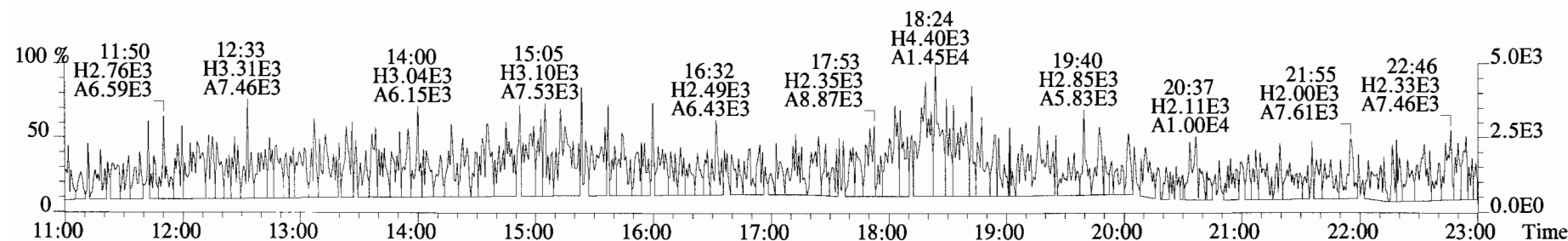
File:190530D1 #1-1682 Acq:30-MAY-2019 11:02:08 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#1 File Text:Vista Analytical Laboratory VG7 Text:CP190530D1-1 DB225 CPSM Exp:TCDF_DB225
 331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



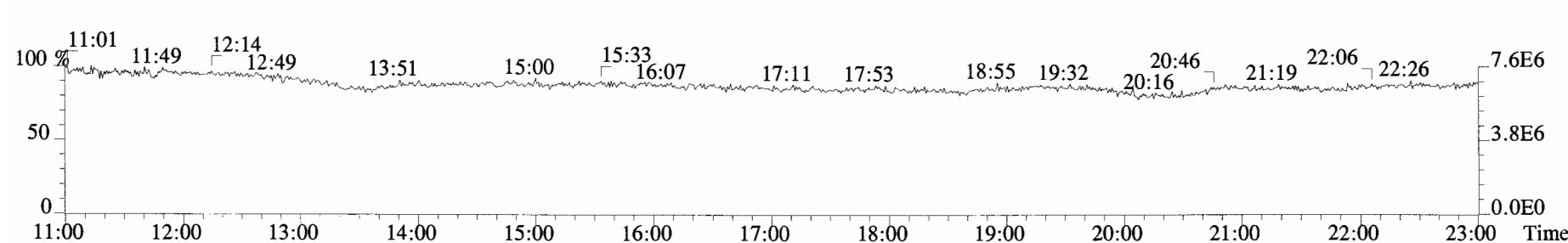
333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



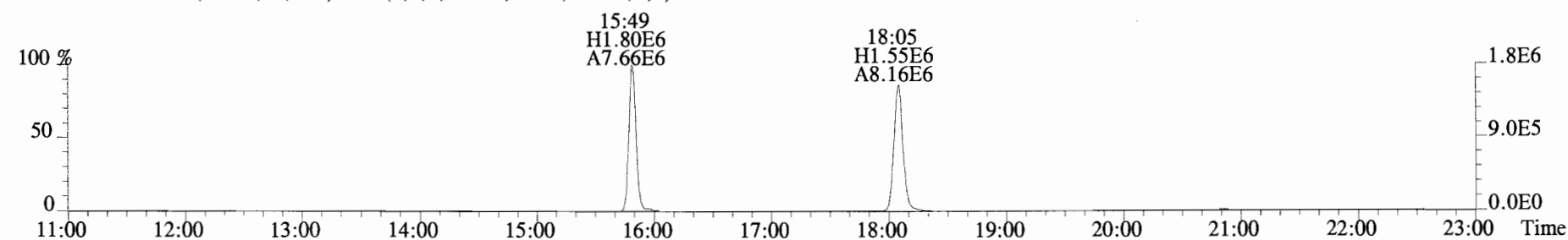
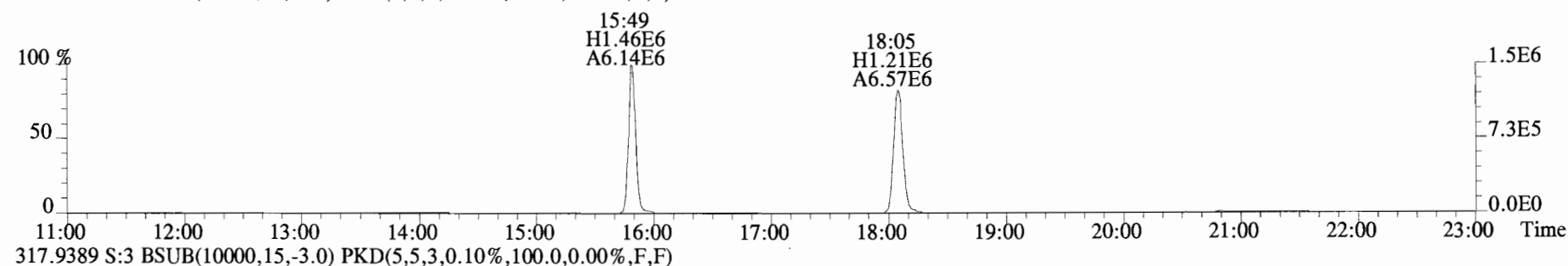
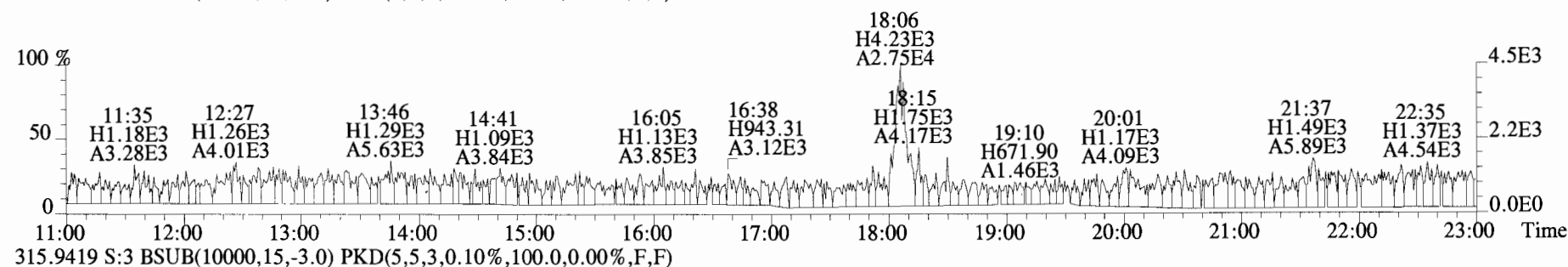
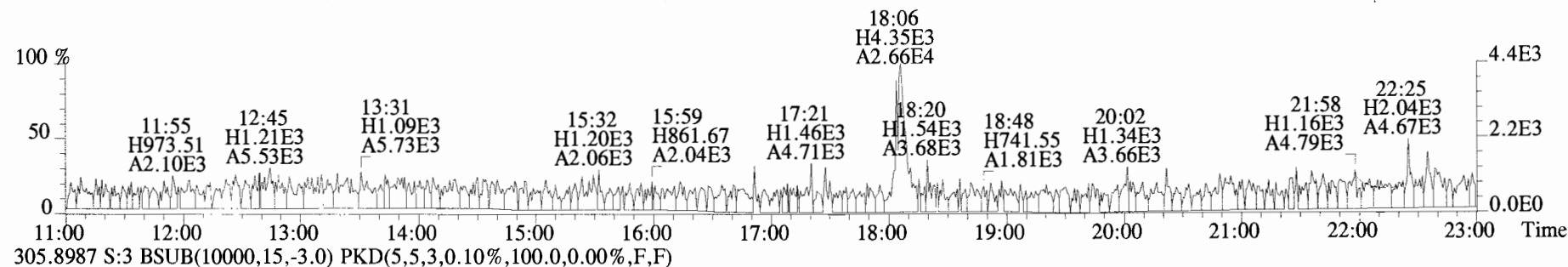
375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



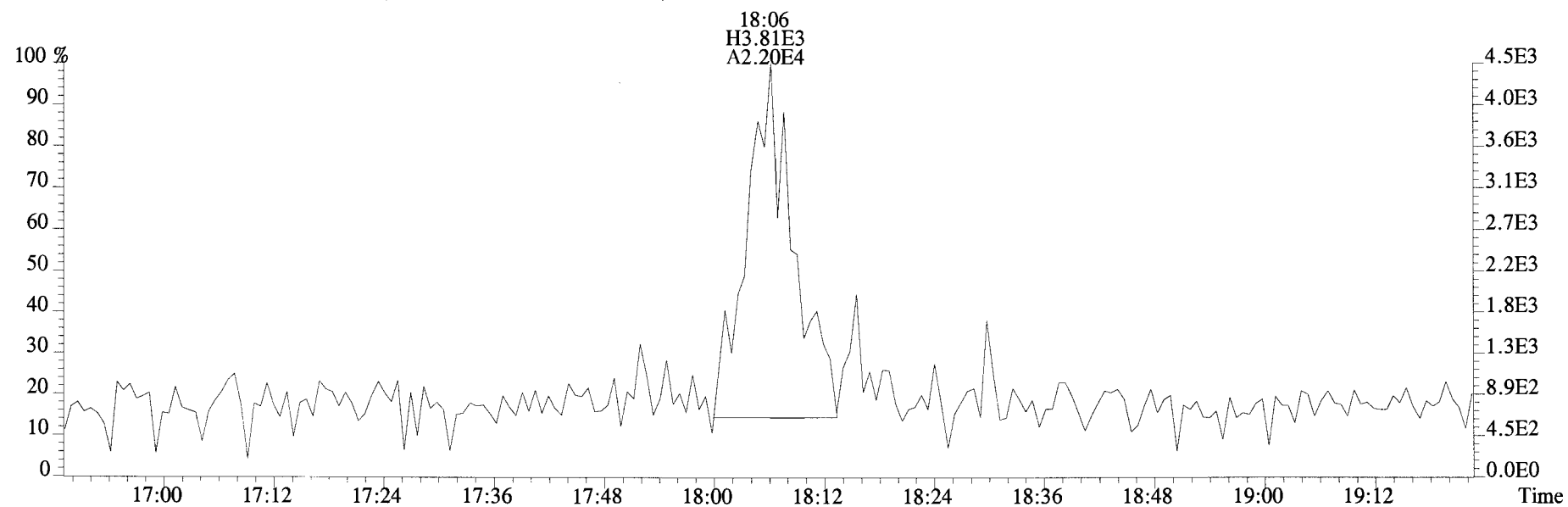
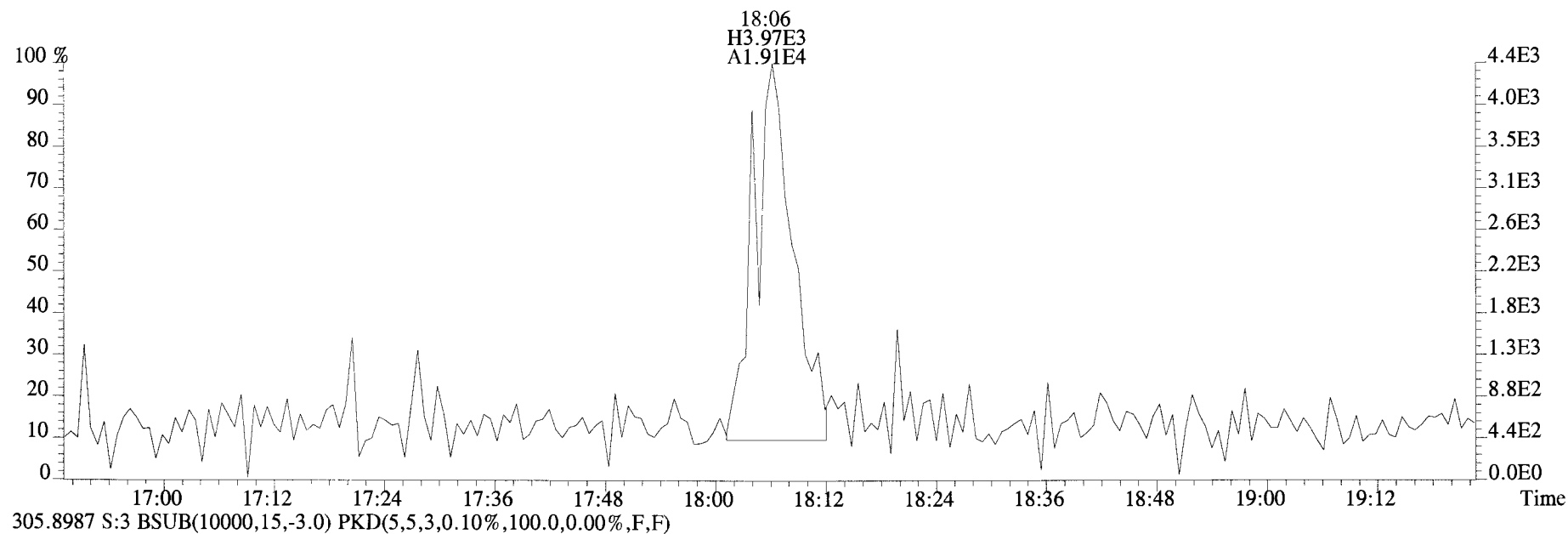
330.9792



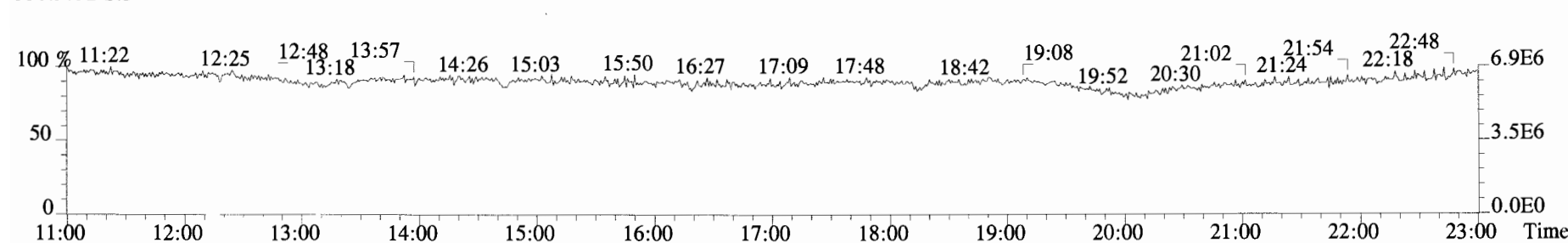
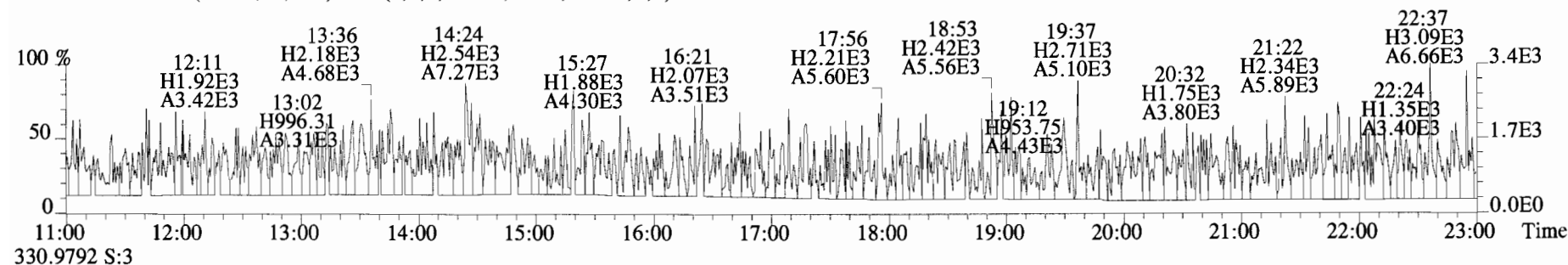
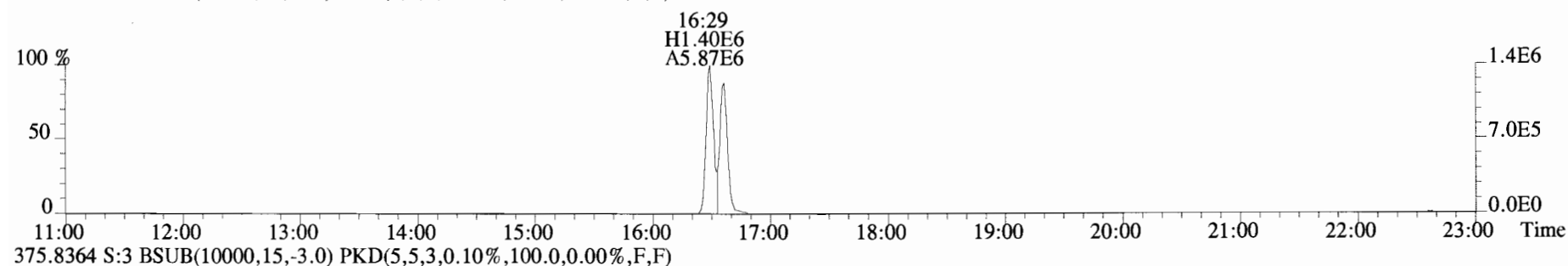
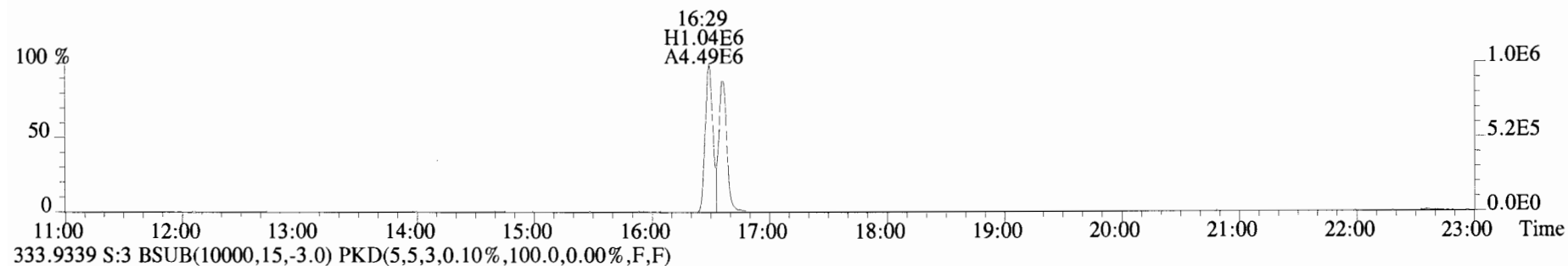
File:190530D1 #1-1682 Acq:30-MAY-2019 12:05:38 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
 303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



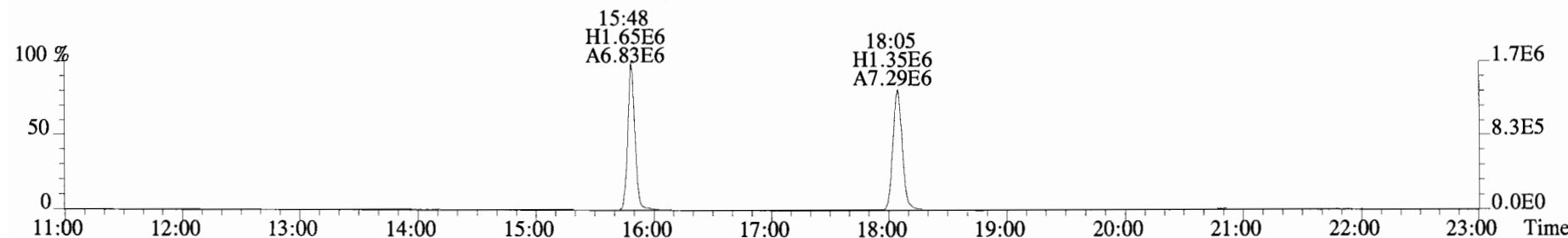
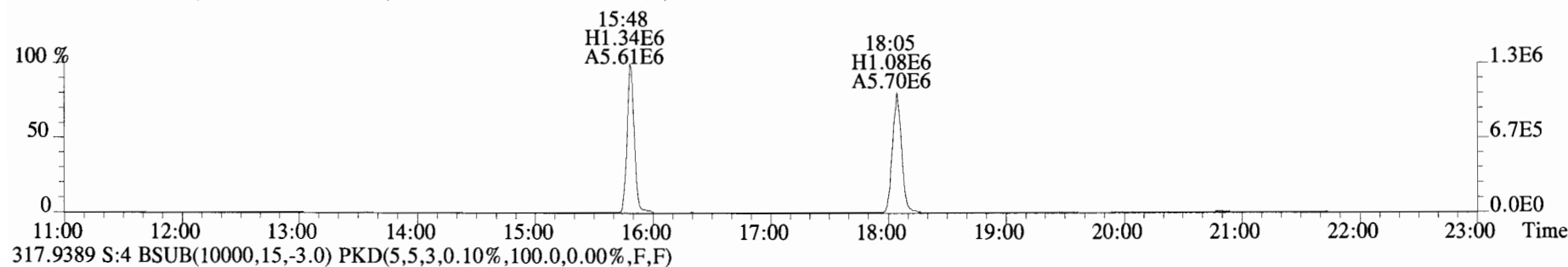
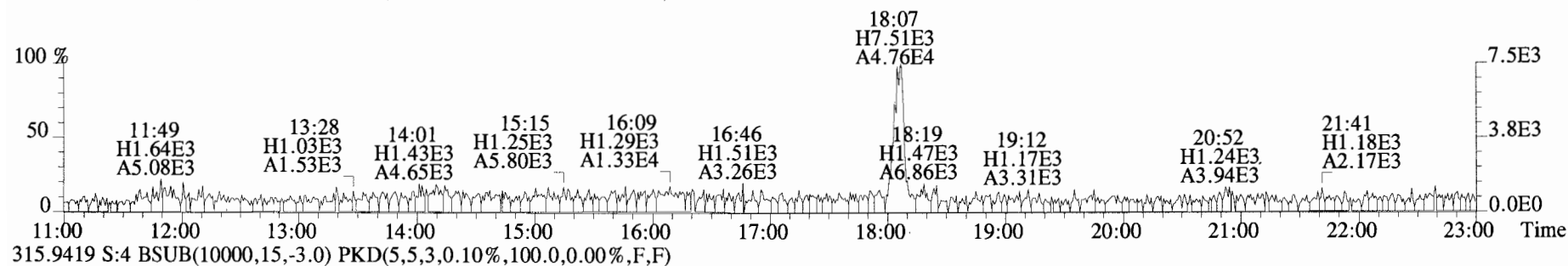
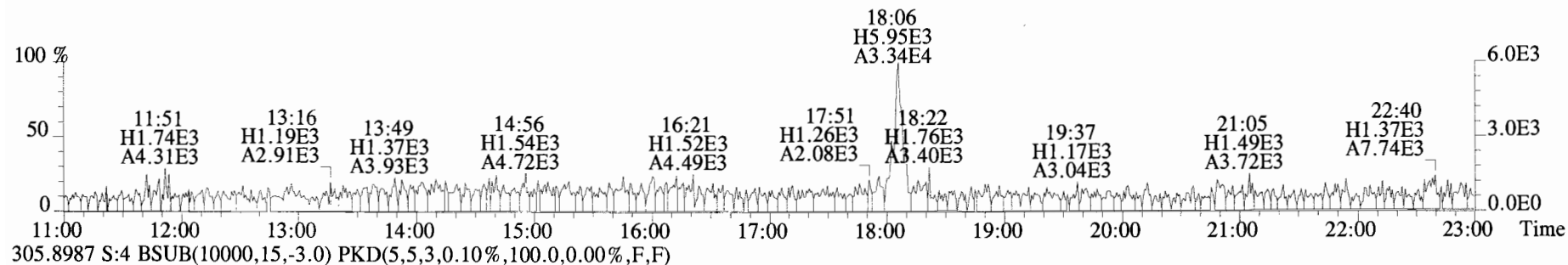
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Sample#3 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



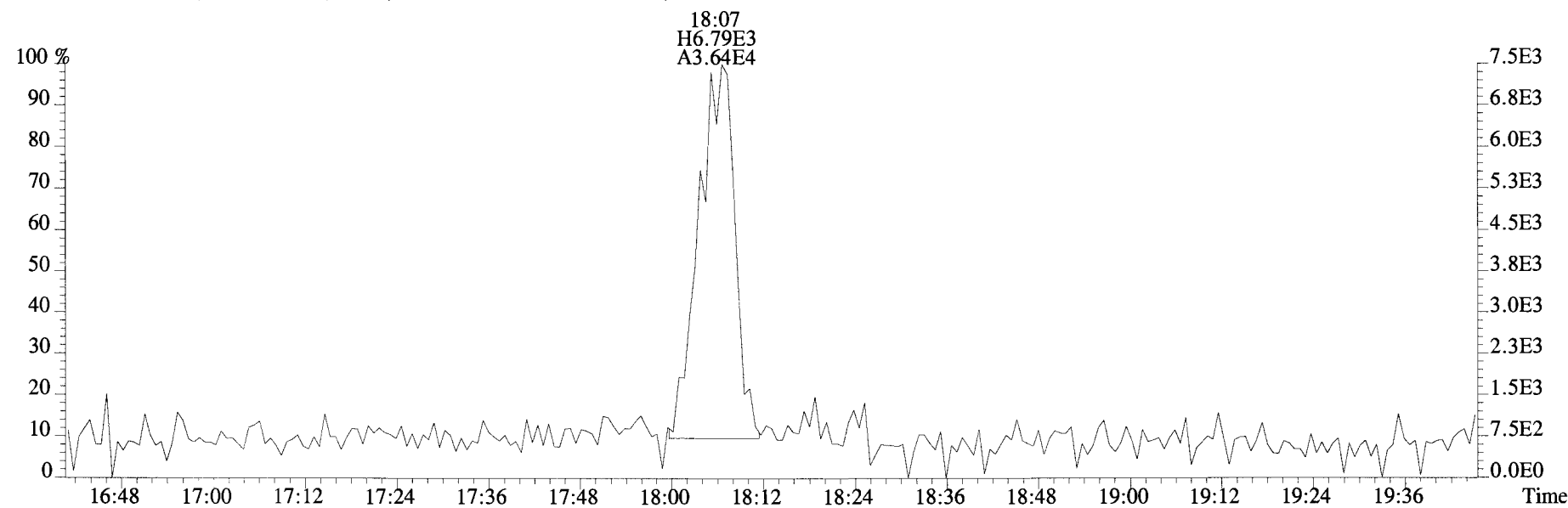
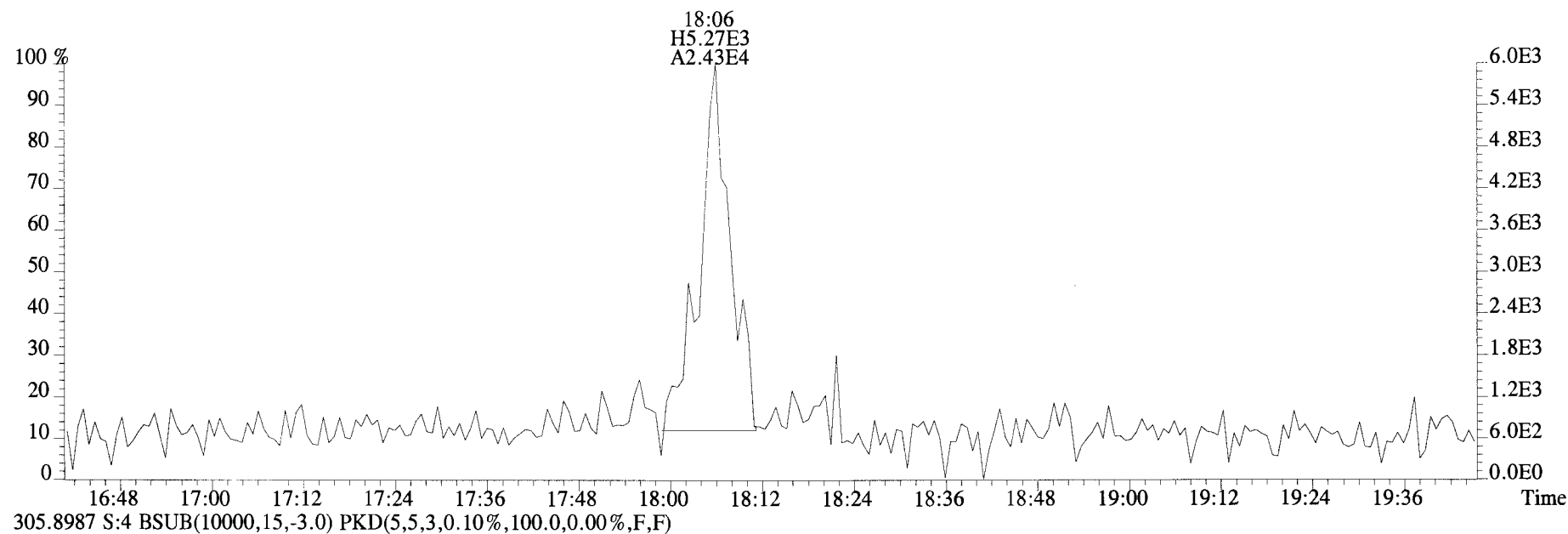
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Sample#3 File Text:Vista Analytical Laboratory_VG7 Text:ST190530D1-1 1613 CS0 19C2201 Exp:TCDF_DB225
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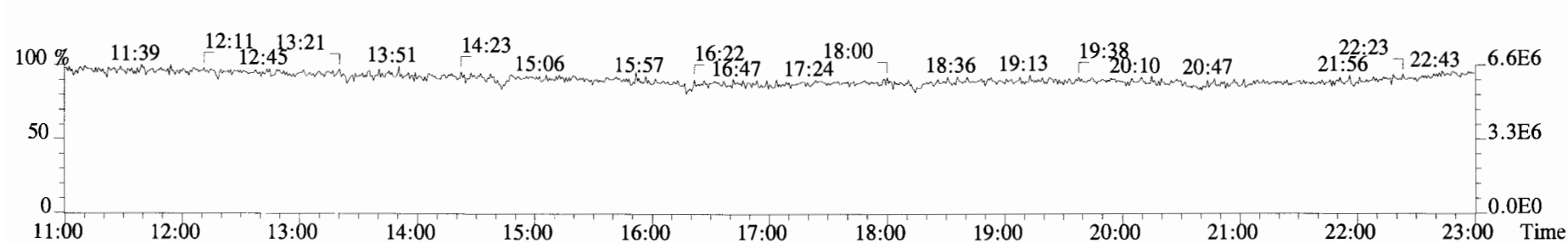
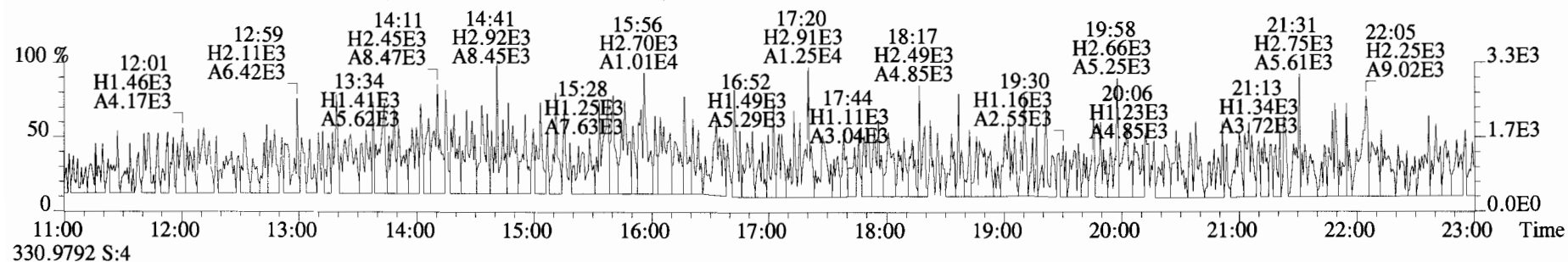
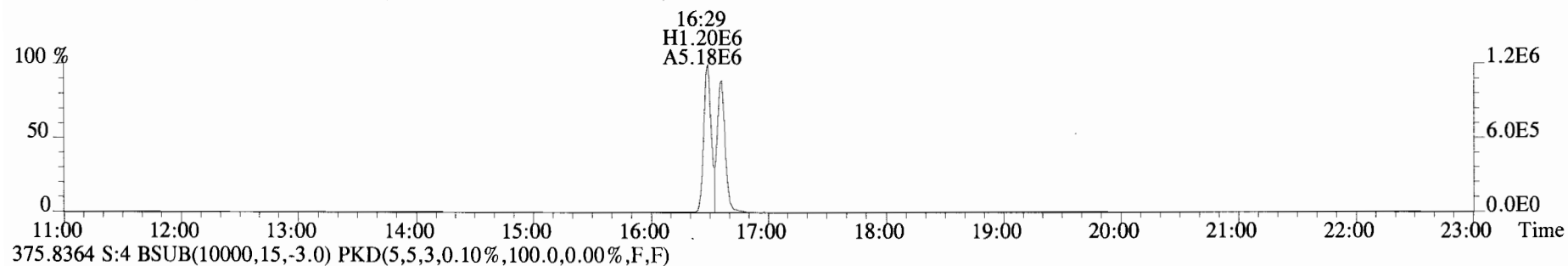
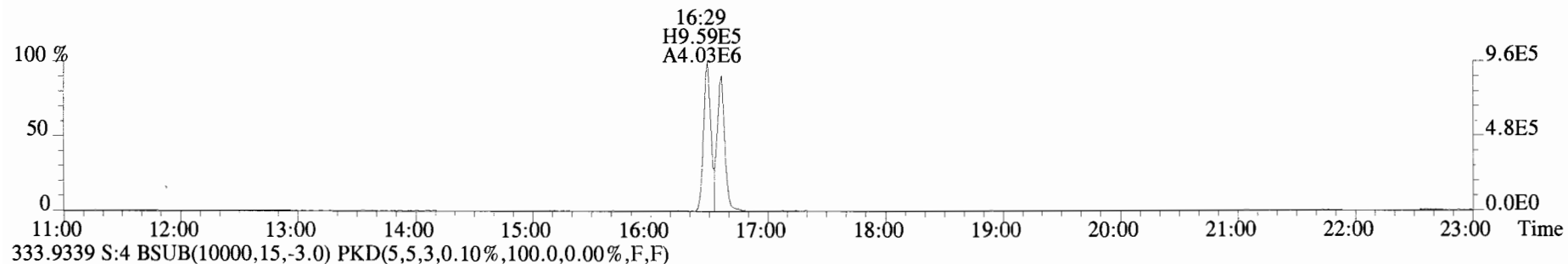
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 Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
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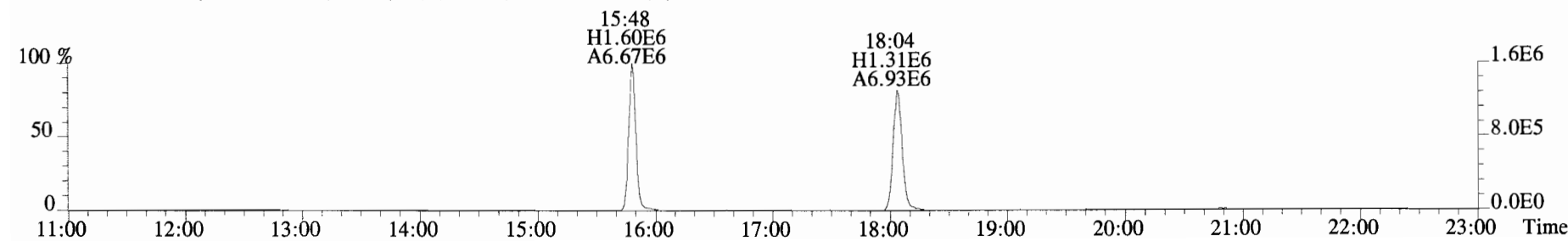
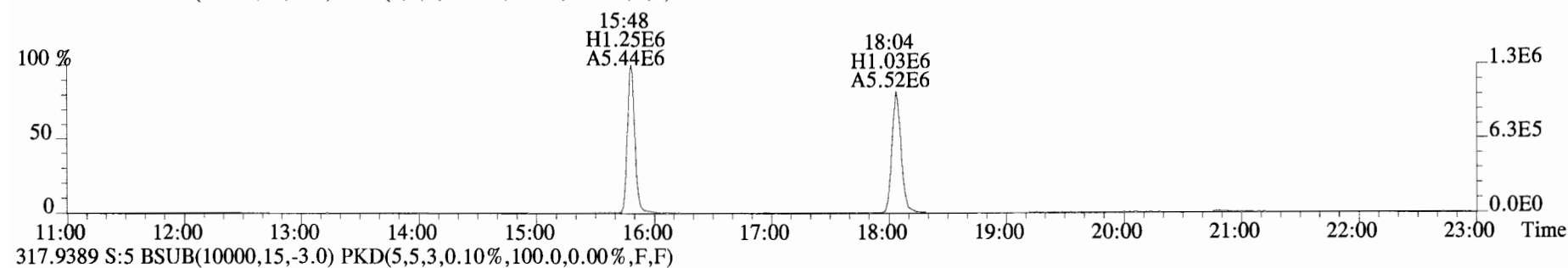
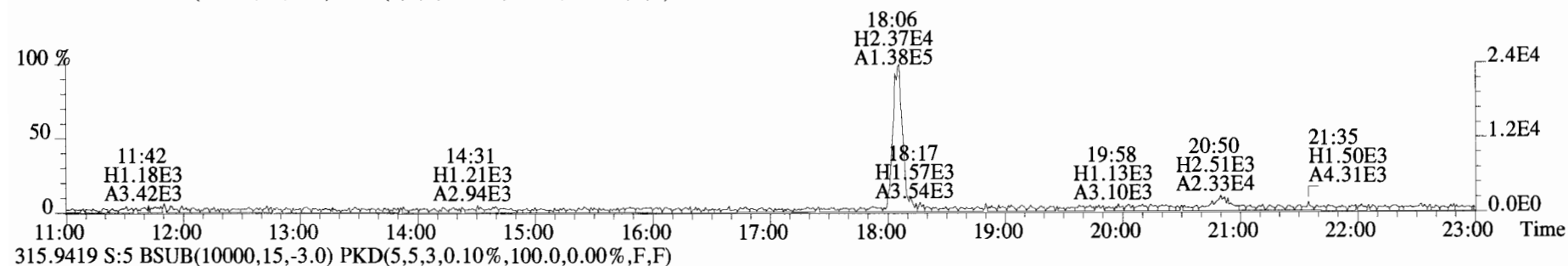
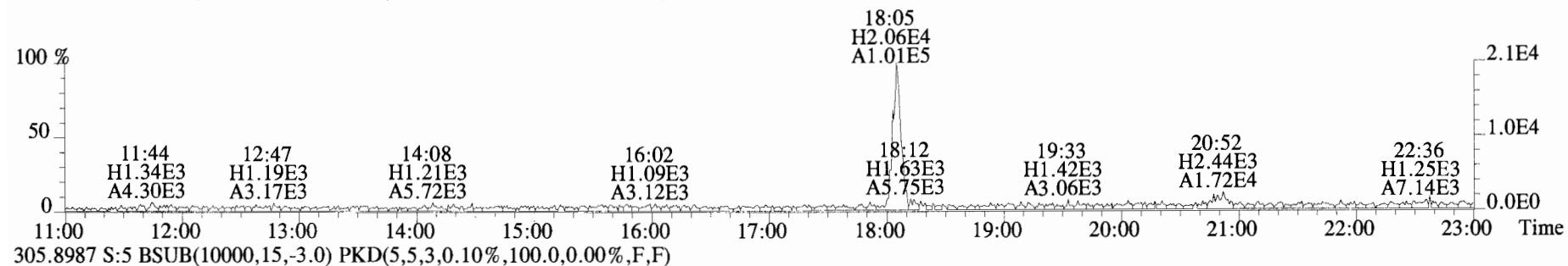
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Sample#4 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-2 1613 CS1 19C2202 Exp:TCDF_DB225
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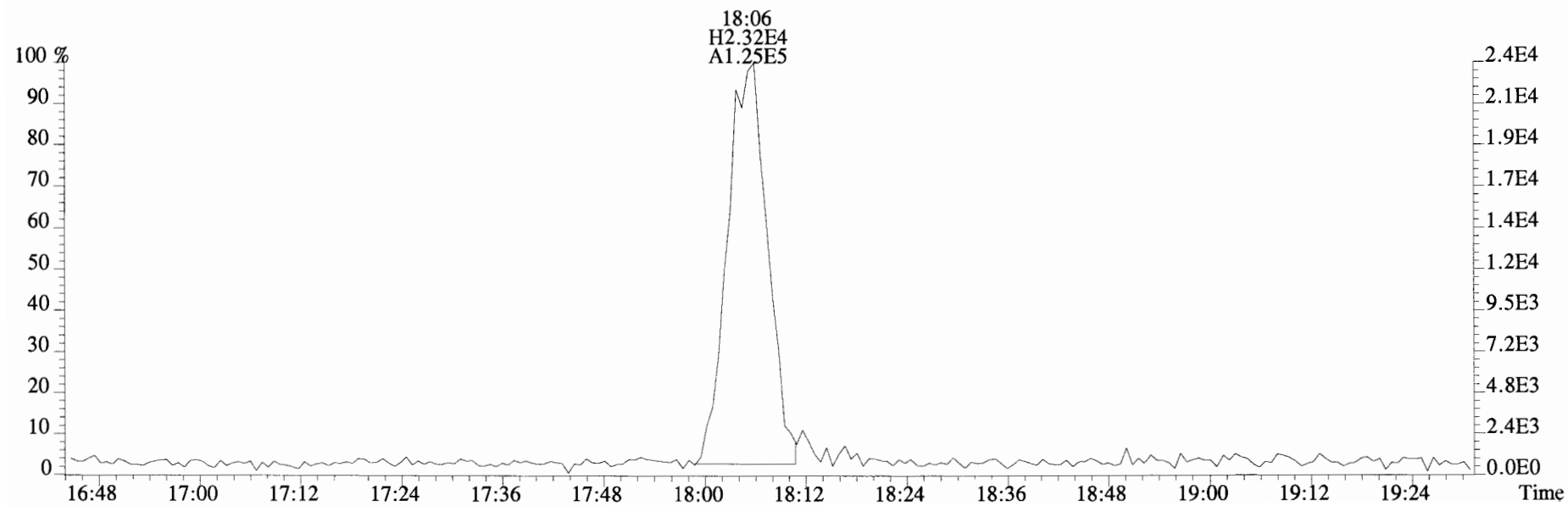
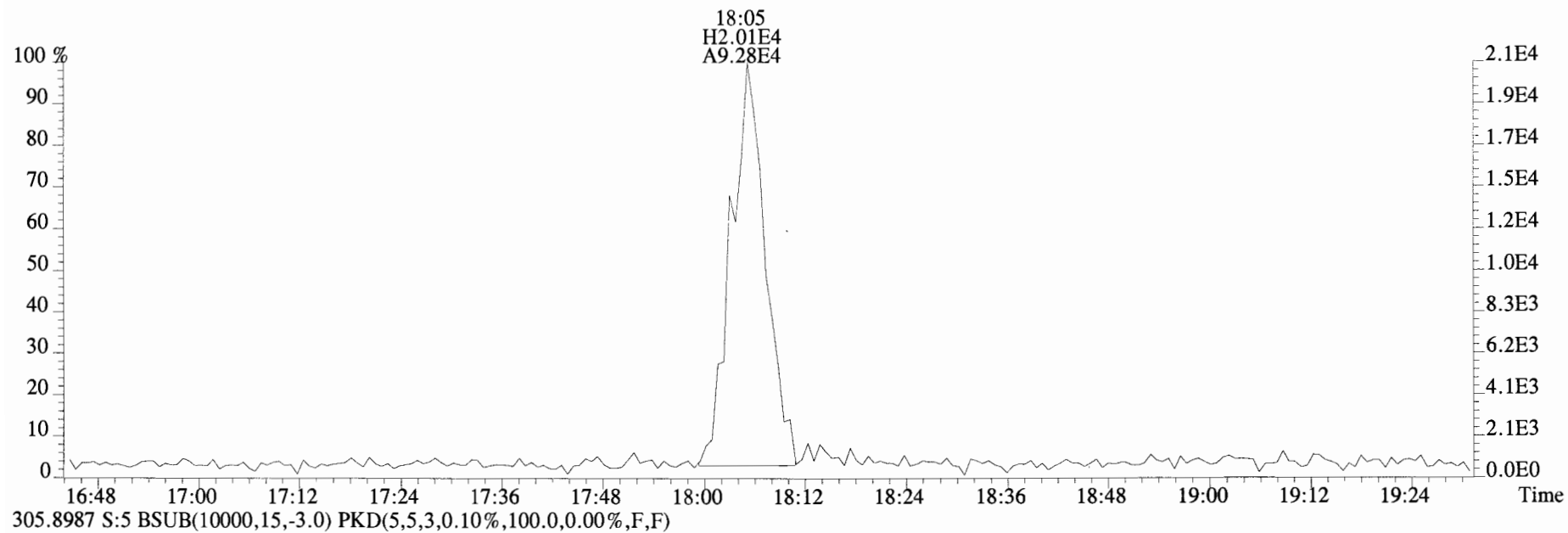
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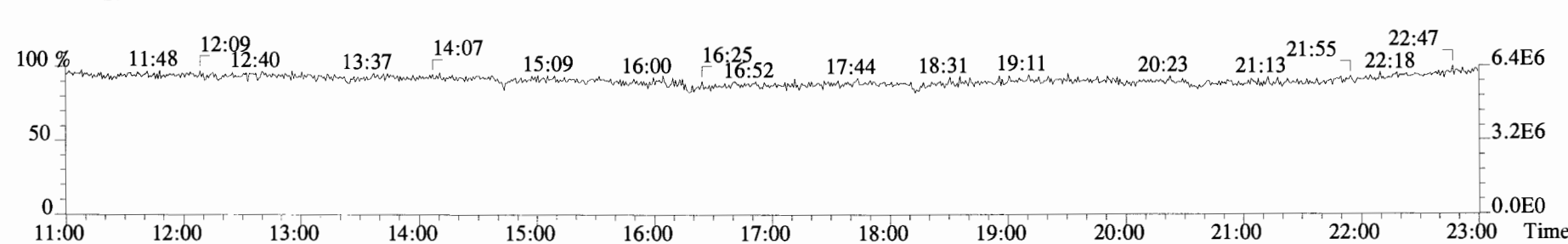
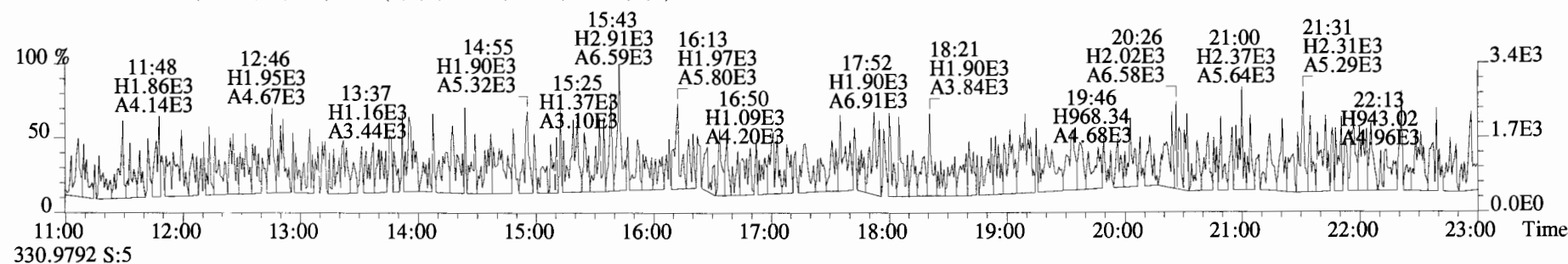
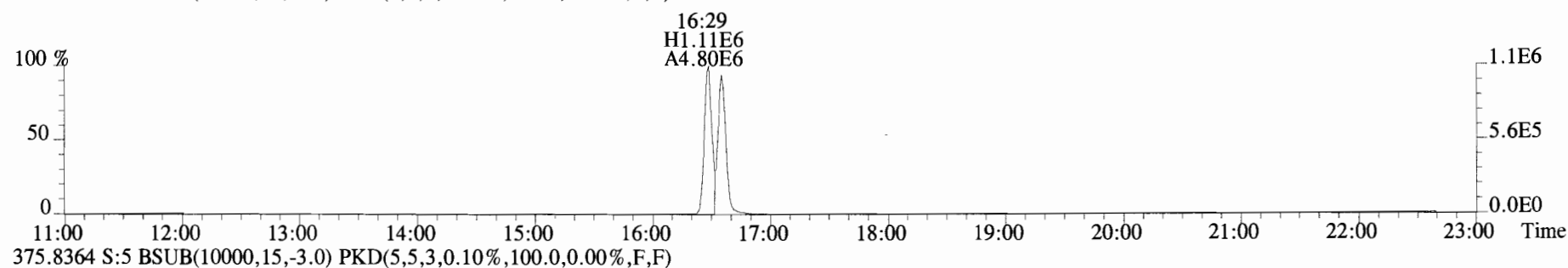
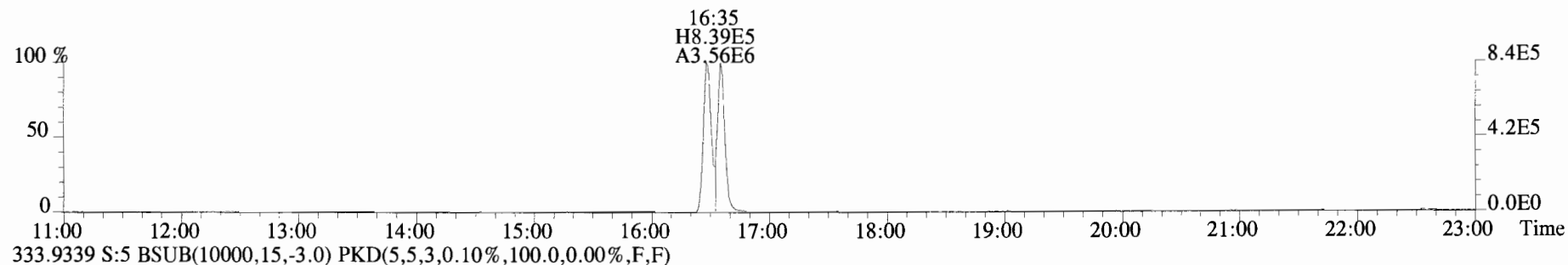
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 Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
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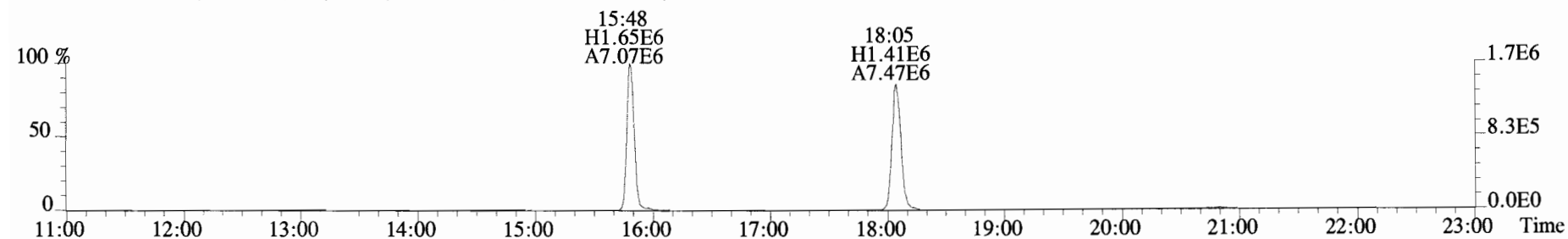
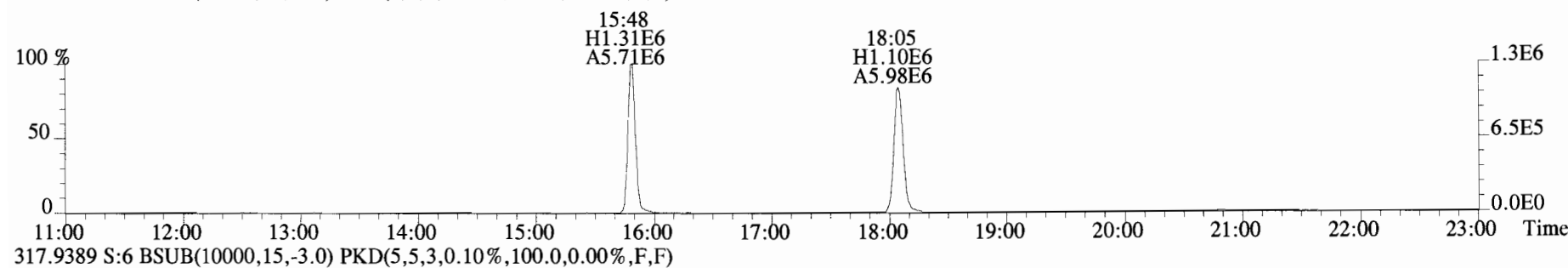
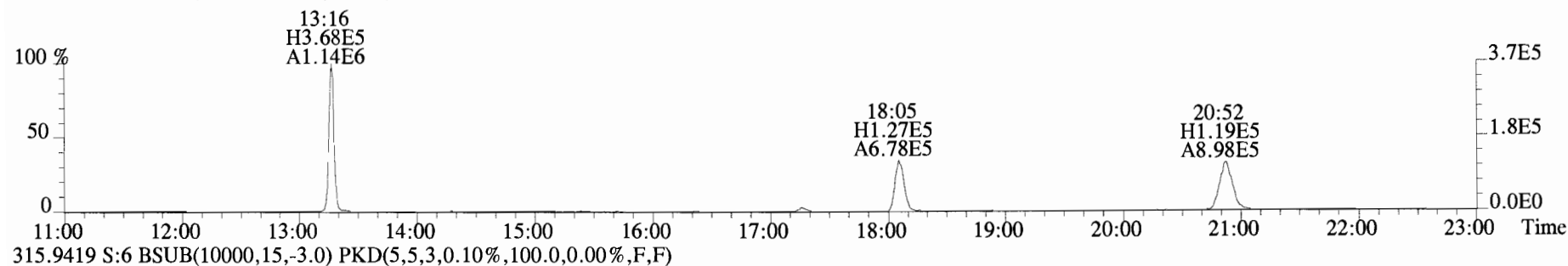
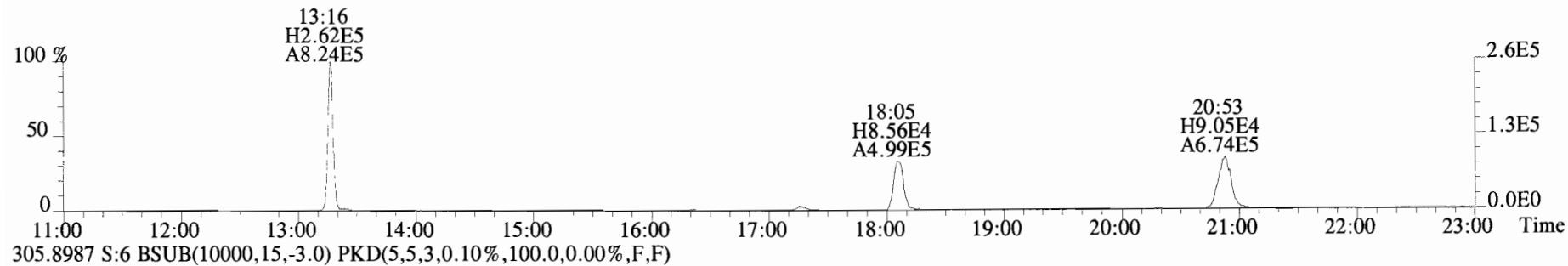
File:190530D1 #1-1683 Acq:30-MAY-2019 13:09:20 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



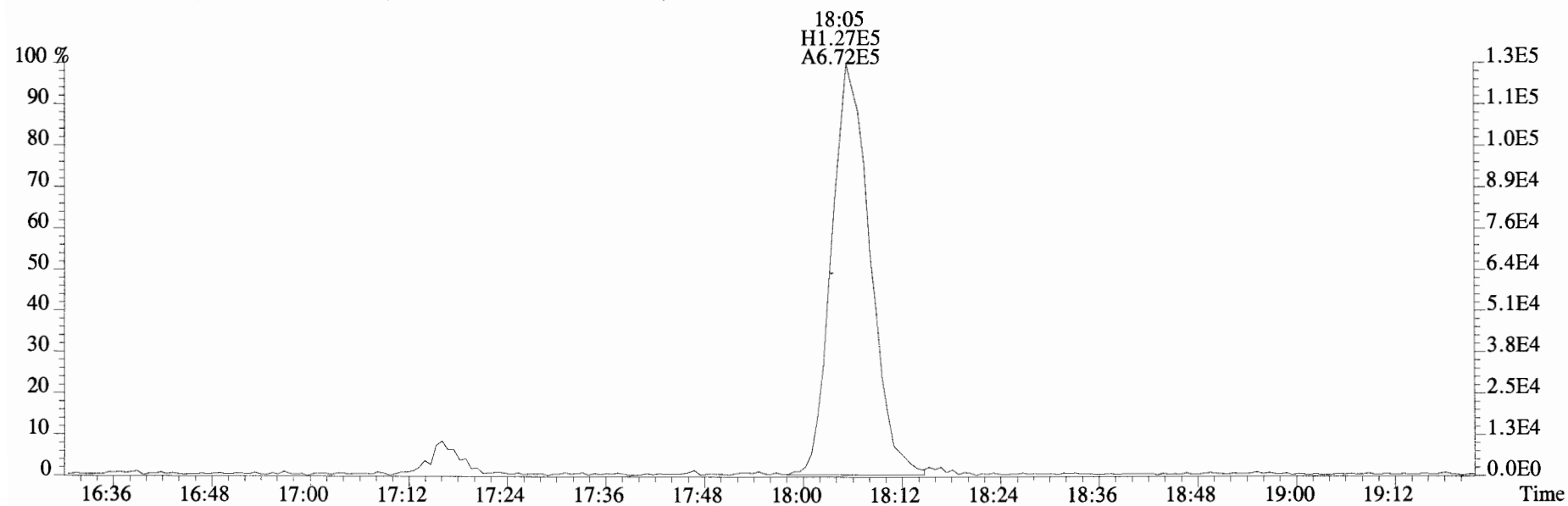
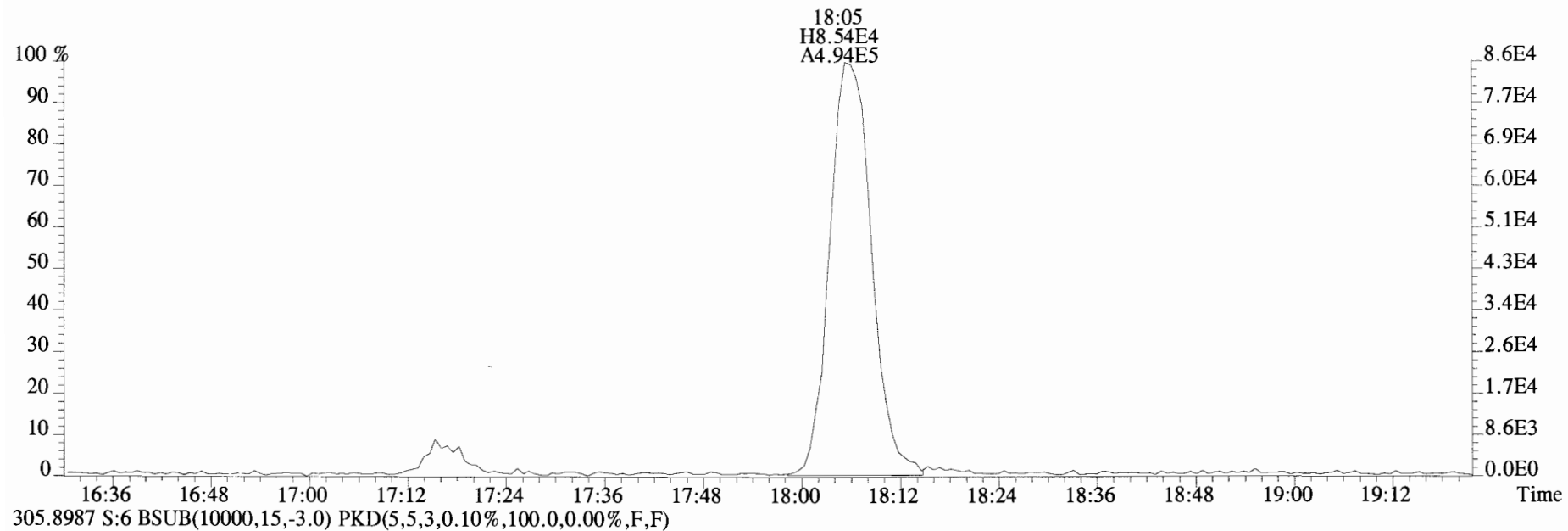
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Sample#5 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-3 1613 CS2 19C2203 Exp:TCDF_DB225
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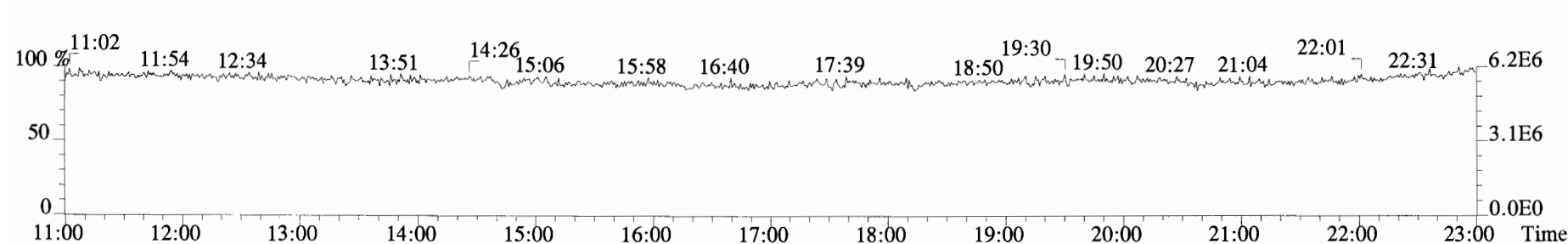
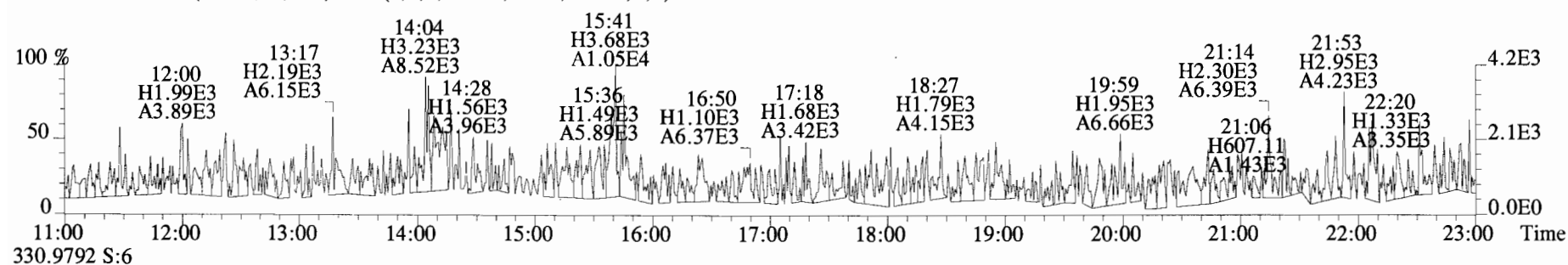
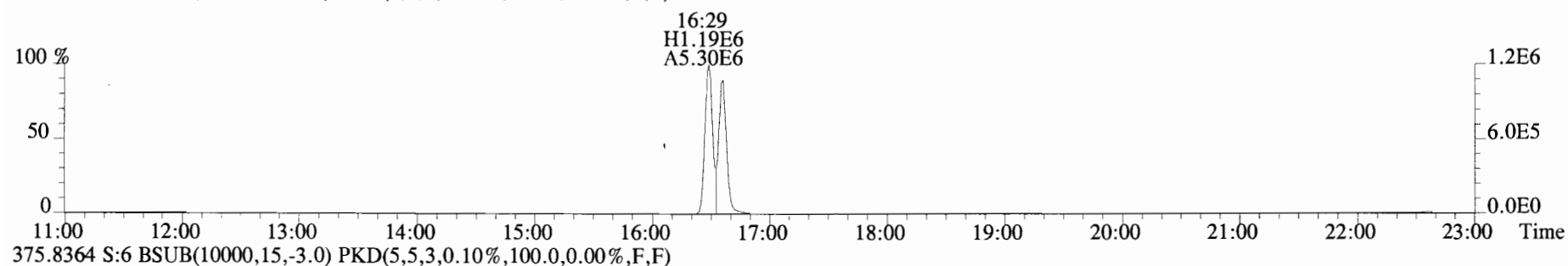
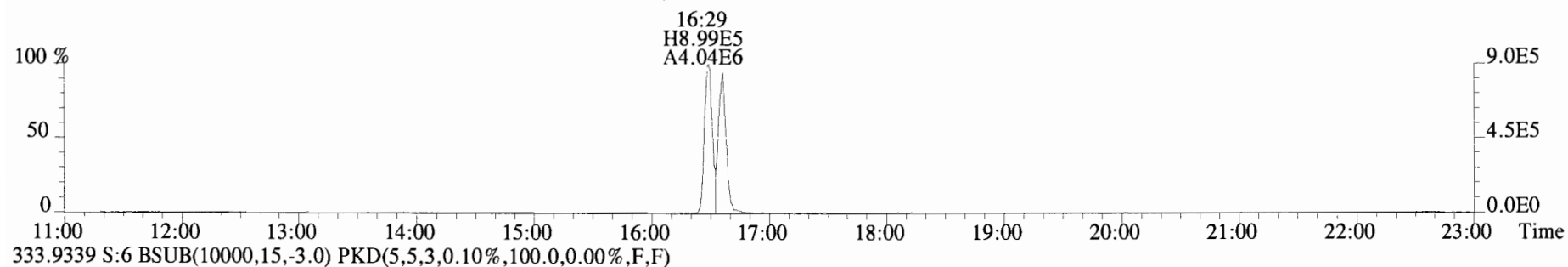
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Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
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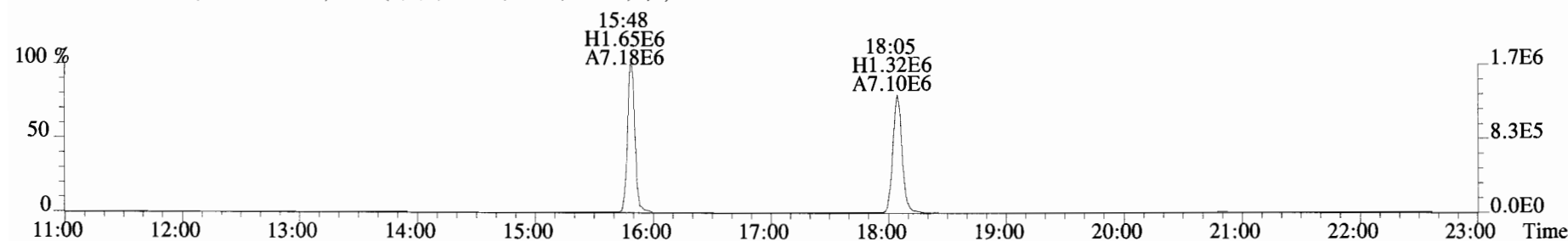
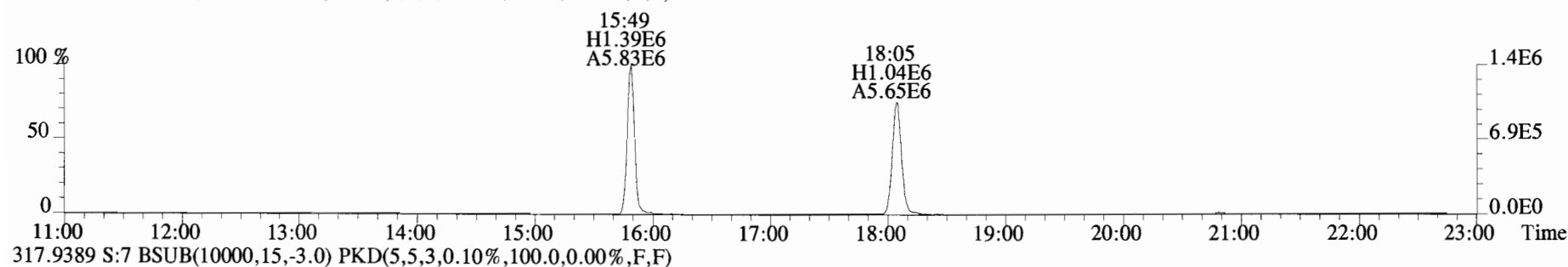
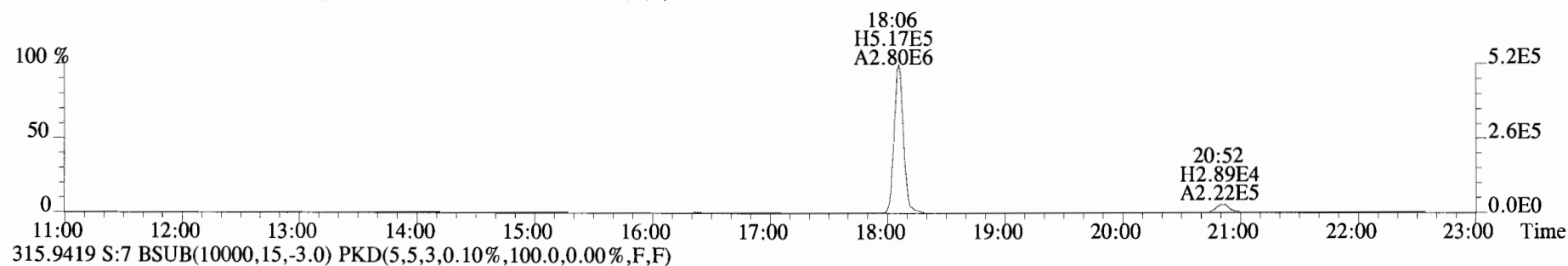
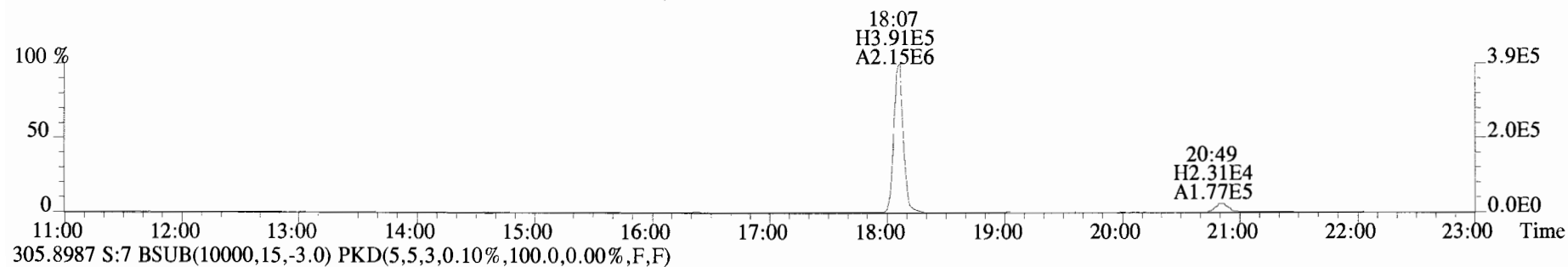
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-4 1613 CS3 19C2204 Exp:TCDF_DB225
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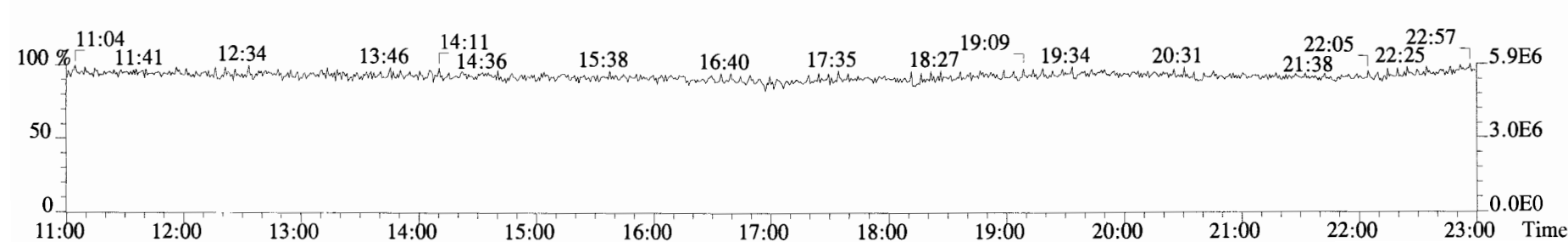
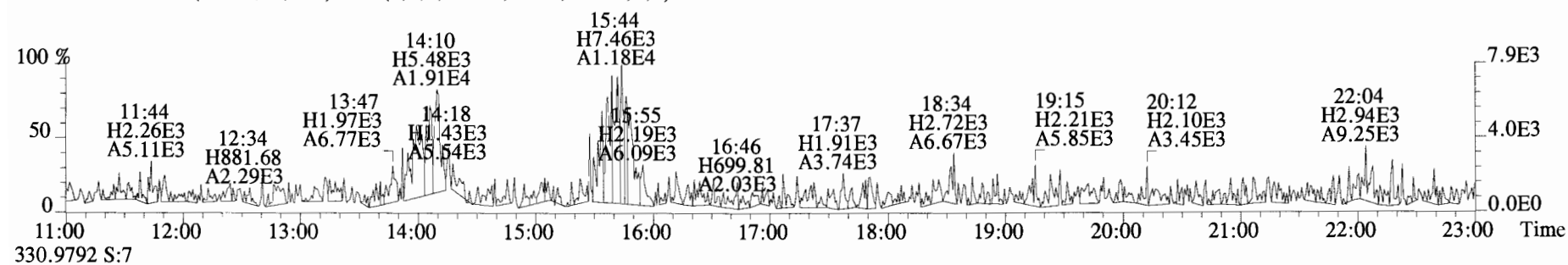
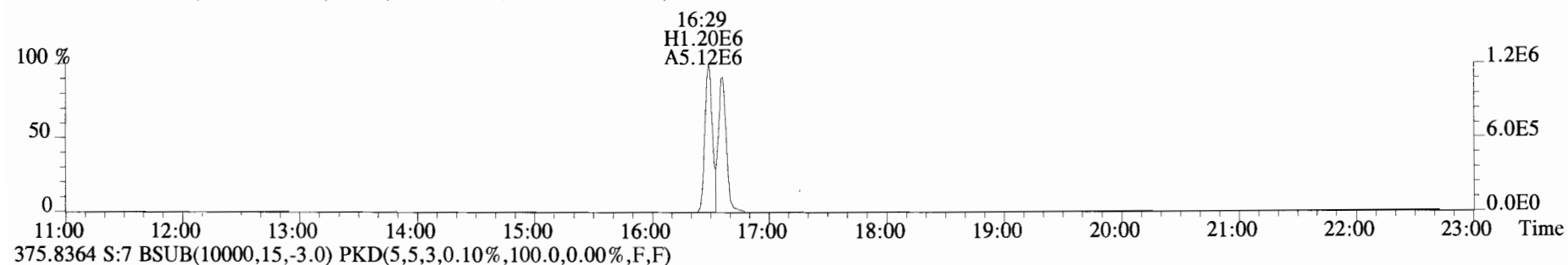
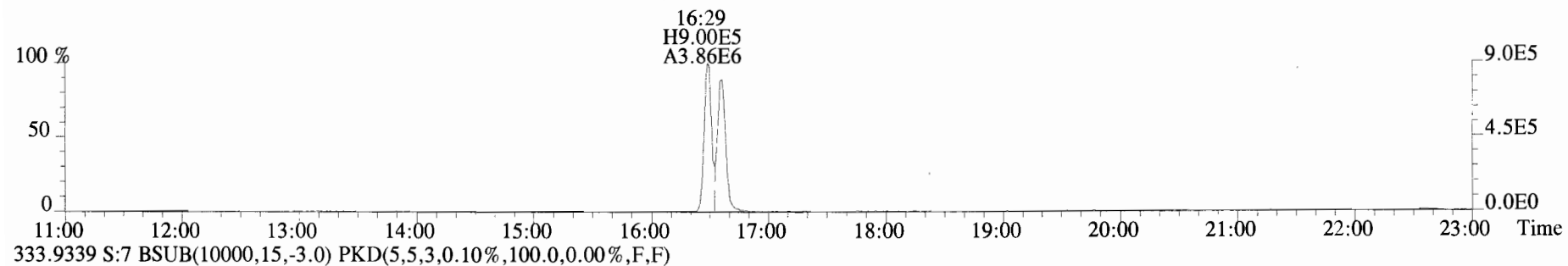
File:190530D1 #1-1682 Acq:30-MAY-2019 13:41:11 GC EI+ Voltage SIR Autospec-UltimaE
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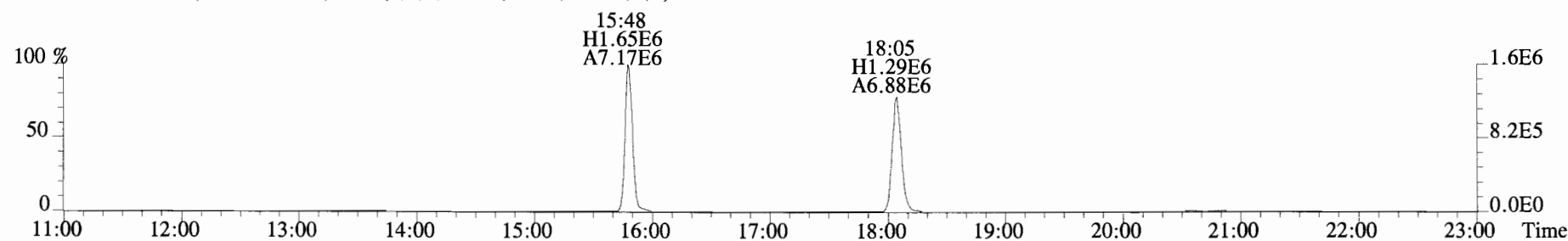
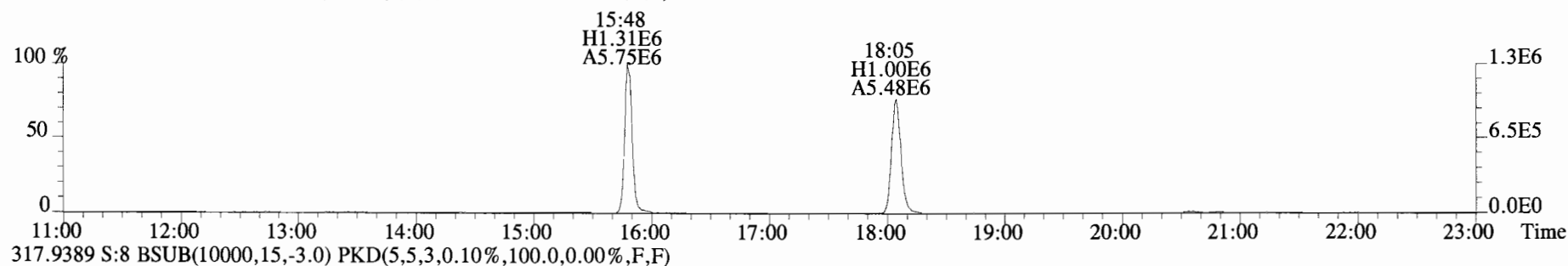
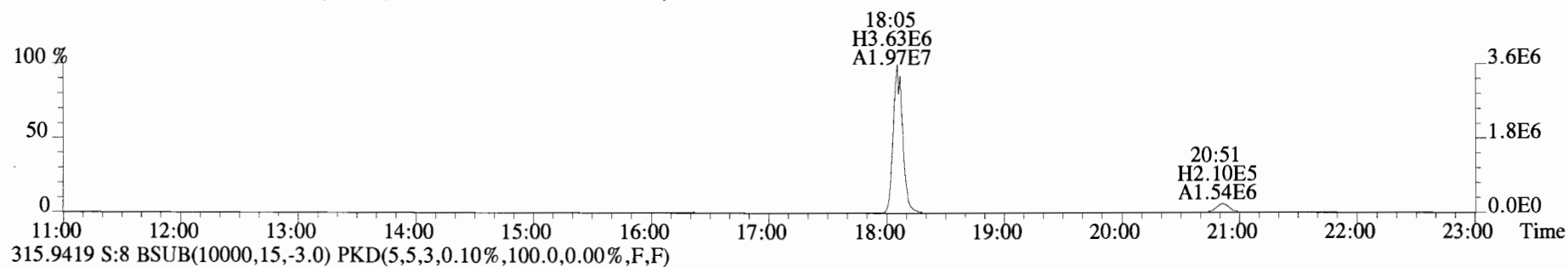
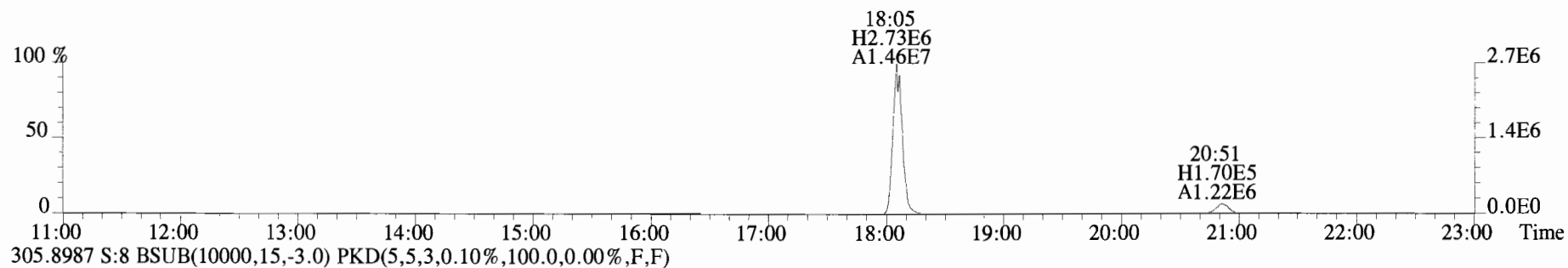
File:190530D1 #1-1682 Acq:30-MAY-2019 14:13:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text: Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
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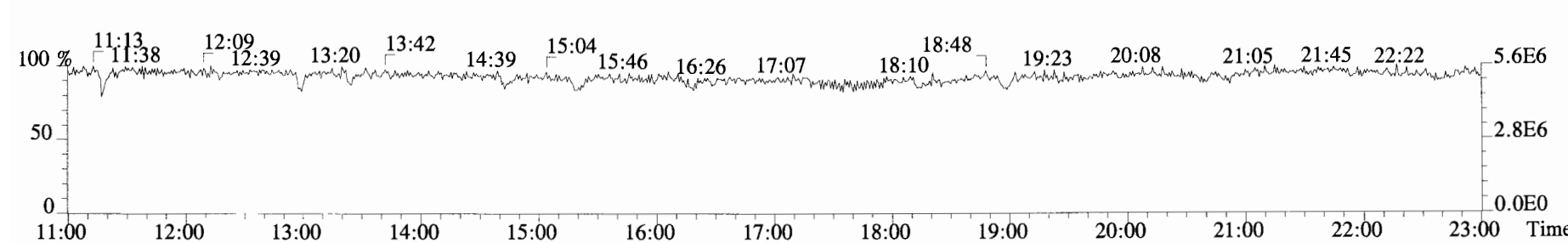
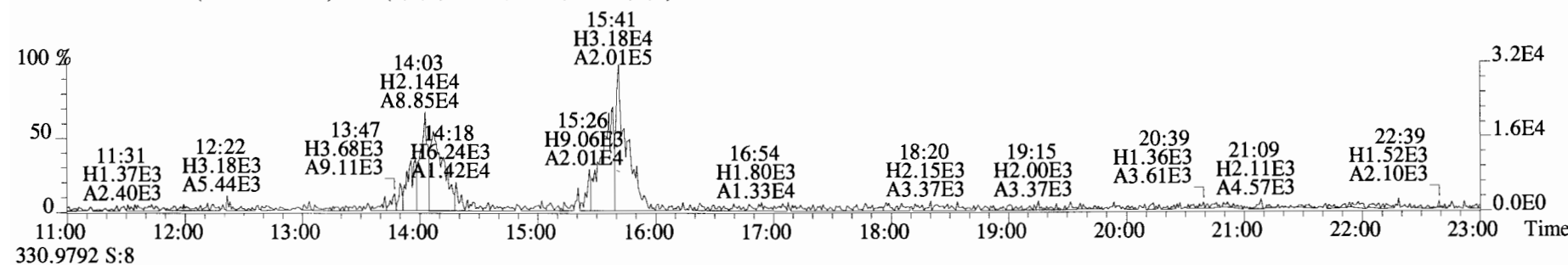
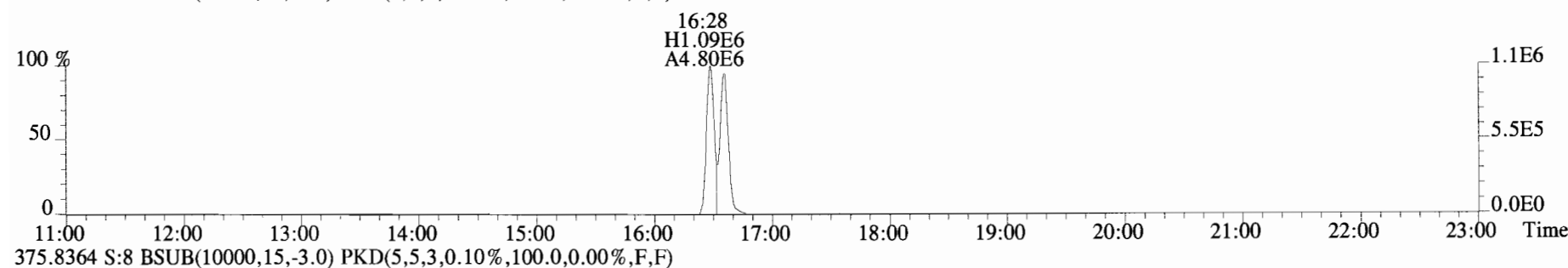
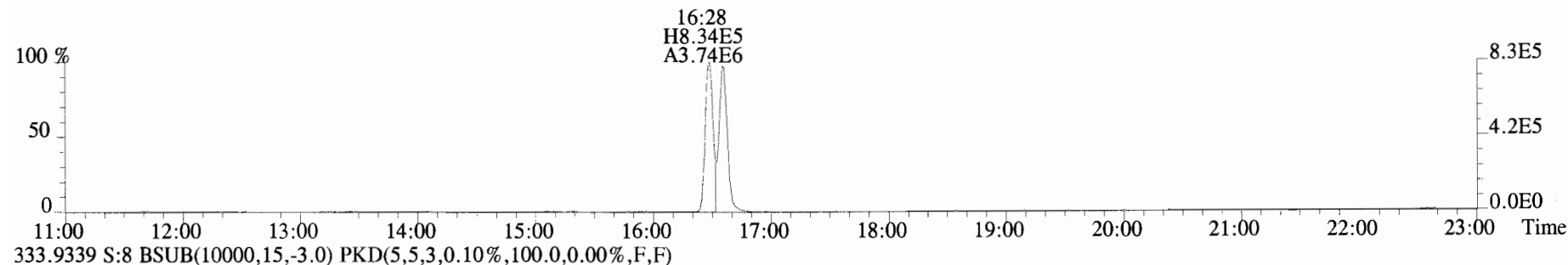
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 Sample#7 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-5 1613 CS4 19C2205 Exp:TCDF_DB225
 331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



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)

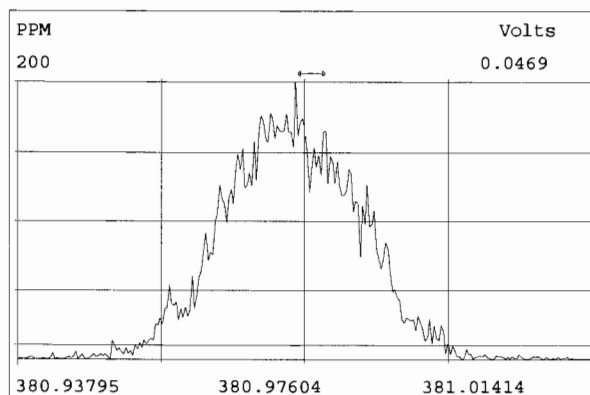
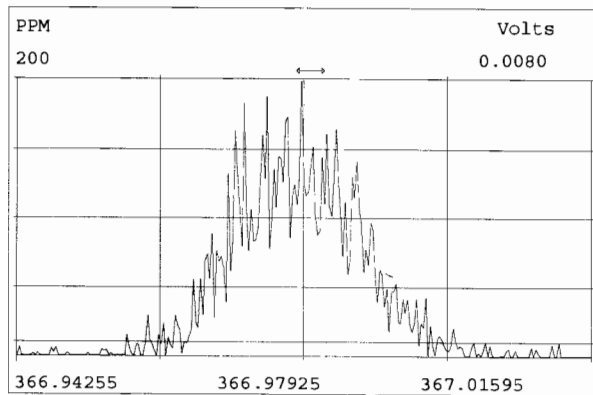
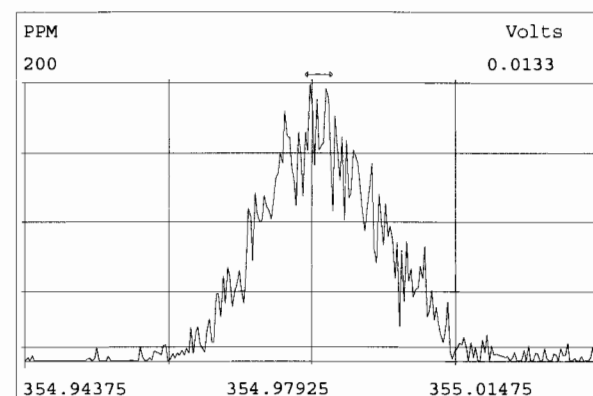
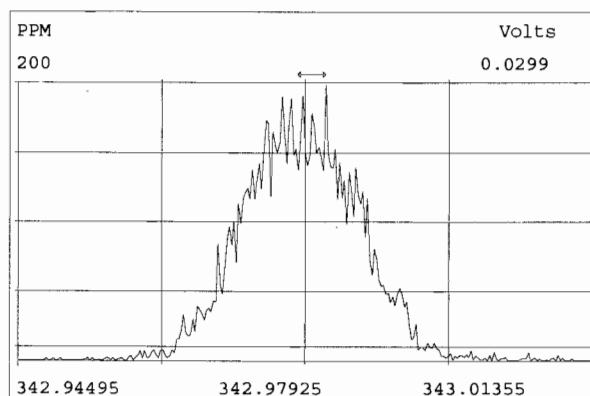
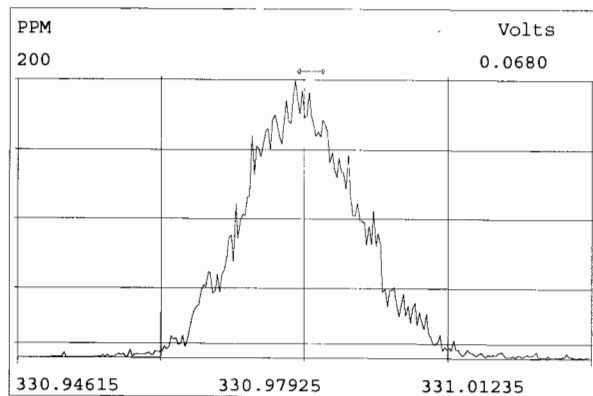
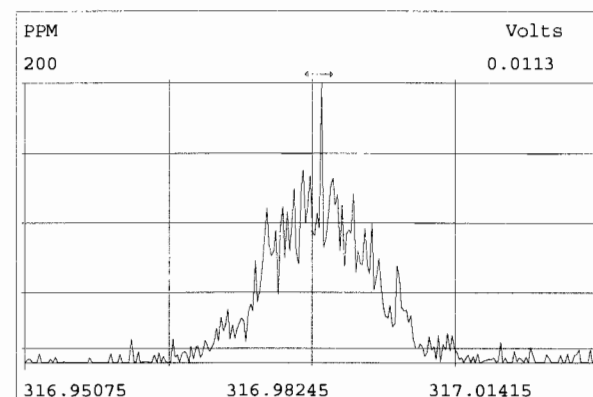
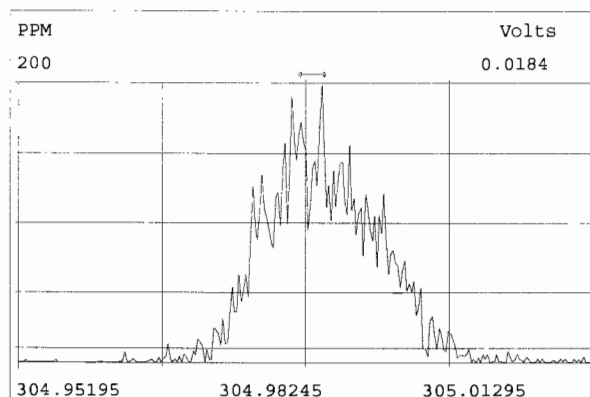
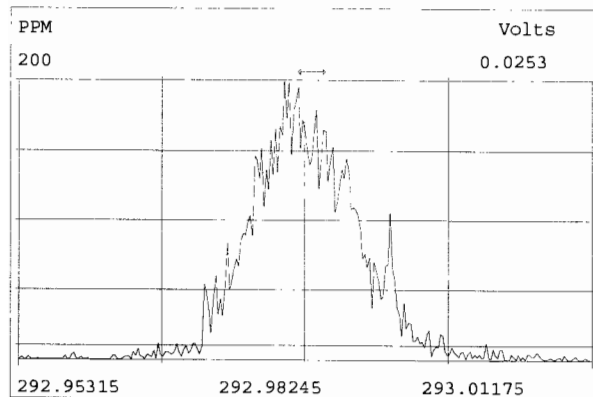


File:190530D1 #1-1682 Acq:30-MAY-2019 14:44:52 GC EI+ Voltage SIR Autospec-UltimaE
 Sample#8 File Text:Vista Analytical Laboratory VG7 Text:ST190530D1-6 1613 CS5 19C2206 Exp:TCDF_DB225
 331.9368 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)



Peak Locate Examination:30-MAY-2019:19:09 File:RES_CHECK

Experiment:TCDF_DB225 Function:1 Reference:PFK



Client ID: 1613 SSS 19C2207

Filename: 190530D1 S:10 Acq:30-MAY-19 15:48:32

ConCal: ST190530D1-4

Page 1 of 1

Lab ID: SS190528D1-1

GC Column ID: DB-225 ICal: 1613TCDFVG7-5-30-19 wt/vol: 1.000

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

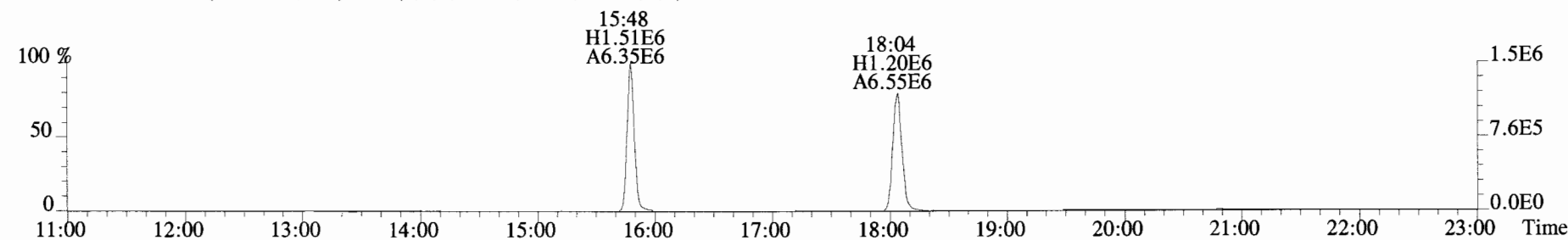
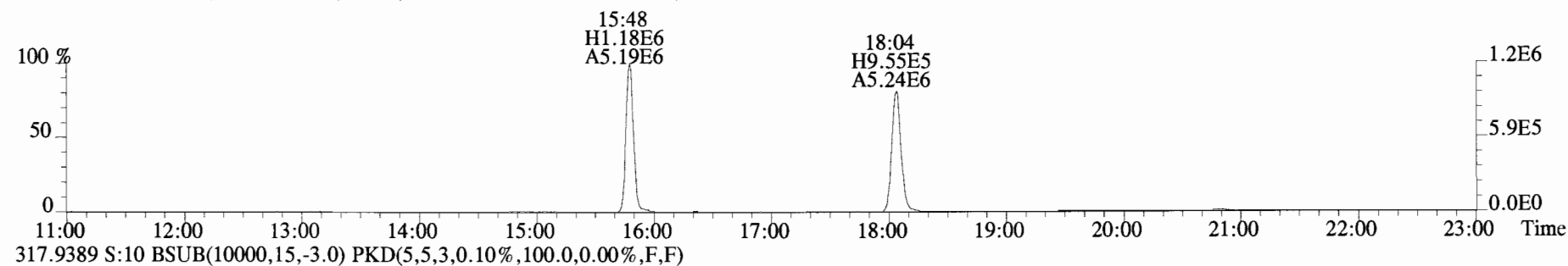
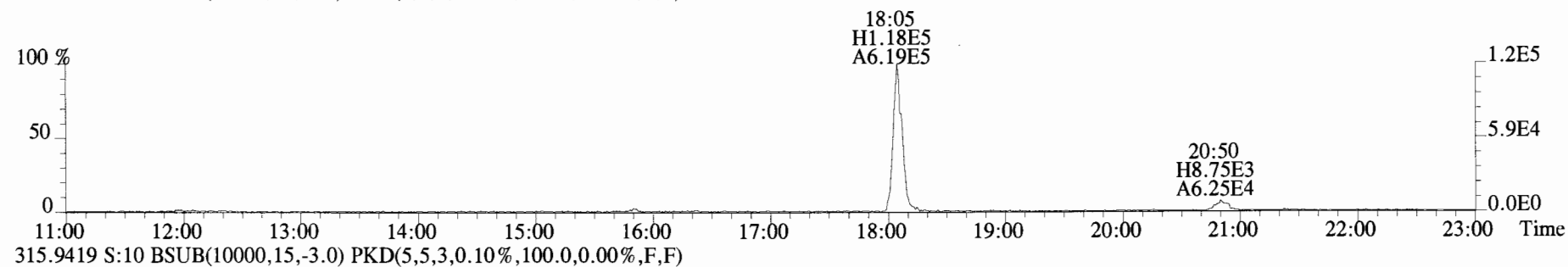
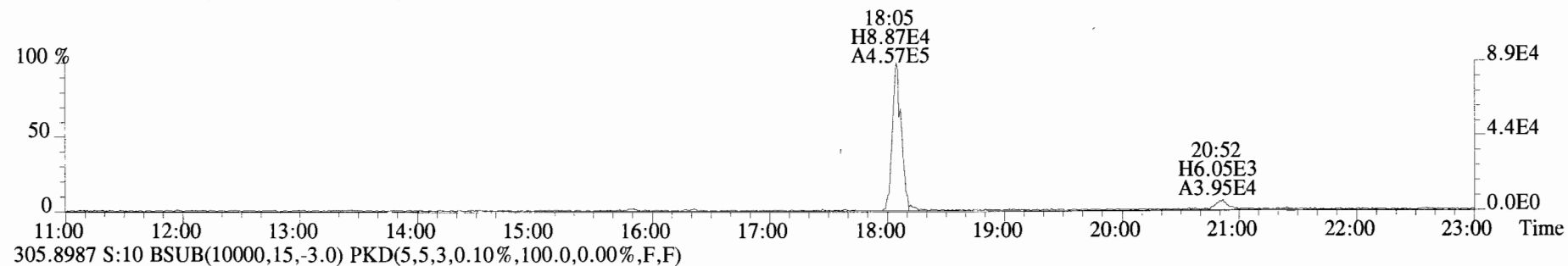
Date: 5/31/19

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)

