November 20, 2019

Vista Work Order No. 1903645

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

Dear Ms. Peterson,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on October 15, 2019 under your Project Name 'Gasco PDI'.

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

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

Sincerely,

Martha Maier
Laboratory Director

Vista Work Order No. 1903645
Case Narrative

Sample Condition on Receipt:

Eight 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:

<u>EPA Method 1613B</u>

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

<u>Holding Times</u>

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

<u>Quality Control</u>

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.

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
1903645-01	PDI-019SC-A-12-13-191008	08-Oct-19 14:46	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-02	PDI-019SC-A-13-13.8-191008	08-Oct-19 14:46	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-03	PDI-020SC-A-13-14-191008	08-Oct-19 10:37	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-04	PDI-020SC-A-14-15.4-191008	08-Oct-19 10:37	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-05	PDI-033SC-A-13-14-191008	08-Oct-19 13:26	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-06	PDI-033SC-A-14-14.8-191008	08-Oct-19 13:26	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-07	PDI-043SC-A-10-11-191008	08-Oct-19 08:45	15-Oct-19 08:51	Amber Glass, 120 mL
1903645-08	PDI-043SC-A-11-11.8-191008	08-Oct-19 08:45	15-Oct-19 08:51	Amber Glass, 120 mL

ANALYTICAL RESULTS

Sample ID: Method Blank

<div align="right">EPA Method 1613B</div>

Matrix:	Solid	QC Batch:	B9J0332	Lab Sample:	B9J0332-BLK1
Sample Size:	10.0 g	Date Extracted:	31-Oct-2019 8:05	Date Analyzed :	11-Nov-19 12:43 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0406			IS	13C-2,3,7,8-TCDD	93.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0703				13C-1,2,3,7,8-PeCDD	95.6	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0602				13C-1,2,3,4,7,8-HxCDD	96.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0691				13C-1,2,3,6,7,8-HxCDD	83.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0682				13C-1,2,3,7,8,9-HxCDD	86.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0903				13C-1,2,3,4,6,7,8-HpCDD	98.2	23 - 140	
OCDD	ND	0.121				13C-OCDD	91.2	17 - 157	
2,3,7,8-TCDF	ND	0.0315				13C-2,3,7,8-TCDF	91.4	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0708				13C-1,2,3,7,8-PeCDF	93.2	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0659				13C-2,3,4,7,8-PeCDF	91.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0335				13C-1,2,3,4,7,8-HxCDF	99.5	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0369				13C-1,2,3,6,7,8-HxCDF	89.7	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0379				13C-2,3,4,6,7,8-HxCDF	92.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0500				13C-1,2,3,7,8,9-HxCDF	96.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0416				13C-1,2,3,4,6,7,8-HpCDF	95.6	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0354				13C-1,2,3,4,7,8,9-HpCDF	109	26 - 138	
OCDF	ND	0.0954				13C-OCDF	101	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	93.0	35 - 197	

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

TOTALS

	Conc.	DL
Total TCDD	ND	0.0406
Total PeCDD	ND	0.0703
Total HxCDD	ND	0.0661
Total HpCDD	ND	0.0903
Total TCDF	ND	0.0315
Total PeCDF	ND	0.0683
Total HxCDF	ND	0.0393
Total HpCDF	ND	0.0387

DL - Sample specifc 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	QC Batch:	B9J0332	Lab Sample:	B9J0332-BS1
Sample Size:	10.0 g	Date Extracted:	31-Oct-2019 8:05	Date Analyzed:	11-Nov-19 11:07 Column: ZB-5MS

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

LCL-UCL - Lower control limit - upper control limit

Sample ID: PDI-019SC-A-12-13-191008

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 14:46

Sample Data
Matrix: Sediment
Sample Size: 12.0 g
% Solids: 83.6

Laboratory Data
Lab Sample: 1903645-01
QC Batch: B9J0332
Date Analyzed: 11-Nov-19 16:43

Date Received: 15-Oct-2019 8:51
Date Extracted: 31-Oct-2019 8:05
Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0717			IS	13C-2,3,7,8-TCDD	87.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0474				13C-1,2,3,7,8-PeCDD	91.0	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0784				13C-1,2,3,4,7,8-HxCDD	92.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0809				13C-1,2,3,6,7,8-HxCDD	80.9	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0797				13C-1,2,3,7,8,9-HxCDD	85.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.487			J		13C-1,2,3,4,6,7,8-HpCDD	95.4	23 - 140	
OCDD	3.57			J		13C-OCDD	90.7	17 - 157	
2,3,7,8-TCDF	ND	0.0457				13C-2,3,7,8-TCDF	87.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0512				13C-1,2,3,7,8-PeCDF	91.4	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0511				13C-2,3,4,7,8-PeCDF	88.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0266				13C-1,2,3,4,7,8-HxCDF	93.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0269				13C-1,2,3,6,7,8-HxCDF	85.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0306				13C-2,3,4,6,7,8-HxCDF	84.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0378				13C-1,2,3,7,8,9-HxCDF	91.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0207				13C-1,2,3,4,6,7,8-HpCDF	95.9	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0189				13C-1,2,3,4,7,8,9-HpCDF	104	26 - 138	
OCDF	ND	0.0838				13C-OCDF	98.1	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	91.9	35 - 197	

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

TEQMinWHO2005Dioxin	0.00594

TOTALS

Total TCDD	ND	0.0717	
Total PeCDD	ND	0.0474	
Total HxCDD	0.630		
Total HpCDD	1.42		
Total TCDF	ND	0.0457	
Total PeCDF	ND	0.0511	
Total HxCDF	ND	0.0303	
Total HpCDF	ND	0.0199	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

Sample ID: PDI-019SC-A-13-13.8-191008

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 14:46

Sample Data
Matrix: Sediment
Sample Size: 12.8 g
% Solids: 79.4

Laboratory Data
Lab Sample: 1903645-02 Date Received: 15-Oct-2019 8:51
QC Batch: B9J0332 Date Extracted: 31-Oct-2019 8:05
Date Analyzed : 11-Nov-19 18:18 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0451			IS	13C-2,3,7,8-TCDD	88.1	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0786				13C-1,2,3,7,8-PeCDD	88.8	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0904				13C-1,2,3,4,7,8-HxCDD	85.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0952				13C-1,2,3,6,7,8-HxCDD	74.4	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0968				13C-1,2,3,7,8,9-HxCDD	77.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.414			J		13C-1,2,3,4,6,7,8-HpCDD	90.3	23 - 140	
OCDD	3.96			J		13C-OCDD	85.3	17 - 157	
2,3,7,8-TCDF	ND	0.0326				13C-2,3,7,8-TCDF	84.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0589				13C-1,2,3,7,8-PeCDF	88.6	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0565				13C-2,3,4,7,8-PeCDF	86.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0228				13C-1,2,3,4,7,8-HxCDF	92.0	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0241				13C-1,2,3,6,7,8-HxCDF	82.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0250				13C-2,3,4,6,7,8-HxCDF	82.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0327				13C-1,2,3,7,8,9-HxCDF	89.1	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0353				13C-1,2,3,4,6,7,8-HpCDF	92.7	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0326				13C-1,2,3,4,7,8,9-HpCDF	102	26 - 138	
OCDF	ND	0.0825				13C-OCDF	94.3	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	96.3	35 - 197	

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

TEQMinWHO2005Dioxin	0.00533

TOTALS

Analyte	Conc. (pg/g)	DL	EMPC
Total TCDD	ND		0.134
Total PeCDD	ND	0.0785	
Total HxCDD	0.337		
Total HpCDD	1.27		
Total TCDF	ND	0.0326	
Total PeCDF	ND	0.0577	
Total HxCDF	ND	0.0260	
Total HpCDF	ND	0.0341	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

Sample ID: PDI-020SC-A-13-14-191008

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 10:37

Sample Data
Matrix: Sediment
Sample Size: 13.7 g
% Solids: 73.2

Laboratory Data
Lab Sample: 1903645-03   Date Received: 15-Oct-2019 8:51
QC Batch: B9J0332   Date Extracted: 31-Oct-2019 8:05
Date Analyzed: 11-Nov-19 17:30 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0680			IS	13C-2,3,7,8-TCDD	93.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.112				13C-1,2,3,7,8-PeCDD	91.1	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0821				13C-1,2,3,4,7,8-HxCDD	89.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND		0.0657			13C-1,2,3,6,7,8-HxCDD	78.6	28 - 130	
1,2,3,7,8,9-HxCDD	0.169			J		13C-1,2,3,7,8,9-HxCDD	81.4	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		1.01			13C-1,2,3,4,6,7,8-HpCDD	91.2	23 - 140	
OCDD	8.34					13C-OCDD	86.7	17 - 157	
2,3,7,8-TCDF	ND	0.0293				13C-2,3,7,8-TCDF	88.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0578				13C-1,2,3,7,8-PeCDF	95.3	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0571				13C-2,3,4,7,8-PeCDF	89.6	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0205				13C-1,2,3,4,7,8-HxCDF	98.3	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0212				13C-1,2,3,6,7,8-HxCDF	89.9	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0240				13C-2,3,4,6,7,8-HxCDF	87.2	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0307				13C-1,2,3,7,8,9-HxCDF	92.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0303				13C-1,2,3,4,6,7,8-HpCDF	94.1	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0267				13C-1,2,3,4,7,8,9-HpCDF	103	26 - 138	
OCDF	ND	0.0607				13C-OCDF	95.6	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	98.5	35 - 197	

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

TEQMinWHO2005Dioxin	0.0194

TOTALS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers
Total TCDD	ND		0.179	
Total PeCDD	ND	0.112		
Total HxCDD	1.59		1.65	
Total HpCDD	2.30		3.31	
Total TCDF	ND		0.0650	
Total PeCDF	ND	0.0574		
Total HxCDF	ND	0.0238		
Total HpCDF	ND	0.0286		

DL - Sample specifc 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.

Client Data
Name:	Anchor QEA, LLC
Project:	Gasco PDI
Date Collected:	08-Oct-2019 10:37

Sample Data
Matrix:	Sediment
Sample Size:	15.2 g
% Solids:	66.8

Laboratory Data
Lab Sample:	1903645-04	Date Received:	15-Oct-2019 8:51
QC Batch:	B9J0332	Date Extracted:	31-Oct-2019 8:05
Date Analyzed :		11-Nov-19 19:06	Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0347			IS	13C-2,3,7,8-TCDD	94.3	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0841				13C-1,2,3,7,8-PeCDD	92.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0723				13C-1,2,3,4,7,8-HxCDD	88.8	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0787				13C-1,2,3,6,7,8-HxCDD	76.0	28 - 130	
1,2,3,7,8,9-HxCDD	ND		0.0856			13C-1,2,3,7,8,9-HxCDD	79.6	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.923			J		13C-1,2,3,4,6,7,8-HpCDD	88.5	23 - 140	
OCDD	8.36					13C-OCDD	85.4	17 - 157	
2,3,7,8-TCDF	ND	0.0270				13C-2,3,7,8-TCDF	89.0	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0539				13C-1,2,3,7,8-PeCDF	94.0	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0507				13C-2,3,4,7,8-PeCDF	90.0	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0241				13C-1,2,3,4,7,8-HxCDF	94.6	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0247				13C-1,2,3,6,7,8-HxCDF	85.5	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0286				13C-2,3,4,6,7,8-HxCDF	85.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0350				13C-1,2,3,7,8,9-HxCDF	91.5	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0340				13C-1,2,3,4,6,7,8-HpCDF	92.8	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0313				13C-1,2,3,4,7,8,9-HpCDF	98.9	26 - 138	
OCDF	ND	0.0841				13C-OCDF	92.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	103	35 - 197	

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

TEQMinWHO2005Dioxin	0.0117

TOTALS
Analyte	Conc. (pg/g)	DL	EMPC
Total TCDD	0.396		
Total PeCDD	ND		0.253
Total HxCDD	0.795		1.17
Total HpCDD	2.61		
Total TCDF	0.0678		0.132
Total PeCDF	ND	0.0522	
Total HxCDF	ND	0.0279	
Total HpCDF	ND	0.0327	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

Sample ID: PDI-033SC-A-13-14-191008

<div align="right">

EPA Method 1613B

</div>

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 13:26

Sample Data
Matrix: Sediment
Sample Size: 11.7 g
% Solids: 86.4

Laboratory Data
Lab Sample: 1903645-05   Date Received: 15-Oct-2019 8:51
QC Batch: B9J0332   Date Extracted: 31-Oct-2019 8:05
Date Analyzed : 11-Nov-19 19:54 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.505			IS	13C-2,3,7,8-TCDD	95.7	25 - 164	
1,2,3,7,8-PeCDD	ND	0.449				13C-1,2,3,7,8-PeCDD	95.5	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.500				13C-1,2,3,4,7,8-HxCDD	95.4	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.479				13C-1,2,3,6,7,8-HxCDD	86.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.522				13C-1,2,3,7,8,9-HxCDD	88.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.652				13C-1,2,3,4,6,7,8-HpCDD	99.1	23 - 140	
OCDD	ND	0.890				13C-OCDD	97.5	17 - 157	
2,3,7,8-TCDF	ND	0.463				13C-2,3,7,8-TCDF	97.6	24 - 169	
1,2,3,7,8-PeCDF	ND	0.684				13C-1,2,3,7,8-PeCDF	94.4	24 - 185	
2,3,4,7,8-PeCDF	ND	0.660				13C-2,3,4,7,8-PeCDF	93.5	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.263				13C-1,2,3,4,7,8-HxCDF	101	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.265				13C-1,2,3,6,7,8-HxCDF	92.0	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.277				13C-2,3,4,6,7,8-HxCDF	92.7	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.359				13C-1,2,3,7,8,9-HxCDF	99.3	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.351				13C-1,2,3,4,6,7,8-HpCDF	105	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.333				13C-1,2,3,4,7,8,9-HpCDF	110	26 - 138	
OCDF	ND	0.771				13C-OCDF	106	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	97.4	35 - 197	

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

TEQMinWHO2005Dioxin	0.00

TOTALS

Analyte	Conc.	DL
Total TCDD	ND	0.505
Total PeCDD	ND	0.449
Total HxCDD	ND	0.501
Total HpCDD	ND	0.652
Total TCDF	ND	0.463
Total PeCDF	ND	0.672
Total HxCDF	ND	0.289
Total HpCDF	ND	0.343

DL - Sample specifc 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.

Client Data

Name:	Anchor QEA, LLC
Project:	Gasco PDI
Date Collected:	08-Oct-2019 13:26

Sample Data

Matrix:	Sediment
Sample Size:	13.6 g
% Solids:	73.6

Laboratory Data

Lab Sample:	1903645-06	Date Received:	15-Oct-2019 8:51
QC Batch:	B9J0332	Date Extracted:	31-Oct-2019 8:05
Date Analyzed :	11-Nov-19 20:42	Column: ZB-5MS	

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0422			IS	13C-2,3,7,8-TCDD	97.8	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0536				13C-1,2,3,7,8-PeCDD	100	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0576				13C-1,2,3,4,7,8-HxCDD	97.9	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0626				13C-1,2,3,6,7,8-HxCDD	81.2	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0626				13C-1,2,3,7,8,9-HxCDD	88.9	32 - 141	
1,2,3,4,6,7,8-HpCDD	0.0909			J		13C-1,2,3,4,6,7,8-HpCDD	101	23 - 140	
OCDD	0.784			J		13C-OCDD	96.5	17 - 157	
2,3,7,8-TCDF	ND	0.0227				13C-2,3,7,8-TCDF	96.3	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0382				13C-1,2,3,7,8-PeCDF	102	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0368				13C-2,3,4,7,8-PeCDF	100	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0182				13C-1,2,3,4,7,8-HxCDF	106	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0186				13C-1,2,3,6,7,8-HxCDF	94.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0201				13C-2,3,4,6,7,8-HxCDF	95.3	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0262				13C-1,2,3,7,8,9-HxCDF	101	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0236				13C-1,2,3,4,6,7,8-HpCDF	103	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0214				13C-1,2,3,4,7,8,9-HpCDF	114	26 - 138	
OCDF	ND	0.0607				13C-OCDF	109	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	99.5	35 - 197	

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

TEQMinWHO2005Dioxin	0.00114

TOTALS

Analyte	Conc. (pg/g)	DL	EMPC
Total TCDD	ND		0.0683
Total PeCDD	ND	0.0536	
Total HxCDD	ND		0.1000
Total HpCDD	0.0909		0.294
Total TCDF	0.0424		
Total PeCDF	ND	0.0375	
Total HxCDF	ND	0.0206	
Total HpCDF	ND	0.0226	

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

Sample ID: PDI-043SC-A-10-11-191008

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 8:45

Sample Data
Matrix: Sediment
Sample Size: 11.9 g
% Solids: 84.9

Laboratory Data
Lab Sample: 1903645-07 Date Received: 15-Oct-2019 8:51
QC Batch: B9J0332 Date Extracted: 31-Oct-2019 8:05
Date Analyzed : 11-Nov-19 21:29 Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0344			IS	13C-2,3,7,8-TCDD	105	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0351				13C-1,2,3,7,8-PeCDD	106	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0427				13C-1,2,3,4,7,8-HxCDD	102	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0449				13C-1,2,3,6,7,8-HxCDD	87.5	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0450				13C-1,2,3,7,8,9-HxCDD	93.0	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND		0.0785			13C-1,2,3,4,6,7,8-HpCDD	104	23 - 140	
OCDD	ND		0.485			13C-OCDD	97.2	17 - 157	
2,3,7,8-TCDF	ND	0.0284				13C-2,3,7,8-TCDF	97.9	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0505				13C-1,2,3,7,8-PeCDF	105	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0468				13C-2,3,4,7,8-PeCDF	105	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0151				13C-1,2,3,4,7,8-HxCDF	107	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0151				13C-1,2,3,6,7,8-HxCDF	94.3	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0157				13C-2,3,4,6,7,8-HxCDF	100	28 - 136	
1,2,3,7,8,9-HxCDF	ND		0.0265			13C-1,2,3,7,8,9-HxCDF	105	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0204				13C-1,2,3,4,6,7,8-HpCDF	110	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0189				13C-1,2,3,4,7,8,9-HpCDF	120	26 - 138	
OCDF	ND	0.0491				13C-OCDF	110	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	103	35 - 197	

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

						TEQMinWHO2005Dioxin	0.00		

TOTALS

Analyte	Conc.	DL	EMPC						
Total TCDD	ND	0.0344							
Total PeCDD	ND		0.0628						
Total HxCDD	ND	0.0444							
Total HpCDD	0.162		0.241						
Total TCDF	0.0532								
Total PeCDF	ND	0.0486							
Total HxCDF	ND		0.0265						
Total HpCDF	ND	0.0197							

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

Sample ID: PDI-043SC-A-11-11.8-191008

EPA Method 1613B

Client Data
Name: Anchor QEA, LLC
Project: Gasco PDI
Date Collected: 08-Oct-2019 8:45

Sample Data
Matrix: Sediment
Sample Size: 13.2 g
% Solids: 76.7

Laboratory Data
Lab Sample: 1903645-08
QC Batch: B9J0332
Date Analyzed : 12-Nov-19 03:18

Date Received: 15-Oct-2019 8:51
Date Extracted: 31-Oct-2019 8:05
Column: ZB-5MS

Analyte	Conc. (pg/g)	DL	EMPC	Qualifiers		Labeled Standard	%R	LCL-UCL	Qualifiers
2,3,7,8-TCDD	ND	0.0390			IS	13C-2,3,7,8-TCDD	96.9	25 - 164	
1,2,3,7,8-PeCDD	ND	0.0574				13C-1,2,3,7,8-PeCDD	89.3	25 - 181	
1,2,3,4,7,8-HxCDD	ND	0.0472				13C-1,2,3,4,7,8-HxCDD	89.3	32 - 141	
1,2,3,6,7,8-HxCDD	ND	0.0500				13C-1,2,3,6,7,8-HxCDD	73.3	28 - 130	
1,2,3,7,8,9-HxCDD	ND	0.0499				13C-1,2,3,7,8,9-HxCDD	79.2	32 - 141	
1,2,3,4,6,7,8-HpCDD	ND	0.0530				13C-1,2,3,4,6,7,8-HpCDD	83.9	23 - 140	
OCDD	0.889			J		13C-OCDD	77.9	17 - 157	
2,3,7,8-TCDF	ND	0.0381				13C-2,3,7,8-TCDF	89.3	24 - 169	
1,2,3,7,8-PeCDF	ND	0.0482				13C-1,2,3,7,8-PeCDF	91.5	24 - 185	
2,3,4,7,8-PeCDF	ND	0.0442				13C-2,3,4,7,8-PeCDF	87.7	21 - 178	
1,2,3,4,7,8-HxCDF	ND	0.0240				13C-1,2,3,4,7,8-HxCDF	99.8	26 - 152	
1,2,3,6,7,8-HxCDF	ND	0.0240				13C-1,2,3,6,7,8-HxCDF	89.6	26 - 123	
2,3,4,6,7,8-HxCDF	ND	0.0277				13C-2,3,4,6,7,8-HxCDF	88.9	28 - 136	
1,2,3,7,8,9-HxCDF	ND	0.0337				13C-1,2,3,7,8,9-HxCDF	92.7	29 - 147	
1,2,3,4,6,7,8-HpCDF	ND	0.0315				13C-1,2,3,4,6,7,8-HpCDF	91.3	28 - 143	
1,2,3,4,7,8,9-HpCDF	ND	0.0278				13C-1,2,3,4,7,8,9-HpCDF	99.1	26 - 138	
OCDF	0.205			J		13C-OCDF	87.9	17 - 157	
					CRS	37Cl-2,3,7,8-TCDD	92.7	35 - 197	

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

TEQMinWHO2005Dioxin	0.000328

TOTALS

Total TCDD	ND	0.0390		
Total PeCDD	ND	0.0574		
Total HxCDD	ND	0.0493		
Total HpCDD	ND		0.129	
Total TCDF	0.0710			
Total PeCDF	ND		0.0399	
Total HxCDF	ND	0.0271		
Total HpCDF	ND	0.0298		

DL - Sample specifc estimated detection limit

EMPC - Estimated maximum possible concentration

LCL-UCL- Lower control limit - upper control limit

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

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

DATA QUALIFIERS & ABBREVIATIONS

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

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

Vista Analytical Laboratory Certifications

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

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

NELAP Accredited Test Methods

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

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

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

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

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

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

POC: # Delaney Peterson (360-715-2707)	**Project:** Gasco PDI
1605 Cornwall Avenue, Bellingham, WA 98225	**Client:** NW Natural

COC ID:	VISTA-20191008-163122
Sample Custodian:	CO, SN, BJ, DL
Lab:	VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Collected Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
001	PDI-019SC-A-12-13-191008	N	SE	10/08/2019	14:46	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
002	PDI-019SC-A-13-13.8-191008	N	SE	10/08/2019	14:46	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
003	PDI-020SC-A-13-14-191008	N	SE	10/08/2019	10:37	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
004	PDI-020SC-A-14-15.4-191008	N	SE	10/08/2019	10:37	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
005	PDI-033SC-A-13-14-191008	N	SE	10/08/2019	13:26	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
006	PDI-033SC-A-14-14.8-191008	N	SE	10/08/2019	13:26	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
007	PDI-043SC-A-10-11-191008	N	SE	10/08/2019	8:45	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C
008	PDI-043SC-A-11-11.8-191008	N	SE	10/08/2019	8:45	1	☐				

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name COREIRO	Print Name Hayden Canal	Print Name	Print Name	Print Name	Print Name
Company AQ	Company VAL	Company	Company	Company	Company
Date/Time 10/14/19 0755	Date/Time 10/15/19 08:51	Date/Time	Date/Time	Date/Time	Date/Time

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

Date Printed: 10/8/2019

Work Order 1903645

ENVIRONMENTAL SAMPLE CHAIN OF CUSTODY

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

1903645   3.80c
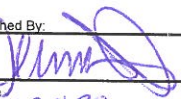
POC: # Delaney Peterson (360-715-2707)

1605 Cornwall Avenue, Bellingham, WA 98225

Project: Gasco PDI

Client: NW Natural

COC ID: VISTA-20191008-163122

Sample Custodian: CO

Lab: VISTA

COC Sample Number	Field Sample ID	Sample Type	Matrix	Collected Date	Time	Containers #	Lab QC*	Test Request	Method	TAT**	Preservative
008	PDI-043SC-A-11-11.8-191008	N	SE	10/08/2019	8:45	1	☐				
								Dioxin/Furans	E1613B	30	4°C
								Total solids (VISTA)	SM2540G	30	4°C

Comment:

Relinquished By:	Received By:	Relinquished By:	Received By:	Relinquished By:	Received By:
Signature	Signature	Signature	Signature	Signature	Signature
Print Name C. OREIRO	Print Name Hayden Crana	Print Name	Print Name	Print Name	Print Name
Company HQ	Company VAL	Company	Company	Company	Company
Date/Time 10/14/19 0755	Date/Time 10/15/19 08:51	Date/Time	Date/Time	Date/Time	Date/Time

Date Printed: 10/8/2019

Work Order 1903645

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

![Vista Analytical Laboratory logo]

Sample Log-In Checklist

Vista Work Order #: __1903645__   TAT __Std__

Samples Arrival:	Date/Time 10/15/19 08:51			Initials: HDG		Location: WR-2	
						Shelf/Rack: _NA_	
Delivered By:	(FedEx)	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	(Ice)		Blue Ice			Dry Ice	None
Temp °C: 3.8 (uncorrected)			Probe used: Y / (N)			Thermometer ID: _IR-4_	
Temp °C: 3.8 (corrected)							

						YES	NO	NA
Shipping Container(s) Intact?						✓		
Shipping Custody Seals Intact?						✓		
Airbill 2 of 4 Trk # 7767 1463 7378						✓		
Shipping Documentation Present?						✓		
Shipping Container	Vista	(Client)	Retain	(Return)	Dispose			
Chain of Custody / Sample Documentation Present?						✓		
Chain of Custody / Sample Documentation Complete?						✓		
Holding Time Acceptable?						✓		

Logged In:	Date/Time 10/16/19 0742		Initials: ajm	Location: WR-2	
				Shelf/Rack: A-1	
COC Anomaly/Sample Acceptance Form completed?				✓	✓

Comments:

CoC/Label Reconciliation Report WO# 1903645

LabNumber	CoC Sample ID	Label ID matches COCID	Label ID doesn't match COCID	SampleAlias	Sampled	Label Sampled matches	Sampled doesn't match	Container	Container Correct	BaseMatrix	Sample Comments
1903645-01 A	PDI-019SC-A-12-13-191008	☑		001	08-Oct-19 14:46	☑		Amber Glass, 120 mL	☑	Solid	
1903645-02 A	PDI-019SC-A-13-13.8-191008	☑		002	08-Oct-19 14:46	☑		Amber Glass, 120 mL	☑	Solid	
1903645-03 A	PDI-020SC-A-13-14-191008	☑		003	08-Oct-19 10:37	☑		Amber Glass, 120 mL	☑	Solid	
1903645-04 A	PDI-020SC-A-14-15.4-191008	☑		004	08-Oct-19 10:37	☑		Amber Glass, 120 mL	☑	Solid	
1903645-05 A	PDI-033SC-A-13-14-191008	☑		005	08-Oct-19 13:26	☑		Amber Glass, 120 mL	☑	Solid	
1903645-06 A	PDI-033SC-A-14-14.8-191008	☑		006	08-Oct-19 13:26	☑		Amber Glass, 120 mL	☑	Solid	
1903645-07 A	PDI-043SC-A-10-11-191008	☑		007	08-Oct-19 08:45	☑		Amber Glass, 120 mL	☑	Solid	
1903645-08 A	PDI-043SC-A-11-11.8-191008	☑		008	08-Oct-19 08:45	☑		Amber Glass, 120 mL	☑	Solid	

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Preservation Documented: Na2S2O3 Trizma None Other			✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments: ALL RECEIVED IN COOLER # 2

KE 10/17/19

Verifed by/Date: KE 10/17/19

EXTRACTION INFORMATION

Process Sheet

Workorder: 1903645

05-Nov-19

Prep Expiration: 2020-10-07

Workorder Due: ~~12-Nov-19 00:00~~

Client: Anchor QEA, LLC

TAT: ~~28~~ 21 ② 10/18/19

Method: **1613 Full List**

Matrix: **Solid**

Prep Batch: B9J0332

Client Matrix: Sediment

Also run: **Percent Solids**

Prep Data Entered: AO 11/04/19

<small>Date and Initials</small>

Initial Sequence: S9L0019

LabSampleID	Recon	ClientSampleID	Date Received	Location	Comments
1903645-01	A ☒	PDI-019SC-A-12-13-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-02	☒	PDI-019SC-A-13-13.8-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-03	☒	PDI-020SC-A-13-14-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-04	☒	PDI-020SC-A-14-15.4-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-05	☒	PDI-033SC-A-13-14-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-06	☒	PDI-033SC-A-14-14.8-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-07	☒	PDI-043SC-A-10-11-191008	15-Oct-19 08:51	WR-2 A-1	
1903645-08	☒	PDI-043SC-A-11-11.8-191008	15-Oct-19 08:51	WR-2 A-1	

WO Comments: ~~Root 4g extraction (dry weight)~~
Dioxin - 10g (dry weight)
~~PCB - 5g extraction (dry weight)~~

Pre-Prep Check Out: AO 10/22/19

Prep Check Out: TL 10/31/19

Prep Reconciled Initals/Date: AO 10/22/19

Pre-Prep Check In: AO 10/22/19

Prep Check In: TL 10/31/19

Spike Reconciled Initals/Date: TL 10/31/19

VialBoxID: Test

Page 1 of 1

PREPARATION BENCH SHEET

Matrix: Solid

Method: 1613 Full List

Prepared using: HRMS - Soxhlet

Chemist: _TL_

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

C	VISTA Sample ID	G Eqv	Sample Amt. (g)	IS/NS CHEM/WIT DATE	CRS CHEM/WIT DATE	AP CHEM/ DATE	ABSG CHEM/ DATE	AA CHEM/ DATE	Florisil CHEM/ DATE	RS CHEM/WIT DATE
☐	B9J0332-BLK1 (A)	NA	(10.00)	ao TL 10/31/19	11/01/19	N/A	TL 11/01/19	TL 11/01/19	11/01/19	ao AE 11/04/19
☐	B9J0332-BS1	NA	(10.00)							
☐	1903420-11	17.68	17.69							
☐	1903645-01	11.96	12.02							
☐	1903645-02	12.59	12.78							
☐	1903645-03	13.66	13.74							
☐	1903645-04	14.98	15.19							
☐	1903645-05	11.57	11.69							
☐	1903645-06	13.59	13.63							
☐	1903645-07	11.78	11.93							
☐	1903645-08	13.03	13.16							
☐	1903743-01	12.04	12.09							
☐	1903743-02	13.27	13.36							

(A) No Boiling chips 11/01/19

IS Name (V2)	NS Name (V8)	CRS Name (V7)	RS Name (V7)	Cycle Time	APP: SEFUN SOX SDS
PCDD/F 19C1902 10uL	PCDD/F 18F1913 10uL	PCDD/F 19I602 10u	PCDD/F 19I603 10uL	Start Date/Time	SOLV: Toluene
PCB	PCB	PCB	PCB	10/31/19 1330	Other NA
PAH	PAH	PAH	PAH	Stop Date/Time 11/01/19 842	Final Volume(s) 20 uL C14

Check Out: Chemist/Date: TL 10/31/19

Check In: Chemist/Date: TL 10/31/19

Balance ID: HRMS-8

Comments:

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

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

Percent Moisture/ Percent Solids

D2216-90   BATCH ID B9J0192

Analyst: AO	Test Code: %Moist/%Solids	Data Entry Verified by: (Initial and Date) _TL 10/24/19_
Analyte:	Units: %	
Dried at 110°C+/-5°C		
Oven ID: __01__ 02		

Inst: HRMS-8

Date/Time IN: Date/Time OUT
10/22/19 1105   10/24/19 1335

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date: AO 10/22/19	TL 10/24/19				AO 10/22/19		NA		AO 10/22/19
Particle Size	SampID		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
	1903645-01	A	Sample	1.2800	6.7100	5.8200	4.5400	83.61	Wet Sand	NA	NA	NA	NA	Y
	1903645-02	A	Sample	1.2800	6.3800	5.3300	4.0500	79.41	Wet Sand	NA	NA	NA	NA	Y
	1903645-03	A	Sample	1.2800	7.7700	6.0300	4.7500	73.19	Wet Sand	NA	NA	NA	NA	Y
	1903645-04	A	Sample	1.2800	11.1500	7.8700	6.5900	66.77	Wet Sand	NA	NA	NA	NA	Y
	1903645-05	A	Sample	1.3000	5.8700	5.2500	3.9500	86.43	Wet Sand	NA	NA	NA	NA	Y
	1903645-06	A	Sample	1.2800	6.5800	5.1800	3.9000	73.58	Wet Sand	NA	NA	NA	NA	Y
	1903645-07	A	Sample	1.2900	7.9100	6.9100	5.6200	84.89	Wet Sand	NA	NA	NA	NA	Y
	1903645-08	A	Sample	1.2900	11.3000	8.9700	7.6800	76.72	Wet Sand	NA	NA	NA	NA	Y

*Sample homogenized in sample container unless otherwise noted.

BCH_PMOIST_B9J0192.xls

10/24/2019 1:51 PM

Work Order 1903645

Percent Moisture/ Percent Solids

D2216-90   BATCH ID B9J0192

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

Inst HRMS - 8

Date/Time IN:	Date/Time OUT
10/22/19 1105	10/24/19 13:35

	B	C	D	E	F	G	H	I	K	L	M	N	O	P
				Intial and Date:	aO 10/22/19	R 10/24/19			aO 10/22/19		NA		aO 10/22/19
Particle Size	SampID		SampType	Pan Tare Wt. (gms)	Wet Pan and Sample Weight (g)	Dry Pan and Sample Weight (g)	Dry Sample Weight (g)	%Solids RawVal	Visual Inspection	Cl-	pH Before	pH After	Acid Added	Sample Homogenized*
	1903645-01	A	Sample	1.28	6.71	5.82			wet sand					X
	1903645-02		Sample	1.28	6.38	5.33								X
	1903645-03		Sample	1.28	7.77	6.03	NA				NA			X
	1903645-04		Sample	1.28	11.15	7.87								X
	1903645-05		Sample	1.30	5.87	5.25								X
	1903645-06		Sample	1.28	6.58	5.18								X
	1903645-07		Sample	1.29	7.91	6.91								X
	1903645-08		Sample	1.29	11.30	8.97								X

*Sample homogenized in sample container unless otherwise noted.

Batch: B9J0332

Matrix: Solid

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

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

SAMPLE DATA – EPA METHOD 1613

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF	*		155	2.5	0.0406
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF	*		269	2.5	0.0703
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF	*		159	2.5	0.0602
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF	*		159	2.5	0.0691
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotF	*		159	2.5	0.0682
	1,2,3,4,6,7,8-HpCDD	*	*	n	0.98	NotF	*		202	2.5	0.0903
	OCDD	*	*	n	0.96	NotF	*		182	2.5	0.121
	2,3,7,8-TCDF	*	*	n	0.95	NotF	*		171	2.5	0.0315
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF	*		285	2.5	0.0708
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF	*		285	2.5	0.0659
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF	*		208	2.5	0.0335
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF	*		208	2.5	0.0369
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF	*		208	2.5	0.0379
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF	*		208	2.5	0.0500
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF	*		151	2.5	0.0416
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF	*		151	2.5	0.0354
	OCDF	*	*	n	0.95	NotF	*		181	2.5	0.0954

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		155	0.0406
Total Penta-Dioxins	*	*		269	0.0703
Total Hexa-Dioxins	*	*		159	0.0661
Total Hepta-Dioxins	*	*		202	0.0903
Total Tetra-Furans	*	*		171	0.0315
Total Penta-Furans	0.0000	0.0000		285	0.0683
Total Hexa-Furans	*	*		208	0.0393
Total Hepta-Furans	*	*		151	0.0387

	Name	Resp	RA		RRF	RT	Conc	Rec	Qual
IS	13C-2,3,7,8-TCDD	1.29e+07	0.81	y	1.10	26:14	187.70	93.8	
IS	13C-1,2,3,7,8-PeCDD	1.06e+07	0.64	y	0.88	30:43	191.21	95.6	
IS	13C-1,2,3,4,7,8-HxCDD	9.44e+06	1.25	y	0.64	34:01	192.64	96.3	
IS	13C-1,2,3,6,7,8-HxCDD	1.08e+07	1.29	y	0.86	34:08	166.06	83.0	
IS	13C-1,2,3,7,8,9-HxCDD	1.07e+07	1.25	y	0.81	34:26	173.19	86.6	
IS	13C-1,2,3,4,6,7,8-HpCDD	9.80e+06	1.03	y	0.65	37:52	196.47	98.2	
IS	13C-OCDD	1.61e+07	0.90	y	0.58	41:09	364.63	91.2	
IS	13C-2,3,7,8-TCDF	1.93e+07	0.80	y	1.03	25:27	182.74	91.4	
IS	13C-1,2,3,7,8-PeCDF	1.63e+07	1.61	y	0.85	29:33	186.34	93.2	
IS	13C-2,3,4,7,8-PeCDF	1.59e+07	1.61	y	0.85	30:26	183.48	91.7	
IS	13C-1,2,3,4,7,8-HxCDF	1.26e+07	0.52	y	0.83	33:08	198.98	99.5	
IS	13C-1,2,3,6,7,8-HxCDF	1.42e+07	0.51	y	1.03	33:16	179.34	89.7	
IS	13C-2,3,4,6,7,8-HxCDF	1.34e+07	0.51	y	0.95	33:51	184.42	92.2	
IS	13C-1,2,3,7,8,9-HxCDF	1.22e+07	0.51	y	0.83	34:48	193.02	96.5	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.10e+07	0.44	y	0.76	36:39	191.12	95.6	
IS	13C-1,2,3,4,7,8,9-HpCDF	9.67e+06	0.44	y	0.58	38:24	218.08	109	
IS	13C-OCDF	2.12e+07	0.89	y	0.69	41:22	404.24	101	
C/Up	37Cl-2,3,7,8-TCDD	5.60e+06			1.20	26:15	74.400	93.0	
RS/RT	13C-1,2,3,4-TCDD	1.26e+07	0.82	y	1.00	25:40	200.00		
RS	13C-1,2,3,4-TCDF	2.04e+07	0.81	y	1.00	24:15	200.00		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.53e+07	0.52	y	1.00	33:33	200.00		

Integrations
by
Analyst: *DB*

Reviewed
by
Analyst: *CT*

Date: 11/12/19   Date: 11/14/19

Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5

319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

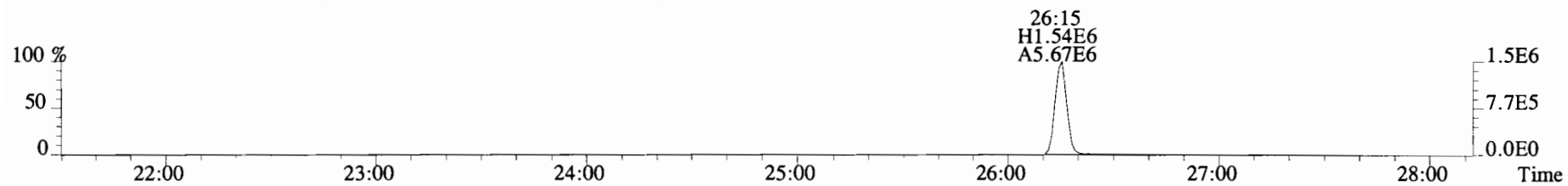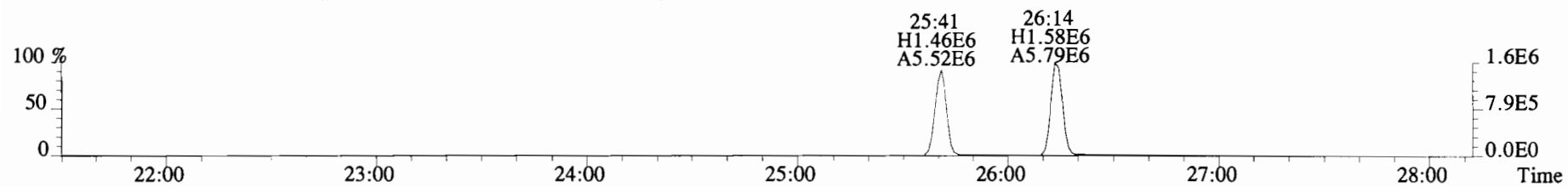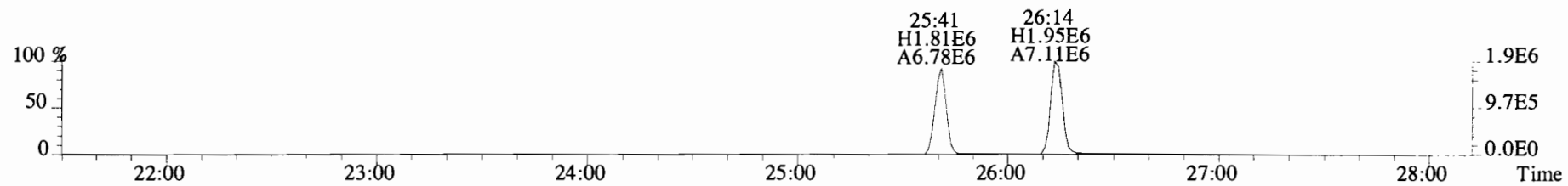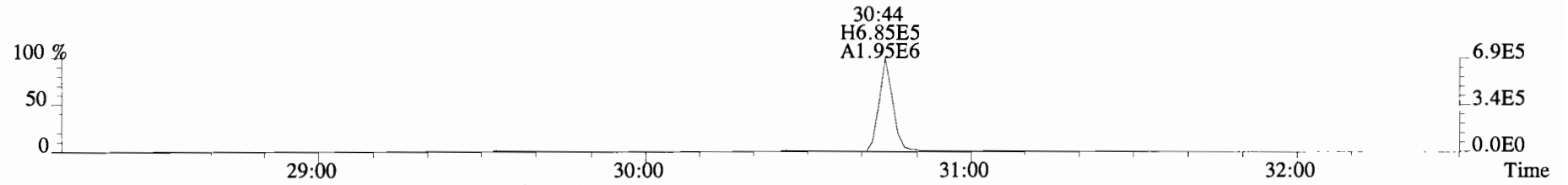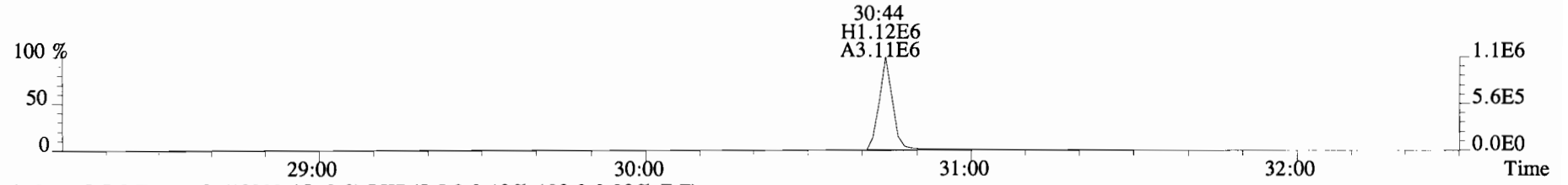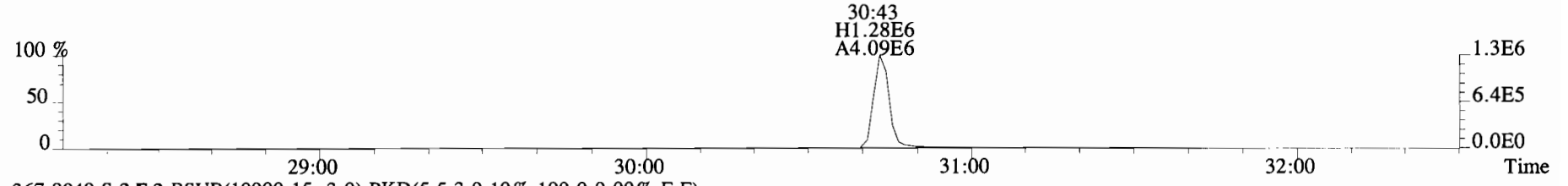333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-210 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

29:33
H5.71E3
A1.88E4

30:26
H6.04E3
A1.75E4

28:15   28:35   28:57   29:55   30:31   31:01   31:30
H504.86 H421.70 H329.54 29:24 29:43 H344.96   H781.45   H278.28   H701.17
A2.78E3 A1.60E3 A1.82E3 H319.58 H444.56 A2.37E3   A2.31E3   A1.62E3   A2.17E3
                            A1.55E3 A2.84E3

100 %   6.1E3
50   3.1E3
0   0.0E0
        29:00   30:00   31:00   32:00   Time

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

28:58   29:33   30:26
H2.55E3   H2.68E3   H2.66E3
A6.17E3   A1.02E4   A8.55E3

                                                                                       31:30
28:19   28:48 29:07   29:52   30:15   30:45   30:57   H1.52E3
H400.10   H331.50 H448.58   H497.85 H490.07   H444.83 H307.00   A4.65E3
A3.20E3   A1.53E3 A1.50E3   A1.77E3 A1.49E3   A1.17E3 A872.20

100 %   2.8E3
50   1.4E3
0   0.0E0
        29:00   30:00   31:00   32:00   Time

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

30:43
H1.41E6
A4.13E6

100 %   1.4E6
50   7.0E5
0   0.0E0
        29:00   30:00   31:00   32:00   Time

367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

30:43
H2.04E6
A6.46E6

100 %   2.0E6
50   1.0E6
0   0.0E0
        29:00   30:00   31:00   32:00   Time

366.9792 S:4 F:2

28:15   29:04   29:58   30:29   31:07
        28:37 28:52   29:16   29:46   30:09 30:37   30:56   31:25

100 %   3.3E5
50   1.7E5
0   0.0E0
        29:00   30:00   31:00   32:00   Time

File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
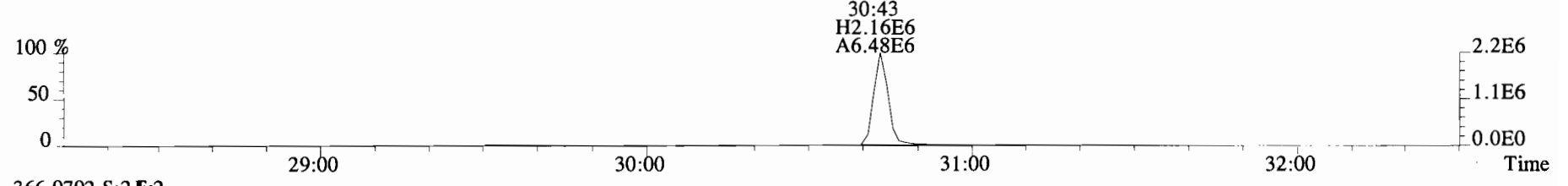Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
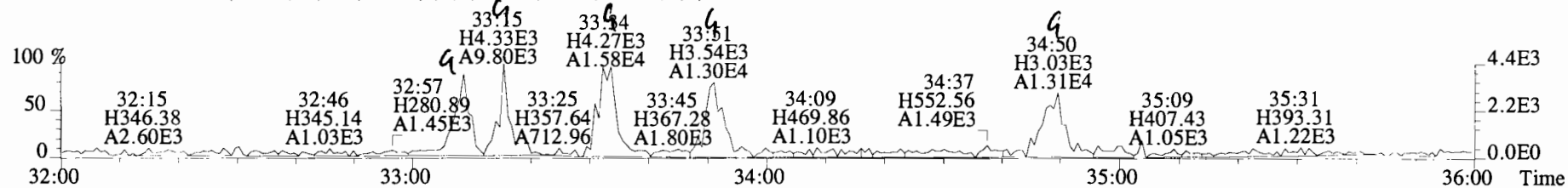
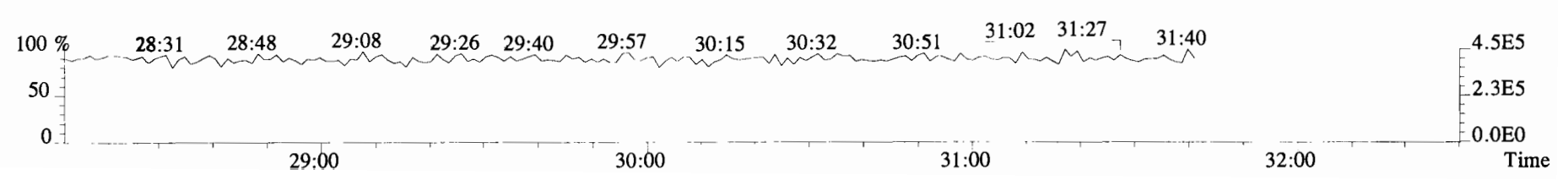391.8127 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
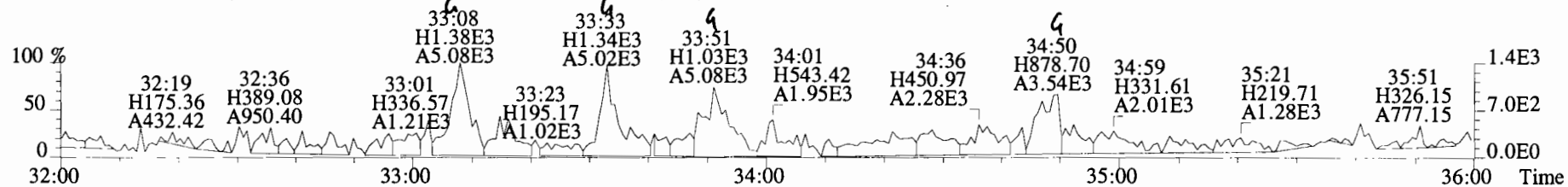
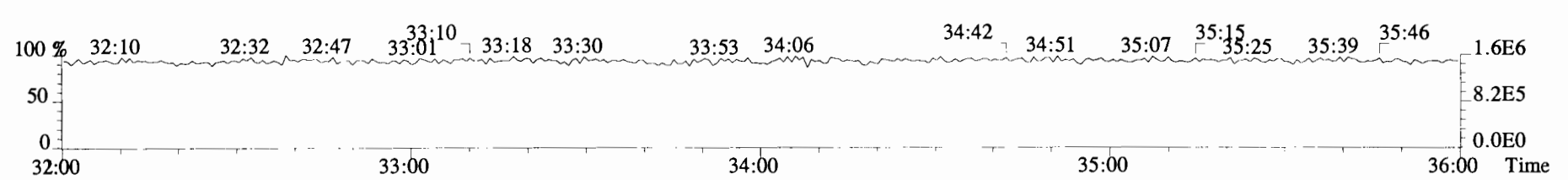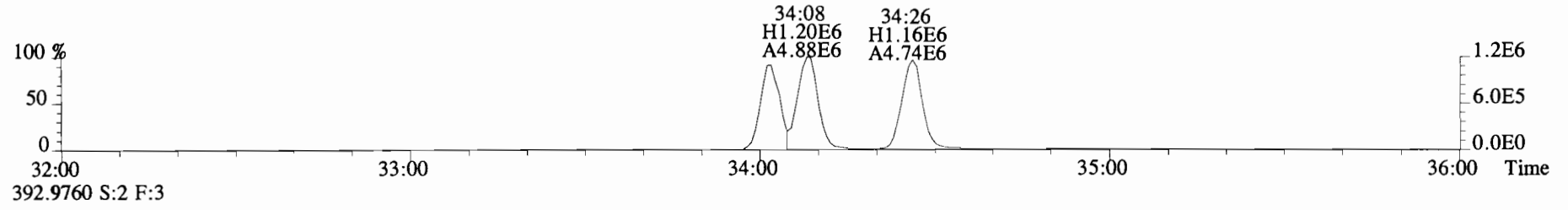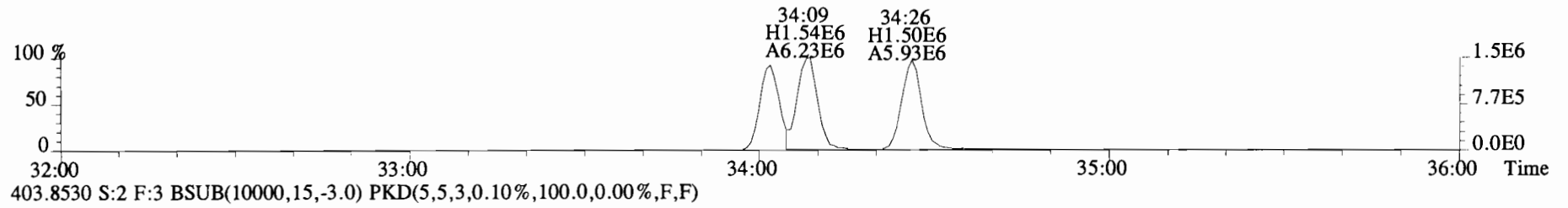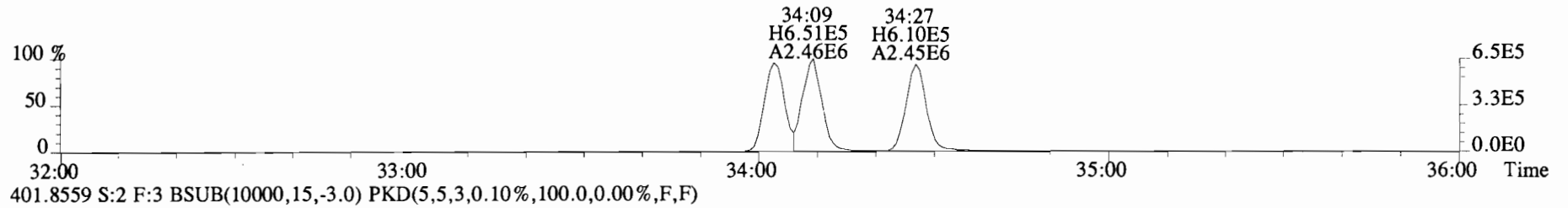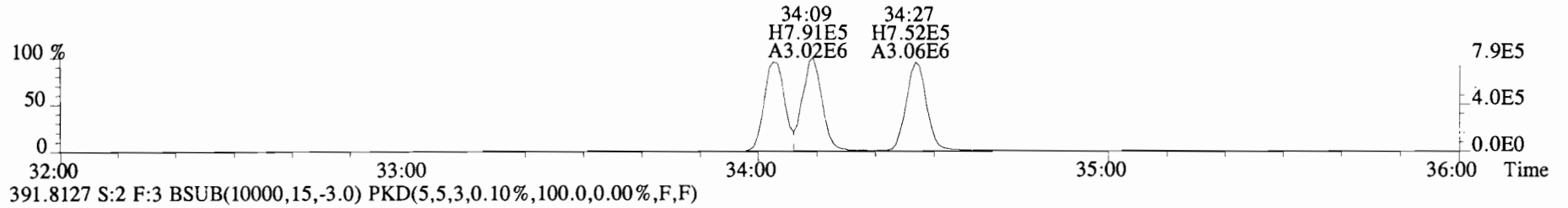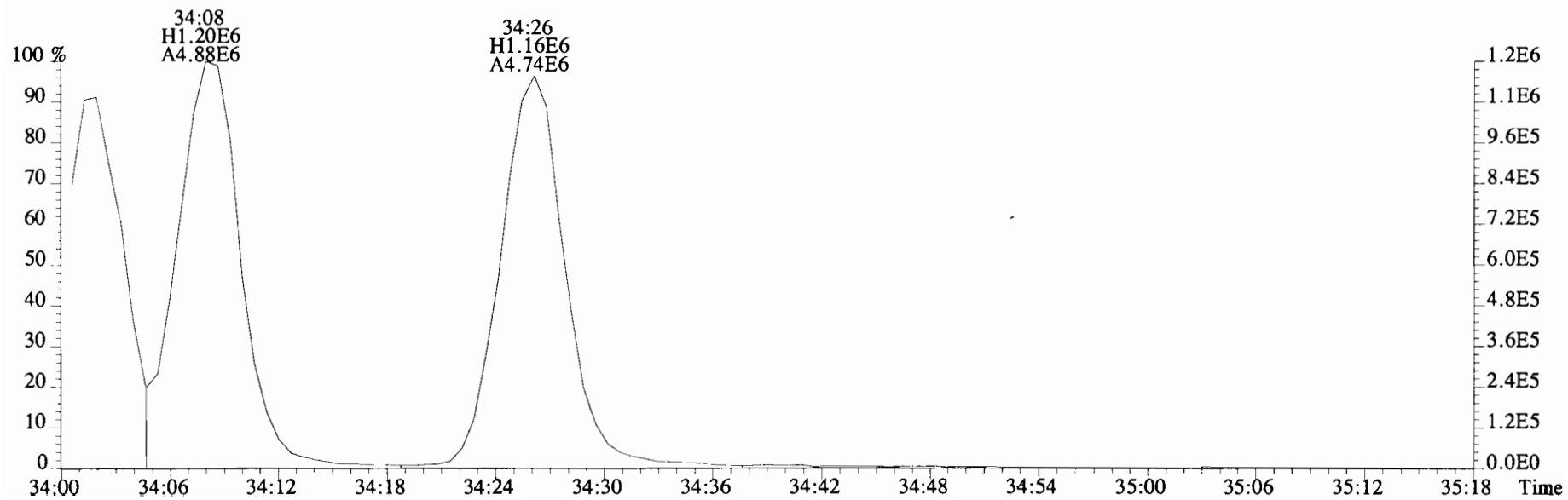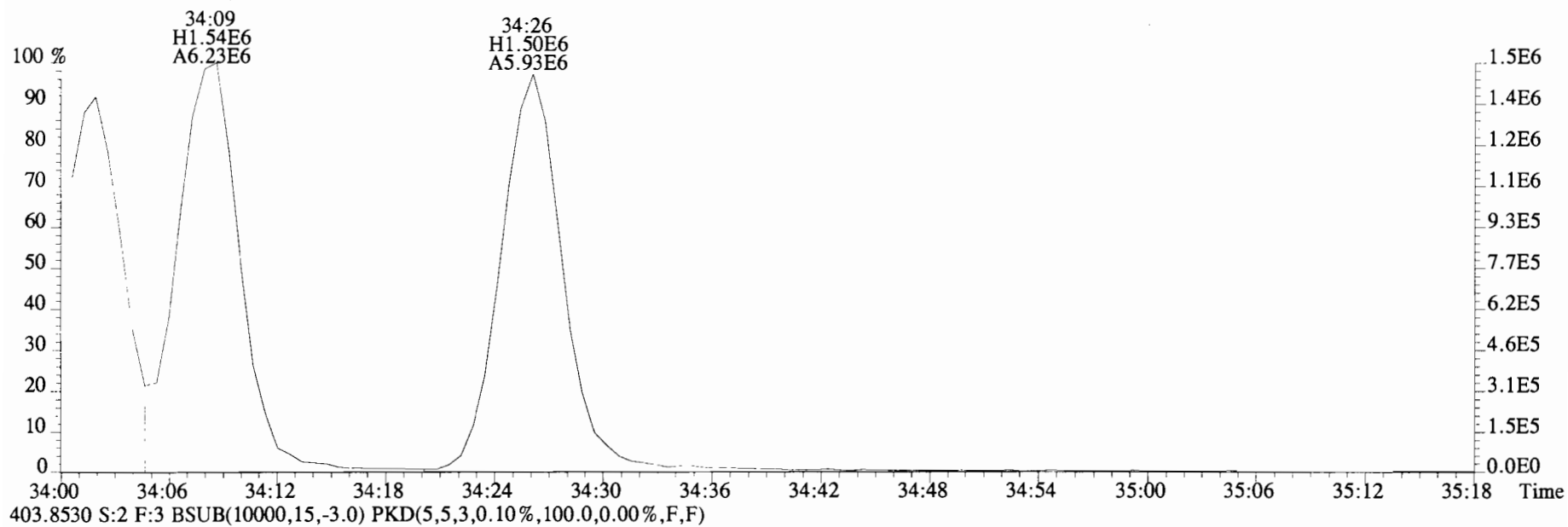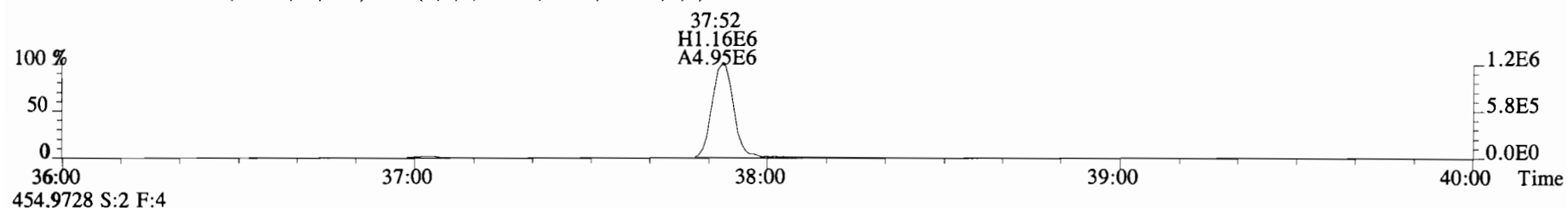401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
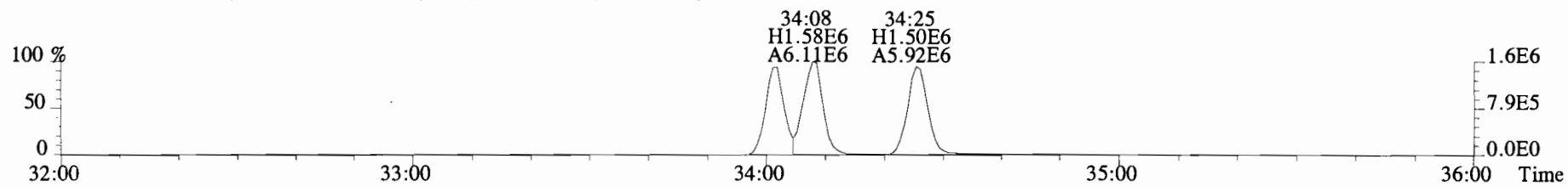
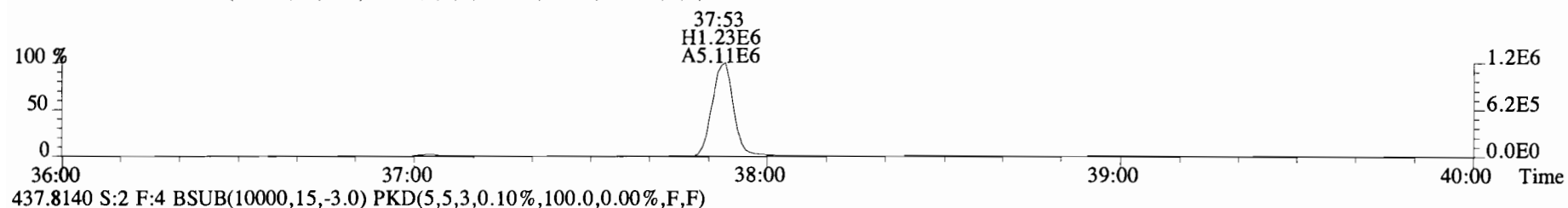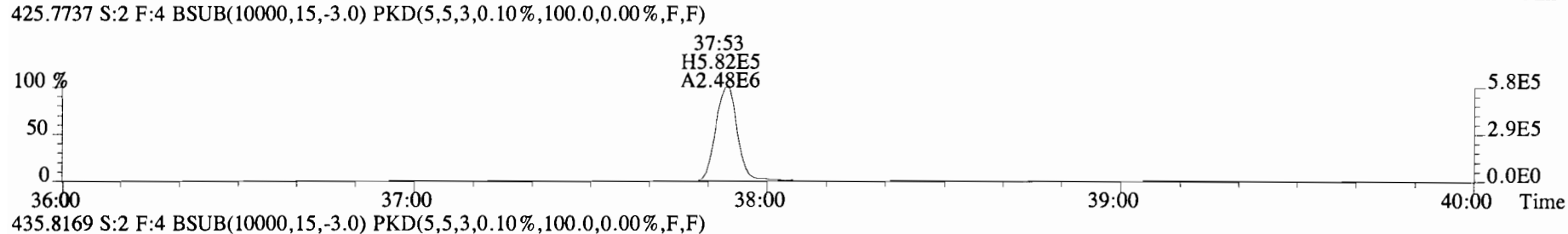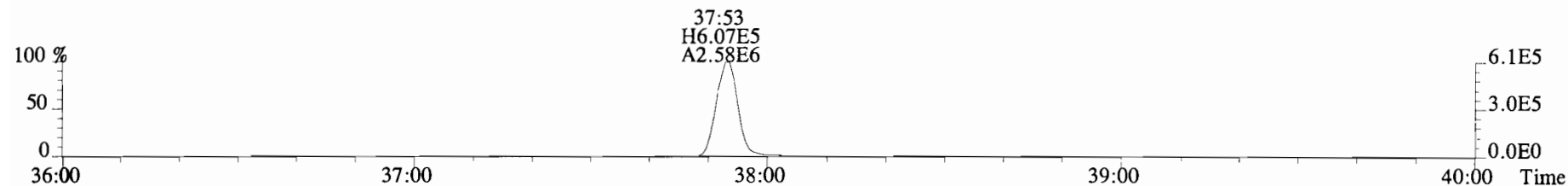403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
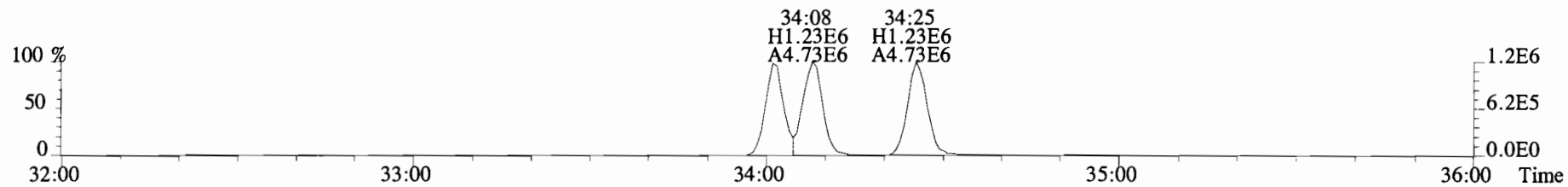
392.9760 S:4 F:3
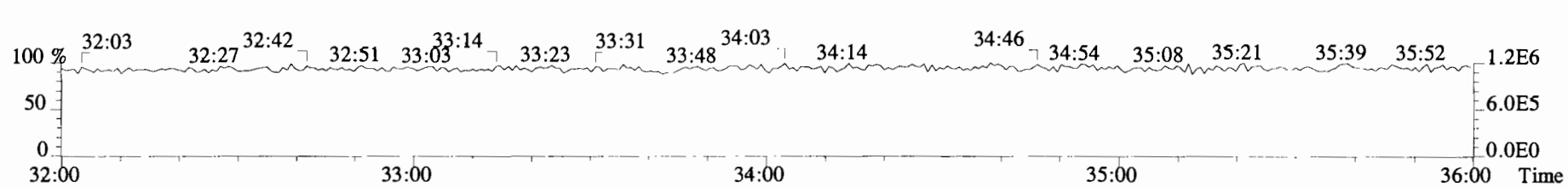
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
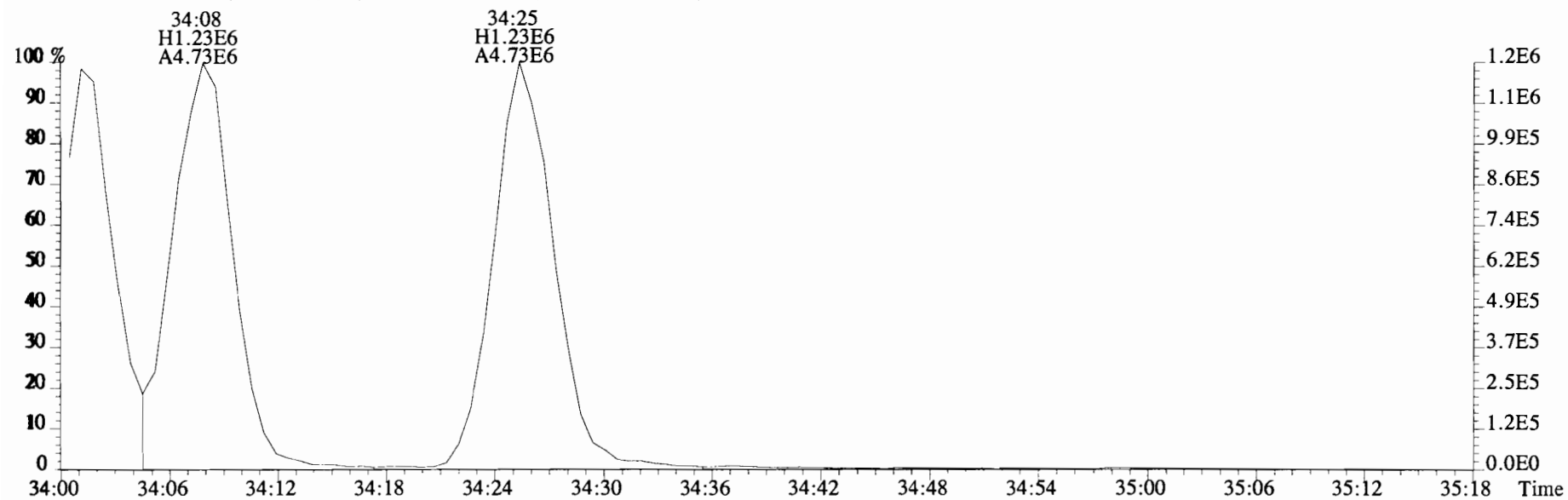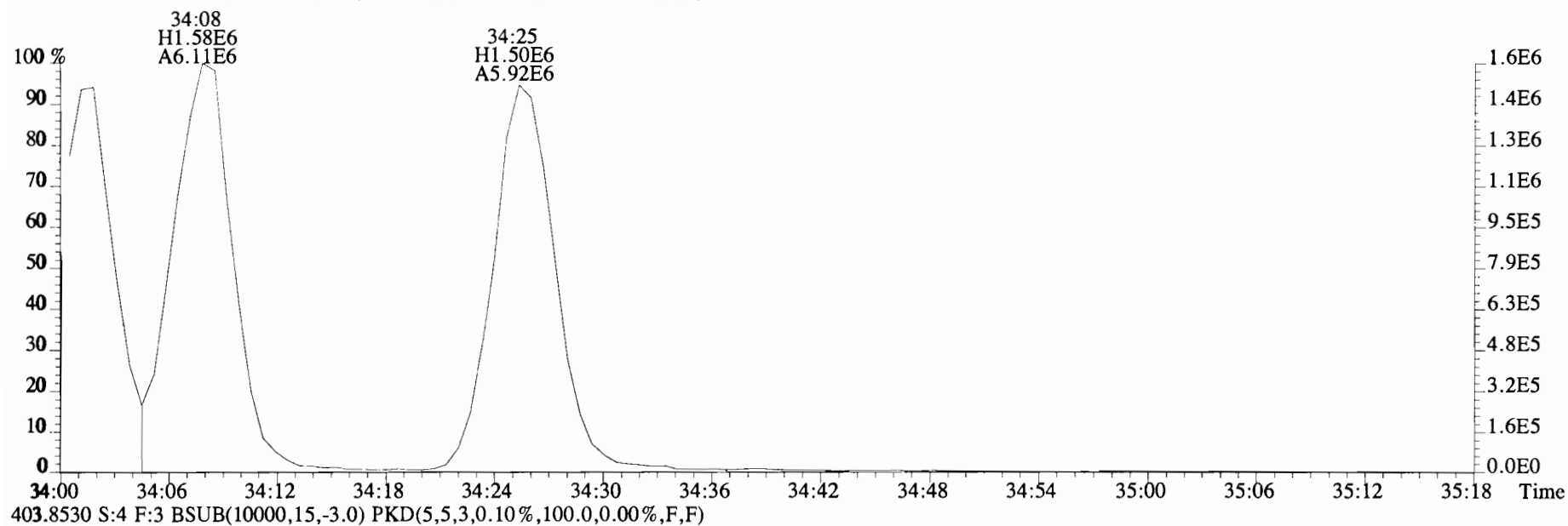
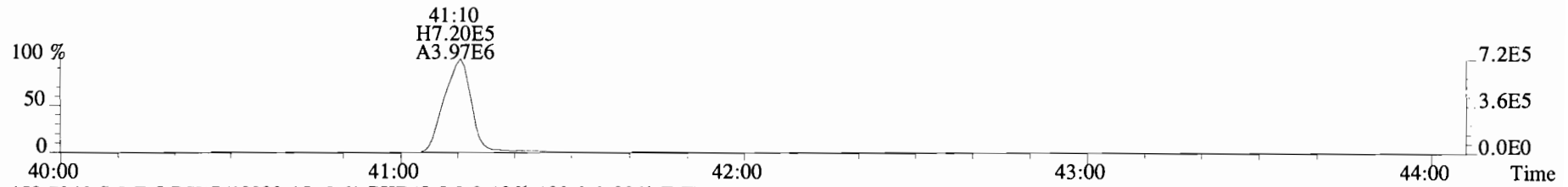403.8530 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-356 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
423.7767 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
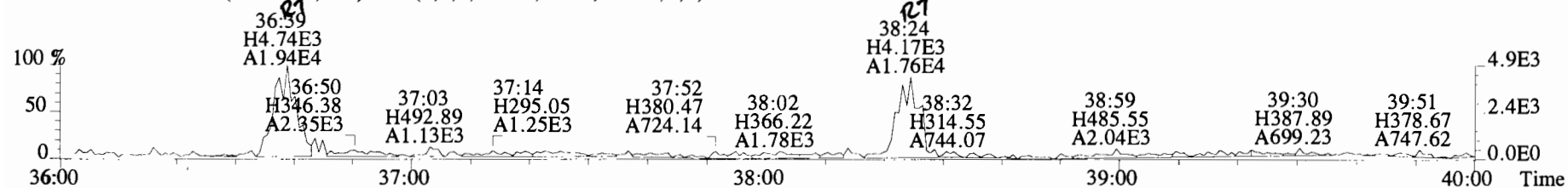
425.7737 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
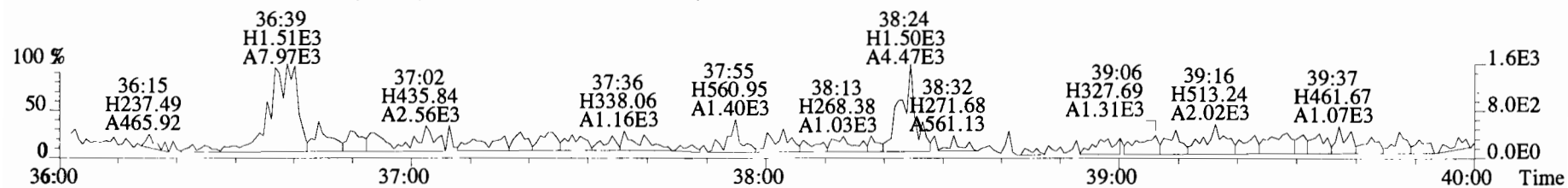
435.8169 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
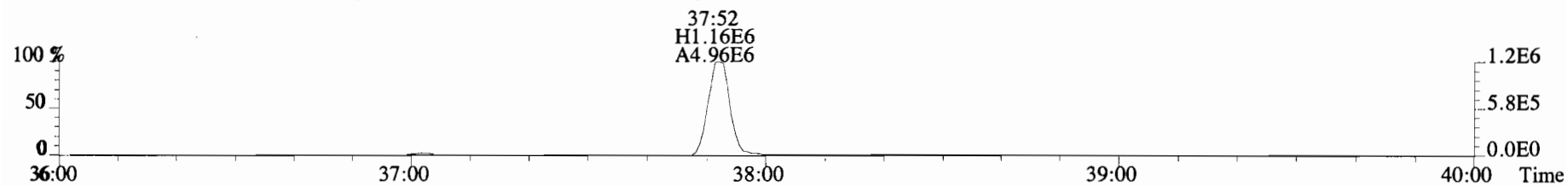
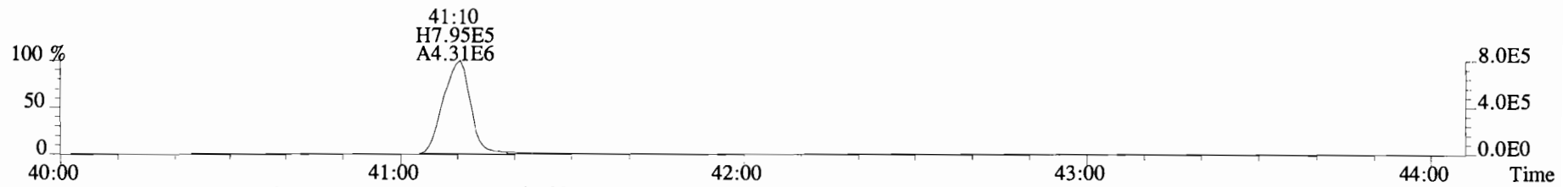437.8140 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
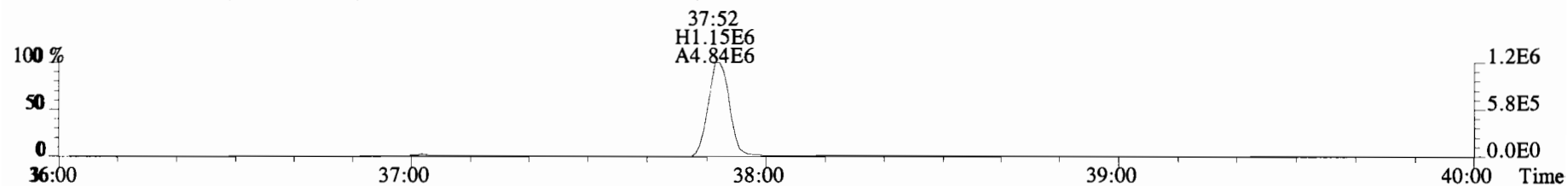
454.9728 S:4 F:4
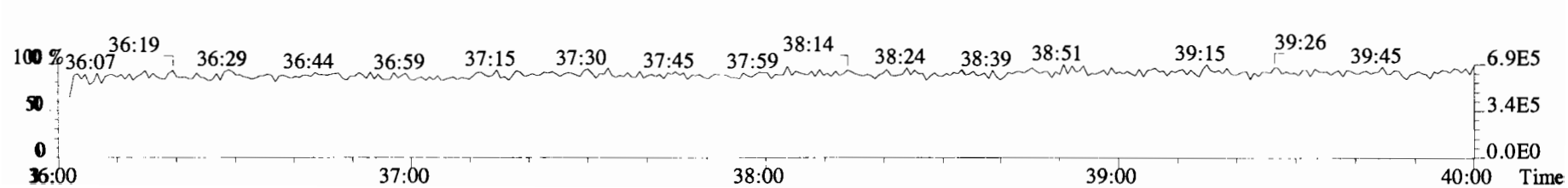
File:191111D1 #1-431 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
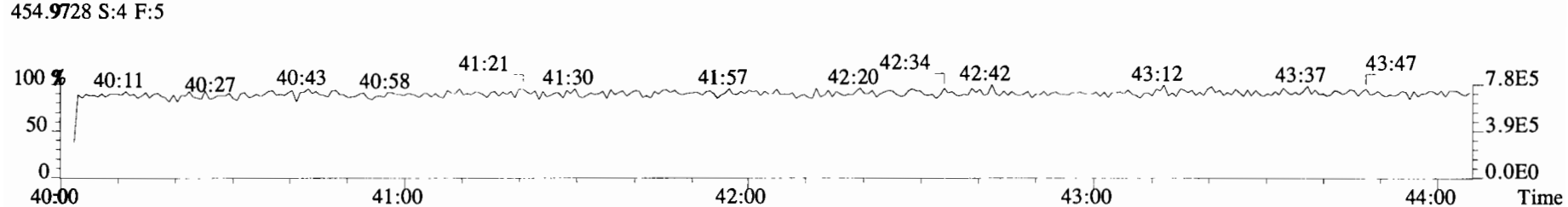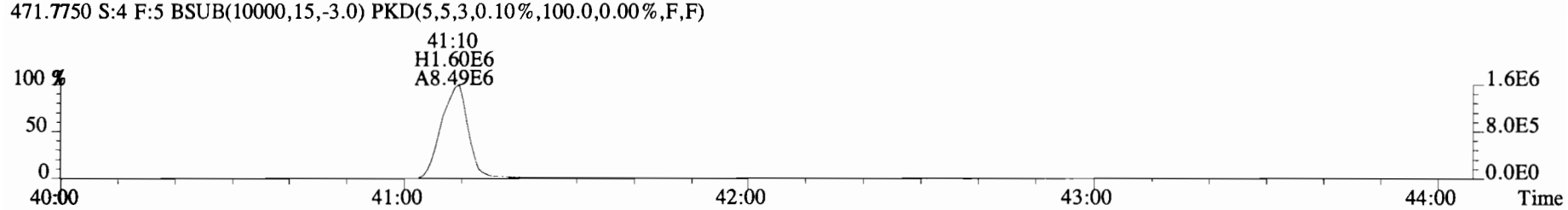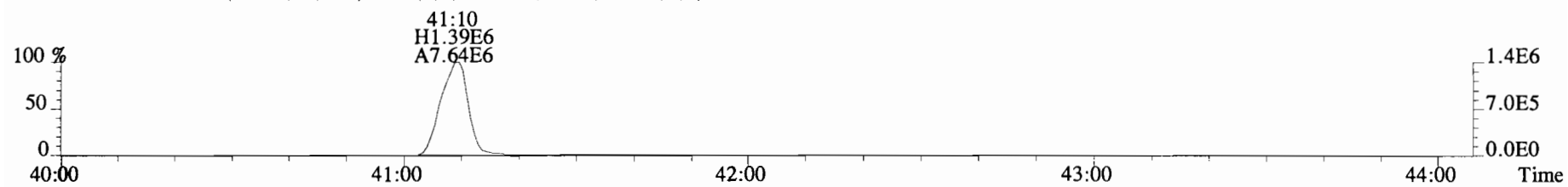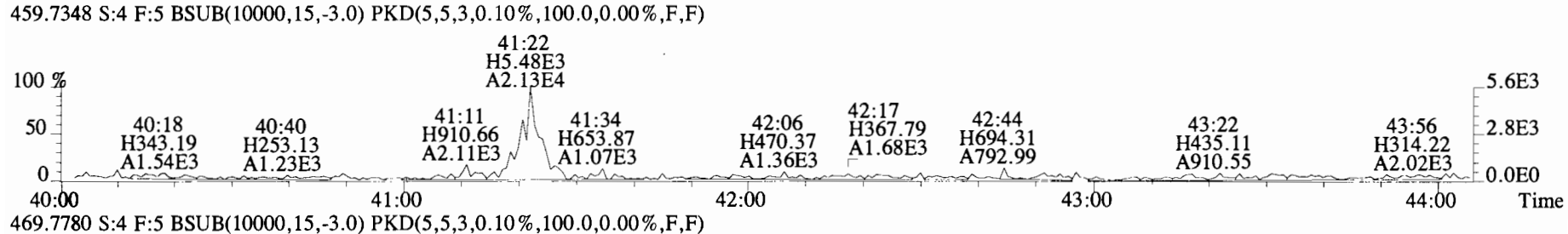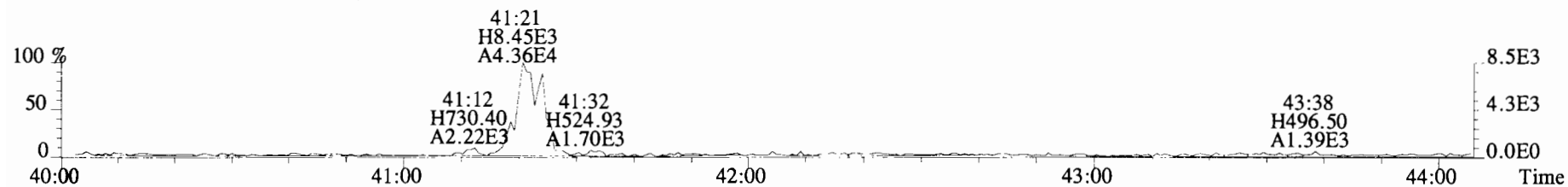
459.7348 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

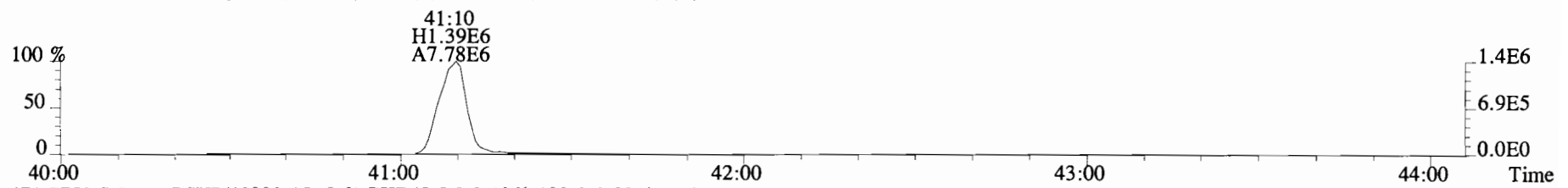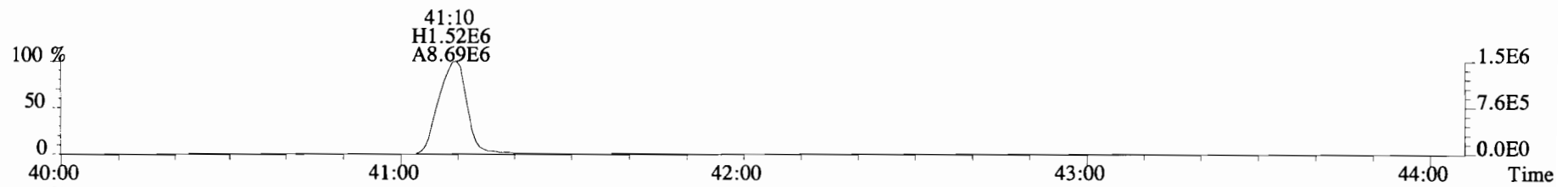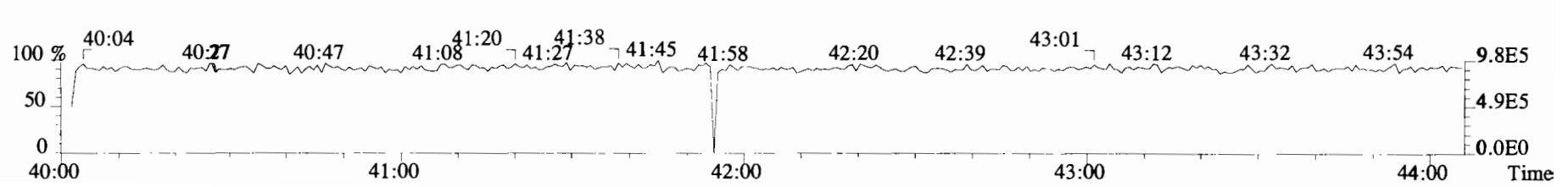471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:4 F:5

File:191111D1 #1-493 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
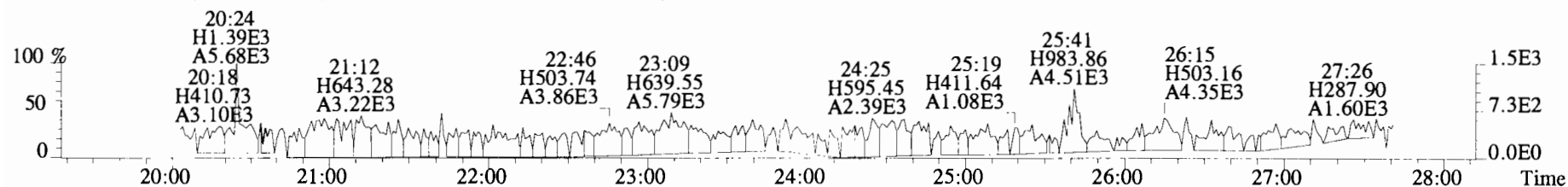
305.8987 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
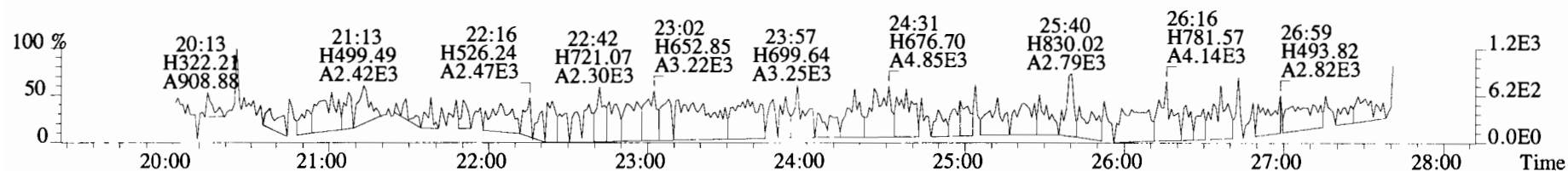
315.9419 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
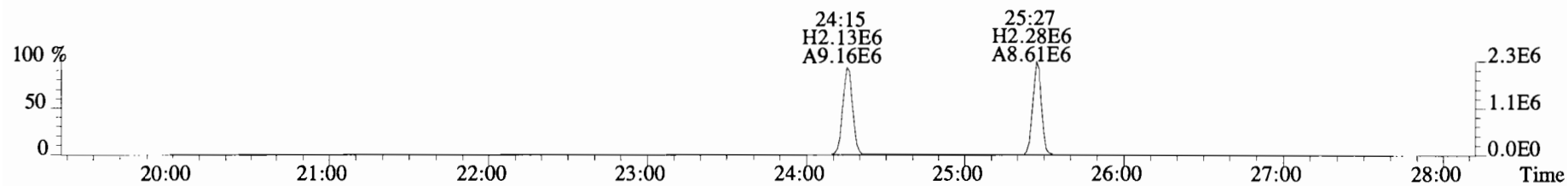
317.9389 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191111D1 #1-493 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
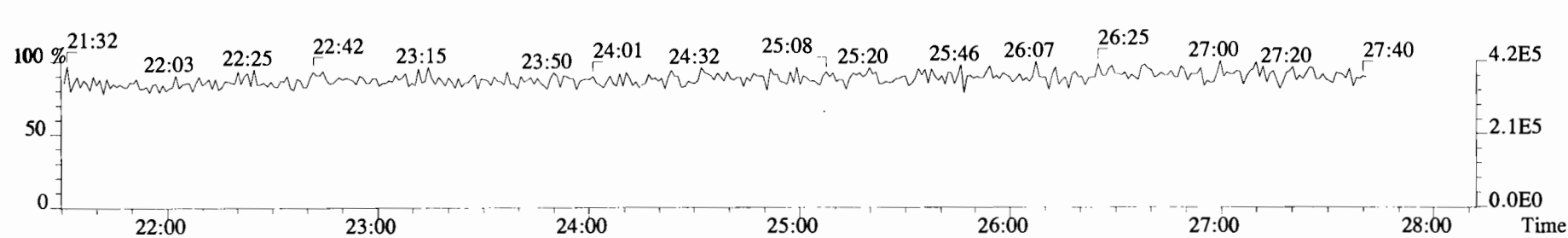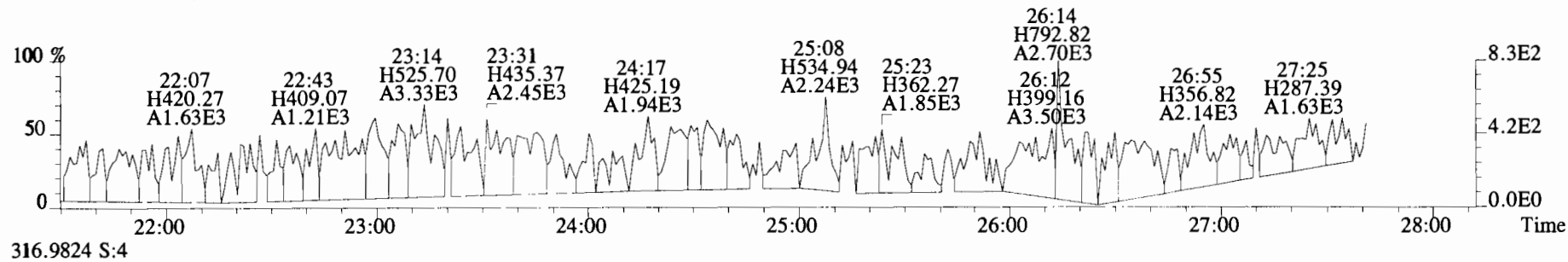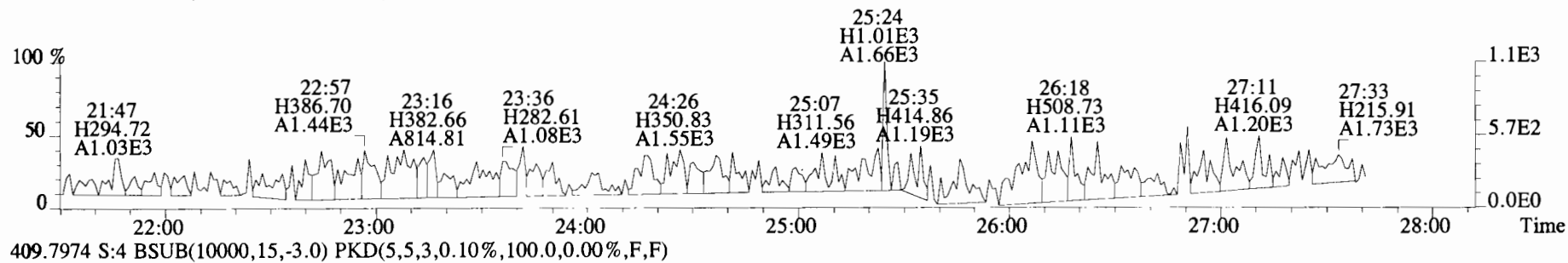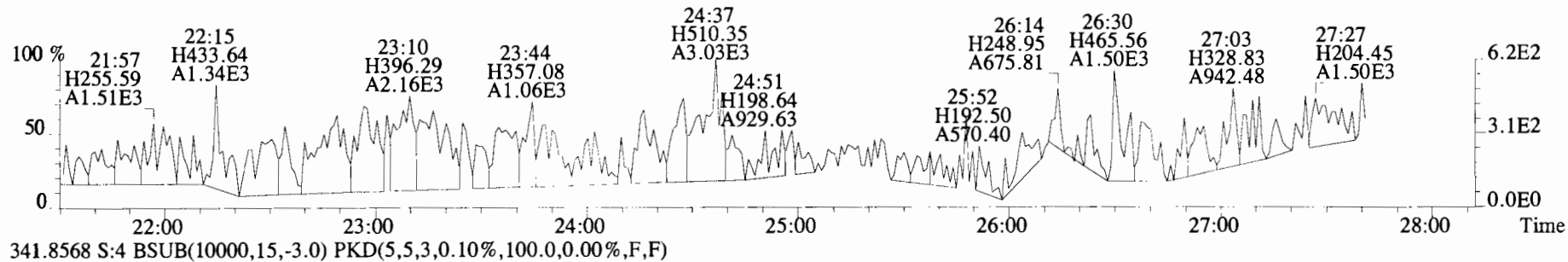
341.8568 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

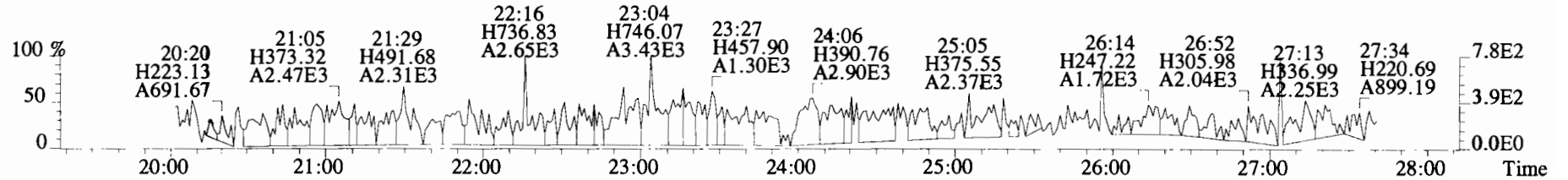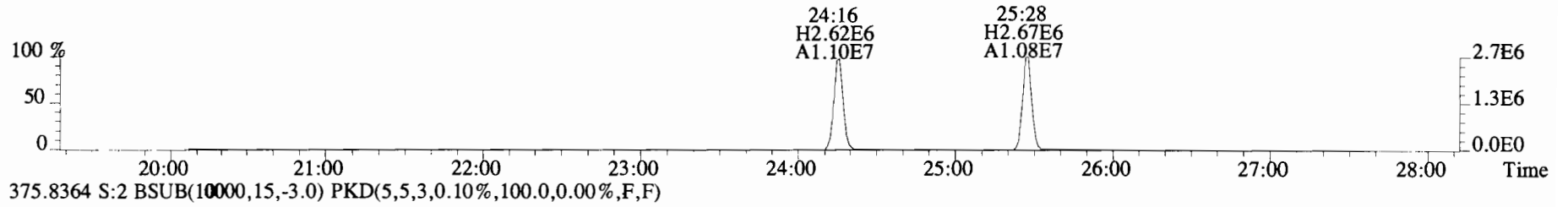409.7974 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:4

339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

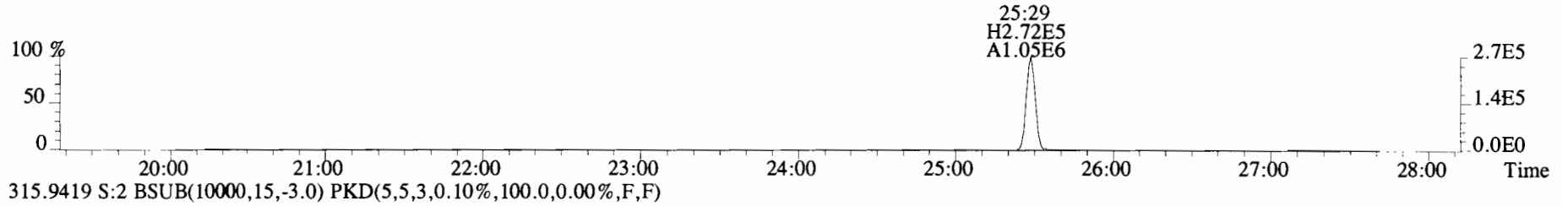341.8568 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
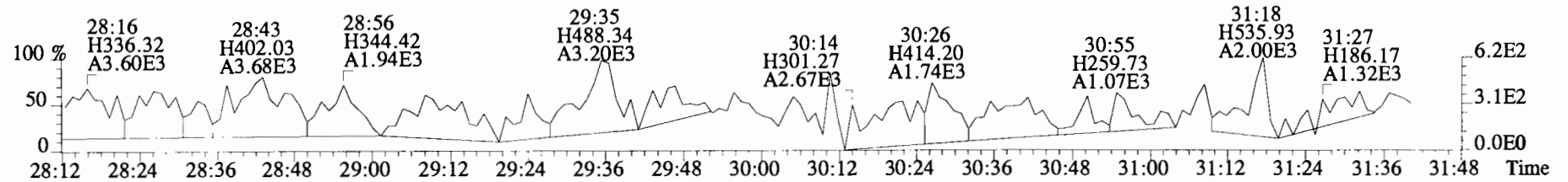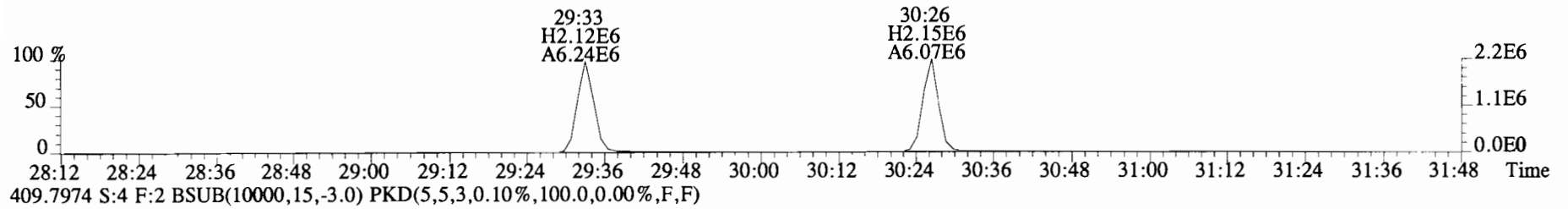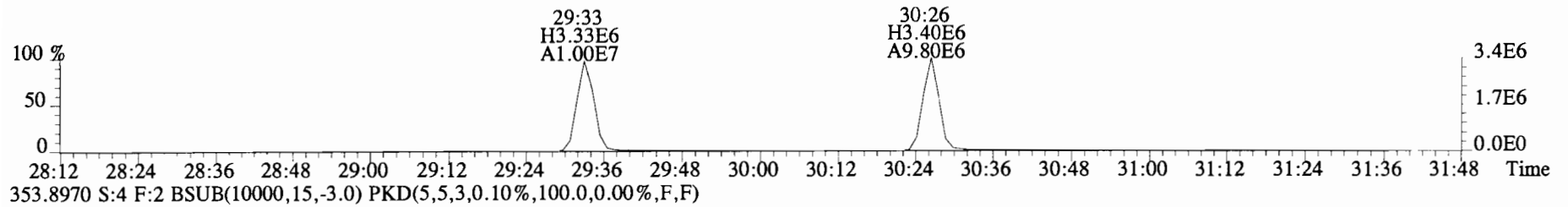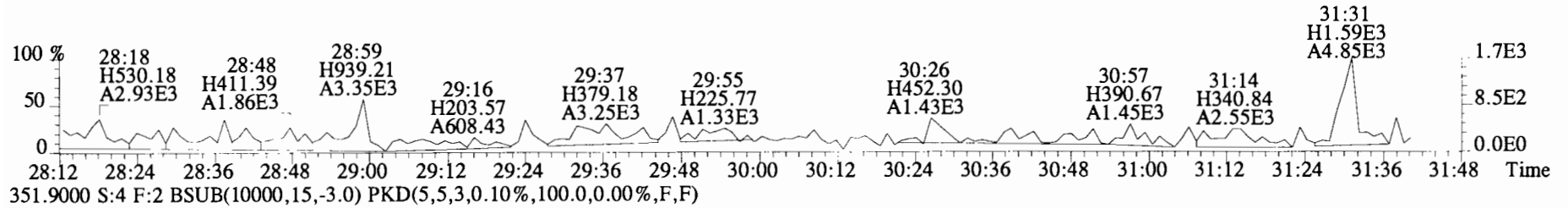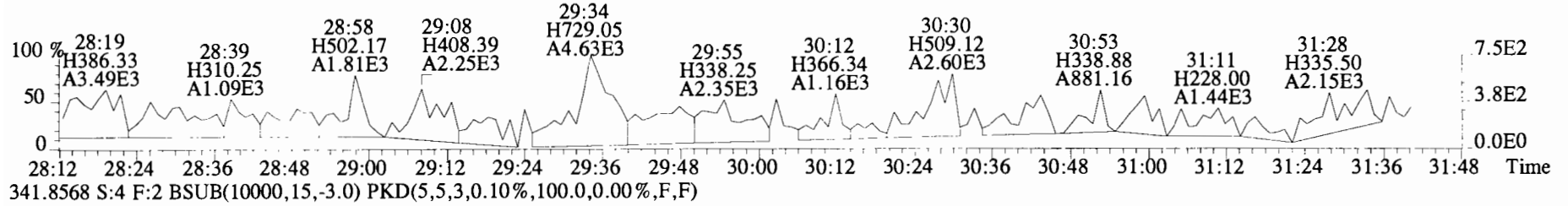
File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

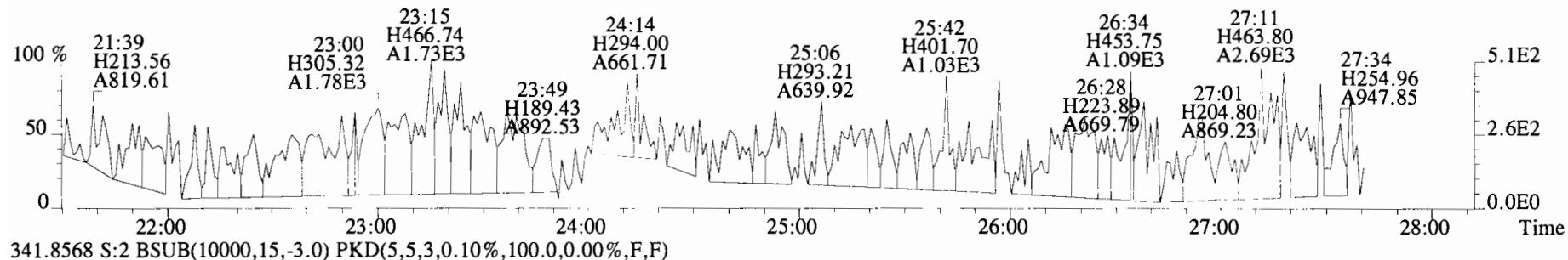File:191111D1 #1-385 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
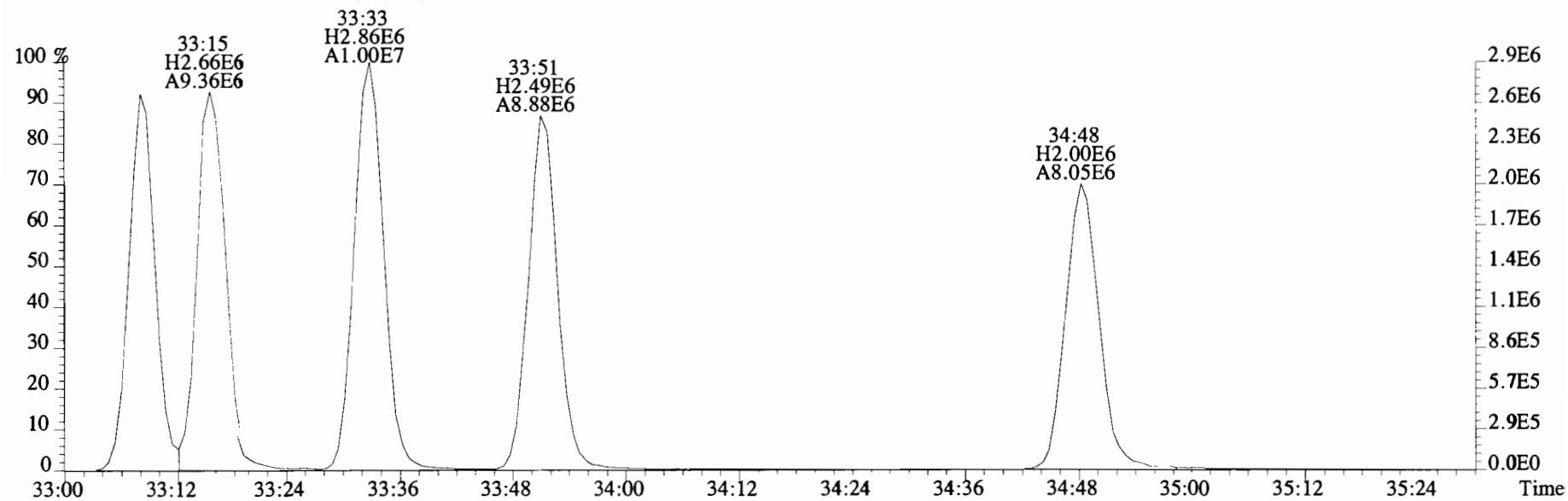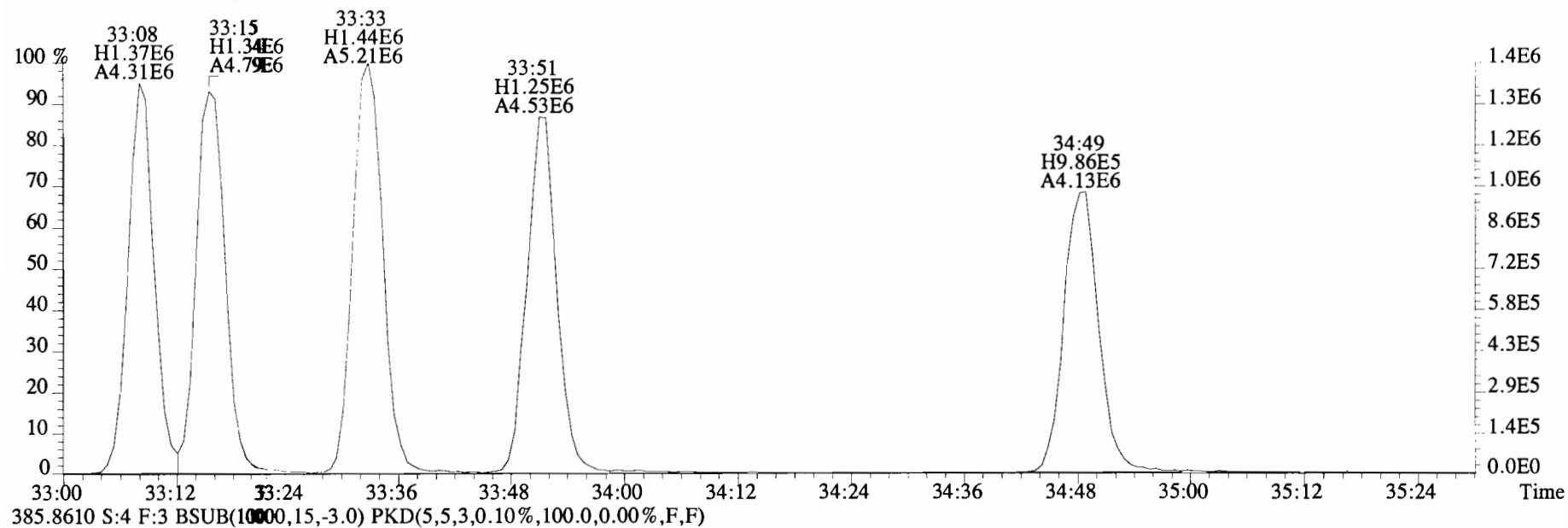
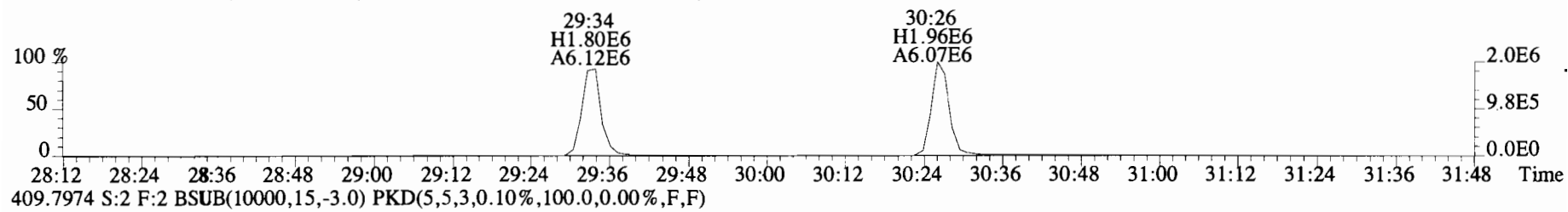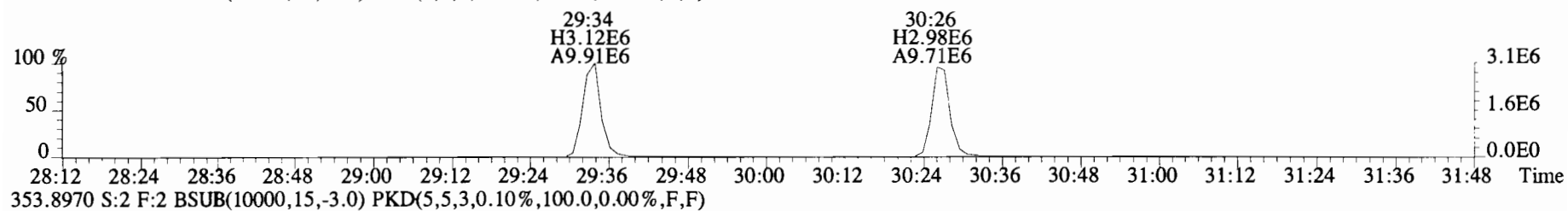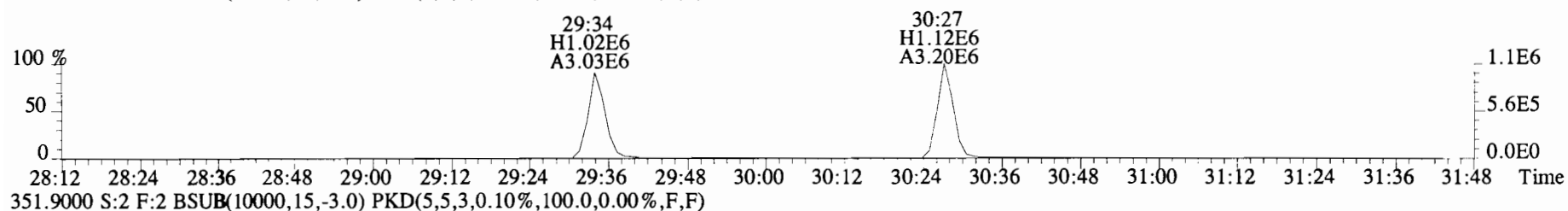385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-356 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

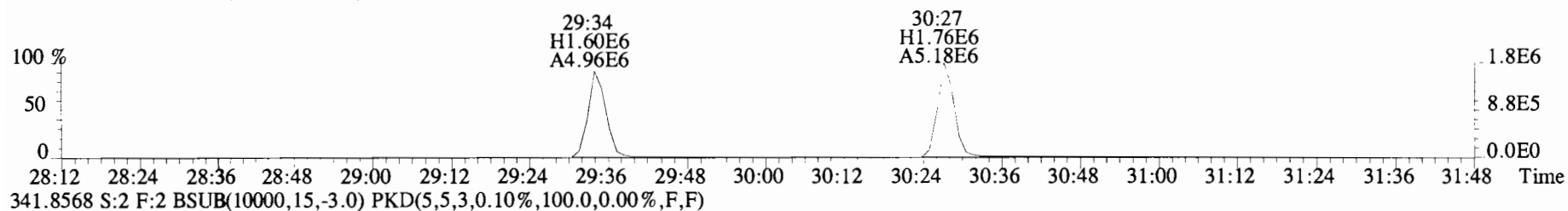479.7165 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-431 Acq:11-NOV-2019 12:43:25 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BLK1 Method Blank 10 Exp:OCDD_DB5
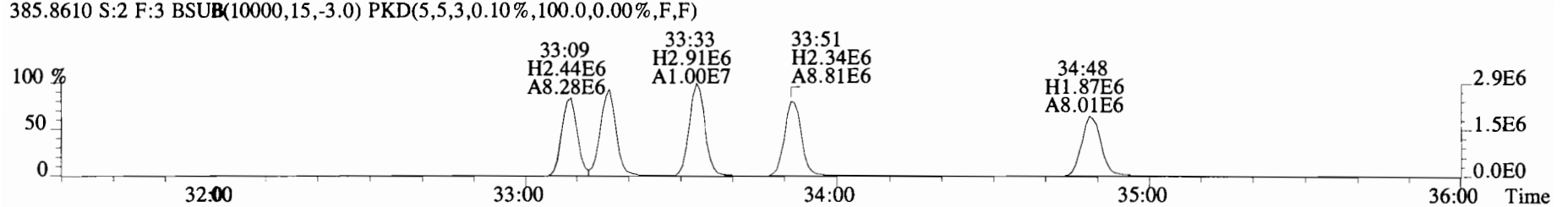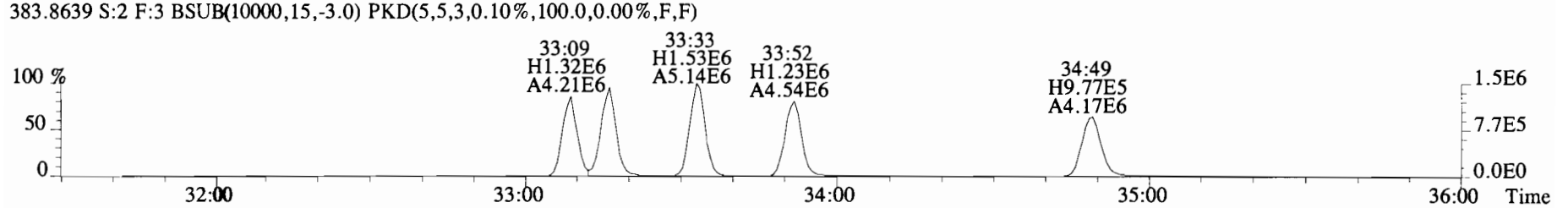441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
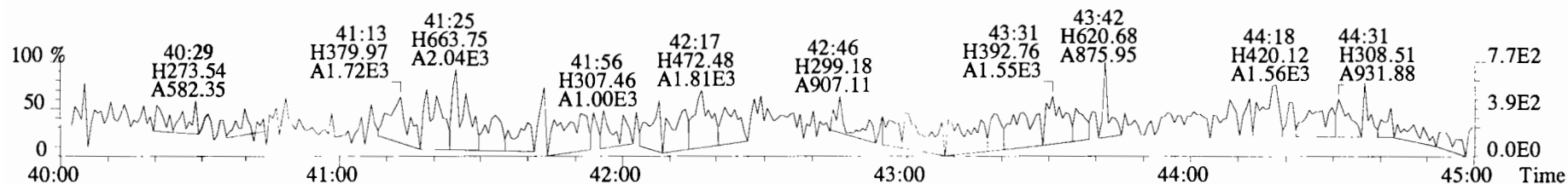
443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
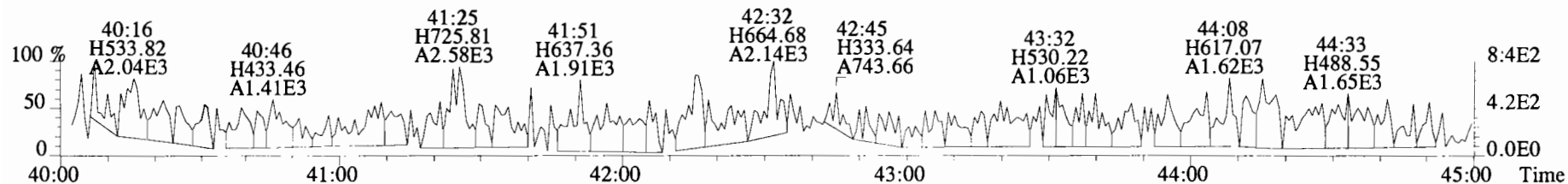
453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
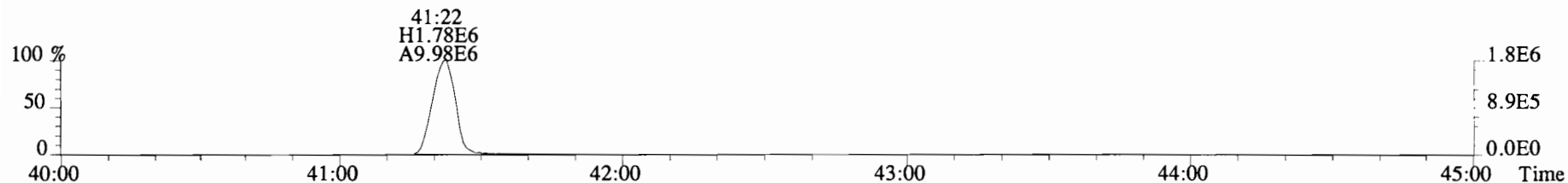
455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
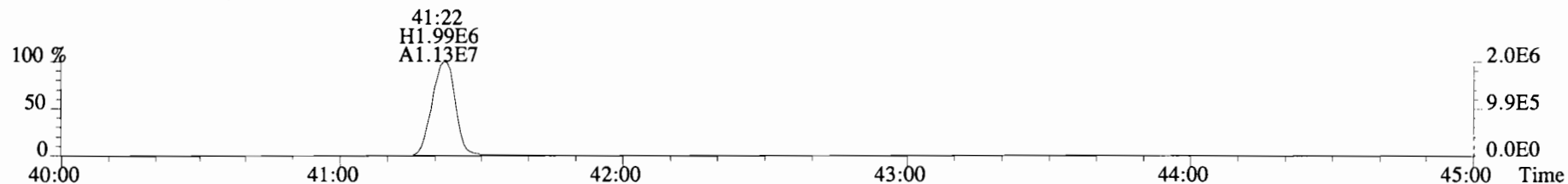
513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
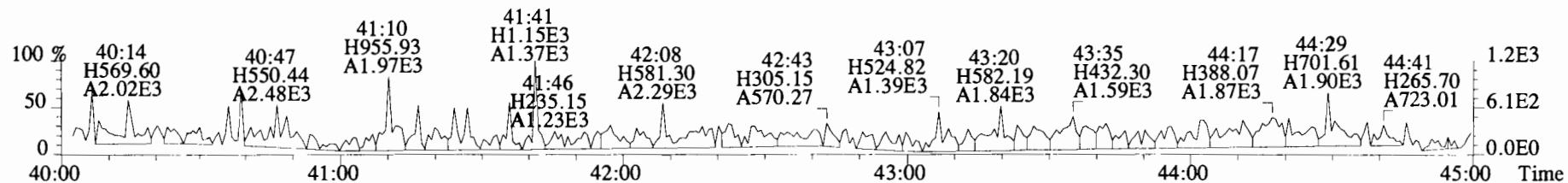
```
                        FORM 8A
         PCDD/PCDF ONGOING PRECISION AND RECOVERY (OPR)

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

Contract No.:          SAS No.:

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

Ext. Date:       Shift: Day  Analysis Date: 11-NOV-19  Time: 11:07:28
```
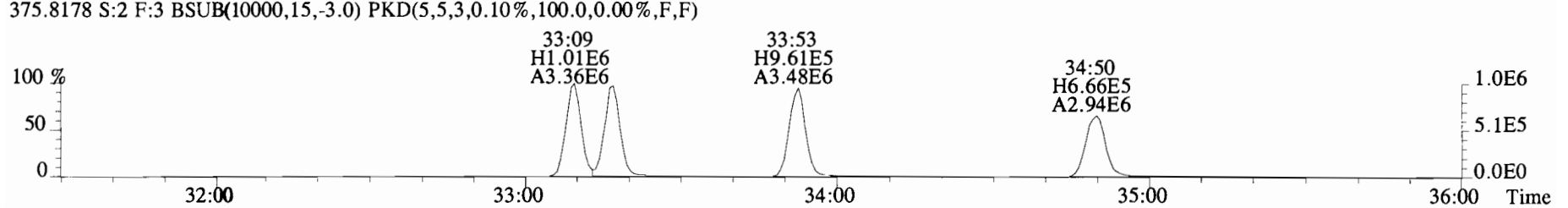
ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.

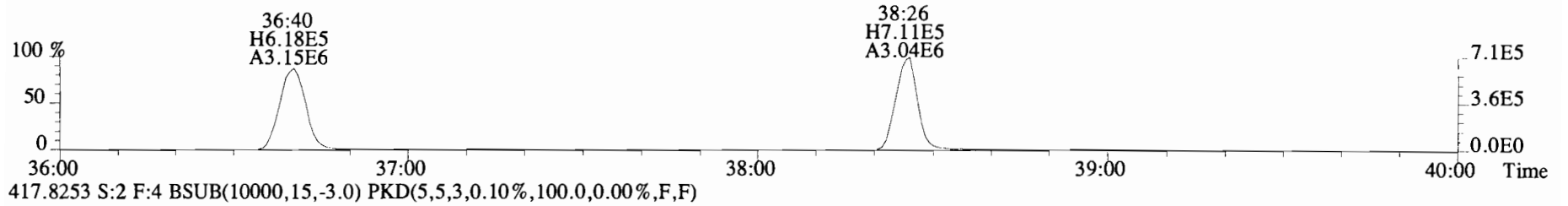| NATIVE ANALYTES	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
2,3,7,8-TCDD	10	11.1	6.7 - 15.8
			7.3 - 14.6 (2)
1,2,3,7,8-PeCDD	50	53.1	35.0 - 71.0
1,2,3,4,7,8-HxCDD	50	52.5	35.0 - 82.0
1,2,3,6,7,8-HxCDD	50	52.5	38.0 - 67.0
1,2,3,7,8,9-HxCDD	50	53.6	32.0 - 81.0
1,2,3,4,6,7,8-HpCDD	50	51.4	35.0 - 70.0
OCDD	100	105	78.0 - 144.0
2,3,7,8-TCDF	10	10.2	7.5 - 15.8
			8.0 - 14.7 (2)
1,2,3,7,8-PeCDF	50	51.9	40.0 - 67.0
2,3,4,7,8-PeCDF	50	52.3	34.0 - 80.0
1,2,3,4,7,8-HxCDF	50	50.3	36.0 - 67.0
1,2,3,6,7,8-HxCDF	50	50.4	42.0 - 65.0
2,3,4,6,7,8-HxCDF	50	51.5	35.0 - 78.0
1,2,3,7,8,9-HxCDF	50	50.8	39.0 - 65.0
1,2,3,4,6,7,8-HpCDF	50	50.1	41.0 - 61.0
1,2,3,4,7,8,9-HpCDF	50	49.8	39.0 - 69.0
OCDF	100	101	63.0 - 170.0

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

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

Analyst: _DB_

Date: _11/12/19_

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

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

Contract No.:           SAS No.:

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

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

   ALL CONCENTRATIONS REPORTED ON THIS FORM ARE CONCENTRATIONS IN EXTRACT.
```

LABELED COMPOUNDS	SPIKE CONC. (ng/mL)	CONC. FOUND (ng/mL)	OPR CONC. LIMITS (1) (ng/mL)
13C-2,3,7,8-TCDD	100	95.7	20.0 - 175.0
			25.0 - 141.0 (2)
13C-1,2,3,7,8-PeCDD	100	97.4	21.0 - 227.0
13C-1,2,3,4,7,8-HxCDD	100	94.8	21.0 - 193.0
13C-1,2,3,6,7,8-HxCDD	100	85.8	25.0 - 163.0
13C-1,2,3,7,8,9-HxCDD	100	87.4	21.0 - 193.0
13C-1,2,3,4,6,7,8-HpCDD	100	102	26.0 - 166.0
13C-OCDD	200	188	26.0 - 397.0
13C-2,3,7,8-TCDF	100	94.1	22.0 - 152.0
			26.0 - 126.0 (2)
13C-1,2,3,7,8-PeCDF	100	93.7	21.0 - 192.0
13C-2,3,4,7,8-PeCDF	100	93.1	13.0 - 328.0
13C-1,2,3,4,7,8-HxCDF	100	99.2	19.0 - 202.0
13C-1,2,3,6,7,8-HxCDF	100	92.5	21.0 - 159.0
13C-2,3,4,6,7,8-HxCDF	100	92.5	22.0 - 176.0
13C-1,2,3,7,8,9-HxCDF	100	97.1	17.0 - 205.0
13C-1,2,3,4,6,7,8-HpCDF	100	98.1	21.0 - 158.0
13C-1,2,3,4,7,8,9-HpCDF	100	109	20.0 - 186.0
13C-OCDF	200	206	26.0 - 397.0
CLEANUP STANDARD			
37Cl-2,3,7,8-TCDD	40	38.5	12.4 - 76.4

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

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

Analyst: _DB_

Date: _11/12/19_

Client ID: OPR
Lab ID: B9J0332-BS1
Filename: 191111D1   S:2   Acq:11-NOV-19 11:07:28
GC Column ID: ZB-5MS   ICal: 1613VG7-10-9-19   wt/vol: 1.000
ConCal: ST191111D1-1
EndCAL: NA
Page 2 of 2

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

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	11.5	12.3		*	*
Total Penta-Dioxins	53.1	53.3		*	*
Total Hexa-Dioxins	159	159		*	*
Total Hepta-Dioxins	51.7	53.0		*	*
Total Tetra-Furans	10.4	10.8		*	*
Total Penta-Furans	105.49	106.11		*	*
Total Hexa-Furans	203	204		*	*
Total Hepta-Furans	100	101		*	*

Rec	Qual
95.7	
97.4	
94.8	
85.8	
87.4	
102	
93.8	
94.1	
93.7	
93.1	
99.2	
92.5	
92.5	
97.1	
98.1	
109	
103	
96.2	

Integrations
by
Analyst: _DB_
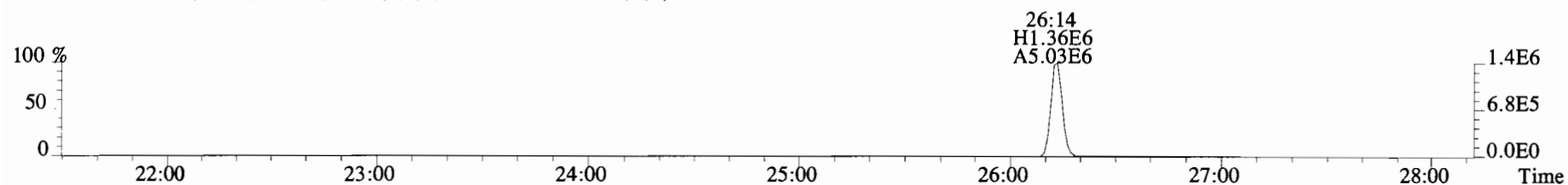Date: _11/12/19_

Reviewed
by
Analyst: _OT_
Date: _11/14/19_

File:191111D1 #1-492 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:15
H1.55E5
A5.56E5

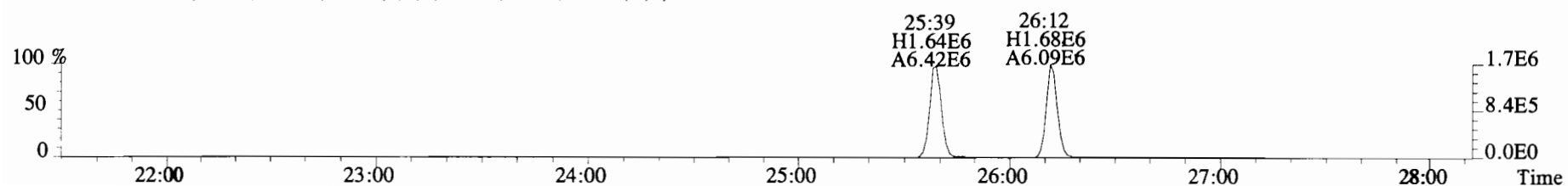321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:15
H1.96E5
A7.37E5

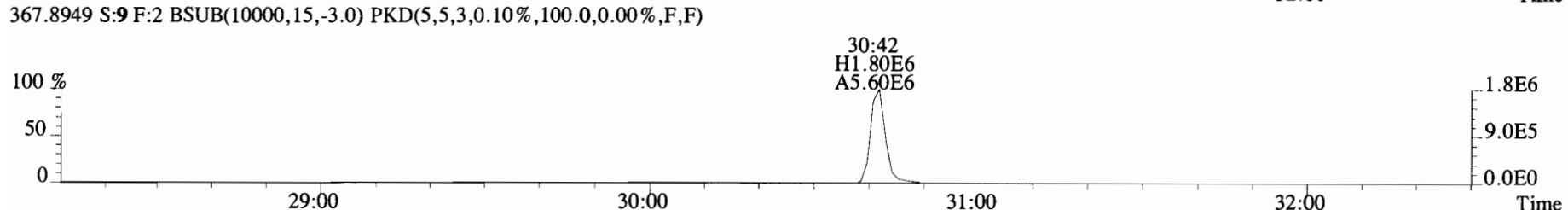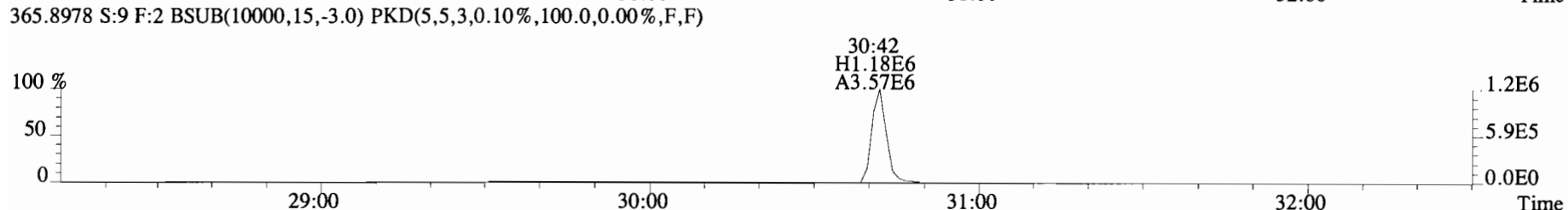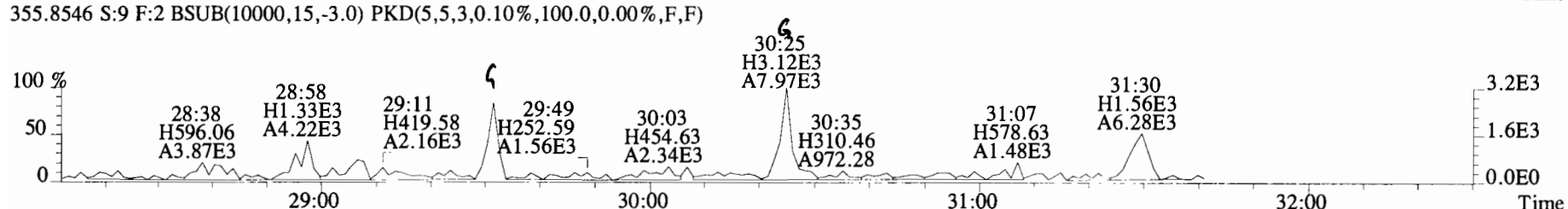327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:15
H1.54E6
A5.67E6

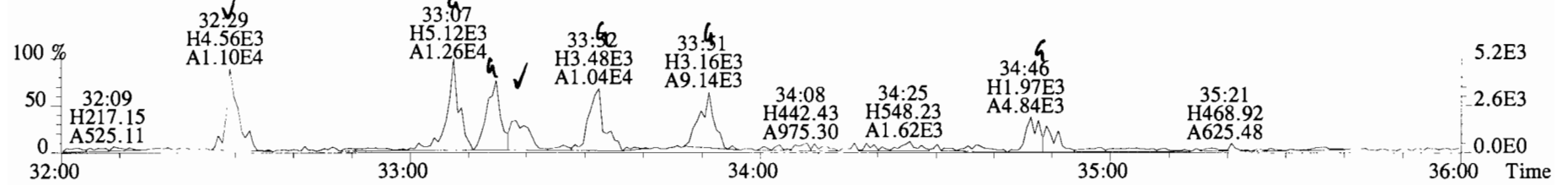331.9368 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:41
H1.46E6
A5.52E6

26:14
H1.58E6
A5.79E6

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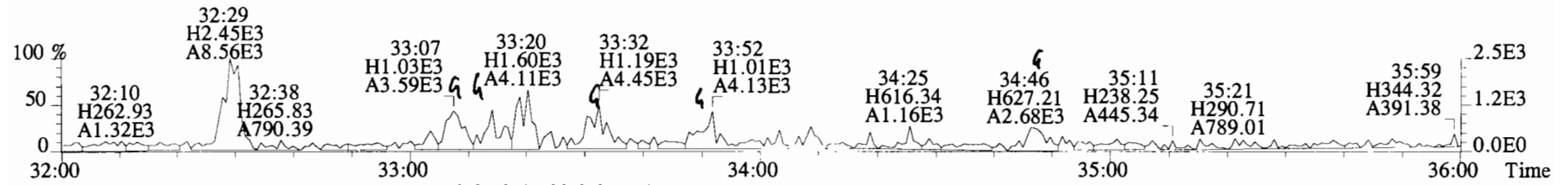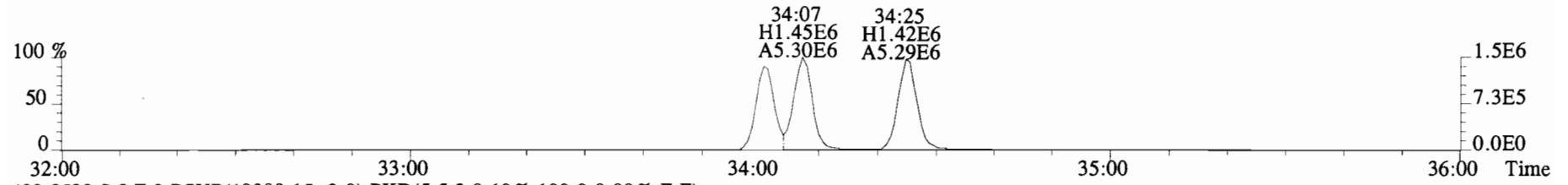

25:41
H1.81E6
A6.78E6

26:14
H1.95E6
A7.11E6

File:191111D1 #1-211 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

30:44
H6.85E5
A1.95E6

100 %
50
0
6.9E5
3.4E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:44
H1.12E6
A3.11E6

100 %
50
0
1.1E6
5.6E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:43
H1.28E6
A4.09E6

100 %
50
0
1.3E6
6.4E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:43
H2.16E6
A6.48E6

100 %
50
0
2.2E6
1.1E6
0.0E0

29:00   30:00   31:00   32:00   Time

366.9792 S:2 F:2

100 %   28:31   28:48   29:08   29:26   29:40   29:57   30:15   30:32   30:51   31:02 31:27   31:40
50
0
4.5E5
2.3E5
0.0E0

29:00   30:00   31:00   32:00   Time

File:191111D1 #1-384 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
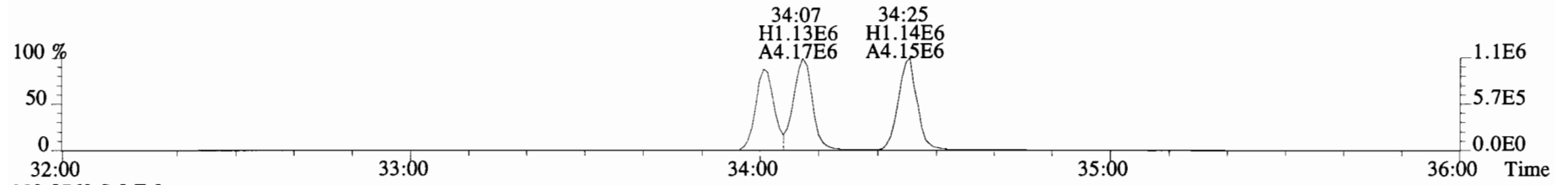389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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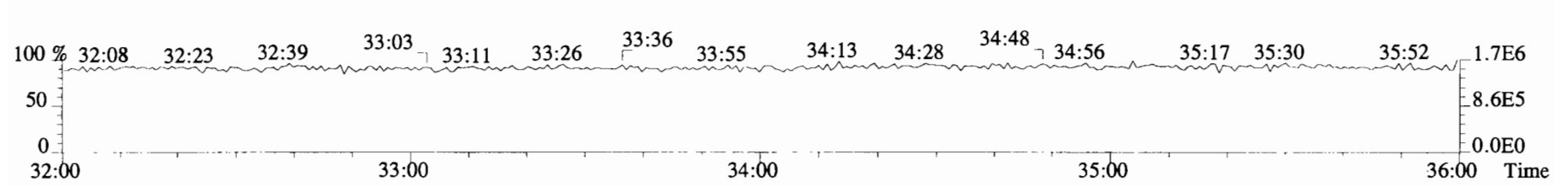

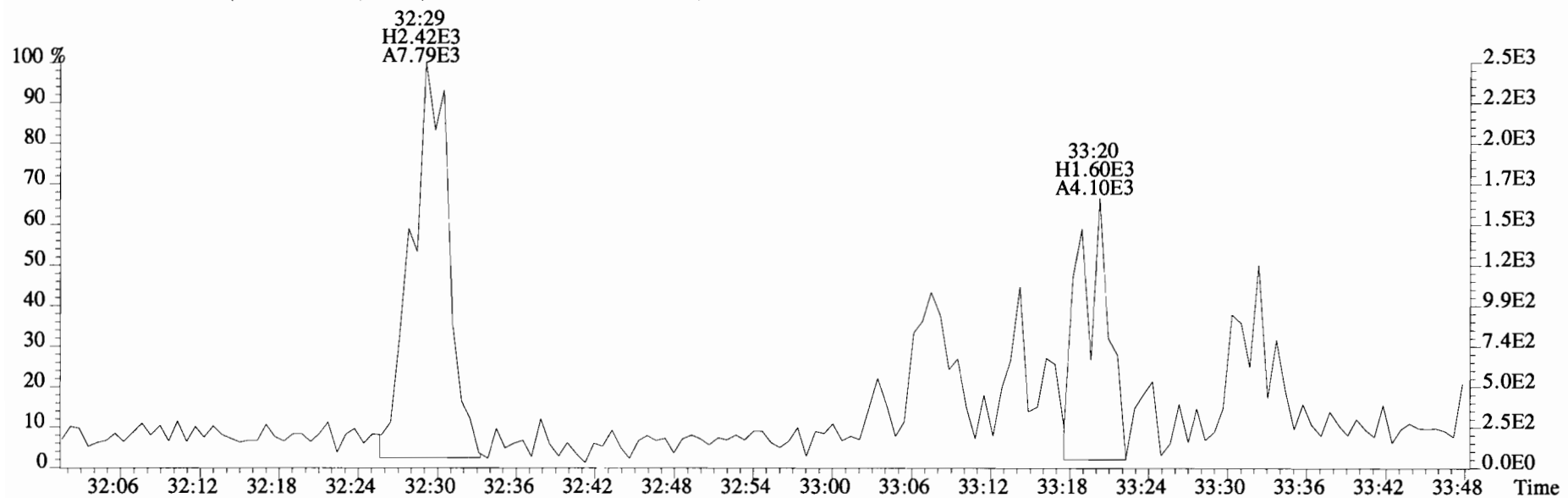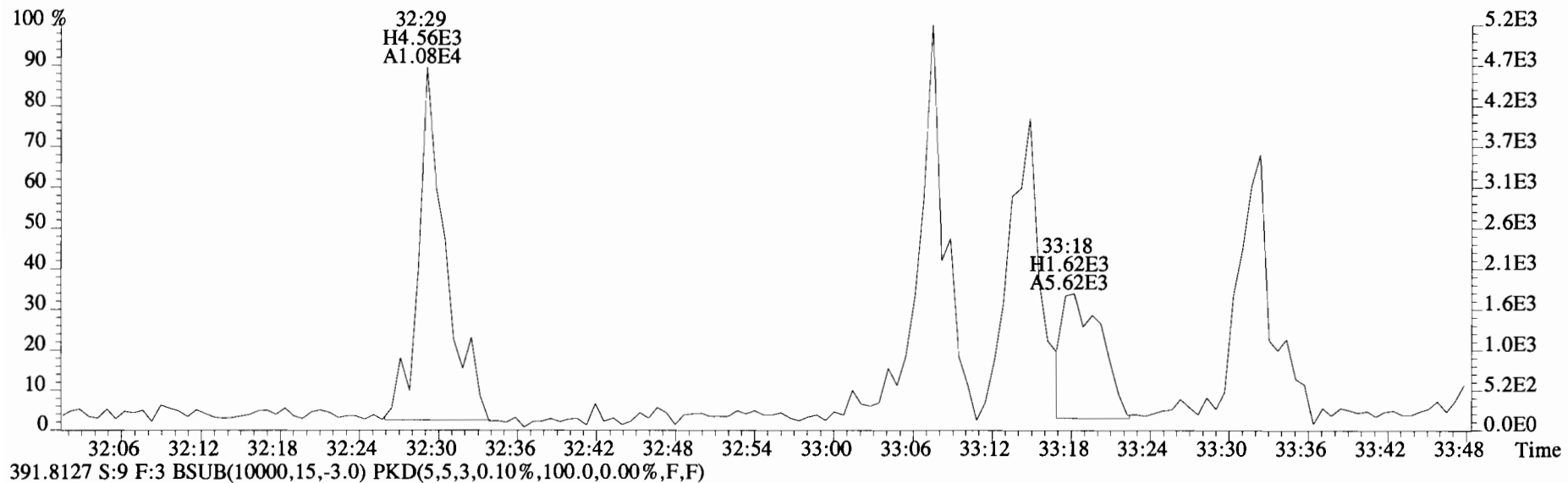401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

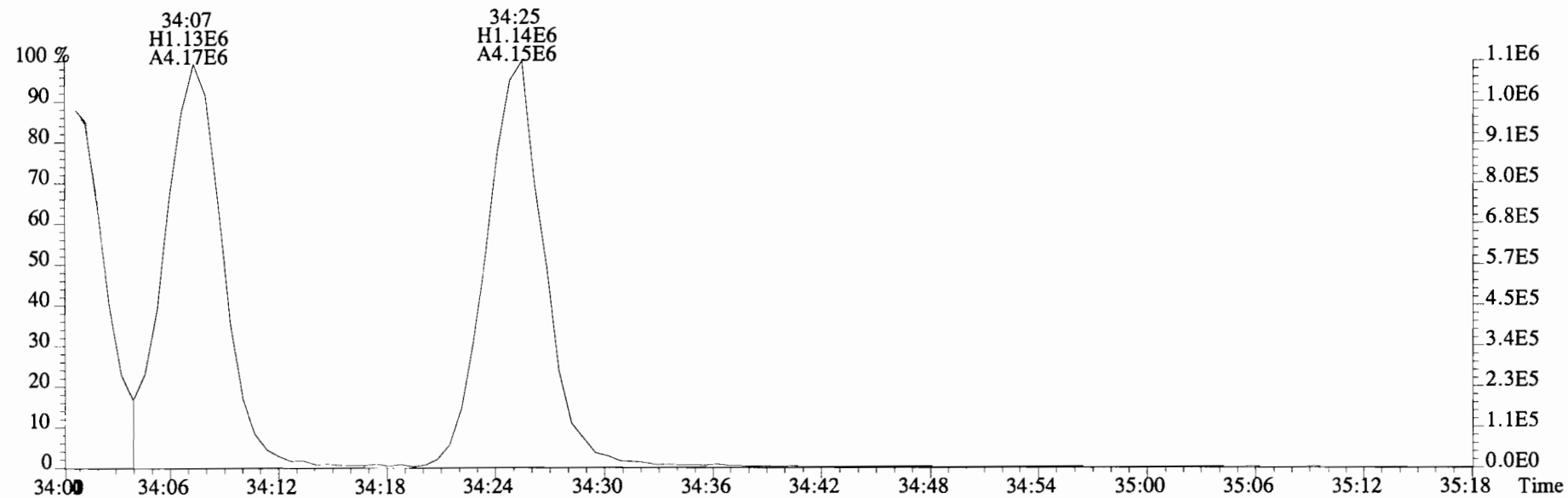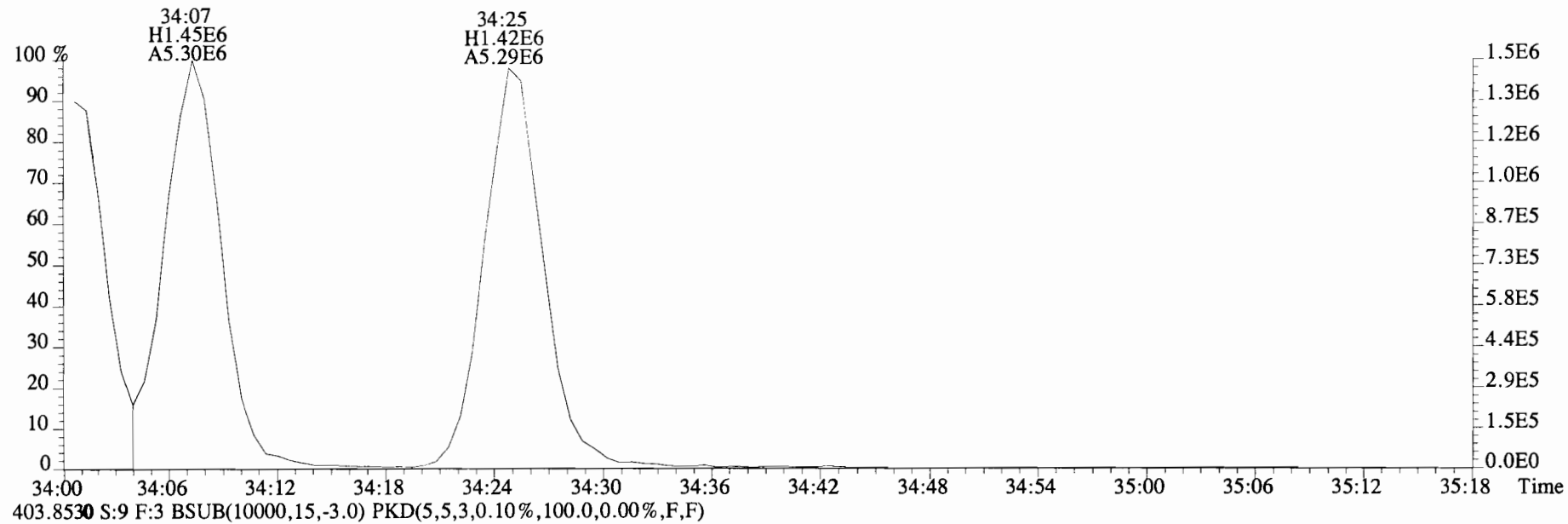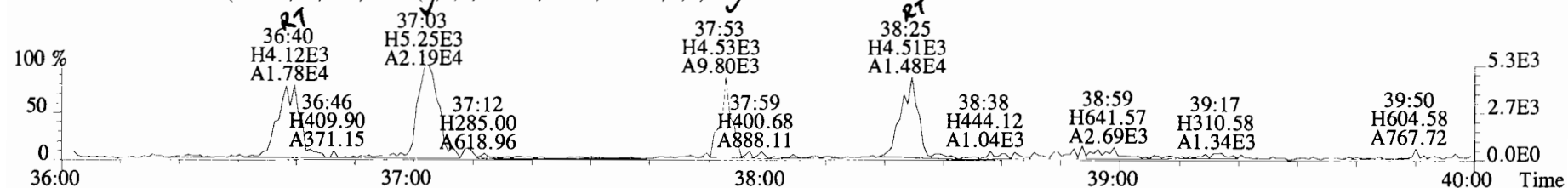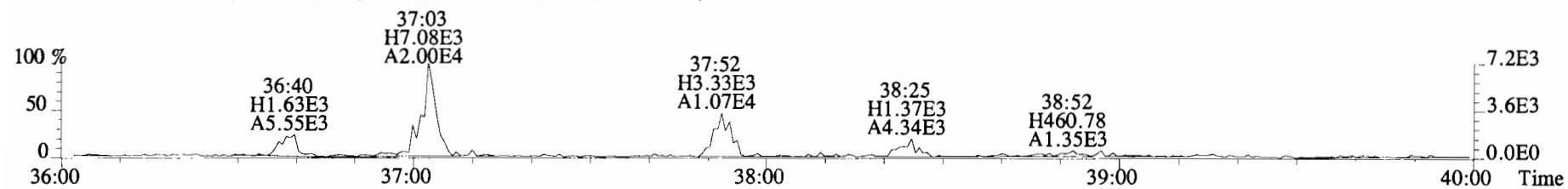392.9760 S:2 F:3

File:191111D1 #1-384 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
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)

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

457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:10
H7.20E5
A3.97E6

100 %					7.2E5
50					3.6E5
0					0.0E0
40:00	41:00	42:00	43:00	44:00	Time

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

41:10
H7.95E5
A4.31E6

100 %					8.0E5
50					4.0E5
0					0.0E0
40:00	41:00	42:00	43:00	44:00	Time

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

41:10
H1.39E6
A7.78E6

100 %					1.4E6
50					6.9E5
0					0.0E0
40:00	41:00	42:00	43:00	44:00	Time

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

41:10
H1.52E6
A8.69E6

100 %					1.5E6
50					7.6E5
0					0.0E0
40:00	41:00	42:00	43:00	44:00	Time

454.9728 S:2 F:5

40:04 40:27 40:47 41:08 41:20 41:27 41:38 41:45 41:58 42:20 42:39 43:01 43:12 43:32 43:54

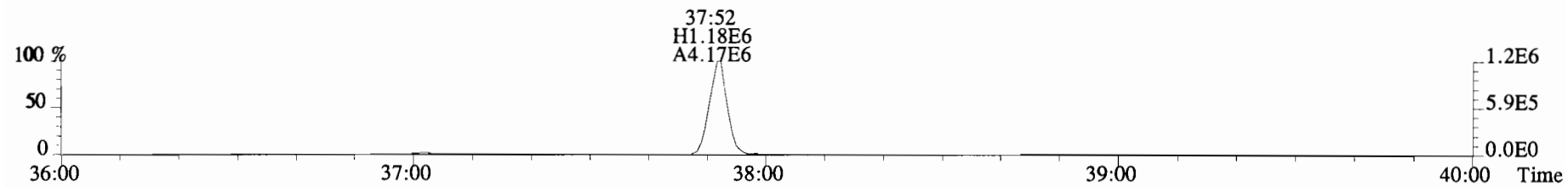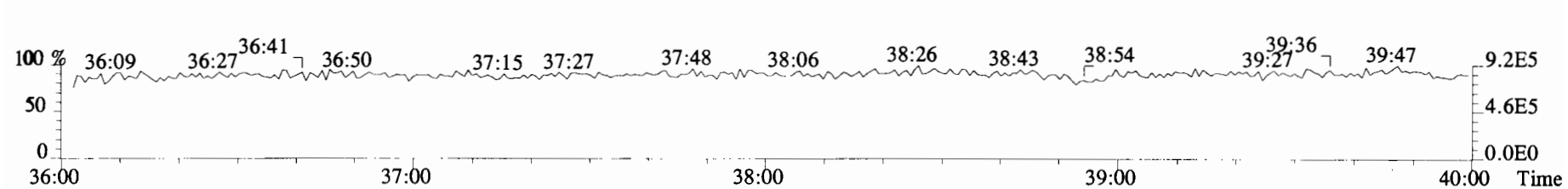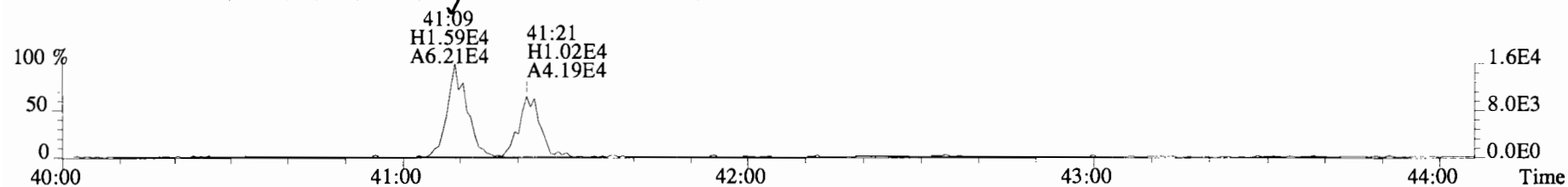| 100 % | | | | | 9.8E5 |
50					4.9E5
0					0.0E0
40:00	41:00	42:00	43:00	44:00	Time

File:191111D1 #1-492 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:29
H2.09E5
A8.39E5

305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:29
H2.72E5
A1.05E6

315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:16
H2.14E6
A8.97E6

25:28
H2.18E6
A8.71E6

317.9389 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:16
H2.62E6
A1.10E7

25:28
H2.67E6
A1.08E7

375.8364 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

20:20
H223.13
A691.67

21:05
H373.32
A2.47E3

21:29
H491.68
A2.31E3

22:16
H736.83
A2.65E3

23:04
H746.07
A3.43E3

23:27
H457.90
A1.30E3

24:06
H390.76
A2.90E3

25:05
H375.55
A2.37E3

26:14
H247.22
A1.72E3

26:52
H305.98
A2.04E3

27:13
H336.99
A2.25E3

27:34
H220.69
A899.19

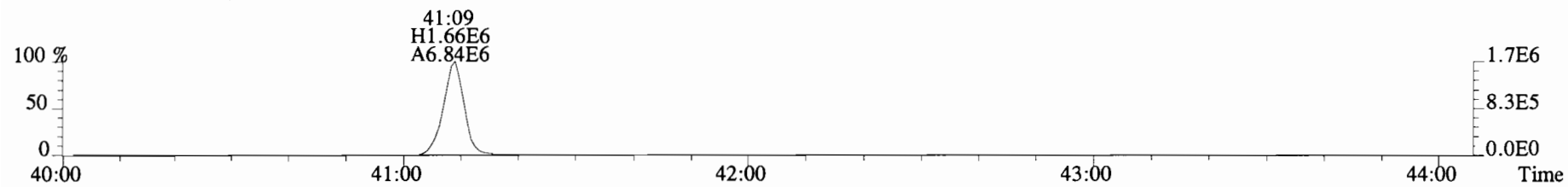File:191111D1 #1-492 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
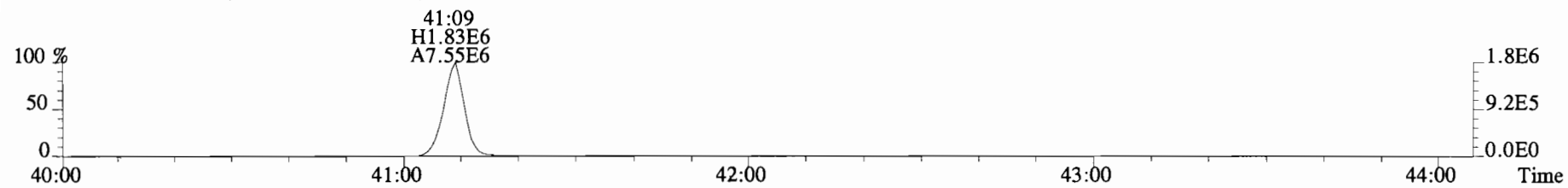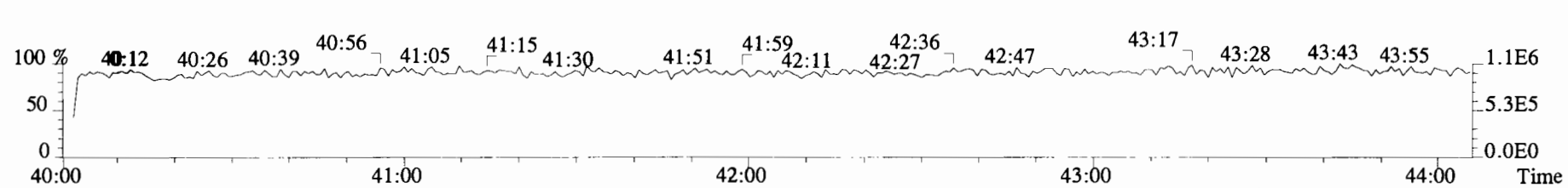Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
339.8597 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

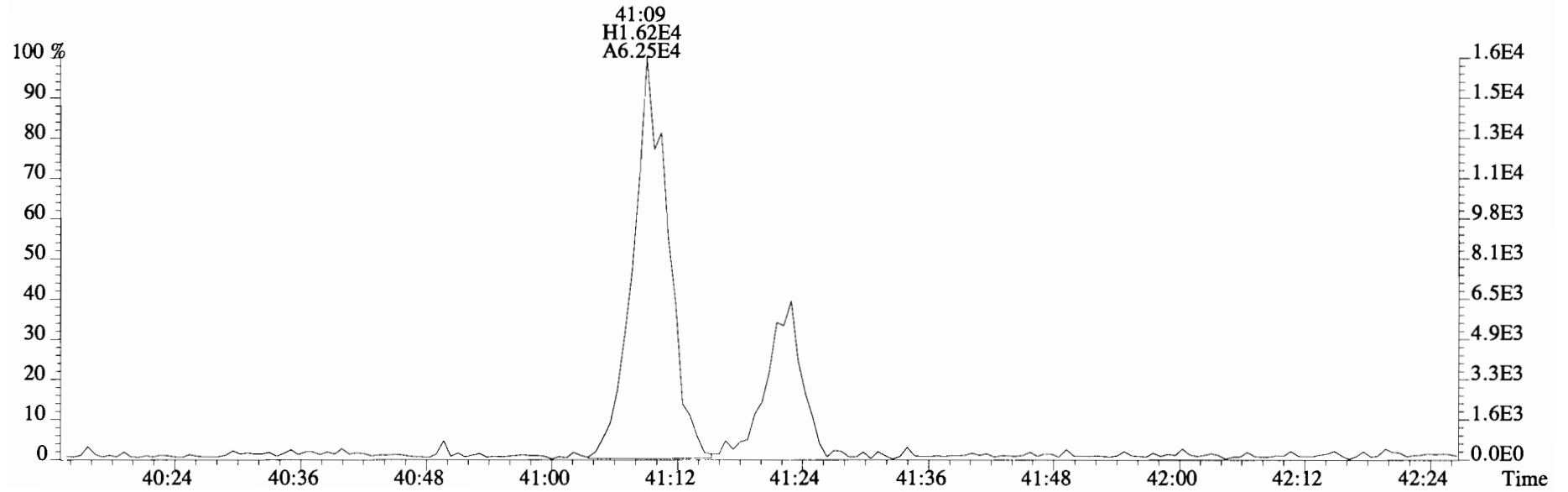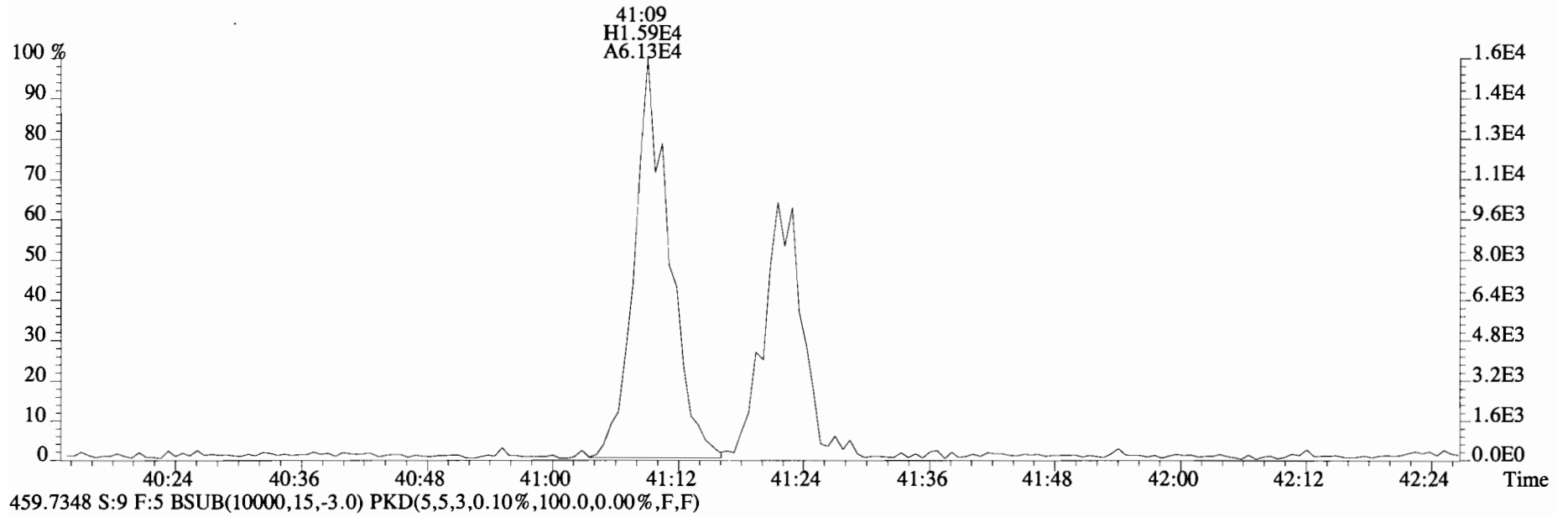409.7974 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:2

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

29:34
H1.60E6
A4.96E6

30:27
H1.76E6
A5.18E6

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

29:34
H1.02E6
A3.03E6

30:27
H1.12E6
A3.20E6

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

29:34
H3.12E6
A9.91E6

30:26
H2.98E6
A9.71E6

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

29:34
H1.80E6
A6.12E6

30:26
H1.96E6
A6.07E6

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

28:22
H428.52
A1.67E3

28:37
H308.24
A1.15E3

29:00
H689.32
A2.53E3

29:19
H552.30
A2.28E3

29:40
H423.40
A1.37E3

29:57
H203.99
A752.07

30:12
H367.07
A2.20E3

30:35
H427.19
A1.95E3

30:53
H297.34
A1.34E3

31:17
H293.25
A1.89E3

31:31
H144.75
A526.68

File:191111D1 #1-384 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

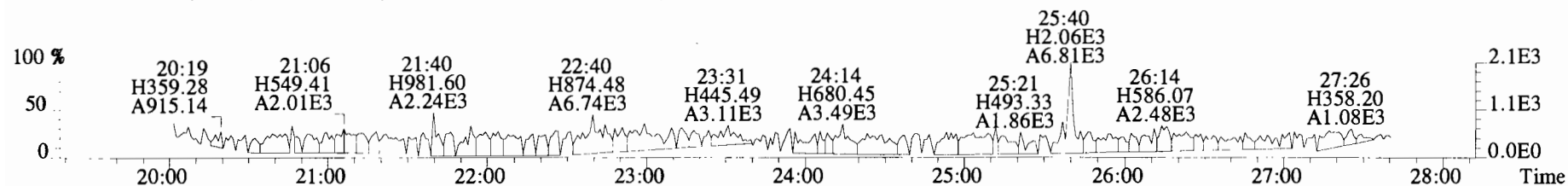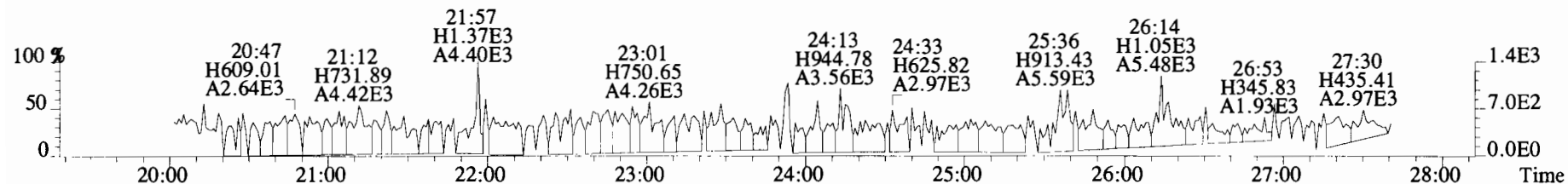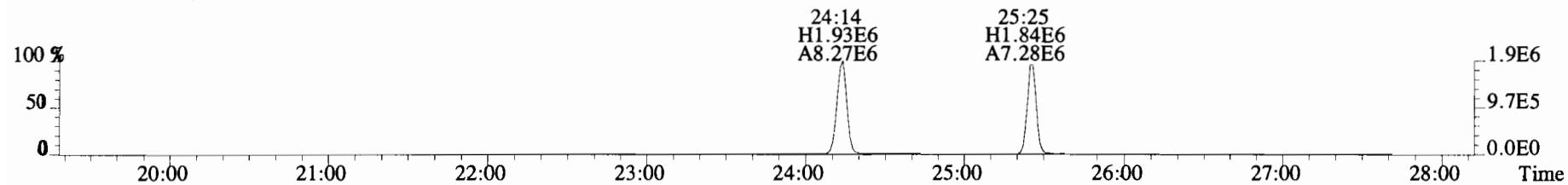383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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:191111D1 #1-384 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
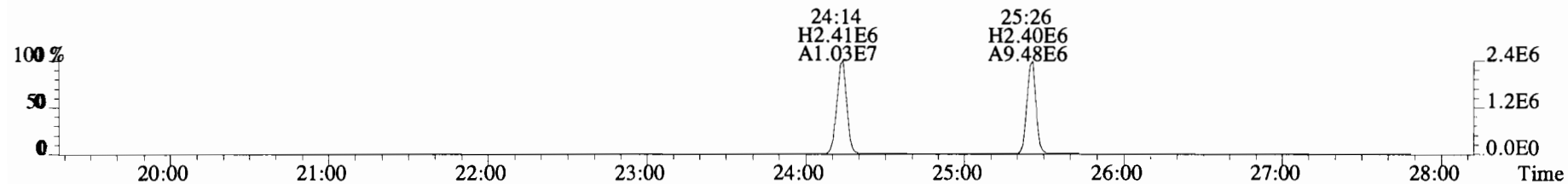383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

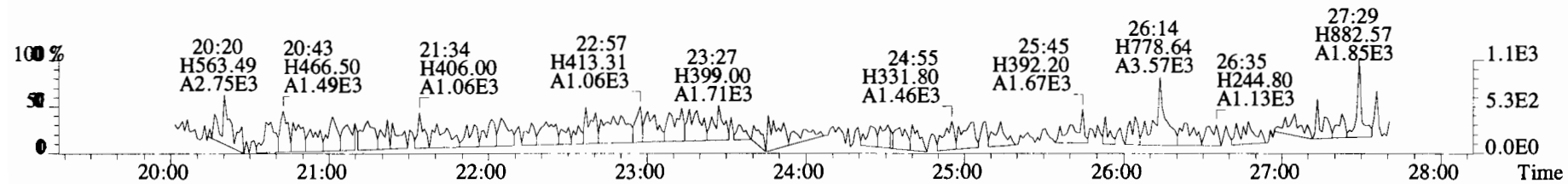385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

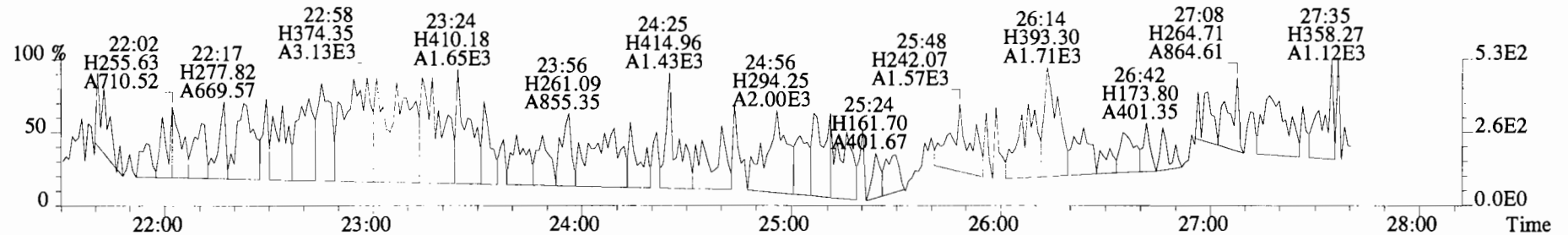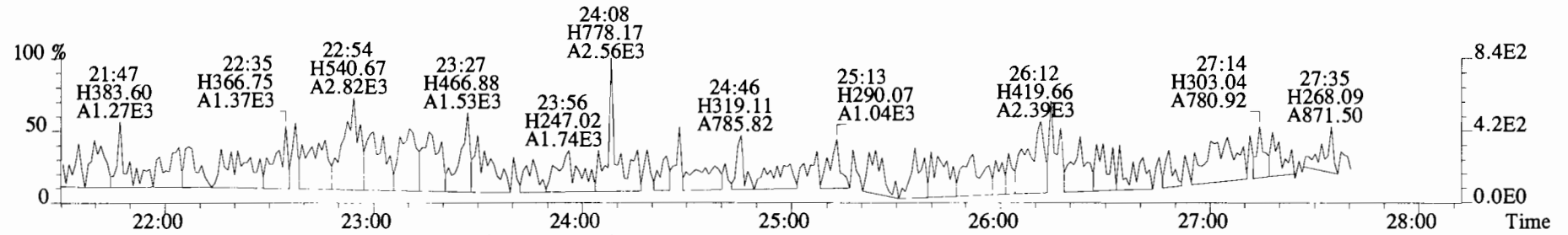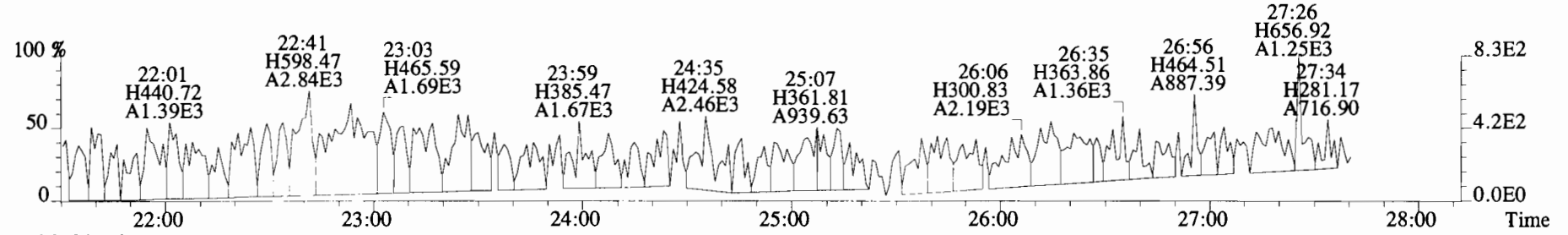407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                36:40                        38:26
                H6.41E5                      H7.34E5
100 %           A3.21E6                      A3.10E6                              7.3E5
 50                                                                              3.7E5
  0                                                                              0.0E0
 36:00          37:00          38:00          39:00          40:00   Time
```

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

```
                36:40                        38:26
                H6.18E5                      H7.11E5
100 %           A3.15E6                      A3.04E6                              7.1E5
 50                                                                              3.6E5
  0                                                                              0.0E0
 36:00          37:00          38:00          39:00          40:00   Time
```
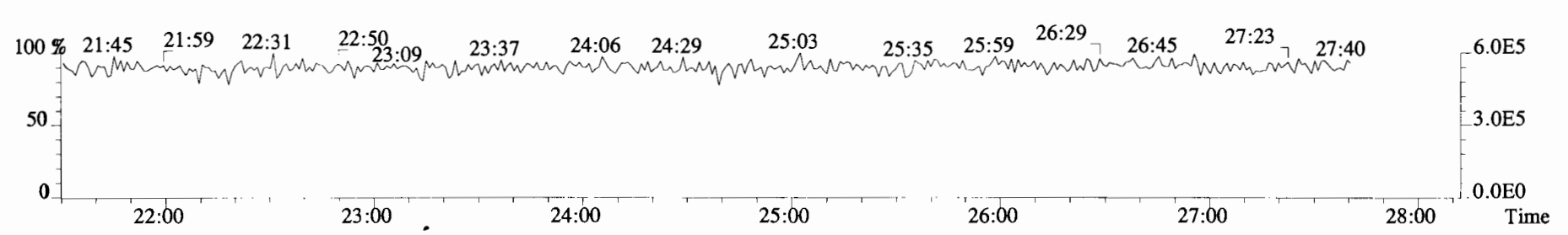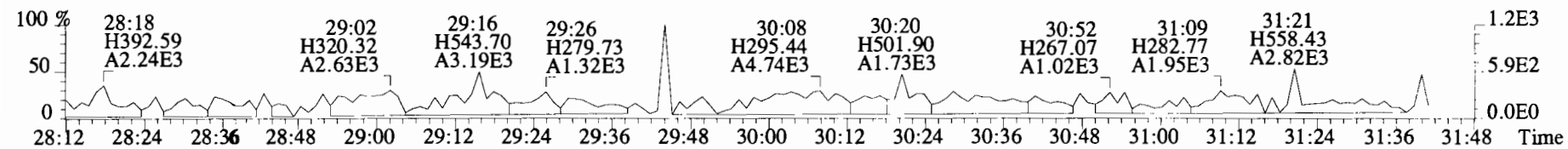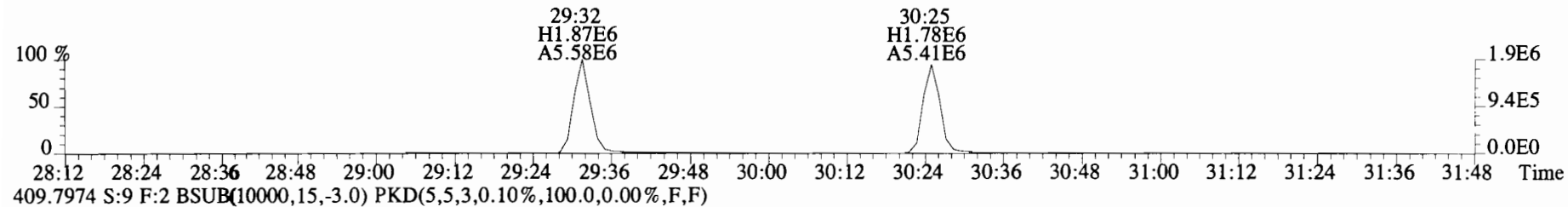
417.8253 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                36:39                        38:25
                H6.85E5                      H6.90E5
100 %           A3.44E6                      A2.95E6                              6.9E5
 50                                                                              3.5E5
  0                                                                              0.0E0
 36:00          37:00          38:00          39:00          40:00   Time
```
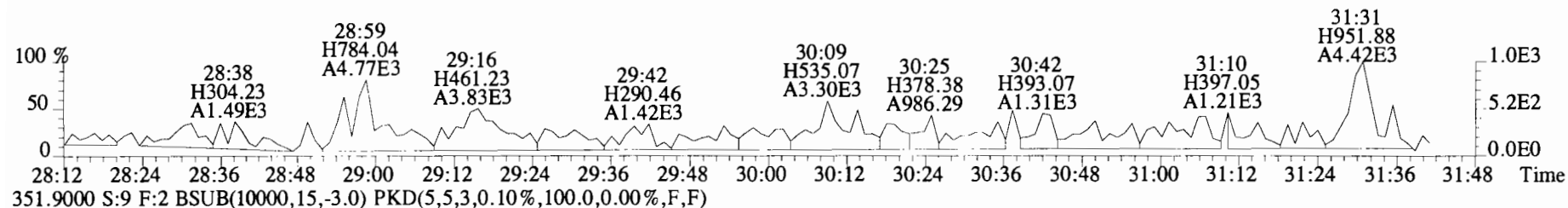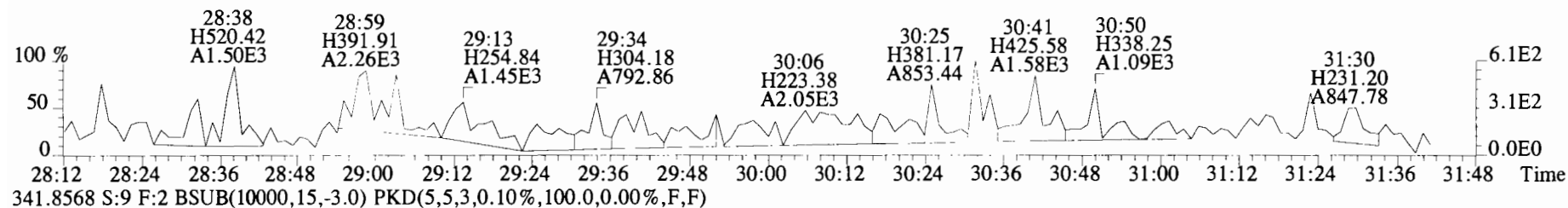
419.8220 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                36:39                        38:25
                H1.55E6                      H1.57E6
100 %           A7.81E6                      A6.68E6                              1.6E6
 50                                                                              7.8E5
  0                                                                              0.0E0
 36:00          37:00          38:00          39:00          40:00   Time
```

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

```
      36:09
      H1.51E3
100 % A1.80E3                                37:56
        36:15     36:42      37:03           H1.02E3
        H397.50   H555.30    H480.09  37:29  A1.48E3   38:33   38:43    39:05          1.6E3
 50     A506.39   A1.44E3    A1.68E3  H423.19          H258.58 H454.42  H568.38  39:26   39:43
                                      A770.95          A674.19 A996.79  A942.23  H281.13 H272.11
  0                                                                     A302.42  A858.57   8.0E2
 36:00          37:00          38:00          39:00          40:00   Time              0.0E0
```
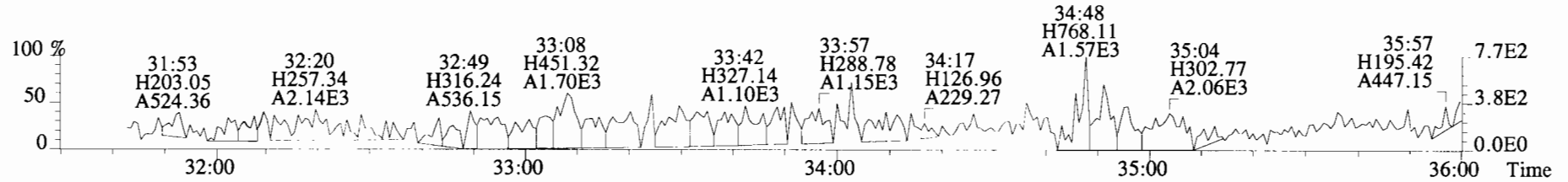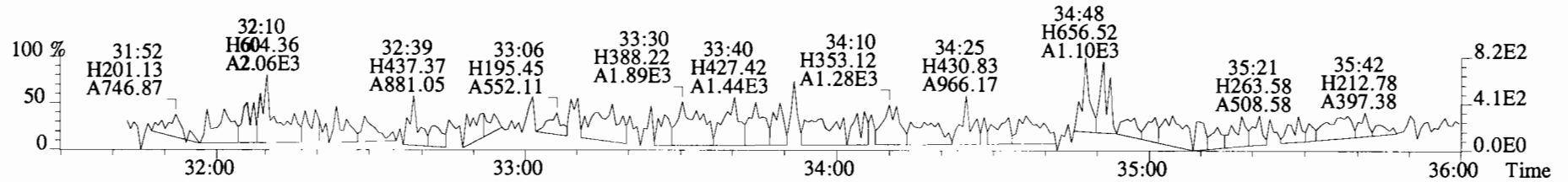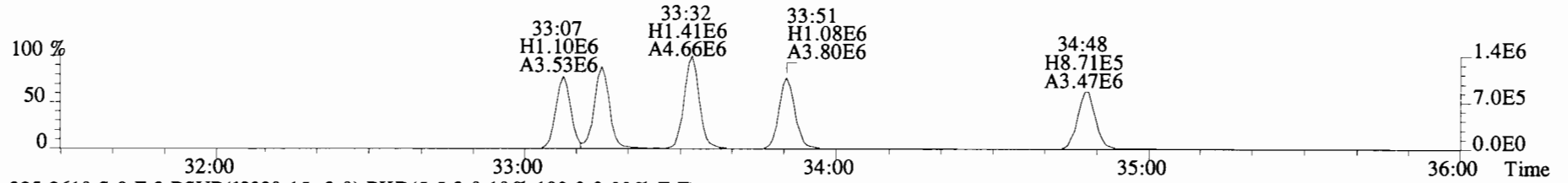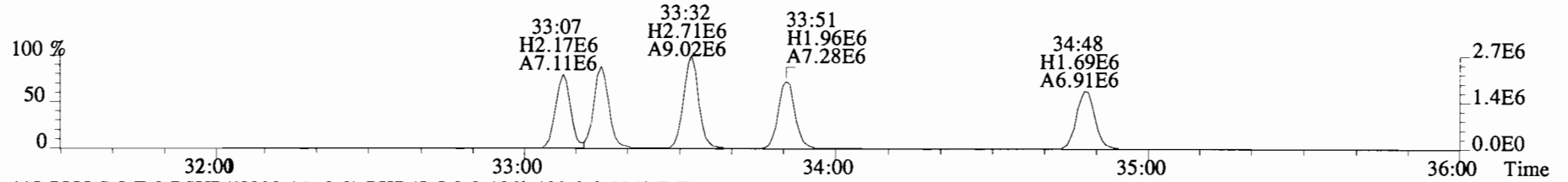
File:191111D1 #1-432 Acq:11-NOV-2019 11:07:28 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Viata_Analytical_Laboratory_VG7 Text:B9J0332-BS1 OPR 10 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:24
H8.93E5
A4.82E6

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

41:24
H9.84E5
A5.40E6

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

41:23
H1.89E6
A1.01E7

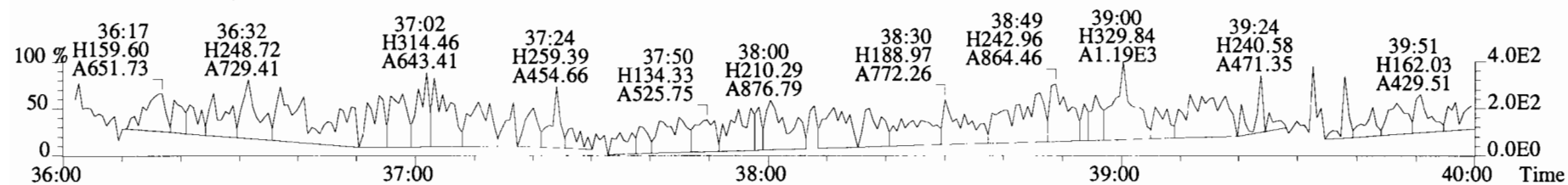455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:23
H2.06E6
A1.13E7

513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

40:36
H213.19
A957.49

41:01
H389.92
A803.87

41:29
H833.63
A1.28E3

42:06
H1.03E3
A1.77E3

42:25
H217.86
A459.75

43:07
H709.32
A1.71E3

43:19
H626.05
A901.74

43:46
H596.33
A935.15

44:17
H870.26
A1.50E3

44:53
H206.59
A554.11

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF┐	*		222	2.5	0.0717
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF┐	*		157	2.5	0.0474
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF┐	*		173	2.5	0.0784
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF┐	*		173	2.5	0.0809
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotF┐	*		173	2.5	0.0797
	1,2,3,4,6,7,8-HpCDD	2.05e+04	0.91	y	0.98	37:52	0.48732		*	2.5	*
	OCDD	1.24e+05	0.98	y	0.96	41:09	3.5703		*	2.5	*
	2,3,7,8-TCDF	*	*	n	0.95	NotF┐	*		209	2.5	0.0457
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF┐	*		185	2.5	0.0512
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF┐	*		185	2.5	0.0511
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF┐	*		138	2.5	0.0266
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF┐	*		138	2.5	0.0269
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF┐	*		138	2.5	0.0306
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF┐	*		138	2.5	0.0378
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF┐	*		76.2	2.5	0.0207
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF┐	*		76.2	2.5	0.0189
	OCDF	*	*	n	0.95	NotF┐	*		175	2.5	0.0838

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		222	0.0717
Total Penta-Dioxins	*	*		157	0.0474
Total Hexa-Dioxins	0.630	0.630		*	*
Total Hepta-Dioxins	1.42	1.42		*	*
Total Tetra-Furans	*	*		209	0.0457
Total Penta-Furans	0.0000	0.0000		185	0.0511
Total Hexa-Furans	*	*		138	0.0303
Total Hepta-Furans	*	*		76.2	0.0199

	Name	Resp	RA		RRF	RT	Conc	Rec	Qual
IS	13C-2,3,7,8-TCDD	1.09e+07	0.80	y	1.10	26:12	173.68	87.3	
IS	13C-1,2,3,7,8-PeCDD	9.17e+06	0.64	y	0.88	30:42	181.09	91.0	
IS	13C-1,2,3,4,7,8-HxCDD	8.15e+06	1.31	y	0.64	34:01	184.66	92.8	
IS	13C-1,2,3,6,7,8-HxCDD	9.47e+06	1.27	y	0.86	34:07	161.04	80.9	
IS	13C-1,2,3,7,8,9-HxCDD	9.45e+06	1.28	y	0.81	34:25	170.38	85.6	
IS	13C-1,2,3,4,6,7,8-HpCDD	8.54e+06	1.05	y	0.65	37:52	189.92	95.4	
IS	13C-OCDD	1.44e+07	0.91	y	0.58	41:09	361.07	90.7	
IS	13C-2,3,7,8-TCDF	1.68e+07	0.77	y	1.03	25:26	173.15	87.0	
IS	13C-1,2,3,7,8-PeCDF	1.45e+07	1.61	y	0.85	29:32	181.95	91.4	
IS	13C-2,3,4,7,8-PeCDF	1.39e+07	1.57	y	0.85	30:25	175.20	88.0	
IS	13C-1,2,3,4,7,8-HxCDF	1.06e+07	0.50	y	0.83	33:07	186.21	93.6	
IS	13C-1,2,3,6,7,8-HxCDF	1.22e+07	0.53	y	1.03	33:15	170.98	85.9	
IS	13C-2,3,4,6,7,8-HxCDF	1.11e+07	0.52	y	0.95	33:51	169.02	84.9	
IS	13C-1,2,3,7,8,9-HxCDF	1.04e+07	0.50	y	0.83	34:48	182.55	91.7	
IS	13C-1,2,3,4,6,7,8-HpCDF	9.94e+06	0.44	y	0.76	36:39	190.81	95.9	
IS	13C-1,2,3,4,7,8,9-HpCDF	8.28e+06	0.44	y	0.58	38:24	207.14	104	
IS	13C-OCDF	1.85e+07	0.91	y	0.69	41:22	390.26	98.1	
C/Up	37Cl-2,3,7,8-TCDD	5.03e+06			1.20	26:13	73.125	91.9	
RS/RT	13C-1,2,3,4-TCDD	1.14e+07	0.78	y	1.00	25:39	199.01		
RS	13C-1,2,3,4-TCDF	1.86e+07	0.80	y	1.00	24:14	199.01		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.37e+07	0.52	y	1.00	33:32	199.01		

Integrations
by
Analyst: _DB_

Reviewed
by
Analyst: _CT_

Date: __11/12/19__   Date: __11/14/19__

Totals class: HxCDD EMPC   Entry #: 23

          Run: 14   File: 191111D1   S: 9 I: 1 F: 3
      Acquired: 11-NOV-19 16:43:10   Processed: 12-NOV-19 09:23:32

Total Concentration: 0.63010   Unnamed Concentration: 0.630

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

32:29 1.083e+04   7.790e+03 1.39 y 1.862e+04   0.41410
33:19 5.615e+03   4.097e+03 1.37 y 9.713e+03   0.21599

Totals class: HpCDD EMPC   Entry #: 25

          Run: 14   File: 191111D1   S: 9 I: 1 F: 4
      Acquired: 11-NOV-19 16:43:10   Processed: 12-NOV-19 09:23:32

Total Concentration: 1.4233   Unnamed Concentration: 0.936

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

37:02 2.015e+04   1.918e+04 1.05 y 3.933e+04   0.93596
37:52 9.748e+03   1.073e+04 0.91 y 2.048e+04   0.48732   1,2,3,4,6,7,8-HpCDD

319.8965 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:13 H2.16E3 A8.90E3
25:25 H2.36E3 A1.12E4
21:51 H547.67 A2.82E3
22:40 H612.33 A3.43E3
23:09 H790.33 A3.48E3
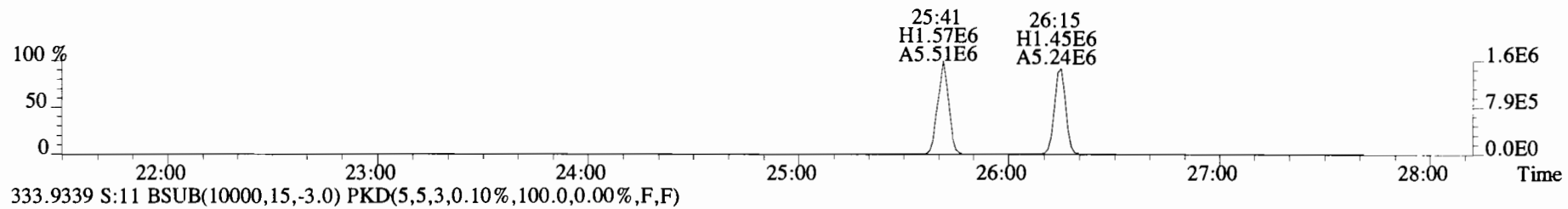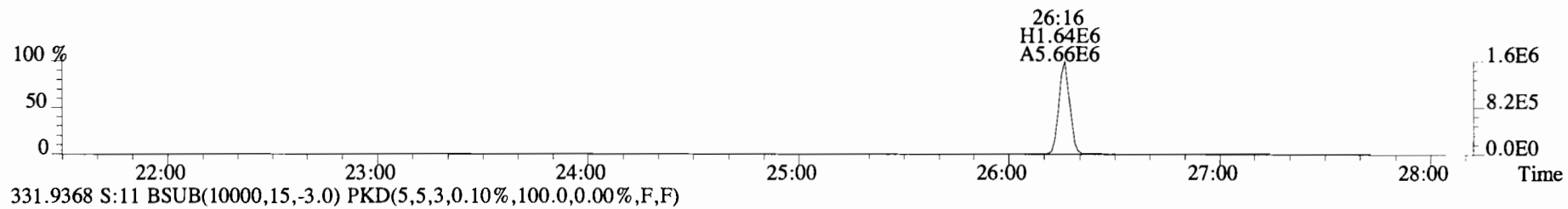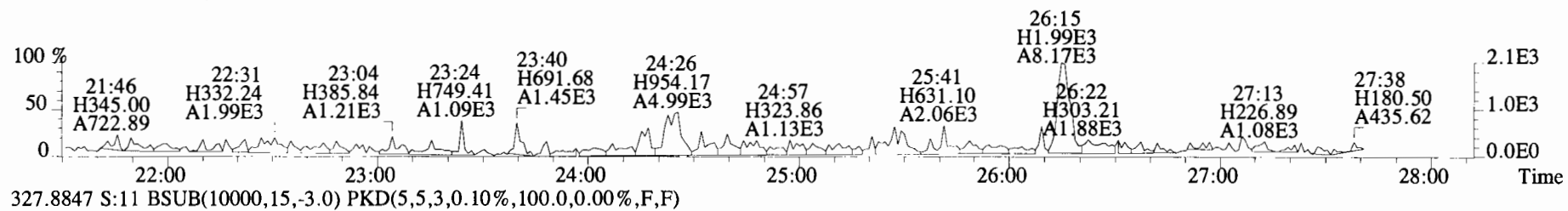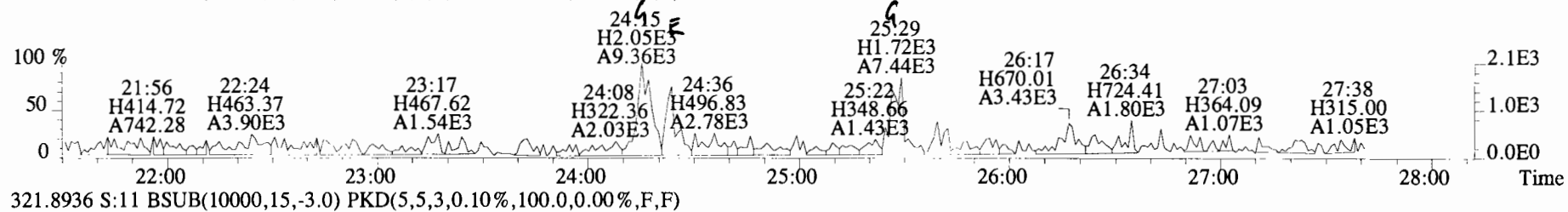24:01 H565.29 A3.42E3
24:40 H777.63 A1.95E3
25:44 H727.67 A1.69E3
26:14 H697.45 A6.91E3
26:45 H422.10 A2.93E3
27:18 H488.43 A2.29E3
27:35 H335.68 A1.51E3
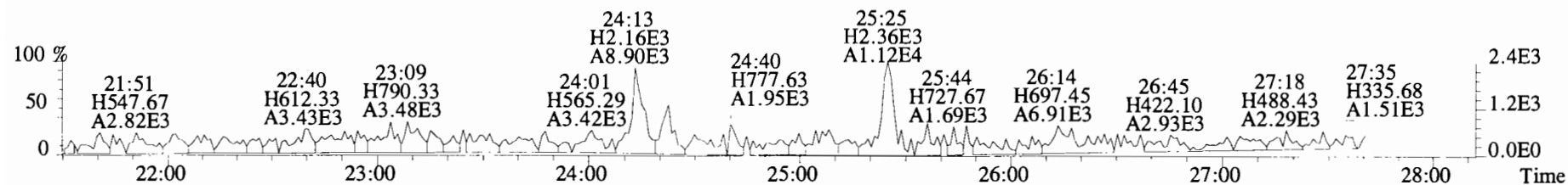
321.8936 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:13 H2.44E3 A9.62E3
24:22 H1.79E3 A7.22E3
21:31 H562.83 A3.23E3
22:26 H573.51 A1.74E3
22:55 H556.10 A1.73E3
23:37 H605.65 A1.96E3
25:08 H716.14 A2.56E3
25:35 H792.38 A3.49E3
25:50 H412.47 A2.05E3
26:31 H463.17 A2.50E3
27:14 H228.73 A1.46E3
27:31 H320.08 A902.75
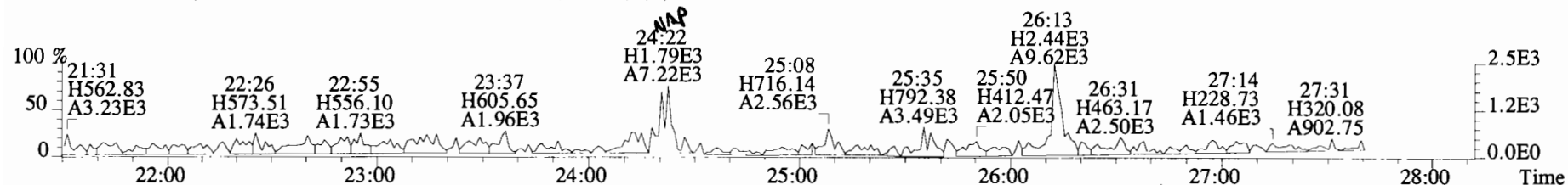
327.8847 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:14 H1.36E6 A5.03E6

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

25:39 H1.30E6 A5.01E6
26:12 H1.36E6 A4.84E6
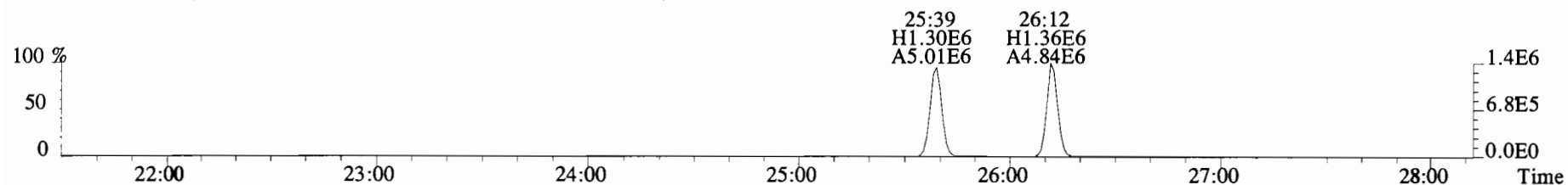
333.9339 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:39 H1.64E6 A6.42E6
26:12 H1.68E6 A6.09E6

File:191111D1 #1-211 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 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)

29:32
H5.17E3
A1.60E4

30:25
H4.85E3
A1.89E4

100 %   5.2E3

50   28:22   28:44   28:58   29:37   30:01   30:42   30:53   31:30   2.6E3
        H239.08   H582.44 H427.37   H517.70   H473.98   H537.87   H285.35 H802.56
        A1.02E3   A1.01E3 A2.68E3   A1.26E3   A5.12E3   A2.12E3   A1.29E3 A2.10E3
0   0.0E0
                     29:00   30:00   31:00   32:00   Time

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

30:25
H3.12E3
A7.97E3

100 %   3.2E3

50   28:38   28:58   29:11   29:49   30:03   30:35   31:07   31:30   1.6E3
        H596.06 H1.33E3 H419.58   H252.59   H454.63   H310.46   H578.63 H1.56E3
        A3.87E3 A4.22E3 A2.16E3   A1.56E3   A2.34E3   A972.28   A1.48E3 A6.28E3
0   0.0E0
                     29:00   30:00   31:00   32:00   Time

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

30:42
H1.18E6
A3.57E6

100 %   1.2E6

50   5.9E5

0   0.0E0
                     29:00   30:00   31:00   32:00   Time

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

30:42
H1.80E6
A5.60E6

100 %   1.8E6

50   9.0E5

0   0.0E0
                     29:00   30:00   31:00   32:00   Time

366.9792 S:9 F:2

100 %   28:26   28:35   28:53   29:01   29:33   29:50   30:29   30:41   31:02   31:18   31:33   4.5E5
                                 29:10

50   2.2E5

0   0.0E0
                     29:00   30:00   31:00   32:00   Time
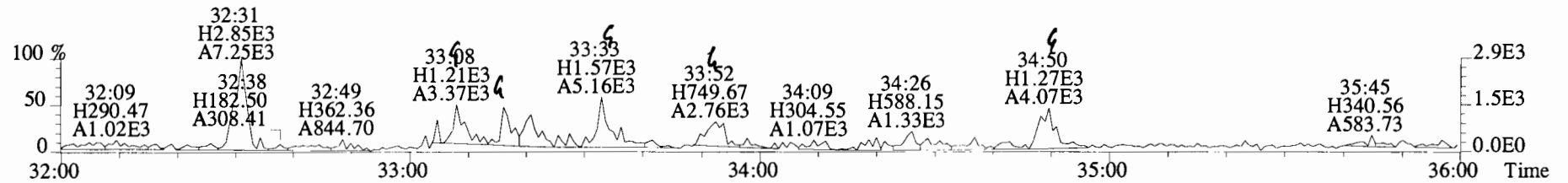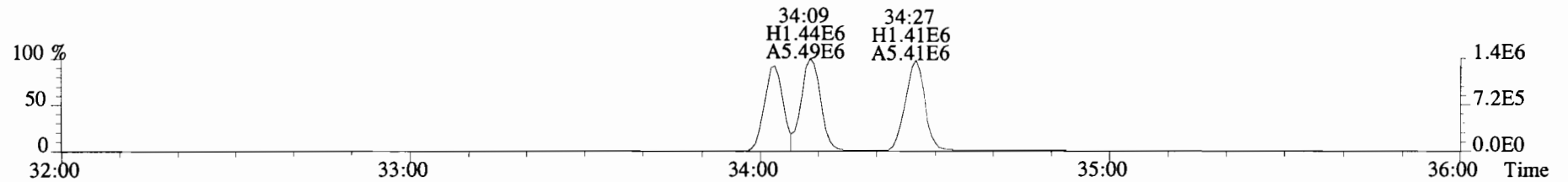
File:191111D1 #1-384 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5

389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                32:29                33:07
                H4.56E3              H5.12E3                                                                    5.2E3
100 %           A1.10E4              A1.26E4       33:52      33:51
                                                  H3.48E3    H3.16E3
                                                  A1.04E4    A9.14E3              34:46
 50    32:09                                                            34:08    34:25     H1.97E3         35:21   2.6E3
       H217.15                                                         H442.43   H548.23   A4.84E3        H468.92
  0    A525.11                                                         A975.30   A1.62E3             A625.48    0.0E0
    32:00                   33:00                   34:00                  35:00                  36:00   Time
```
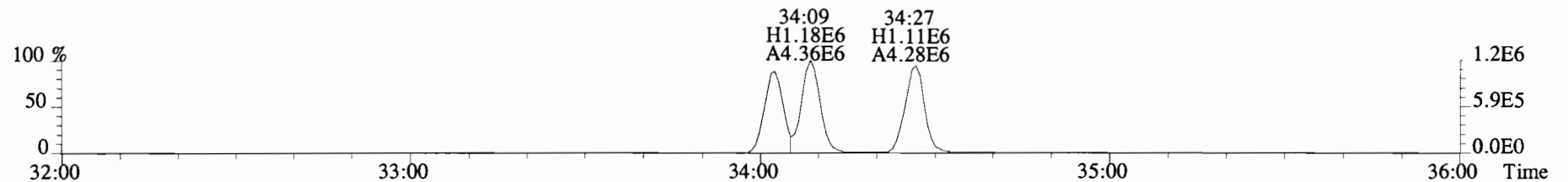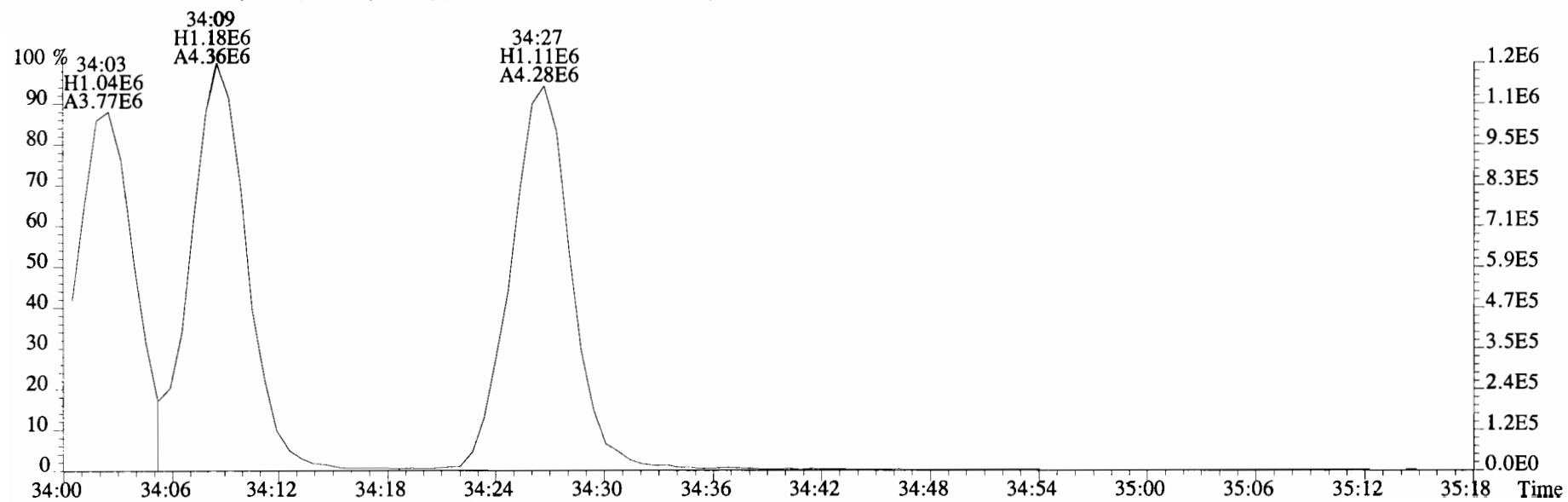
391.8127 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
            32:29                                                                                              2.5E3
            H2.45E3                      33:20      33:32
            A8.56E3        33:07         H1.60E3    H1.19E3   33:52
100 %                      H1.03E3       A4.11E3    A4.45E3   H1.01E3
                           A3.59E3                           A4.13E3              34:46     35:11          35:59
 50    32:10         32:38                                              34:25     H627.21   H238.25  35:21 H344.32  1.2E3
       H262.93       H265.83                                           H616.34    A2.68E3   A445.34  H290.71 A391.38
  0    A1.32E3       A790.39                                           A1.16E3                       A789.01    0.0E0
    32:00                   33:00                   34:00                  35:00                  36:00   Time
```
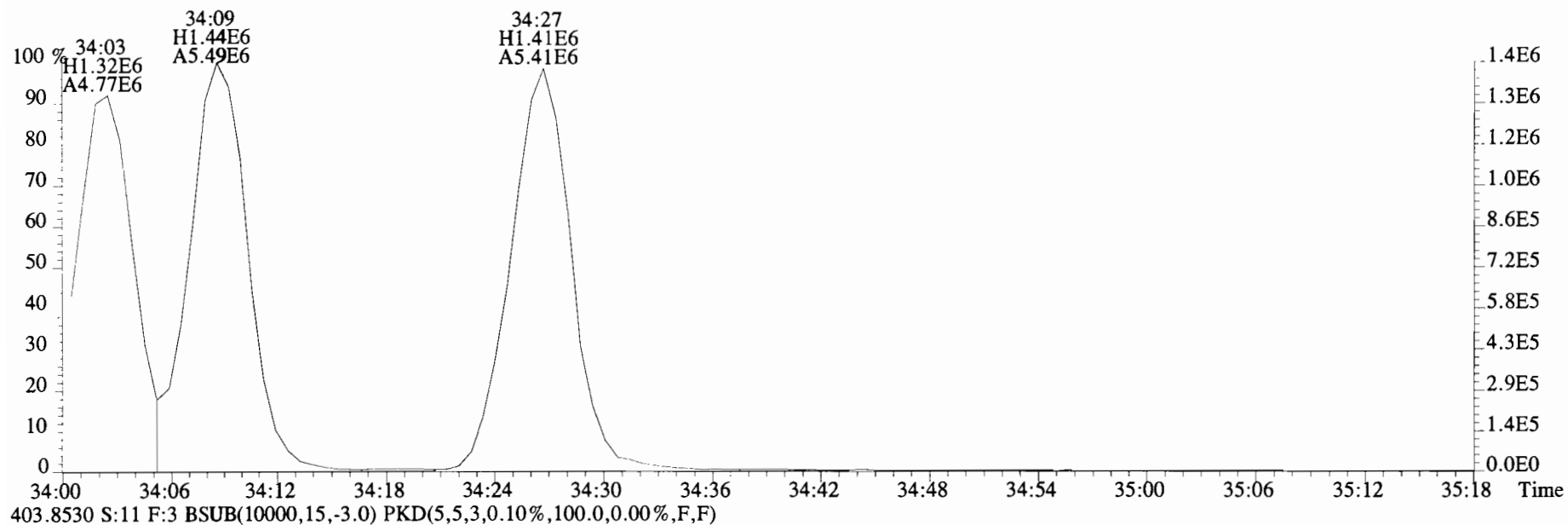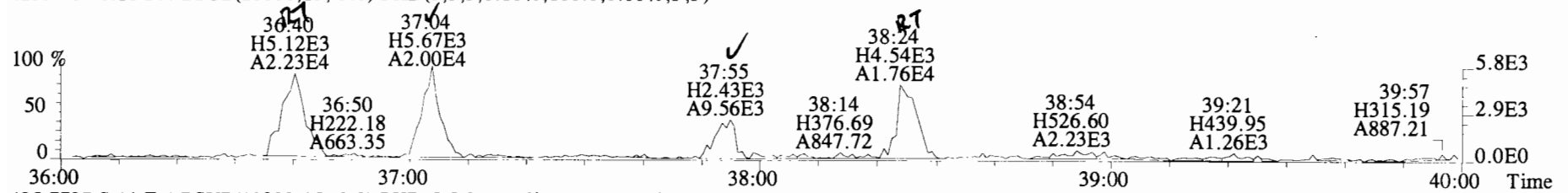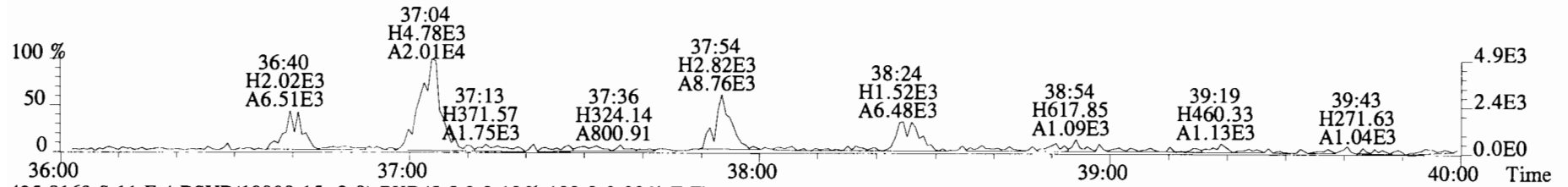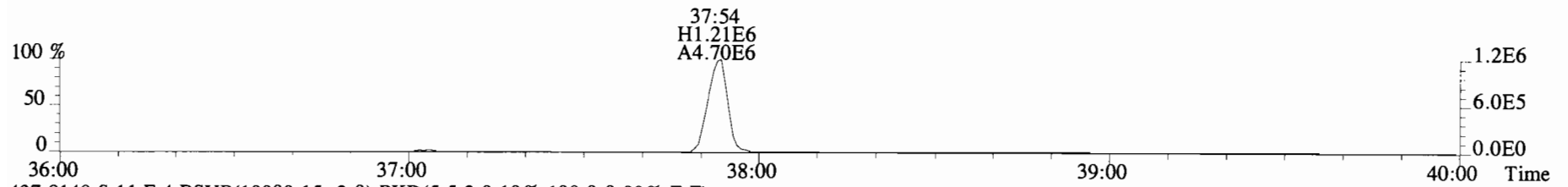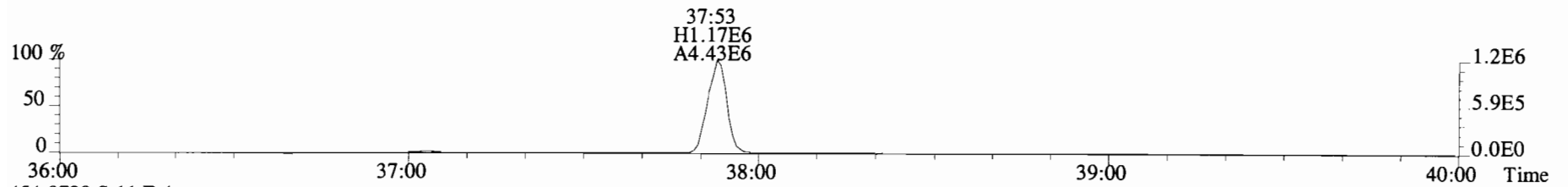
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                          34:07      34:25
                                          H1.45E6    H1.42E6                                                   1.5E6
100 %                                     A5.30E6    A5.29E6

 50                                                                                                            7.3E5

  0                                                                                                            0.0E0
    32:00                   33:00                   34:00                  35:00                  36:00   Time
```

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

```
                                          34:07      34:25
                                          H1.13E6    H1.14E6                                                   1.1E6
100 %                                     A4.17E6    A4.15E6

 50                                                                                                            5.7E5

  0                                                                                                            0.0E0
    32:00                   33:00                   34:00                  35:00                  36:00   Time
```

392.9760 S:9 F:3

```
              33:03              33:36                      34:48                                              1.7E6
100 % 32:08  32:23  32:39    33:11  33:26   33:55   34:13  34:28    34:56   35:17  35:30   35:52

 50                                                                                                            8.6E5

  0                                                                                                            0.0E0
    32:00                   33:00                   34:00                  35:00                  36:00   Time
```

File:191111D1 #1-384 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
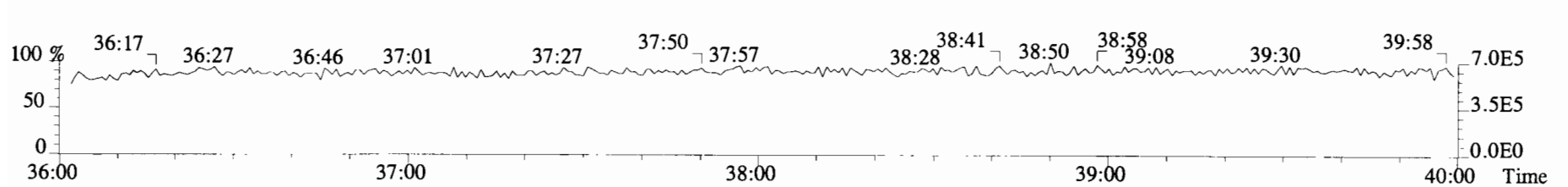Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
389.8156 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

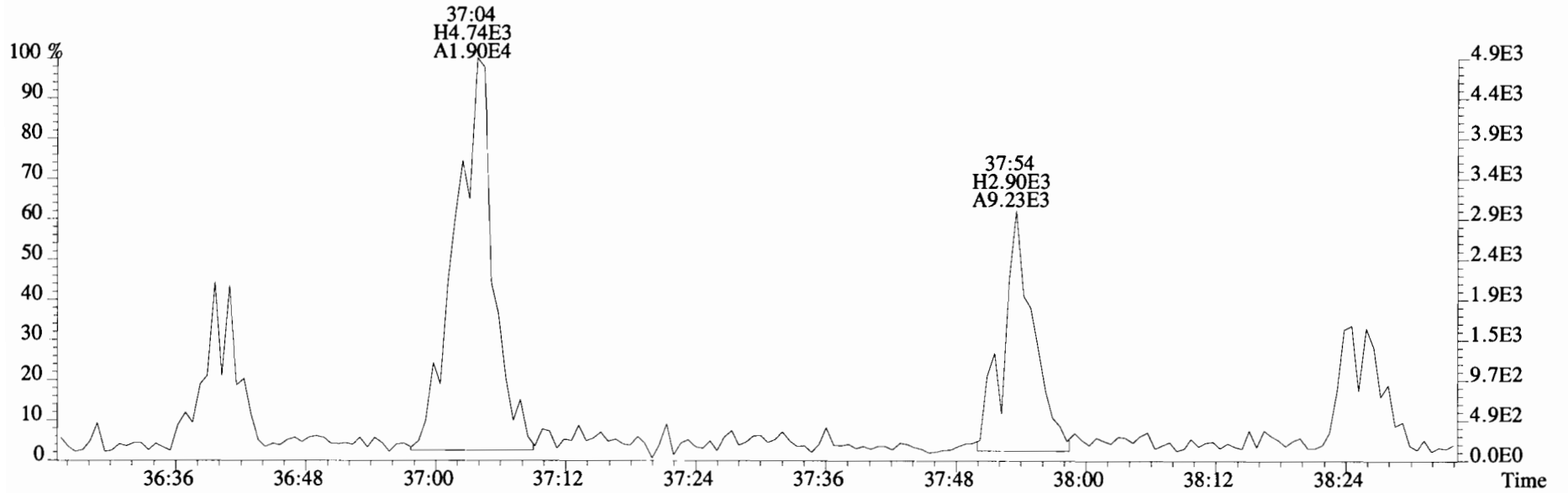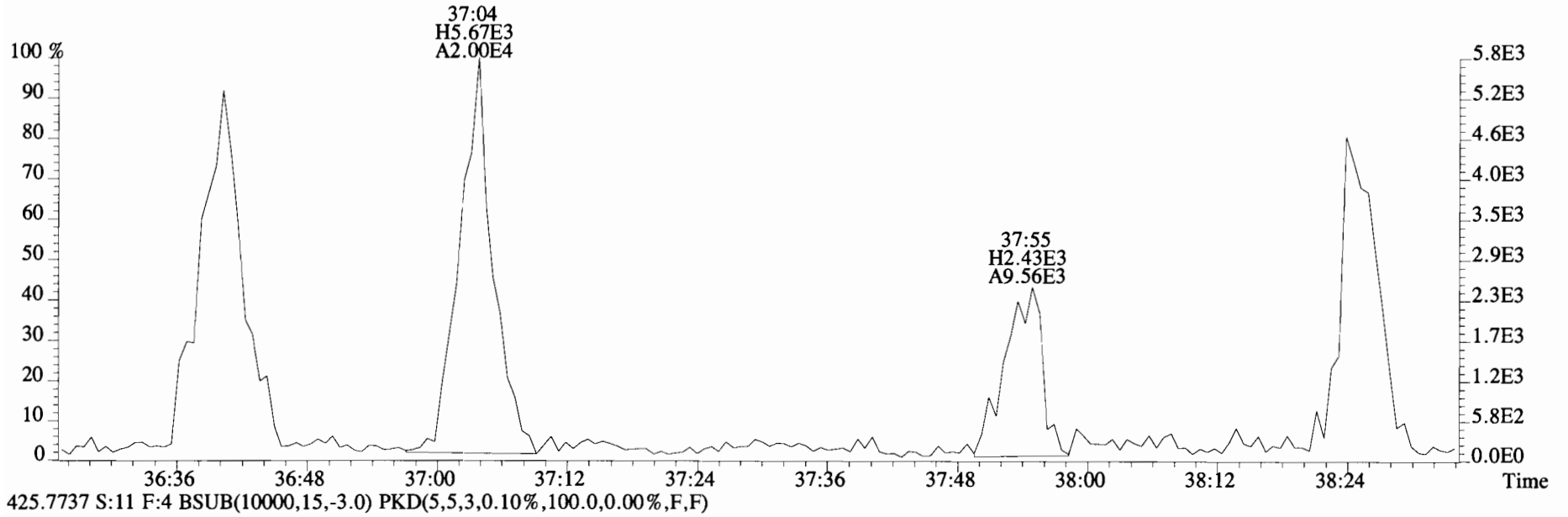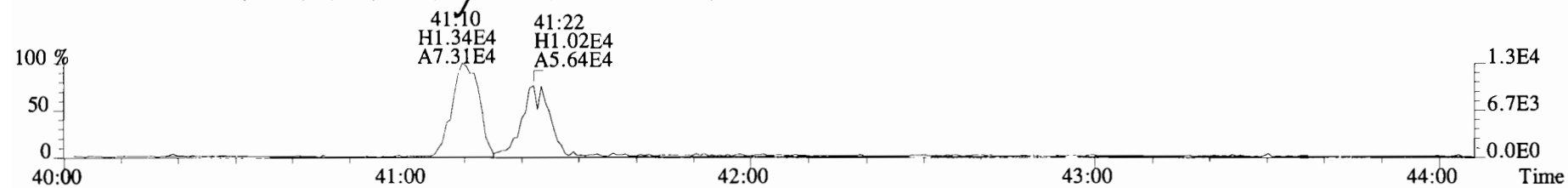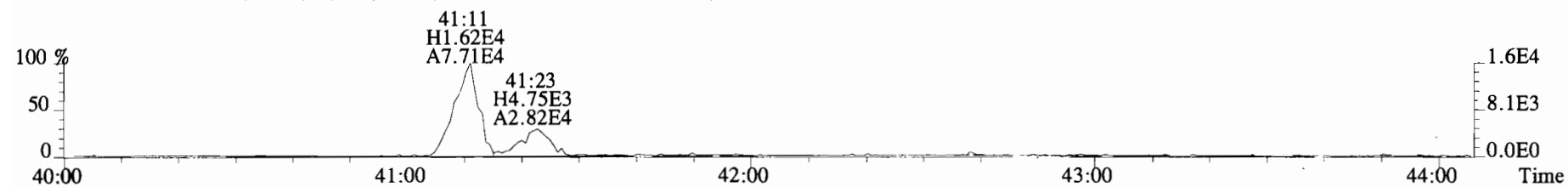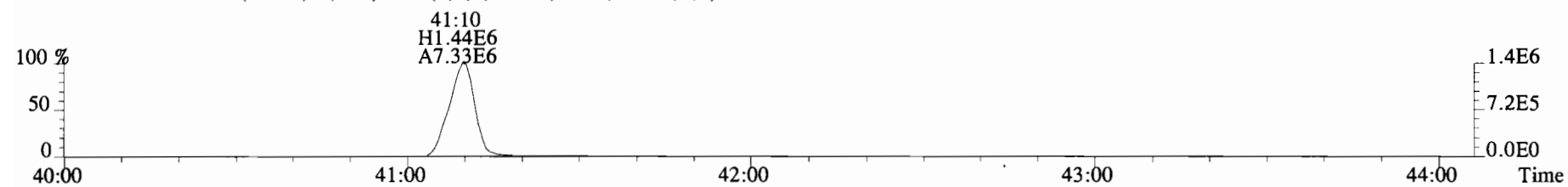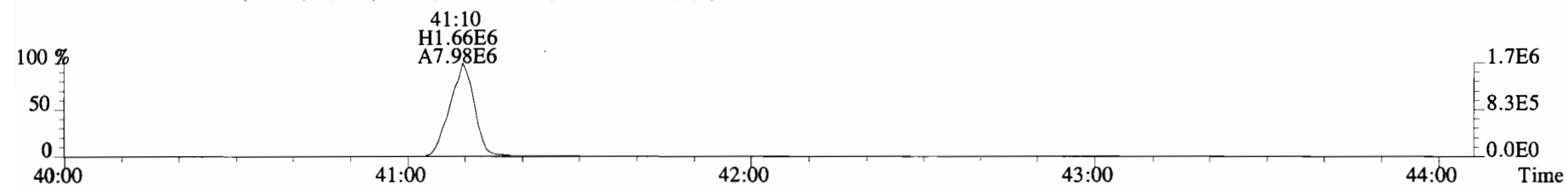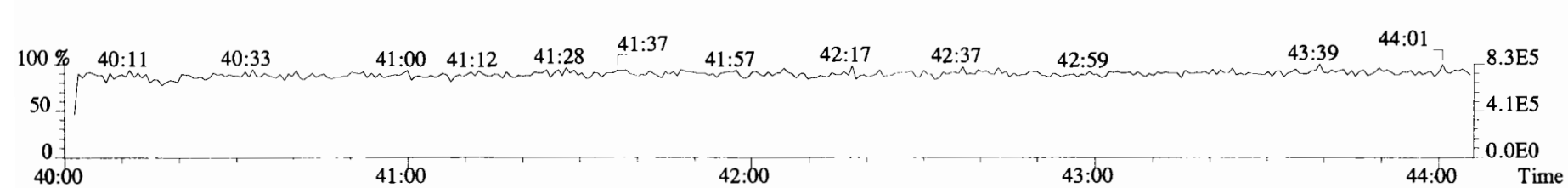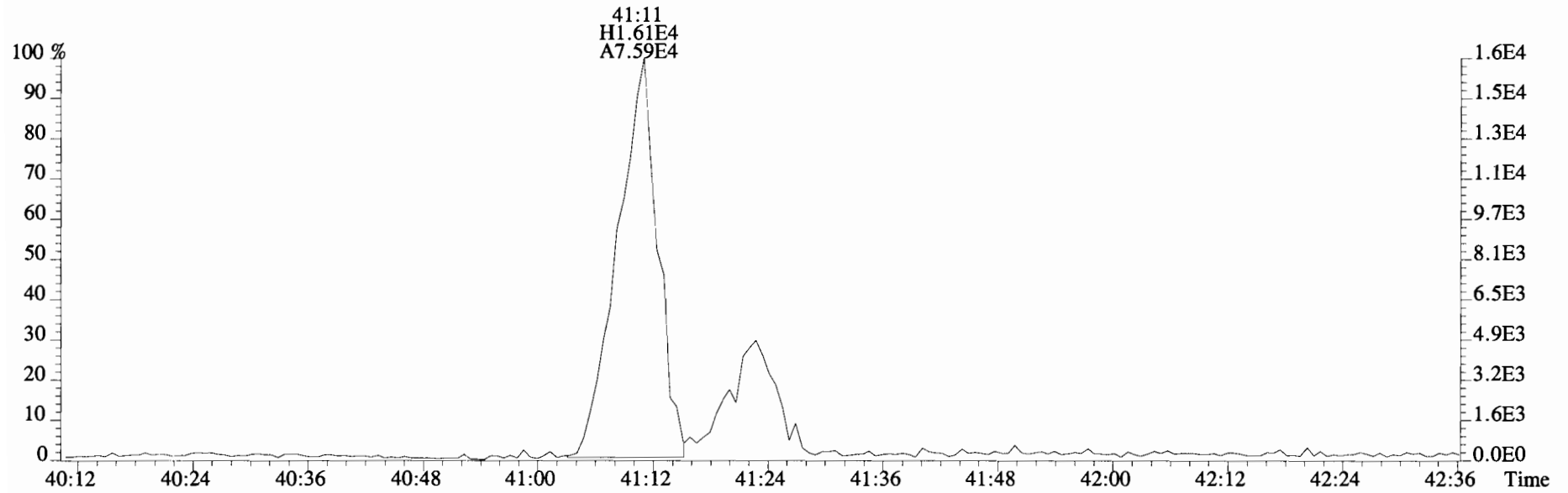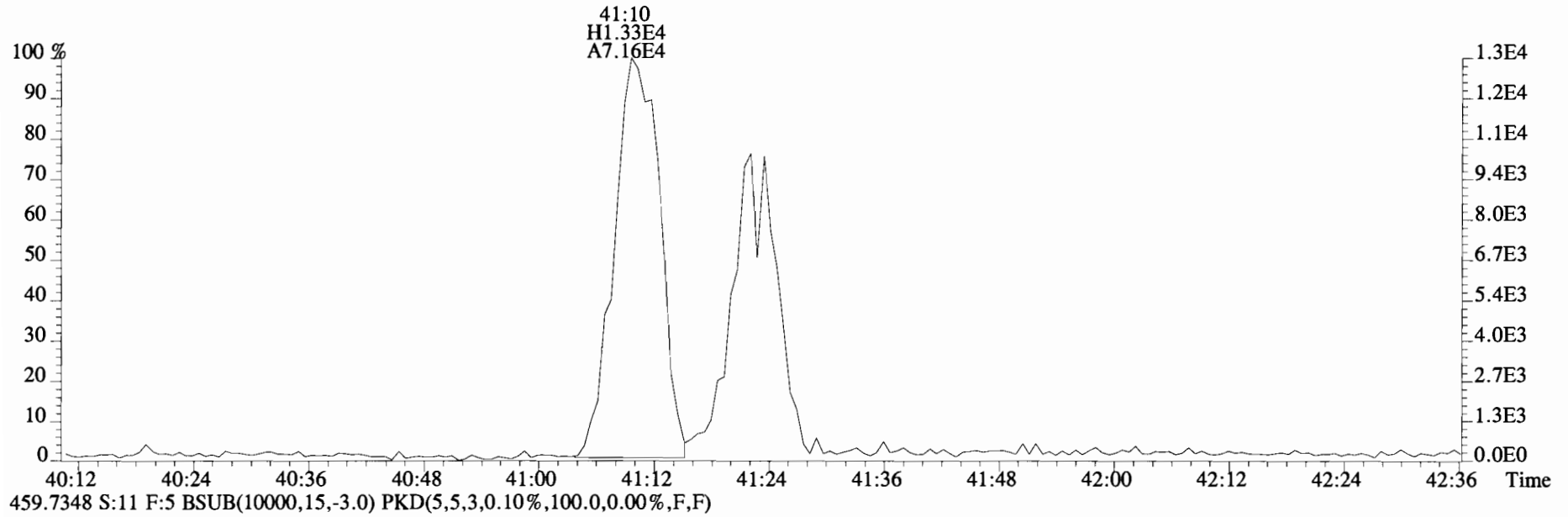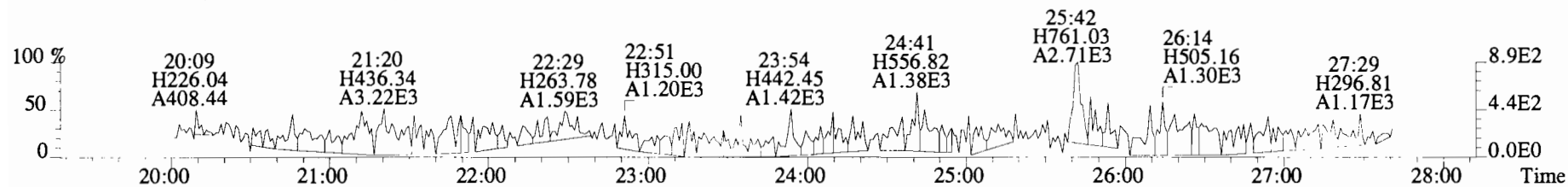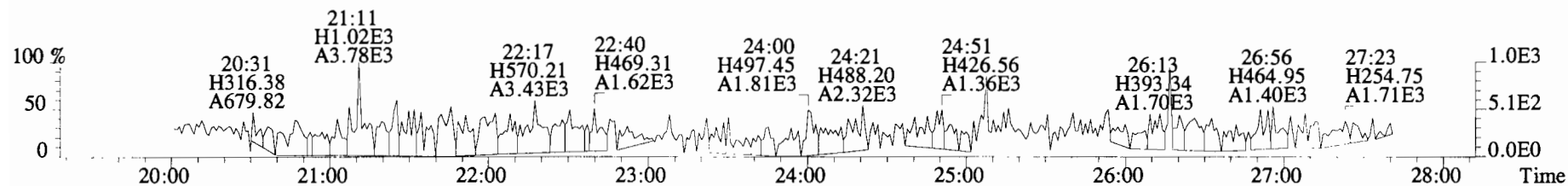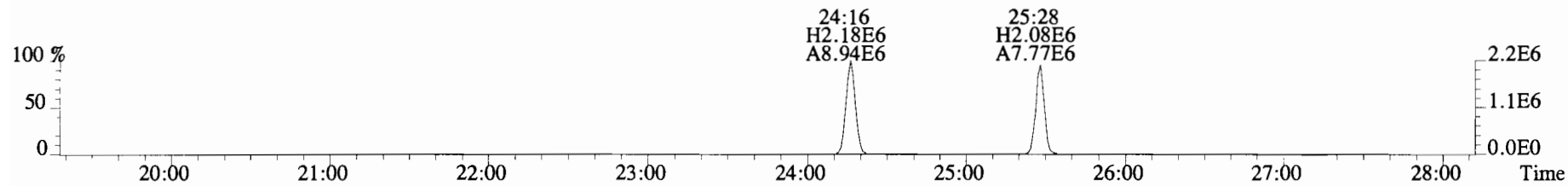File:191111D1 #1-384 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
401.8559 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191111D1 #1-355 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
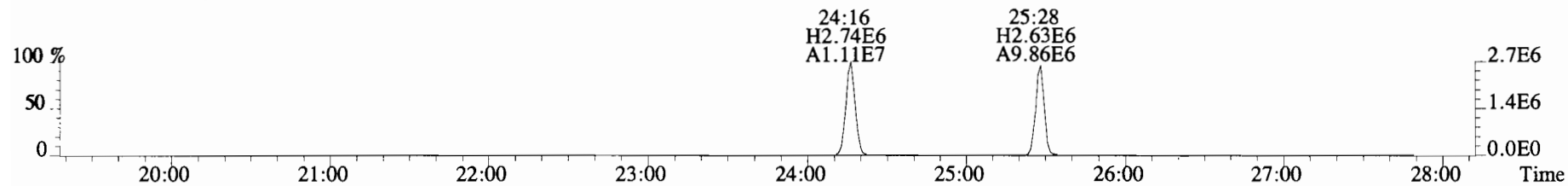423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

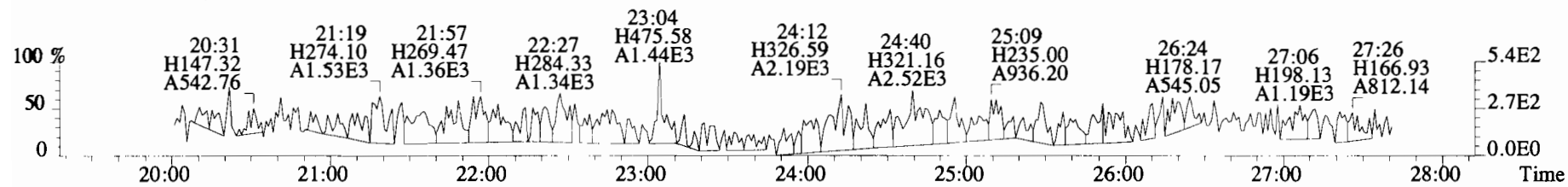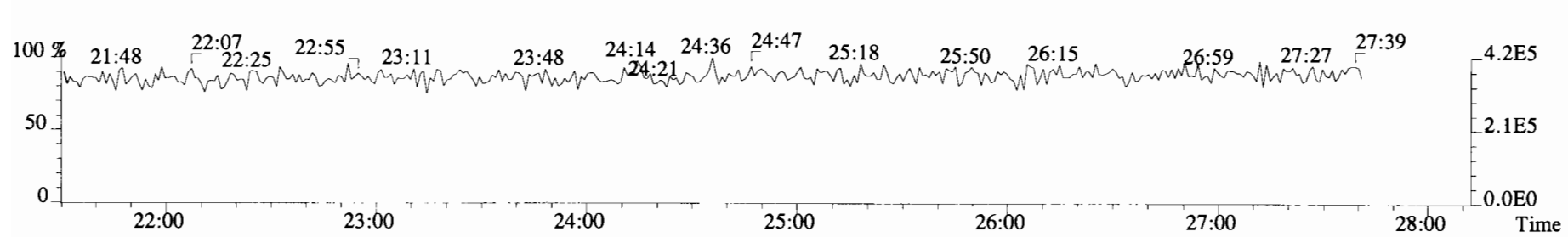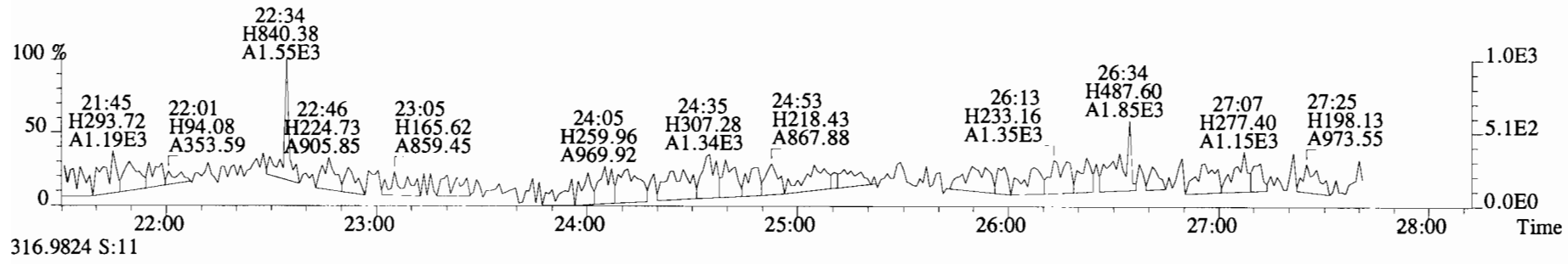435.8169 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
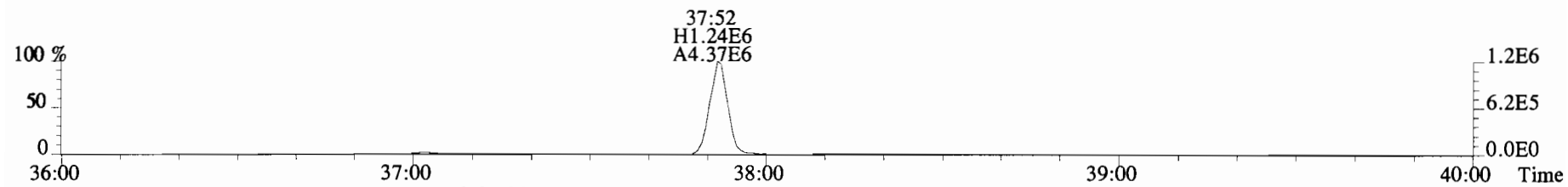
437.8140 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:9 F:4

423.7767 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
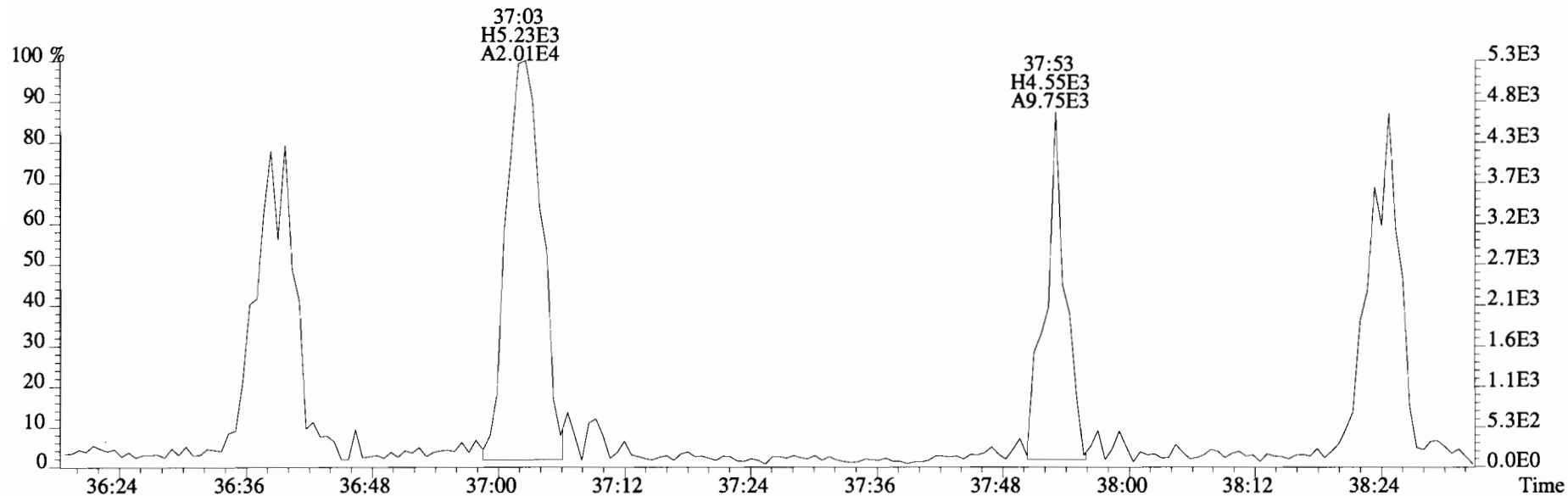
425.7737 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
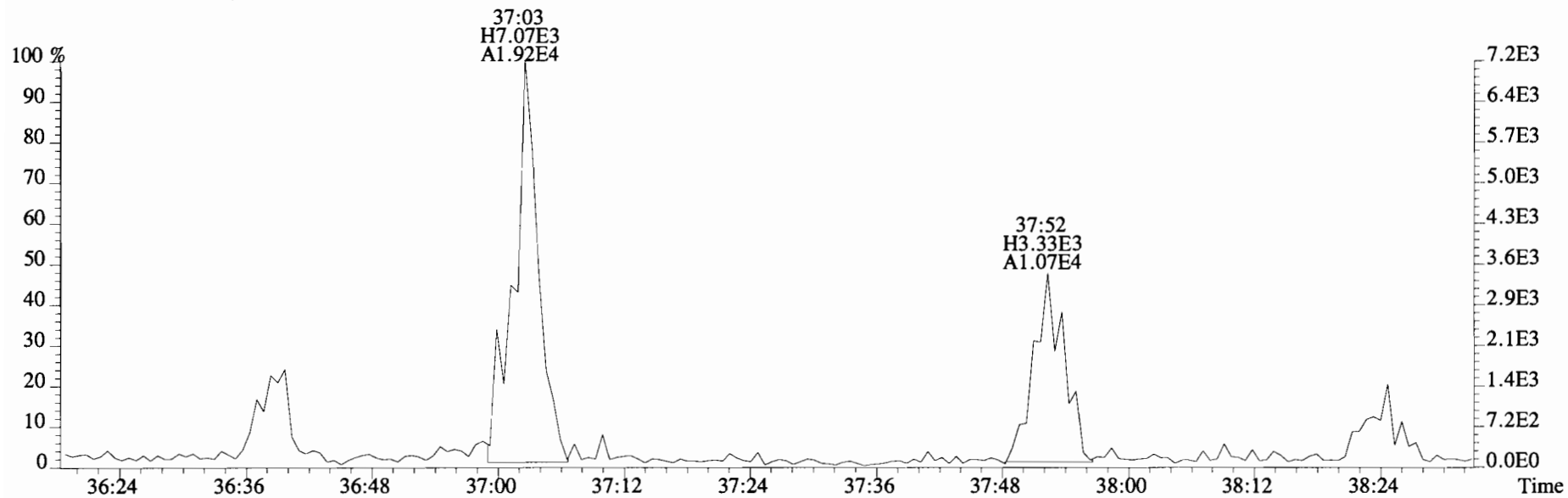
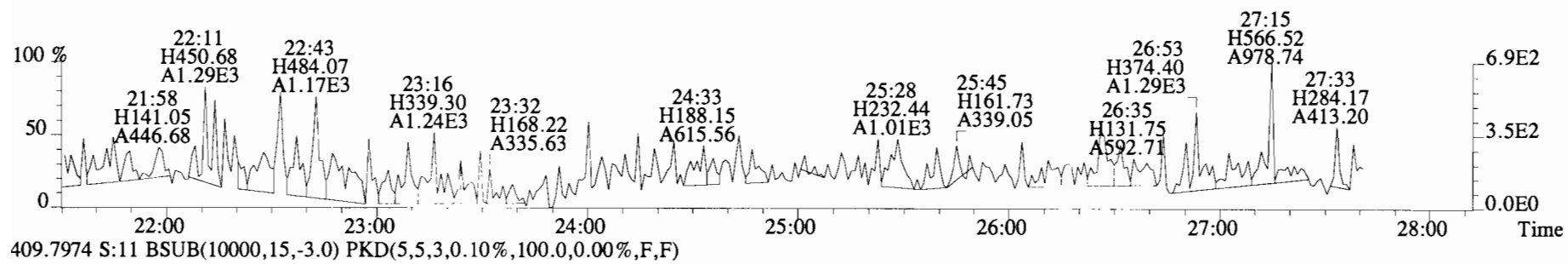File:191111D1 #1-432 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

459.7348 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

469.7780 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

471.7750 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:9 F:5

457.7377 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

459.7348 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)
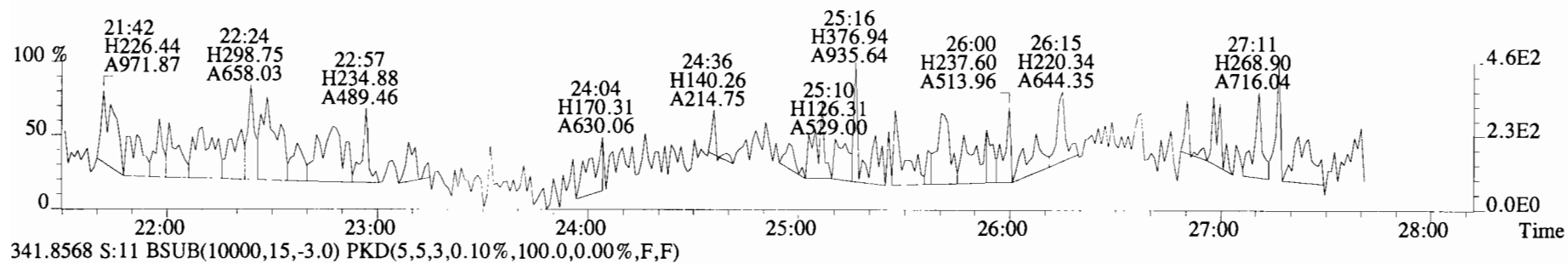

315.9419 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
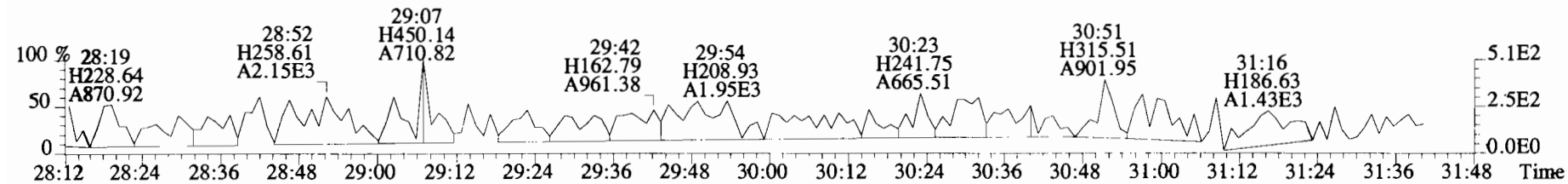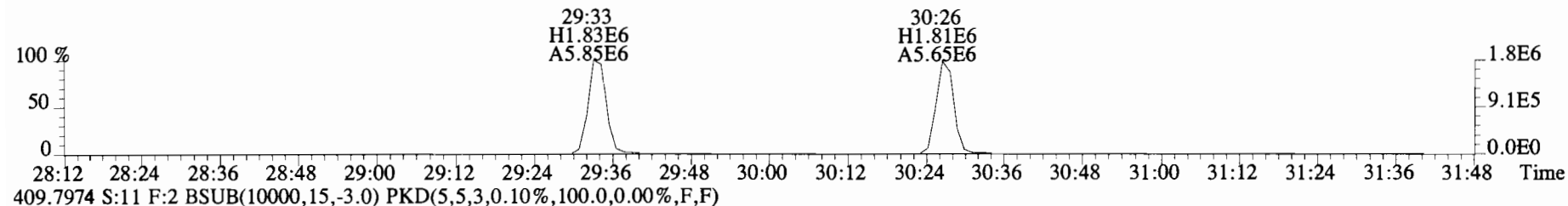
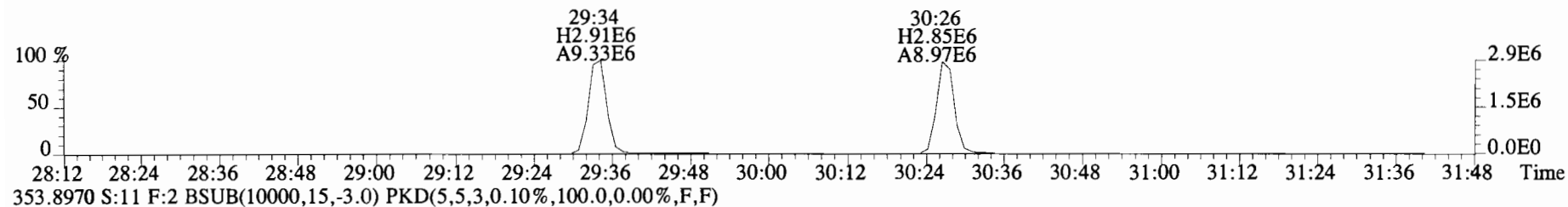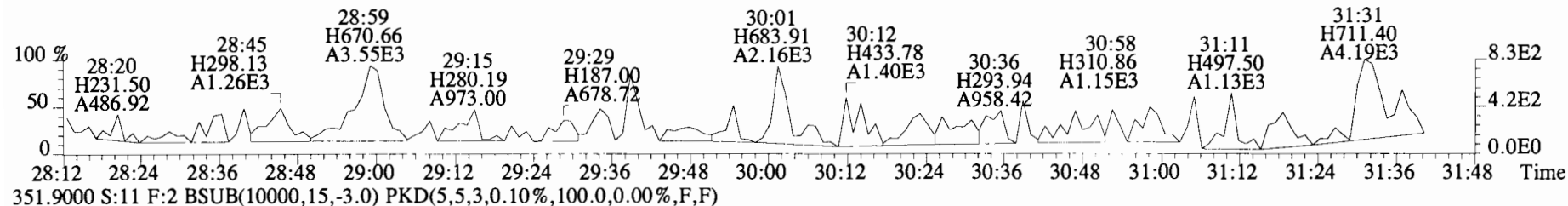

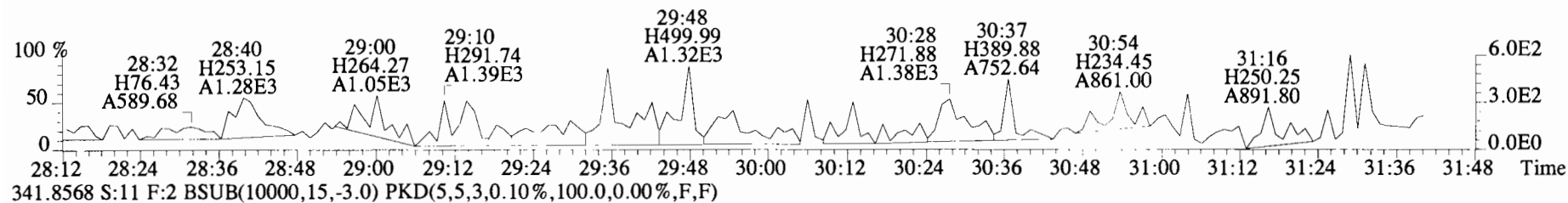317.9389 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8364 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
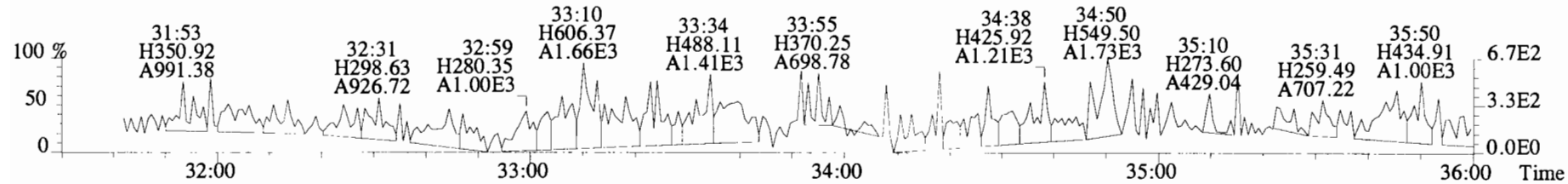
File:191111D1 #1-492 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5

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)

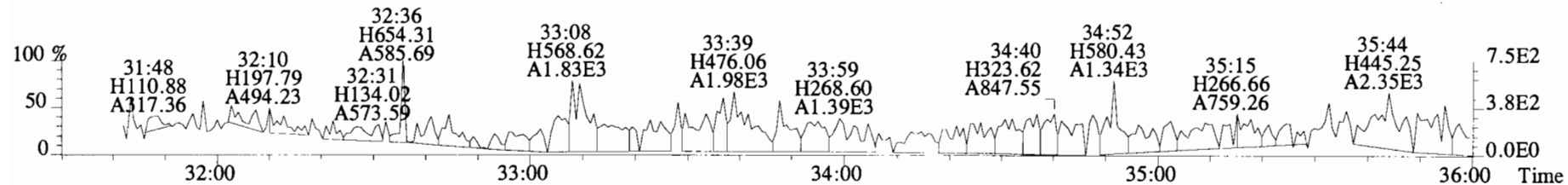409.7974 S:9 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:9

File:191111D1 #1-211 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 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)
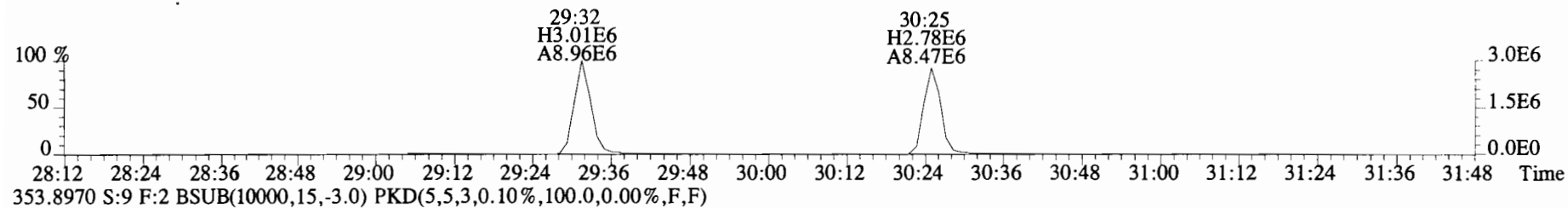
341.8568 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

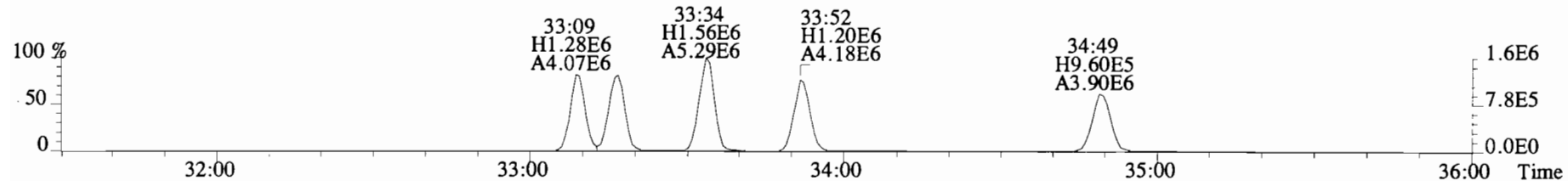409.7974 S:9 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-384 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
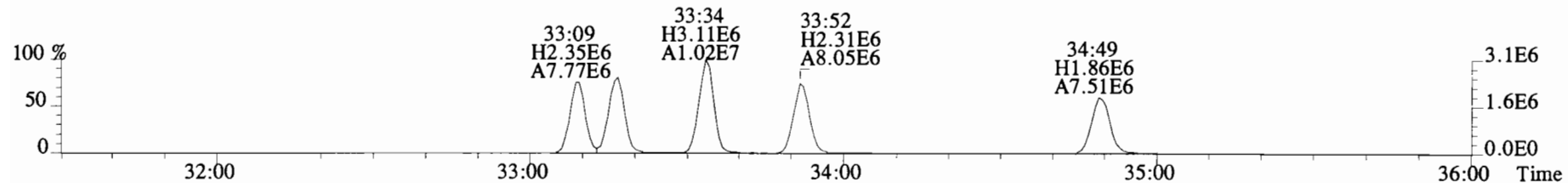373.8207 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

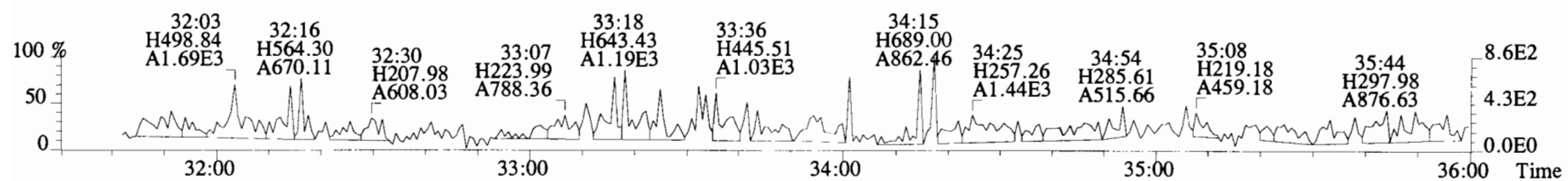375.8178 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

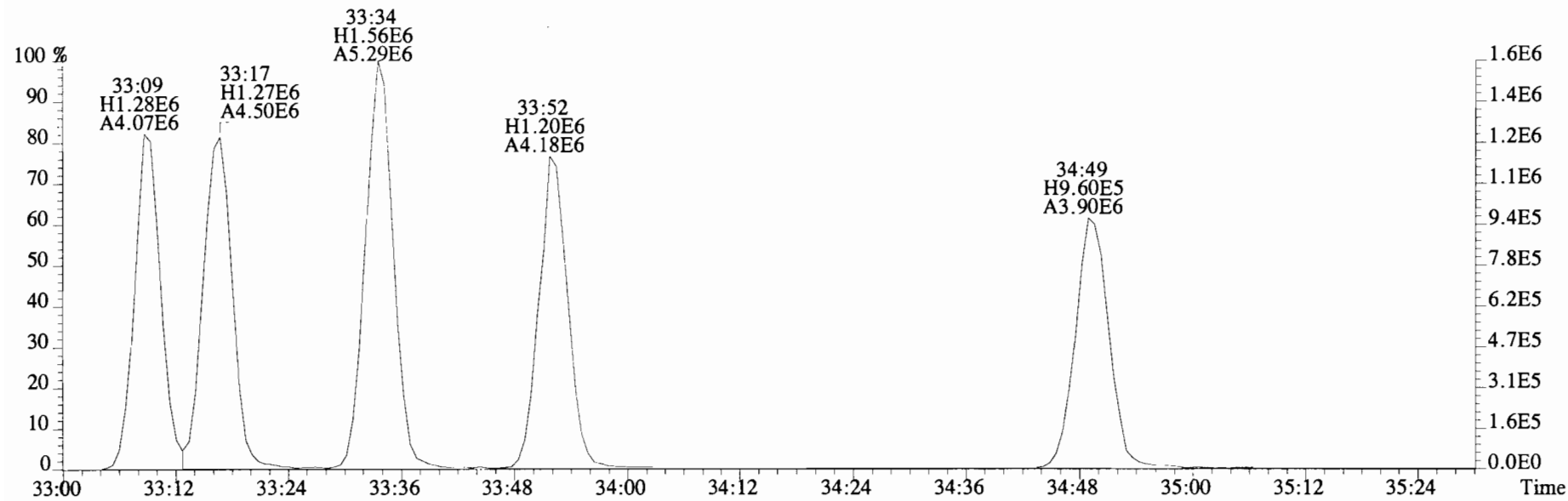383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

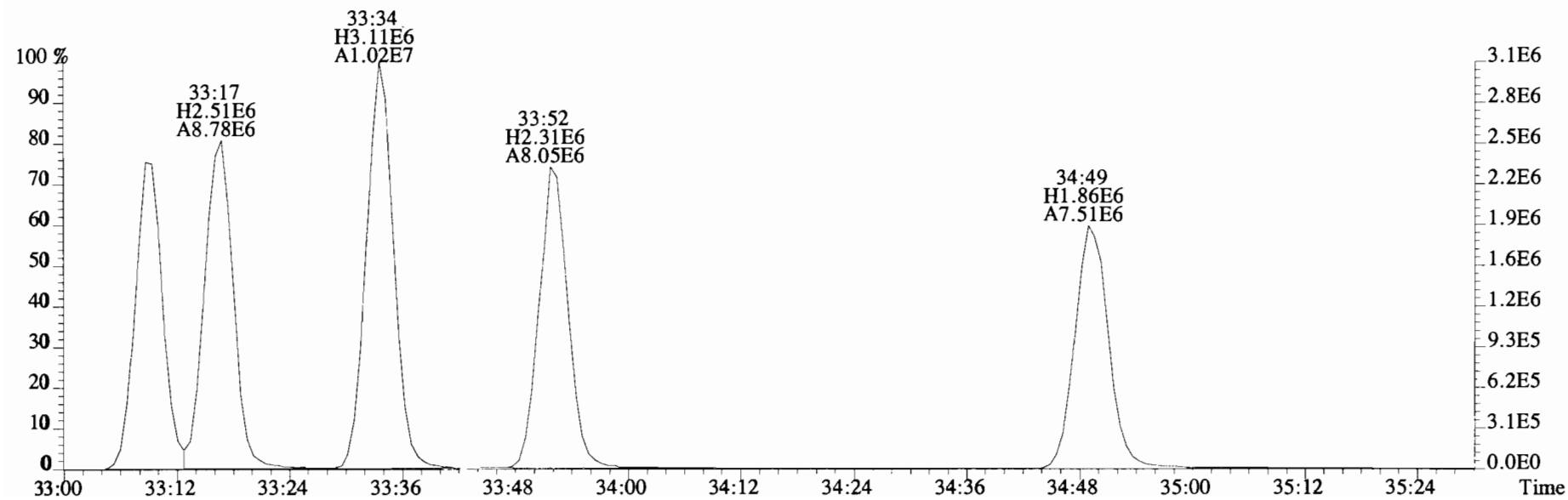385.8610 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

445.7555 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
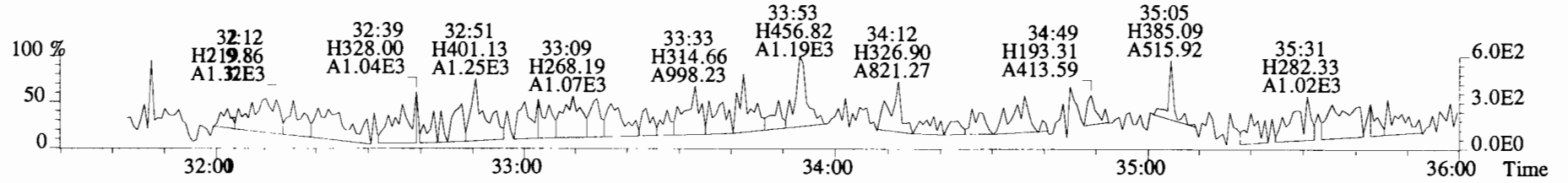
File:191111D1 #1-384 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 Exp:OCDD_DB5
383.8639 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
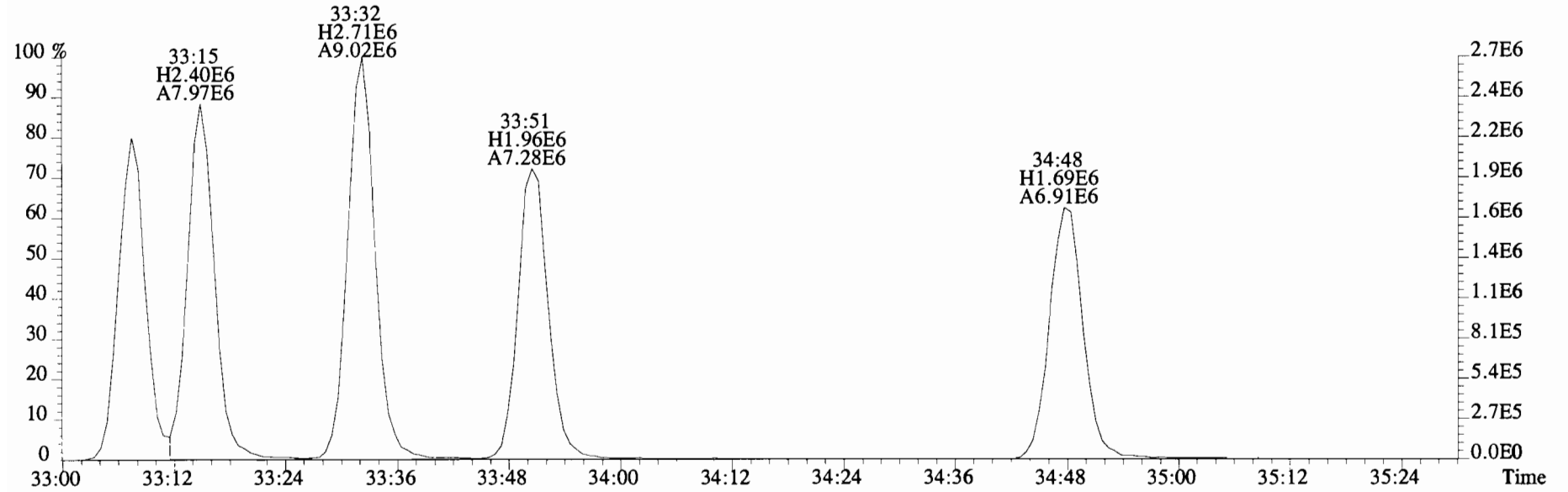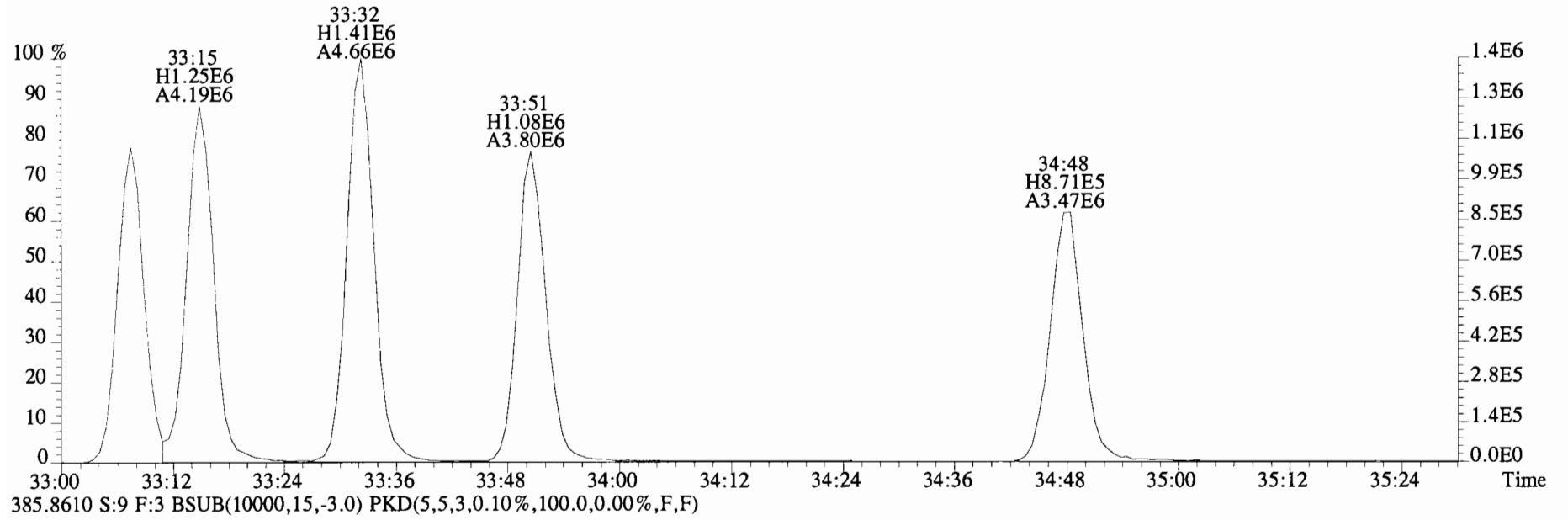
385.8610 S:9 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-355 Acq:11-NOV-2019 16:43:10 GC EI+ Voltage SIR Autospec-UltimaE
Sample#9 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-01 PDI-019SC-A-12-13-191008 12.02 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)

36:24 H264.74 A698.01
36:39 H276.37 A766.95
37:04 H119.18 A264.33
37:13 H519.16 A787.75
37:48 H592.24 A710.79
37:44 H167.49 A449.86
38:00 H288.13 A1.60E3
38:29 H354.91 A906.88
38:51 H517.44 A844.04
39:03 H223.35 A562.52
39:41 H175.38 A411.92
39:59 H155.98 A299.39
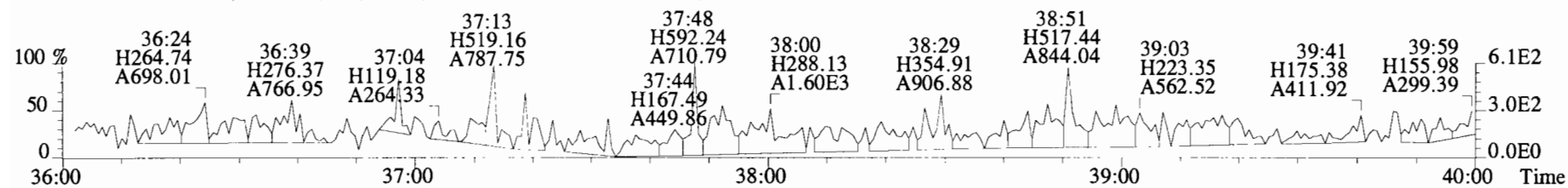
409.7788 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:17 H159.60 A651.73
36:32 H248.72 A729.41
37:02 H314.46 A643.41
37:24 H259.39 A454.66
37:50 H134.33 A525.75
38:00 H210.29 A876.79
38:30 H188.97 A772.26
38:49 H242.96 A864.46
39:00 H329.84 A1.19E3
39:24 H240.58 A471.35
39:51 H162.03 A429.51

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

36:39 H7.20E5 A3.03E6
38:25 H6.99E5 A2.52E6
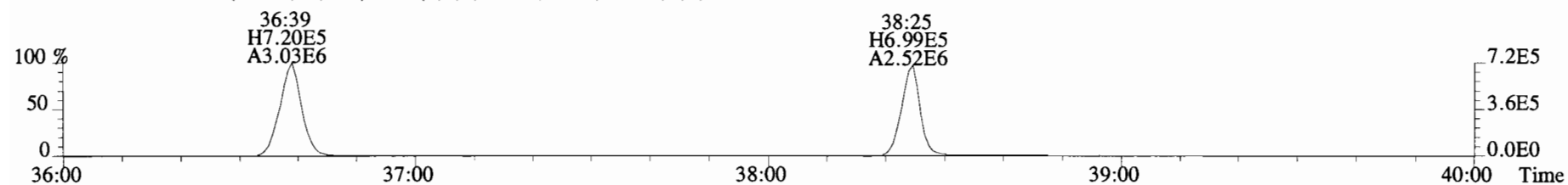
419.8220 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:39 H1.60E6 A6.91E6
38:25 H1.54E6 A5.76E6
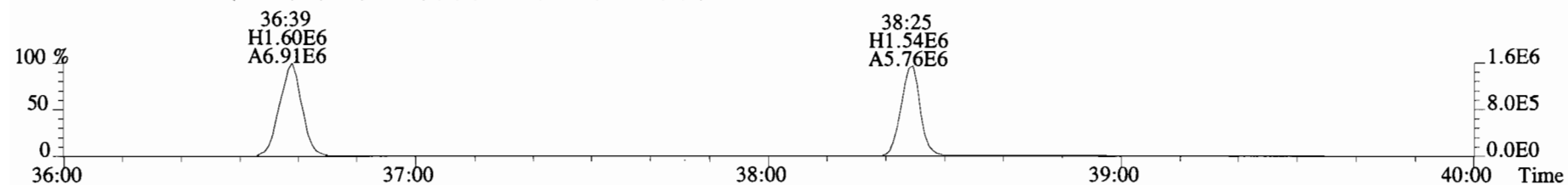
479.7165 S:9 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
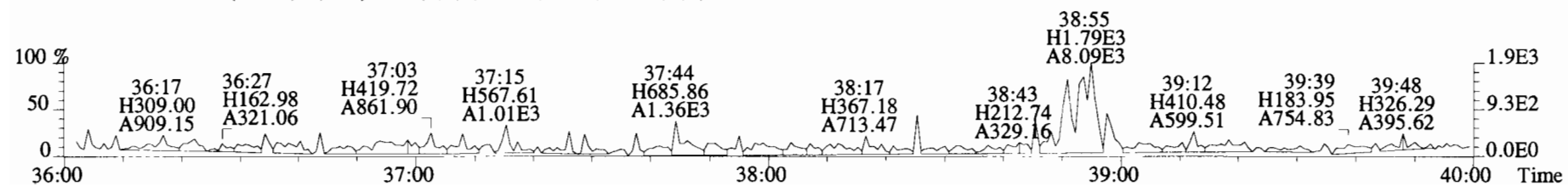
36:17 H309.00 A909.15
36:27 H162.98 A321.06
37:03 H419.72 A861.90
37:15 H567.61 A1.01E3
37:44 H685.86 A1.36E3
38:17 H367.18 A713.47
38:43 H212.74 A329.16
38:55 H1.79E3 A8.09E3
39:12 H410.48 A599.51
39:39 H183.95 A754.83
39:48 H326.29 A395.62

441.7428 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
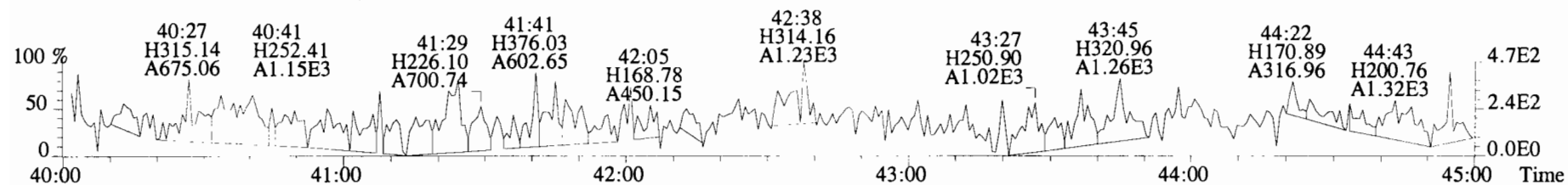
443.7398 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
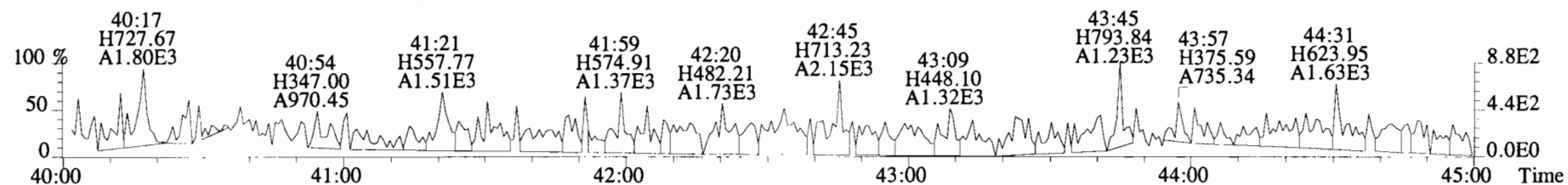
453.7831 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
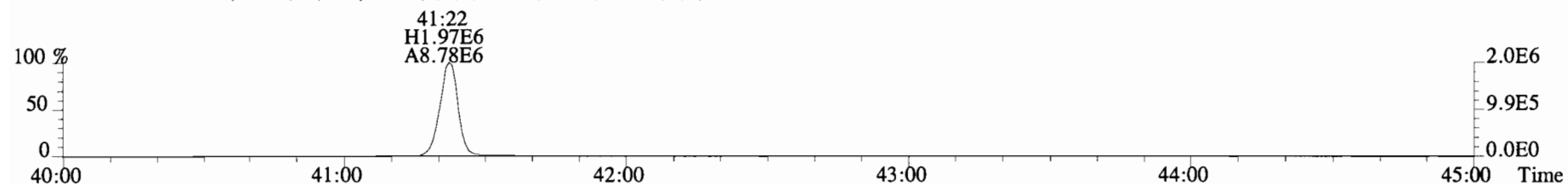
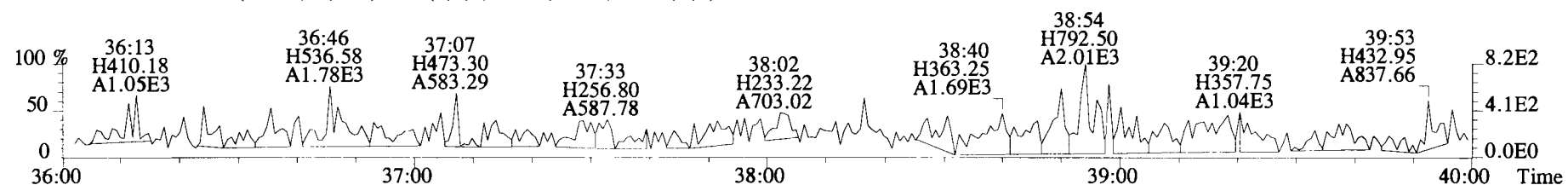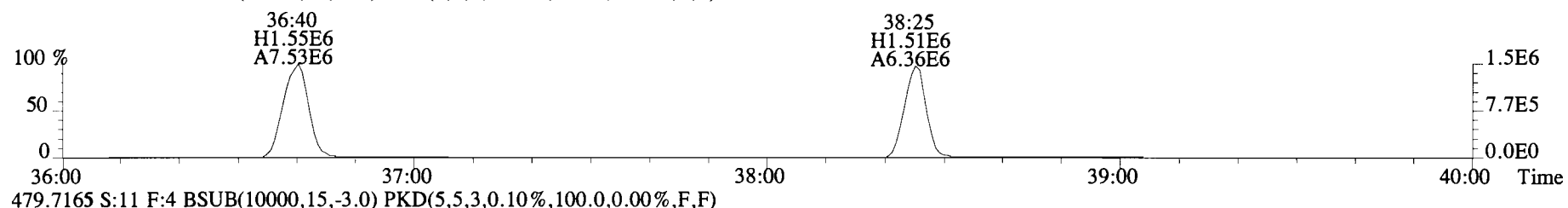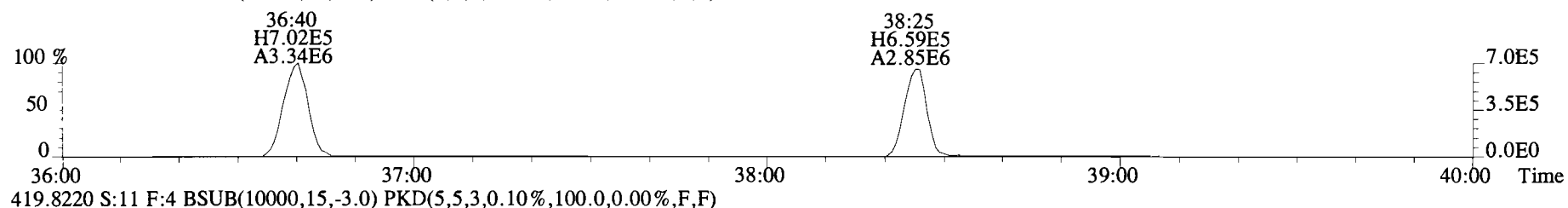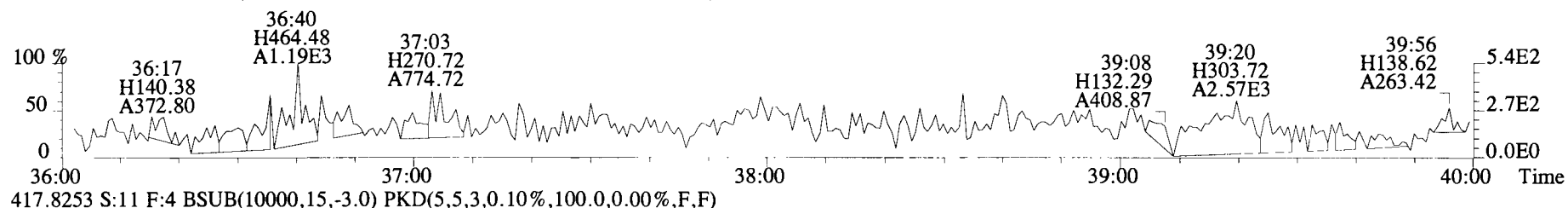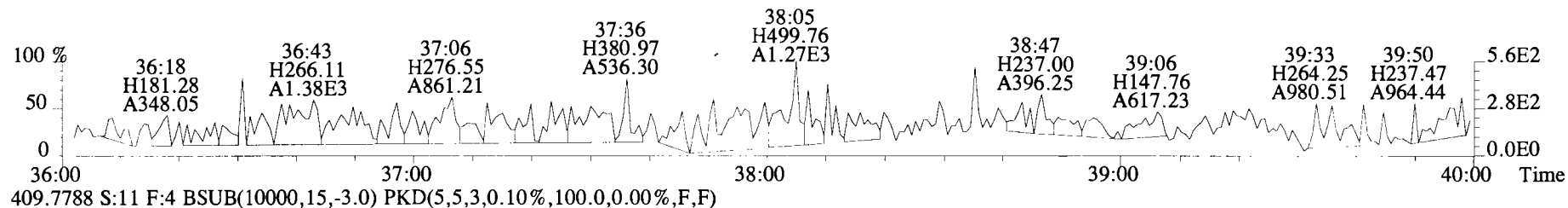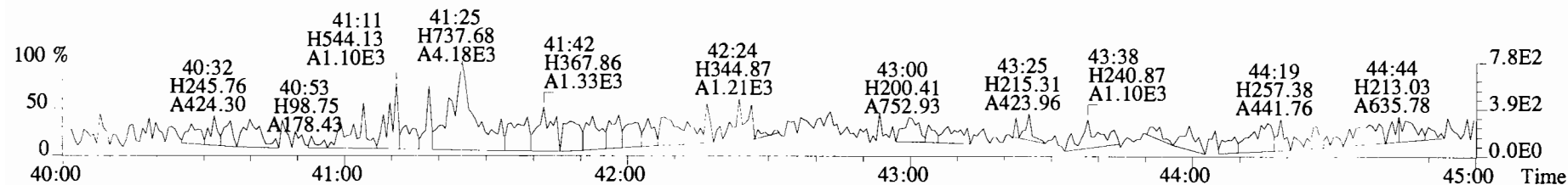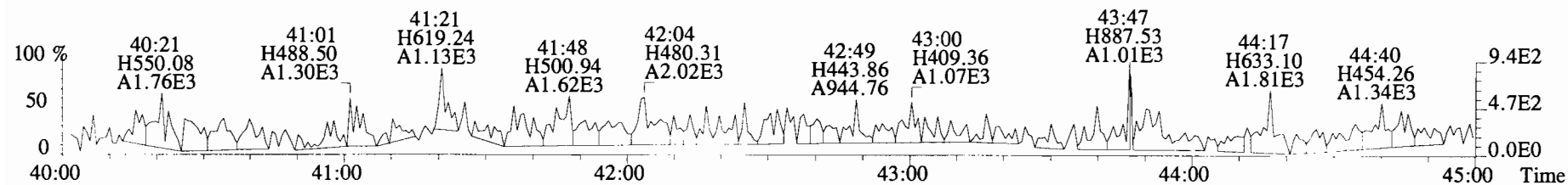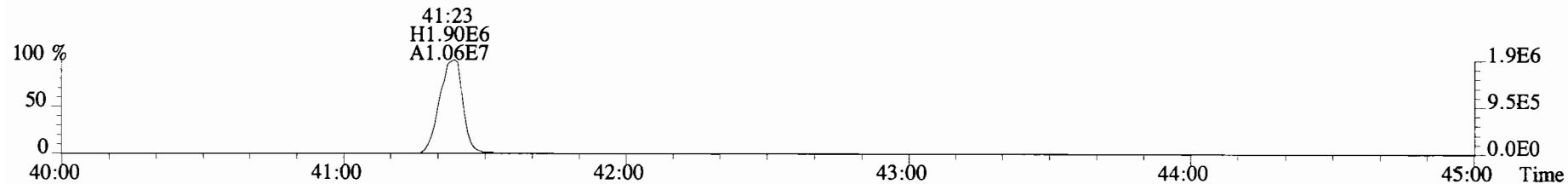455.7801 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
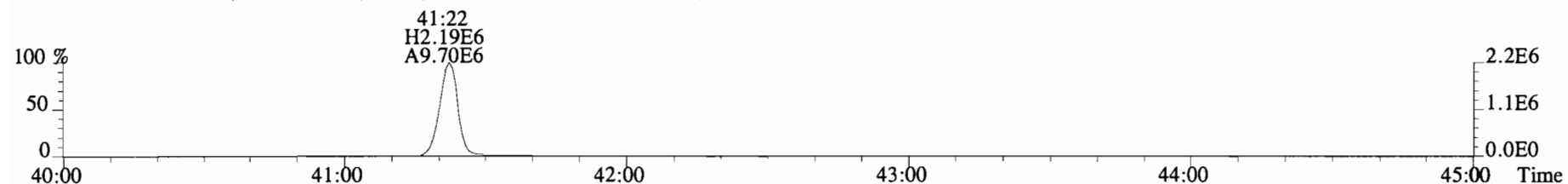
513.6775 S:9 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL		Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF⌐	*		153	2.5	0.0451		Total Tetra-Dioxins	*	0.134		*	*
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF⌐	*		304	2.5	0.0785		Total Penta-Dioxins	*	*		304	0.0785
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF⌐	*		211	2.5	0.0904		Total Hexa-Dioxins	0.337	0.337		*	*
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF⌐	*		211	2.5	0.0952		Total Hepta-Dioxins	1.27	1.27		*	*
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotF⌐	*		211	2.5	0.0968		Total Tetra-Furans	*	*		166	0.0326
	1,2,3,4,6,7,8-HpCDD	1.88e+04	1.03	y	0.98	37:54	0.41396		*	2.5	*		Total Penta-Furans	0.0000	0.0000		210	0.0577
	OCDD	1.47e+05	0.94	y	0.96	41:10	3.9620		*	2.5	*		Total Hexa-Furans	*	*		131	0.0260
													Total Hepta-Furans	*	*		126	0.0341
	2,3,7,8-TCDF	*	*	n	0.95	NotF⌐	*		166	2.5	0.0326							
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF⌐	*		210	2.5	0.0589							
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF⌐	*		210	2.5	0.0565							
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF⌐	*		131	2.5	0.0228							
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF⌐	*		131	2.5	0.0241							
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF⌐	*		131	2.5	0.0250							
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF⌐	*		131	2.5	0.0327							
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF⌐	*		126	2.5	0.0353							
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF⌐	*		126	2.5	0.0326							
	OCDF	*	*	n	0.95	NotF⌐	*		152	2.5	0.0825							

	Name	Resp	RA		RRF	RT	Conc		Rec	Qual
IS	13C-2,3,7,8-TCDD	1.18e+07	0.79	y	1.10	26:15	173.66		88.1	
IS	13C-1,2,3,7,8-PeCDD	9.60e+06	0.64	y	0.88	30:43	175.06		88.8	
IS	13C-1,2,3,4,7,8-HxCDD	8.54e+06	1.27	y	0.64	34:02	169.33		85.9	
IS	13C-1,2,3,6,7,8-HxCDD	9.85e+06	1.26	y	0.86	34:09	146.58		74.4	
IS	13C-1,2,3,7,8,9-HxCDD	9.69e+06	1.26	y	0.81	34:27	152.99		77.6	
IS	13C-1,2,3,4,6,7,8-HpCDD	9.13e+06	1.06	y	0.65	37:53	177.87		90.3	
IS	13C-OCDD	1.53e+07	0.92	y	0.58	41:10	336.19		85.3	
IS	13C-2,3,7,8-TCDF	1.76e+07	0.79	y	1.03	25:28	167.35		84.9	
IS	13C-1,2,3,7,8-PeCDF	1.52e+07	1.60	y	0.85	29:34	174.59		88.6	
IS	13C-2,3,4,7,8-PeCDF	1.46e+07	1.59	y	0.85	30:27	169.49		86.0	
IS	13C-1,2,3,4,7,8-HxCDF	1.18e+07	0.52	y	0.83	33:09	181.36		92.0	
IS	13C-1,2,3,6,7,8-HxCDF	1.33e+07	0.51	y	1.03	33:17	163.40		82.9	
IS	13C-2,3,4,6,7,8-HxCDF	1.22e+07	0.52	y	0.95	33:52	163.37		82.9	
IS	13C-1,2,3,7,8,9-HxCDF	1.14e+07	0.52	y	0.83	34:50	175.50		89.1	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.09e+07	0.44	y	0.76	36:40	182.71		92.7	
IS	13C-1,2,3,4,7,8,9-HpCDF	9.21e+06	0.45	y	0.58	38:25	201.80		102	
IS	13C-OCDF	2.01e+07	0.91	y	0.69	41:23	371.83		94.3	
C/Up	37Cl-2,3,7,8-TCDD	5.66e+06			1.20	26:16	75.933		96.3	
RS/RT	13C-1,2,3,4-TCDD	1.23e+07	0.82	y	1.00	25:41	197.07			
RS	13C-1,2,3,4-TCDF	2.01e+07	0.80	y	1.00	24:16	197.07			
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.55e+07	0.52	y	1.00	33:34	197.07			

Integrations by Analyst: _DB_   Reviewed by Analyst: _CT_

Date: _11/19/19_   Date: _11/20/19_

Totals class: TCDD EMPC   Entry #: 19

        Run: 16   File: 191111D1   S: 11 I: 1 F: 1
   Acquired: 11-NOV-19 18:18:51   Processed: 12-NOV-19 09:23:35

Total Concentration: 0.13435   Unnamed Concentration: 0.134

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

24:24 4.255e+03   4.127e+03 1.03 n 7.304e+03   0.13435

Totals class: HxCDD EMPC   Entry #: 23

          Run: 16   File: 191111D1   S: 11 I: 1 F: 3
     Acquired: 11-NOV-19 18:18:51   Processed: 12-NOV-19 09:23:35

Total Concentration: 0.33660   Unnamed Concentration: 0.337

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

32:31 9.032e+03   6.821e+03 1.32 y 1.585e+04   0.33660

Totals class: HpCDD EMPC   Entry #: 25

           Run: 16   File: 191111D1   S: 11 I: 1 F: 4
      Acquired: 11-NOV-19 18:18:51   Processed: 12-NOV-19 09:23:35

Total Concentration: 1.2734   Unnamed Concentration: 0.859

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

37:03 1.997e+04 1.904e+04 1.05 y 3.901e+04   0.85945
37:54 9.556e+03 9.234e+03 1.03 y 1.879e+04   0.41396   1,2,3,4,6,7,8-HpCDD

File:191111D1 #1-493 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5

319.8965 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
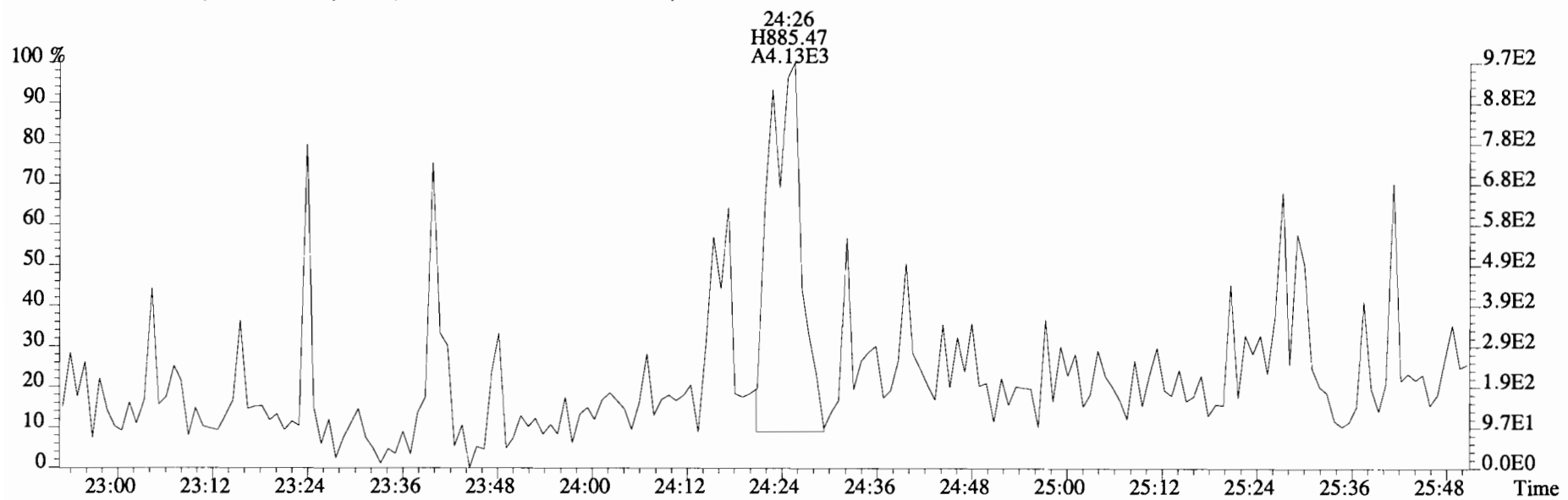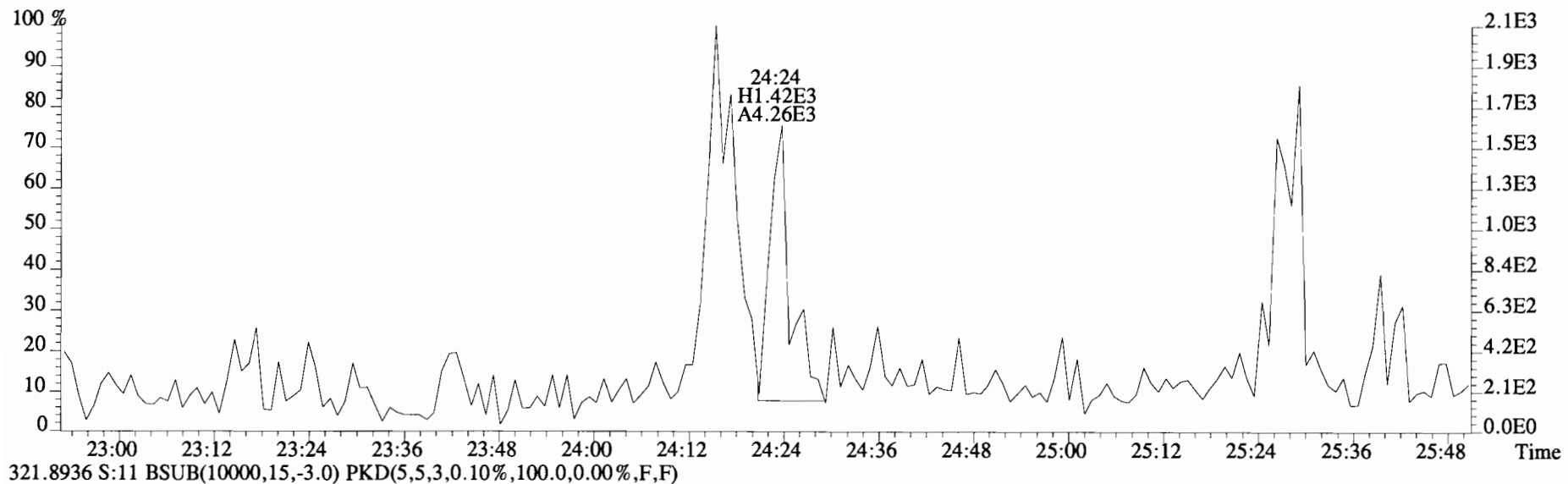
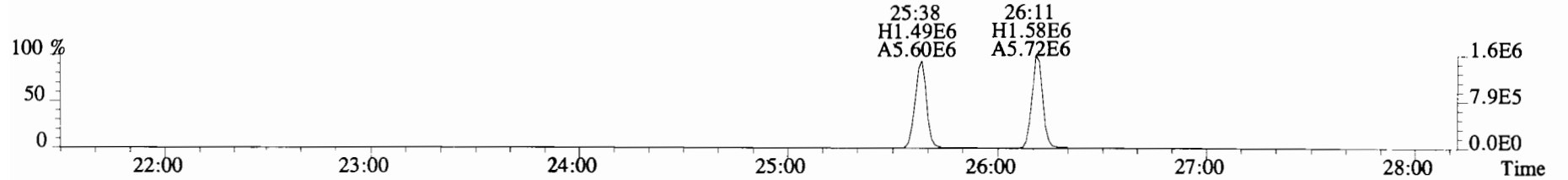321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

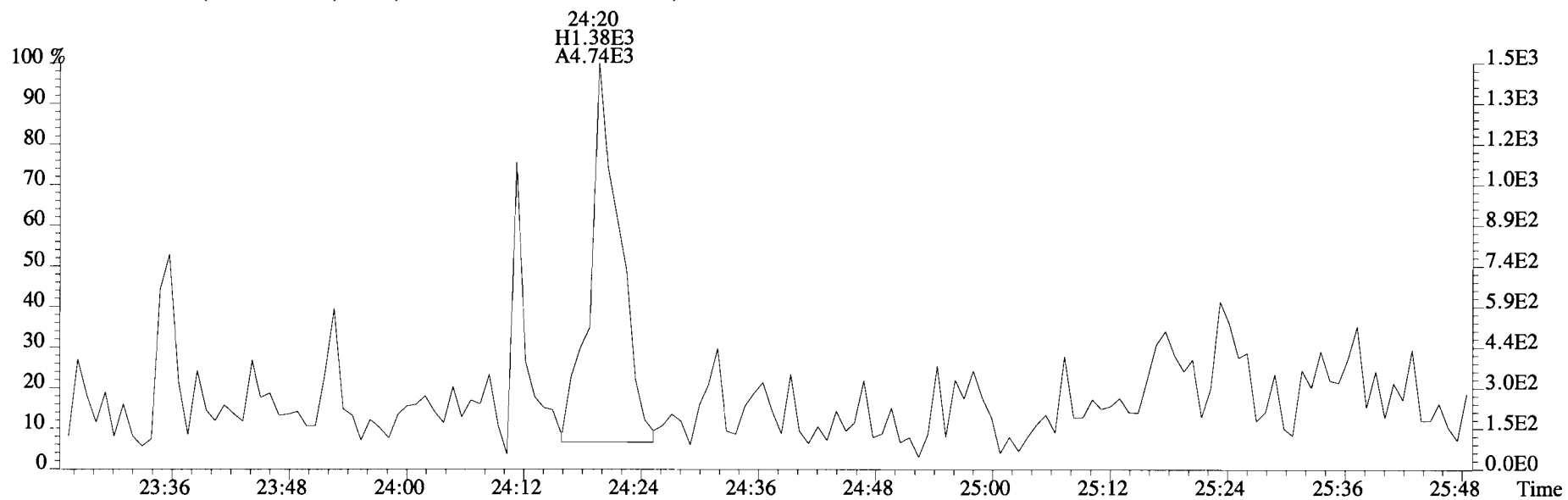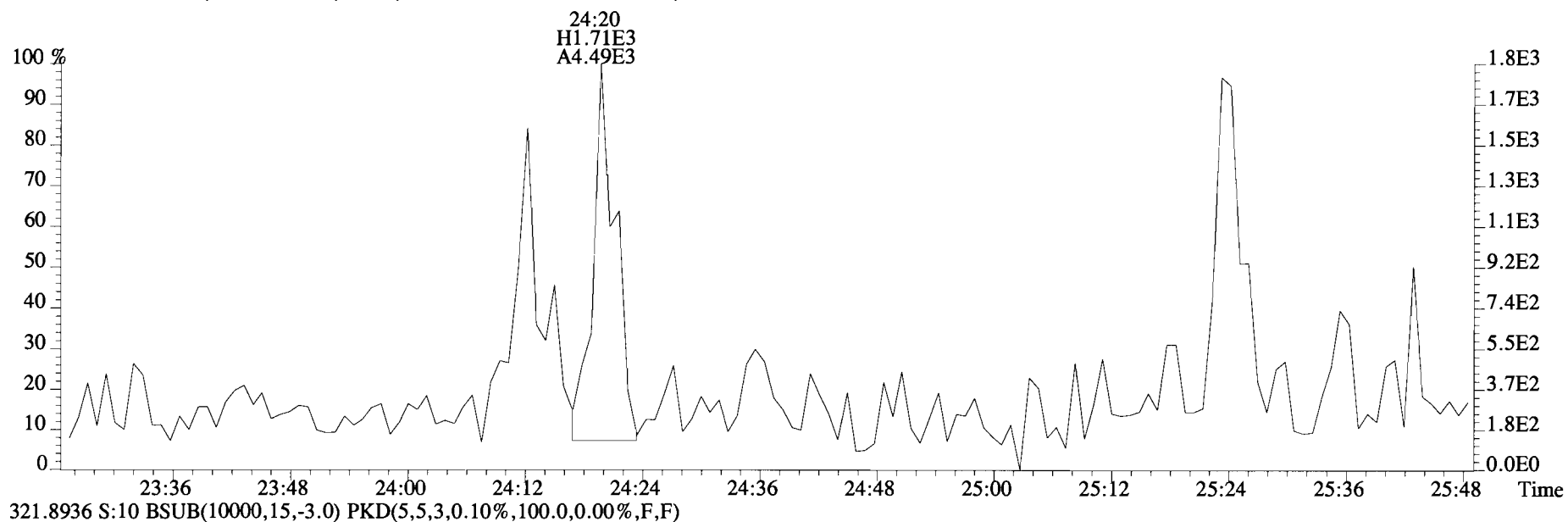327.8847 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

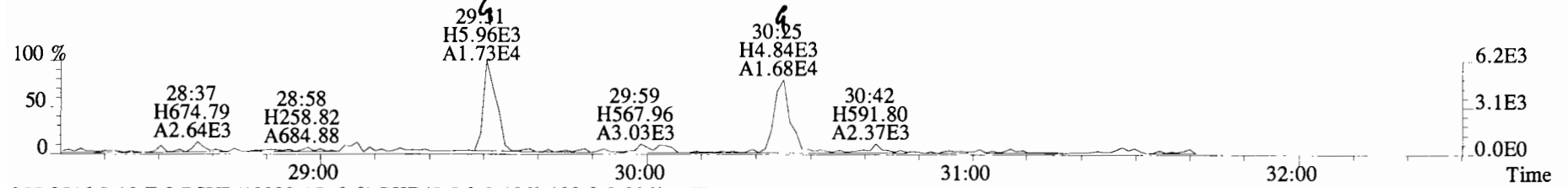331.9368 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

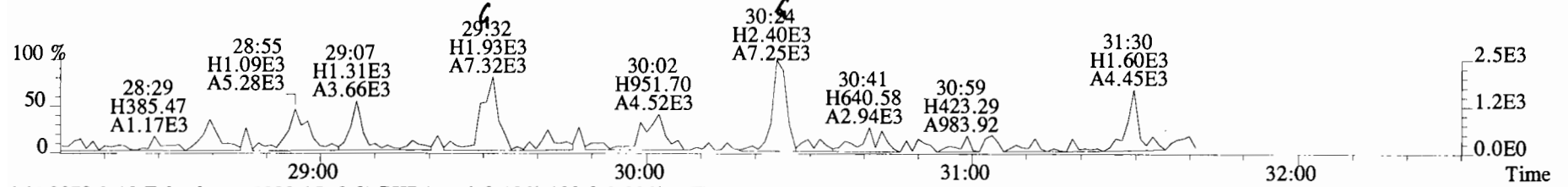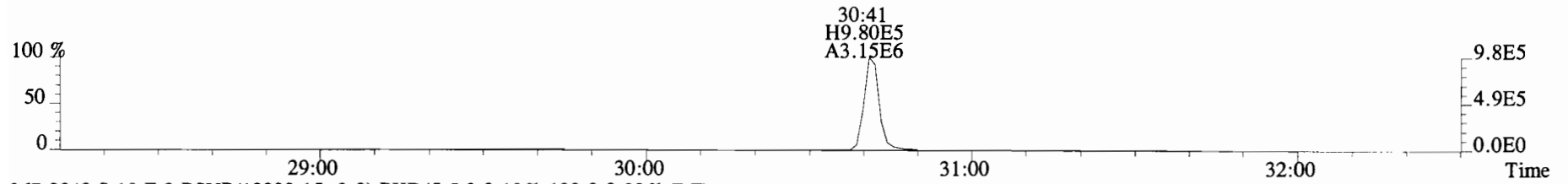321.8936 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-210 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
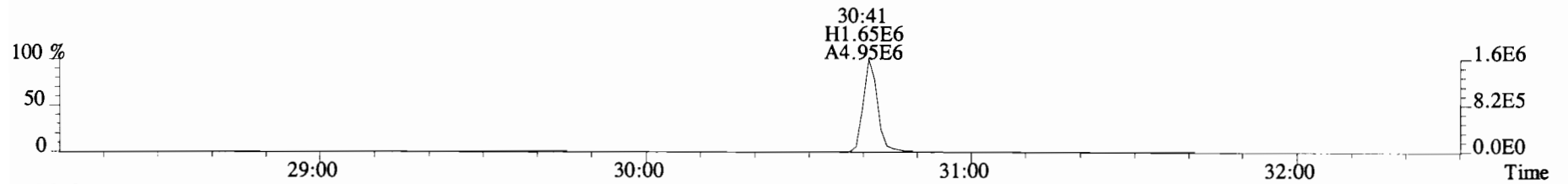353.8576 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
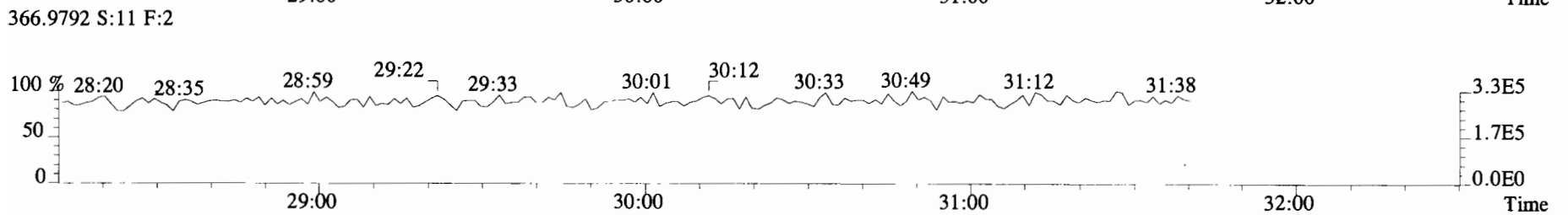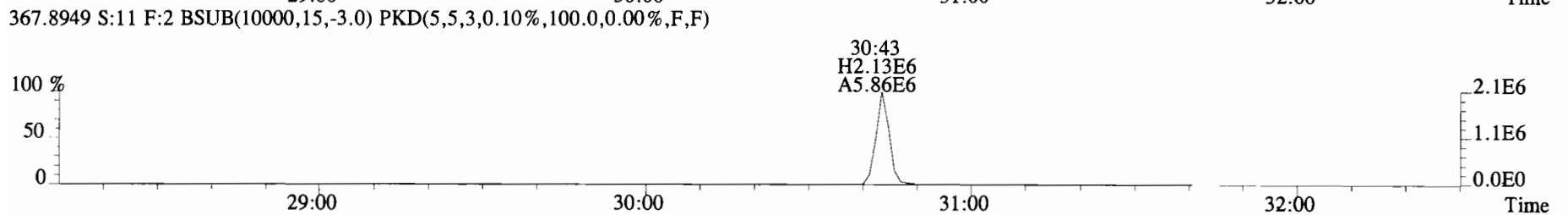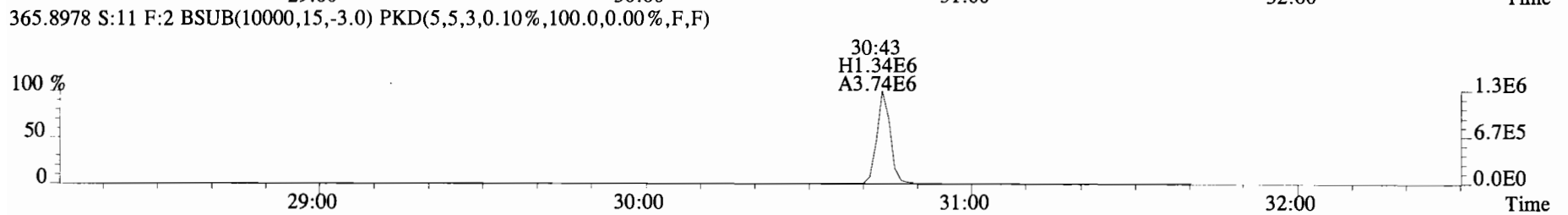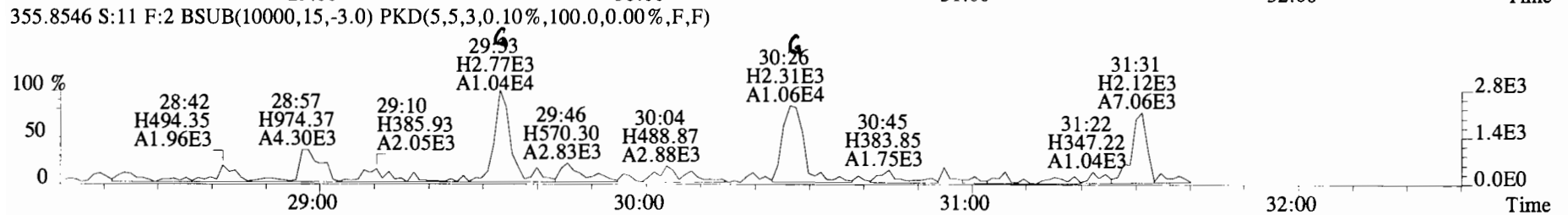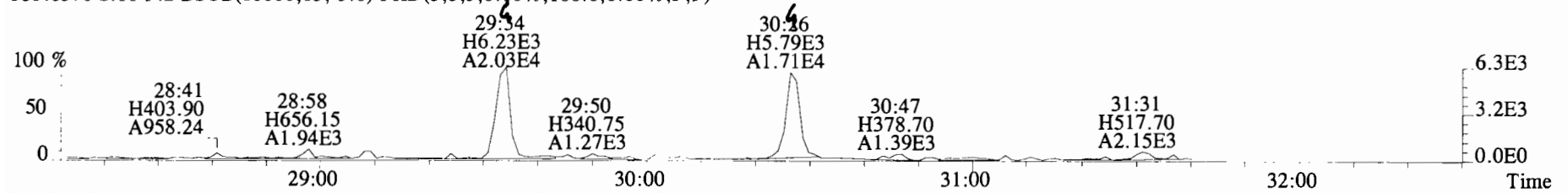
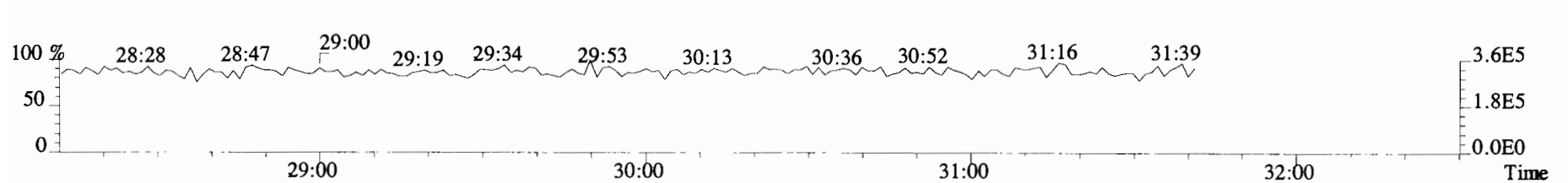355.8546 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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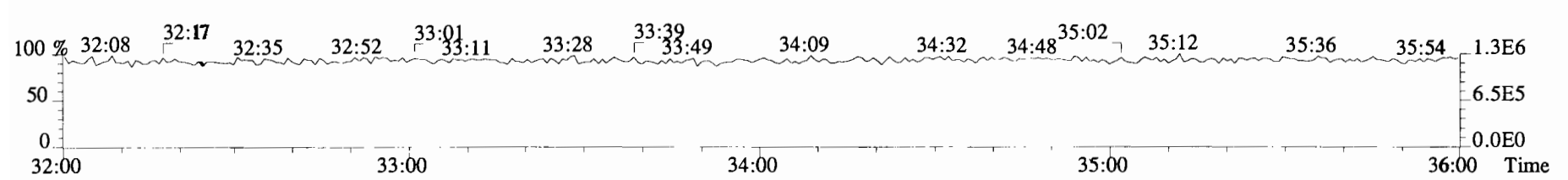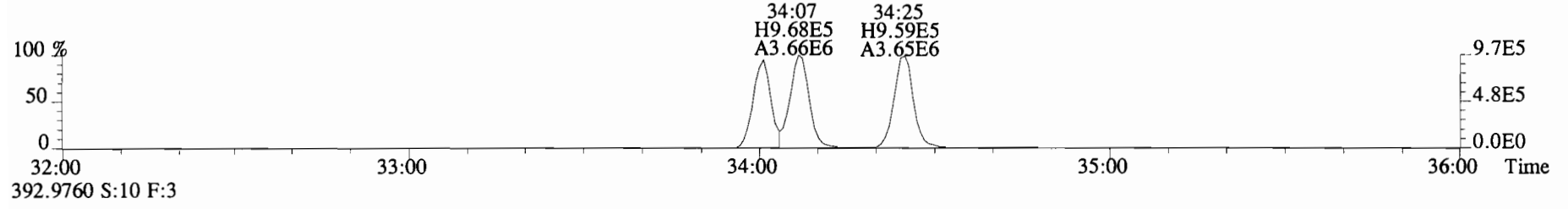

367.8949 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

366.9792 S:11 F:2

File:191111D1 #1-385 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 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)
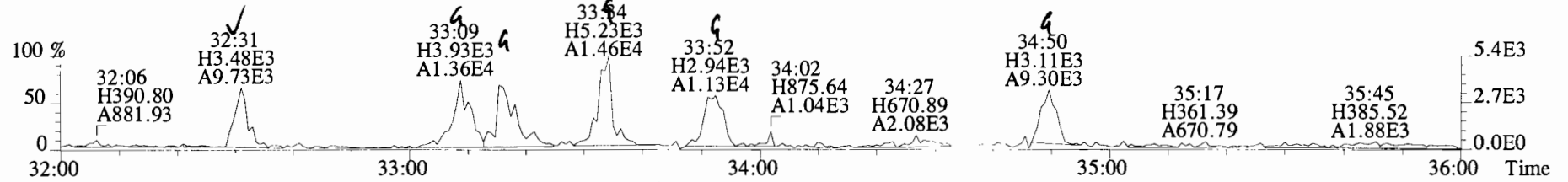
391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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
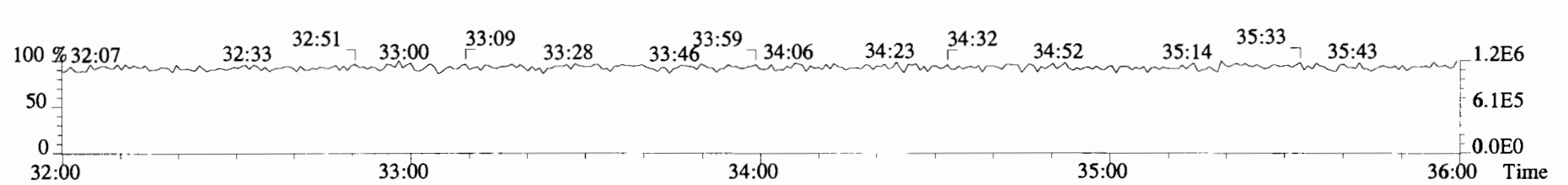
File:191111D1 #1-385 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
389.8156 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

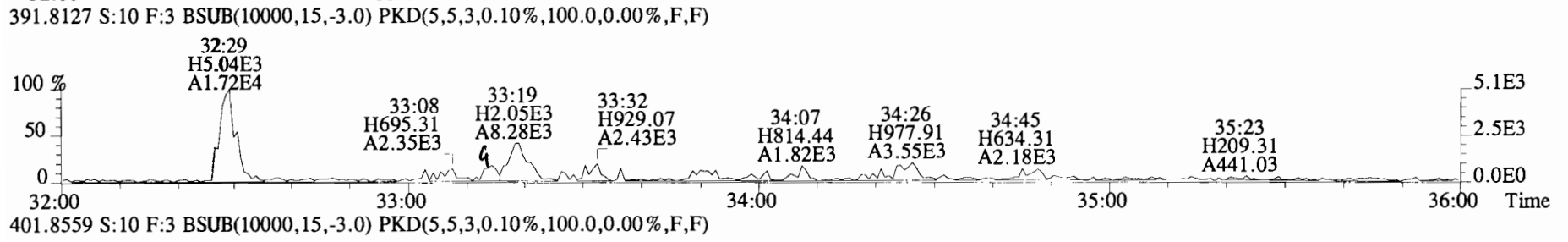391.8127 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
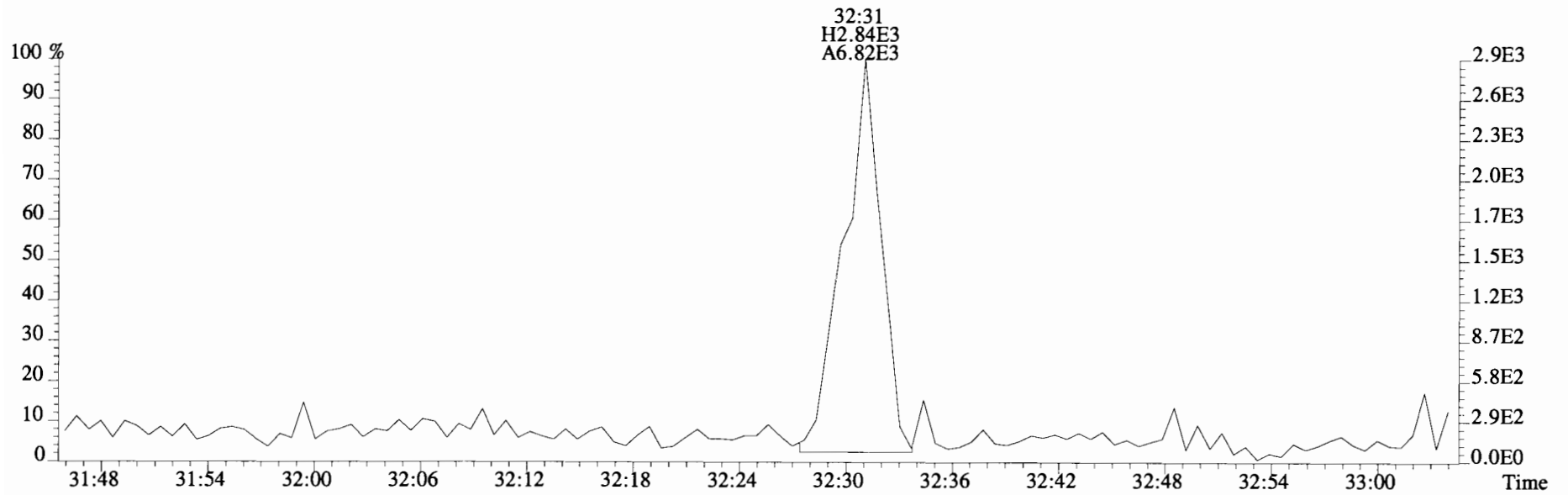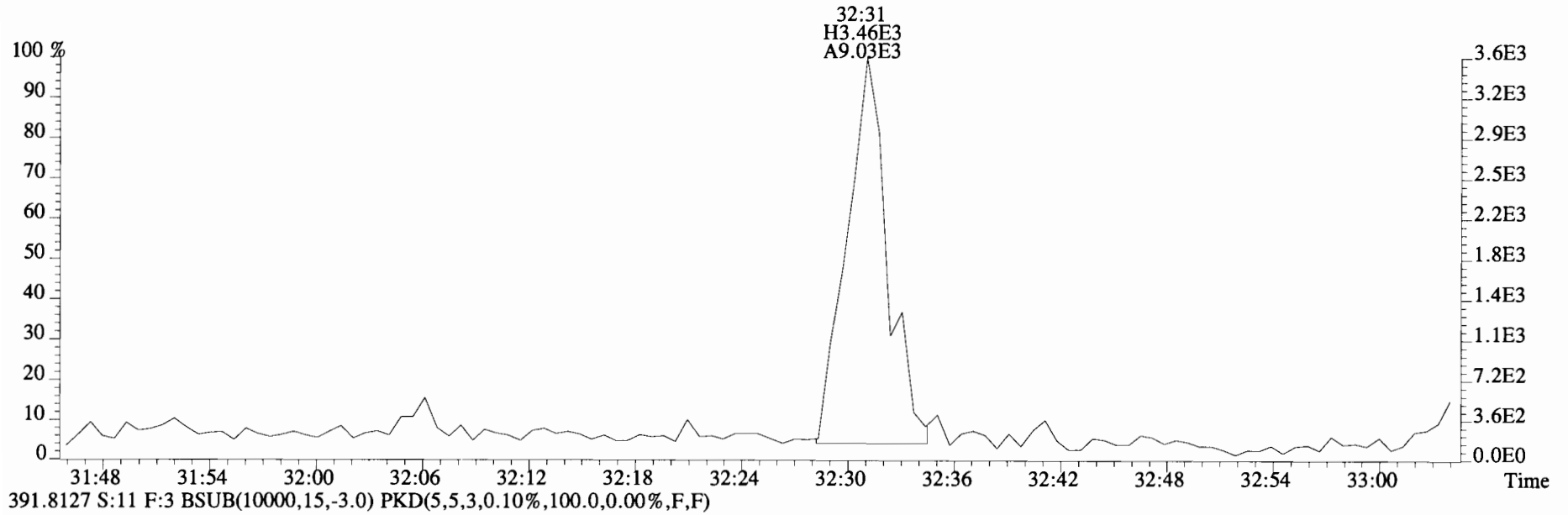
File:191111D1 #1-385 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
401.8559 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:11 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
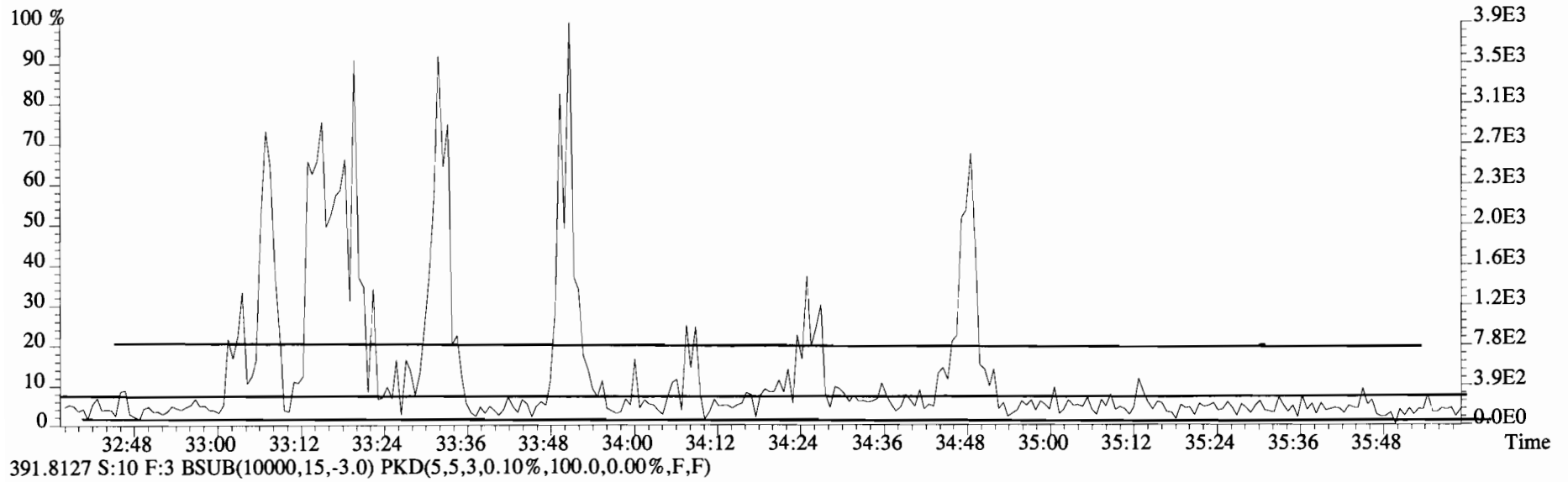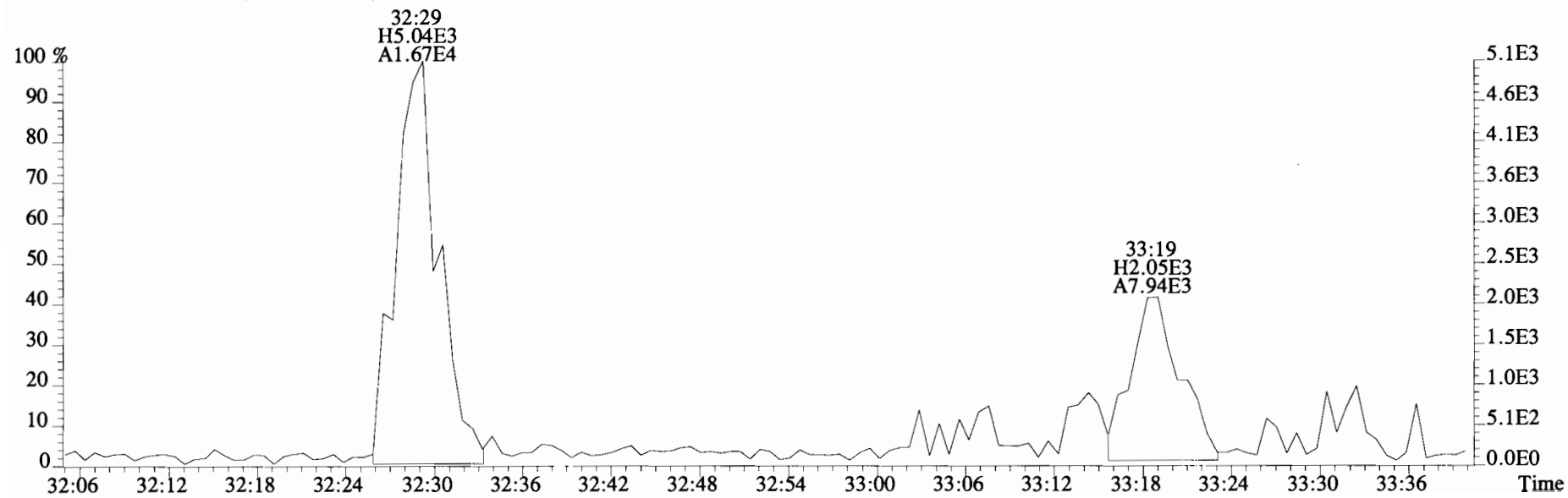
File:191111D1 #1-355 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
423.7767 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

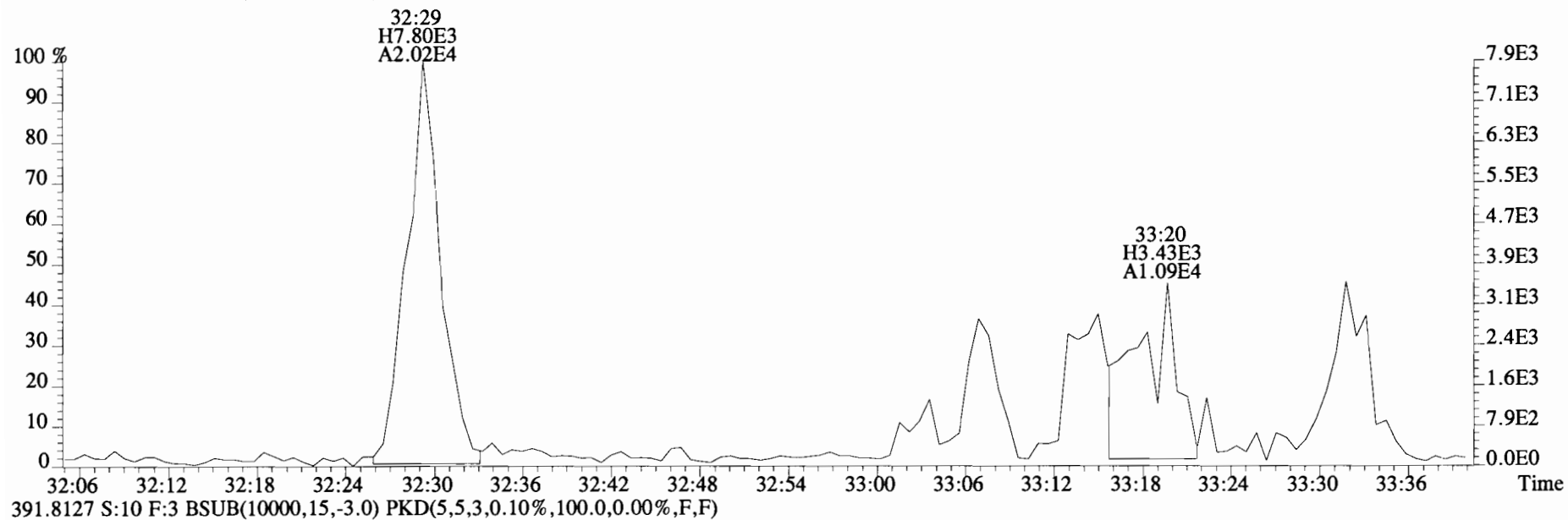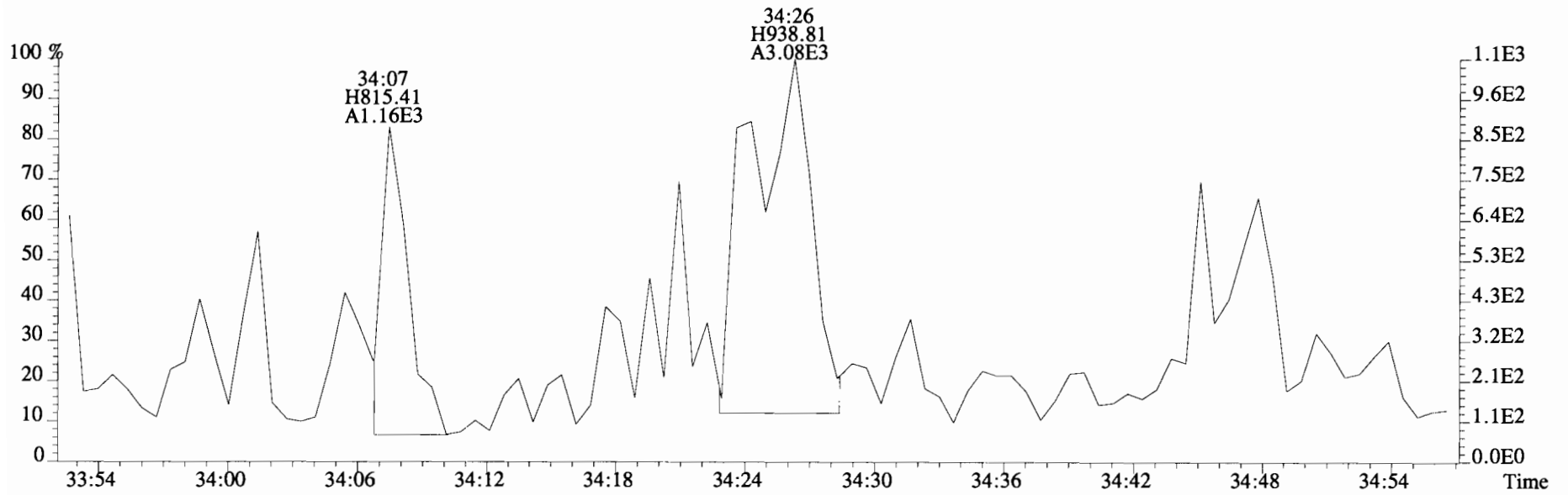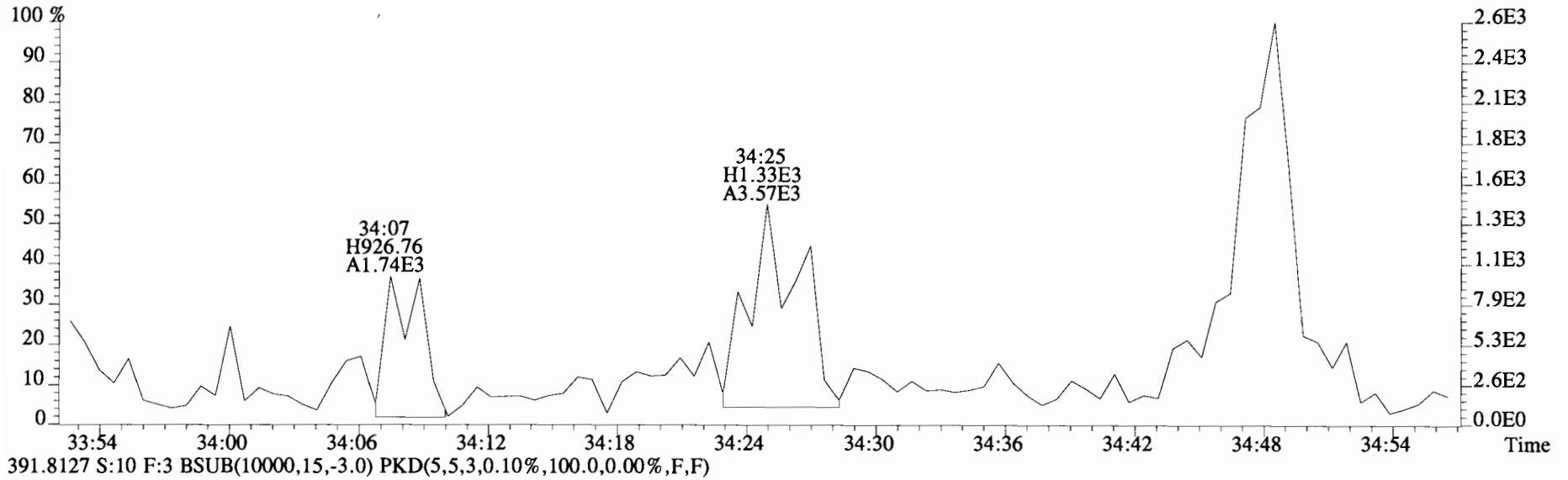437.8140 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:11 F:4

File:191111D1 #1-355 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 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)

457.7377 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:10
H1.34E4
A7.31E4

41:22
H1.02E4
A5.64E4

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

41:11
H1.62E4
A7.71E4

41:23
H4.75E3
A2.82E4

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

41:10
H1.44E6
A7.33E6

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

41:10
H1.66E6
A7.98E6

454.9728 S:11 F:5

40:11   40:33   41:00 41:12   41:28   41:37   41:57   42:17   42:37   42:59   43:39   44:01

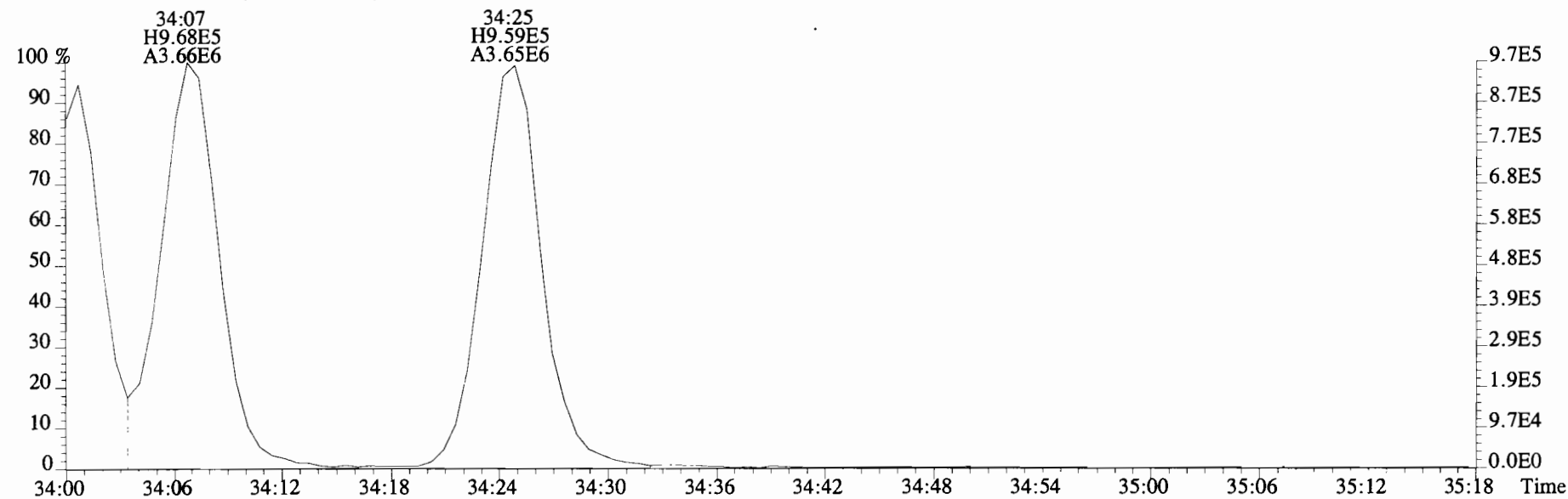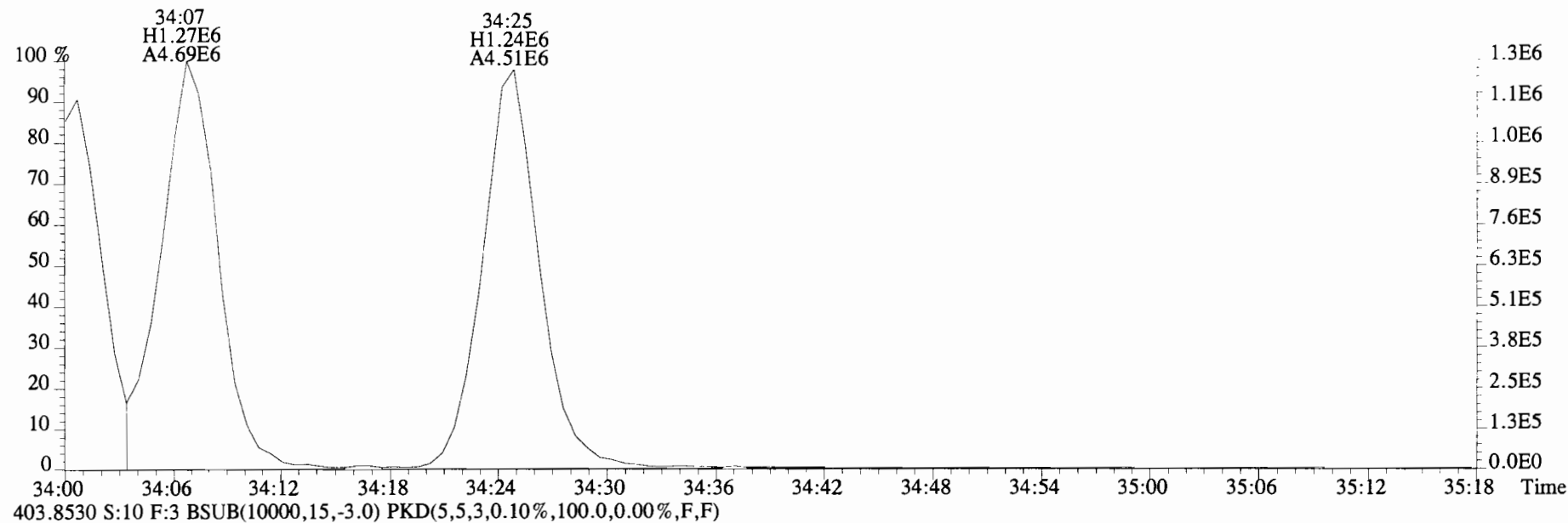459.7348 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
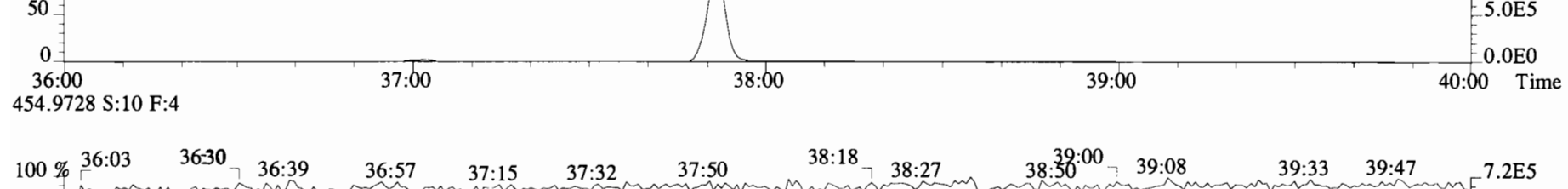303.9016 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

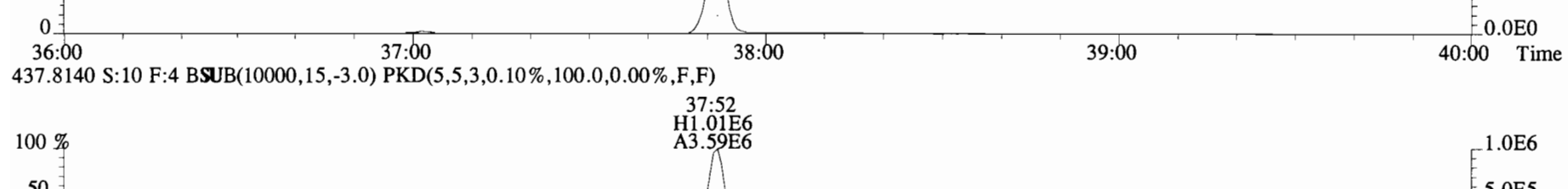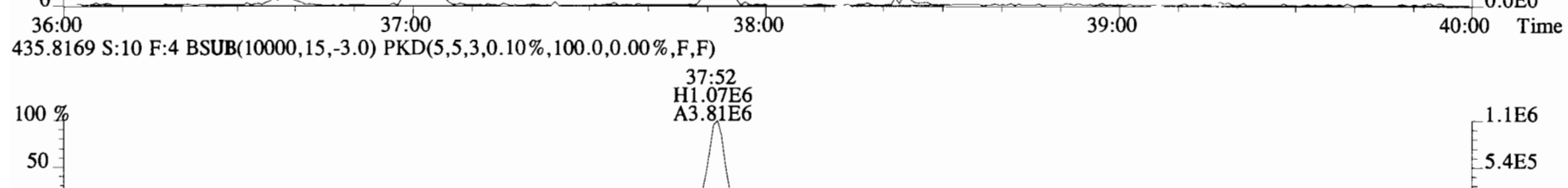375.8364 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
339.8597 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
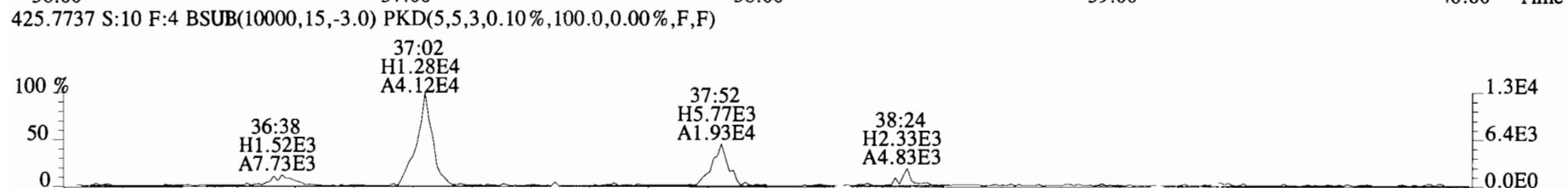

341.8568 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

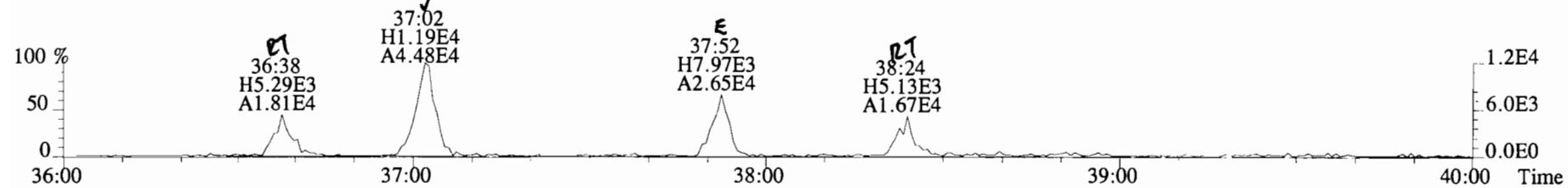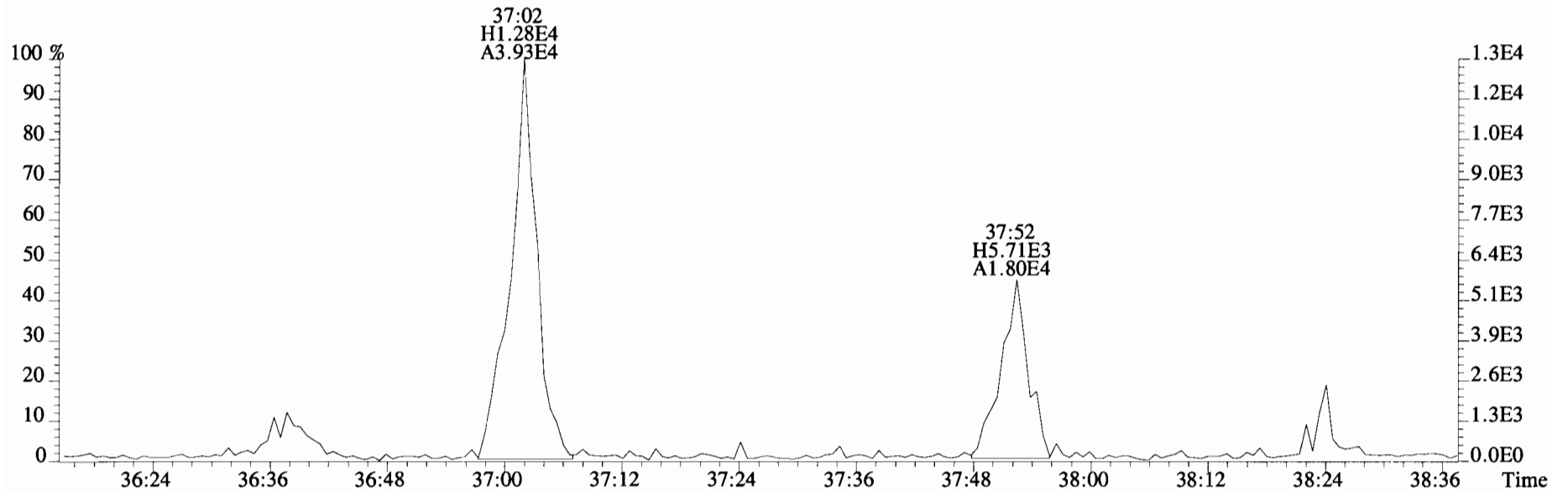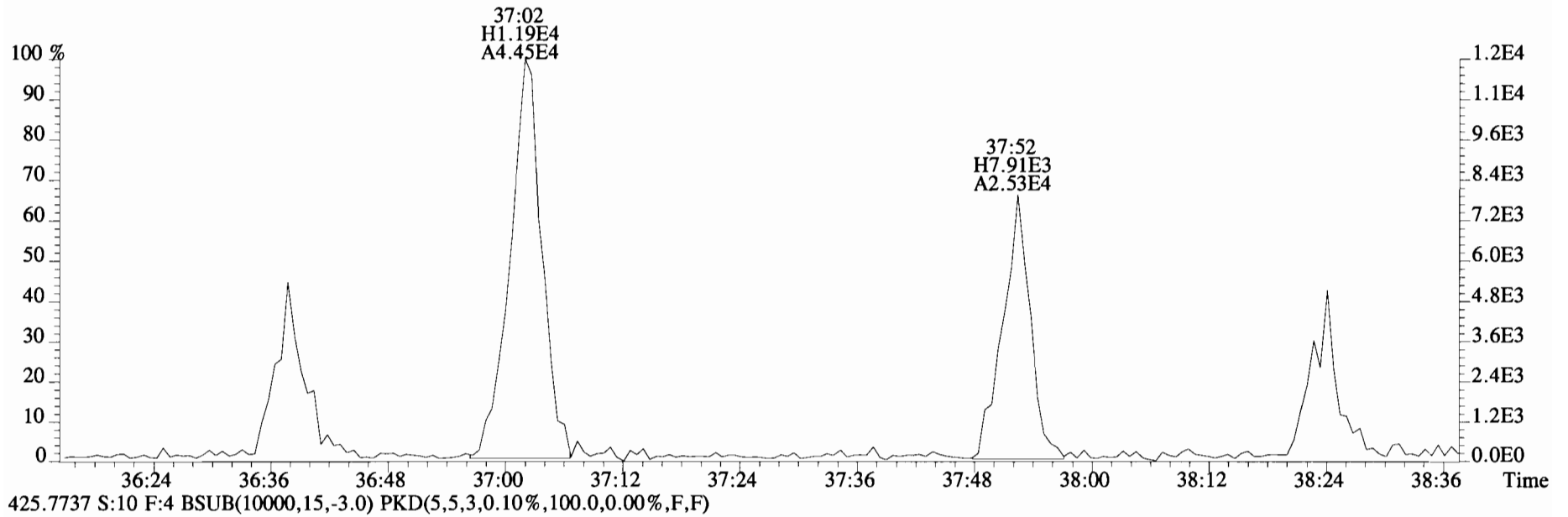409.7974 S:11 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:11

File:191111D1 #1-210 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 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)

341.8568 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:11 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

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

File:191111D1 #1-355 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 Exp:OCDD_DB5
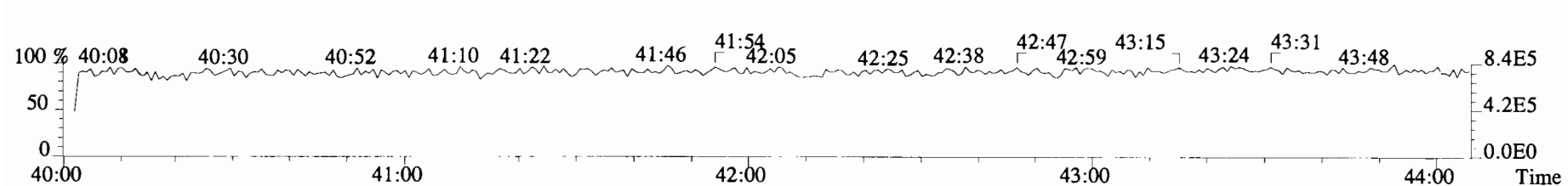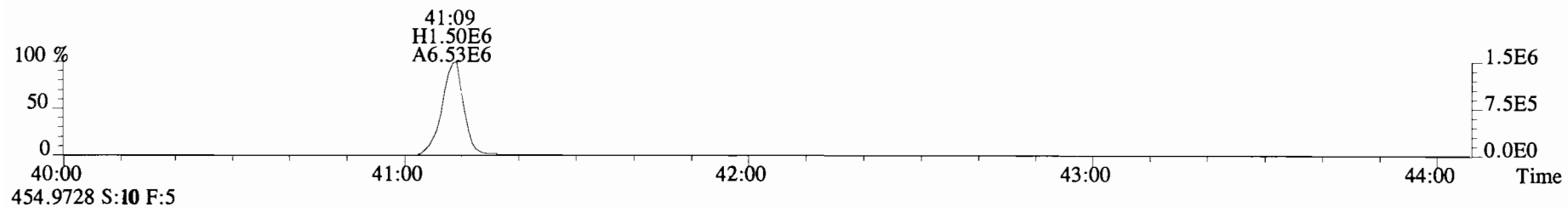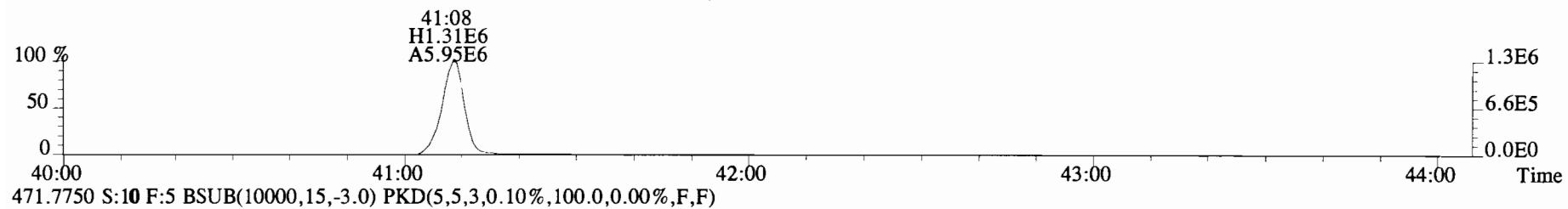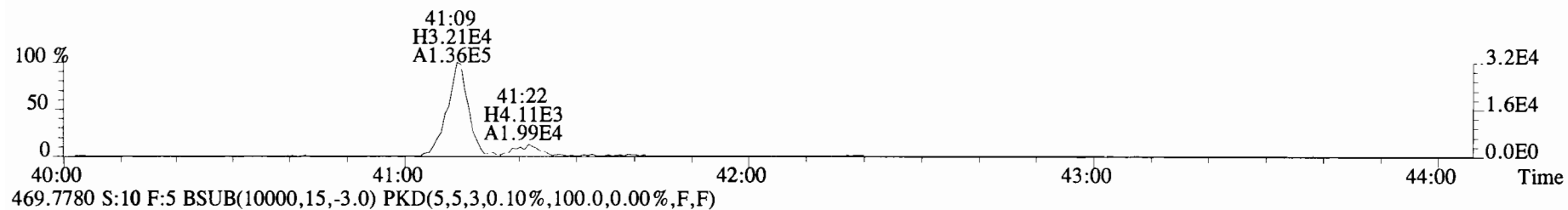407.7818 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

417.8253 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

419.8220 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

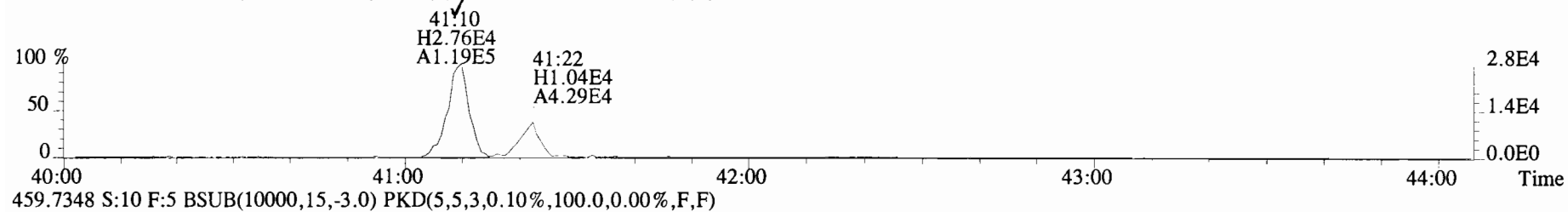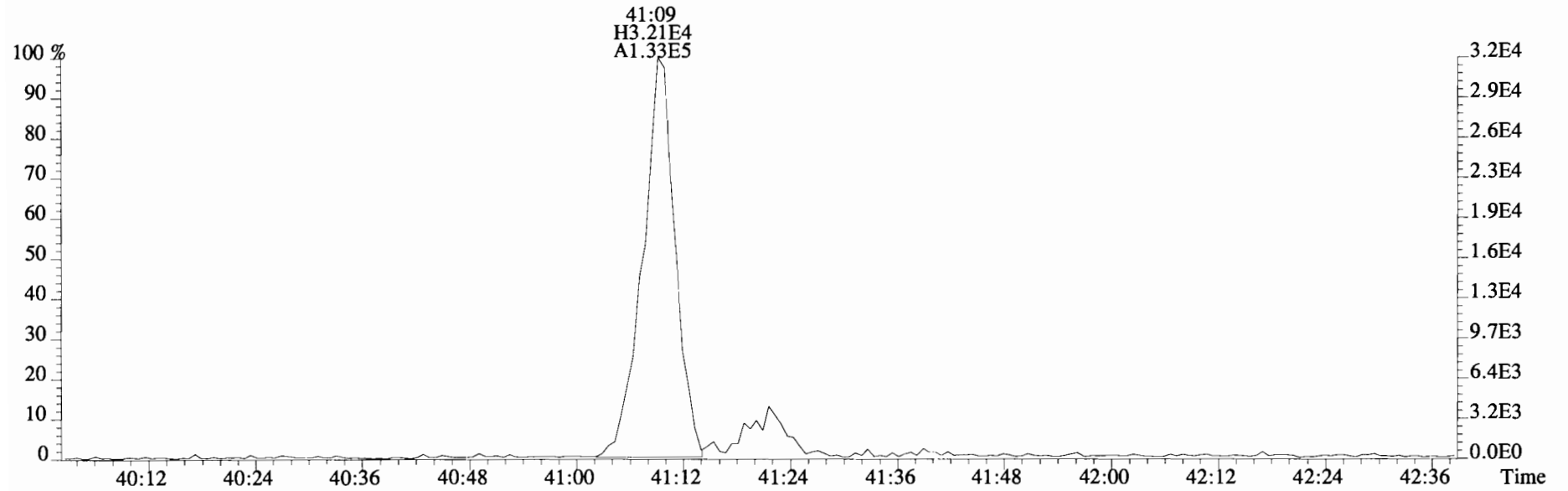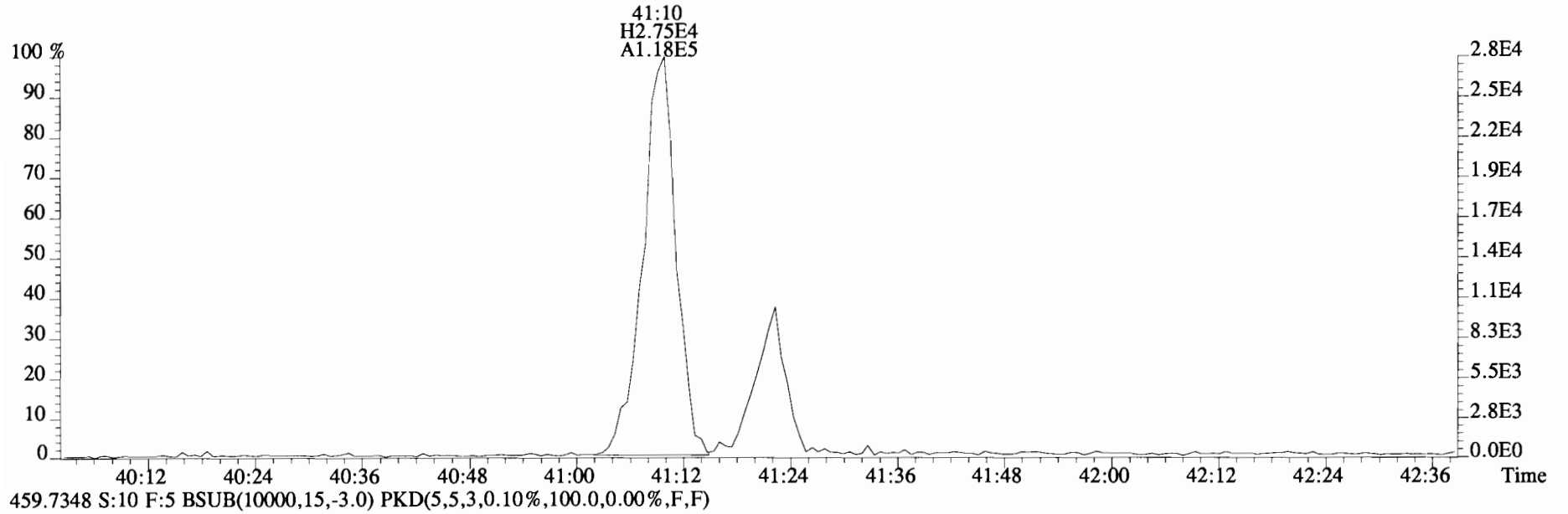479.7165 S:11 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-432 Acq:11-NOV-2019 18:18:51 GC EI+ Voltage SIR Autospec-UltimaE
Sample#11 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-02 PDI-019SC-A-13-13.8-191008 12.78 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)
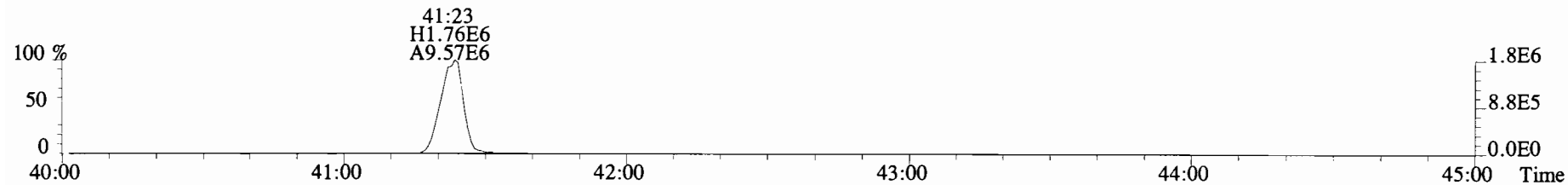
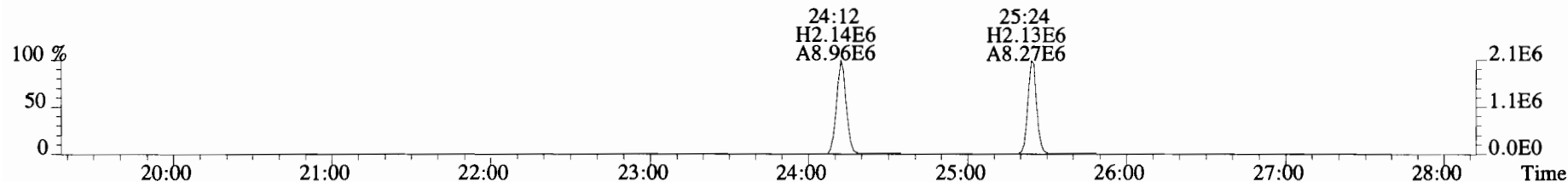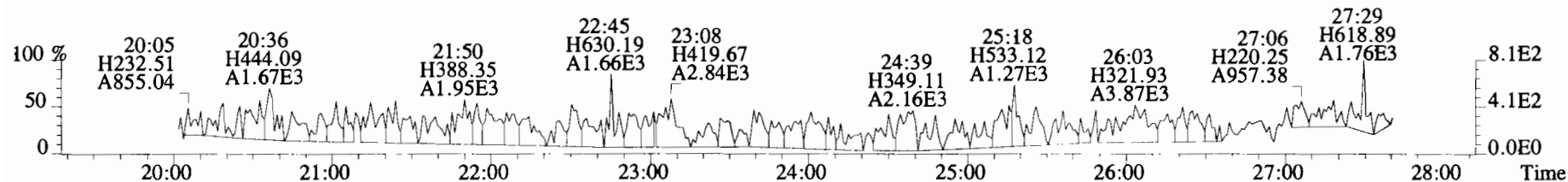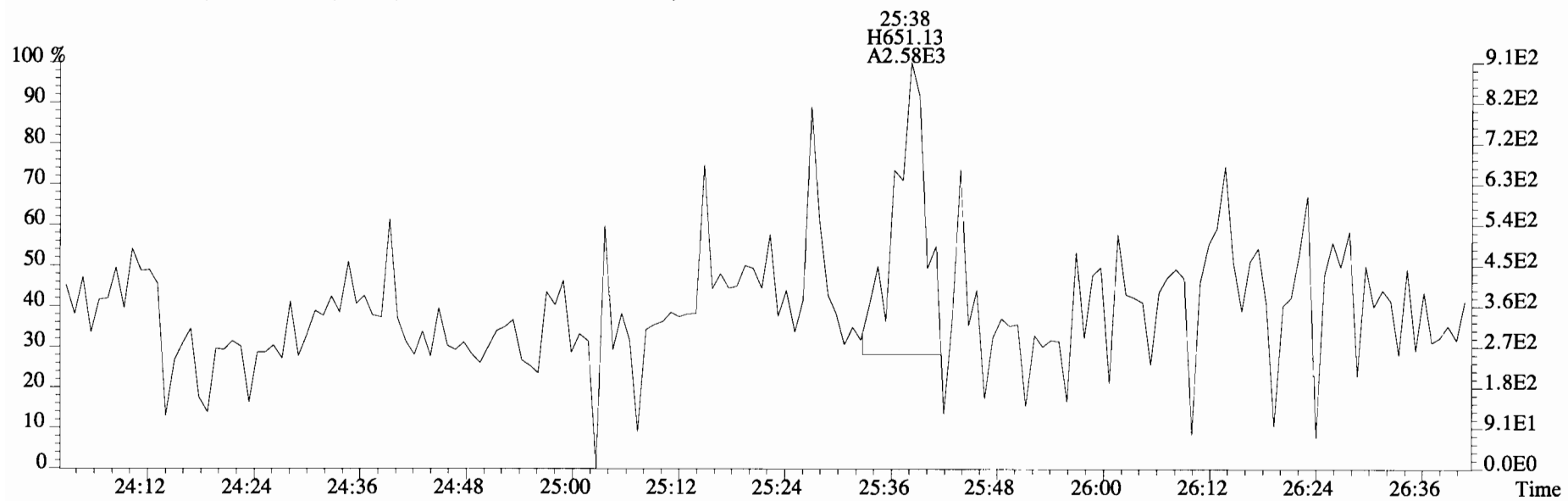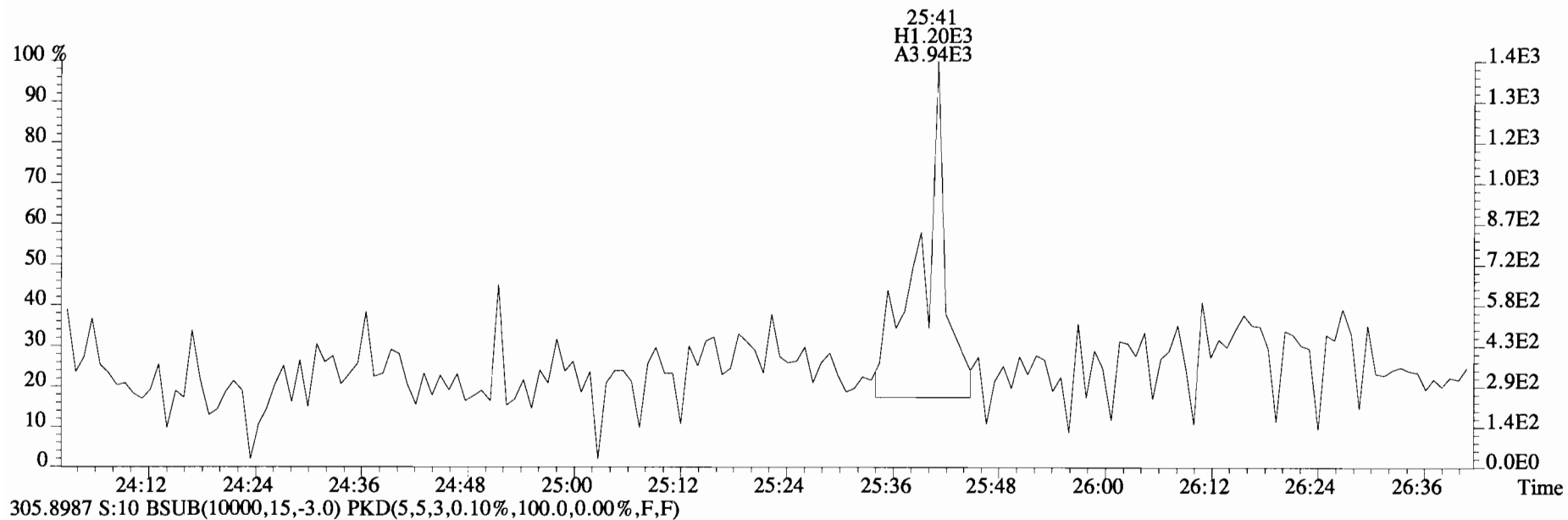455.7801 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

513.6775 S:11 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
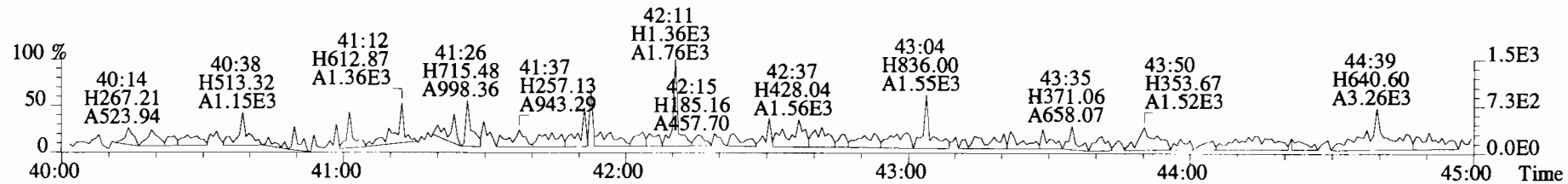
|	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF┐	*		192	2.5	0.0680
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF┐	*		325	2.5	0.112
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF┐	*		165	2.5	0.0821
	1,2,3,6,7,8-HxCDD	2.59e+03	1.51	n	0.94	34:08	0.065733		*	2.5	*
	1,2,3,7,8,9-HxCDD	6.65e+03	1.16	y	0.96	34:25	0.16867		*	2.5	*
	1,2,3,4,6,7,8-HpCDD	3.68e+04	1.40	n	0.98	37:52	1.0101		*	2.5	*
	OCDD	2.51e+05	0.88	y	0.96	41:09	8.3358		*	2.5	*
	2,3,7,8-TCDF	*	*	n	0.95	NotF┐	*		119	2.5	0.0293
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF┐	*		175	2.5	0.0578
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF┐	*		175	2.5	0.0571
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF┐	*		103	2.5	0.0205
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF┐	*		103	2.5	0.0212
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF┐	*		103	2.5	0.0240
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF┐	*		103	2.5	0.0307
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF┐	*		98.6	2.5	0.0303
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF┐	*		98.6	2.5	0.0267
	OCDF	*	*	n	0.95	NotF┐	*		113	2.5	0.0607
IS	13C-2,3,7,8-TCDD	1.03e+07	0.80	y	1.10	26:12	185.49				
IS	13C-1,2,3,7,8-PeCDD	8.10e+06	0.64	y	0.88	30:42	181.23				
IS	13C-1,2,3,4,7,8-HxCDD	7.12e+06	1.29	y	0.64	34:00	177.55				
IS	13C-1,2,3,6,7,8-HxCDD	8.34e+06	1.28	y	0.86	34:07	156.28				
IS	13C-1,2,3,7,8,9-HxCDD	8.15e+06	1.24	y	0.81	34:25	161.96				
IS	13C-1,2,3,4,6,7,8-HpCDD	7.40e+06	1.06	y	0.65	37:52	181.31				
IS	13C-OCDD	1.25e+07	0.91	y	0.58	41:08	344.90				
IS	13C-2,3,7,8-TCDF	1.47e+07	0.78	y	1.03	25:25	176.13				
IS	13C-1,2,3,7,8-PeCDF	1.31e+07	1.55	y	0.85	29:31	189.58				
IS	13C-2,3,4,7,8-PeCDF	1.22e+07	1.60	y	0.85	30:25	178.12				
IS	13C-1,2,3,4,7,8-HxCDF	1.01e+07	0.51	y	0.83	33:07	195.45				
IS	13C-1,2,3,6,7,8-HxCDF	1.15e+07	0.51	y	1.03	33:15	178.73				
IS	13C-2,3,4,6,7,8-HxCDF	1.03e+07	0.51	y	0.95	33:50	173.38				
IS	13C-1,2,3,7,8,9-HxCDF	9.53e+06	0.51	y	0.83	34:48	184.45				
IS	13C-1,2,3,4,6,7,8-HpCDF	8.85e+06	0.44	y	0.76	36:38	187.15				
IS	13C-1,2,3,4,7,8,9-HpCDF	7.41e+06	0.44	y	0.58	38:24	204.29				
IS	13C-OCDF	1.64e+07	0.91	y	0.69	41:22	380.36				
C/Up	37Cl-2,3,7,8-TCDD	4.76e+06			1.20	26:13	78.376				
RS/RT	13C-1,2,3,4-TCDD	1.01e+07	0.80	y	1.00	25:38	198.88				
RS	13C-1,2,3,4-TCDF	1.60e+07	0.79	y	1.00	24:12	198.88				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.24e+07	0.52	y	1.00	33:32	198.88				

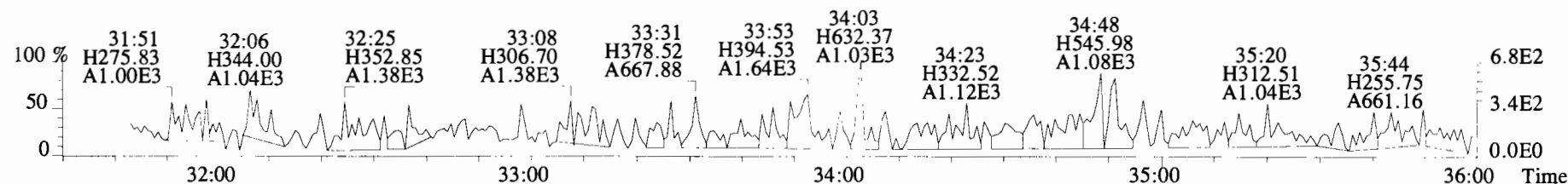| Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	0.179		*	*
Total Penta-Dioxins	*	*		325	0.112
Total Hexa-Dioxins	1.59	1.65		*	*
Total Hepta-Dioxins	2.30	3.31		*	*
Total Tetra-Furans	*	0.0650		*	*
Total Penta-Furans	0.0000	0.0000		175	0.0574
Total Hexa-Furans	*	*		103	0.0238
Total Hepta-Furans	*	*		98.6	0.0286

	Rec	Qual
	93.3	
	91.1	
	89.3	
	78.6	
	81.4	
	91.2	
	86.7	
	88.6	
	95.3	
	89.6	
	98.3	
	89.9	
	87.2	
	92.7	
	94.1	
	103	
	95.6	
	98.5	

Integrations
by
Analyst: _DB_

Reviewed
by
Analyst: _CT_

Date: _11/12/19_   Date: _11/14/19_

Totals class: TCDD EMPC   Entry #: 19

       Run: 15   File: 191111D1   S: 10 I: 1   F: 1
   Acquired: 11-NOV-19 17:30:56   Processed: 12-NOV-19 09:23:34

Total Concentration: 0.17902   Unnamed Concentration: 0.179

RT	m1 Resp	m2 Resp	RA		Resp	Concentration	Name
24:20	4.488e+03	4.744e+03	0.95	n	8.396e+03	0.17902	

Totals class: HxCDD EMPC   Entry #: 23

        Run: 15   File: 191111D1   S: 10 I: 1 F: 3
    Acquired: 11-NOV-19 17:30:56   Processed: 12-NOV-19 09:23:34

Total Concentration: 1.6545   Unnamed Concentration: 1.420

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

32:29 2.024e+04   1.666e+04 1.22 y 3.690e+04   0.94010
33:18 1.090e+04   7.940e+03 1.37 y 1.884e+04   0.47995
34:08 1.743e+03   1.156e+03 1.51 n 2.589e+03   0.065733   1,2,3,6,7,8-HxCDD
34:25 3.571e+03   3.078e+03 1.16 y 6.648e+03   0.16867   1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC   Entry #: 25

       Run: 15   File: 191111D1   S: 10 I: 1 F: 4
   Acquired: 11-NOV-19 17:30:56   Processed: 12-NOV-19 09:23:34

Total Concentration: 3.3091   Unnamed Concentration: 2.299

RT	m1 Resp	m2 Resp	RA		Resp	Concentration	Name
37:02	4.450e+04	3.928e+04	1.13	y	8.378e+04	2.2990	
37:52	2.529e+04	1.804e+04	1.40	n	3.681e+04	1.0101	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC   Entry #: 27

        Run: 15   File: 191111D1   S: 10 I: 1 F: 1
    Acquired: 11-NOV-19 17:30:56   Processed: 12-NOV-19 09:23:34

Total Concentration: 0.064991   Unnamed Concentration: 0.065

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

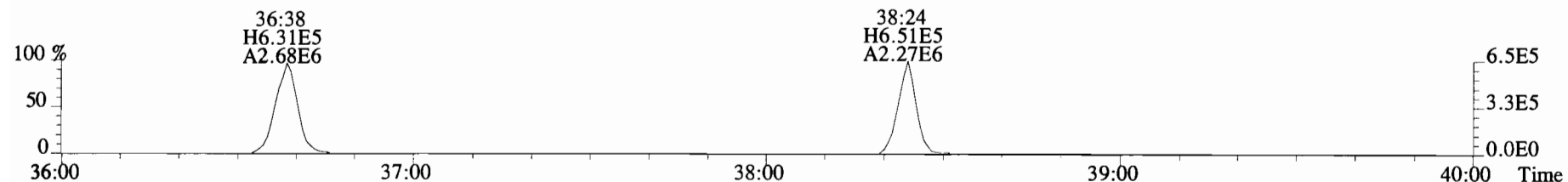25:39 3.938e+03   2.580e+03 1.53 n 4.567e+03   0.064991

File:191111D1 #1-492 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
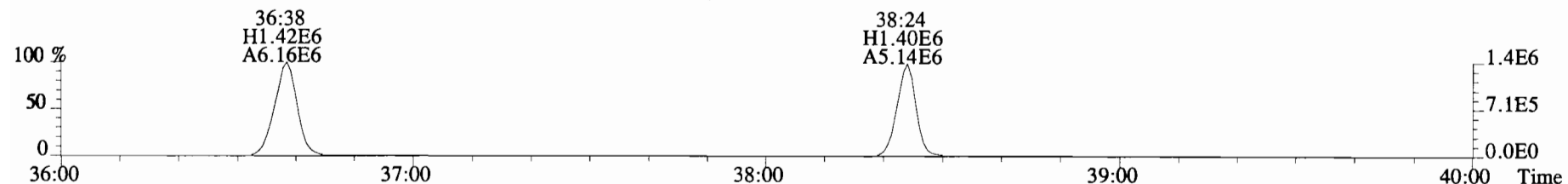319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
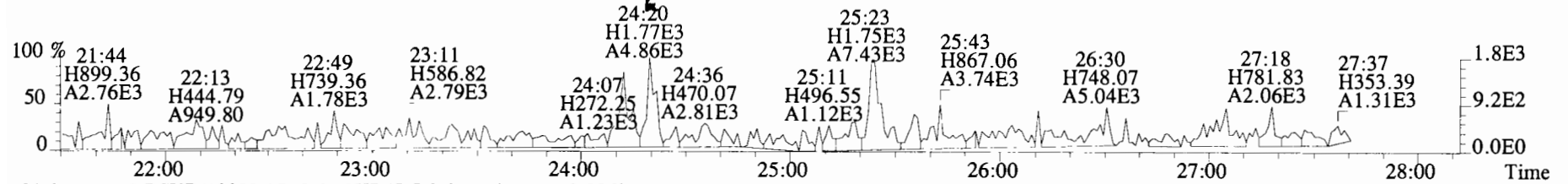
321.8936 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
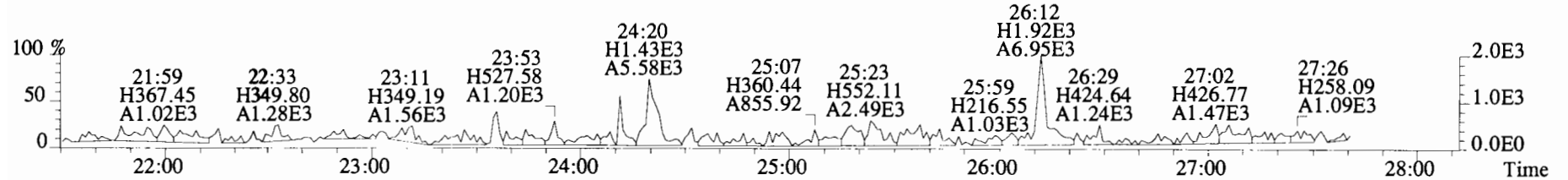
327.8847 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
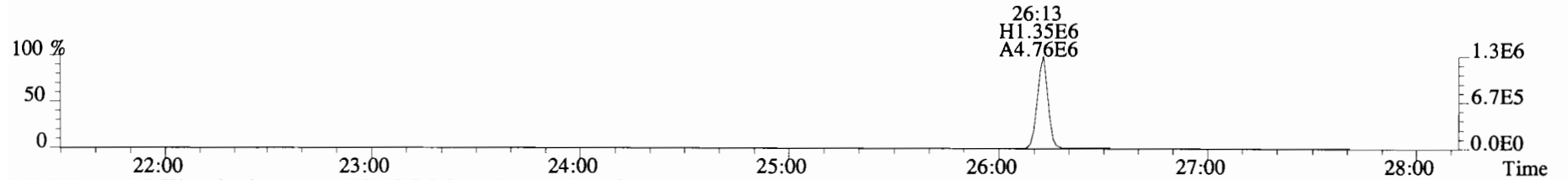
331.9368 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
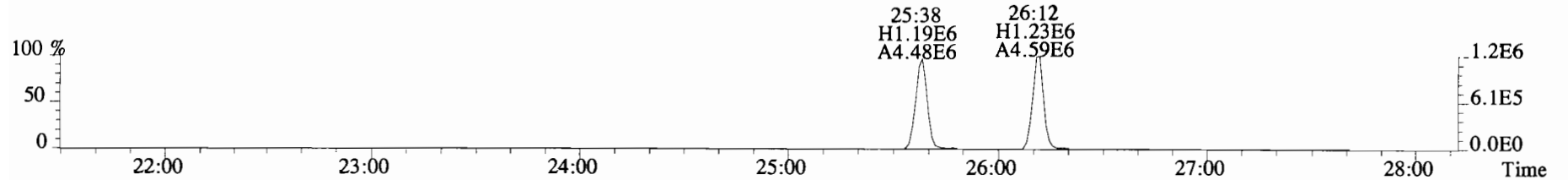
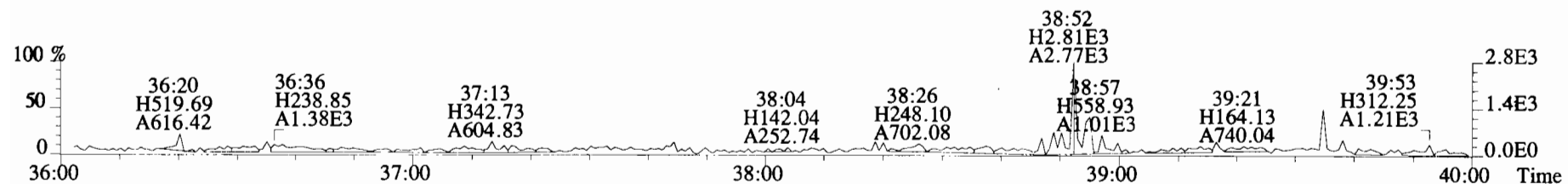333.9339 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

319.8965 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

321.8936 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-211 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
353.8576 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

355.8546 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

365.8978 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

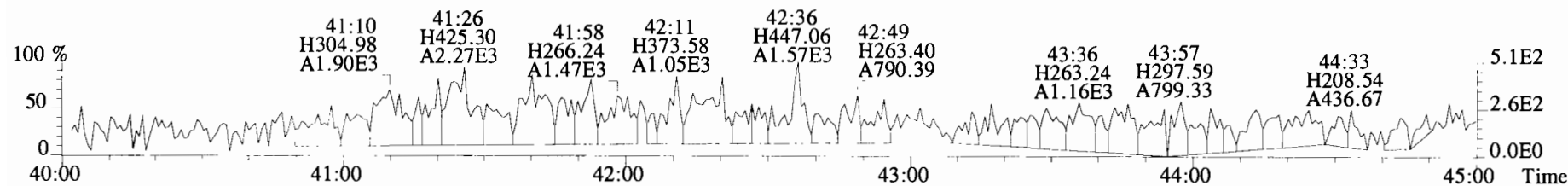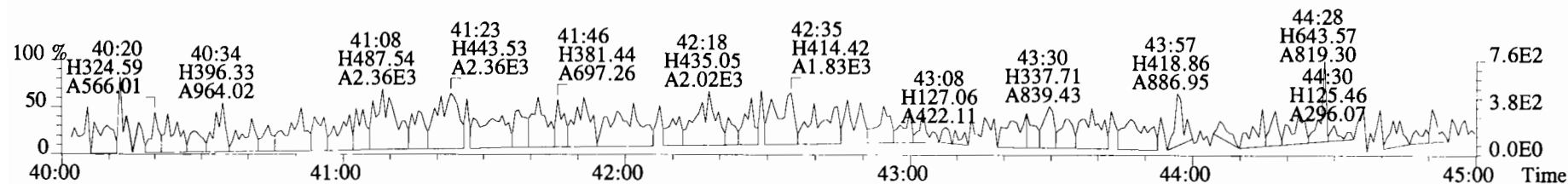367.8949 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)


366.9792 S:10 F:2

File:191111D1 #1-384 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5

389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
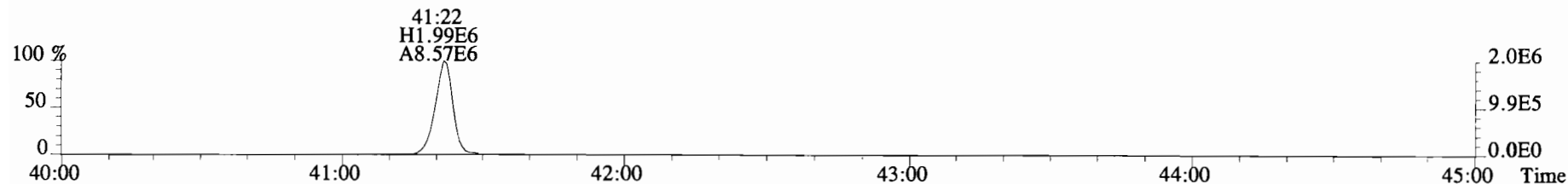

391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

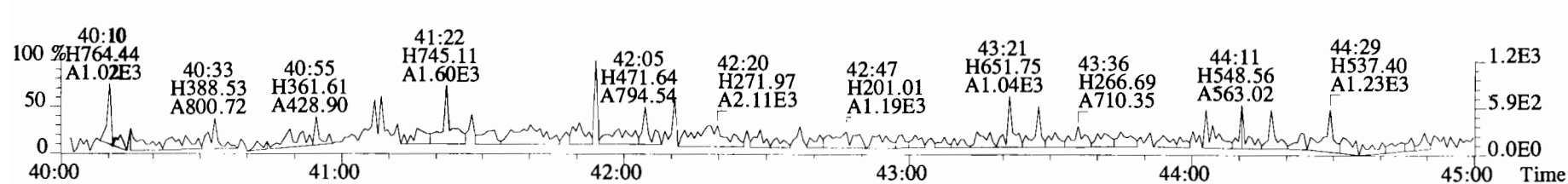401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

392.9760 S:10 F:3

391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:29
H7.80E3
A2.02E4

33:20
H3.43E3
A1.09E4

391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:29
H5.04E3
A1.67E4

33:19
H2.05E3
A7.94E3

File:191111D1 #1-384 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
389.8156 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

391.8127 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-384 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
401.8559 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-355 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

425.7737 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

435.8169 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

437.8140 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:10 F:4

423.7767 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

37:02
H1.19E4
A4.45E4

37:52
H7.91E3
A2.53E4

425.7737 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

37:02
H1.28E4
A3.93E4

37:52
H5.71E3
A1.80E4

File:191111D1 #1-432 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:10
H2.76E4
A1.19E5

41:22
H1.04E4
A4.29E4

459.7348 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:09
H3.21E4
A1.36E5

41:22
H4.11E3
A1.99E4

469.7780 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:08
H1.31E6
A5.95E6

471.7750 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:09
H1.50E6
A6.53E6

454.9728 S:10 F:5

File:191111D1 #1-432 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
457.7377 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

459.7348 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-492 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5

303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

315.9419 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
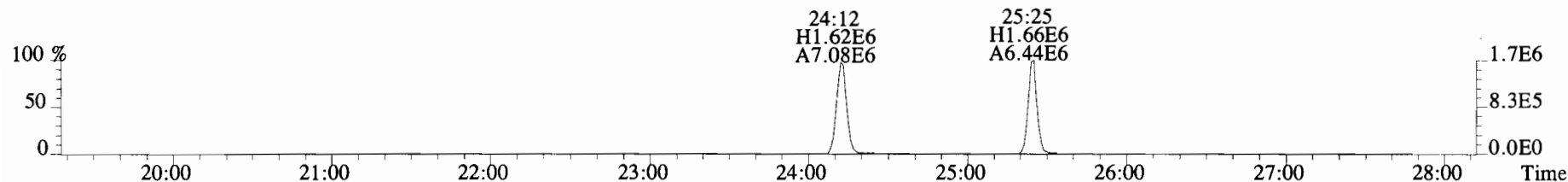
317.9389 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8364 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-492 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
303.9016 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-492 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
339.8597 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
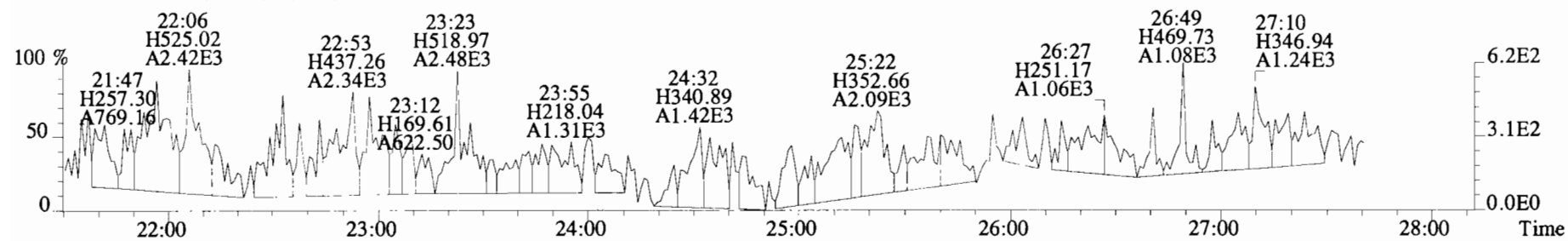
341.8568 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
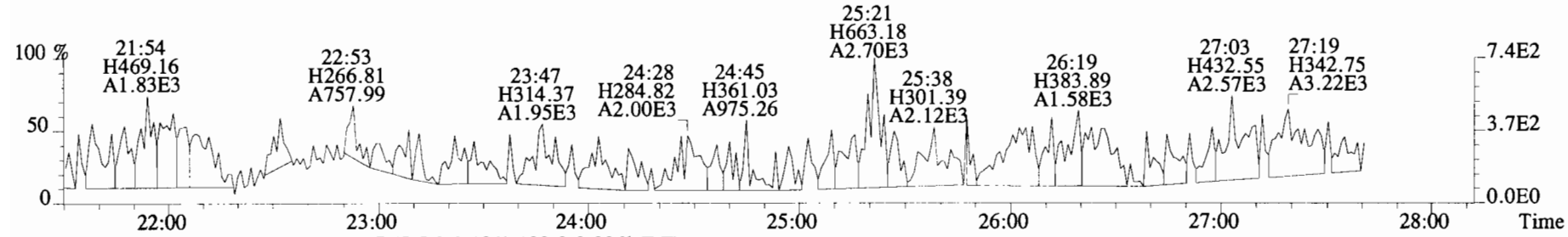
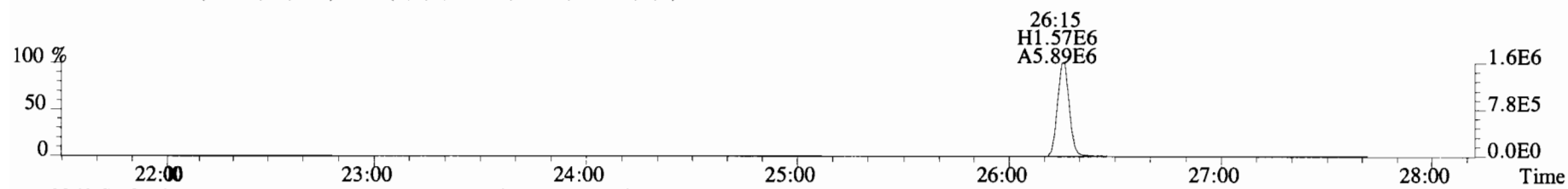409.7974 S:10 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
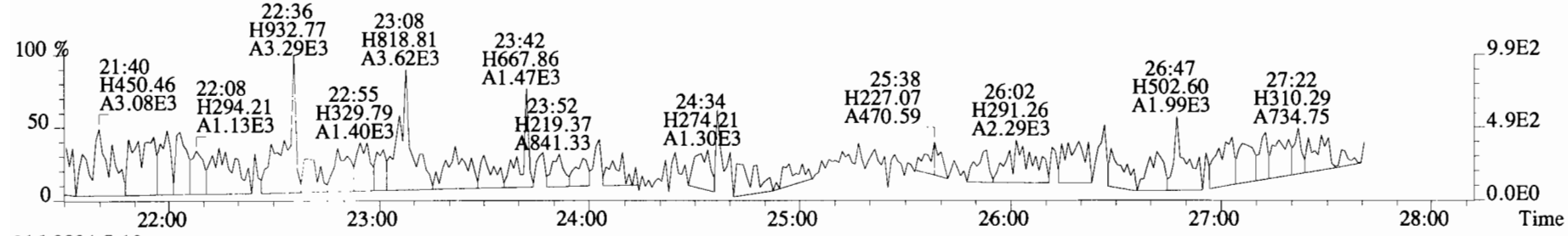
316.9824 S:10
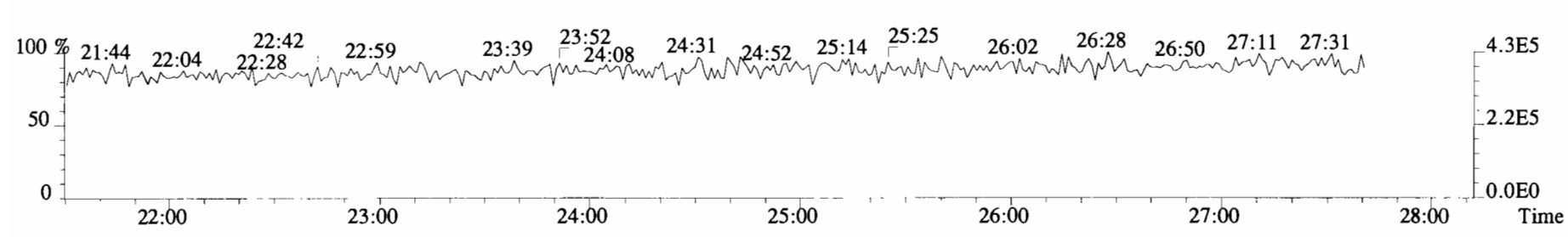
File:191111D1 #1-211 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
339.8597 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
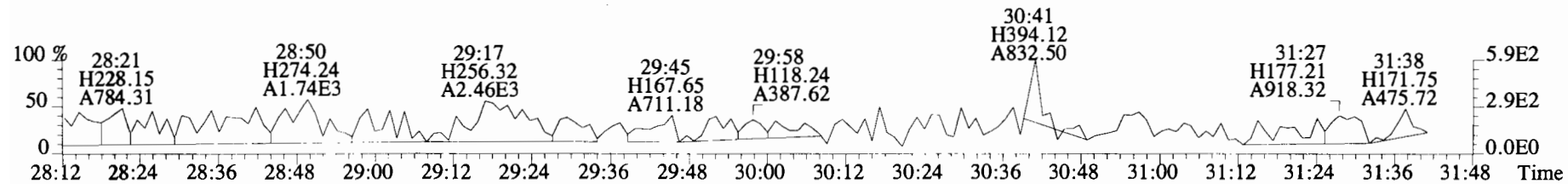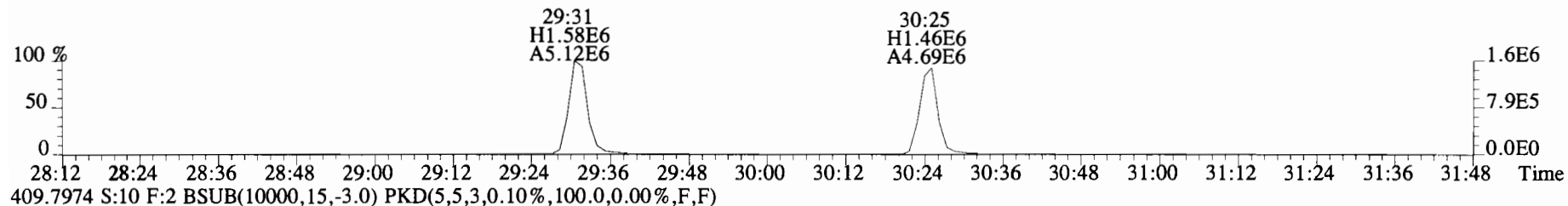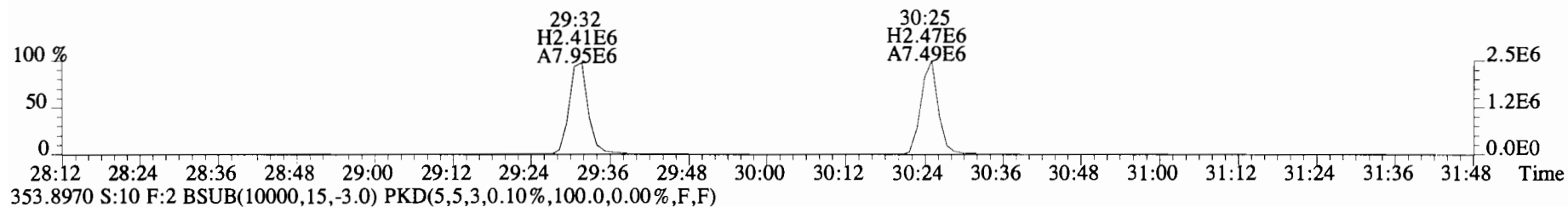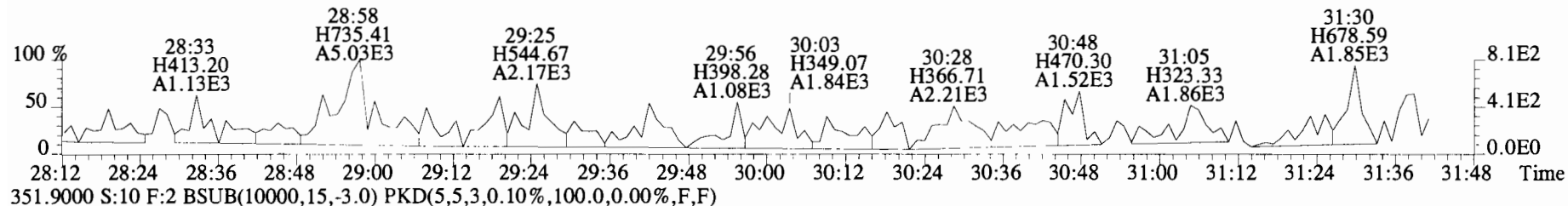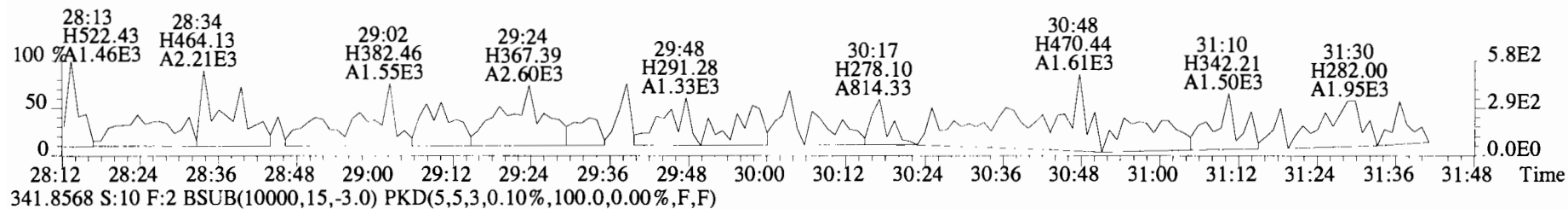
341.8568 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:10 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-384 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
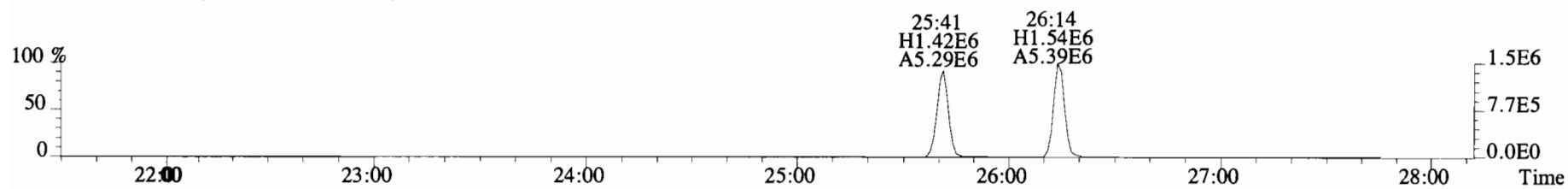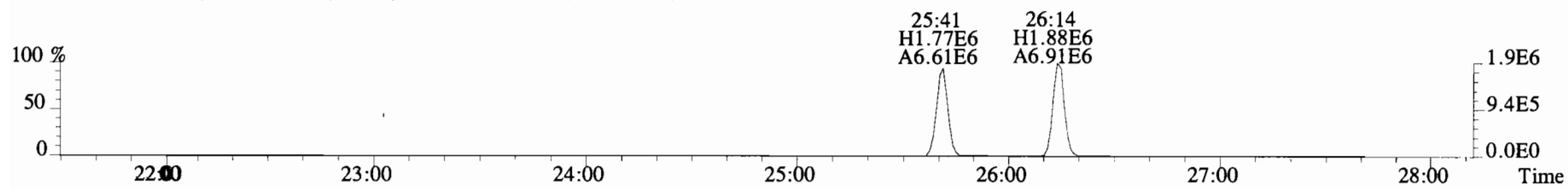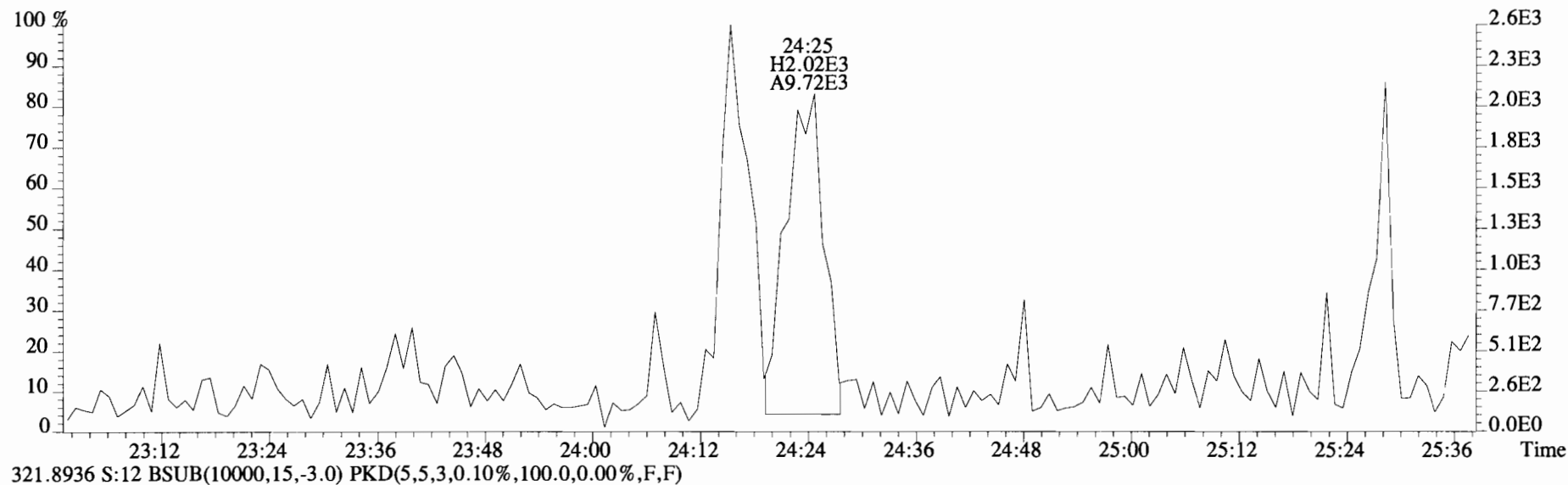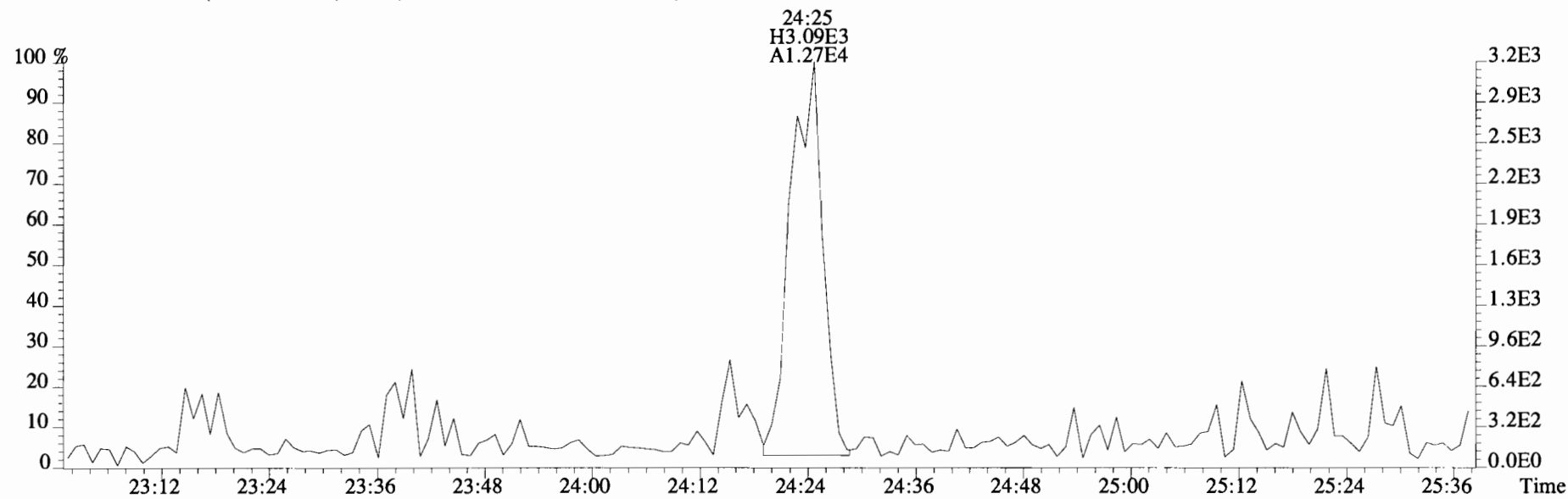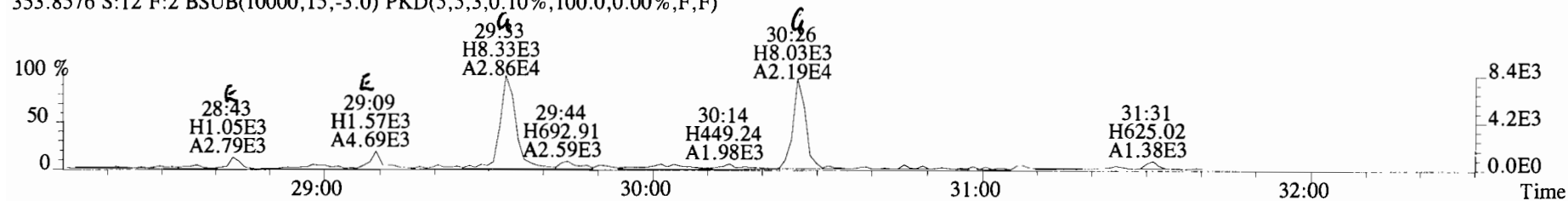373.8207 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

100 %
50
0

31:51
H275.83
A1.00E3

32:06
H344.00
A1.04E3

32:25
H352.85
A1.38E3

33:08
H306.70
A1.38E3

33:31
H378.52
A667.88

33:53
H394.53
A1.64E3

34:03
H632.37
A1.03E3

34:23
H332.52
A1.12E3

34:48
H545.98
A1.08E3

35:20
H312.51
A1.04E3

35:44
H255.75
A661.16

6.8E2
3.4E2
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

375.8178 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

100 %
50
0

32:07
H388.25
A899.66

32:39
H301.34
A618.44

33:08
H397.34
A1.25E3

33:31
H203.82
A602.85

33:54
H361.53
A1.85E3

34:34
H260.25
A1.23E3

34:48
H406.31
A902.89

35:46
H215.33
A600.11

5.1E2
2.5E2
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

100 %
50
0

33:07
H1.07E6
A3.43E6

33:32
H1.25E6
A4.23E6

33:50
H9.70E5
A3.50E6

34:47
H7.94E5
A3.20E6

1.3E6
6.3E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

100 %
50
0

33:07
H2.14E6
A6.72E6

33:32
H2.45E6
A8.19E6

33:50
H1.95E6
A6.82E6

34:48
H1.58E6
A6.33E6

2.5E6
1.2E6
0.0E0

32:00   33:00   34:00   35:00   36:00   Time
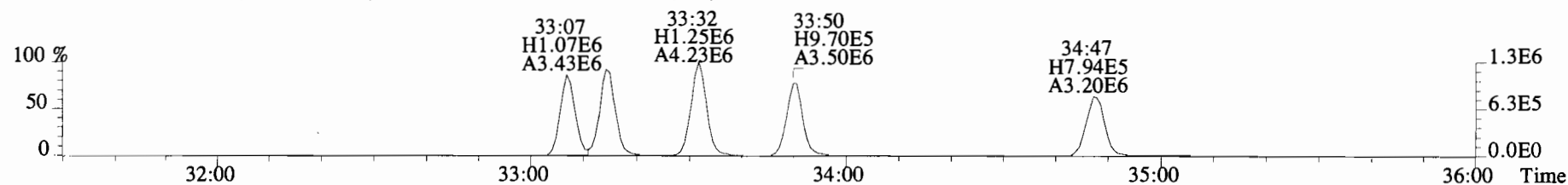
445.7555 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
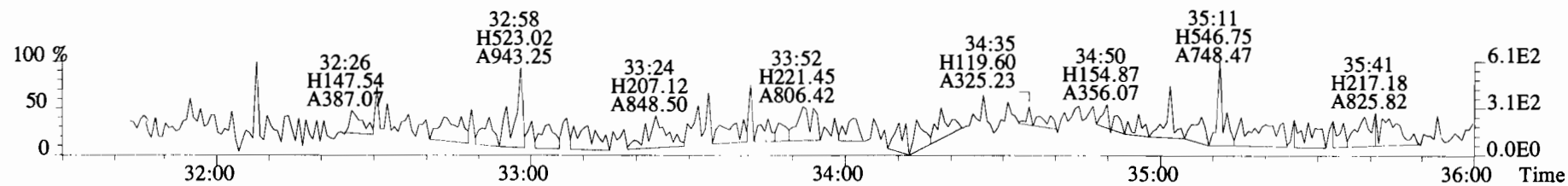
100 %
50
0

32:26
H147.54
A387.07

32:58
H523.02
A943.25

33:24
H207.12
A848.50

33:52
H221.45
A806.42

34:35
H119.60
A325.23

34:50
H154.87
A356.07

35:11
H546.75
A748.47

35:41
H217.18
A825.82

6.1E2
3.1E2
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

File:191111D1 #1-384 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
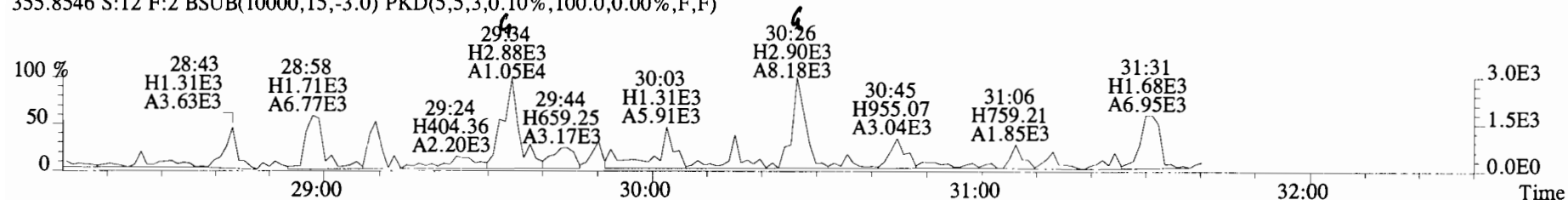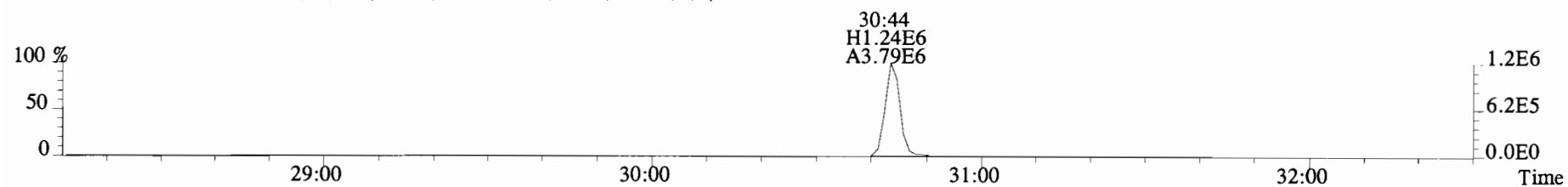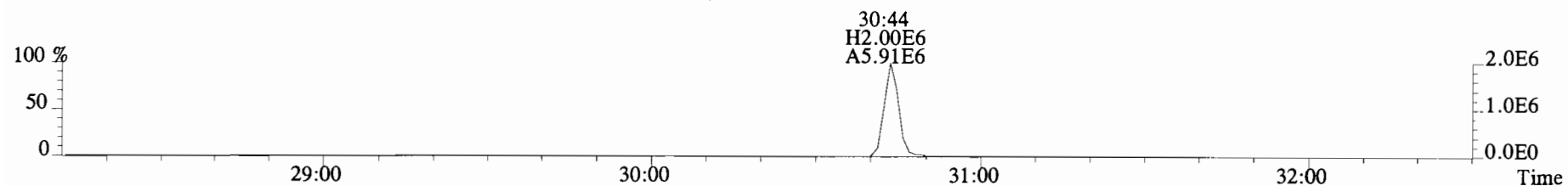383.8639 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
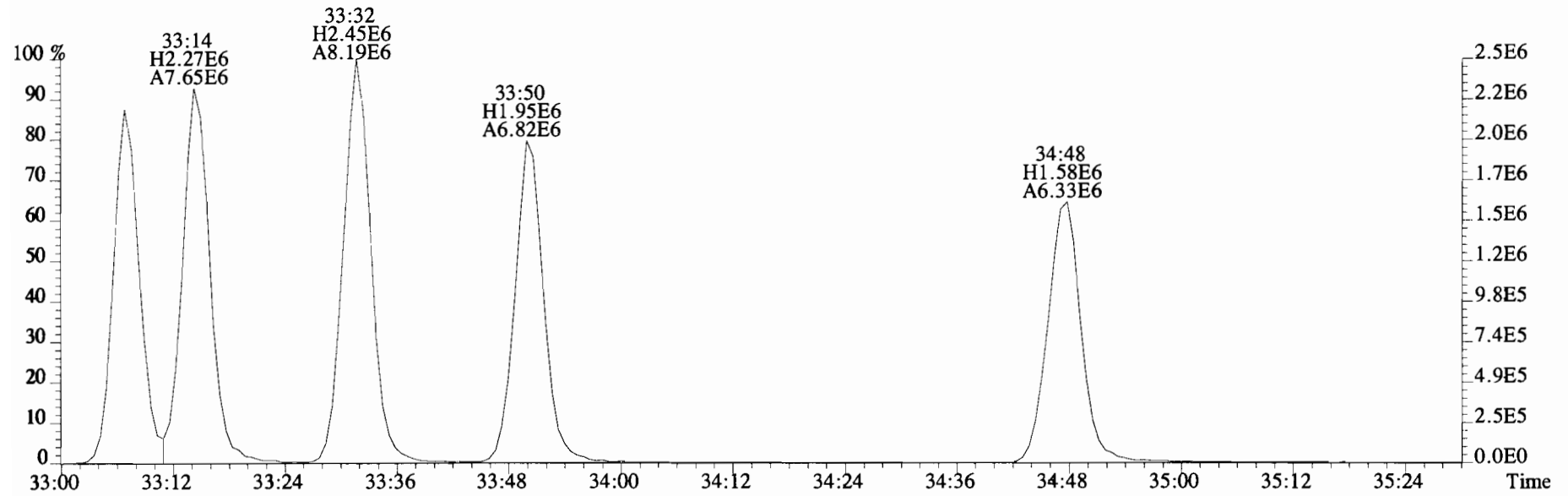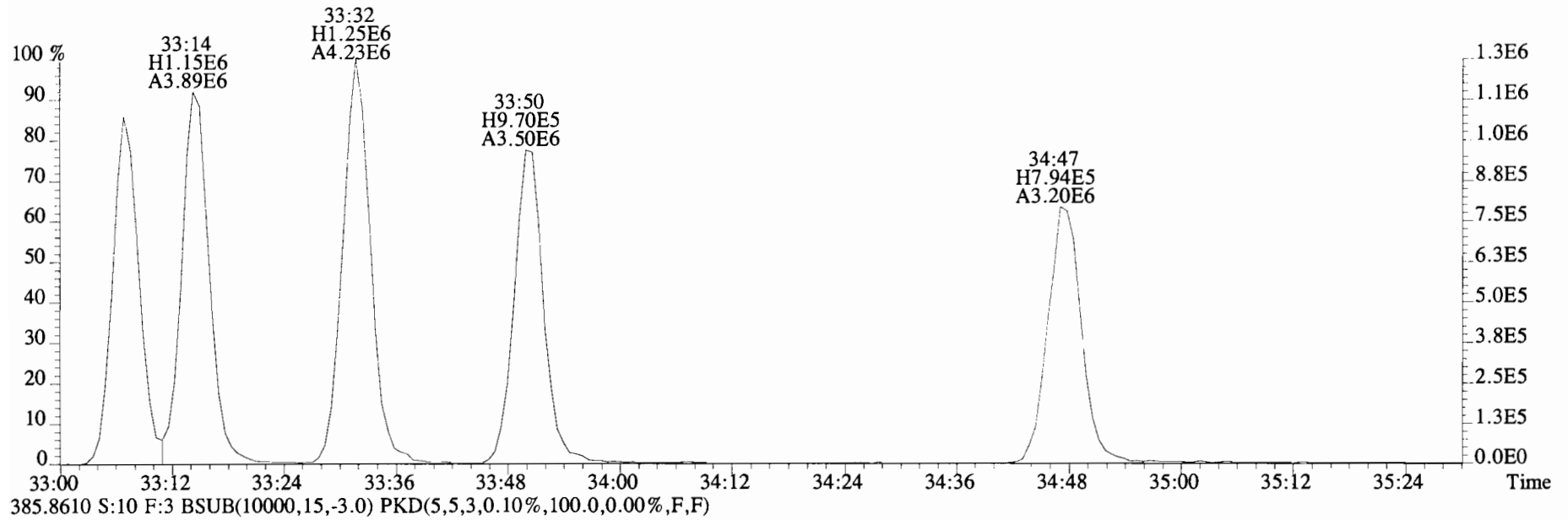
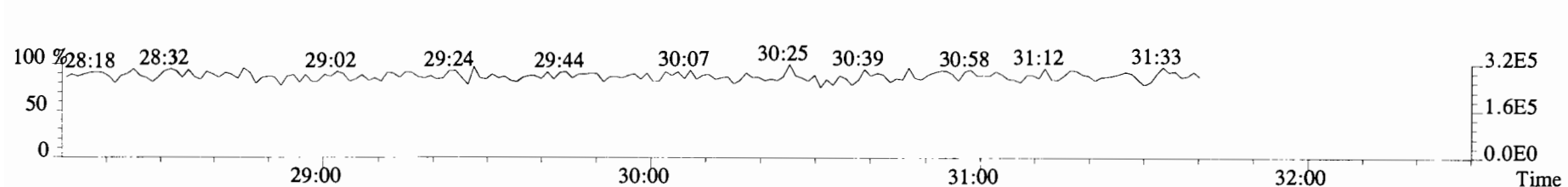385.8610 S:10 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

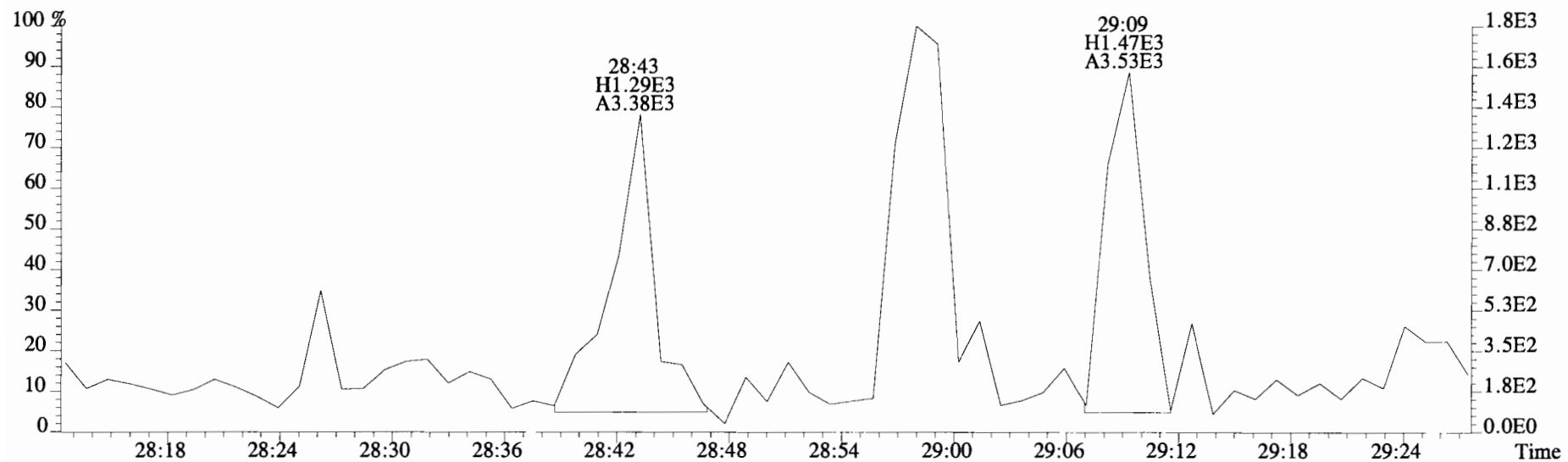File:191111D1 #1-355 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
407.7818 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
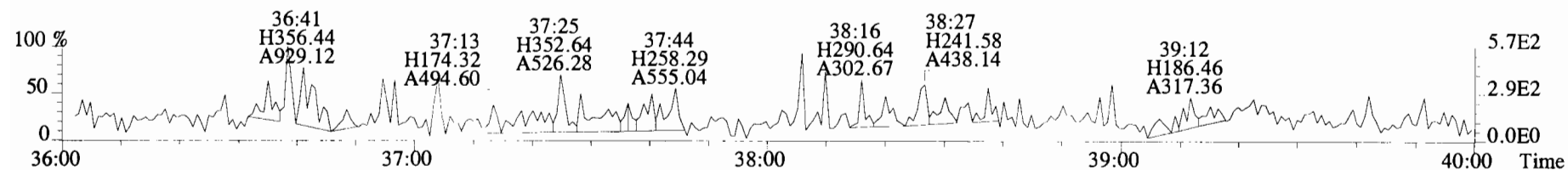
409.7788 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
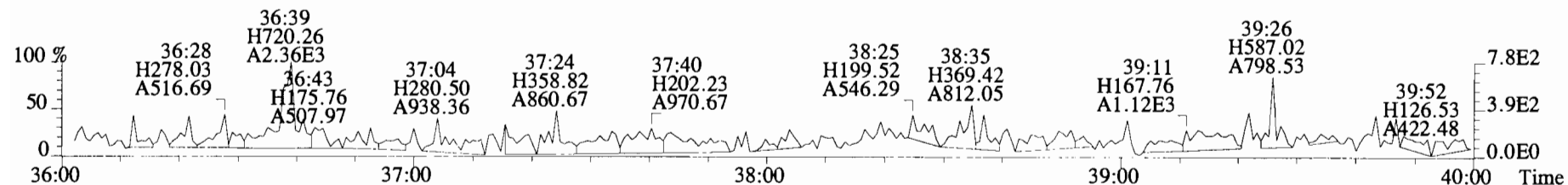
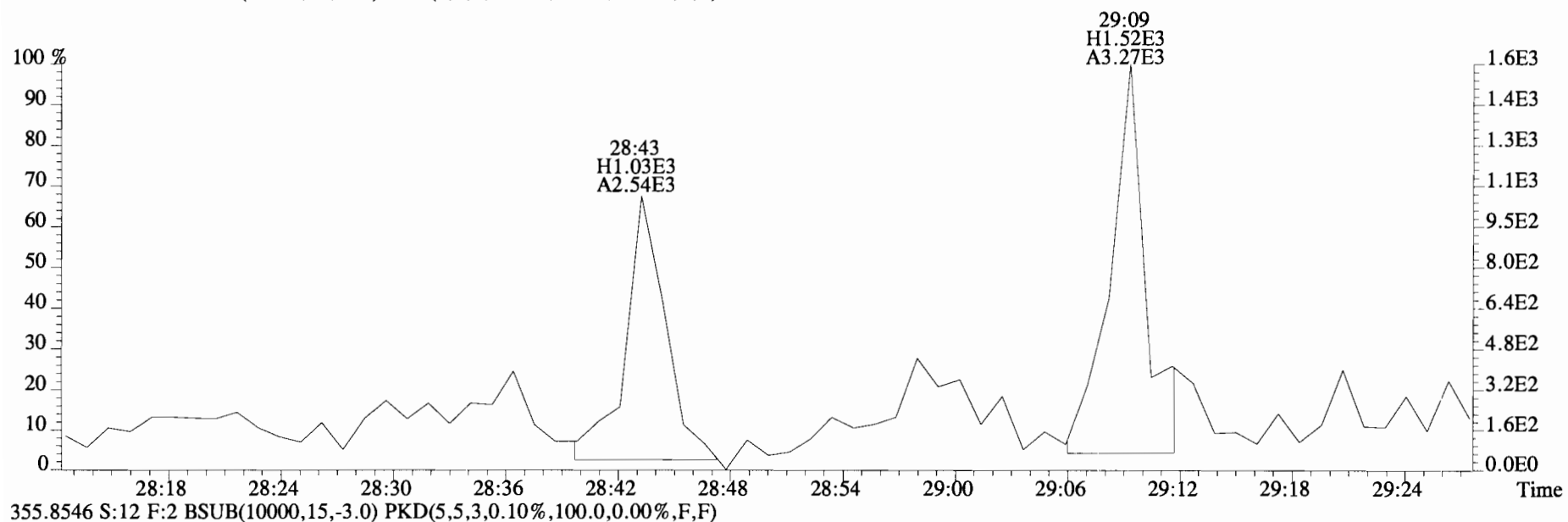417.8253 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

419.8220 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

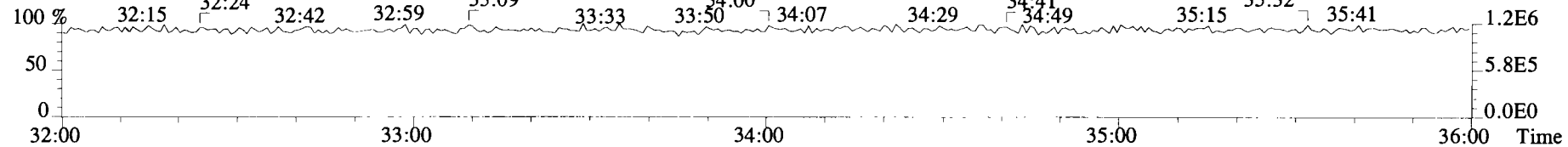479.7165 S:10 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-432 Acq:11-NOV-2019 17:30:56 GC EI+ Voltage SIR Autospec-UltimaE
Sample#10 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-03 PDI-020SC-A-13-14-191008 13.74 Exp:OCDD_DB5
441.7428 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

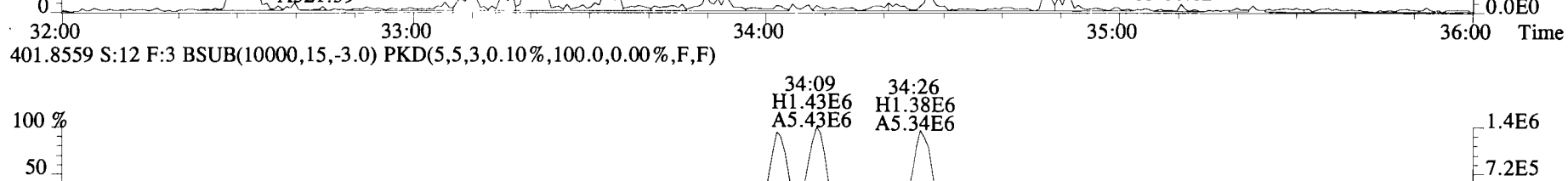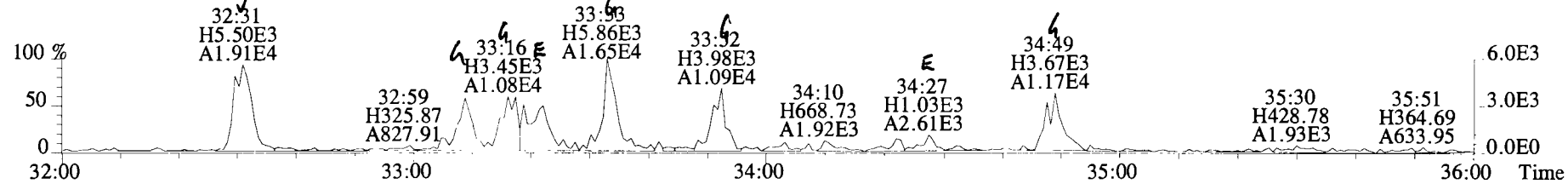443.7398 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

453.7831 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
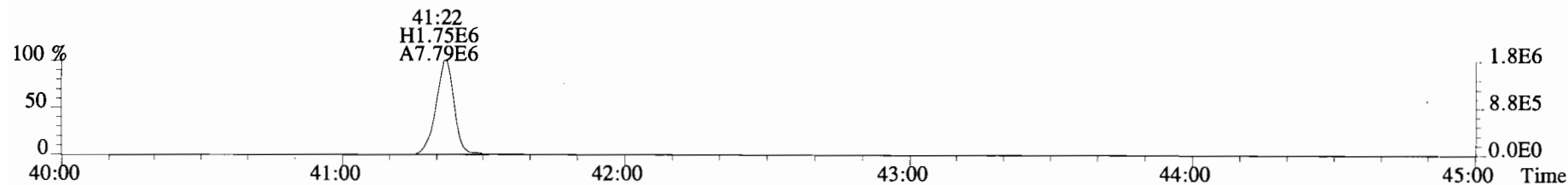
455.7801 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

513.6775 S:10 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

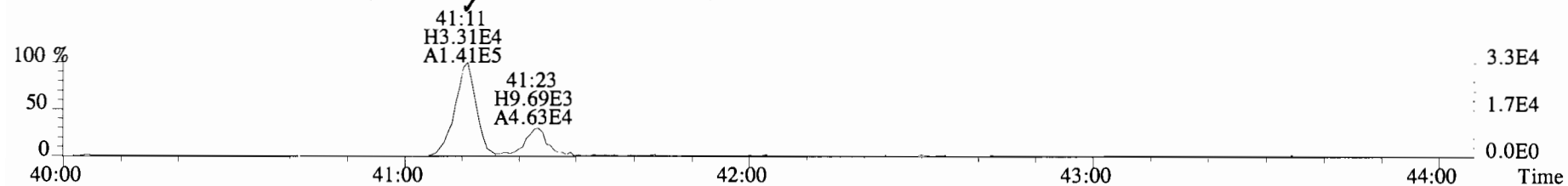| Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
2,3,7,8-TCDD	*	*	n	0.91	NotF	*		123	2.5	0.0347	Total Tetra-Dioxins	0.396	0.396		*	*
1,2,3,7,8-PeCDD	*	*	n	0.90	NotF	*		303	2.5	0.0841	Total Penta-Dioxins	*	0.253		*	*
1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF	*		169	2.5	0.0723	Total Hexa-Dioxins	0.795	1.17		*	*
1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF	*		169	2.5	0.0787	Total Hepta-Dioxins	2.61	2.61		*	*
1,2,3,7,8,9-HxCDD	3.99e+03	0.87	n	0.96	34:27	0.085621		*	2.5	*	Total Tetra-Furans	0.0678	0.132		*	*
1,2,3,4,6,7,8-HpCDD	3.95e+04	0.96	y	0.98	37:54	0.92265		*	2.5	*	Total Penta-Furans	0.0000	0.0000		201	0.0522
OCDD	3.00e+05	0.88	y	0.96	41:10	8.3636		*	2.5	*	Total Hexa-Furans	*	*		143	0.0279
											Total Hepta-Furans	*	*		127	0.0327
2,3,7,8-TCDF	*	*	n	0.95	NotF	*		129	2.5	0.0270						
1,2,3,7,8-PeCDF	*	*	n	0.96	NotF	*		201	2.5	0.0539						
2,3,4,7,8-PeCDF	*	*	n	1.01	NotF	*		201	2.5	0.0507						
1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF	*		143	2.5	0.0241						
1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF	*		143	2.5	0.0247						
2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF	*		143	2.5	0.0286						
1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF	*		143	2.5	0.0350						
1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF	*		127	2.5	0.0340						
1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF	*		127	2.5	0.0313						
OCDF	*	*	n	0.95	NotF	*		186	2.5	0.0841						

	Name	Resp	RA		RRF	RT	Conc	Rec	Qual
IS	13C-2,3,7,8-TCDD	1.23e+07	0.78	y	1.10	26:15	185.99	94.3	
IS	13C-1,2,3,7,8-PeCDD	9.71e+06	0.64	y	0.88	30:44	182.44	92.5	
IS	13C-1,2,3,4,7,8-HxCDD	8.49e+06	1.28	y	0.64	34:02	175.12	88.8	
IS	13C-1,2,3,6,7,8-HxCDD	9.69e+06	1.28	y	0.86	34:09	149.95	76.0	
IS	13C-1,2,3,7,8,9-HxCDD	9.56e+06	1.26	y	0.81	34:26	156.88	79.6	
IS	13C-1,2,3,4,6,7,8-HpCDD	8.61e+06	1.07	y	0.65	37:53	174.45	88.5	
IS	13C-OCDD	1.47e+07	0.89	y	0.58	41:10	336.75	85.4	
IS	13C-2,3,7,8-TCDF	1.74e+07	0.78	y	1.03	25:28	175.52	89.0	
IS	13C-1,2,3,7,8-PeCDF	1.51e+07	1.59	y	0.85	29:34	185.42	94.0	
IS	13C-2,3,4,7,8-PeCDF	1.44e+07	1.59	y	0.85	30:26	177.54	90.0	
IS	13C-1,2,3,4,7,8-HxCDF	1.17e+07	0.50	y	0.83	33:09	186.48	94.6	
IS	13C-1,2,3,6,7,8-HxCDF	1.32e+07	0.52	y	1.03	33:16	168.56	85.5	
IS	13C-2,3,4,6,7,8-HxCDF	1.22e+07	0.52	y	0.95	33:52	169.42	85.9	
IS	13C-1,2,3,7,8,9-HxCDF	1.13e+07	0.51	y	0.83	34:49	180.50	91.5	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.05e+07	0.44	y	0.76	36:40	183.03	92.8	
IS	13C-1,2,3,4,7,8,9-HpCDF	8.56e+06	0.44	y	0.58	38:25	195.06	98.9	
IS	13C-OCDF	1.91e+07	0.90	y	0.69	41:23	366.20	92.9	
C/Up	37Cl-2,3,7,8-TCDD	5.89e+06			1.20	26:16	81.500	103	
RS/RT	13C-1,2,3,4-TCDD	1.19e+07	0.80	y	1.00	25:41	197.20		
RS	13C-1,2,3,4-TCDF	1.88e+07	0.81	y	1.00	24:16	197.20		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.49e+07	0.51	y	1.00	33:34	197.20		

Integrations by Analyst: _DB_   Reviewed by Analyst: _CT_

Date: _11/13/19_   Date: _11/14/19_

Totals class: TCDD EMPC   Entry #: 19

          Run: 17   File: 191111D1   S: 12 I: 1 F: 1
     Acquired: 11-NOV-19 19:06:37   Processed: 12-NOV-19 09:23:36

Total Concentration: 0.39646   Unnamed Concentration: 0.396

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

24:23   9.721e+03   1.266e+04 0.77 y 2.238e+04   0.39646

Totals class: PeCDD EMPC   Entry #: 21

           Run: 17   File: 191111D1   S: 12 I: 1 F: 2
     Acquired: 11-NOV-19 19:06:37   Processed: 12-NOV-19 09:23:36

Total Concentration: 0.25336   Unnamed Concentration: 0.253

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

28:43 2.545e+03   3.378e+03 0.75 n 5.506e+03   0.12393
29:08 3.274e+03   3.528e+03 0.93 n 5.751e+03   0.12944

Totals class: HxCDD EMPC   Entry #: 23

        Run: 17   File: 191111D1   S: 12 I: 1 F: 3
    Acquired: 11-NOV-19 19:06:37   Processed: 12-NOV-19 09:23:36

Total Concentration: 1.1721   Unnamed Concentration: 1.086

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

32:31 1.910e+04   1.785e+04 1.07 y 3.696e+04   0.79493
33:21 1.140e+04   6.051e+03 1.88 n 1.355e+04   0.29155
34:27 2.208e+03   2.535e+03 0.87 n 3.988e+03   0.085621   1,2,3,7,8,9-HxCDD

Totals class: HpCDD EMPC   Entry #: 25

          Run: 17   File: 191111D1   S: 12 I: 1 F: 4
    Acquired: 11-NOV-19 19:06:37   Processed: 12-NOV-19 09:23:36

Total Concentration: 2.6104   Unnamed Concentration: 1.688

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

37:03 3.638e+04   3.582e+04 1.02 y   7.220e+04   1.6878
37:54 1.935e+04   2.013e+04 0.96 y   3.947e+04   0.92265   1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC   Entry #: 27

          Run: 17   File: 191111D1   S: 12 I: 1   F: 1
     Acquired: 11-NOV-19 19:06:37   Processed: 12-NOV-19 09:23:36

Total Concentration: 0.13171   Unnamed Concentration: 0.132

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

22:00 4.168e+03   3.017e+03 1.38 n   5.341e+03   0.063859
25:40 2.319e+03   3.355e+03 0.69 y   5.674e+03   0.067846

File:191111D1 #1-493 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
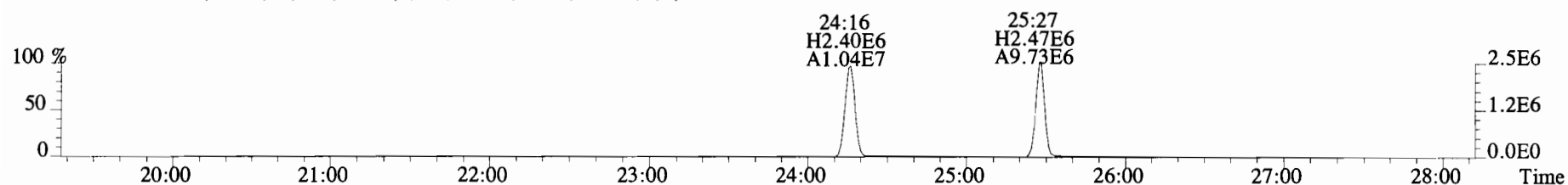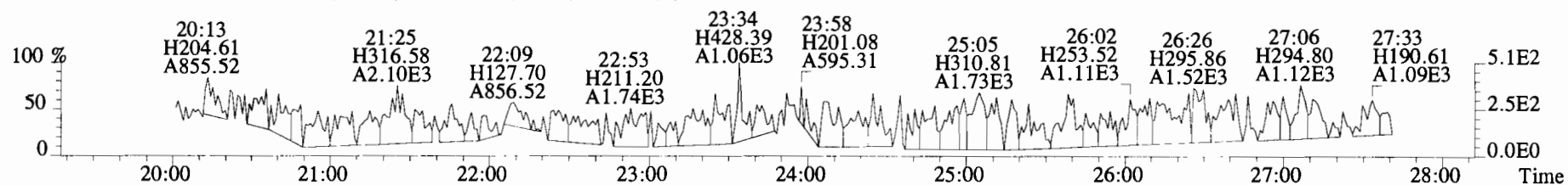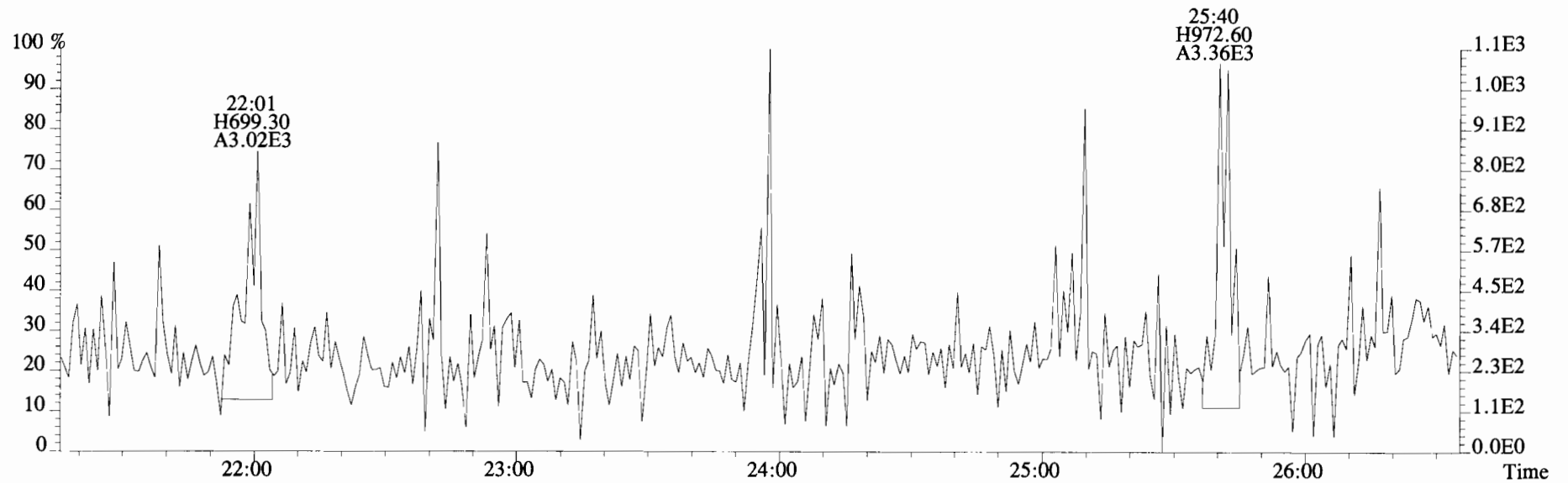319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
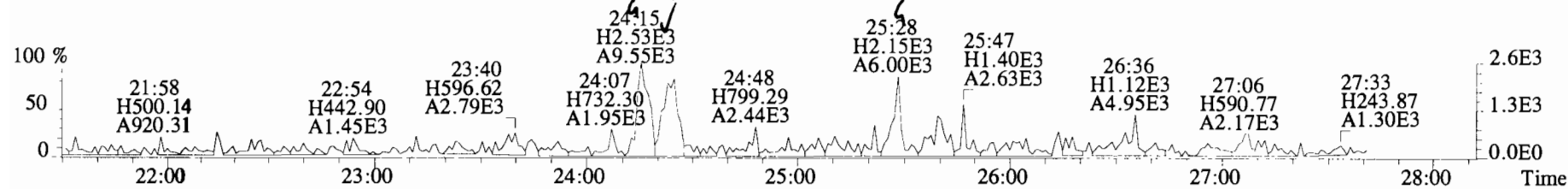
321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
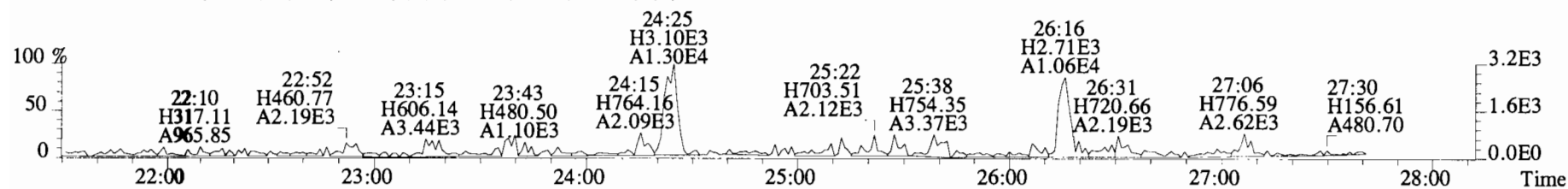
327.8847 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

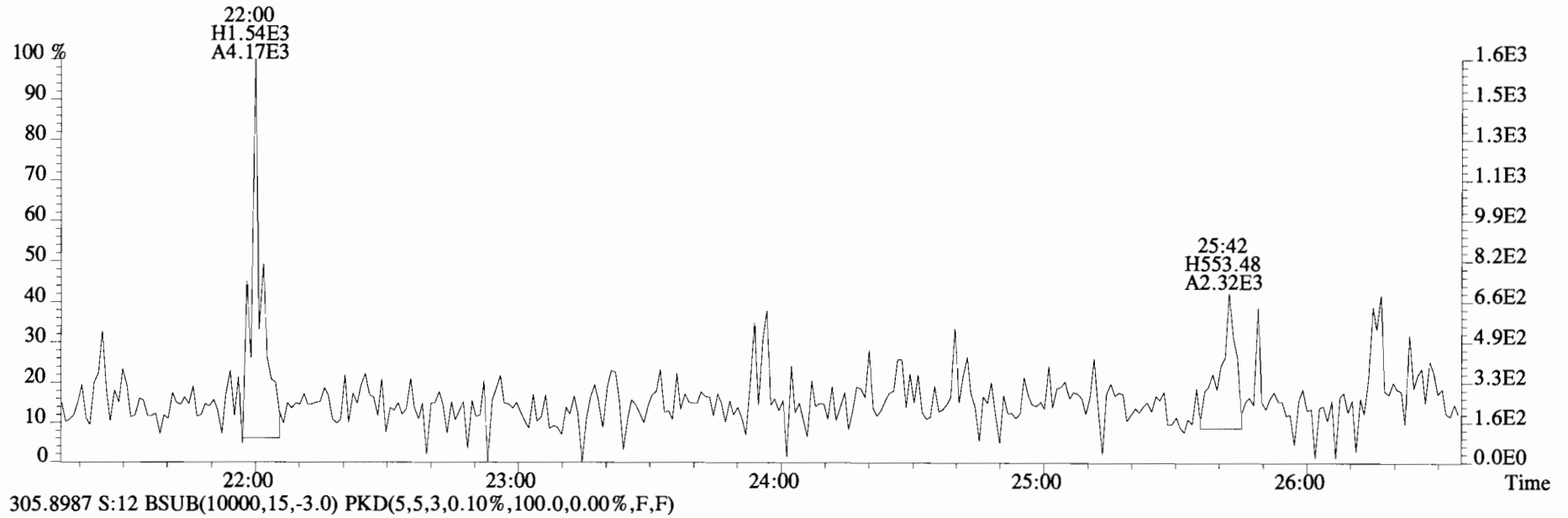331.9368 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

333.9339 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

319.8965 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:25
H2.02E3
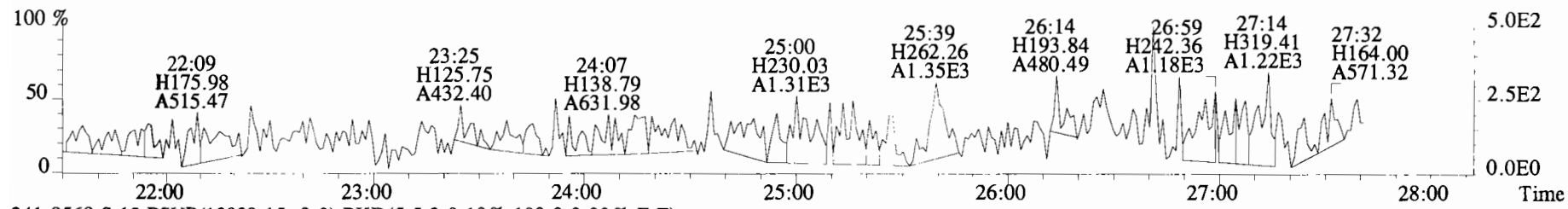A9.72E3

321.8936 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
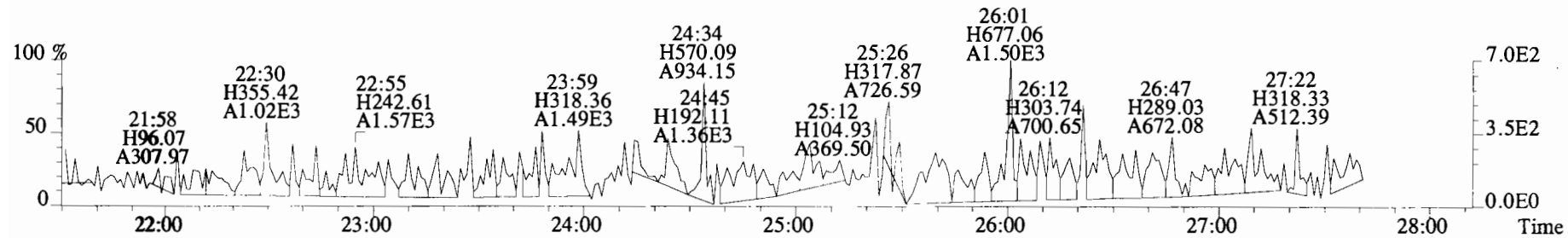
24:25
H3.09E3
A1.27E4

File:191111D1 #1-210 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

365.8978 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

367.8949 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
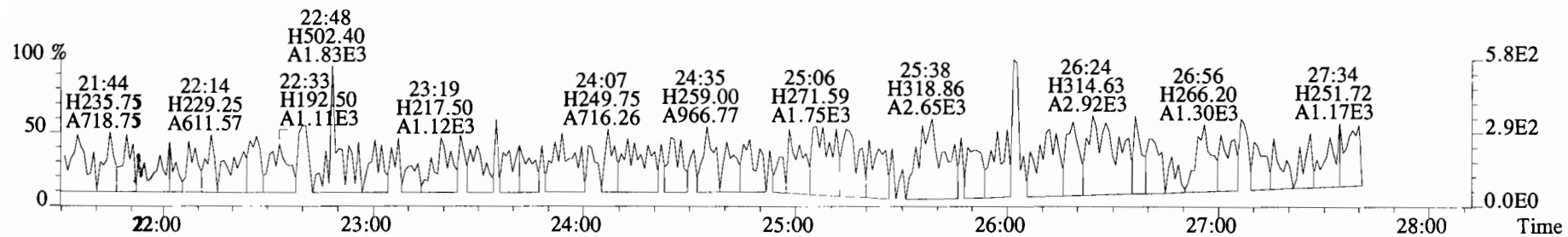

366.9792 S:12 F:2

File:191111D1 #1-210 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
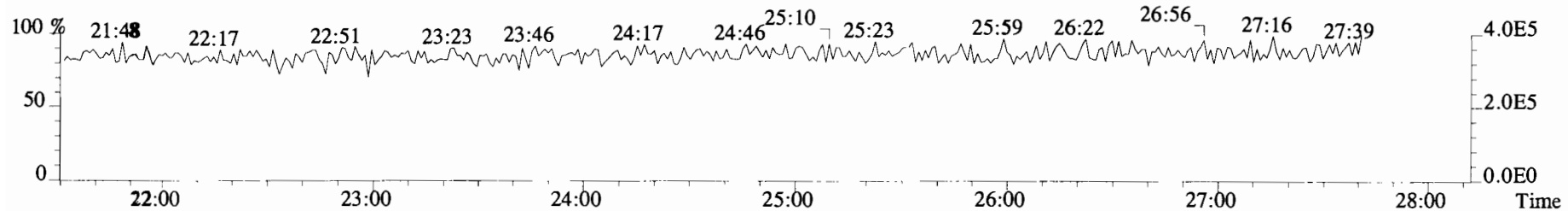353.8576 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

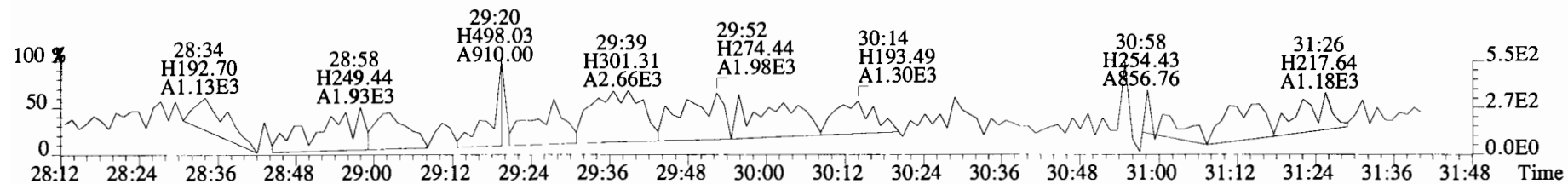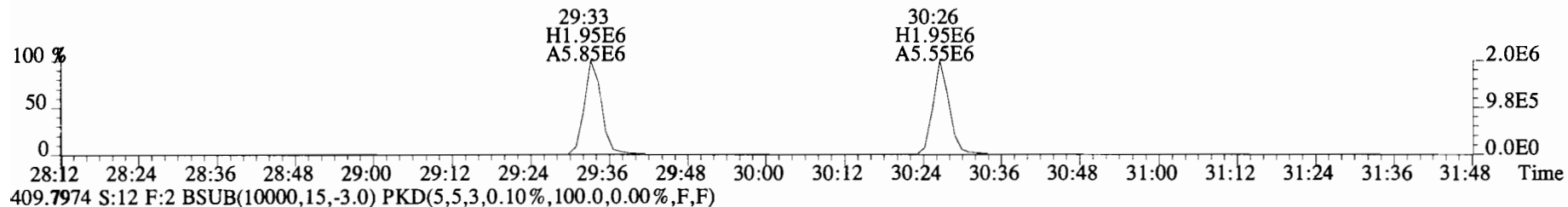355.8546 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:31
H5.50E3
A1.91E4

33:16
H3.45E3
A1.08E4

33:33
H5.86E3
A1.65E4

33:52
H3.98E3
A1.09E4

32:59
H325.87
A827.91

34:10
H668.73
A1.92E3

34:27
H1.03E3
A2.61E3

34:49
H3.67E3
A1.17E4

35:30
H428.78
A1.93E3

35:51
H364.69
A633.95

100 %   50   0
6.0E3   3.0E3   0.0E0
32:00   33:00   34:00   35:00   36:00 Time

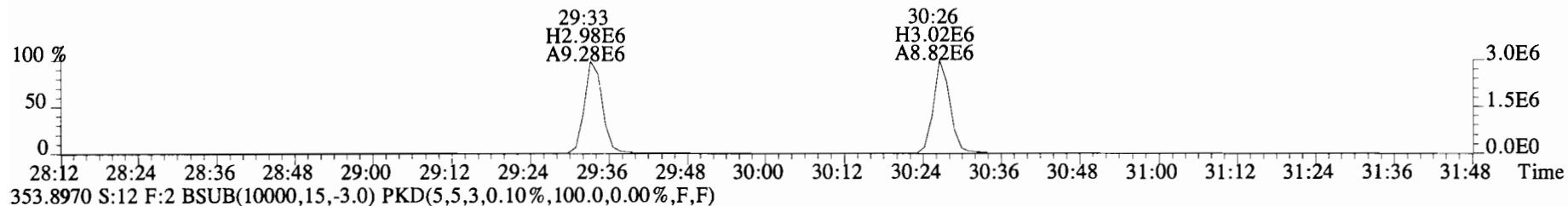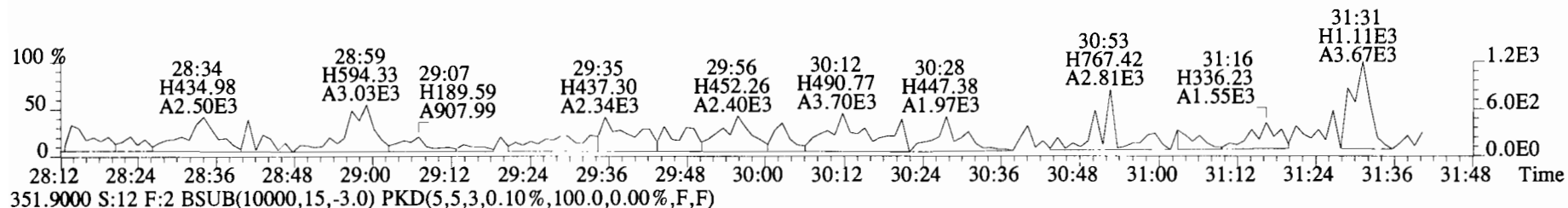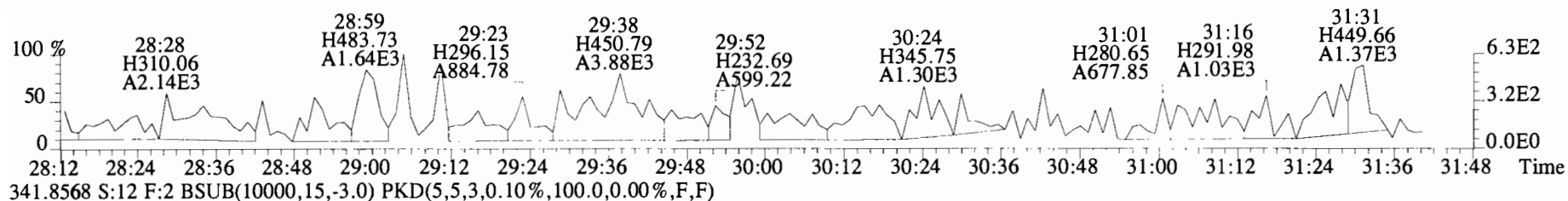391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:31
H5.74E3
A1.84E4

32:44
H259.30
A321.39

33:10
H950.66
A3.33E3

33:22
H2.07E3
A6.71E3

33:33
H1.37E3
A4.92E3

33:50
H1.06E3
A4.38E3

34:27
H1.39E3
A2.66E3

34:51
H1.11E3
A3.25E3

35:10
H456.60
A788.62

100 %   50   0
5.9E3   2.9E3   0.0E0
32:00   33:00   34:00   35:00   36:00 Time

401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

34:09
H1.43E6
A5.43E6

34:26
H1.38E6
A5.34E6

100 %   50   0
1.4E6   7.2E5   0.0E0
32:00   33:00   34:00   35:00   36:00 Time

403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

34:09
H1.14E6
A4.25E6

34:26
H1.09E6
A4.22E6

100 %   50   0
1.1E6   5.7E5   0.0E0
32:00   33:00   34:00   35:00   36:00 Time

392.9760 S:12 F:3

32:15   32:24   32:42   32:59   33:09   33:33   33:50   34:00   34:07   34:29   34:41   34:49   35:15   35:32   35:41

100 %   50   0
1.2E6   5.8E5   0.0E0
32:00   33:00   34:00   35:00   36:00 Time
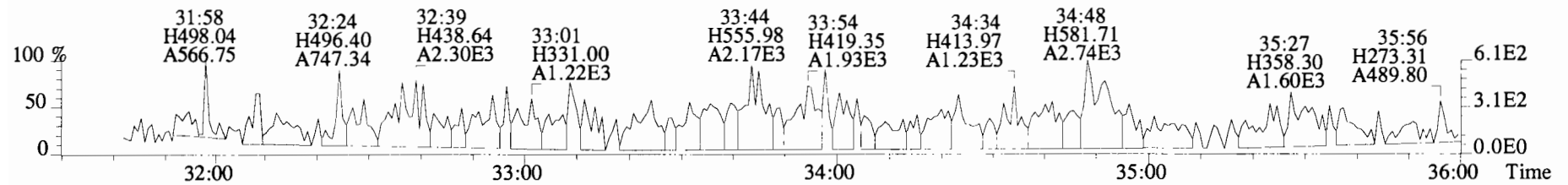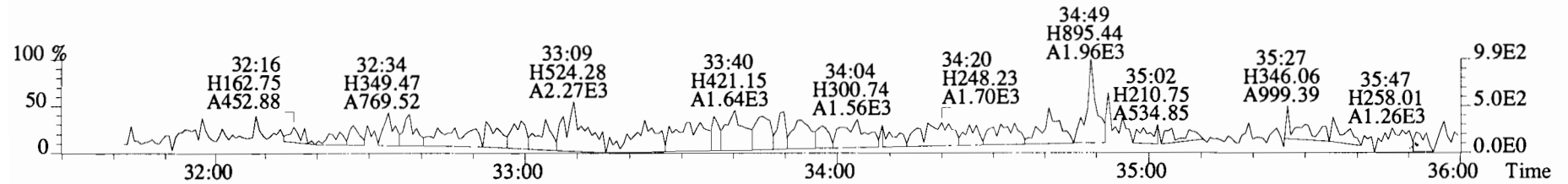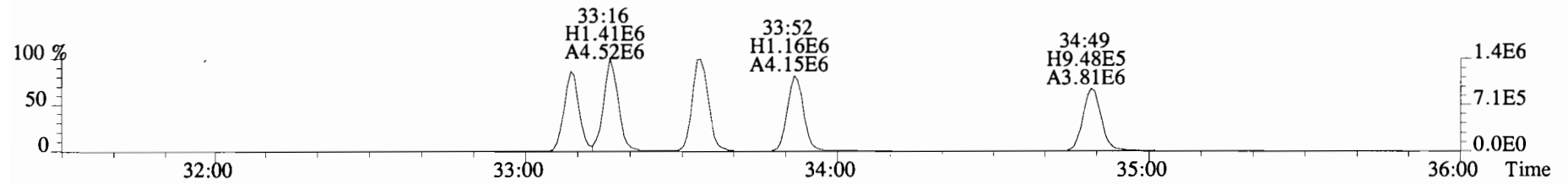
File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
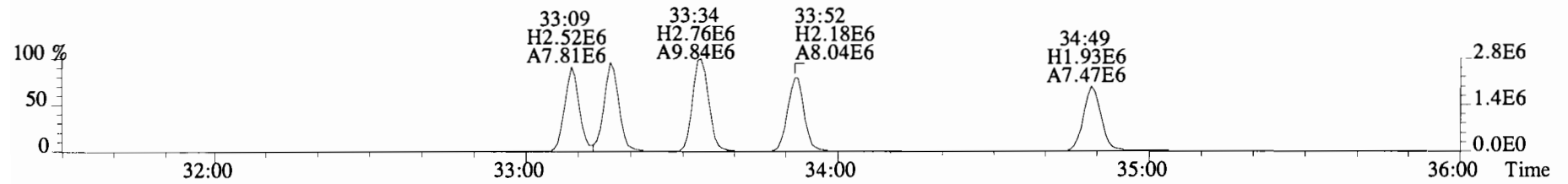389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
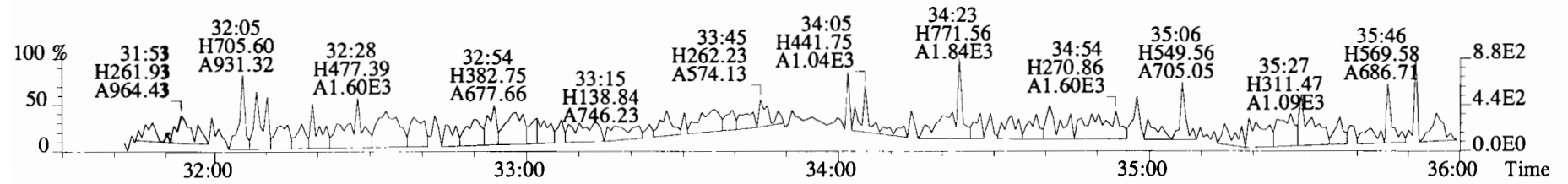389.8156 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

391.8127 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

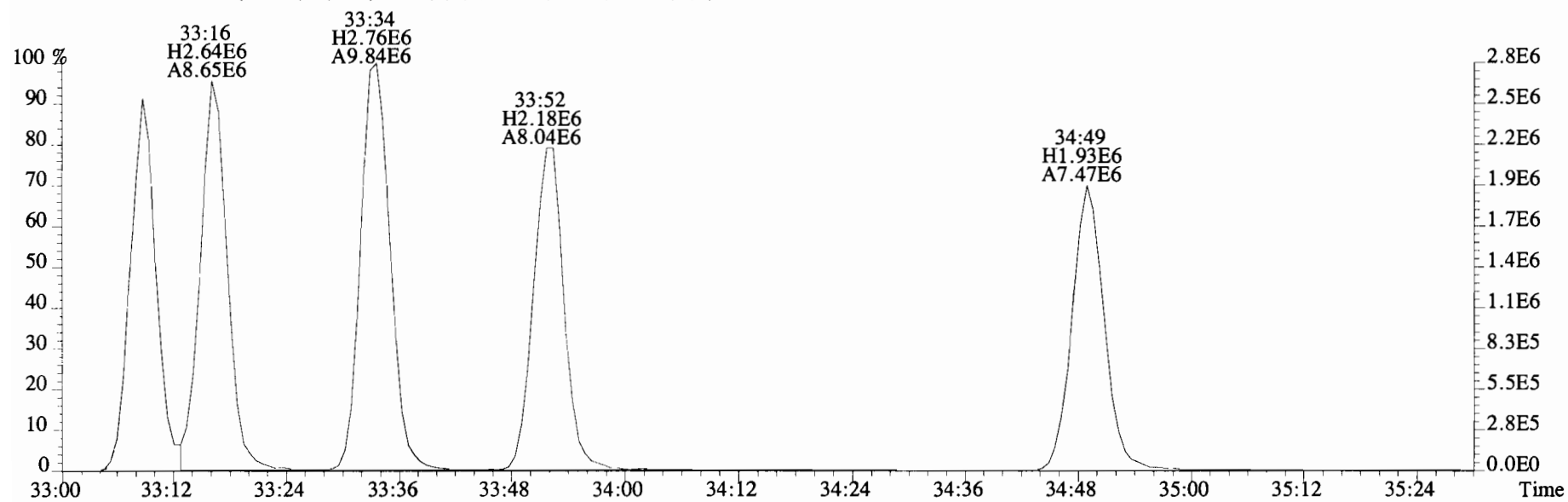File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
401.8559 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
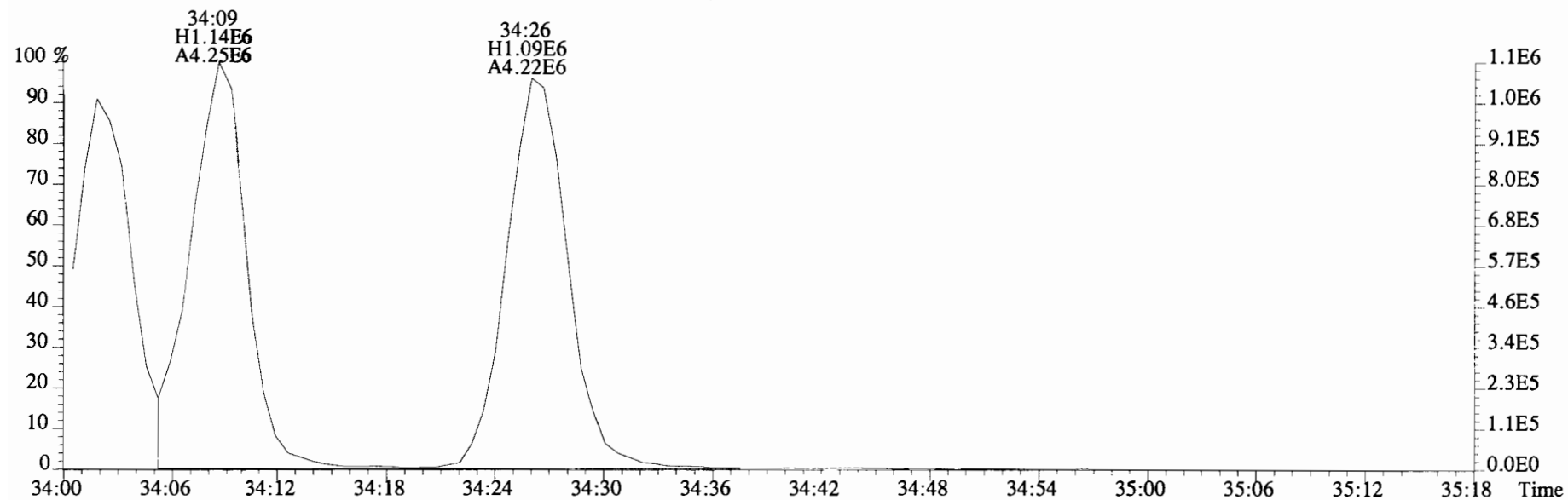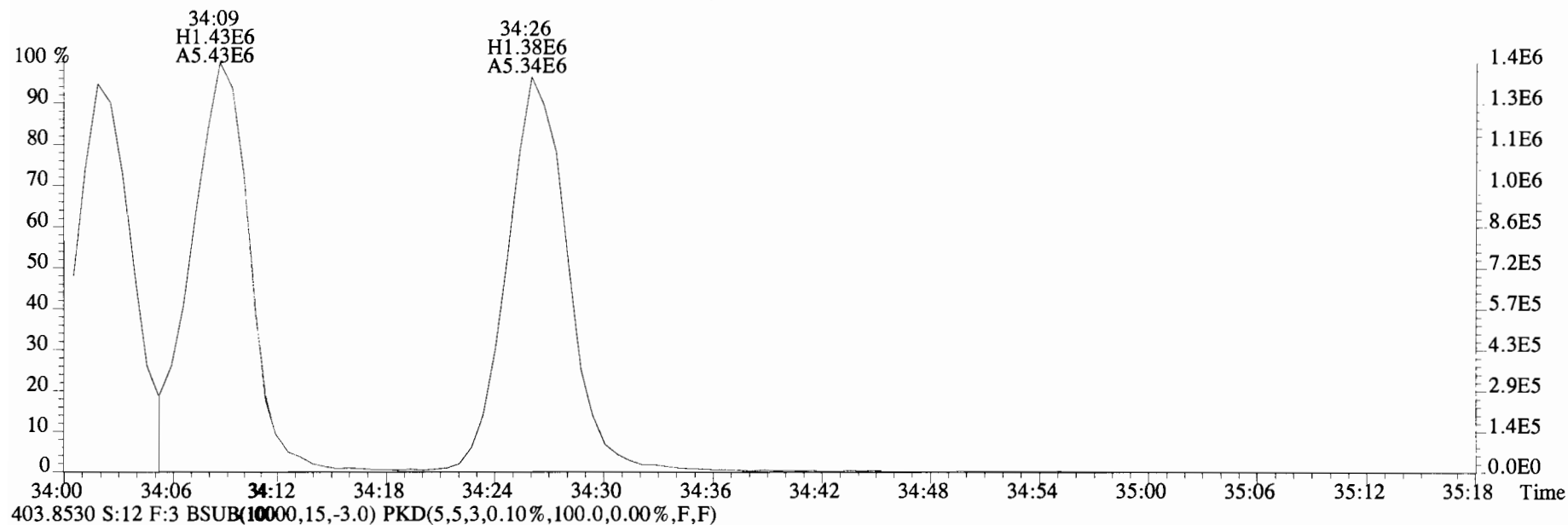
403.8530 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

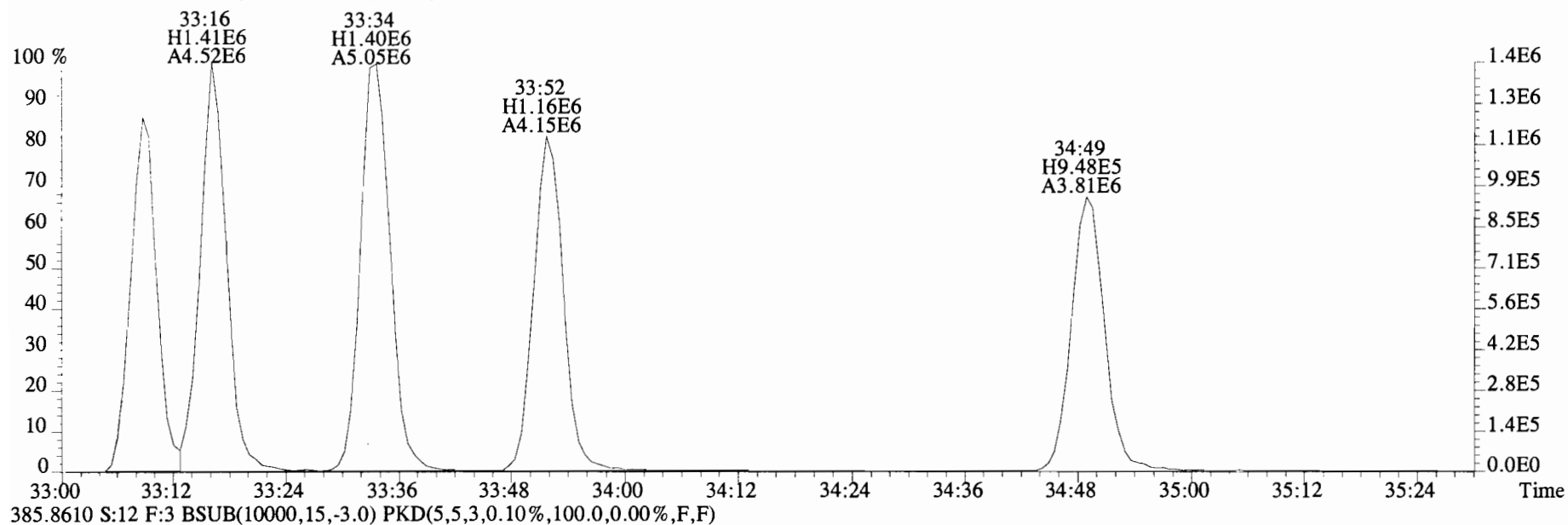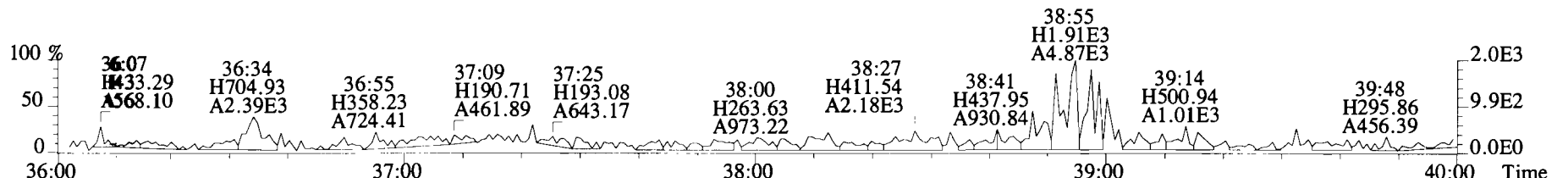File:191111D1 #1-355 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
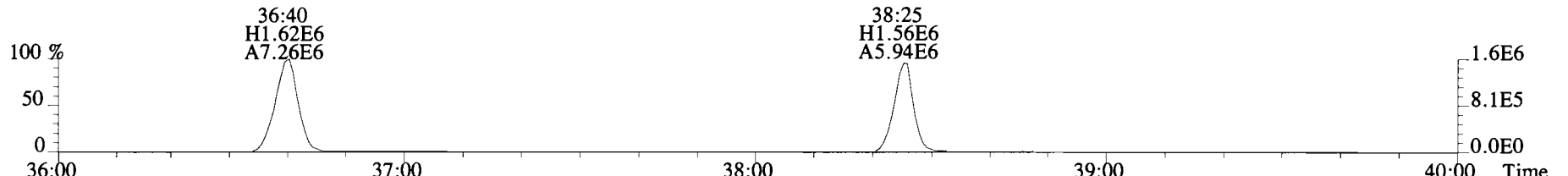423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
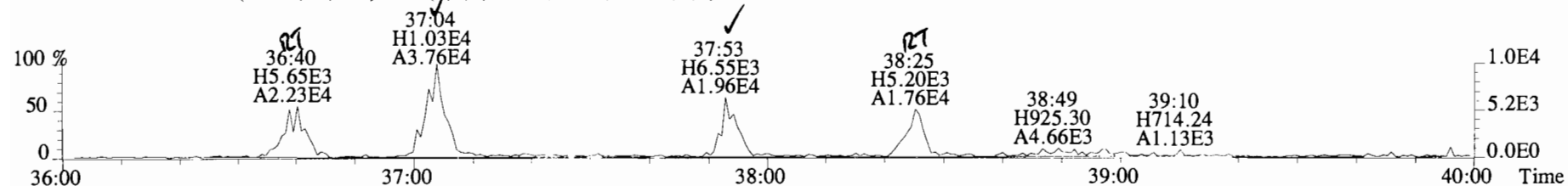
425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
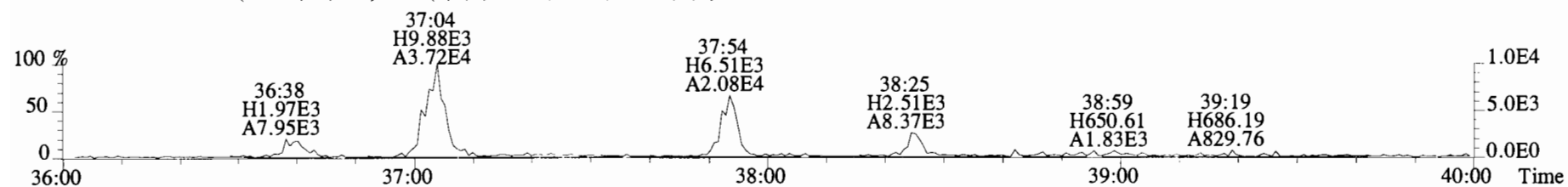
435.8169 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
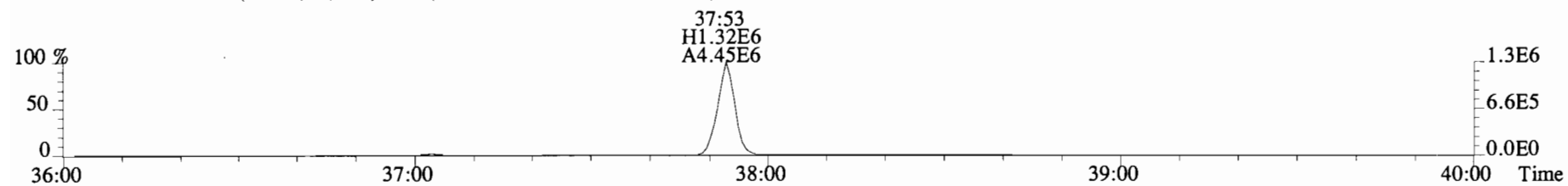
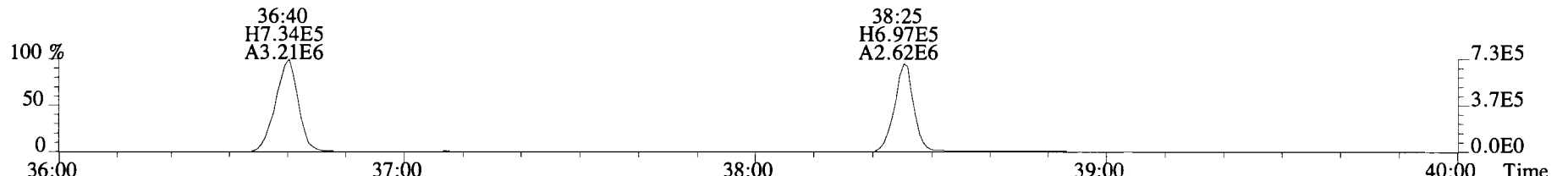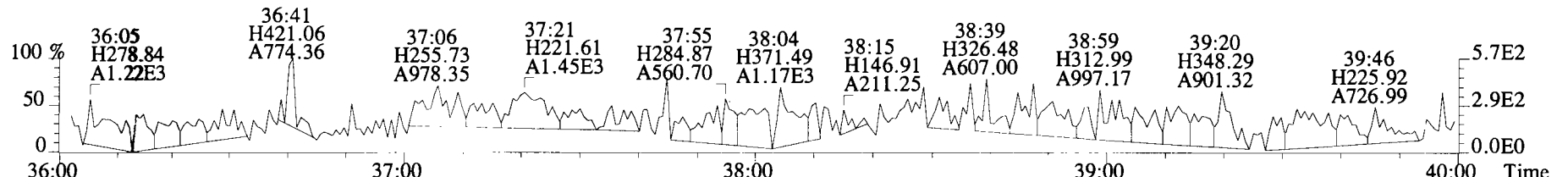437.8140 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
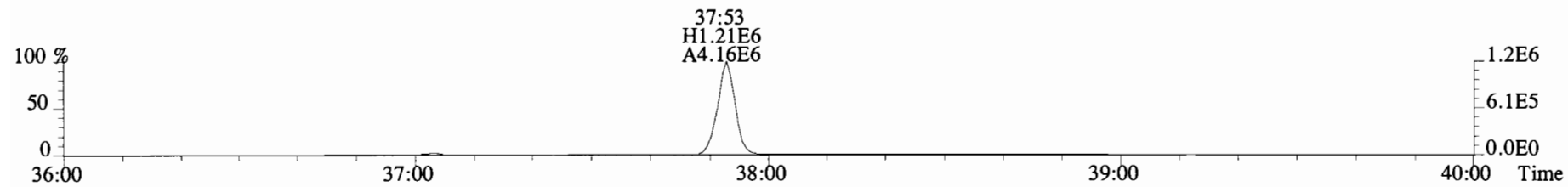
454.9728 S:12 F:4
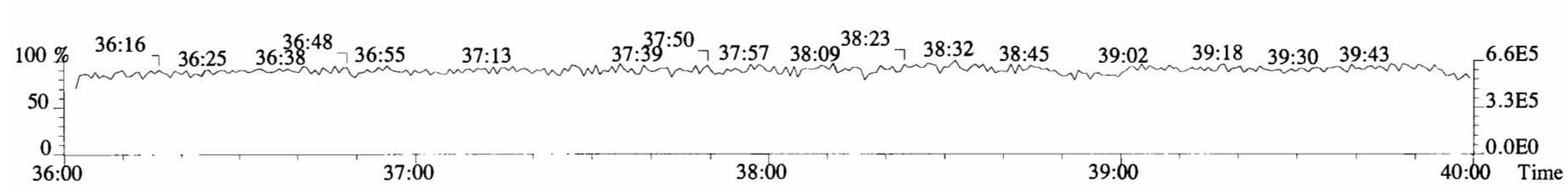
File:191111D1 #1-355 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
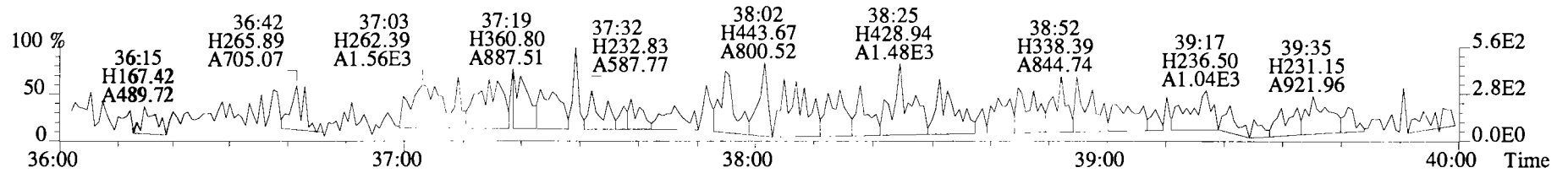423.7767 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
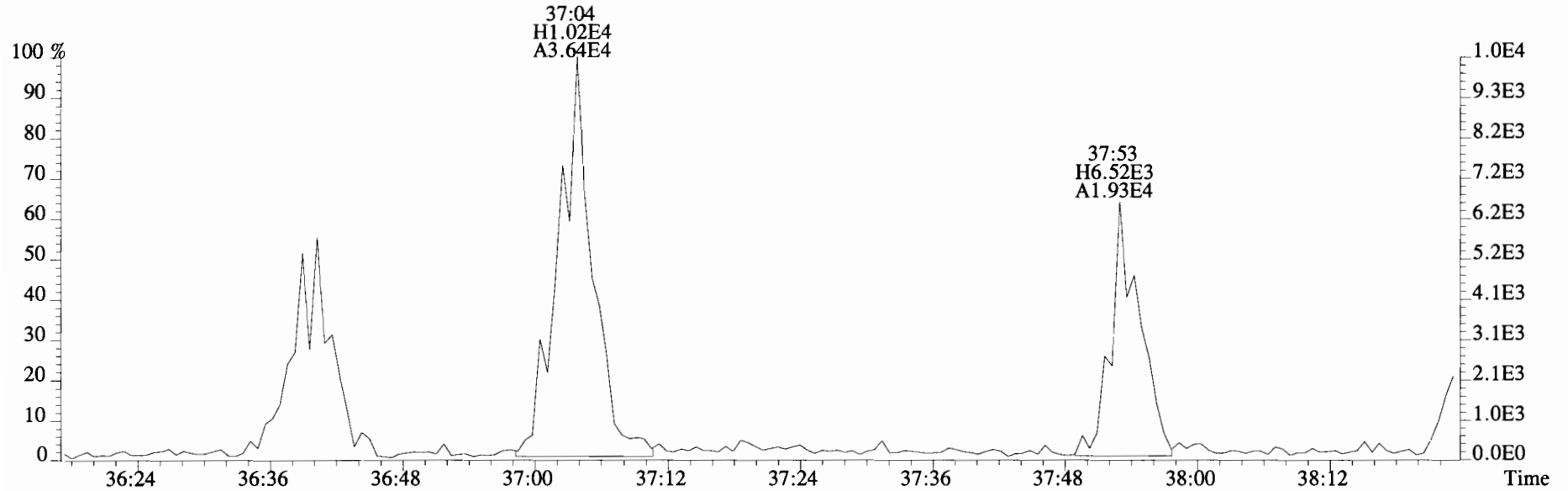
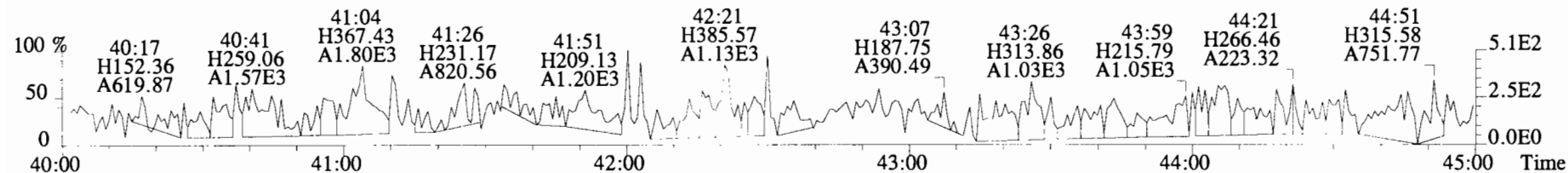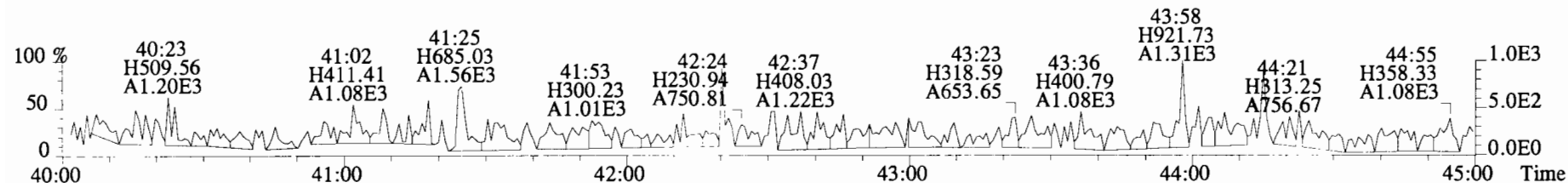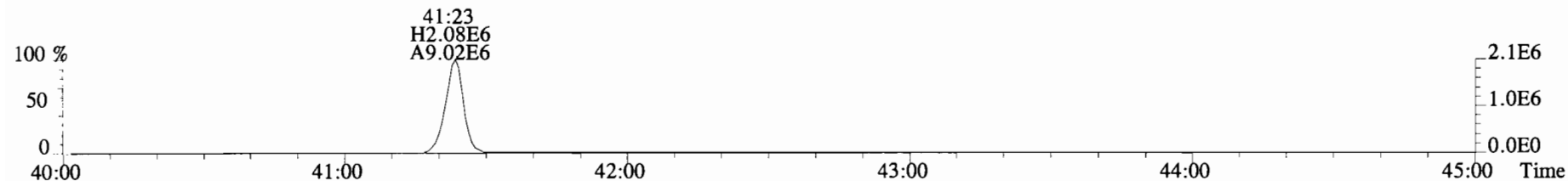425.7737 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
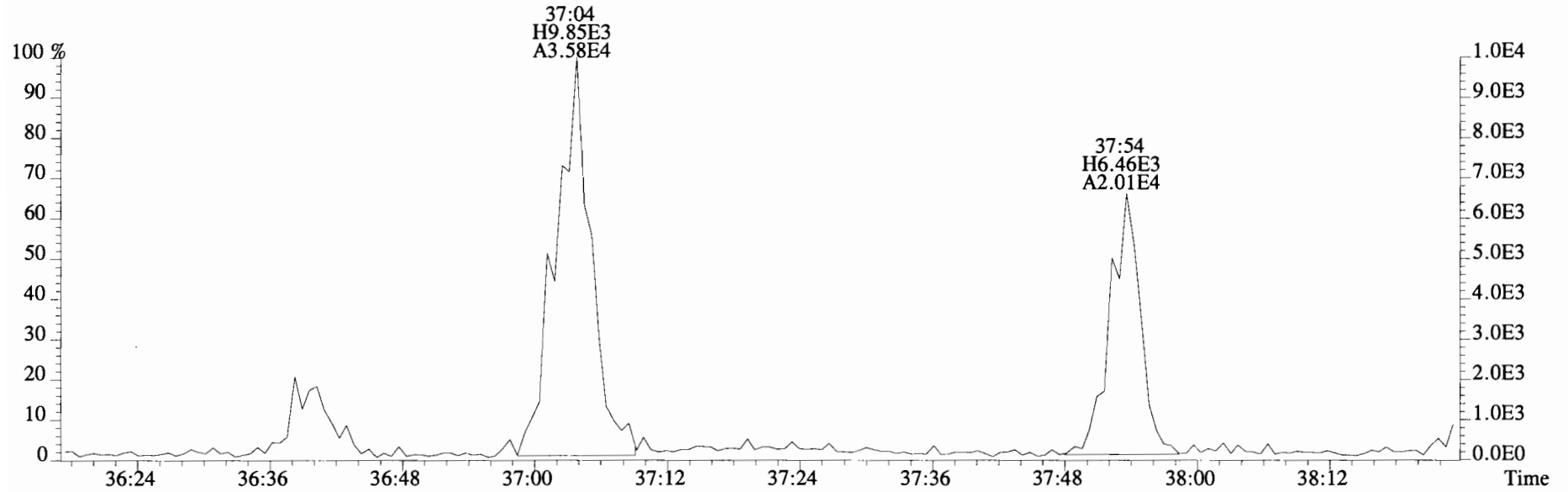
File:191111D1 #1-432 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
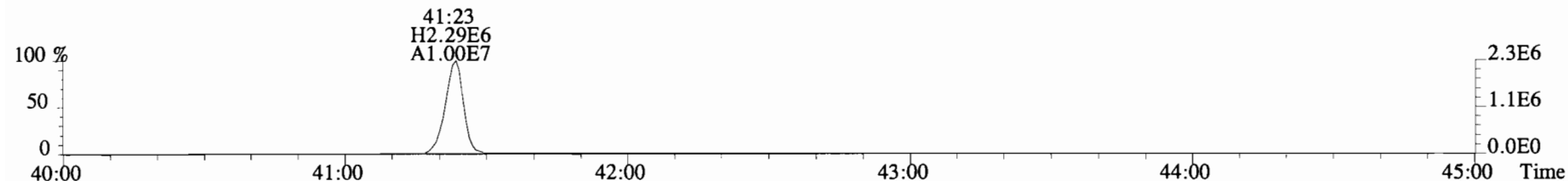457.7377 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:11
H3.31E4
A1.41E5

41:23
H9.69E3
A4.63E4

100 %				3.3E4
50				1.7E4
0				0.0E0
40:00	41:00	42:00	43:00	44:00 Time

459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:11
H3.79E4
A1.61E5

41:23
H5.24E3
A2.29E4

100 %				3.8E4
50				1.9E4
0				0.0E0
40:00	41:00	42:00	43:00	44:00 Time
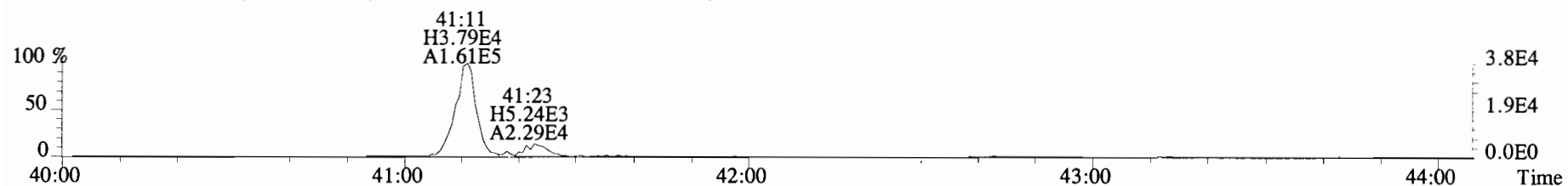
469.7780 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:10
H1.57E6
A6.94E6

100 %				1.6E6
50				7.8E5
0				0.0E0
40:00	41:00	42:00	43:00	44:00 Time
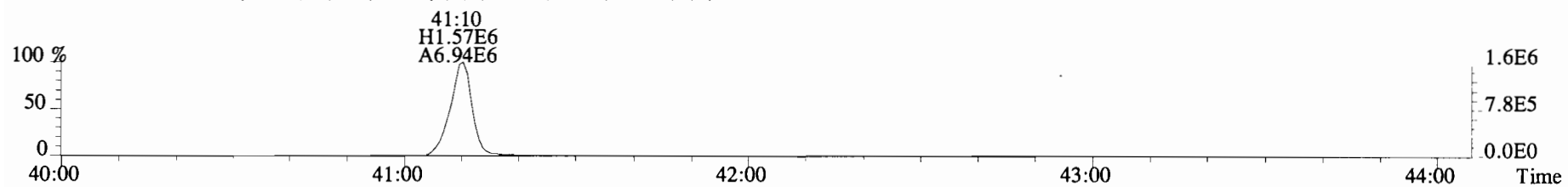
471.7750 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:10
H1.75E6
A7.80E6

100 %				1.8E6
50				8.8E5
0				0.0E0
40:00	41:00	42:00	43:00	44:00 Time

454.9728 S:12 F:5

40:02 40:24 40:42 40:52 40:59 41:25 41:38 41:55 42:07 42:27 42:34 42:51 43:09 43:30 43:59

100 %				8.0E5
50				4.0E5
0				0.0E0
40:00	41:00	42:00	43:00	44:00 Time

41:11
H3.31E4
A1.40E5

459.7348 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:11
H3.79E4
A1.59E5
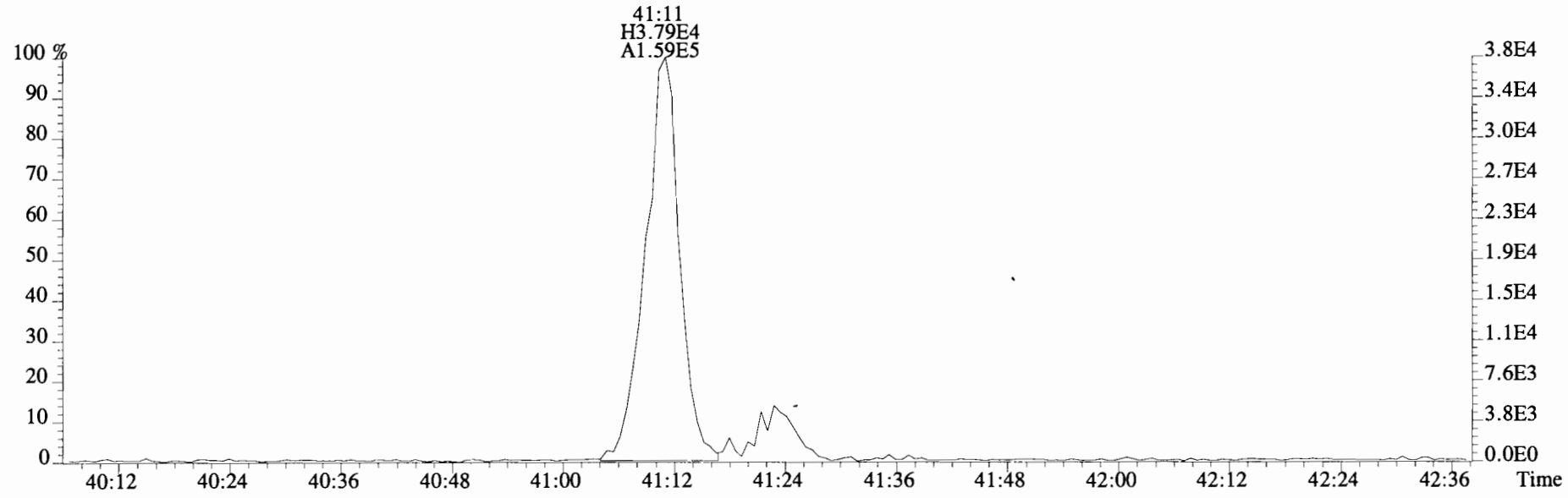
File:191111D1 #1-493 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5

303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
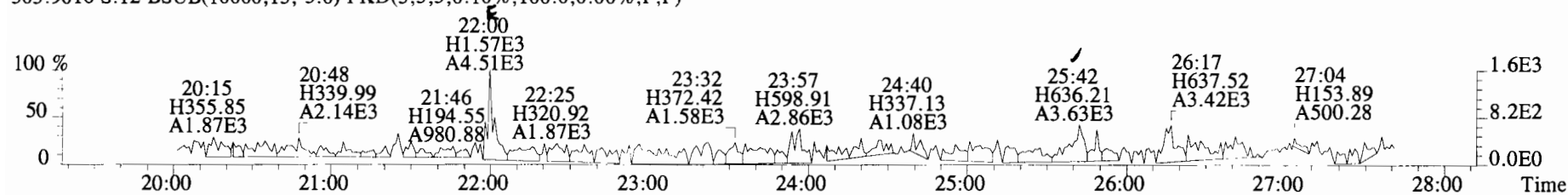
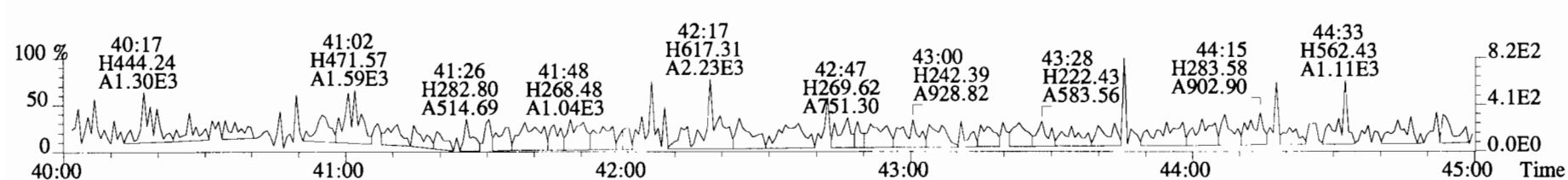305.8987 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
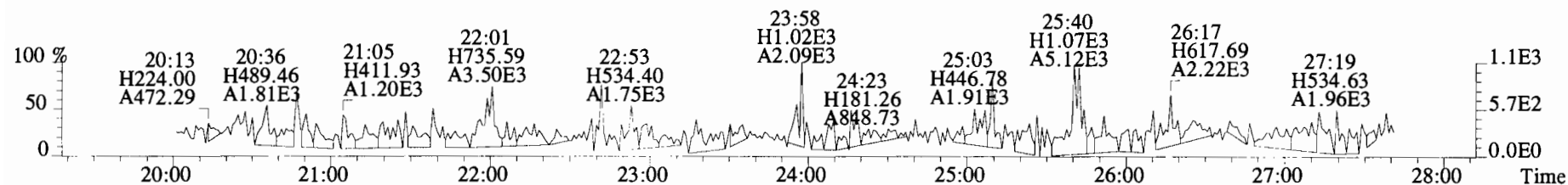
315.9419 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
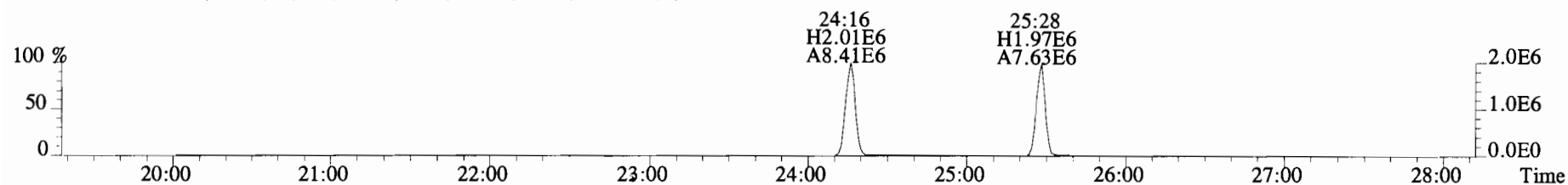
317.9389 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8364 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
303.9016 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
339.8597 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:12 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:12

File:191111D1 #1-210 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
339.8597 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:12 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5

373.8207 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8178 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

445.7555 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-385 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
383.8639 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

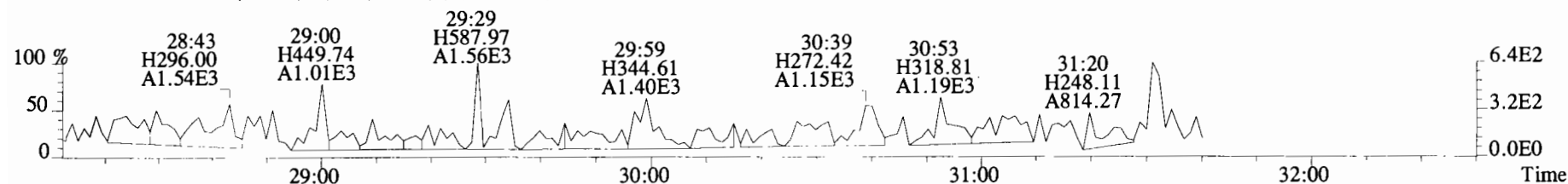385.8610 S:12 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-355 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
407.7818 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7788 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

417.8253 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

419.8220 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

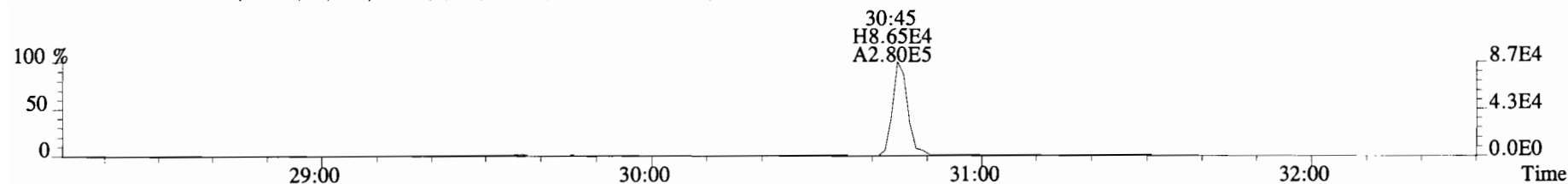479.7165 S:12 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-432 Acq:11-NOV-2019 19:06:37 GC EI+ Voltage SIR Autospec-UltimaE
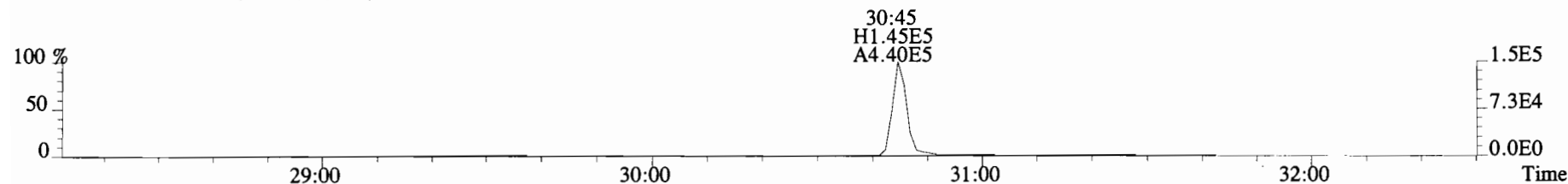Sample#12 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-04 PDI-020SC-A-14-15.4-191008 15.19 Exp:OCDD_DB5
441.7428 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

443.7398 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

453.7831 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

455.7801 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

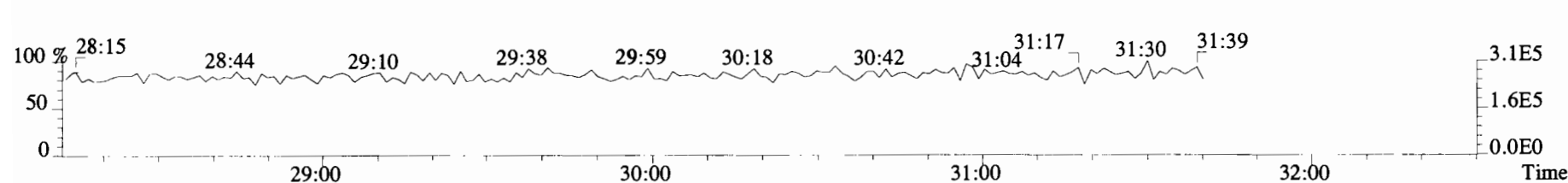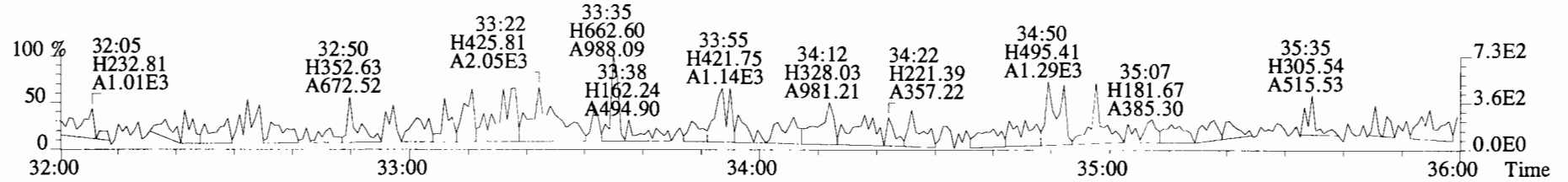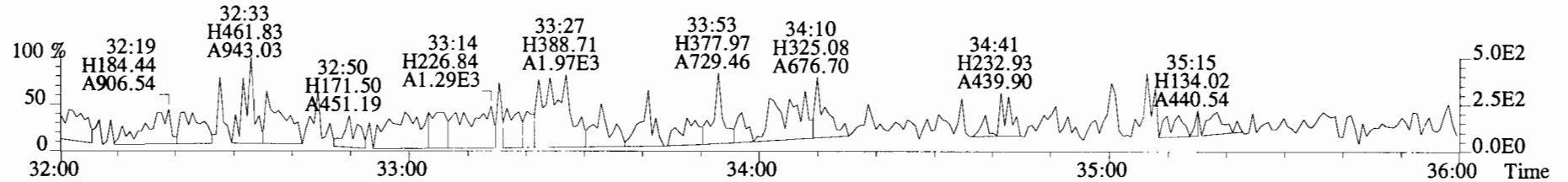513.6775 S:12 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL		Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotFᵀ	*		117	2.5	0.505		Total Tetra-Dioxins	*	*		117	0.505
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotFᵀ	*		115	2.5	0.449		Total Penta-Dioxins	*	*		115	0.449
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotFᵀ	*		98.7	2.5	0.500		Total Hexa-Dioxins	*	*		98.7	0.501
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotFᵀ	*		98.7	2.5	0.479		Total Hepta-Dioxins	*	*		139	0.652
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotFᵀ	*		98.7	2.5	0.522		Total Tetra-Furans	*	*		163	0.463
	1,2,3,4,6,7,8-HpCDD	*	*	n	0.98	NotFᵀ	*		139	2.5	0.652		Total Penta-Furans	0.0000	0.0000		171	0.672
	OCDD	*	*	n	0.96	NotFᵀ	*		140	2.5	0.890		Total Hexa-Furans	*	*		123	0.289
													Total Hepta-Furans	*	*		119	0.343
	2,3,7,8-TCDF	*	*	n	0.95	NotFᵀ	*		163	2.5	0.463							
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotFᵀ	*		171	2.5	0.684							
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotFᵀ	*		171	2.5	0.660							
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotFᵀ	*		123	2.5	0.263							
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotFᵀ	*		123	2.5	0.265							
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotFᵀ	*		123	2.5	0.277							
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotFᵀ	*		123	2.5	0.359							
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotFᵀ	*		119	2.5	0.351							
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotFᵀ	*		119	2.5	0.333							
	OCDF	*	*	n	0.95	NotFᵀ	*		162	2.5	0.771							

									Rec	Qual
IS	13C-2,3,7,8-TCDD	8.96e+05	0.79	y	1.10	26:15	189.50		95.7	
IS	13C-1,2,3,7,8-PeCDD	7.20e+05	0.64	y	0.88	30:45	189.07		95.5	
IS	13C-1,2,3,4,7,8-HxCDD	6.25e+05	1.33	y	0.64	34:04	188.81		95.4	
IS	13C-1,2,3,6,7,8-HxCDD	7.54e+05	1.26	y	0.86	34:10	170.89		86.3	
IS	13C-1,2,3,7,8,9-HxCDD	7.32e+05	1.24	y	0.81	34:28	175.89		88.9	
IS	13C-1,2,3,4,6,7,8-HpCDD	6.62e+05	1.03	y	0.65	37:54	196.18		99.1	
IS	13C-OCDD	1.15e+06	0.91	y	0.58	41:11	386.18		97.5	
IS	13C-2,3,7,8-TCDF	1.36e+06	0.76	y	1.03	25:28	193.26		97.6	
IS	13C-1,2,3,7,8-PeCDF	1.09e+06	1.61	y	0.85	29:35	186.80		94.4	
IS	13C-2,3,4,7,8-PeCDF	1.07e+06	1.48	y	0.85	30:29	185.08		93.5	
IS	13C-1,2,3,4,7,8-HxCDF	8.55e+05	0.50	y	0.83	33:10	199.22		101	
IS	13C-1,2,3,6,7,8-HxCDF	9.72e+05	0.48	y	1.03	33:18	182.17		92.0	
IS	13C-2,3,4,6,7,8-HxCDF	9.02e+05	0.53	y	0.95	33:54	183.43		92.7	
IS	13C-1,2,3,7,8,9-HxCDF	8.39e+05	0.51	y	0.83	34:51	196.46		99.3	
IS	13C-1,2,3,4,6,7,8-HpCDF	8.11e+05	0.43	y	0.76	36:42	207.49		105	
IS	13C-1,2,3,4,7,8,9-HpCDF	6.51e+05	0.46	y	0.58	38:27	217.07		110	
IS	13C-OCDF	1.49e+06	0.92	y	0.69	41:25	418.25		106	
C/Up	37Cl-2,3,7,8-TCDD	3.99e+05			1.20	26:16	77.119		97.4	
RS/RT	13C-1,2,3,4-TCDD	8.55e+05	0.81	y	1.00	25:41	197.94			
RS	13C-1,2,3,4-TCDF	1.35e+06	0.81	y	1.00	24:15	197.94			
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.02e+06	0.53	y	1.00	33:35	197.94			

Integrations   Reviewed
by   by
Analyst: ᴊB   Analyst: O7

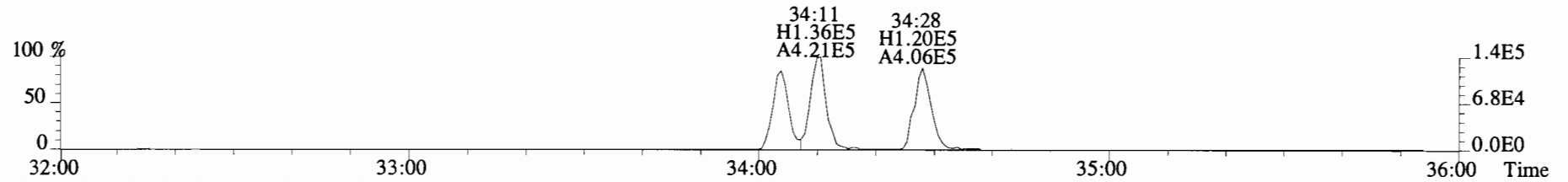Date: 11/13/19   Date: 11/14/19

File:191111D1 #1-493 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
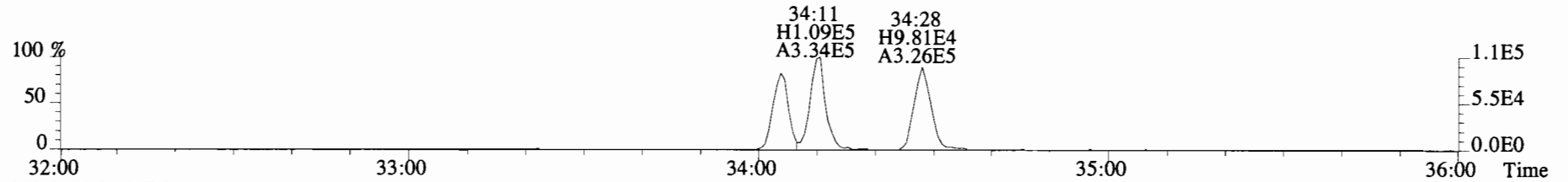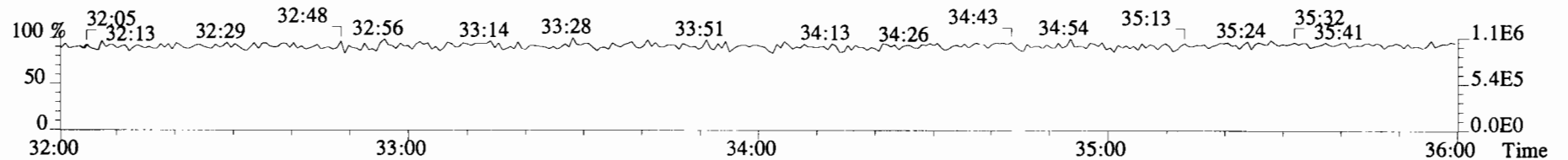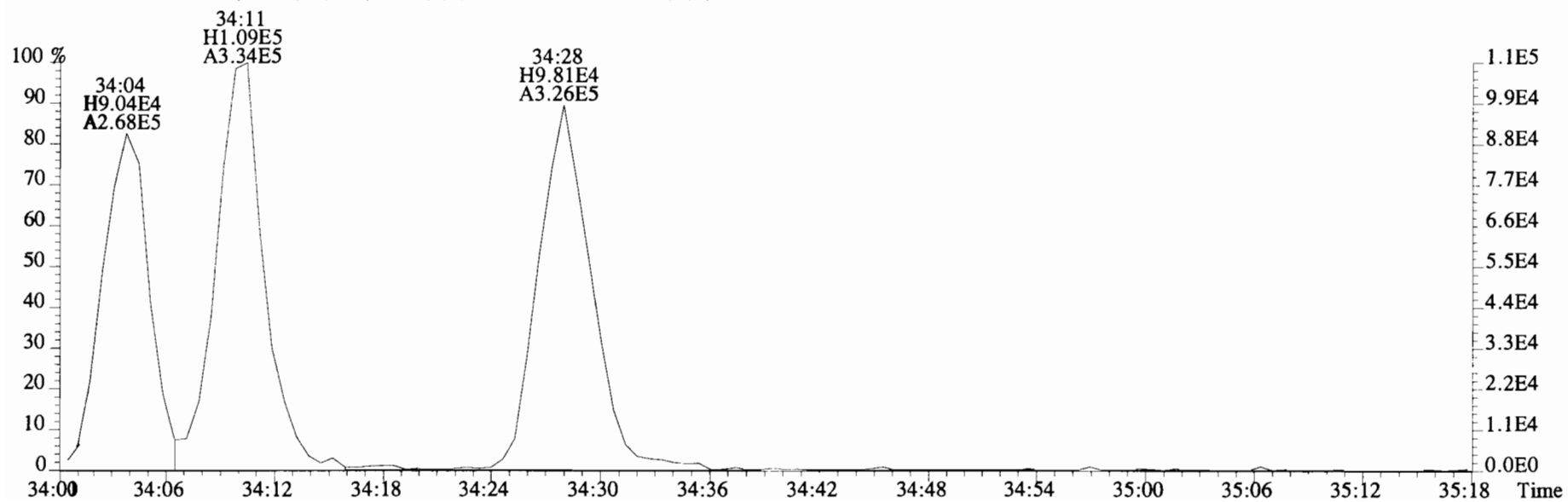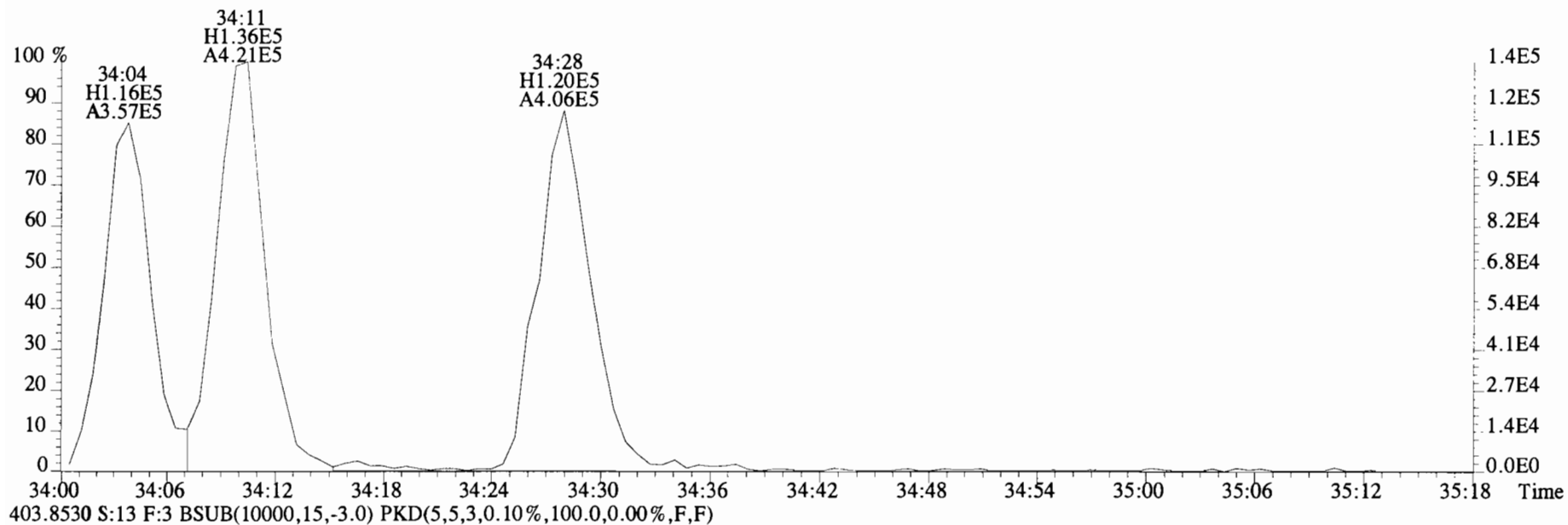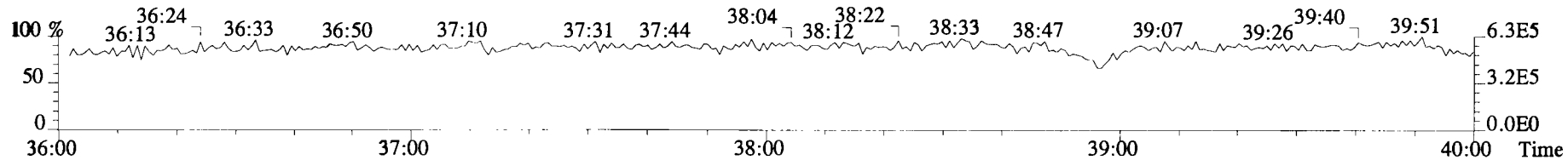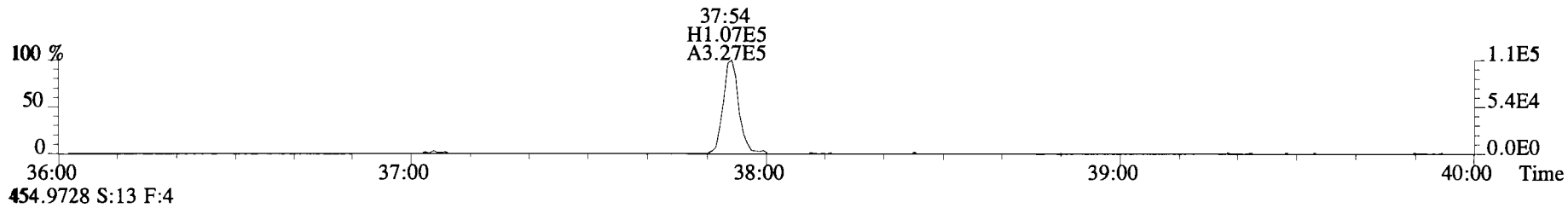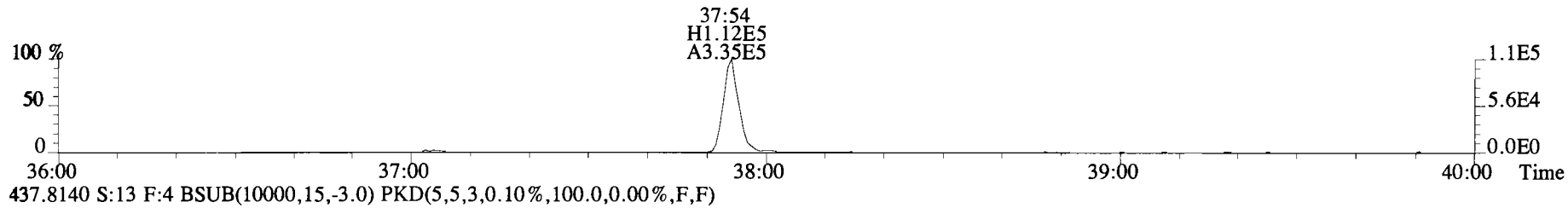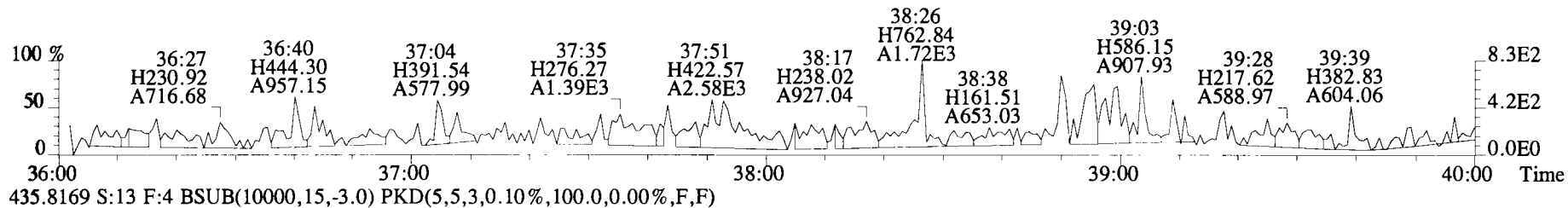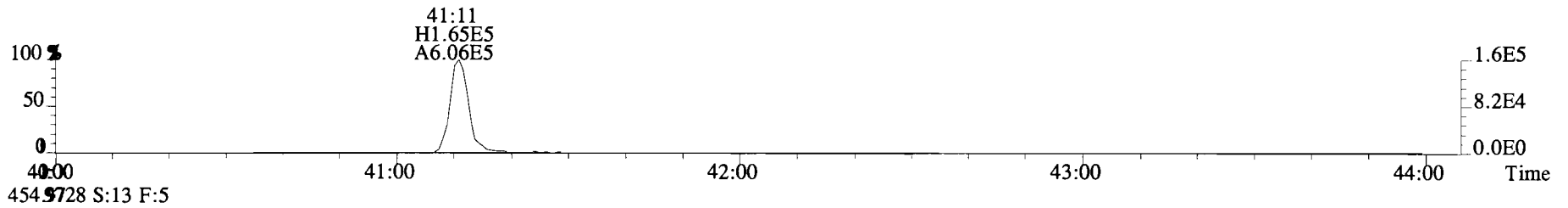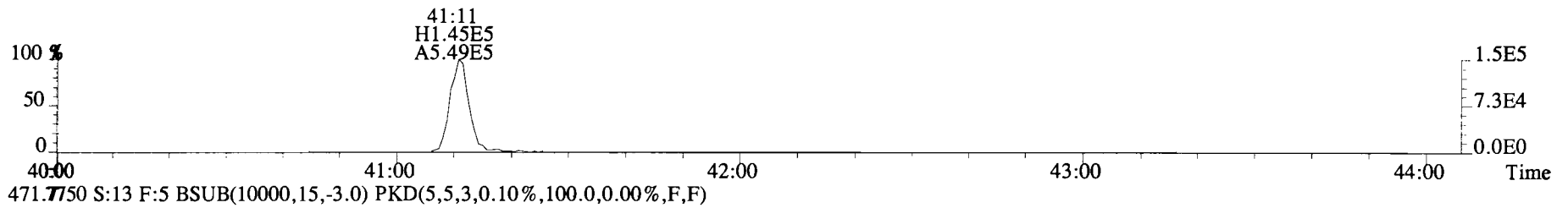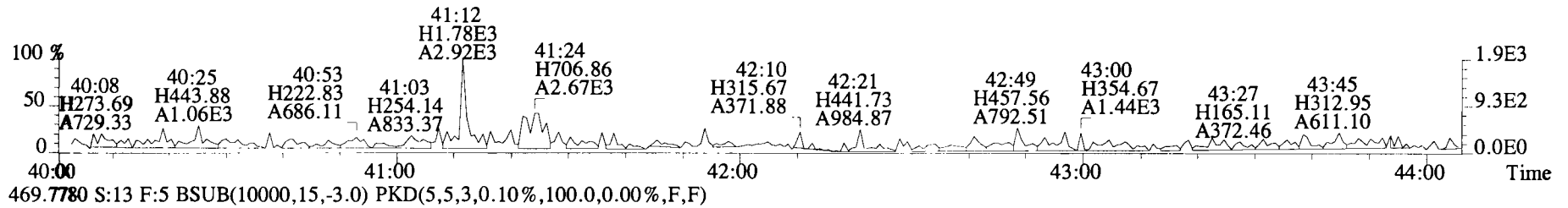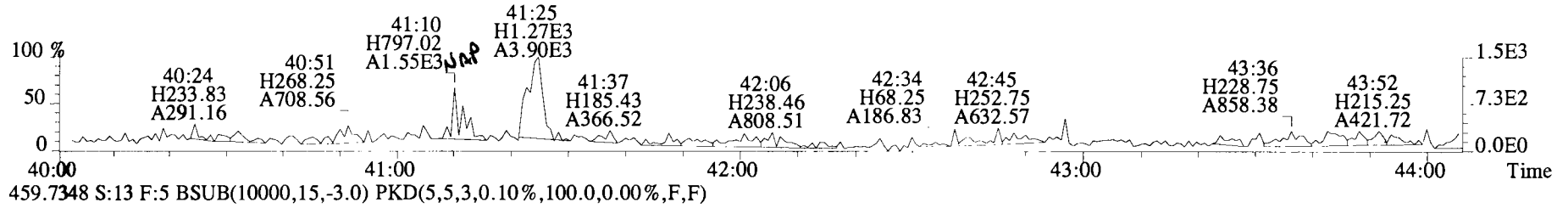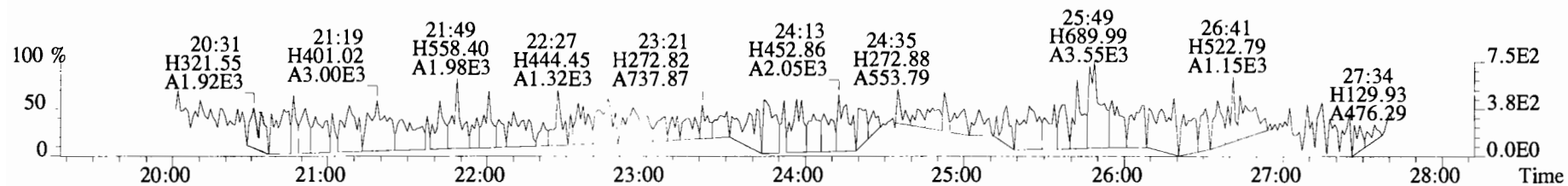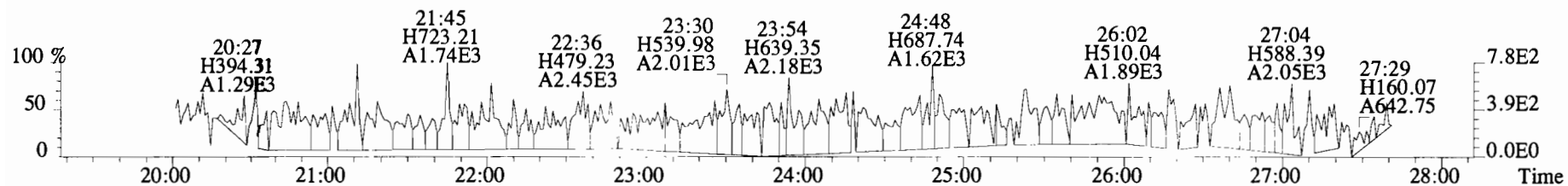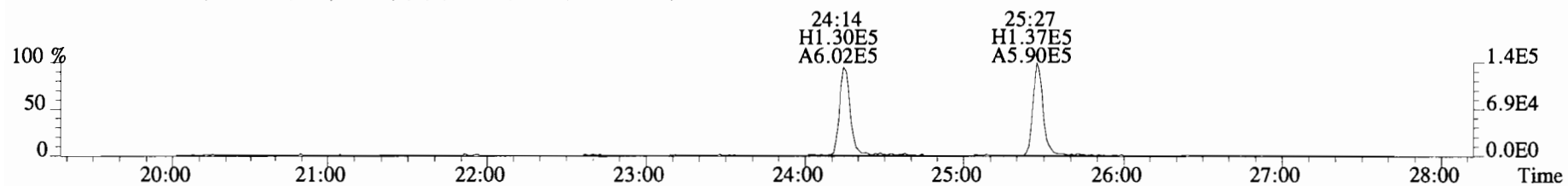319.8965 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
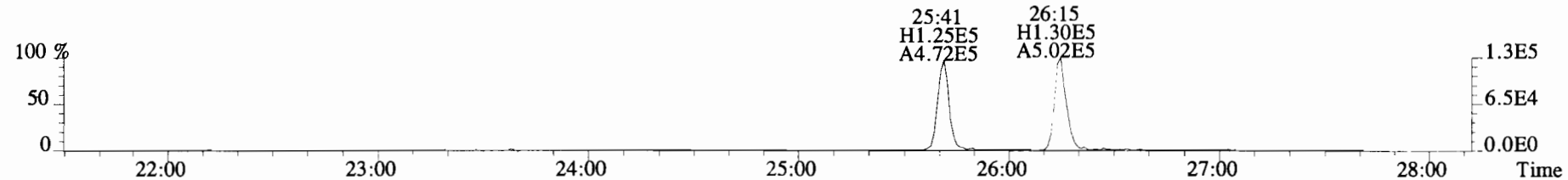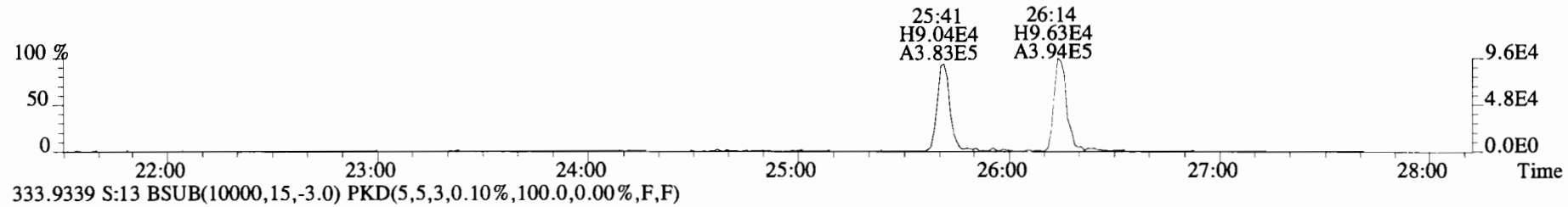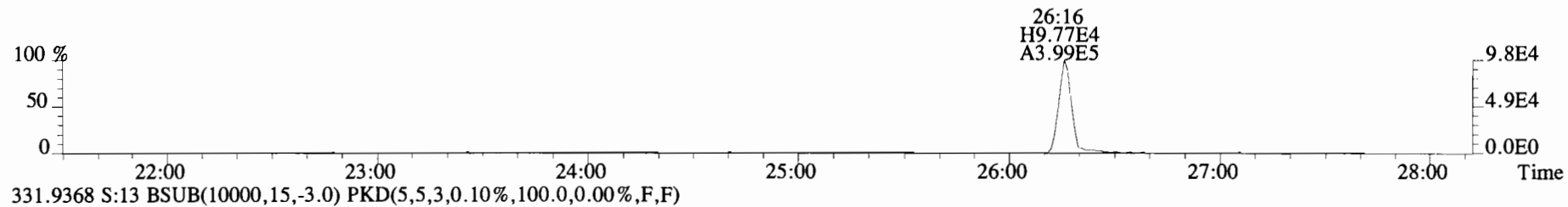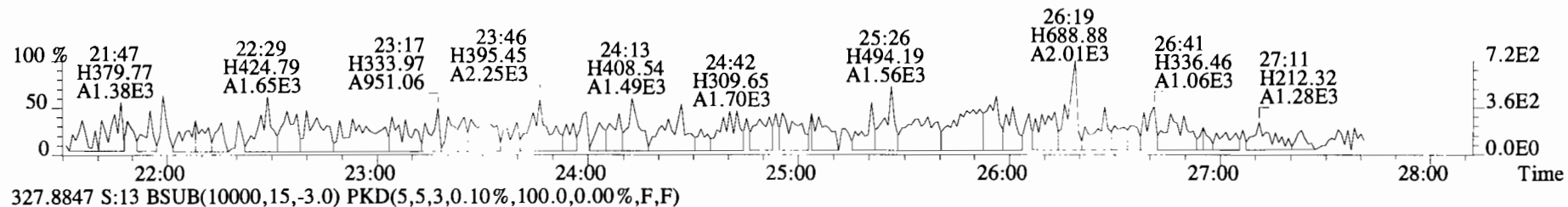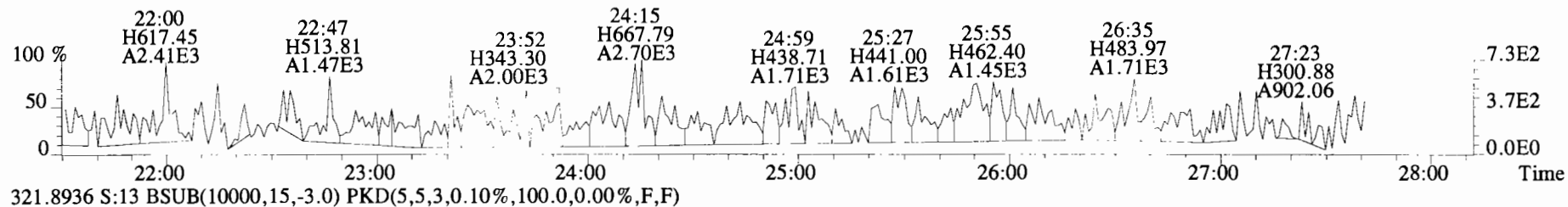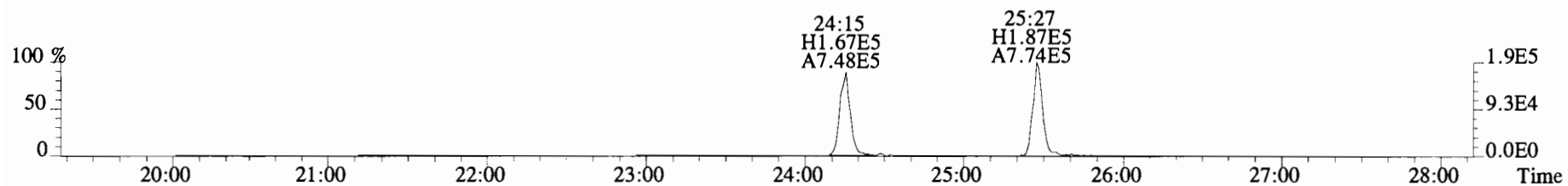

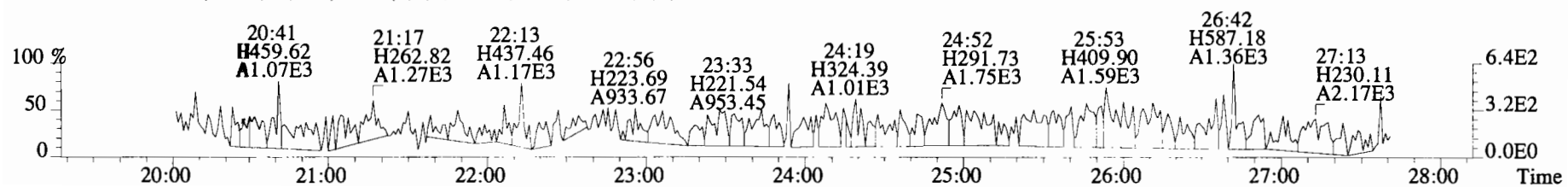321.8936 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

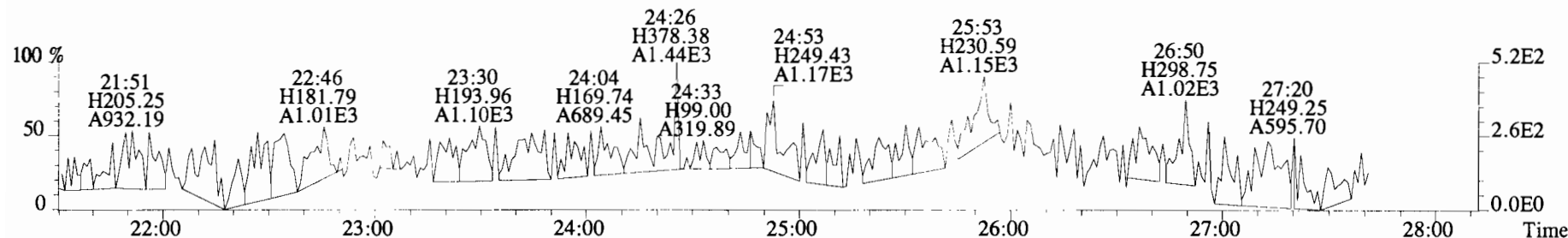327.8847 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

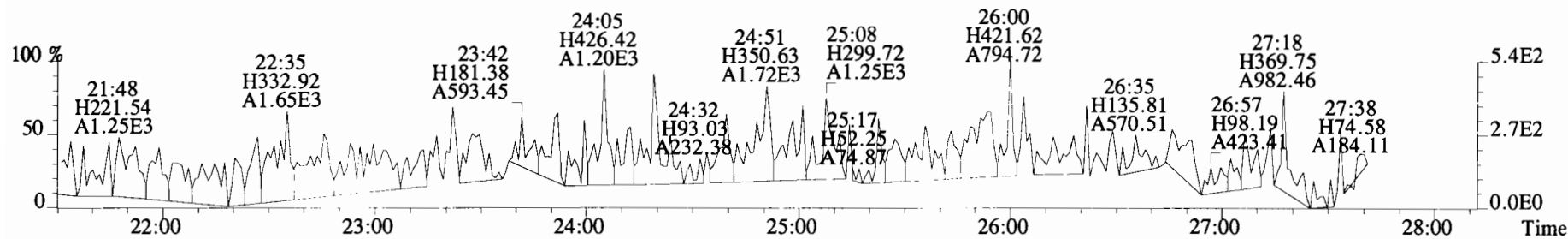331.9368 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

333.9339 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-210 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
353.8576 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
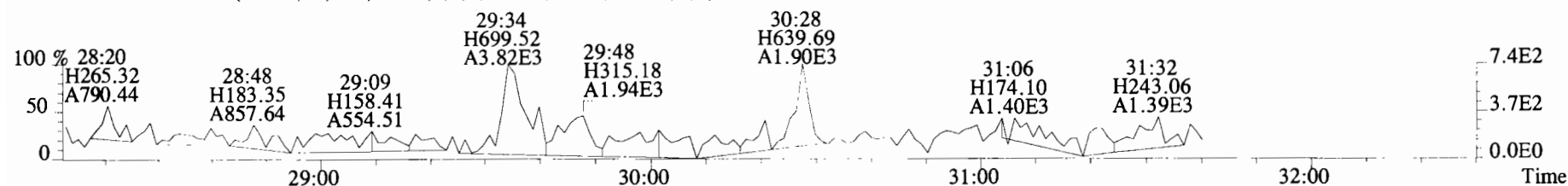
355.8546 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

365.8978 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

367.8949 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
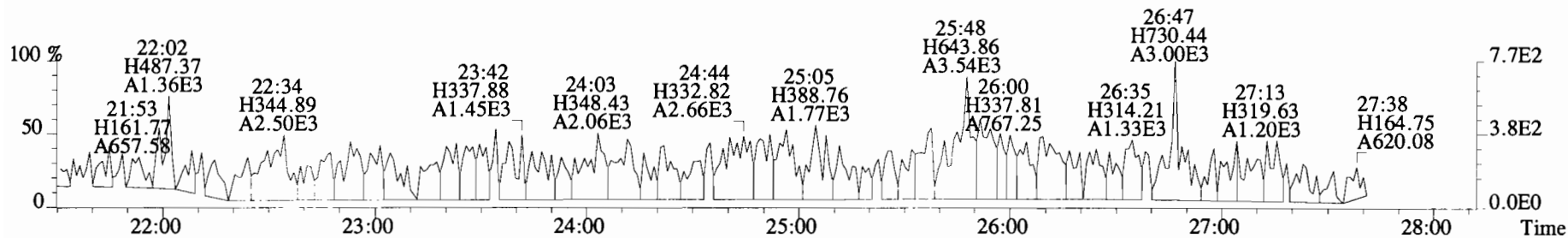

366.9792 S:13 F:2

File:191111D1 #1-385 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
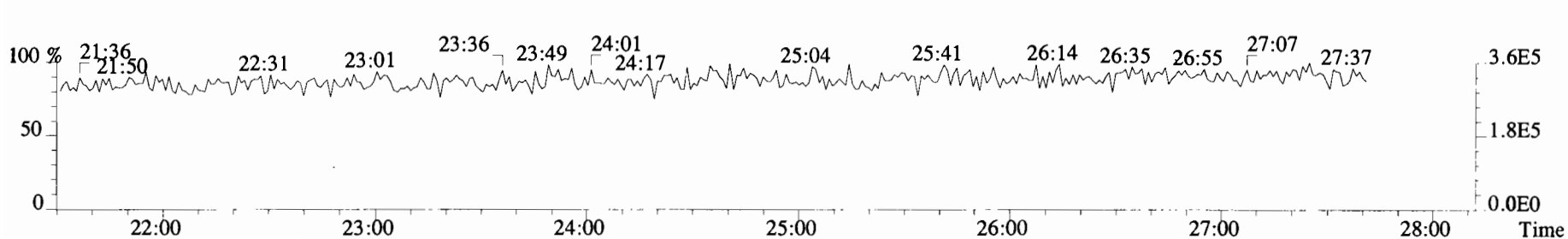389.8156 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

391.8127 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

392.9760 S:13 F:3

File:191111D1 #1-385 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
401.8559 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

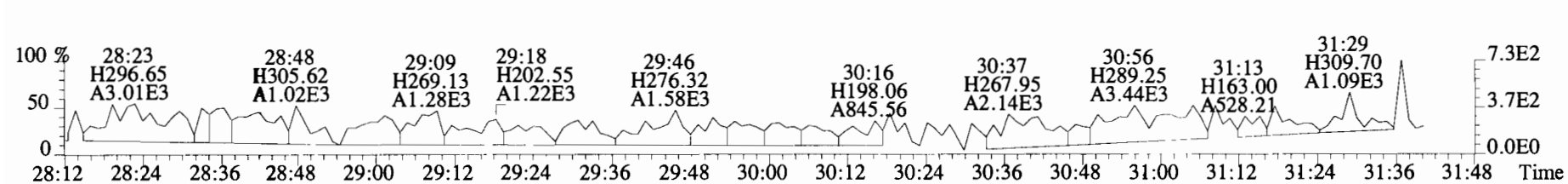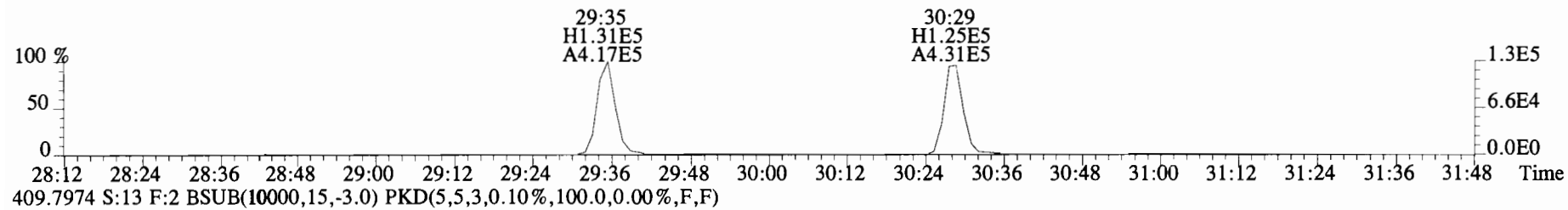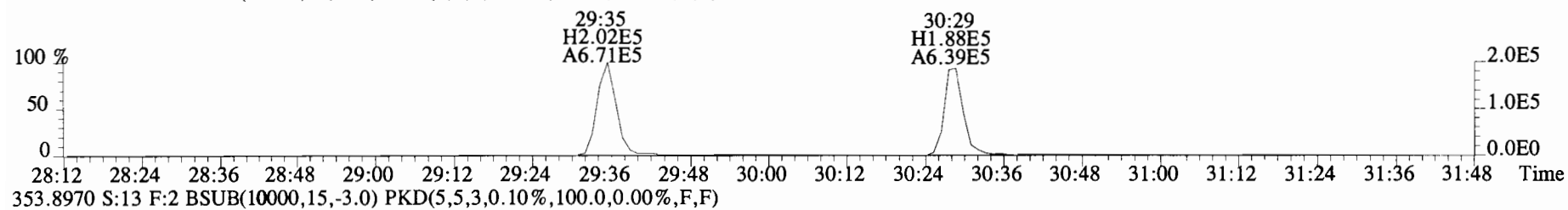403.8530 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5

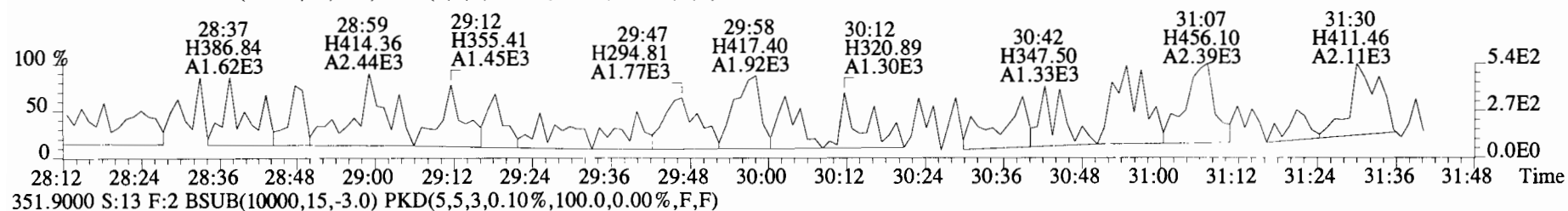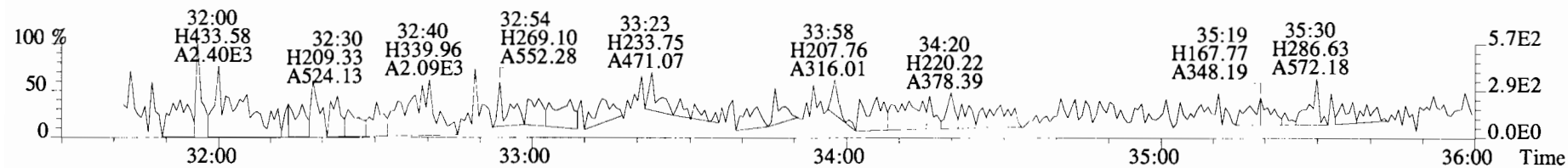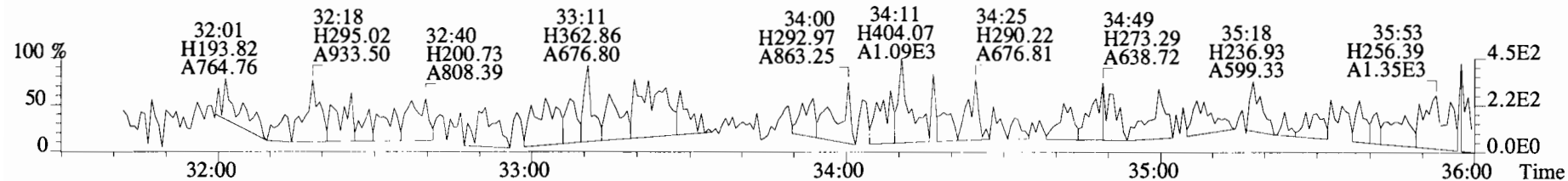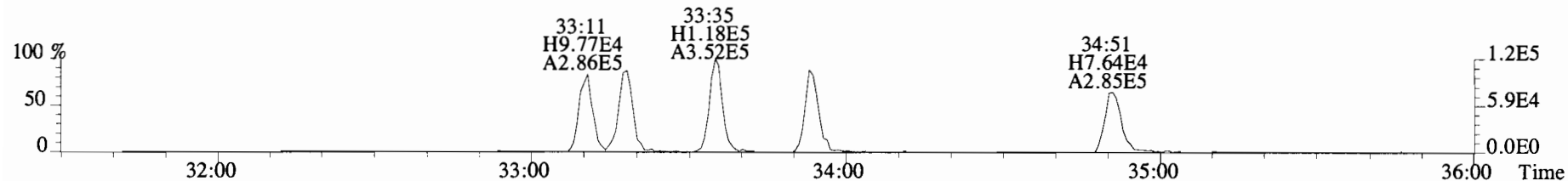423.7767 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
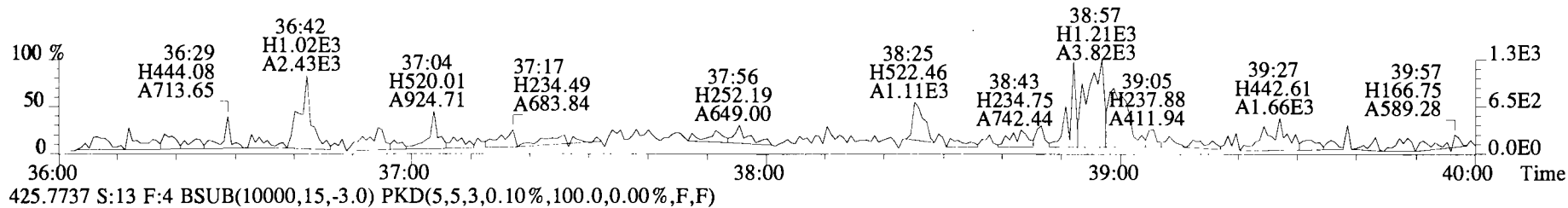
36:29
H444.08
A713.65

36:42
H1.02E3
A2.43E3

37:04
H520.01
A924.71

37:17
H234.49
A683.84

37:56
H252.19
A649.00

38:25
H522.46
A1.11E3

38:43
H234.75
A742.44

38:57
H1.21E3
A3.82E3

39:05
H237.88
A411.94

39:27
H442.61
A1.66E3

39:57
H166.75
A589.28

425.7737 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:27
H230.92
A716.68

36:40
H444.30
A957.15

37:04
H391.54
A577.99

37:35
H276.27
A1.39E3

37:51
H422.57
A2.58E3

38:17
H238.02
A927.04

38:26
H762.84
A1.72E3

38:38
H161.51
A653.03

39:03
H586.15
A907.93

39:28
H217.62
A588.97

39:39
H382.83
A604.06

435.8169 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

37:54
H1.12E5
A3.35E5

437.8140 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

37:54
H1.07E5
A3.27E5

454.9728 S:13 F:4

36:13
36:24
36:33
36:50
37:10
37:31
37:44
38:04
38:12
38:22
38:33
38:47
39:07
39:26
39:40
39:51

457.7377 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
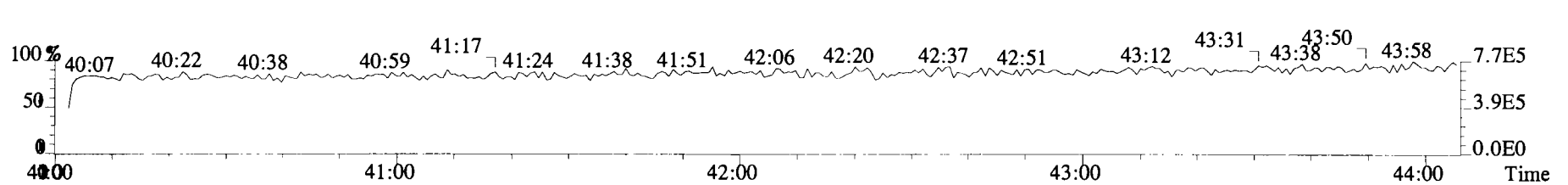
```
                                              41:25
                                41:10         H1.27E3
                                H797.02       A3.90E3
                                A1.55E3
          40:24      40:51                         41:37        42:06        42:34    42:45                    43:36        43:52
          H233.83    H268.25                       H185.43      H238.46      H68.25   H252.75                  H228.75      H215.25
          A291.16    A708.56                        A366.52     A808.51      A186.83  A632.57                  A858.38      A421.72
```

459.7348 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                41:12
                                H1.78E3
                                A2.92E3
                                        41:24
                                        H706.86
                                        A2.67E3
          40:08   40:25    40:53                      42:10      42:21     42:49    43:00            43:45
          H273.69 H443.88  H222.83  41:03             H315.67    H441.73   H457.56  H354.67  43:27   H312.95
          A729.33 A1.06E3  A686.11  H254.14           A371.88    A984.87   A792.51  A1.44E3  H165.11 A611.10
                                    A833.37                                                  A372.46
```
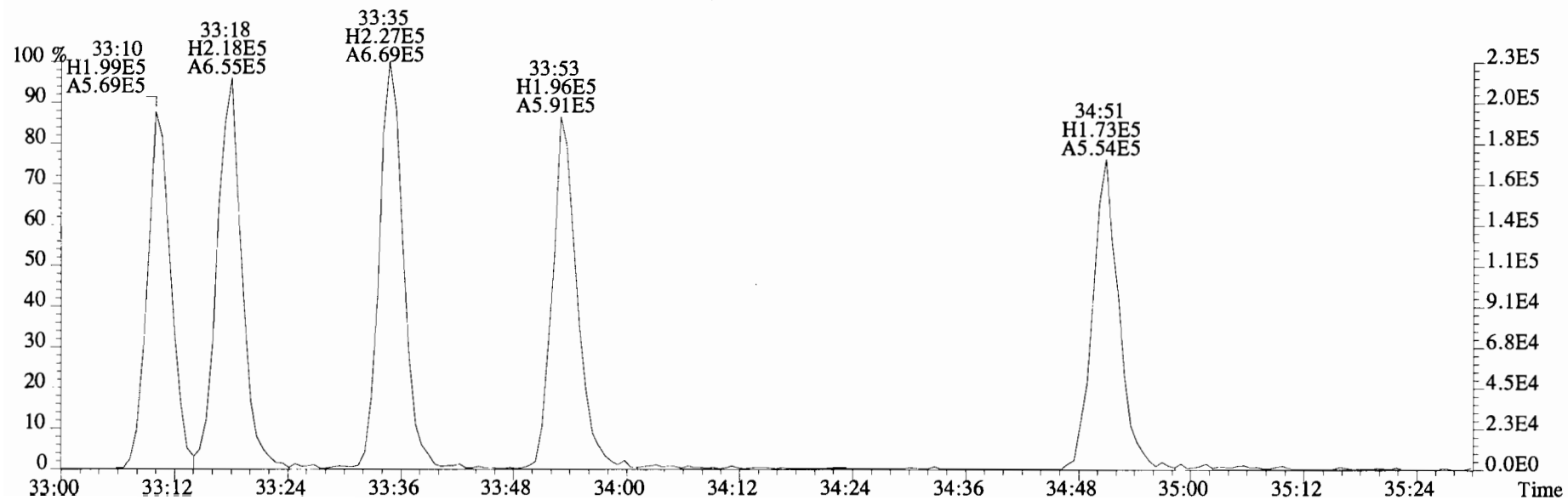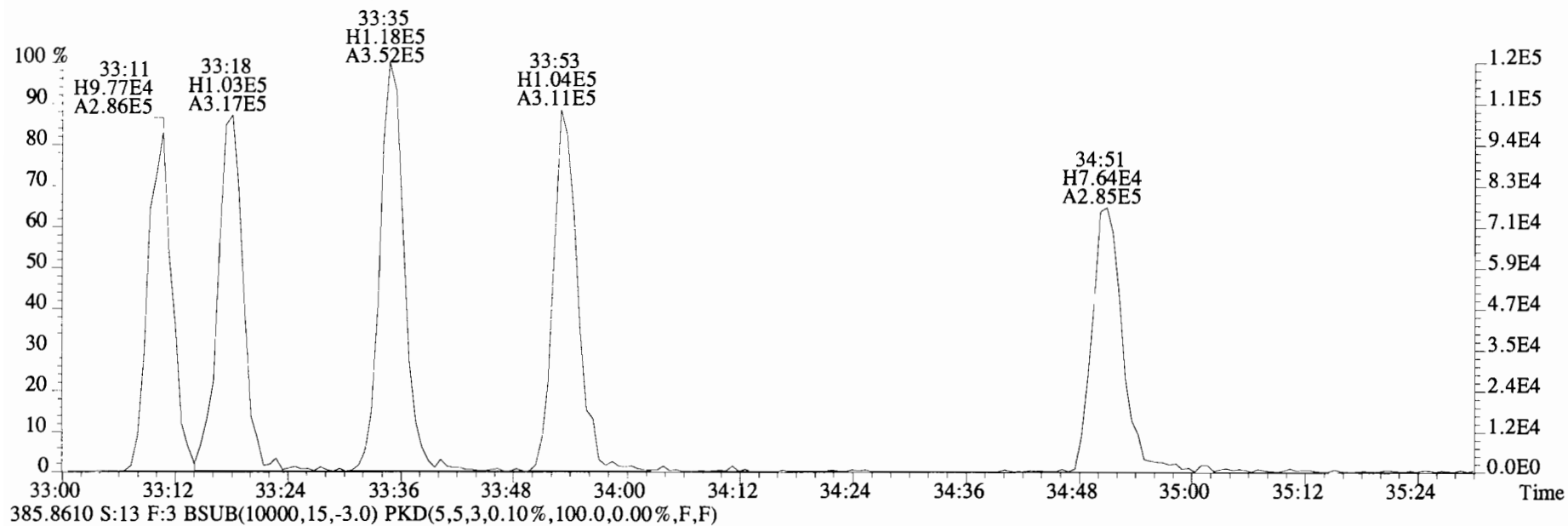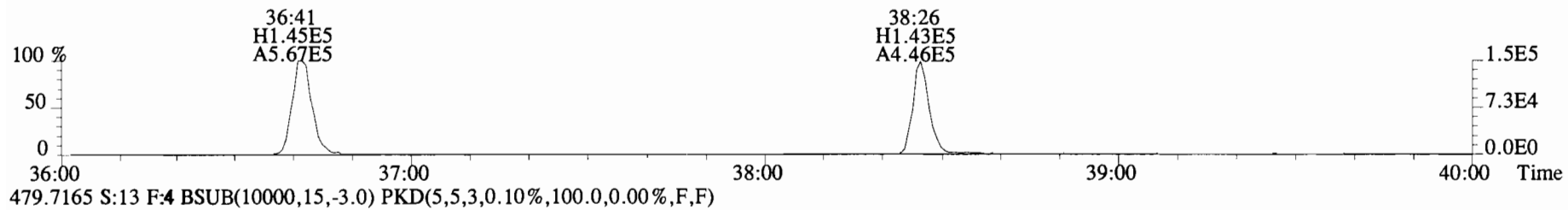
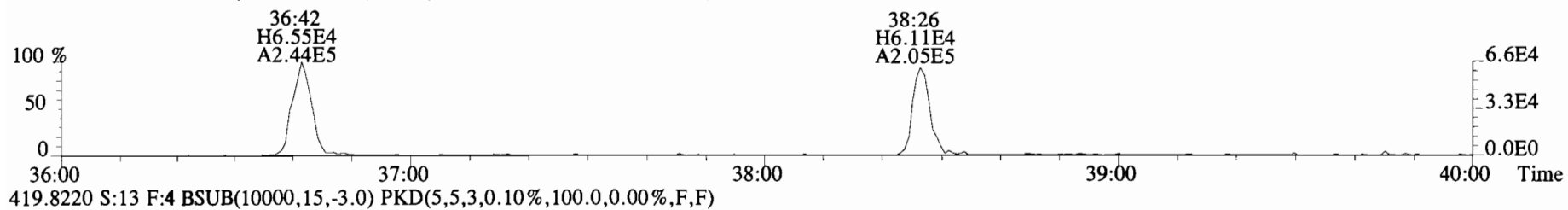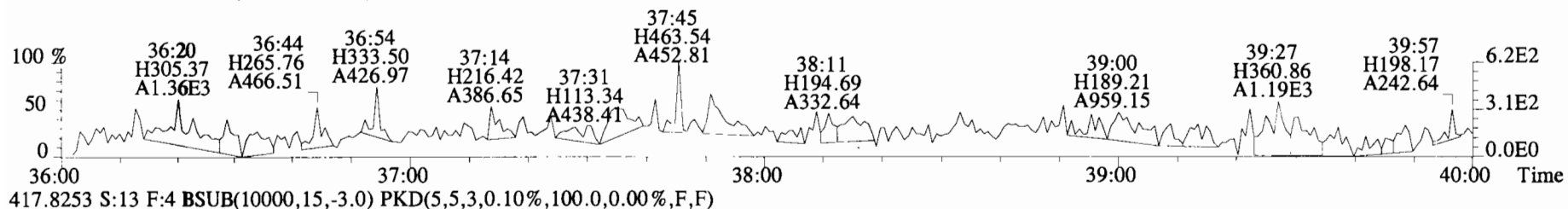469.7780 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                41:11
                                H1.45E5
                                A5.49E5
```

471.7750 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                41:11
                                H1.65E5
                                A6.06E5
```

454.9728 S:13 F:5

```
     40:07  40:22  40:38    40:59   41:17  41:24  41:38  41:51  42:06  42:20  42:37  42:51   43:12   43:31  43:38  43:50  43:58
```

303.9016 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

20:31 H321.55 A1.92E3
21:19 H401.02 A3.00E3
21:49 H558.40 A1.98E3
22:27 H444.45 A1.32E3
23:21 H272.82 A737.87
24:13 H452.86 A2.05E3
24:35 H272.88 A553.79
25:49 H689.99 A3.55E3
26:41 H522.79 A1.15E3
27:34 H129.93 A476.29

305.8987 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

20:27 H394.31 A1.29E3
21:45 H723.21 A1.74E3
22:36 H479.23 A2.45E3
23:30 H539.98 A2.01E3
23:54 H639.35 A2.18E3
24:48 H687.74 A1.62E3
26:02 H510.04 A1.89E3
27:04 H588.39 A2.05E3
27:29 H160.07 A642.75

315.9419 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:14 H1.30E5 A6.02E5
25:27 H1.37E5 A5.90E5

317.9389 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:15 H1.67E5 A7.48E5
25:27 H1.87E5 A7.74E5

375.8364 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

20:41 H459.62 A1.07E3
21:17 H262.82 A1.27E3
22:13 H437.46 A1.17E3
22:56 H223.69 A933.67
23:33 H221.54 A953.45
24:19 H324.39 A1.01E3
24:52 H291.73 A1.75E3
25:53 H409.90 A1.59E3
26:42 H587.18 A1.36E3
27:13 H230.11 A2.17E3

File:191111D1 #1-493 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
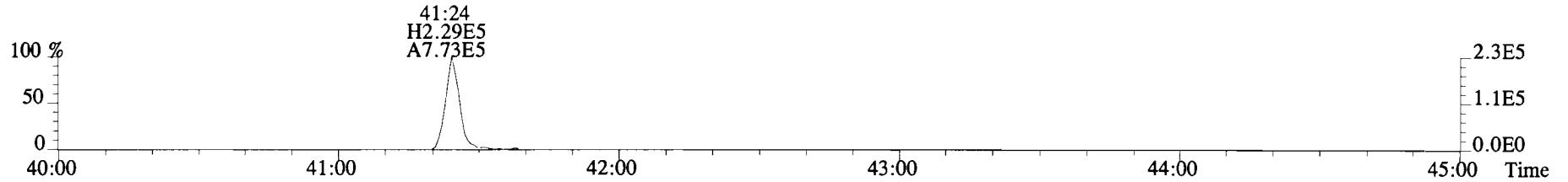339.8597 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

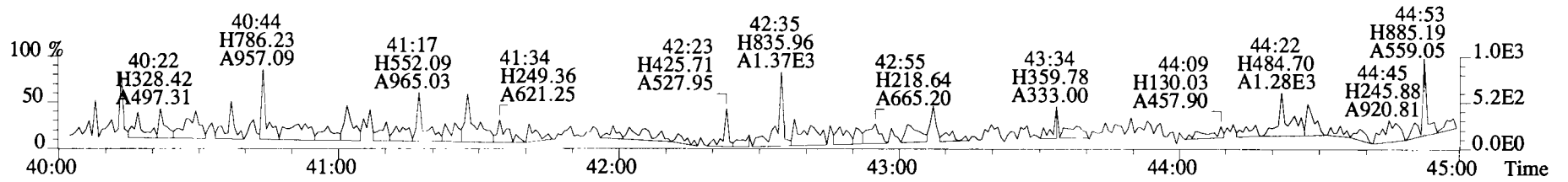409.7974 S:13 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:13

File:191111D1 #1-210 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
339.8597 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
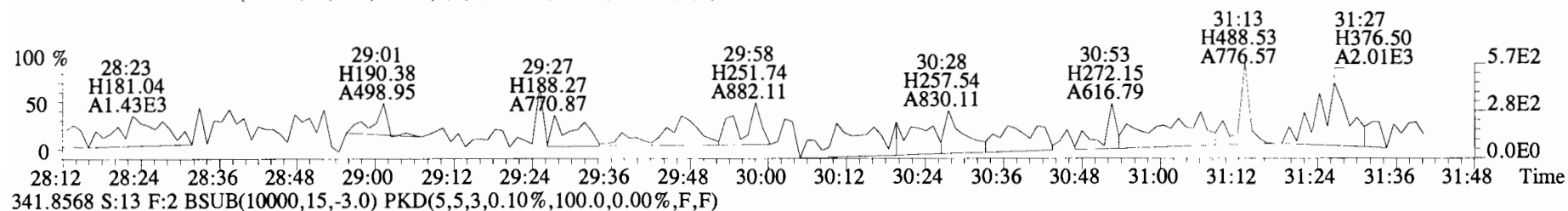
341.8568 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:13 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-385 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
373.8207 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8178 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
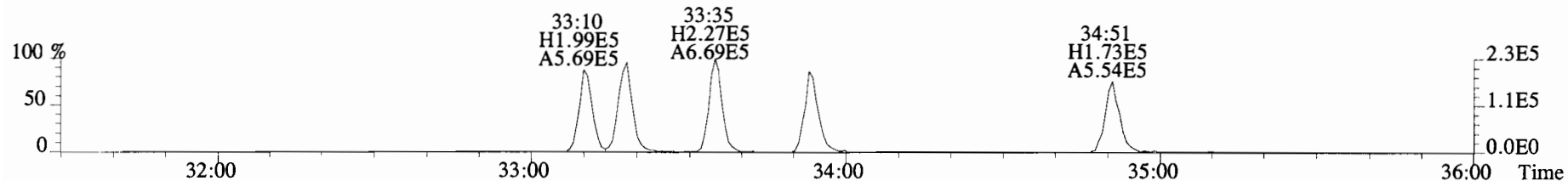
445.7555 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
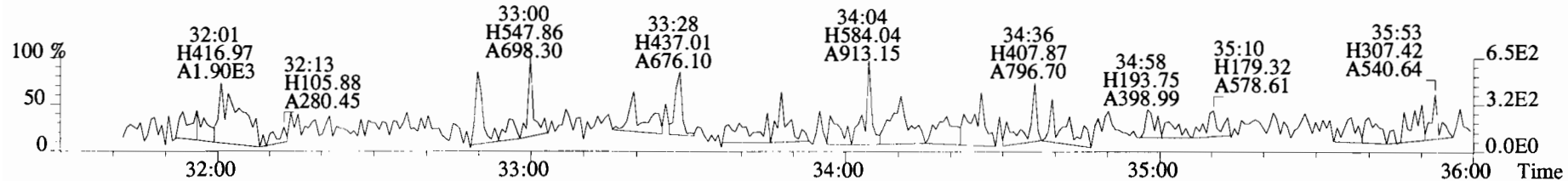
File:191111D1 #1-385 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5
383.8639 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:13 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

407.7818 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:22
H250.83
A602.28

36:47
H297.36
A505.37

37:07
H256.89
A551.10

37:35
H299.79
A746.74

37:53
H112.19
A390.89

38:17
H191.15
A292.29

38:53
H220.57
A375.39

39:03
H255.80
A378.41

39:25
H359.92
A824.54

39:55
H269.17
A532.29

409.7788 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:20
H305.37
A1.36E3

36:44
H265.76
A466.51

36:54
H333.50
A426.97

37:14
H216.42
A386.65

37:31
H113.34
A438.41

37:45
H463.54
A452.81

38:11
H194.69
A332.64

39:00
H189.21
A959.15

39:27
H360.86
A1.19E3

39:57
H198.17
A242.64

417.8253 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:42
H6.55E4
A2.44E5

38:26
H6.11E4
A2.05E5

419.8220 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:41
H1.45E5
A5.67E5

38:26
H1.43E5
A4.46E5

479.7165 S:13 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:05
H380.17
A682.52

36:29
H377.07
A525.96

36:56
H244.35
A1.44E3

37:14
H205.44
A591.70

37:37
H239.92
A623.10

37:56
H428.04
A883.69

38:36
H284.32
A1.19E3

38:55
H2.30E3
A1.23E4

39:03
H216.42
A404.61

39:27
H399.82
A1.25E3

39:55
H165.43
A461.83

File:191111D1 #1-431 Acq:11-NOV-2019 19:54:22 GC EI+ Voltage SIR Autospec-UltimaE
Sample#13 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-05 PDI-033SC-A-13-14-191008 11.69 Exp:OCDD_DB5

441.7428 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
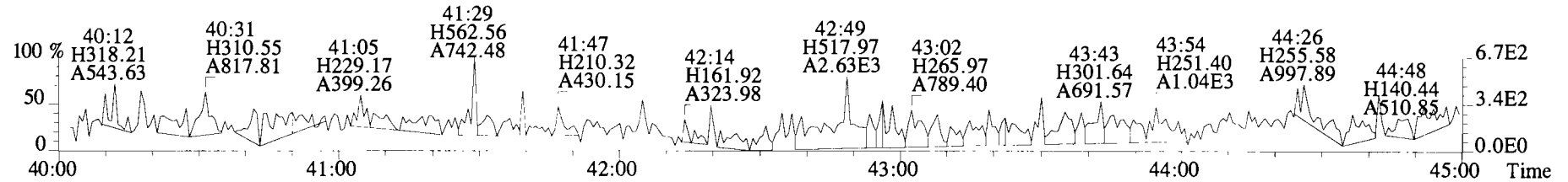
443.7398 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
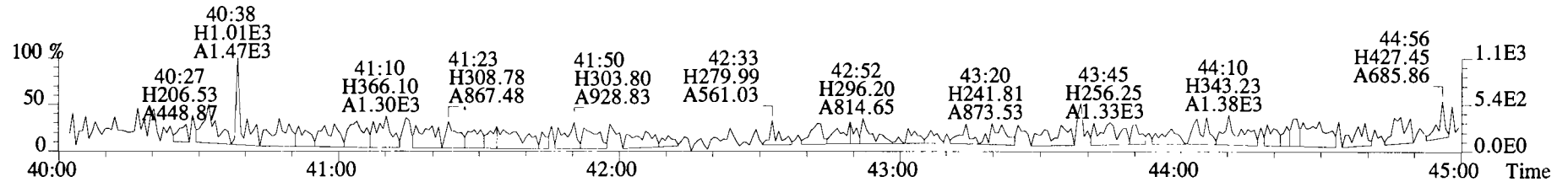
453.7831 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
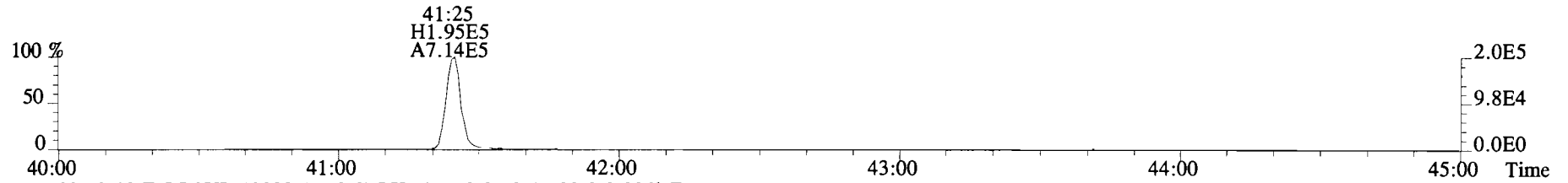
455.7801 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

513.6775 S:13 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL		Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF	*		162	2.5	0.0422		Total Tetra-Dioxins	*	0.0683		*	*
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF	*		222	2.5	0.0536		Total Penta-Dioxins	*	*		222	0.0536
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF	*		159	2.5	0.0576		Total Hexa-Dioxins	*	0.1000		*	*
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF	*		159	2.5	0.0626		Total Hepta-Dioxins	0.0909	0.294		*	*
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotF	*		159	2.5	0.0626		Total Tetra-Furans	0.0424	0.0424		*	*
	1,2,3,4,6,7,8-HpCDD	4.77e+03	0.93	y	0.98	37:52	0.090898		*	2.5	*		Total Penta-Furans	0.0000	0.0000		175	0.0375
	OCDD	3.40e+04	0.79	y	0.96	41:10	0.78422		*	2.5	*		Total Hexa-Furans	*	*		122	0.0206
													Total Hepta-Furans	*	*		96.3	0.0226
	2,3,7,8-TCDF	*	*	n	0.95	NotF	*		133	2.5	0.0227							
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF	*		175	2.5	0.0382							
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF	*		175	2.5	0.0368							
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF	*		122	2.5	0.0182							
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF	*		122	2.5	0.0186							
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF	*		122	2.5	0.0201							
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF	*		122	2.5	0.0262							
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF	*		96.3	2.5	0.0236							
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF	*		96.3	2.5	0.0214							
	OCDF	*	*	n	0.95	NotF	*		140	2.5	0.0607							

	Name	Resp	RA		RRF	RT	Conc					Rec	Qual
IS	13C-2,3,7,8-TCDD	1.35e+07	0.81	y	1.10	26:14	195.03					97.8	
IS	13C-1,2,3,7,8-PeCDD	1.11e+07	0.64	y	0.88	30:43	199.77					100	
IS	13C-1,2,3,4,7,8-HxCDD	1.01e+07	1.28	y	0.64	34:02	195.24					97.9	
IS	13C-1,2,3,6,7,8-HxCDD	1.12e+07	1.27	y	0.86	34:08	161.93					81.2	
IS	13C-1,2,3,7,8,9-HxCDD	1.16e+07	1.26	y	0.81	34:26	177.26					88.9	
IS	13C-1,2,3,4,6,7,8-HpCDD	1.07e+07	1.05	y	0.65	37:53	201.74					101	
IS	13C-OCDD	1.81e+07	0.91	y	0.58	41:09	384.83					96.5	
IS	13C-2,3,7,8-TCDF	2.01e+07	0.80	y	1.03	25:27	192.06					96.3	
IS	13C-1,2,3,7,8-PeCDF	1.76e+07	1.59	y	0.85	29:33	203.58					102	
IS	13C-2,3,4,7,8-PeCDF	1.72e+07	1.60	y	0.85	30:26	200.29					100	
IS	13C-1,2,3,4,7,8-HxCDF	1.43e+07	0.52	y	0.83	33:08	211.91					106	
IS	13C-1,2,3,6,7,8-HxCDF	1.57e+07	0.51	y	1.03	33:16	188.04					94.3	
IS	13C-2,3,4,6,7,8-HxCDF	1.47e+07	0.53	y	0.95	33:52	189.98					95.3	
IS	13C-1,2,3,7,8,9-HxCDF	1.35e+07	0.52	y	0.83	34:49	201.02					101	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.26e+07	0.44	y	0.76	36:40	204.85					103	
IS	13C-1,2,3,4,7,8,9-HpCDF	1.07e+07	0.44	y	0.58	38:25	227.25					114	
IS	13C-OCDF	2.43e+07	0.90	y	0.69	41:23	435.07					109	
C/Up	37Cl-2,3,7,8-TCDD	6.01e+06			1.20	26:15	79.400					99.5	
RS/RT	13C-1,2,3,4-TCDD	1.26e+07	0.80	y	1.00	25:41	199.41						
RS	13C-1,2,3,4-TCDF	2.02e+07	0.82	y	1.00	24:15	199.41						
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.61e+07	0.53	y	1.00	33:33	199.41						

Integrations
by
Analyst: _DB_

Reviewed
by
Analyst: _CT_

Date: _11/13/19_   Date: _11/14/19_

Totals class: TCDD EMPC   Entry #: 19

          Run: 19   File: 191111D1   S: 14 I: 1 F: 1
     Acquired: 11-NOV-19 20:42:07   Processed: 12-NOV-19 09:23:38

Total Concentration: 0.068280   Unnamed Concentration: 0.068

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name
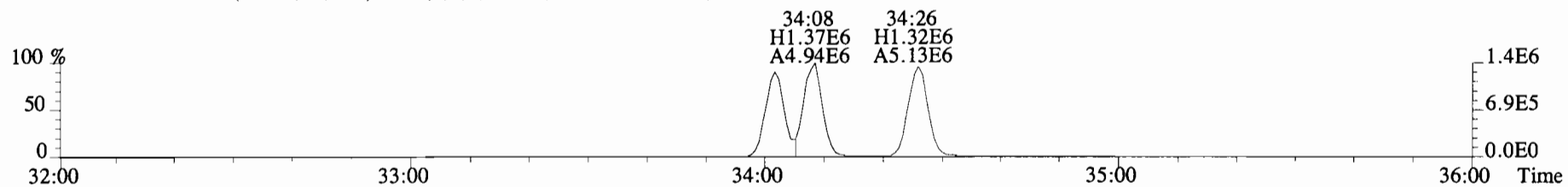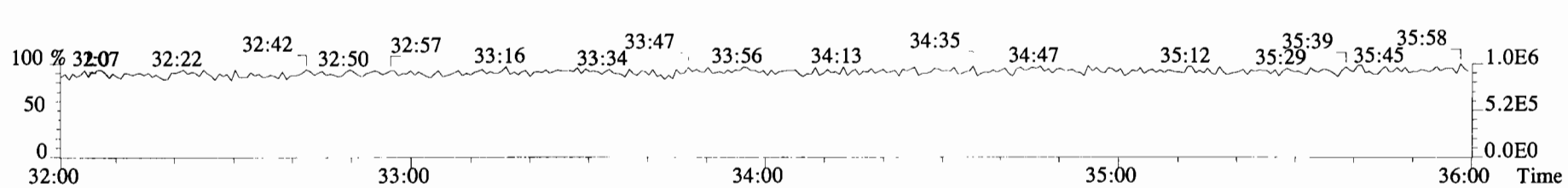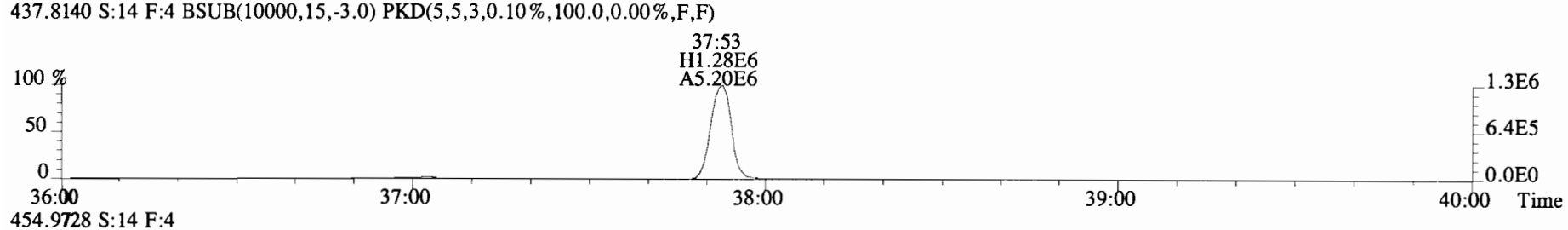
24:24 2.898e+03   2.365e+03 1.23 n 4.186e+03   0.068280

Totals class: HxCDD EMPC   Entry #: 23

        Run: 19   File: 191111D1   S: 14 I: 1 F: 3
    Acquired: 11-NOV-19 20:42:07   Processed: 12-NOV-19 09:23:38

Total Concentration: 0.099973   Unnamed Concentration: 0.100

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

32:31 4.328e+03   2.436e+03 1.78 n 5.457e+03   0.099973

Totals class: HpCDD EMPC   Entry #: 25

          Run: 19   File: 191111D1   S: 14 I: 1 F: 4
     Acquired: 11-NOV-19 20:42:07   Processed: 12-NOV-19 09:23:38

Total Concentration: 0.29354   Unnamed Concentration: 0.203

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

37:03 5.417e+03   6.410e+03 0.85 n 1.063e+04   0.20264
37:52 2.300e+03   2.466e+03 0.93 y 4.766e+03   0.090898   1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC   Entry #: 27

         Run: 19   File: 191111D1   S: 14 I: 1 F: 1
     Acquired: 11-NOV-19 20:42:07   Processed: 12-NOV-19 09:23:38

Total Concentration: 0.042433   Unnamed Concentration: 0.042

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

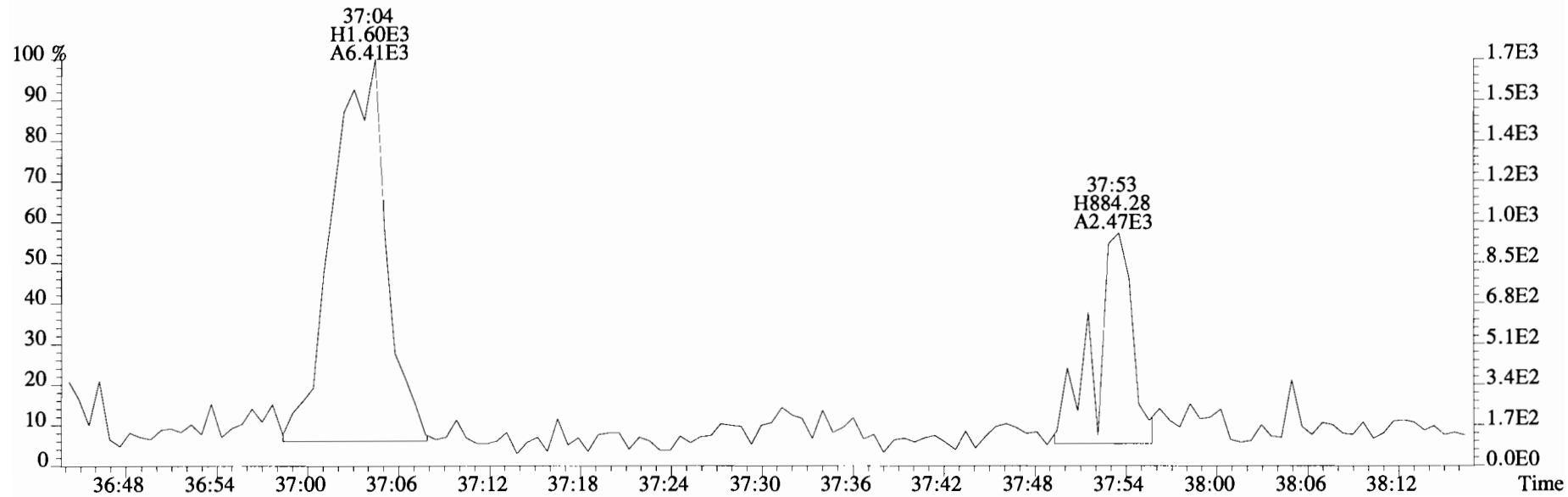25:41 1.635e+03   2.430e+03 0.67 y 4.065e+03   0.042433

File:191111D1 #1-493 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
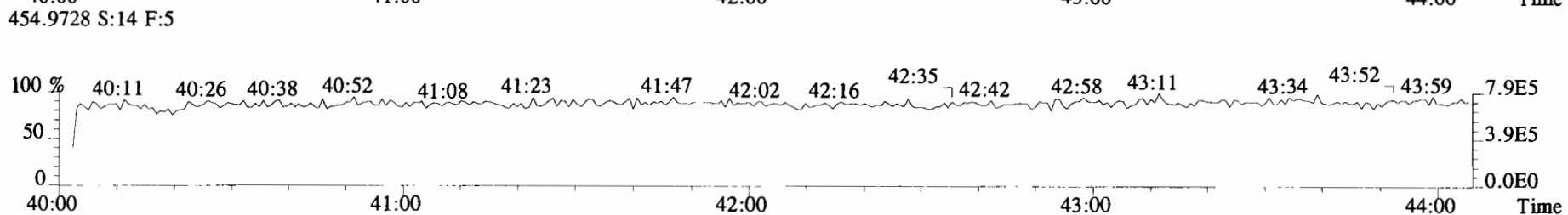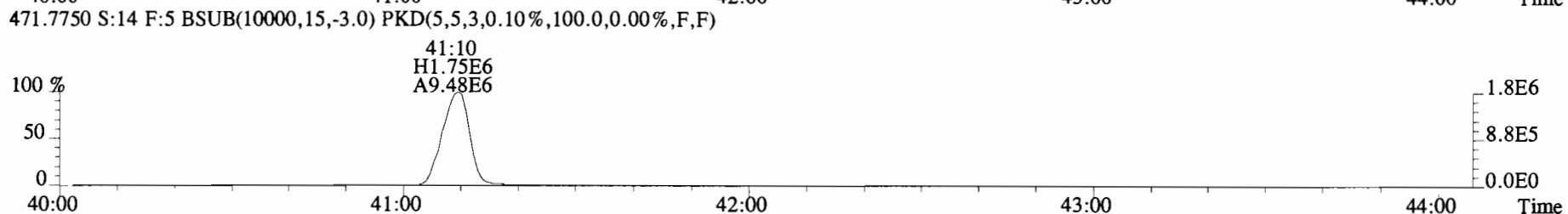319.8965 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
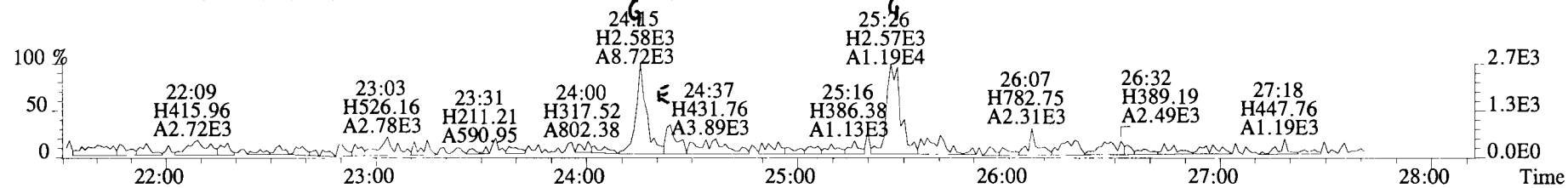
321.8936 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
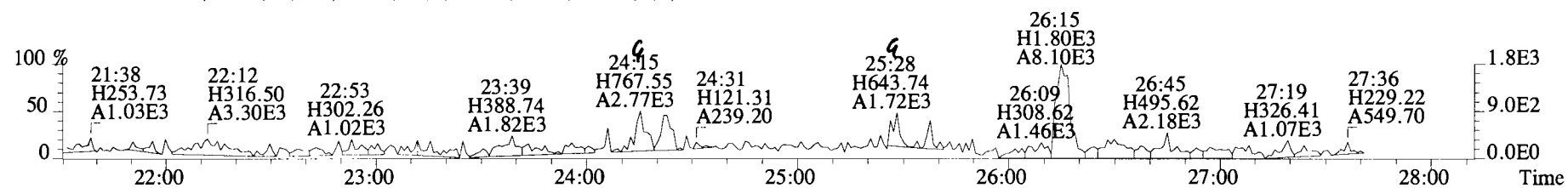
327.8847 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
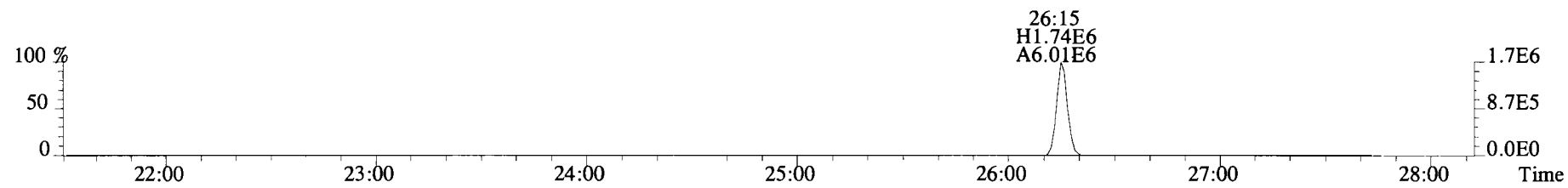
331.9368 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
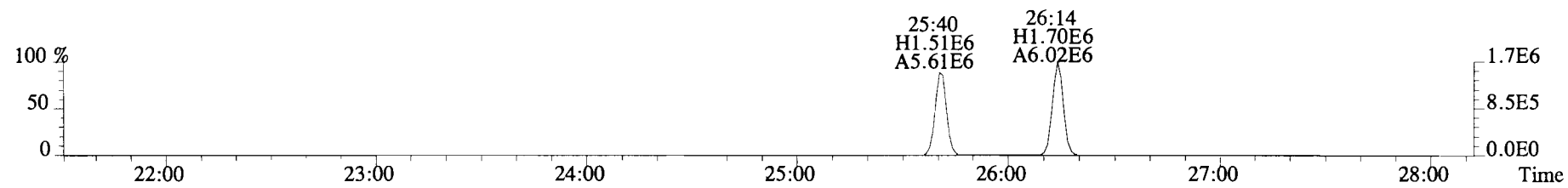
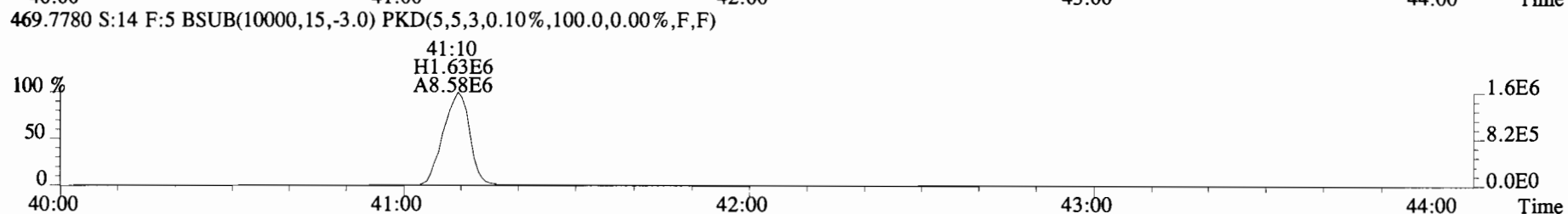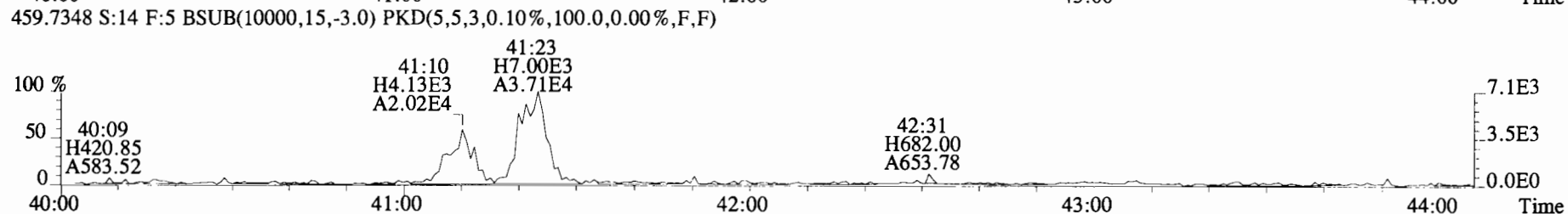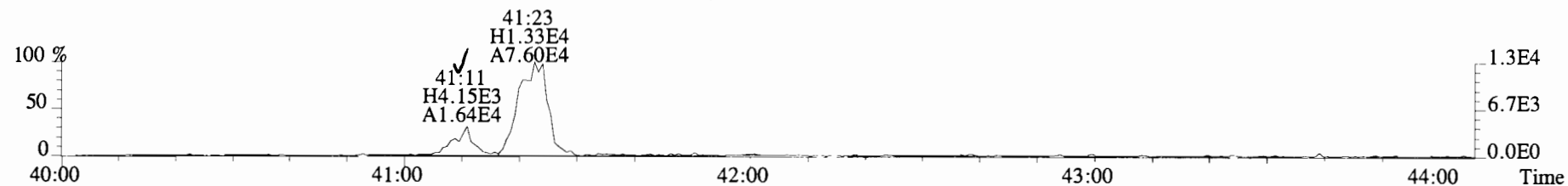333.9339 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
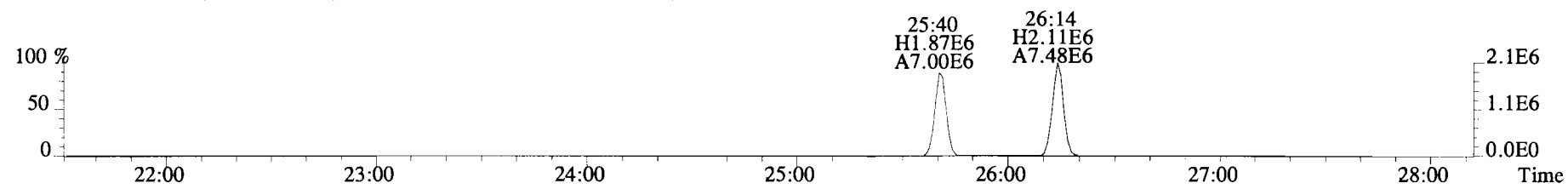
File:191111D1 #1-493 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
319.8965 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:24
H818.67
A2.90E3

321.8936 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:22
H667.91
A2.37E3
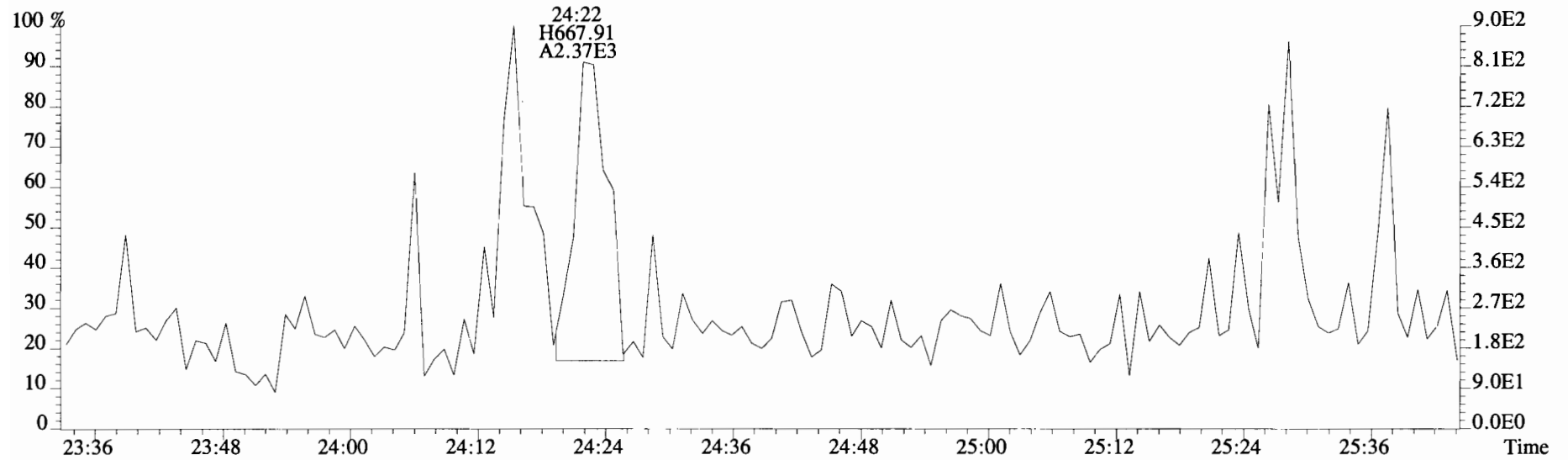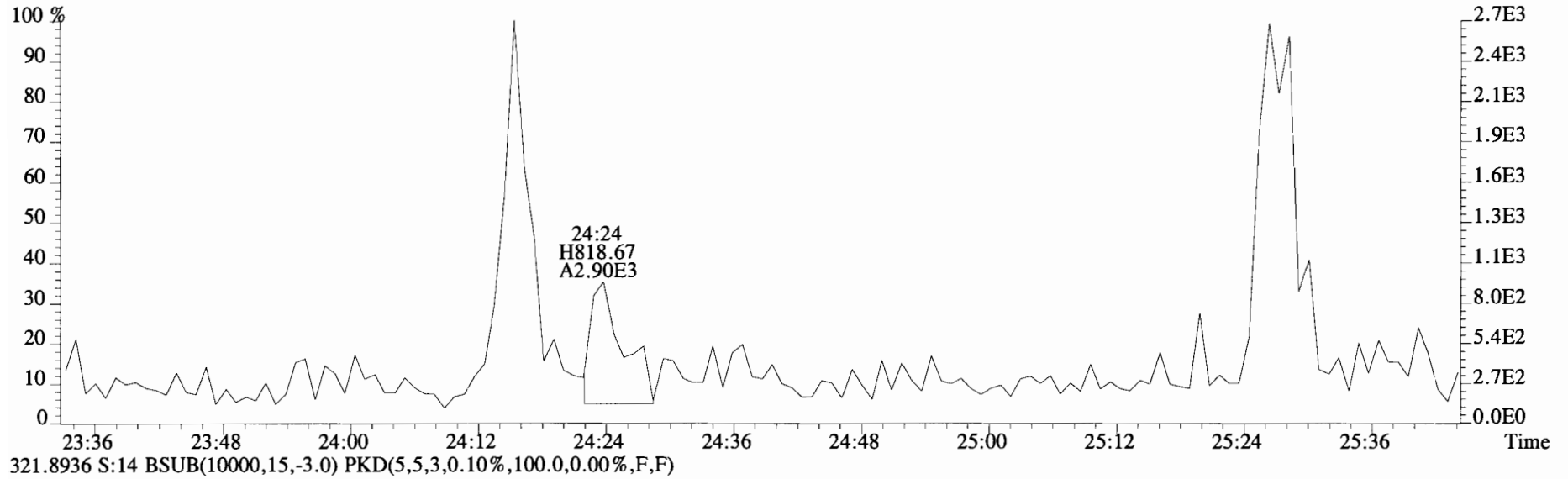
File:191111D1 #1-210 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
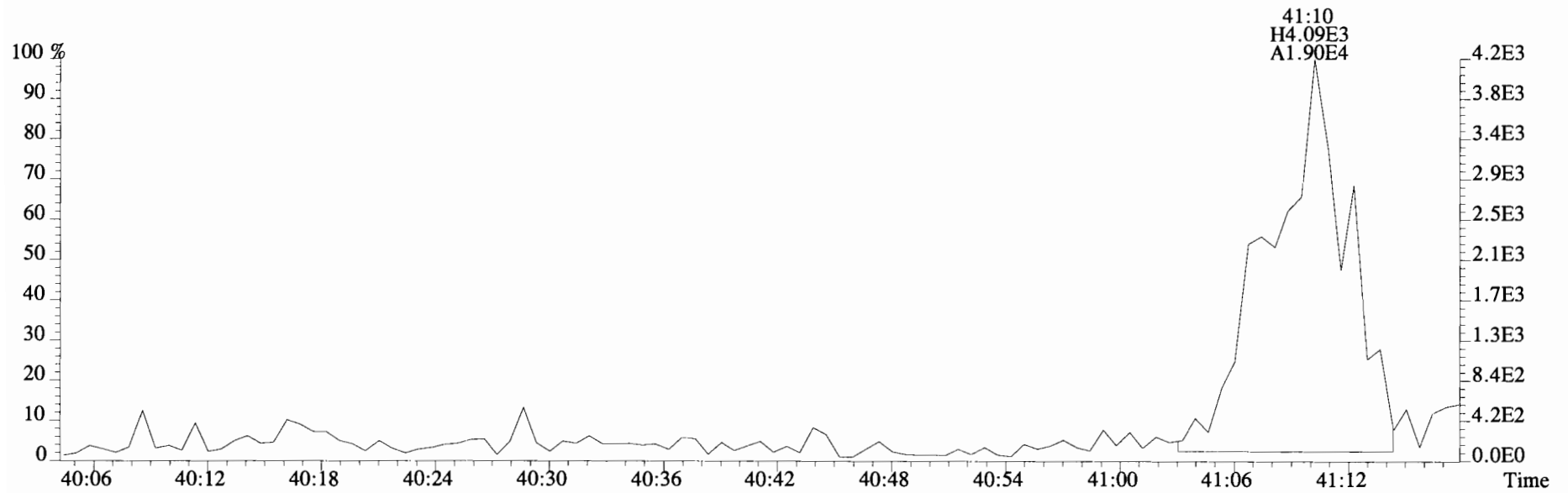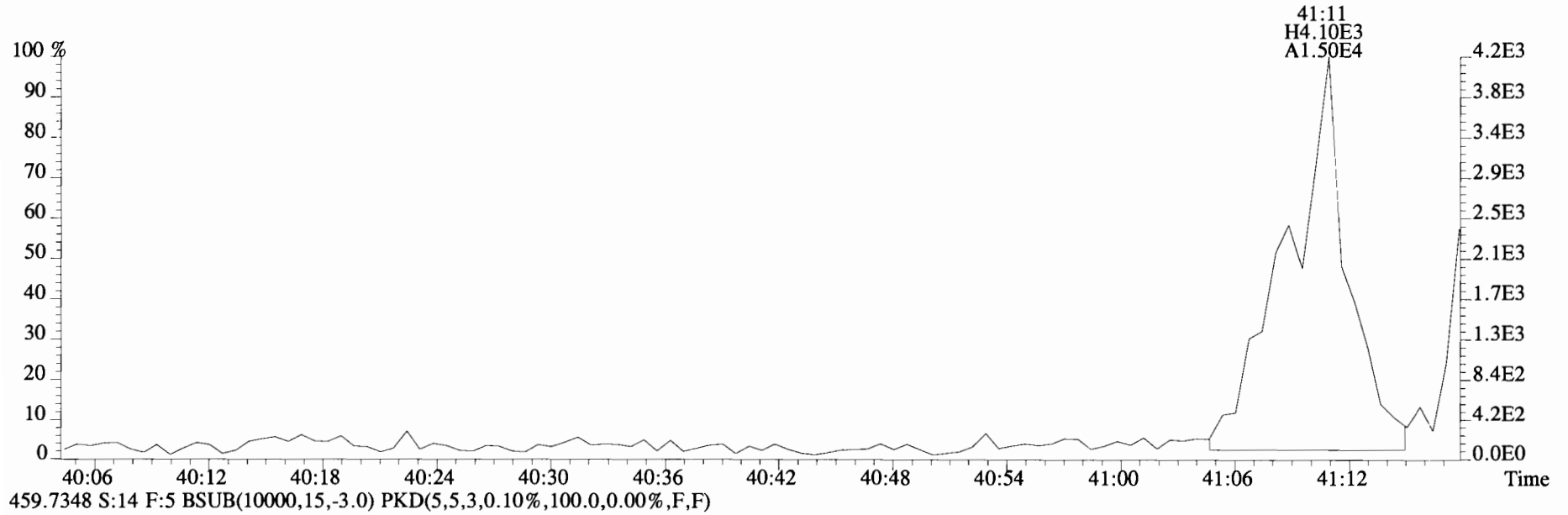353.8576 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
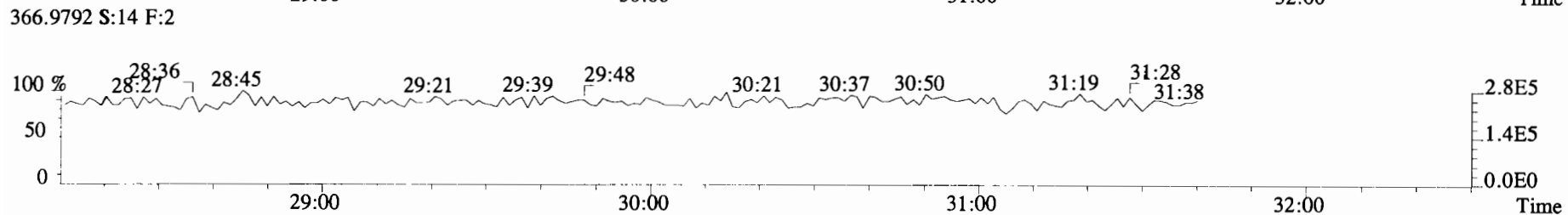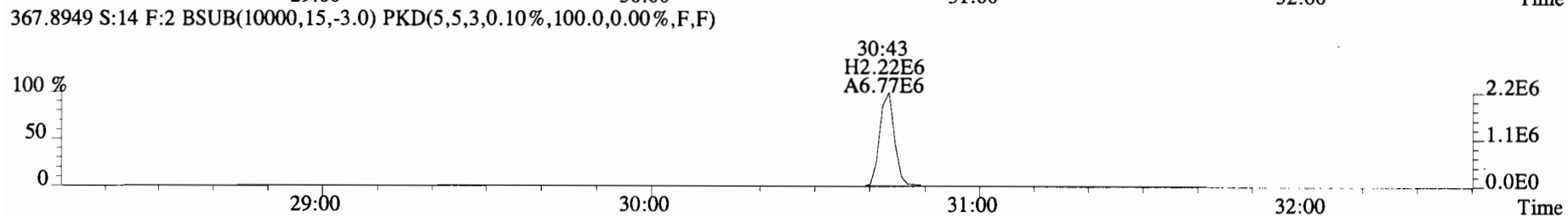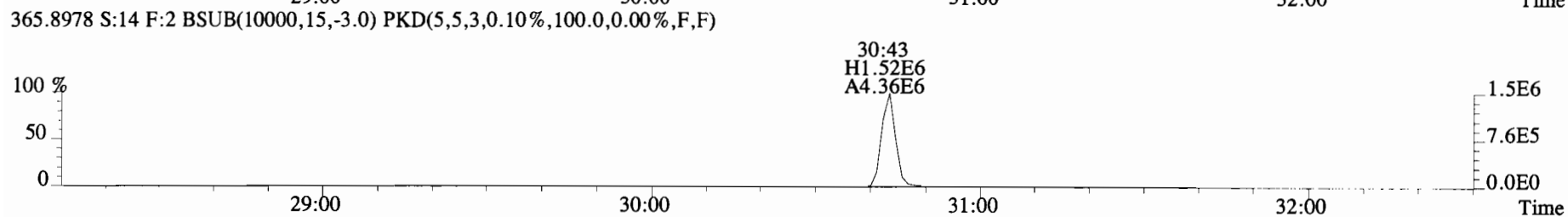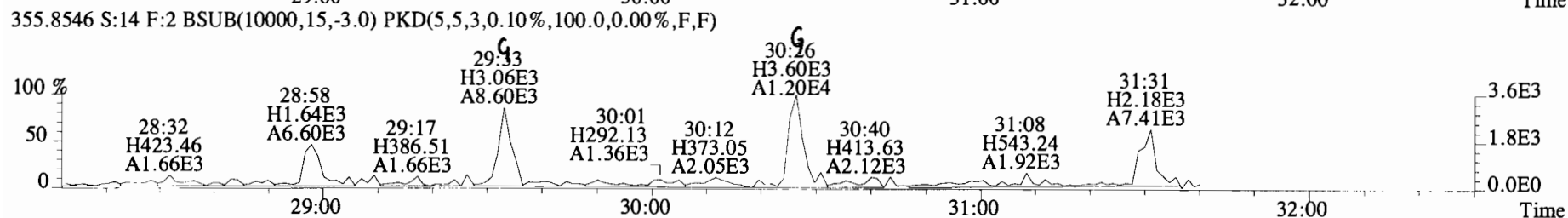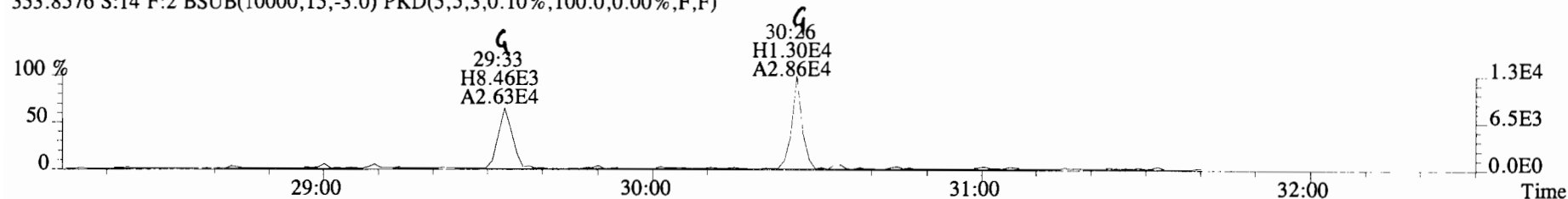
355.8546 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

365.8978 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

367.8949 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
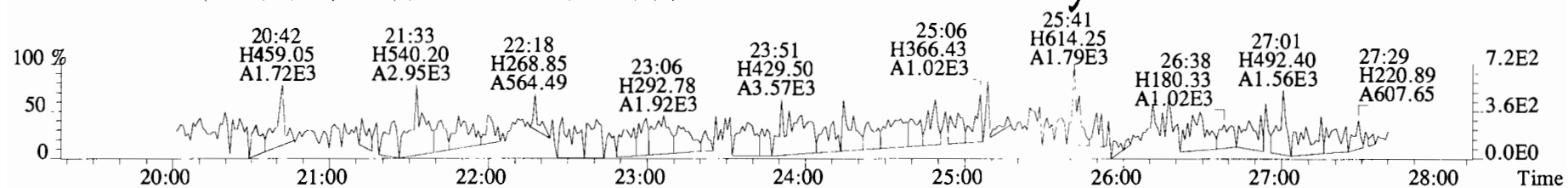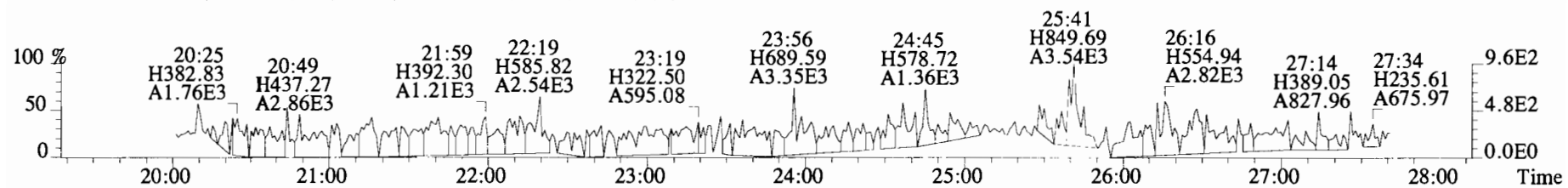

366.9792 S:14 F:2

File:191111D1 #1-385 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
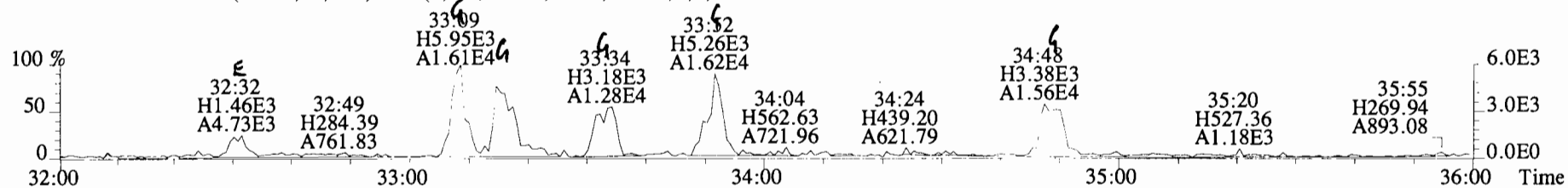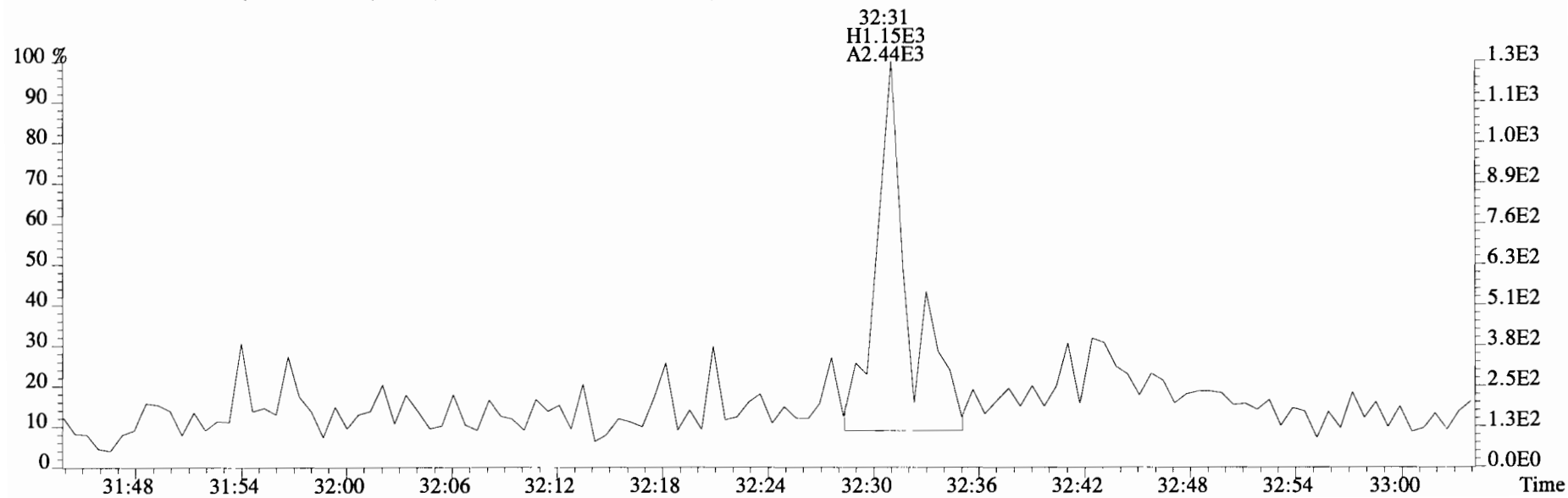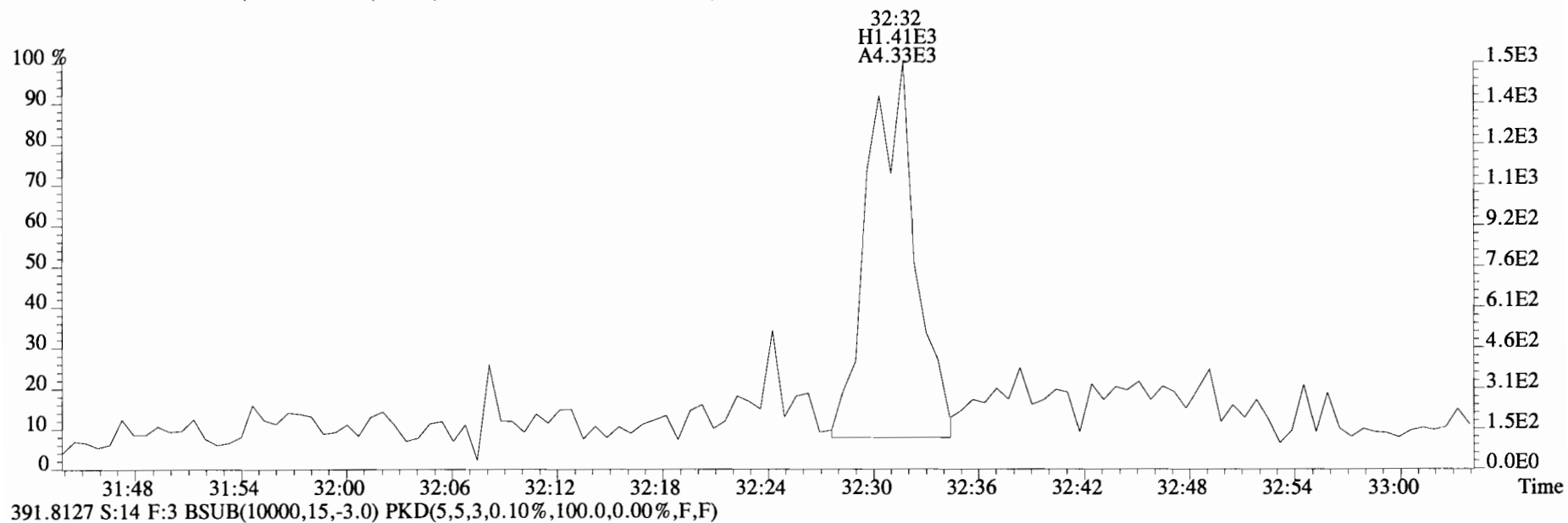
391.8127 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

392.9760 S:14 F:3

389.8156 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:32
H1.41E3
A4.33E3

391.8127 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
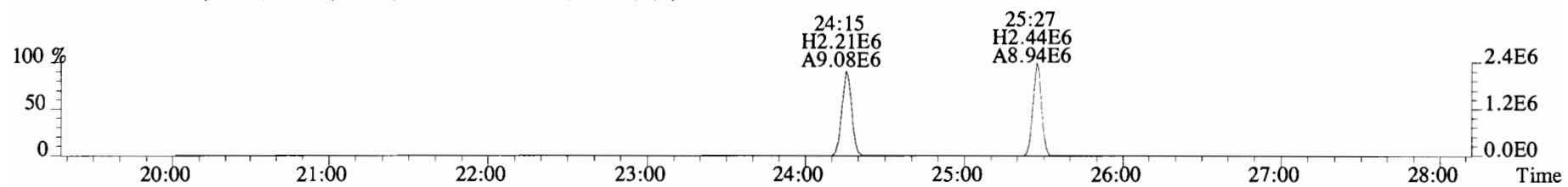
32:31
H1.15E3
A2.44E3

File:191111D1 #1-385 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
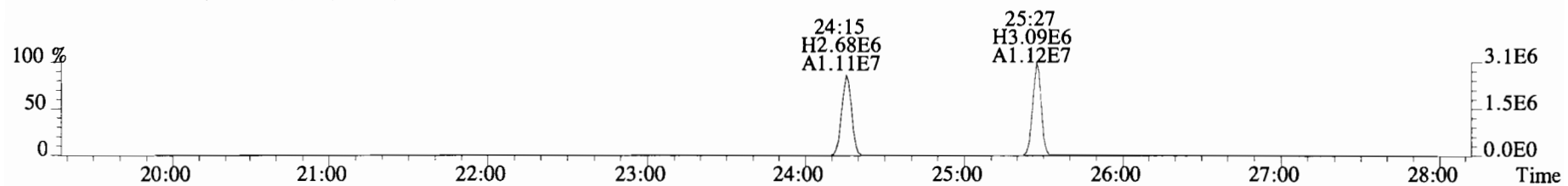401.8559 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
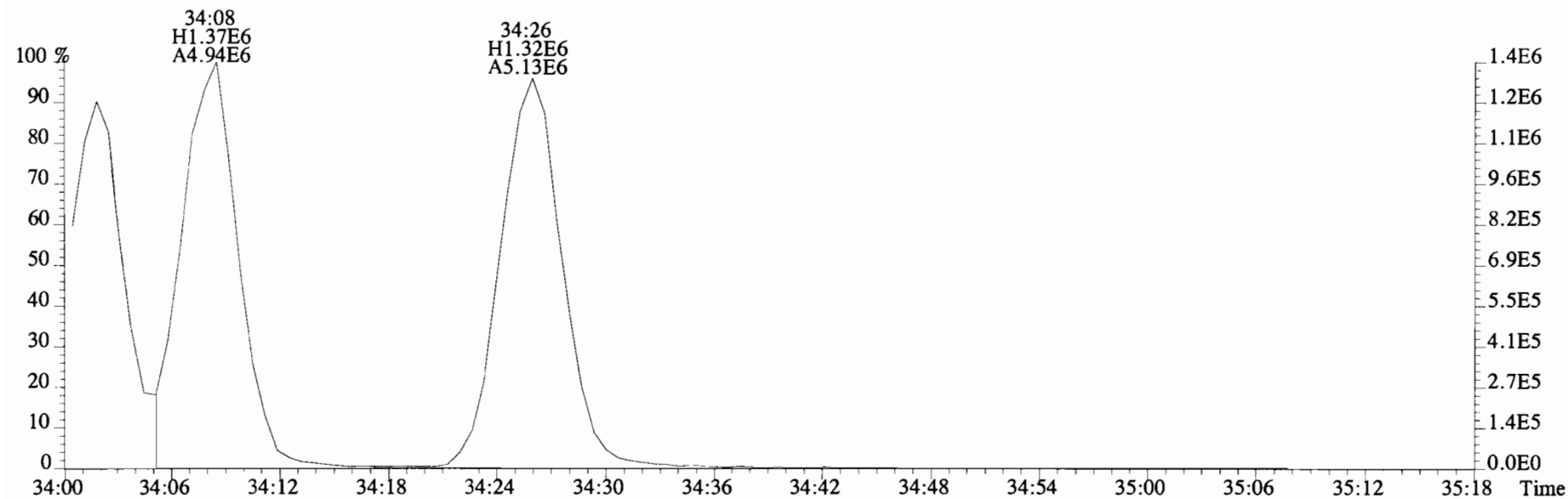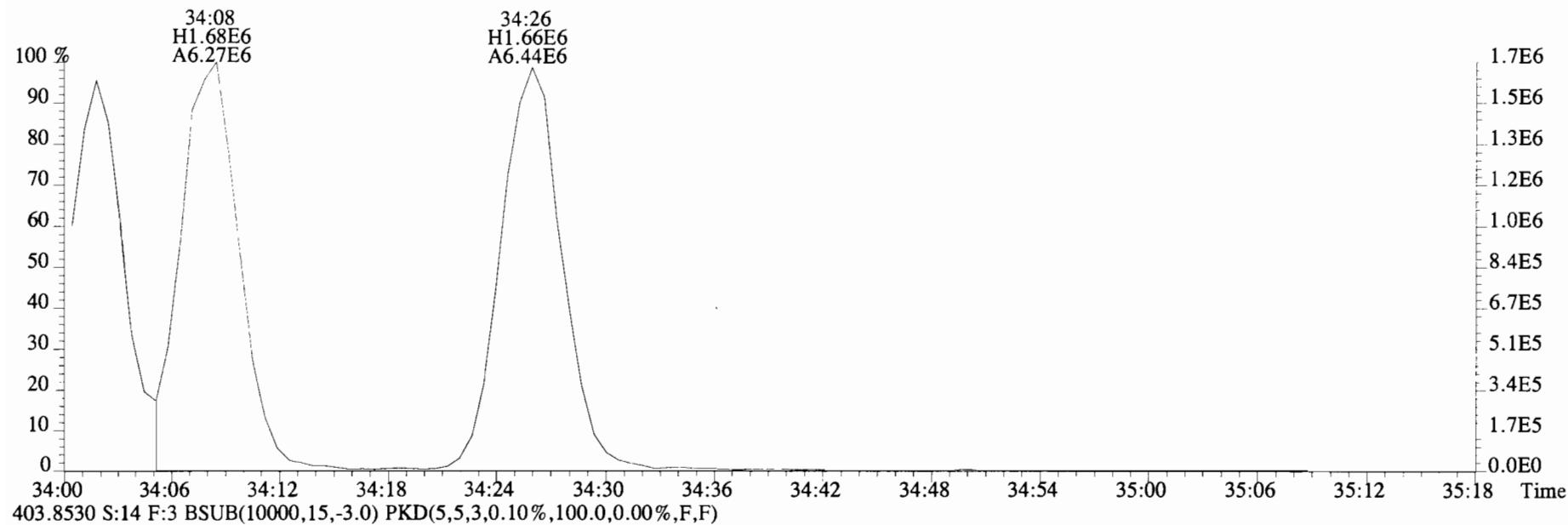
File:191111D1 #1-356 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
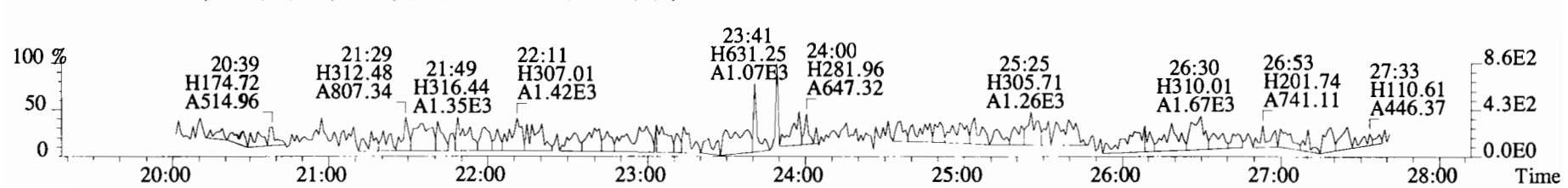423.7767 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

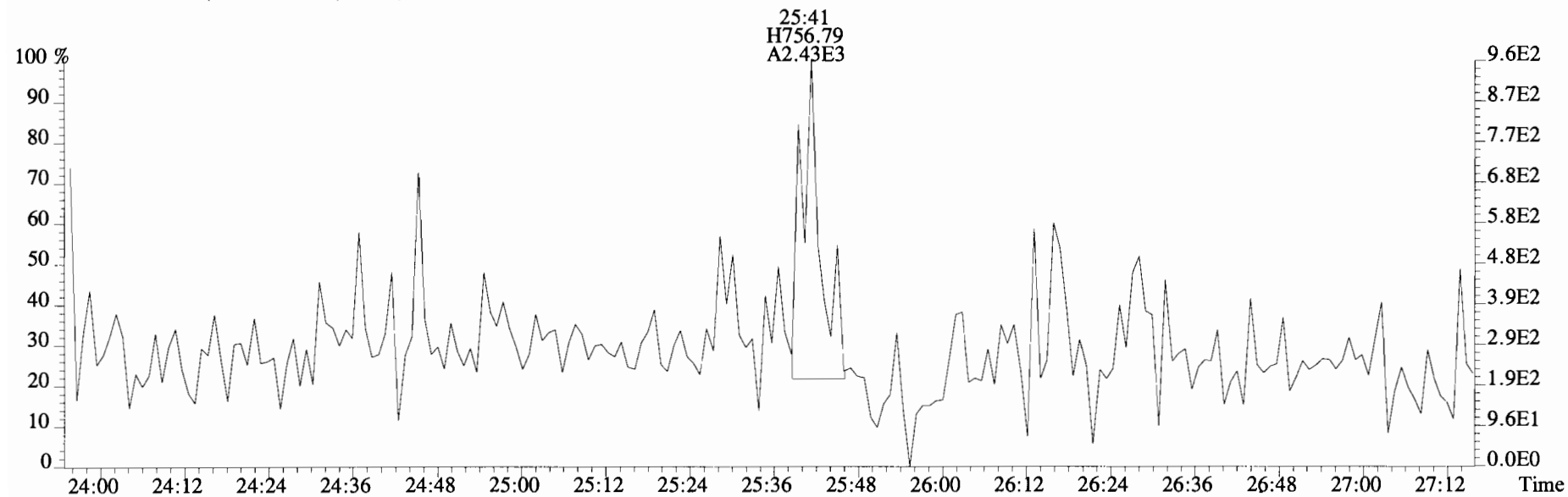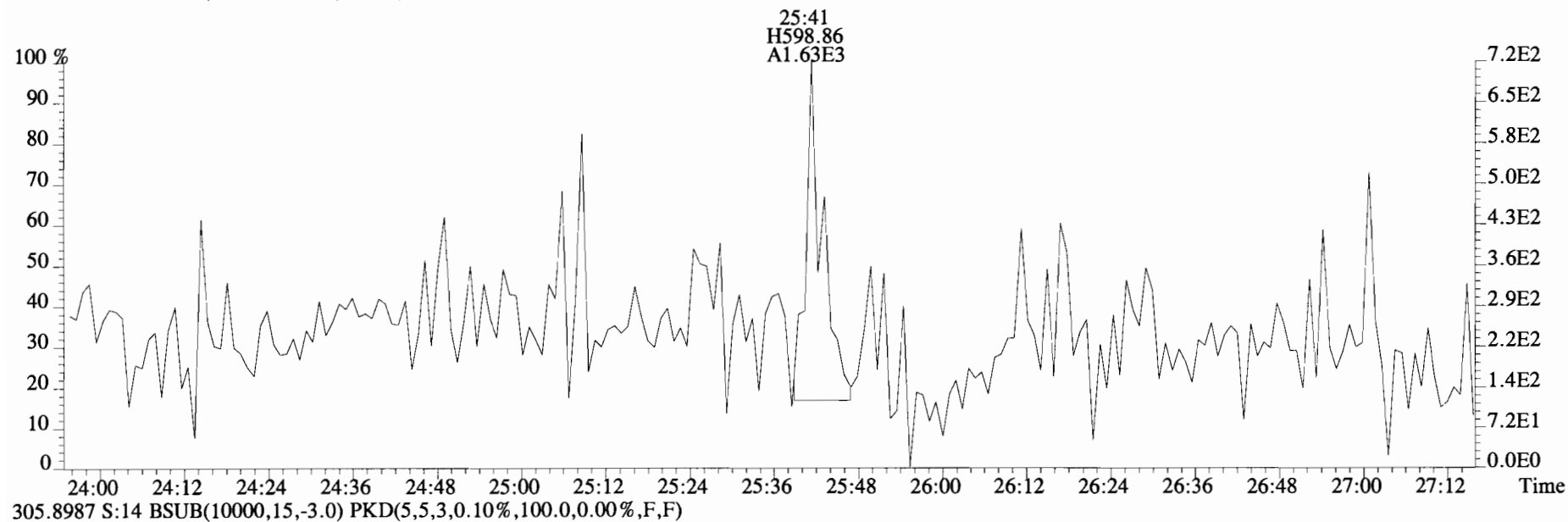425.7737 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

435.8169 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

437.8140 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
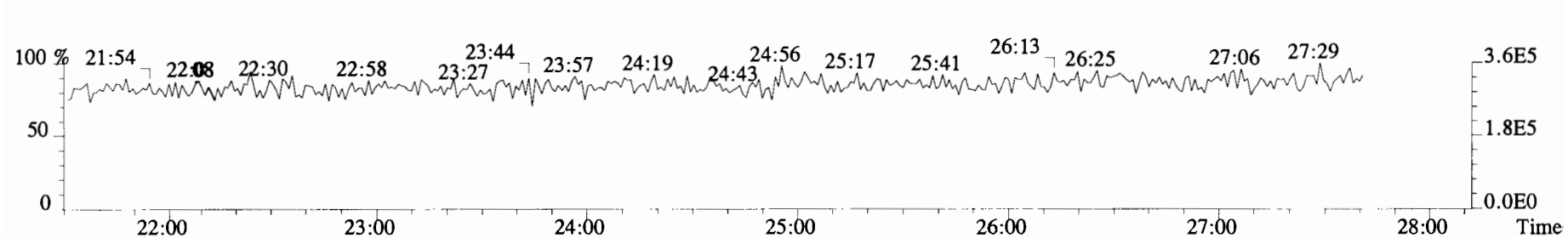

454.9728 S:14 F:4

425.7737 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-431 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
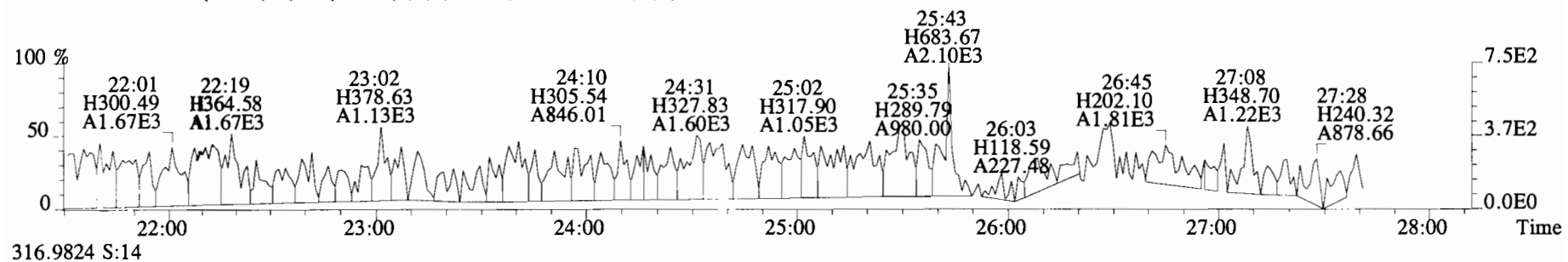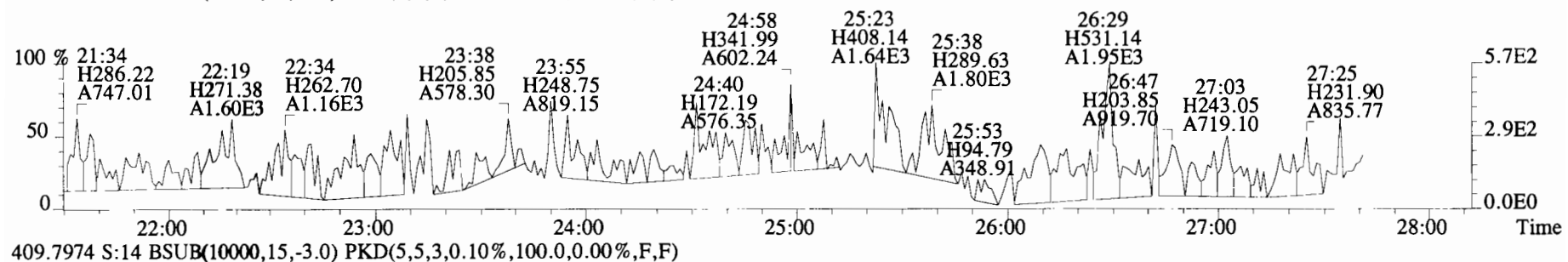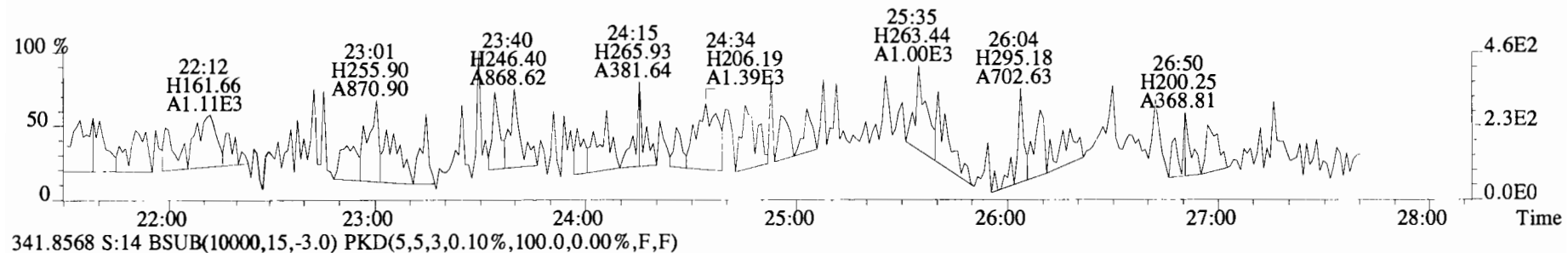

459.7348 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

469.7780 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

471.7750 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:14 F:5

File:191111D1 #1-431 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
457.7377 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

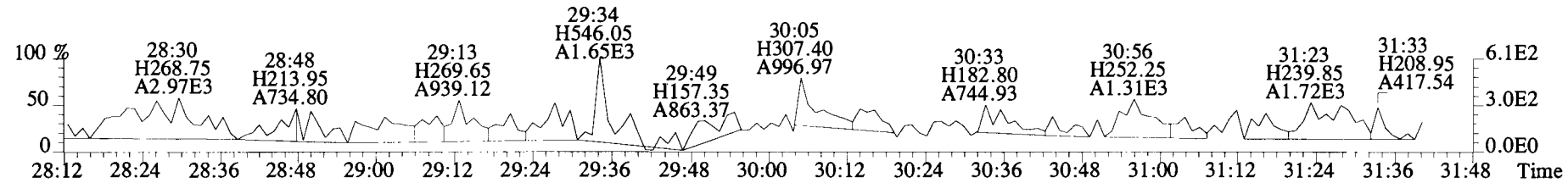
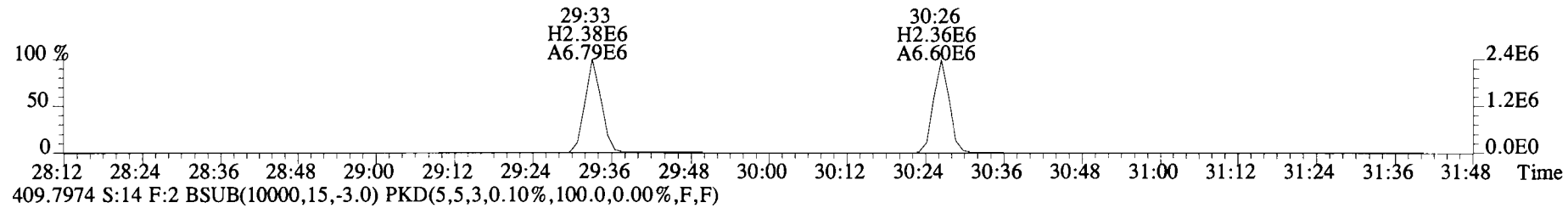459.7348 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

315.9419 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

317.9389 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
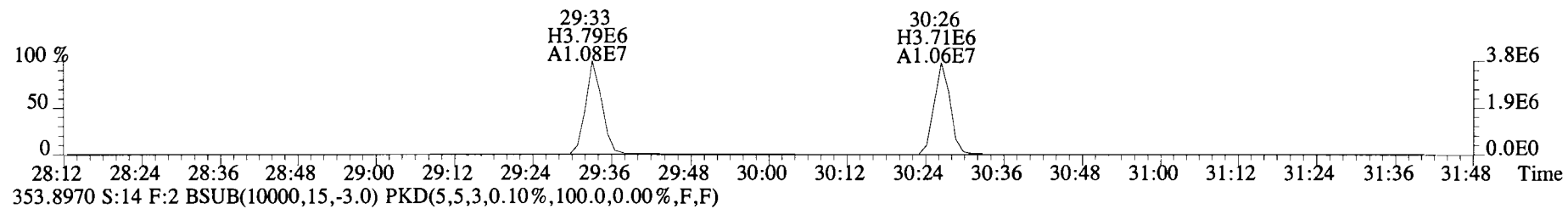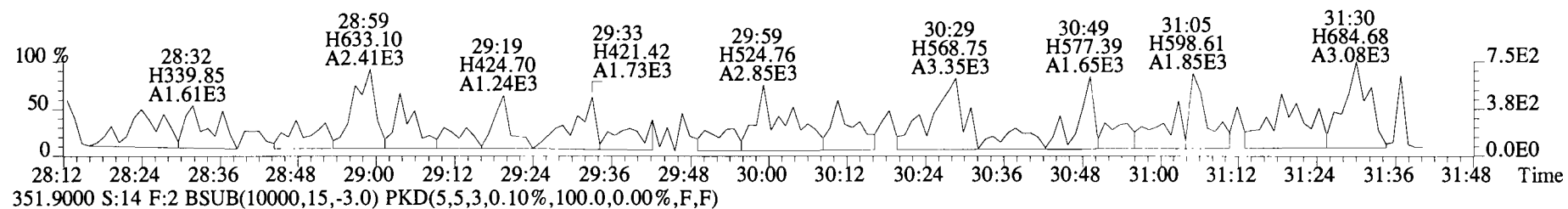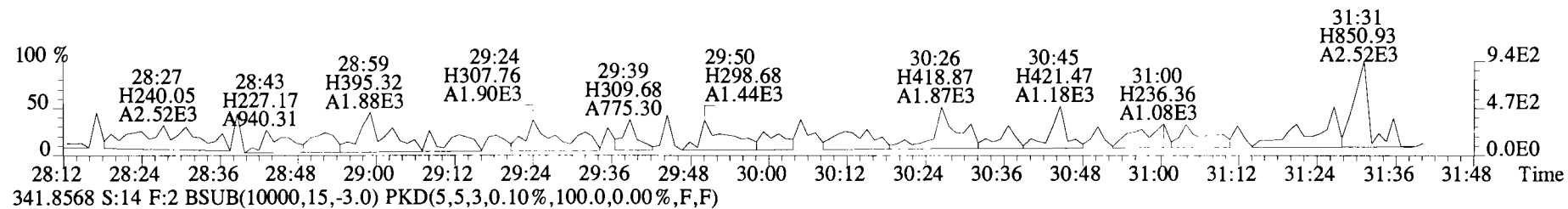

375.8364 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

303.9016 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:41
H598.86
A1.63E3

305.8987 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:41
H756.79
A2.43E3

341.8568 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:14 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
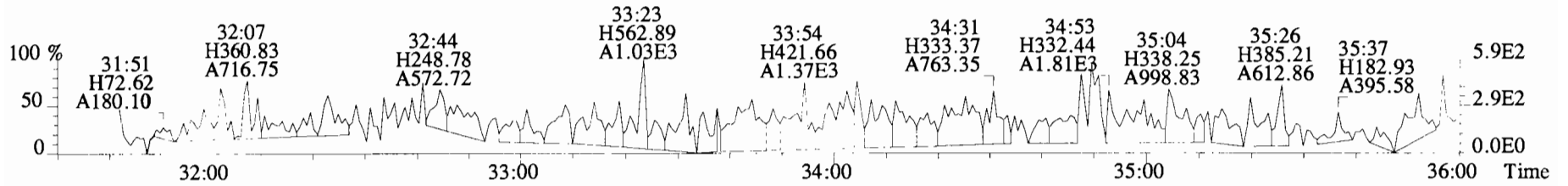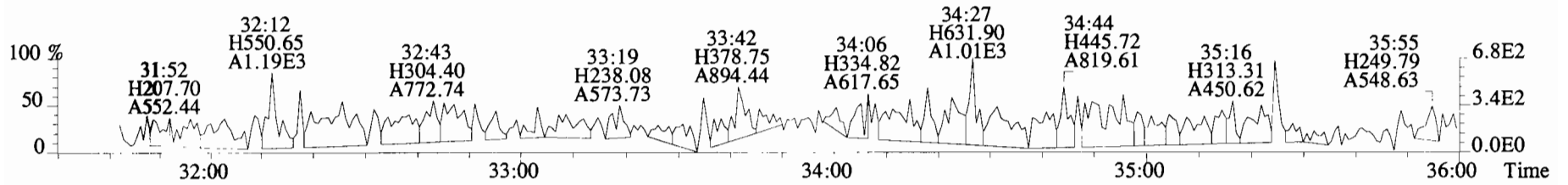

316.9824 S:14

File:191111D1 #1-210 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
339.8597 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:14 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
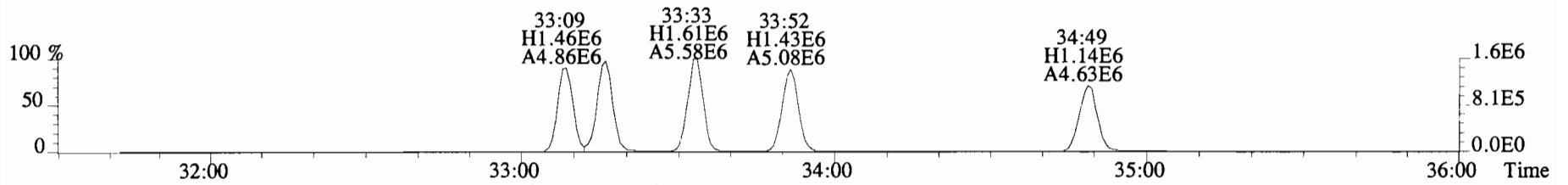
File:191111D1 #1-385 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5

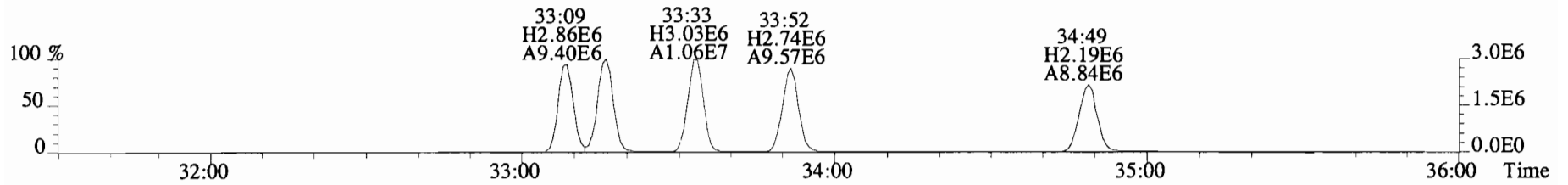373.8207 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

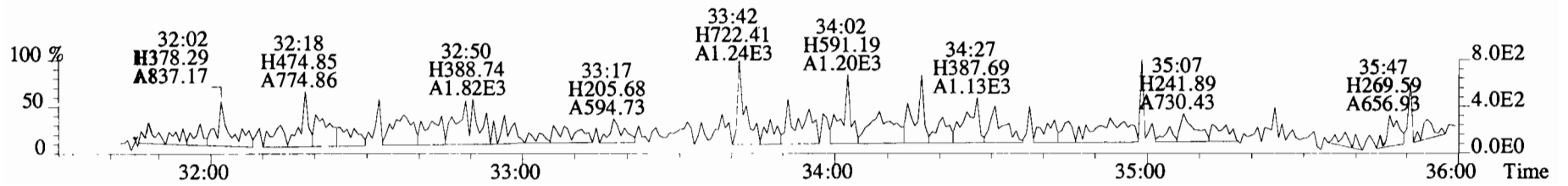375.8178 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

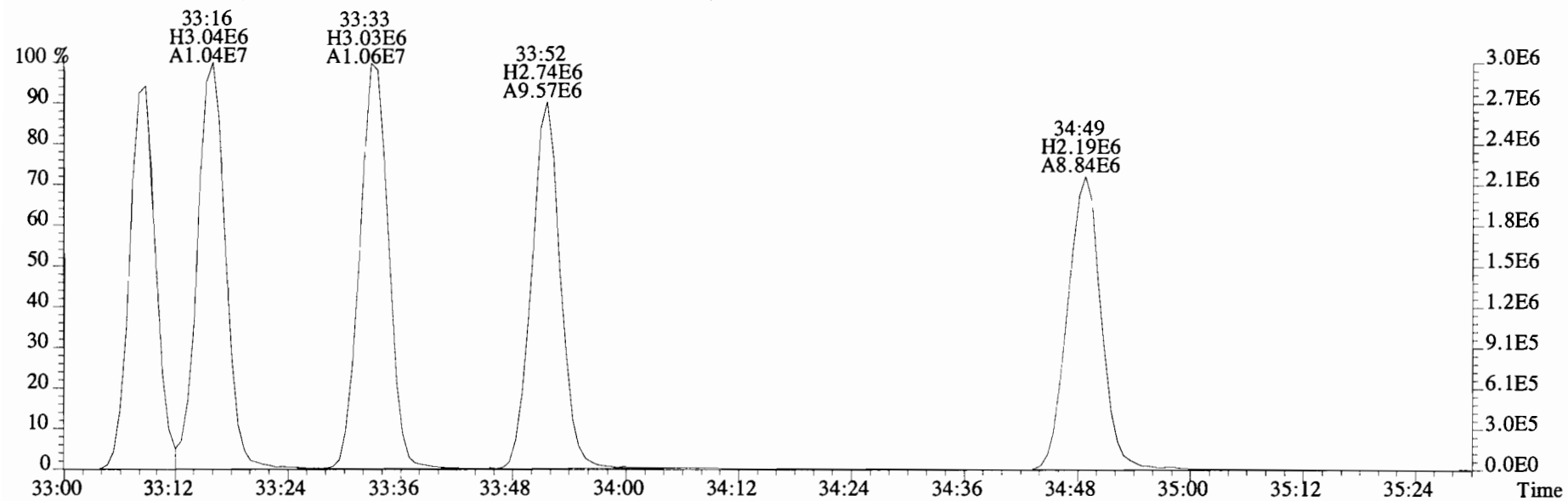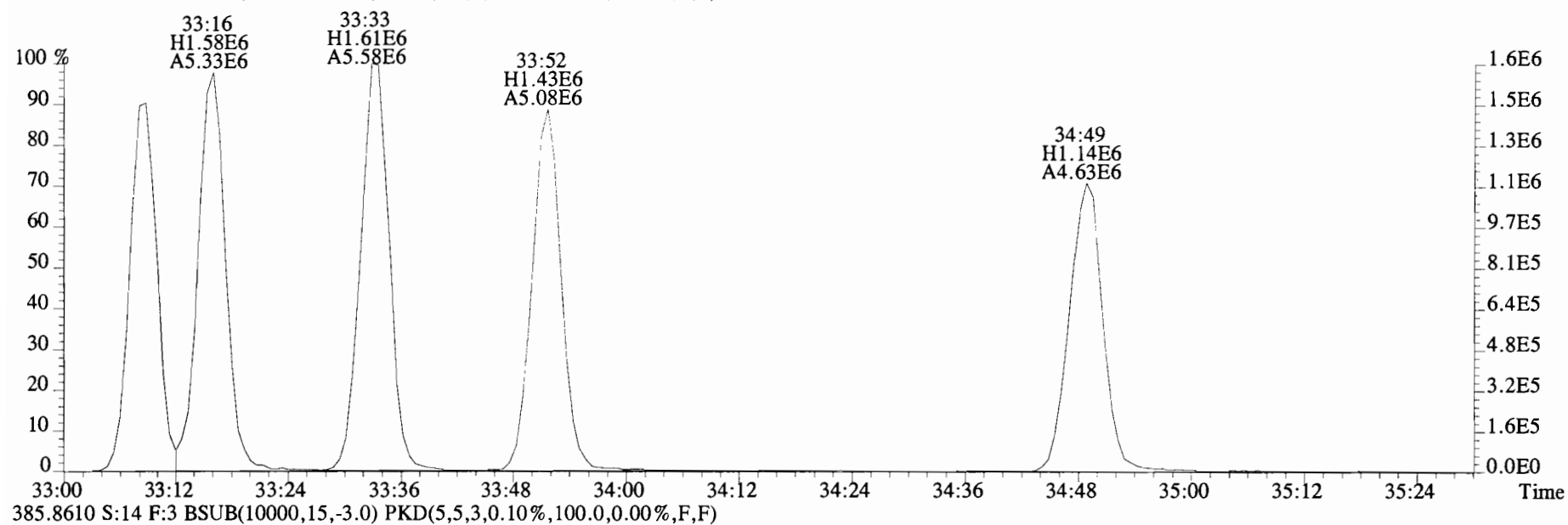383.8639 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

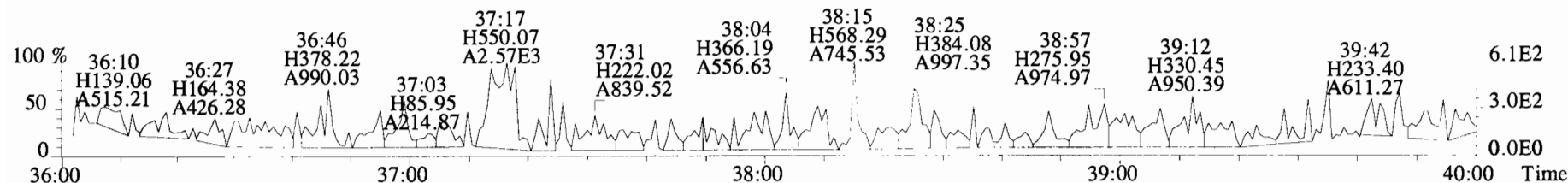

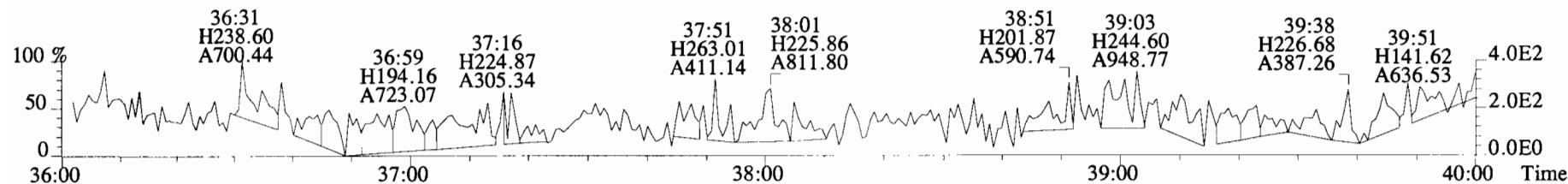445.7555 S:14 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

407.7818 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:10 H139.06 A515.21
36:27 H164.38 A426.28
36:46 H378.22 A990.03
37:03 H85.95 A214.87
37:17 H550.07 A2.57E3
37:31 H222.02 A839.52
38:04 H366.19 A556.63
38:15 H568.29 A745.53
38:25 H384.08 A997.35
38:57 H275.95 A974.97
39:12 H330.45 A950.39
39:42 H233.40 A611.27

100 % 50 0
6.1E2 3.0E2 0.0E0
36:00   37:00   38:00   39:00   40:00 Time

409.7788 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:31 H238.60 A700.44
36:59 H194.16 A723.07
37:16 H224.87 A305.34
37:51 H263.01 A411.14
38:01 H225.86 A811.80
38:51 H201.87 A590.74
39:03 H244.60 A948.77
39:38 H226.68 A387.26
39:51 H141.62 A636.53

100 % 50 0
4.0E2 2.0E2 0.0E0
36:00   37:00   38:00   39:00   40:00 Time

417.8253 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:40 H8.03E5 A3.85E6
38:25 H7.69E5 A3.28E6

100 % 50 0
8.0E5 4.0E5 0.0E0
36:00   37:00   38:00   39:00   40:00 Time

419.8220 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:40 H1.79E6 A8.71E6
38:25 H1.77E6 A7.41E6

100 % 50 0
1.8E6 8.9E5 0.0E0
36:00   37:00   38:00   39:00   40:00 Time

479.7165 S:14 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:18 H465.75 A709.66
36:34 H336.18 A1.48E3
37:02 H483.15 A1.10E3
37:29 H336.35 A1.22E3
37:53 H550.91 A750.00
38:05 H328.29 A973.26
38:26 H223.86 A1.87E3
38:55 H963.04 A2.41E3
39:09 H315.46 A752.02
39:51 H492.95 A703.98

100 % 50 0
1.0E3 5.1E2 0.0E0
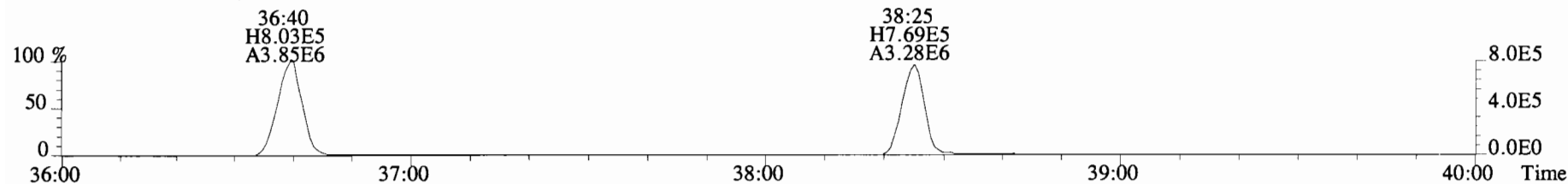36:00   37:00   38:00   39:00   40:00 Time

File:191111D1 #1-431 Acq:11-NOV-2019 20:42:07 GC EI+ Voltage SIR Autospec-UltimaE
Sample#14 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-06 PDI-033SC-A-14-14.8-191008 13.63 Exp:OCDD_DB5
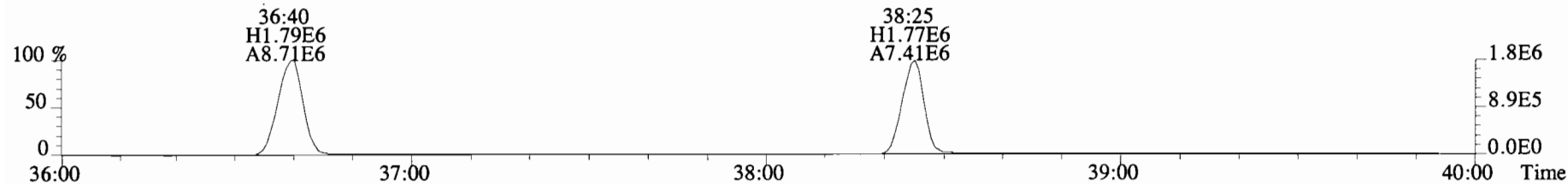441.7428 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

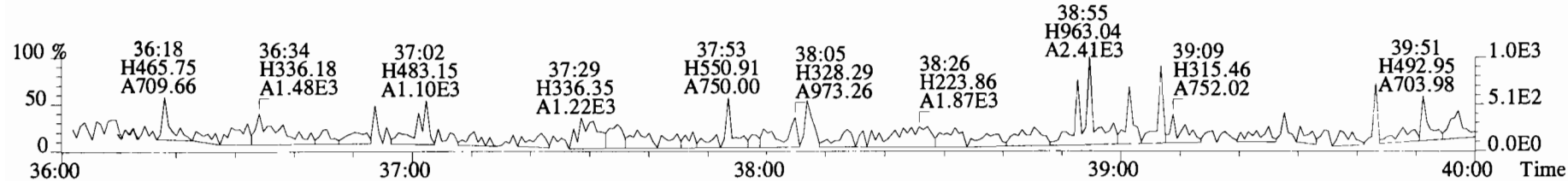443.7398 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

453.7831 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
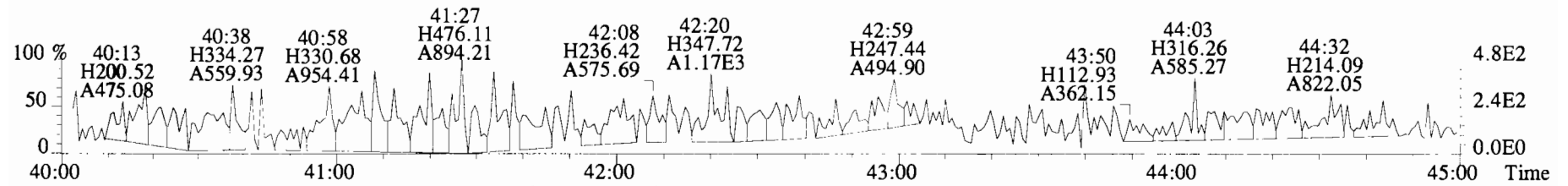

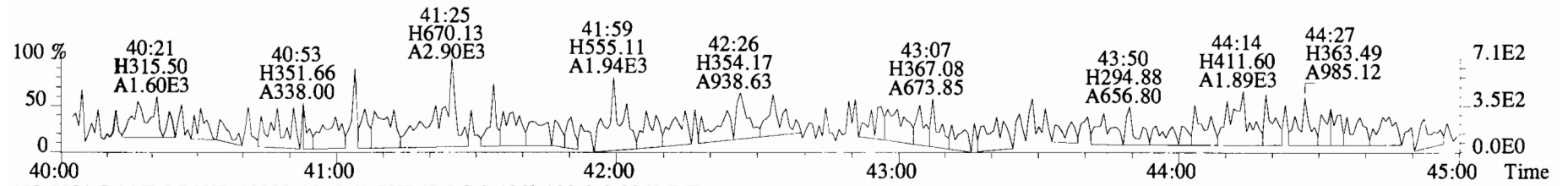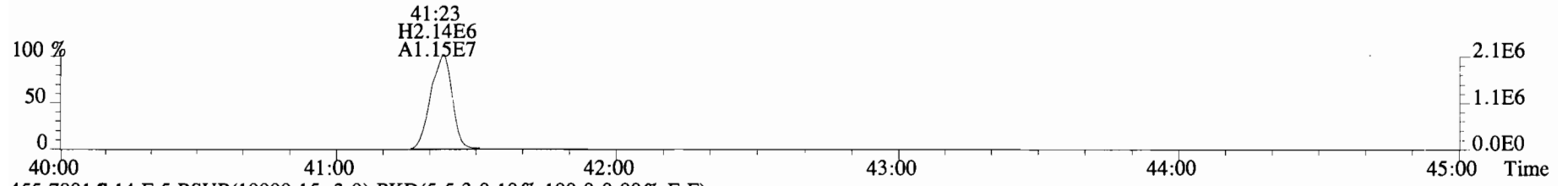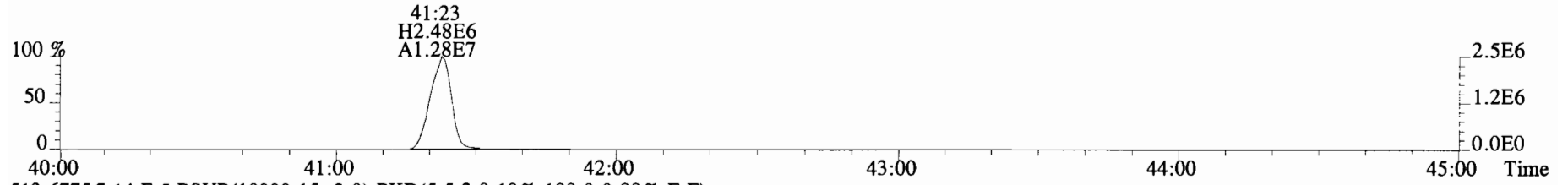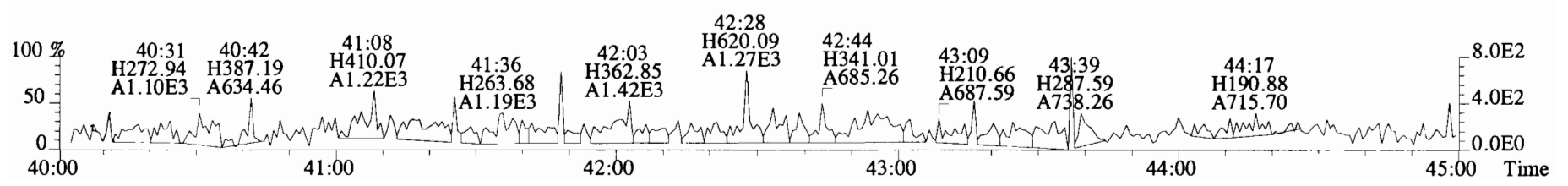455.7801 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

513.6775 S:14 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotFᴎ	*		139	2.5	0.0344
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotFᴎ	*		159	2.5	0.0351
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotFᴎ	*		127	2.5	0.0427
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotFᴎ	*		127	2.5	0.0449
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotFᴎ	*		127	2.5	0.0450
	1,2,3,4,6,7,8-HpCDD	4.30e+03	0.80	n	0.98	37:53	0.078493		*	2.5	*
	OCDD	2.15e+04	1.08	n	0.96	41:10	0.48541		*	2.5	*
	2,3,7,8-TCDF	*	*	n	0.95	NotFᴎ	*		154	2.5	0.0284
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotFᴎ	*		233	2.5	0.0505
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotFᴎ	*		233	2.5	0.0468
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotFᴎ	*		106	2.5	0.0151
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotFᴎ	*		106	2.5	0.0151
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotFᴎ	*		106	2.5	0.0157
	1,2,3,7,8,9-HxCDF	2.01e+03	1.47	n	1.06	34:49	0.026480		*	2.5	*
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotFᴎ	*		101	2.5	0.0204
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotFᴎ	*		101	2.5	0.0189
	OCDF	*	*	n	0.95	NotFᴎ	*		134	2.5	0.0491

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	*	*		139	0.0344
Total Penta-Dioxins	*	0.0628		*	*
Total Hexa-Dioxins	*	*		127	0.0444
Total Hepta-Dioxins	0.162	0.241		*	*
Total Tetra-Furans	0.0532	0.0532		*	*
Total Penta-Furans	0.0000	0.0000		233	0.0486
Total Hexa-Furans	*	0.0265		*	*
Total Hepta-Furans	*	*		101	0.0197

	Name	Resp	RA		RRF	RT	Conc	Rec	Qual
IS	13C-2,3,7,8-TCDD	1.43e+07	0.78	y	1.10	26:15	207.10	105	
IS	13C-1,2,3,7,8-PeCDD	1.16e+07	0.63	y	0.88	30:44	208.86	106	
IS	13C-1,2,3,4,7,8-HxCDD	1.06e+07	1.28	y	0.64	34:02	201.66	102	
IS	13C-1,2,3,6,7,8-HxCDD	1.21e+07	1.27	y	0.86	34:09	172.86	87.5	
IS	13C-1,2,3,7,8,9-HxCDD	1.21e+07	1.26	y	0.81	34:27	183.66	93.0	
IS	13C-1,2,3,4,6,7,8-HpCDD	1.11e+07	1.05	y	0.65	37:53	206.28	104	
IS	13C-OCDD	1.82e+07	0.91	y	0.58	41:10	383.83	97.2	
IS	13C-2,3,7,8-TCDF	2.01e+07	0.77	y	1.03	25:28	193.26	97.9	
IS	13C-1,2,3,7,8-PeCDF	1.79e+07	1.62	y	0.85	29:33	207.55	105	
IS	13C-2,3,4,7,8-PeCDF	1.77e+07	1.58	y	0.85	30:26	207.98	105	
IS	13C-1,2,3,4,7,8-HxCDF	1.44e+07	0.51	y	0.83	33:09	210.93	107	
IS	13C-1,2,3,6,7,8-HxCDF	1.58e+07	0.51	y	1.03	33:16	186.24	94.3	
IS	13C-2,3,4,6,7,8-HxCDF	1.54e+07	0.50	y	0.95	33:52	197.44	100.0	
IS	13C-1,2,3,7,8,9-HxCDF	1.41e+07	0.51	y	0.83	34:49	208.21	105	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.35e+07	0.43	y	0.76	36:40	217.44	110	
IS	13C-1,2,3,4,7,8,9-HpCDF	1.13e+07	0.43	y	0.58	38:25	237.54	120	
IS	13C-OCDF	2.45e+07	0.90	y	0.69	41:23	432.96	110	
C/Up	37Cl-2,3,7,8-TCDD	6.14e+06			1.20	26:16	81.325	103	
RS/RT	13C-1,2,3,4-TCDD	1.24e+07	0.80	y	1.00	25:41	197.47		
RS	13C-1,2,3,4-TCDF	1.99e+07	0.80	y	1.00	24:16	197.47		
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.62e+07	0.51	y	1.00	33:34	197.47		

Integrations
by
Analyst: _DB_

Reviewed
by
Analyst: _CT_

Date: _11/19/19_   Date: _11/20/19_

Totals class: PeCDD EMPC   Entry #: 21

            Run: 20   File: 191111D1   S: 15 I: 1 F: 2
        Acquired: 11-NOV-19 21:29:52   Processed: 12-NOV-19 09:23:39

Total Concentration: 0.062750   Unnamed Concentration: 0.063

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

28:58 1.286e+03   6.134e+03 0.21 n 3.327e+03   0.062750

Totals class: HpCDD EMPC   Entry #: 25

      Run: 20   File: 191111D1   S: 15 I: 1 F: 4
 Acquired: 11-NOV-19 21:29:52   Processed: 12-NOV-19 09:23:39

Total Concentration: 0.24069   Unnamed Concentration: 0.162

RT	m1 Resp	m2 Resp	RA		Resp	Concentration	Name
37:03	4.428e+03	4.467e+03	0.99	y	8.895e+03	0.16220	
37:53	2.194e+03	2.748e+03	0.80	n	4.305e+03	0.078493	1,2,3,4,6,7,8-HpCDD

Totals class: TCDF EMPC   Entry #: 27

          Run: 20   File: 191111D1   S: 15 I: 1 F: 1
      Acquired: 11-NOV-19 21:29:52   Processed: 12-NOV-19 09:23:39

Total Concentration: 0.053203   Unnamed Concentration: 0.053

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

25:40 2.394e+03   2.764e+03 0.87 y 5.157e+03   0.053203

Totals class: HxCDF EMPC   Entry #: 33

          Run: 20   File: 191111D1   S: 15 I: 1 F: 3
     Acquired: 11-NOV-19 21:29:52   Processed: 12-NOV-19 09:23:39

Total Concentration: 0.026480   Unnamed Concentration: *

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

34:49 1.322e+03   8.978e+02 1.47 n 2.011e+03   0.026480   1,2,3,7,8,9-HxCDF

File:191111D1 #1-493 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
319.8965 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
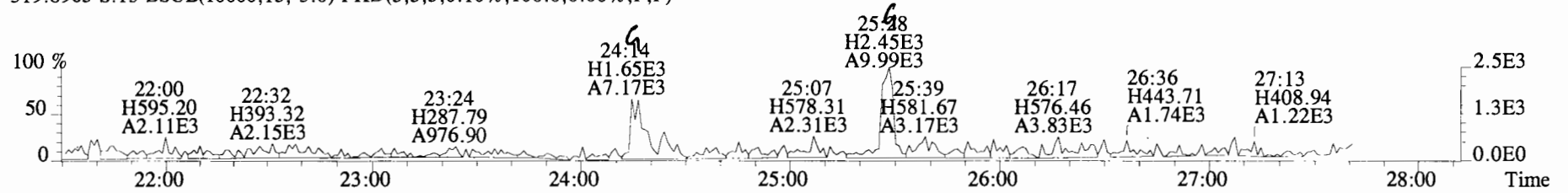
321.8936 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
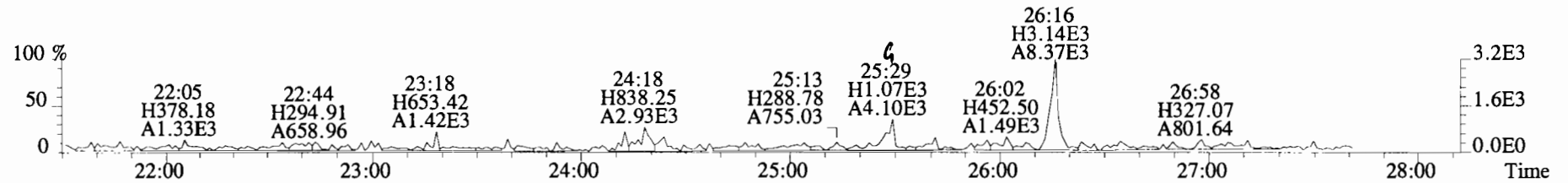
327.8847 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
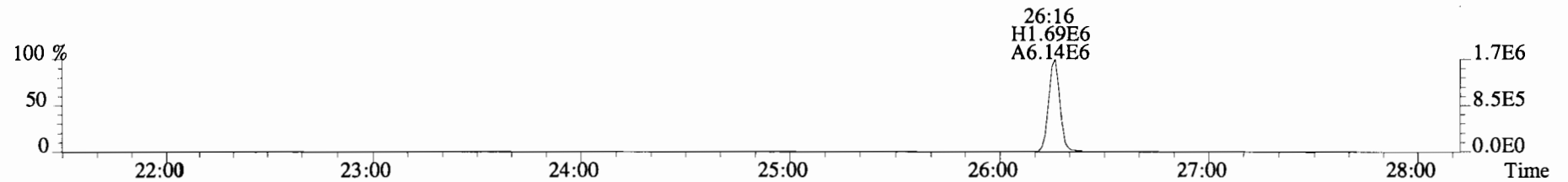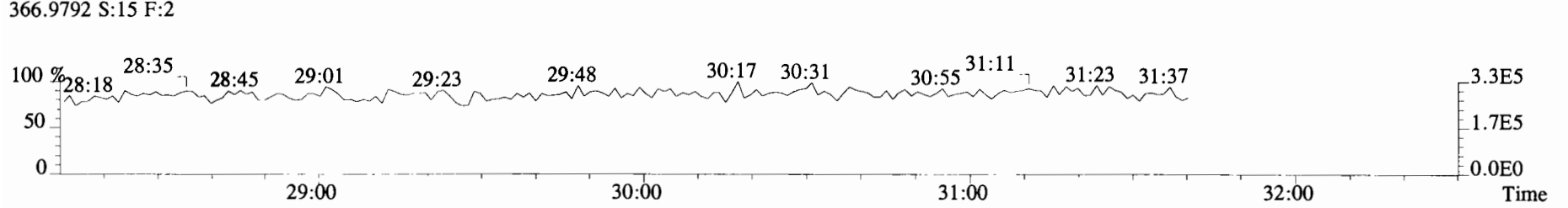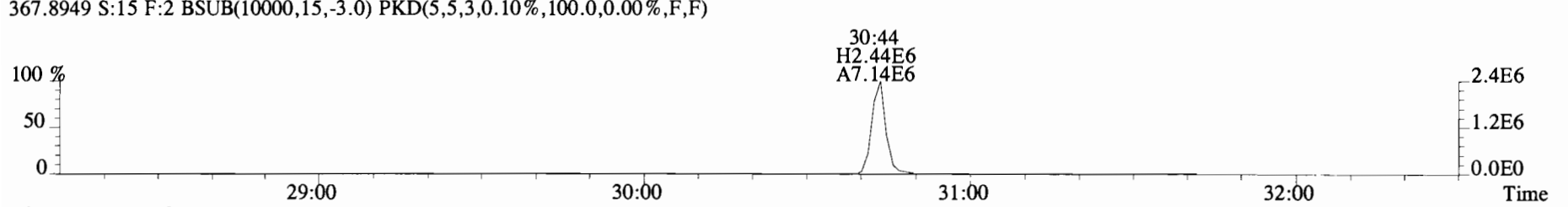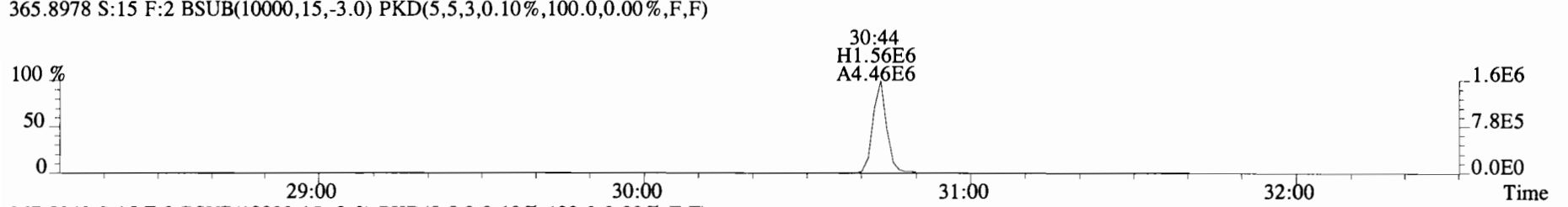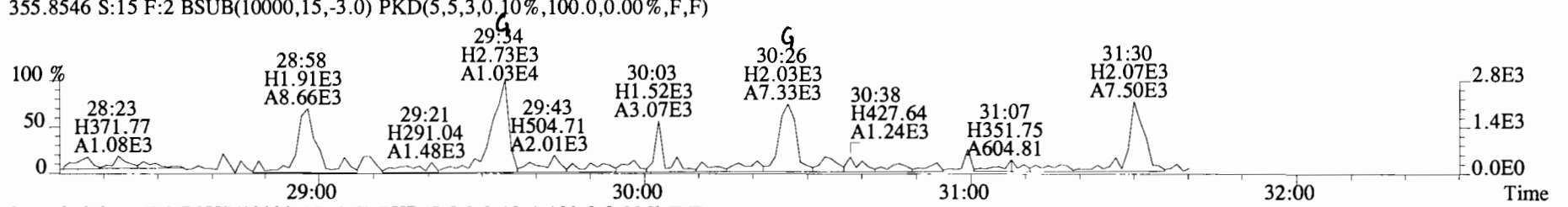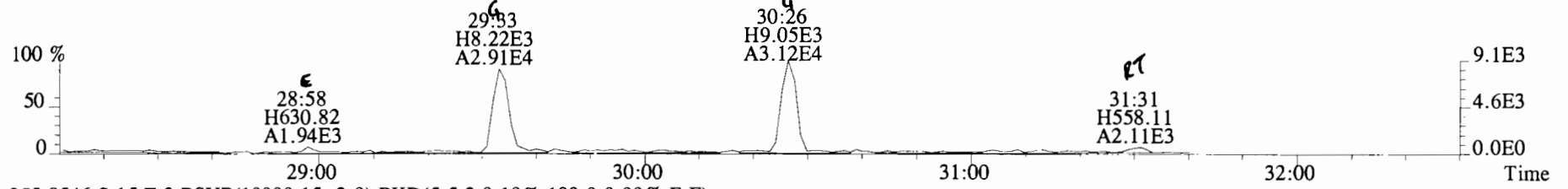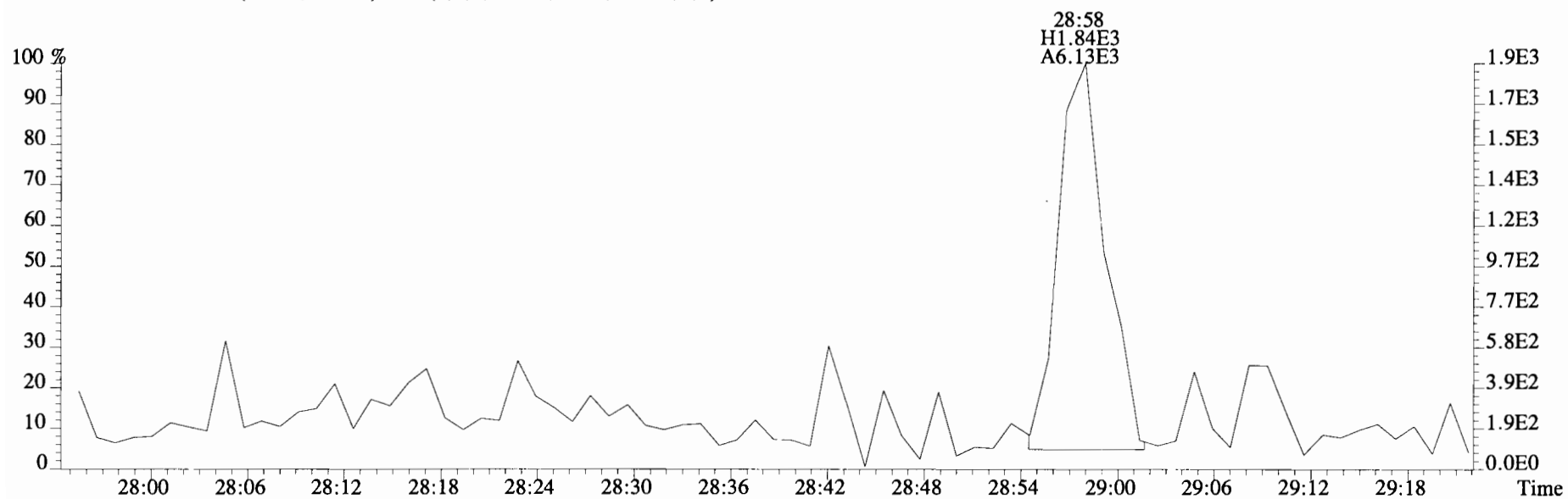

331.9368 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
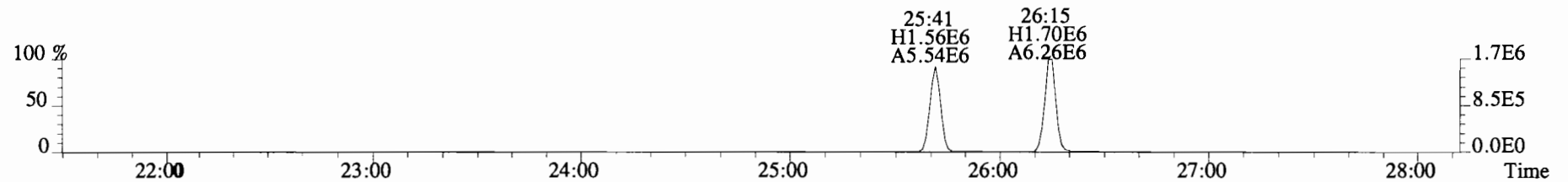
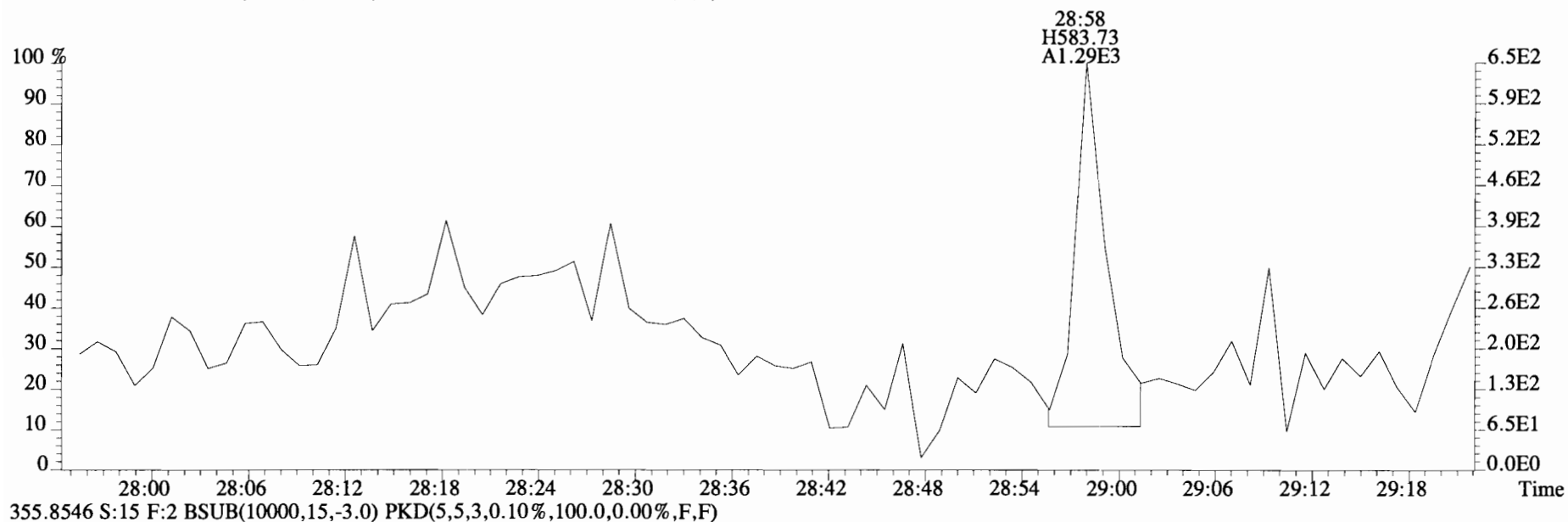
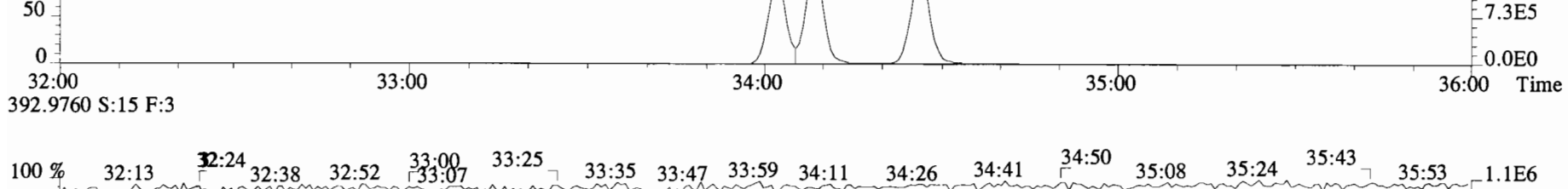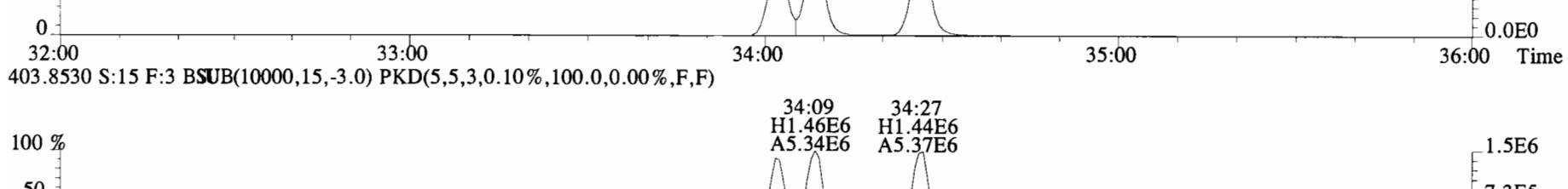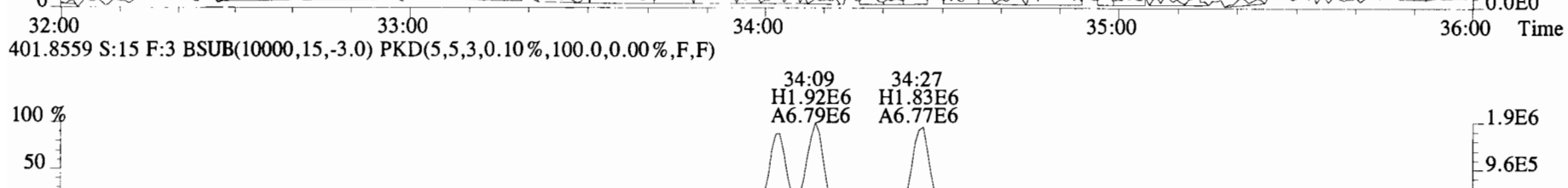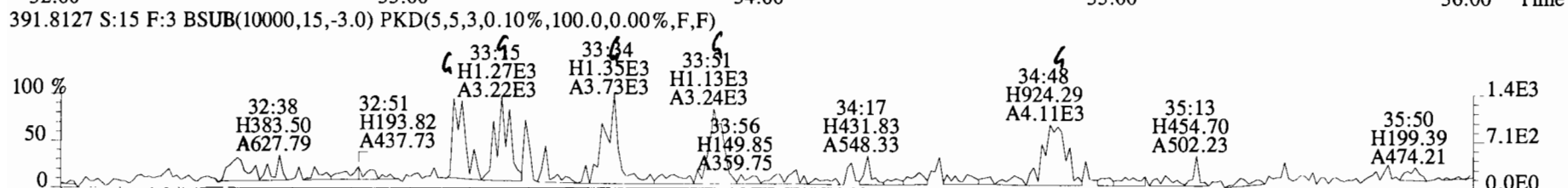333.9339 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

G
29:33
H8.22E3
A2.91E4

G
30:26
H9.05E3
A3.12E4

E
28:58
H630.82
A1.94E3

RT
31:31
H558.11
A2.11E3

100 %
50
0
9.1E3
4.6E3
0.0E0

29:00   30:00   31:00   32:00   Time

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

G
29:34
H2.73E3
A1.03E4

G
30:26
H2.03E3
A7.33E3

31:30
H2.07E3
A7.50E3

28:58
H1.91E3
A8.66E3

30:03
H1.52E3
A3.07E3

28:23
H371.77
A1.08E3

29:21
H291.04
A1.48E3

29:43
H504.71
A2.01E3

30:38
H427.64
A1.24E3

31:07
H351.75
A604.81

100 %
50
0
2.8E3
1.4E3
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:44
H1.56E6
A4.46E6

100 %
50
0
1.6E6
7.8E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:44
H2.44E6
A7.14E6

100 %
50
0
2.4E6
1.2E6
0.0E0

29:00   30:00   31:00   32:00   Time

366.9792 S:15 F:2

100 %   28:35   28:45   29:01   29:23   29:48   30:17 30:31   30:55 31:11   31:23 31:37
28:18
50
0
3.3E5
1.7E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

28:58
H583.73
A1.29E3

355.8546 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
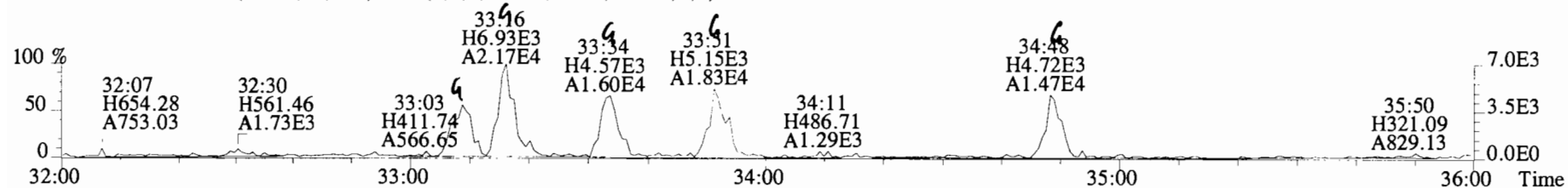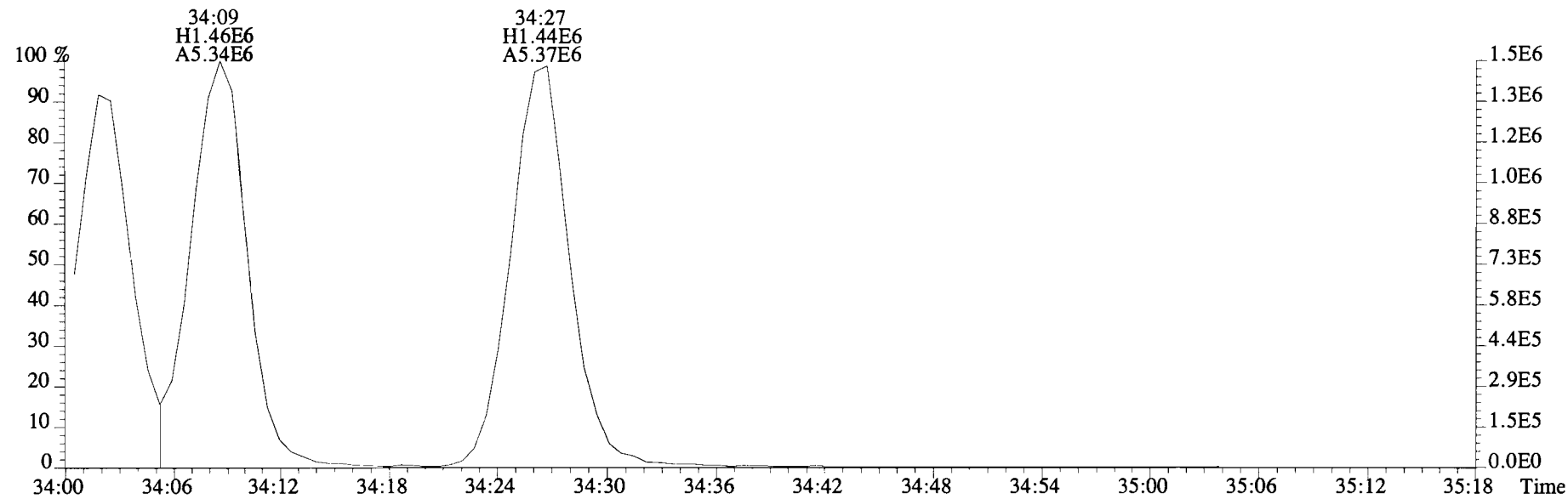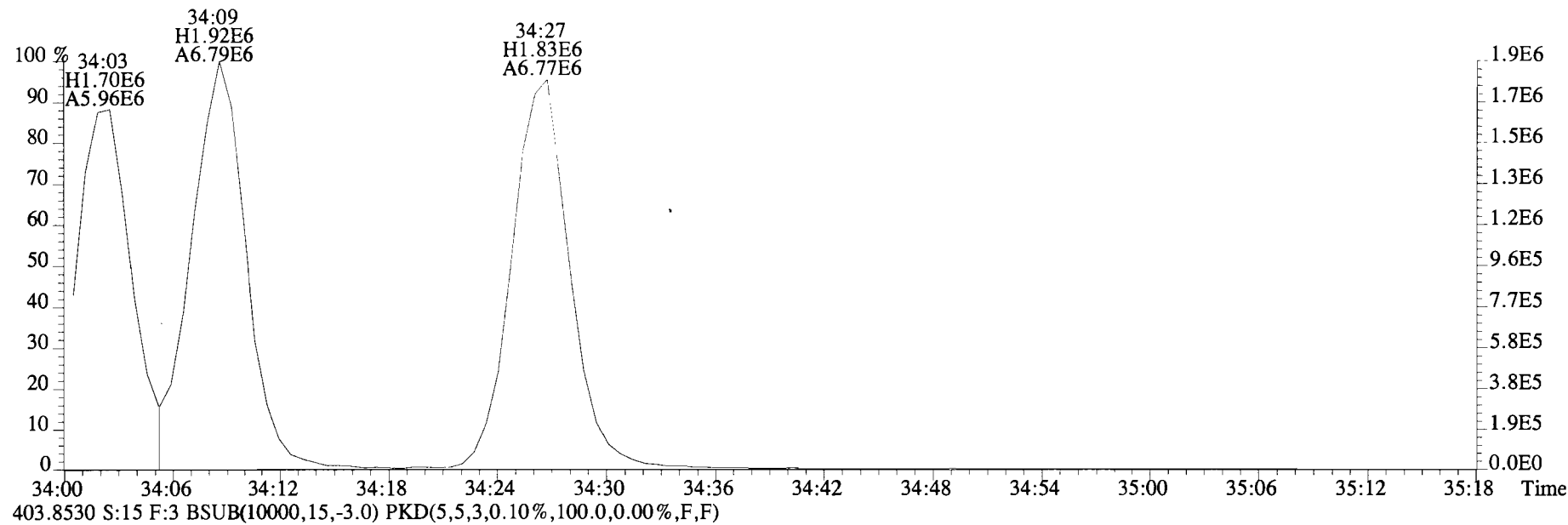
28:58
H1.84E3
A6.13E3

File:191111D1 #1-385 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
389.8156 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

392.9760 S:15 F:3

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

403.8530 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
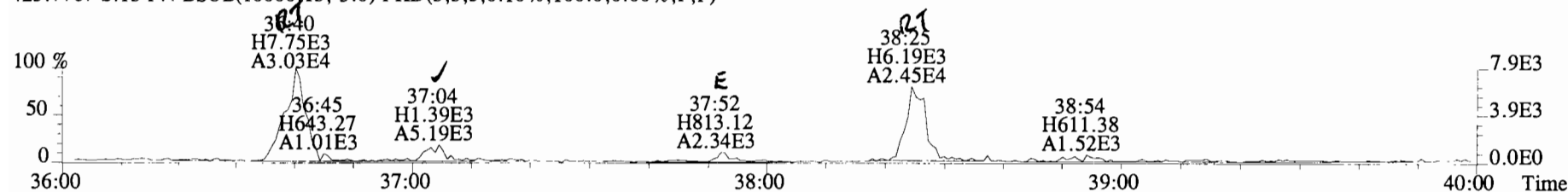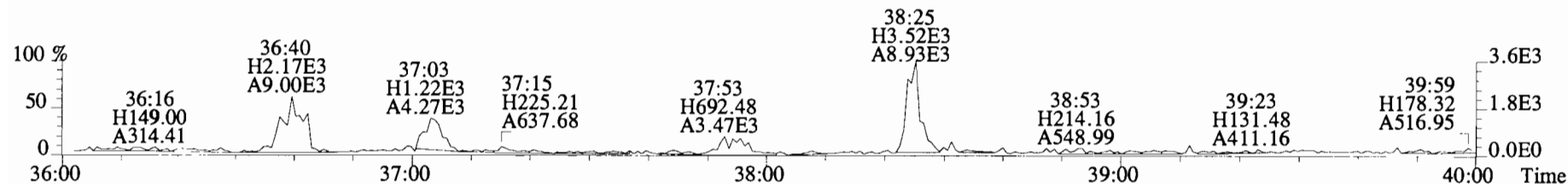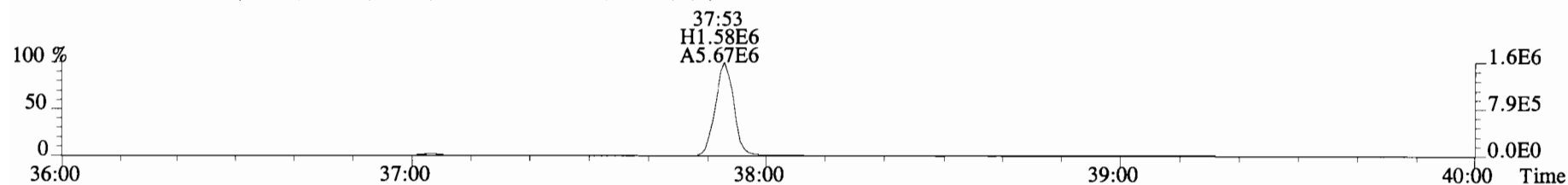
File:191111D1 #1-355 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
423.7767 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
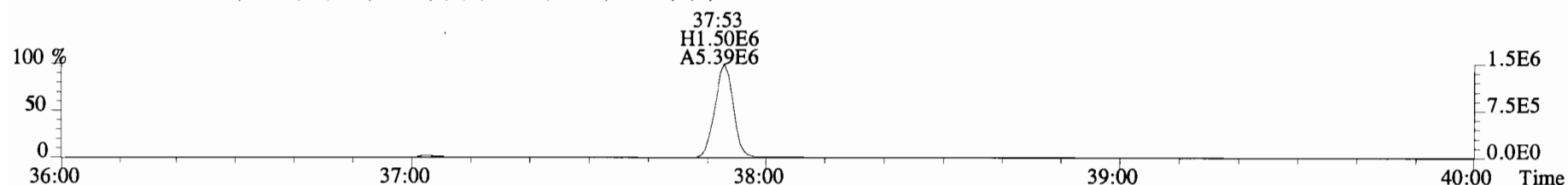
RT

36:40
H7.75E3
A3.03E4

✓

RT

38:25
H6.19E3
A2.45E4

E

37:04
H1.39E3
A5.19E3

37:52
H813.12
A2.34E3

38:54
H611.38
A1.52E3

36:45
H643.27
A1.01E3

100 %
50
0

7.9E3
3.9E3
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

38:25
H3.52E3
A8.93E3

36:40
H2.17E3
A9.00E3

37:03
H1.22E3
A4.27E3

37:15
H225.21
A637.68

37:53
H692.48
A3.47E3

39:59
H178.32
A516.95

36:16
H149.00
A314.41

38:53
H214.16
A548.99

39:23
H131.48
A411.16

100 %
50
0

3.6E3
1.8E3
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

37:53
H1.58E6
A5.67E6

100 %
50
0

1.6E6
7.9E5
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

37:53
H1.50E6
A5.39E6

100 %
50
0

1.5E6
7.5E5
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

454.9728 S:15 F:4

37:31

36:11   36:34 36:46 36:58   37:23   37:48   38:27   38:50   39:06 39:19 39:30   39:41

100 %
50
0

6.7E5
3.4E5
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

File:191111D1 #1-355 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
423.7767 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

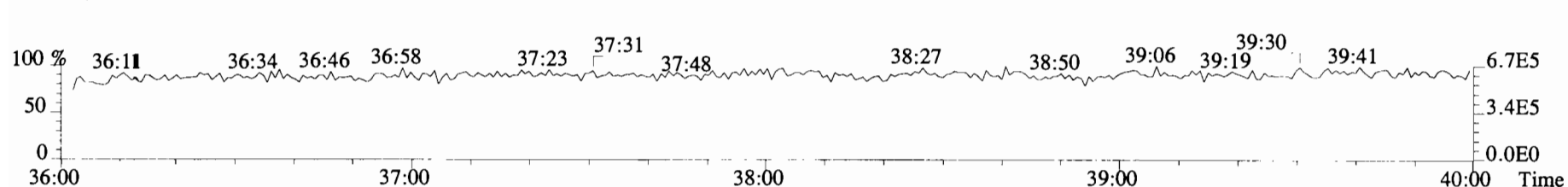425.7737 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

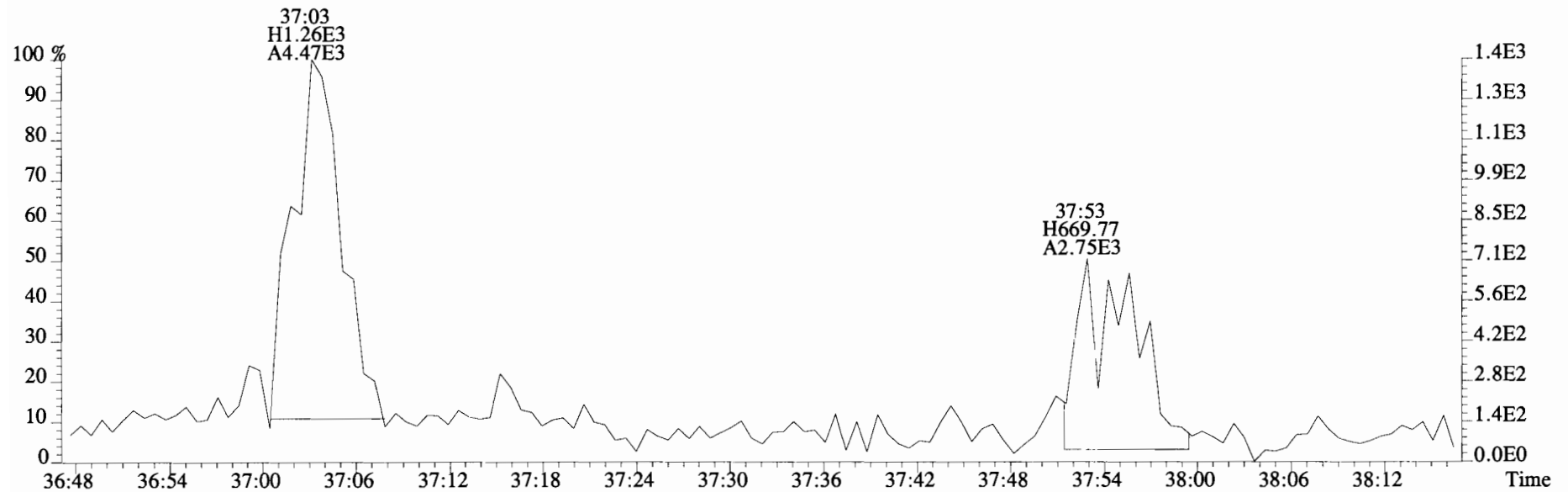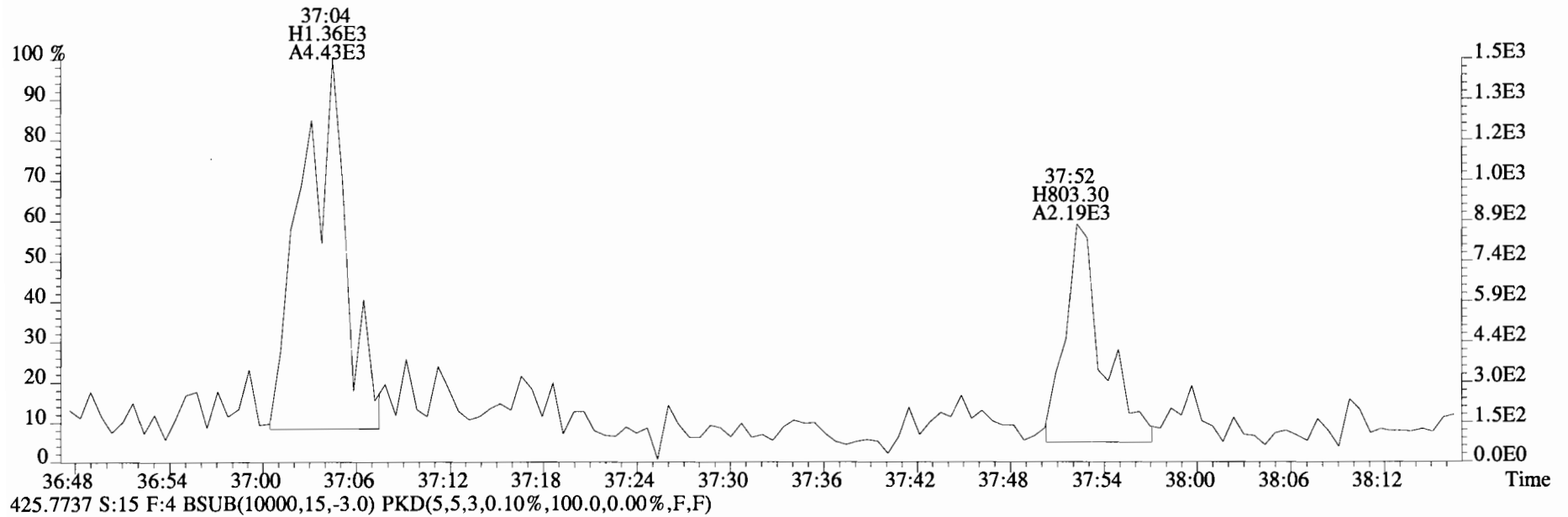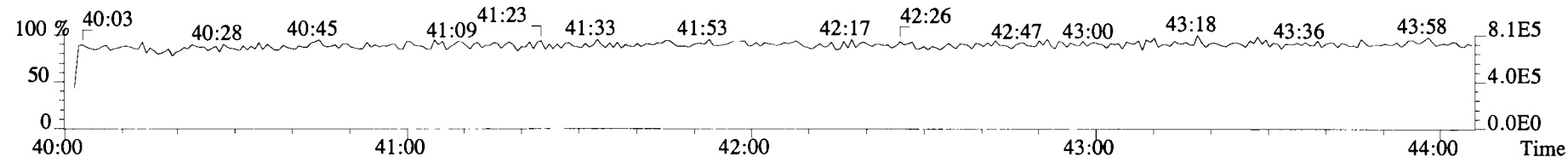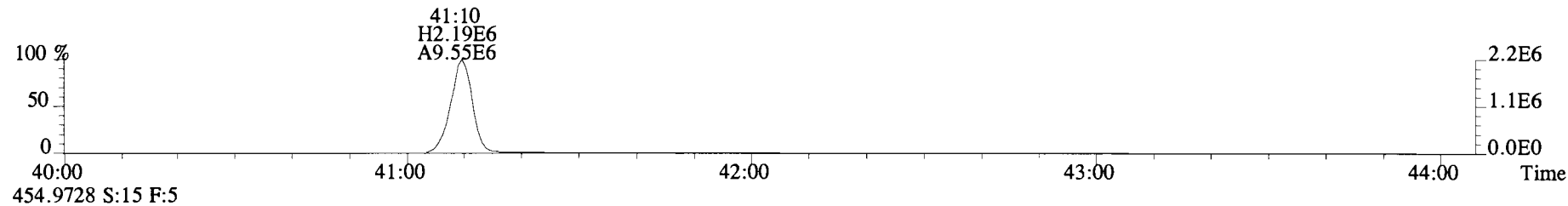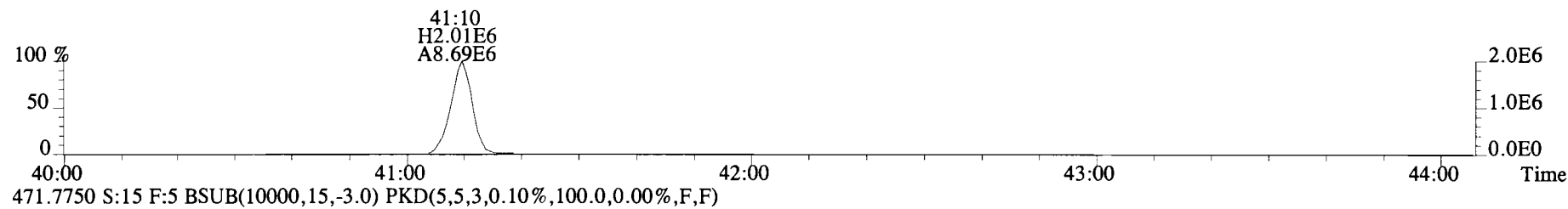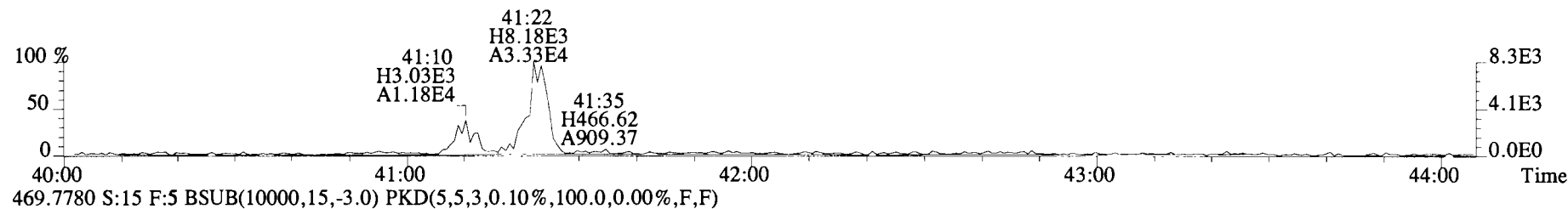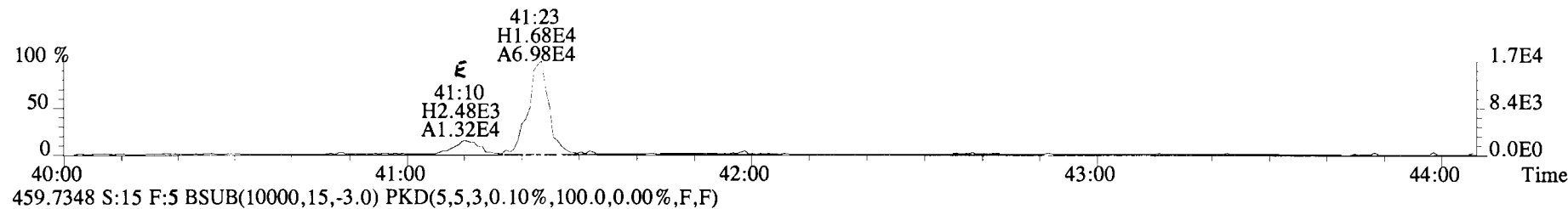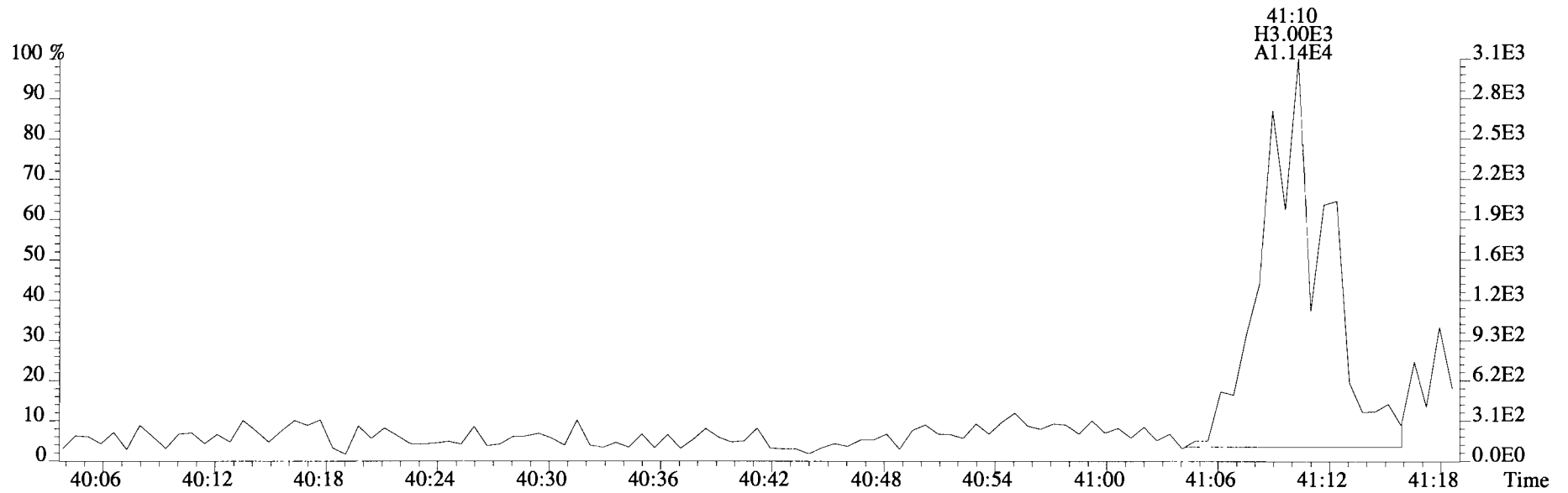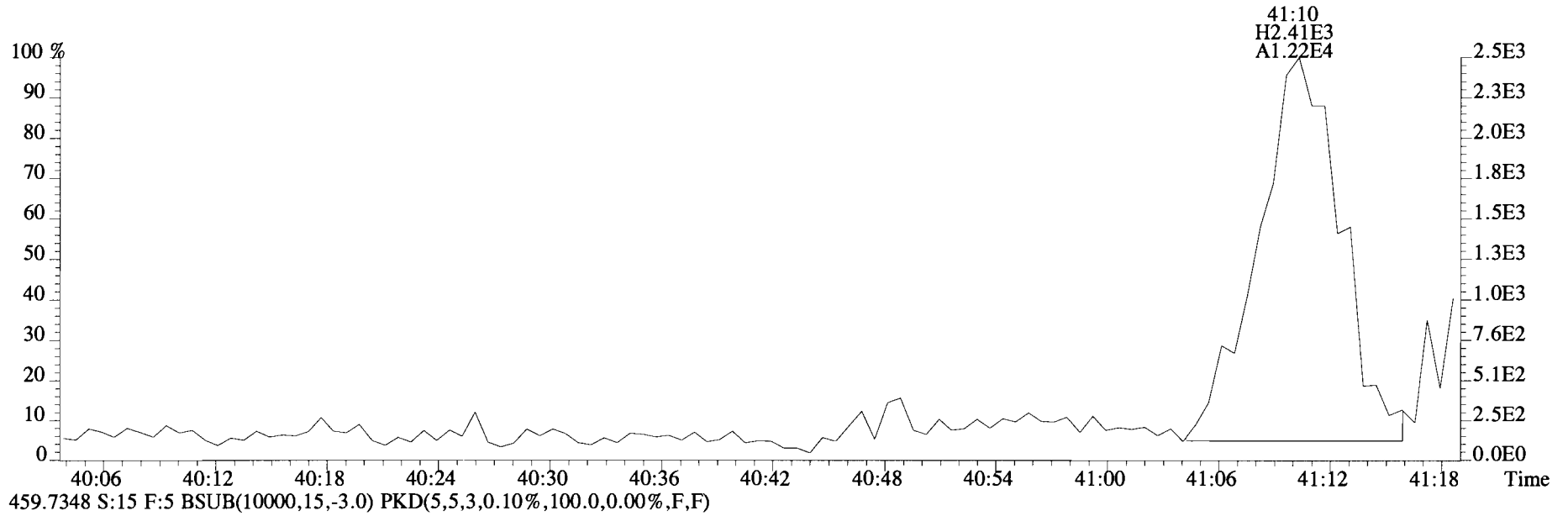File:191111D1 #1-432 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
457.7377 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
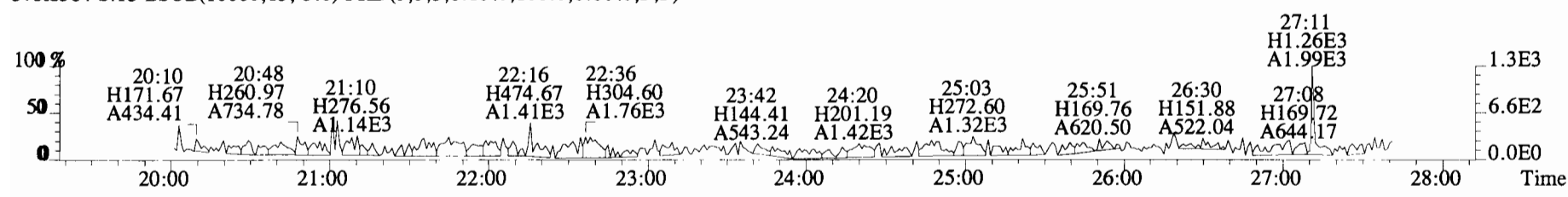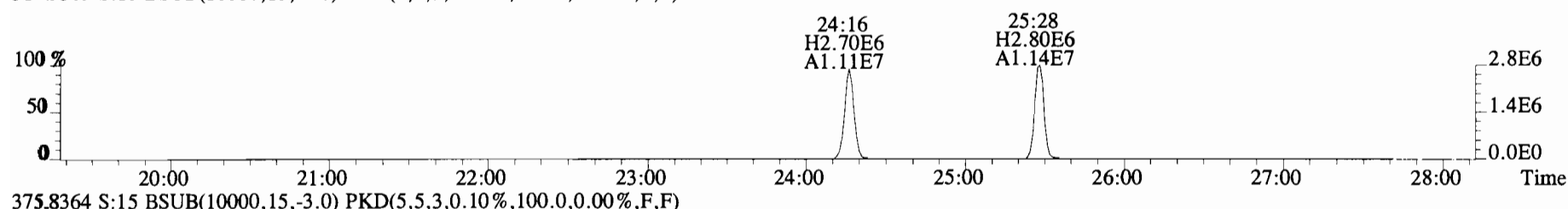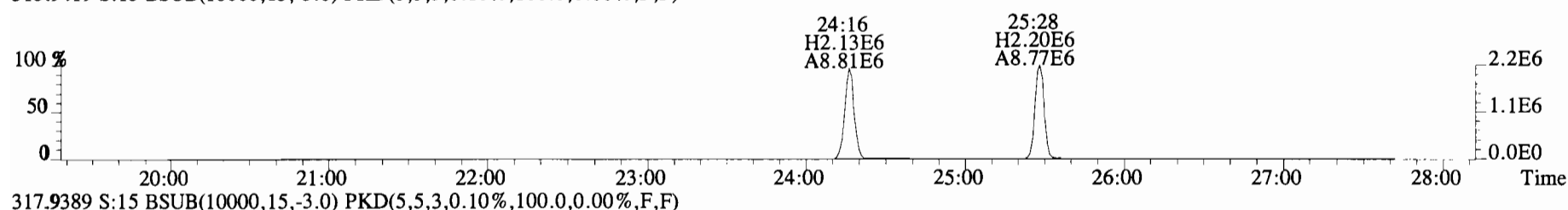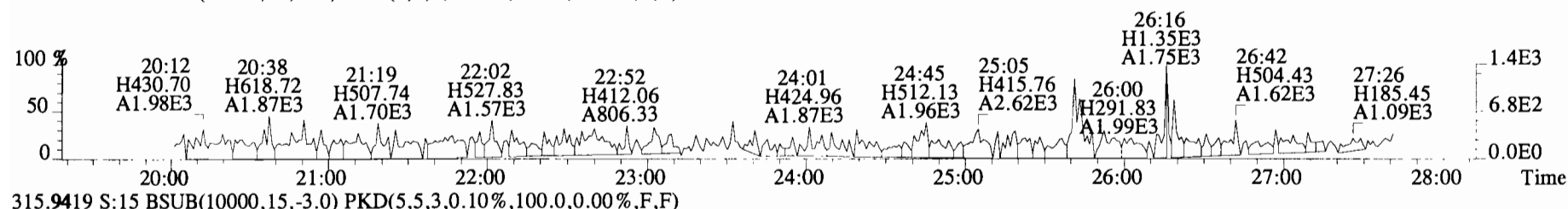
41:23
H1.68E4
A6.98E4

ε

41:10
H2.48E3
A1.32E4

100 %
50
0
40:00   41:00   42:00   43:00   44:00   Time

1.7E4
8.4E3
0.0E0

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

41:22
H8.18E3
A3.33E4

41:10
H3.03E3
A1.18E4

41:35
H466.62
A909.37

100 %
50
0
40:00   41:00   42:00   43:00   44:00   Time

8.3E3
4.1E3
0.0E0

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

41:10
H2.01E6
A8.69E6

100 %
50
0
40:00   41:00   42:00   43:00   44:00   Time

2.0E6
1.0E6
0.0E0

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

41:10
H2.19E6
A9.55E6

100 %
50
0
40:00   41:00   42:00   43:00   44:00   Time

2.2E6
1.1E6
0.0E0

454.9728 S:15 F:5

40:03   40:28   40:45   41:09 41:23   41:33   41:53   42:17 42:26   42:47 43:00   43:18   43:36   43:58

100 %
50
0
40:00   41:00   42:00   43:00   44:00   Time

8.1E5
4.0E5
0.0E0

457.7377 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

25:43
H772.56
A4.41E3

20:16   20:40   21:08   23:37   23:57   24:44   26:15   27:29
H276.75   H476.93   H368.65   22:39   H432.18 H596.15   H593.23   H423.16   H341.00
A796.49   A1.38E3   A1.64E3   H360.06   A1.42E3 A1.53E3   A2.70E3   A2.21E3   A1.49E3
                                                             A1.22E3

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

26:16
H1.35E3
A1.75E3

20:12   20:38   22:02   24:01   24:45   25:05   26:00   26:42   27:26
H430.70   H618.72   21:19   H527.83   22:52   H424.96   H512.13 H415.76   H291.83   H504.43   H185.45
A1.98E3   A1.87E3   H507.74   A1.57E3   H412.06   A1.87E3   A1.96E3 A2.62E3   A1.99E3   A1.62E3   A1.09E3
                              A1.70E3   A806.33

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

24:16   25:28
H2.13E6   H2.20E6
A8.81E6   A8.77E6

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

24:16   25:28
H2.70E6   H2.80E6
A1.11E7   A1.14E7

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

27:11
H1.26E3
A1.99E3

20:10   20:48   22:16   22:36   25:03   25:51   26:30   27:08
H171.67   H260.97   21:10   H474.67 H304.60   23:42   24:20   H272.60   H169.76   H151.88   H169.72
A434.41   A734.78   H276.56   A1.41E3 A1.76E3   H144.41   H201.19   A1.32E3   A620.50   A522.04   A644.17
                         A1.14E3   A543.24   A1.42E3
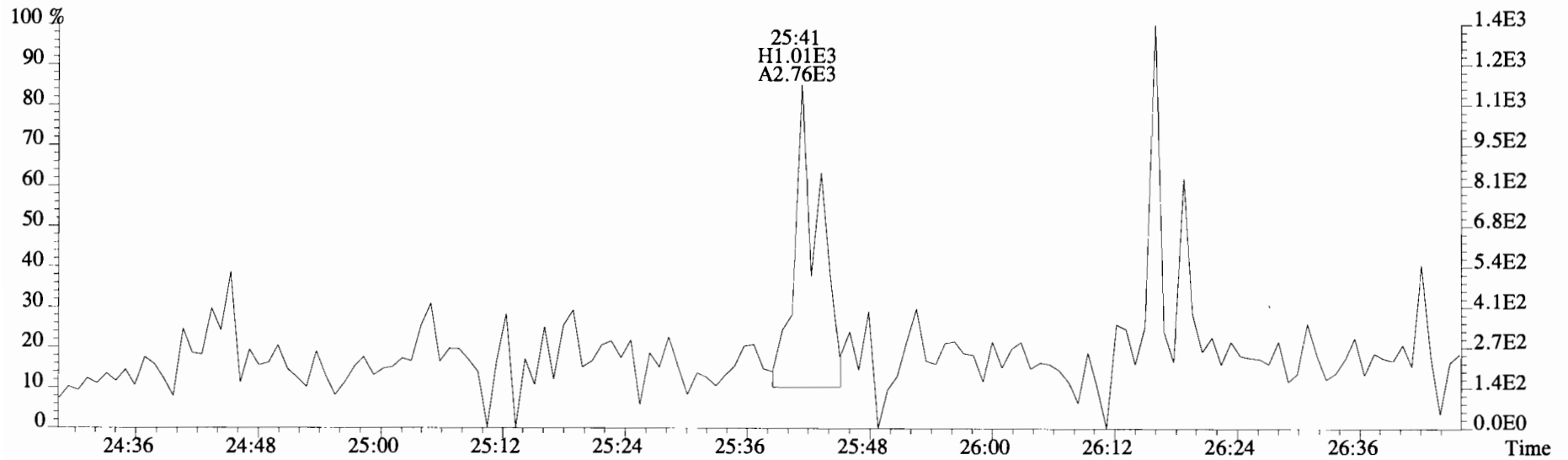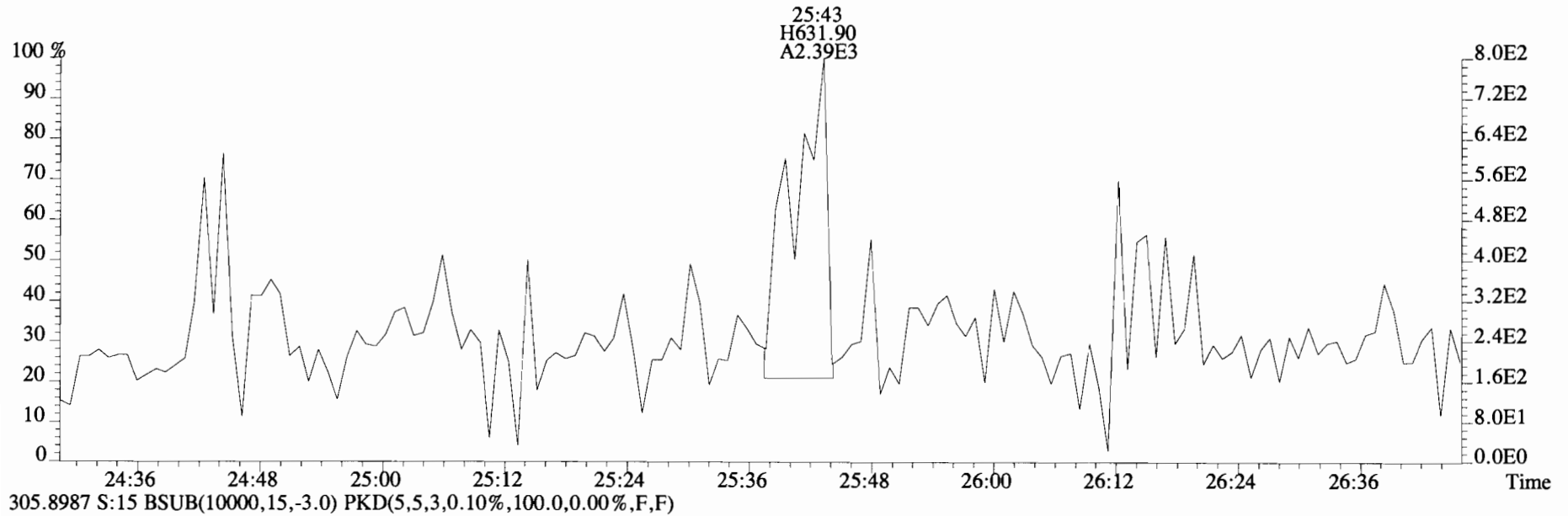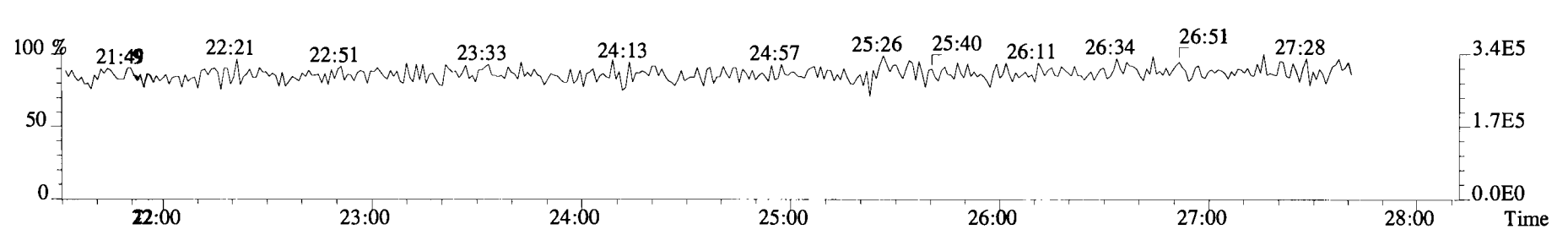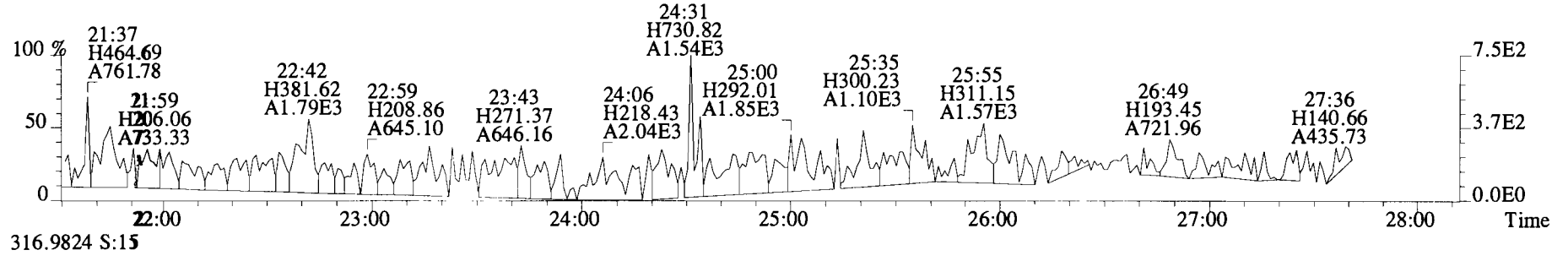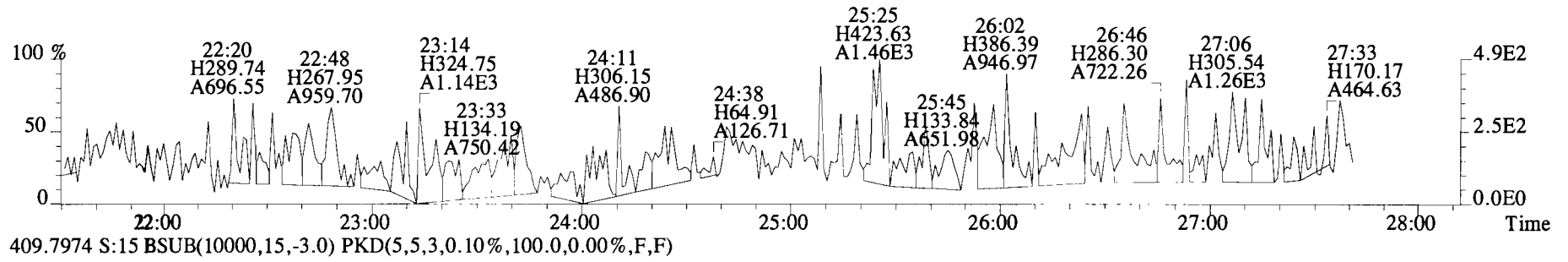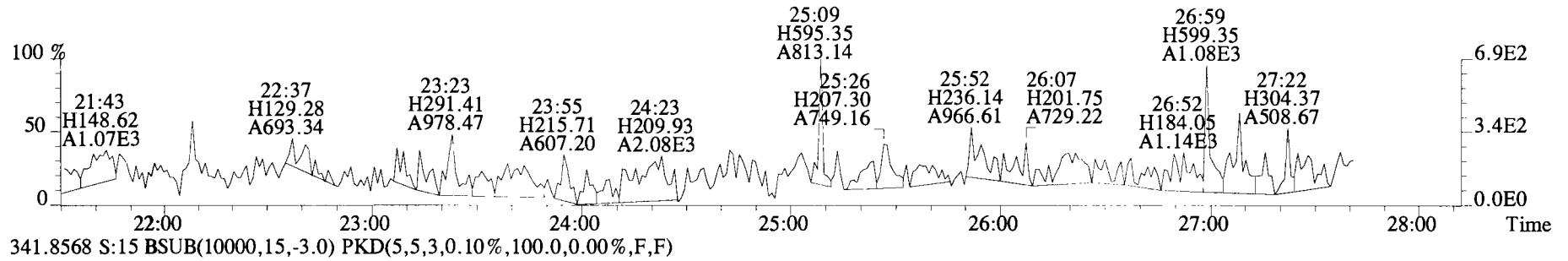
File:191111D1 #1-493 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
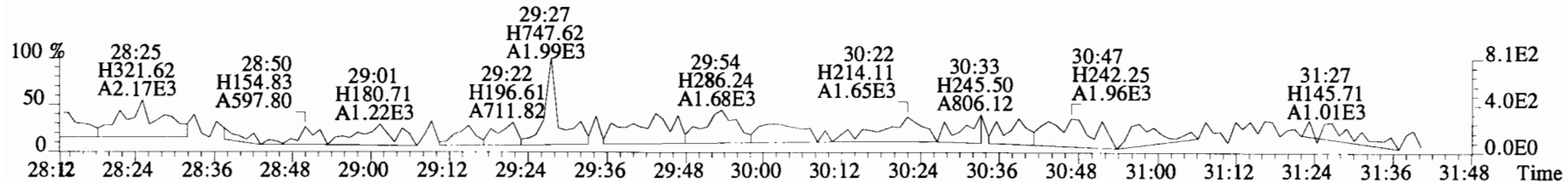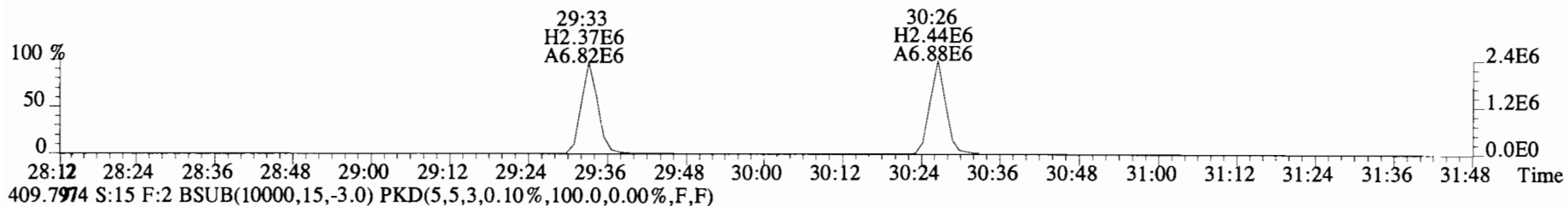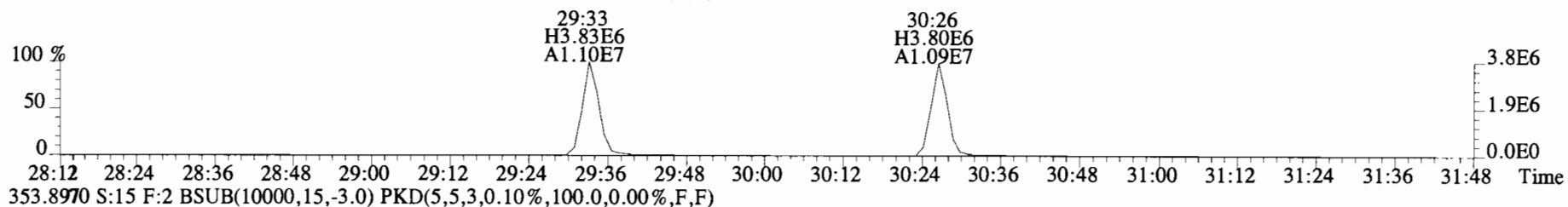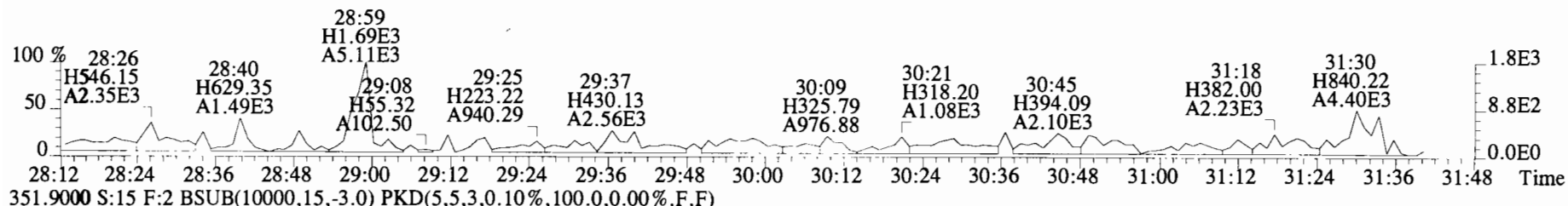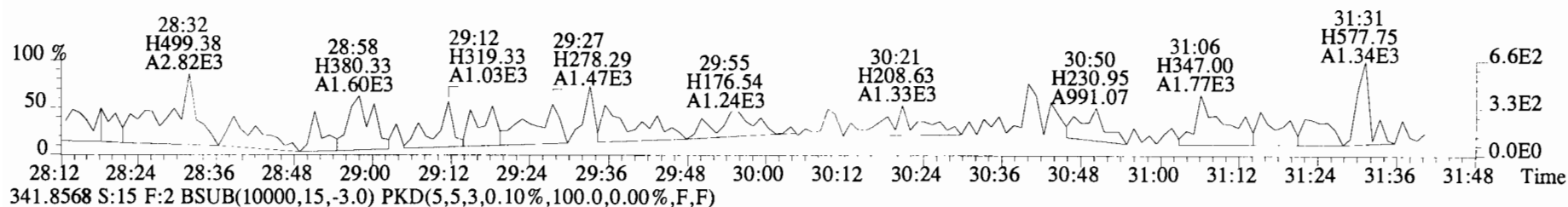303.9016 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

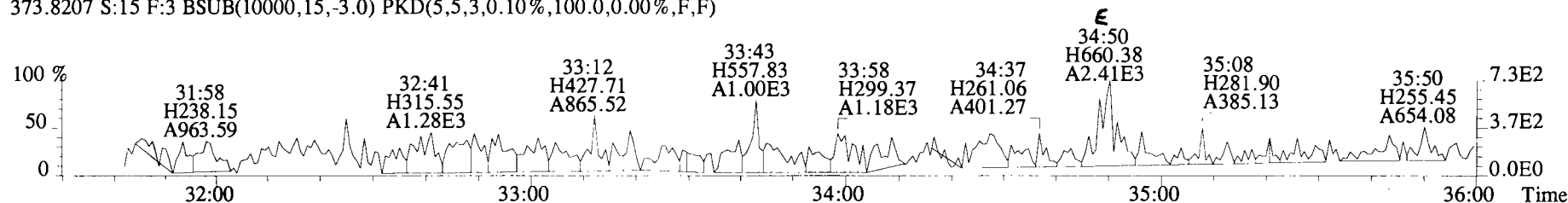305.8987 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-493 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
339.8597 S:15 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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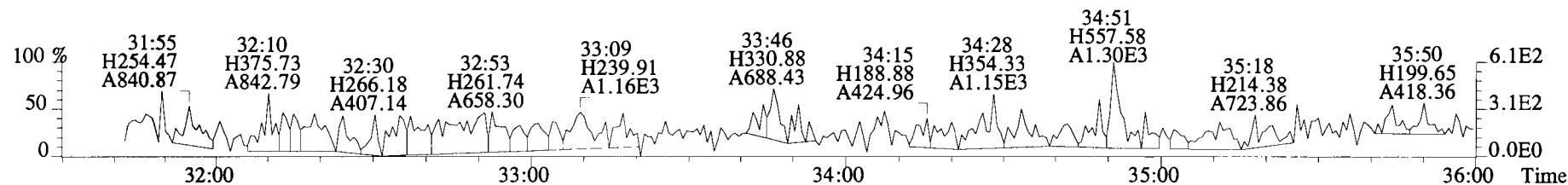

316.9824 S:15

File:191111D1 #1-210 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
339.8597 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
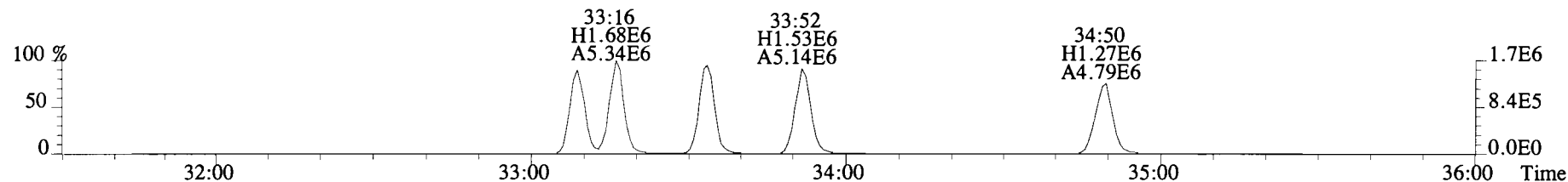

341.8568 S:15 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

File:191111D1 #1-385 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
373.8207 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
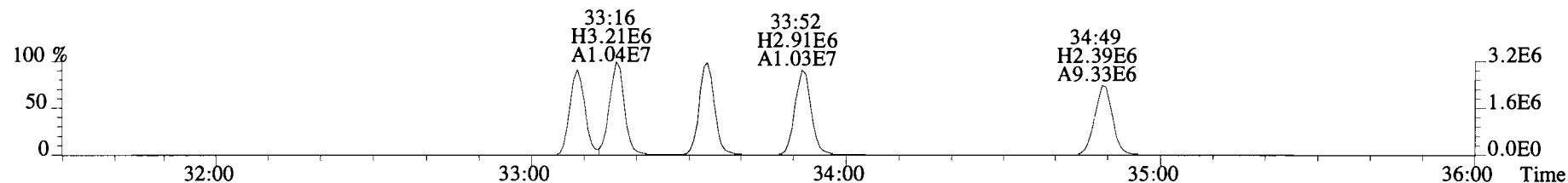

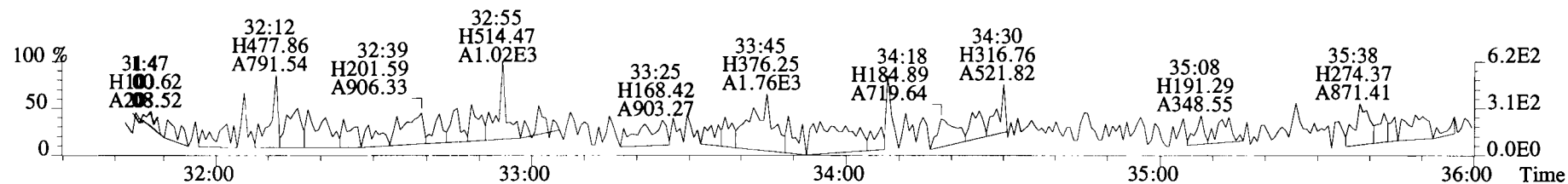375.8178 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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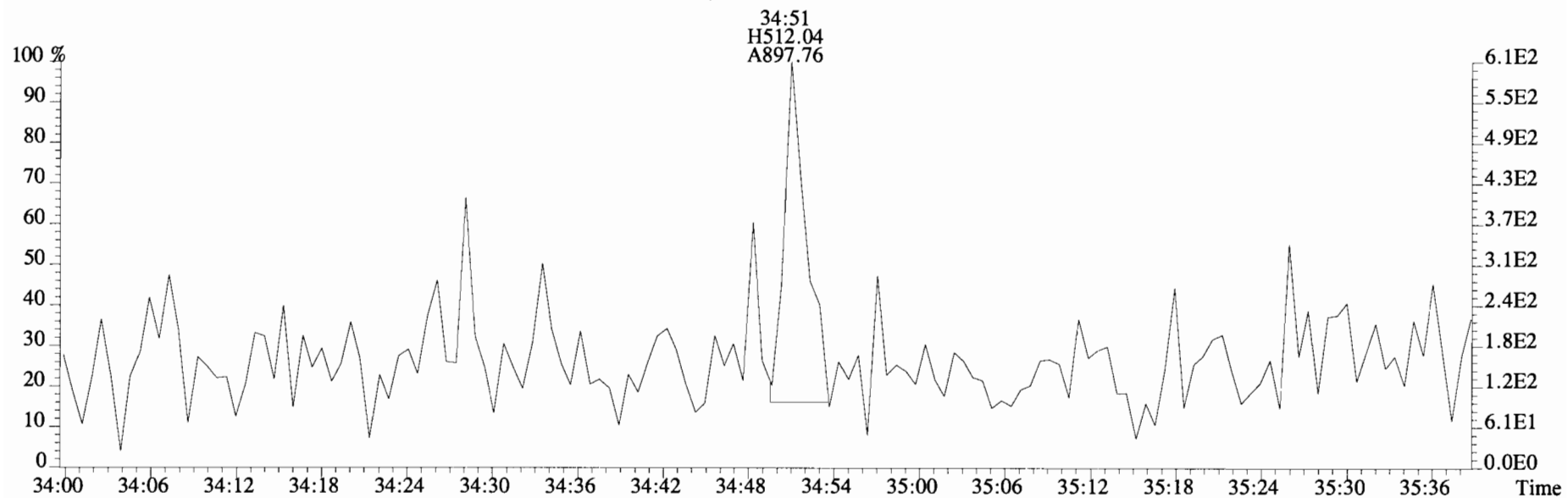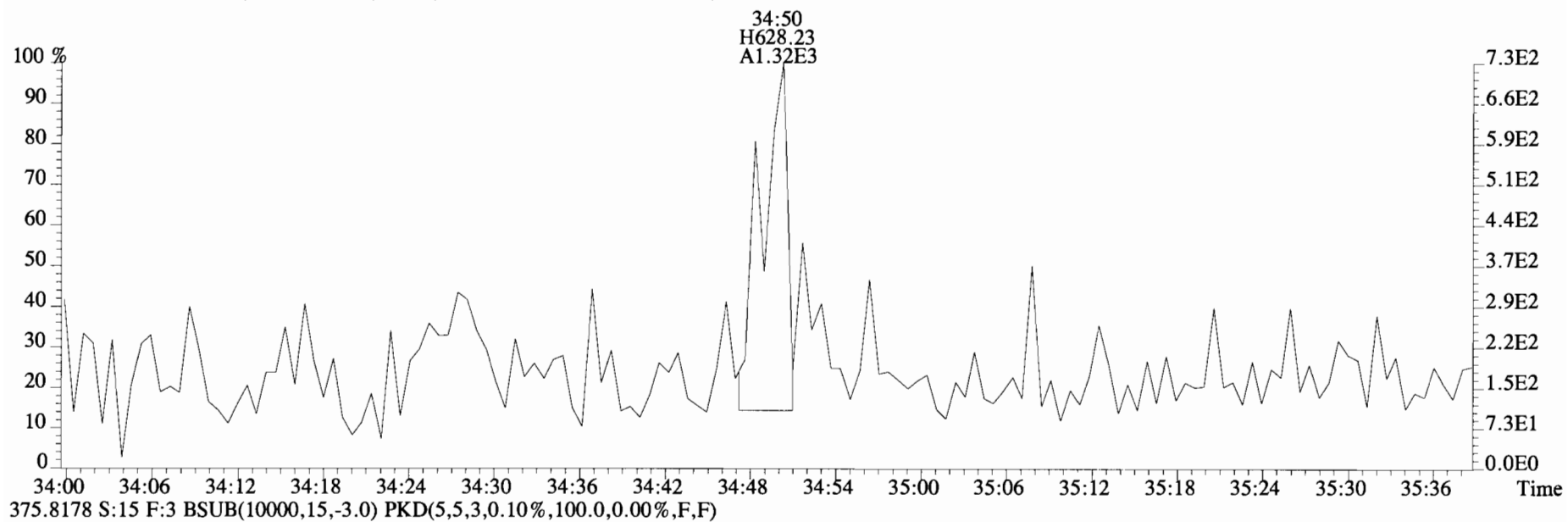

385.8610 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

373.8207 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

34:50
H628.23
A1.32E3

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

34:51
H512.04
A897.76

Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
383.8639 S:15 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

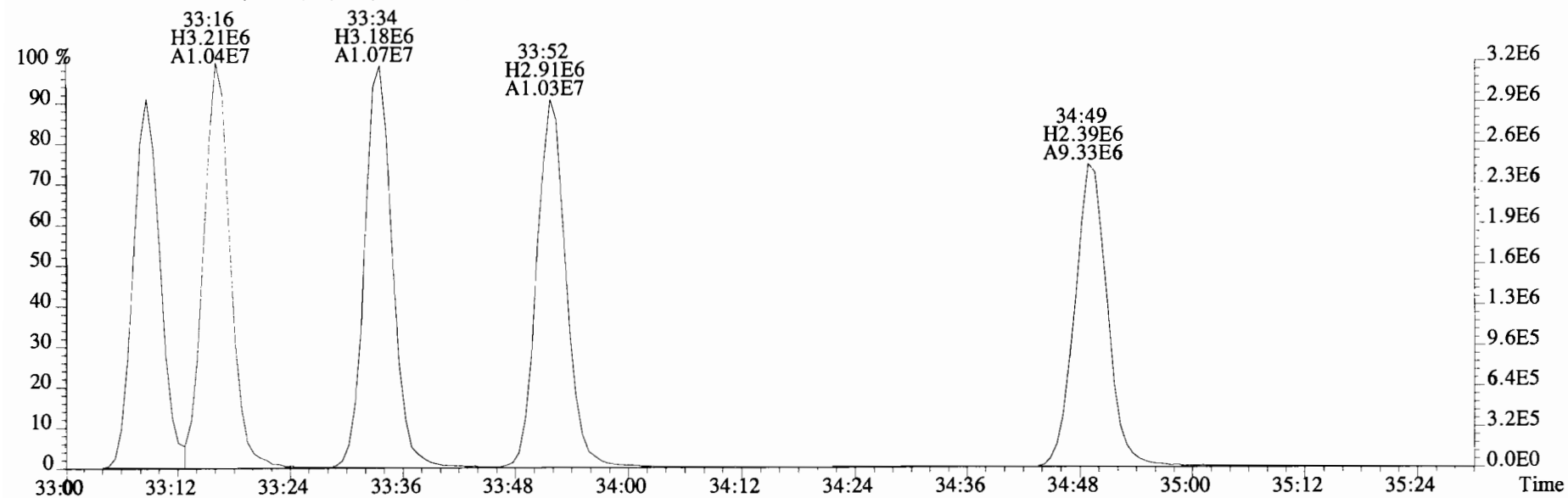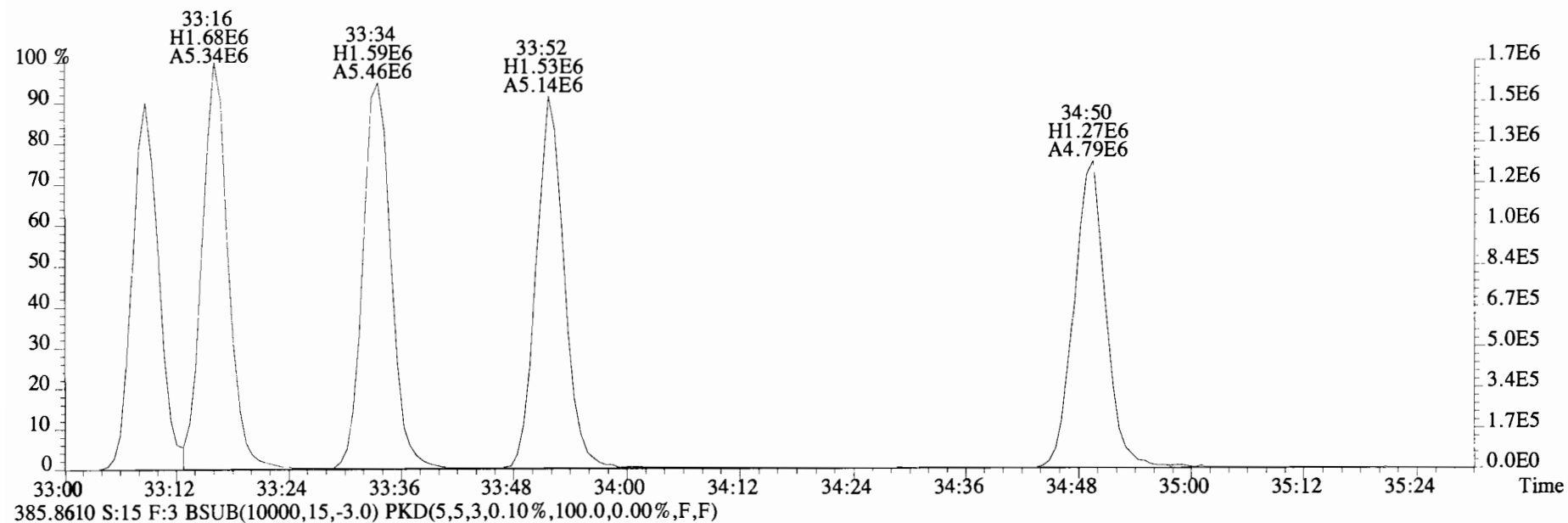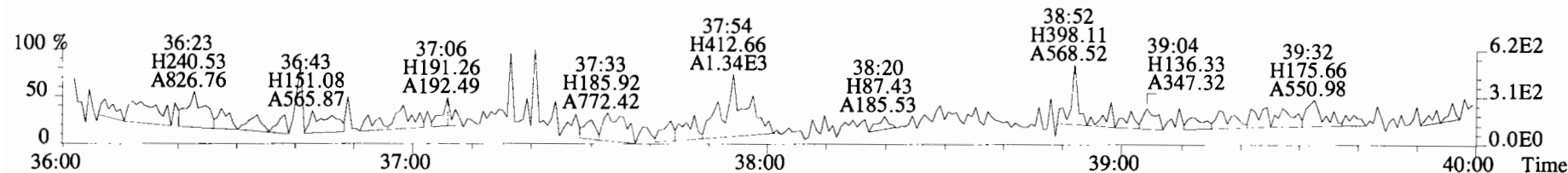File:191111D1 #1-355 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
407.7818 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

479.7165 S:15 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
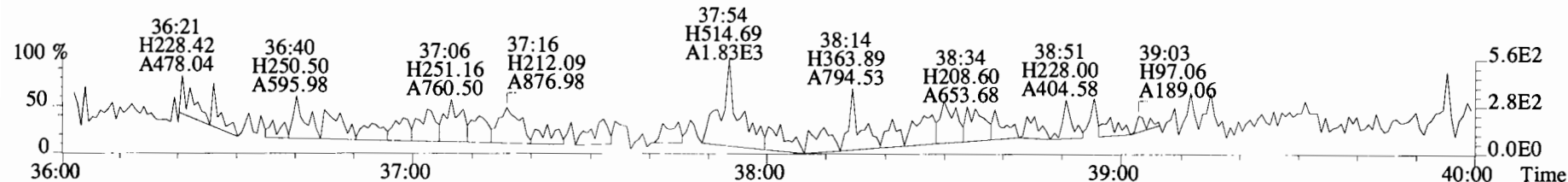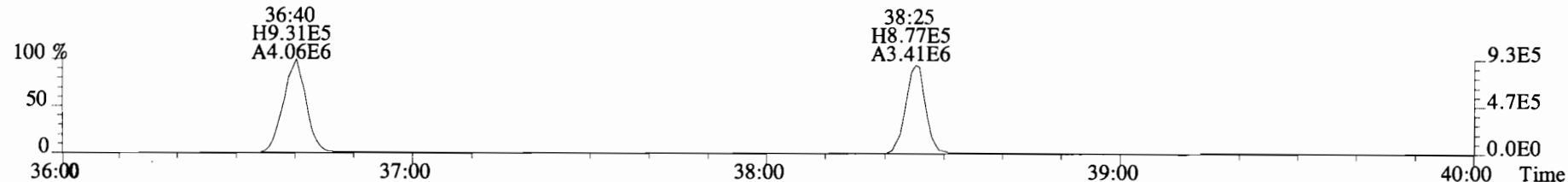
File:191111D1 #1-432 Acq:11-NOV-2019 21:29:52 GC EI+ Voltage SIR Autospec-UltimaE
Sample#15 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-07 PDI-043SC-A-10-11-191008 11.93 Exp:OCDD_DB5
441.7428 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

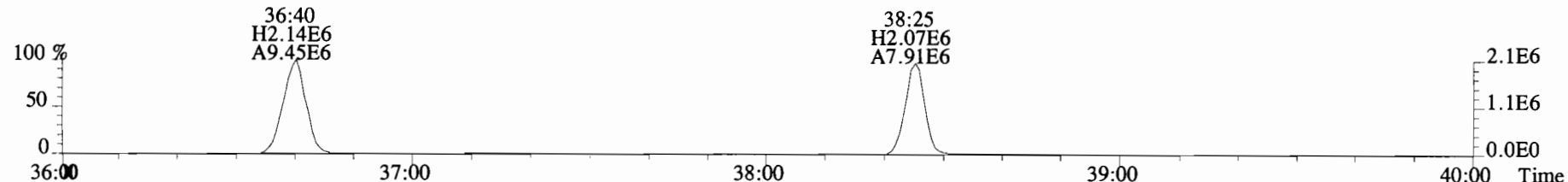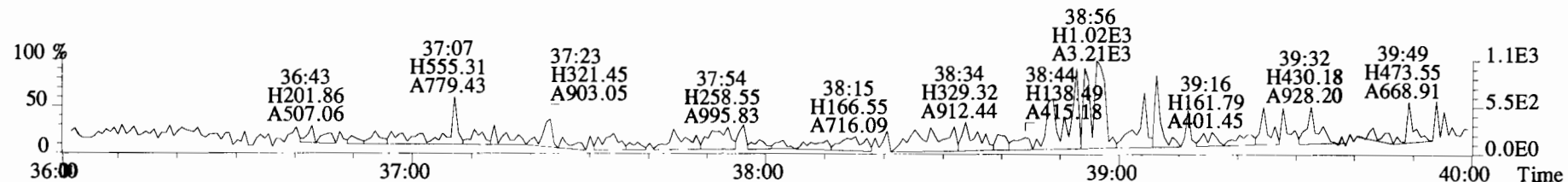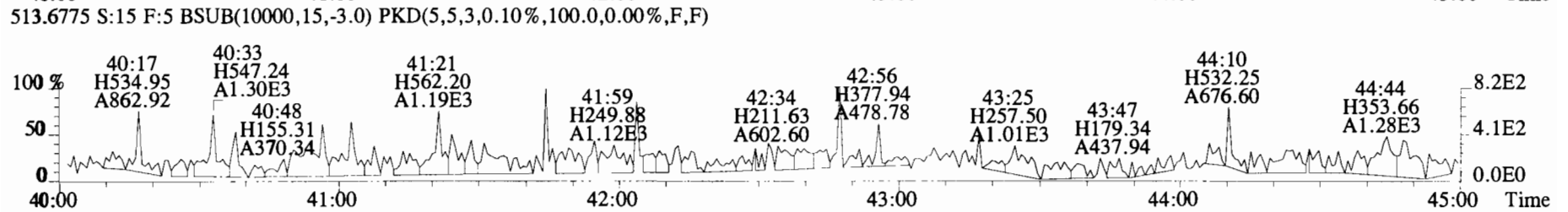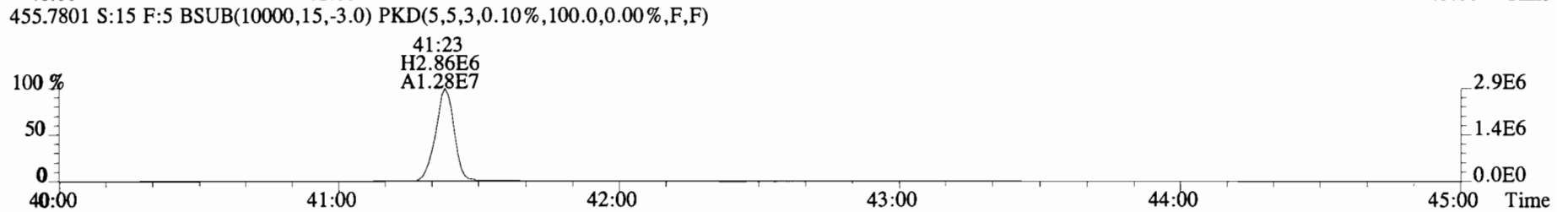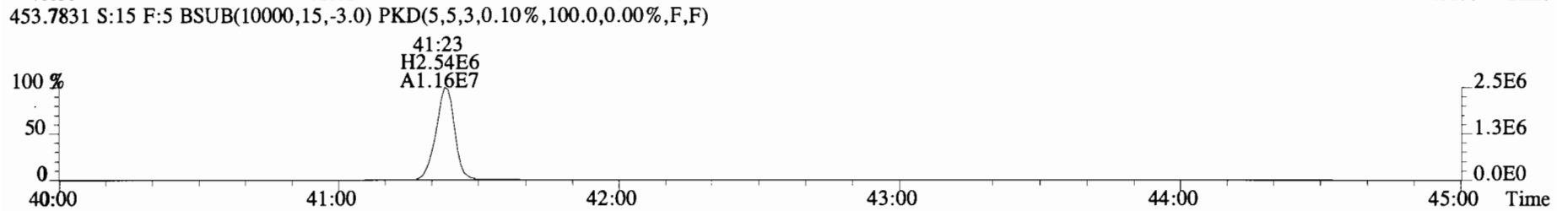455.7801 S:15 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

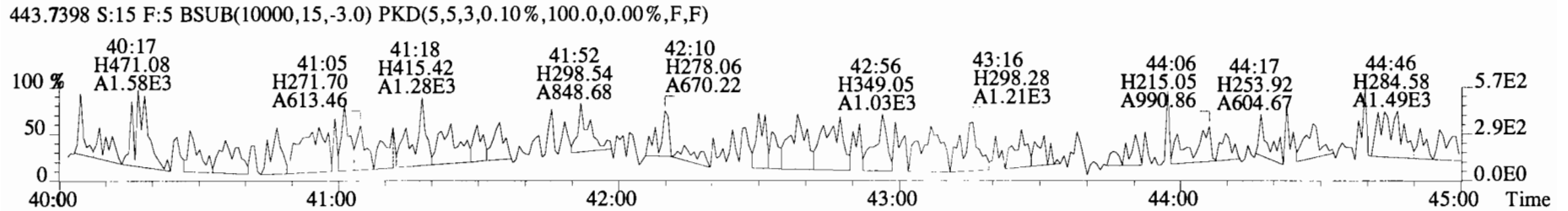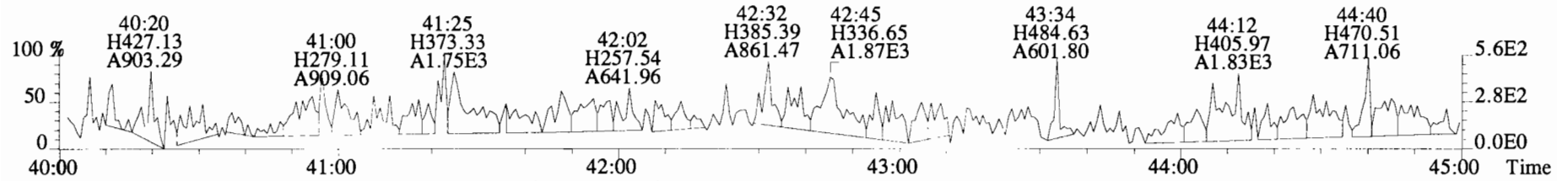|	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	*	*	n	0.91	NotF┐	*		177	2.5	0.0390	Total Tetra-Dioxins	*	*		177	0.0390
	1,2,3,7,8-PeCDD	*	*	n	0.90	NotF┐	*		242	2.5	0.0574	Total Penta-Dioxins	*	*		242	0.0574
	1,2,3,4,7,8-HxCDD	*	*	n	1.10	NotF┐	*		123	2.5	0.0472	Total Hexa-Dioxins	*	*		123	0.0493
	1,2,3,6,7,8-HxCDD	*	*	n	0.94	NotF┐	*		123	2.5	0.0500	Total Hepta-Dioxins	*	0.129		*	*
	1,2,3,7,8,9-HxCDD	*	*	n	0.96	NotF┐	*		123	2.5	0.0499	Total Tetra-Furans	0.0710	0.0710		*	*
	1,2,3,4,6,7,8-HpCDD	*	*	n	0.98	NotF┐	*		132	2.5	0.0530	Total Penta-Furans	0.0000	0.039905		*	*
	OCDD	3.36e+04	0.87	y	0.96	41:10	0.88921		*	2.5	*	Total Hexa-Furans	*	*		160	0.0271
												Total Hepta-Furans	*	*		126	0.0298
	2,3,7,8-TCDF	*	*	n	0.95	NotF┐	*		237	2.5	0.0381						
	1,2,3,7,8-PeCDF	*	*	n	0.96	NotF┐	*		217	2.5	0.0482						
	2,3,4,7,8-PeCDF	*	*	n	1.01	NotF┐	*		217	2.5	0.0442						
	1,2,3,4,7,8-HxCDF	*	*	n	1.18	NotF┐	*		160	2.5	0.0240						
	1,2,3,6,7,8-HxCDF	*	*	n	1.07	NotF┐	*		160	2.5	0.0240						
	2,3,4,6,7,8-HxCDF	*	*	n	1.11	NotF┐	*		160	2.5	0.0277						
	1,2,3,7,8,9-HxCDF	*	*	n	1.06	NotF┐	*		160	2.5	0.0337						
	1,2,3,4,6,7,8-HpCDF	*	*	n	1.13	NotF┐	*		126	2.5	0.0315						
	1,2,3,4,7,8,9-HpCDF	*	*	n	1.28	NotF┐	*		126	2.5	0.0278						
	OCDF	1.03e+04	1.00	y	0.95	41:25	0.20492		*	2.5	*						

	Name	Resp	RA		RRF	RT	Conc		Rec	Qual
IS	13C-2,3,7,8-TCDD	1.53e+07	0.80	y	1.10	26:14	192.04		96.9	
IS	13C-1,2,3,7,8-PeCDD	1.13e+07	0.64	y	0.88	30:43	176.88		89.3	
IS	13C-1,2,3,4,7,8-HxCDD	9.93e+06	1.28	y	0.64	34:02	176.88		89.3	
IS	13C-1,2,3,6,7,8-HxCDD	1.09e+07	1.28	y	0.86	34:08	145.25		73.3	
IS	13C-1,2,3,7,8,9-HxCDD	1.11e+07	1.24	y	0.81	34:26	156.89		79.2	
IS	13C-1,2,3,4,6,7,8-HpCDD	9.50e+06	1.06	y	0.65	37:53	166.20		83.9	
IS	13C-OCDD	1.56e+07	0.90	y	0.58	41:09	308.55		77.9	
IS	13C-2,3,7,8-TCDF	2.30e+07	0.80	y	1.03	25:28	176.89		89.3	
IS	13C-1,2,3,7,8-PeCDF	1.94e+07	1.62	y	0.85	29:33	181.29		91.5	
IS	13C-2,3,4,7,8-PeCDF	1.85e+07	1.59	y	0.85	30:27	173.69		87.7	
IS	13C-1,2,3,4,7,8-HxCDF	1.44e+07	0.52	y	0.83	33:08	197.75		99.8	
IS	13C-1,2,3,6,7,8-HxCDF	1.61e+07	0.52	y	1.03	33:16	177.56		89.6	
IS	13C-2,3,4,6,7,8-HxCDF	1.47e+07	0.53	y	0.95	33:52	176.12		88.9	
IS	13C-1,2,3,7,8,9-HxCDF	1.33e+07	0.52	y	0.83	34:49	183.62		92.7	
IS	13C-1,2,3,4,6,7,8-HpCDF	1.20e+07	0.45	y	0.76	36:39	180.82		91.3	
IS	13C-1,2,3,4,7,8,9-HpCDF	9.97e+06	0.44	y	0.58	38:25	196.23		99.1	
IS	13C-OCDF	2.10e+07	0.91	y	0.69	41:23	348.17		87.9	
C/Up	37Cl-2,3,7,8-TCDD	6.39e+06			1.20	26:15	73.465		92.7	
RS/RT	13C-1,2,3,4-TCDD	1.44e+07	0.80	y	1.00	25:41	198.08			
RS	13C-1,2,3,4-TCDF	2.48e+07	0.83	y	1.00	24:16	198.08			
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.73e+07	0.52	y	1.00	33:33	198.08			

Integrations   Reviewed
by   by
Analyst: _DB_____   Analyst: _CT_____

Date: _11/12/19_   Date: _11/14/19_

Totals class: HpCDD EMPC   Entry #: 25

          Run: 8   File: 191111D2   S: 7 I: 1 F: 4
     Acquired: 12-NOV-19 03:18:57   Processed: 12-NOV-19 09:34:10

Total Concentration: 0.12893   Unnamed Concentration: 0.129

   RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

37:02   4.055e+03   2.970e+03 1.37 n 6.058e+03   0.12893

Totals class: TCDF EMPC   Entry #: 27

       Run: 8   File: 191111D2   S: 7 I: 1 F: 1
   Acquired: 12-NOV-19 03:18:57   Processed: 12-NOV-19 09:34:10

Total Concentration: 0.071049   Unnamed Concentration: 0.071

RT	m1 Resp	m2 Resp	RA		Resp	Concentration	Name
25:42	3.450e+03	4.376e+03	0.79	y	7.826e+03	0.071049	

Totals class: PeCDF EMPC   Entry #: 31

          Run: 8   File: 191111D2   S: 7 I: 1 F: 2
     Acquired: 12-NOV-19 03:18:57   Processed: 12-NOV-19 09:34:10

Total Concentration: 0.039905   Unnamed Concentration: 0.040

  RT   m1 Resp   m2 Resp RA   Resp Concentration   Name

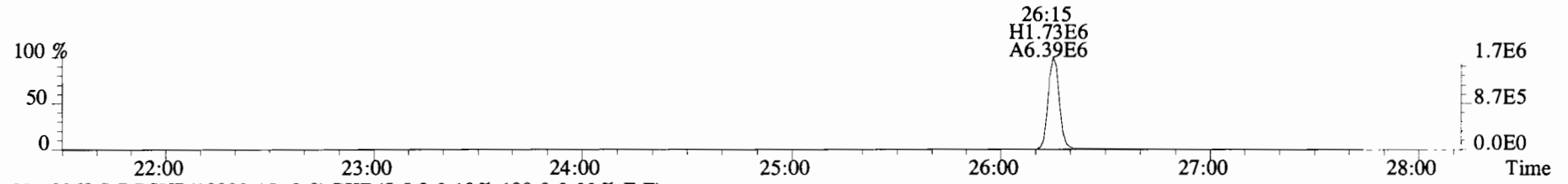28:58 2.290e+03   4.364e+03 0.52 n 3.768e+03   0.039905

File:191111D2 #1-492 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
319.8965 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
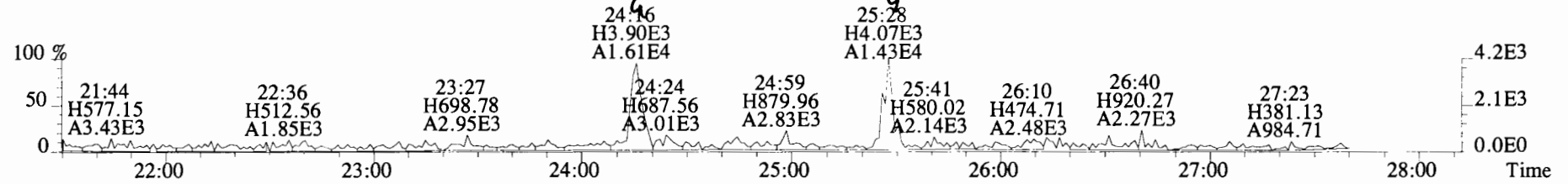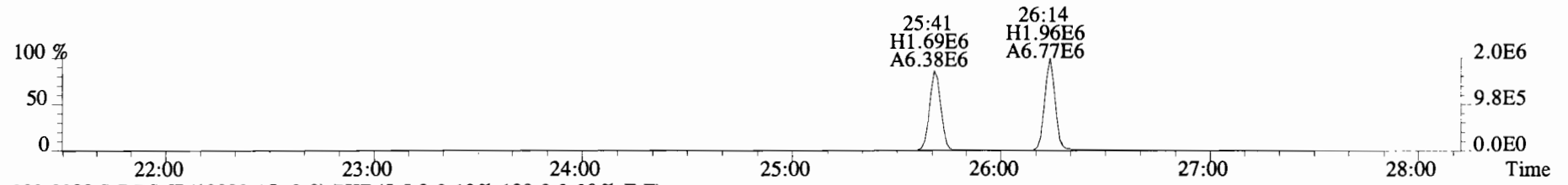

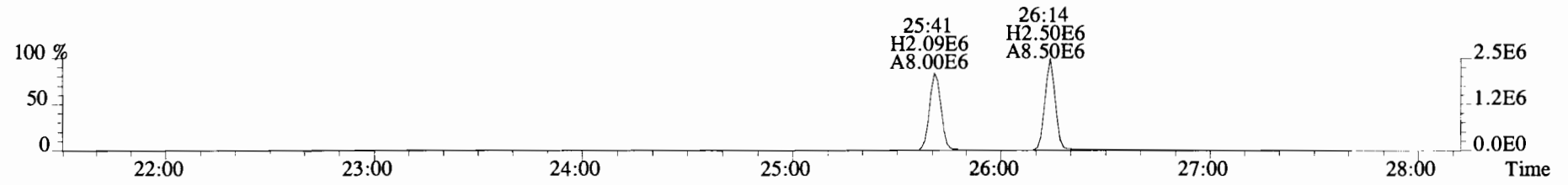321.8936 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
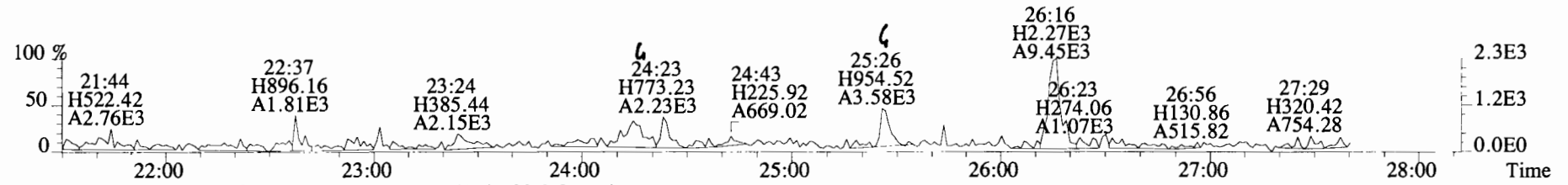
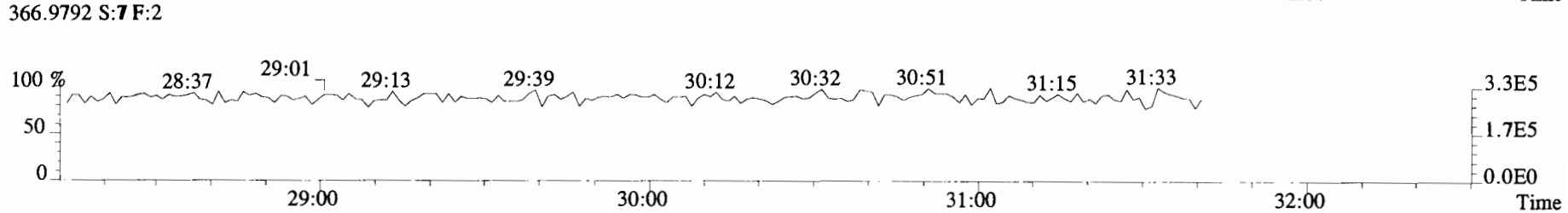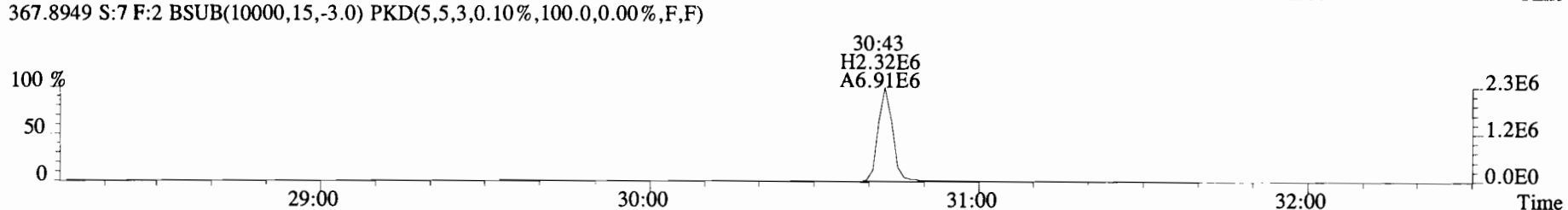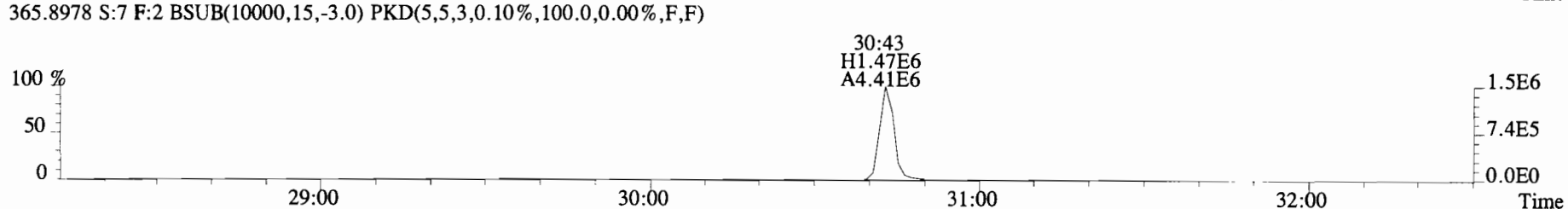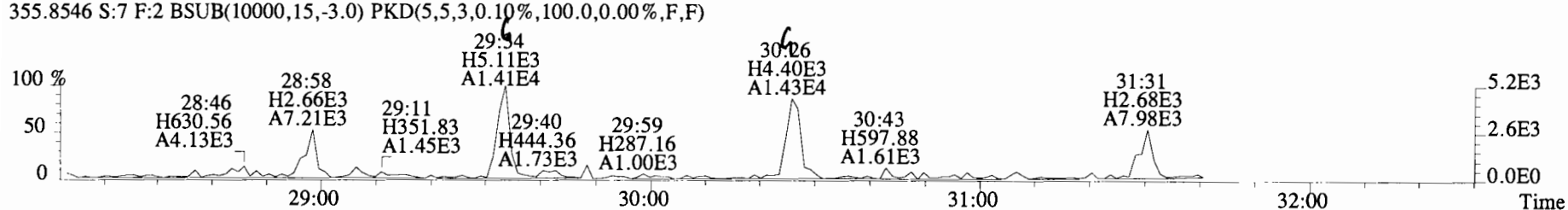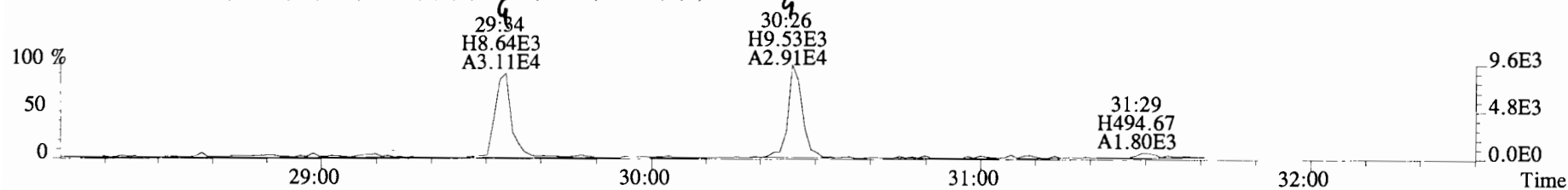327.8847 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
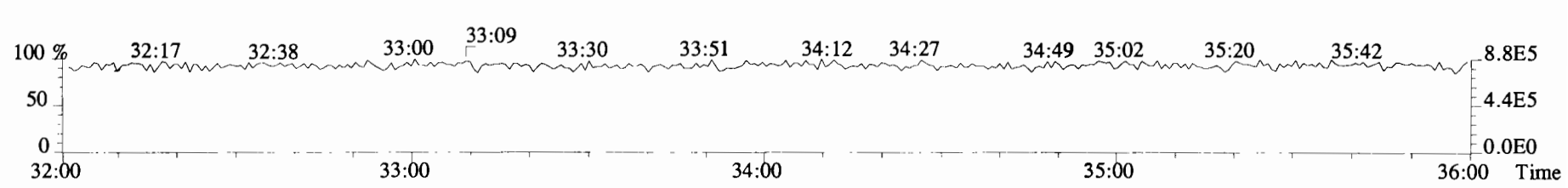

331.9368 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

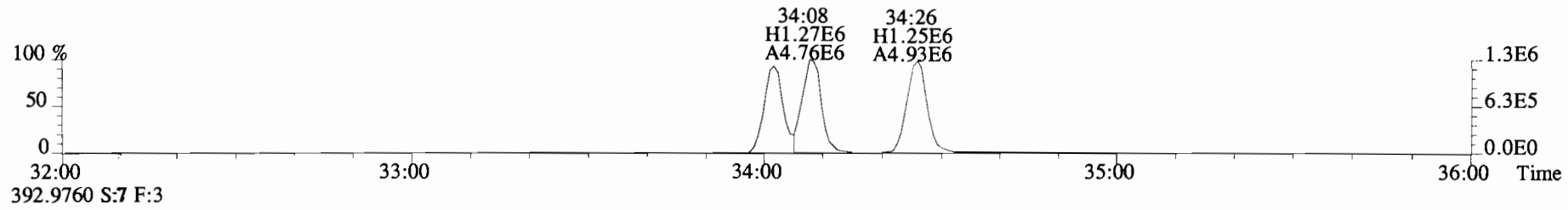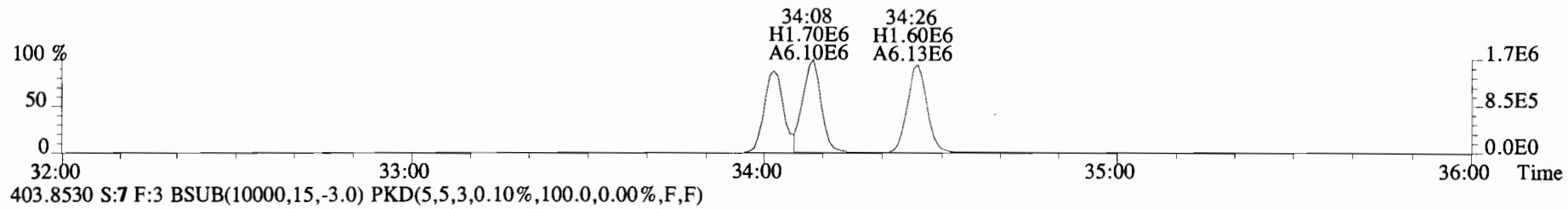

333.9339 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8576 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

29:34
H8.64E3
A3.11E4

30:26
H9.53E3
A2.91E4

31:29
H494.67
A1.80E3

355.8546 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

29:34
H5.11E3
A1.41E4

28:58
H2.66E3
A7.21E3

28:46
H630.56
A4.13E3

29:11
H351.83
A1.45E3

29:40
H444.36
A1.73E3

29:59
H287.16
A1.00E3

30:26
H4.40E3
A1.43E4

30:43
H597.88
A1.61E3

31:31
H2.68E3
A7.98E3

365.8978 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

30:43
H1.47E6
A4.41E6

367.8949 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

30:43
H2.32E6
A6.91E6

366.9792 S:7 F:2

28:37 29:01 29:13 29:39 30:12 30:32 30:51 31:15 31:33

File:191111D2 #1-384 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
389.8156 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

391.8127 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

392.9760 S:7 F:3

File:191111D2 #1-384 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
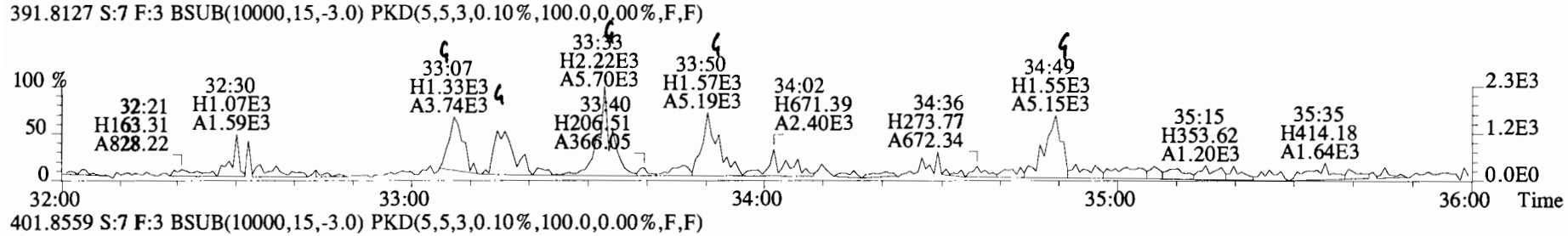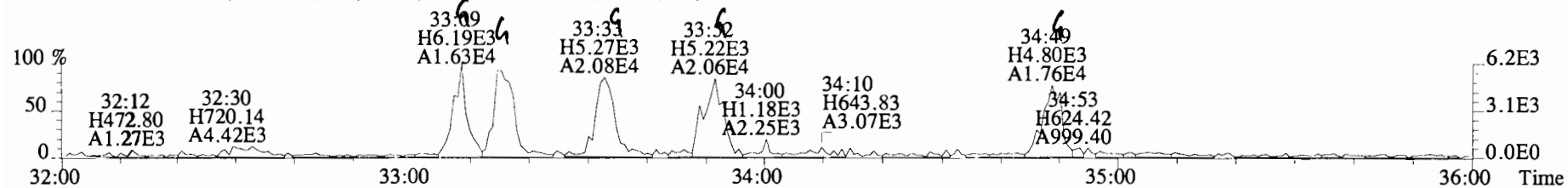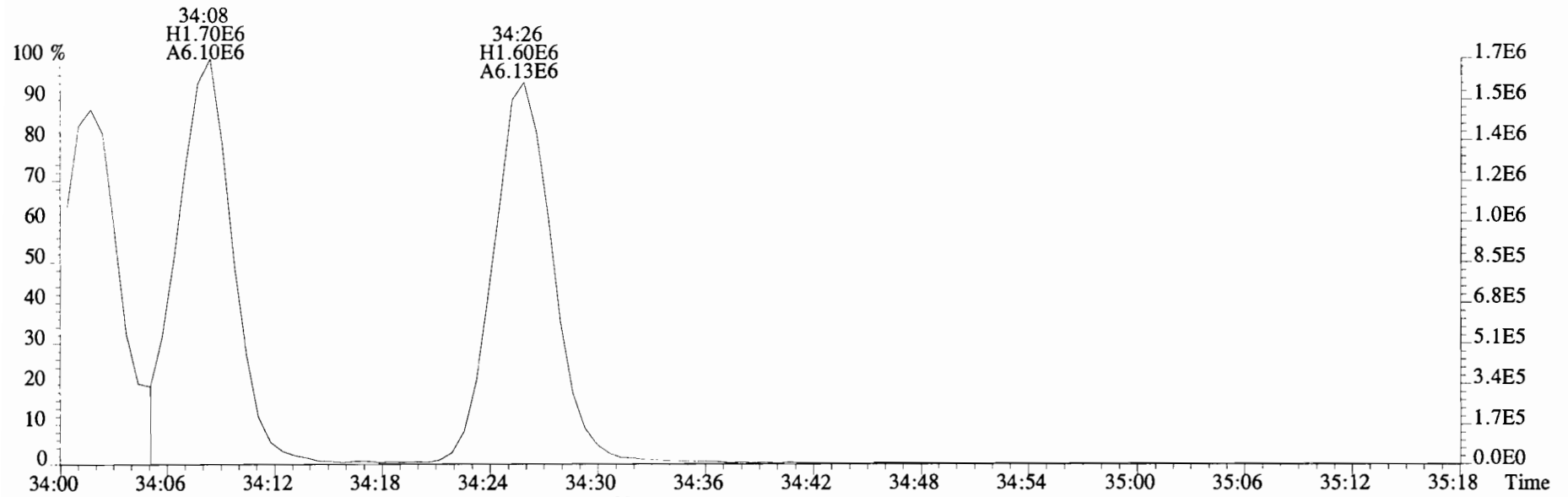401.8559 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

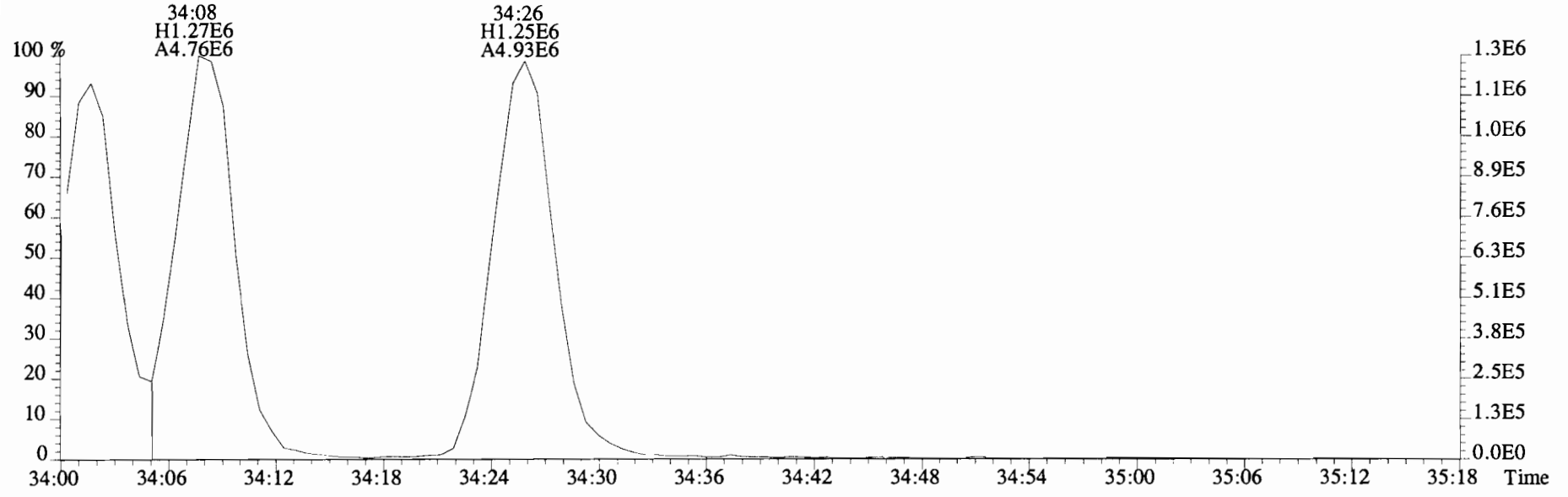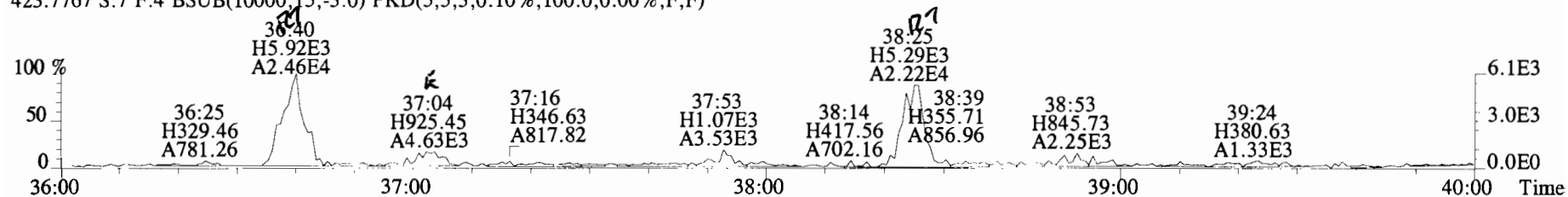403.8530 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D2 #1-356 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

425.7737 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
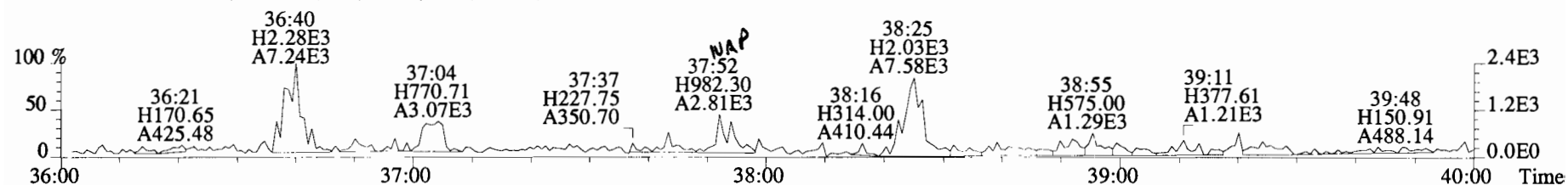
435.8169 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
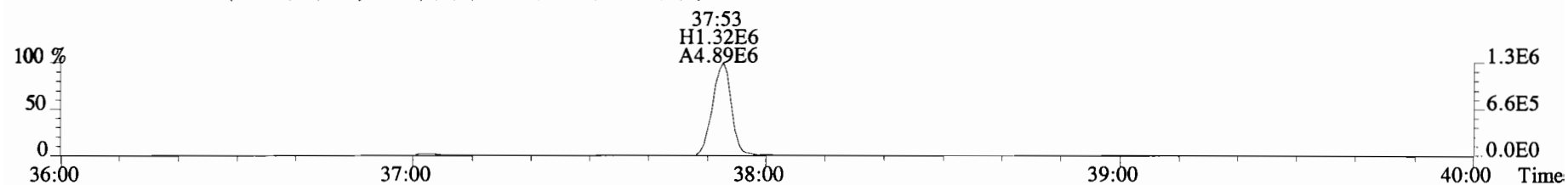
437.8140 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

454.9728 S:7 F:4

423.7767 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

425.7737 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:23
H1.83E4
A6.84E4

41:11
H3.45E3
A1.56E4

459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:11
H5.48E3
A1.86E4

41:23
H7.94E3
A3.05E4

41:44
H663.49
A986.09

42:34
H485.37
A1.05E3

42:48
H566.42
A767.19

43:05
H476.97
A1.01E3

469.7780 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:09
H1.69E6
A7.43E6

471.7750 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:09
H1.89E6
A8.21E6

454.9728 S:7 F:5

40:14 40:33 40:45 41:00 41:18 41:27 41:50 42:04 42:29 42:50 43:04 43:20 43:45 44:01

File:191111D2 #1-431 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
457.7377 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
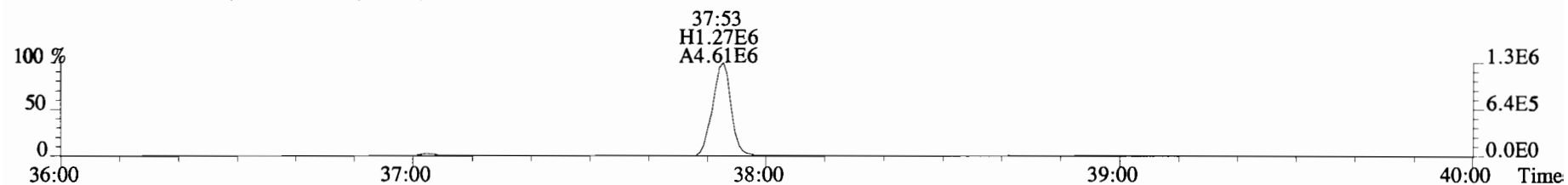
41:11
H3.45E3
A1.56E4

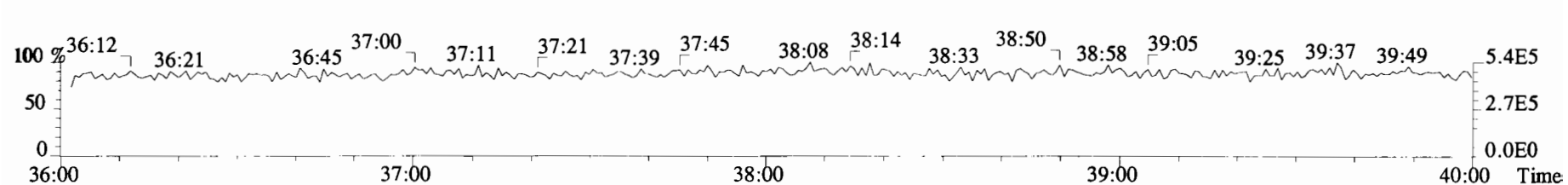459.7348 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:11
H5.43E3
A1.80E4

303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

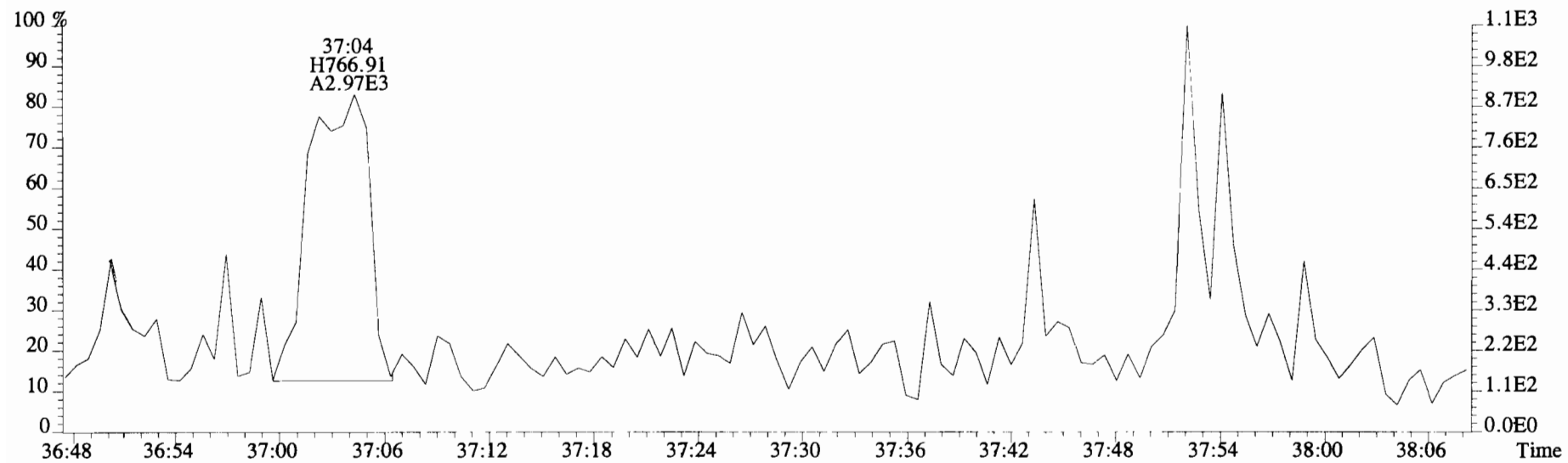315.9419 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

317.9389 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

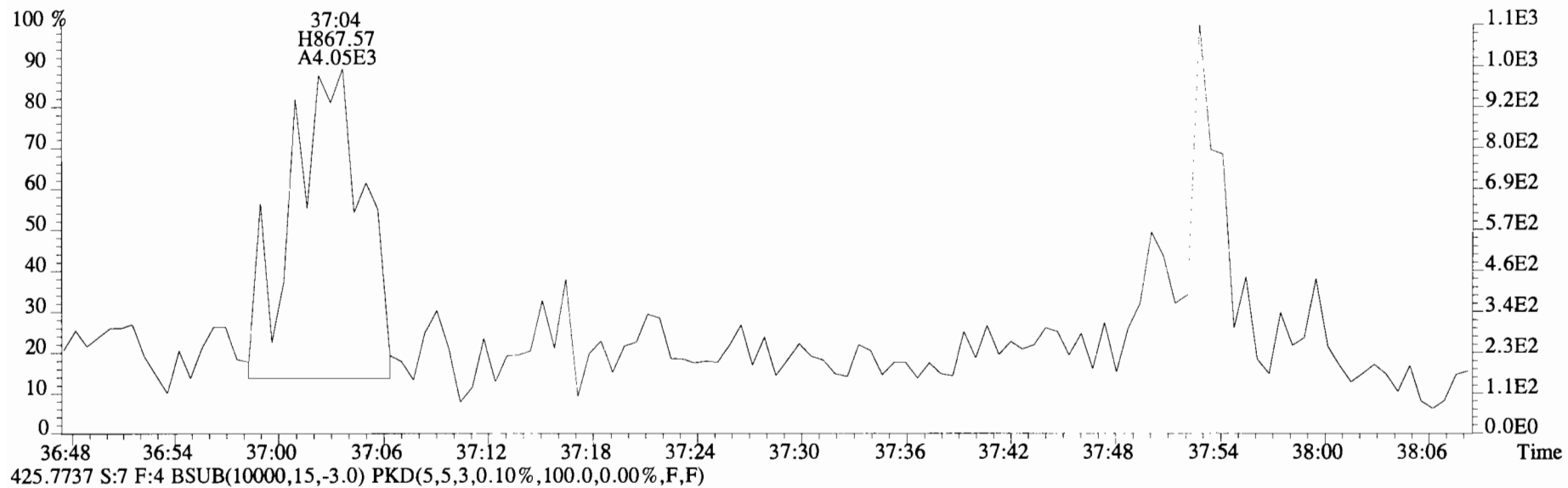375.8364 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D2 #1-492 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
303.9016 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

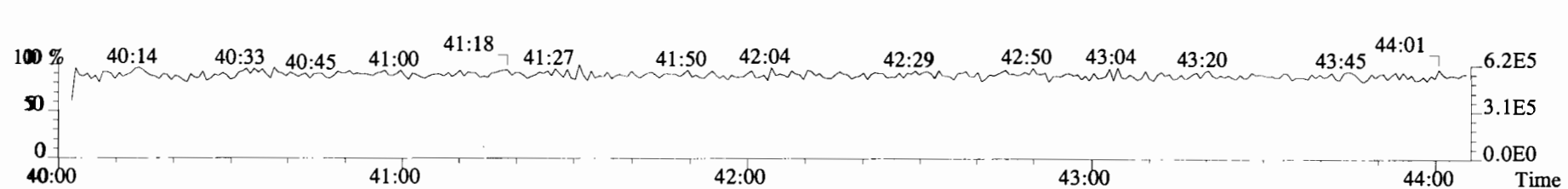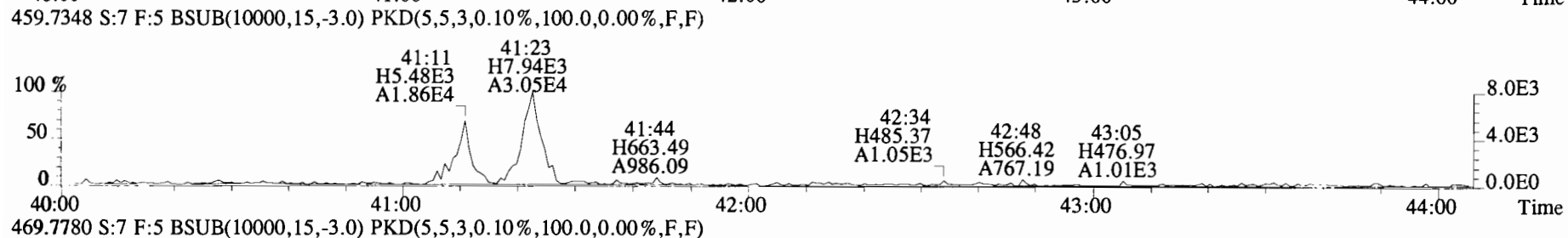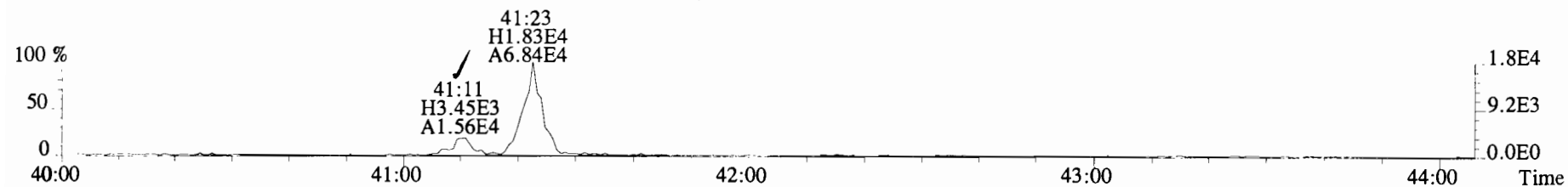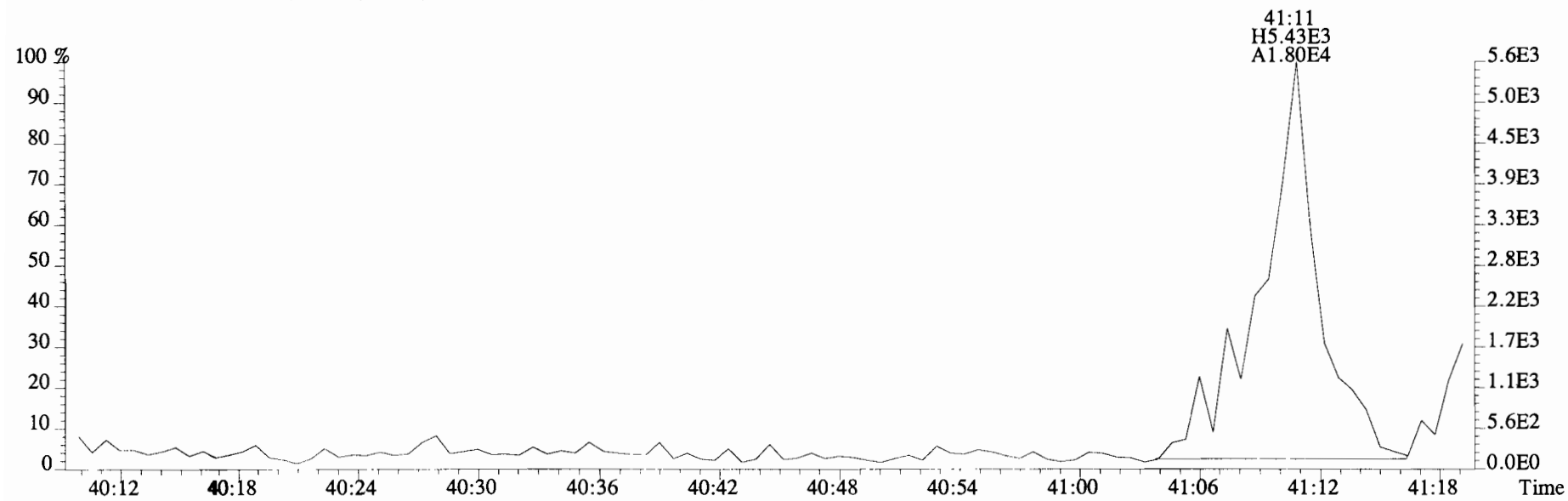File:191111D2 #1-492 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
339.8597 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:7 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:7

339.8597 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

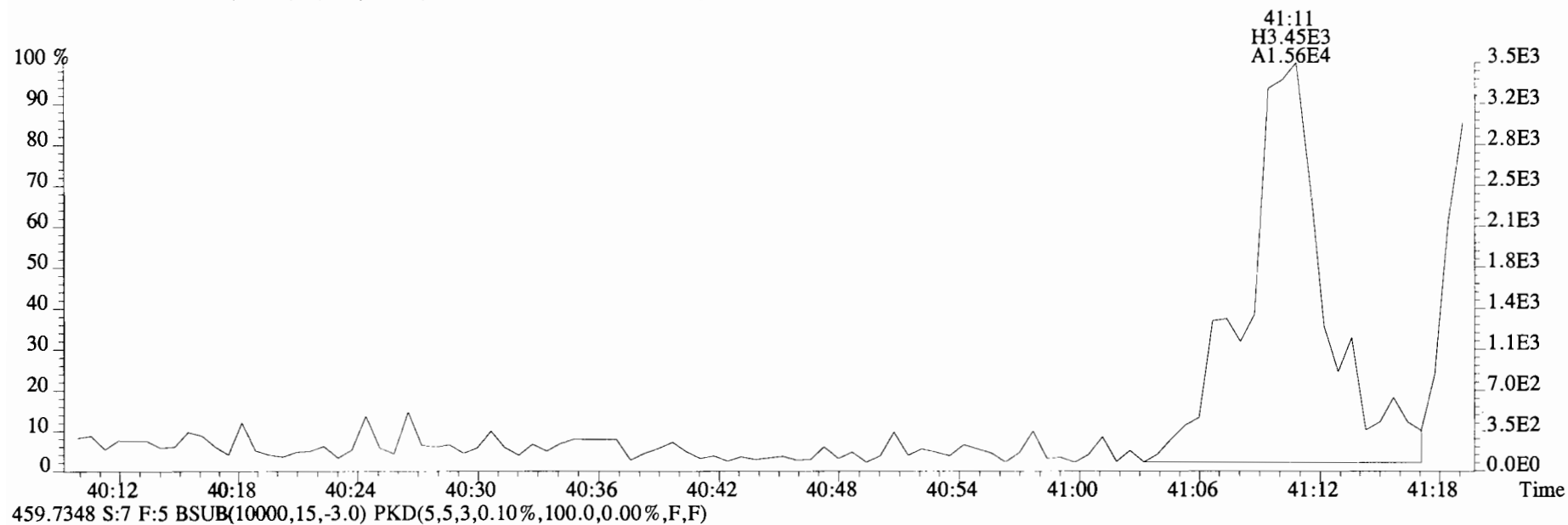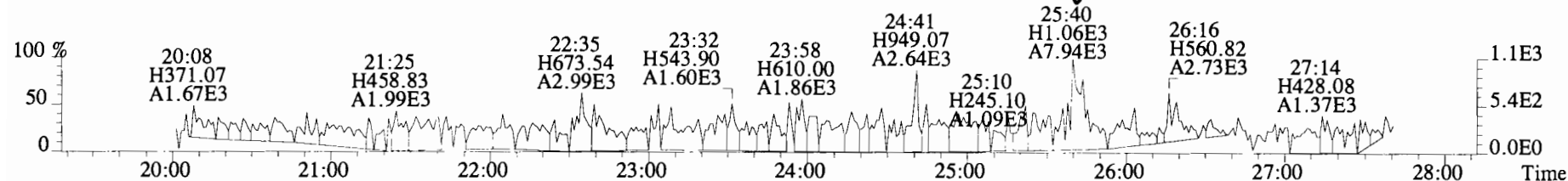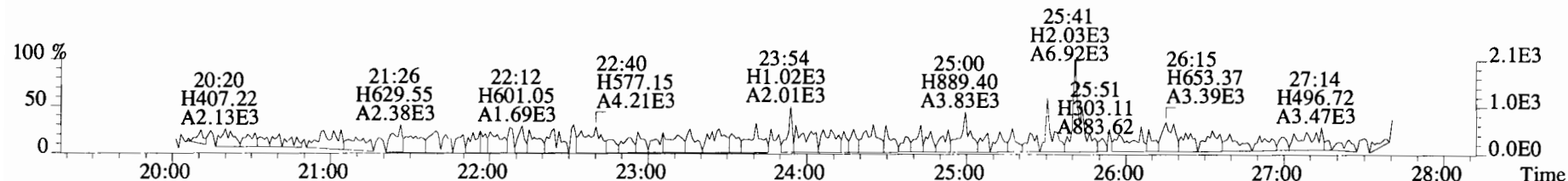341.8568 S:7 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D2 #1-384 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
373.8207 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

375.8178 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

383.8639 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

445.7555 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

385.8610 S:7 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

407.7818 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                            NAP
                          36:43
                          H588.54
              36:32       A2.41E3                                          NAP
              H185.34                   37:18                            38:27              39:05
100 %         A527.45                   H383.96    37:47    37:58        H635.01   38:38    H564.80          39:22                      6.6E2
                                        A1.90E3    H238.83  H356.10      A2.26E3   H332.20  A1.19E3          H358.61                    
 50                                                A791.61  A563.28      38:19     A741.32                   A1.28E3        39:48        3.3E2
                                                                        H112.05                                            H166.40
                                                                        A239.69                                           A1.01E3
  0                                                                                                                                     0.0E0
  36:00              37:00              38:00              39:00              40:00    Time
```

409.7788 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                         NAP
                       36:43
                       H721.25        36:59                                  NAP
              36:26    A2.98E3        H522.45   37:16                      38:28
              H242.52                 A1.42E3   H663.14                    H535.37   38:57             39:56
100 %         A699.40                          A2.10E3   37:42            A1.34E3    H341.01  39:19     H268.02               8.1E2
                                                         H438.61   37:53            A878.22   H339.52  A442.75
 50                                                      A1.21E3   H176.42                    A1.30E3                         4.1E2
                                                                   A430.65
  0                                                                                                                          0.0E0
  36:00              37:00              38:00              39:00              40:00    Time
```

417.8253 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
              36:39                                        38:25
              H8.06E5                                      H7.99E5
100 %         A3.69E6                                      A3.06E6                                    8.1E5
 50                                                                                                  4.0E5
  0                                                                                                  0.0E0
  36:00              37:00              38:00              39:00              40:00    Time
```

419.8220 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
              36:39                                        38:25
              H1.72E6                                      H1.71E6
100 %         A8.29E6                                      A6.91E6                                    1.7E6
 50                                                                                                  8.6E5
  0                                                                                                  0.0E0
  36:00              37:00              38:00              39:00              40:00    Time
```

479.7165 S:7 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                                                              38:54
                                                                              H852.89
                                       37:00                                  A3.14E3
              36:19                     H780.07                     38:35
              H653.48     36:49         A1.14E3   37:30             H552.78
100 %         A2.03E3     H296.67                 H551.33           A983.94                39:38     39:54      1.2E3
                         A1.06E3                  A948.72   37:47                          H189.54   H349.76
 50                                                         H272.75  37:59                A442.37   A1.19E3    5.8E2
                                                           A819.56   H270.00
                                                                    A837.46
  0                                                                                                           0.0E0
  36:00              37:00              38:00              39:00              40:00    Time
```
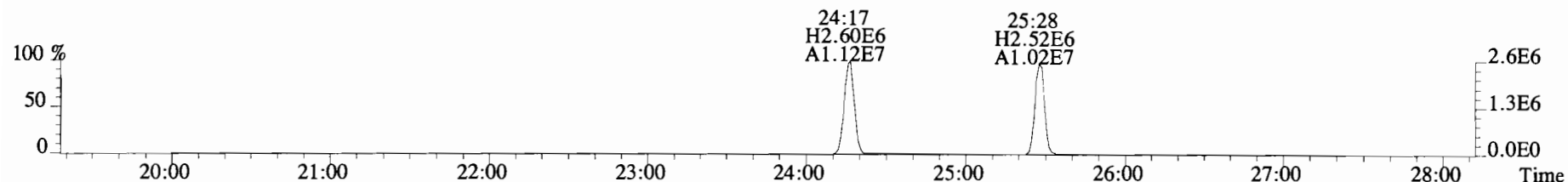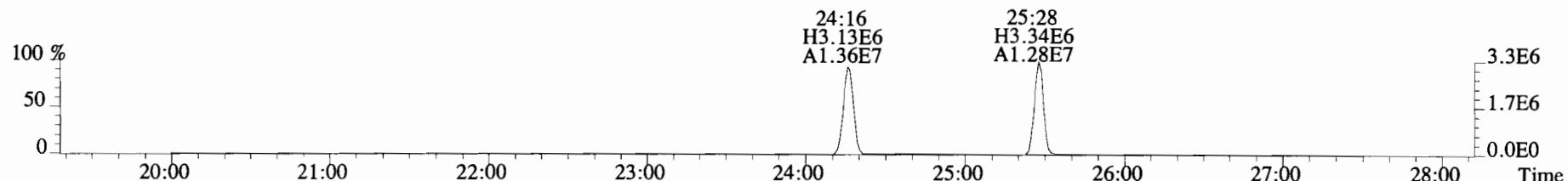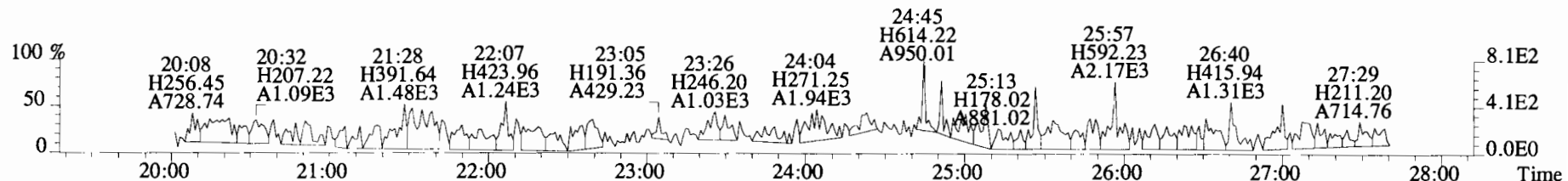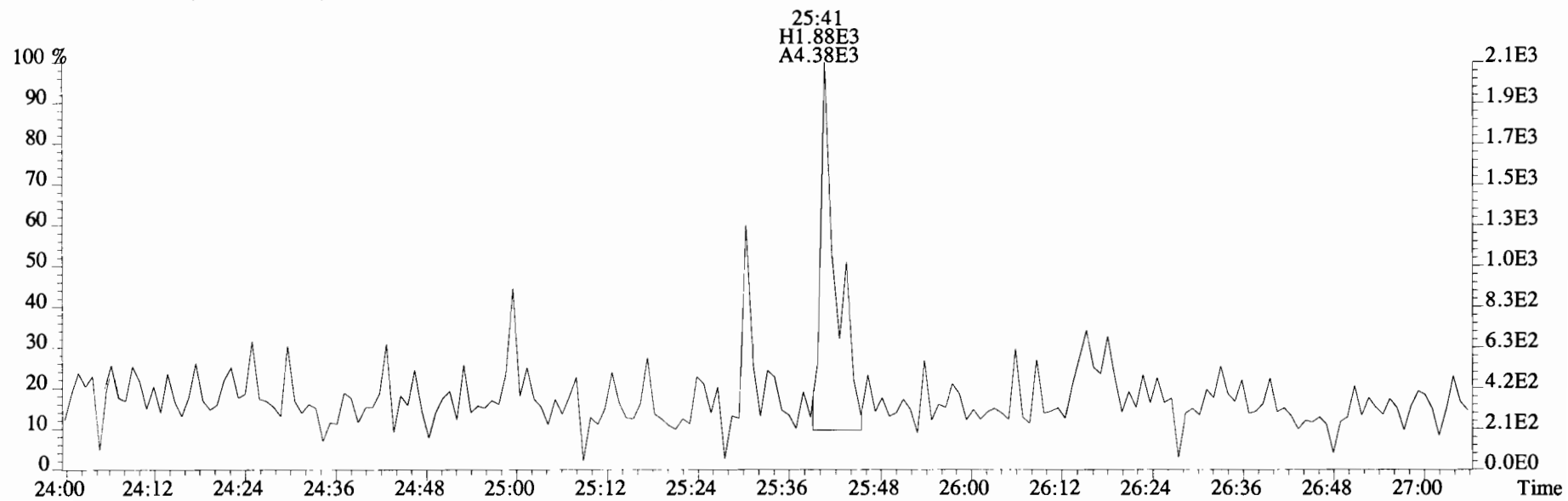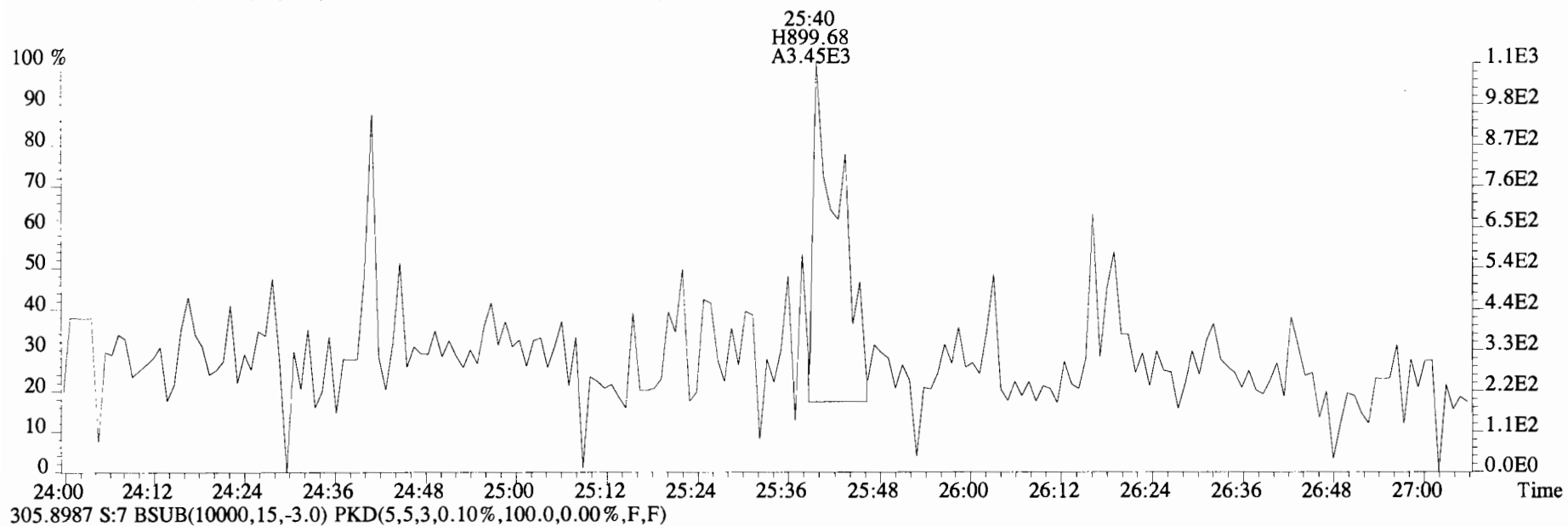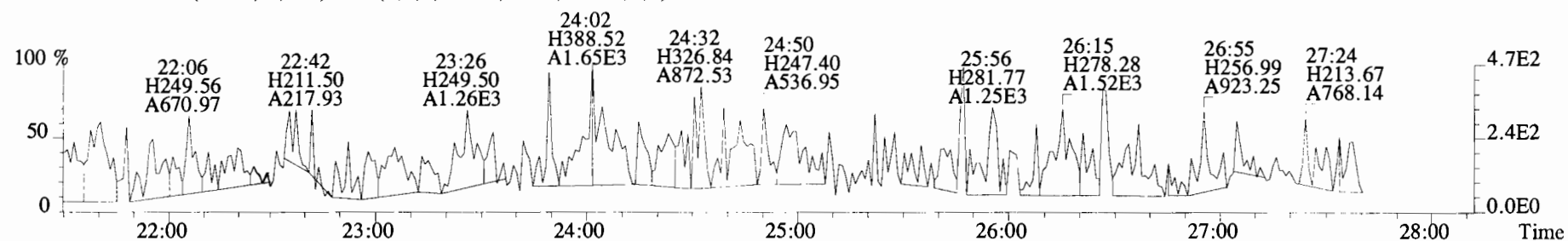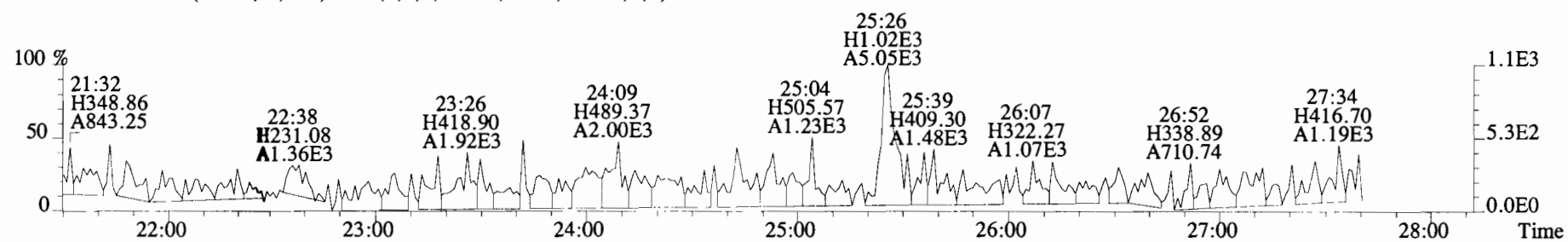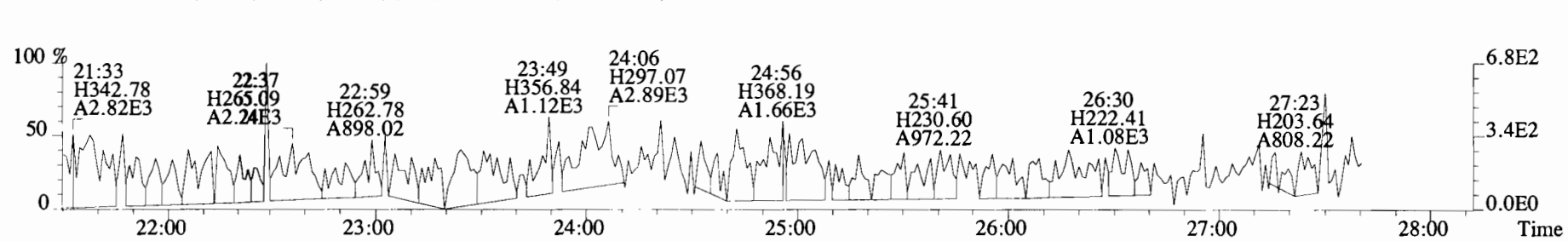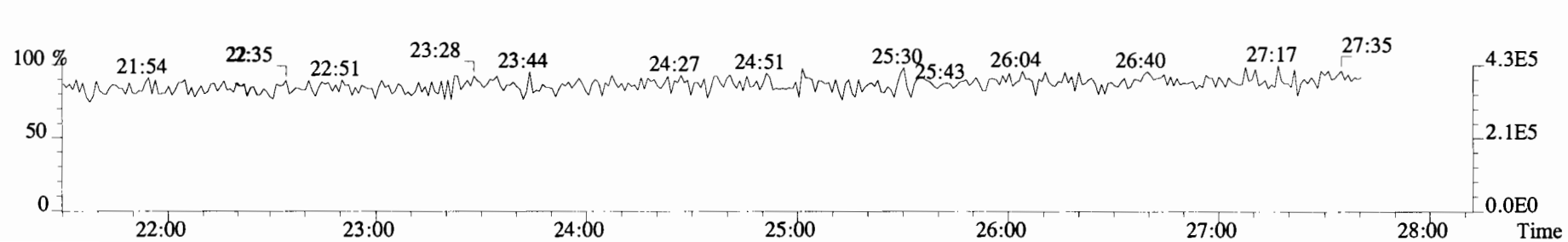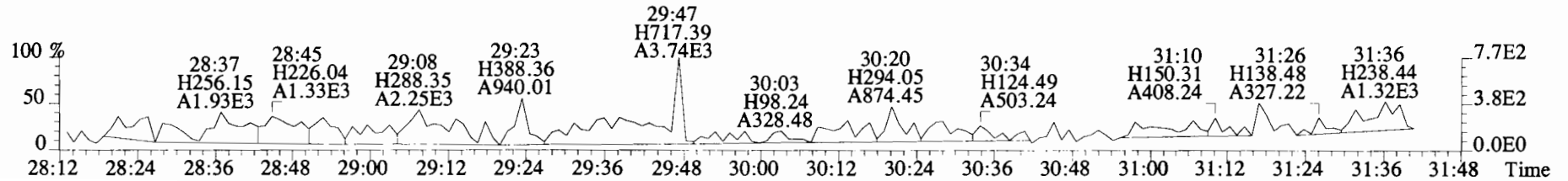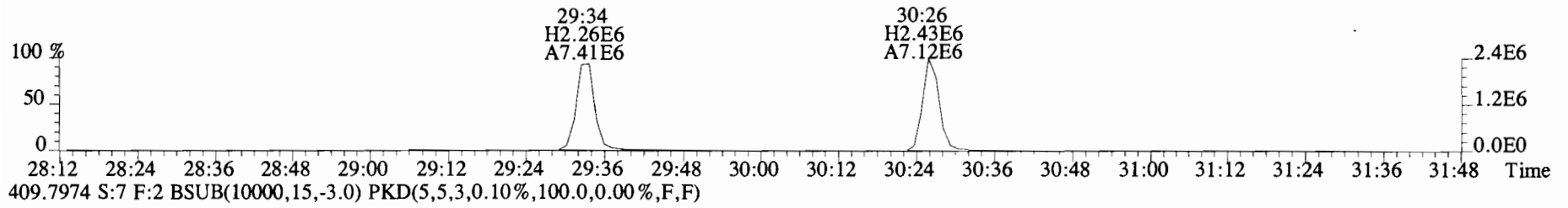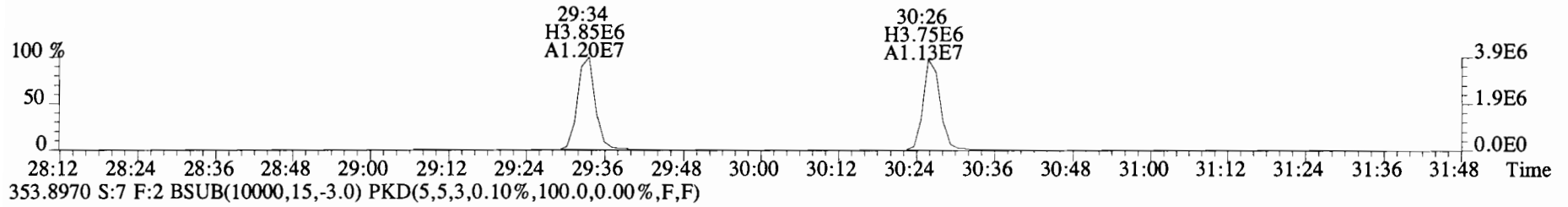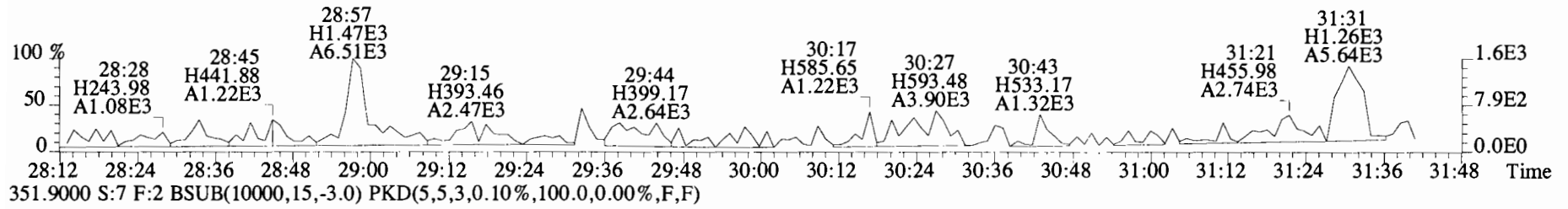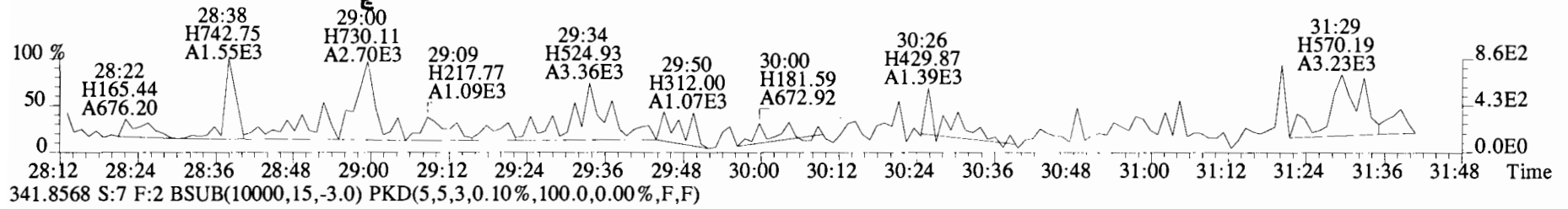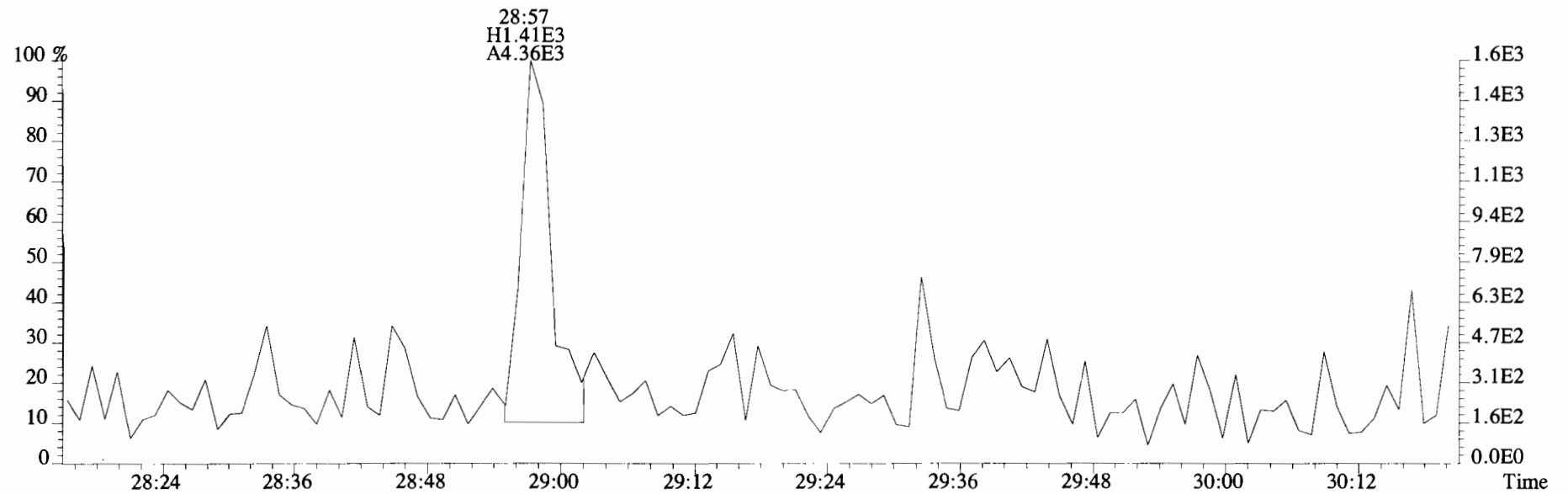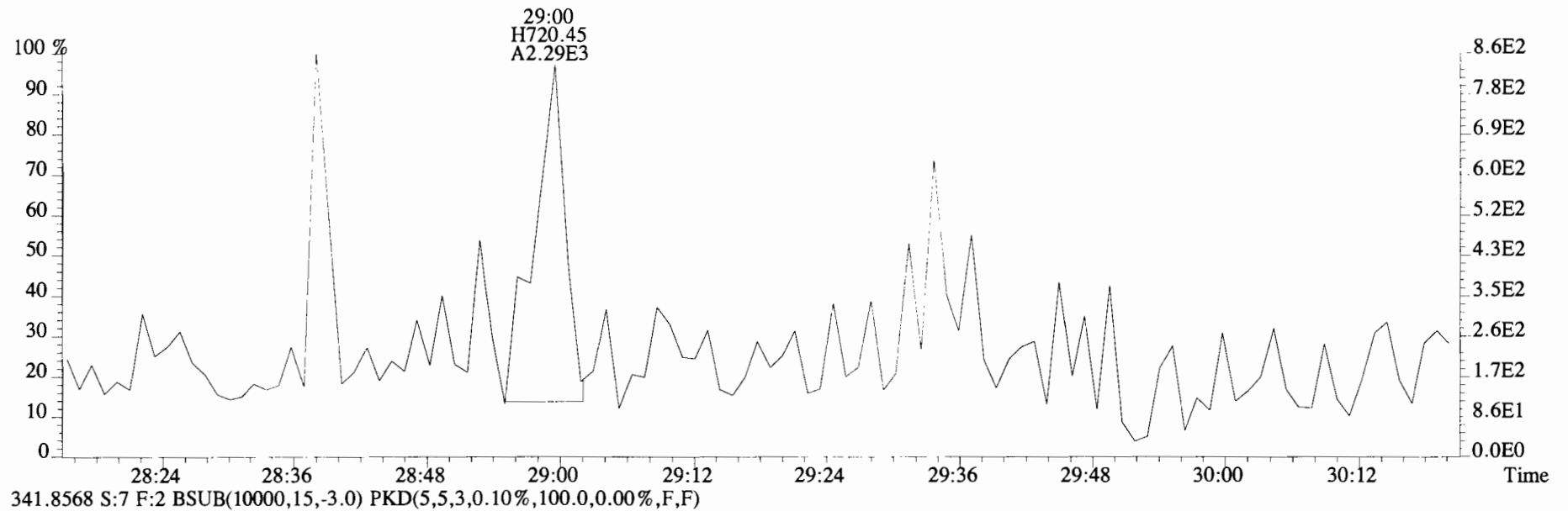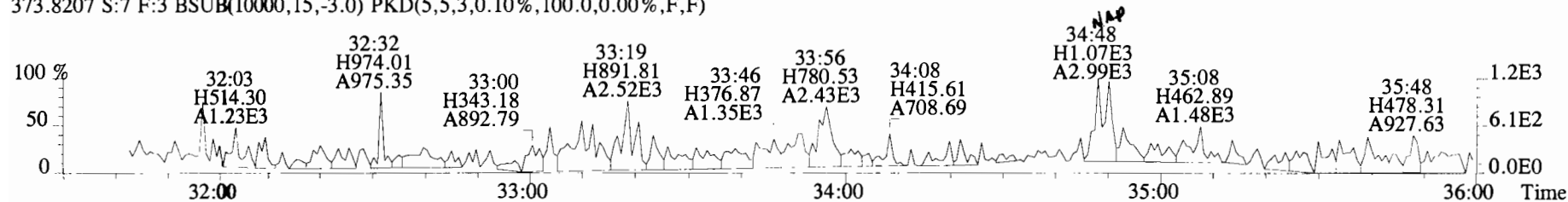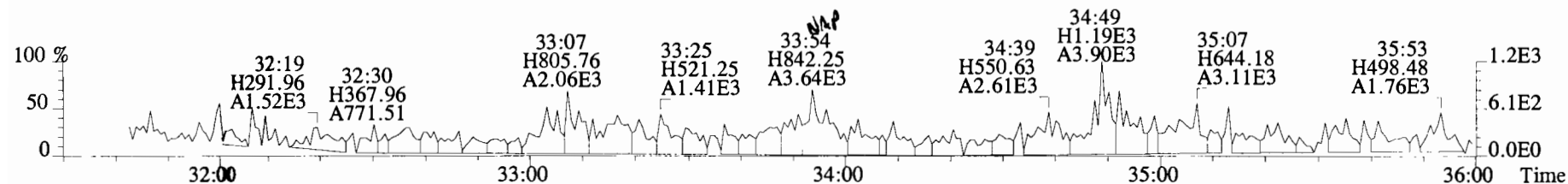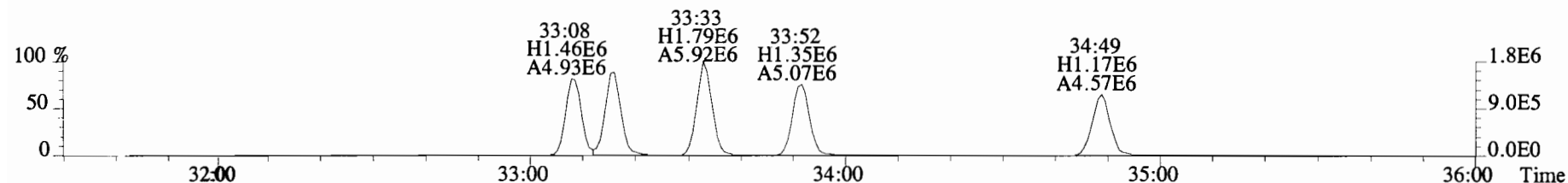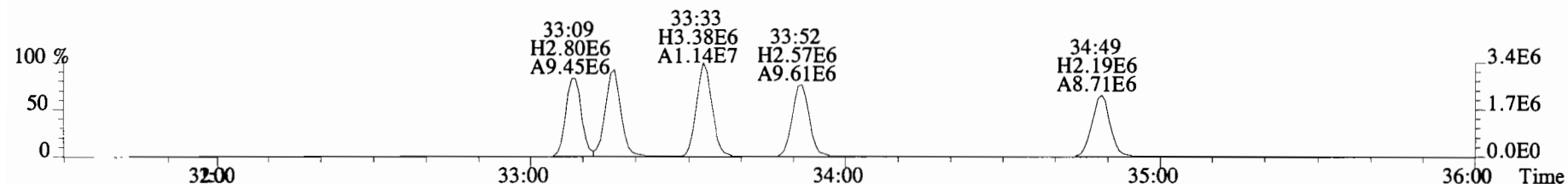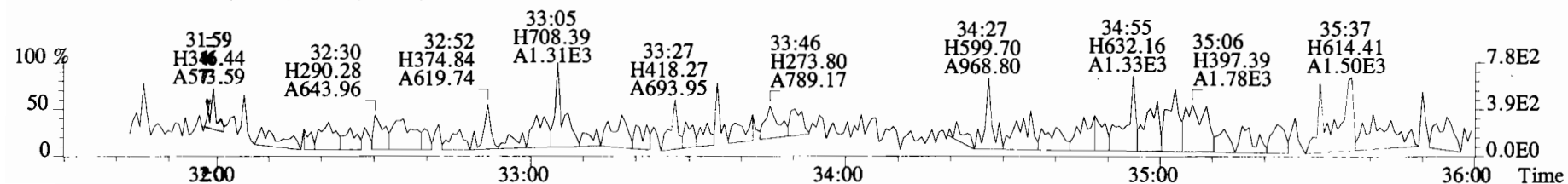
File:191111D2 #1-431 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

443.7398 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

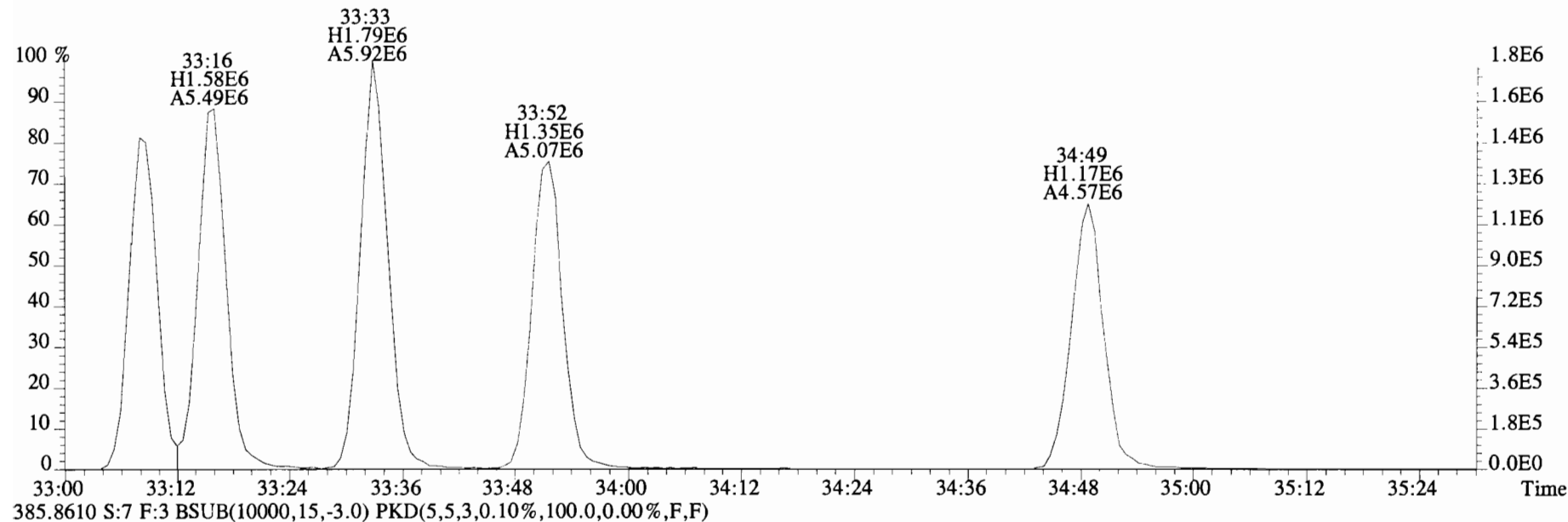453.7831 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

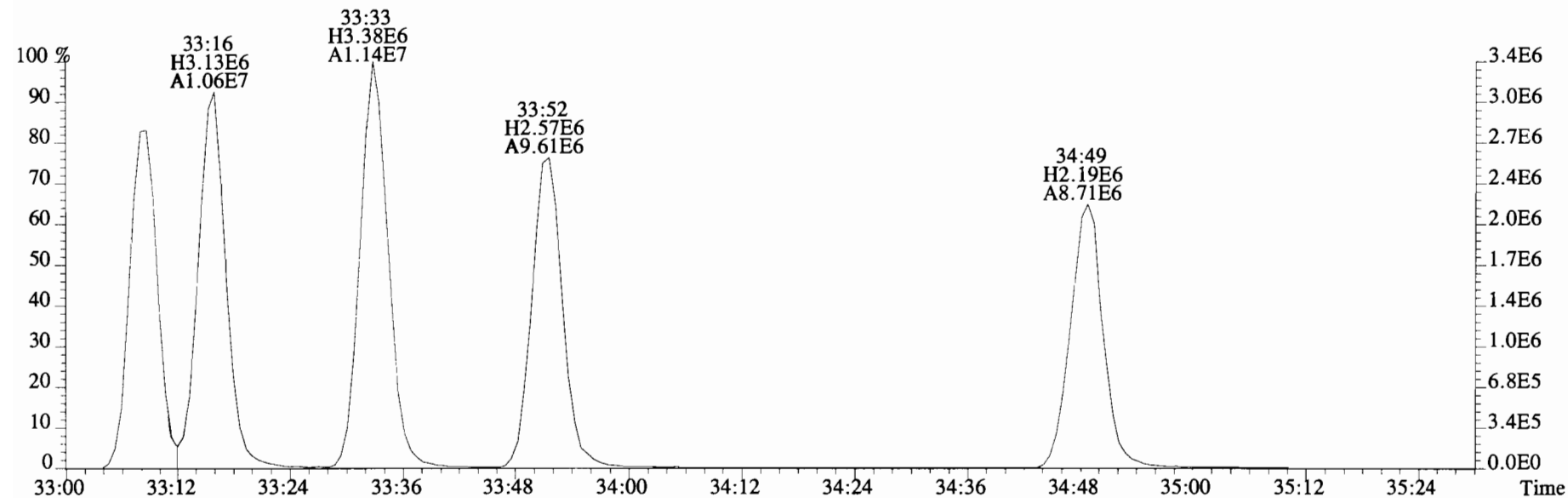455.7801 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

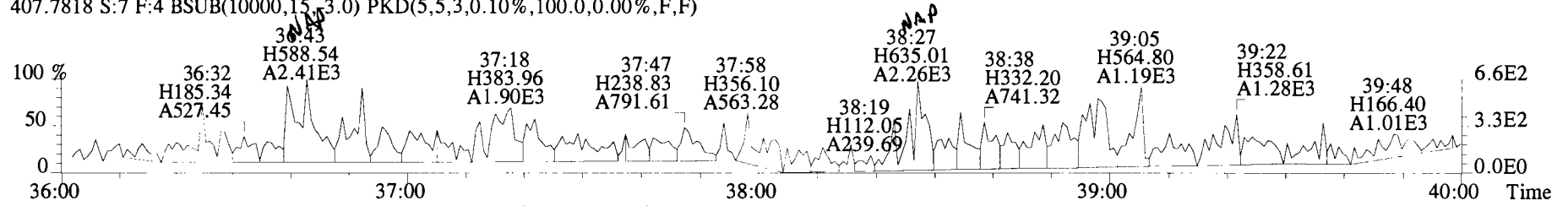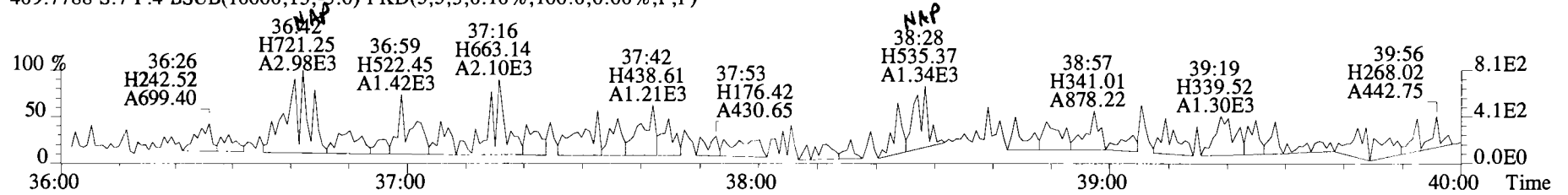513.6775 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

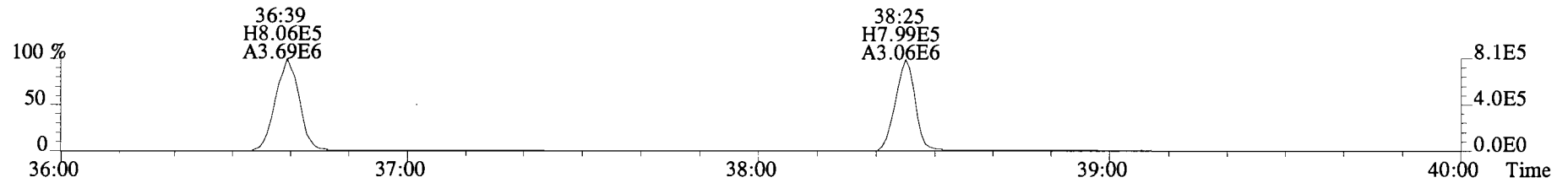File:191111D2 #1-431 Acq:12-NOV-2019 03:18:57 GC EI+ Voltage SIR Autospec-UltimaE
Sample#7 File Text:Viata_Analytical_Laboratory_VG7 Text:1903645-08 PDI-043SC-A-11-11.8-191008 13.16 Exp:OCDD_DB5
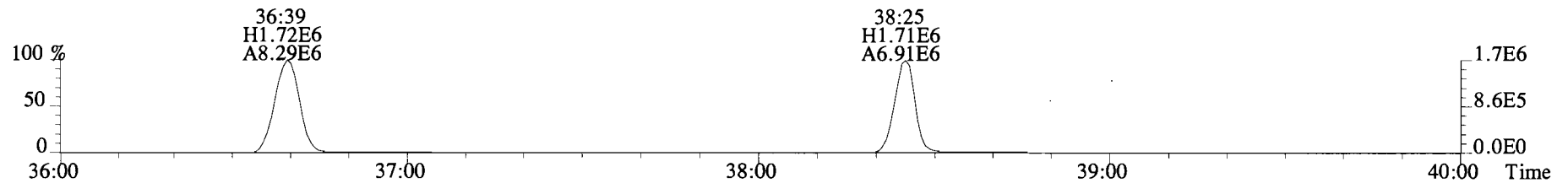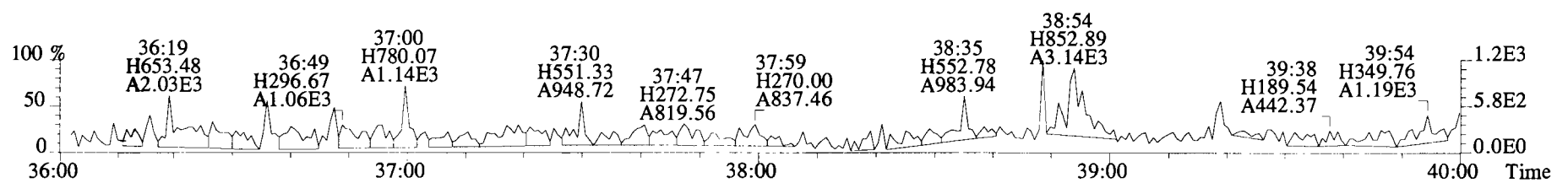441.7428 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:24
H1.34E3
A5.15E3

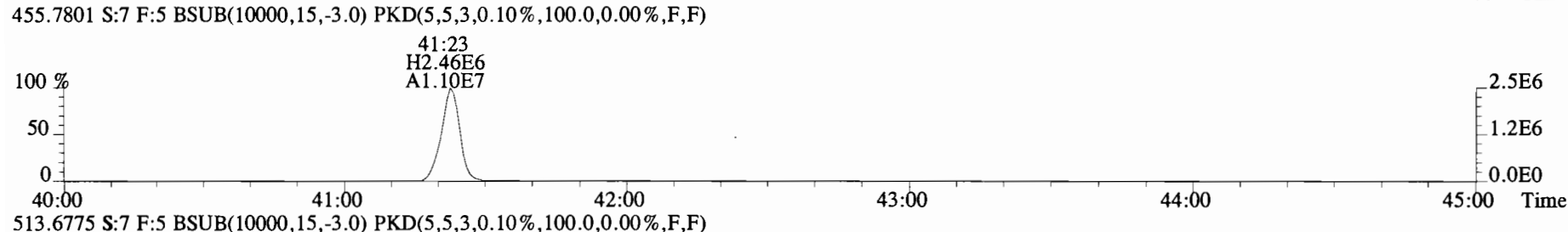443.7398 S:7 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:26
H1.99E3
A5.13E3
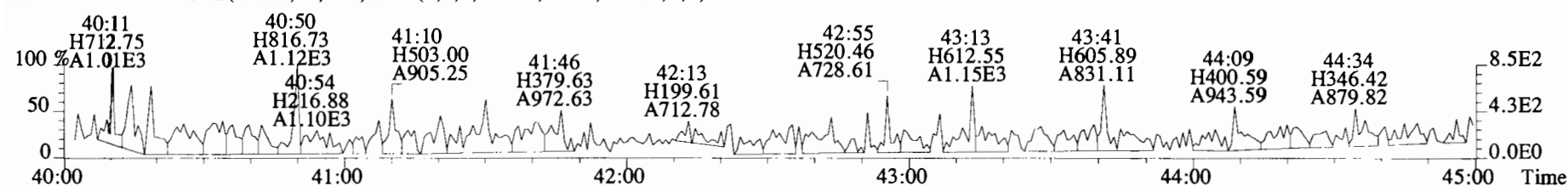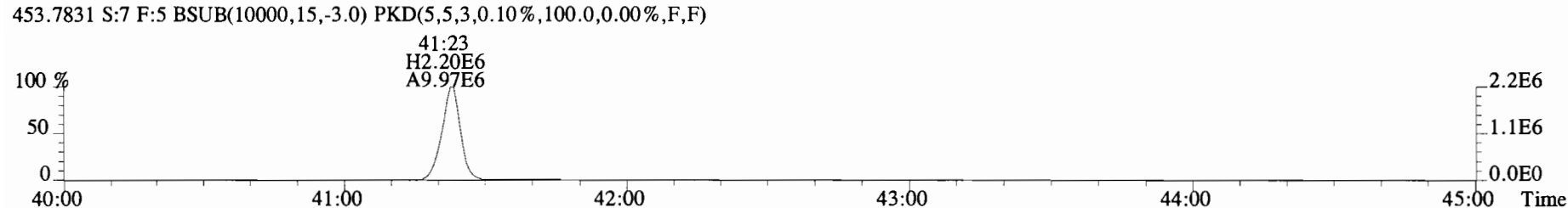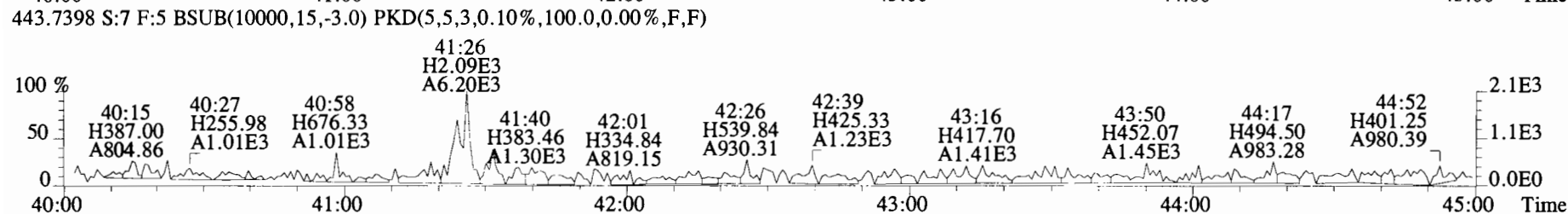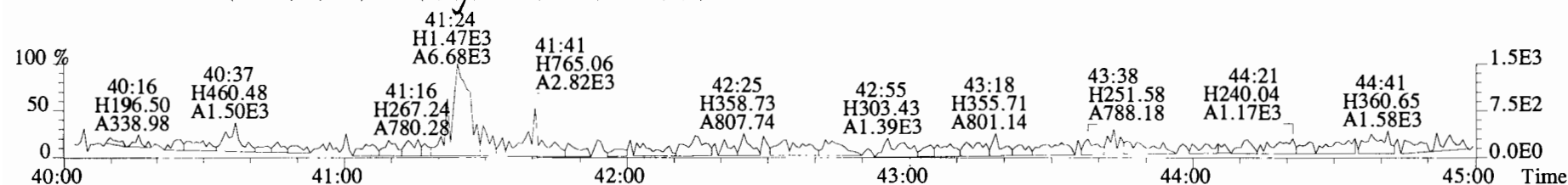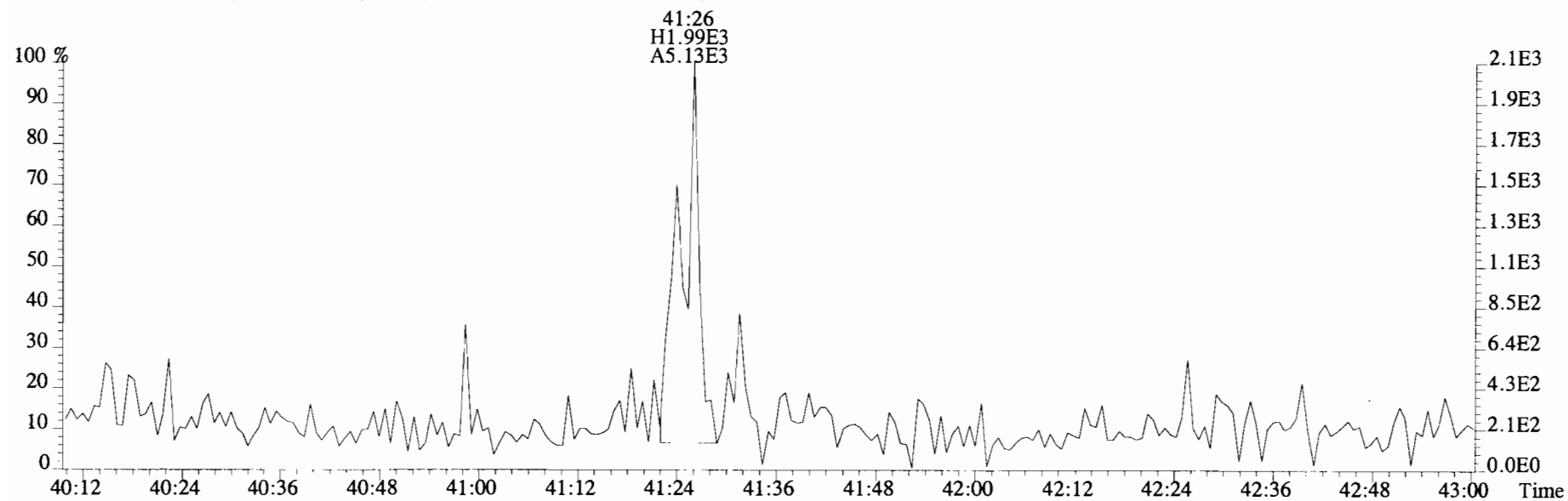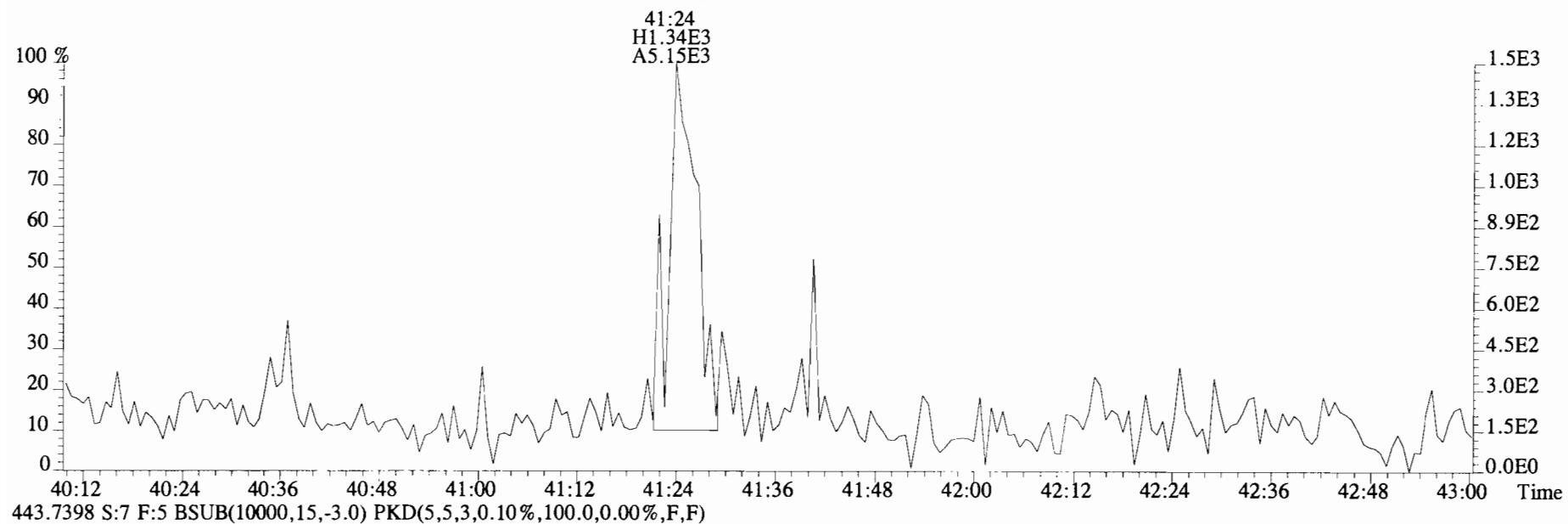
CONTINUING CALIBRATION

HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST191111D1-1

Reviewed By: CT 11/13/19
Initials & Date

End Calibration ID: NA

	Beg.	End		Beg.	End
Ion abundance within QC limits?	☑	NA	**Mass resolution ≥**	☑	☑
Concentrations within criteria?	☑	☐	☐ 5k ☐ 6-8K ☐ 8K ☑ 10K		
			1614 1699 429 1613/1668/8280		
TCDD/TCDF Valleys <25%	☑	☐	**Intergrated peaks display correctly?**	☑	NA
First and last eluters present?	☑	☐			
Retention Times within criteria?	☑	☐	**GC Break <20%**	NA	
Verification Std. named correctly?	☑	☐	**8280 CS1 End Standard:**		
(ST-Year-Month-Day-VG ID)			- Ratios within limits, S/N <2.5:1, CS1 within 12 hours	NA	
Forms signed and dated?	☑	☐			

Correct ICAL referenced? DB

Run Log:

	Beg.	End
- Correct instrument listed?	☐	☑
- Samples within 12 hour clock?	Ⓨ	N
- Bottle position verfied?	DB	

Comments:

FORM 4A
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory   Episode No.:   CCAL ID: ST191111D1-1

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D1   S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

	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	0.79	0.65-0.89	y	11.5	7.8 - 12.9
						8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	53.6	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	52.1	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	52.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	y	53.3	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	50.2	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	104	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.74	0.65-0.89	y	9.82	8.4 - 12.0
						8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	51.8	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	50.8	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	49.6	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.1	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.23	1.05-1.43	y	49.3	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.03	0.88-1.20	y	50.1	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.03	0.88-1.20	y	49.6	43.0 - 58.0
OCDF	M+2/M+4	0.91	0.76-1.02	y	101	63.0 - 159.0

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

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

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

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

Analyst: ᗡB

Date: 11/11/19

```
                              FORM 4B
                   PCDD/PCDF CALIBRATION VERIFICATION
```

Lab Name: Vista Analytical Laboratory   Episode No.:

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D1   S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

LABELED COMPOUNDS	M/Z'S FORMING RATIO (1)	ION ABUND. RATIO	QC LIMITS (2)	Pass	CONC. FOUND	CONC. RANGE (ng/mL)
13C-2,3,7,8-TCDD	M/M+2	0.79	0.65-0.89	y	101	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	103	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.28	1.05-1.43	y	98.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	92.3	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.27	1.05-1.43	y	93.5	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.04	0.88-1.20	y	107	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	211	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.80	0.65-0.89	y	101	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.58	1.32-1.78	y	103	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.61	1.32-1.78	y	102	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	99.3	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	101	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	103	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	105	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	112	77.0 - 129.0
13C-OCDF	M+2/M+4	0.89	0.76-1.02	y	226	96.0 - 415.0

CLEANUP STANDARD (3)

37Cl-2,3,7,8-TCDD					9.59	7.9 - 12.7

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

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: _DB_

Date: _11/11/19_

```
                         FORM 5
           PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS


Lab Name: Vista Analytical Laboratory  Episode No.:


Contract No.:           SAS No.:


Instrument ID: VG-7          Initial Calibration Date: 10-9-19


RT Window Data Filename: 191111D1 S#1  Analysis Date: 11-NOV-19 Time: 10:19:32


ZB-5MS IS Data Filename: 191111D1 S#1  Analysis Date: 11-NOV-19 Time: 10:19:32


DB_225 IS Data Filename:          Analysis Date:        Time:


                 ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS


                    ABSOLUTE                         ABSOLUTE
ISOMERS               RT        ISOMERS                RT
1,3,6,8-TCDD (F)      22:50     1,3,6,8-TCDF (F)       20:43
1,2,8,9-TCDD (L)      27:05     1,2,8,9-TCDF (L)       27:13

1,2,4,7,9-PeCDD (F)   28:40     1,3,4,6,8-PeCDF (F)    27:11
1,2,3,8,9-PeCDD (L)   31:04     1,2,3,8,9-PeCDF (L)    31:19

1,2,4,6,7,9-HxCDD (F) 32:30     1,2,3,4,6,8-HxCDF (F)  31:57
1,2,3,7,8,9-HxCDD (L) 34:26     1,2,3,7,8,9-HxCDF (L)  34:49

1,2,3,4,6,7,9-HpCDD (F) 37:03   1,2,3,4,6,7,8-HpCDF (F) 36:40
1,2,3,4,6,7,8-HpCDD (L) 37:53   1,2,3,4,7,8,9-HpCDF (L) 38:25


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

===========================================================================================


           ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS


        % VALLEY HEIGHT
           BETWEEN
       COMPARED PEAKS (1)


           <25%


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

Analyst: _DB_

Date: _11|11|19_

```
                         FORM 6A
                PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory     Episode No.:

Contract No.:          SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D1   S#1  Analysis Date: 11-NOV-19 Time: 10:19:32

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

                         RETENTION TIME          RRT
NATIVE ANALYTES            REFERENCE      RRT   QC LIMITS (1)

2,3,7,8-TCDD           13C-2,3,7,8-TCDD    1.001  0.999-1.002
1,2,3,7,8-PeCDD        13C-1,2,3,7,8-PeCDD 1.000  0.999-1.002
2,3,7,8-TCDF           13C-2,3,7,8-TCDF    1.001  0.999-1.003
1,2,3,7,8-PeCDF        13C-1,2,3,7,8-PeCDF 1.000  0.999-1.002
2,3,4,7,8-PeCDF        13C-2,3,4,7,8-PeCDF 1.000  0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD       13C-1,2,3,4-TCDD    1.022  0.976-1.043
13C-1,2,3,7,8-PeCDD    13C-1,2,3,4-TCDD    1.197  1.000-1.567
13C-2,3,7,8-TCDF       13C-1,2,3,4-TCDD    0.992  0.923-1.103
13C-1,2,3,7,8-PeCDF    13C-1,2,3,4-TCDD    1.152  1.000-1.425
13C-2,3,4,7,8-PeCDF    13C-1,2,3,4-TCDD    1.186  1.011-1.526
37Cl-2,3,7,8-TCDD      13C-1,2,3,4-TCDD    1.023  0.989-1.052
```

Analyst: DB

Date: 11/11/19

```
                          FORM 6B
                PCDD/PCDF RELATIVE RETENTION TIMES
```

Lab Name: Vista Analytical Laboratory   Episode No.:

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D1   S#1 Analysis Date: 11-NOV-19 Time: 10:19:32

NATIVE ANALYTES	RETENTION TIME REFERENCE	RRT	RRT QC LIMITS (1)
1,2,3,4,7,8-HxCDF	13C-1,2,3,4,7,8-HxCDF	1.001	0.999-1.001
1,2,3,6,7,8-HxCDF	13C-1,2,3,6,7,8-HxCDF	1.000	0.997-1.005
2,3,4,6,7,8-HxCDF	13C-2,3,4,6,7,8-HxCDF	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.000	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.992	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.018	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.234	1.091-1.371

Analyst: _DB_

Date: _11/11/19_

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	1.35e+06	0.79	y	0.91	26:13	11.525		*	2.5	*
	1,2,3,7,8-PeCDD	5.14e+06	0.63	y	0.90	30:43	53.581		*	2.5	*
	1,2,3,4,7,8-HxCDD	5.45e+06	1.27	y	1.10	34:02	52.131		*	2.5	*
	1,2,3,6,7,8-HxCDD	5.81e+06	1.26	y	0.94	34:08	52.425		*	2.5	*
	1,2,3,7,8,9-HxCDD	5.77e+06	1.27	y	0.96	34:26	53.282		*	2.5	*
	1,2,3,4,6,7,8-HpCDD	5.14e+06	1.04	y	0.98	37:53	50.182		*	2.5	*
	OCDD	9.10e+06	0.89	y	0.96	41:09	103.97		*	2.5	*
	2,3,7,8-TCDF	1.81e+06	0.74	y	0.95	25:26	9.8187		*	2.5	*
	1,2,3,7,8-PeCDF	8.12e+06	1.57	y	0.96	29:32	51.845		*	2.5	*
	2,3,4,7,8-PeCDF	8.24e+06	1.61	y	1.01	30:26	50.767		*	2.5	*
	1,2,3,4,7,8-HxCDF	7.41e+06	1.22	y	1.18	33:08	49.598		*	2.5	*
	1,2,3,6,7,8-HxCDF	8.21e+06	1.22	y	1.07	33:16	50.088		*	2.5	*
	2,3,4,6,7,8-HxCDF	8.07e+06	1.22	y	1.11	33:52	50.498		*	2.5	*
	1,2,3,7,8,9-HxCDF	6.64e+06	1.23	y	1.06	34:49	49.257		*	2.5	*
	1,2,3,4,6,7,8-HpCDF	6.68e+06	1.03	y	1.13	36:39	50.069		*	2.5	*
	1,2,3,4,7,8,9-HpCDF	6.19e+06	1.03	y	1.28	38:25	49.567		*	2.5	*
	OCDF	1.12e+07	0.91	y	0.95	41:23	101.21		*	2.5	*
IS	13C-2,3,7,8-TCDD	1.30e+07	0.79	y	1.10	26:12	101.03				
IS	13C-1,2,3,7,8-PeCDD	1.06e+07	0.62	y	0.88	30:42	102.93				
IS	13C-1,2,3,4,7,8-HxCDD	9.49e+06	1.28	y	0.64	34:01	98.947				
IS	13C-1,2,3,6,7,8-HxCDD	1.18e+07	1.27	y	0.86	34:08	92.311				
IS	13C-1,2,3,7,8,9-HxCDD	1.13e+07	1.27	y	0.81	34:26	93.524				
IS	13C-1,2,3,4,6,7,8-HpCDD	1.05e+07	1.04	y	0.65	37:52	107.02				
IS	13C-OCDD	1.83e+07	0.90	y	0.58	41:09	210.85				
IS	13C-2,3,7,8-TCDF	1.94e+07	0.80	y	1.03	25:26	100.99				
IS	13C-1,2,3,7,8-PeCDF	1.63e+07	1.58	y	0.85	29:32	102.91				
IS	13C-2,3,4,7,8-PeCDF	1.60e+07	1.61	y	0.85	30:25	101.78				
IS	13C-1,2,3,4,7,8-HxCDF	1.27e+07	0.51	y	0.83	33:07	102.14				
IS	13C-1,2,3,6,7,8-HxCDF	1.53e+07	0.52	y	1.03	33:15	99.266				
IS	13C-2,3,4,6,7,8-HxCDF	1.43e+07	0.52	y	0.95	33:51	100.71				
IS	13C-1,2,3,7,8,9-HxCDF	1.27e+07	0.52	y	0.83	34:48	102.70				
IS	13C-1,2,3,4,6,7,8-HpCDF	1.18e+07	0.43	y	0.76	36:39	104.60				
IS	13C-1,2,3,4,7,8,9-HpCDF	9.76e+06	0.44	y	0.58	38:24	112.46				
IS	13C-OCDF	2.33e+07	0.89	y	0.69	41:22	226.13				
C/Up	37Cl-2,3,7,8-TCDD	1.34e+06			1.20	26:13	9.5950				
RS/RT	13C-1,2,3,4-TCDD	1.17e+07	0.80	y	1.00	25:39	100.00				
RS	13C-1,2,3,4-TCDF	1.85e+07	0.81	y	1.00	24:13	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.49e+07	0.51	y	1.00	33:32	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	79.2	79.7		*	*
Total Penta-Dioxins	201	201		*	*
Total Hexa-Dioxins	232	234		*	*
Total Hepta-Dioxins	116	117		*	*
Total Tetra-Furans	38.6	39.3		*	*
Total Penta-Furans	224.39	224.88		*	*
Total Hexa-Furans	266	267		*	*
Total Hepta-Furans	100	101		*	*

Rec   Qual

101
103
98.9
92.3
93.5
107
105
101
103
102
102
99.3
101
103
105
112
113

95.9

Integrations
by
Analyst: _DB_

Reviewed
by
Analyst: _CT_
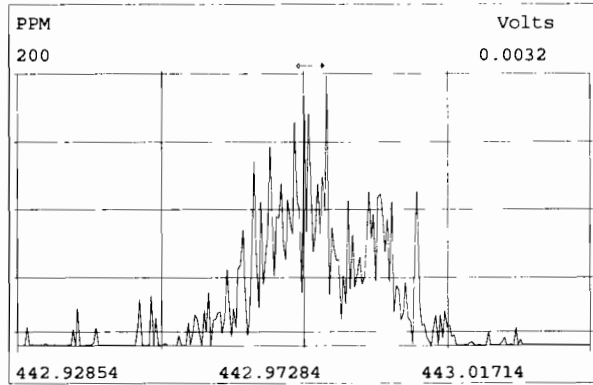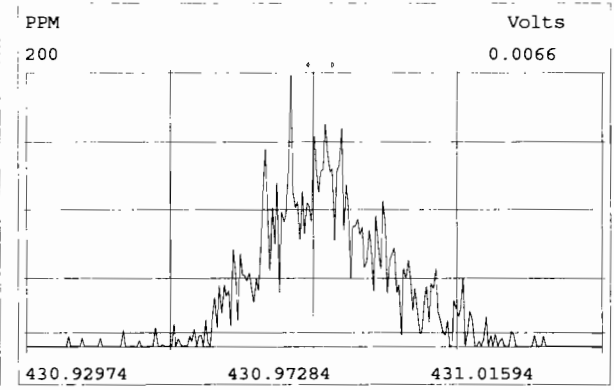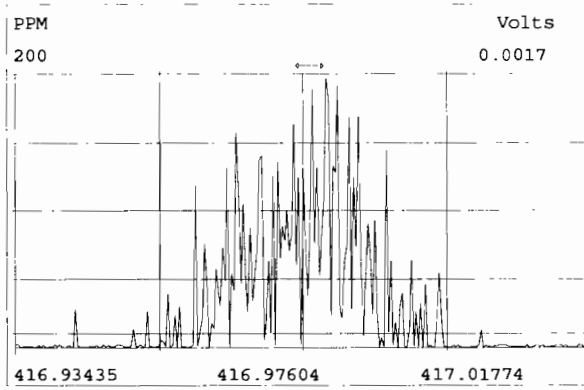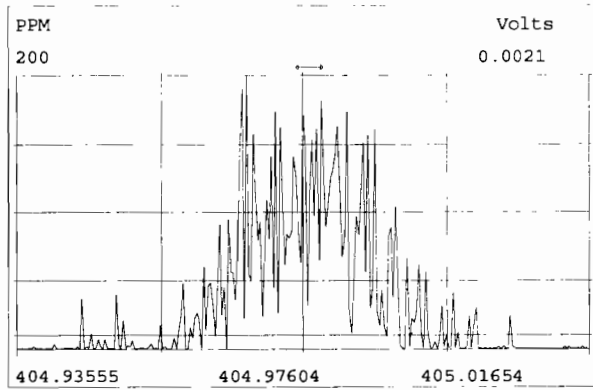
Date: 11/11/19   Date: 11/13/19

Vista Analytical Laboratory - Injection Log   Run file: 191111D1   Instrument ID: VG-7   GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191111D1	1	ST191111D1-1	DB	11-NOV-19	10:19:32	ST191111D1-1	NA
191111D1	2	B9J0332-BS1	DB	11-NOV-19	11:07:28	ST191111D1-1	NA
191111D1	3	SOLVENT BLANK	DB	11-NOV-19	11:55:24	ST191111D1-1	NA
191111D1	4	B9J0332-BLK1	DB	11-NOV-19	12:43:25	ST191111D1-1	NA
191111D1	5	B9J0144-DUP1	DB	11-NOV-19	13:31:22	ST191111D1-1	NA
191111D1	6	1903431-09	DB	11-NOV-19	14:19:19	ST191111D1-1	NA
191111D1	7	1903743-01	DB	11-NOV-19	15:07:15	ST191111D1-1	NA
191111D1	8	1903743-02	DB	11-NOV-19	15:55:12	ST191111D1-1	NA
191111D1	9	1903645-01	DB	11-NOV-19	16:43:10	ST191111D1-1	NA
191111D1	10	1903645-03	DB	11-NOV-19	17:30:56	ST191111D1-1	NA
191111D1	11	1903645-02	DB	11-NOV-19	18:18:51	ST191111D1-1	NA
191111D1	12	1903645-04	DB	11-NOV-19	19:06:37	ST191111D1-1	NA
191111D1	13	1903645-05	DB	11-NOV-19	19:54:22	ST191111D1-1	NA
191111D1	14	1903645-06	DB	11-NOV-19	20:42:07	ST191111D1-1	NA
191111D1	15	1903645-07	DB	11-NOV-19	21:29:52	ST191111D1-1	NA

Peak Locate Examination:11-NOV-2019:10:16 File:191111D1

Experiment:OCDD_DB5 Function:1 Reference:PFK

PPM	Volts
200	0.0023

316.95075   316.98245   317.01415

PPM	Volts
200	0.0125

330.94615   330.97925   331.01235

PPM	Volts
200	0.0055

342.94495   342.97925   343.01355

PPM	Volts
200	0.0039

354.94375   354.97925   355.01475

PPM	Volts
200	0.0020

366.94255   366.97925   367.01595

PPM	Volts
200	0.0077

380.93795   380.97604   381.01414

PPM	Volts
200	0.0044

392.93675   392.97604   393.01534

PPM	Volts
200	0.0026

404.93555   404.97604   405.01654

PPM	Volts
200	0.0015

416.93435   416.97604   417.01774
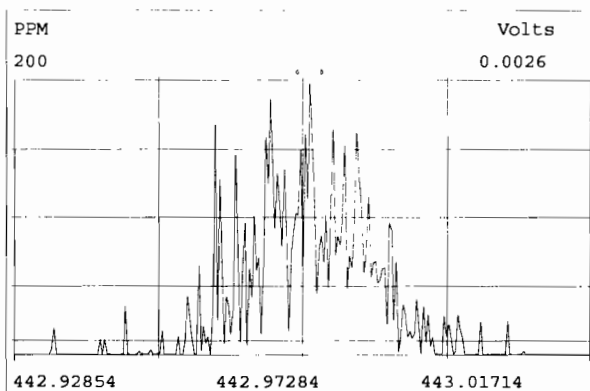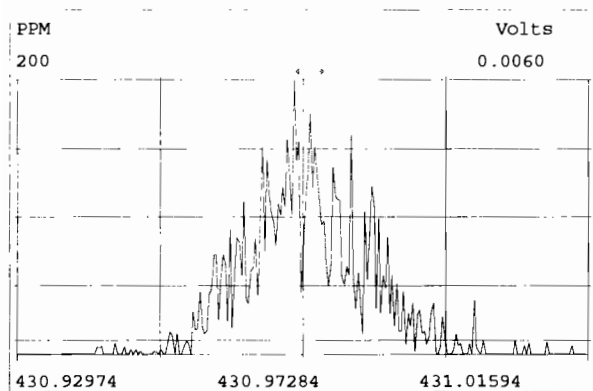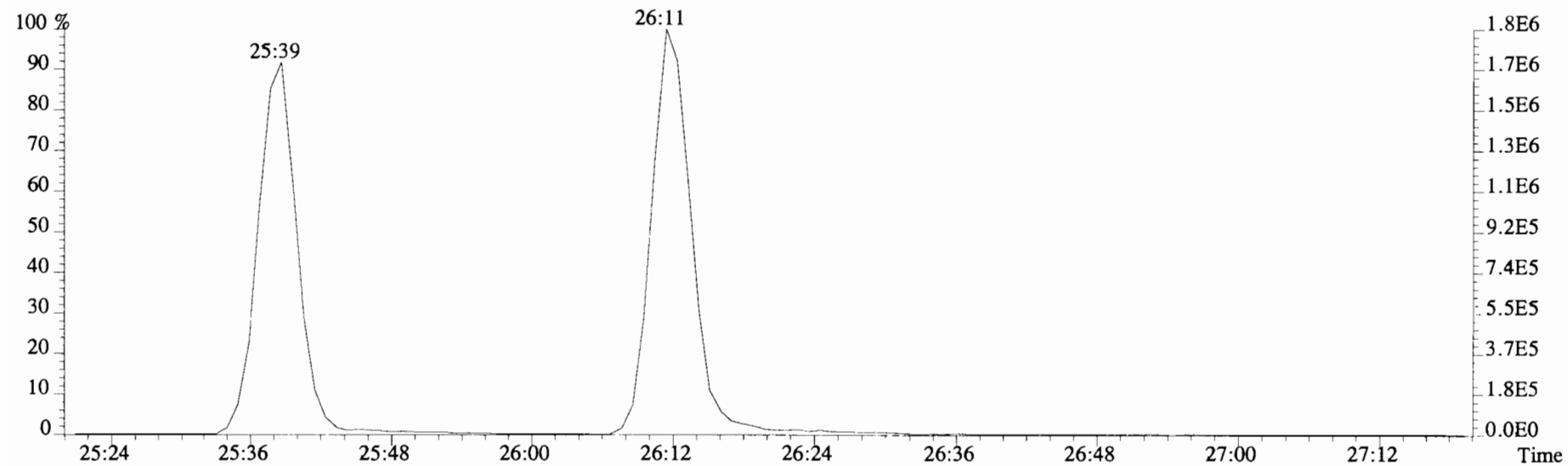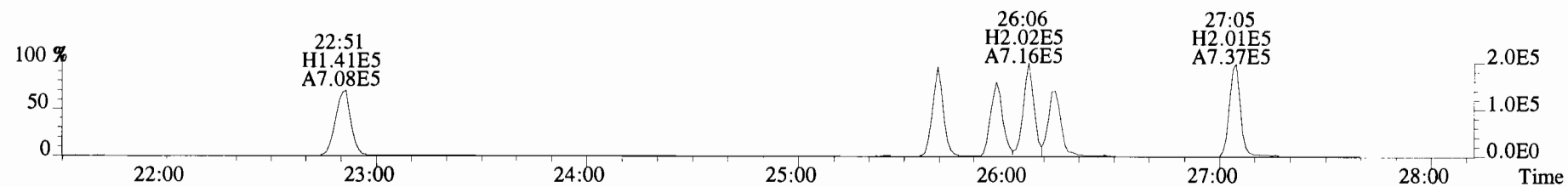
Peak Locate Examination:11-NOV-2019:10:17 File:191111D1

Experiment:OCDD_DB5 Function:3 Reference:PFK

PPM	Volts
200	0.0021

366.94255   366.97925   367.01595

PPM	Volts
200	0.0091

380.93795   380.97604   381.01414

PPM	Volts
200	0.0041

392.93675   392.97604   393.01534

PPM	Volts
200	0.0027

404.93555   404.97604   405.01654

PPM	Volts
200	0.0026

416.93435   416.97604   417.01774

PPM	Volts
200	0.0056

430.92974   430.97284   431.01594

PPM	Volts
200	0.0033

442.92854   442.97284   443.01714

PPM	Volts
200	0.0026

454.92734   454.97284   455.01834

PPM	Volts
200	0.0021

404.93555   404.97604   405.01654

PPM	Volts
200	0.0017

416.93435   416.97604   417.01774

PPM	Volts
200	0.0066

430.92974   430.97284   431.01594

PPM	Volts
200	0.0032

442.92854   442.97284   443.01714

PPM	Volts
200	0.0021

454.92734   454.97284   455.01834

PPM	Volts
200	0.0015

466.92614   466.97284   467.01954

PPM	Volts
200	0.0034

480.92157   480.96967   481.01776

PPM	Volts
200	0.0060

430.92974   430.97284   431.01594

PPM	Volts
200	0.0026

442.92854   442.97284   443.01714

PPM	Volts
200	0.0032

454.92734   454.97284   455.01834

PPM	Volts
200	0.0018

466.92614   466.97284   467.01954

PPM	Volts
200	0.0032

480.92157   480.96967   481.01776

PPM	Volts
200	0.0028

492.92037   492.96967   493.01896

PPM	Volts
200	0.0040

504.91917   504.96967   505.02016

PPM	Volts
200	0.0014

516.91797   516.96967   517.02136

File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936

333.9339

File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
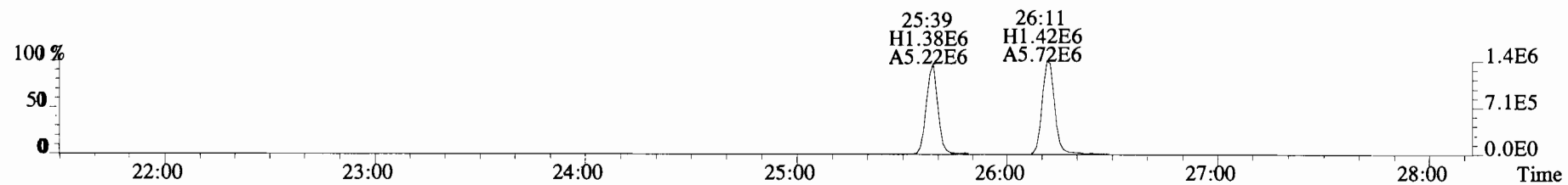319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
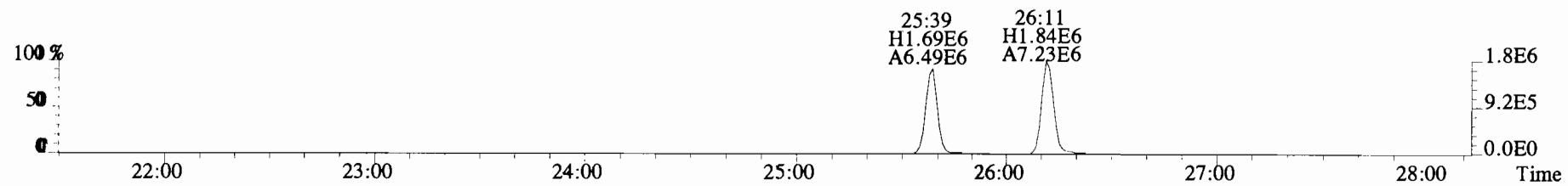

321.8936 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

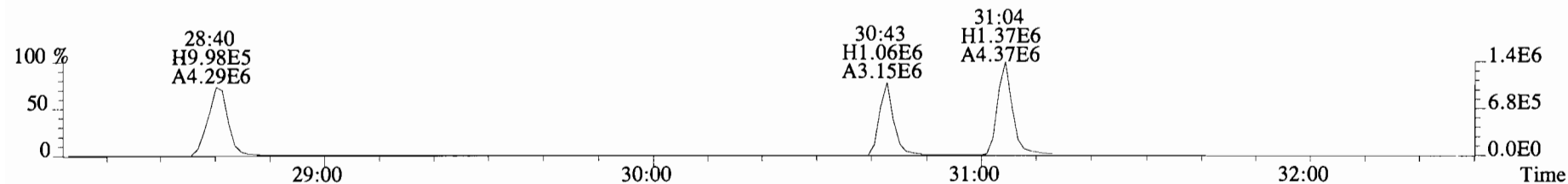331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

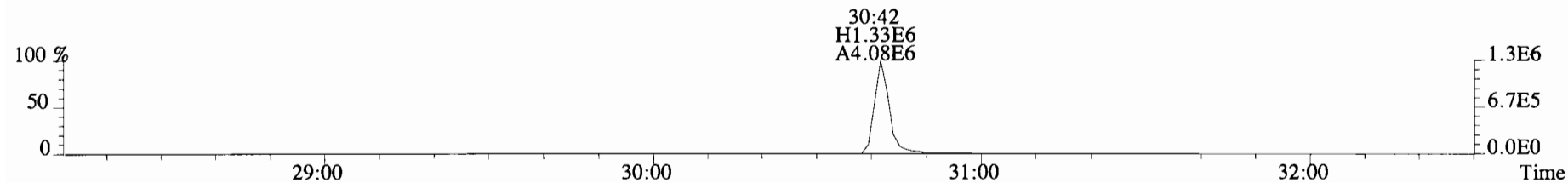333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-211 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
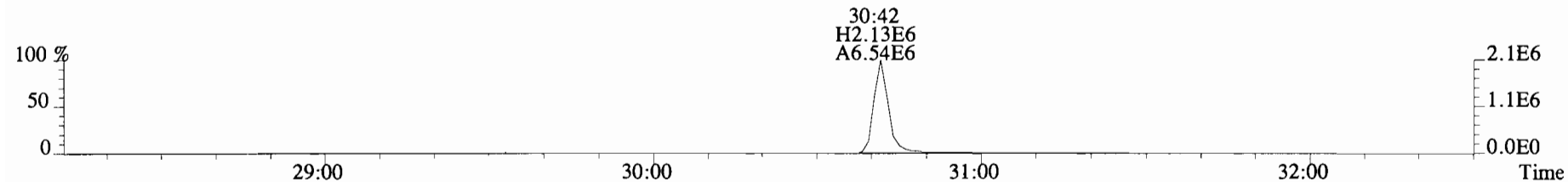353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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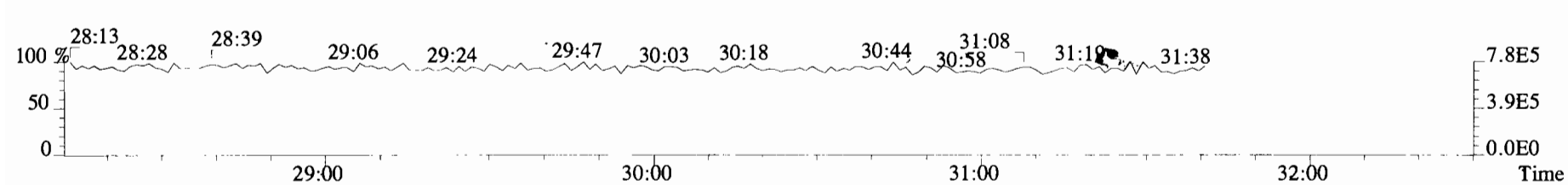

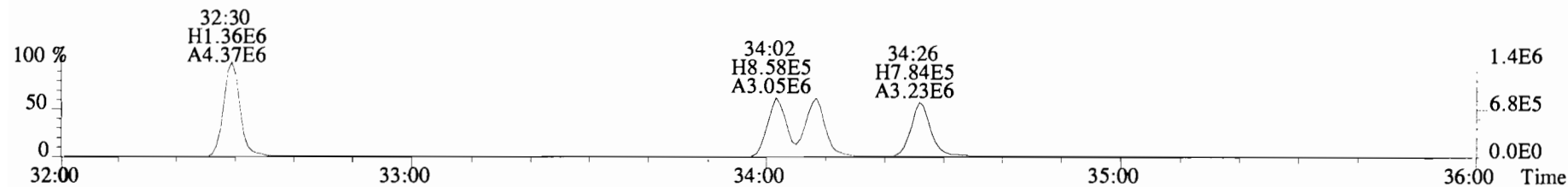365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

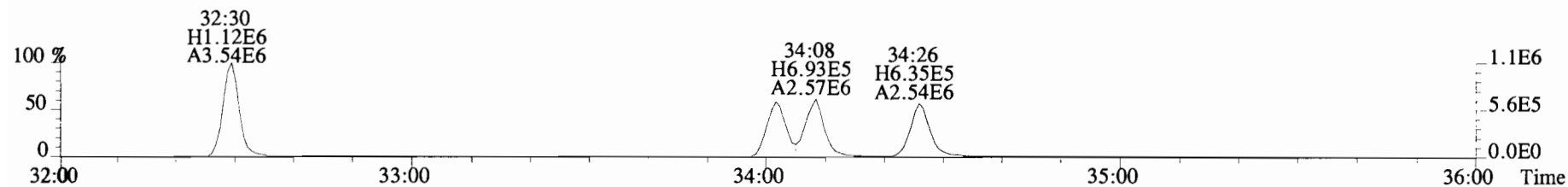367.8949 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

366.9792 F:2

File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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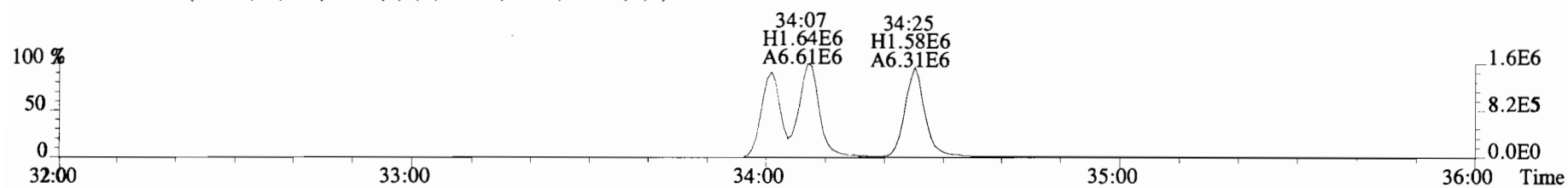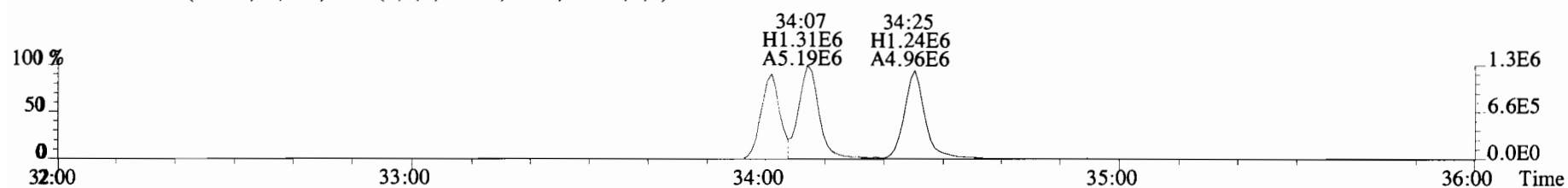

392.9760 F:3

File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
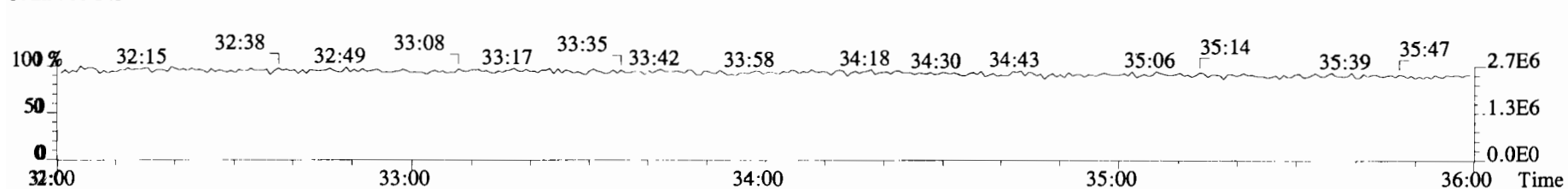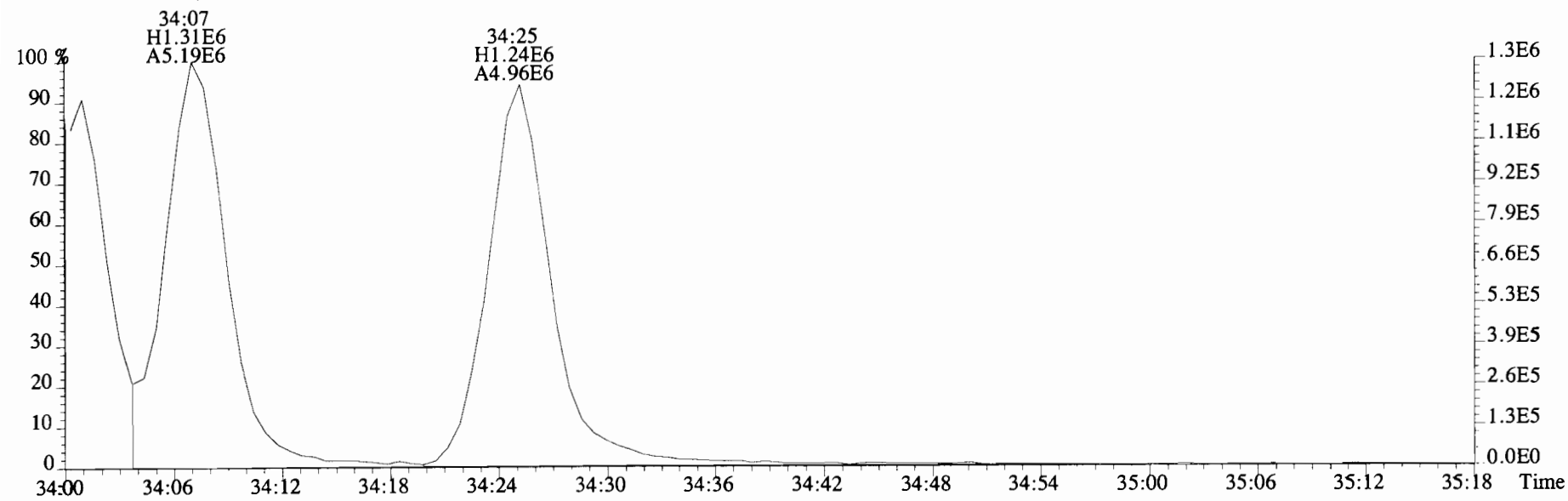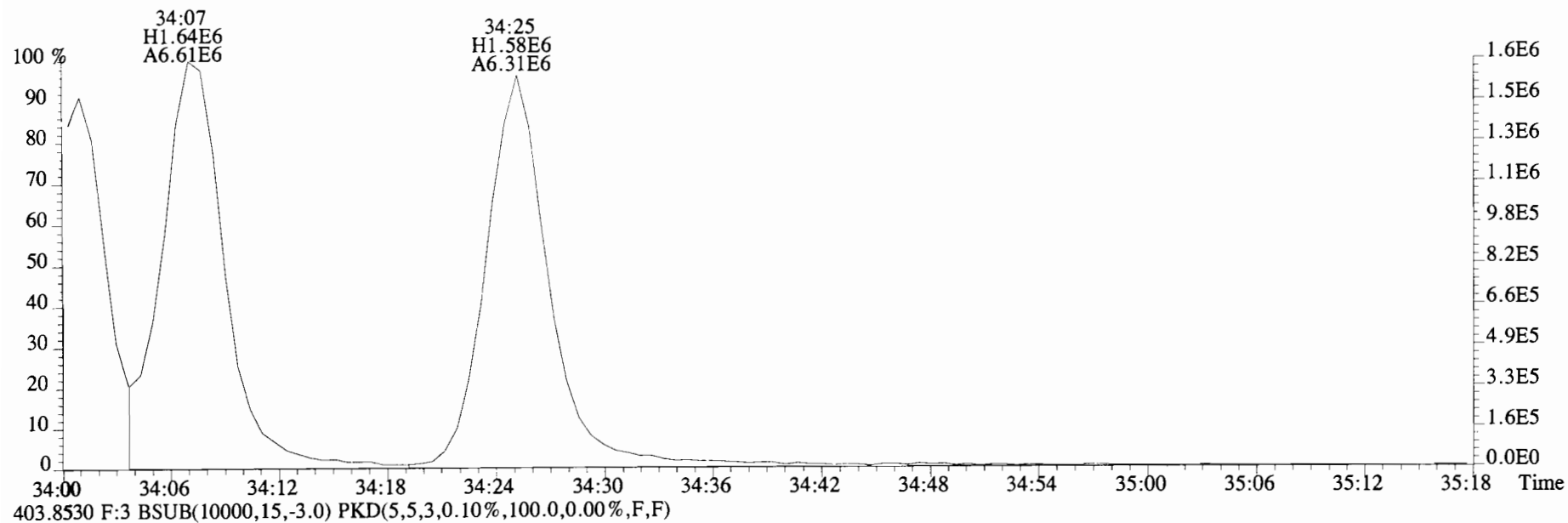401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191111D1 #1-356 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

454.9728 F:4

457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                        41:09
                        H9.57E5
                        A4.29E6
100 %                                                                    9.6E5

 50                                                                      4.8E5

  0                                                                      0.0E0
 40:00              41:00              42:00          43:00         44:00   Time
```

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

```
                        41:09
                        H1.04E6
                        A4.81E6
100 %                                                                    1.0E6

 50                                                                      5.2E5

  0                                                                      0.0E0
 40:00              41:00              42:00          43:00         44:00   Time
```

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

```
                        41:09
                        H1.89E6
                        A8.66E6
100 %                                                                    1.9E6

 50                                                                      9.4E5

  0                                                                      0.0E0
 40:00              41:00              42:00          43:00         44:00   Time
```

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

```
                        41:09
                        H2.09E6
                        A9.60E6
100 %                                                                    2.1E6

 50                                                                      1.0E6

  0                                                                      0.0E0
 40:00              41:00              42:00          43:00         44:00   Time
```

454.9728 F:5

```
       40:04                        41:14
        40:15   40:35  40:47              41:24  41:43  41:59  42:17  42:37  42:53  43:09    43:29   43:40  43:56
100 %                                                                                                             1.4E6

 50                                                                                                              7.1E5

  0                                                                                                              0.0E0
 40:00              41:00              42:00          43:00         44:00   Time
```
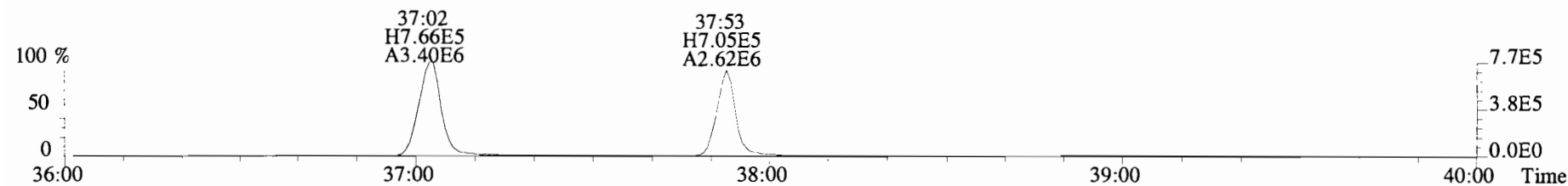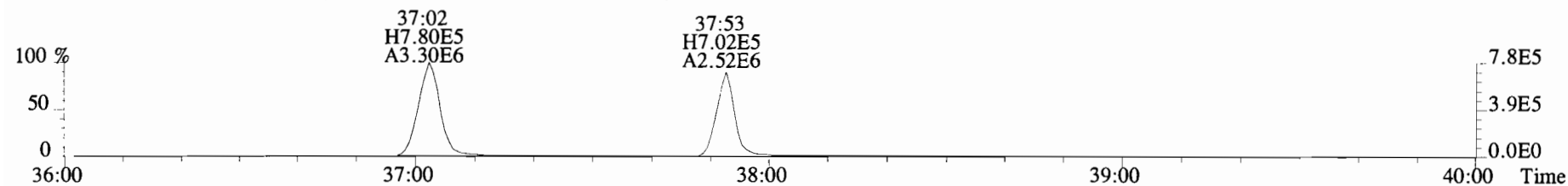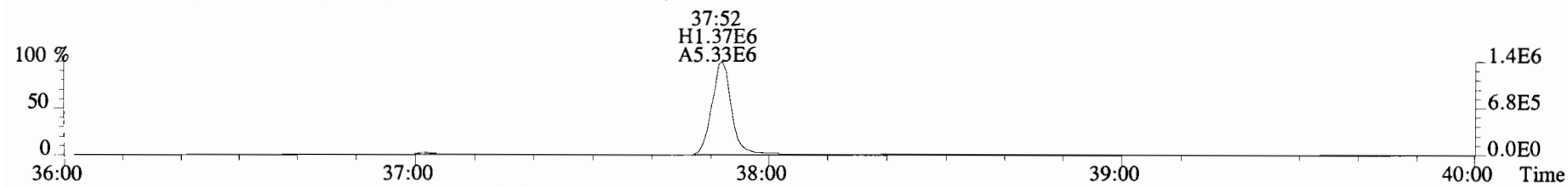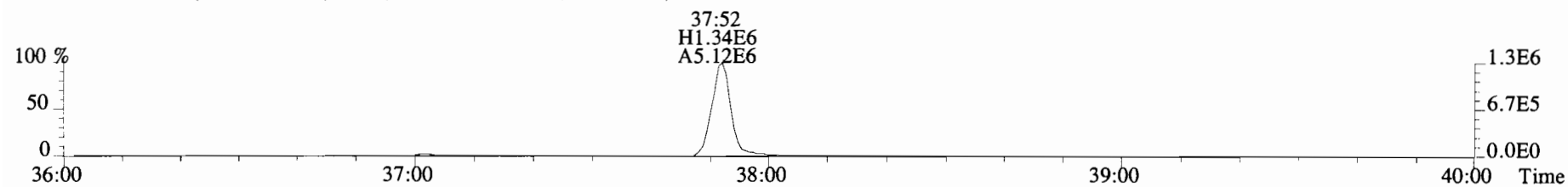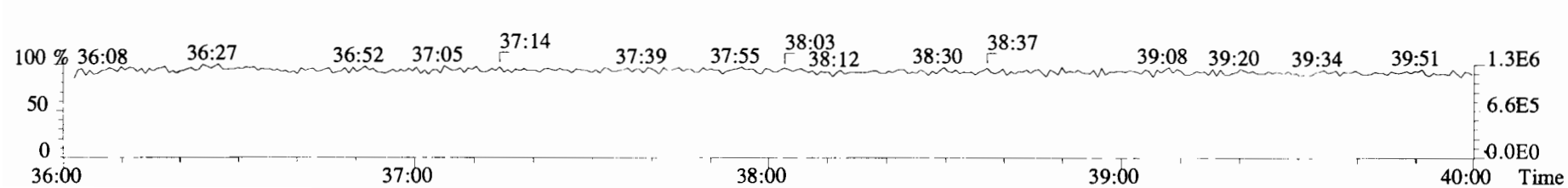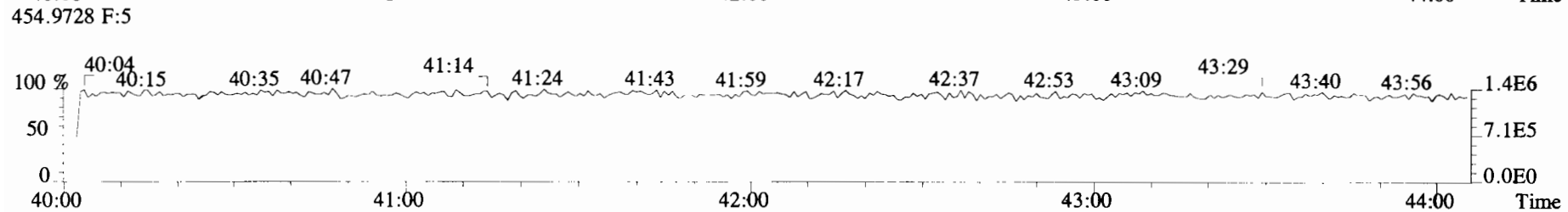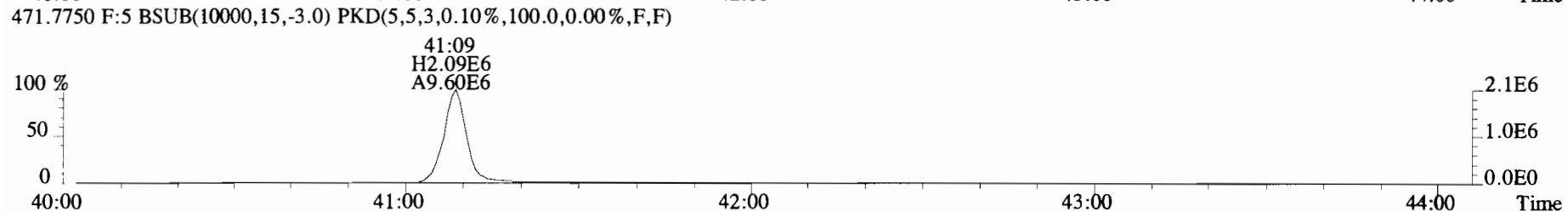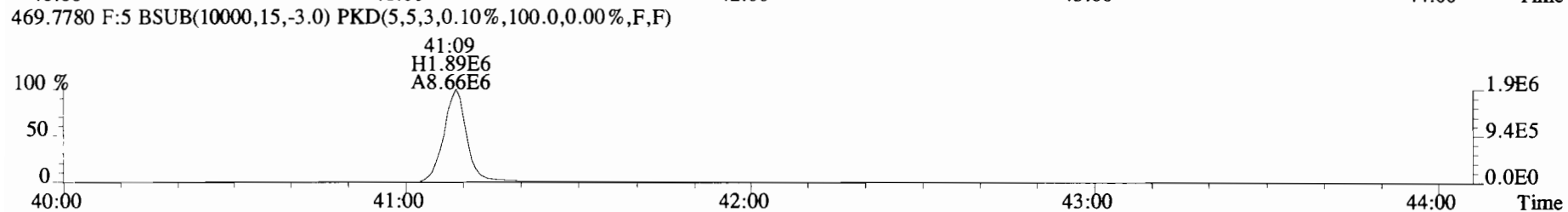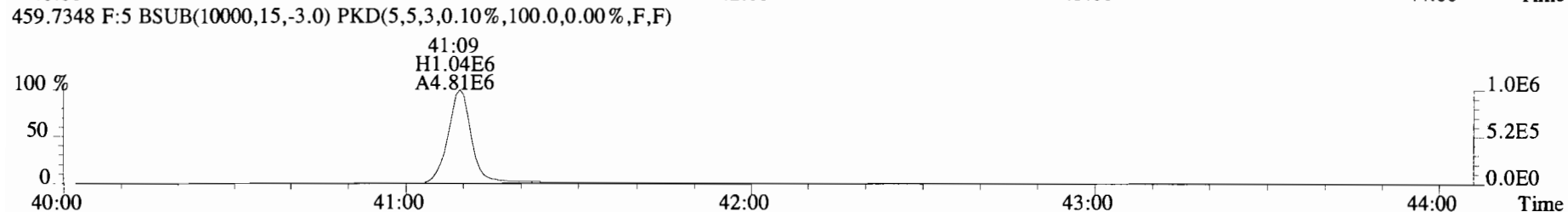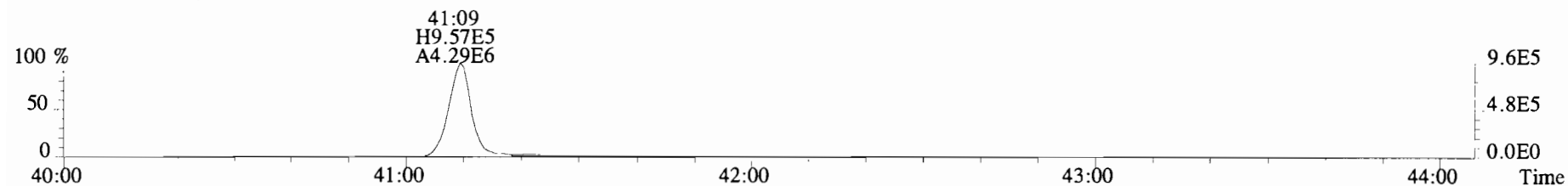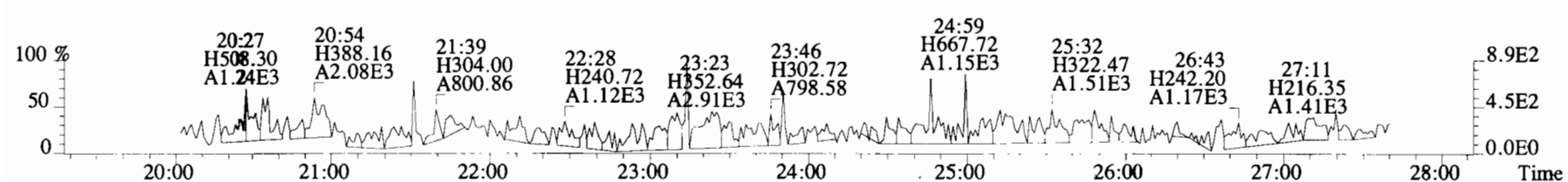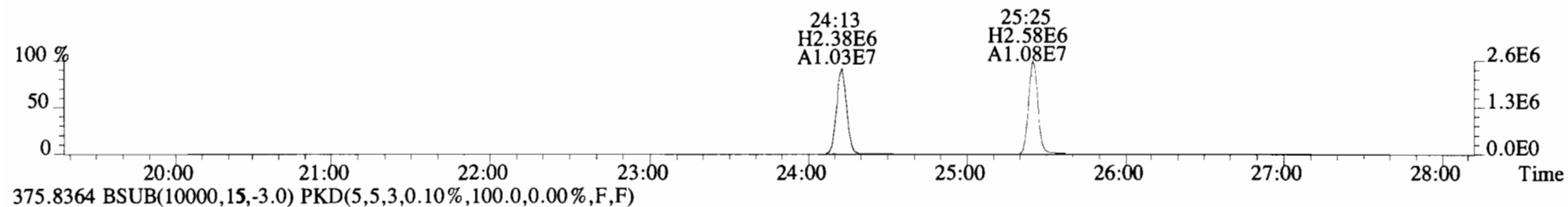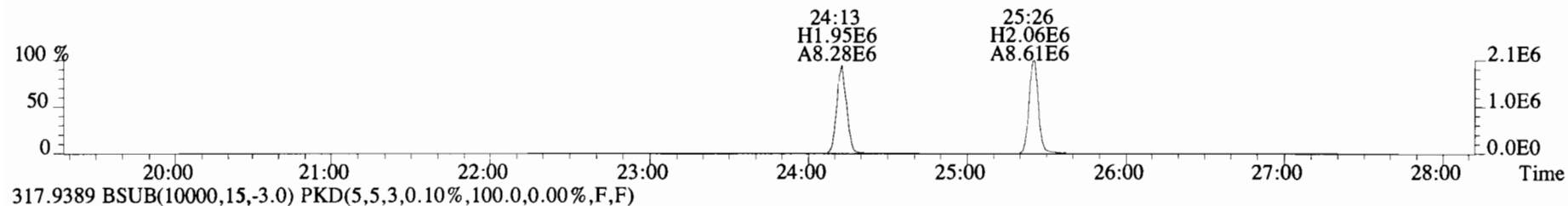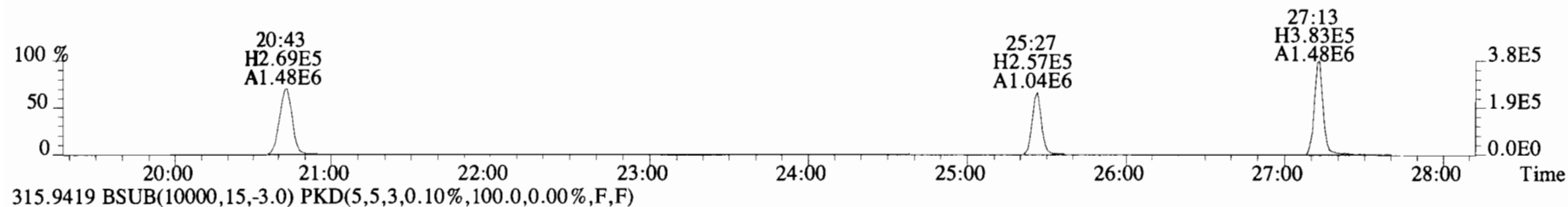
File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

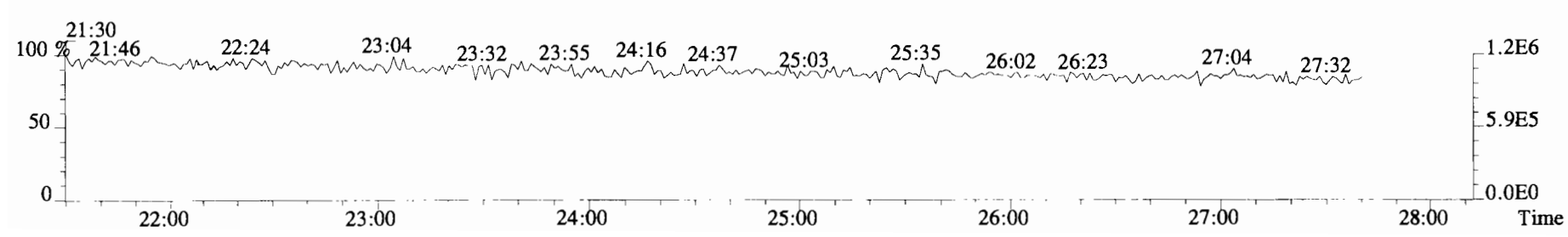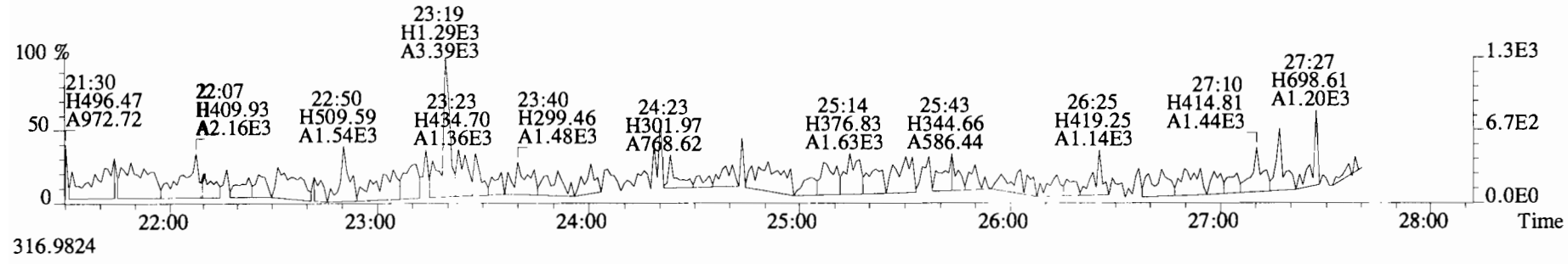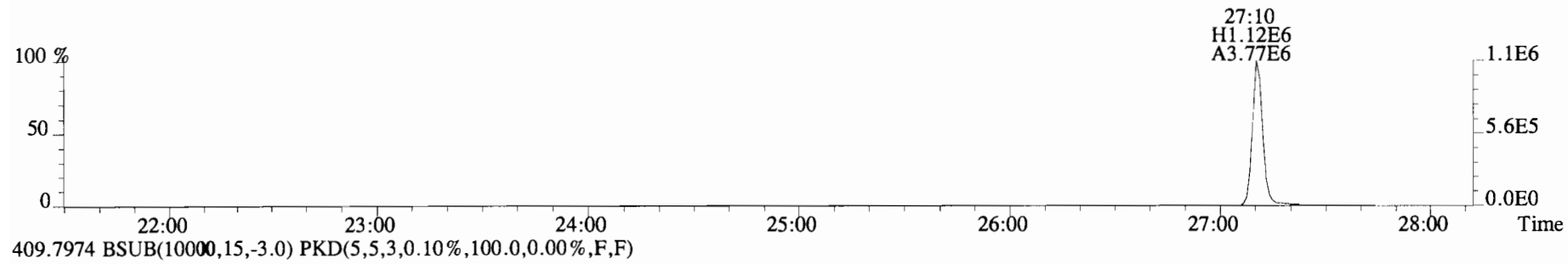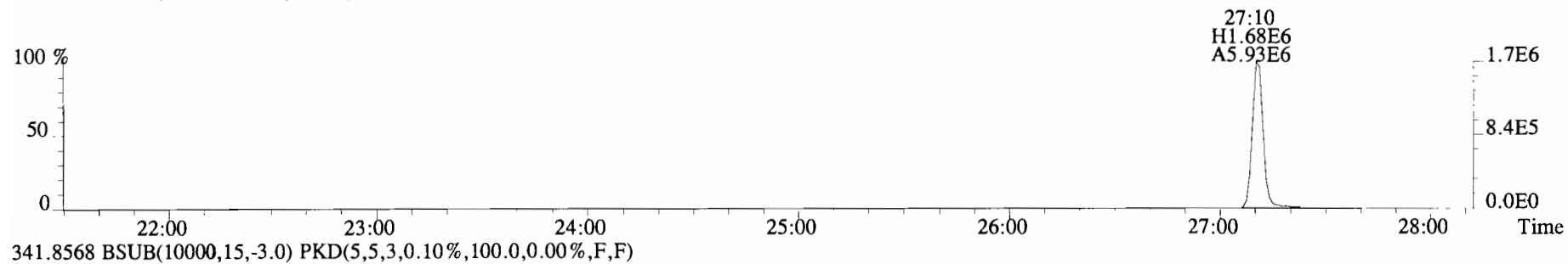375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-492 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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:191111D1 #1-211 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
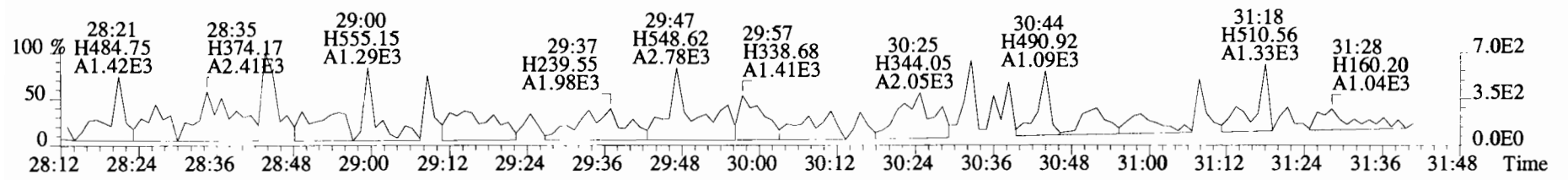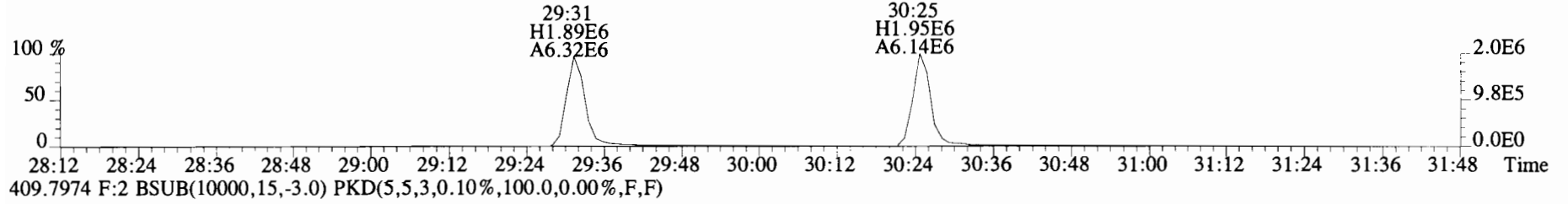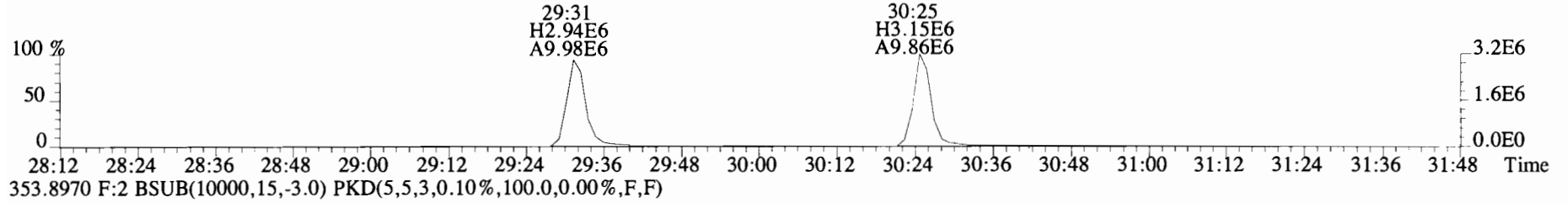339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

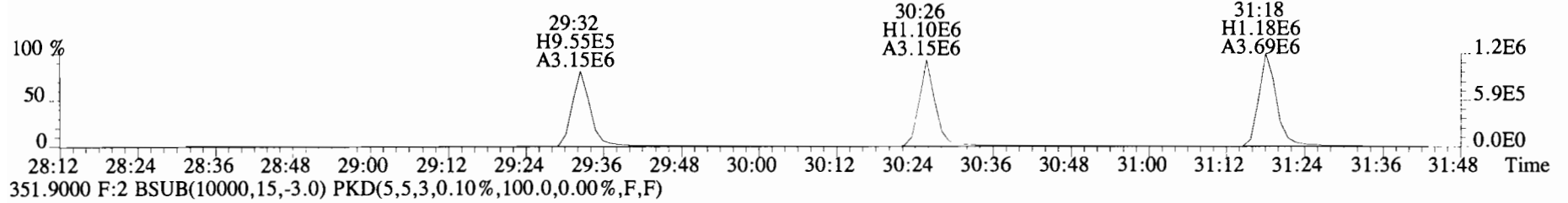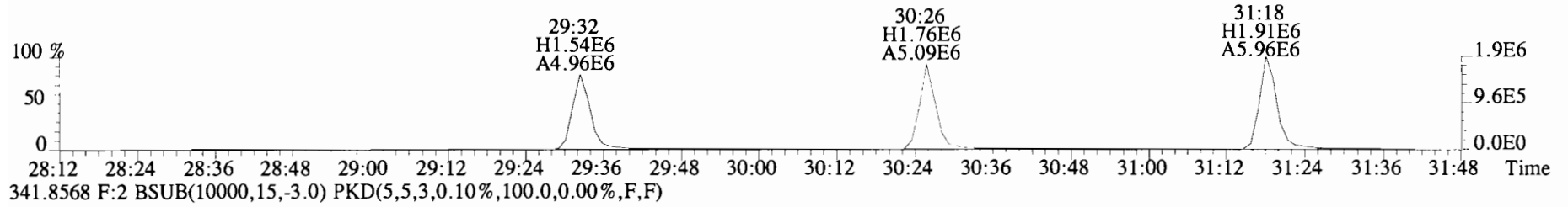445.7555 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-384 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

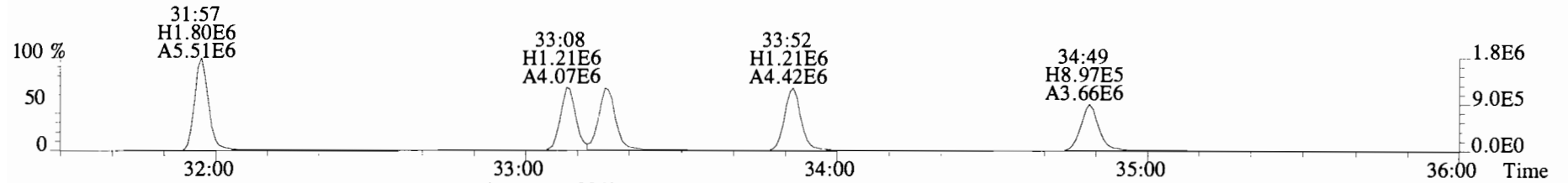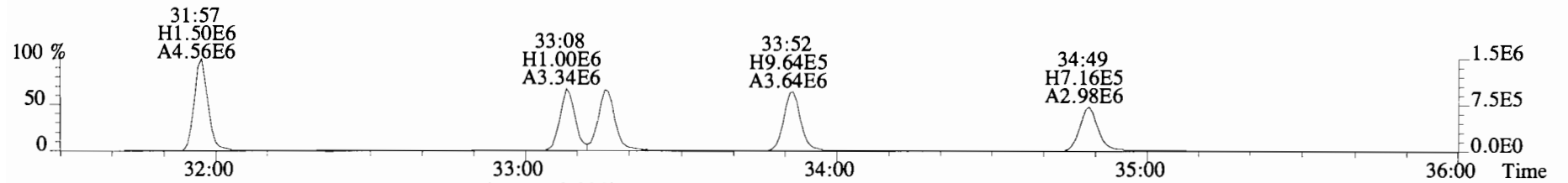385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D1 #1-356 Acq:11-NOV-2019 10:19:32 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D1-1 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

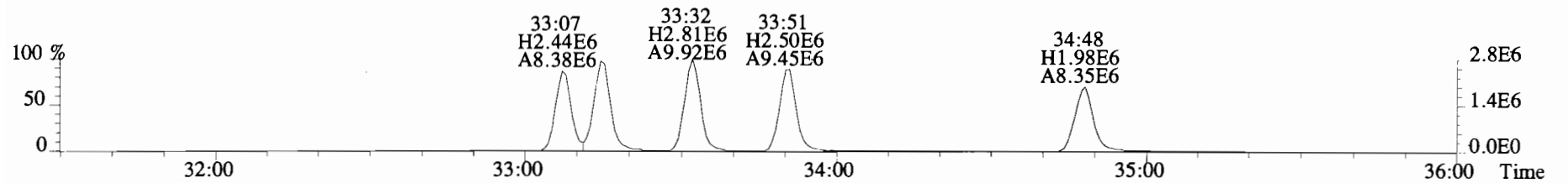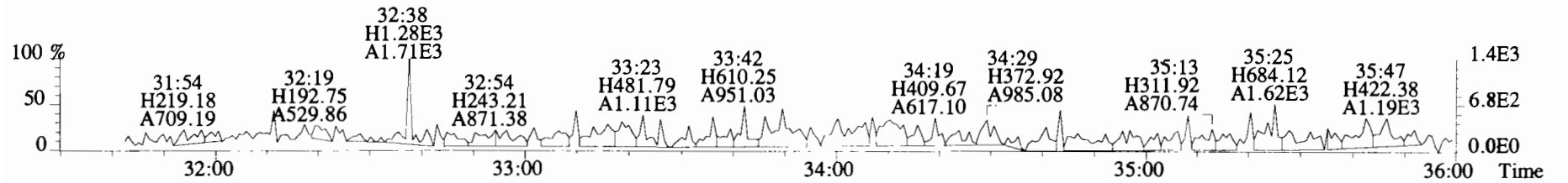419.8220 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:23
H1.20E6
A5.30E6

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

41:23
H1.29E6
A5.84E6

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

41:22
H2.41E6
A1.09E7

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

41:22
H2.81E6
A1.23E7

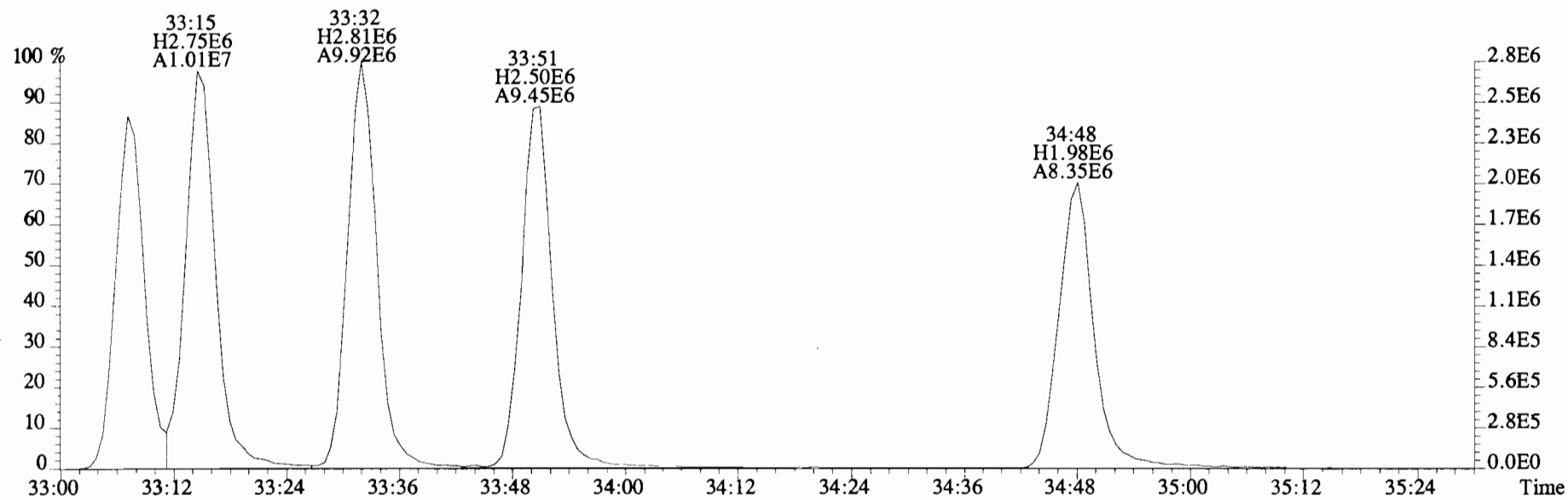513.6775 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

40:25
H669.58
A2.03E3

41:09
H438.81
A1.87E3

41:25
H997.27
A1.80E3

41:43
H437.60
A1.61E3

42:35
H433.42
A2.15E3

43:12
H565.57
A1.54E3

43:35
H491.07
A1.28E3

44:10
H449.80
A1.52E3

44:56
H194.22
A499.46

PPM	Volts	PPM	Volts	PPM	Volts	PPM	Volts
200	0.0262	200	0.0154	200	0.0088	200	0.0310

292.98245	304.98245	316.98245	330.97925

PPM	Volts	PPM	Volts	PPM	Volts	PPM	Volts
200	0.0188	200	0.0078	200	0.0045	200	0.0150

342.97925	354.97925	366.97925	380.97604

PPM	Volts	PPM	Volts	PPM	Volts
200	0.0097	200	0.0067	200	0.0034

392.97604	404.97604	416.97604

Peak Locate Examination:11-NOV-2019:22:28 File:RES_CHECK
Experiment:OCDD_DB5 Function:2 Reference:PFK

Peak Locate Examination:11-NOV-2019:22:29 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK

PPM	Volts
200	0.0076

366.94255   366.97925   367.01595

PPM	Volts
200	0.0248

380.93795   380.97604   381.01414

PPM	Volts
200	0.0125

392.93675   392.97604   393.01534

PPM	Volts
200	0.0085

404.93555   404.97604   405.01654

PPM	Volts
200	0.0051

416.93435   416.97604   417.01774

PPM	Volts
200	0.0115

430.92974   430.97284   431.01594

PPM	Volts
200	0.0075

442.92854   442.97284   443.01714

PPM	Volts
200	0.0066

454.92734   454.97284   455.01834

Peak Locate Examination:11-NOV-2019:22:30 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK

PPM	Volts
200	0.0083

404.93555   404.97604   405.01654

PPM	Volts
200	0.0042

416.93435   416.97604   417.01774

PPM	Volts
200	0.0117

430.92974   430.97284   431.01594

PPM	Volts
200	0.0090

442.92854   442.97284   443.01714

PPM	Volts
200	0.0073

454.92734   454.97284   455.01834

PPM	Volts
200	0.0031

466.92614   466.97284   467.01954

PPM	Volts
200	0.0062

480.92157   480.96967   481.01776

Experiment:OCDD_DB5 Function:5 Reference:PFK

PPM	Volts
200	0.0141

430.92974   430.97284   431.01594

PPM	Volts
200	0.0086

442.92854   442.97284   443.01714

PPM	Volts
200	0.0086

454.92734   454.97284   455.01834

PPM	Volts
200	0.0028

466.92614   466.97284   467.01954

PPM	Volts
200	0.0073

480.92157   480.96967   481.01776

PPM	Volts
200	0.0054

492.92037   492.96967   493.01896

PPM	Volts
200	0.0053

504.91917   504.96967   505.02016

PPM	Volts
200	0.0025

516.91797   516.96967   517.02136

HRMS CALIBRATION STANDARDS REVIEW CHECKLIST

Beg. Calbration ID: ST191111D2-1   **Reviewed By:** CT 11/13/19
                                        Initials & Date

End Calbration ID: NA

	Beg.	End
Ion abundance within QC limits?	✓	NA
Concentrations within criteria?	✓	☐
TCDD/TCDF Valleys <25%	✓	☐
First and last eluters present?	✓	☐
Retention Times within criteria?	✓	☐
Verification Std. named correctly?	✓	☐
(ST-Year-Month-Day-VG ID)		
Forms signed and dated?	✓	☐
Correct ICAL referenced?	DB	

Run Log:

	Beg.	End
- **Correct instrument listed?**	✓	✓
- **Samples within 12 hour clock?**	Ⓨ	N
- **Bottle position verfied?**	DB	

	Beg.	End
Mass resolution ≥	☐	✓

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

	Beg.	End
Intergrated peaks display correctly?	✓	NA

GC Break <20%   NA

8280 CS1 End Standard:

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

Comments:

ID: LR - HCSRC   **Rev. No.:** 0   **Rev. Date:** 06/06/2017   **Page:** 1 of 1

```
                              FORM 4A
                   PCDD/PCDF CALIBRATION VERIFICATION
```

Lab Name: Vista Analytical Laboratory   Episode No.:   CCAL ID: ST191111D2-1

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D2   S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

	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	0.80	0.65-0.89	y	10.8	7.8 - 12.9
						8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	53.5	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.24	1.05-1.43	y	48.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	53.2	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	52.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.03	0.88-1.20	y	52.0	43.0 - 58.0
OCDD	M+2/M+4	0.89	0.76-1.02	y	105	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	10.1	8.4 - 12.0
						8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	53.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.57	1.32-1.78	y	51.2	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.24	1.05-1.43	y	50.4	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	50.2	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	52.4	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.22	1.05-1.43	y	50.4	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.01	0.88-1.20	y	48.3	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.02	0.88-1.20	y	48.0	43.0 - 58.0
OCDF	M+2/M+4	0.90	0.76-1.02	y	103	63.0 - 159.0

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

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

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

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

Analyst: _JB_

Date: _11/12/19_

FORM 4B
PCDD/PCDF CALIBRATION VERIFICATION

Lab Name: Vista Analytical Laboratory   Episode No.:

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D2   S#1   Analysis Date: 11-NOV-19 Time: 22:32:01

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	103	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.62	0.54-0.72	y	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.27	1.05-1.43	y	106	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.26	1.05-1.43	y	88.8	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.24	1.05-1.43	y	93.5	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.05	0.88-1.20	y	108	72.0 - 138.0
13C-OCDD	M/M+2	0.90	0.76-1.02	y	209	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	y	104	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	114	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	111	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	108	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.52	0.43-0.59	y	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	100	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.52	0.43-0.59	y	105	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.44	0.37-0.51	y	112	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.43	0.37-0.51	y	120	77.0 - 129.0
13C-OCDF	M+2/M+4	0.91	0.76-1.02	y	223	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.66	7.9 - 12.7

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

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: _DB_

Date: _11/12/19_

```
                      FORM 5
        PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS
```

Lab Name: Vista Analytical Laboratory   Episode No.:

Contract No.:   SAS No.:

Instrument ID: VG-7   Initial Calibration Date: 10-9-19

RT Window Data Filename: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

ZB-5MS IS Data Filename: 191111D2 S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

DB_225 IS Data Filename: Analysis Date: Time:

```
              ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS
```

| | ABSOLUTE | | ABSOLUTE |
ISOMERS	RT	ISOMERS	RT
1,3,6,8-TCDD (F)	22:53	1,3,6,8-TCDF (F)	20:46
1,2,8,9-TCDD (L)	27:05	1,2,8,9-TCDF (L)	27:14
1,2,4,7,9-PeCDD (F)	28:42	1,3,4,6,8-PeCDF (F)	27:12
1,2,3,8,9-PeCDD (L)	31:05	1,2,3,8,9-PeCDF (L)	31:19
1,2,4,6,7,9-HxCDD (F)	32:30	1,2,3,4,6,8-HxCDF (F)	31:58
1,2,3,7,8,9-HxCDD (L)	34:27	1,2,3,7,8,9-HxCDF (L)	34:49
1,2,3,4,6,7,9-HpCDD (F)	37:03	1,2,3,4,6,7,8-HpCDF (F)	36:40
1,2,3,4,6,7,8-HpCDD (L)	37:53	1,2,3,4,7,8,9-HpCDF (L)	38:25

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

==

```
              ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS
```

```
              % VALLEY HEIGHT
                 BETWEEN
             COMPARED PEAKS (1)
```

```
                  <25%
```

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

Analyst: _DB_

Date: _11/12/19_

```
                        FORM 6A
            PCDD/PCDF RELATIVE RETENTION TIMES
```

Lab Name: Vista Analytical Laboratory   Episode No.:

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D2   S#1 Analysis Date: 11-NOV-19 Time: 22:32:01

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

NATIVE ANALYTES	RETENTION TIME 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	1.000	0.999-1.002
2,3,4,7,8-PeCDF	13C-2,3,4,7,8-PeCDF	1.000	0.999-1.002

LABELED COMPOUNDS

13C-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.976-1.043
13C-1,2,3,7,8-PeCDD	13C-1,2,3,4-TCDD	1.196	1.000-1.567
13C-2,3,7,8-TCDF	13C-1,2,3,4-TCDD	0.991	0.923-1.103
13C-1,2,3,7,8-PeCDF	13C-1,2,3,4-TCDD	1.151	1.000-1.425
13C-2,3,4,7,8-PeCDF	13C-1,2,3,4-TCDD	1.186	1.011-1.526
37Cl-2,3,7,8-TCDD	13C-1,2,3,4-TCDD	1.022	0.989-1.052

Analyst: _DB_

Date: _11/12/19_

```
                          FORM 6B
              PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory     Episode No.:

Contract No.:            SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191111D2    S#1  Analysis Date: 11-NOV-19 Time: 22:32:01
```

	RETENTION TIME		RRT
NATIVE ANALYTES	REFERENCE	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	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.000	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.000	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.001	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.988	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.009	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.038	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.017	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.026	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.129	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.233	1.091-1.371

Analyst: _DB_

Date: _11/12/19_

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL
	2,3,7,8-TCDD	1.45e+06	0.80	y	0.91	26:15	10.803		*	2.5	*
	1,2,3,7,8-PeCDD	5.67e+06	0.64	y	0.90	30:44	53.517		*	2.5	*
	1,2,3,4,7,8-HxCDD	5.98e+06	1.24	y	1.10	34:02	48.877		*	2.5	*
	1,2,3,6,7,8-HxCDD	6.22e+06	1.23	y	0.94	34:09	53.195		*	2.5	*
	1,2,3,7,8,9-HxCDD	6.22e+06	1.26	y	0.96	34:27	52.379		*	2.5	*
	1,2,3,4,6,7,8-HpCDD	5.87e+06	1.03	y	0.98	37:53	51.979		*	2.5	*
	OCDD	1.00e+07	0.89	y	0.96	41:10	104.87		*	2.5	*
	2,3,7,8-TCDF	1.99e+06	0.78	y	0.95	25:28	10.133		*	2.5	*
	1,2,3,7,8-PeCDF	9.53e+06	1.62	y	0.96	29:33	53.210		*	2.5	*
	2,3,4,7,8-PeCDF	9.38e+06	1.57	y	1.01	30:27	51.175		*	2.5	*
	1,2,3,4,7,8-HxCDF	8.75e+06	1.24	y	1.18	33:09	50.368		*	2.5	*
	1,2,3,6,7,8-HxCDF	9.16e+06	1.20	y	1.07	33:16	50.175		*	2.5	*
	2,3,4,6,7,8-HxCDF	9.17e+06	1.23	y	1.11	33:52	52.449		*	2.5	*
	1,2,3,7,8,9-HxCDF	7.65e+06	1.22	y	1.06	34:49	50.390		*	2.5	*
	1,2,3,4,6,7,8-HpCDF	7.59e+06	1.01	y	1.13	36:40	48.283		*	2.5	*
	1,2,3,4,7,8,9-HpCDF	7.02e+06	1.02	y	1.28	38:25	48.020		*	2.5	*
	OCDF	1.23e+07	0.90	y	0.95	41:23	102.80		*	2.5	*
IS	13C-2,3,7,8-TCDD	1.49e+07	0.80	y	1.10	26:13	102.79				
IS	13C-1,2,3,7,8-PeCDD	1.17e+07	0.62	y	0.88	30:42	100.83				
IS	13C-1,2,3,4,7,8-HxCDD	1.11e+07	1.27	y	0.64	34:01	105.61				
IS	13C-1,2,3,6,7,8-HxCDD	1.25e+07	1.26	y	0.86	34:08	88.800				
IS	13C-1,2,3,7,8,9-HxCDD	1.24e+07	1.24	y	0.81	34:25	93.463				
IS	13C-1,2,3,4,6,7,8-HpCDD	1.15e+07	1.05	y	0.65	37:52	107.55				
IS	13C-OCDD	1.99e+07	0.90	y	0.58	41:09	209.39				
IS	13C-2,3,7,8-TCDF	2.07e+07	0.78	y	1.03	25:26	104.02				
IS	13C-1,2,3,7,8-PeCDF	1.86e+07	1.60	y	0.85	29:33	113.66				
IS	13C-2,3,4,7,8-PeCDF	1.81e+07	1.60	y	0.85	30:26	111.10				
IS	13C-1,2,3,4,7,8-HxCDF	1.48e+07	0.51	y	0.83	33:08	108.27				
IS	13C-1,2,3,6,7,8-HxCDF	1.71e+07	0.52	y	1.03	33:15	100.69				
IS	13C-2,3,4,6,7,8-HxCDF	1.57e+07	0.51	y	0.95	33:51	100.46				
IS	13C-1,2,3,7,8,9-HxCDF	1.43e+07	0.52	y	0.83	34:48	105.43				
IS	13C-1,2,3,4,6,7,8-HpCDF	1.39e+07	0.44	y	0.76	36:39	112.24				
IS	13C-1,2,3,4,7,8,9-HpCDF	1.14e+07	0.43	y	0.58	38:25	119.79				
IS	13C-OCDF	2.52e+07	0.91	y	0.69	41:23	223.09				
C/Up	37Cl-2,3,7,8-TCDD	1.53e+06			1.20	26:14	9.6560				
RS/RT	13C-1,2,3,4-TCDD	1.32e+07	0.79	y	1.00	25:40	100.00				
RS	13C-1,2,3,4-TCDF	1.92e+07	0.79	y	1.00	24:14	100.00				
RS/RT	13C-1,2,3,4,6,9-HxCDF	1.64e+07	0.52	y	1.00	33:33	100.00				

Name	Conc	EMPC	Qual	noise	DL
Total Tetra-Dioxins	75.5	75.9		*	*
Total Penta-Dioxins	203	203		*	*
Total Hexa-Dioxins	229	229		*	*
Total Hepta-Dioxins	121	122		*	*
Total Tetra-Furans	40.0	40.3		*	*
Total Penta-Furans	226.32	226.32		*	*
Total Hexa-Furans	269	269		*	*
Total Hepta-Furans	96.4	97.2		*	*

Rec	Qual
103	
101	
106	
88.8	
93.5	
108	
105	
104	
114	
111	
108	
101	
100	
105	
112	
120	
112	
96.6	

Integrations   Reviewed
by   by
Analyst: _DB_   Analyst: _CT_

Date: _11/12/19_   Date: _11/13/19_

Vista Analytical Laboratory - Injection Log   Run file: 191111D2   Instrument ID: VG-7   GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191111D2	1	ST191111D2-1	DB	11-NOV-19	22:32:01	ST191111D2-1	NA
191111D2	2	ST191111D2-2	DB	11-NOV-19	23:19:45	ST191111D2-2	ST191111D2-3
191111D2	3	B9K0035-BS1	DB	12-NOV-19	00:07:39	ST191111D2-2	ST191111D2-3
191111D2	4	SOLVENT BLANK	DB	12-NOV-19	00:55:34	NA	NA
191111D2	5	B9K0035-BLK1	DB	12-NOV-19	01:43:22	ST191111D2-2	ST191111D2-3
191111D2	6	1903830-01	DB	12-NOV-19	02:31:10	ST191111D2-2	ST191111D2-3
191111D2	7	1903645-08	DB	12-NOV-19	03:18:57	ST191111D2-1	NA
191111D2	8	1903420-11RE1	DB	12-NOV-19	04:06:44	ST191111D2-1	NA
191111D2	9	SOLVENT BLANK	DB	12-NOV-19	04:54:40	NA	NA
191111D2	10	ST191111D2-3	DB	12-NOV-19	05:42:35	ST191111D2-2	ST191111D2-3

PPM	Volts
200	0.0262

292.98245

PPM	Volts
200	0.0154

304.98245

PPM	Volts
200	0.0088

316.98245

PPM	Volts
200	0.0310

330.97925

PPM	Volts
200	0.0188

342.97925

PPM	Volts
200	0.0078

354.97925

PPM	Volts
200	0.0045

366.97925

PPM	Volts
200	0.0150

380.97604

PPM	Volts
200	0.0097

392.97604

PPM	Volts
200	0.0067

404.97604

PPM	Volts
200	0.0034

416.97604

Peak Locate Examination:11-NOV-2019:22:28 File:RES_CHECK

Experiment:OCDD_DB5 Function:2 Reference:PFK

PPM	Volts
200	0.0084

316.95075 316.98245 317.01415

PPM	Volts
200	0.0329

330.94615 330.97925 331.01235

PPM	Volts
200	0.0225

342.94495 342.97925 343.01355

PPM	Volts
200	0.0108

354.94375 354.97925 355.01475

PPM	Volts
200	0.0049

366.94255 366.97925 367.01595

PPM	Volts
200	0.0154

380.93795 380.97604 381.01414

PPM	Volts
200	0.0101

392.93675 392.97604 393.01534

PPM	Volts
200	0.0068

404.93555 404.97604 405.01654

PPM	Volts
200	0.0047

416.93435 416.97604 417.01774

PPM	Volts
200	0.0076

366.94255   366.97925   367.01595

PPM	Volts
200	0.0248

380.93795   380.97604   381.01414

PPM	Volts
200	0.0125

392.93675   392.97604   393.01534

PPM	Volts
200	0.0085

404.93555   404.97604   405.01654

PPM	Volts
200	0.0051

416.93435   416.97604   417.01774

PPM	Volts
200	0.0115

430.92974   430.97284   431.01594

PPM	Volts
200	0.0075

442.92654   442.97284   443.01714

PPM	Volts
200	0.0066

454.92734   454.97284   455.01834

Peak Locate Examination:11-NOV-2019:22:30 File:RES_CHECK

Experiment:OCDD_DB5 Function:4 Reference:PFK

PPM	Volts
200	0.0083

404.93555   404.97604   405.01654

PPM	Volts
200	0.0042

416.93435   416.97604   417.01774

PPM	Volts
200	0.0117

430.92974   430.97284   431.01594

PPM	Volts
200	0.0090

442.92854   442.97284   443.01714

PPM	Volts
200	0.0073

454.92734   454.97284   455.01834

PPM	Volts
200	0.0031

466.92614   466.97284   467.01954

PPM	Volts
200	0.0062

480.92157   480.96967   481.01776

Peak Locate Examination:11-NOV-2019:22:31 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK

PPM	Volts
200	0.0141

430.92974   430.97284   431.01594

PPM	Volts
200	0.0086

442.92854   442.97284   443.01714

PPM	Volts
200	0.0086

454.92734   454.97284   455.01834

PPM	Volts
200	0.0028

466.92614   466.97284   467.01954

PPM	Volts
200	0.0073

480.92157   480.96967   481.01776

PPM	Volts
200	0.0054

492.92037   492.96967   493.01896

PPM	Volts
200	0.0053

504.91917   504.96967   505.02016

PPM	Volts
200	0.0025

516.91797   516.96967   517.02136

File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
321.8936

333.9339

File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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:191111D2 #1-210 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

34:08
H1.88E6
A6.95E6

34:25
H1.85E6
A6.85E6

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

34:08
H1.48E6
A5.50E6

34:25
H1.51E6
A5.51E6

File:191111D2 #1-355 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                              37:02                    37:53
                              H9.83E5                  H8.27E5
  100 %                       A3.94E6                  A2.98E6                                          9.8E5

   50                                                                                                  4.9E5

    0                                                                                                  0.0E0
  36:00            37:00                 38:00                 39:00                 40:00   Time
```

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

```
                              37:02                    37:53
                              H9.61E5                  H8.18E5
  100 %                       A3.82E6                  A2.89E6                                          9.6E5

   50                                                                                                  4.8E5

    0                                                                                                  0.0E0
  36:00            37:00                 38:00                 39:00                 40:00   Time
```
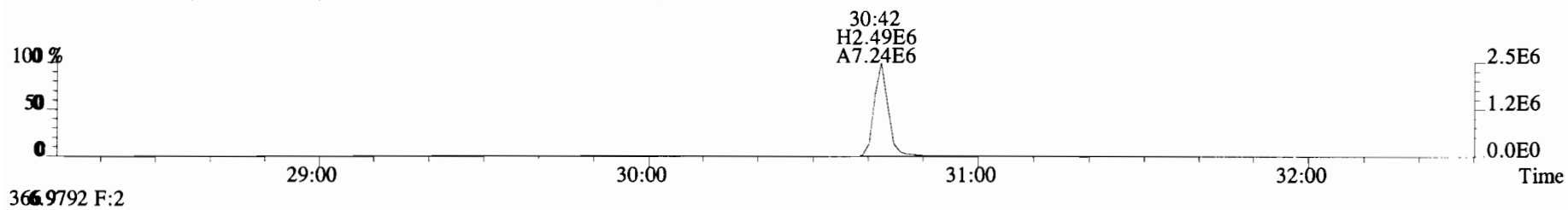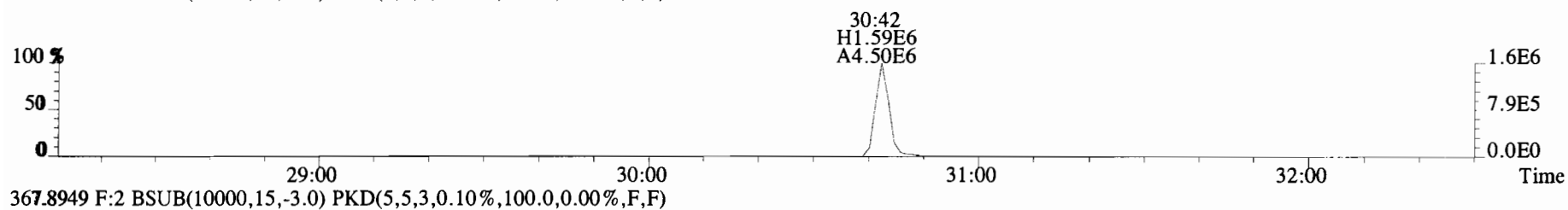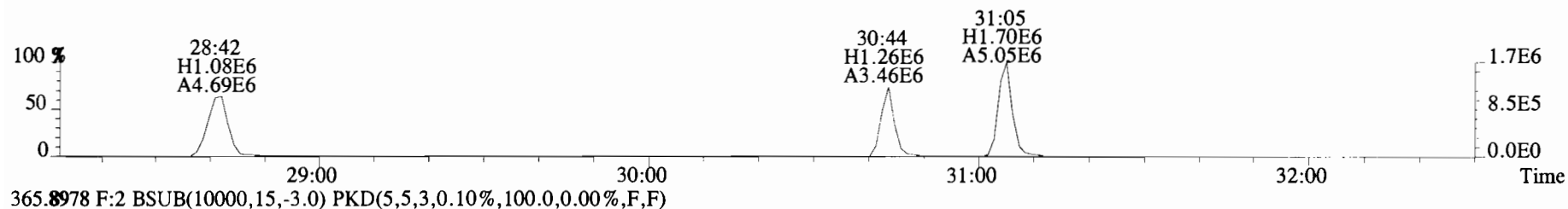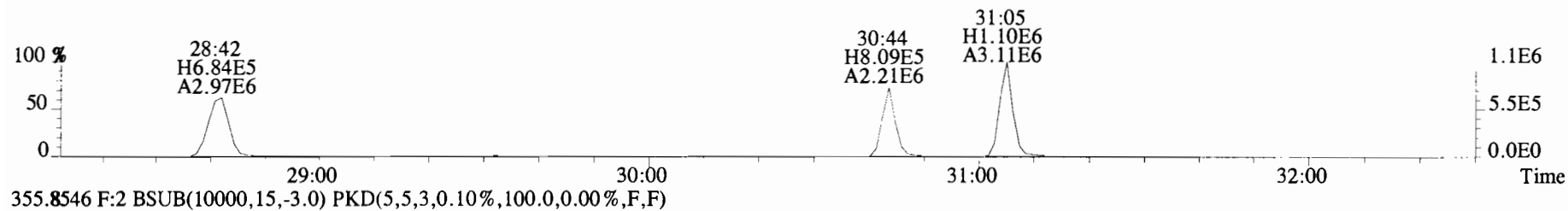
435.8169 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                                       37:52
                                                       H1.63E6
  100 %                                                A5.91E6                                         1.6E6

   50                                                                                                  8.2E5

    0                                                                                                  0.0E0
  36:00            37:00                 38:00                 39:00                 40:00   Time
```

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

```
                                                       37:52
                                                       H1.60E6
  100 %                                                A5.62E6                                         1.6E6

   50                                                                                                  8.0E5

    0                                                                                                  0.0E0
  36:00            37:00                 38:00                 39:00                 40:00   Time
```

454.9728 F:4

```
                                                                                  39:20
       36:20      36:44    36:59    37:16      37:38    37:55    38:10       39:00 ⌐39:26   39:48
  100 %                                                                                                6.5E5

   50                                                                                                  3.2E5

    0                                                                                                  0.0E0
  36:00            37:00                 38:00                 39:00                 40:00   Time
```
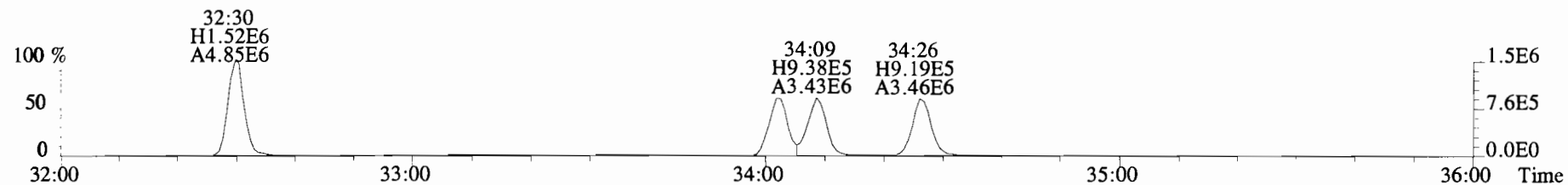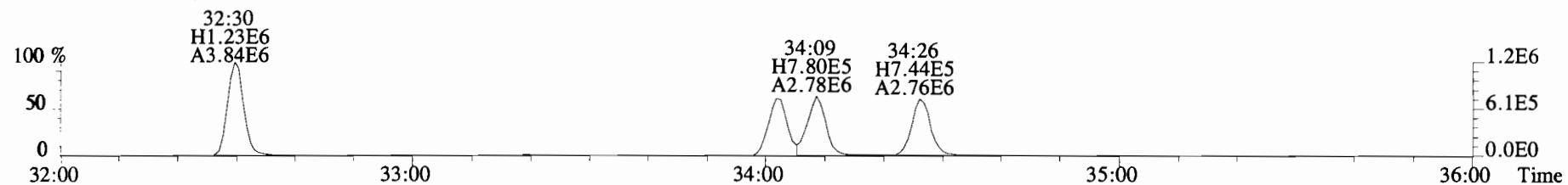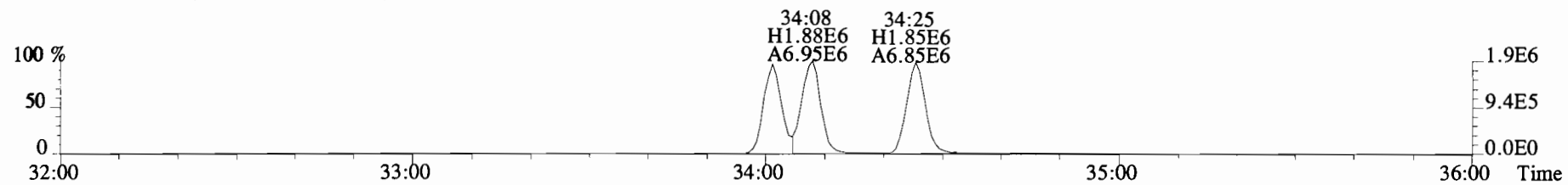
File:191111D2 #1-432 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
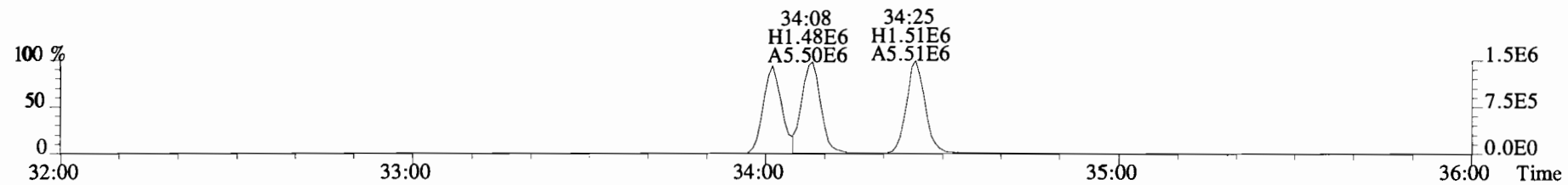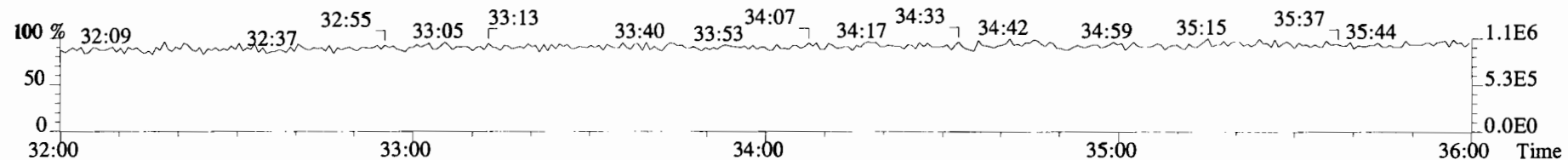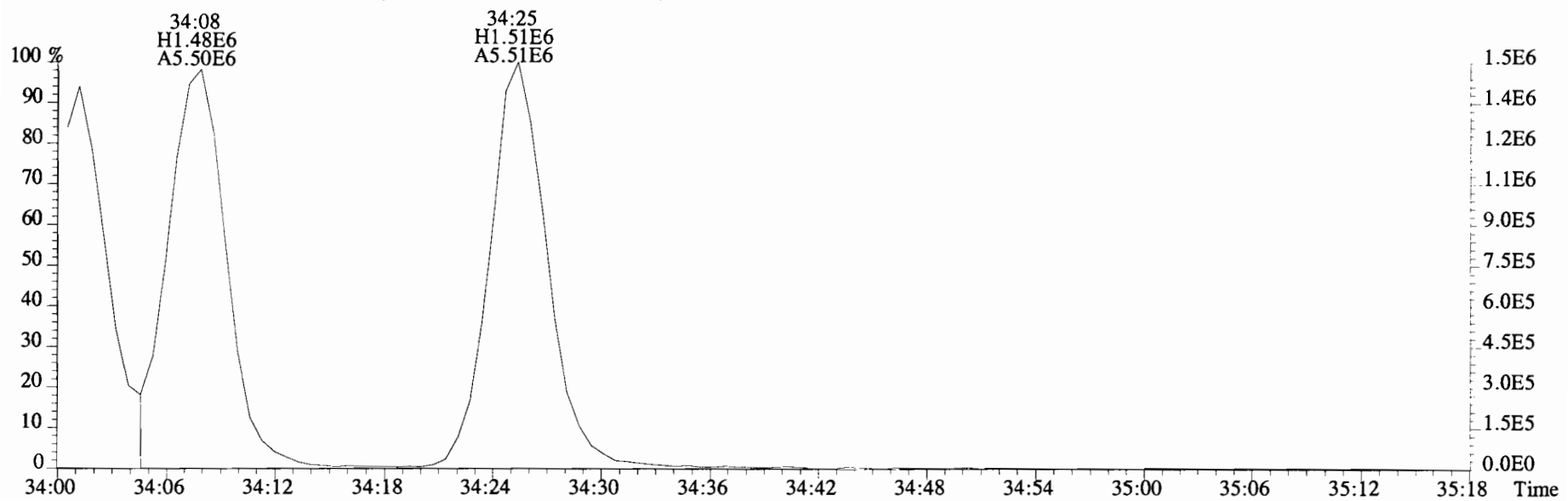457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

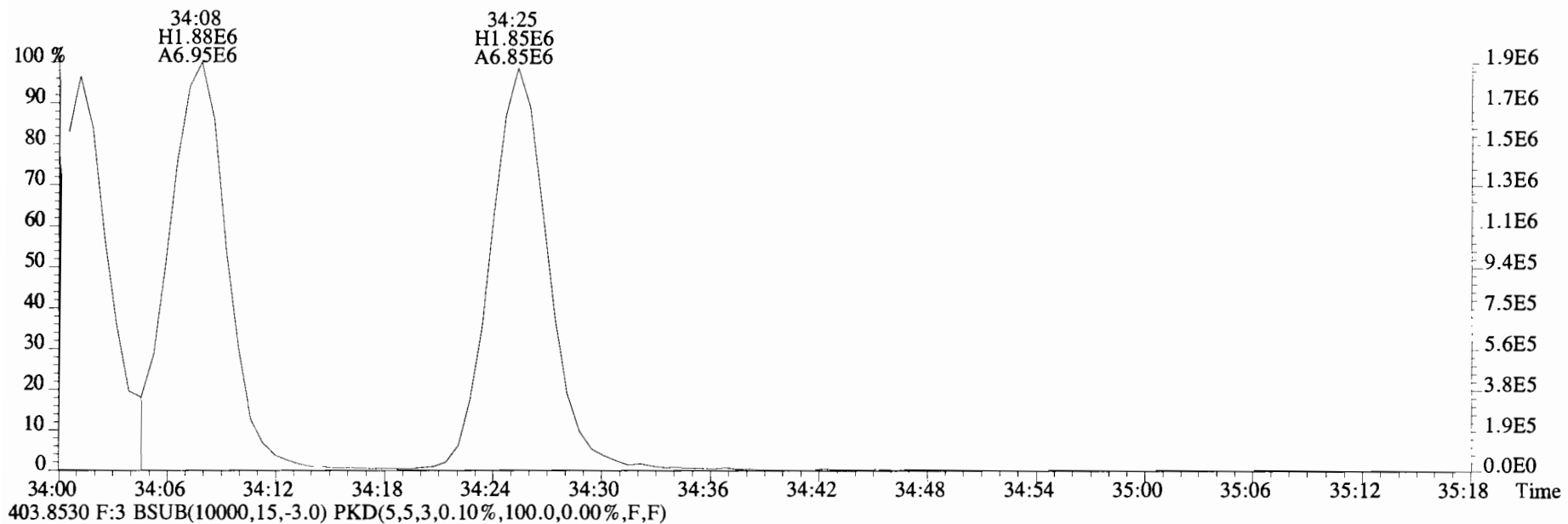469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

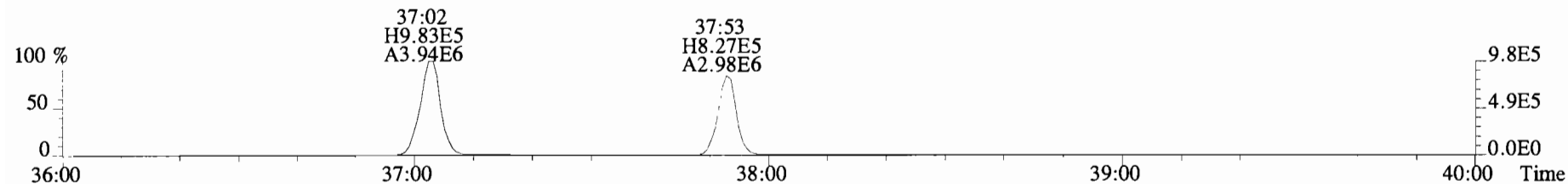471.7750 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
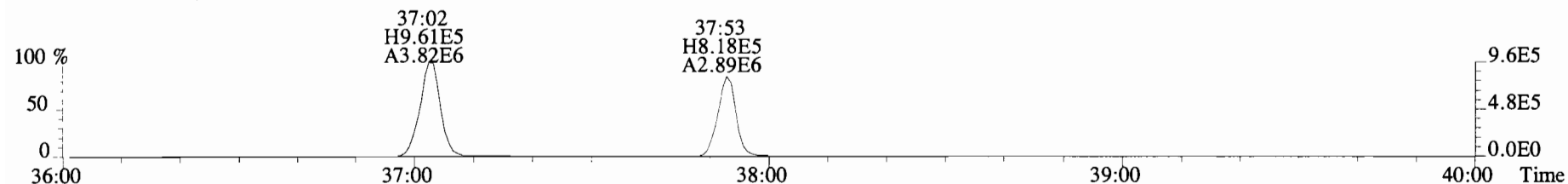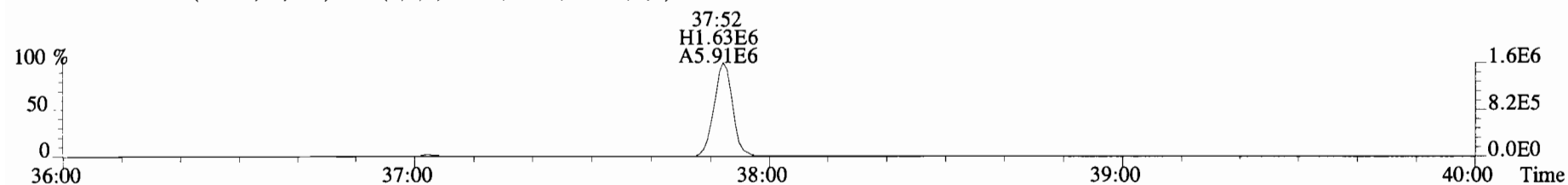

454.9728 F:5

File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

20:46
H2.39E5
A1.29E6

25:27
H2.25E5
A8.70E5

27:14
H3.52E5
A1.26E6

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

20:46
H2.85E5
A1.60E6

25:27
H3.09E5
A1.12E6

27:14
H4.56E5
A1.62E6

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

24:14
H1.93E6
A8.47E6

25:26
H2.38E6
A9.05E6

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

24:14
H2.40E6
A1.07E7

25:26
H2.94E6
A1.16E7

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

24:04
H1.22E3
A2.61E3

20:23
H322.25
A1.19E3

20:52
H327.03
A1.52E3

21:44
H322.13
A2.08E3

23:03
H305.42
A1.03E3

24:13
H351.07
A2.16E3

25:13
H340.98
A1.81E3

25:46
H396.24
A833.12

26:57
H214.56
A1.42E3

27:30
H520.70
A1.62E3

File:191111D2 #1-493 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
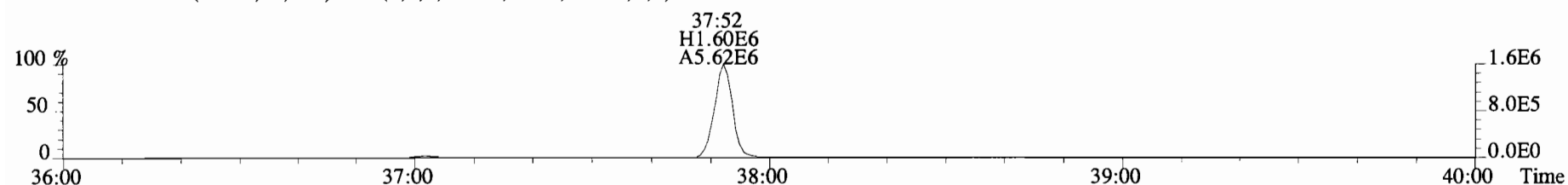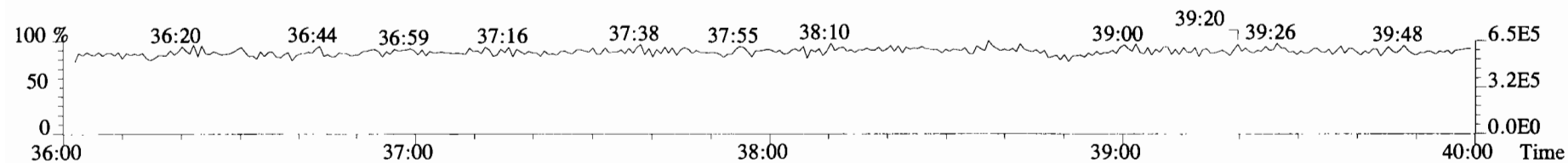339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

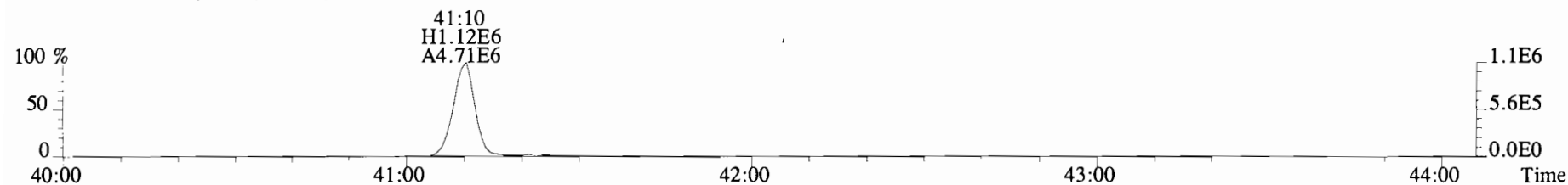409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

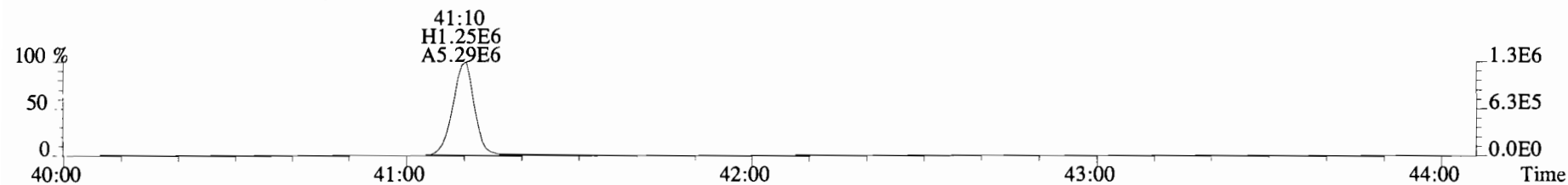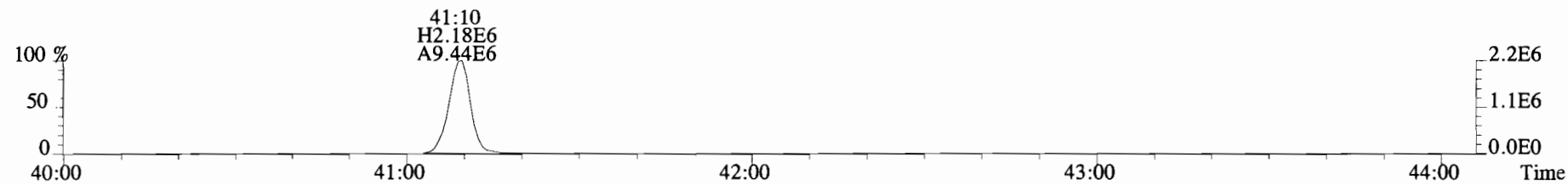316.9824

File:191111D2 #1-210 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
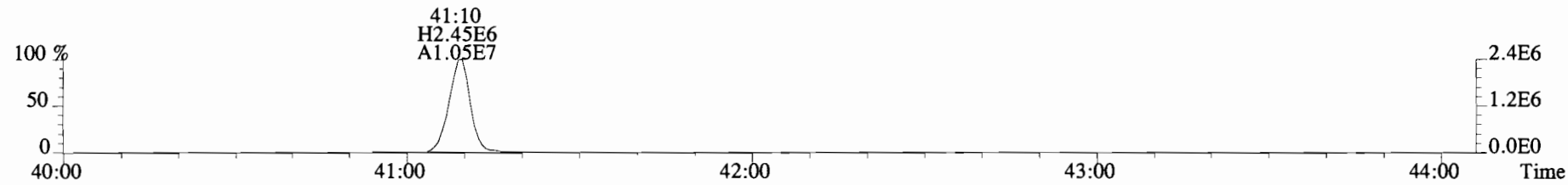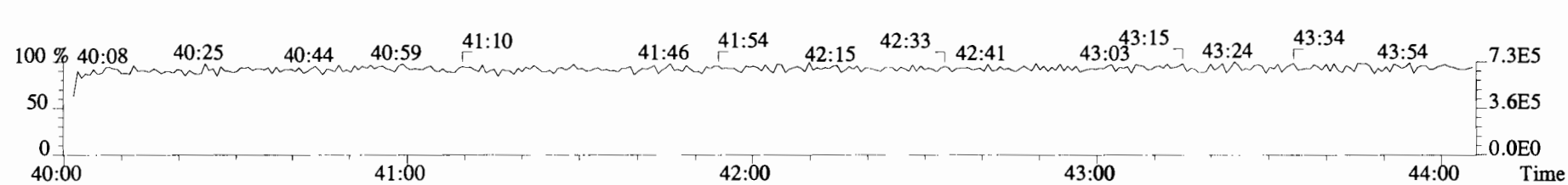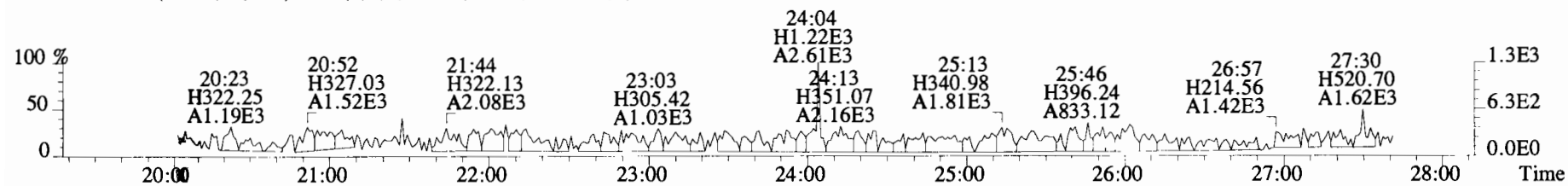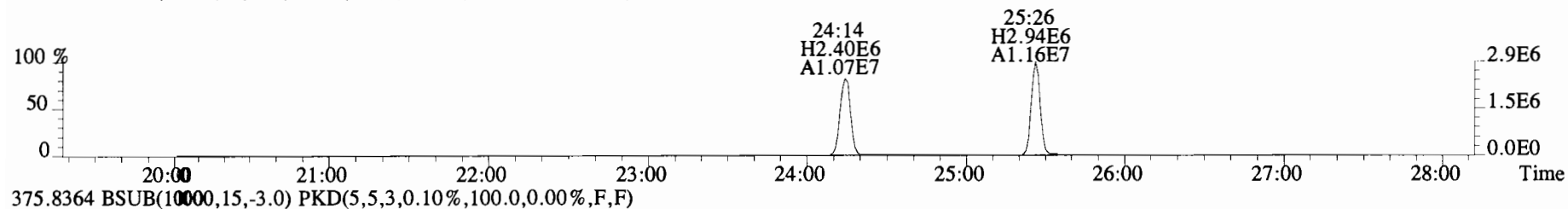373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
              31:58
              H2.15E6
100 %         A6.12E6                              33:16           33:52                                                            2.1E6
                                                   H1.50E6         H1.42E6                        34:49
                                                   A5.00E6         A5.06E6                        H1.08E6
 50                                                                                               A4.21E6                           1.1E6

  0                                                                                                                                 0.0E0
            32:00              33:00                   34:00                  35:00                   36:00    Time
```
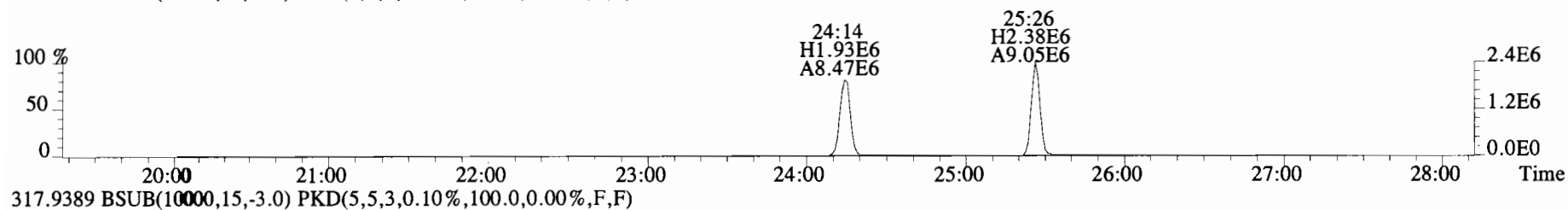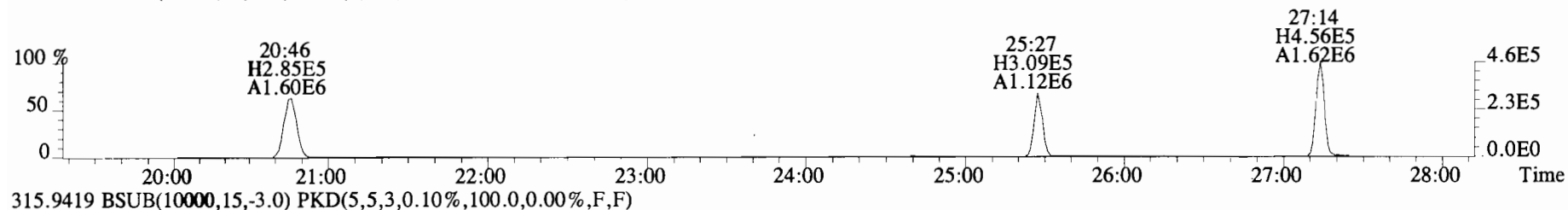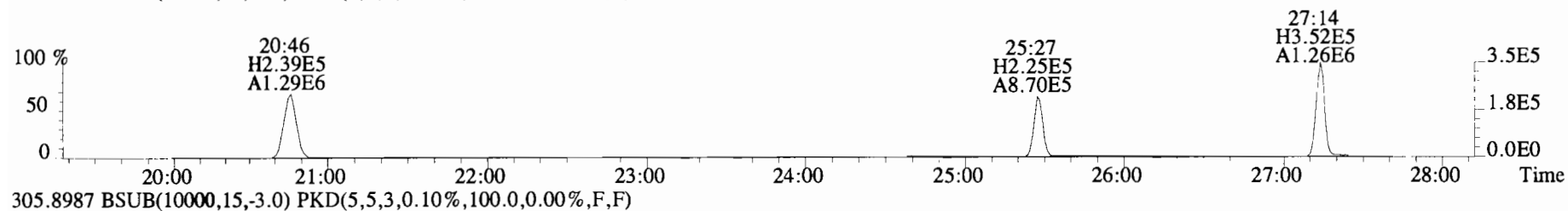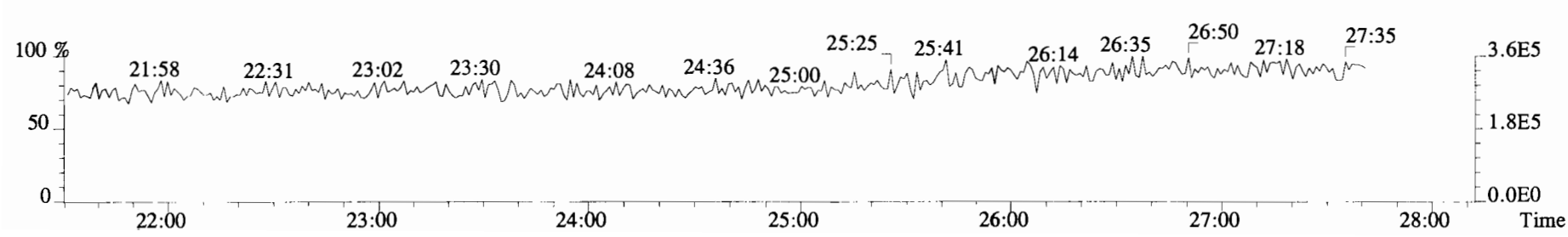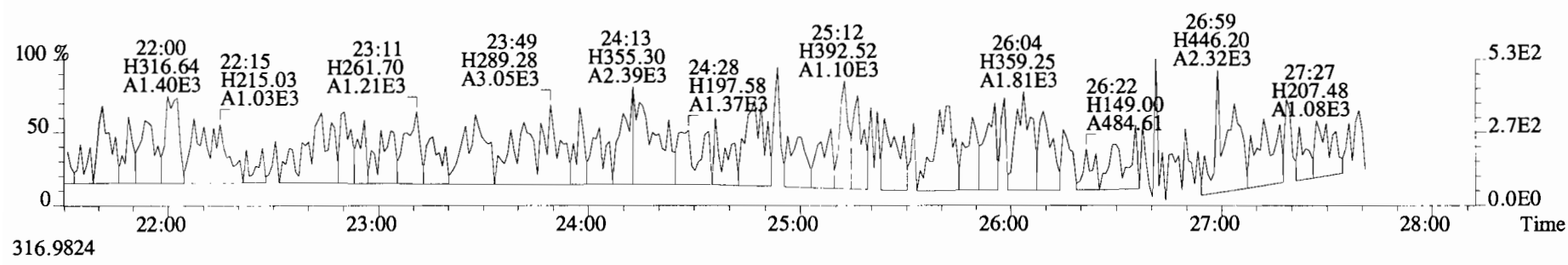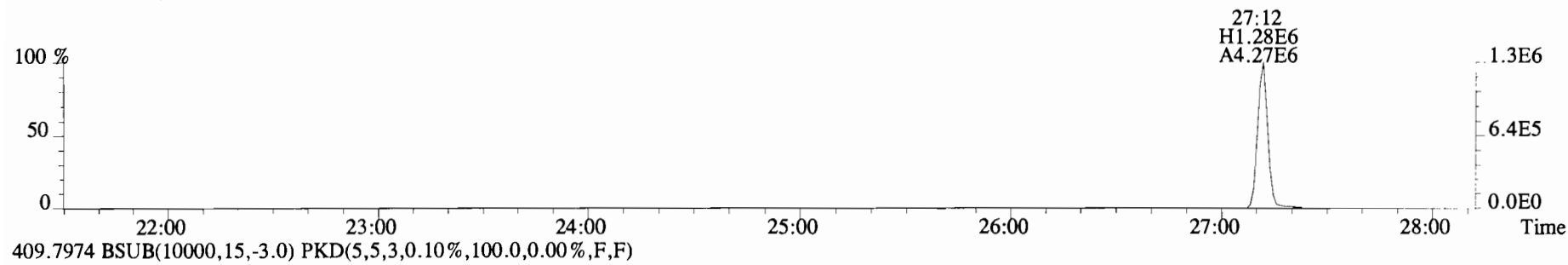
375.8178 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
              31:58
              H1.74E6
100 %         A5.10E6                              33:16           33:52                                                            1.7E6
                                                   H1.20E6         H1.17E6                        34:49
                                                   A4.15E6         A4.11E6                        H8.67E5
 50                                                                                               A3.45E6                           8.7E5

  0                                                                                                                                 0.0E0
            32:00              33:00                   34:00                  35:00                   36:00    Time
```

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

```
                                                   33:15           33:51
                                                   H1.68E6         H1.51E6                        34:48
100 %                                              A5.85E6         A5.29E6                        H1.27E6                           1.7E6
                                                                                                  A4.88E6

 50                                                                                                                                8.4E5

  0                                                                                                                                0.0E0
            32:00              33:00                   34:00                  35:00                   36:00    Time
```
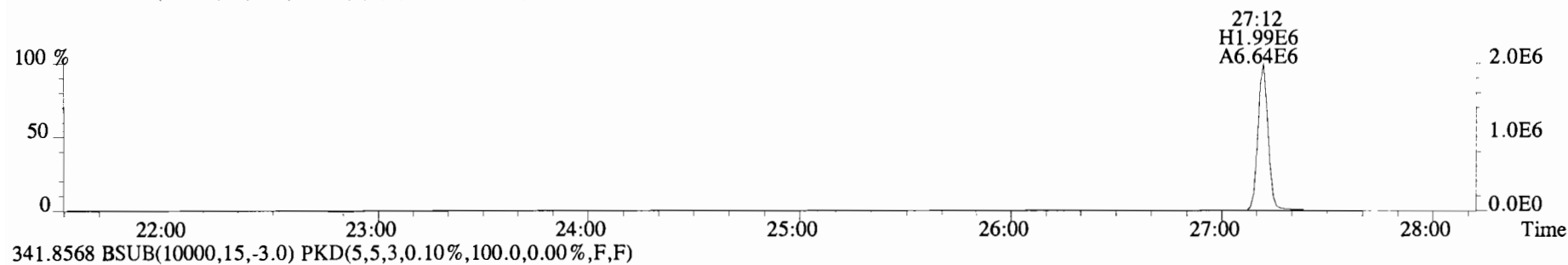
385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                                   33:15           33:51
                                                   H3.18E6         H2.97E6                        34:48
100 %                                              A1.12E7         A1.04E7                        H2.41E6                           3.2E6
                                                                                                  A9.42E6

 50                                                                                                                                1.6E6

  0                                                                                                                                0.0E0
            32:00              33:00                   34:00                  35:00                   36:00    Time
```

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

```
                    32:20                                       33:58
                    H436.90                                     H416.41
100 %               A969.17        32:46          33:15         A626.31                  34:48            35:24          35:47      7.0E2
           31:59                   H278.50        H258.38  33:35                34:33     H361.28         H434.25        H329.53
           H234.50                 A677.82        A977.87  H196.47             H193.22    A672.17         A981.11        A507.64
 50        A1.49E3                                         A888.78             A855.85                                              3.5E2

  0                                                                                                                                0.0E0
            32:00              33:00                   34:00                  35:00                   36:00    Time
```
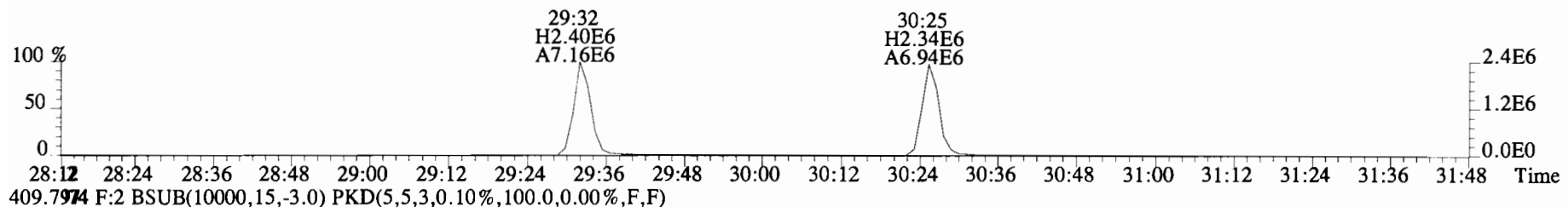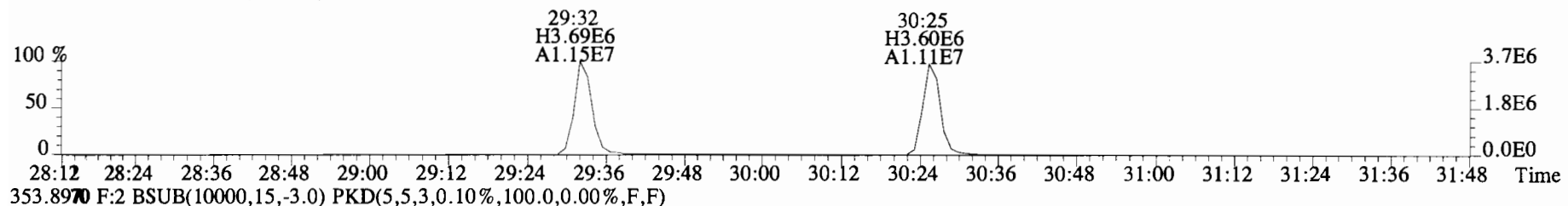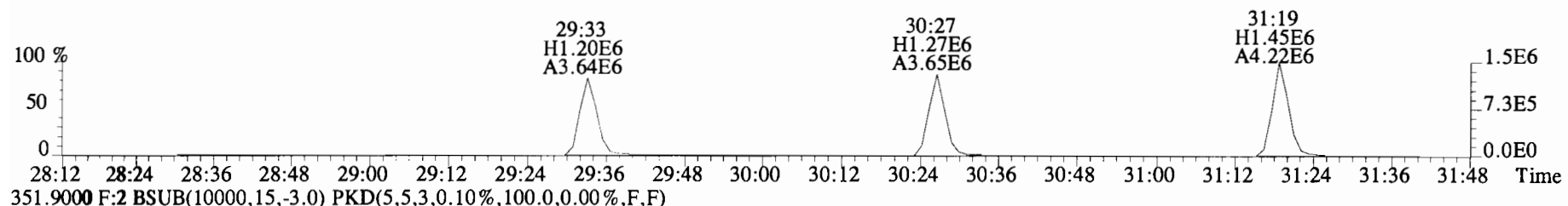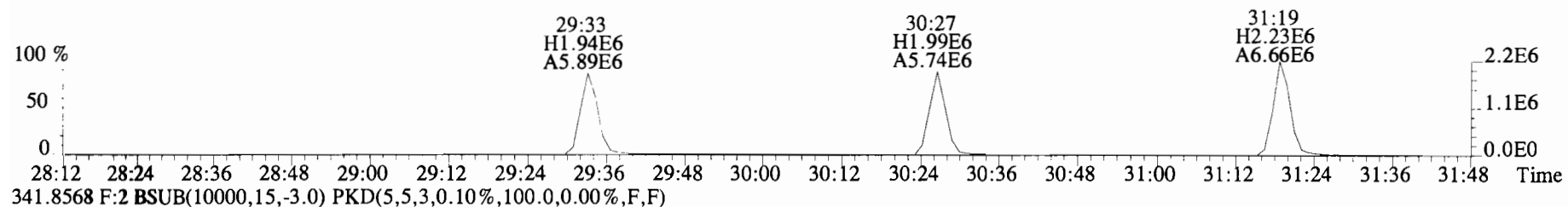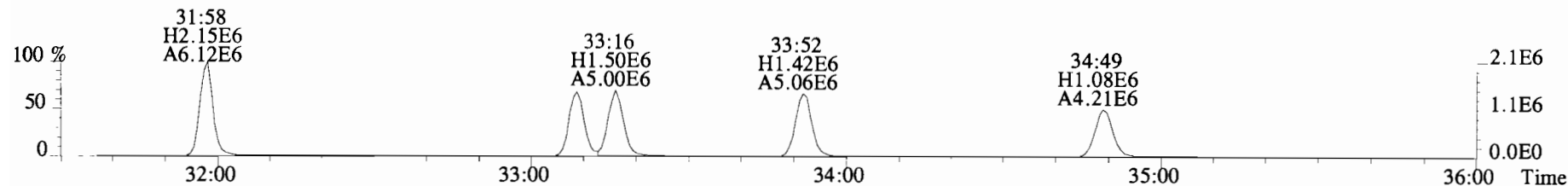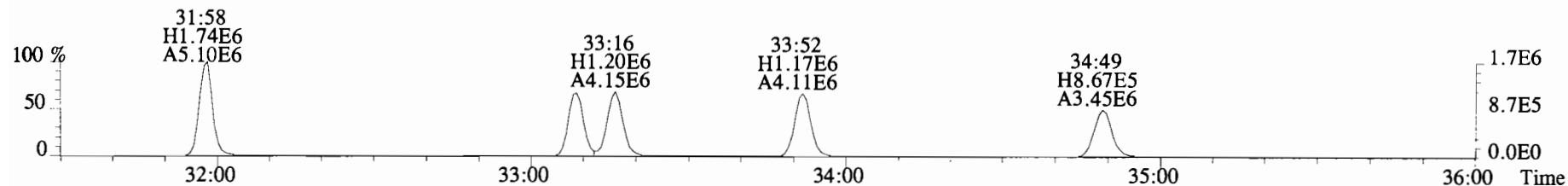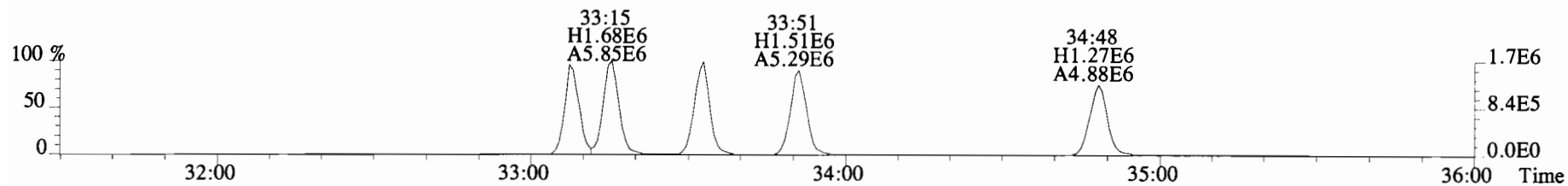
File:191111D2 #1-385 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
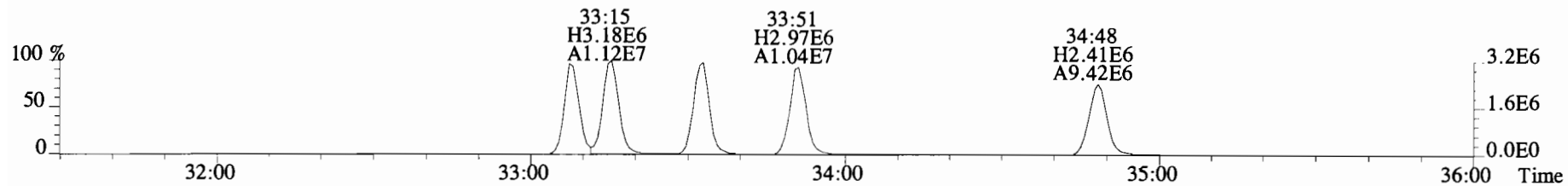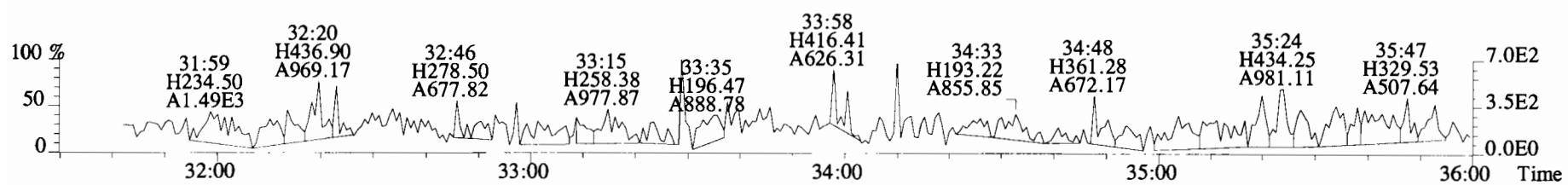383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

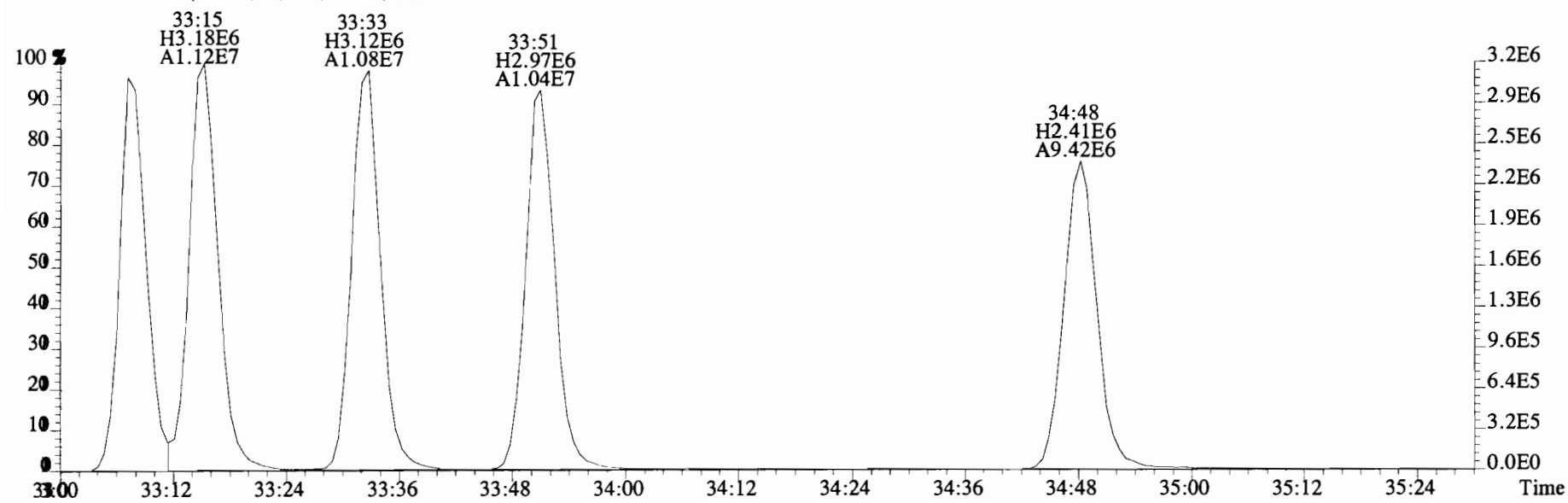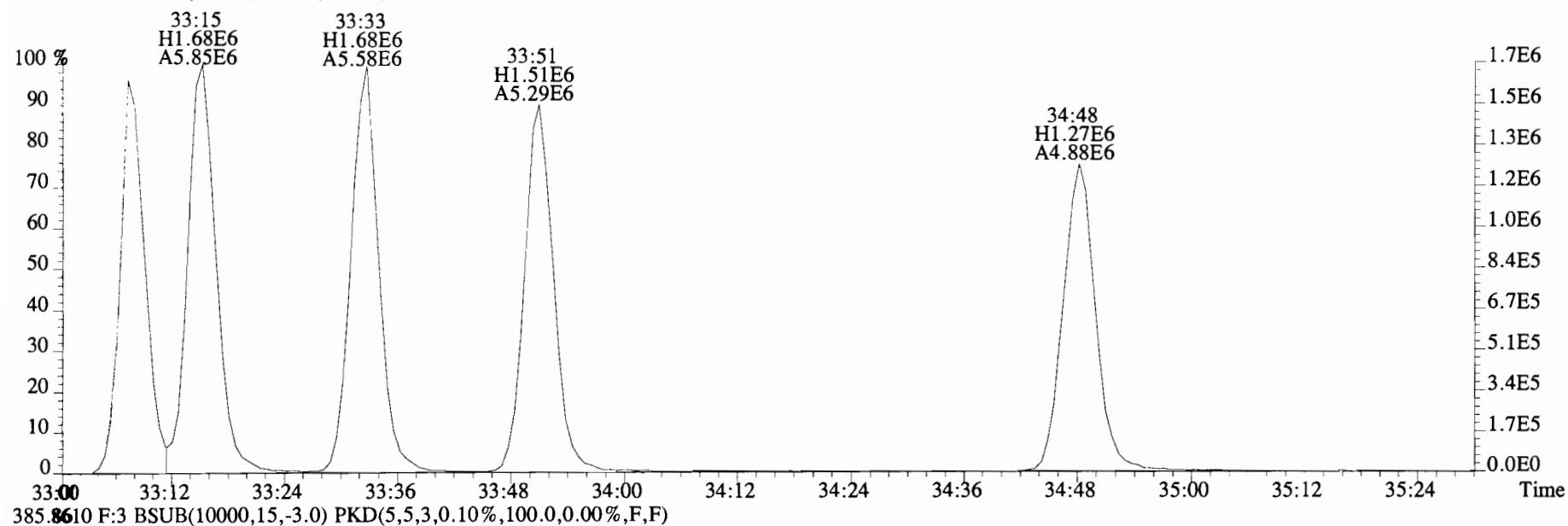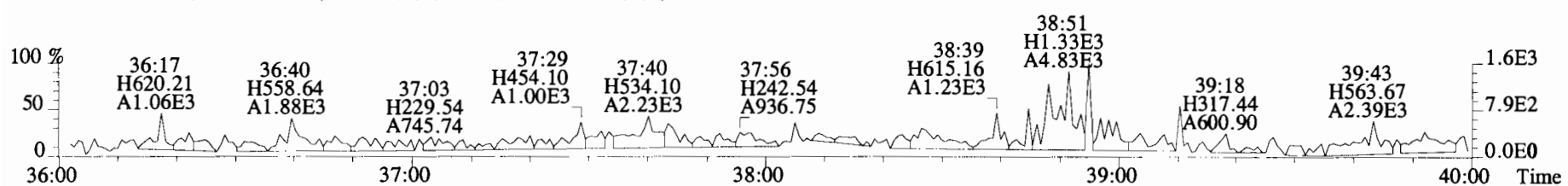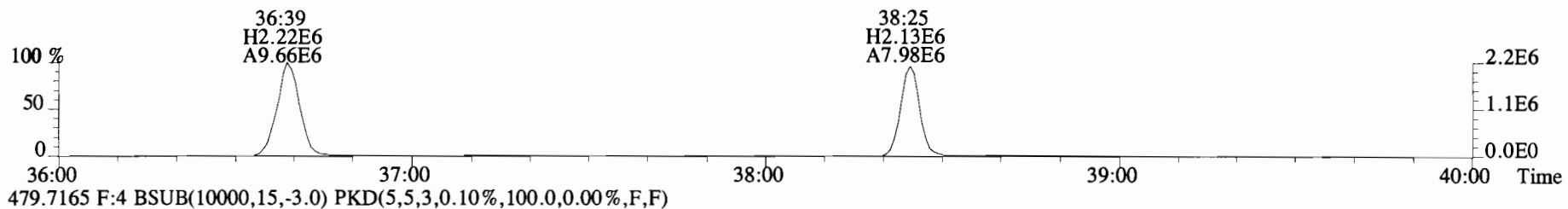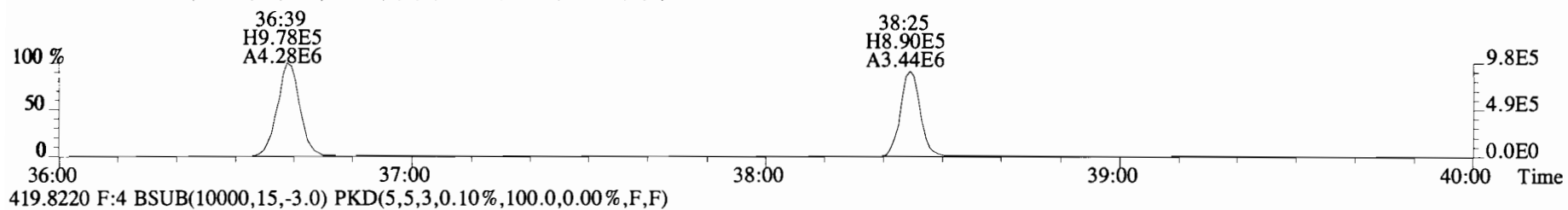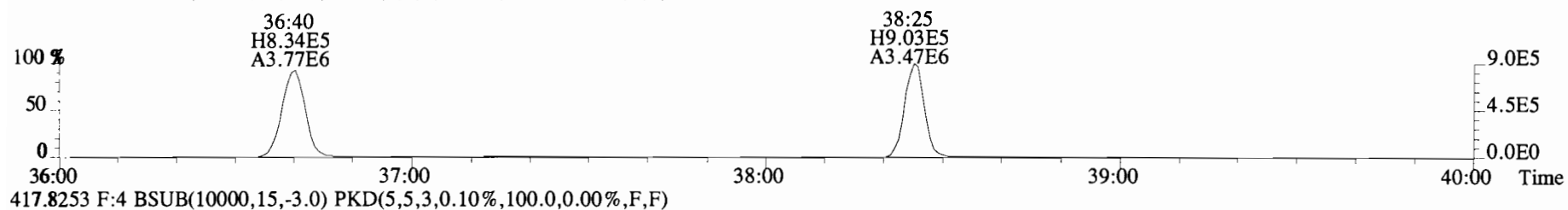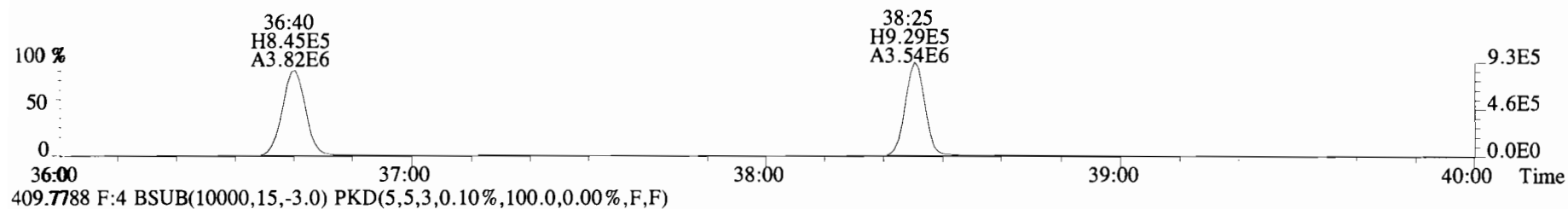385.8610 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D2 #1-355 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
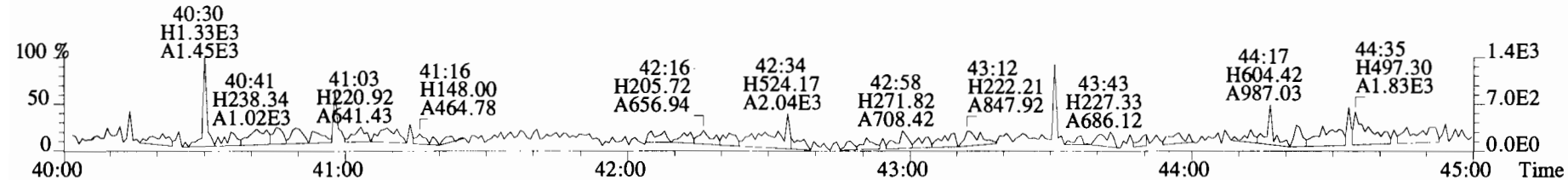
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

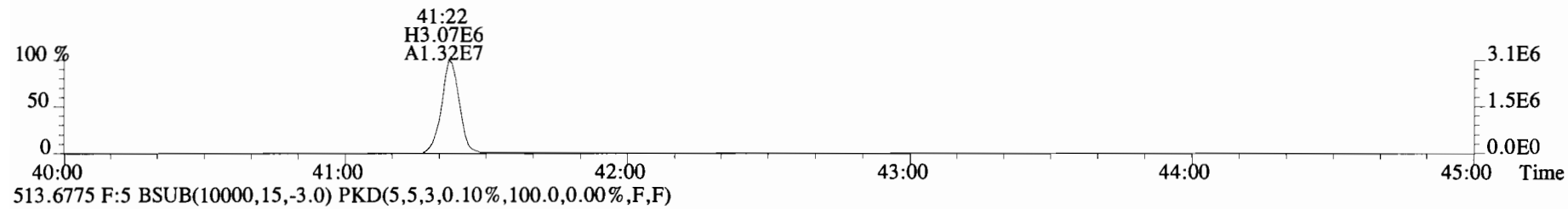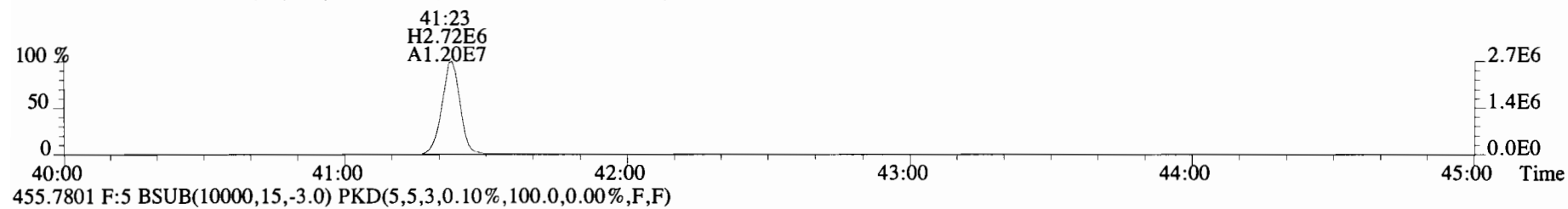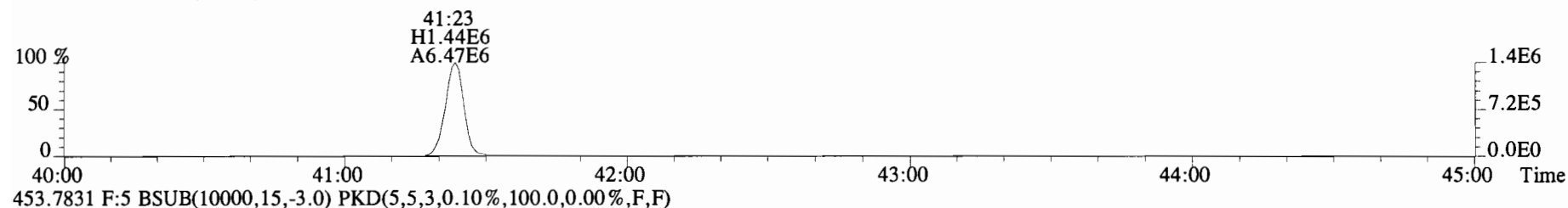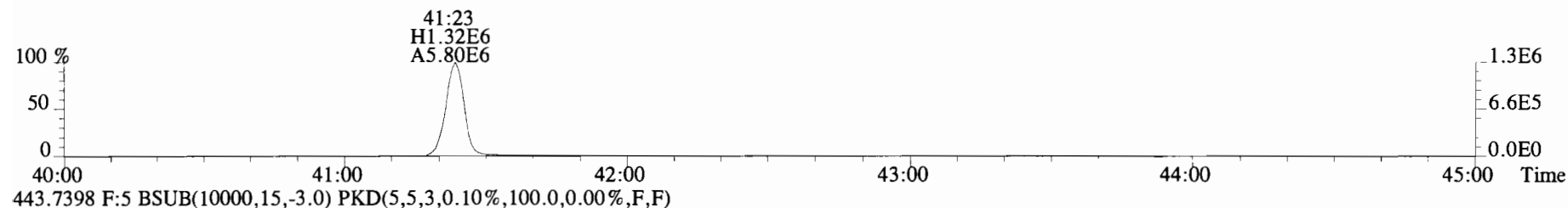479.7165 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191111D2 #1-432 Acq:11-NOV-2019 22:32:01 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Viata_Analytical_Laboratory_VG7 Text:ST191111D2-1 1613 CS3 19C2204 Exp:OCDD_DB5
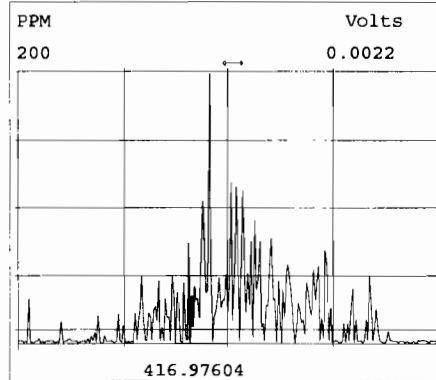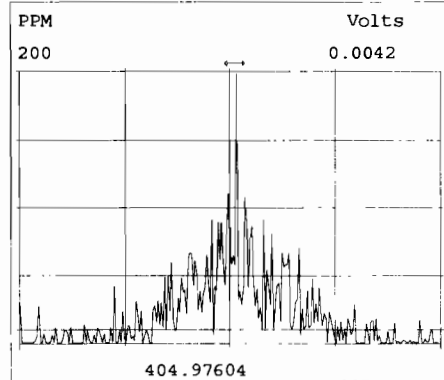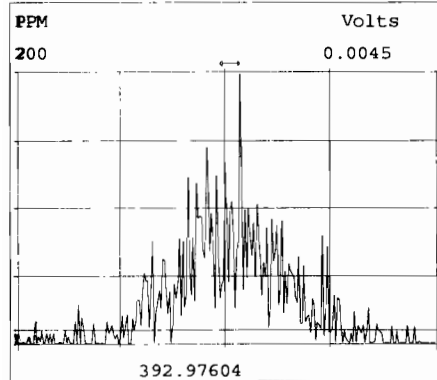441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:23
H1.32E6
A5.80E6

100 %

50

0

40:00   41:00   42:00   43:00   44:00   45:00   Time

1.3E6

6.6E5

0.0E0

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

41:23
H1.44E6
A6.47E6

100 %

50

0

40:00   41:00   42:00   43:00   44:00   45:00   Time

1.4E6

7.2E5

0.0E0

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

41:23
H2.72E6
A1.20E7

100 %

50

0

40:00   41:00   42:00   43:00   44:00   45:00   Time

2.7E6

1.4E6

0.0E0

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

41:22
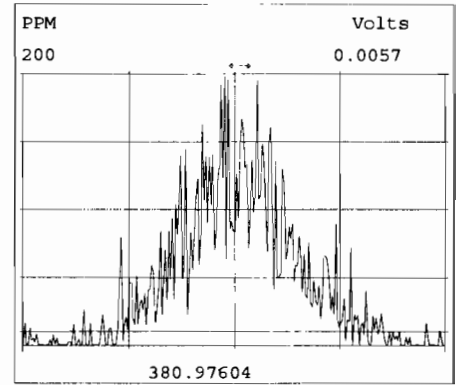H3.07E6
A1.32E7

100 %

50

0

40:00   41:00   42:00   43:00   44:00   45:00   Time

3.1E6

1.5E6

0.0E0

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

40:30
H1.33E3
A1.45E3

40:41
H238.34
A1.02E3

41:03
H220.92
A641.43

41:16
H148.00
A464.78

42:16
H205.72
A656.94

42:34
H524.17
A2.04E3

42:58
H271.82
A708.42

43:12
H222.21
A847.92

43:43
H227.33
A686.12

44:17
H604.42
A987.03

44:35
H497.30
A1.83E3

100 %

50

0

40:00   41:00   42:00   43:00   44:00   45:00   Time

1.4E3

7.0E2

0.0E0

PPM	Volts
200	0.0121

292.98245

PPM	Volts
200	0.0079

304.98245

PPM	Volts
200	0.0043

316.98245

PPM	Volts
200	0.0123

330.97925

PPM	Volts
200	0.0077

342.97925

PPM	Volts
200	0.0038

354.97925

PPM	Volts
200	0.0025

366.97925

PPM	Volts
200	0.0057

380.97604

PPM	Volts
200	0.0045

392.97604

PPM	Volts
200	0.0042

404.97604

PPM	Volts
200	0.0022

416.97604

PPM	Volts
200	0.0046

| 316.95075 | 316.98245 | 317.01415 |

PPM	Volts
200	0.0153

| 330.94615 | 330.97925 | 331.01235 |

PPM	Volts
200	0.0085

| 342.94495 | 342.97925 | 343.01355 |

PPM	Volts
200	0.0037

| 354.94375 | 354.97925 | 355.01475 |

PPM	Volts
200	0.0032

| 366.94255 | 366.97925 | 367.01595 |

PPM	Volts
200	0.0065

| 380.93795 | 380.97604 | 381.01414 |

PPM	Volts
200	0.0038

| 392.93675 | 392.97604 | 393.01534 |

PPM	Volts
200	0.0031

| 404.93555 | 404.97604 | 405.01654 |

PPM	Volts
200	0.0018

| 416.93435 | 416.97604 | 417.01774 |

Peak Locate Examination:12-NOV-2019:06:42 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK

PPM	Volts
200	0.0041

366.94255   366.97925   367.01595

PPM	Volts
200	0.0081

380.93795   380.97604   381.01414

PPM	Volts
200	0.0062

392.93675   392.97604   393.01534

PPM	Volts
200	0.0040

404.93555   404.97604   405.01654

PPM	Volts
200	0.0026

416.93435   416.97604   417.01774

PPM	Volts
200	0.0054

430.92974   430.97284   431.01594

PPM	Volts
200	0.0031

442.92854   442.97284   443.01714

PPM	Volts
200	0.0031

454.92734   454.97284   455.01834

Peak Locate Examination:12-NOV-2019:06:43 File:RES_CHECK
Experiment:OCDD_DB5 Function:4 Reference:PFK

PPM	Volts
200	0.0041

404.93555   404.97604   405.01654

PPM	Volts
200	0.0028

416.93435   416.97604   417.01774

PPM	Volts
200	0.0058

430.92974   430.97284   431.01594

PPM	Volts
200	0.0031

442.92854   442.97284   443.01714

PPM	Volts
200	0.0035

454.92734   454.97284   455.01834

PPM	Volts
200	0.0019

466.92614   466.97284   467.01954

PPM	Volts
200	0.0028

480.92157   480.96967   481.01776

PPM	Volts
200	0.0048

430.92974   430.97284   431.01594

PPM	Volts
200	0.0036

442.92854   442.97284   443.01714

PPM	Volts
200	0.0038

454.92734   454.97284   455.01834

PPM	Volts
200	0.0016

466.92614   466.97284   467.01954

PPM	Volts
200	0.0026

480.92157   480.96967   481.01776

PPM	Volts
200	0.0022

492.92037   492.96967   493.01896

PPM	Volts
200	0.0019

504.91917   504.96967   505.02016

PPM	Volts
200	0.0017

516.91797   516.96967   517.02136

INITIAL CALIBRATION

Data filename: 191009D1   Samp# 1   Samp# 2   Samp# 3   Samp# 4   Samp# 5   Samp# 6
                                           0.25   0.50   2.0   10   40   300

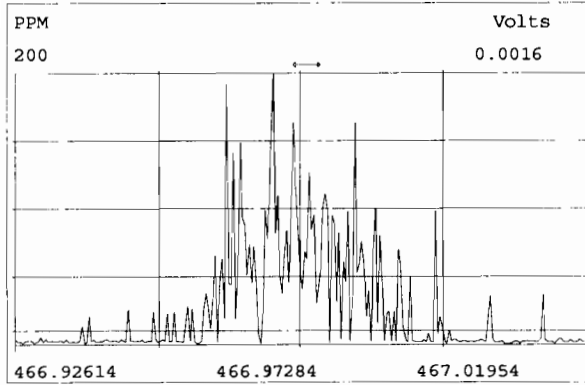| Name	Mean RRF	%RSD	RRF#1	RRF#2	RRF#3	RRF#4	RRF#5	RRF#6
2,3,7,8-TCDD	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
1,2,3,7,8-PeCDD	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
1,2,3,4,7,8-HxCDD	1.1013	3.97 %	1.12	1.13	1.03	1.08	1.09	1.15
1,2,3,6,7,8-HxCDD	0.9386	7.68 %	0.83	0.88	1.01	0.92	0.98	1.00
1,2,3,7,8,9-HxCDD	0.9613	4.62 %	0.95	0.90	0.93	0.95	1.00	1.03
1,2,3,4,6,7,8-HpCDD	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
OCDD	0.9585	4.07 %	0.93	0.94	0.92	0.94	1.01	1.01
2,3,7,8-TCDF	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1,2,3,7,8-PeCDF	0.9603	4.05 %	0.94	0.94	0.92	0.95	1.00	1.01
2,3,4,7,8-PeCDF	1.0148	3.01 %	1.00	0.99	1.00	1.00	1.03	1.07
1,2,3,4,7,8-HxCDF	1.1768	4.35 %	1.23	1.11	1.15	1.14	1.20	1.24
1,2,3,6,7,8-HxCDF	1.0689	3.63 %	1.01	1.07	1.06	1.05	1.12	1.11
2,3,4,6,7,8-HxCDF	1.1136	5.58 %	1.06	1.03	1.12	1.11	1.16	1.20
1,2,3,7,8,9-HxCDF	1.0616	3.91 %	1.05	1.02	1.02	1.06	1.08	1.13
1,2,3,4,6,7,8-HpCDF	1.1276	3.90 %	1.13	1.13	1.06	1.10	1.17	1.18
1,2,3,4,7,8,9-HpCDF	1.2799	3.29 %	1.30	1.24	1.25	1.25	1.31	1.34
OCDF	0.9472	3.80 %	0.95	0.92	0.91	0.92	1.00	0.98
13C-2,3,7,8-TCDD	1.0954	1.91 %	1.11	1.08	1.06	1.10	1.12	1.11
13C-1,2,3,7,8-PeCDD	0.8814	5.11 %	0.89	0.86	0.83	0.86	0.89	0.96
13C-1,2,3,4,7,8-HxCDD	0.6421	10.35 %	0.65	0.60	0.58	0.61	0.65	0.77
13C-1,2,3,6,7,8-HxCDD	0.8555	4.13 %	0.86	0.87	0.82	0.87	0.80	0.90
13C-1,2,3,7,8,9-HxCDD	0.8066	5.57 %	0.84	0.80	0.76	0.80	0.76	0.88
13C-1,2,3,4,6,7,8-HpCDD	0.6539	9.07 %	0.70	0.63	0.59	0.62	0.63	0.75
13C-OCDD	0.5797	10.98 %	0.60	0.52	0.53	0.55	0.59	0.69
13C-2,3,7,8-TCDF	1.0349	1.62 %	1.04	1.00	1.03	1.05	1.04	1.04
13C-1,2,3,7,8-PeCDF	0.8542	4.58 %	0.84	0.82	0.82	0.87	0.86	0.92
13C-2,3,4,7,8-PeCDF	0.8471	3.79 %	0.81	0.84	0.83	0.84	0.85	0.91
13C-1,2,3,4,7,8-HxCDF	0.8317	8.50 %	0.76	0.80	0.79	0.86	0.83	0.96
13C-1,2,3,6,7,8-HxCDF	1.0344	5.35 %	1.00	1.03	1.03	1.03	0.98	1.14
13C-2,3,4,6,7,8-HxCDF	0.9533	6.17 %	0.94	0.94	0.90	0.93	0.93	1.07
13C-1,2,3,7,8,9-HxCDF	0.8277	8.68 %	0.82	0.80	0.77	0.78	0.83	0.96
13C-1,2,3,4,6,7,8-HpCDF	0.7575	6.47 %	0.76	0.73	0.72	0.75	0.73	0.85
13C-1,2,3,4,7,8,9-HpCDF	0.5812	8.97 %	0.62	0.54	0.52	0.55	0.58	0.66
13C-OCDF	0.6890	12.48 %	0.69	0.62	0.62	0.65	0.72	0.85
37Cl-2,3,7,8-TCDD	1.1977	8.83 %	1.40	1.16	1.16	1.11	1.15	1.21
13C-1,2,3,4-TCDD	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4-TCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00
13C-1,2,3,4,6,9-HxCDF	1.0000	0.00 %	1.00	1.00	1.00	1.00	1.00	1.00

DB   CT

10/10/19   10/10/19

Filename: 191009D1 S: 1   Acquired: 9-OCT-19 16:13:04

Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:

Sample text: ST191009D1-1 1613 CS0 19C2201

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.25	1.97e+04	0.80 y	26:32	-	0.84
2	Unk	1,2,3,7,8-PeCDD	1.25	8.06e+04	0.62 y	30:54	-	0.86
3	Unk	1,2,3,4,7,8-HxCDD	1.25	7.34e+04	1.23 y	34:16	-	1.12
4	Unk	1,2,3,6,7,8-HxCDD	1.25	7.23e+04	1.12 y	34:23	-	0.83
5	Unk	1,2,3,7,8,9-HxCDD	1.25	8.01e+04	1.19 y	34:43	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	1.25	6.39e+04	.1.06 y	38:05	-	0.90
7	Unk	OCDD	2.50	1.14e+05	0.95 y	41:28	-	0.93
8	Unk	2,3,7,8-TCDF	0.25	3.62e+04	0.85 y	25:49	-	1.09
9	Unk	1,2,3,7,8-PeCDF	1.25	1.26e+05	1.52 y	29:46	-	0.94
10	Unk	2,3,4,7,8-PeCDF	1.25	1.31e+05	1.52 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	1.25	9.36e+04	1.22 y	33:22	-	1.23
12	Unk	1,2,3,6,7,8-HxCDF	1.25	1.02e+05	1.11 y	33:29	-	1.01
13	Unk	2,3,4,6,7,8-HxCDF	1.25	1.01e+05	1.30 y	34:07	-	1.06
14	Unk	1,2,3,7,8,9-HxCDF	1.25	8.74e+04	1.10 y	35:08	-	1.05
15	Unk	1,2,3,4,6,7,8-HpCDF	1.25	8.63e+04	1.01 y	36:57	-	1.13
16	Unk	1,2,3,4,7,8,9-HpCDF	1.25	8.18e+04	1.14 y	38:40	-	1.30
17	Unk	OCDF	2.50	1.32e+05	0.94 y	41:43	-	0.95
36	IS	13C-2,3,7,8-TCDD	100.00	9.40e+06	0.78 y	26:32	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.48e+06	0.62 y	30:55	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.24e+06	1.19 y	34:15	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.96e+06	1.32 y	34:22	-	0.86
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.74e+06	1.31 y	34:42	-	0.84
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.68e+06	1.05 y	38:05	-	0.70
42	IS	13C-OCDD	200.00	9.75e+06	0.88 y	41:28	-	0.60
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.79 y	25:49	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.07e+07	1.58 y	29:46	-	0.84
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.05e+07	1.58 y	30:39	-	0.81
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.11e+06	0.51 y	33:21	-	0.76
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.04e+06	0.50 y	33:29	-	1.00
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.61e+06	0.50 y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	6.66e+06	0.48 y	35:07	-	0.82
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.12e+06	0.42 y	36:57	-	0.76
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.02e+06	0.45 y	38:41	-	0.62
52	IS	13C-OCDF	200.00	1.11e+07	0.90 y	41:43	-	0.69
53	C/Up	37Cl-2,3,7,8-TCDD	0.25	2.97e+04		26:33	-	1.40
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.45e+06	0.80 y	25:59	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.28e+07	0.79 y	24:39	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.07e+06	0.52 y	33:47	-	1.00

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10|10|19

Filename: 191009D1 S: 2   Acquired: 9-OCT-19 17:00:45
Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:
Sample text: ST191009D1-2 1613 CS1 19C2202

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	0.50	3.54e+04	0.78 y	26:34	-	0.83
2	Unk	1,2,3,7,8-PeCDD	2.50	1.46e+05	0.60 y	30:56	-	0.87
3	Unk	1,2,3,4,7,8-HxCDD	2.50	1.25e+05	1.20 y	34:16	-	1.13
4	Unk	1,2,3,6,7,8-HxCDD	2.50	1.40e+05	1.22 y	34:23	-	0.88
5	Unk	1,2,3,7,8,9-HxCDD	2.50	1.33e+05	1.15 y	34:43	-	0.90
6	Unk	1,2,3,4,6,7,8-HpCDD	2.50	1.13e+05	0.97 y	38:06	-	0.97
7	Unk	OCDD	5.00	1.78e+05	0.90 y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	0.50	5.25e+04	0.74 y	25:51	-	0.90
9	Unk	1,2,3,7,8-PeCDF	2.50	2.25e+05	1.59 y	29:48	-	0.94
10	Unk	2,3,4,7,8-PeCDF	2.50	2.42e+05	1.50 y	30:40	-	0.99
11	Unk	1,2,3,4,7,8-HxCDF	2.50	1.62e+05	1.16 y	33:22	-	1.11
12	Unk	1,2,3,6,7,8-HxCDF	2.50	2.03e+05	1.20 y	33:30	-	1.07
13	Unk	2,3,4,6,7,8-HxCDF	2.50	1.79e+05	1.30 y	34:07	-	1.03
14	Unk	1,2,3,7,8,9-HxCDF	2.50	1.49e+05	1.24 y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	2.50	1.51e+05	0.91 y	36:57	-	1.13
16	Unk	1,2,3,4,7,8,9-HpCDF	2.50	1.23e+05	0.94 y	38:41	-	1.24
17	Unk	OCDF	5.00	2.09e+05	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.50e+06	0.78 y	26:34	-	1.08
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.74e+06	0.63 y	30:56	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.41e+06	1.38 y	34:16	-	0.60
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.35e+06	1.20 y	34:23	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.87e+06	1.26 y	34:42	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.64e+06	1.05 y	38:05	-	0.63
42	IS	13C-OCDD	200.00	7.58e+06	0.89 y	41:28	-	0.52
43	IS	13C-2,3,7,8-TCDF	100.00	1.17e+07	0.80 y	25:51	-	1.00
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.60e+06	1.59 y	29:48	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.80e+06	1.58 y	30:40	-	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.84e+06	0.52 y	33:21	-	0.80
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.58e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.92e+06	0.51 y	34:07	-	0.94
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.84e+06	0.49 y	35:08	-	0.80
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.38e+06	0.43 y	36:57	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.43 y	38:41	-	0.54
52	IS	13C-OCDF	200.00	9.05e+06	0.88 y	41:43	-	0.62
53	C/Up	37Cl-2,3,7,8-TCDD	0.50	4.55e+04		26:34	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.86e+06	0.77 y	26:01	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.17e+07	0.83 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.33e+06	0.52 y	33:47	-	1.00

DB
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Filename: 191009D1 S: 3   Acquired: 9-OCT-19 17:48:27

Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:

Sample text: ST191009D1-3 1613 CS2 19C2203

	Typ	Name	Amount	Resp	RA		RT	RF	RRF
1	Unk	2,3,7,8-TCDD	2.00	1.35e+05	0.74	y	26:33	-	0.87
2	Unk	1,2,3,7,8-PeCDD	10.00	5.33e+05	0.64	y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	10.00	3.94e+05	1.22	y	34:16	-	1.03
4	Unk	1,2,3,6,7,8-HxCDD	10.00	5.50e+05	1.25	y	34:23	-	1.01
5	Unk	1,2,3,7,8,9-HxCDD	10.00	4.71e+05	1.36	y	34:43	-	0.93
6	Unk	1,2,3,4,6,7,8-HpCDD	10.00	3.70e+05	1.02	y	38:06	-	0.95
7	Unk	OCDD	20.00	6.41e+05	0.90	y	41:29	-	0.92
8	Unk	2,3,7,8-TCDF	2.00	1.90e+05	0.83	y	25:49	-	0.89
9	Unk	1,2,3,7,8-PeCDF	10.00	7.88e+05	1.58	y	29:47	-	0.92
10	Unk	2,3,4,7,8-PeCDF	10.00	8.71e+05	1.56	y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	10.00	6.02e+05	1.14	y	33:22	-	1.15
12	Unk	1,2,3,6,7,8-HxCDF	10.00	7.20e+05	1.27	y	33:30	-	1.06
13	Unk	2,3,4,6,7,8-HxCDF	10.00	6.66e+05	1.26	y	34:08	-	1.12
14	Unk	1,2,3,7,8,9-HxCDF	10.00	5.16e+05	1.16	y	35:08	-	1.02
15	Unk	1,2,3,4,6,7,8-HpCDF	10.00	5.02e+05	1.05	y	36:57	-	1.06
16	Unk	1,2,3,4,7,8,9-HpCDF	10.00	4.31e+05	1.08	y	38:41	-	1.25
17	Unk	OCDF	20.00	7.38e+05	0.91	y	41:44	-	0.91
36	IS	13C-2,3,7,8-TCDD	100.00	7.73e+06	0.78	y	26:33	-	1.06
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.03e+06	0.62	y	30:55	-	0.83
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	3.81e+06	1.24	y	34:15	-	0.58
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	5.44e+06	1.28	y	34:22	-	0.82
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.03e+06	1.21	y	34:42	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	3.89e+06	1.09	y	38:05	-	0.59
42	IS	13C-OCDD	200.00	6.97e+06	0.90	y	41:28	-	0.53
43	IS	13C-2,3,7,8-TCDF	100.00	1.08e+07	0.82	y	25:49	-	1.03
44	IS	13C-1,2,3,7,8-PeCDF	100.00	8.55e+06	1.59	y	29:47	-	0.82
45	IS	13C-2,3,4,7,8-PeCDF	100.00	8.70e+06	1.59	y	30:40	-	0.83
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	5.22e+06	0.49	y	33:21	-	0.79
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	6.80e+06	0.51	y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	5.93e+06	0.52	y	34:07	-	0.90
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.05e+06	0.51	y	35:08	-	0.77
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	4.73e+06	0.44	y	36:57	-	0.72
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.46e+06	0.45	y	38:41	-	0.52
52	IS	13C-OCDF	200.00	8.15e+06	0.92	y	41:44	-	0.62
53	C/Up	37Cl-2,3,7,8-TCDD	2.00	1.69e+05			26:33	-	1.16
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.29e+06	0.77	y	25:59	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.04e+07	0.82	y	24:39	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	6.60e+06	0.52	y	33:47	-	1.00

DB
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Filename: 191009D1 S: 4   Acquired: 9-OCT-19 18:36:09

Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:

Sample text: ST191009D1-4 1613 CS3 19C2204

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	10.00	8.37e+05	0.80 y	26:35	-	0.99
2	Unk	1,2,3,7,8-PeCDD	50.00	2.94e+06	0.61 y	30:56	-	0.88
3	Unk	1,2,3,4,7,8-HxCDD	50.00	2.38e+06	1.21 y	34:16	-	1.08
4	Unk	1,2,3,6,7,8-HxCDD	50.00	2.90e+06	1.19 y	34:23	-	0.92
5	Unk	1,2,3,7,8,9-HxCDD	50.00	2.74e+06	1.24 y	34:42	-	0.95
6	Unk	1,2,3,4,6,7,8-HpCDD	50.00	2.15e+06	1.03 y	38:05	-	0.96
7	Unk	OCDD	100.00	3.73e+06	0.91 y	41:28	-	0.94
8	Unk	2,3,7,8-TCDF	10.00	1.05e+06	0.80 y	25:51	-	0.89
9	Unk	1,2,3,7,8-PeCDF	50.00	4.65e+06	1.59 y	29:47	-	0.95
10	Unk	2,3,4,7,8-PeCDF	50.00	4.70e+06	1.68 y	30:40	-	1.00
11	Unk	1,2,3,4,7,8-HxCDF	50.00	3.52e+06	1.24 y	33:21	-	1.14
12	Unk	1,2,3,6,7,8-HxCDF	50.00	3.92e+06	1.25 y	33:29	-	1.05
13	Unk	2,3,4,6,7,8-HxCDF	50.00	3.74e+06	1.22 y	34:07	-	1.11
14	Unk	1,2,3,7,8,9-HxCDF	50.00	3.00e+06	1.19 y	35:07	-	1.06
15	Unk	1,2,3,4,6,7,8-HpCDF	50.00	2.97e+06	1.04 y	36:57	-	1.10
16	Unk	1,2,3,4,7,8,9-HpCDF	50.00	2.49e+06	1.07 y	38:41	-	1.25
17	Unk	OCDF	100.00	4.33e+06	0.91 y	41:43	-	0.92
36	IS	13C-2,3,7,8-TCDD	100.00	8.46e+06	0.74 y	26:33	-	1.10
37	IS	13C-1,2,3,7,8-PeCDD	100.00	6.66e+06	0.62 y	30:55	-	0.86
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	4.42e+06	1.25 y	34:15	-	0.61
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.30e+06	1.28 y	34:22	-	0.87
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	5.76e+06	1.27 y	34:41	-	0.80
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	4.47e+06	1.05 y	38:05	-	0.62
42	IS	13C-OCDD	200.00	7.90e+06	0.94 y	41:27	-	0.55
43	IS	13C-2,3,7,8-TCDF	100.00	1.18e+07	0.79 y	25:50	-	1.05
44	IS	13C-1,2,3,7,8-PeCDF	100.00	9.79e+06	1.62 y	29:47	-	0.87
45	IS	13C-2,3,4,7,8-PeCDF	100.00	9.43e+06	1.61 y	30:39	-	0.84
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	6.19e+06	0.50 y	33:21	-	0.86
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	7.47e+06	0.51 y	33:29	-	1.03
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	6.75e+06	0.49 y	34:06	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	5.64e+06	0.49 y	35:07	-	0.78
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	5.40e+06	0.43 y	36:55	-	0.75
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	3.99e+06	0.44 y	38:40	-	0.55
52	IS	13C-OCDF	200.00	9.37e+06	0.89 y	41:43	-	0.65
53	C/Up	37Cl-2,3,7,8-TCDD	10.00	8.56e+05		26:35	-	1.11
54	RS/RT	13C-1,2,3,4-TCDD	100.00	7.70e+06	0.75 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.13e+07	0.82 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.23e+06	0.51 y	33:47	-	1.00

DB

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Filename: 191009D1 S: 5   Acquired: 9-OCT-19 19:23:46
Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:
Sample text: ST191009D1-5 1613 CS4 19C2205

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	40.00	3.53e+06	0.81 y	26:35	-	0.92
2	Unk	1,2,3,7,8-PeCDD	200.00	1.48e+07	0.63 y	30:55	-	0.96
3	Unk	1,2,3,4,7,8-HxCDD	200.00	1.19e+07	1.19 y	34:15	-	1.09
4	Unk	1,2,3,6,7,8-HxCDD	200.00	1.34e+07	1.20 y	34:22	-	0.98
5	Unk	1,2,3,7,8,9-HxCDD	200.00	1.30e+07	1.18 y	34:41	-	1.00
6	Unk	1,2,3,4,6,7,8-HpCDD	200.00	1.10e+07	1.03 y	38:04	-	1.03
7	Unk	OCDD	400.00	2.03e+07	0.91 y	41:26	-	1.01
8	Unk	2,3,7,8-TCDF	40.00	5.17e+06	0.77 y	25:52	-	0.95
9	Unk	1,2,3,7,8-PeCDF	200.00	2.24e+07	1.58 y	29:47	-	1.00
10	Unk	2,3,4,7,8-PeCDF	200.00	2.29e+07	1.55 y	30:40	-	1.03
11	Unk	1,2,3,4,7,8-HxCDF	200.00	1.69e+07	1.21 y	33:21	-	1.20
12	Unk	1,2,3,6,7,8-HxCDF	200.00	1.85e+07	1.21 y	33:29	-	1.12
13	Unk	2,3,4,6,7,8-HxCDF	200.00	1.83e+07	1.21 y	34:06	-	1.16
14	Unk	1,2,3,7,8,9-HxCDF	200.00	1.53e+07	1.22 y	35:06	-	1.08
15	Unk	1,2,3,4,6,7,8-HpCDF	200.00	1.46e+07	1.04 y	36:56	-	1.17
16	Unk	1,2,3,4,7,8,9-HpCDF	200.00	1.30e+07	1.05 y	38:39	-	1.31
17	Unk	OCDF	400.00	2.42e+07	0.91 y	41:41	-	1.00
36	IS	13C-2,3,7,8-TCDD	100.00	9.63e+06	0.75 y	26:34	-	1.12
37	IS	13C-1,2,3,7,8-PeCDD	100.00	7.72e+06	0.63 y	30:54	-	0.89
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	5.48e+06	1.31 y	34:14	-	0.65
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	6.83e+06	1.22 y	34:21	-	0.80
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.48e+06	1.26 y	34:40	-	0.76
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.36e+06	1.08 y	38:03	-	0.63
42	IS	13C-OCDD	200.00	1.01e+07	0.91 y	41:25	-	0.59
43	IS	13C-2,3,7,8-TCDF	100.00	1.36e+07	0.80 y	25:51	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.12e+07	1.57 y	29:46	-	0.86
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.11e+07	1.52 y	30:39	-	0.85
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.05e+06	0.50 y	33:20	-	0.83
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.28e+06	0.49 y	33:28	-	0.98
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	7.90e+06	0.51 y	34:05	-	0.93
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.08e+06	0.51 y	35:06	-	0.83
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.23e+06	0.46 y	36:55	-	0.73
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	4.95e+06	0.44 y	38:38	-	0.58
52	IS	13C-OCDF	200.00	1.22e+07	0.90 y	41:40	-	0.72
53	C/Up	37Cl-2,3,7,8-TCDD	40.00	3.96e+06		26:35	-	1.15
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.64e+06	0.78 y	26:00	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.30e+07	0.83 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	8.48e+06	0.51 y	33:46	-	1.00

1)B
10/10/19

Filename: 191009D1 S: 6   Acquired: 9-OCT-19 20:11:17

Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Results:

Sample text: ST191009D1-6 1613 CS5 19C2206

	Typ	Name	Amount	Resp	RA	RT	RF	RRF
1	Unk	2,3,7,8-TCDD	300.00	2.80e+07	0.81 y	26:35	-	0.98
2	Unk	1,2,3,7,8-PeCDD	1500.00	1.19e+08	0.62 y	30:55	-	0.96
3	Unk	1,2,3,4,7,8-HxCDD	1500.00	1.04e+08	1.22 y	34:15	-	1.15
4	Unk	1,2,3,6,7,8-HxCDD	1500.00	1.07e+08	1.21 y	34:22	-	1.00
5	Unk	1,2,3,7,8,9-HxCDD	1500.00	1.06e+08	1.23 y	34:41	-	1.03
6	Unk	1,2,3,4,6,7,8-HpCDD	1500.00	9.32e+07	1.05 y	38:03	-	1.06
7	Unk	OCDD	3000.00	1.64e+08	0.92 y	41:25	-	1.01
8	Unk	2,3,7,8-TCDF	300.00	3.95e+07	0.79 y	25:52	-	0.99
9	Unk	1,2,3,7,8-PeCDF	1500.00	1.79e+08	1.58 y	29:47	-	1.01
10	Unk	2,3,4,7,8-PeCDF	1500.00	1.86e+08	1.57 y	30:39	-	1.07
11	Unk	1,2,3,4,7,8-HxCDF	1500.00	1.40e+08	1.20 y	33:21	-	1.24
12	Unk	1,2,3,6,7,8-HxCDF	1500.00	1.48e+08	1.21 y	33:29	-	1.11
13	Unk	2,3,4,6,7,8-HxCDF	1500.00	1.51e+08	1.22 y	34:06	-	1.20
14	Unk	1,2,3,7,8,9-HxCDF	1500.00	1.28e+08	1.25 y	35:06	-	1.13
15	Unk	1,2,3,4,6,7,8-HpCDF	1500.00	1.18e+08	1.03 y	36:55	-	1.18
16	Unk	1,2,3,4,7,8,9-HpCDF	1500.00	1.04e+08	1.05 y	38:38	-	1.34
17	Unk	OCDF	3000.00	1.96e+08	0.91 y	41:40	-	0.98
36	IS	13C-2,3,7,8-TCDD	100.00	9.53e+06	0.73 y	26:33	-	1.11
37	IS	13C-1,2,3,7,8-PeCDD	100.00	8.28e+06	0.64 y	30:54	-	0.96
38	IS	13C-1,2,3,4,7,8-HxCDD	100.00	6.01e+06	1.21 y	34:14	-	0.77
39	IS	13C-1,2,3,6,7,8-HxCDD	100.00	7.08e+06	1.32 y	34:21	-	0.90
40	IS	13C-1,2,3,7,8,9-HxCDD	100.00	6.90e+06	1.26 y	34:39	-	0.88
41	IS	13C-1,2,3,4,6,7,8-HpCDD	100.00	5.86e+06	1.08 y	38:03	-	0.75
42	IS	13C-OCDD	200.00	1.08e+07	0.92 y	41:25	-	0.69
43	IS	13C-2,3,7,8-TCDF	100.00	1.33e+07	0.80 y	25:51	-	1.04
44	IS	13C-1,2,3,7,8-PeCDF	100.00	1.18e+07	1.59 y	29:46	-	0.92
45	IS	13C-2,3,4,7,8-PeCDF	100.00	1.16e+07	1.60 y	30:38	-	0.91
46	IS	13C-1,2,3,4,7,8-HxCDF	100.00	7.52e+06	0.51 y	33:20	-	0.96
47	IS	13C-1,2,3,6,7,8-HxCDF	100.00	8.92e+06	0.50 y	33:28	-	1.14
48	IS	13C-2,3,4,6,7,8-HxCDF	100.00	8.38e+06	0.51 y	34:05	-	1.07
49	IS	13C-1,2,3,7,8,9-HxCDF	100.00	7.57e+06	0.52 y	35:05	-	0.96
50	IS	13C-1,2,3,4,6,7,8-HpCDF	100.00	6.70e+06	0.43 y	36:54	-	0.85
51	IS	13C-1,2,3,4,7,8,9-HpCDF	100.00	5.19e+06	0.43 y	38:37	-	0.66
52	IS	13C-OCDF	200.00	1.33e+07	0.89 y	41:39	-	0.85
53	C/Up	37Cl-2,3,7,8-TCDD	199.98	2.09e+07		26:35	-	1.21
54	RS/RT	13C-1,2,3,4-TCDD	100.00	8.62e+06	0.76 y	26:01	-	1.00
55	RS	13C-1,2,3,4-TCDF	100.00	1.27e+07	0.84 y	24:41	-	1.00
56	RS/RT	13C-1,2,3,4,6,9-HxCDF	100.00	7.85e+06	0.49 y	33:45	-	1.00

DB
10/10/19

Run: 191009D1   Analyte: Cal: 1613VG7-10 9·19   Inst. ID. VG-7

Data filename: 191009D1

Name	Mean RRF	%RSD	Samp# 1 0.25 RRF#1	Samp# 2 0.50 RRF#2	Samp# 3 2.0 RRF#3	Samp# 4 10 RRF#4	Samp# 5 40 RRF#5	Samp# 6 300 RRF#6
Total Tetra-Dioxins	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
TCDD EMPC	0.9053	7.55 %	0.84	0.83	0.87	0.99	0.92	0.98
Total Penta-Dioxins	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
PeCDD EMPC	0.9027	4.95 %	0.86	0.87	0.88	0.88	0.96	0.96
Total Hexa-Dioxins	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06
HxCDD EMPC	0.9918	4.02 %	0.95	0.96	0.99	0.97	1.02	1.06
Total Hepta-Dioxins	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
HpCDD EMPC	0.9794	5.84 %	0.90	0.97	0.95	0.96	1.03	1.06
Total Tetra-Furans	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
TCDF EMPC	0.9501	8.27 %	1.09	0.90	0.89	0.89	0.95	0.99
1st Func. Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
1st Func. PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
Total Penta-Furans	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
PeCDF EMPC	0.9875	3.40 %	0.97	0.96	0.96	0.97	1.02	1.04
Total Hexa-Furans	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17
HxCDF EMPC	1.1033	3.70 %	1.08	1.06	1.09	1.09	1.14	1.17
Total Hepta-Furans	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25
HpCDF EMPC	1.1937	3.56 %	1.21	1.17	1.14	1.16	1.23	1.25

DB
10/10/19

Run: 191009D1   Analyte: Cal: 1613VG7-10-9-19   Inst. ID. VG-7

Data filename: 191009D1			Samp# 1	Samp# 2	Samp# 3	Samp# 4	Samp# 5	Samp# 6
			0.25	0.50	2.0	10	40	300
	RRT Limits							
Name	Lower	Upper	RRT#1	RRT#2	RRT#3	RRT#4	RRT#5	RRT#6
2,3,7,8-TCDD	0.999	-1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,7,8-PeCDD	0.999	-1.002	0.999	1.000	1.001	1.001	1.001	1.001
1,2,3,4,7,8-HxCDD	0.999	-1.001	1.000	1.000	1.001	1.000	1.000	1.000
1,2,3,6,7,8-HxCDD	0.998	-1.004	1.000	1.000	1.000	1.001	1.001	1.000
1,2,3,7,8,9-HxCDD	0.998	-1.004	1.001	1.000	1.000	1.000	1.001	1.001
1,2,3,4,6,7,8-HpCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDD	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
2,3,7,8-TCDF	0.999	-1.003	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.000	1.000	1.001
2,3,4,7,8-PeCDF	0.999	-1.002	1.000	1.000	1.000	1.001	1.001	1.001
1,2,3,4,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,6,7,8-HxCDF	0.997	-1.005	1.000	1.000	1.001	1.000	1.000	1.000
2,3,4,6,7,8-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.001	1.001	1.000
1,2,3,7,8,9-HxCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
1,2,3,4,6,7,8-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.001	1.000	1.000
1,2,3,4,7,8,9-HpCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
OCDF	0.999	-1.001	1.000	1.000	1.000	1.000	1.000	1.000
13C-2,3,7,8-TCDD	0.976	-1.043	1.022	1.022	1.022	1.021	1.021	1.021
13C-1,2,3,7,8-PeCDD	1.000	-1.567	1.190	1.189	1.190	1.189	1.188	1.188
13C-1,2,3,4,7,8-HxCDD	1.002	-1.026	1.014	1.014	1.014	1.014	1.014	1.014
13C-1,2,3,6,7,8-HxCDD	1.007	-1.029	1.017	1.018	1.018	1.017	1.017	1.018
13C-1,2,3,7,8,9-HxCDD	1.014	-1.038	1.027	1.027	1.027	1.027	1.027	1.027
13C-1,2,3,4,6,7,8-HpCDD	1.117	-1.141	1.127	1.127	1.128	1.127	1.127	1.127
13C-OCDD	1.085	-1.365	1.227	1.227	1.228	1.227	1.227	1.227
13C-2,3,7,8-TCDF	0.923	-1.103	0.994	0.994	0.994	0.994	0.994	0.994
13C-1,2,3,7,8-PeCDF	1.000	-1.425	1.146	1.146	1.146	1.145	1.145	1.144
13C-2,3,4,7,8-PeCDF	1.011	-1.526	1.180	1.179	1.180	1.179	1.178	1.178
13C-1,2,3,4,7,8-HxCDF	0.975	-1.001	0.987	0.987	0.987	0.987	0.987	0.987
13C-1,2,3,6,7,8-HxCDF	0.979	-1.005	0.991	0.991	0.991	0.991	0.991	0.991
13C-2,3,4,6,7,8-HxCDF	1.001	-1.020	1.010	1.010	1.010	1.009	1.009	1.010
13C-1,2,3,7,8,9-HxCDF	1.002	-1.072	1.040	1.040	1.040	1.039	1.039	1.039
13C-1,2,3,4,6,7,8-HpCDF	1.069	-1.111	1.093	1.093	1.094	1.093	1.093	1.093
13C-1,2,3,4,7,8,9-HpCDF	1.098	-1.192	1.145	1.145	1.145	1.145	1.144	1.144
13C-OCDF	1.091	-1.371	1.235	1.234	1.235	1.235	1.234	1.234
37Cl-2,3,7,8-TCDD	0.989	-1.052	1.022	1.021	1.022	1.022	1.022	1.022
13C-1,2,3,4-TCDD	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4-TCDF	0.000	-0.000	*	*	*	*	*	*
13C-1,2,3,4,6,9-HxCDF	0.000	-0.000	*	*	*	*	*	*

1) B
10/10/19

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                        FORM 5
         PCDD/PCDF RT WINDOW AND ISOMER SPECIFICITY STANDARDS


Lab Name: Vista Analytical Laboratory  Episode No.:


Contract No.:           SAS No.:


Instrument ID: VG-7       Initial Calibration Date: 10-9-19


RT Window Data Filename: 191009D1 S#4  Analysis Date:  9-OCT-19 Time: 18:36:09


ZB-5MS IS Data Filename: 191009D1 S#4  Analysis Date:  9-OCT-19 Time: 18:36:09


DB_225 IS Data Filename:           Analysis Date:        Time:


                ZB-5MS RT WINDOW DEFINING STANDARDS RESULTS


                    ABSOLUTE                      ABSOLUTE
ISOMERS                RT     ISOMERS                RT
1,3,6,8-TCDD (F)      23:24   1,3,6,8-TCDF (F)      21:25
1,2,8,9-TCDD (L)      27:24   1,2,8,9-TCDF (L)      27:33


1,2,4,7,9-PeCDD (F)   28:55   1,3,4,6,8-PeCDF (F)   27:28
1,2,3,8,9-PeCDD (L)   31:17   1,2,3,8,9-PeCDF (L)   31:32


1,2,4,6,7,9-HxCDD (F) 32:41   1,2,3,4,6,8-HxCDF (F) 32:08
1,2,3,7,8,9-HxCDD (L) 34:42   1,2,3,7,8,9-HxCDF (L) 35:07


1,2,3,4,6,7,9-HpCDD (F) 37:16  1,2,3,4,6,7,8-HpCDF (F) 36:57
1,2,3,4,6,7,8-HpCDD (L) 38:05  1,2,3,4,7,8,9-HpCDF (L) 38:41


(F) = First eluting isomer (ZB-5MS); (L) = Last eluting isomer (ZB-5MS).
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                ISOMER SPECIFICITY (IS) TEST STANDARD RESULTS


            % VALLEY HEIGHT
               BETWEEN
            COMPARED PEAKS (1)


               <25%


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

Analyst: _DB_

Date: _10/10/19_

Experiment:OCDD_DB5 Function:1 Reference:PFK

PPM	Volts
200	0.0210

292.98245

PPM	Volts
200	0.0126

304.98245

PPM	Volts
200	0.0068

316.98245

PPM	Volts
200	0.0280

330.97925

PPM	Volts
200	0.0184

342.97925

PPM	Volts
200	0.0094

354.97925

PPM	Volts
200	0.0068

366.97925

PPM	Volts
200	0.0174

380.97604

PPM	Volts
200	0.0087

392.97604

PPM	Volts
200	0.0079

404.97604

PPM	Volts
200	0.0035

416.97604
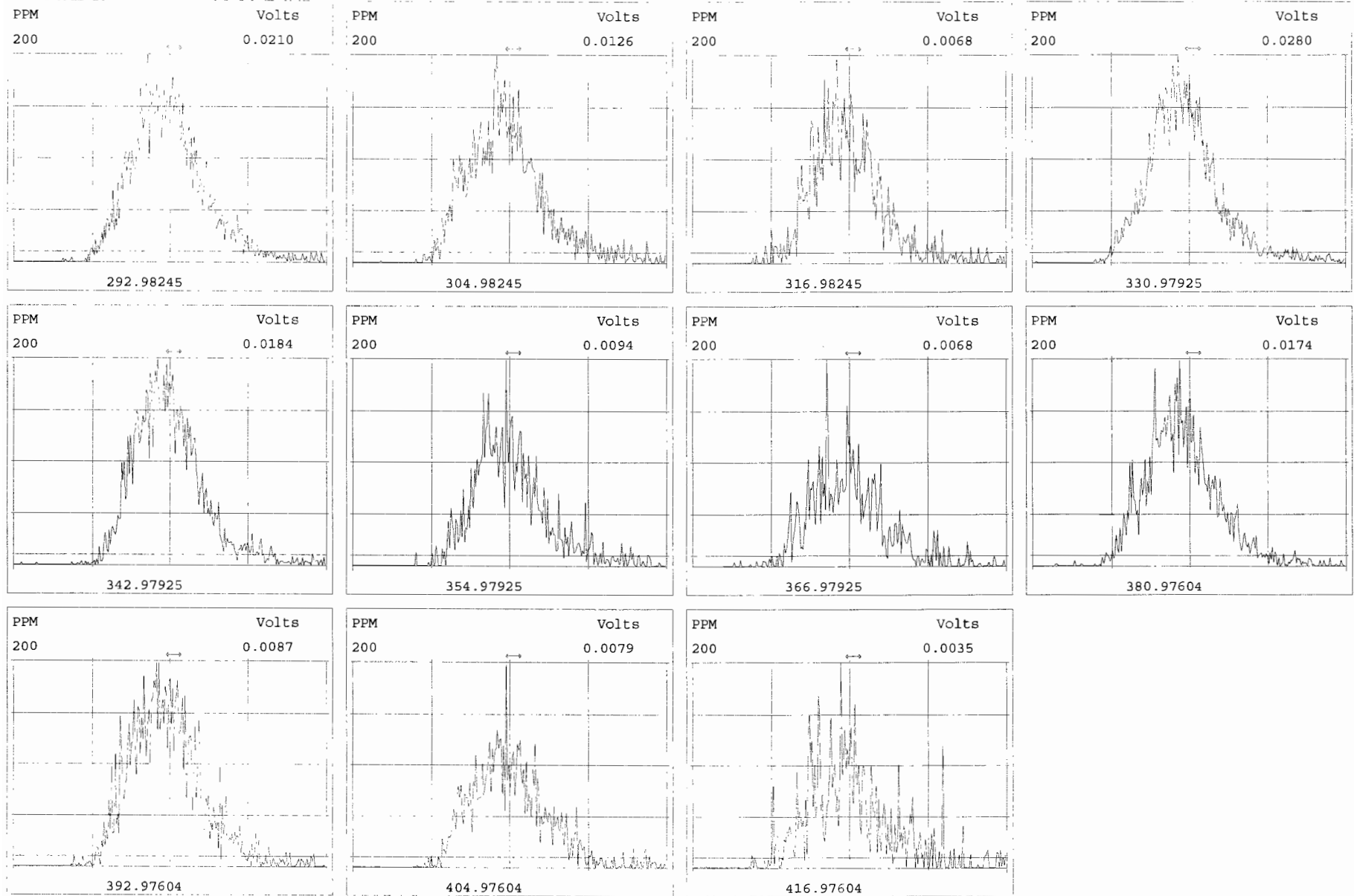
Peak Locate Examination: 9-OCT-2019:16:10 File:191009D1
Experiment:OCDD_DB5 Function:2 Reference:PFK

PPM	Volts
200	0.0065

316.95075   316.98245   317.01415

PPM	Volts
200	0.0249

330.94615   330.97925   331.01235

PPM	Volts
200	0.0184

342.94495   342.97925   343.01355

PPM	Volts
200	0.0074

354.94375   354.97925   355.01475

PPM	Volts
200	0.0056

366.94255   366.97925   367.01595

PPM	Volts
200	0.0162

380.93795   380.97604   381.01414

PPM	Volts
200	0.0092

392.93675   392.97604   393.01534

PPM	Volts
200	0.0100

404.93555   404.97604   405.01654

PPM	Volts
200	0.0047

416.93435   416.97604   417.01774

Peak Locate Examination: 9-OCT-2019:16:11 File:191009D1
Experiment:OCDD_DB5 Function:3 Reference:PFK

Peak Locate Examination: 9-OCT-2019:16:11 File:191009D1

Experiment:OCDD_DB5 Function:4 Reference:PFK

PPM	Volts
200	0.0066

404.93555   404.97604   405.01654

PPM	Volts
200	0.0041

416.93435   416.97604   417.01774

PPM	Volts
200	0.0093

430.92974   430.97284   431.01594

PPM	Volts
200	0.0066

442.92854   442.97284   443.01714

PPM	Volts
200	0.0066

454.92734   454.97284   455.01834

PPM	Volts
200	0.0025

466.92614   466.97284   467.01954

PPM	Volts
200	0.0050

480.92157   480.96967   481.01776

Experiment:OCDD_DB5 Function:5 Reference:PFK

PPM	Volts
200	0.0086

| 430.92974 | 430.97284 | 431.01594 |

PPM	Volts
200	0.0067

| 442.92854 | 442.97284 | 443.01714 |

PPM	Volts
200	0.0075

| 454.92734 | 454.97284 | 455.01834 |

PPM	Volts
200	0.0028

| 466.92614 | 466.97284 | 467.01954 |

PPM	Volts
200	0.0072

| 480.92157 | 480.96967 | 481.01776 |

PPM	Volts
200	0.0053

| 492.92037 | 492.96967 | 493.01896 |

PPM	Volts
200	0.0051

| 504.91917 | 504.96967 | 505.02016 |

PPM	Volts
200	0.0019

| 516.91797 | 516.96967 | 517.02136 |

Vista Analytical Laboratory - Injection Log Run file: 191009D1   Instrument ID: VG-7   GC Column ID: ZB-5MS

Data file	S#	Sample ID	Analyst	Acq date	Acq time	CCal	ECal
191009D1	1	ST191009D1-1	DB	9-OCT-19	16:13:04	ST191009D1-4	NA
191009D1	2	ST191009D1-2	DB	9-OCT-19	17:00:45	ST191009D1-4	NA
191009D1	3	ST191009D1-3	DB	9-OCT-19	17:48:27	ST191009D1-4	NA
191009D1	4	ST191009D1-4	DB	9-OCT-19	18:36:09	ST191009D1-4	NA
191009D1	5	ST191009D1-5	DB	9-OCT-19	19:23:46	ST191009D1-4	NA
191009D1	6	ST191009D1-6	DB	9-OCT-19	20:11:17	ST191009D1-4	NA
191009D1	7	SOLVENT BLANK	DB	9-OCT-19	20:58:57	ST191009D1-4	NA
191009D1	8	SS191009D1-1	DB	9-OCT-19	21:46:34	ST191009D1-4	NA
191009D1	9	B9J0001-BS1	DB	9-OCT-19	22:34:09	ST191009D1-4	NA
191009D1	10	SOLVENT BLANK	DB	9-OCT-19	23:21:45	ST191009D1-4	NA
191009D1	11	B9J0001-BLK1	DB	10-OCT-19	00:09:30	ST191009D1-4	NA
191009D1	12	QC191007D1-1	DB	10-OCT-19	00:57:00	ST191009D1-4	NA
191009D1	13	1903285-08	DB	10-OCT-19	01:44:36	ST191009D1-4	NA
191009D1	14	1903285-09	DB	10-OCT-19	02:32:11	ST191009D1-4	NA
191009D1	15	1903285-10	DB	10-OCT-19	03:19:47	ST191009D1-4	NA
191009D1	16	1903103-02@5X	DB	10-OCT-19	04:07:23	ST191009D1-4	NA
191009D1	17	1903103-01@5X	DB	10-OCT-19	04:54:54	ST191009D1-4	NA
191009D1	18	B9I0240-DUP1@5X	DB	10-OCT-19	05:42:38	ST191009D1-4	NA

File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5

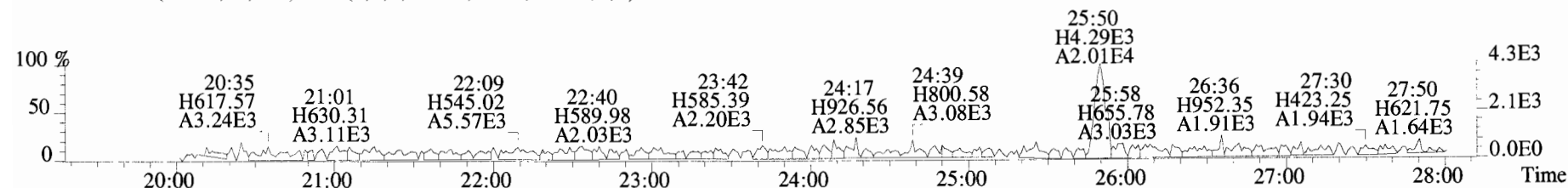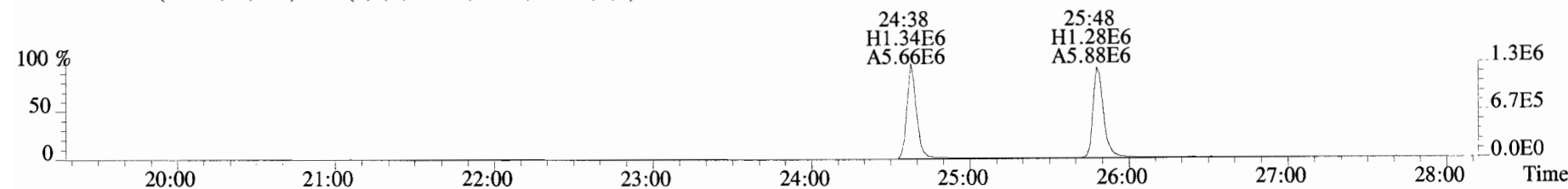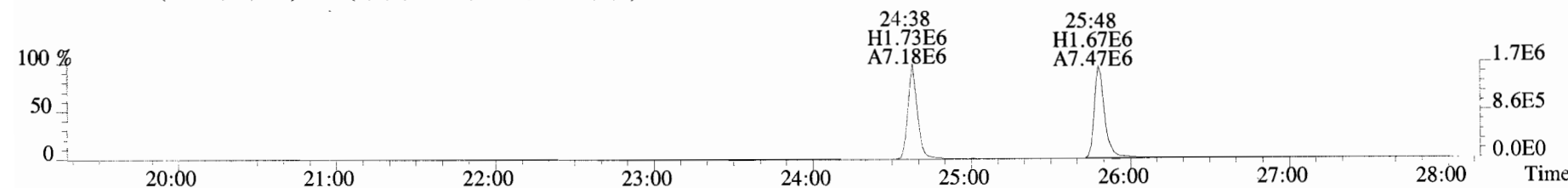319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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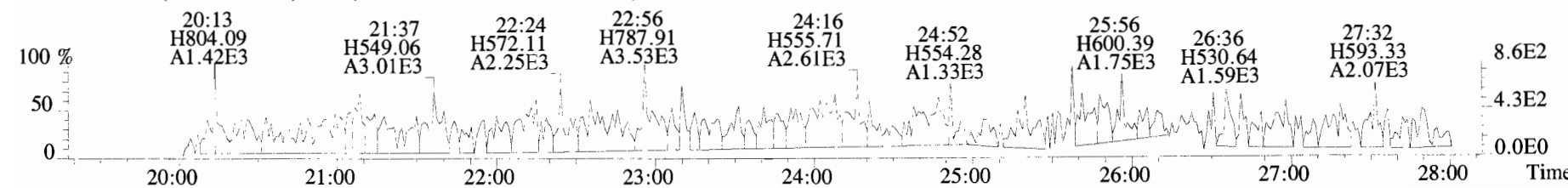

327.8847 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

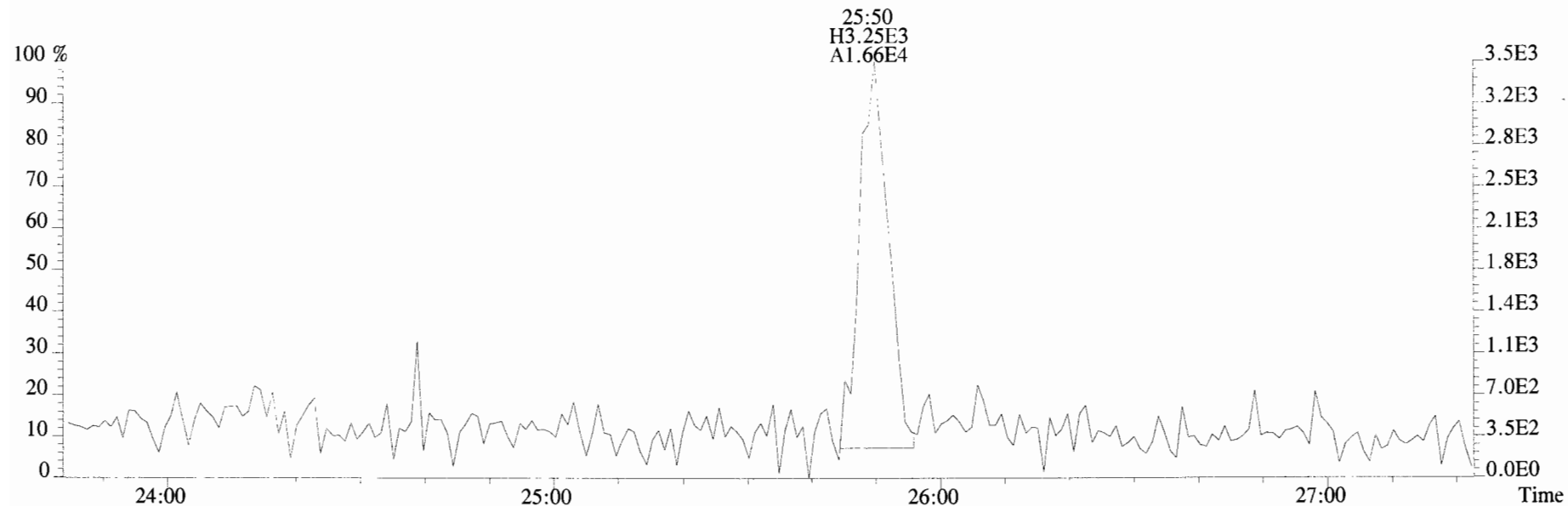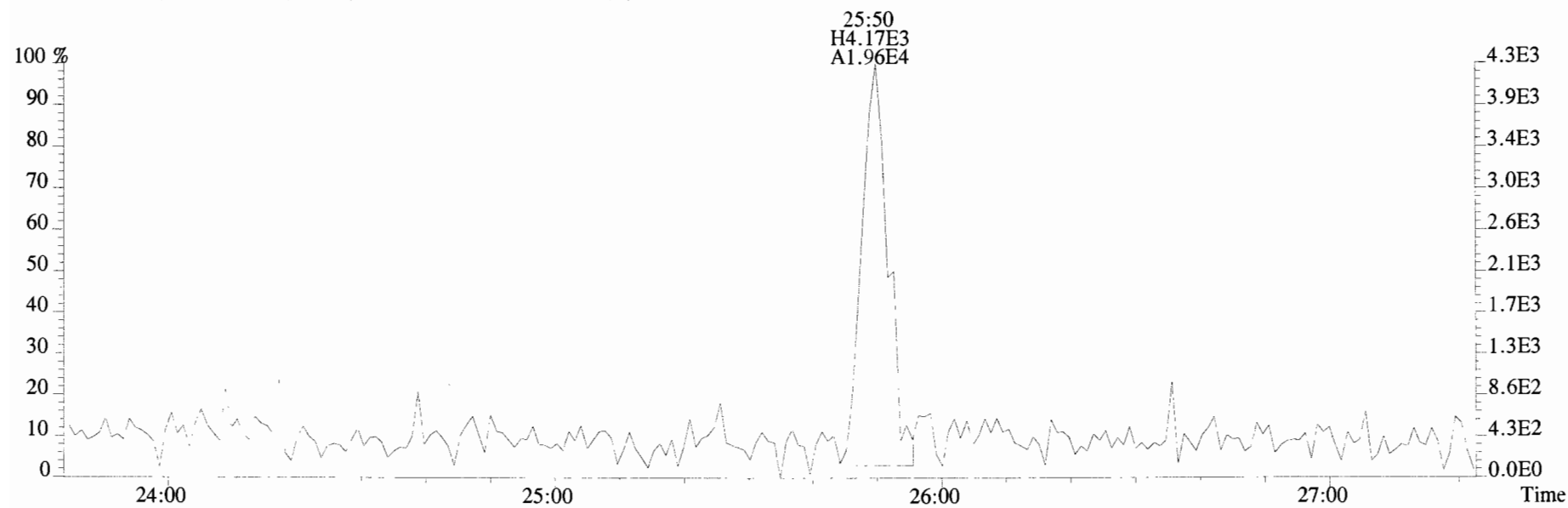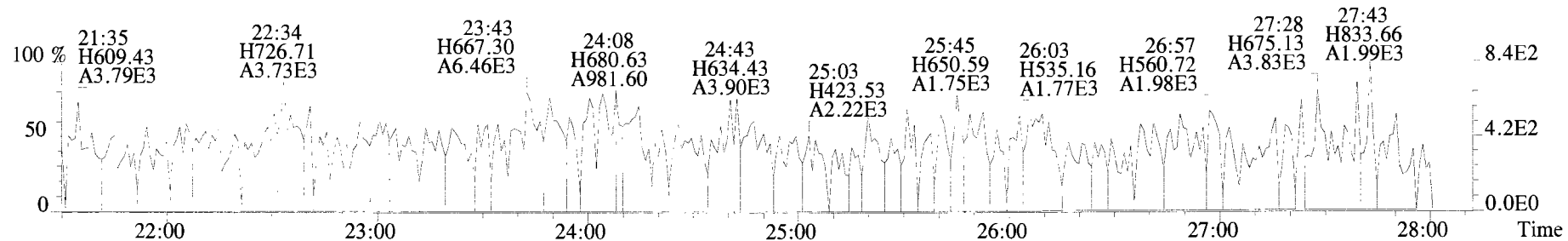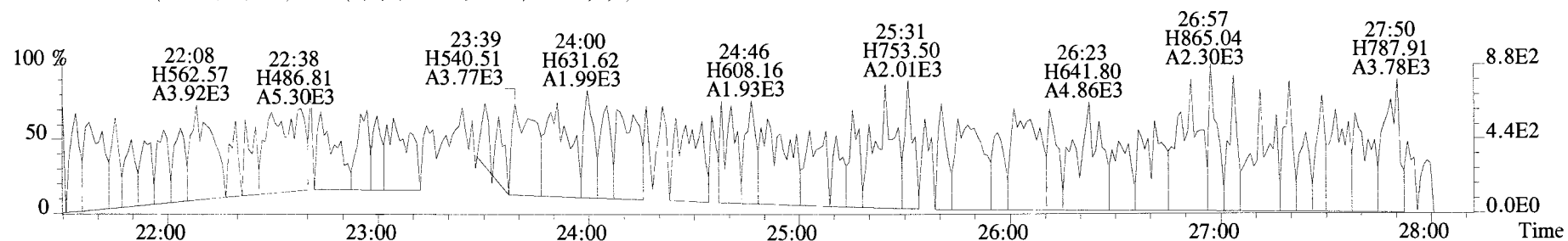331.9368 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

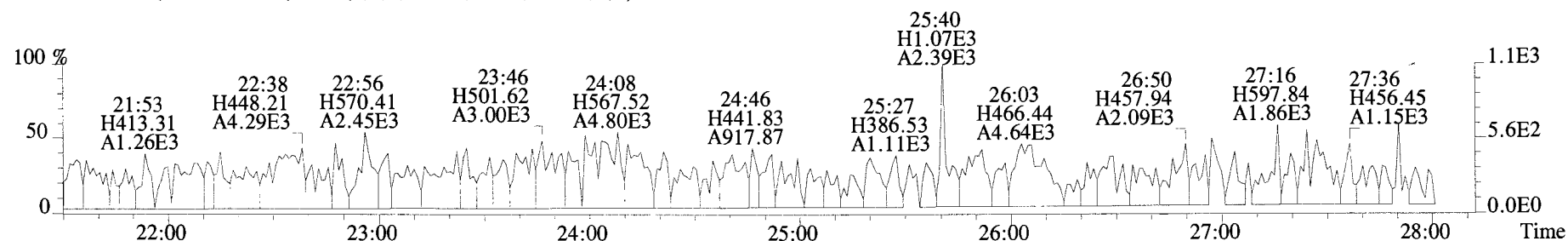333.9339 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
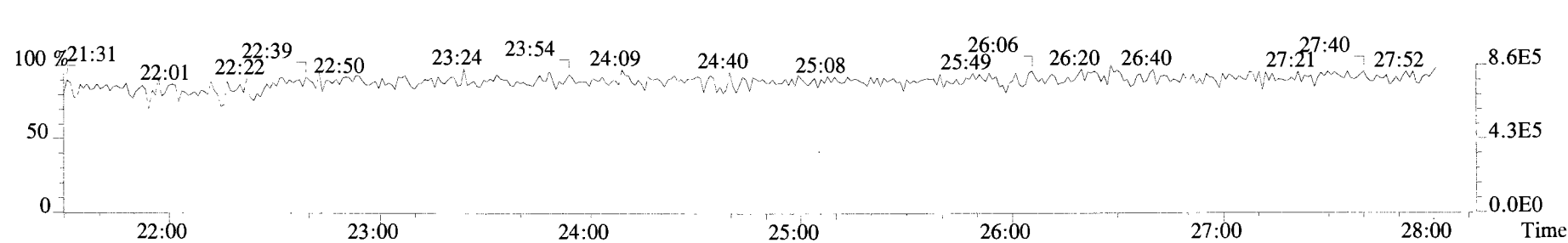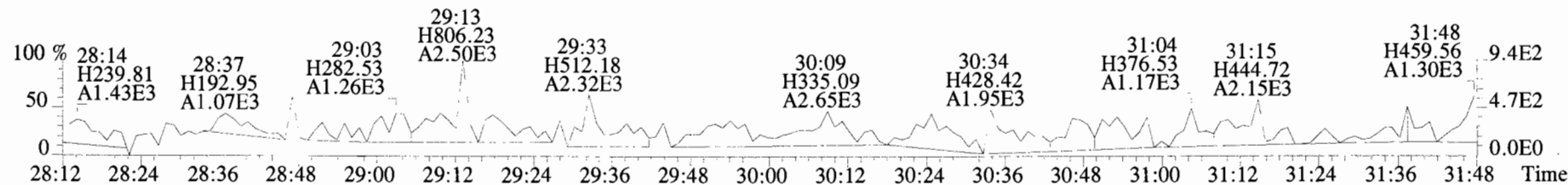319.8965 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:33
H2.69E3
A8.76E3

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

26:33
H2.92E3
A1.09E4

File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

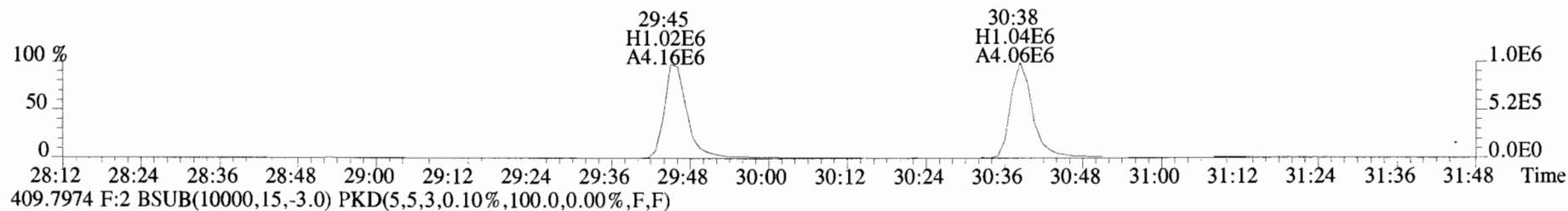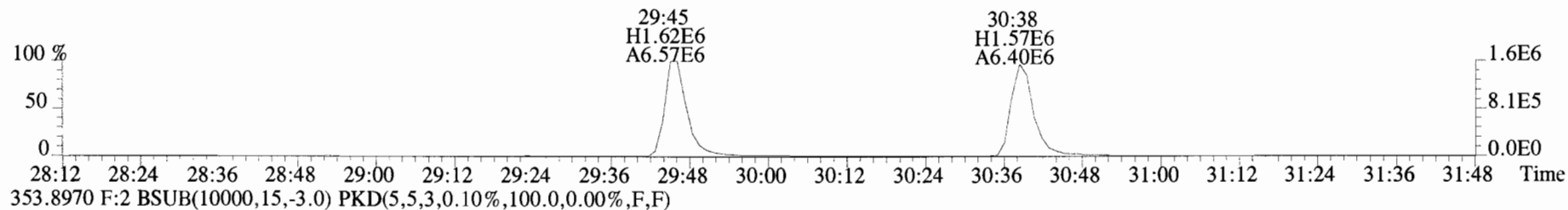355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

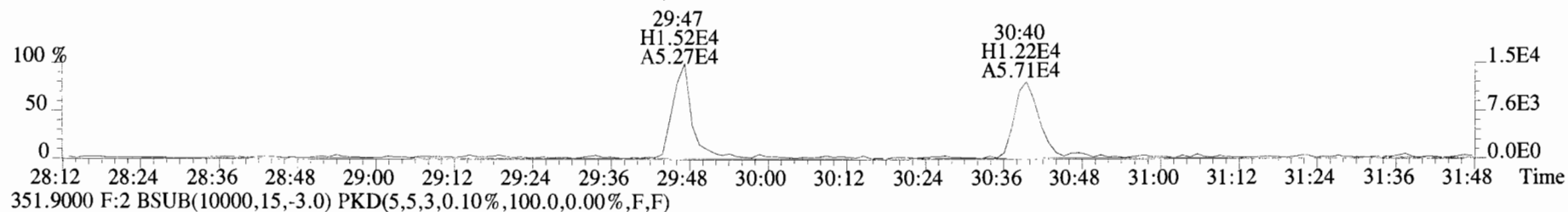365.8978 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
353.8576 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

355.8546 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
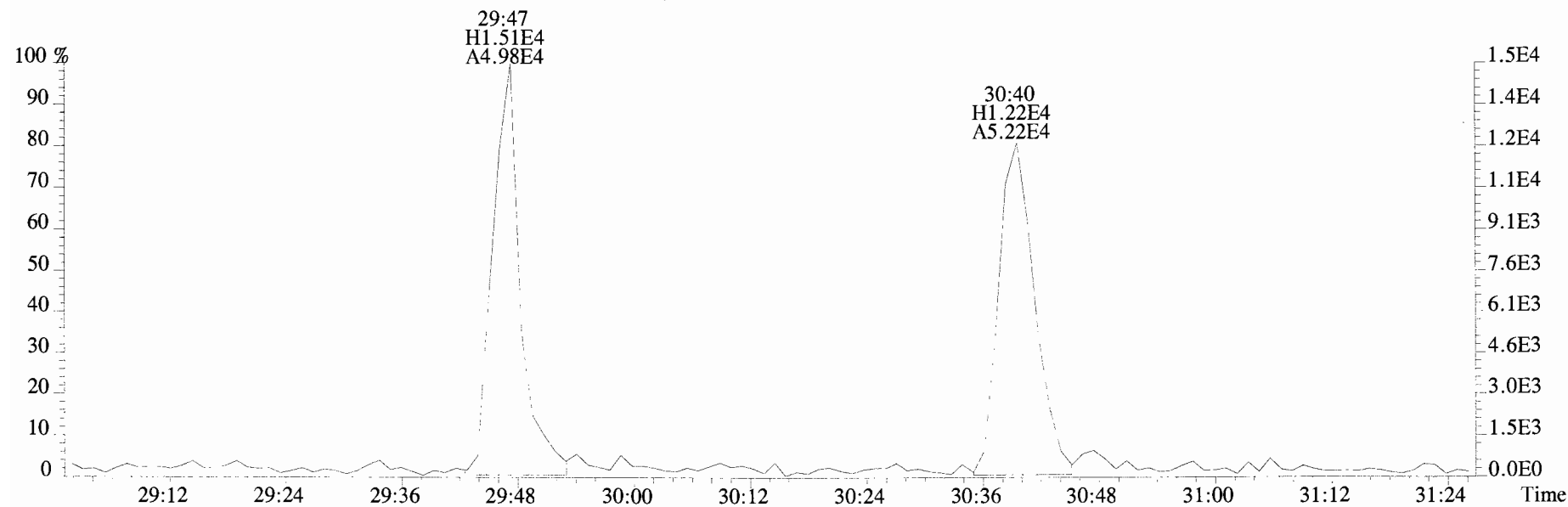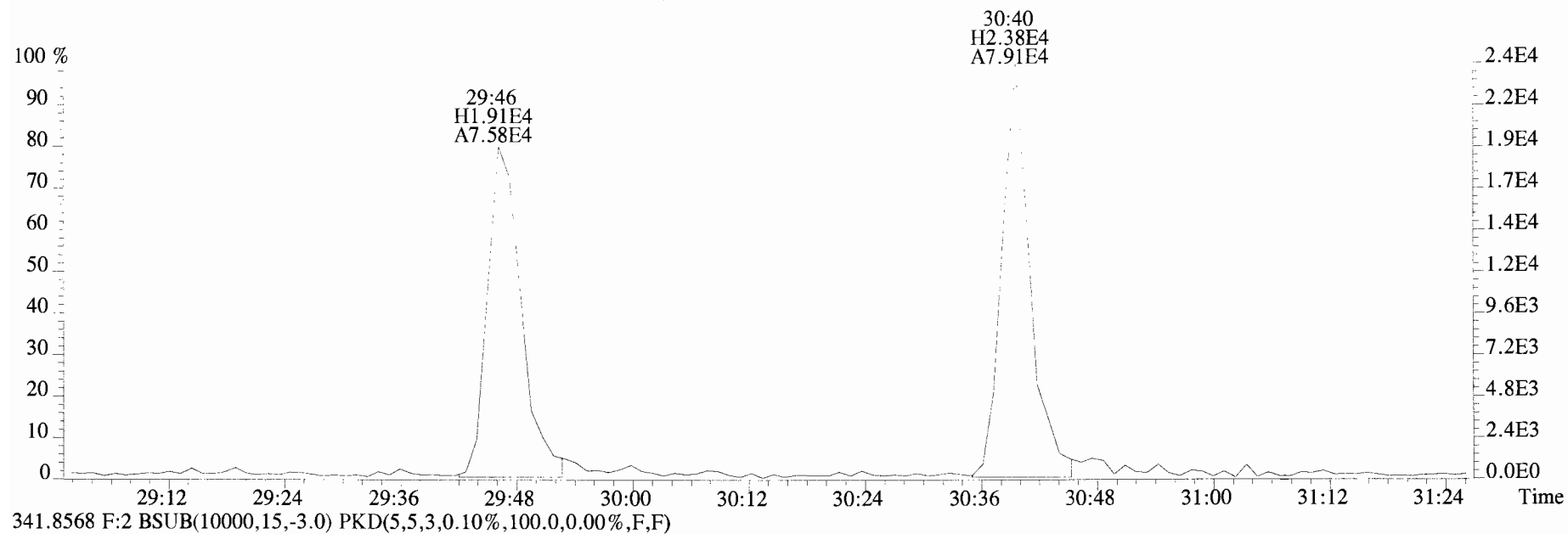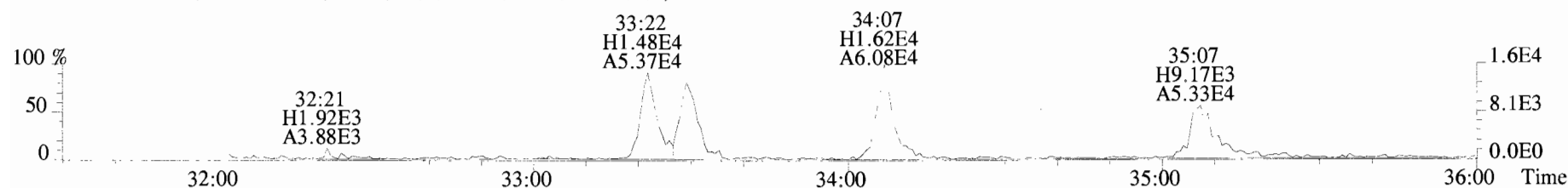
File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
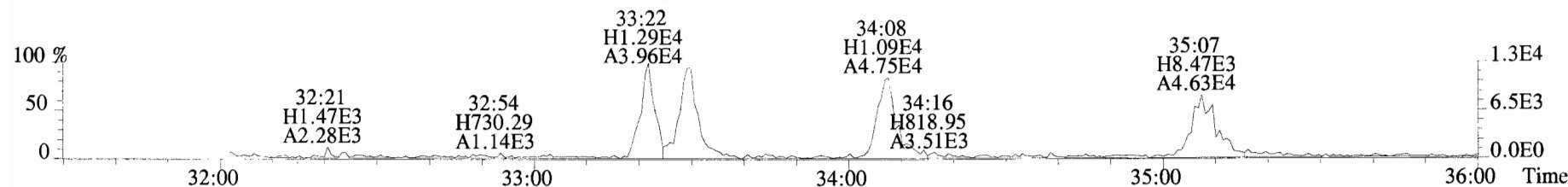389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

100 %

50

0

32:21	32:41		33:27	33:47		/34:24	34:43		34:53	35:12
H1.30E3	H867.97		H1.30E3	H915.06		H9.93E3	H9.05E3	34:32	H867.94	H443.35
A2.23E3	A3.37E3		A1.41E3	A3.85E3		A4.02E4	A4.63E4	H748.31	A1.91E3	A1.09E3
								A2.79E3		

32:00   33:00   34:00   35:00   36:00   Time

1.0E4
5.0E3
0.0E0

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

100 %

50

0

					34:23	34:42				35:39
32:21	32:41	33:02			H8.72E3	H9.23E3		35:05	35:23	H534.24
H1.16E3	H756.10	H685.74			A3.53E4	A4.04E4	34:55	H967.04	H612.18	A1.58E3
A2.36E3	A2.39E3	A2.78E3		34:29			H573.95	A1.72E3	A2.75E3	
				H999.74			A1.88E3			
				A2.44E3						

32:00   33:00   34:00   35:00   36:00   Time

9.3E3
4.6E3
0.0E0

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

100 %

50

0

34:22   34:41
H8.66E5   H7.08E5
A3.96E6   A3.82E6

32:00   33:00   34:00   35:00   36:00   Time

8.7E5
4.3E5
0.0E0

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

100 %

50

0

34:22   34:41
H6.62E5   H5.49E5
A3.00E6   A2.92E6

32:00   33:00   34:00   35:00   36:00   Time

6.6E5
3.3E5
0.0E0

392.9760 F:3

100 % 32:07   32:27   32:50   32:59 33:28   33:37   33:57   34:14   34:28 34:50   34:58   35:11   35:32   35:40   35:54
                                33:16   34:40

50

0

32:00   33:00   34:00   35:00   36:00   Time
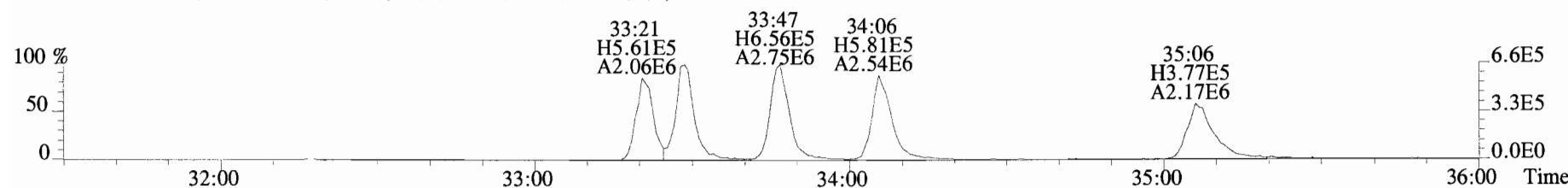
1.6E6
8.0E5
0.0E0

File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
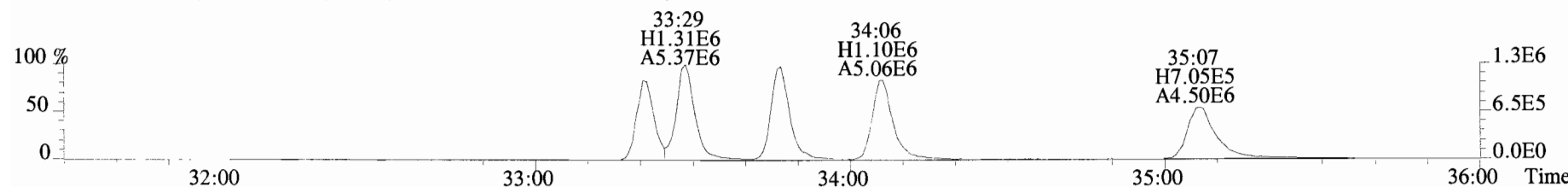389.8156 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

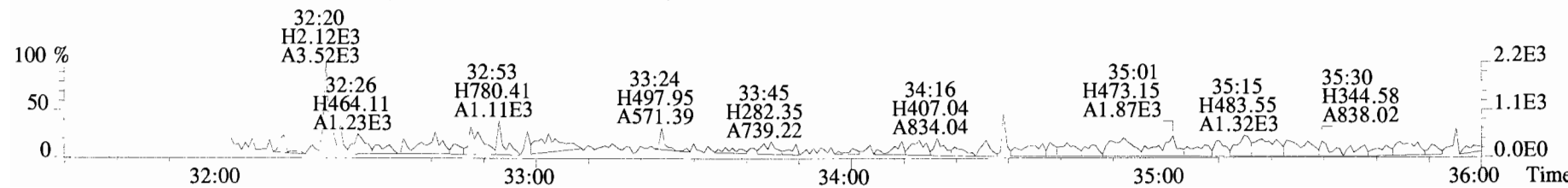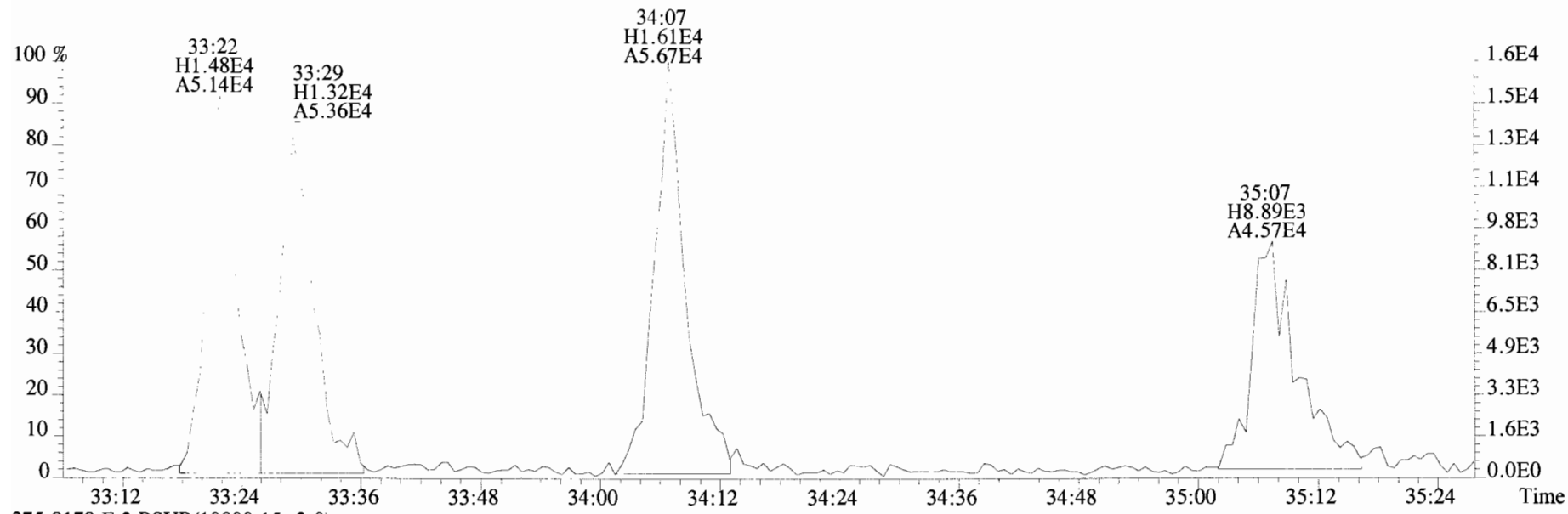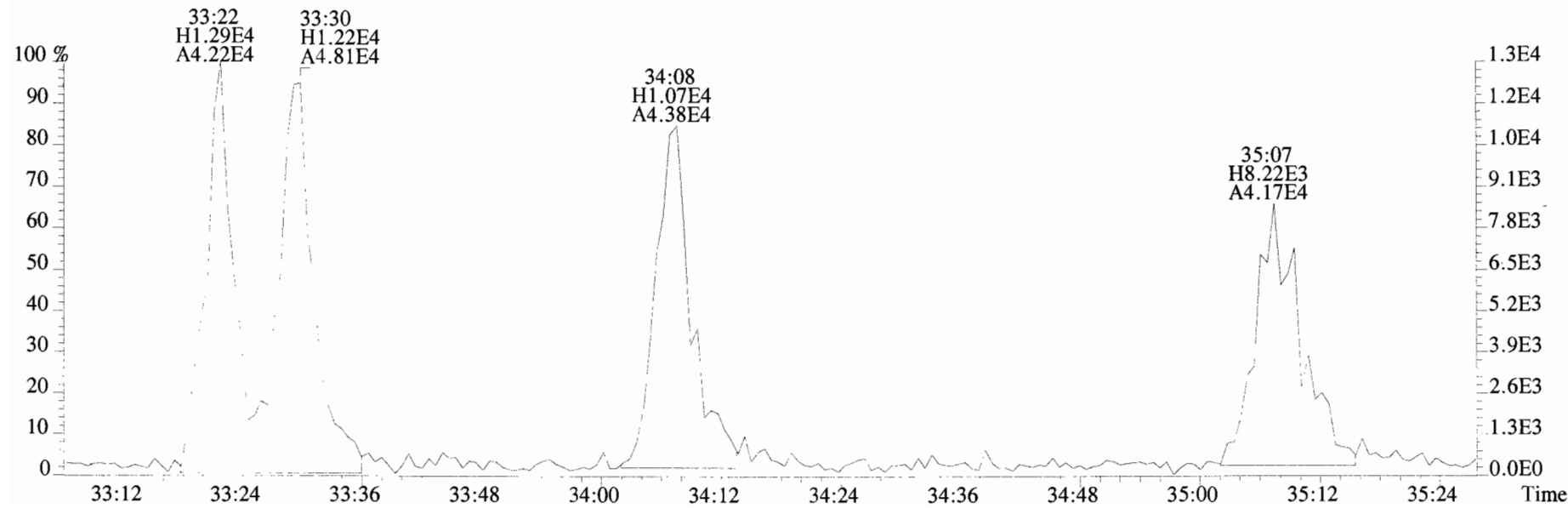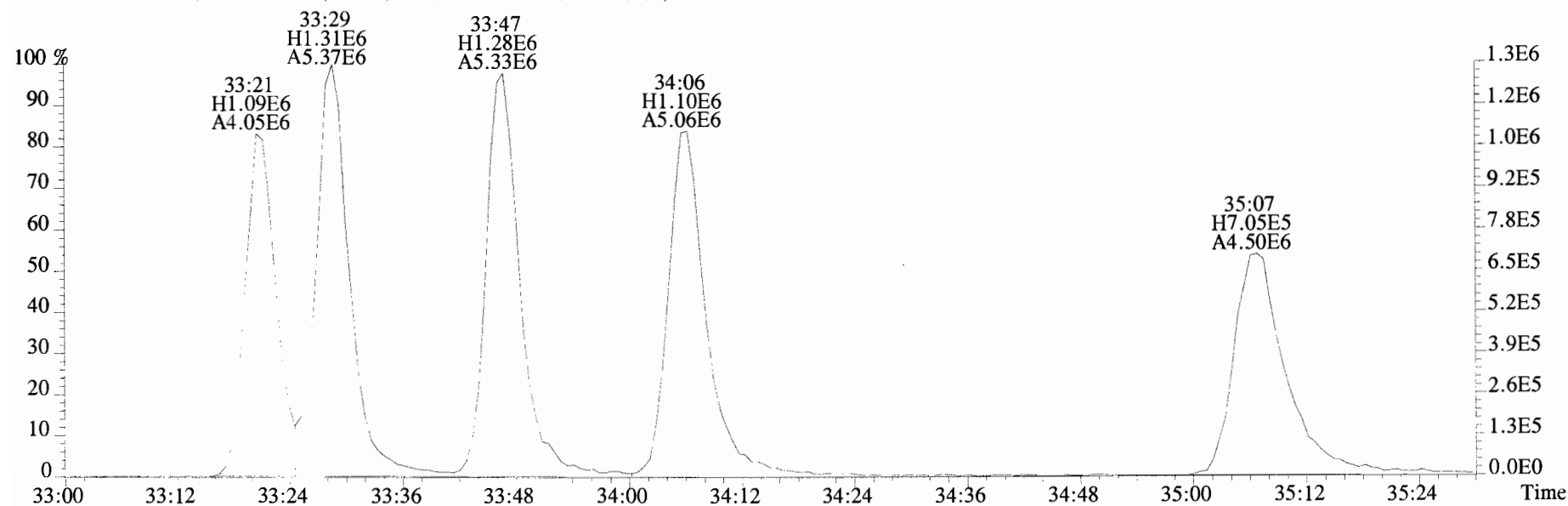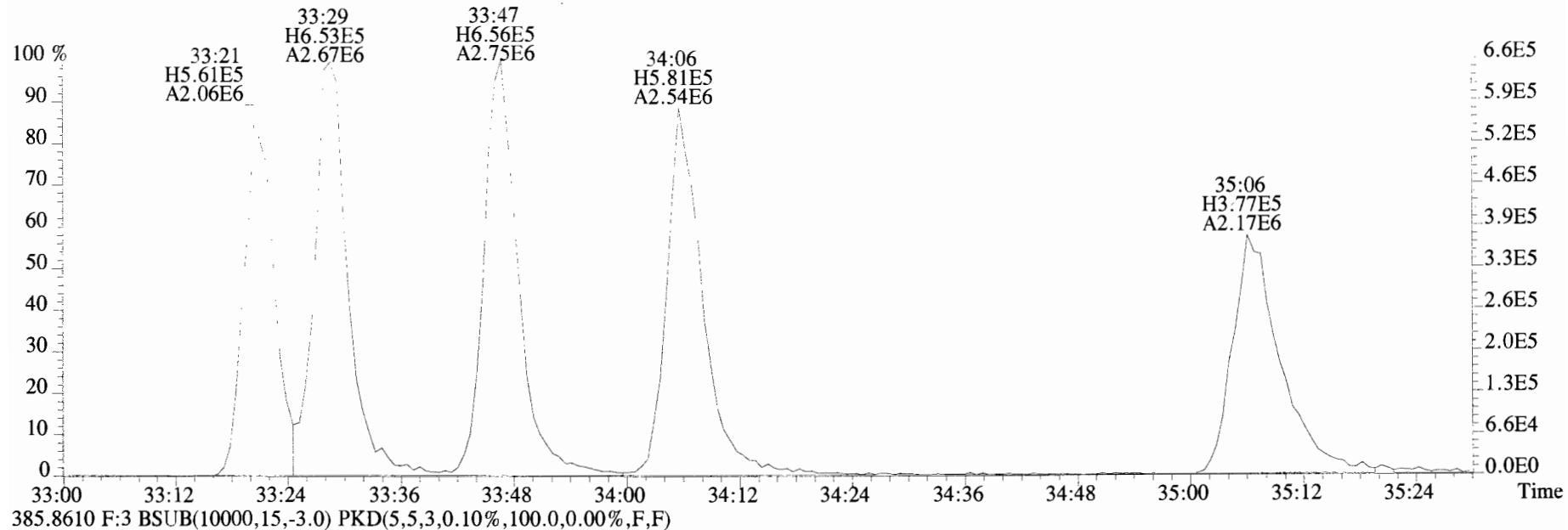391.8127 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
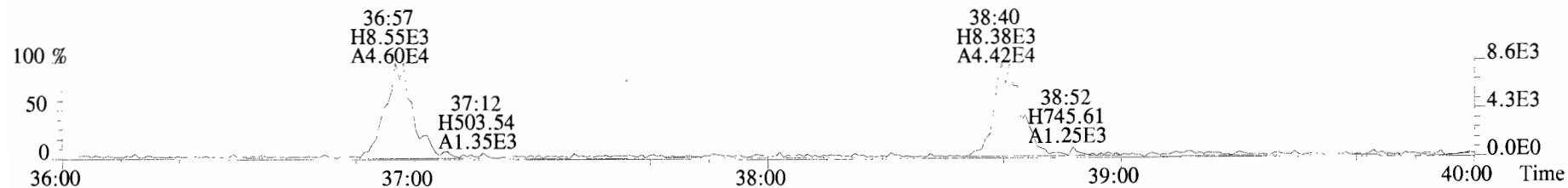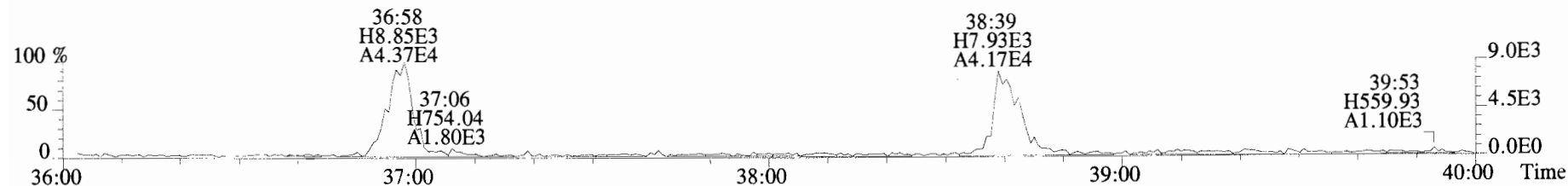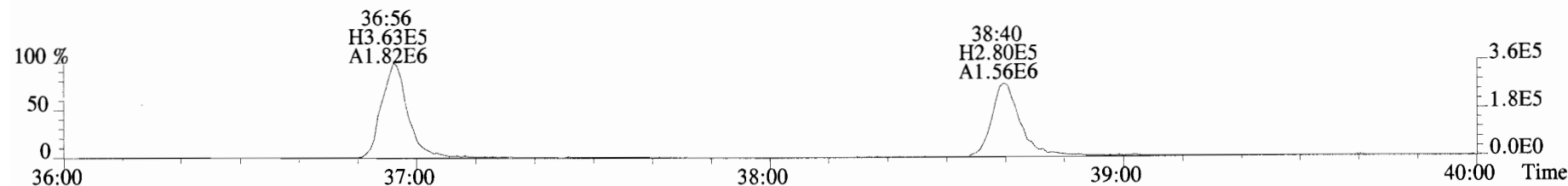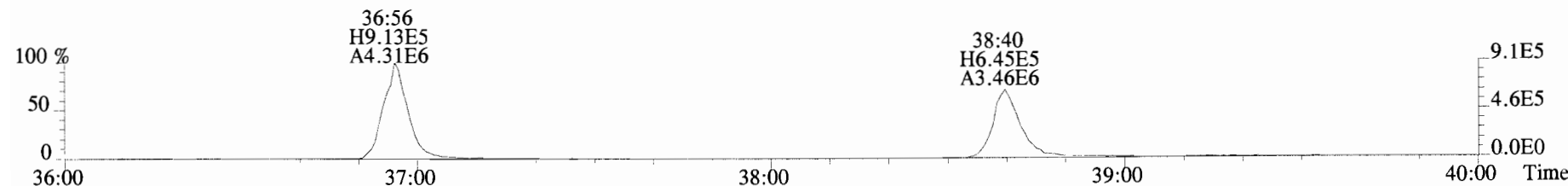401.8559 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

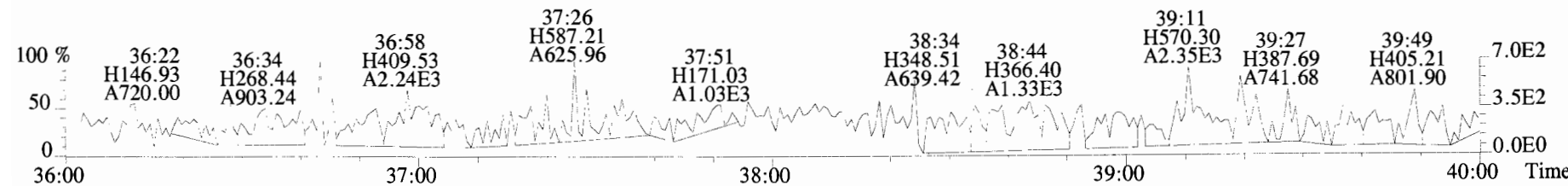403.8530 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

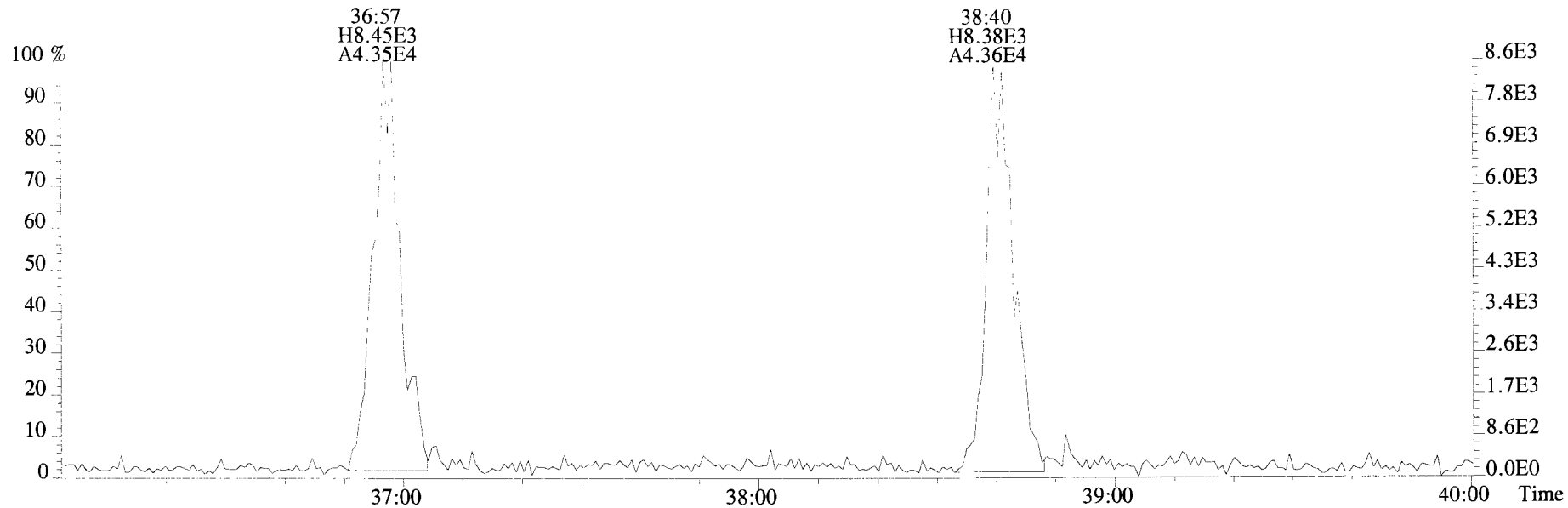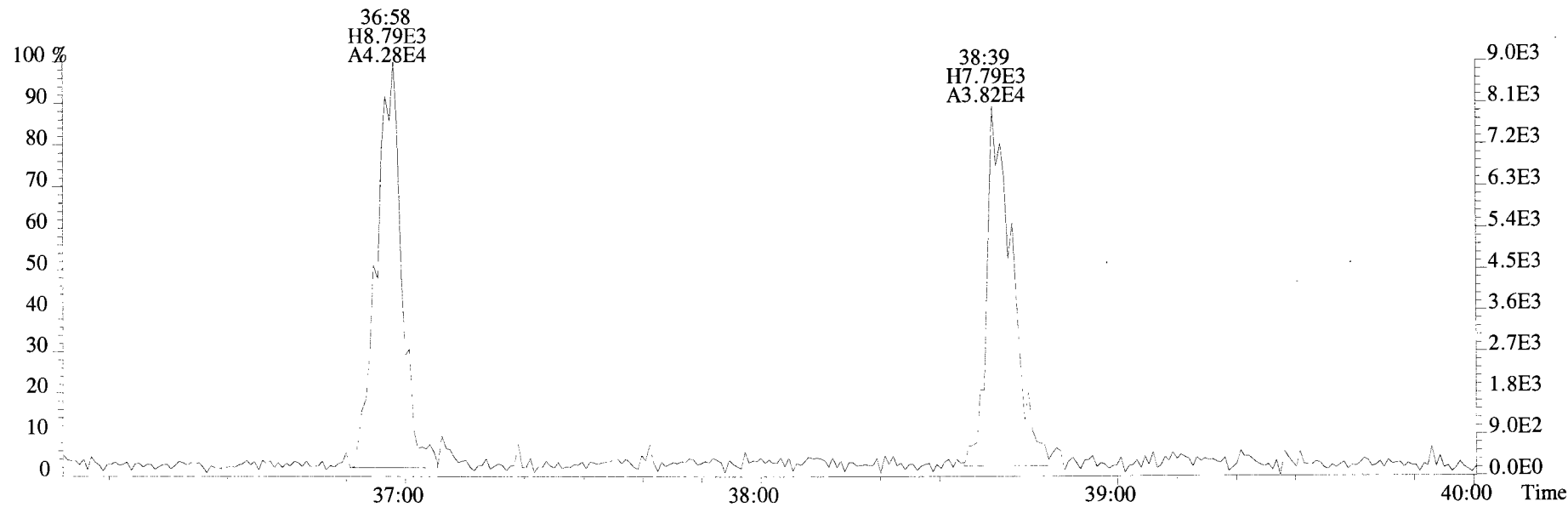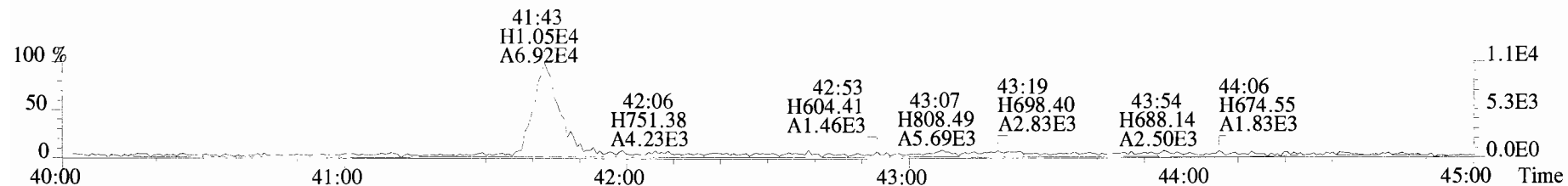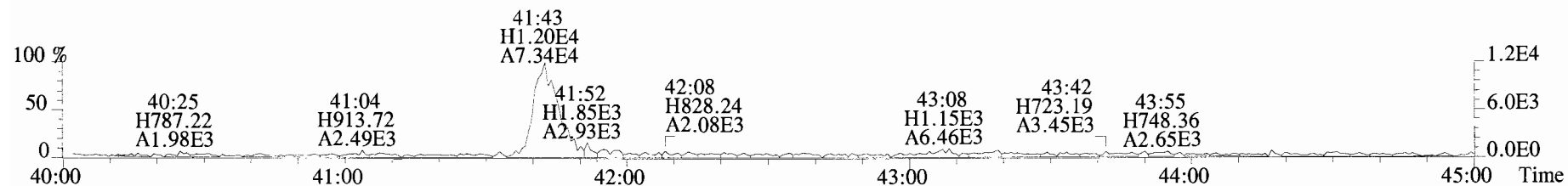423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                                    38:06
                                                    H8.11E3
                                                    A3.52E4
100 %                                                                                           8.2E3
                                                                                                
 50          37:19                           38:13                                              4.1E3
             H580.50                         H966.10      38:42          39:11
             A2.21E3                         A2.40E3      H441.08        H412.85
  0                                                       A912.09        A792.71                0.0E0
    36:00              37:00              38:00              39:00              40:00   Time
```

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

```
                                                    38:06
                                                    H6.63E3
                                                    A3.35E4
100 %                                                                                           6.7E3
                                                                                                
 50                                                                 39:15                        3.3E3
        36:31      36:54      37:18    37:32       38:16     38:44   H441.55  39:26    39:45
        H438.00    H452.50    H506.00  H392.09     H464.61   H447.46 A1.26E3  H499.87  H365.30
        A929.53    A1.33E3    A2.03E3  A1.87E3      A846.01   A1.85E3         A969.48  A1.41E3
  0                                                                                             0.0E0
    36:00              37:00              38:00              39:00              40:00   Time
```

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

```
                                                    38:05
                                                    H6.07E5
                                                    A2.91E6
100 %                                                                                           6.1E5
                                                                                                
 50                                                                                             3.0E5
                                                                                                
  0                                                                                             0.0E0
    36:00              37:00              38:00              39:00              40:00   Time
```

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

```
                                                    38:05
                                                    H5.78E5
                                                    A2.78E6
100 %                                                                                           5.8E5
                                                                                                
 50                                                                                             2.9E5
                                                                                                
  0                                                                                             0.0E0
    36:00              37:00              38:00              39:00              40:00   Time
```

454.9728 F:4

```
       36:04                                                    38:26         39:04      39:33
100 %       36:22     36:41         37:09  37:21     37:45  38:01   38:15  38:44   39:14    39:44   9.9E5
                                                                                                
 50                                                                                             4.9E5
                                                                                                
  0                                                                                             0.0E0
    36:00              37:00              38:00              39:00              40:00   Time
```
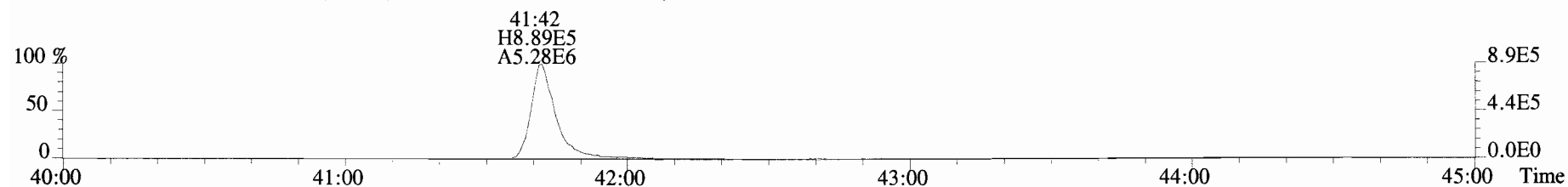
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
423.7767 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

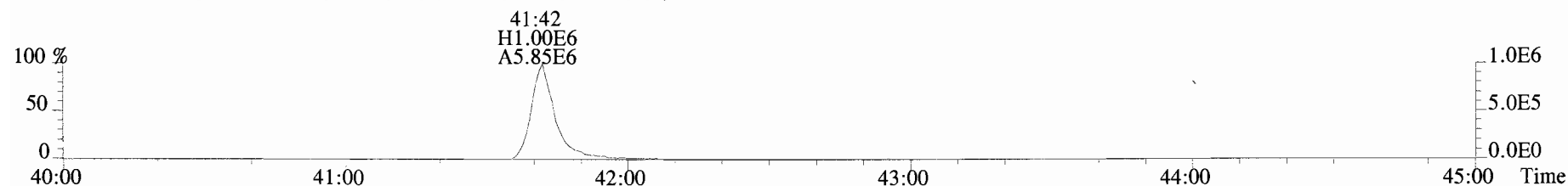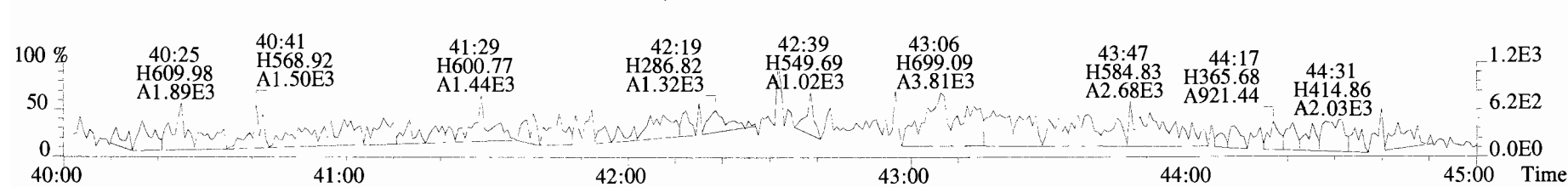425.7737 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

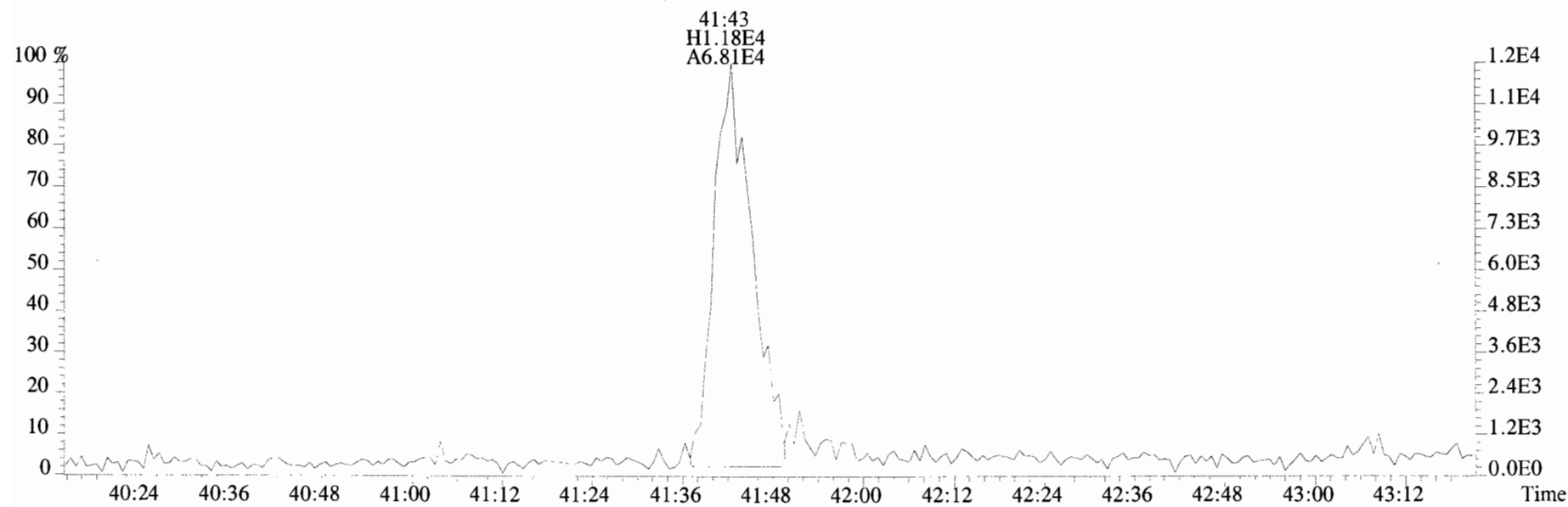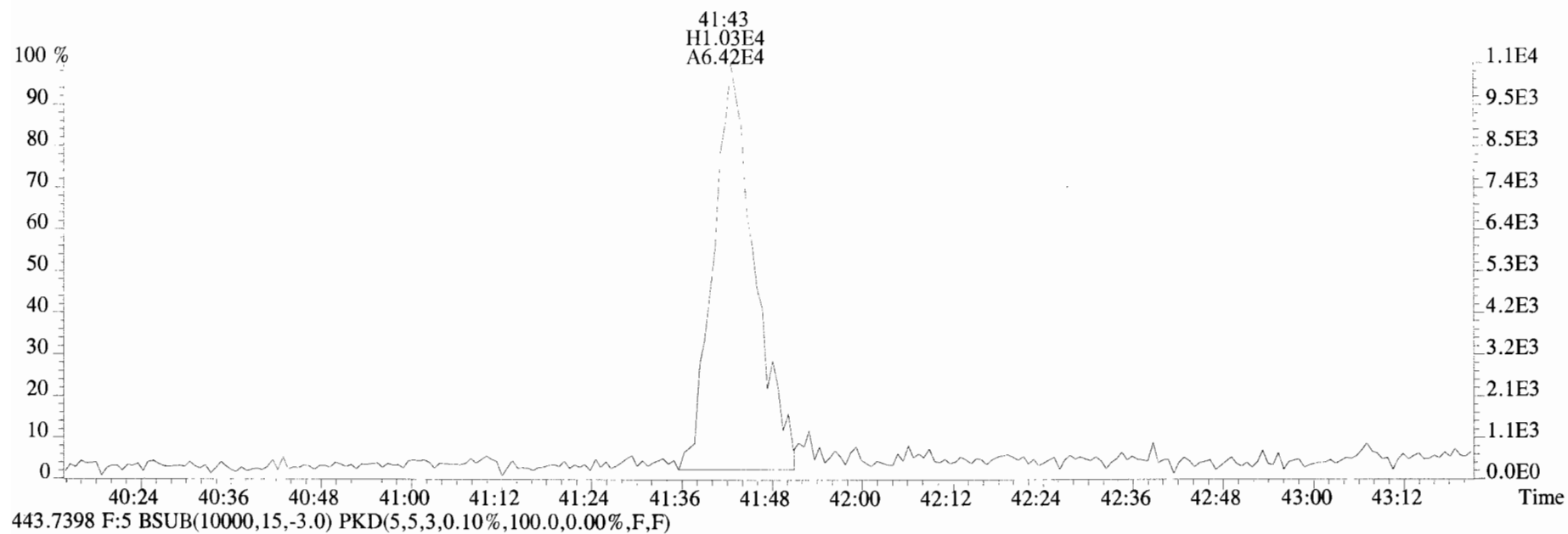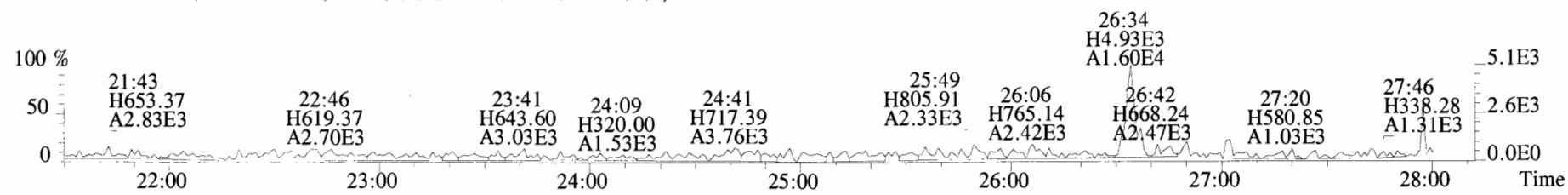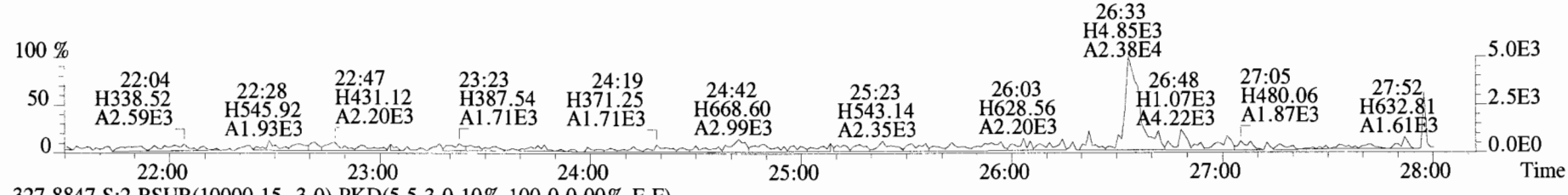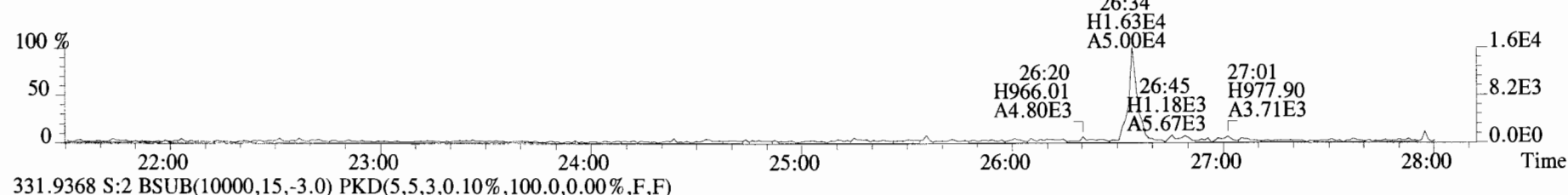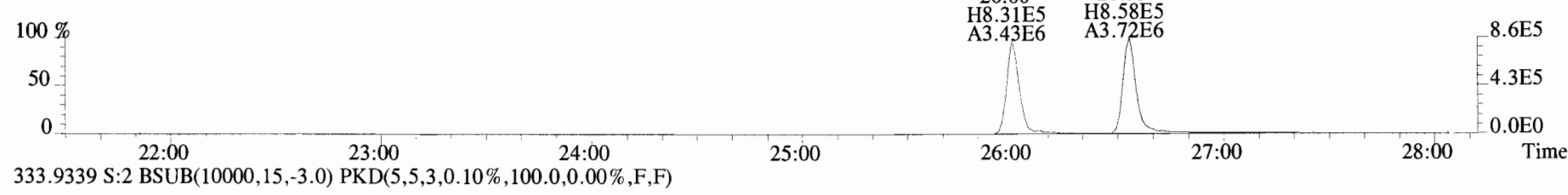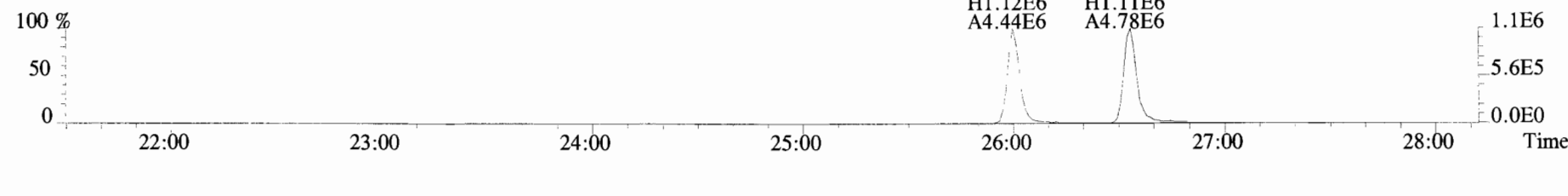457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
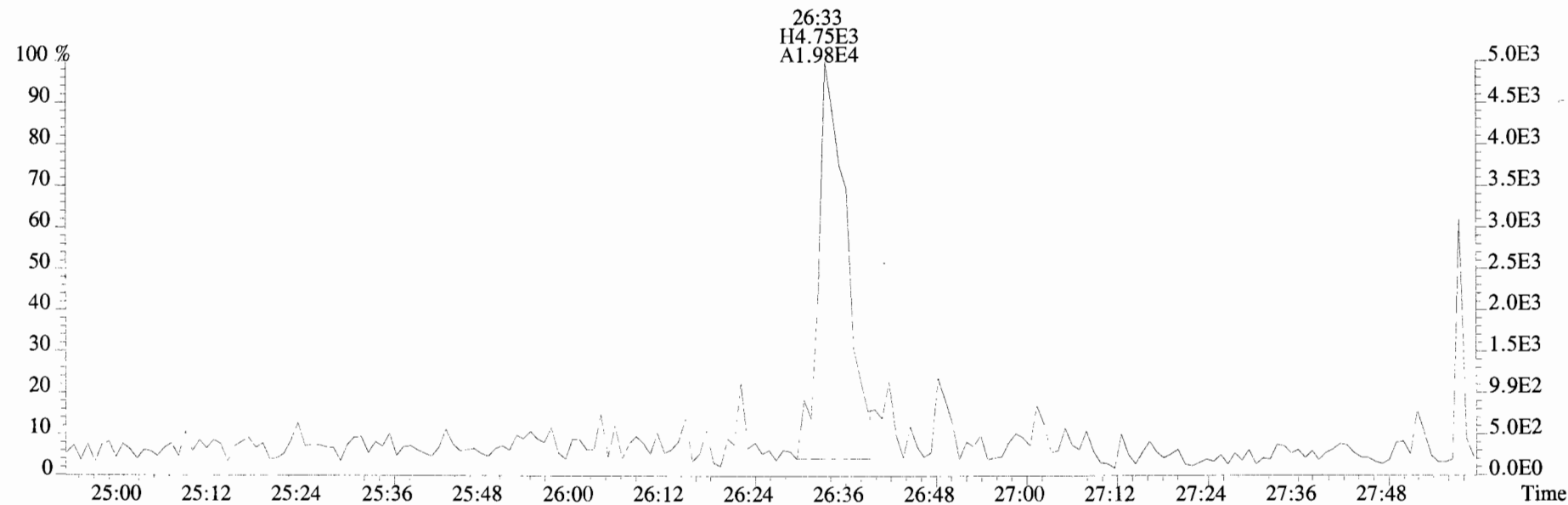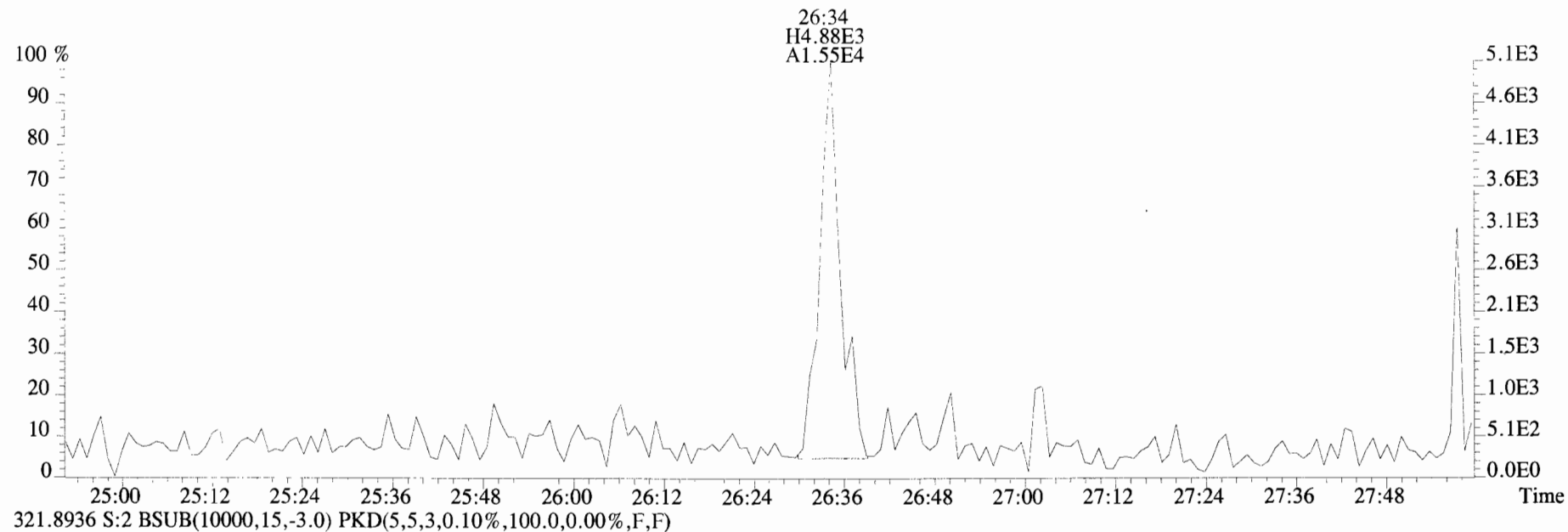

459.7348 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

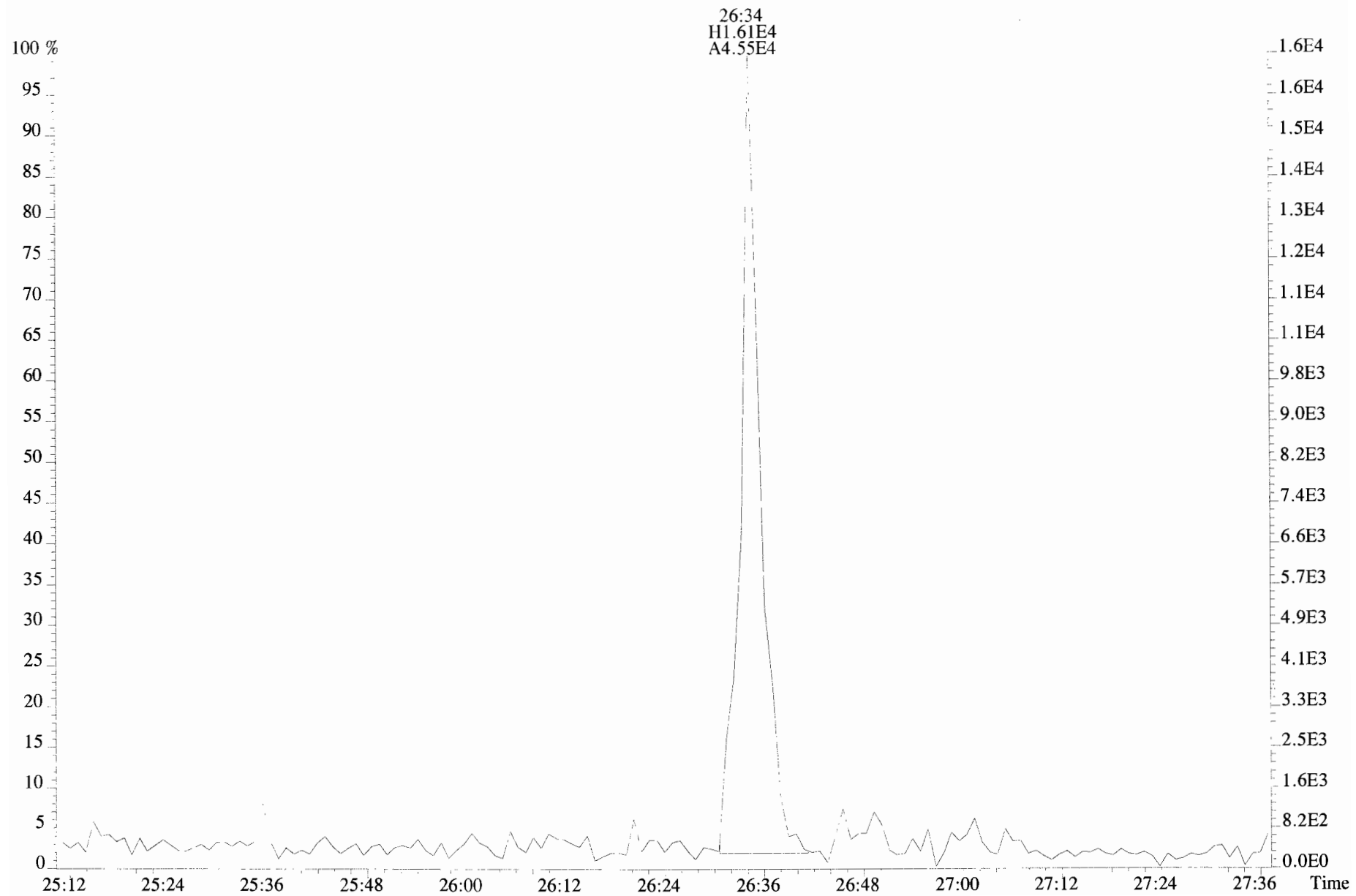469.7780 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

454.9728 F:5

File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
457.7377 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

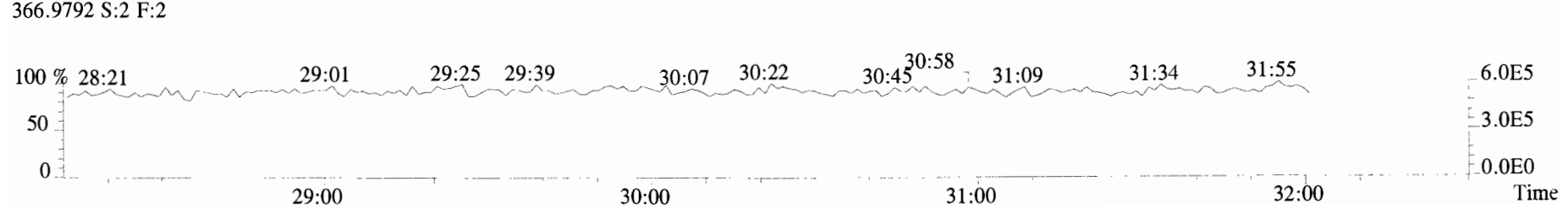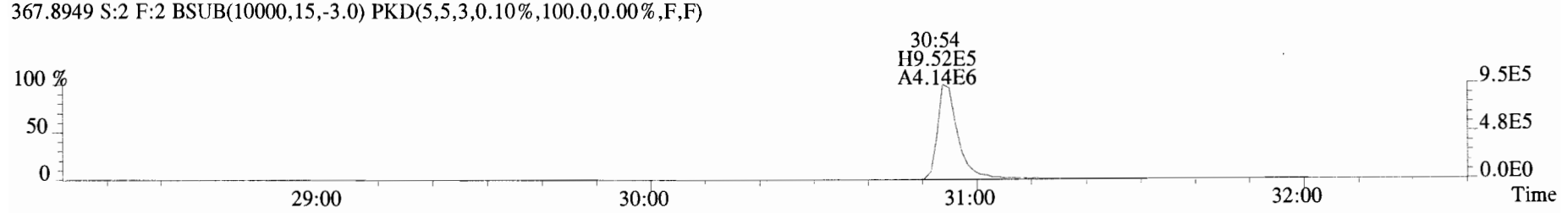303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

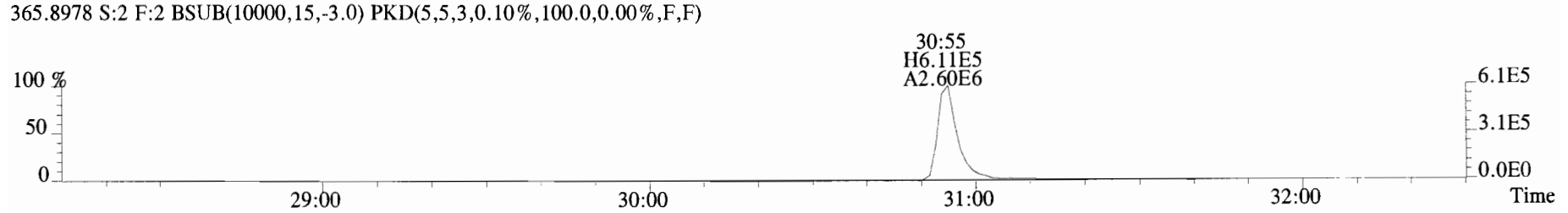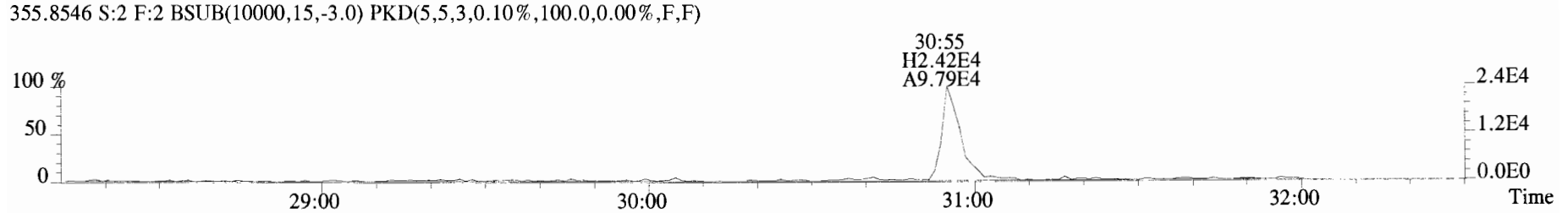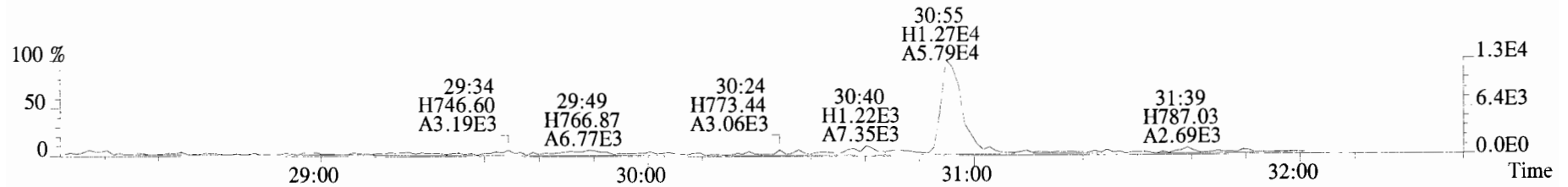375.8364 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
303.9016 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:50
H3.25E3
A1.66E4

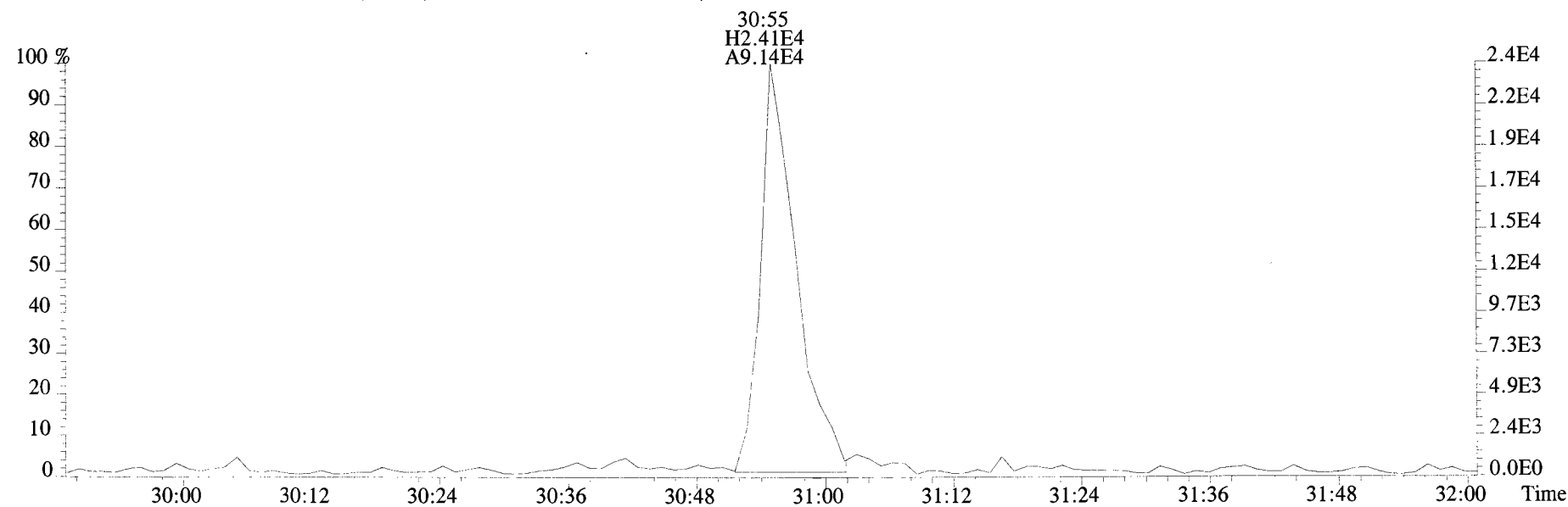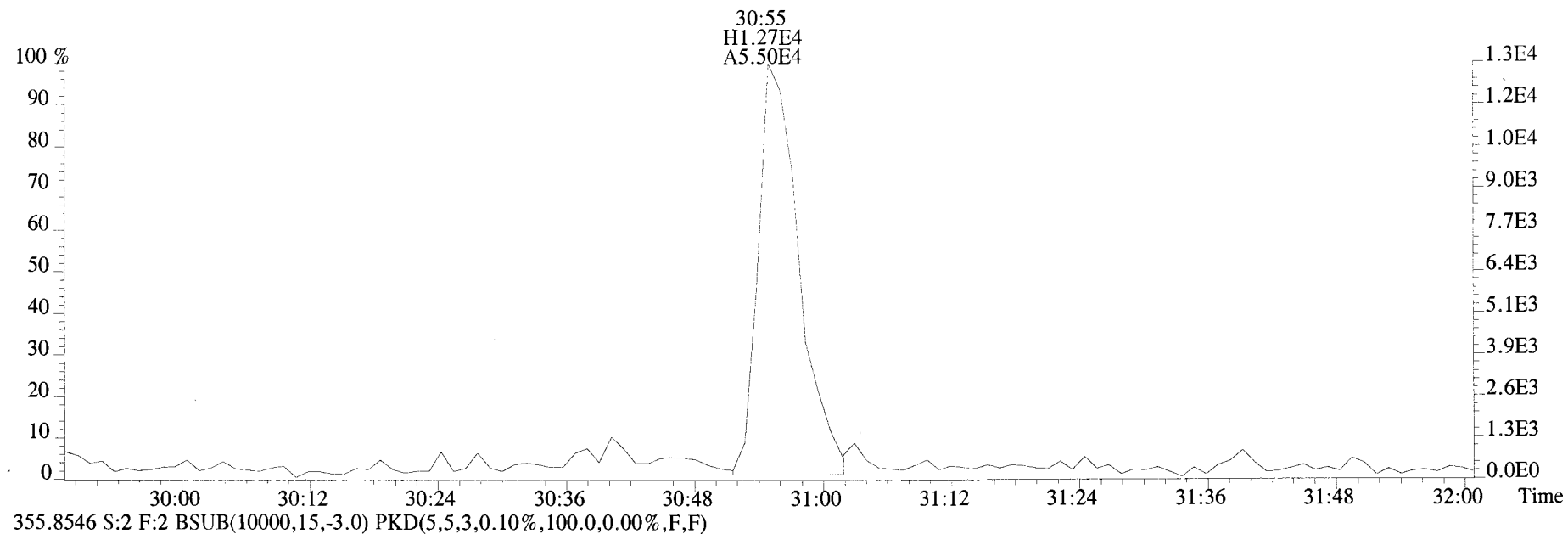305.8987 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:50
H4.17E3
A1.96E4

File:191009D1 #1-514 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

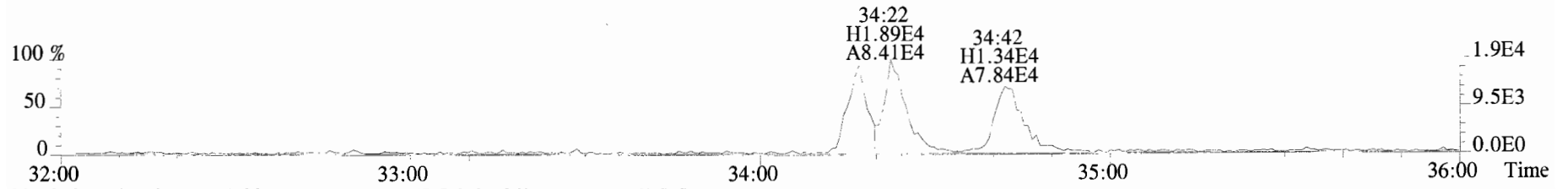409.7974 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824

File:191009D1 #1-210 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
339.8597 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

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

File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
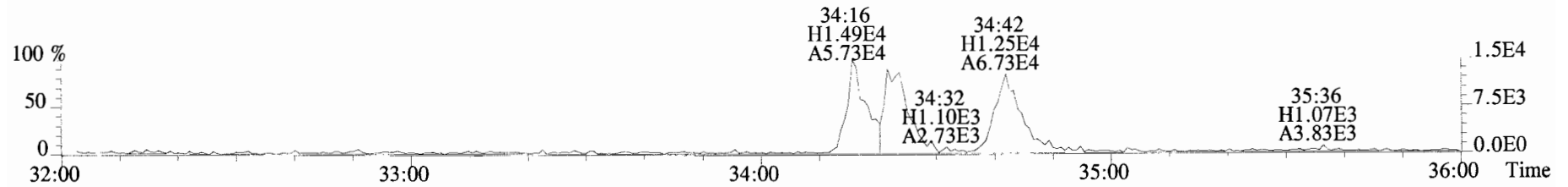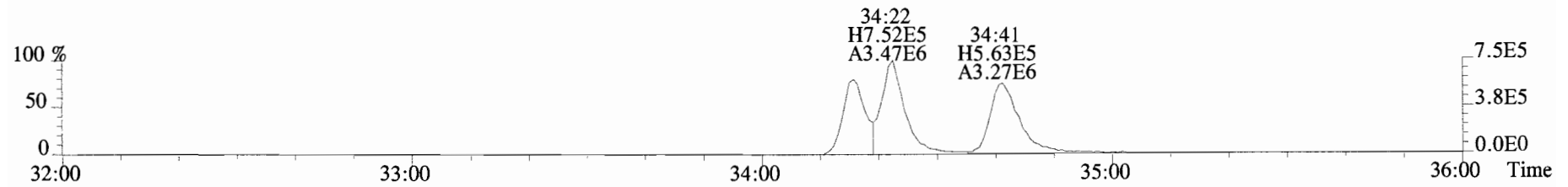373.8207 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

373.8207 F:3 BSUB(10000,15,-3.0)

375.8178 F:3 BSUB(10000,15,-3.0)

File:191009D1 #1-356 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
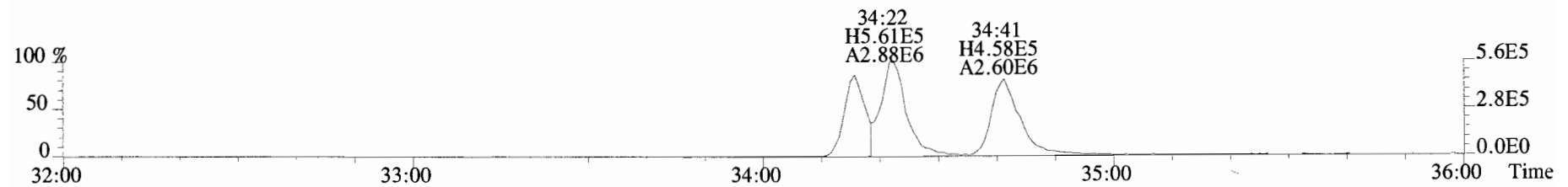383.8639 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

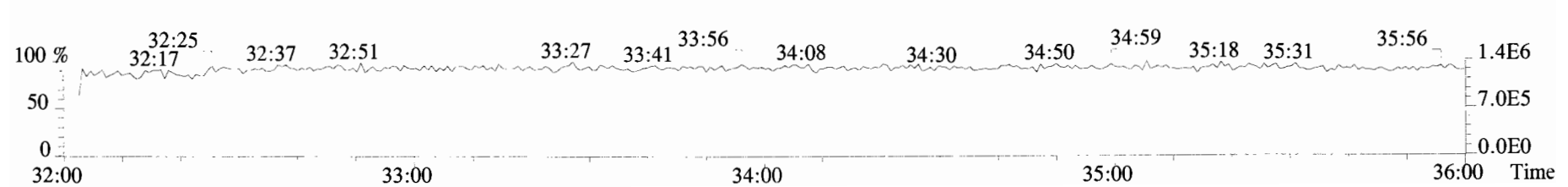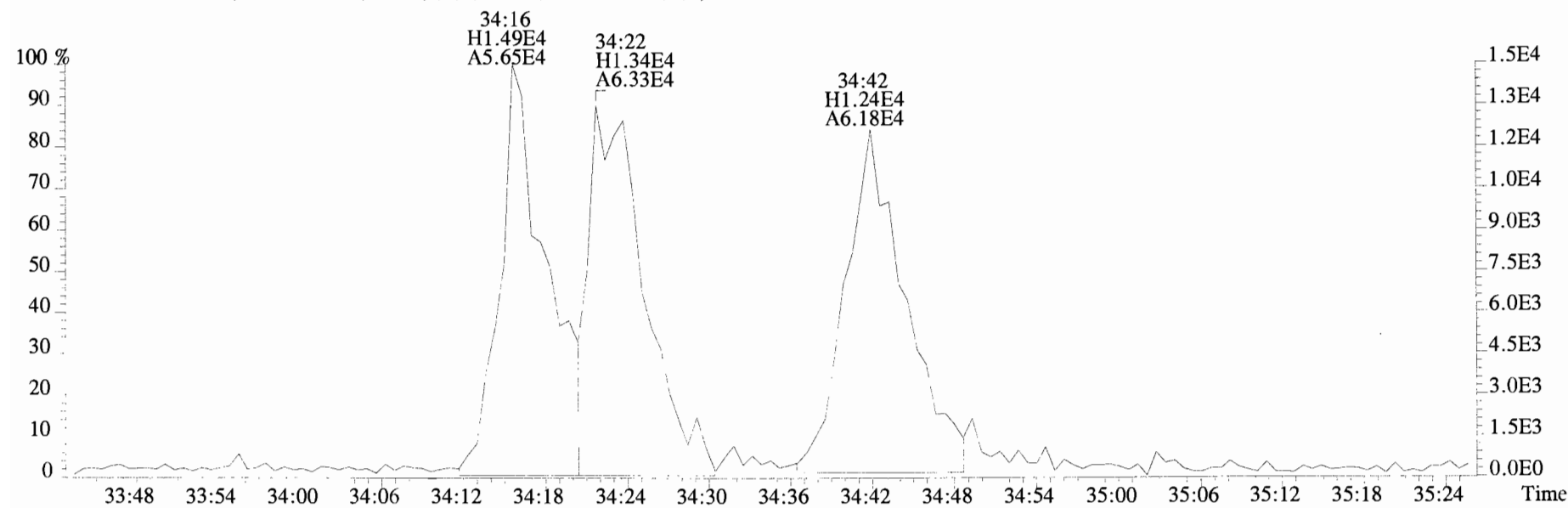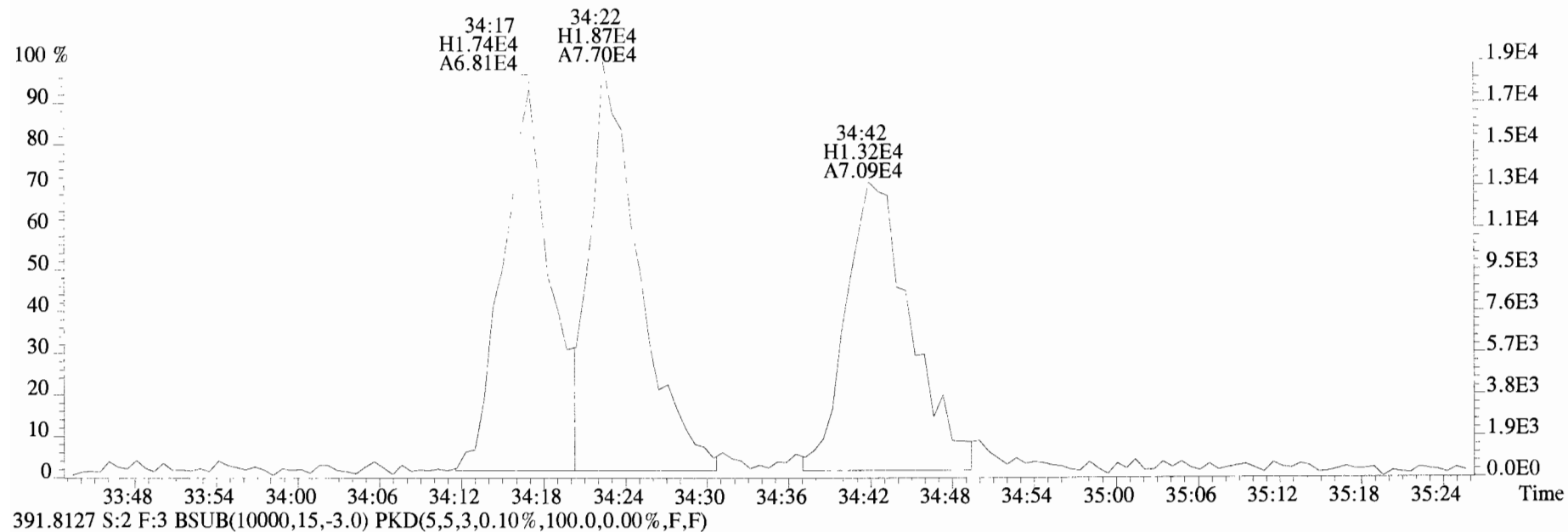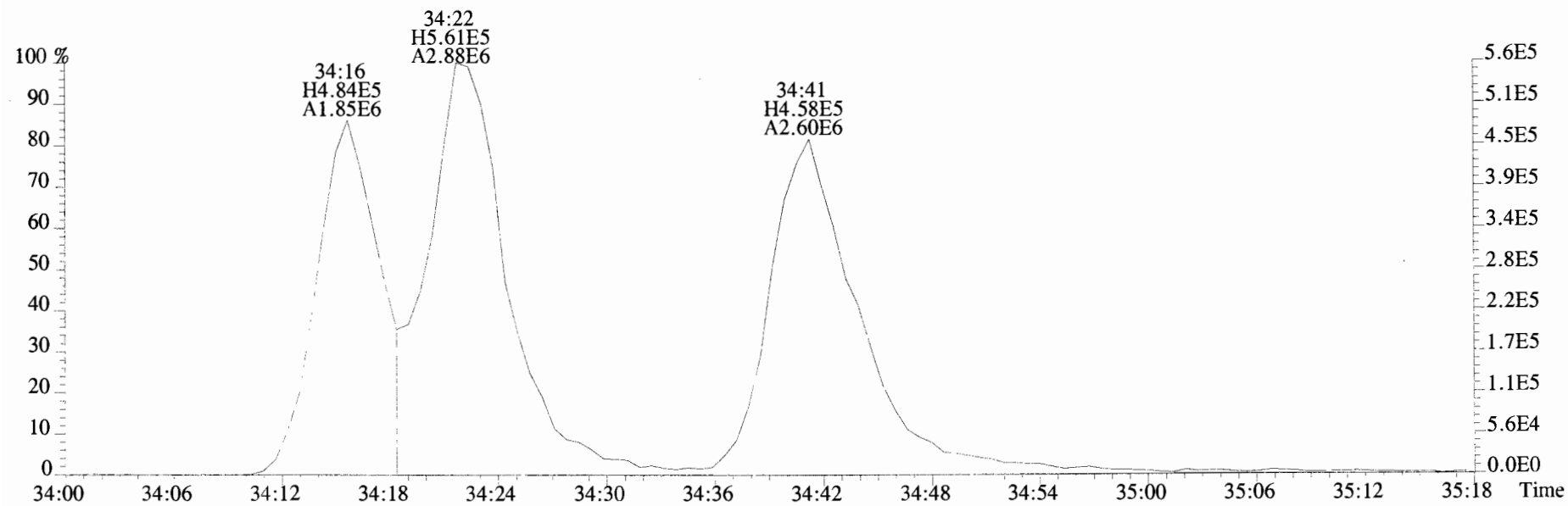File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:57
H8.55E3
A4.60E4

38:40
H8.38E3
A4.42E4

37:12
H503.54
A1.35E3

38:52
H745.61
A1.25E3

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

36:58
H8.85E3
A4.37E4

38:39
H7.93E3
A4.17E4

37:06
H754.04
A1.80E3

39:53
H559.93
A1.10E3

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

36:56
H3.63E5
A1.82E6

38:40
H2.80E5
A1.56E6

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

36:56
H9.13E5
A4.31E6

38:40
H6.45E5
A3.46E6

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

36:22
H146.93
A720.00

36:34
H268.44
A903.24

36:58
H409.53
A2.24E3

37:26
H587.21
A625.96

37:51
H171.03
A1.03E3

38:34
H348.51
A639.42

38:44
H366.40
A1.33E3

39:11
H570.30
A2.35E3

39:27
H387.69
A741.68

39:49
H405.21
A801.90
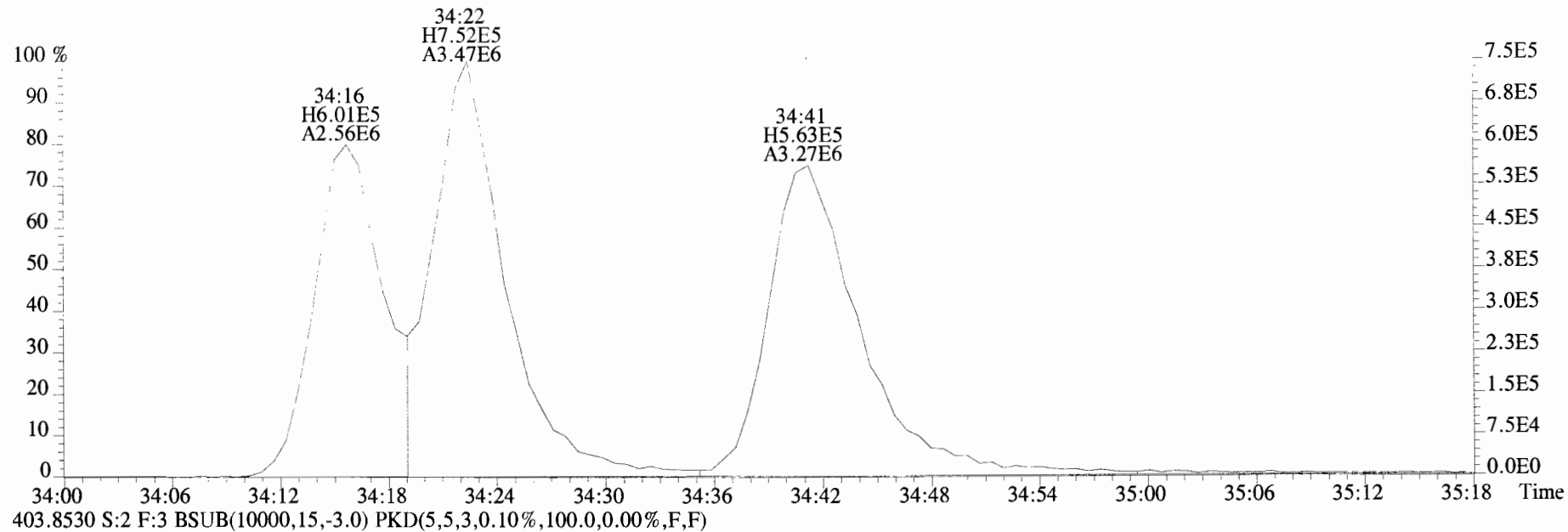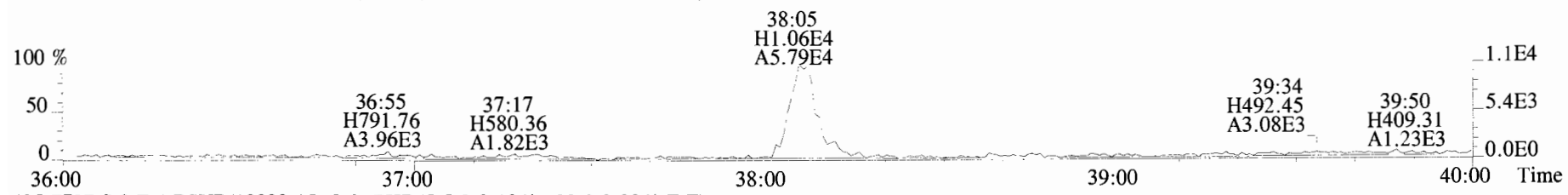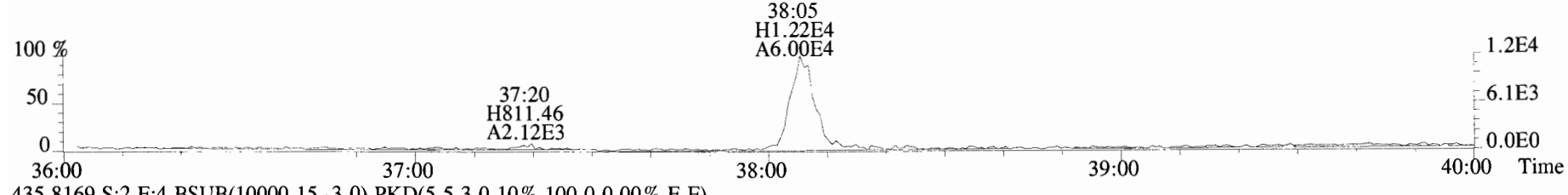
File:191009D1 #1-355 Acq: 9-OCT-2019 16:13:04 GC El+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
407.7818 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

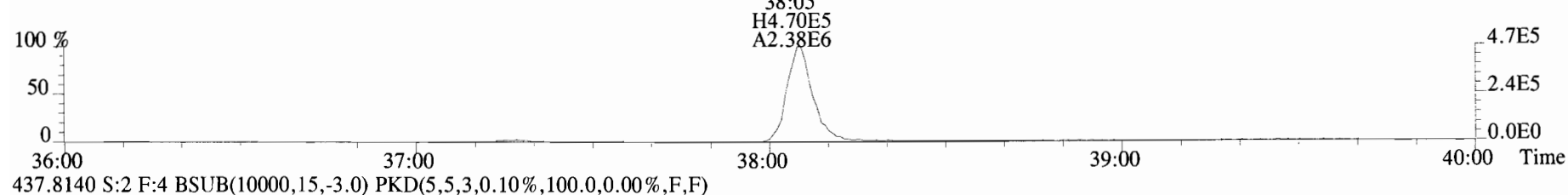409.7788 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
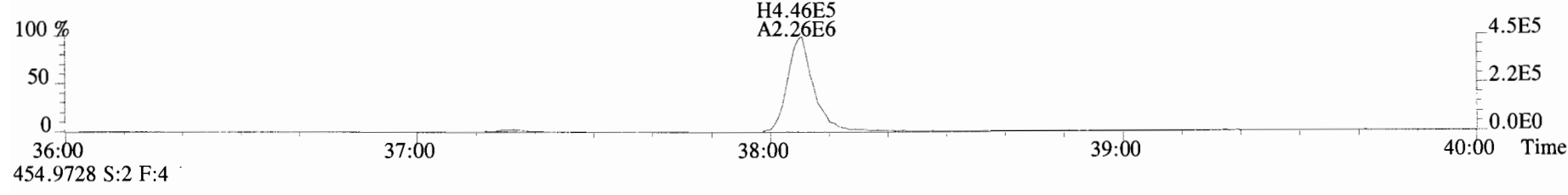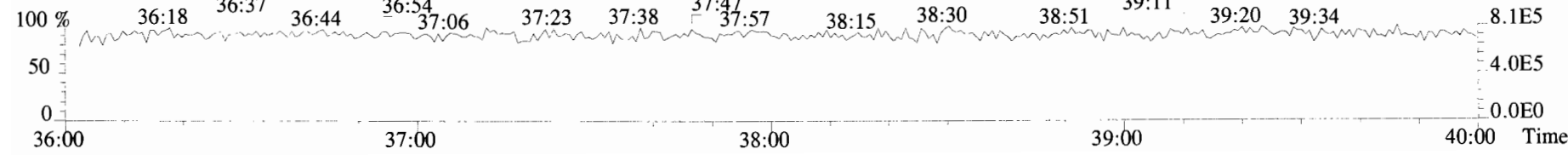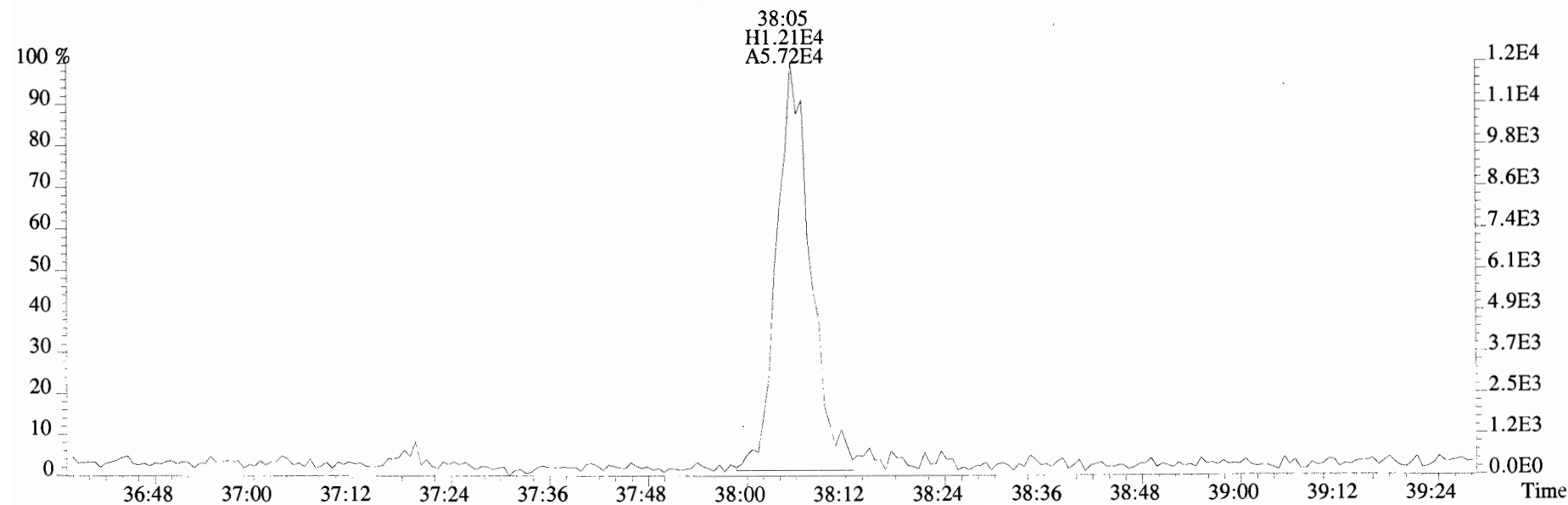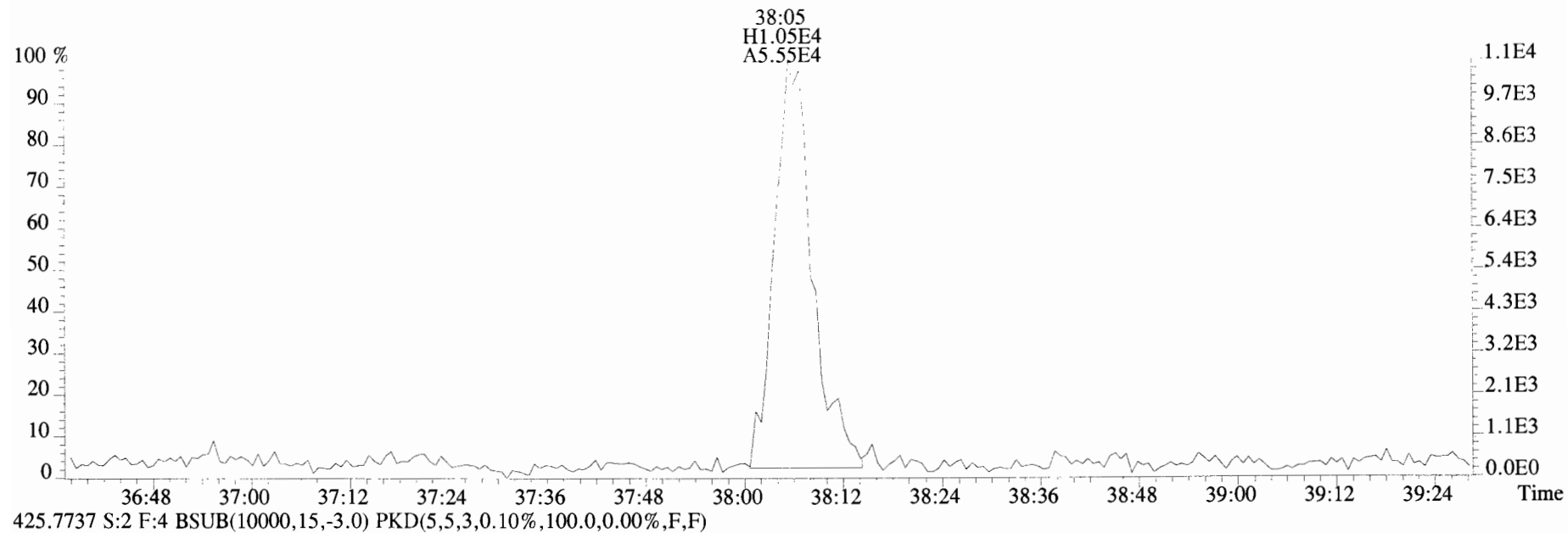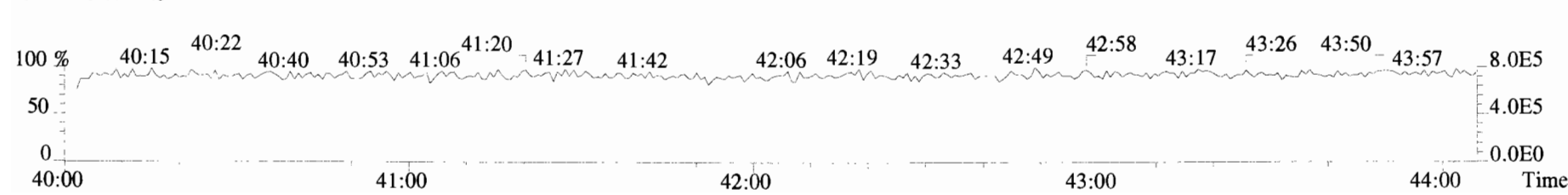441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)


```
                         41:43
                         H1.05E4
                         A6.92E4
100 %                                                                                                  1.1E4
                                                          42:53                43:19
                                            42:06         H604.41    43:07     H698.40        44:06
 50                                         H751.38       A1.46E3    H808.49   A2.83E3  43:54 H674.55
                                            A4.23E3                  A5.69E3          H688.14 A1.83E3
                                                                                    A2.50E3
  0                                                                                                    0.0E0
   40:00            41:00            42:00            43:00            44:00            45:00    Time
```

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

```
                         41:43
                         H1.20E4
                         A7.34E4
100 %                                                                                                  1.2E4
                                            41:52        42:08                43:42
        40:25              41:04            H1.85E3      H828.24    43:08      H723.19  43:55
 50     H787.22           H913.72          A2.93E3      A2.08E3    H1.15E3    A3.45E3  H748.36
        A1.98E3           A2.49E3                                  A6.46E3            A2.65E3
  0                                                                                                    0.0E0
   40:00            41:00            42:00            43:00            44:00            45:00    Time
```
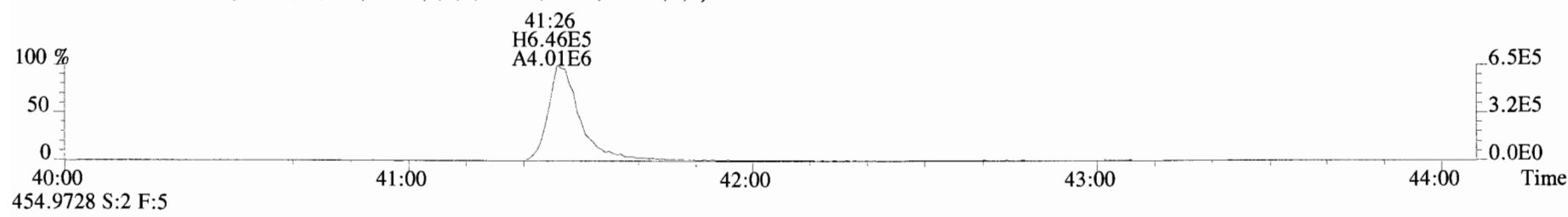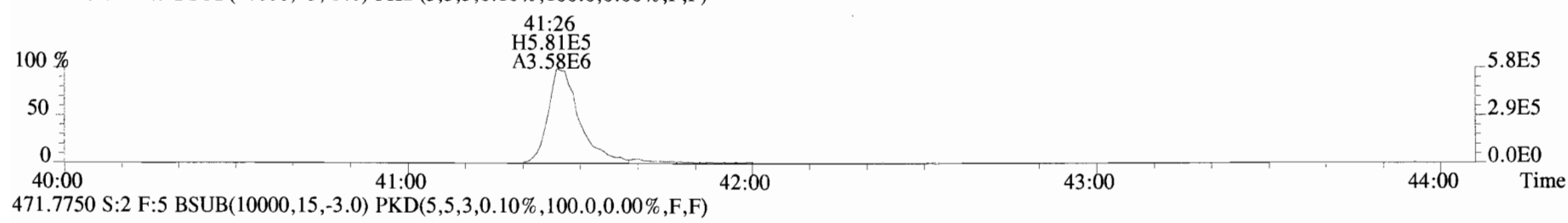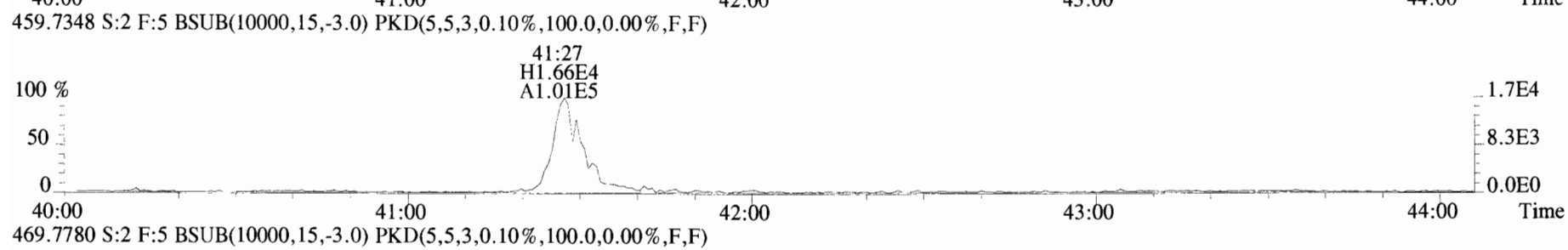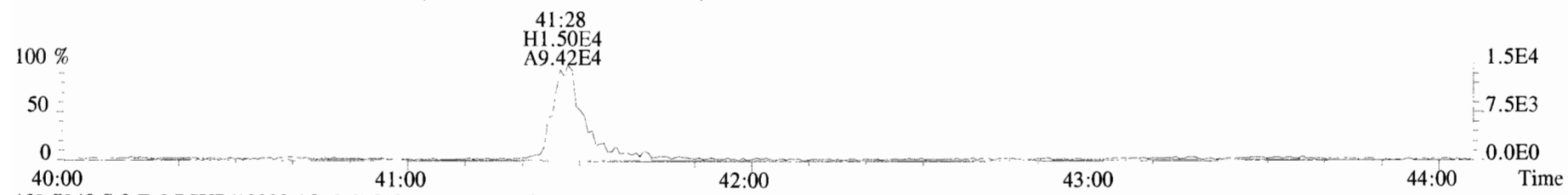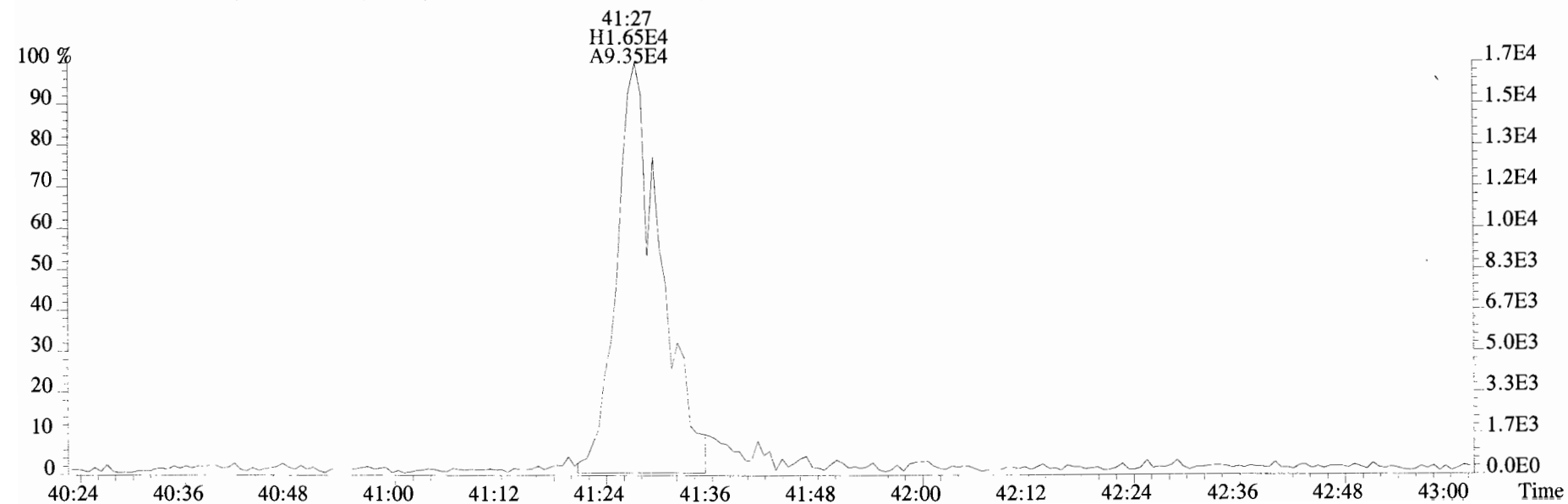
453.7831 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                         41:42
                         H8.89E5
                         A5.28E6
100 %                                                                                                  8.9E5

 50                                                                                                    4.4E5

  0                                                                                                    0.0E0
   40:00            41:00            42:00            43:00            44:00            45:00    Time
```

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

```
                         41:42
                         H1.00E6
                         A5.85E6
100 %                                                                                                  1.0E6

 50                                                                                                    5.0E5

  0                                                                                                    0.0E0
   40:00            41:00            42:00            43:00            44:00            45:00    Time
```

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

```
                40:41
        40:25   H568.92            41:29         42:19       42:39      43:06
100 %   H609.98 A1.50E3            H600.77       H286.82     H549.69    H699.09          43:47
        A1.89E3                    A1.44E3       A1.32E3     A1.02E3    A3.81E3   44:17  H584.83        1.2E3
                                                                              H365.68   A2.68E3 44:31
 50                                                                           A921.44          H414.86   6.2E2
                                                                                             A2.03E3
  0                                                                                                    0.0E0
   40:00            41:00            42:00            43:00            44:00            45:00    Time
```
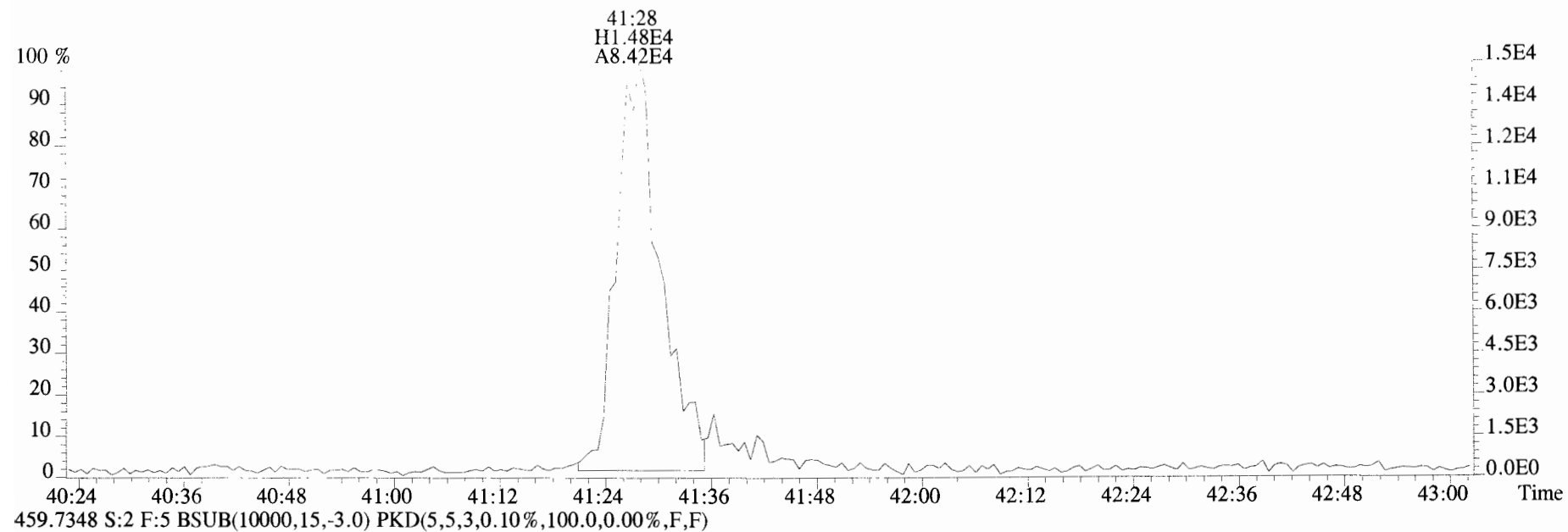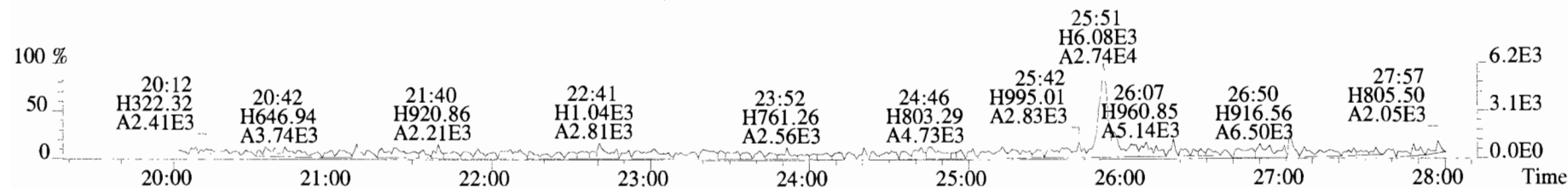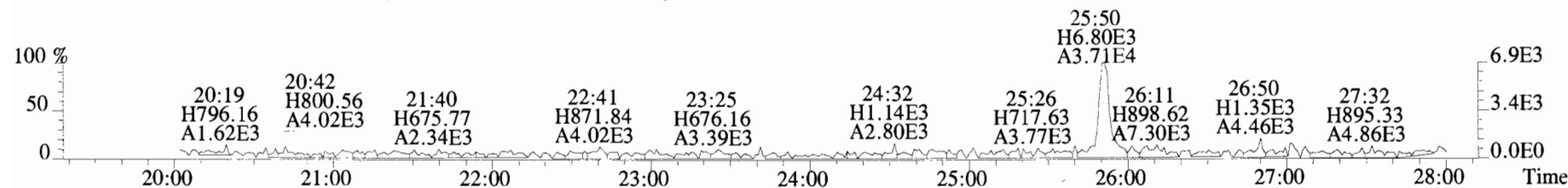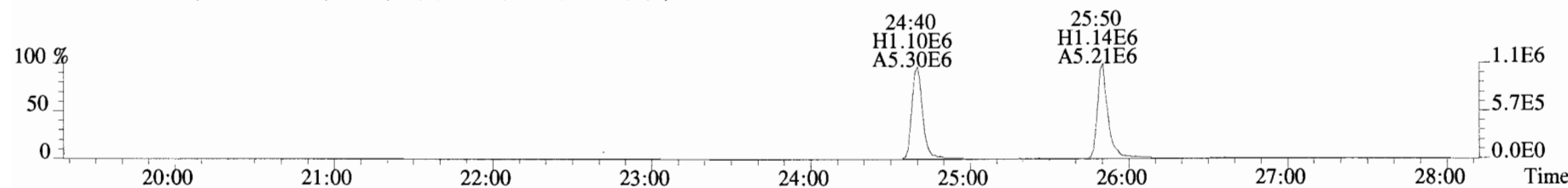
File:191009D1 #1-432 Acq: 9-OCT-2019 16:13:04 GC EI+ Voltage SIR Autospec-UltimaE
Sample#1 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-1 1613 CS0 19C2201 Exp:OCDD_DB5
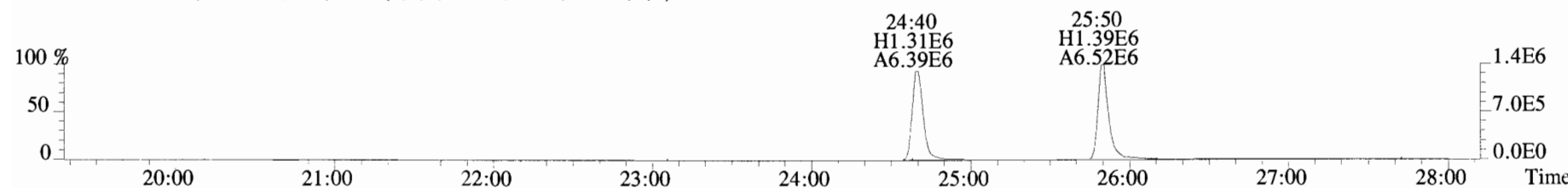441.7428 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

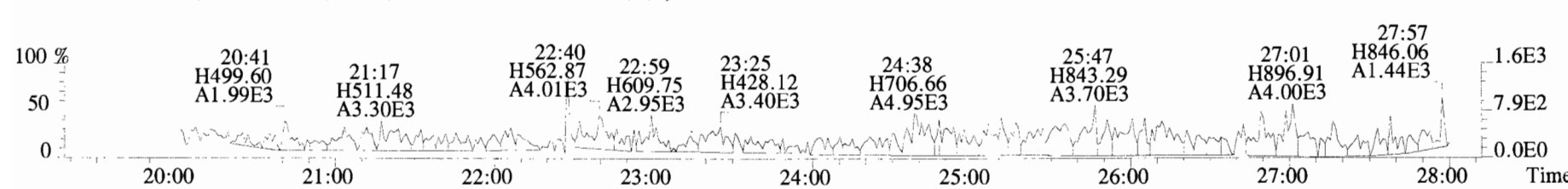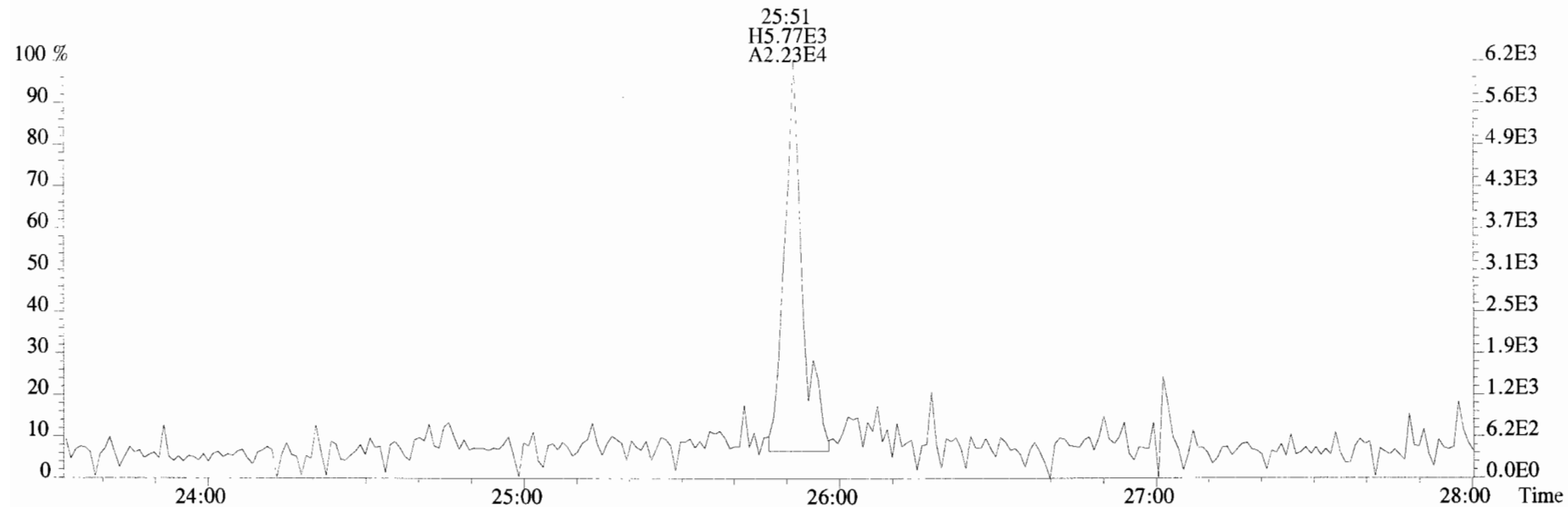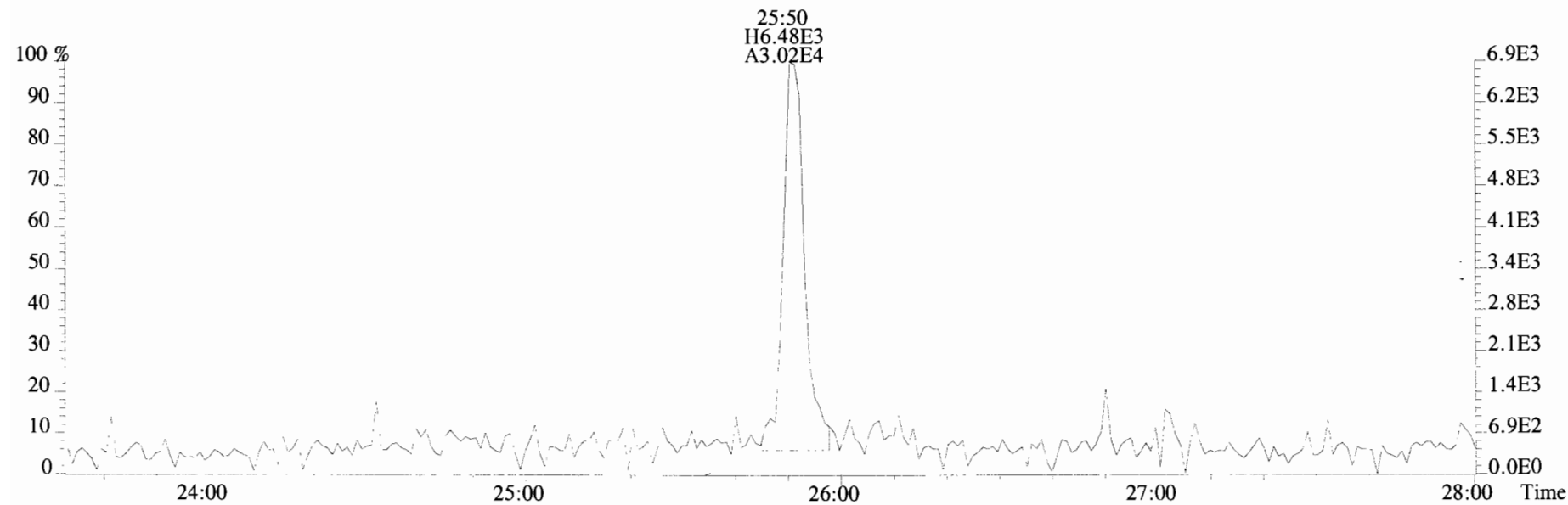443.7398 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
319.8965 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

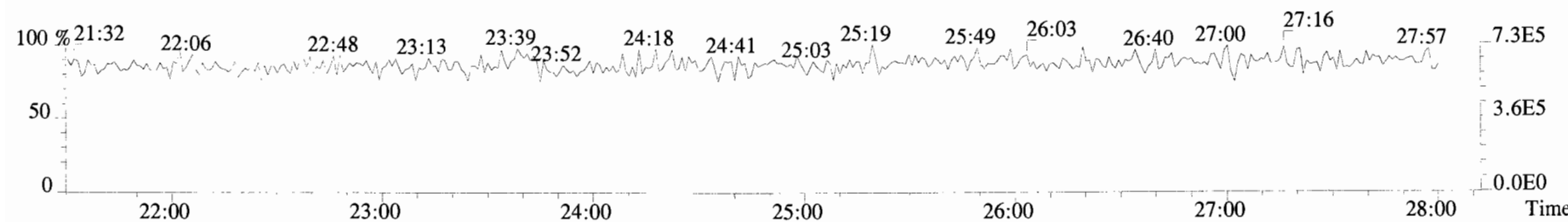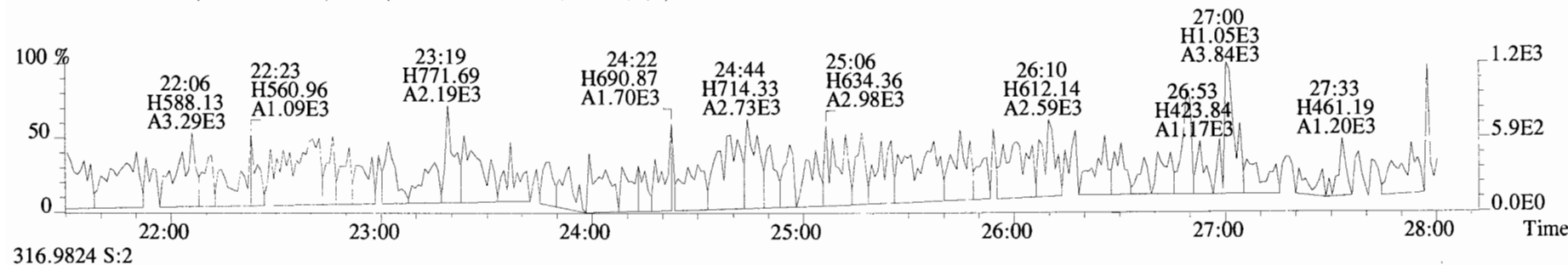327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

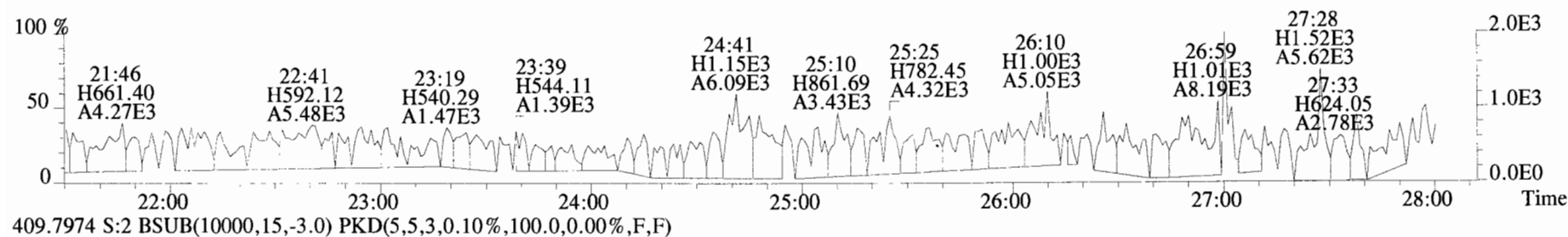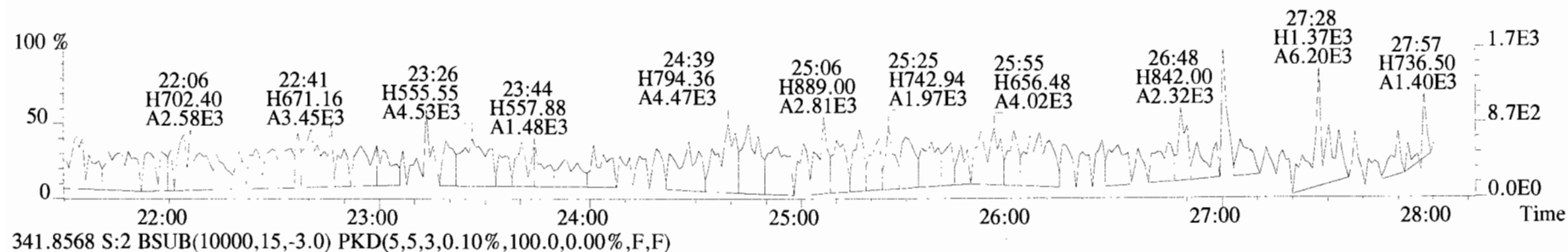321.8936 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
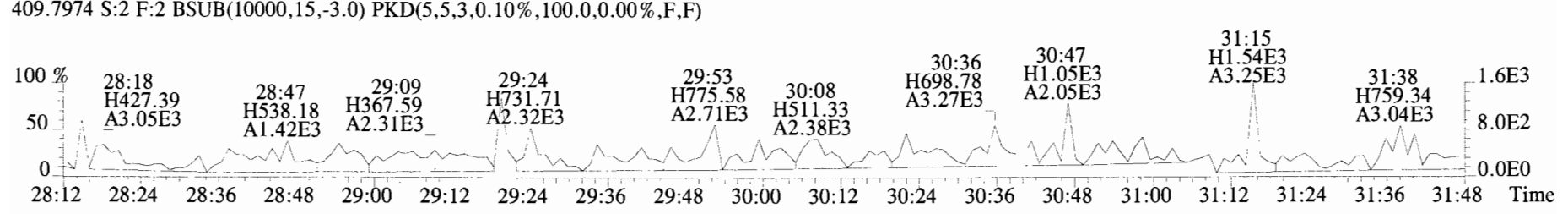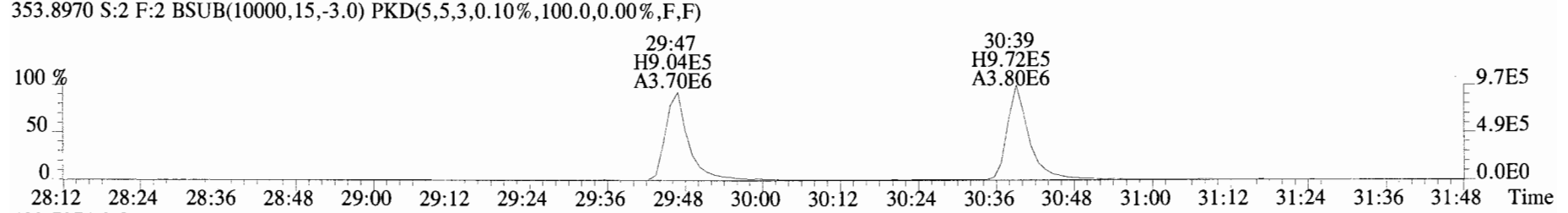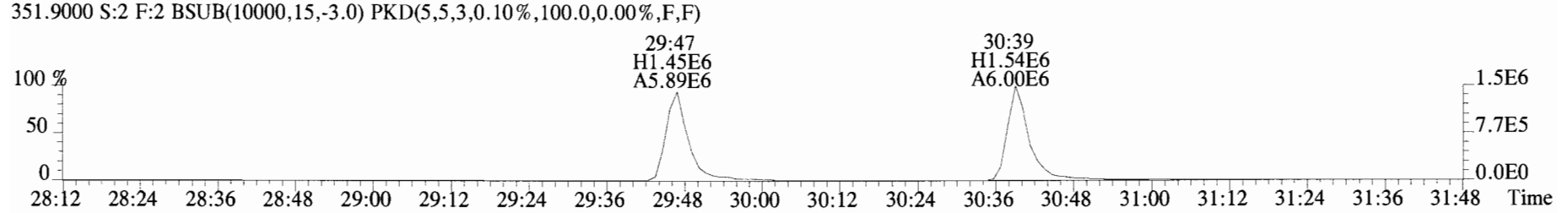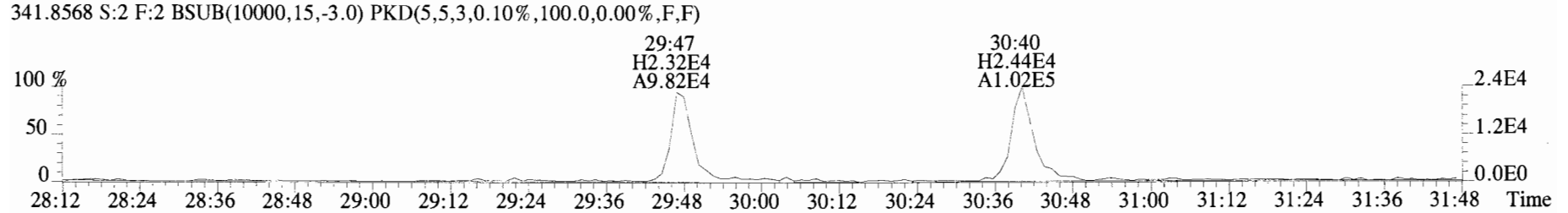327.8847 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

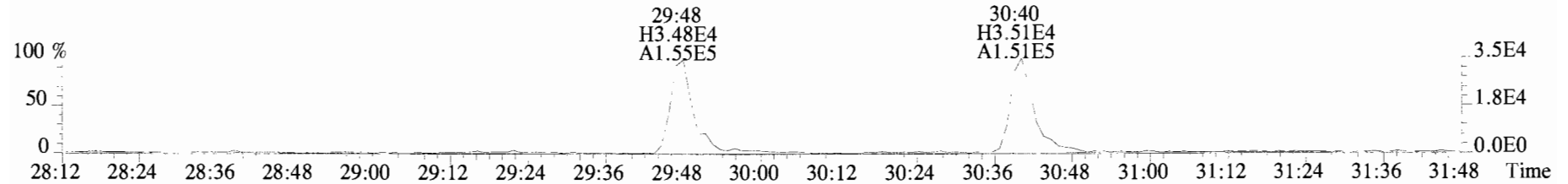353.8576 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

355.8546 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
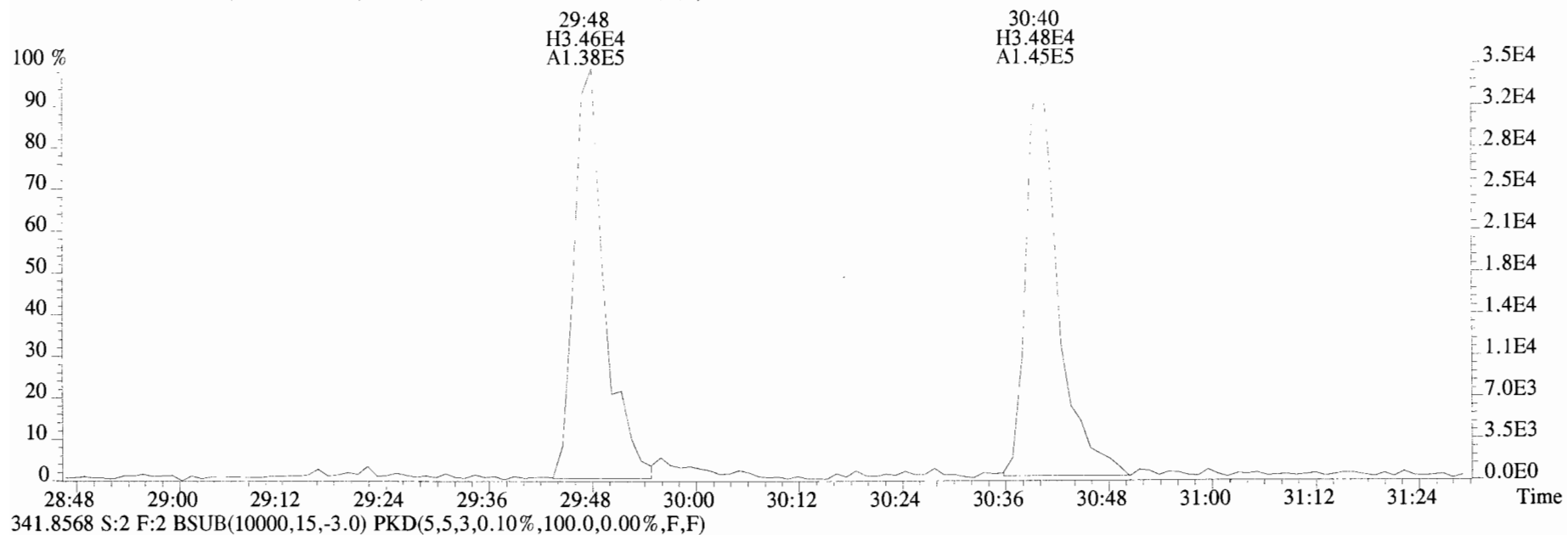
File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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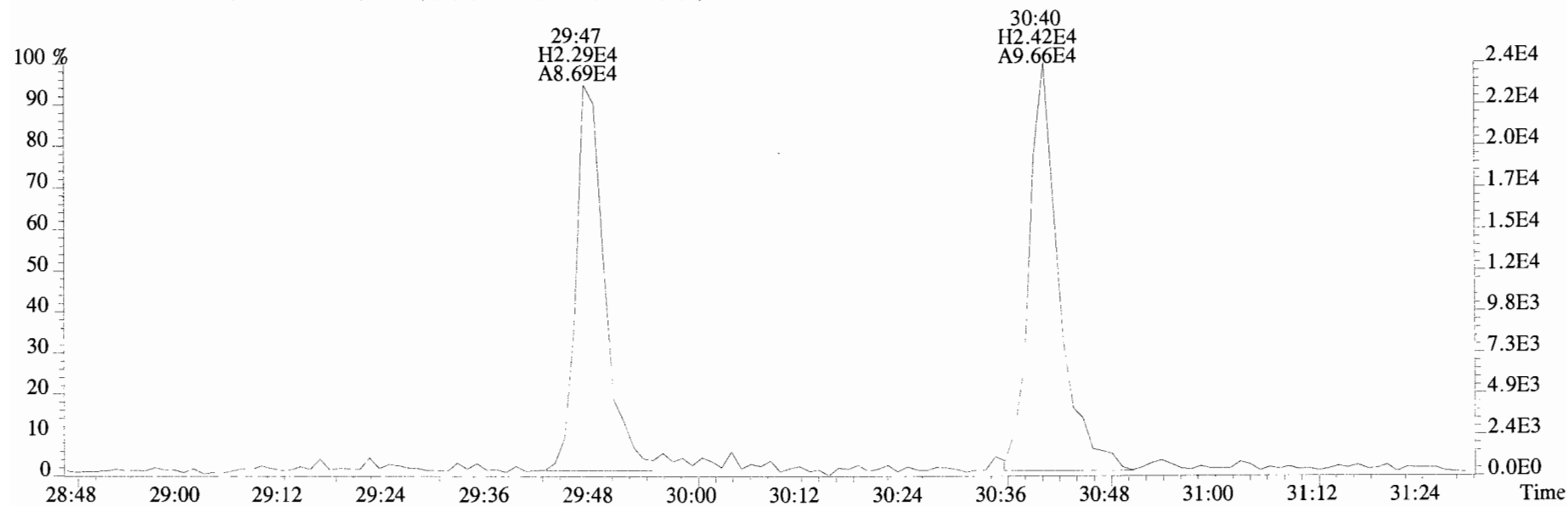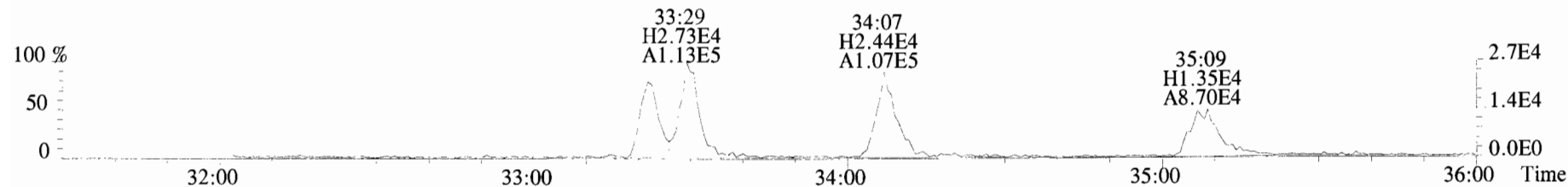

392.9760 S:2 F:3

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
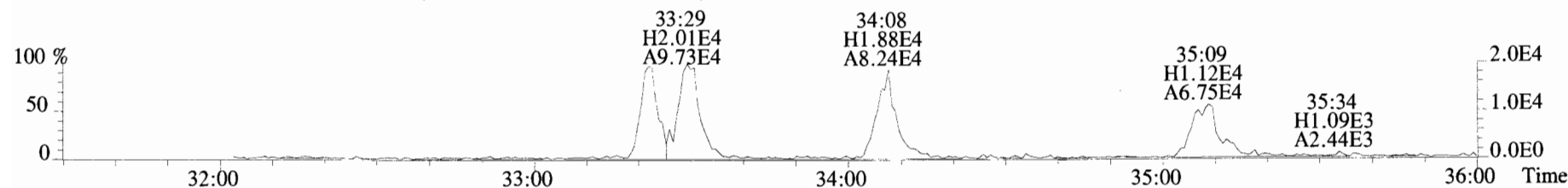389.8156 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

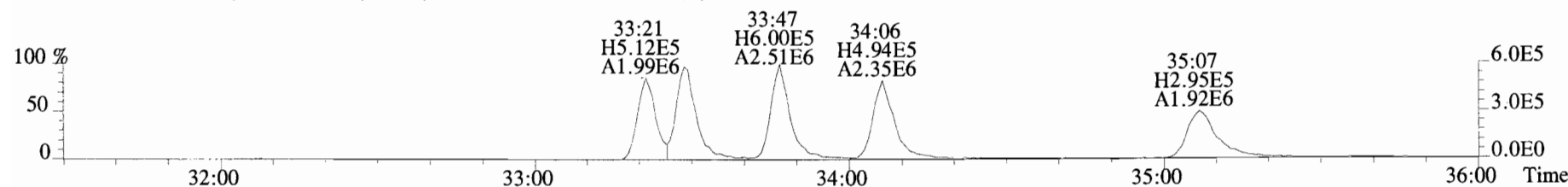391.8127 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
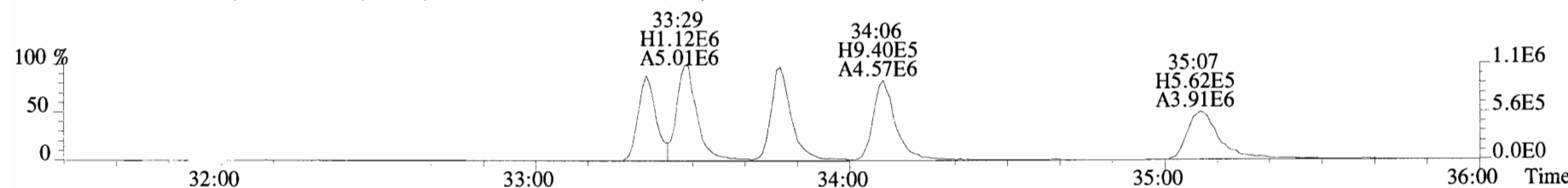401.8559 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

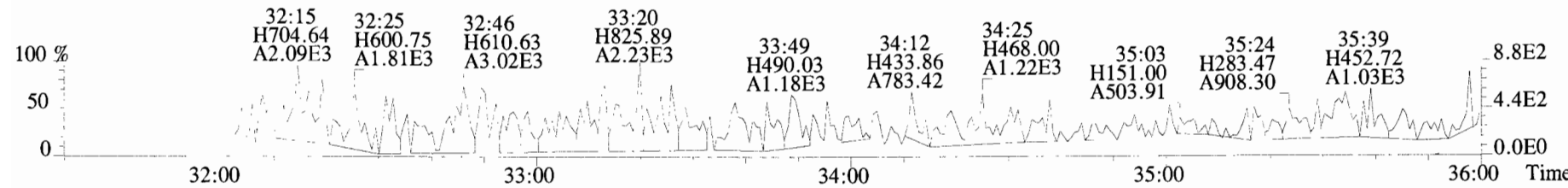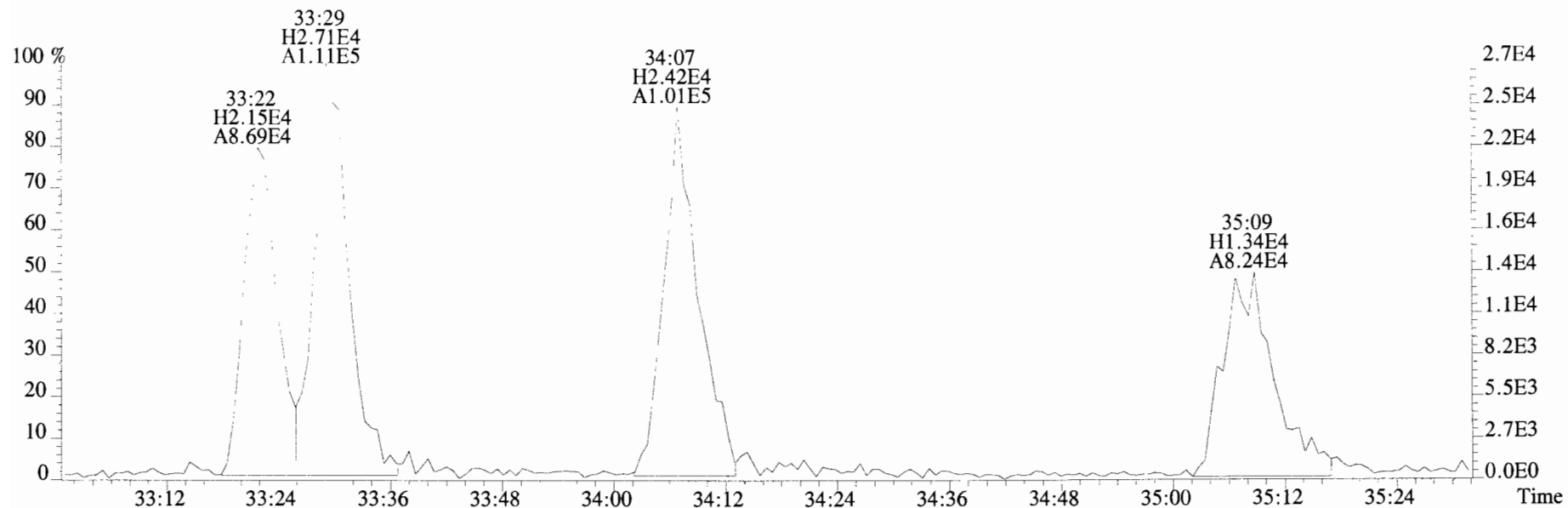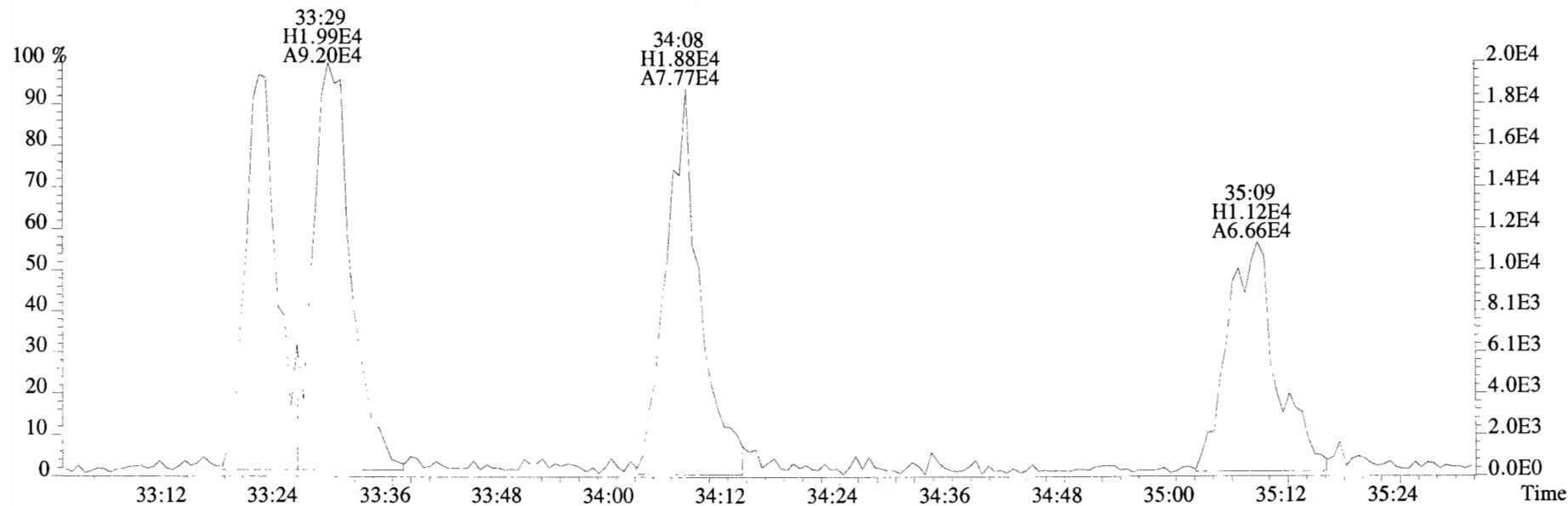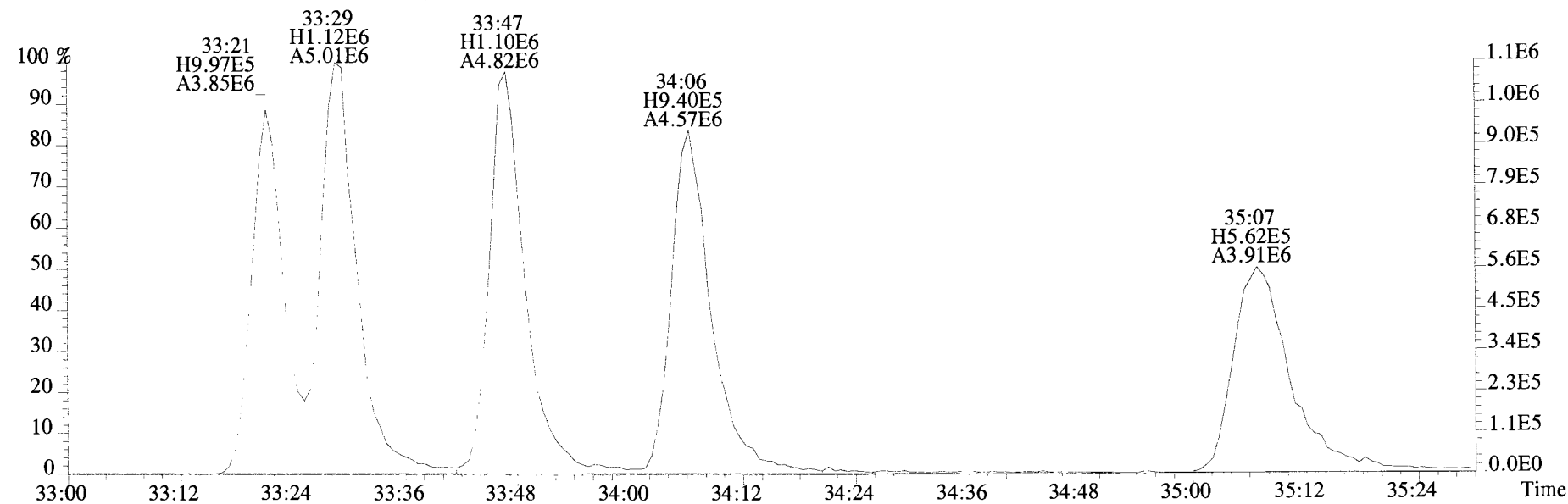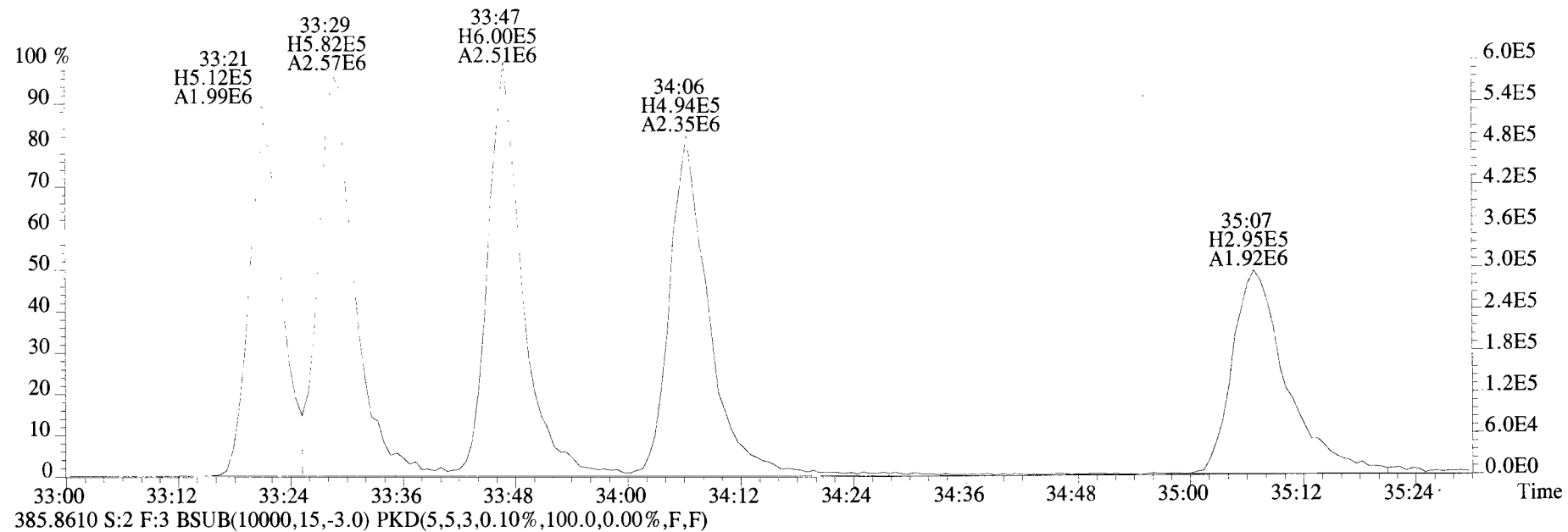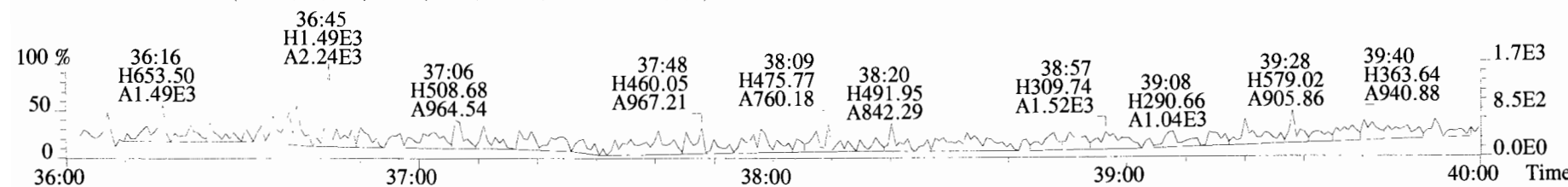403.8530 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

```
                                           38:05
                                           H1.06E4
                                           A5.79E4
100 %                                                                                                    1.1E4
                        36:55      37:17                                              39:34
50                      H791.76    H580.36                                            H492.45    39:50     5.4E3
                        A3.96E3    A1.82E3                                            A3.08E3    H409.31
0                                                                                               A1.23E3   0.0E0
 36:00                  37:00               38:00               39:00                          40:00  Time
```

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

```
                                           38:05
                                           H1.22E4
                                           A6.00E4
100 %                                                                                                    1.2E4
                               37:20
50                             H811.46                                                                   6.1E3
                               A2.12E3
0                                                                                                        0.0E0
 36:00                  37:00               38:00               39:00                          40:00  Time
```
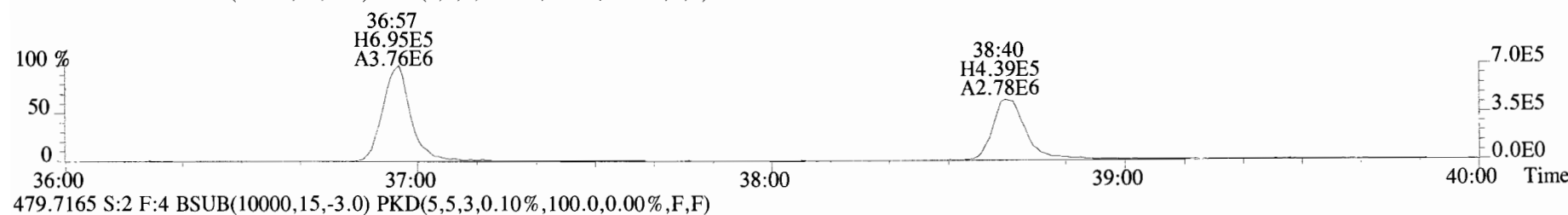
435.8169 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                           38:05
                                           H4.70E5
                                           A2.38E6
100 %                                                                                                    4.7E5
50                                                                                                       2.4E5
0                                                                                                        0.0E0
 36:00                  37:00               38:00               39:00                          40:00  Time
```

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

```
                                           38:05
                                           H4.46E5
                                           A2.26E6
100 %                                                                                                    4.5E5
50                                                                                                       2.2E5
0                                                                                                        0.0E0
 36:00                  37:00               38:00               39:00                          40:00  Time
```

454.9728 S:2 F:4

```
         36:18   36:37              36:54                                  39:11
100 %            36:44      37:06       37:23   37:38   37:47     38:30   38:51   39:20  39:34            8.1E5
                                                37:57      38:15
50                                                                                                       4.0E5
0                                                                                                        0.0E0
 36:00                  37:00               38:00               39:00                          40:00  Time
```

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
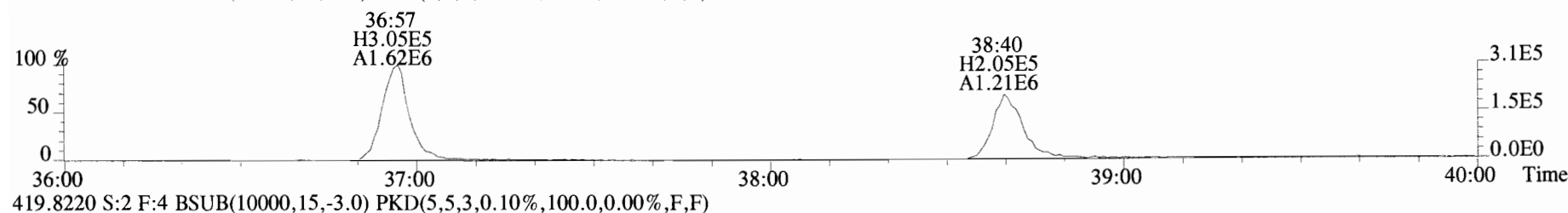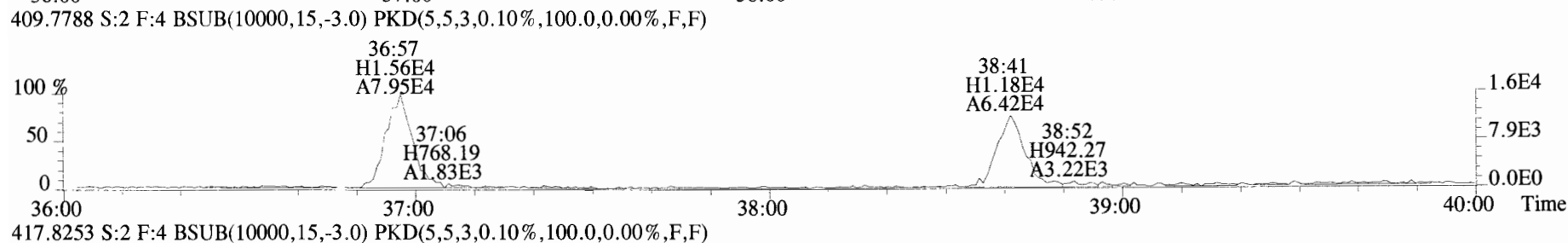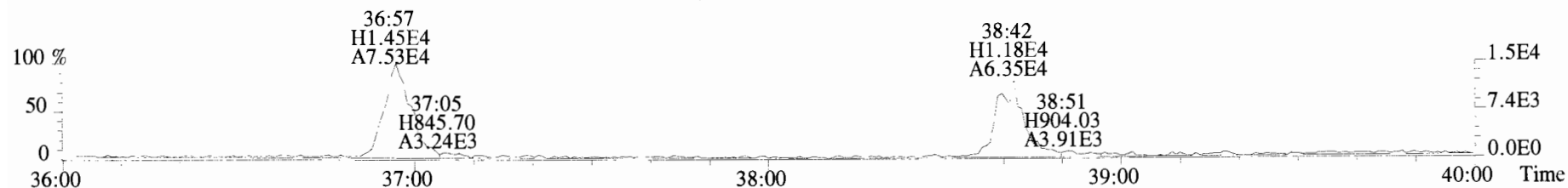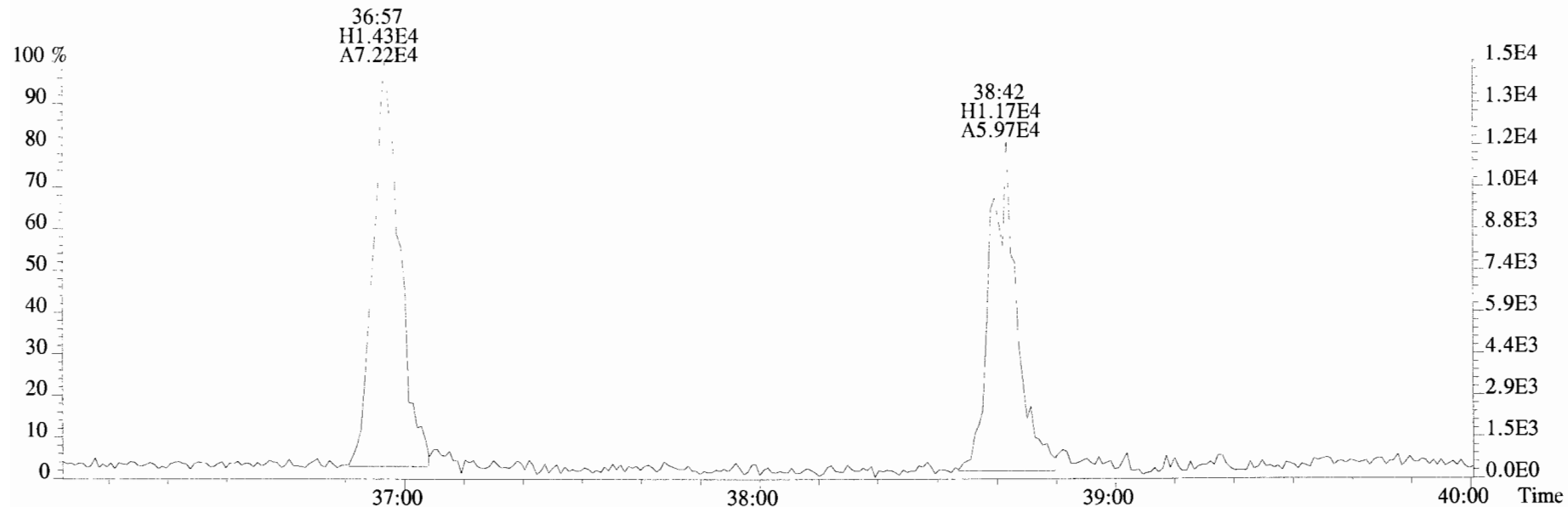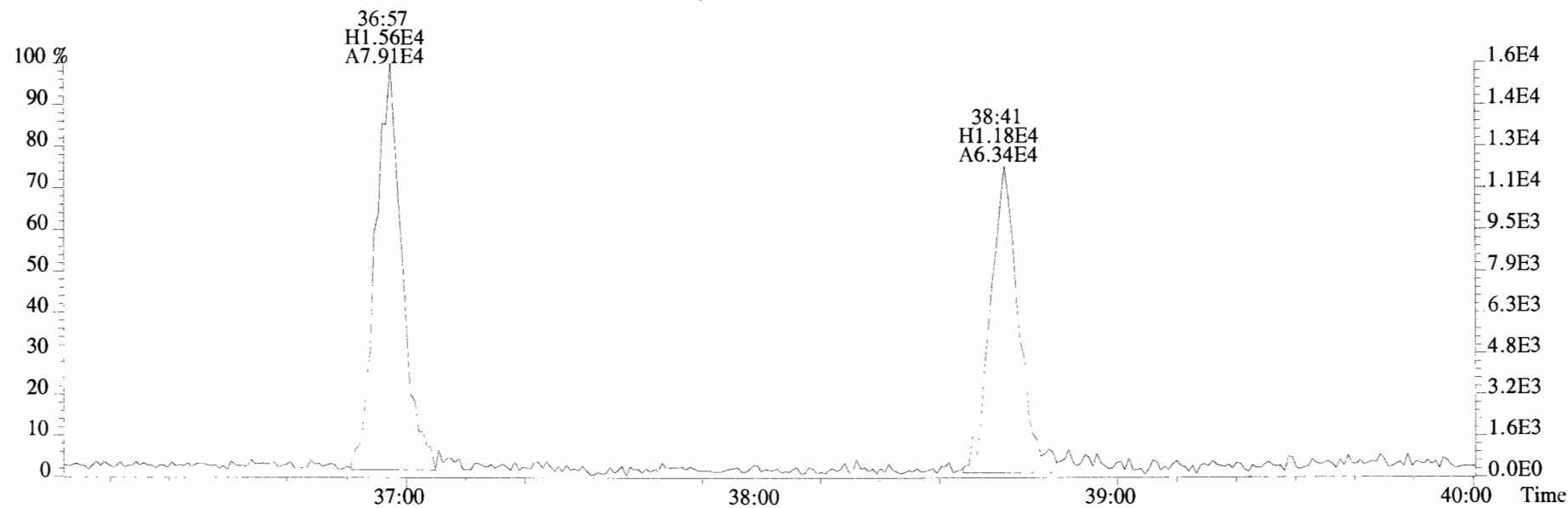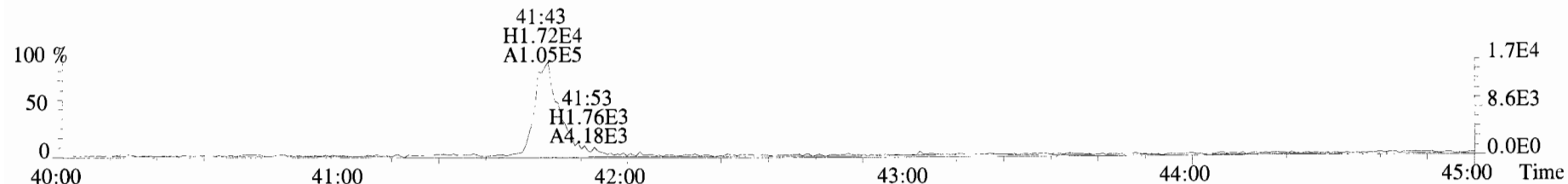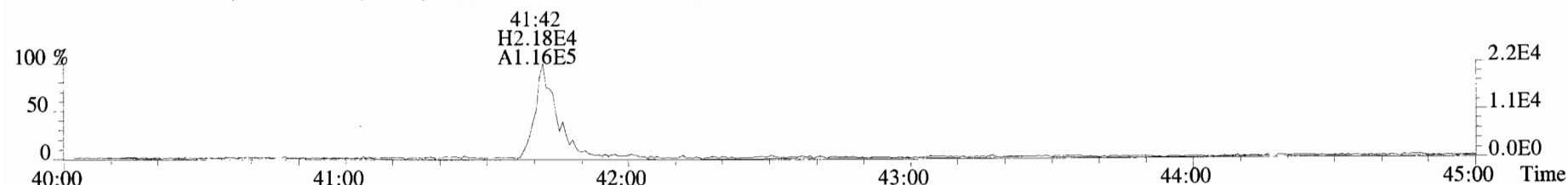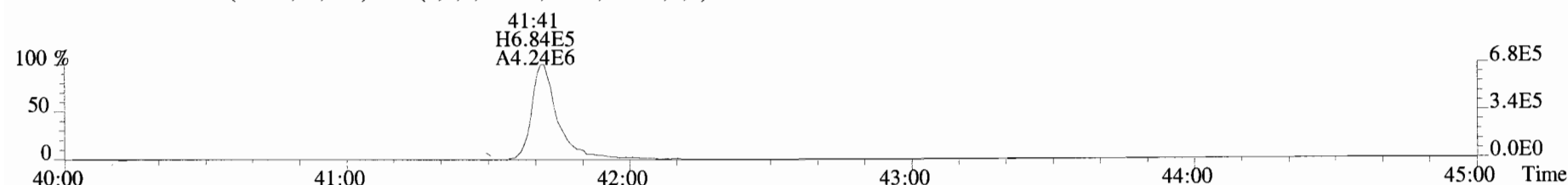423.7767 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
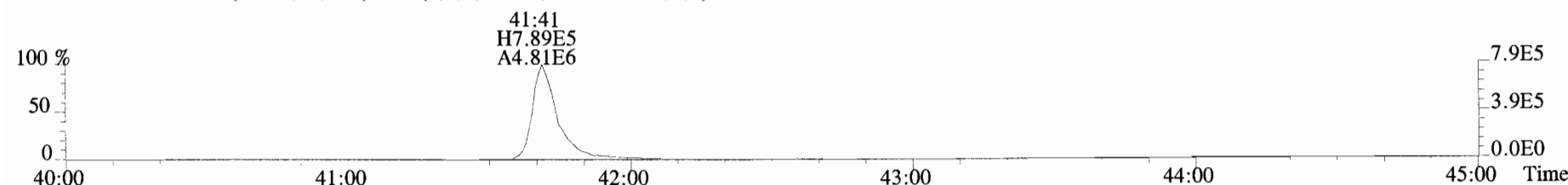457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:28
H1.50E4
A9.42E4

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

41:27
H1.66E4
A1.01E5

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

41:26
H5.81E5
A3.58E6

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

41:26
H6.46E5
A4.01E6

454.9728 S:2 F:5

File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
457.7377 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

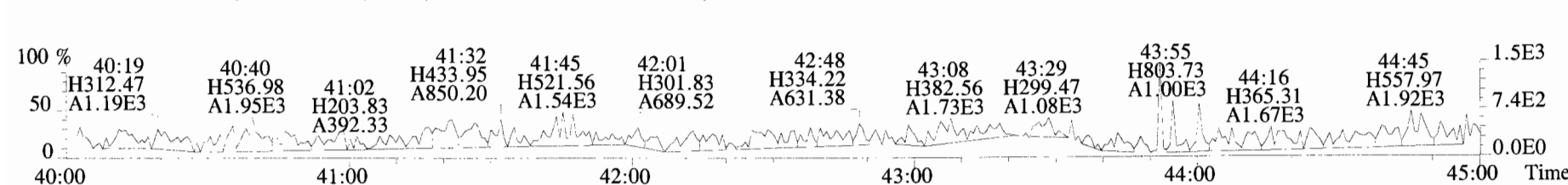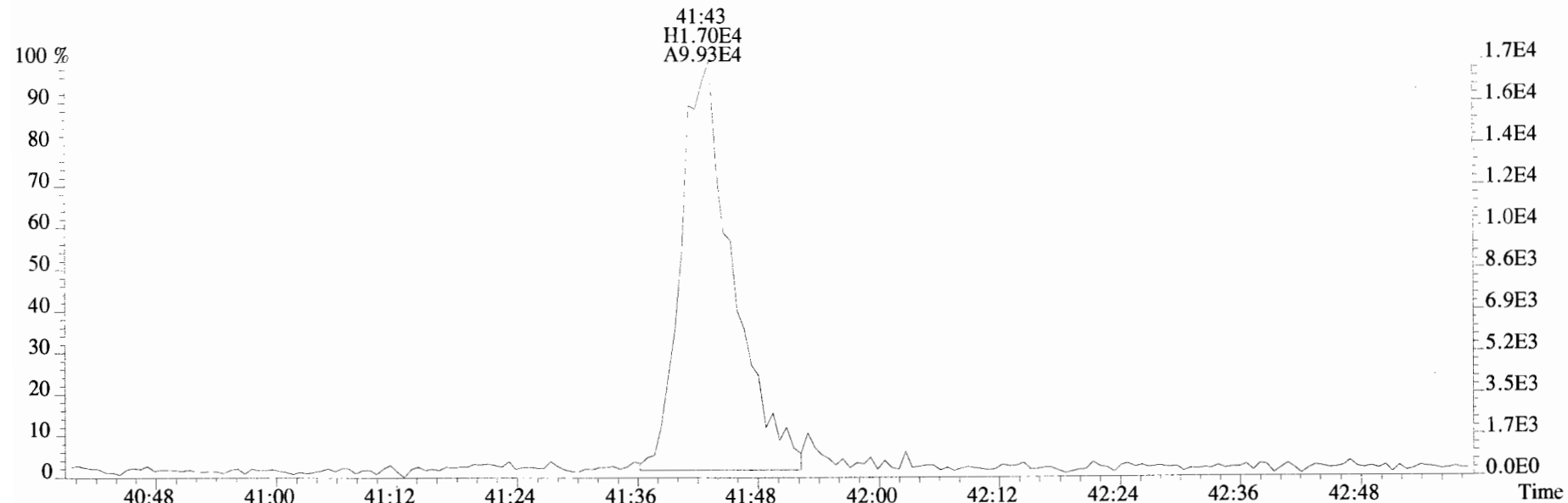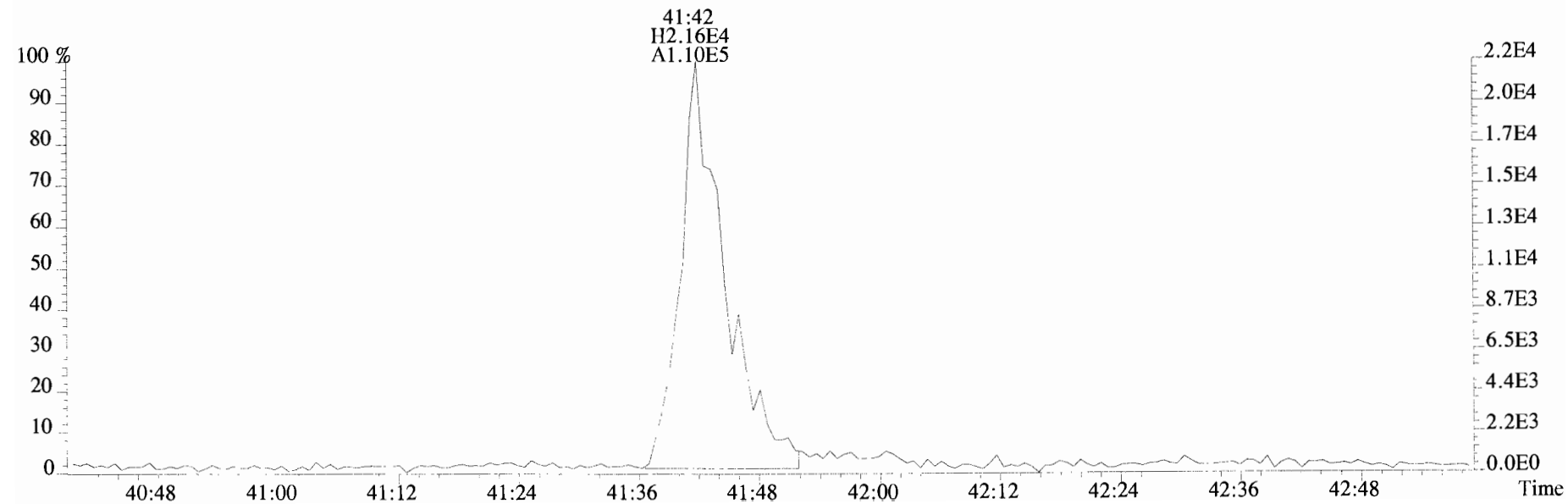459.7348 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-513 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
303.9016 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

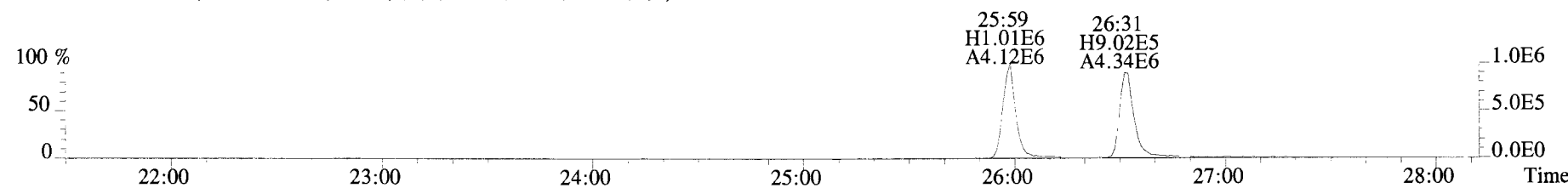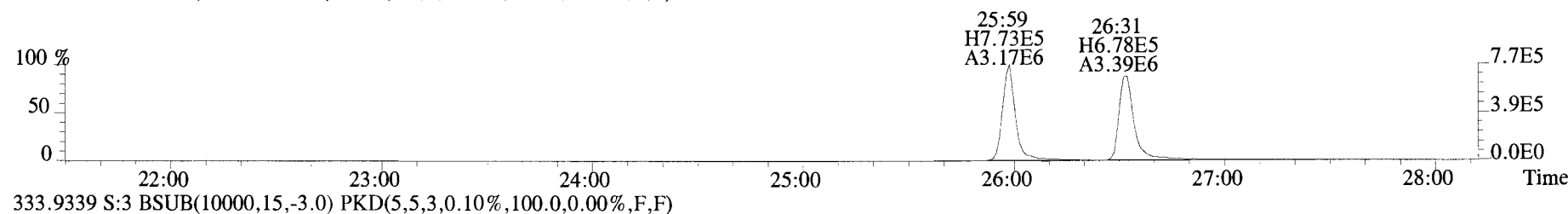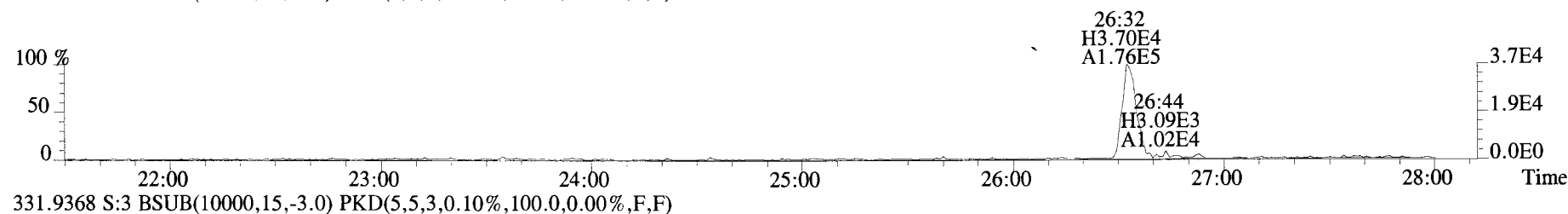315.9419 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

305.8987 S:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)
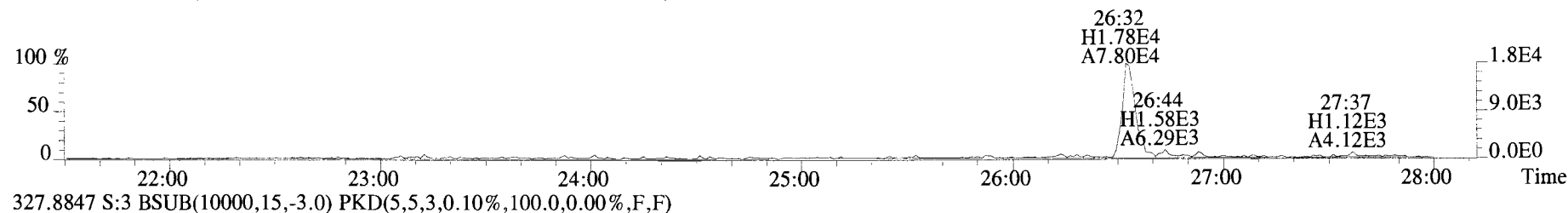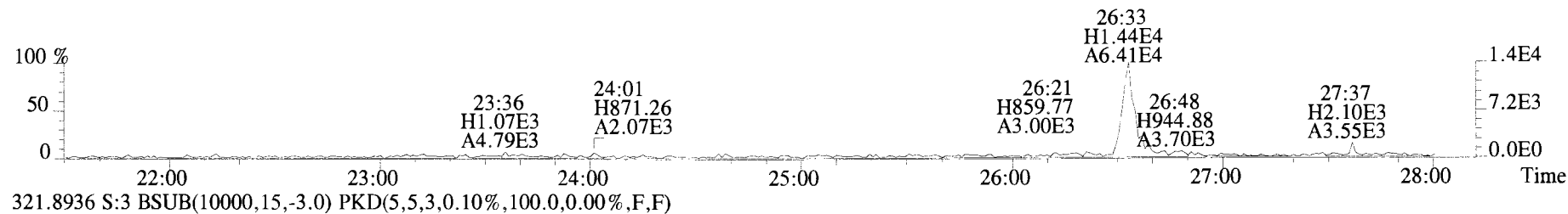

316.9824 S:2

File:191009D1 #1-211 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
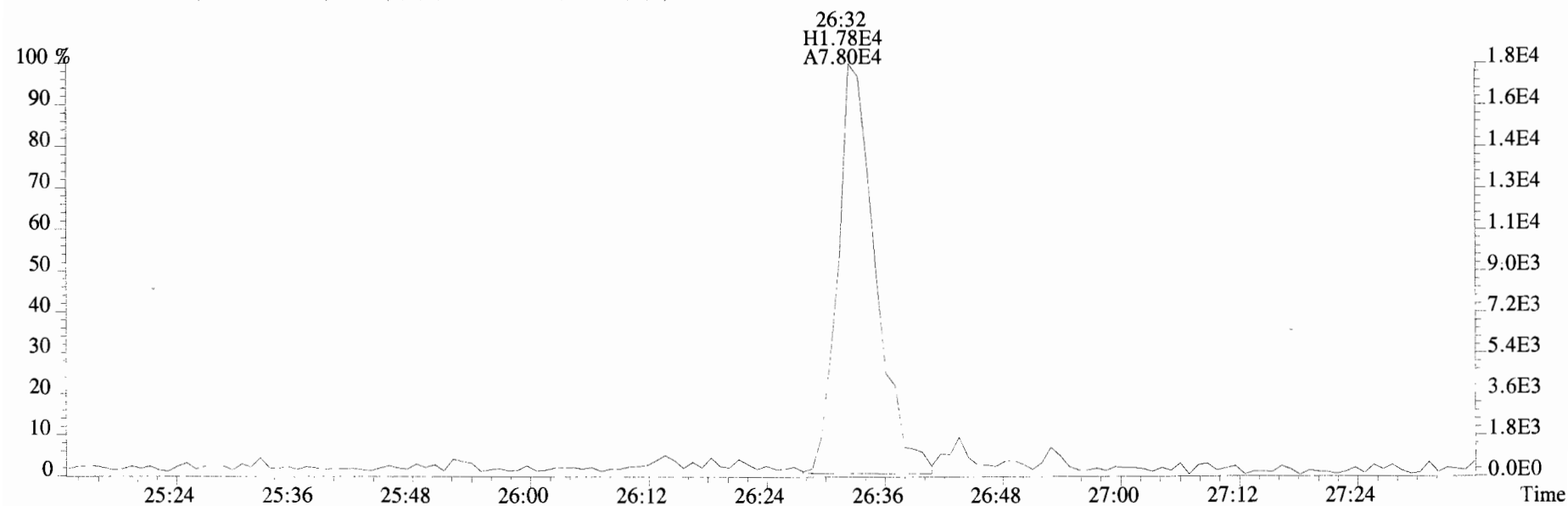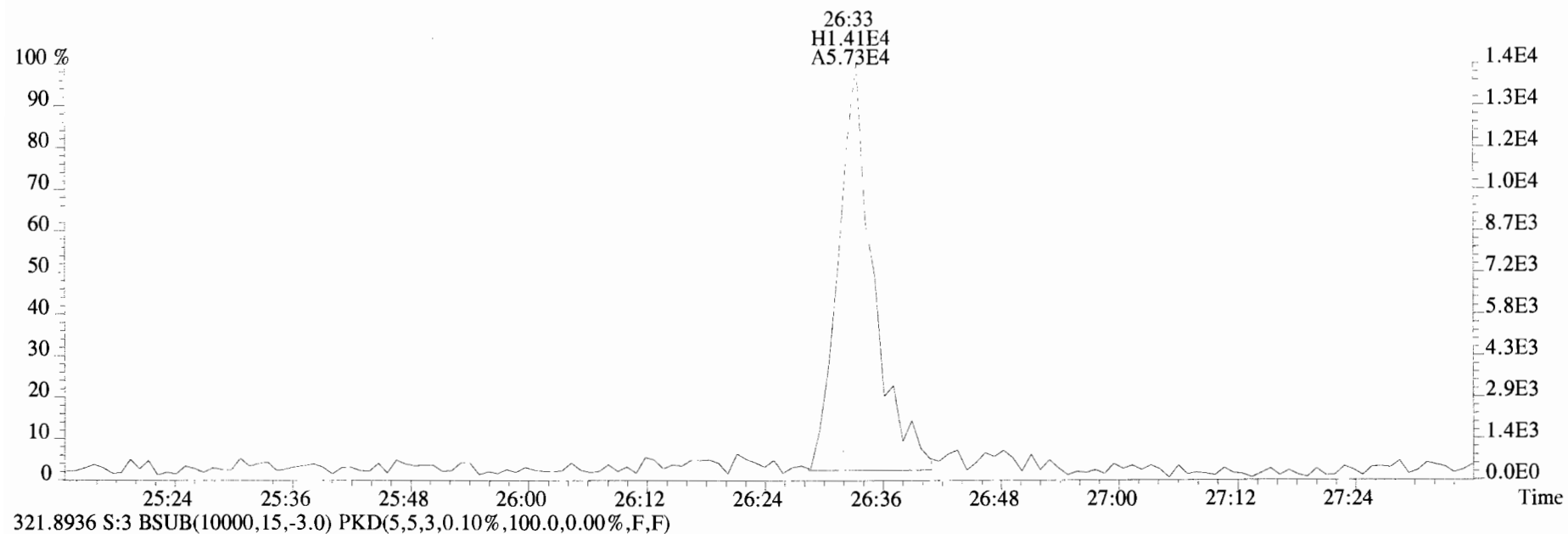339.8597 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

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

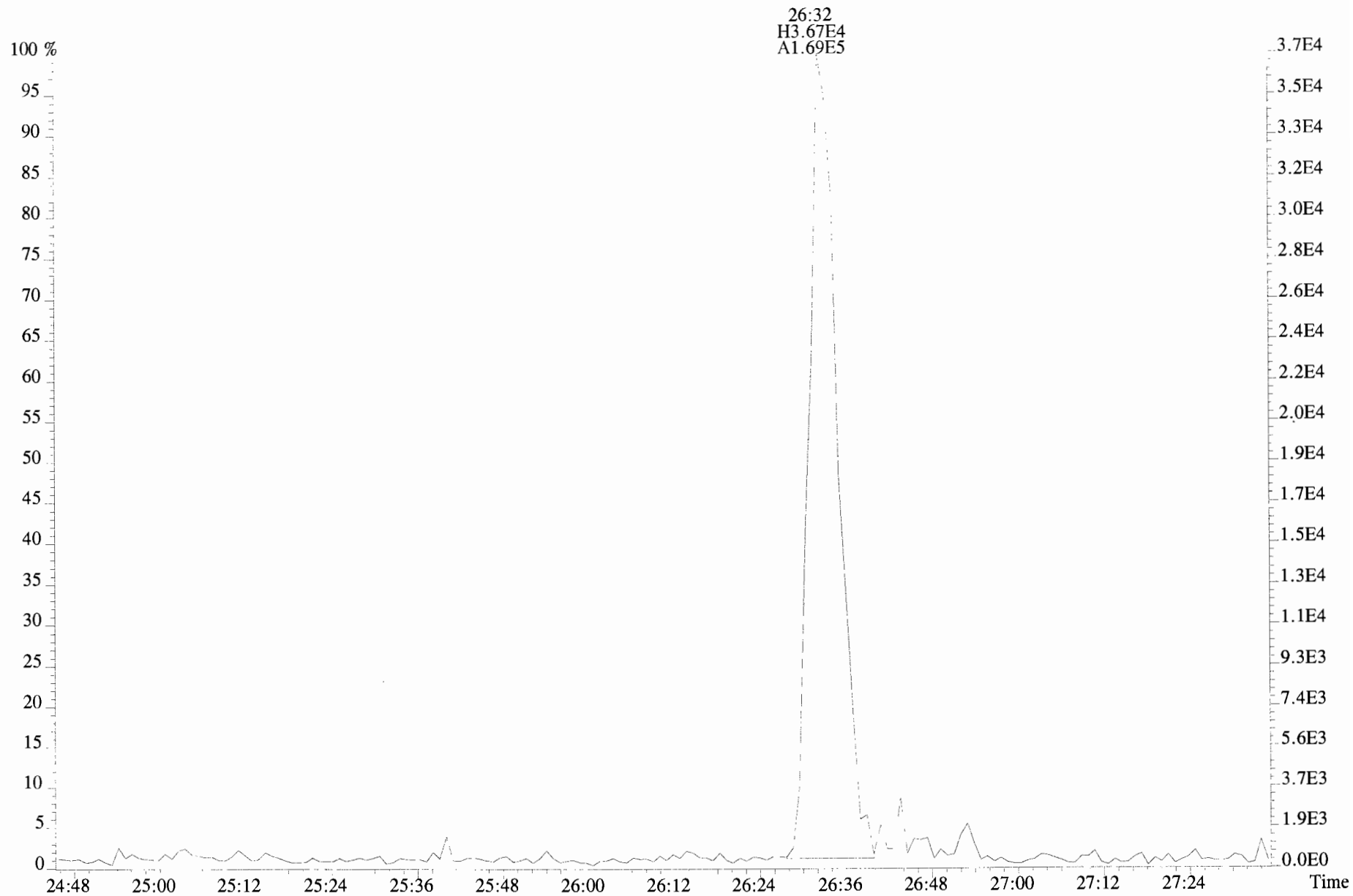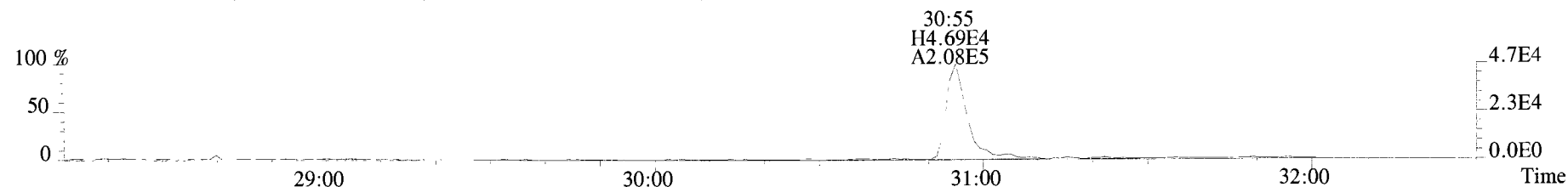341.8568 S:2 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5

373.8207 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

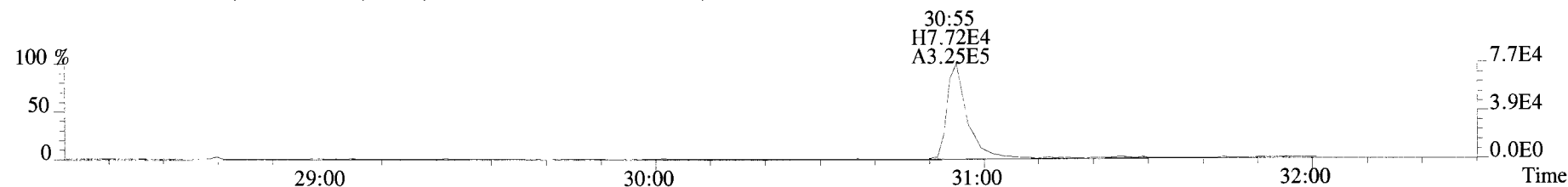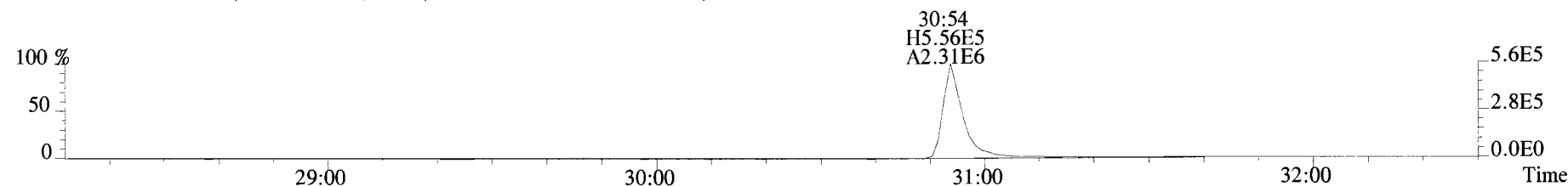375.8178 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
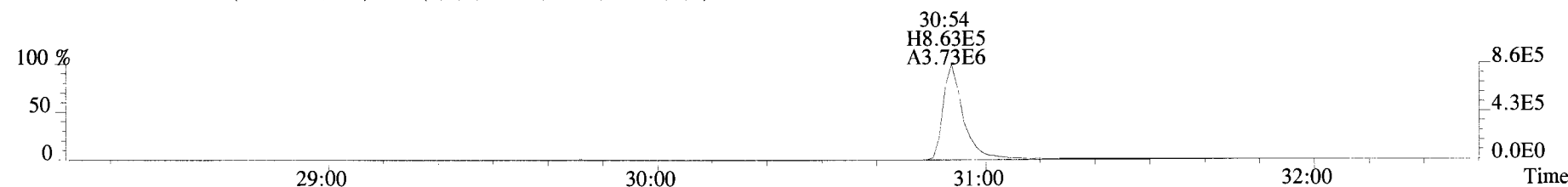383.8639 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

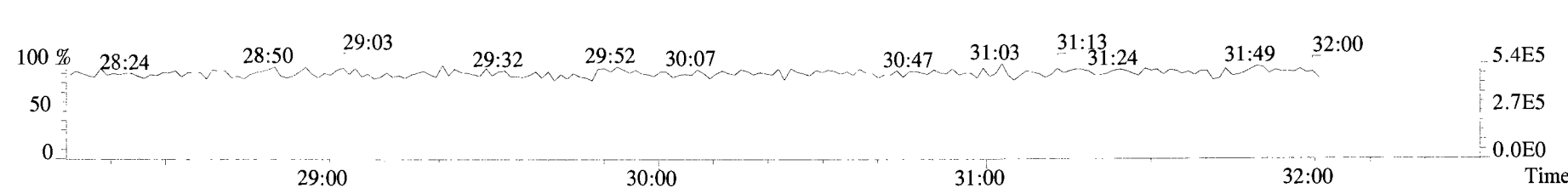385.8610 S:2 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

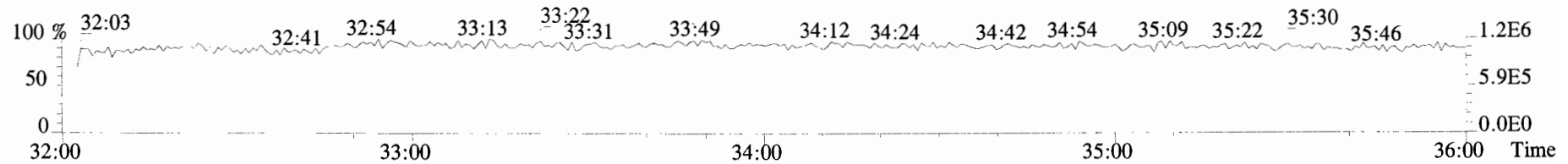407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:57
H1.45E4
A7.53E4

38:42
H1.18E4
A6.35E4

37:05
H845.70
A3.24E3

38:51
H904.03
A3.91E3

1.5E4
7.4E3
0.0E0

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

36:57
H1.56E4
A7.95E4

38:41
H1.18E4
A6.42E4

37:06
H768.19
A1.83E3

38:52
H942.27
A3.22E3

1.6E4
7.9E3
0.0E0

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

36:57
H3.05E5
A1.62E6

38:40
H2.05E5
A1.21E6

3.1E5
1.5E5
0.0E0

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

36:57
H6.95E5
A3.76E6

38:40
H4.39E5
A2.78E6

7.0E5
3.5E5
0.0E0

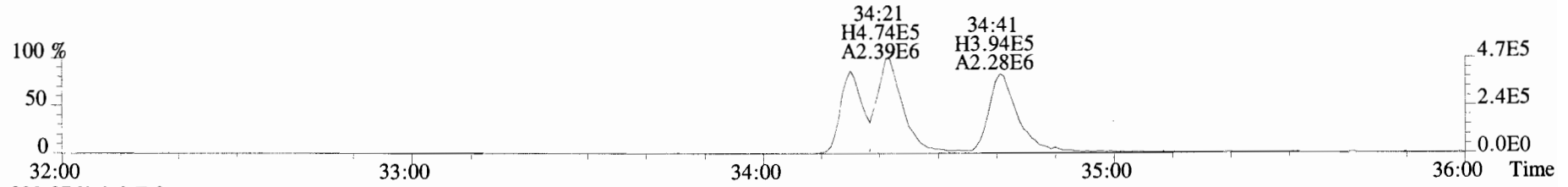479.7165 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:45
H1.49E3
A2.24E3

36:16
H653.50
A1.49E3

37:06
H508.68
A964.54

37:48
H460.05
A967.21

38:09
H475.77
A760.18

38:20
H491.95
A842.29

38:57
H309.74
A1.52E3

39:08
H290.66
A1.04E3

39:28
H579.02
A905.86

39:40
H363.64
A940.88

1.7E3
8.5E2
0.0E0

File:191009Dl #1-355 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
407.7818 S:2 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

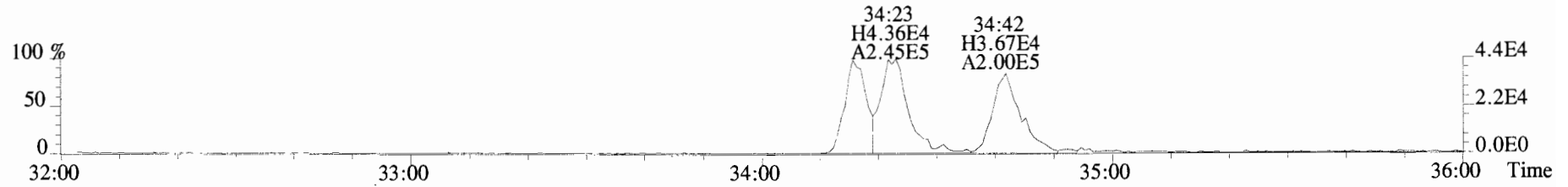File:191009D1 #1-432 Acq: 9-OCT-2019 17:00:45 GC EI+ Voltage SIR Autospec-UltimaE
Sample#2 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-2 1613 CS1 19C2202 Exp:OCDD_DB5
441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

455.7801 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

513.6775 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

441.7428 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

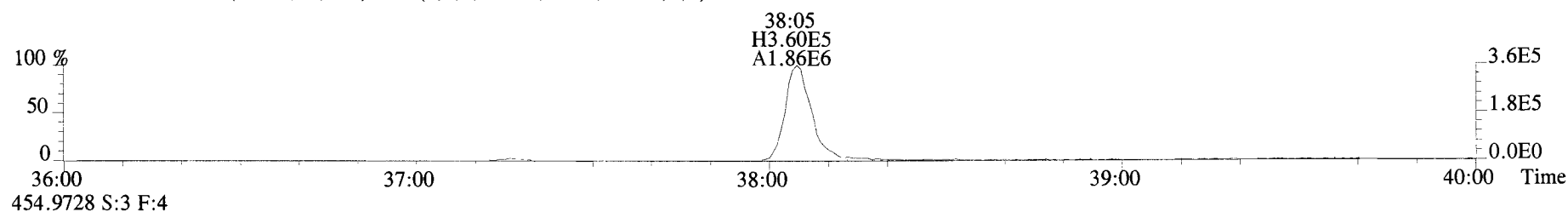443.7398 S:2 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
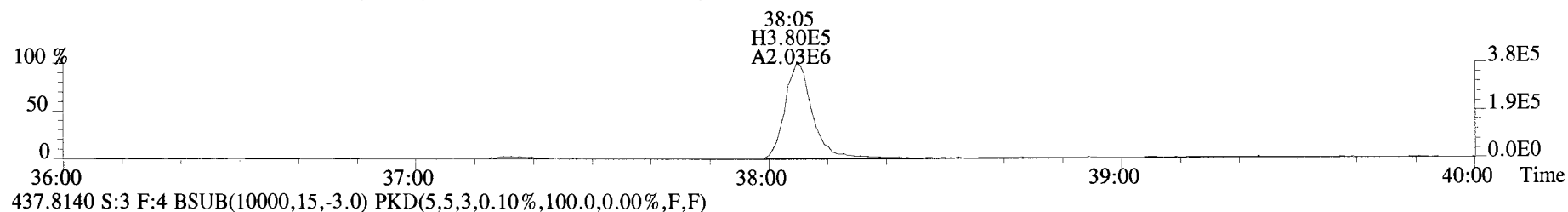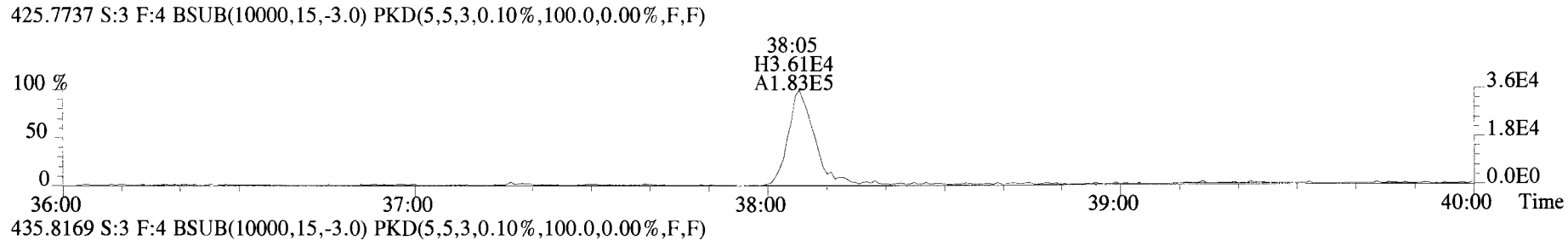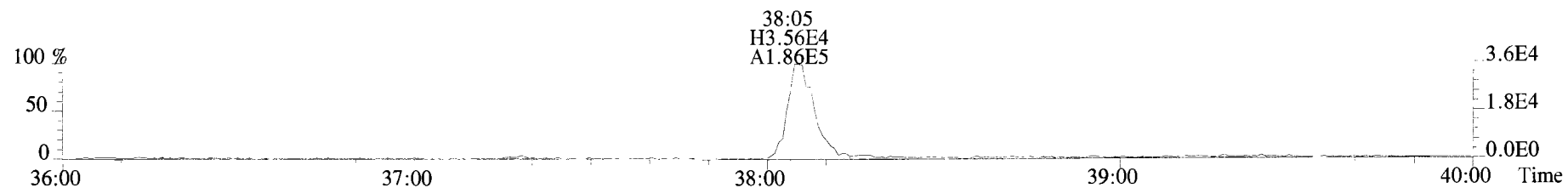
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
319.8965 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

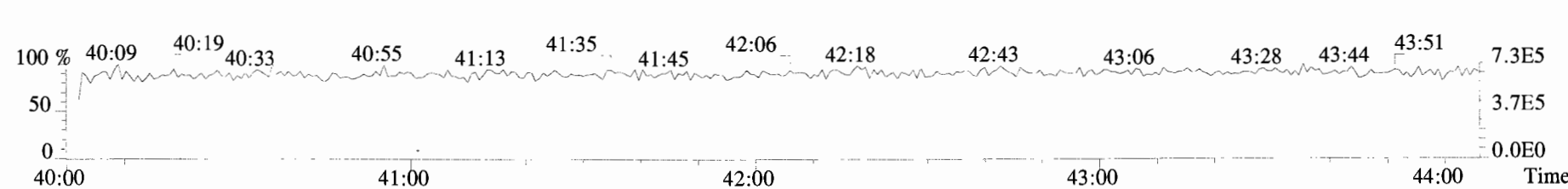321.8936 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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)

26:32
H3.67E4
A1.69E5

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

30:55
H4.69E4
A2.08E5

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

30:55
H7.72E4
A3.25E5

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

30:54
H5.56E5
A2.31E6

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

30:54
H8.63E5
A3.73E6

366.9792 S:3 F:2

389.8156 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
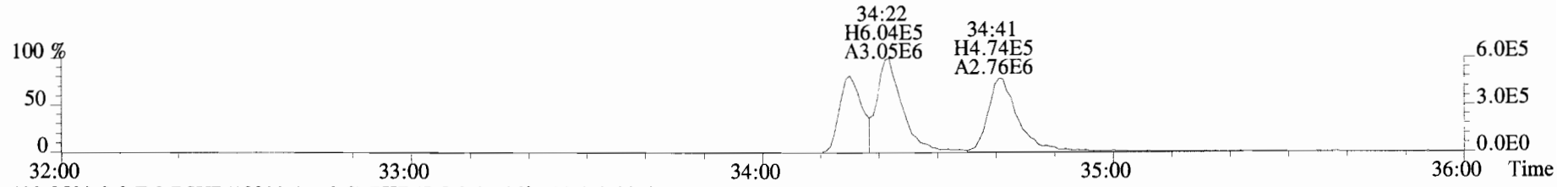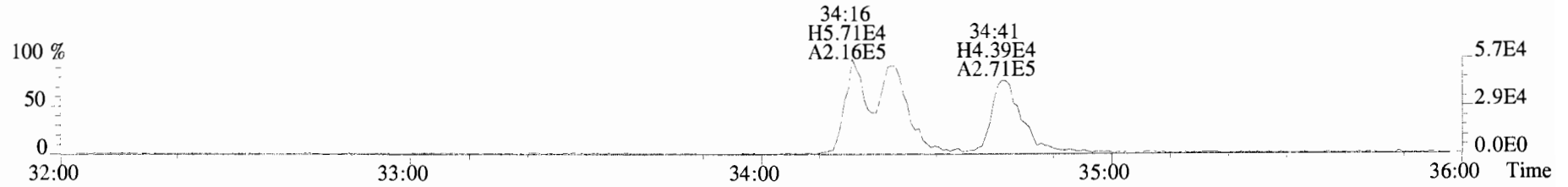
391.8127 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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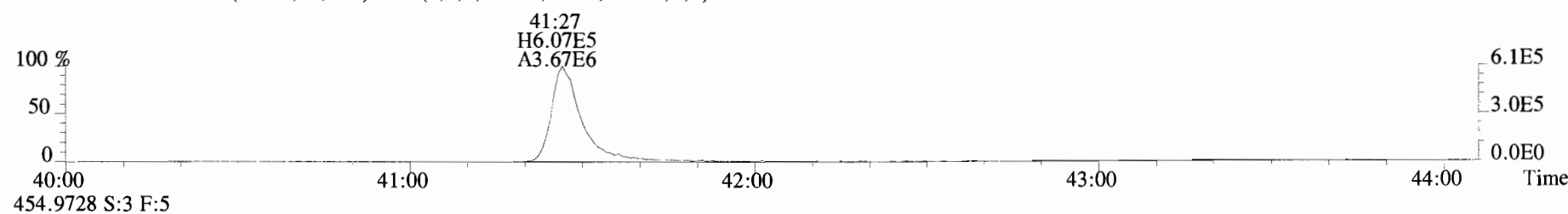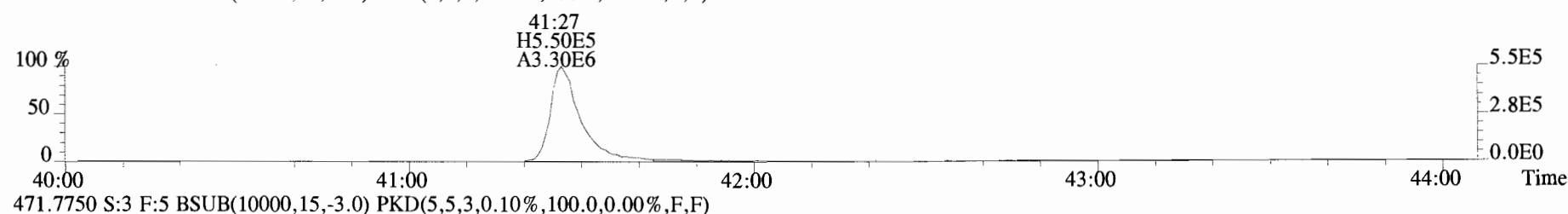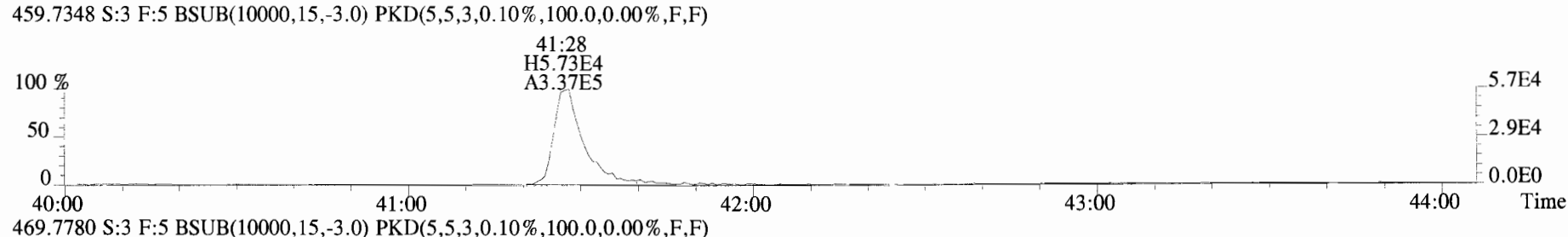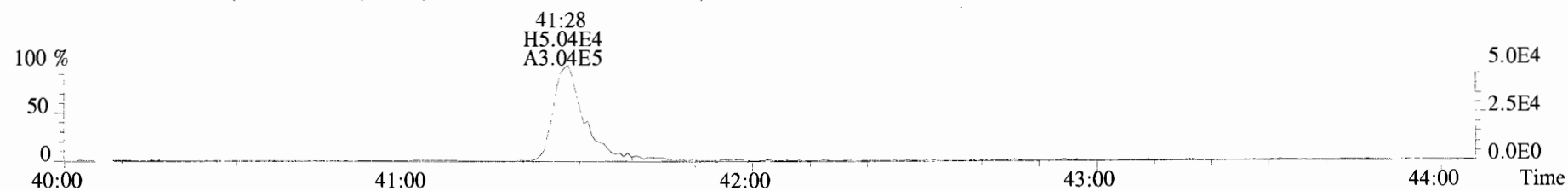

392.9760 S:3 F:3

File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
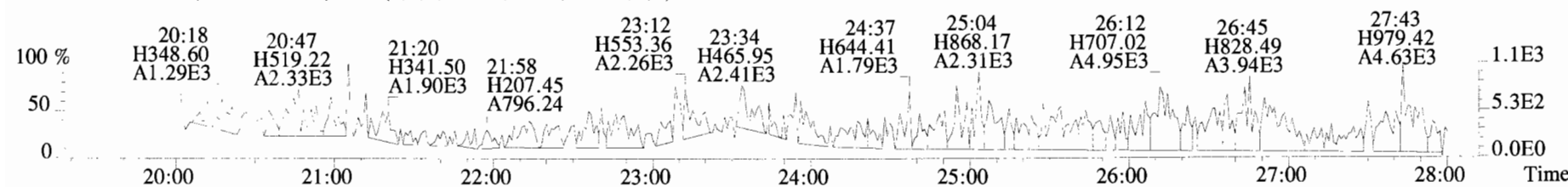401.8559 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
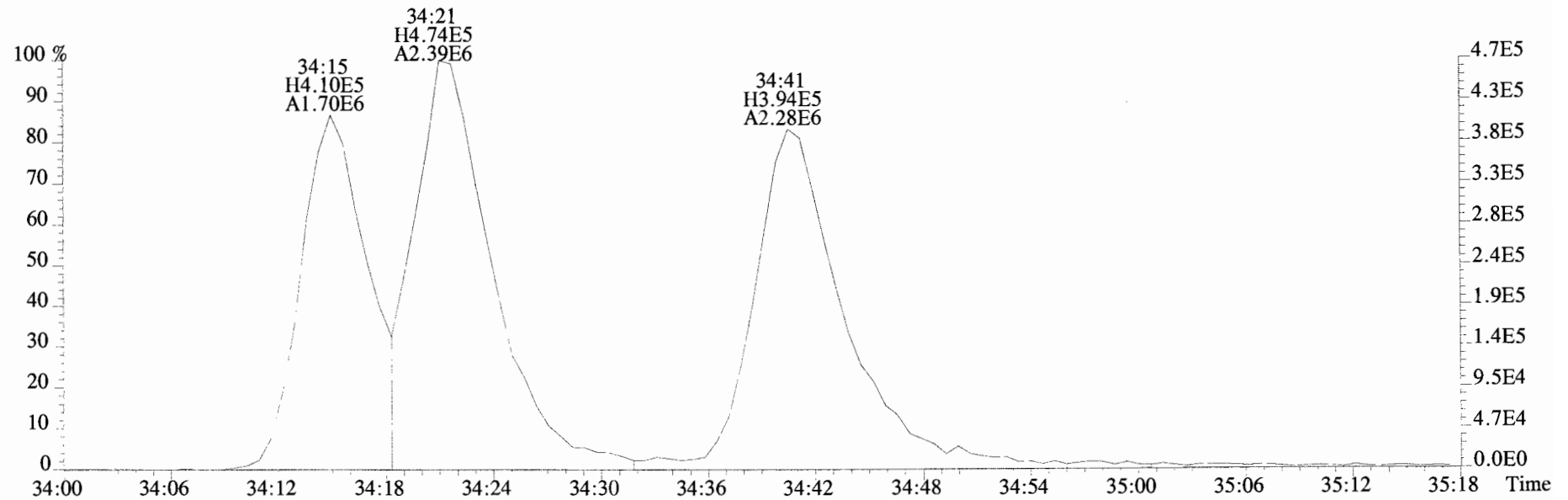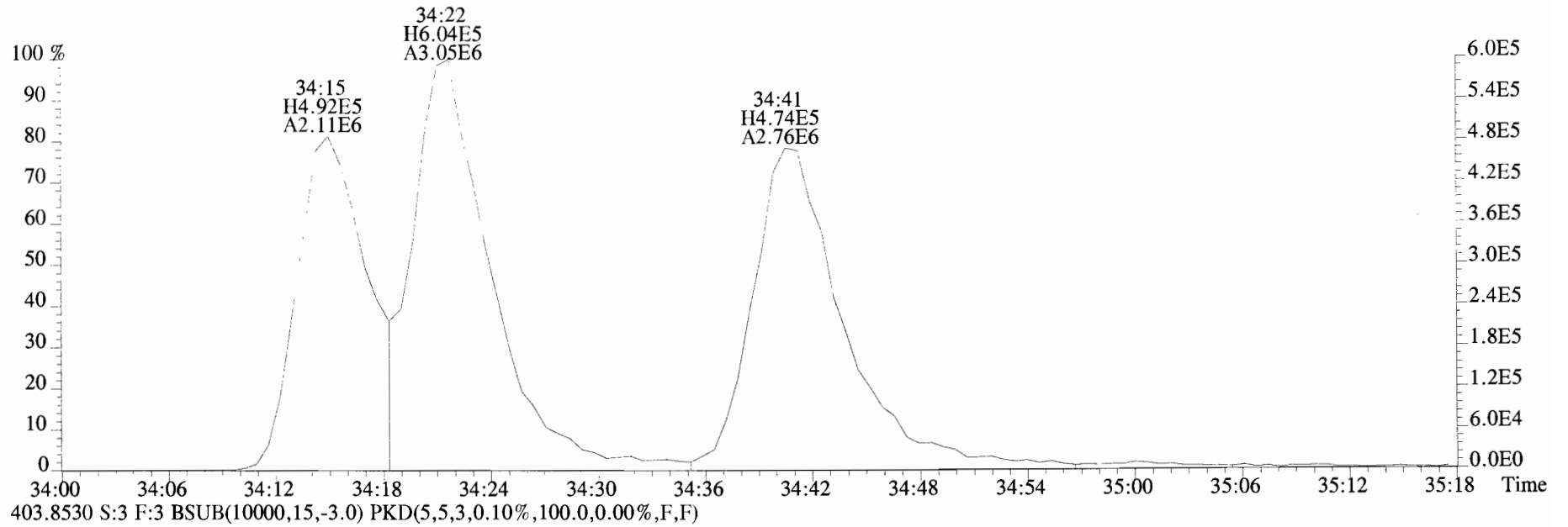
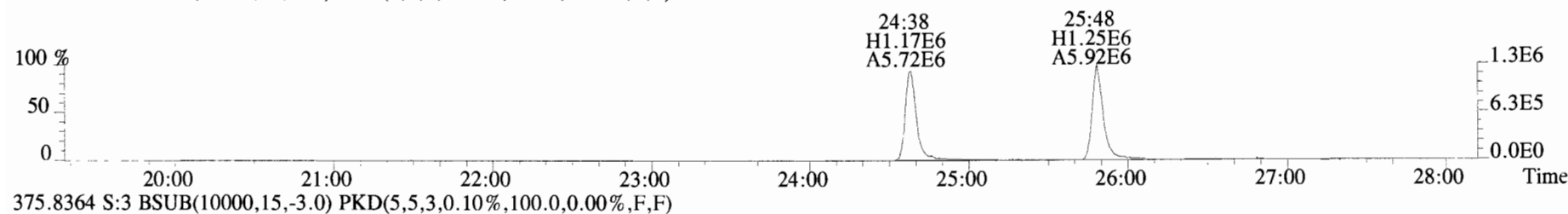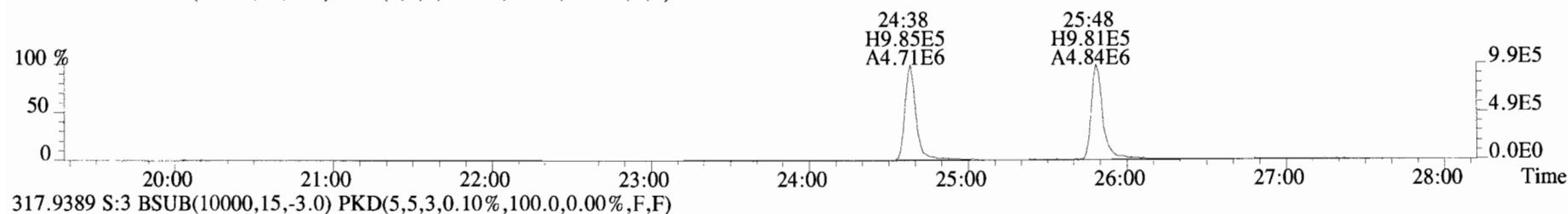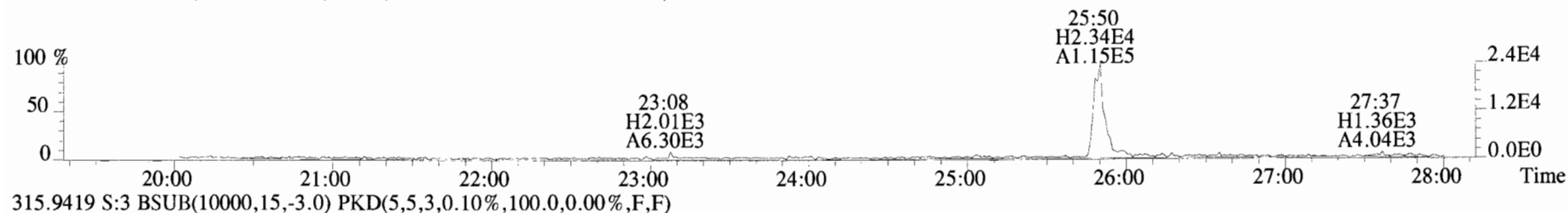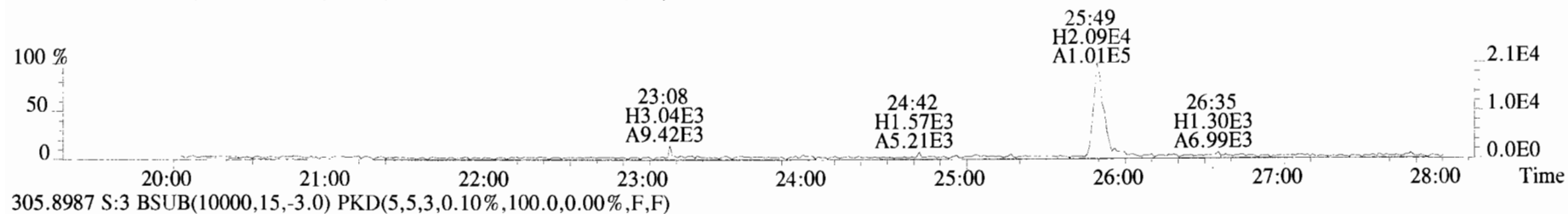403.8530 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
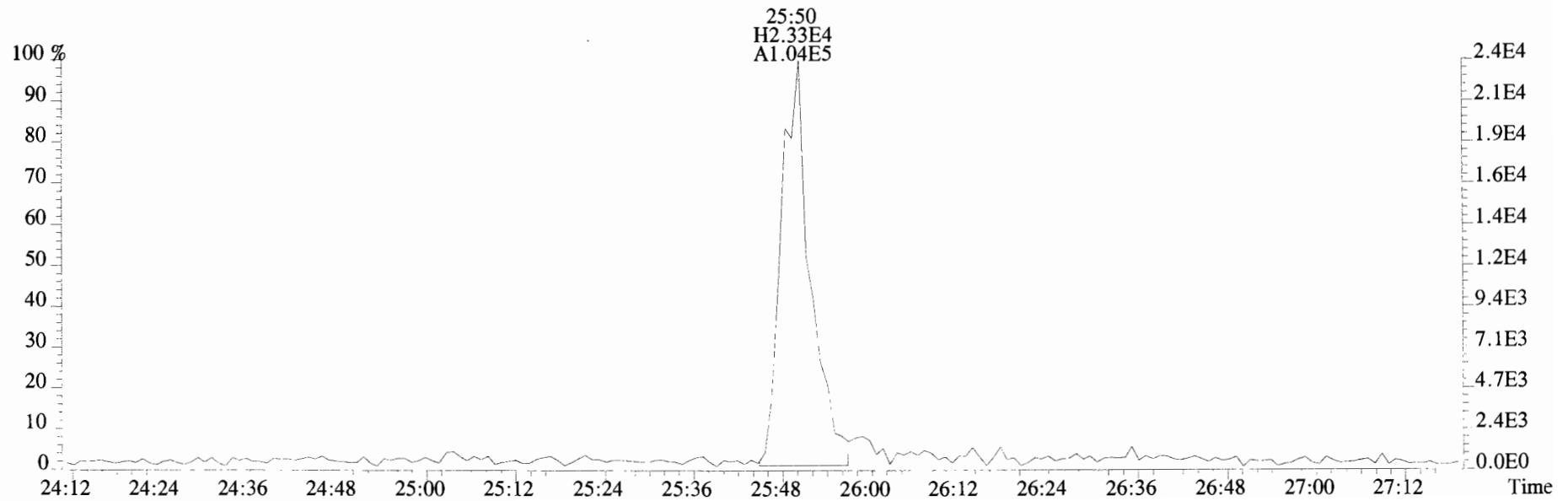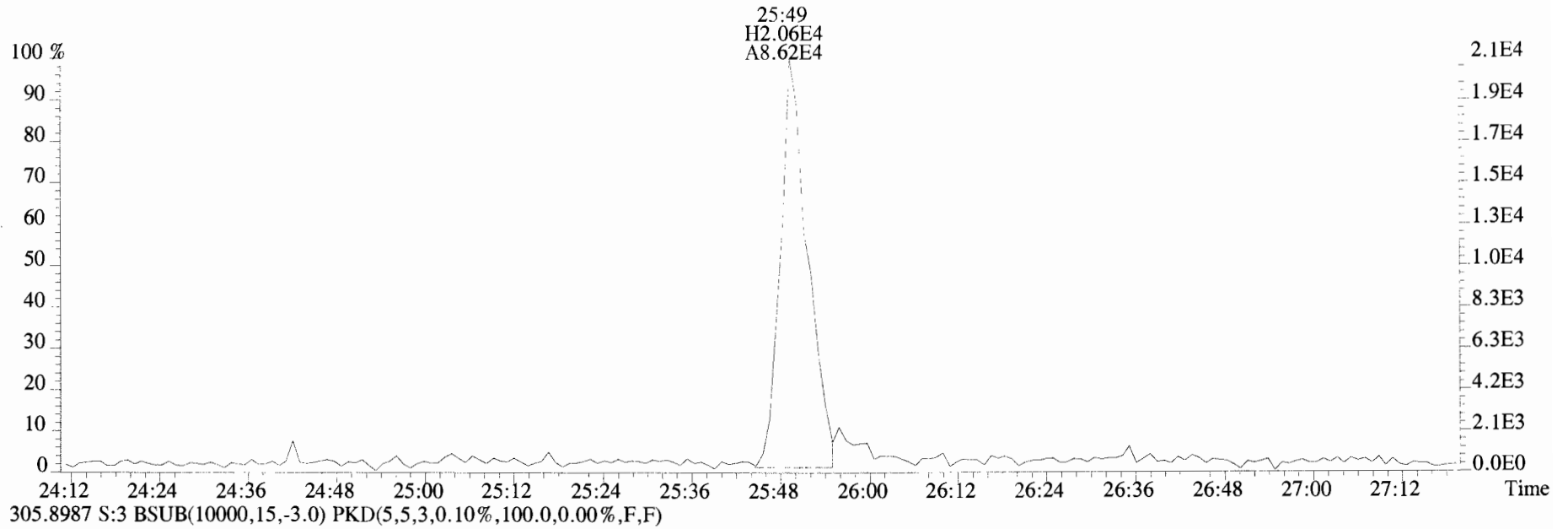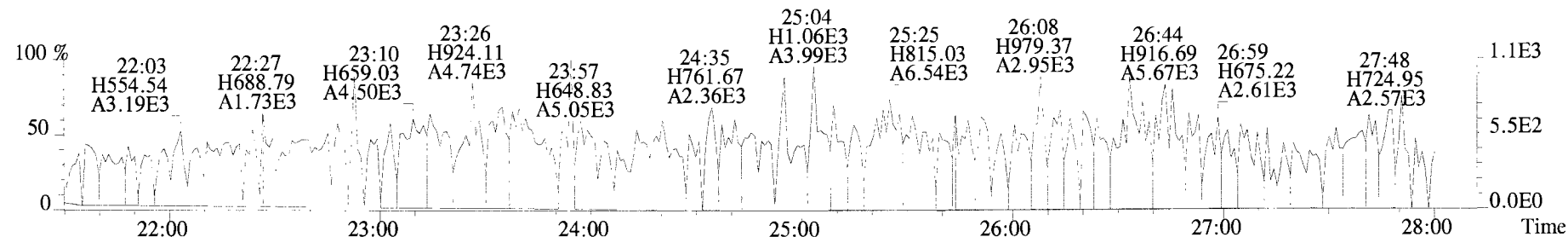423.7767 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                              38:05
                                              H3.56E4
                                              A1.86E5
100 %                                                                           3.6E4
 50                                                                             1.8E4
  0                                           ╱╲                                0.0E0
  36:00            37:00            38:00            39:00            40:00  Time
```

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

```
                                              38:05
                                              H3.61E4
                                              A1.83E5
100 %                                                                           3.6E4
 50                                                                             1.8E4
  0                                           ╱╲                                0.0E0
  36:00            37:00            38:00            39:00            40:00  Time
```

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

```
                                              38:05
                                              H3.80E5
                                              A2.03E6
100 %                                                                           3.8E5
 50                                                                             1.9E5
  0                                           ╱╲                                0.0E0
  36:00            37:00            38:00            39:00            40:00  Time
```

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

```
                                              38:05
                                              H3.60E5
                                              A1.86E6
100 %                                                                           3.6E5
 50                                                                             1.8E5
  0                                           ╱╲                                0.0E0
  36:00            37:00            38:00            39:00            40:00  Time
```

454.9728 S:3 F:4

```
       36:16                                                    39:19
100 %        36:26   36:41      37:02     37:20    37:40   37:57  38:10  38:23    38:40        39:04    39:27      39:50   7.0E5
 50                                                                                                                       3.5E5
  0                                                                                                                       0.0E0
  36:00            37:00            38:00            39:00            40:00  Time
```
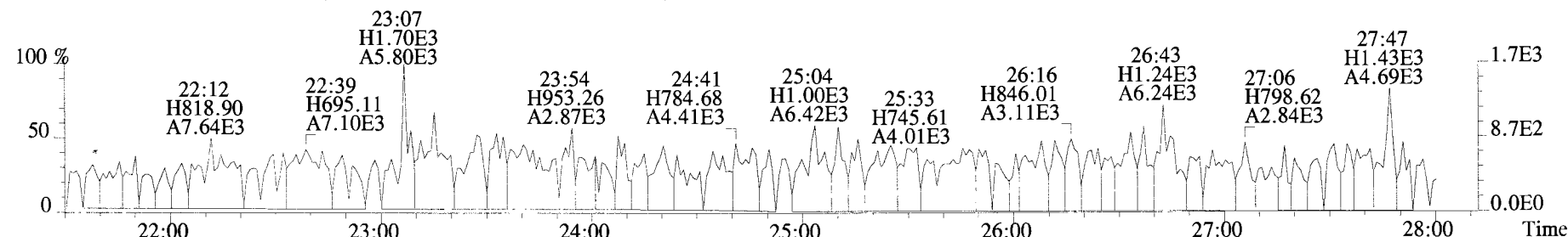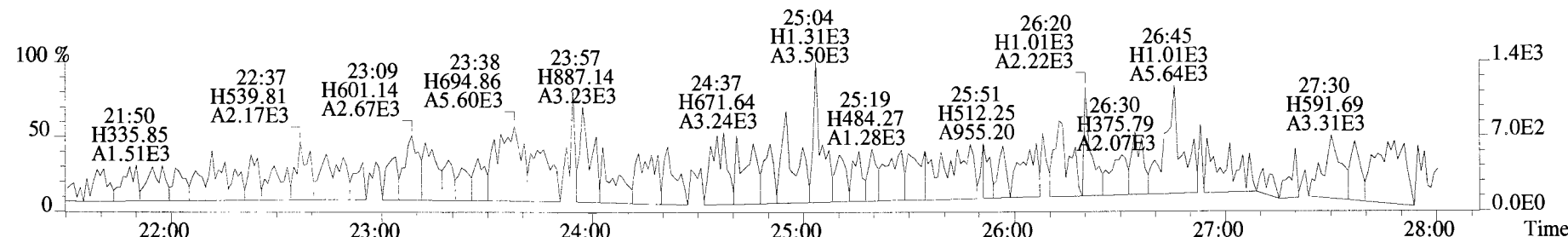
File:191009D1 #1-432 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
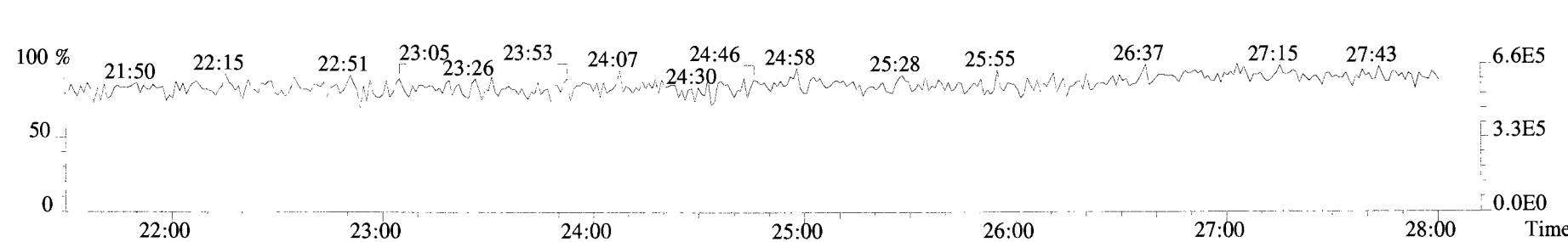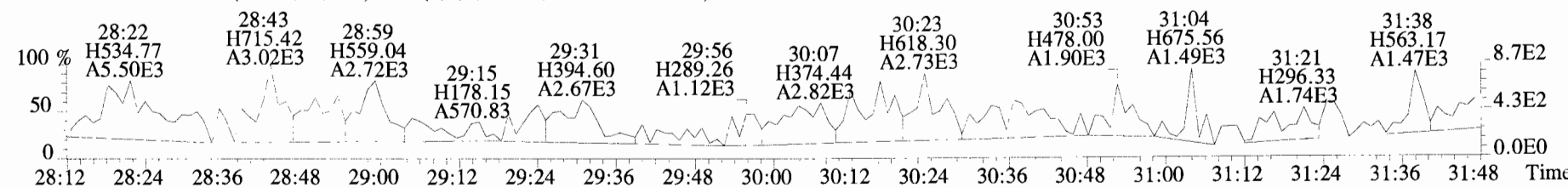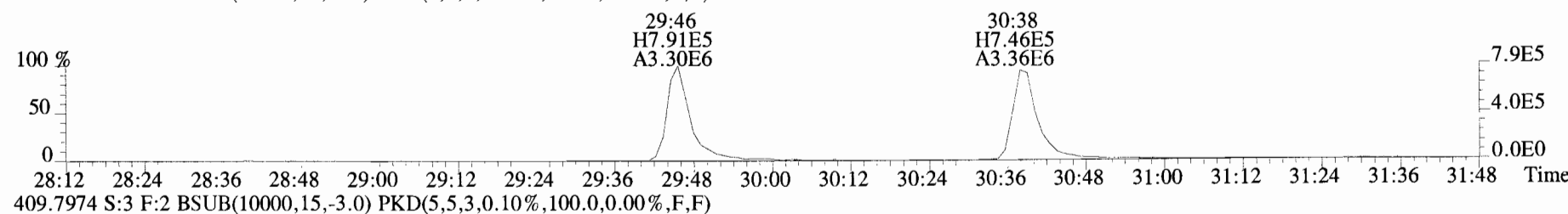457.7377 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:28
H5.04E4
A3.04E5

100 %
50
0

40:00   41:00   42:00   43:00   44:00   Time

5.0E4
2.5E4
0.0E0

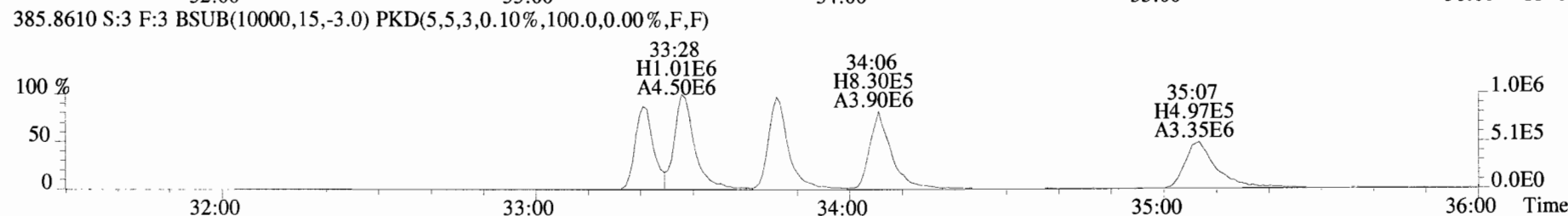459.7348 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:28
H5.73E4
A3.37E5

100 %
50
0

40:00   41:00   42:00   43:00   44:00   Time

5.7E4
2.9E4
0.0E0

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

41:27
H5.50E5
A3.30E6

100 %
50
0

40:00   41:00   42:00   43:00   44:00   Time

5.5E5
2.8E5
0.0E0

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

41:27
H6.07E5
A3.67E6

100 %
50
0

40:00   41:00   42:00   43:00   44:00   Time

6.1E5
3.0E5
0.0E0

454.9728 S:3 F:5

100 %   40:09   40:19 40:33   40:55   41:13   41:35   41:45   42:06   42:18   42:43   43:06   43:28 43:44   43:51
50
0

40:00   41:00   42:00   43:00   44:00   Time

7.3E5
3.7E5
0.0E0
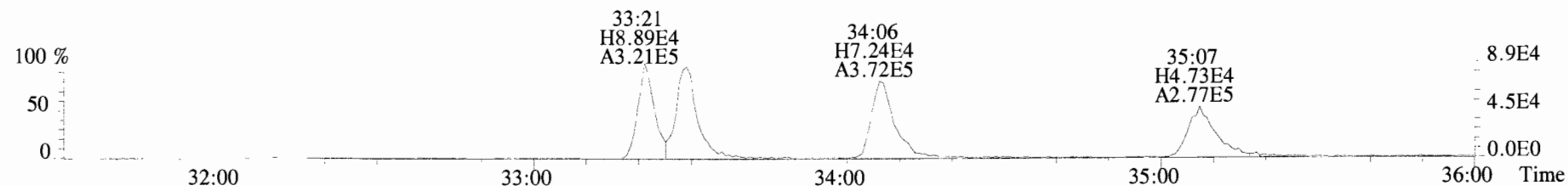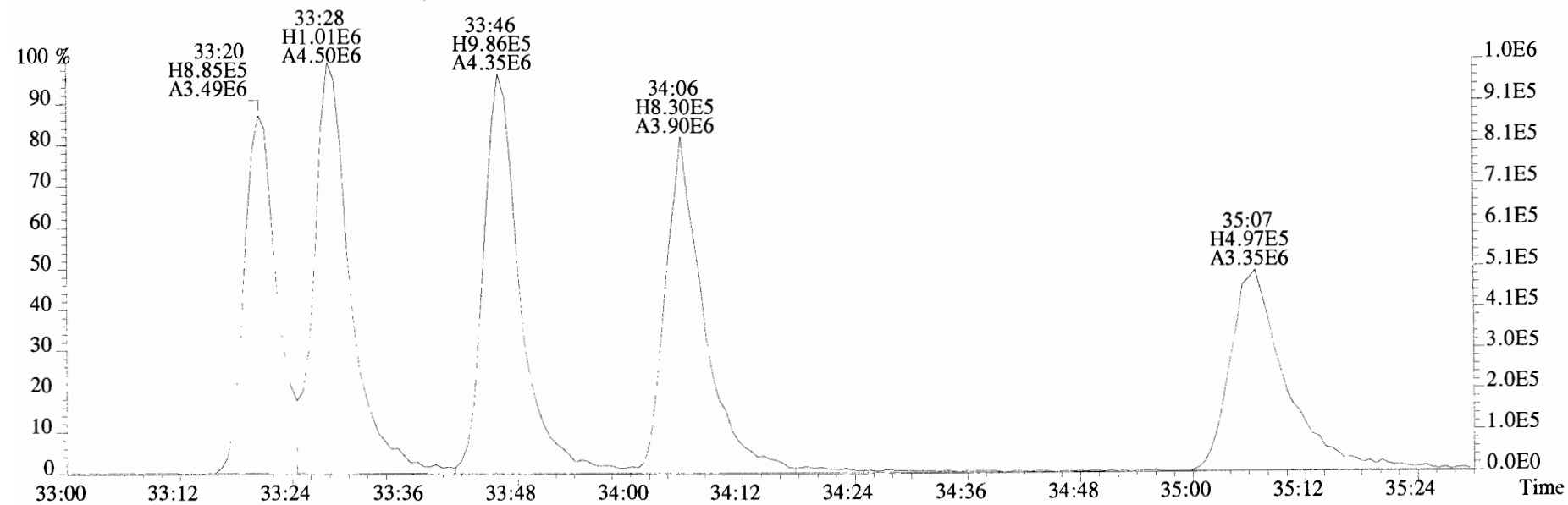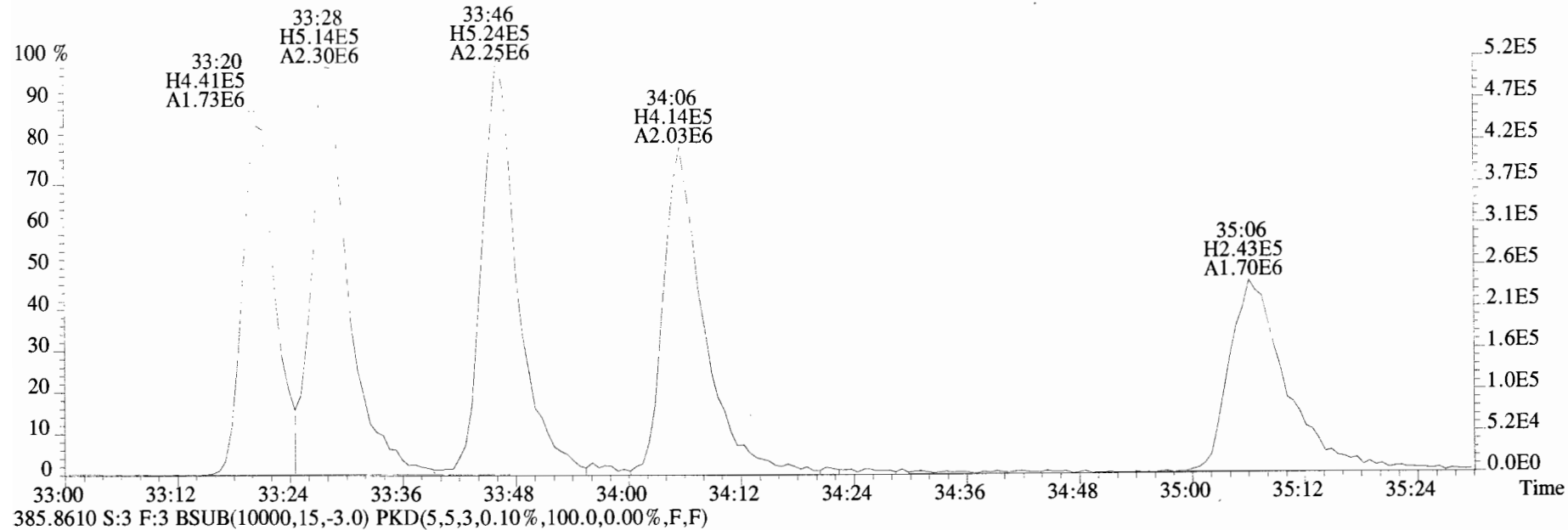
File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
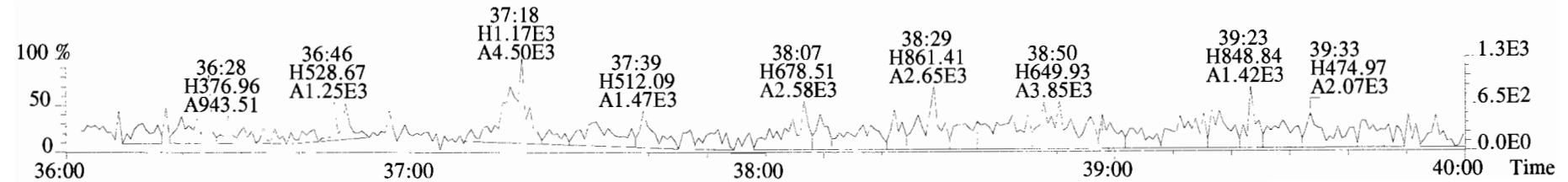303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

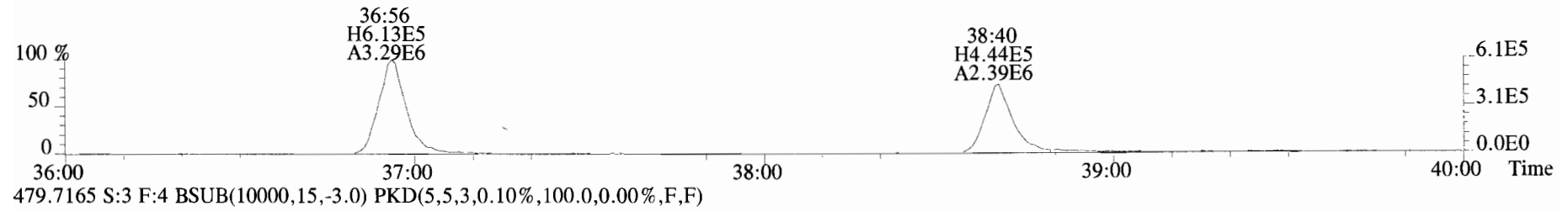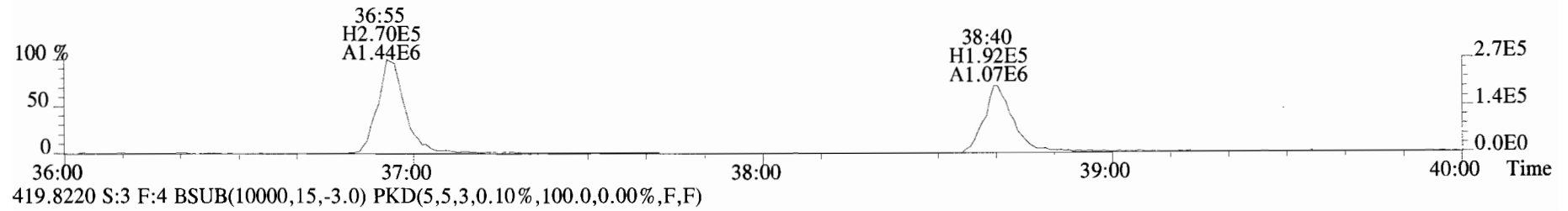375.8364 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203   Exp:OCDD_DB5
303.9016 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191009D1 #1-513 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
339.8597 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

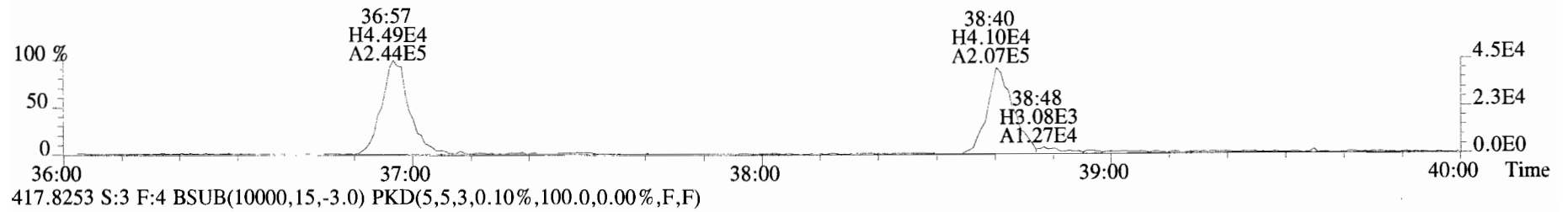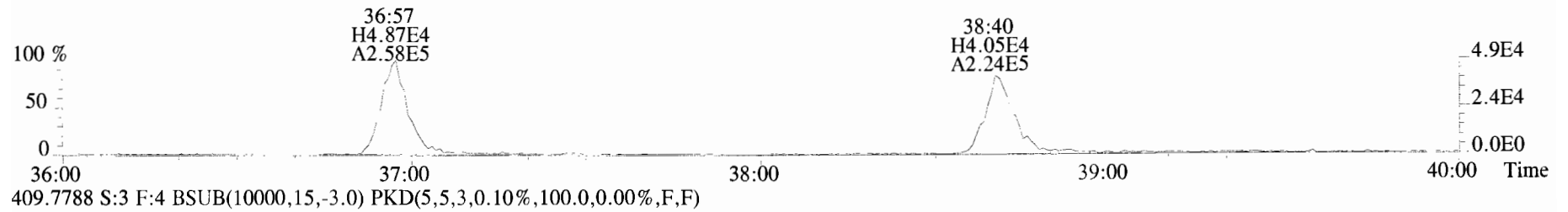341.8568 S:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

316.9824 S:3

File:191009D1 #1-211 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5

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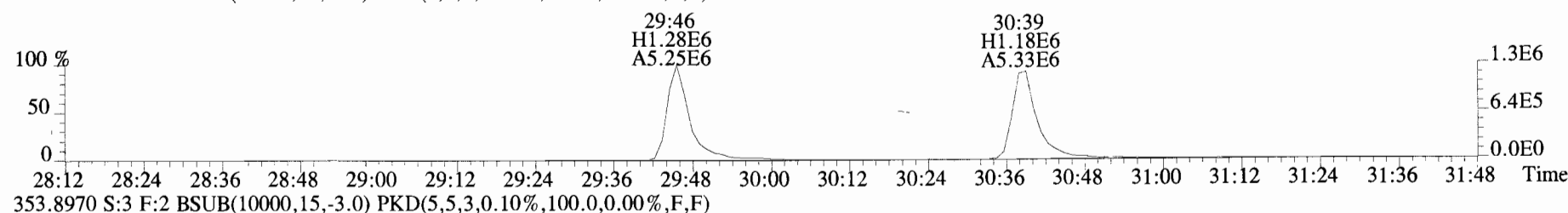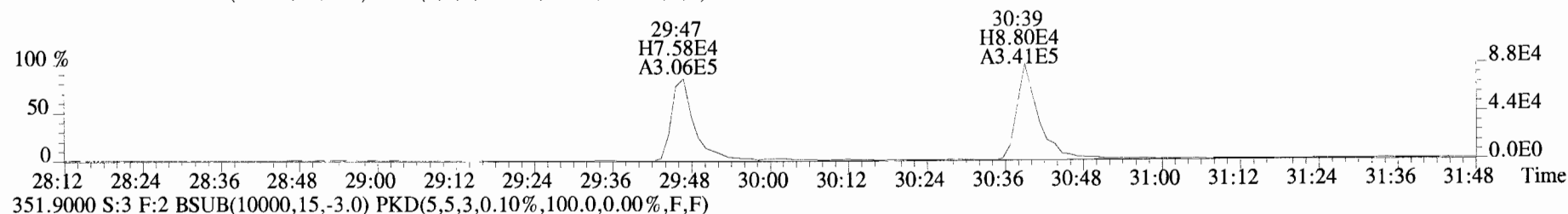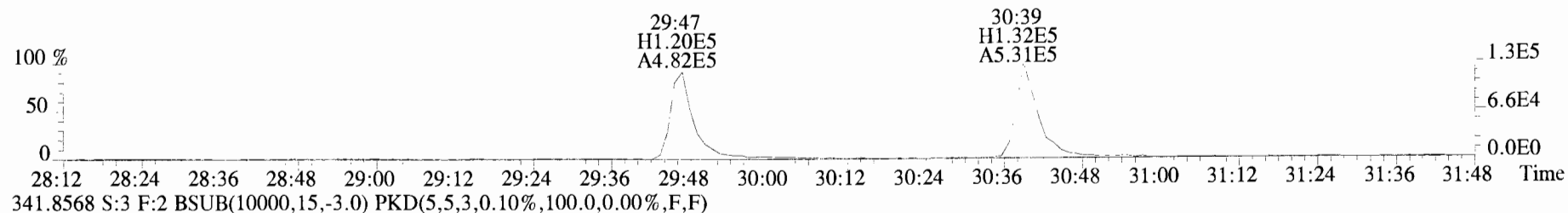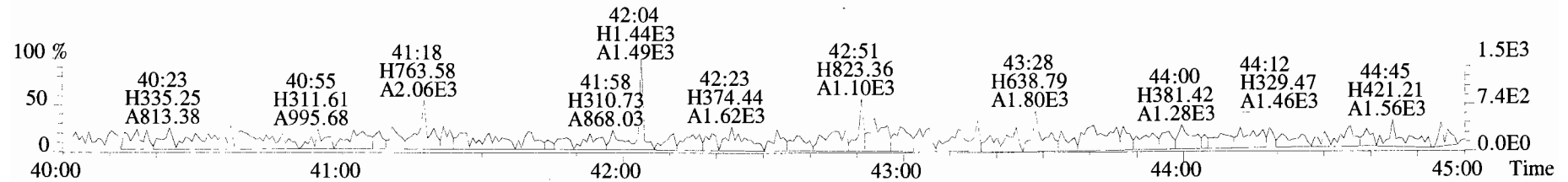

341.8568 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

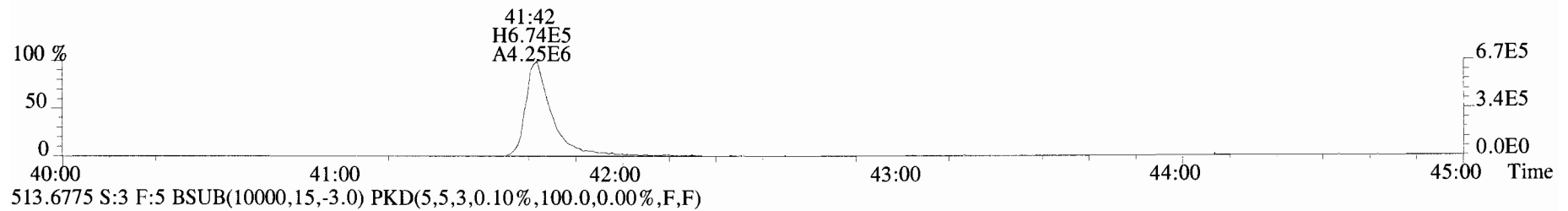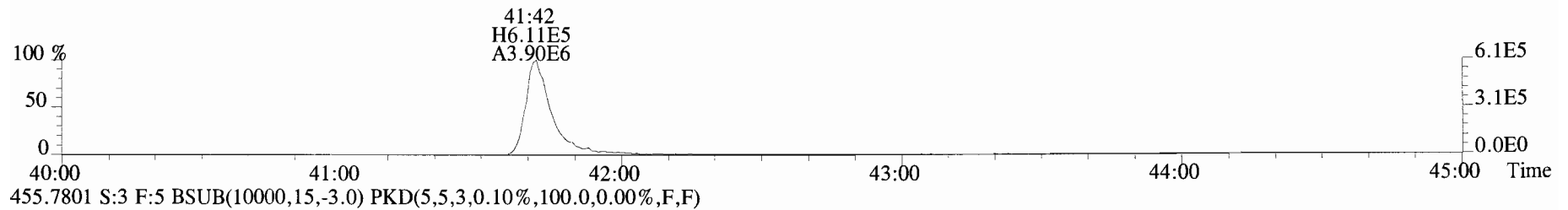409.7974 S:3 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
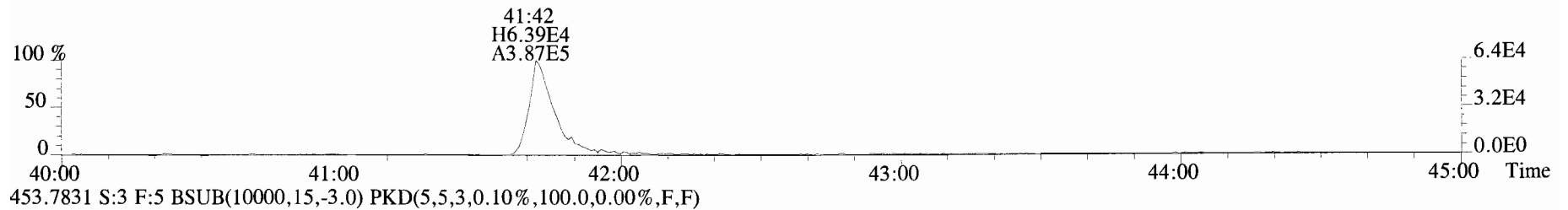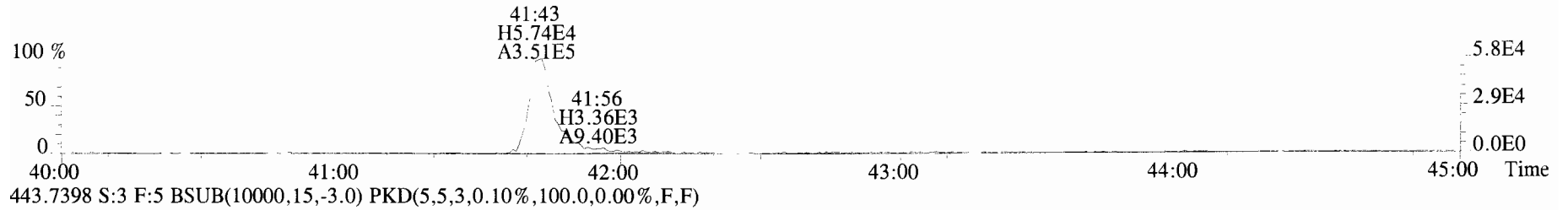373.8207 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
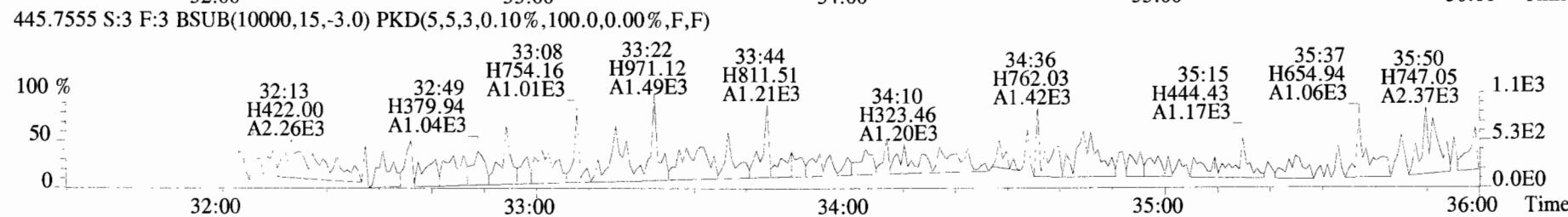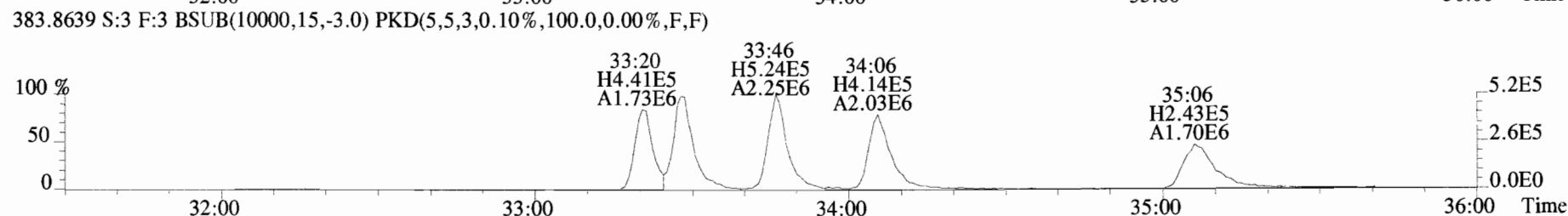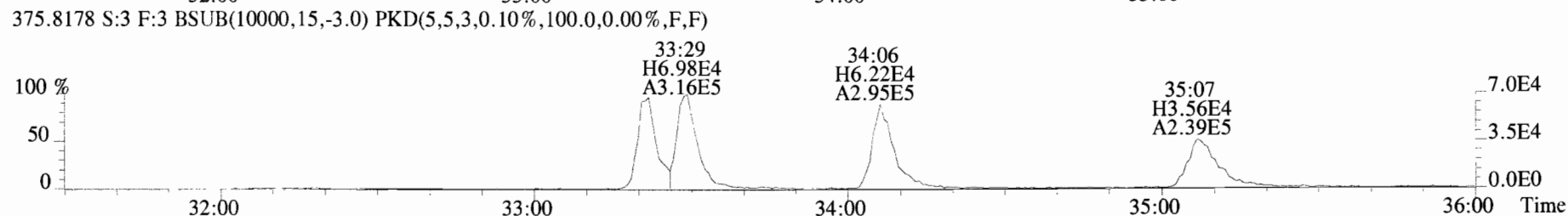
375.8178 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

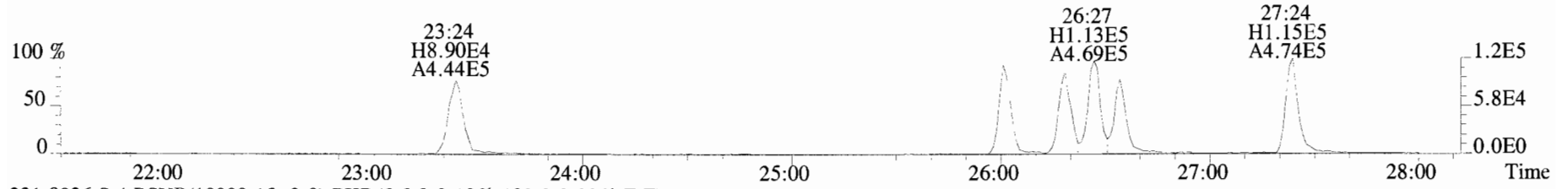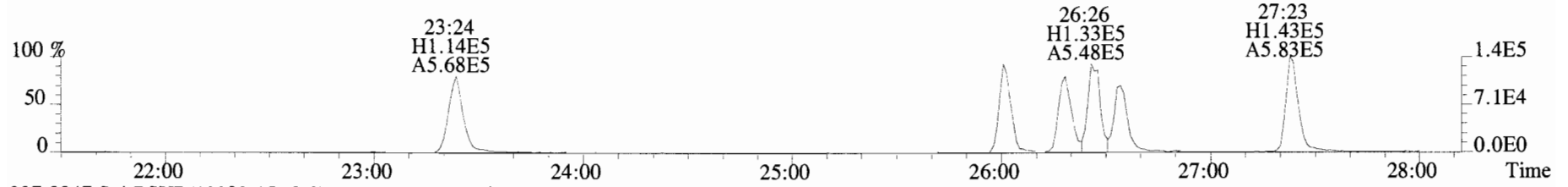445.7555 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 17:48:27 GC EI+ Voltage SIR Autospec-UltimaE
Sample#3 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-3 1613 CS2 19C2203 Exp:OCDD_DB5
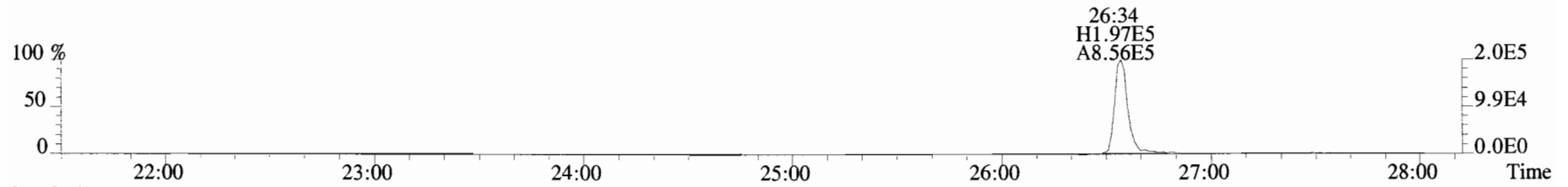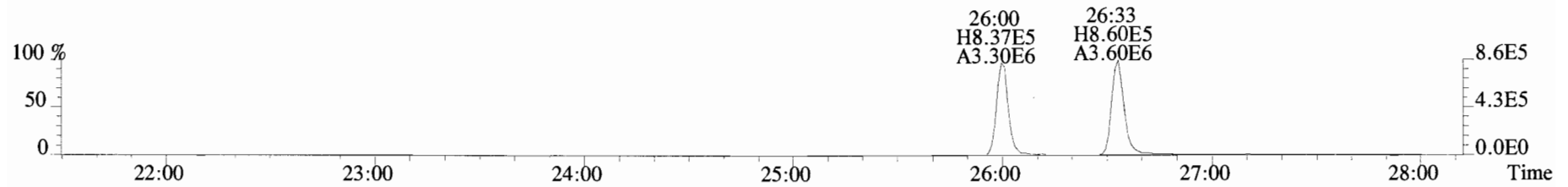383.8639 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

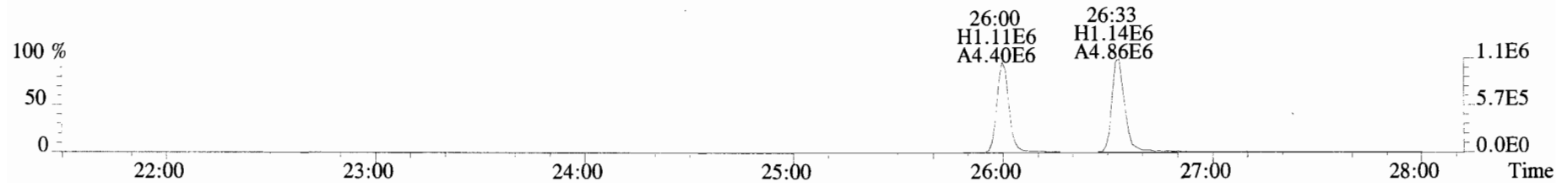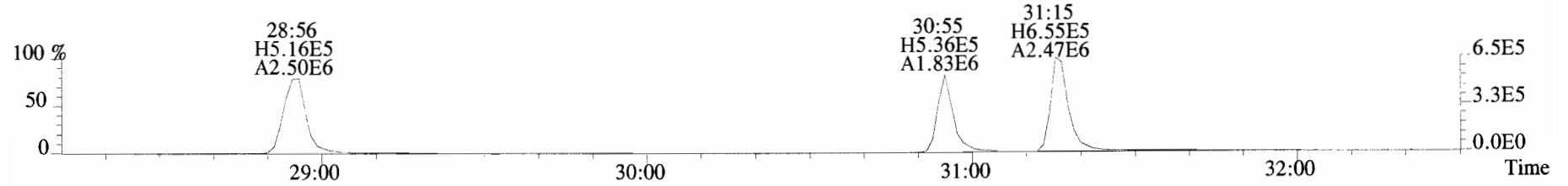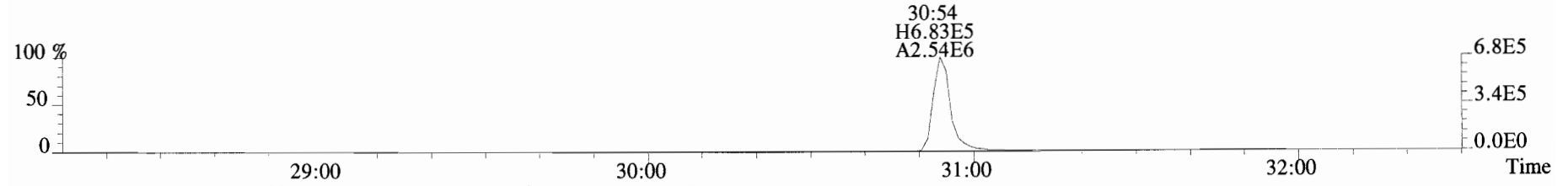385.8610 S:3 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

407.7818 S:3 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:57
H4.87E4
A2.58E5

38:40
H4.05E4
A2.24E5

100 %
50
0

4.9E4
2.4E4
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

36:57
H4.49E4
A2.44E5

38:40
H4.10E4
A2.07E5

38:48
H3.08E3
A1.27E4

100 %
50
0

4.5E4
2.3E4
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

36:55
H2.70E5
A1.44E6

38:40
H1.92E5
A1.07E6

100 %
50
0

2.7E5
1.4E5
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

36:56
H6.13E5
A3.29E6

38:40
H4.44E5
A2.39E6

100 %
50
0

6.1E5
3.1E5
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

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

37:18
H1.17E3
A4.50E3

36:28
H376.96
A943.51

36:46
H528.67
A1.25E3

37:39
H512.09
A1.47E3

38:07
H678.51
A2.58E3

38:29
H861.41
A2.65E3

38:50
H649.93
A3.85E3

39:23
H848.84
A1.42E3

39:33
H474.97
A2.07E3

100 %
50
0

1.3E3
6.5E2
0.0E0

36:00   37:00   38:00   39:00   40:00   Time

441.7428 S:3 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                         41:43
                                         H5.74E4
                                         A3.51E5
100 %                                                                              5.8E4
 50                                      41:56                                      2.9E4
                                         H3.36E3
  0                                      A9.40E3                                    0.0E0
  40:00          41:00          42:00          43:00          44:00          45:00   Time
```

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

```
                                         41:42
                                         H6.39E4
                                         A3.87E5
100 %                                                                              6.4E4
 50                                                                                3.2E4
  0                                                                                0.0E0
  40:00          41:00          42:00          43:00          44:00          45:00   Time
```

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

```
                                         41:42
                                         H6.11E5
                                         A3.90E6
100 %                                                                              6.1E5
 50                                                                                3.1E5
  0                                                                                0.0E0
  40:00          41:00          42:00          43:00          44:00          45:00   Time
```

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

```
                                         41:42
                                         H6.74E5
                                         A4.25E6
100 %                                                                              6.7E5
 50                                                                                3.4E5
  0                                                                                0.0E0
  40:00          41:00          42:00          43:00          44:00          45:00   Time
```

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

```
                                                   42:04
                                                   H1.44E3
                                                   A1.49E3
100 %             41:18                                           42:51                                44:12              1.5E3
                  H763.58                   41:58            42:23          43:28         44:00         H329.47   44:45
        40:23     A2.06E3        40:55       H310.73          H374.44       H638.79       H381.42       A1.46E3   H421.21
 50     H335.25                  H311.61     A868.03          A1.62E3       A1.80E3       A1.28E3                 A1.56E3    7.4E2
        A813.38                  A995.68                                                                                    1.10E3
  0                                                                                                                        0.0E0
  40:00          41:00          42:00          43:00          44:00          45:00   Time
```

File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
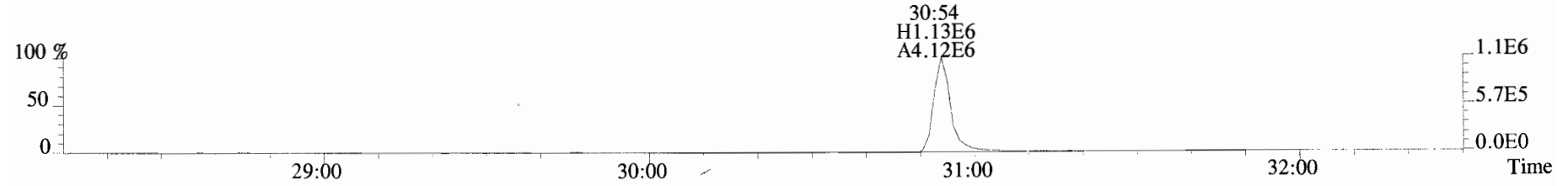319.8965 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

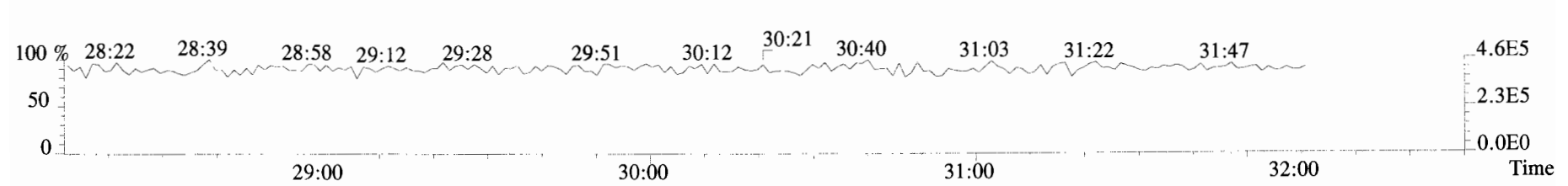321.8936 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
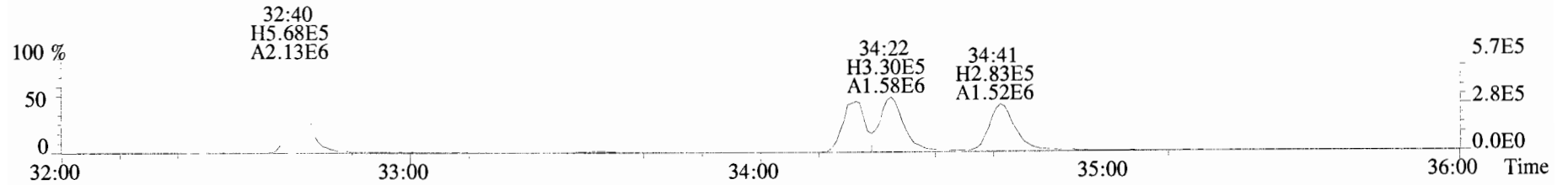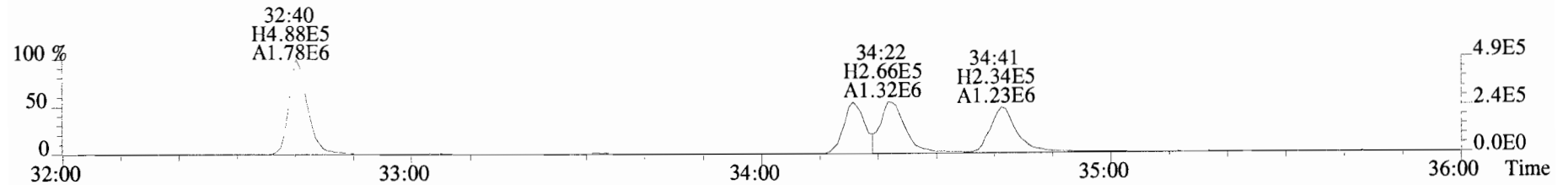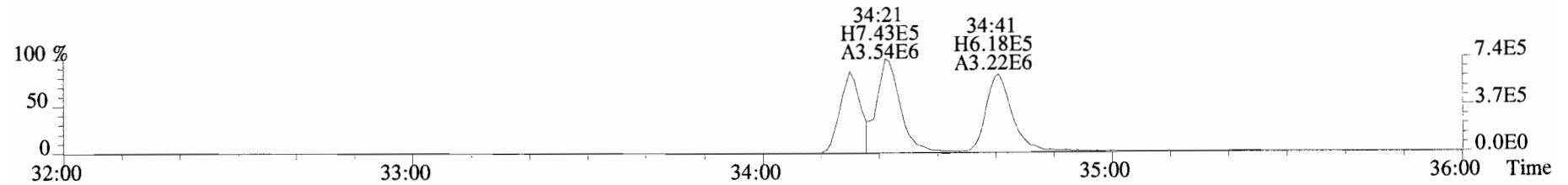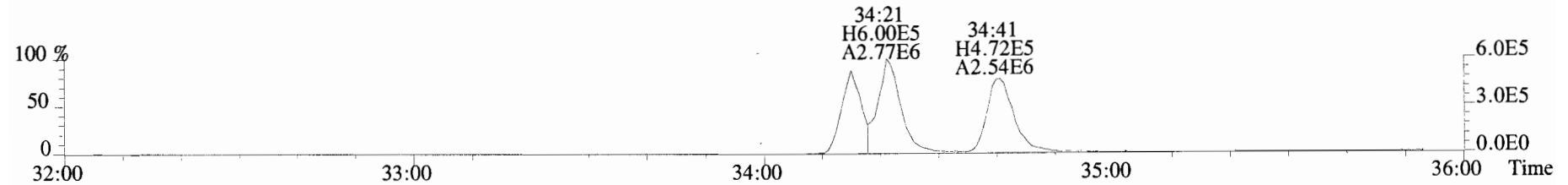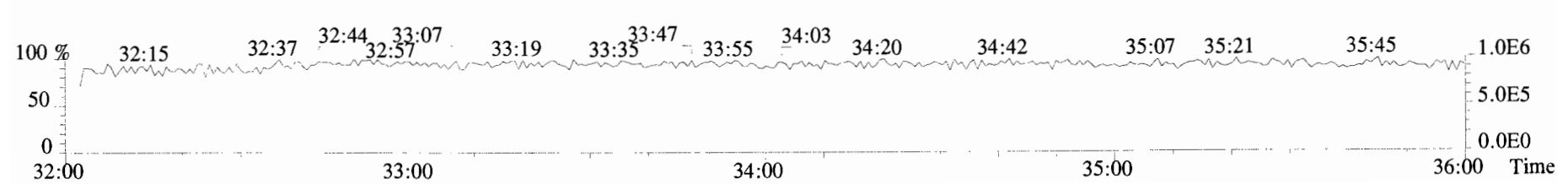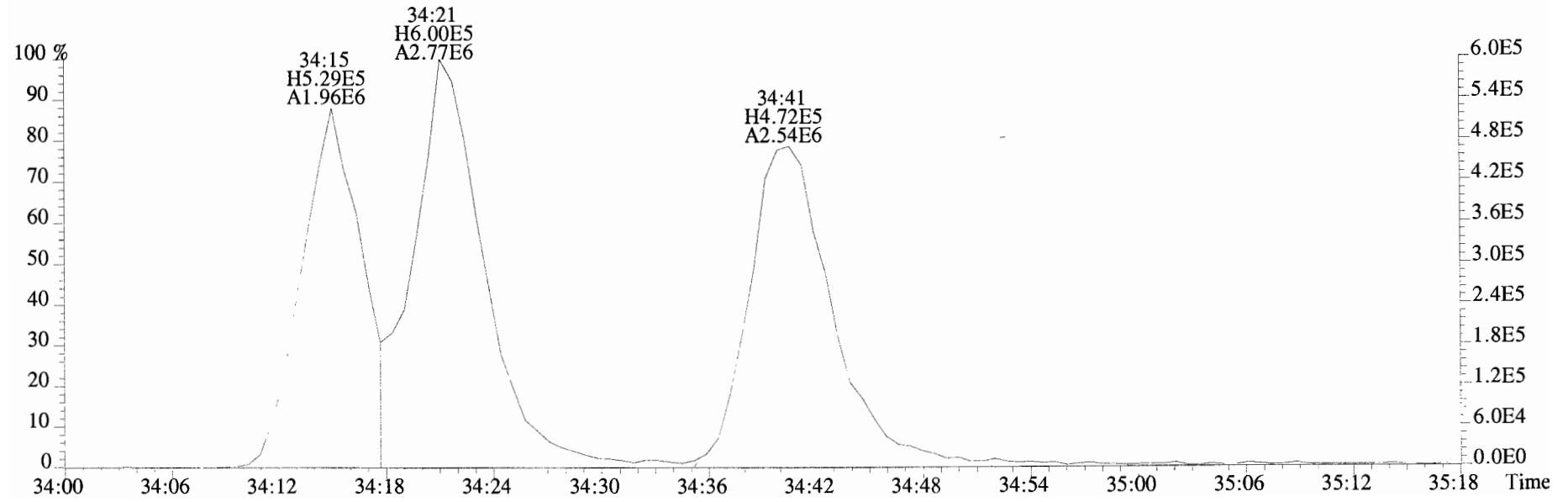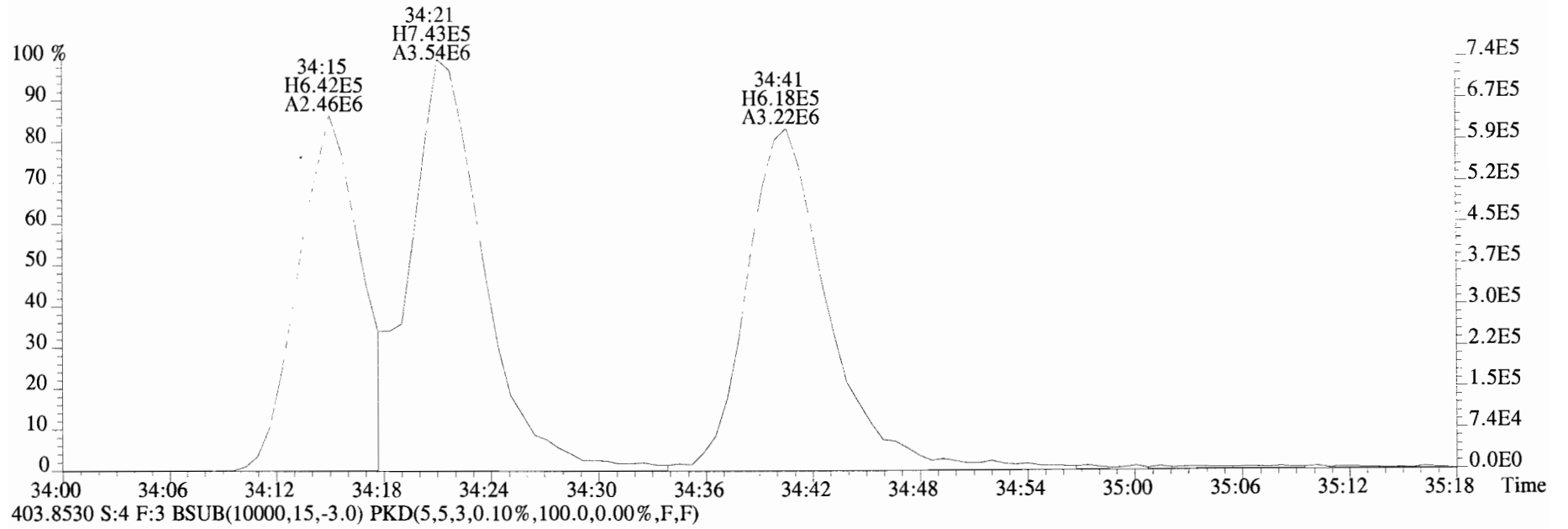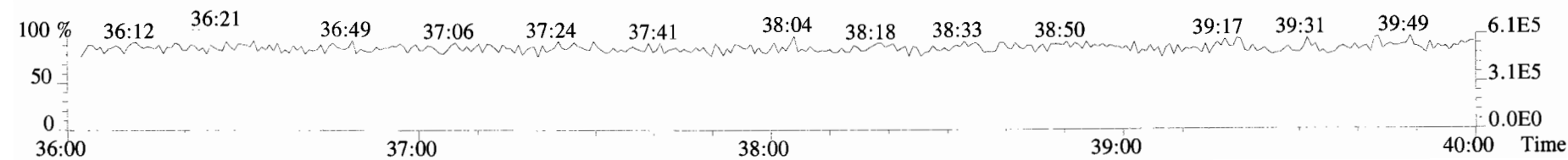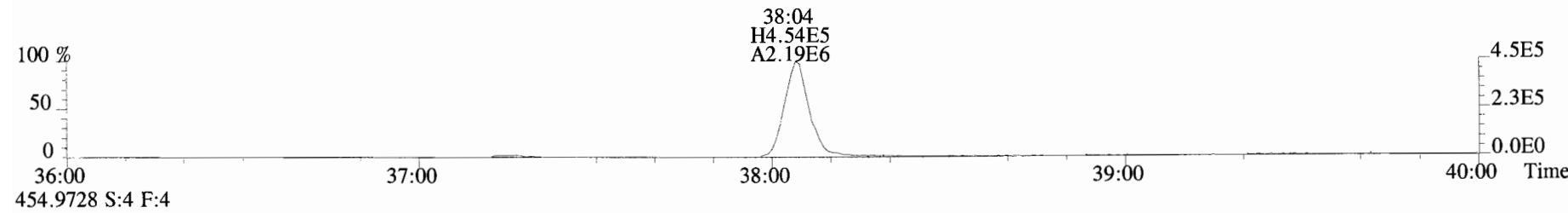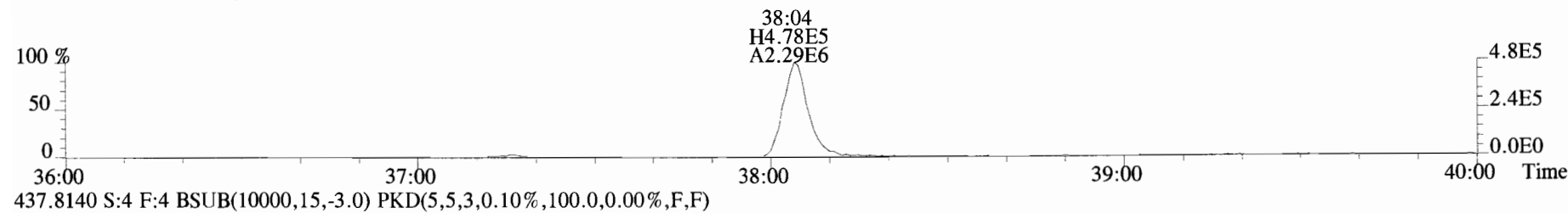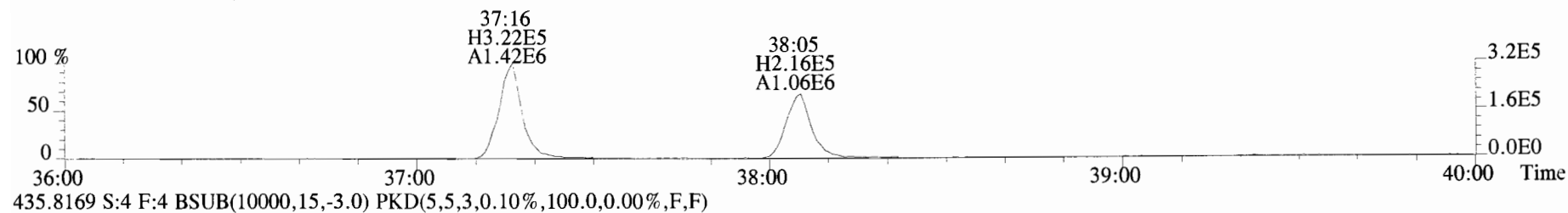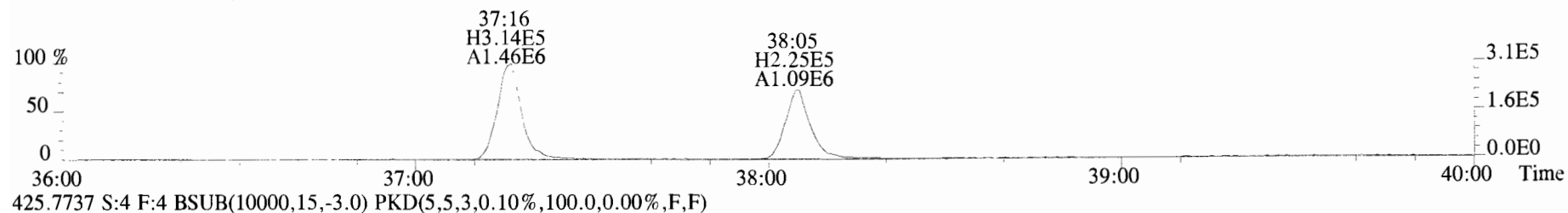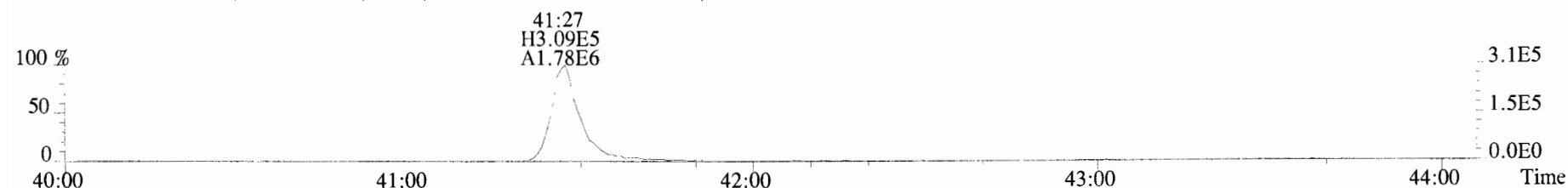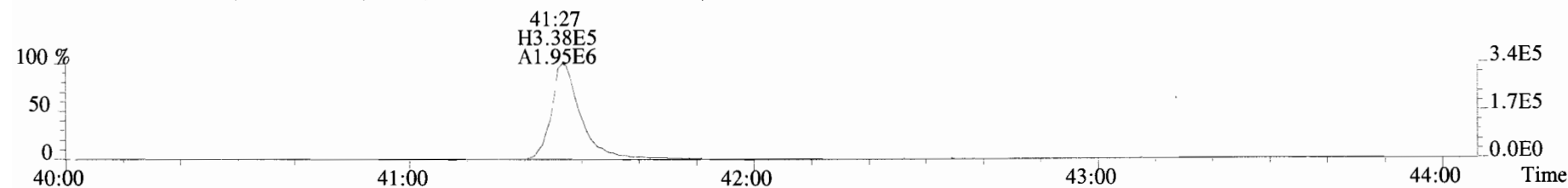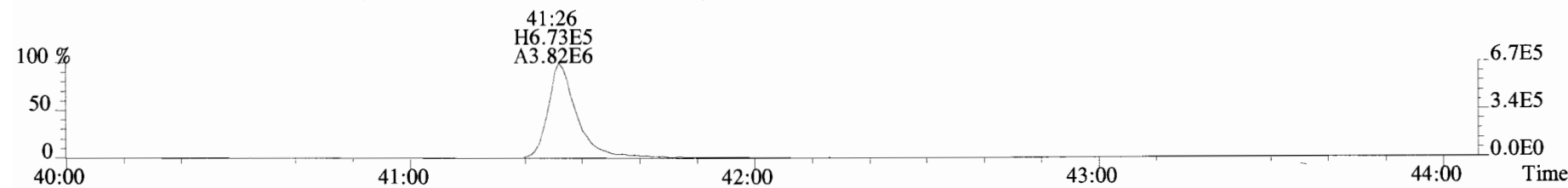327.8847 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
331.9368 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
333.9339 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-211 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
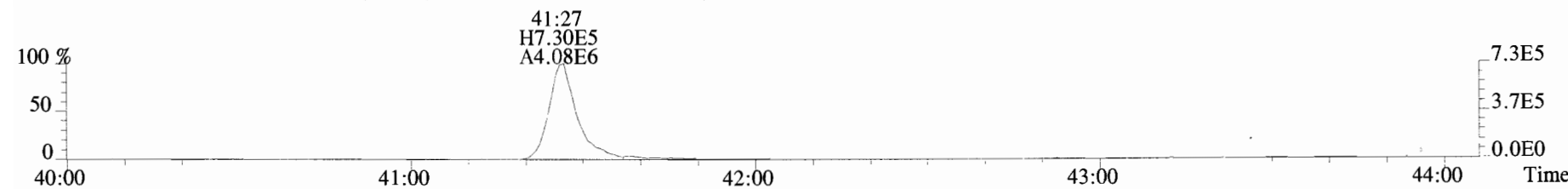353.8576 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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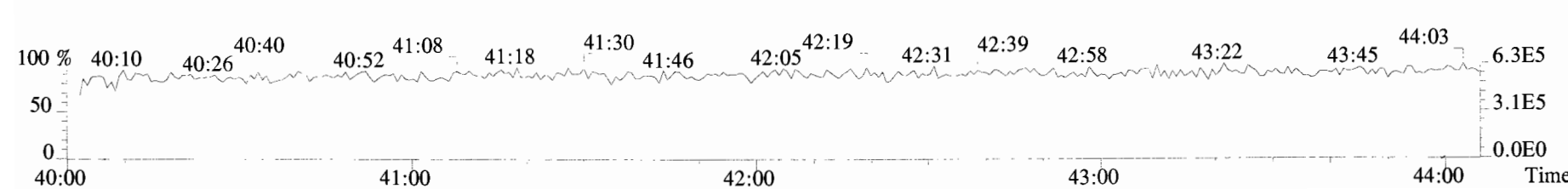

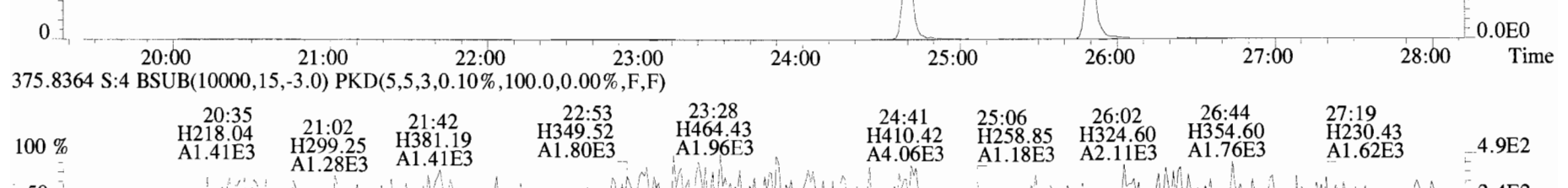365.8978 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

367.8949 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

366.9792 S:4 F:2

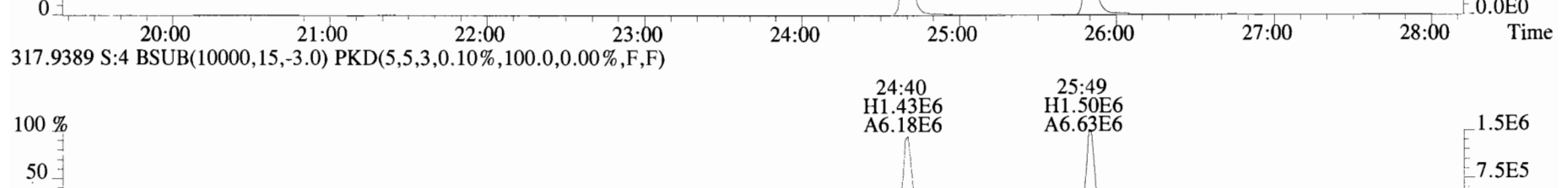389.8156 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

32:40
H5.68E5
A2.13E6

34:22
H3.30E5
A1.58E6

34:41
H2.83E5
A1.52E6

100 %
50
0

5.7E5
2.8E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

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

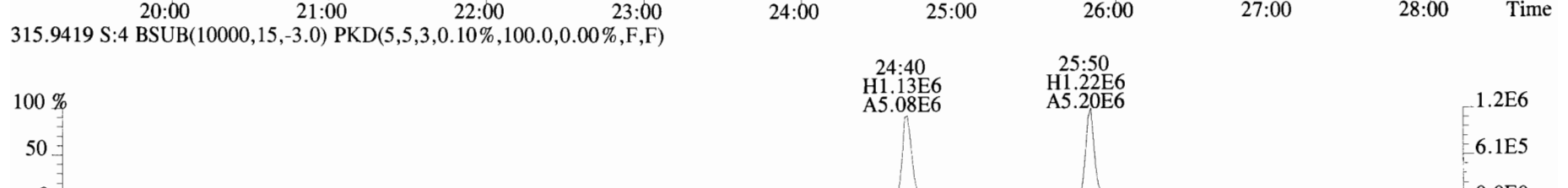32:40
H4.88E5
A1.78E6

34:22
H2.66E5
A1.32E6

34:41
H2.34E5
A1.23E6

100 %
50
0

4.9E5
2.4E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time
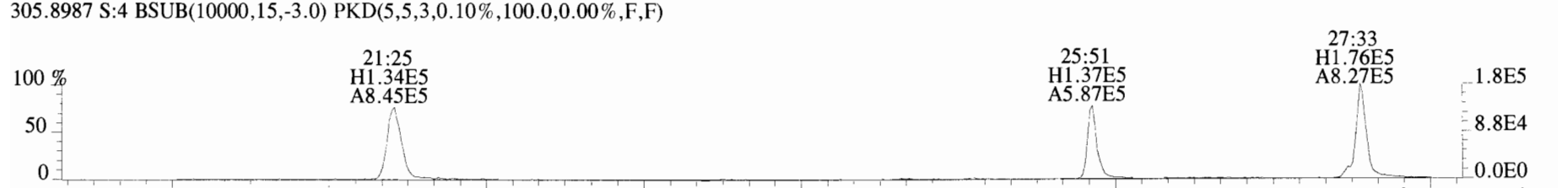
401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

34:21
H7.43E5
A3.54E6

34:41
H6.18E5
A3.22E6

100 %
50
0

7.4E5
3.7E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

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

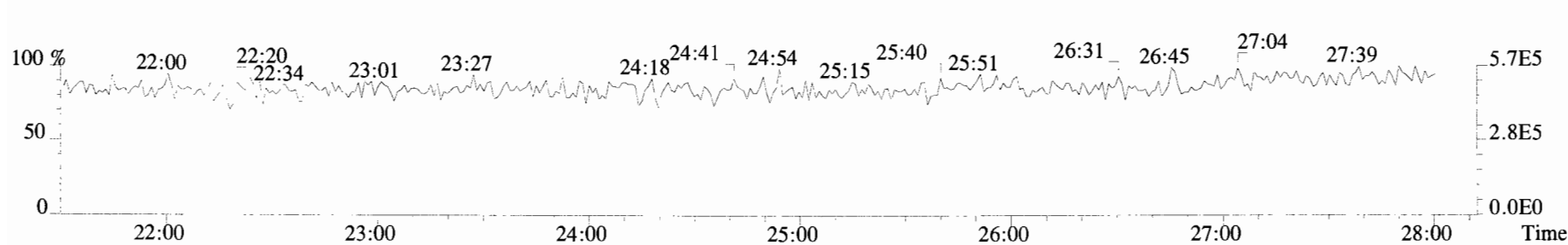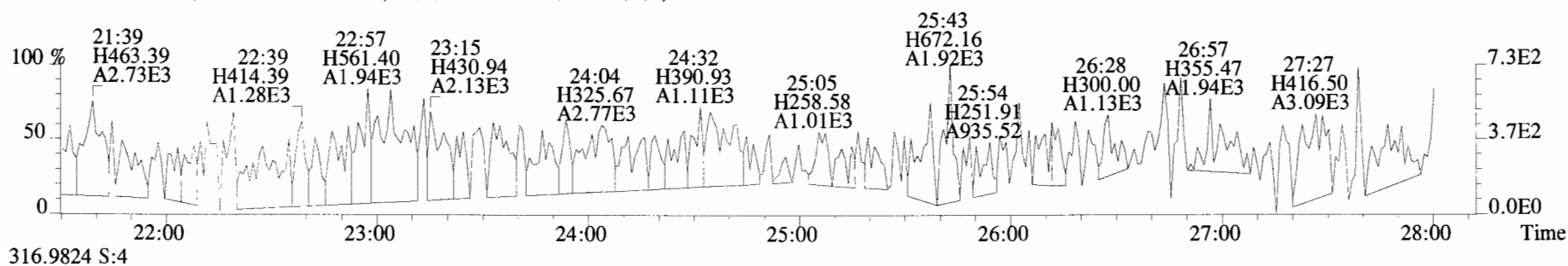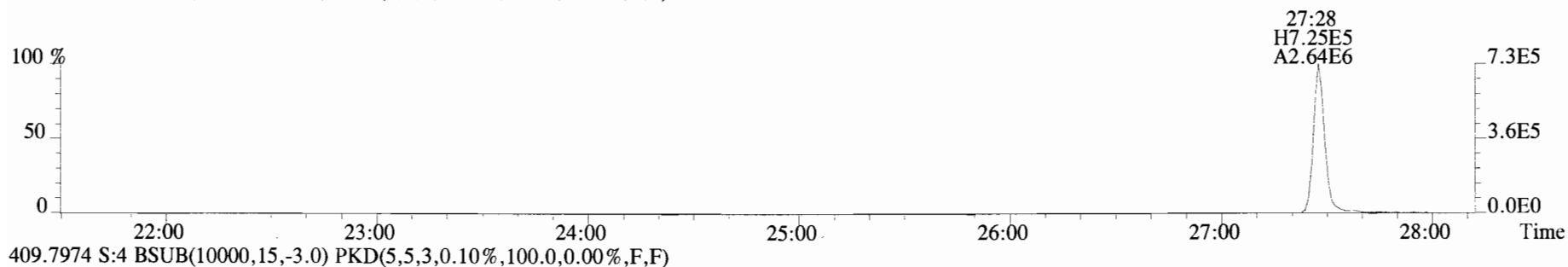34:21
H6.00E5
A2.77E6

34:41
H4.72E5
A2.54E6

100 %
50
0

6.0E5
3.0E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

392.9760 S:4 F:3

32:15   32:37   32:44 33:07   33:19   33:35 33:47   33:55   34:03   34:20   34:42   35:07   35:21   35:45
32:57

100 %
50
0

1.0E6
5.0E5
0.0E0

32:00   33:00   34:00   35:00   36:00   Time

File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
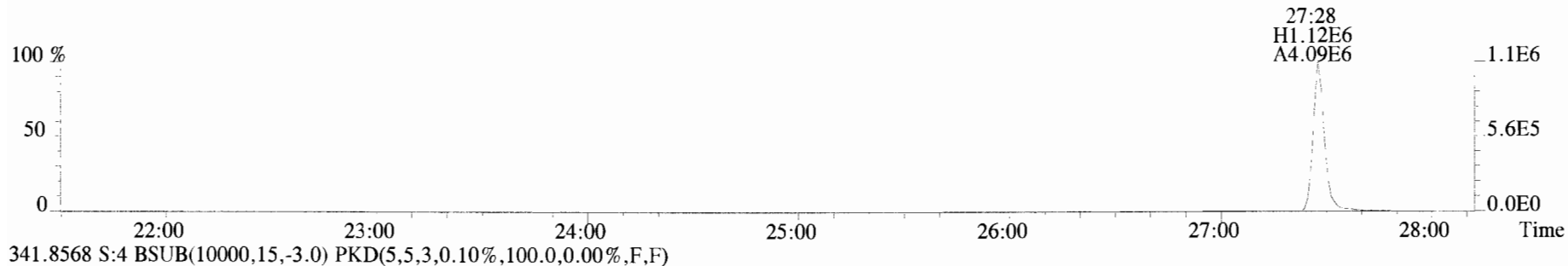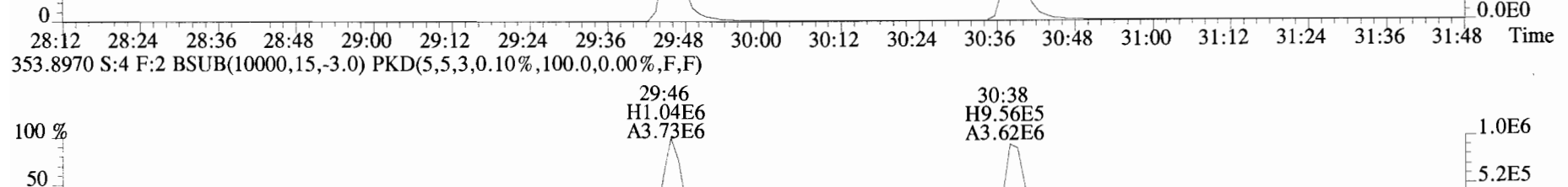401.8559 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5

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

37:16
H3.14E5
A1.46E6

38:05
H2.25E5
A1.09E6

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

37:16
H3.22E5
A1.42E6

38:05
H2.16E5
A1.06E6

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

38:04
H4.78E5
A2.29E6

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

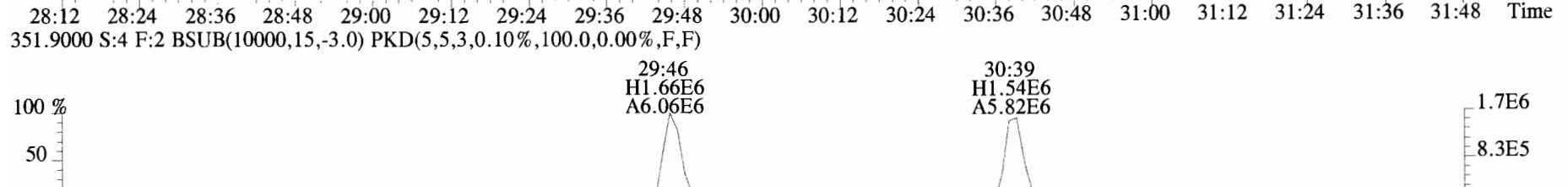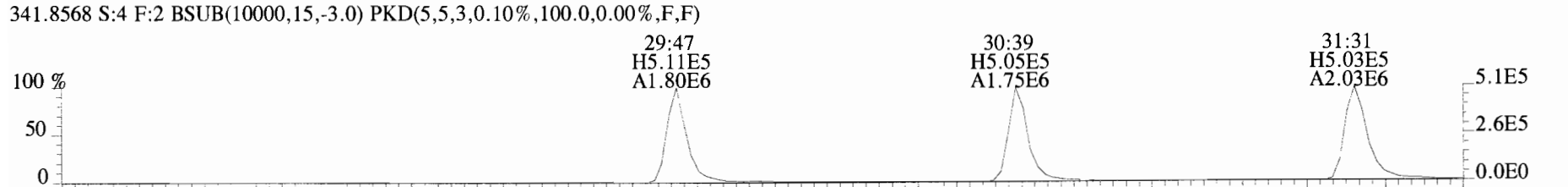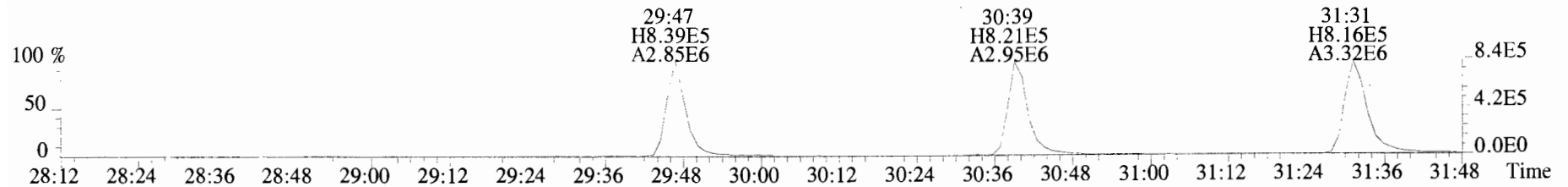38:04
H4.54E5
A2.19E6

454.9728 S:4 F:4

File:191009D1 #1-432 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
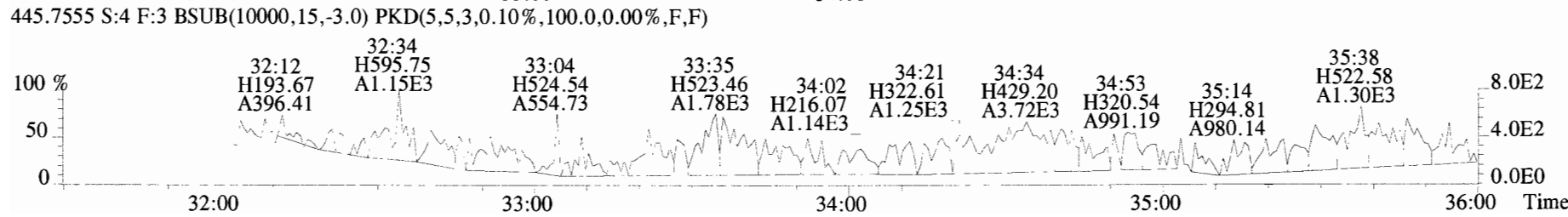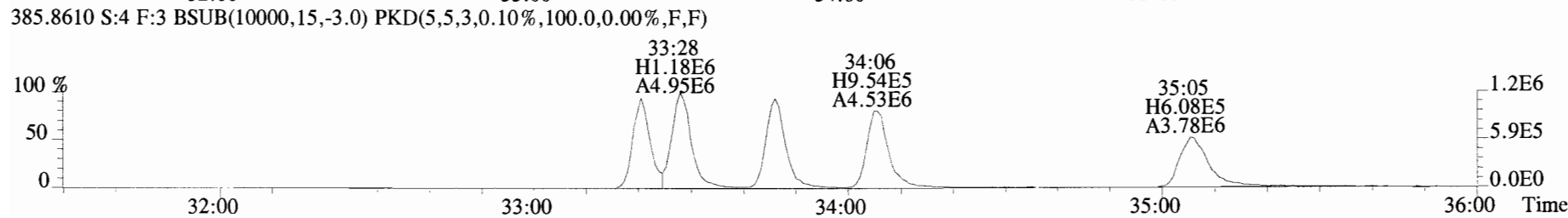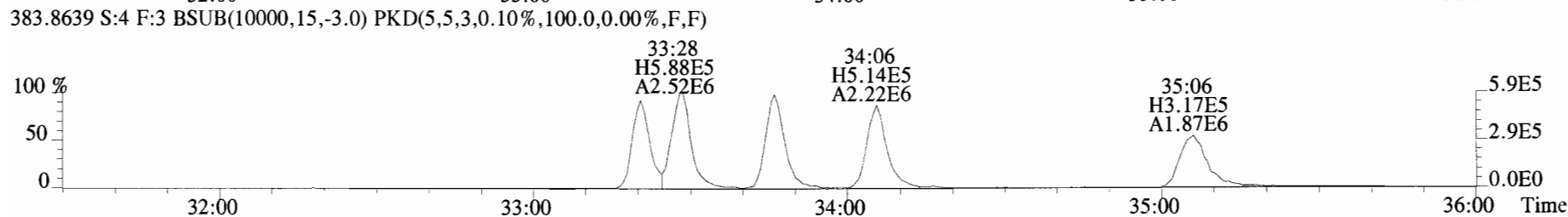457.7377 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:27
H3.09E5
A1.78E6

100 %				3.1E5
50				1.5E5
0				0.0E0

40:00   41:00   42:00   43:00   44:00   Time

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

41:27
H3.38E5
A1.95E6

100 %				3.4E5
50				1.7E5
0				0.0E0

40:00   41:00   42:00   43:00   44:00   Time

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

41:26
H6.73E5
A3.82E6

100 %				6.7E5
50				3.4E5
0				0.0E0

40:00   41:00   42:00   43:00   44:00   Time

471.7750 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:27
H7.30E5
A4.08E6

100 %				7.3E5
50				3.7E5
0				0.0E0

40:00   41:00   42:00   43:00   44:00   Time

454.9728 S:4 F:5

40:10   40:26   40:40   40:52   41:08   41:18   41:30   41:46   42:05   42:19   42:31   42:39   42:58   43:22   43:45   44:03

100 %				6.3E5
50				3.1E5
0				0.0E0

40:00   41:00   42:00   43:00   44:00   Time
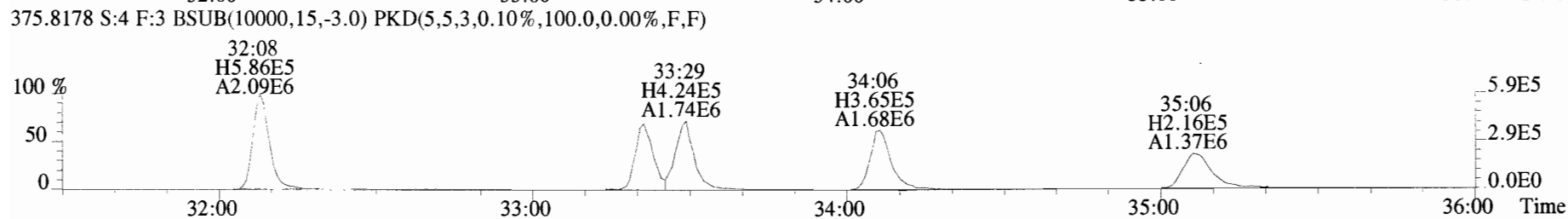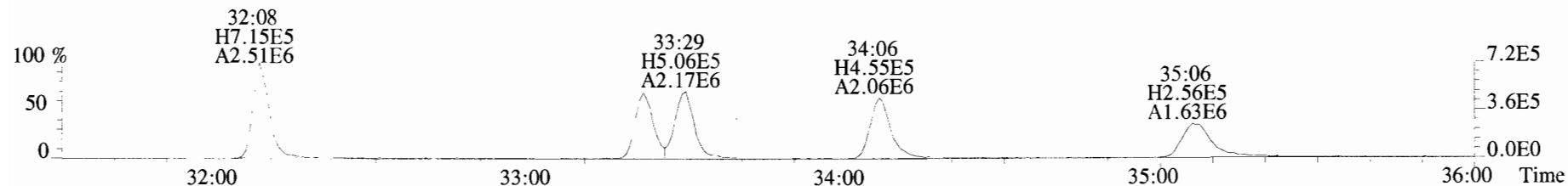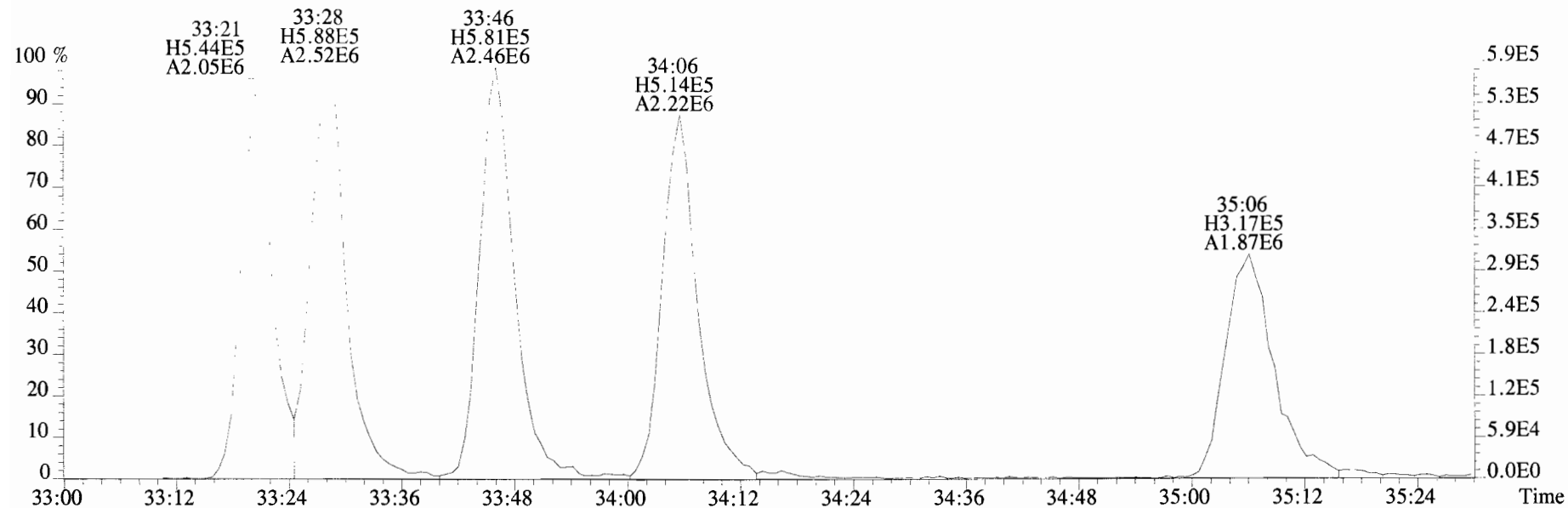
303.9016 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

21:24
H1.07E5
A6.69E5

25:51
H1.04E5
A4.68E5

27:33
H1.37E5
A6.22E5

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

21:25
H1.34E5
A8.45E5

25:51
H1.37E5
A5.87E5

27:33
H1.76E5
A8.27E5

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

24:40
H1.13E6
A5.08E6

25:50
H1.22E6
A5.20E6

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

24:40
H1.43E6
A6.18E6

25:49
H1.50E6
A6.63E6

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

20:35
H218.04
A1.41E3

21:02
H299.25
A1.28E3

21:42
H381.19
A1.41E3

22:53
H349.52
A1.80E3

23:28
H464.43
A1.96E3

24:41
H410.42
A4.06E3

25:06
H258.85
A1.18E3

26:02
H324.60
A2.11E3

26:44
H354.60
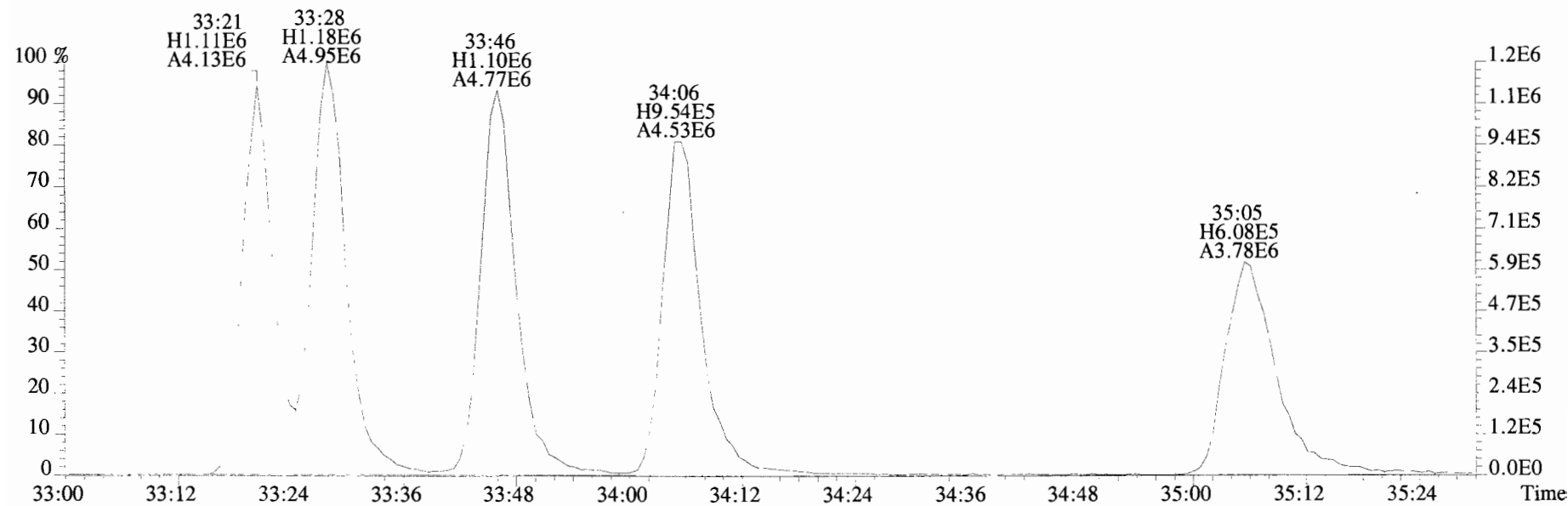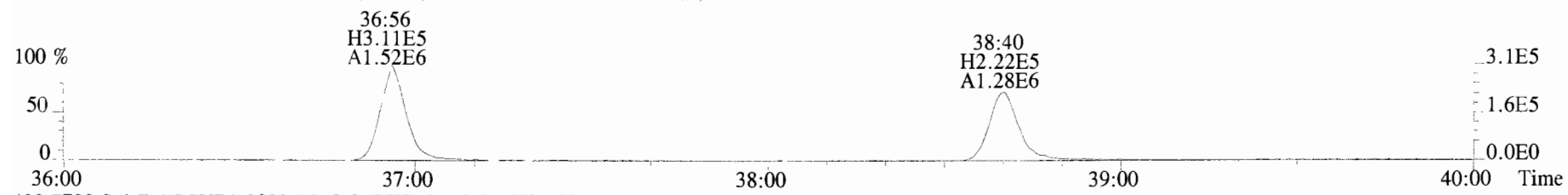A1.76E3

27:19
H230.43
A1.62E3

File:191009D1 #1-513 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
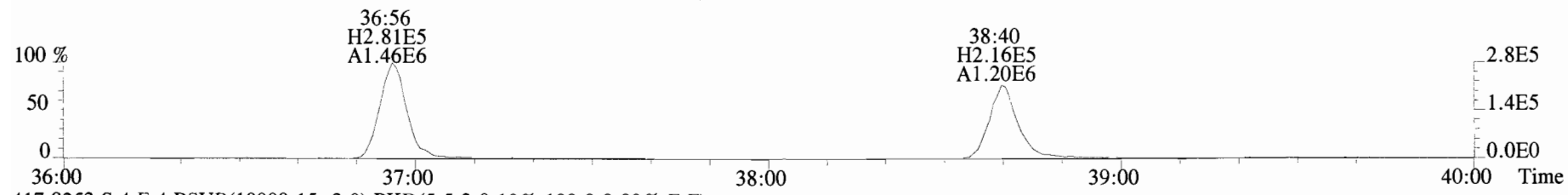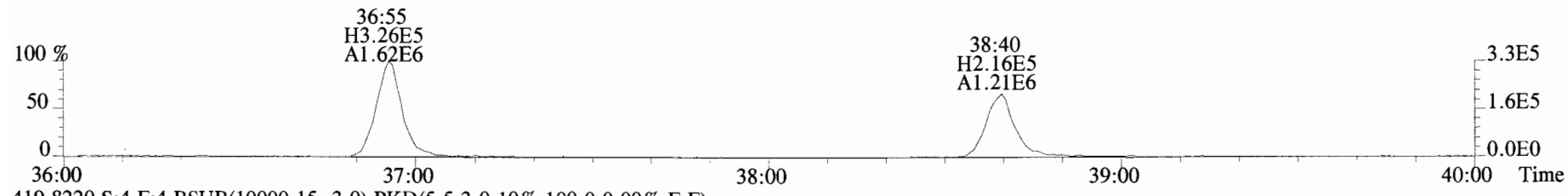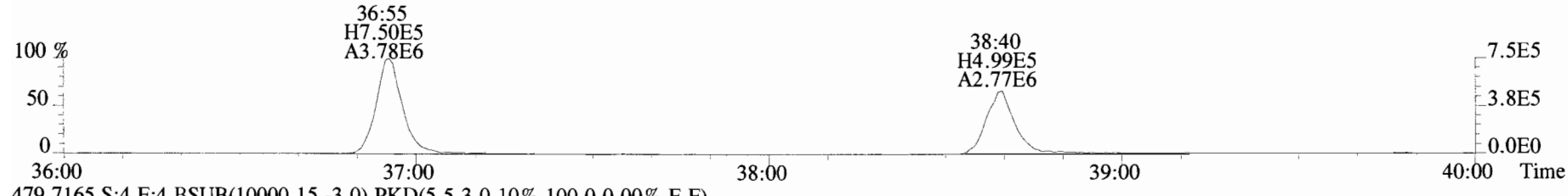339.8597 S:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

339.8597 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

341.8568 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

351.9000 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

353.8970 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

409.7974 S:4 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

373.8207 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

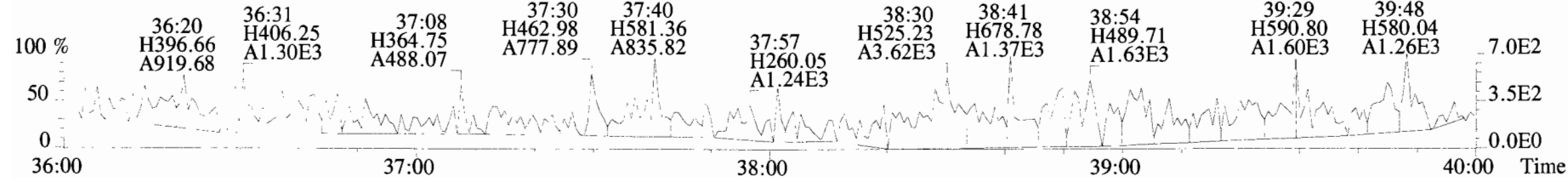375.8178 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

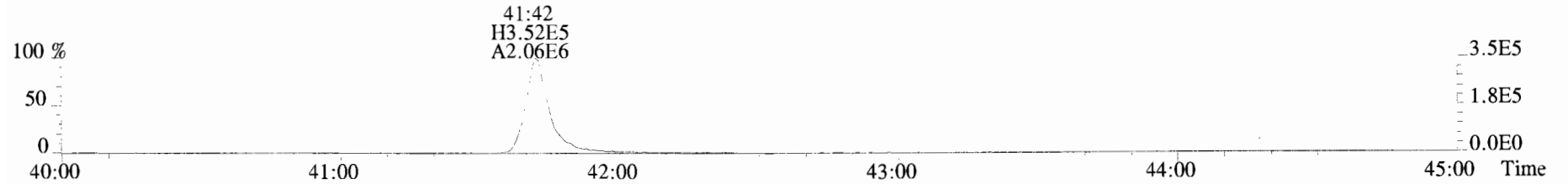383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

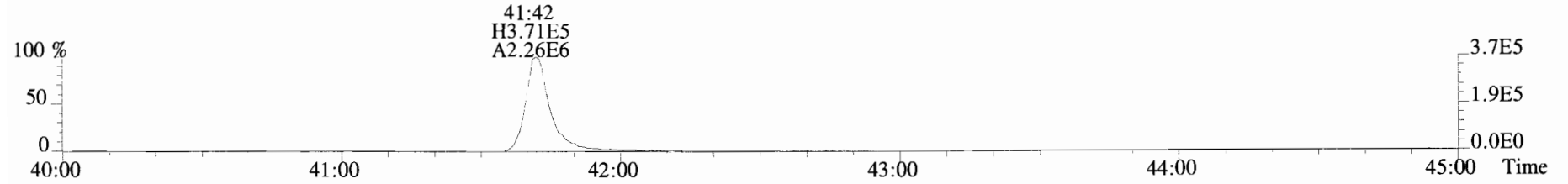385.8610 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
383.8639 S:4 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

33:21
H5.44E5
A2.05E6

33:28
H5.88E5
A2.52E6

33:46
H5.81E5
A2.46E6

34:06
H5.14E5
A2.22E6

35:06
H3.17E5
A1.87E6

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

33:21
H1.11E6
A4.13E6

33:28
H1.18E6
A4.95E6

33:46
H1.10E6
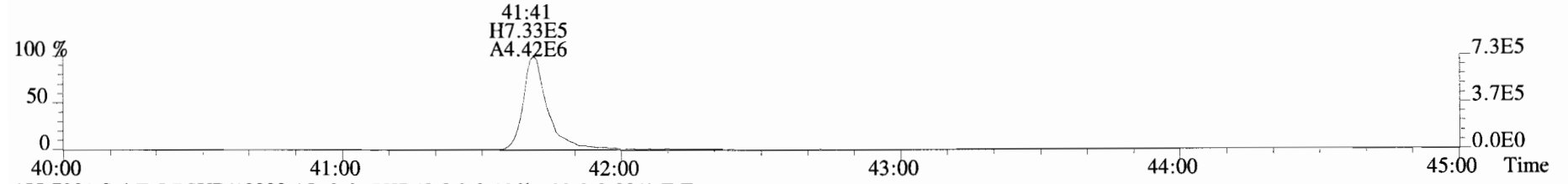A4.77E6

34:06
H9.54E5
A4.53E6

35:05
H6.08E5
A3.78E6

File:191009D1 #1-355 Acq: 9-OCT-2019 18:36:09 GC EI+ Voltage SIR Autospec-UltimaE
Sample#4 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-4 1613 CS3 19C2204 Exp:OCDD_DB5
407.7818 S:4 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

441.7428 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
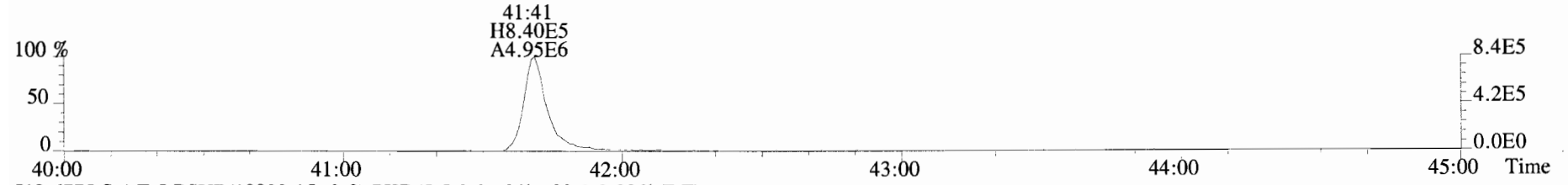

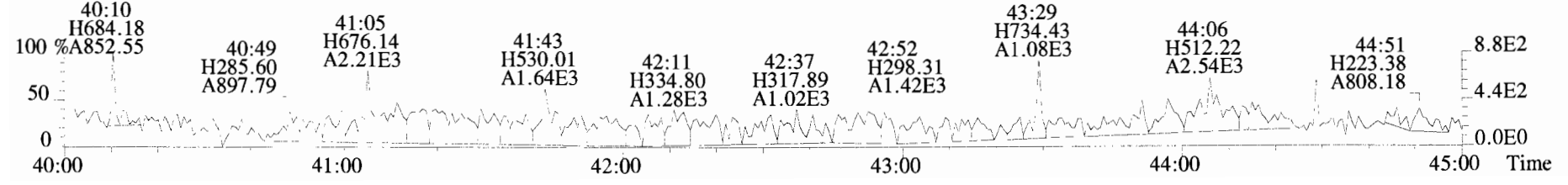443.7398 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

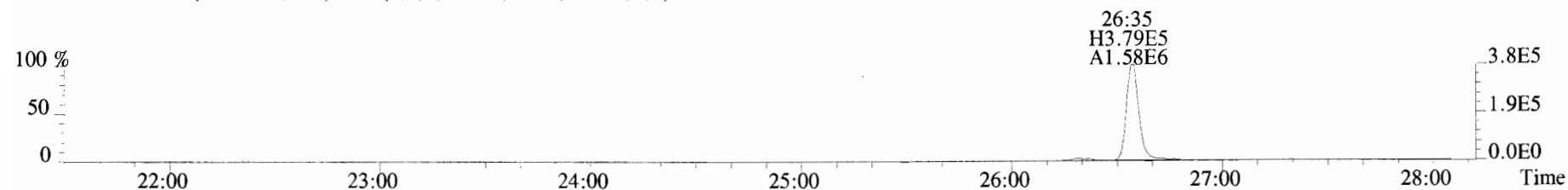453.7831 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

455.7801 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
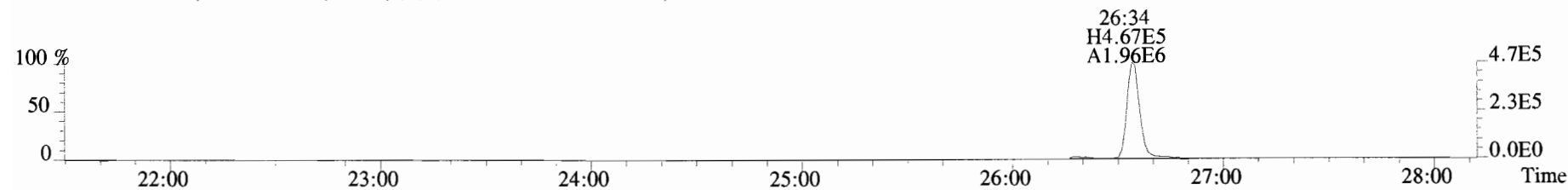

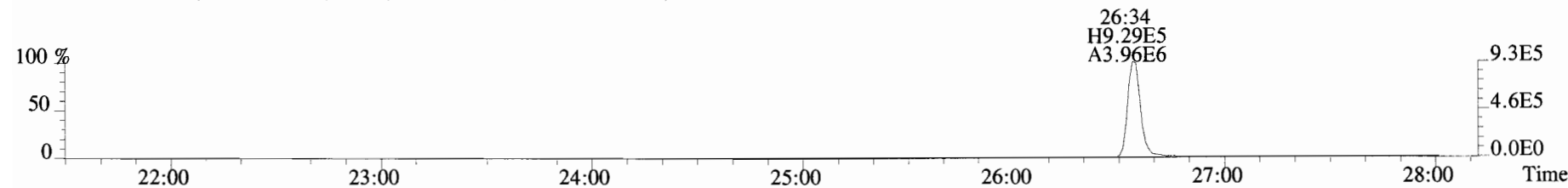513.6775 S:4 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
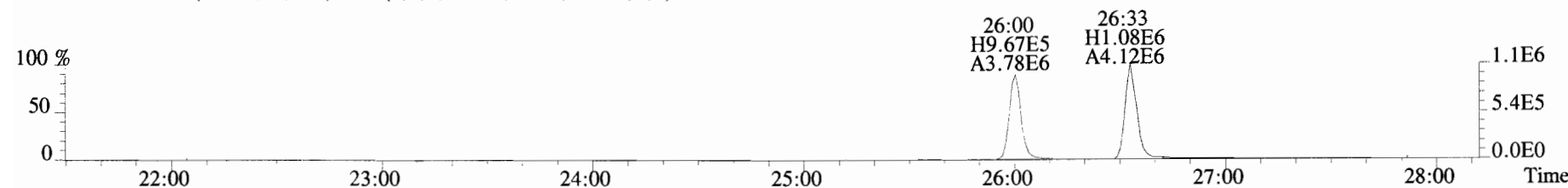319.8965 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:35
H3.79E5
A1.58E6

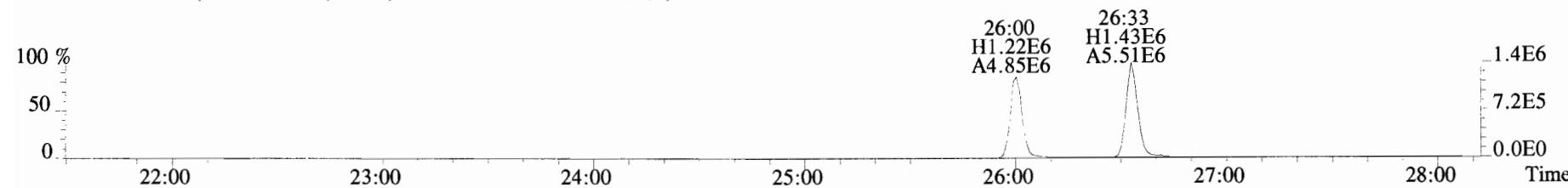321.8936 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:34
H4.67E5
A1.96E6

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

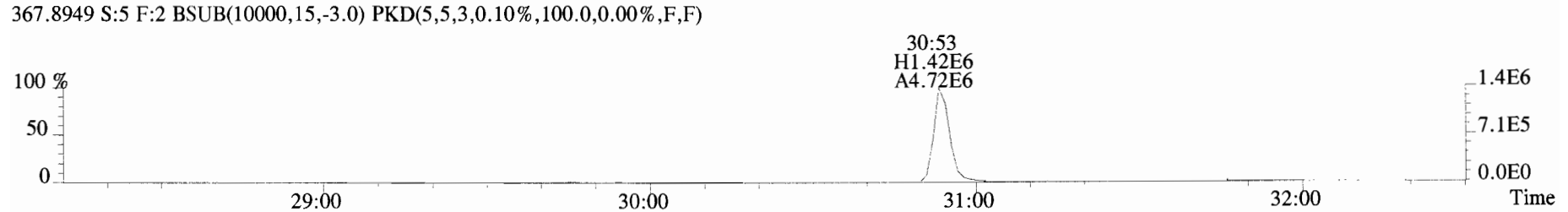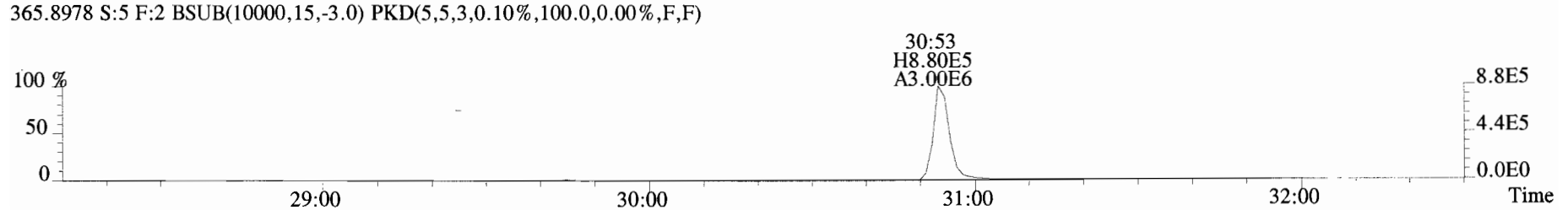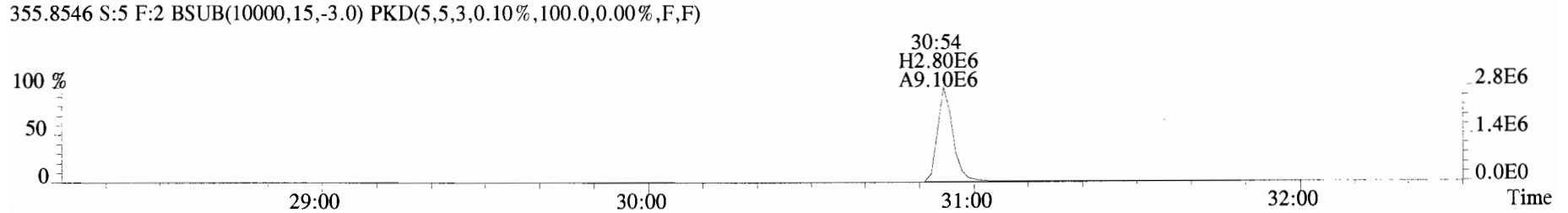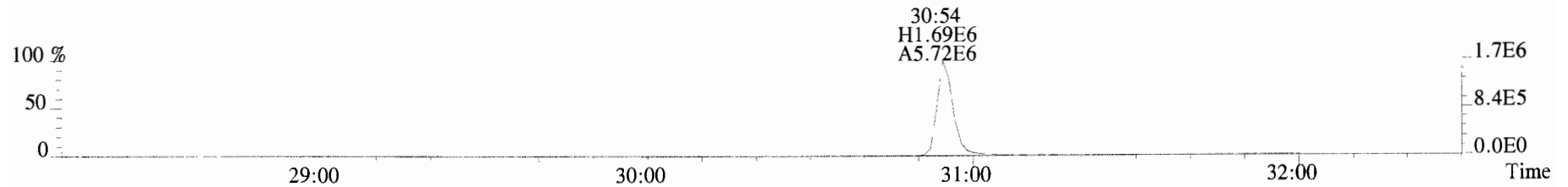26:34
H9.29E5
A3.96E6

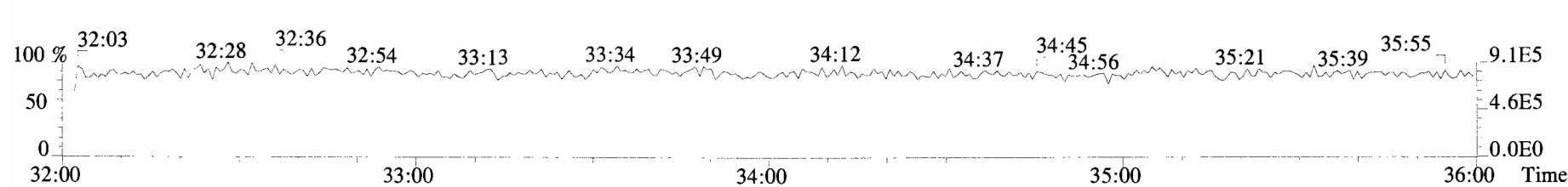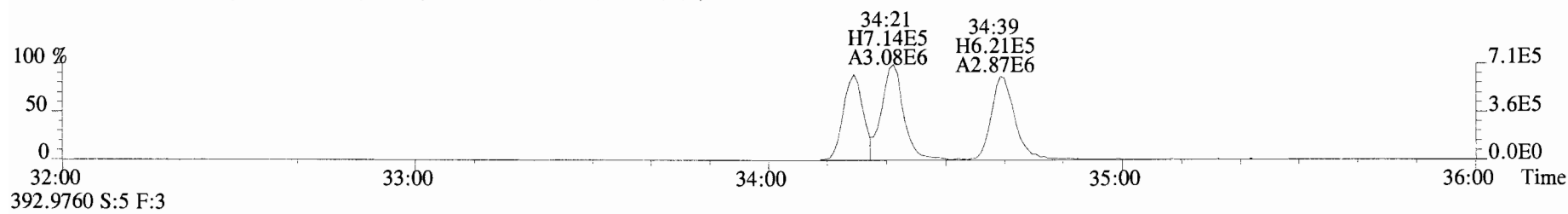331.9368 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:00
H9.67E5
A3.78E6

26:33
H1.08E6
A4.12E6

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

26:00
H1.22E6
A4.85E6

26:33
H1.43E6
A5.51E6

353.8576 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
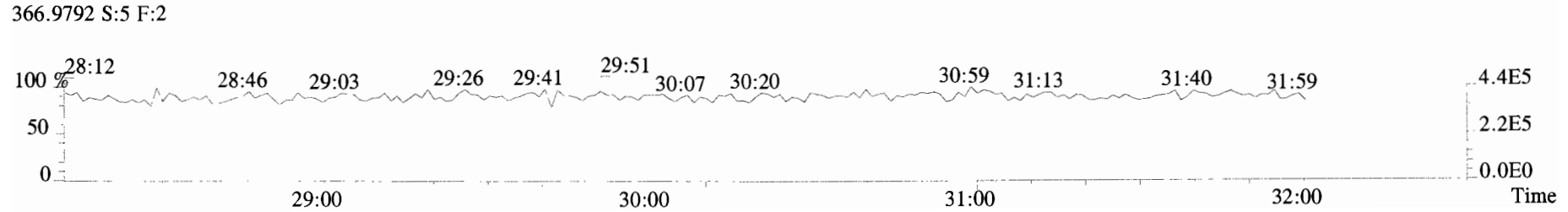
30:54
H1.69E6
A5.72E6

100 %
50
0

1.7E6
8.4E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:54
H2.80E6
A9.10E6

100 %
50
0

2.8E6
1.4E6
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:53
H8.80E5
A3.00E6

100 %
50
0

8.8E5
4.4E5
0.0E0

29:00   30:00   31:00   32:00   Time

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

30:53
H1.42E6
A4.72E6

100 %
50
0

1.4E6
7.1E5
0.0E0

29:00   30:00   31:00   32:00   Time

366.9792 S:5 F:2

100 %
28:12   28:46   29:03   29:26 29:41   29:51   30:07 30:20   30:59 31:13   31:40   31:59
50
0

4.4E5
2.2E5
0.0E0

29:00   30:00   31:00   32:00   Time

File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
389.8156 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

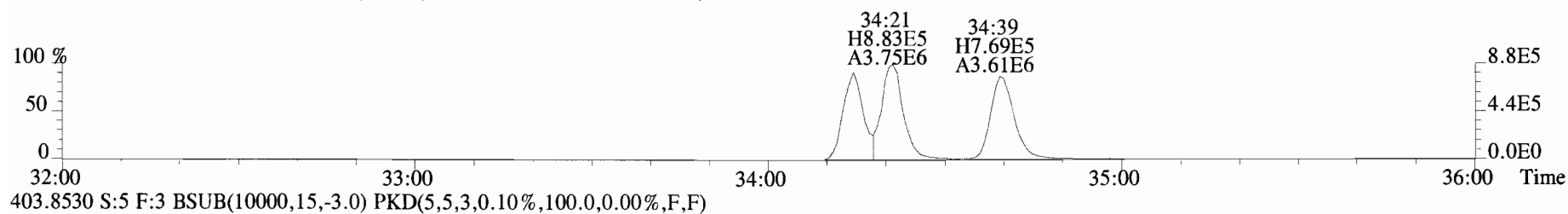401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

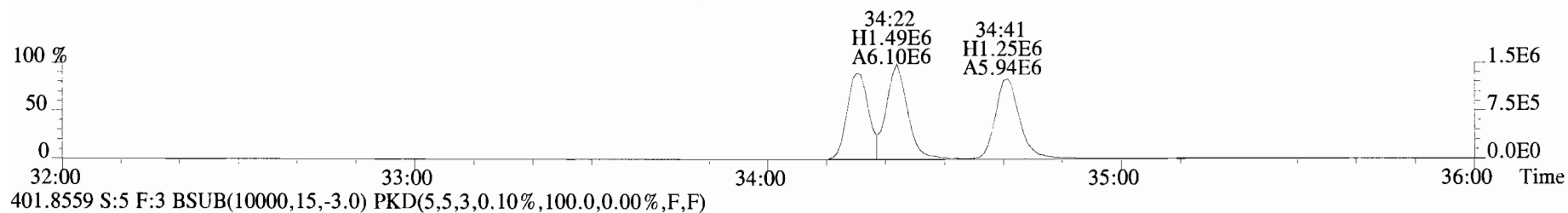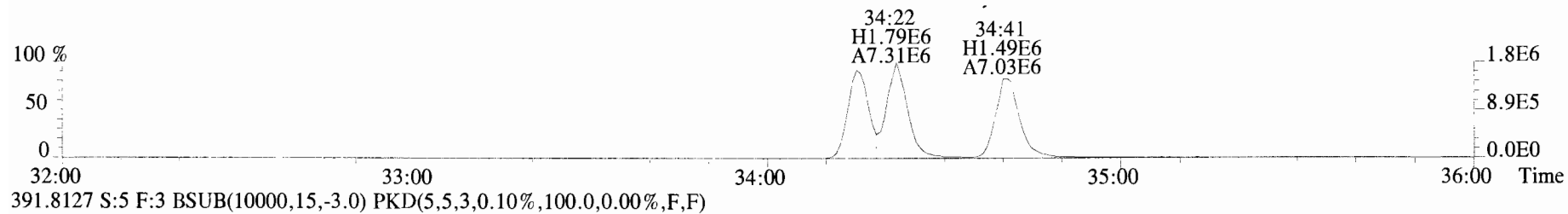401.8559 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

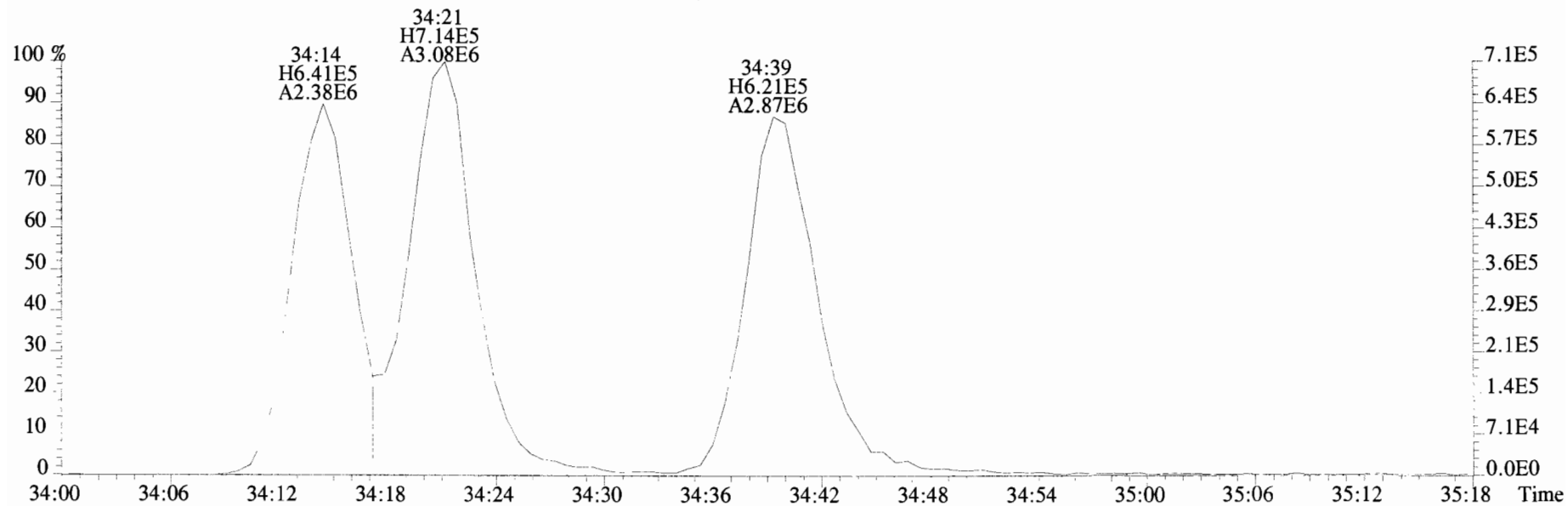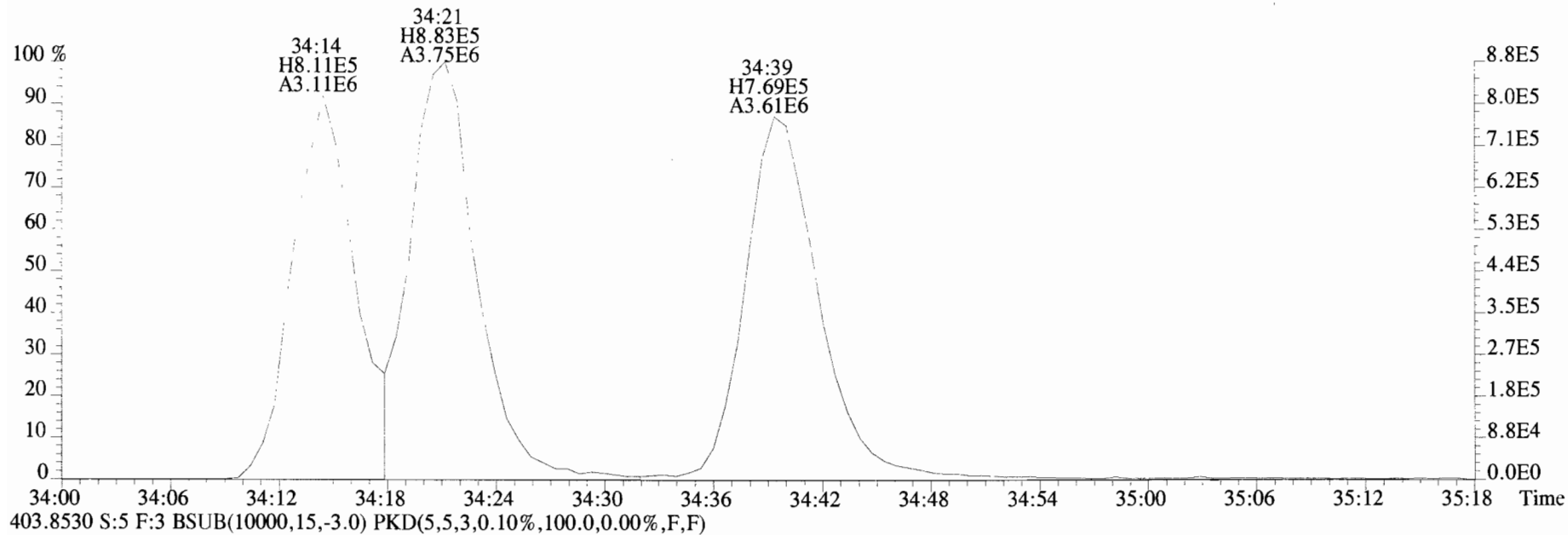403.8530 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
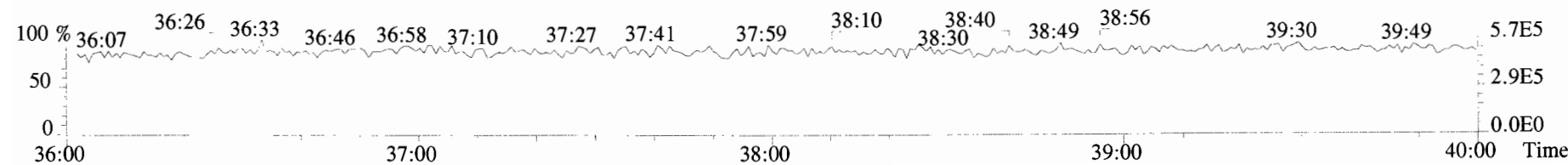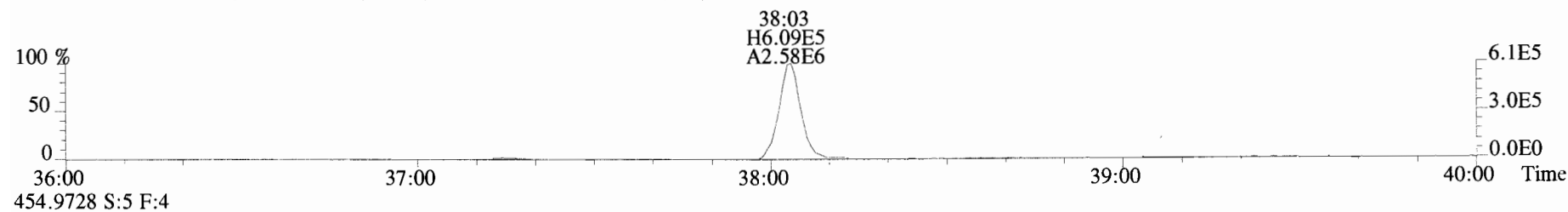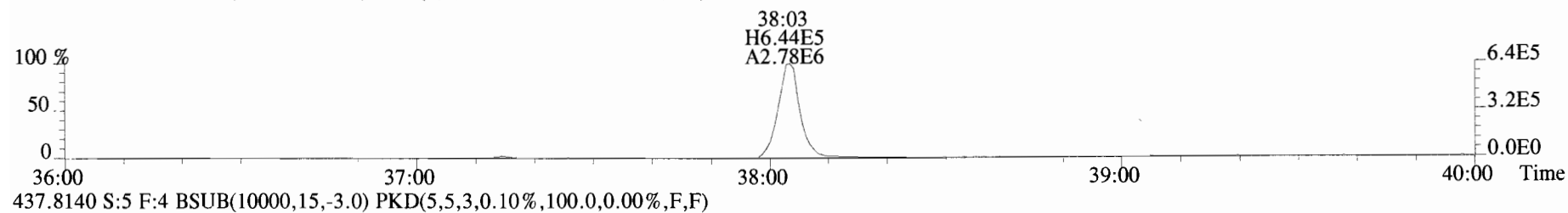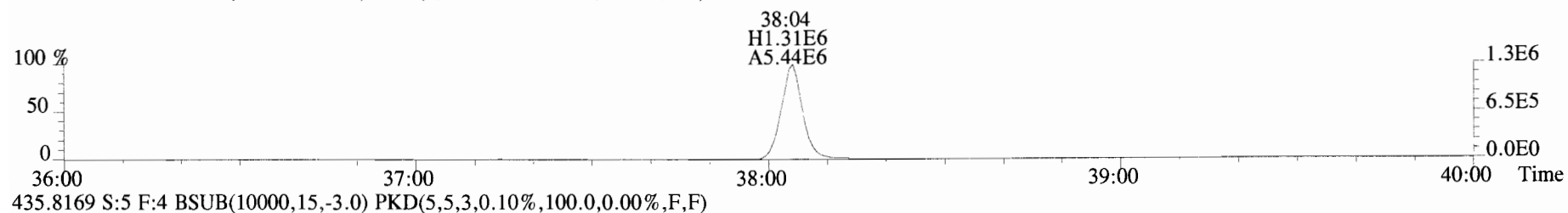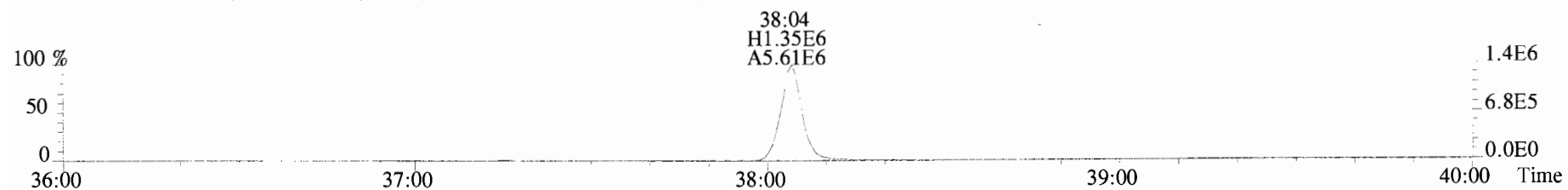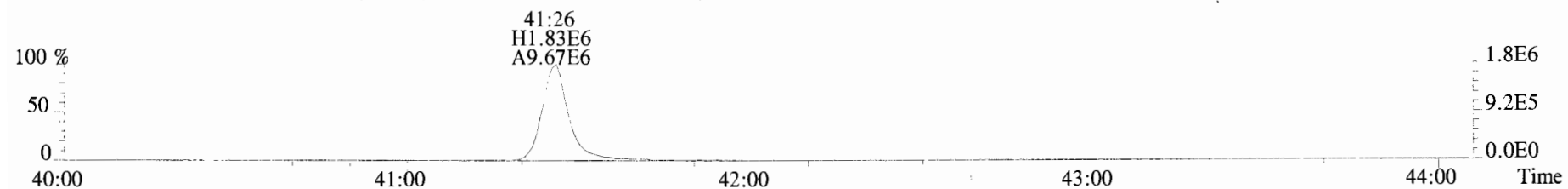423.7767 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

38:04
H1.35E6
A5.61E6

100 %

50

0

36:00   37:00   38:00   39:00   40:00   Time

1.4E6

6.8E5

0.0E0

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

38:04
H1.31E6
A5.44E6

100 %

50

0

36:00   37:00   38:00   39:00   40:00   Time

1.3E6

6.5E5

0.0E0

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

38:03
H6.44E5
A2.78E6

100 %

50

0

36:00   37:00   38:00   39:00   40:00   Time

6.4E5

3.2E5

0.0E0

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

38:03
H6.09E5
A2.58E6

100 %

50

0

36:00   37:00   38:00   39:00   40:00   Time

6.1E5

3.0E5

0.0E0

454.9728 S:5 F:4

100 % 36:07   36:26   36:33   36:46   36:58   37:10   37:27   37:41   37:59   38:10   38:40   38:49   38:56   39:30   39:49

                                                                          38:30

50

0

36:00   37:00   38:00   39:00   40:00   Time

5.7E5

2.9E5

0.0E0

457.7377 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:26
H1.83E6
A9.67E6

1.8E6 / 9.2E5 / 0.0E0

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

41:26
H1.96E6
A1.06E7

2.0E6 / 9.8E5 / 0.0E0

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

41:25
H9.60E5
A4.81E6

9.6E5 / 4.8E5 / 0.0E0

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

41:25
H9.73E5
A5.26E6

9.7E5 / 4.9E5 / 0.0E0

454.9728 S:5 F:5

41:43 42:12 43:02 44:03
40:06 40:25 41:07 41:21 41:54 42:22 42:48 43:11 43:31 43:45
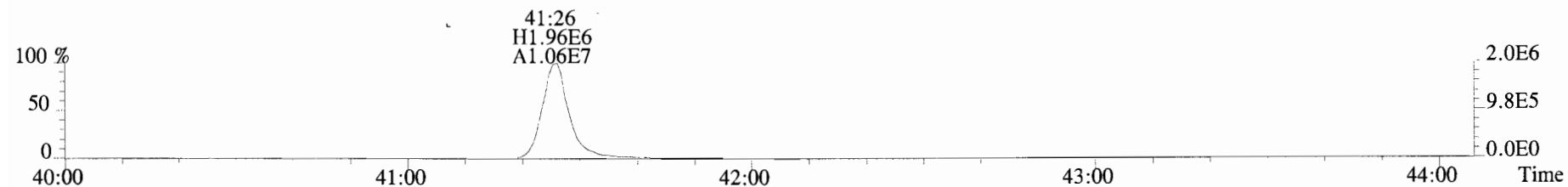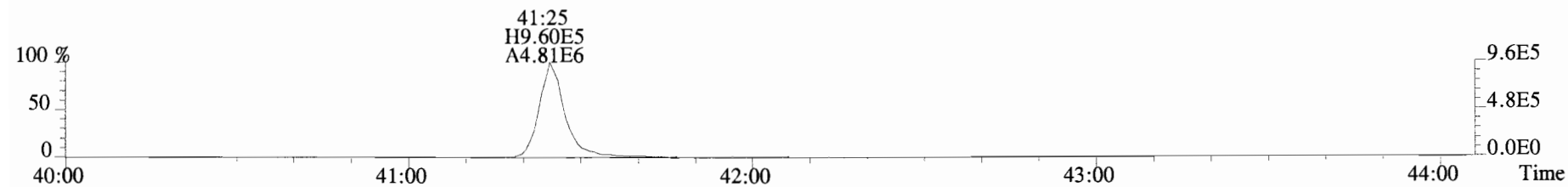
5.8E5 / 2.9E5 / 0.0E0

File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
303.9016 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

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

File:191009D1 #1-514 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
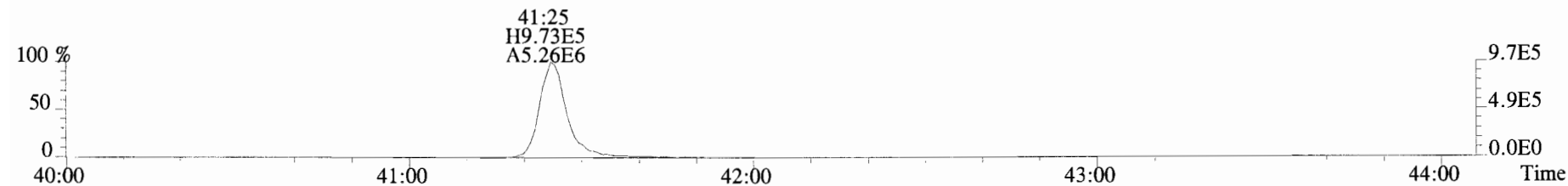339.8597 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

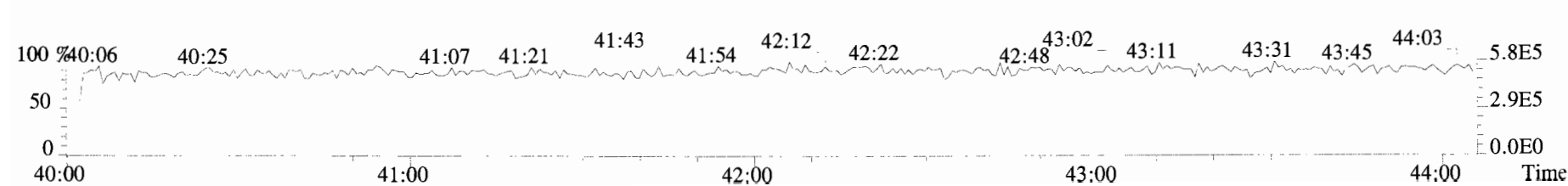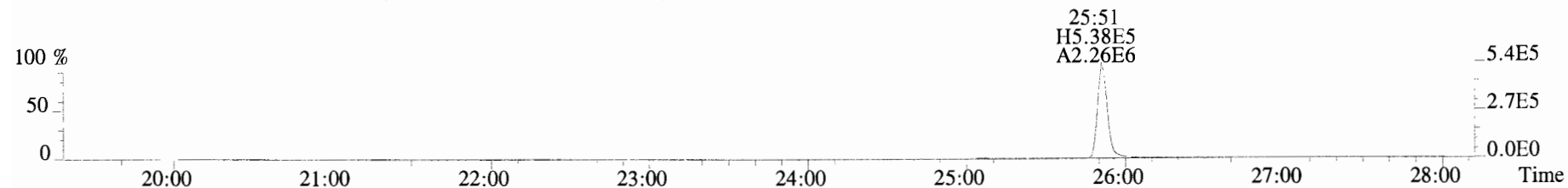409.7974 S:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

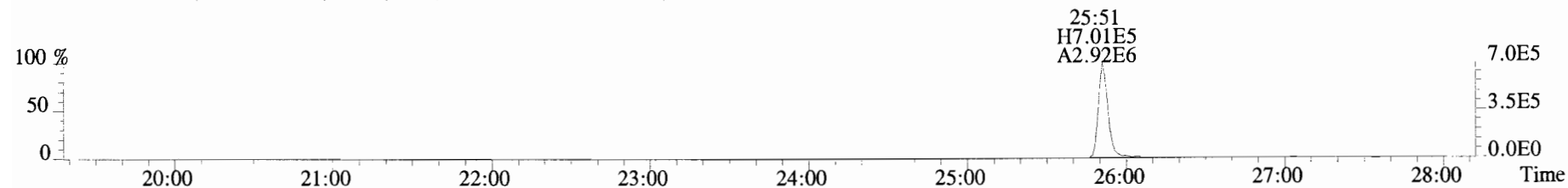316.9824 S:5

File:191009D1 #1-210 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
339.8597 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

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

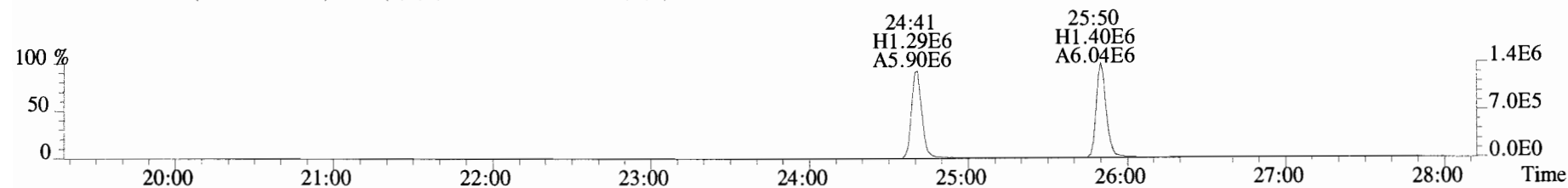409.7974 S:5 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
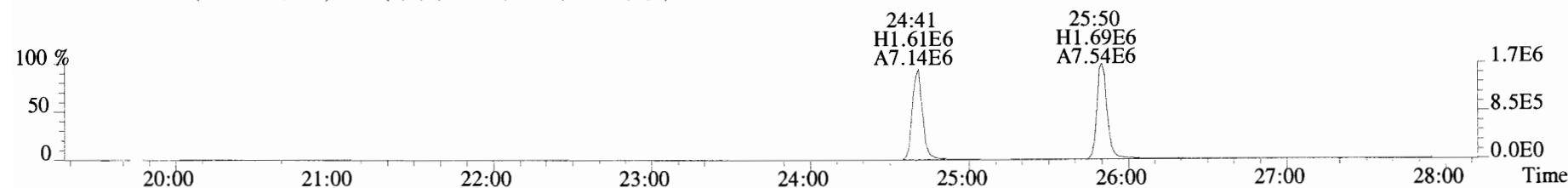373.8207 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

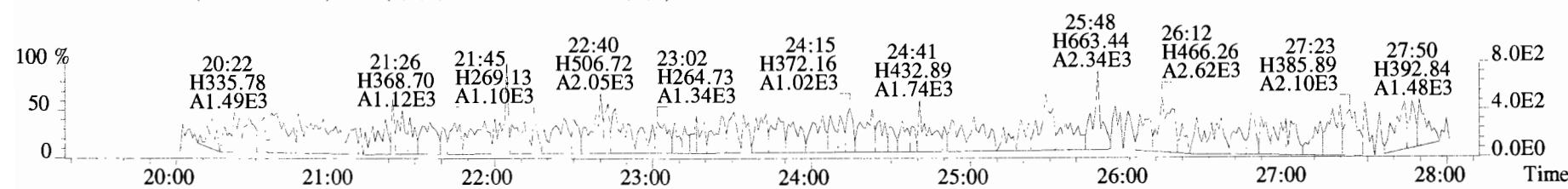375.8178 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
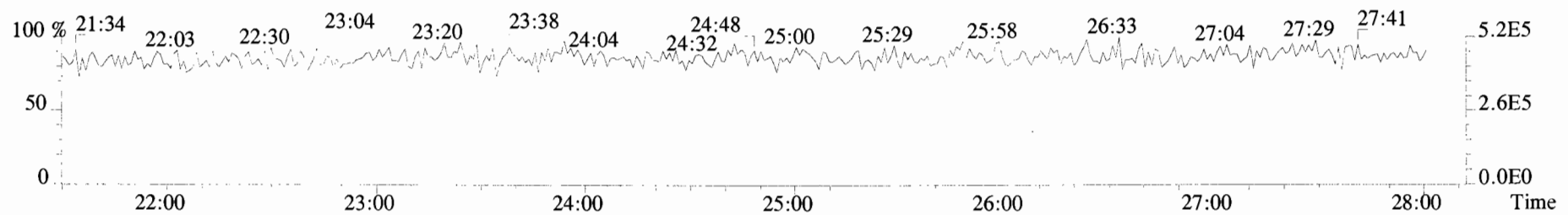

383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

File:191009D1 #1-355 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
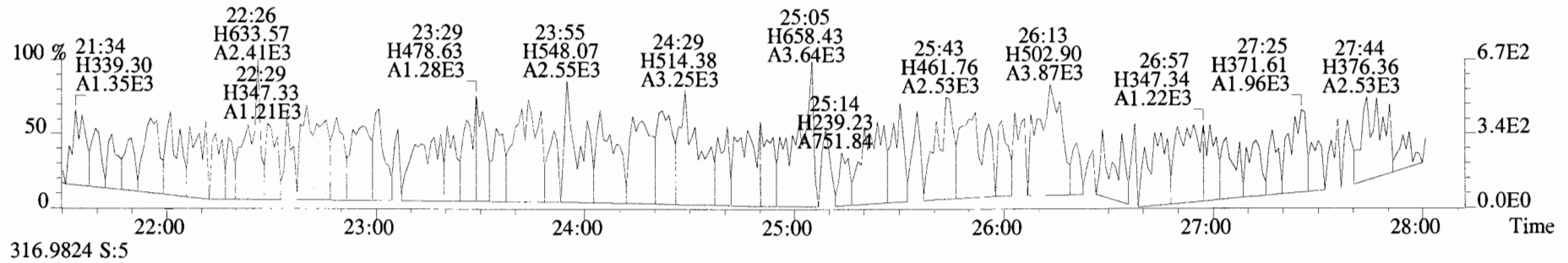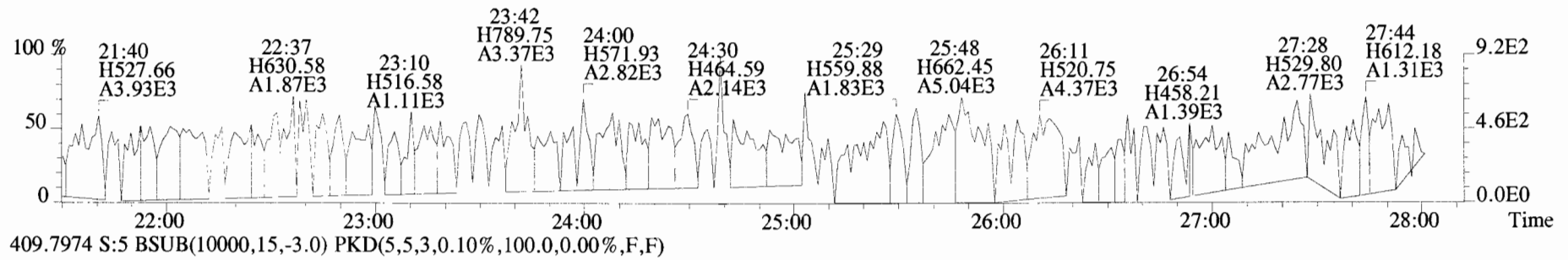383.8639 S:5 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

File:191009D1 #1-356 Acq: 9-OCT-2019 19:23:46 GC EI+ Voltage SIR Autospec-UltimaE
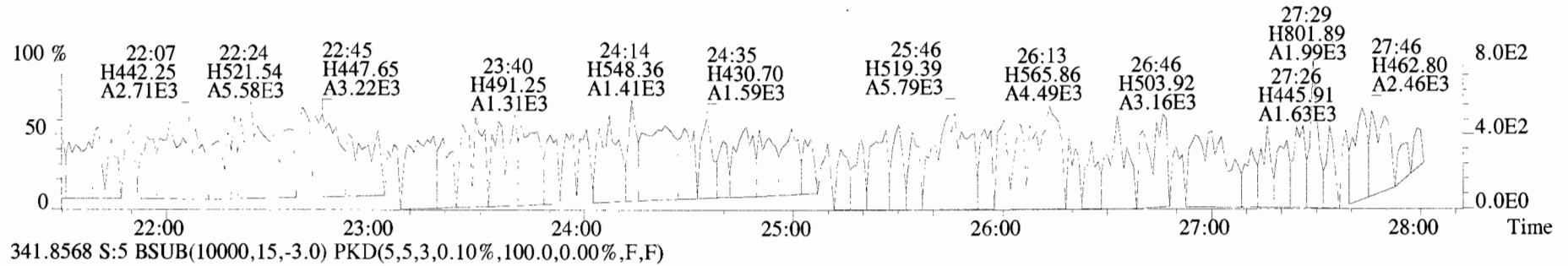Sample#5 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-5 1613 CS4 19C2205 Exp:OCDD_DB5
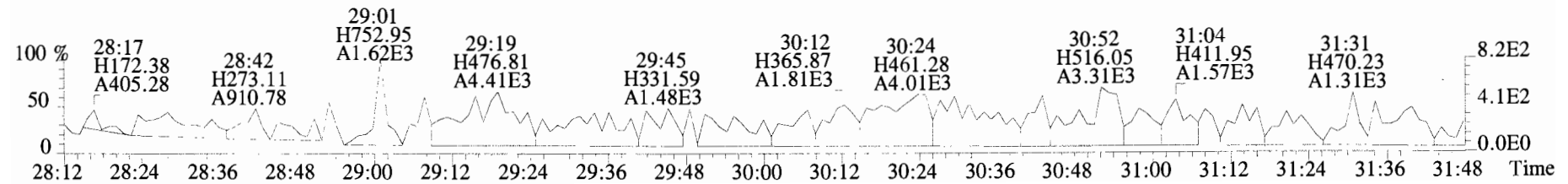407.7818 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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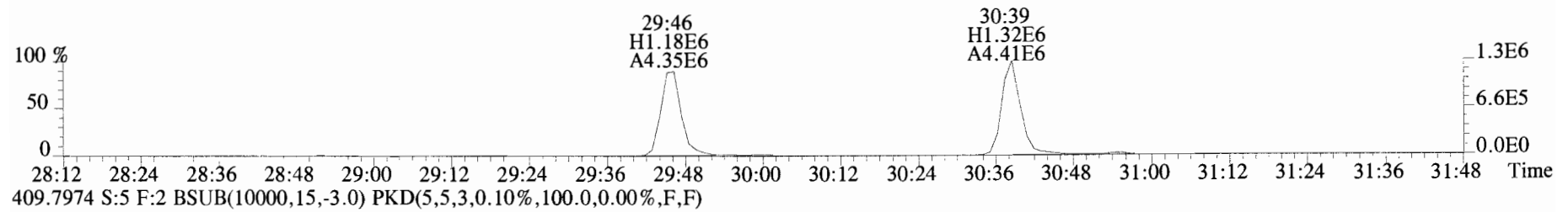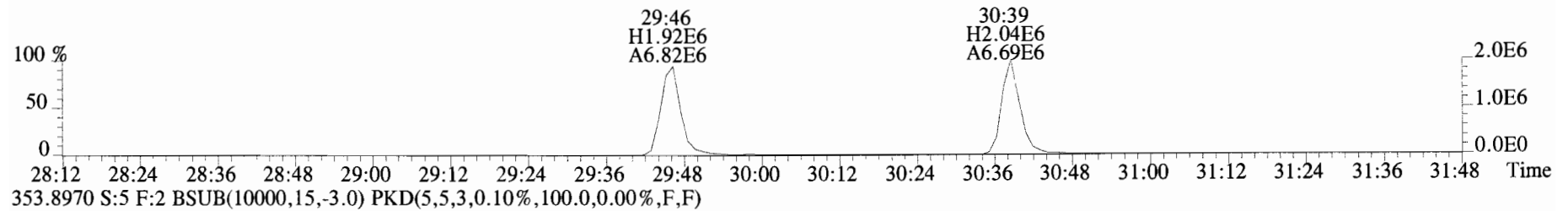

417.8253 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
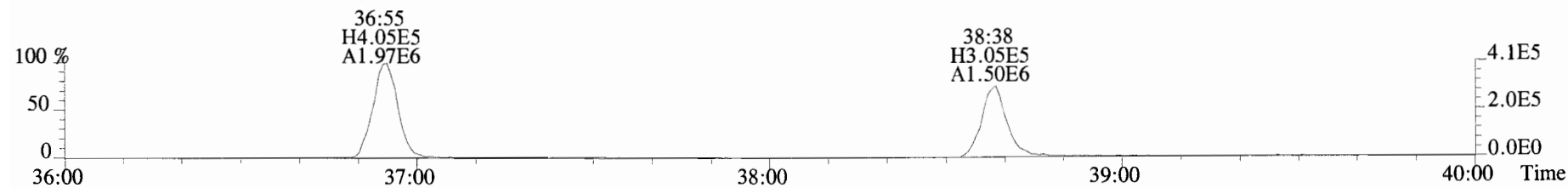
419.8220 S:5 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

441.7428 S:5 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:41
H2.15E6
A1.15E7

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

41:40
H2.35E6
A1.27E7

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

41:40
H1.10E6
A5.77E6

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

41:40
H1.24E6
A6.39E6

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

40:29
H365.03
A2.03E3

40:58
H486.18
A2.20E3

41:28
H353.54
A793.07

41:43
H346.21
A828.70

42:25
H548.31
A1.64E3

42:54
H526.15
A883.27

43:21
H710.33
A1.06E3

43:34
H467.16
A998.33

44:04
H266.00
A1.13E3

44:34
H538.74
A872.97

319.8965 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:34
H3.41E6
A1.26E7

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

26:34
H4.21E6
A1.54E7

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

26:34
H5.85E6
A2.09E7

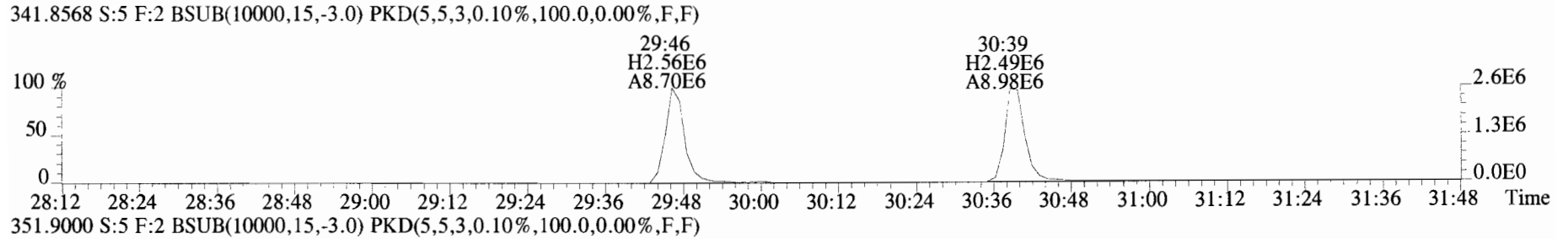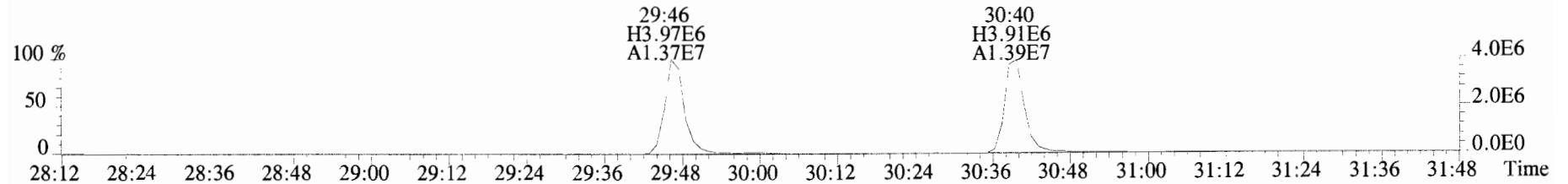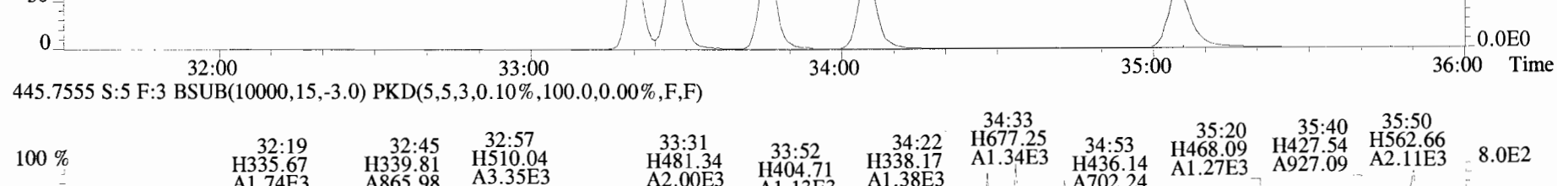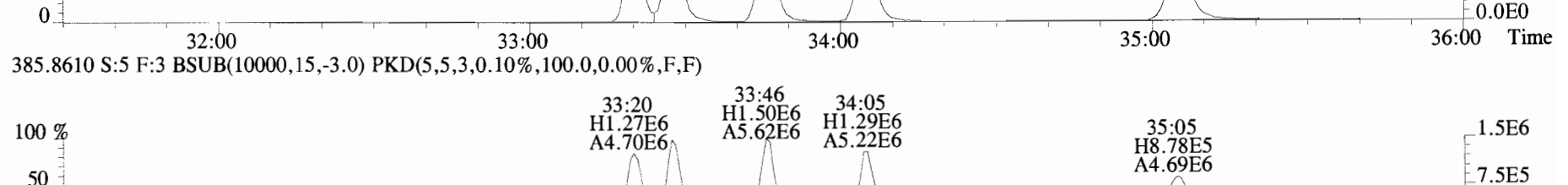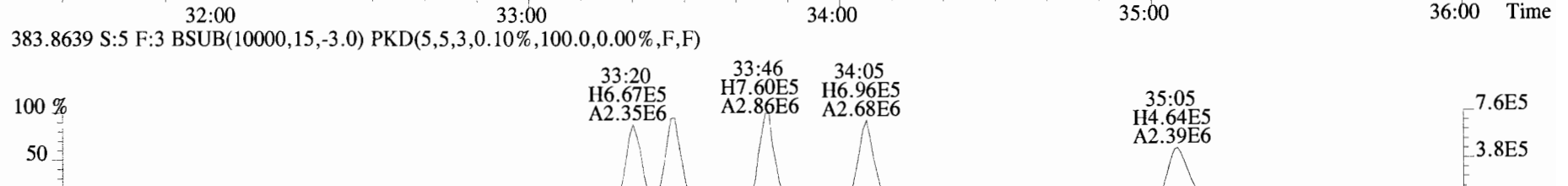331.9368 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

26:01
H1.00E6
A3.73E6

26:33
H1.16E6
A4.02E6

333.9339 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
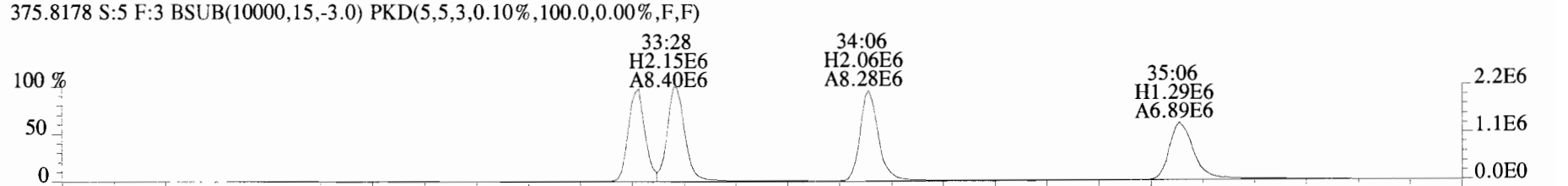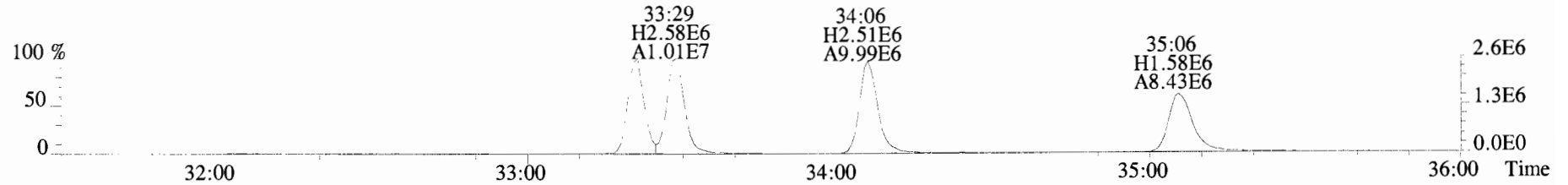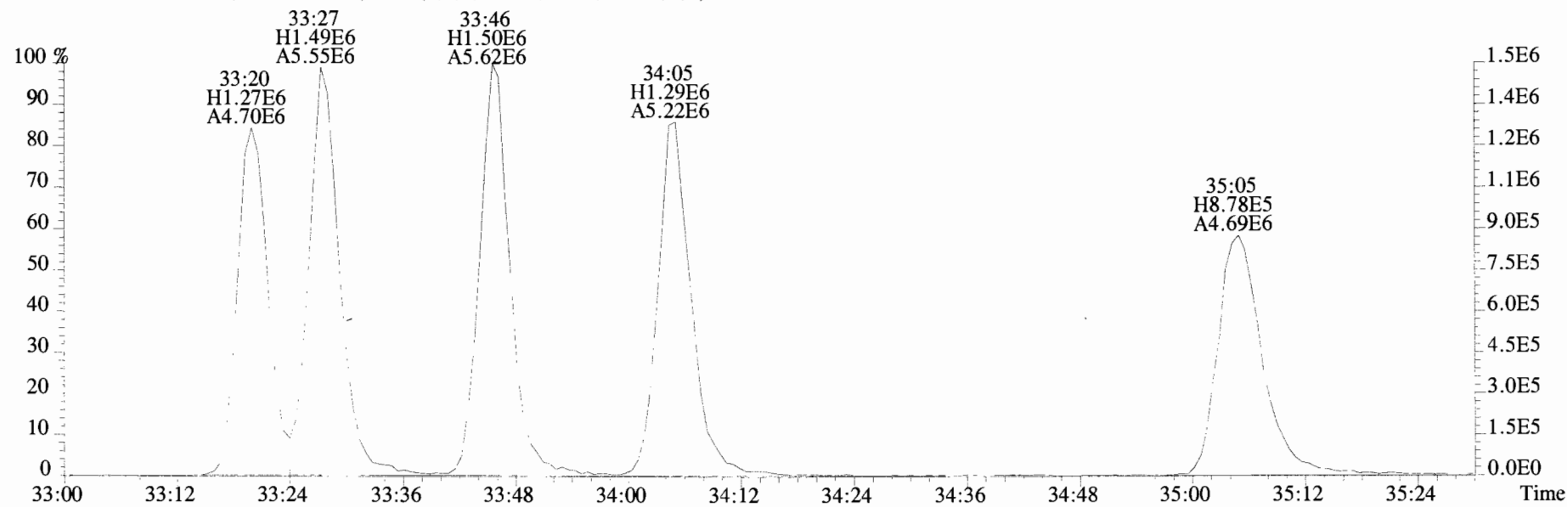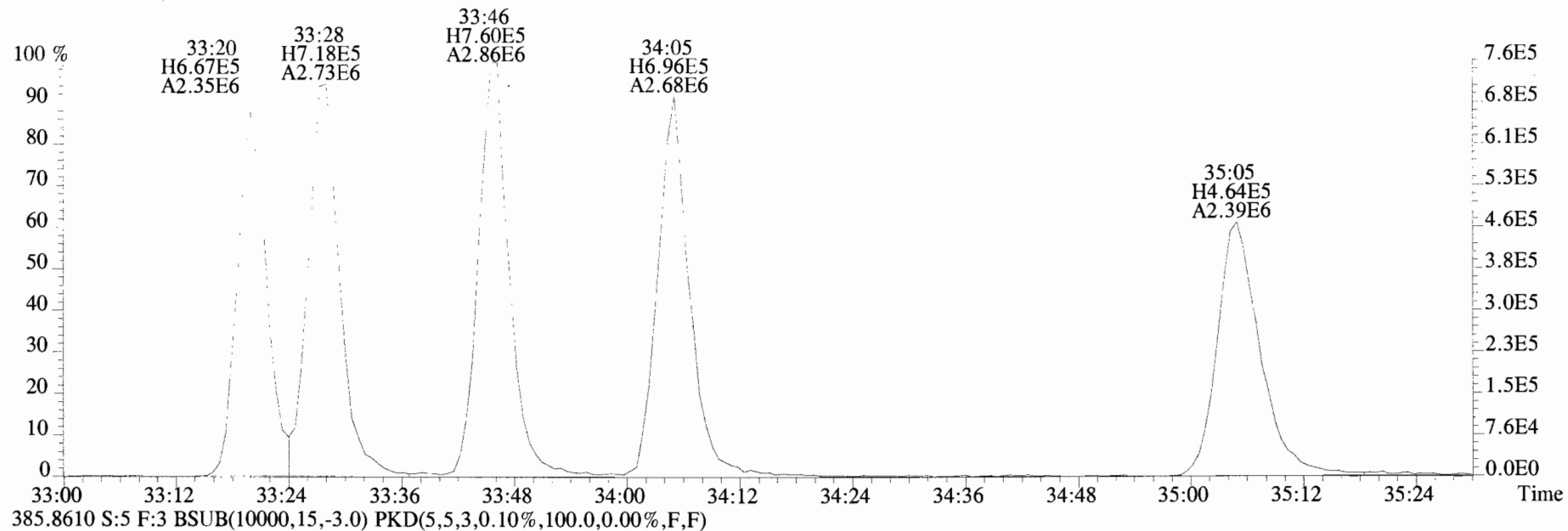
26:01
H1.28E6
A4.89E6

26:33
H1.53E6
A5.51E6
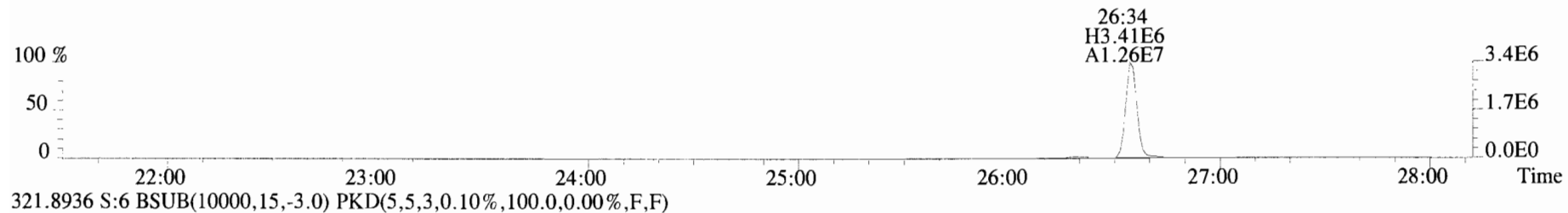
File:191009D1 #1-211 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
353.8576 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
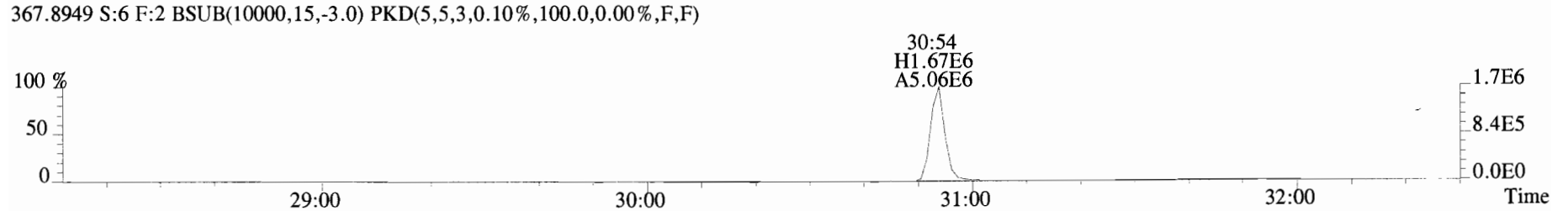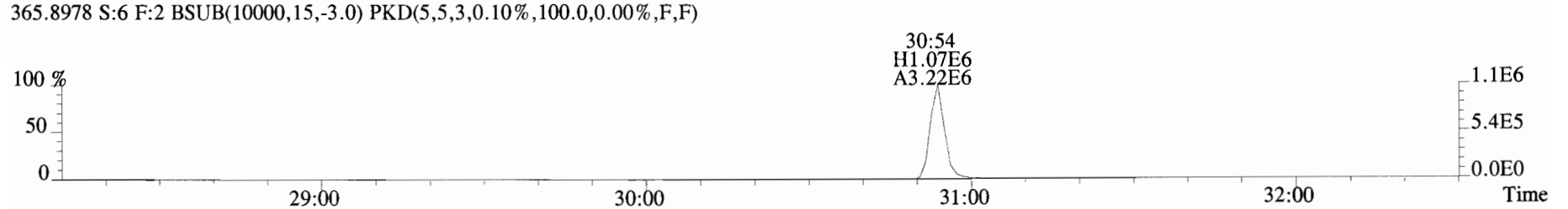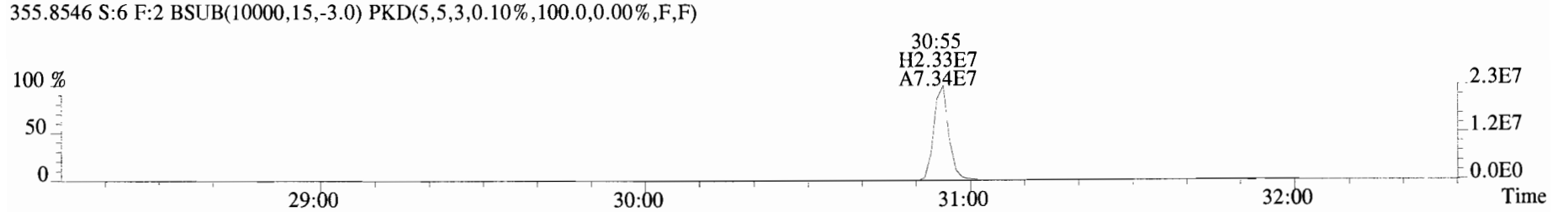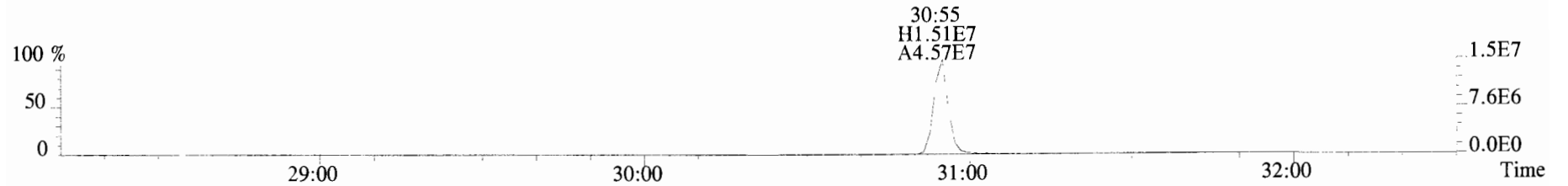
355.8546 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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

366.9792 S:6 F:2

389.8156 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
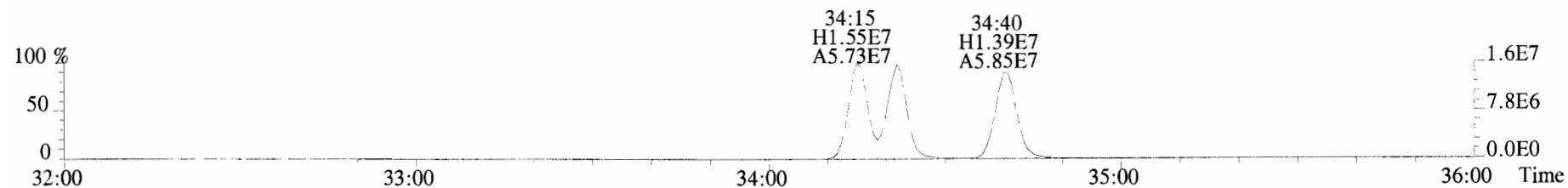
391.8127 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

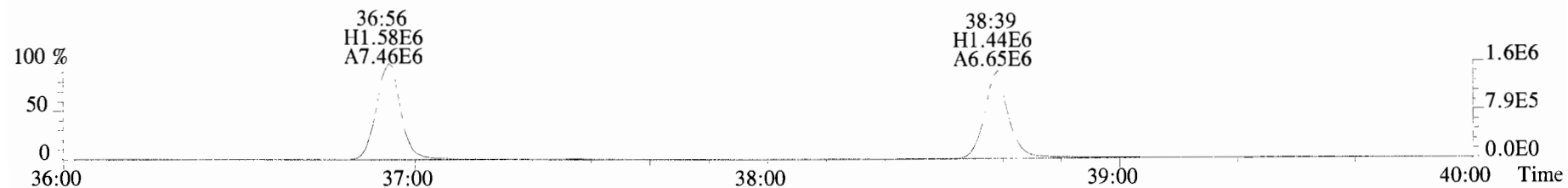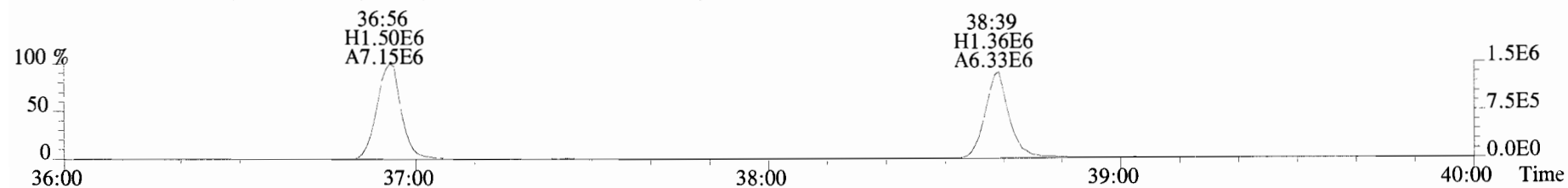403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

392.9760 S:6 F:3

File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
401.8559 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
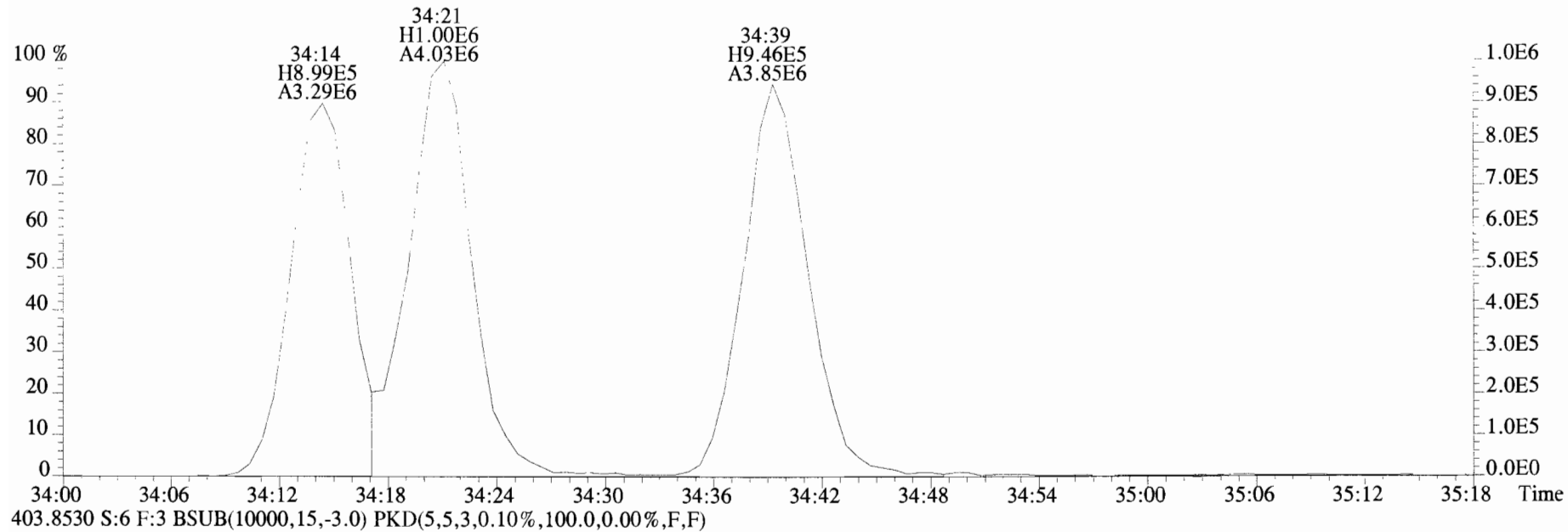
403.8530 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

423.7767 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

38:03
H1.26E7
A4.78E7

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

38:03
H1.20E7
A4.54E7

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

38:03
H8.21E5
A3.05E6

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

38:03
H7.18E5
A2.81E6

454.9728 S:6 F:4

36:04
36:13 36:32 36:57 37:16 37:23 37:35 37:47 38:01 38:18 38:41 38:51 39:09 39:22 39:41 39:54
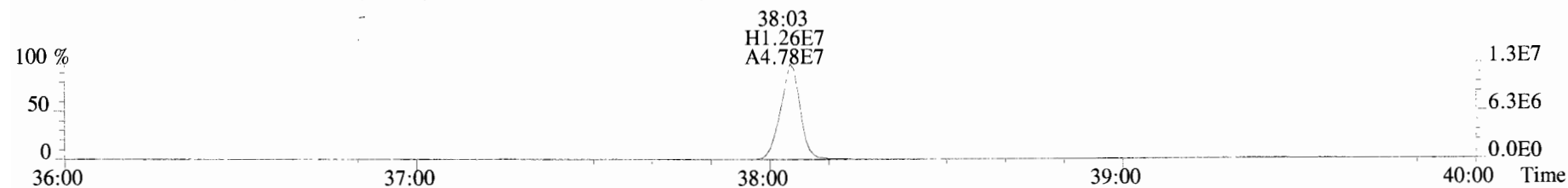
File:191009D1 #1-431 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
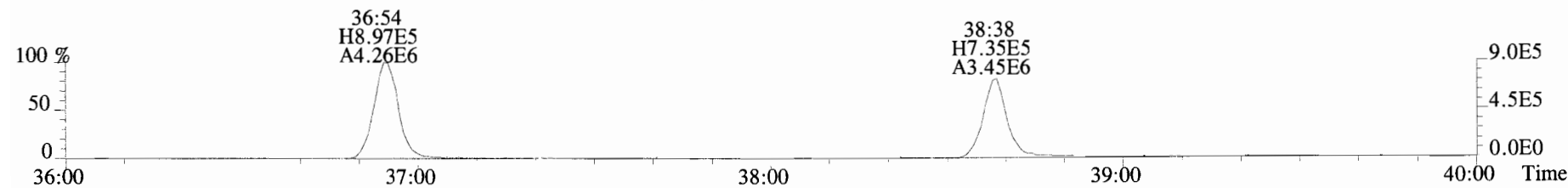457.7377 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:25
H1.60E7
A7.83E7
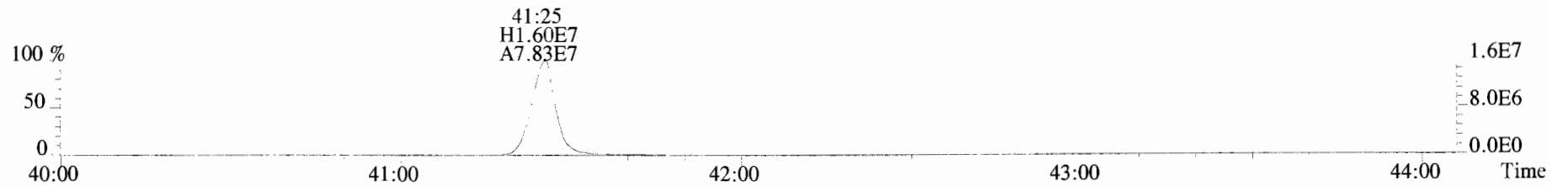
459.7348 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:25
H1.78E7
A8.53E7
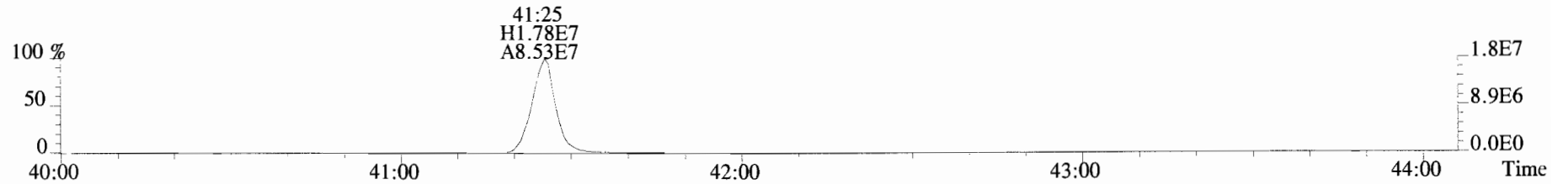
469.7780 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:25
H1.05E6
A5.19E6
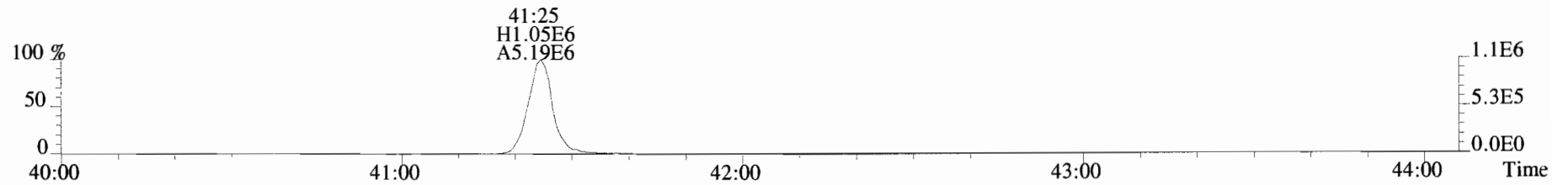
471.7750 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
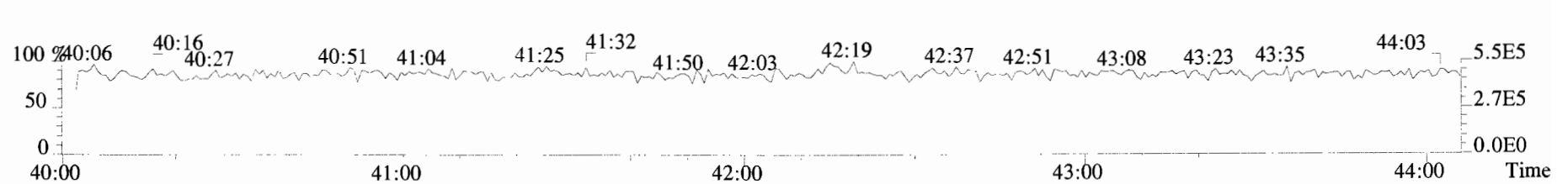
41:25
H1.13E6
A5.62E6

454.9728 S:6 F:5

File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
303.9016 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
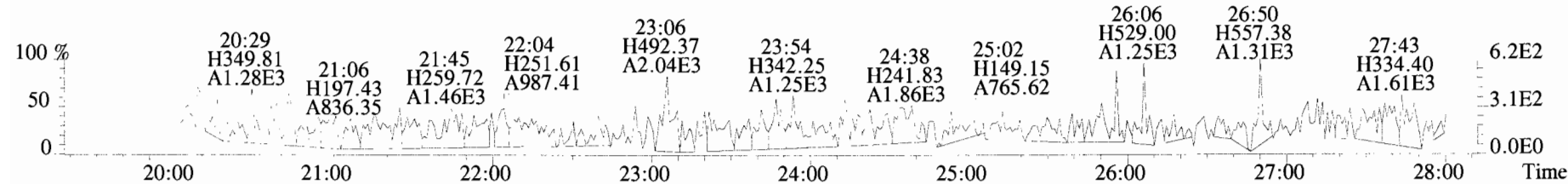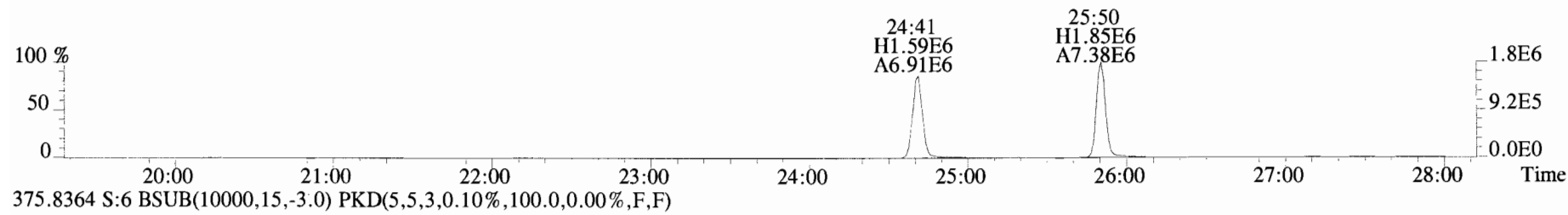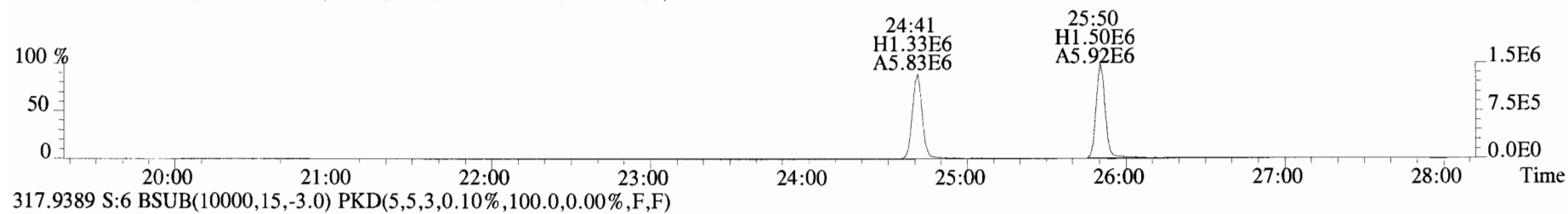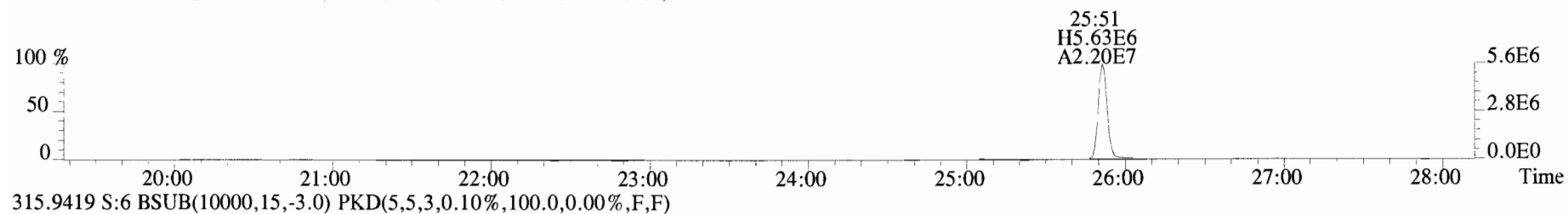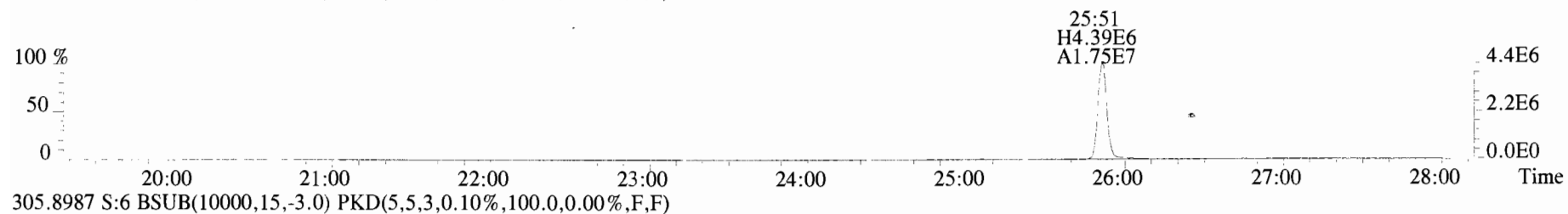
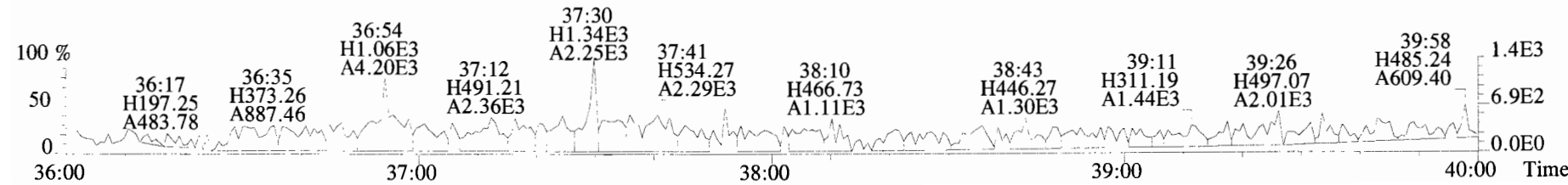305.8987 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

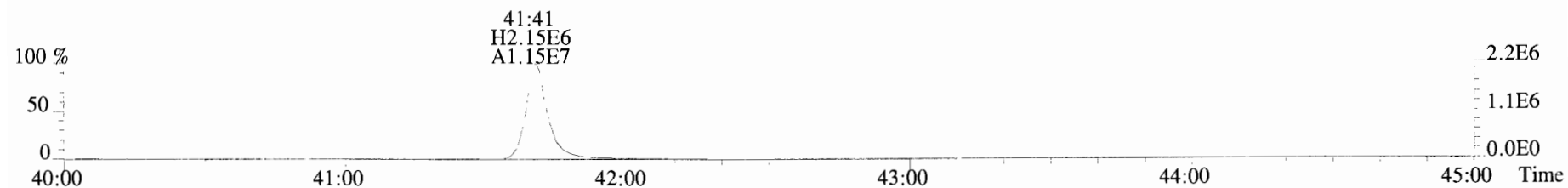317.9389 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

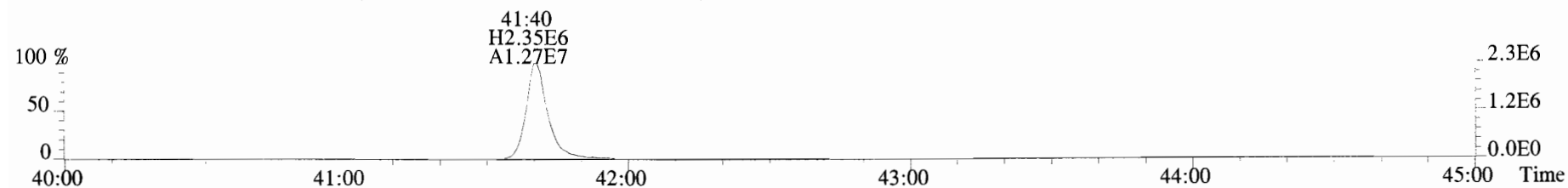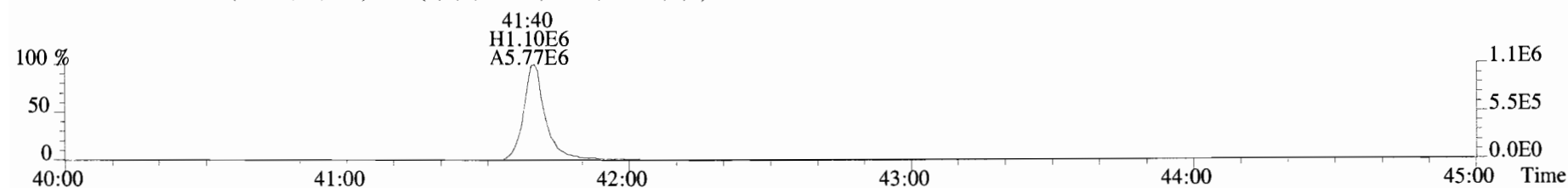375.8364 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

File:191009D1 #1-513 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
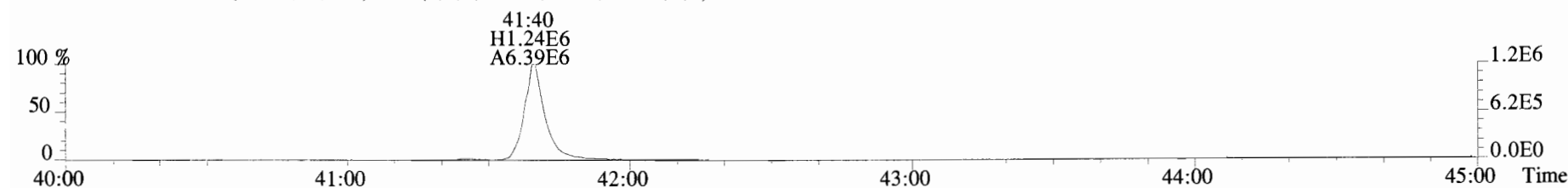339.8597 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
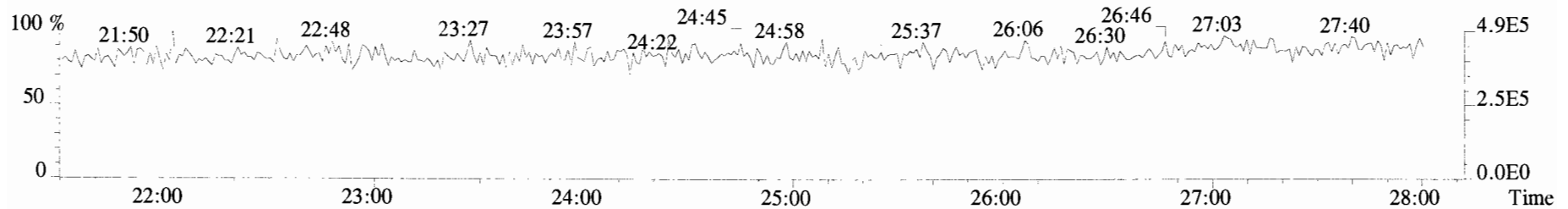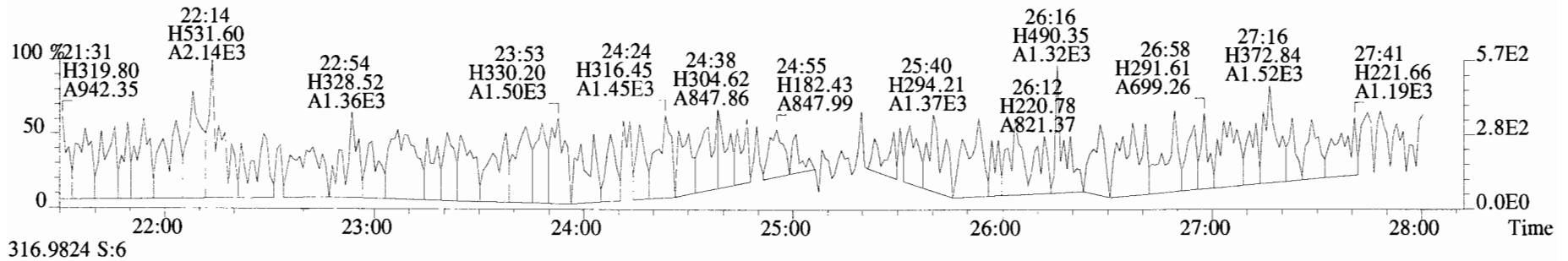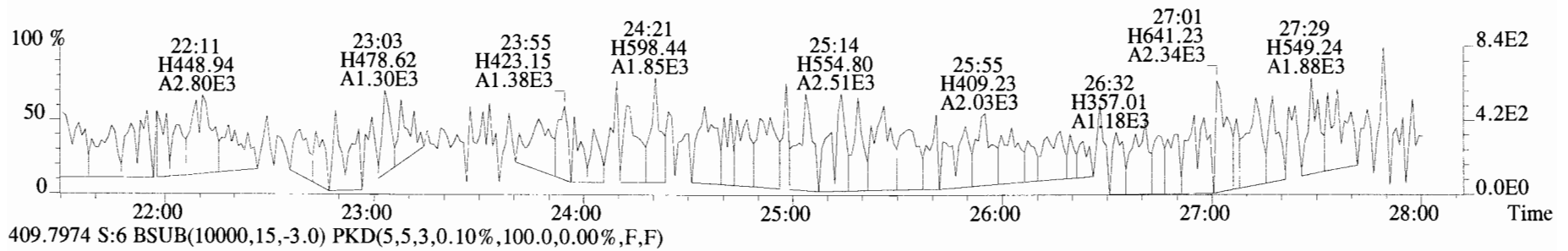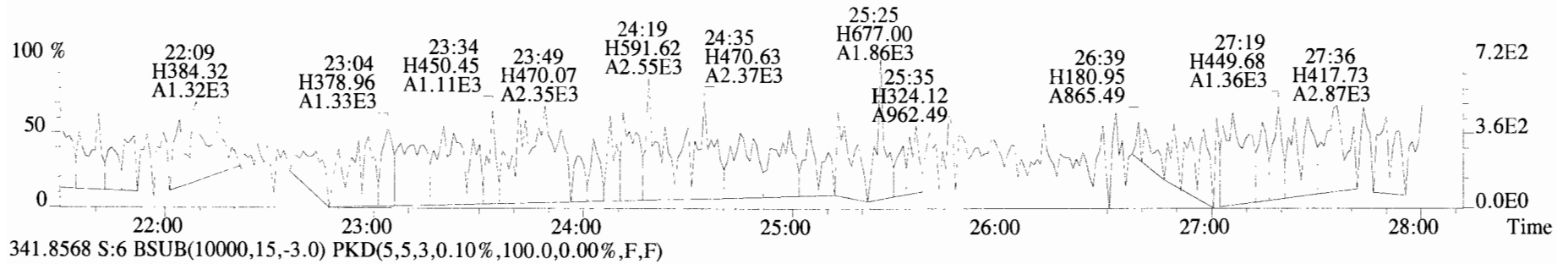
341.8568 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

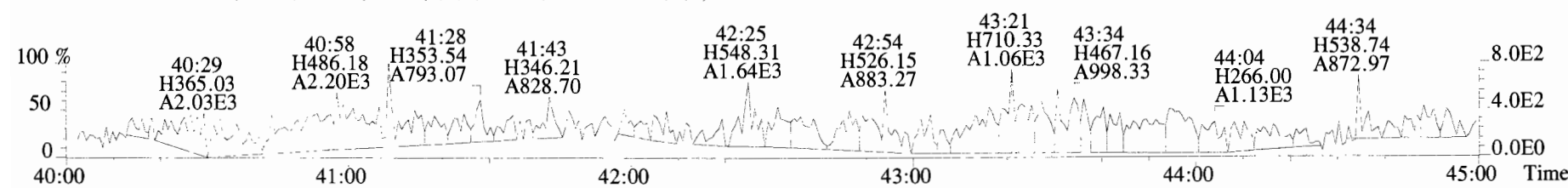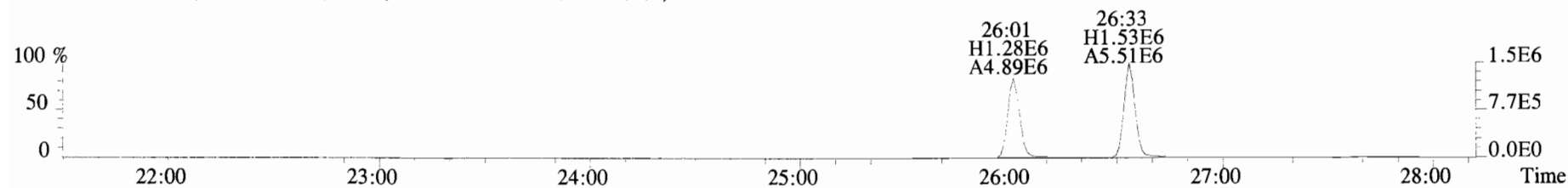409.7974 S:6 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

316.9824 S:6

Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5

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

29:47
H3.60E7
A1.09E8

30:39
H3.85E7
A1.13E8

100 %
50
0

3.9E7
1.9E7
0.0E0

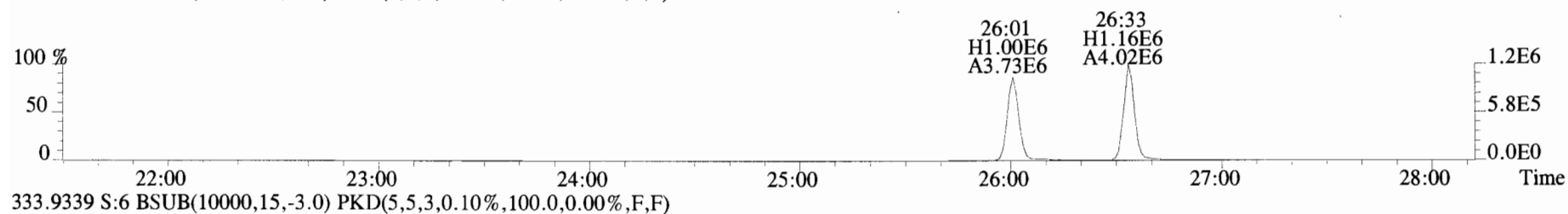28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

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

29:47
H2.29E7
A6.94E7

30:39
H2.43E7
A7.22E7

100 %
50
0

2.4E7
1.2E7
0.0E0

28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

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

29:46
H2.25E6
A7.22E6

30:38
H2.34E6
A7.11E6

100 %
50
0

2.3E6
1.2E6
0.0E0

28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

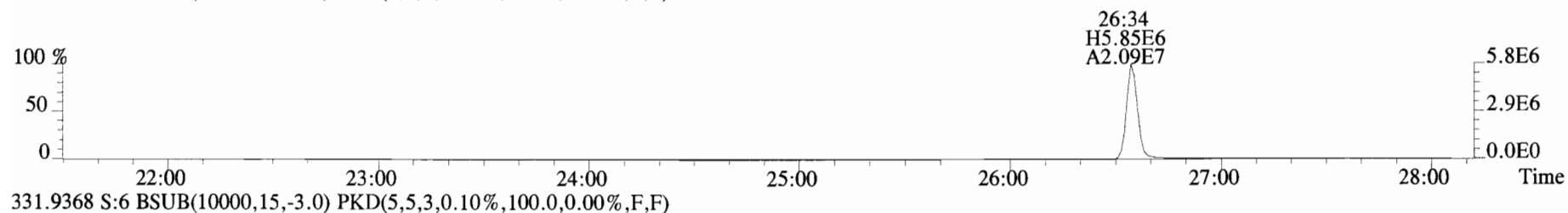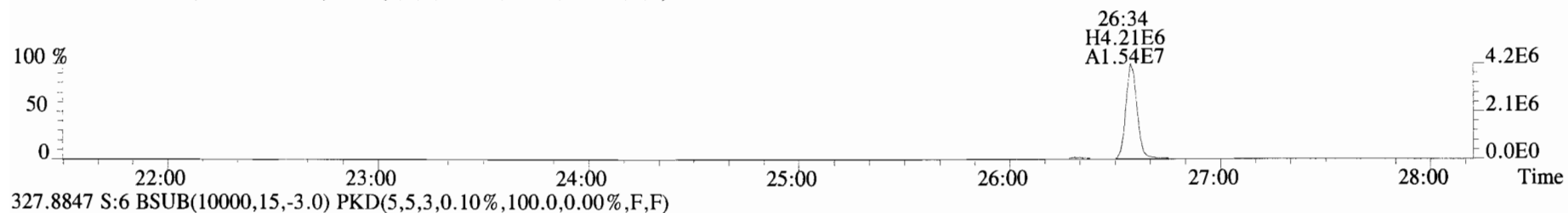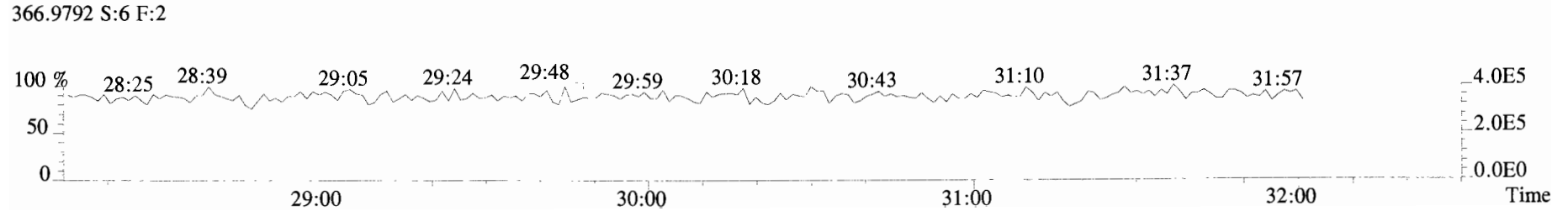353.8970 S:6 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

29:46
H1.47E6
A4.54E6

30:38
H1.50E6
A4.46E6

30:55
H1.88E5
A5.85E5

100 %
50
0

1.5E6
7.5E5
0.0E0

28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

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

28:27
H156.66
A806.91

28:56
H294.75
A1.18E3

29:05
H590.79
A1.81E3

29:30
H296.03
A1.72E3

29:47
H573.75
A5.05E3

30:14
H336.92
A1.30E3

30:38
H365.52
A1.91E3

31:11
H170.79
A754.88

31:19
H393.08
A1.55E3

31:35
H393.94
A4.23E3

100 %
50
0

8.3E2
4.2E2
0.0E0

28:12 28:24 28:36 28:48 29:00 29:12 29:24 29:36 29:48 30:00 30:12 30:24 30:36 30:48 31:00 31:12 31:24 31:36 31:48 Time

373.8207 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

33:29 H2.33E7 A8.10E7
34:06 H2.25E7 A8.31E7
35:05 H1.58E7 A7.12E7

100 %
50
0
2.3E7
1.2E7
0.0E0
32:00   33:00   34:00   35:00   36:00   Time

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

33:29 H1.88E7 A6.69E7
34:06 H1.82E7 A6.80E7
35:05 H1.30E7 A5.72E7

100 %
50
0
1.9E7
9.4E6
0.0E0
32:00   33:00   34:00   35:00   36:00   Time

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

33:27 H7.97E5 A2.98E6
34:04 H7.68E5 A2.82E6
35:04 H5.82E5 A2.58E6

100 %
50
0
8.0E5
4.0E5
0.0E0
32:00   33:00   34:00   35:00   36:00   Time

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

33:27 H1.63E6 A5.94E6
34:05 H1.53E6 A5.56E6
35:04 H1.13E6 A4.99E6

100 %
50
0
1.6E6
8.1E5
0.0E0
32:00   33:00   34:00   35:00   36:00   Time

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

32:13 H323.91 A1.05E3
32:36 H380.93 A1.34E3
33:10 H765.75 A1.15E3
33:25 H698.75 A1.82E3
34:08 H543.00 A3.40E3
34:22 H730.25 A3.22E3
34:43 H645.25 A3.59E3
35:04 H1.15E3 A1.37E3
35:20 H384.33 A884.69
35:41 H259.42 A426.19

100 %
50
0
1.2E3
6.1E2
0.0E0
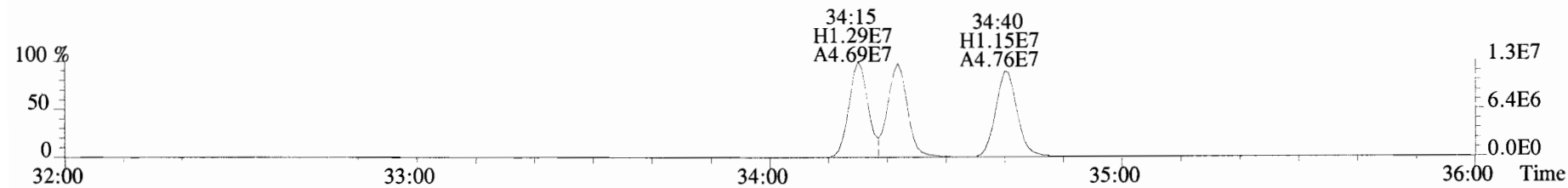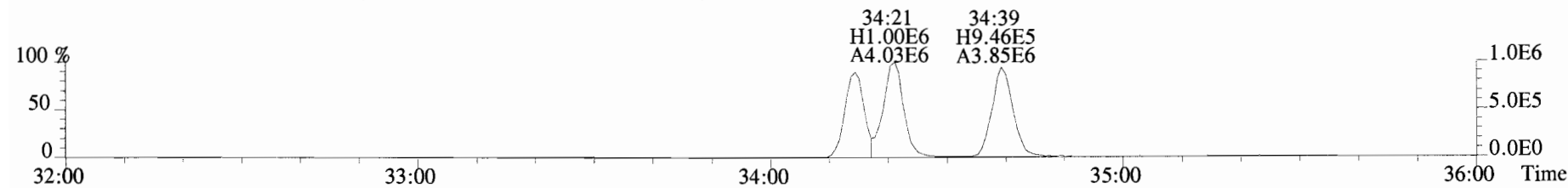32:00   33:00   34:00   35:00   36:00   Time

File:191009D1 #1-354 Acq: 9-OCT-2019 20:11:17 GC EI+ Voltage SIR Autospec-UltimaE
Sample#6 File Text:Vista_Analytical_Laboratory_VG7 Text:ST191009D1-6 1613 CS5 19C2206 Exp:OCDD_DB5
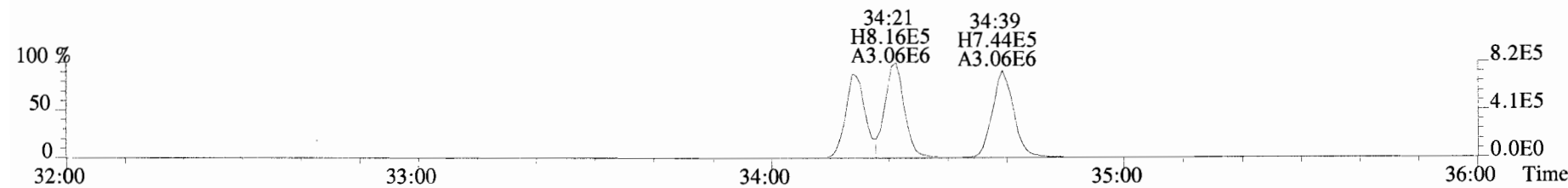383.8639 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
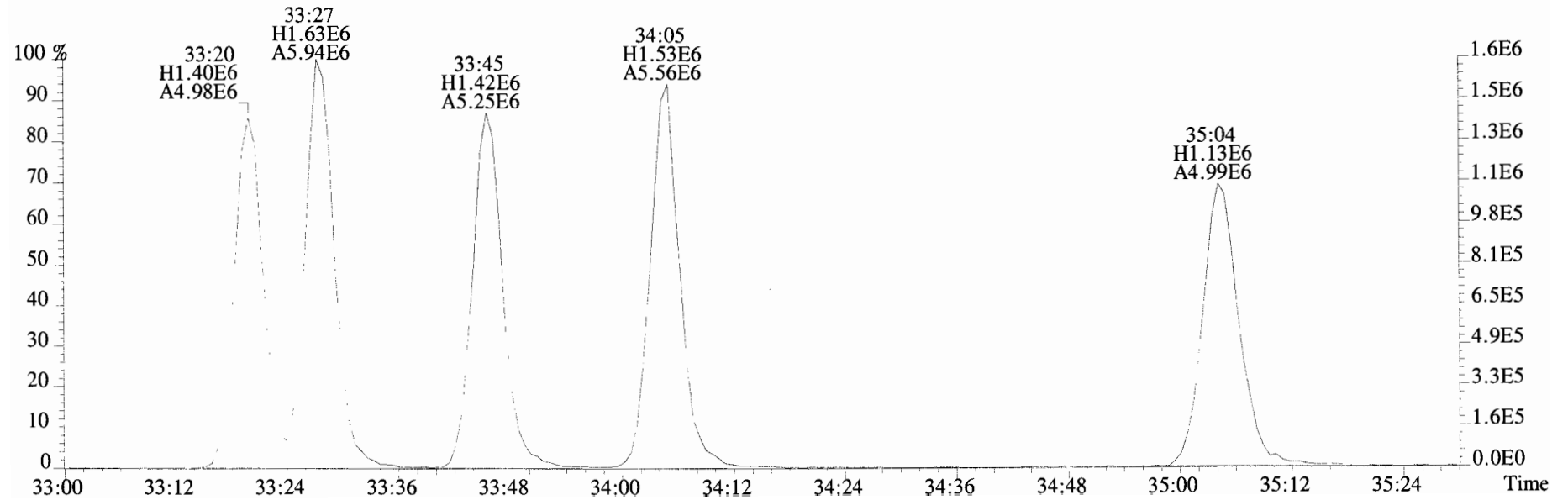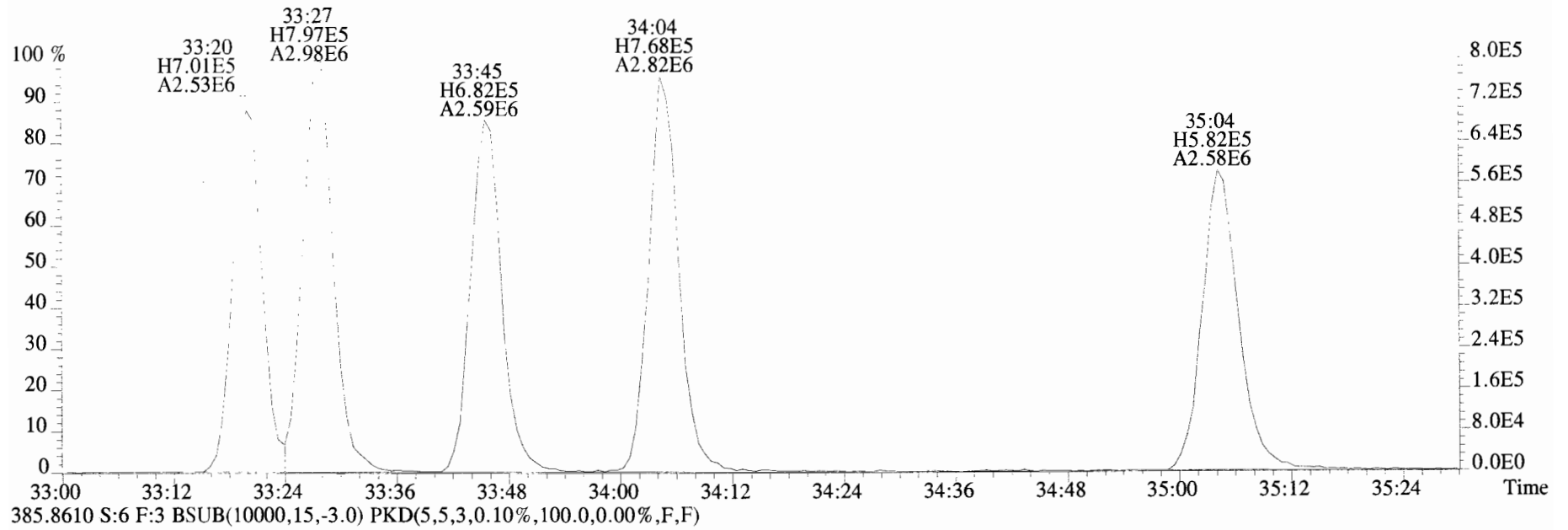
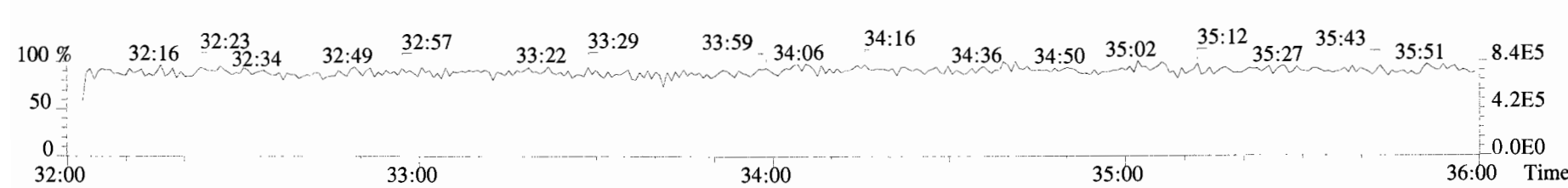385.8610 S:6 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

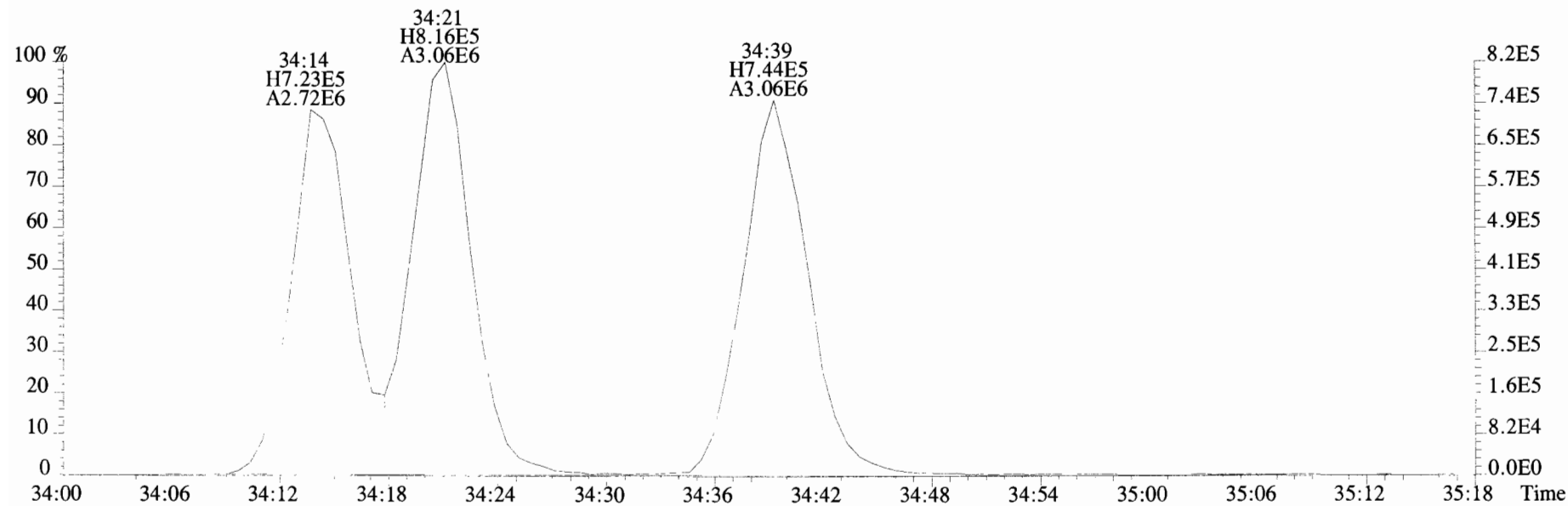407.7818 S:6 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

36:55
H1.33E7
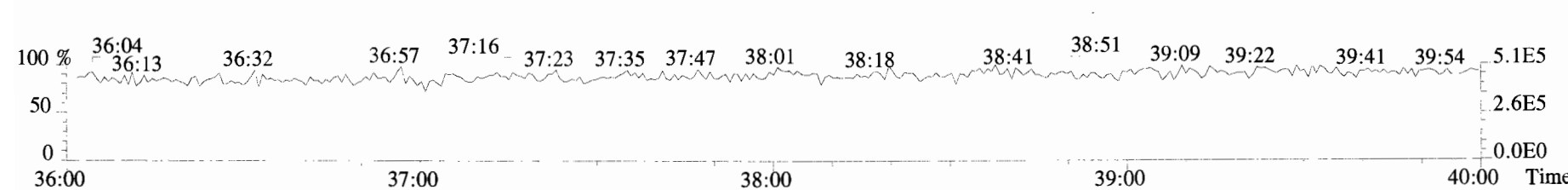A6.00E7

38:38
H1.22E7
A5.32E7

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

36:55
H1.31E7
A5.83E7

38:38
H1.17E7
A5.08E7

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

36:54
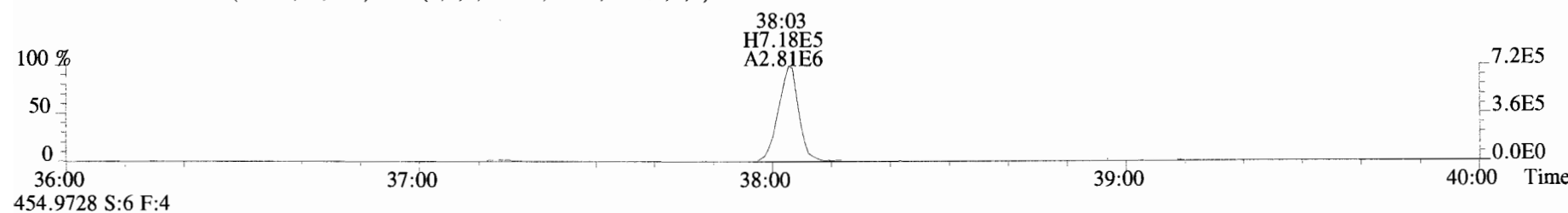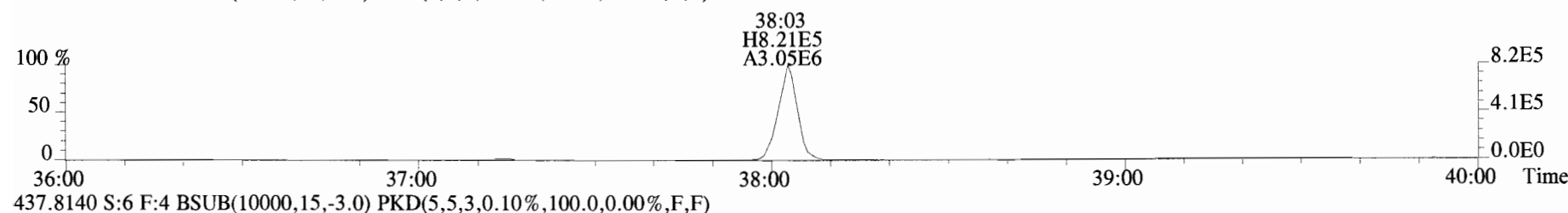H4.53E5
A2.00E6

38:38
H3.52E5
A1.57E6

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

36:54
H1.09E6
A4.69E6

38:38
H8.46E5
A3.62E6

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

36:23
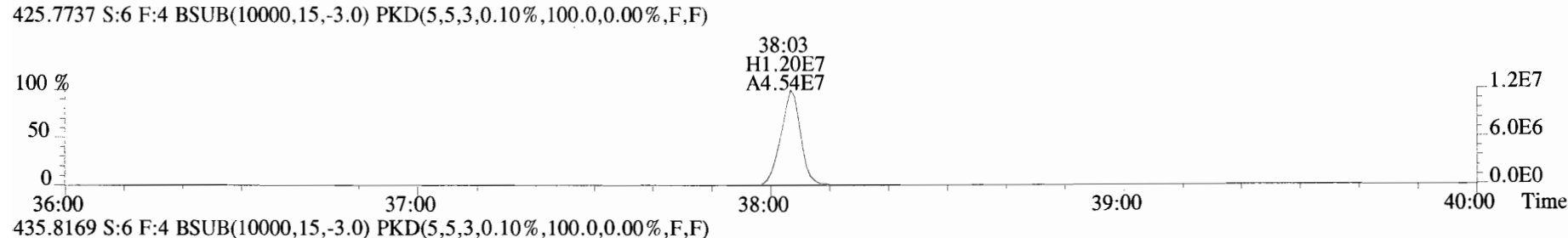H388.91
A987.67

36:55
H457.78
A1.62E3

37:08
H711.76
A1.39E3

37:14
H134.83
A333.14

37:32
H446.53
A1.27E3

38:03
H519.32
A3.36E3

38:39
H567.27
A2.95E3

38:53
H574.31
A1.74E3

39:17
H519.58
A1.58E3

39:46
H532.51
A892.88

441.7428 S:6 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:40
H1.92E7
A9.31E7

100 %

50

0

1.9E7

9.6E6

0.0E0

40:00   41:00   42:00   43:00   44:00   45:00   Time

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

41:40
H2.11E7
A1.02E8

100 %

50

0

2.1E7

1.1E7

0.0E0

40:00   41:00   42:00   43:00   44:00   45:00   Time

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

41:39
H1.34E6
A6.26E6

100 %

50

0

1.3E6

6.7E5

0.0E0

40:00   41:00   42:00   43:00   44:00   45:00   Time

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

41:39
H1.48E6
A7.01E6

100 %

50

0

41:26
H1.35E5
A5.99E5

1.5E6

7.4E5

0.0E0

40:00   41:00   42:00   43:00   44:00   45:00   Time

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

41:43
H697.88
A3.29E3

43:04
H967.18
A1.96E3

100 %

40:14
H394.20
A1.26E3

40:38
H636.76
A1.07E3

40:53
H593.85
A2.00E3

41:25
H783.18
A4.61E3

42:33
H471.59
A1.61E3

43:20
H395.09
A1.34E3

44:01
H419.07
A827.70

44:13
H271.21
A741.58

44:54
H294.56
A1.65E3

50

0

1.1E3

5.7E2

0.0E0

40:00   41:00   42:00   43:00   44:00   45:00   Time

Peak Locate Examination:10-OCT-2019:06:40 File:RES_CHECK
Experiment:OCDD_DB5 Function:1 Reference:PFK

PPM	Volts	PPM	Volts	PPM	Volts	PPM	Volts
200	0.0118	200	0.0065	200	0.0040	200	0.0137

292.98245   304.98245   316.98245   330.97925

PPM	Volts	PPM	Volts	PPM	Volts	PPM	Volts
200	0.0103	200	0.0058	200	0.0034	200	0.0115

342.97925   354.97925   366.97925   380.97604

PPM	Volts	PPM	Volts	PPM	Volts
200	0.0046	200	0.0031	200	0.0029

392.97604   404.97604   416.97604

PPM	Volts	PPM	Volts	PPM	Volts
200	0.0041	200	0.0154	200	0.0090

| 316.95075 | 316.98245 | 317.01415 | 330.94615 | 330.97925 | 331.01235 | 342.94495 | 342.97925 | 343.01355 |

PPM	Volts	PPM	Volts	PPM	Volts
200	0.0042	200	0.0032	200	0.0085

| 354.94375 | 354.97925 | 355.01475 | 366.94255 | 366.97925 | 367.01595 | 380.93795 | 380.97604 | 381.01414 |

PPM	Volts	PPM	Volts	PPM	Volts
200	0.0059	200	0.0035	200	0.0019

| 392.93675 | 392.97604 | 393.01534 | 404.93555 | 404.97604 | 405.01654 | 416.93435 | 416.97604 | 417.01774 |

Peak Locate Examination:10-OCT-2019:06:42 File:RES_CHECK

Experiment:OCDD_DB5 Function:3 Reference:PFK

PPM	Volts
200	0.0029

366.94255   366.97925   367.01595

PPM	Volts
200	0.0085

380.93795   380.97604   381.01414

PPM	Volts
200	0.0047

392.93675   392.97604   393.01534

PPM	Volts
200	0.0043

404.93555   404.97604   405.01654

PPM	Volts
200	0.0021

416.93435   416.97604   417.01774

PPM	Volts
200	0.0048

430.92974   430.97284   431.01594

PPM	Volts
200	0.0037

442.92854   442.97284   443.01714

PPM	Volts
200	0.0035

454.92734   454.97284   455.01834

PPM	Volts
200	0.0034

404.93555   404.97604   405.01654

PPM	Volts
200	0.0017

416.93435   416.97604   417.01774

PPM	Volts
200	0.0052

430.92974   430.97284   431.01594

PPM	Volts
200	0.0039

442.92854   442.97284   443.01714

PPM	Volts
200	0.0038

454.92734   454.97284   455.01834

PPM	Volts
200	0.0018

466.92614   466.97284   467.01954

PPM	Volts
200	0.0031

480.92157   480.96967   481.01776

Peak Locate Examination:10-OCT-2019:06:44 File:RES_CHECK

Experiment:OCDD_DB5 Function:5 Reference:PFK

PPM	Volts
200	0.0057

430.92974   430.97284   431.01594

PPM	Volts
200	0.0038

442.92854   442.97284   443.01714

PPM	Volts
200	0.0029

454.92734   454.97284   455.01834

PPM	Volts
200	0.0015

466.92614   466.97284   467.01954

PPM	Volts
200	0.0031

480.92157   480.96967   481.01776

PPM	Volts
200	0.0018

492.92037   492.96967   493.01896

PPM	Volts
200	0.0029

504.91917   504.96967   505.02016

PPM	Volts
200	0.0016

516.91797   516.96967   517.02136

```
                    FORM 4A
           PCDD/PCDF CALIBRATION VERIFICATION
```

Lab Name: Vista Analytical Laboratory   Episode No.:   CCAL ID: SS191009D1-1

Contract No.:   SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191009D1   S#8 Analysis Date: 9-OCT-19 Time: 21:46:34

	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	0.83	0.65-0.89	y	10.2	7.8 - 12.9
						8.2 - 12.3 (4)
1,2,3,7,8-PeCDD	M/M+2	0.63	0.54-0.72	y	51.3	39.0 - 65.0
1,2,3,4,7,8-HxCDD	M+2/M+4	1.31	1.05-1.43	y	48.9	39.0 - 64.0
1,2,3,6,7,8-HxCDD	M+2/M+4	1.18	1.05-1.43	y	52.4	39.0 - 64.0
1,2,3,7,8,9-HxCDD	M+2/M+4	1.17	1.05-1.43	y	50.4	41.0 - 61.0
1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.02	0.88-1.20	y	51.9	43.0 - 58.0
OCDD	M+2/M+4	0.92	0.76-1.02	y	105	79.0 - 126.0
2,3,7,8-TCDF	M/M+2	0.78	0.65-0.89	y	10.3	8.4 - 12.0
						8.6 - 11.6 (4)
1,2,3,7,8-PeCDF	M+2/M+4	1.54	1.32-1.78	y	50.2	41.0 - 60.0
2,3,4,7,8-PeCDF	M+2/M+4	1.60	1.32-1.78	y	56.7	41.0 - 61.0
1,2,3,4,7,8-HxCDF	M+2/M+4	1.22	1.05-1.43	y	51.1	45.0 - 56.0
1,2,3,6,7,8-HxCDF	M+2/M+4	1.23	1.05-1.43	y	51.5	44.0 - 57.0
2,3,4,6,7,8-HxCDF	M+2/M+4	1.20	1.05-1.43	y	51.5	44.0 - 57.0
1,2,3,7,8,9-HxCDF	M+2/M+4	1.24	1.05-1.43	y	50.9	45.0 - 56.0
1,2,3,4,6,7,8-HpCDF	M+2/M+4	1.05	0.88-1.20	y	53.0	45.0 - 55.0
1,2,3,4,7,8,9-HpCDF	M+2/M+4	1.05	0.88-1.20	y	50.2	43.0 - 58.0
OCDF	M+2/M+4	0.92	0.76-1.02	y	102	63.0 - 159.0

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

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

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

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

Analyst: _DB_

Date: _10/10/19_

```
                          FORM 4B
                PCDD/PCDF CALIBRATION VERIFICATION


Lab Name: Vista Analytical Laboratory      Episode No.:


Contract No.:              SAS No.:


Initial Calibration Date: 10-9-19


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


VER Data Filename: 191009D1    S#8  Analysis Date:  9-OCT-19 Time: 21:46:34
```

LABELED COMPOUNDS	M/Z'S 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	0.72	0.65-0.89	y	100	82.0 - 121.0
13C-1,2,3,7,8-PeCDD	M/M+2	0.64	0.54-0.72	y	101	62.0 - 160.0
13C-1,2,3,4,7,8-HxCDD	M+2/M+4	1.23	1.05-1.43	y	95.9	85.0 - 117.0
13C-1,2,3,6,7,8-HxCDD	M+2/M+4	1.25	1.05-1.43	y	95.6	85.0 - 118.0
13C-1,2,3,7,8,9-HxCDD	M+2/M+4	1.26	1.05-1.43	y	94.3	85.0 - 118.0
13C-1,2,3,4,6,7,8-HpCDD	M+2/M+4	1.06	0.88-1.20	y	91.7	72.0 - 138.0
13C-OCDD	M/M+2	0.92	0.76-1.02	y	190	96.0 - 415.0
13C-2,3,7,8-TCDF	M+2/M+4	0.78	0.65-0.89	y	97.2	71.0 - 140.0
13C-1,2,3,7,8-PeCDF	M+2/M+4	1.62	1.32-1.78	y	97.4	76.0 - 130.0
13C-2,3,4,7,8-PeCDF	M+2/M+4	1.59	1.32-1.78	y	96.6	77.0 - 130.0
13C-1,2,3,4,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	102	76.0 - 131.0
13C-1,2,3,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	101	70.0 - 143.0
13C-2,3,4,6,7,8-HxCDF	M/M+2	0.51	0.43-0.59	y	97.1	73.0 - 137.0
13C-1,2,3,7,8,9-HxCDF	M/M+2	0.51	0.43-0.59	y	99.0	74.0 - 135.0
13C-1,2,3,4,6,7,8-HpCDF	M+2/M+4	0.43	0.37-0.51	y	96.6	78.0 - 129.0
13C-1,2,3,4,7,8,9-HpCDF	M+2/M+4	0.44	0.37-0.51	y	102	77.0 - 129.0
13C-OCDF	M+2/M+4	0.88	0.76-1.02	y	197	96.0 - 415.0
CLEANUP STANDARD (3)						
37Cl-2,3,7,8-TCDD					9.08	7.9 - 12.7

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

(2) Ion Abundance Ratio Control Limits as specified

(3) No ion abundance ratio; report concentration found.

Analyst: DB

Date: 10/10/19

```
                              FORM 6A
                  PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory      Episode No.:

Contract No.:            SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191009D1   S#8  Analysis Date:  9-OCT-19 Time: 21:46:34


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


                     RETENTION TIME            RRT
NATIVE ANALYTES         REFERENCE      RRT    QC LIMITS (1)


2,3,7,8-TCDD          13C-2,3,7,8-TCDD     1.001   0.999-1.002
1,2,3,7,8-PeCDD      13C-1,2,3,7,8-PeCDD   1.000   0.999-1.002
2,3,7,8-TCDF          13C-2,3,7,8-TCDF     1.001   0.999-1.003
1,2,3,7,8-PeCDF      13C-1,2,3,7,8-PeCDF   1.000   0.999-1.002
2,3,4,7,8-PeCDF      13C-2,3,4,7,8-PeCDF   1.000   0.999-1.002


LABELED COMPOUNDS


13C-2,3,7,8-TCDD       13C-1,2,3,4-TCDD    1.022   0.976-1.043
13C-1,2,3,7,8-PeCDD    13C-1,2,3,4-TCDD    1.189   1.000-1.567
13C-2,3,7,8-TCDF       13C-1,2,3,4-TCDD    0.994   0.923-1.103
13C-1,2,3,7,8-PeCDF    13C-1,2,3,4-TCDD    1.145   1.000-1.425
13C-2,3,4,7,8-PeCDF    13C-1,2,3,4-TCDD    1.179   1.011-1.526
37Cl-2,3,7,8-TCDD      13C-1,2,3,4-TCDD    1.022   0.989-1.052
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Analyst: _DB_

Date: _10/10/19_

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                        FORM 6B
              PCDD/PCDF RELATIVE RETENTION TIMES

Lab Name: Vista Analytical Laboratory     Episode No.:

Contract No.:            SAS No.:

Initial Calibration Date: 10-9-19

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

VER Data Filename: 191009D1   S#8  Analysis Date:  9-OCT-19 Time: 21:46:34
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	RETENTION TIME		RRT
NATIVE ANALYTES	REFERENCE	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	1.000	0.999-1.001
1,2,3,7,8,9-HxCDF	13C-1,2,3,7,8,9-HxCDF	1.001	0.999-1.001
1,2,3,4,7,8-HxCDD	13C-1,2,3,4,7,8-HxCDD	1.001	0.999-1.001
1,2,3,6,7,8-HxCDD	13C-1,2,3,6,7,8-HxCDD	1.000	0.998-1.004
1,2,3,7,8,9-HxCDD	13C-1,2,3,7,8,9-HxCDD	1.001	0.998-1.004
1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,7,8-HpCDF	1.000	0.999-1.001
1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,7,8-HpCDD	1.000	0.999-1.001
1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,7,8,9-HpCDF	1.000	0.999-1.001
OCDD	13C-OCDD	1.000	0.999-1.001
OCDF	13C-OCDF	1.000	0.999-1.001

LABELED COMPOUNDS

13C-1,2,3,4,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.987	0.975-1.001
13C-1,2,3,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	0.991	0.979-1.005
13C-2,3,4,6,7,8-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.010	1.001-1.020
13C-1,2,3,7,8,9-HxCDF	13C-1,2,3,4,6,9-HxCDF	1.040	1.002-1.072
13C-1,2,3,4,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.014	1.002-1.026
13C-1,2,3,6,7,8-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.018	1.007-1.029
13C-1,2,3,7,8,9-HxCDD	13C-1,2,3,4,6,9-HxCDF	1.027	1.014-1.038
13C-1,2,3,4,6,7,8-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.093	1.069-1.111
13C-1,2,3,4,7,8,9-HpCDF	13C-1,2,3,4,6,9-HxCDF	1.145	1.098-1.192
13C-1,2,3,4,6,7,8-HpCDD	13C-1,2,3,4,6,9-HxCDF	1.127	1.117-1.141
13C-OCDD	13C-1,2,3,4,6,9-HxCDF	1.227	1.085-1.365
13C-OCDF	13C-1,2,3,4,6,9-HxCDF	1.235	1.091-1.371

Analyst: _DB_

Date: _10/10/19_

	Name	Resp	RA		RRF	RT	Conc	Qual	noise	Fac	DL	Name	Conc	EMPC	Qual	noise	DL
	2,3,7,8-TCDD	8.36e+05	0.83	y	0.91	26:36	10.234		*	2.5	*	Total Tetra-Dioxins	10.4	11.4		*	*
	1,2,3,7,8-PeCDD	3.38e+06	0.63	y	0.90	30:57	51.323		*	2.5	*	Total Penta-Dioxins	51.4	51.7		*	*
	1,2,3,4,7,8-HxCDD	2.55e+06	1.31	y	1.10	34:18	48.909		*	2.5	*	Total Hexa-Dioxins	153	153		*	*
	1,2,3,6,7,8-HxCDD	3.09e+06	1.18	y	0.94	34:24	52.378		*	2.5	*	Total Hepta-Dioxins	53.5	54.4		*	*
	1,2,3,7,8,9-HxCDD	2.83e+06	1.17	y	0.96	34:44	50.434		*	2.5	*	Total Tetra-Furans	10.7	11.4		*	*
	1,2,3,4,6,7,8-HpCDD	2.34e+06	1.02	y	0.98	38:07	51.915		*	2.5	*	Total Penta-Furans	110.38	111.73		*	*
	OCDD	4.27e+06	0.92	y	0.96	41:30	105.37		*	2.5	*	Total Hexa-Furans	205	207		*	*
												Total Hepta-Furans	104	106		*	*
	2,3,7,8-TCDF	1.24e+06	0.78	y	0.95	25:53	10.342		*	2.5	*						
	1,2,3,7,8-PeCDF	5.03e+06	1.54	y	0.96	29:48	50.200		*	2.5	*						
	2,3,4,7,8-PeCDF	5.90e+06	1.60	y	1.01	30:42	56.719		*	2.5	*						
	1,2,3,4,7,8-HxCDF	3.94e+06	1.22	y	1.18	33:23	51.086		*	2.5	*						
	1,2,3,6,7,8-HxCDF	4.44e+06	1.23	y	1.07	33:31	51.491		*	2.5	*						
	2,3,4,6,7,8-HxCDF	4.08e+06	1.20	y	1.11	34:08	51.474		*	2.5	*						
	1,2,3,7,8,9-HxCDF	3.40e+06	1.24	y	1.06	35:10	50.903		*	2.5	*						
	1,2,3,4,6,7,8-HpCDF	3.36e+06	1.05	y	1.13	36:58	53.010		*	2.5	*						
	1,2,3,4,7,8,9-HpCDF	2.94e+06	1.05	y	1.28	38:42	50.216		*	2.5	*						
	OCDF	5.04e+06	0.92	y	0.95	41:45	102.23		*	2.5	*		Rec	Qual			
IS	13C-2,3,7,8-TCDD	9.02e+06	0.72	y	1.10	26:35	100.49						100				
IS	13C-1,2,3,7,8-PeCDD	7.29e+06	0.64	y	0.88	30:56	100.87						101				
IS	13C-1,2,3,4,7,8-HxCDD	4.73e+06	1.23	y	0.64	34:16	95.948						95.9				
IS	13C-1,2,3,6,7,8-HxCDD	6.28e+06	1.25	y	0.86	34:24	95.558						95.6				
IS	13C-1,2,3,7,8,9-HxCDD	5.85e+06	1.26	y	0.81	34:43	94.306						94.3				
IS	13C-1,2,3,4,6,7,8-HpCDD	4.61e+06	1.06	y	0.65	38:06	91.680						91.7				
IS	13C-OCDD	8.45e+06	0.92	y	0.58	41:29	189.68						94.8				
IS	13C-2,3,7,8-TCDF	1.26e+07	0.78	y	1.03	25:52	97.199						97.2				
IS	13C-1,2,3,7,8-PeCDF	1.04e+07	1.62	y	0.85	29:48	97.425						97.4				
IS	13C-2,3,4,7,8-PeCDF	1.03e+07	1.59	y	0.85	30:41	96.649						96.6				
IS	13C-1,2,3,4,7,8-HxCDF	6.55e+06	0.51	y	0.83	33:22	102.43						102				
IS	13C-1,2,3,6,7,8-HxCDF	8.06e+06	0.51	y	1.03	33:30	101.42						101				
IS	13C-2,3,4,6,7,8-HxCDF	7.11e+06	0.51	y	0.95	34:08	97.073						97.1				
IS	13C-1,2,3,7,8,9-HxCDF	6.30e+06	0.51	y	0.83	35:09	98.999						99.0				
IS	13C-1,2,3,4,6,7,8-HpCDF	5.62e+06	0.43	y	0.76	36:57	96.588						96.6				
IS	13C-1,2,3,4,7,8,9-HpCDF	4.58e+06	0.44	y	0.58	38:42	102.46						102				
IS	13C-OCDF	1.04e+07	0.88	y	0.69	41:44	196.65						98.3				
C/Up	37Cl-2,3,7,8-TCDD	8.91e+05			1.20	26:36	9.0817						90.8				
RS/RT	13C-1,2,3,4-TCDD	8.20e+06	0.76	y	1.00	26:01	100.00										
RS	13C-1,2,3,4-TCDF	1.25e+07	0.82	y	1.00	24:42	100.00										
RS/RT	13C-1,2,3,4,6,9-HxCDF	7.68e+06	0.50	y	1.00	33:48	100.00										

Integrations
by
Analyst: DB

Reviewed
by
Analyst: CT

Date: 10/10/19   Date: 10/10/19

File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
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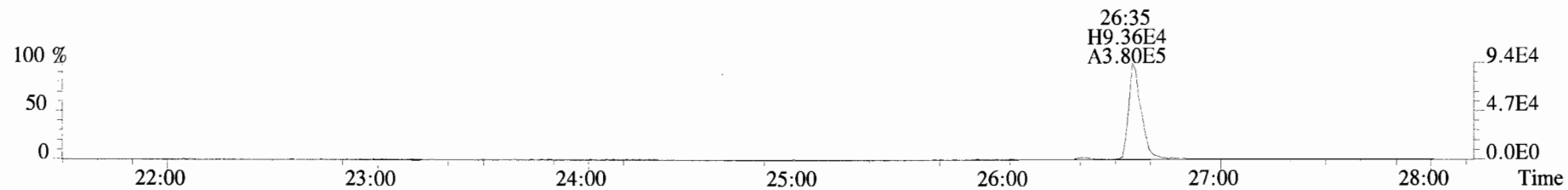
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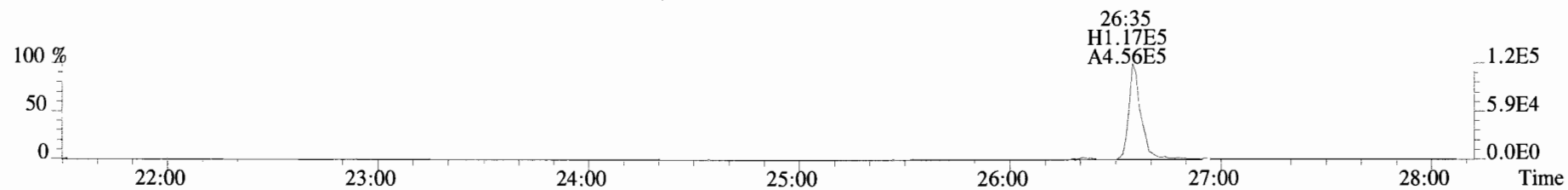
327.8847 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)

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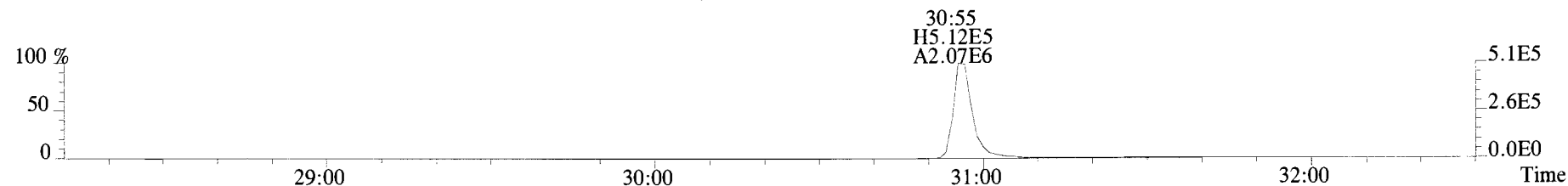
365.8978 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

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)
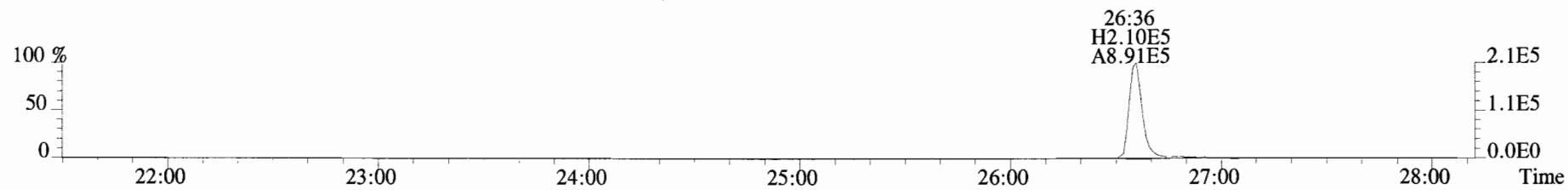

392.9760 S:8 F:3
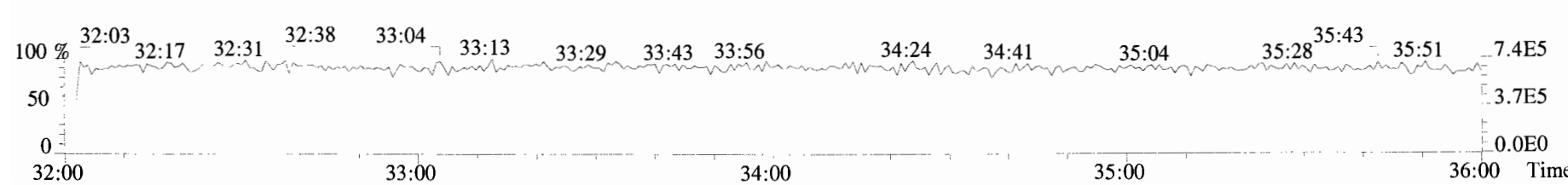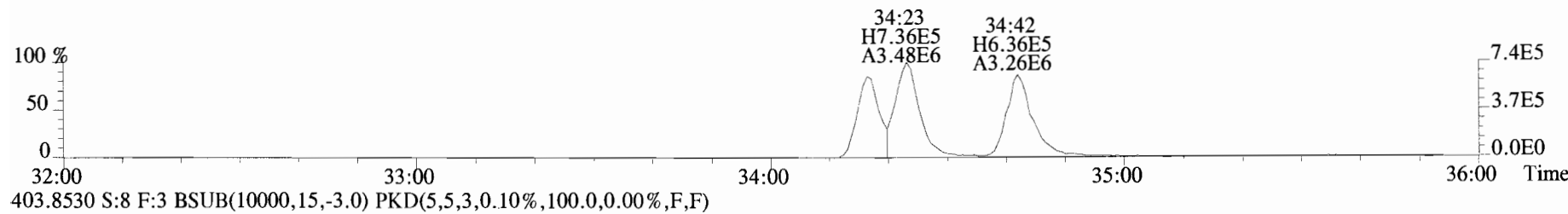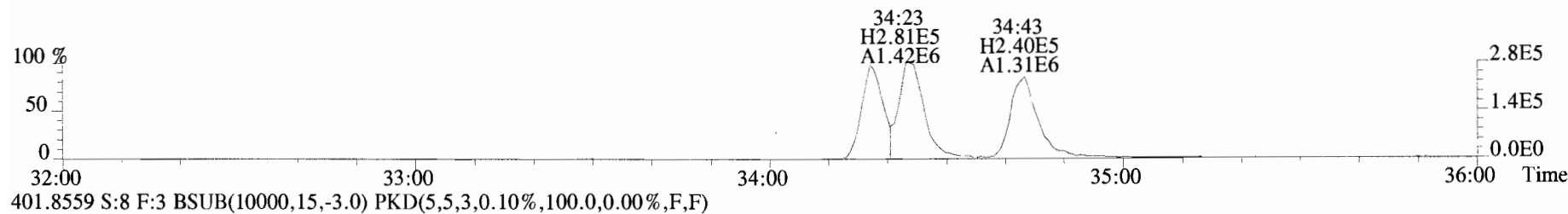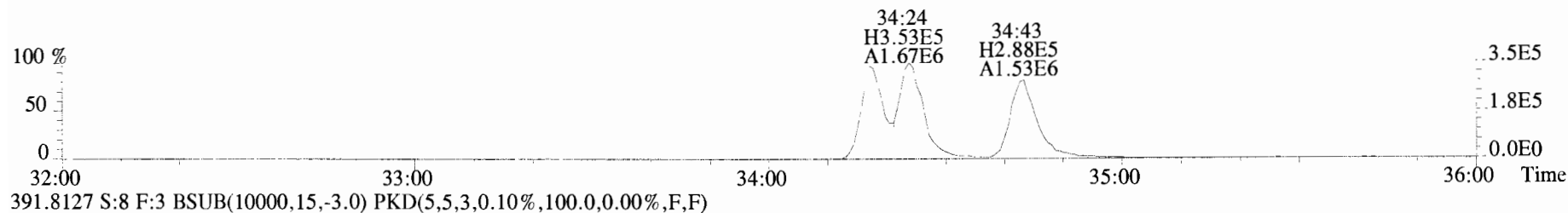
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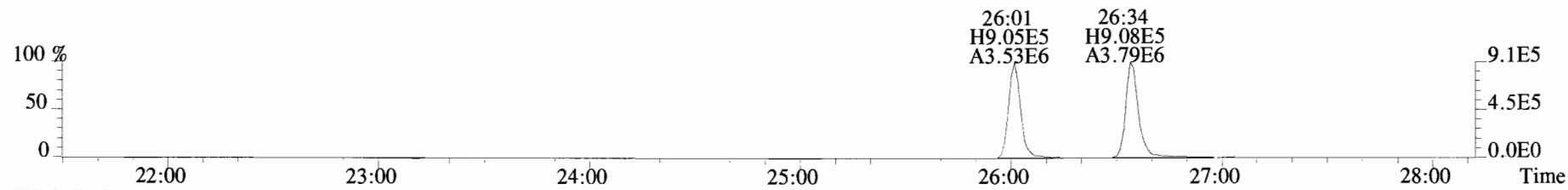401.8559 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

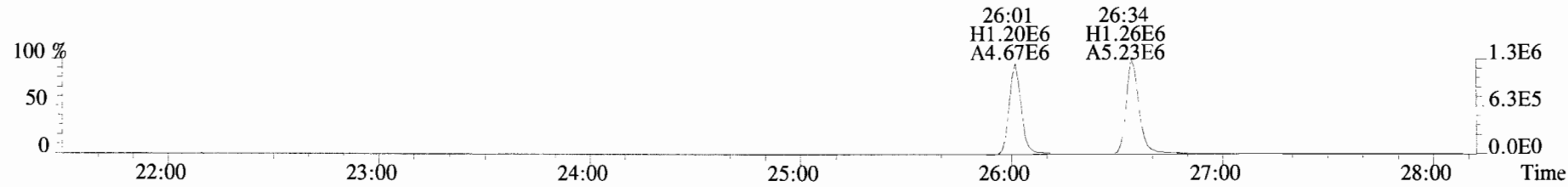403.8530 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

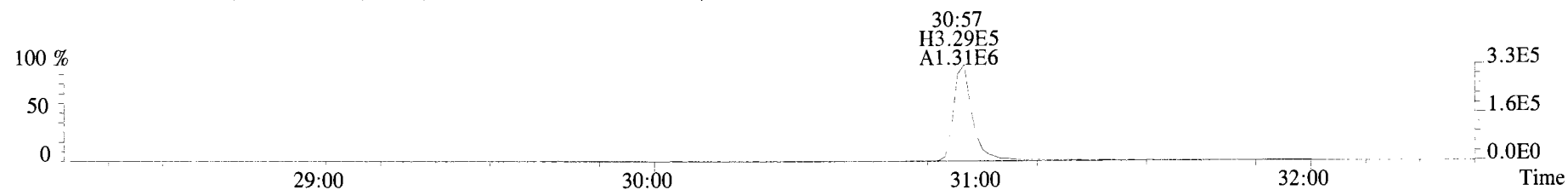423.7767 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
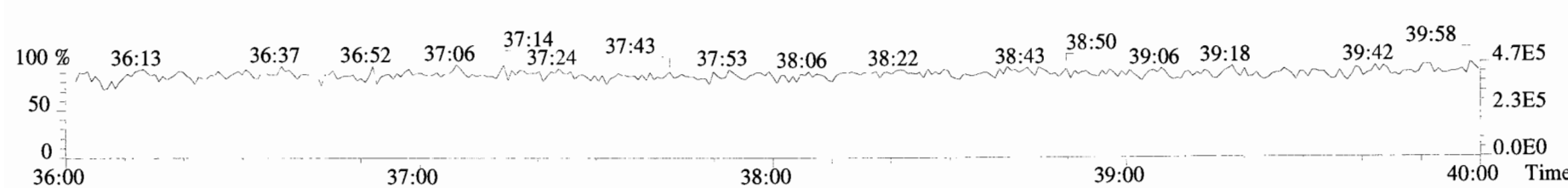
38:06
H2.72E5
A1.18E6

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

38:06
H2.69E5
A1.16E6

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

38:06
H5.02E5
A2.37E6

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

38:05
H4.86E5
A2.24E6

454.9728 S:8 F:4

File:191009D1 #1-431 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
457.7377 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

41:29
H3.40E5
A2.05E6

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

41:29
H3.77E5
A2.22E6

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

41:27
H6.90E5
A4.06E6
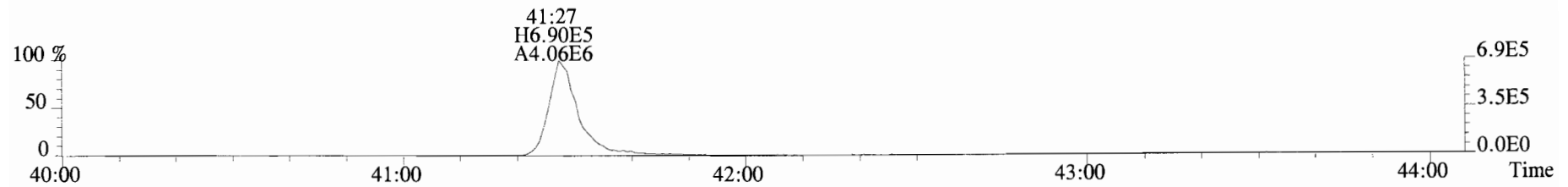
471.7750 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
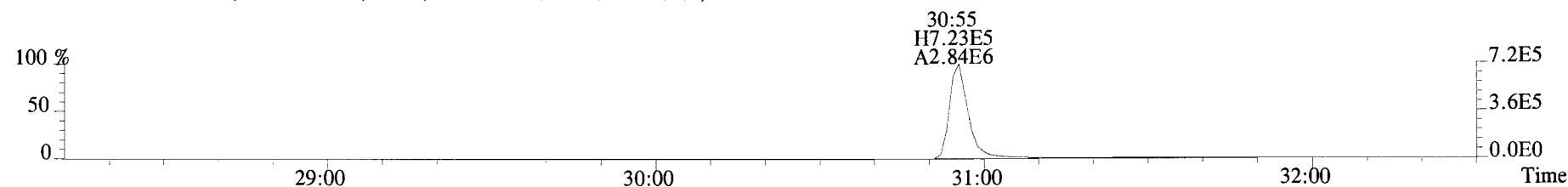
41:27
H7.02E5
A4.39E6

454.9728 S:8 F:5

File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
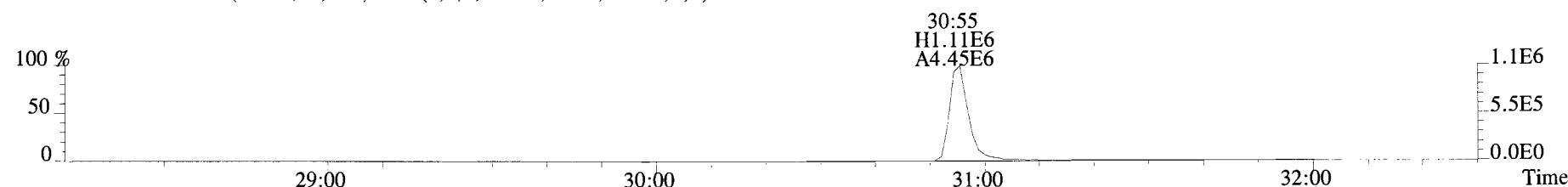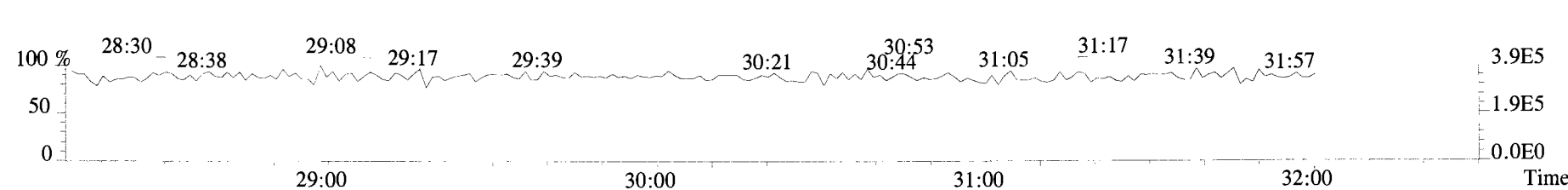303.9016 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:53
H1.18E5
A5.43E5

305.8987 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

25:53
H1.43E5
A6.95E5

315.9419 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:42   25:51
H1.27E6   H1.27E6
A5.66E6   A5.52E6

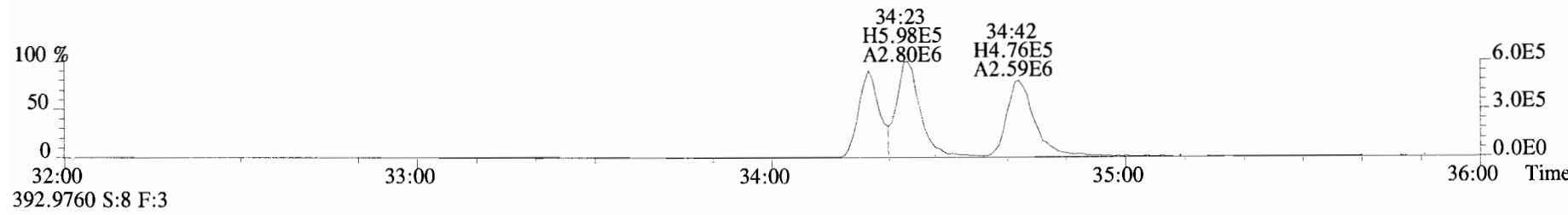317.9389 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

24:41   25:51
H1.60E6   H1.56E6
A6.87E6   A7.08E6

375.8364 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

23:48
H590.95
A1.52E3

20:10   21:20   22:39   24:53   25:45   26:20   27:28
H199.61   H113.43   H261.51   H335.86   H372.89   H554.27   H268.14
A690.93   A306.54   A788.04   A1.64E3   A2.49E3   A1.72E3   A665.85

23:22   26:48
H147.22   H122.89
A725.42   A370.74

File:191009D1 #1-514 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
339.8597 S:8 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

22:10 H190.78 A539.24
23:04 H240.58 A1.10E3
23:42 H460.35 A962.04
24:15 H520.64 A2.26E3
24:43 H727.29 A1.65E3
25:02 H362.37 A1.01E3
25:38 H455.49 A1.12E3
26:21 H381.57 A1.82E3
26:41 H402.74 A2.83E3
27:23 H558.32 A2.59E3
27:38 H323.35 A1.08E3

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

21:49 H506.92 A1.12E3
22:08 H503.42 A1.55E3
22:50 H577.65 A1.23E3
22:53 H277.57 A635.38
23:09 H375.29 A1.04E3
23:50 H653.33 A1.87E3
24:05 H352.82 A2.35E3
24:34 H440.71 A2.52E3
25:19 H462.70 A2.91E3
25:49 H513.64 A1.21E3
26:09 H603.40 A1.60E3
26:18 H279.74 A917.67
27:26 H437.72 A2.06E3
27:42 H478.11 A2.10E3

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

21:33 H208.63 A831.27
22:08 H624.46 A1.61E3
22:36 H275.23 A727.59
22:54 H139.53 A391.12
23:48 H385.59 A2.39E3
24:30 H295.78 A1.09E3
25:13 H273.39 A1.53E3
25:30 H294.76 A1.92E3
26:00 H302.42 A1.14E3
26:30 H180.50 A637.79
26:50 H434.62 A1.18E3
27:33 H437.76 A456.22

316.9824 S:8

21:53 22:05 22:28 22:50 23:21 23:37 24:11 24:28 25:13 25:32 26:07 26:27 26:47 27:06 27:36 27:49

File:191009D1 #1-210 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
339.8597 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)
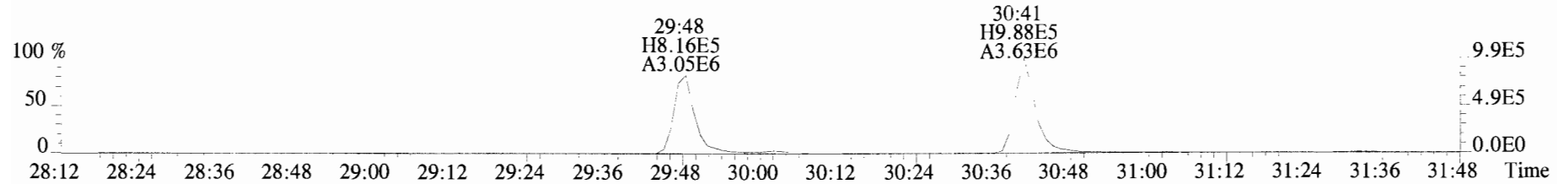
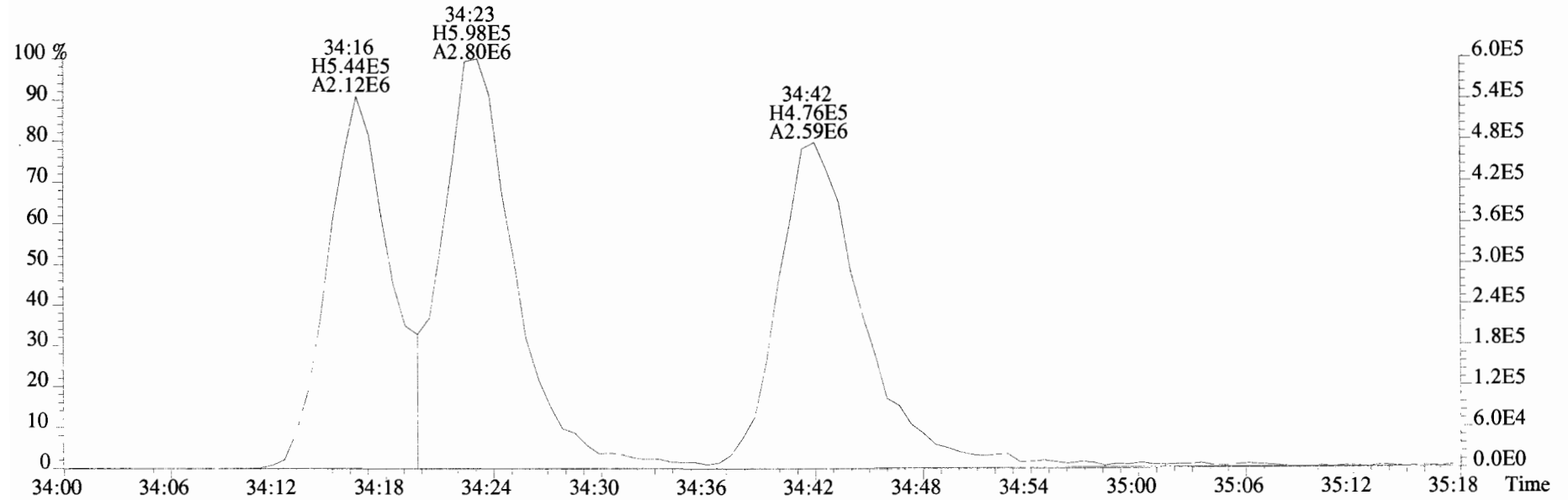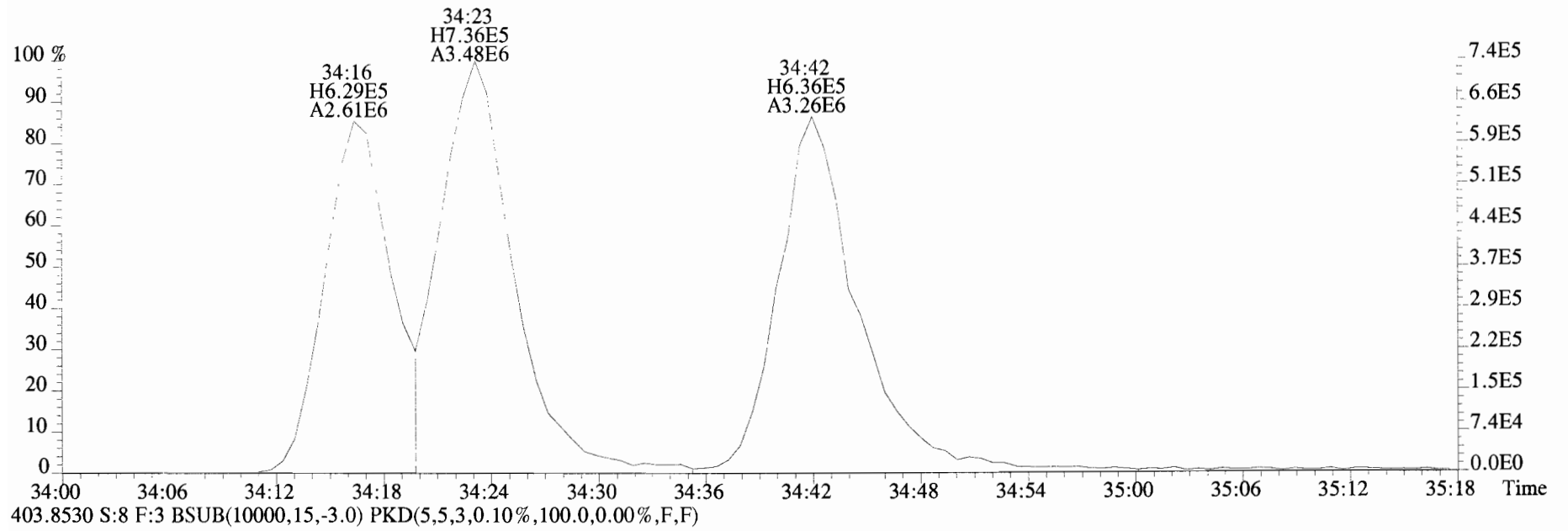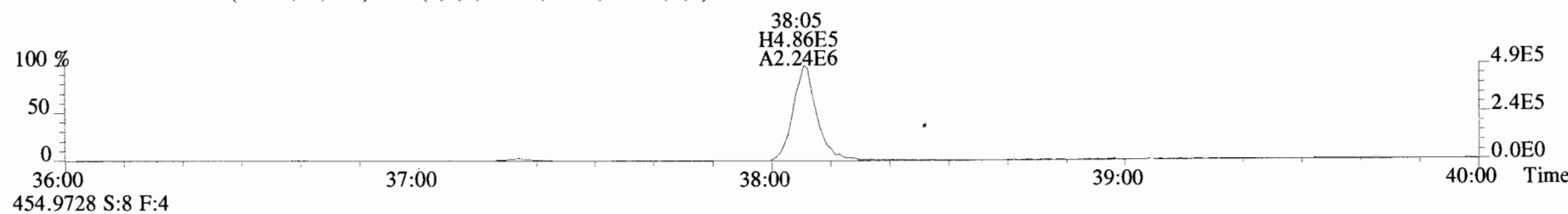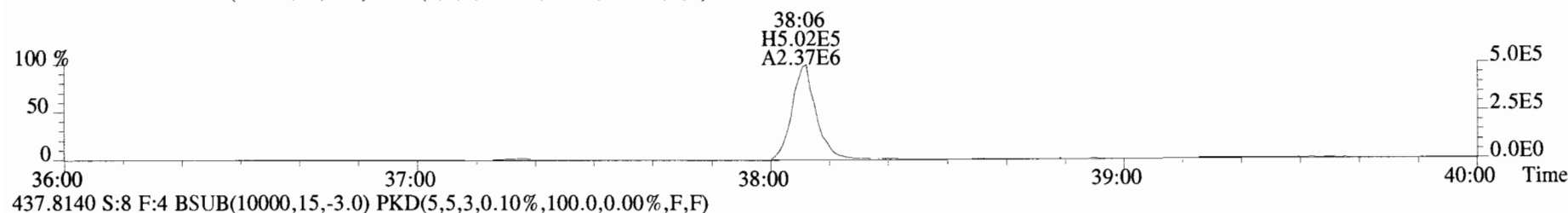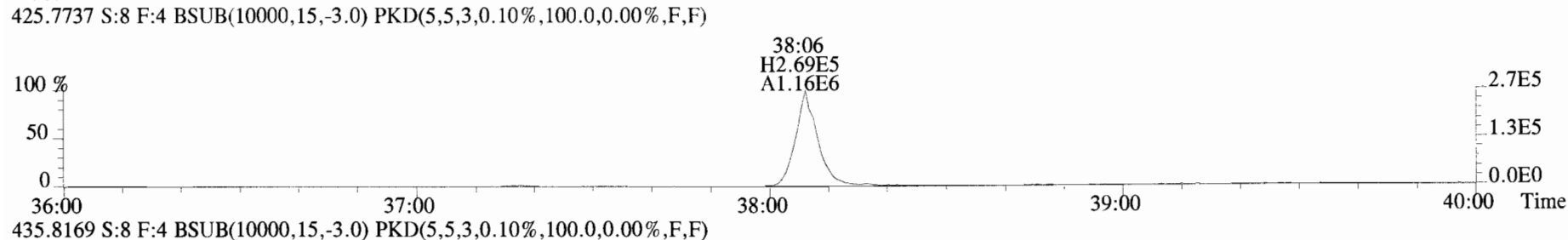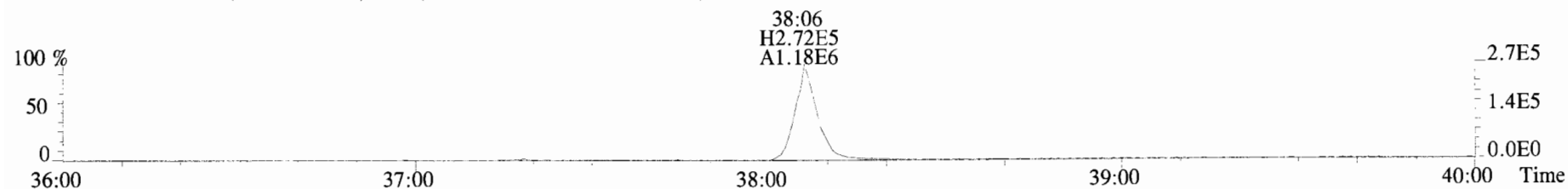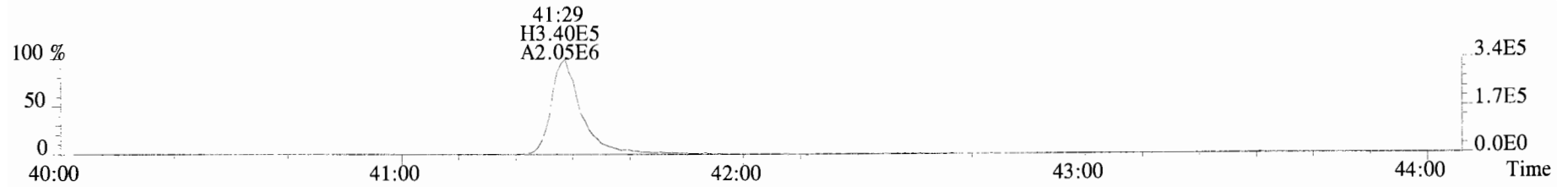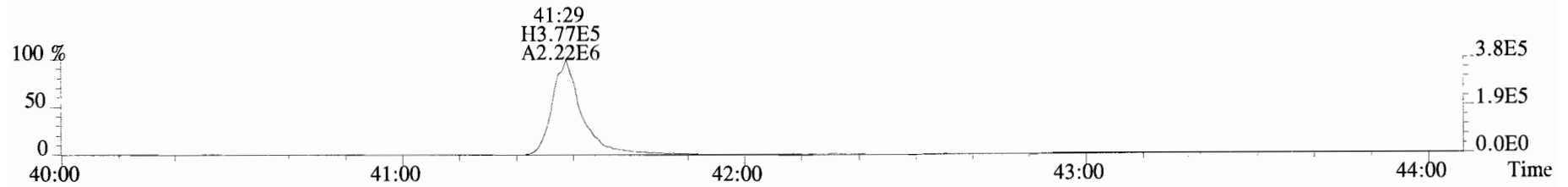341.8568 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

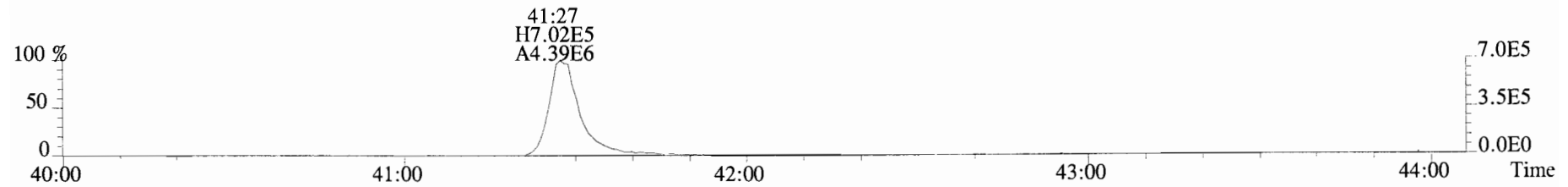351.9000 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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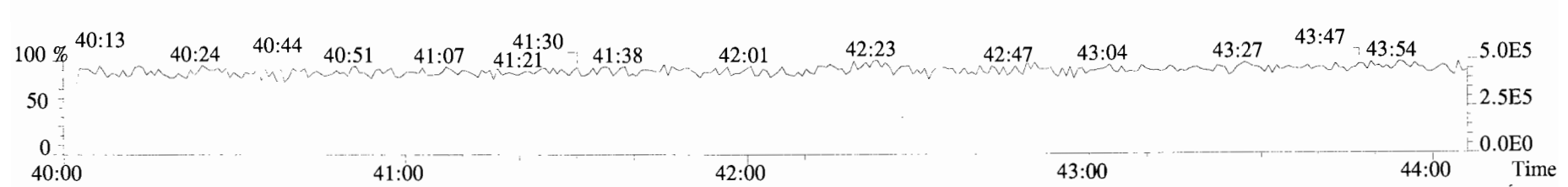

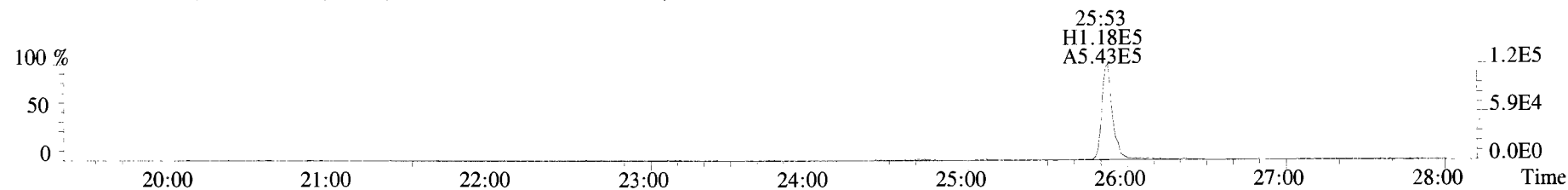409.7974 S:8 F:2 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

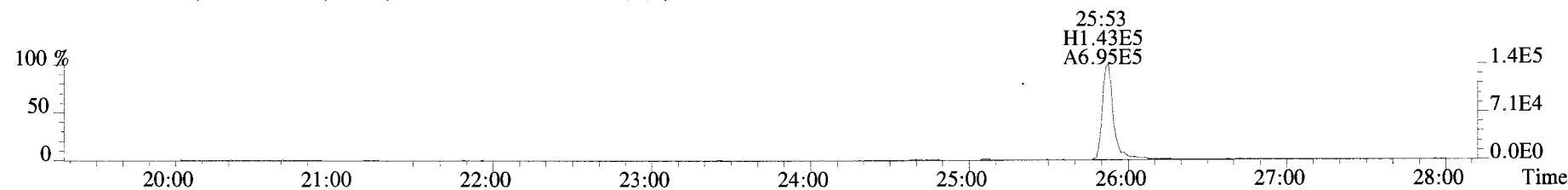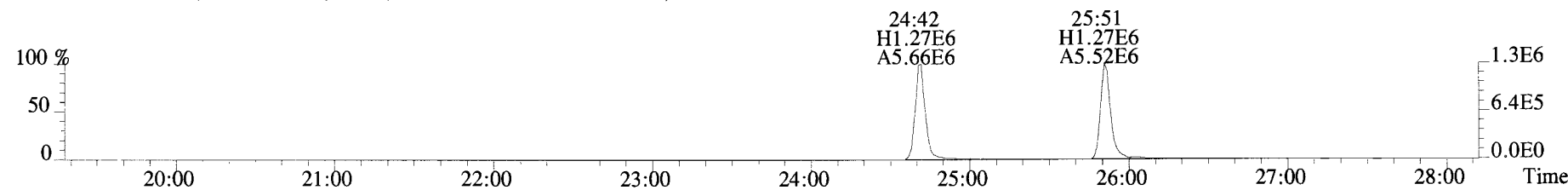373.8207 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                        33:30        34:08
                        H5.84E5      H4.86E5
                        A2.45E6      A2.22E6                  35:09
100 %                                                        H3.00E5                5.8E5
                                                             A1.89E6
 50                                                                                 2.9E5

  0                                                                                 0.0E0
        32:00          33:00         34:00        35:00         36:00    Time
```

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

```
                        33:30        34:08
                        H4.80E5      H4.16E5
                        A1.99E6      A1.85E6                  35:09
100 %                                                        H2.43E5                4.8E5
                                                             A1.52E6
 50                                                                                 2.4E5

  0                                                                                 0.0E0
        32:00          33:00         34:00        35:00         36:00    Time
```

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

```
                        33:29        34:07
                        H6.73E5      H5.22E5
                        A2.72E6      A2.41E6                  35:08
100 %                                                        H3.53E5                6.7E5
                                                             A2.13E6
 50                                                                                 3.4E5

  0                                                                                 0.0E0
        32:00          33:00         34:00        35:00         36:00    Time
```

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

```
                        33:29        34:07
                        H1.35E6      H1.10E6
                        A5.35E6      A4.70E6                  35:08
100 %                                                        H6.88E5                1.4E6
                                                             A4.17E6
 50                                                                                 6.8E5

  0                                                                                 0.0E0
        32:00          33:00         34:00        35:00         36:00    Time
```

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

```
        32:28                                          34:46    34:57
        H642.10                                        H442.45  H671.42   35:30    35:41
        A937.81                                        A876.83  A1.94E3   H274.51  H421.48
100 %           32:43     33:12     33:38    34:02                        A814.46  A847.93   7.2E2
                H191.12   H257.96   H327.92  H346.30
 50             A546.38   A326.34   A1.45E3  A830.47                                         3.6E2

  0                                                                                          0.0E0
        32:00          33:00         34:00        35:00         36:00    Time
```
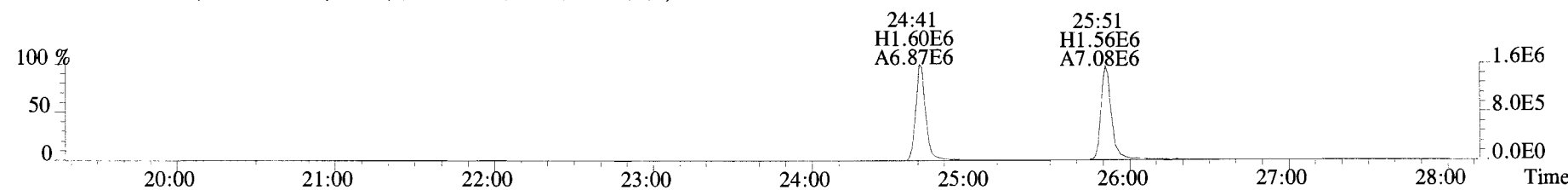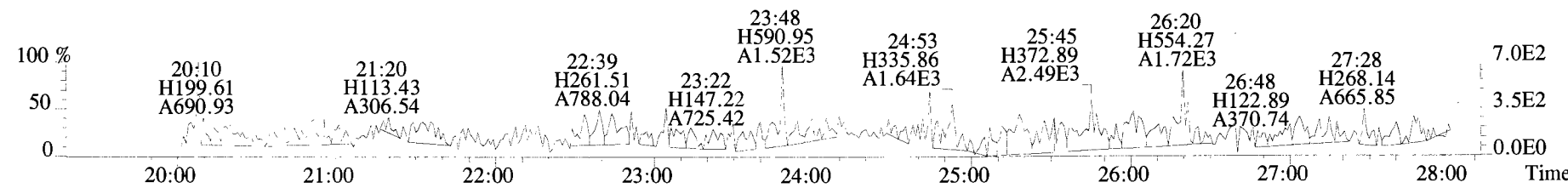
383.8639 S:8 F:3 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

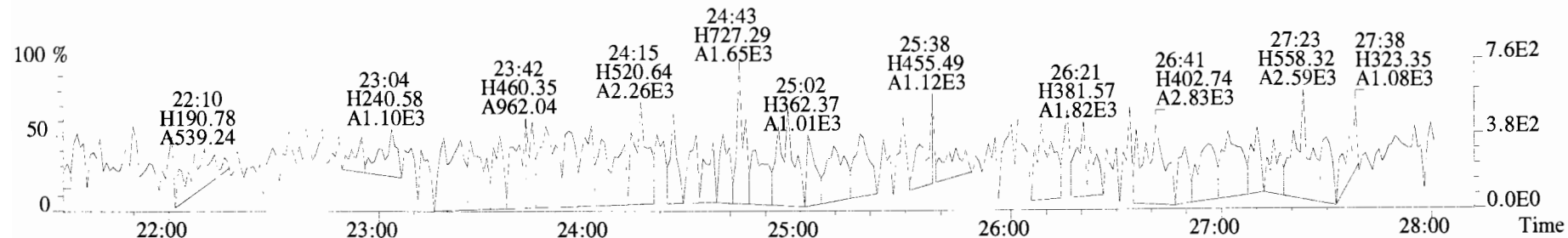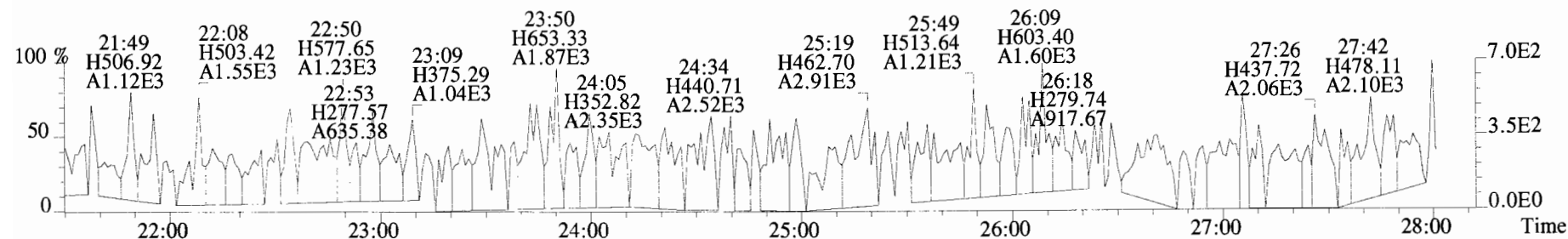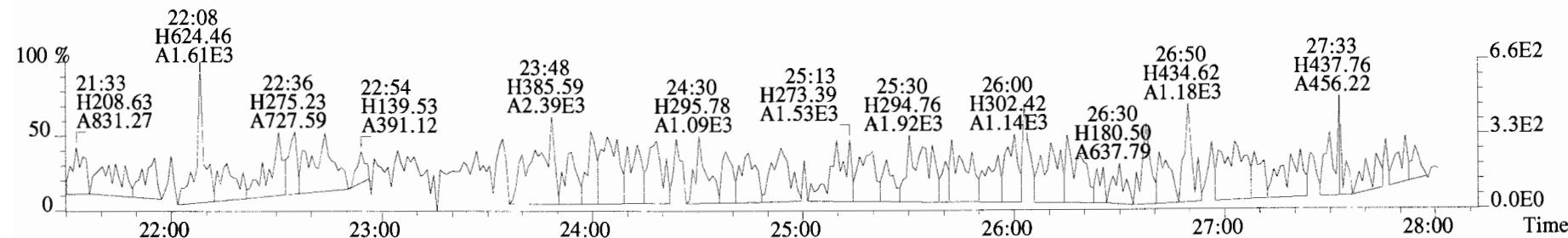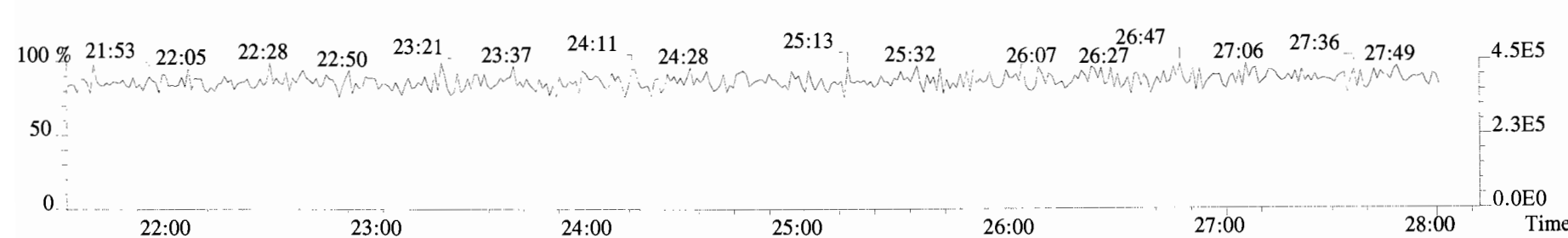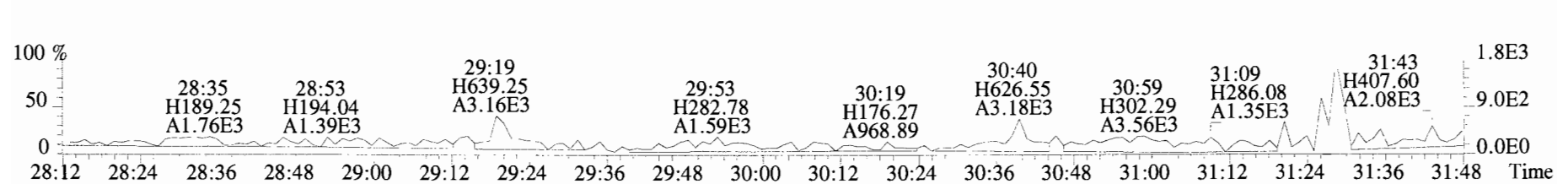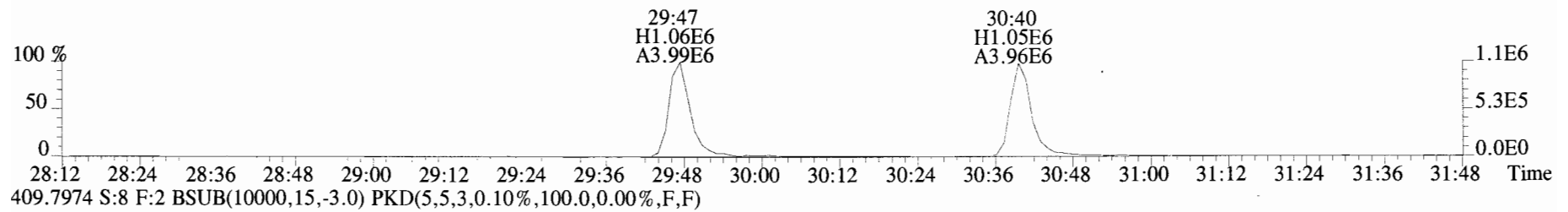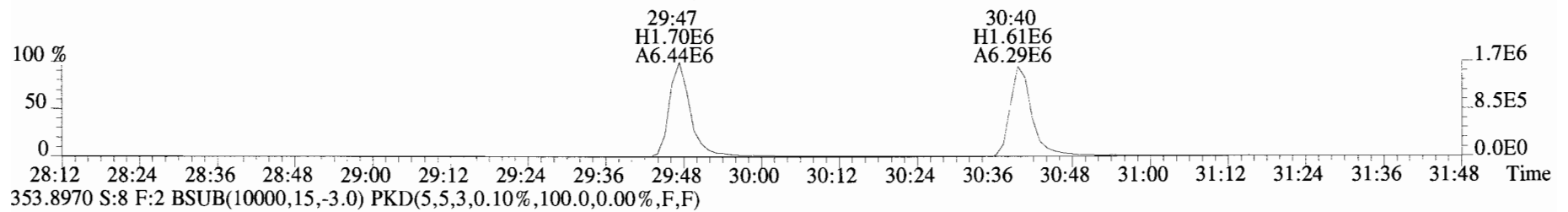407.7818 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
           36:57                          38:42
           H3.46E5                        H2.67E5
100 %      A1.72E6                        A1.51E6                3.5E5

 50                                                             1.7E5

  0                                                            0.0E0
  36:00         37:00        38:00        39:00        40:00   Time
```
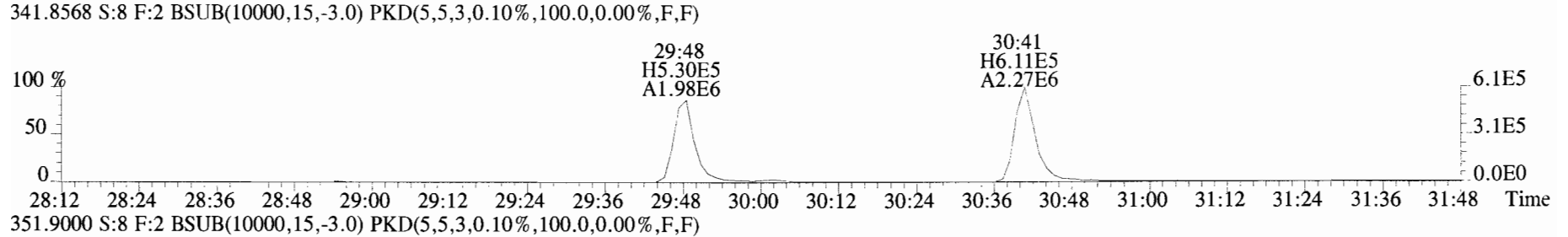
409.7788 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
           36:57                          38:42
           H3.25E5                        H2.52E5
100 %      A1.64E6                        A1.44E6                3.3E5

 50                                                             1.6E5

  0                                                            0.0E0
  36:00         37:00        38:00        39:00        40:00   Time
```

417.8253 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
           36:57                          38:41
           H3.62E5                        H2.40E5
100 %      A1.70E6                        A1.40E6                3.6E5

 50                                                             1.8E5

  0                                                            0.0E0
  36:00         37:00        38:00        39:00        40:00   Time
```

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

```
           36:57                          38:40
           H7.67E5                        H5.42E5
100 %      A3.92E6                        A3.17E6                7.7E5

 50                                                             3.8E5

  0                                                            0.0E0
  36:00         37:00        38:00        39:00        40:00   Time
```

479.7165 S:8 F:4 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

```
                                          38:20
                                          H739.57
                                          A1.48E3                          39:56
                              37:16              38:06            39:08            H375.84
        36:23    37:02        H245.44    37:35    H296.02   38:50   H249.88  39:28  A561.93   7.6E2
100 %   H226.40  H177.98      A659.07    H204.61  A788.15   H249.15 A370.92  H178.78
 50     A423.98  A1.03E3                 A520.20          38:28  A1.04E3    A347.85          3.8E2
                                                         H168.53
  0                                                      A354.25                            0.0E0
  36:00         37:00        38:00        39:00        40:00   Time
```
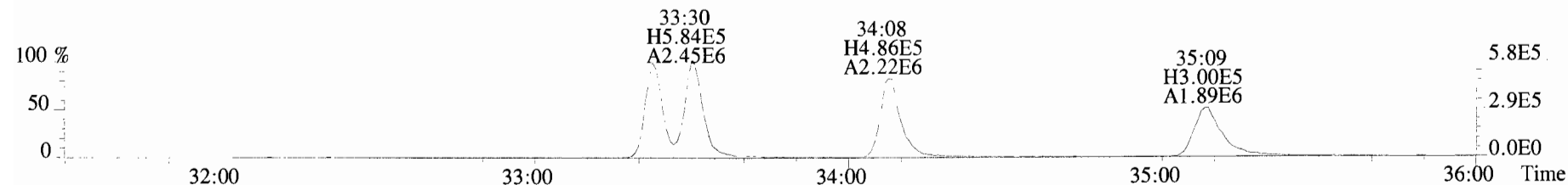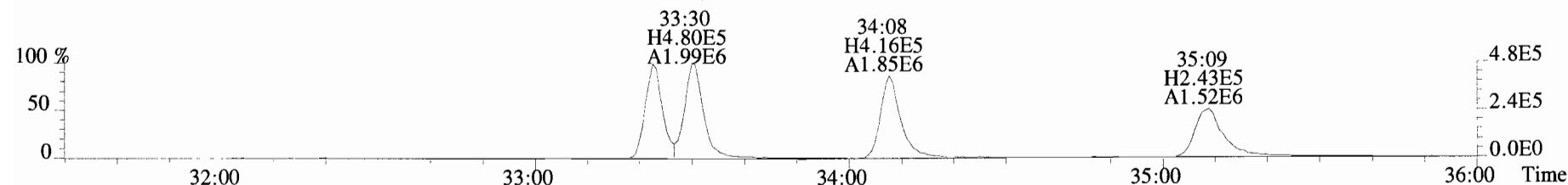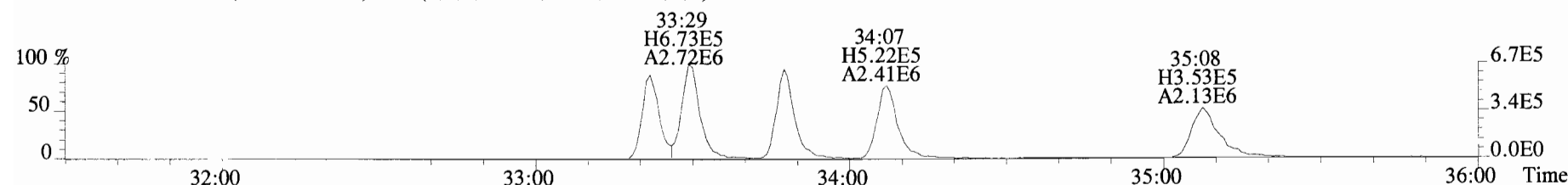
File:191009D1 #1-431 Acq: 9-OCT-2019 21:46:34 GC EI+ Voltage SIR Autospec-UltimaE
Sample#8 File Text:Vista_Analytical_Laboratory_VG7 Text:SS191009D1-1 1613 SSS 19C2207 Exp:OCDD_DB5
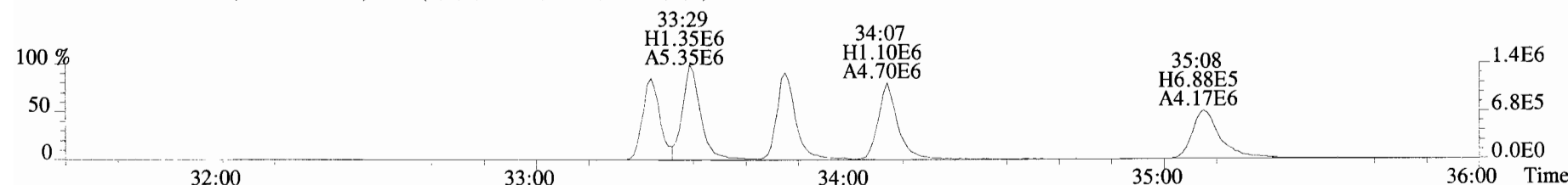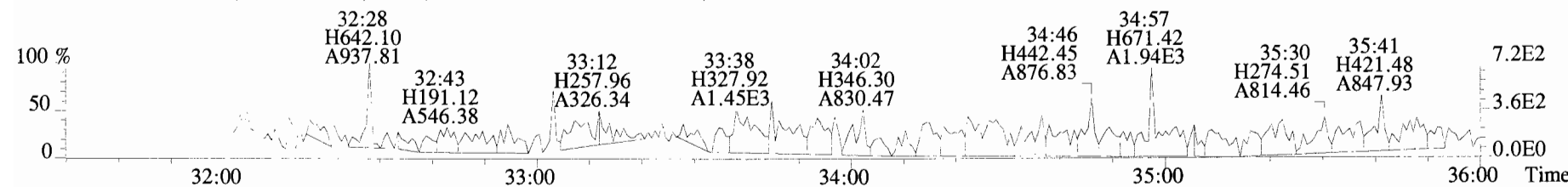441.7428 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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

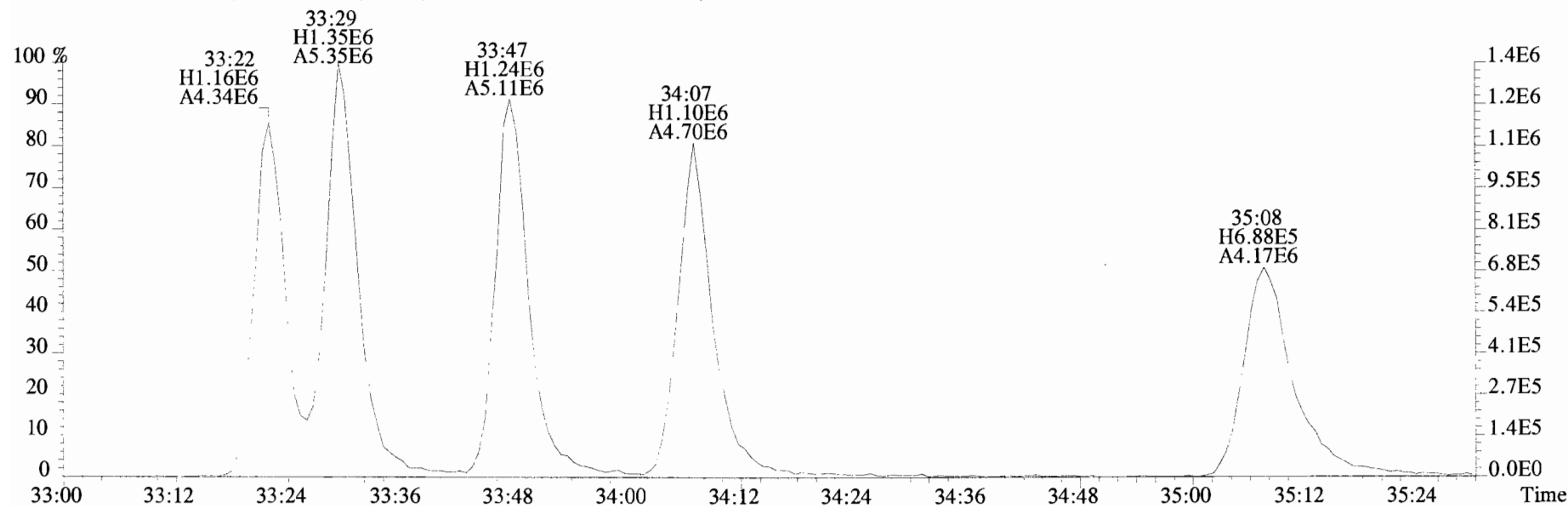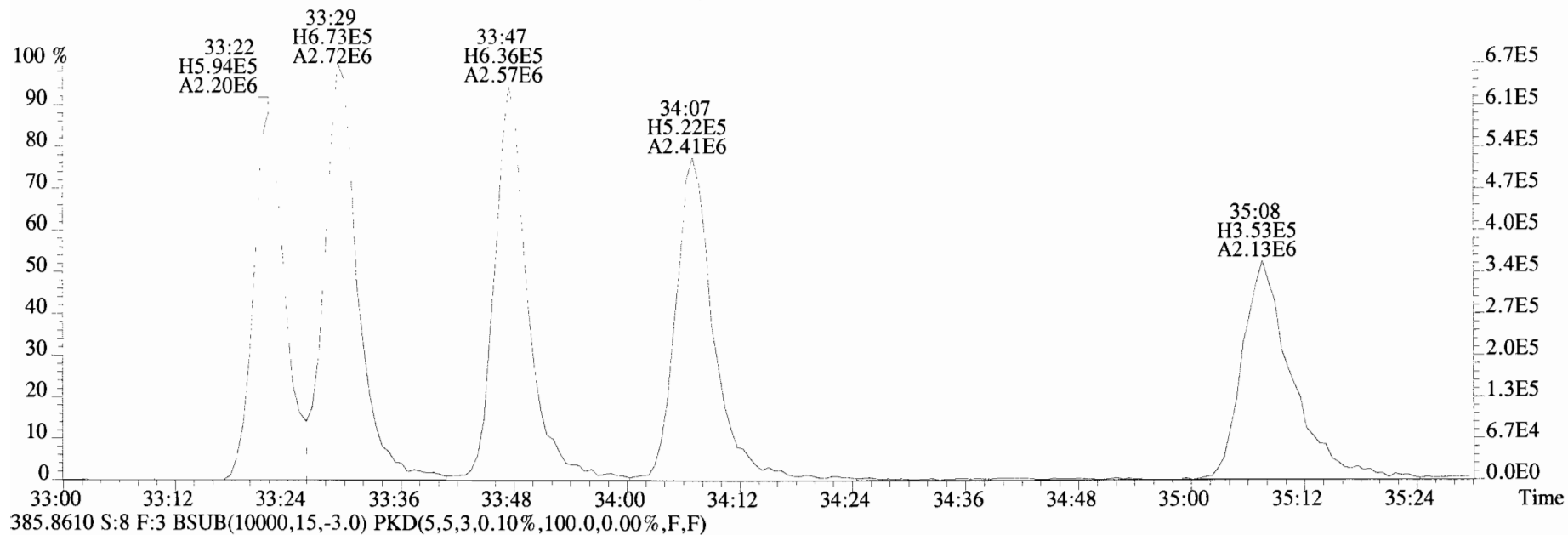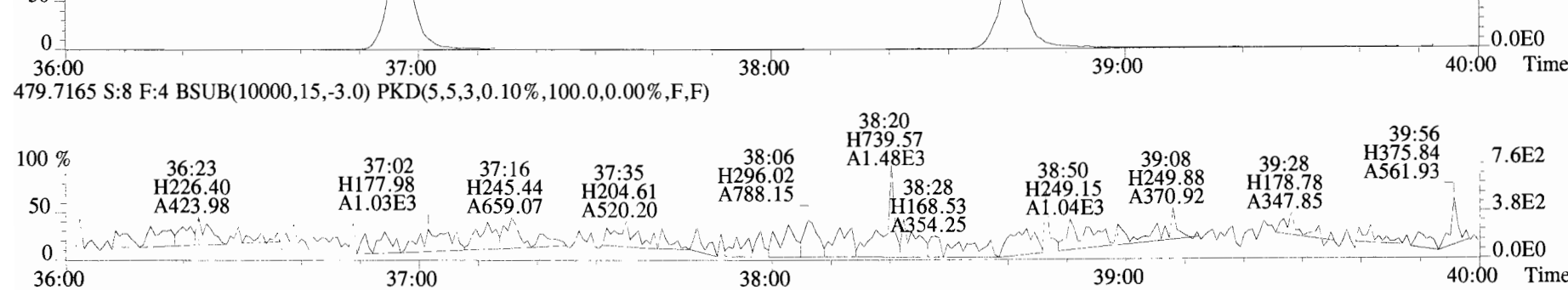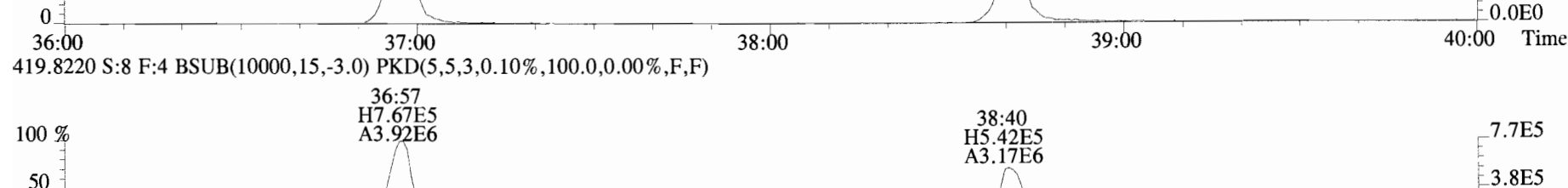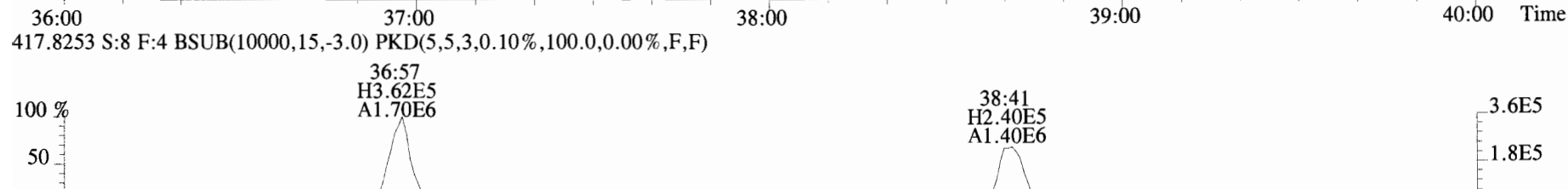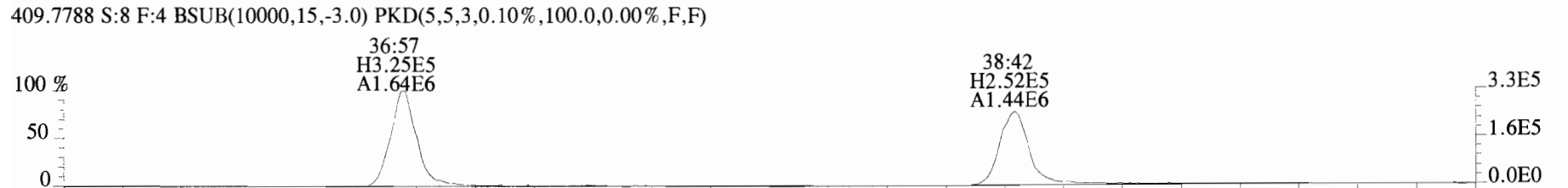453.7831 S:8 F:5 BSUB(10000,15,-3.0) PKD(5,5,3,0.10%,100.0,0.00%,F,F)

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)